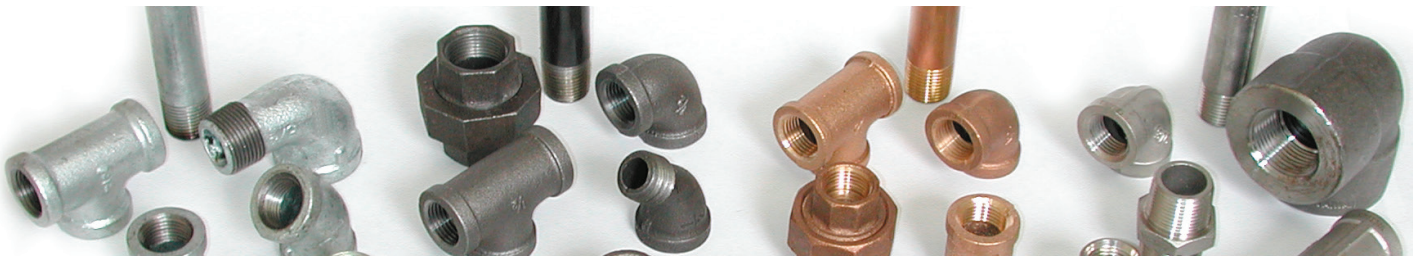
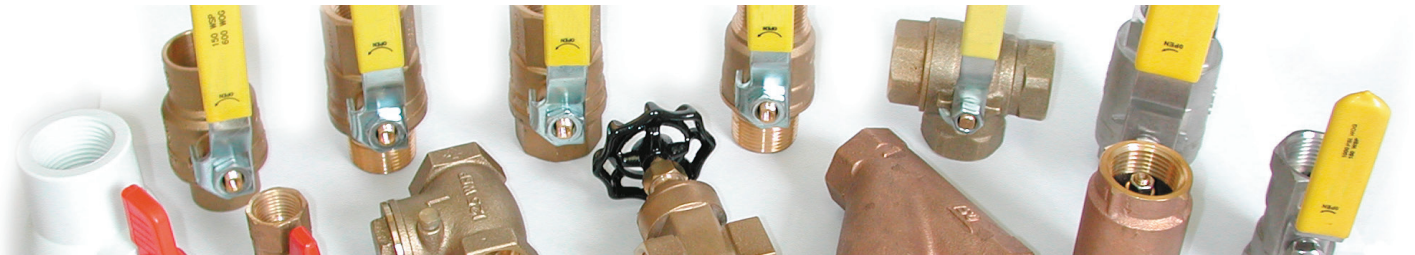
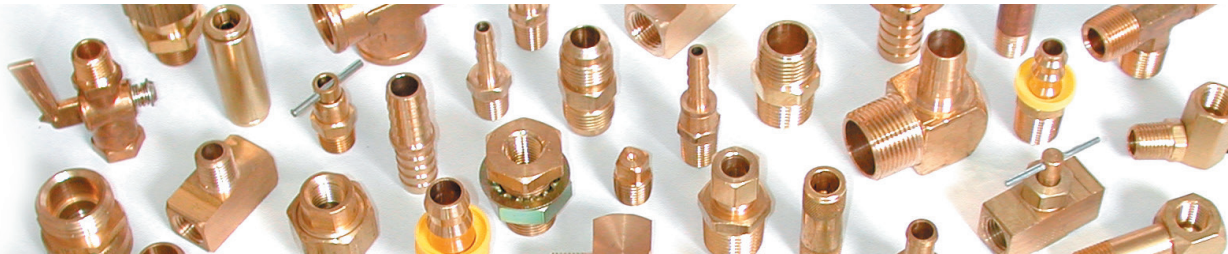


WIMS

Western Mountain Supply

CATALOG



www.westernmountainsupply.com

FIND WHAT YOU NEED

- TABLE OF CONTENTS INTRO 2-3
- PICTORIAL..... INTRO 4-26
- NUMERICAL INDEX PAGES 430-462

PICTORIAL INDEX PGS 4-26

BRASS PGS 1-153

LEAD FREE PGS 154-163

VALVES PGS 164-209

NIPPLES & FITTINGS PGS 210-288

PLASTIC PGS 289-299

HOSE ACCESSORIES PGS 300-310

CLAMPS PGS 311-329

TUBING PGS 330-336

PRESSURE WASHER 337-342

PNEUMATICS PGS 343-365

TRUCK & TRAILER PGS 366-387

HYDRAULICS PGS 388-429

NUMERICAL INDEX

TABLE OF CONTENTS



BRASS FITTINGS

| | |
|------------------------------|---------|
| Pipe Fittings..... | 1-13 |
| Hose Barb Fittings..... | 14-28 |
| Push-On Barb Fittings..... | 29-35 |
| Garden Hose Fittings..... | 36-47 |
| 45° Flare Fittings..... | 48-62 |
| JIC 37° Flare..... | 63-64 |
| Inverted Flare Fittings..... | 65-72 |
| Compression Fittings..... | 73-87 |
| Flareless Fittings..... | 88-92 |
| Push-In Fittings..... | 93-116 |
| DOT Push In..... | 117-128 |
| Air Brake Fittings..... | 129-138 |
| Grease Fittings..... | 139-142 |

SPECIALTY VALVES AND COCKS

| | |
|-------------------------|---------|
| Drain Cocks..... | 144-145 |
| Shut-off/Air Cocks..... | 146 |
| Needle Valves..... | 147-148 |
| Valves..... | 149-151 |
| Mini Ball Valves..... | 152 |
| Check Valves..... | 153 |

LEAD FREE BRASS154-163



VALVES

| | |
|----------------------------------|---------|
| Lead Free Brass Valves..... | 164-168 |
| Brass Ball Valves..... | 169-187 |
| Brass Gate Valves..... | 188-189 |
| Y-Strainers..... | 190 |
| Brass Check Valves..... | 191-193 |
| Stainless Steel Ball Valves..... | 194-198 |

| | |
|---------------------------------|---------|
| Stainless Check Valves..... | 199-203 |
| SS Gate, Globe, Y-Strainer..... | 203 |
| Carbon Steel Ball Valves..... | 204-206 |
| Steel Check Valves..... | 207 |
| PVC Ball Valves..... | 208 |
| MISC Plastic Valves..... | 209 |



FITTINGS AND NIPPLES

| | |
|------------------------------------|---------|
| Brass Nipples..... | 211-218 |
| Bronze and Lead Free Fittings..... | 219-230 |
| Stainless Nipples..... | 231-236 |
| Stainless Steel Fittings..... | 237-244 |
| Steel Nipples..... | 245-262 |
| Merchant Couplings..... | 263 |

| | |
|----------------------------|---------|
| API Line Couplings..... | 264 |
| Malleable Fittings..... | 265-273 |
| Steel Fittings..... | 274-275 |
| 300# Malleable..... | 276-277 |
| Bull Plugs and Swages..... | 278-279 |
| Forged Steel Flanges..... | 280-281 |
| Copper Fittings..... | 282-288 |



PLASTIC FITTINGS

| | |
|----------------------|---------|
| Pipe-Nylon Poly..... | 290-292 |
| Hose Barb..... | 292-295 |
| Garden Hose..... | 296 |

| | |
|------------------|---------|
| Compression..... | 297 |
| Push-In..... | 298-299 |



HOSE ACCESSORIES

| | |
|--------------------------|---------|
| Cam & Groove..... | 301-306 |
| King Nipples..... | 307 |
| Universal Couplings..... | 308 |

| | |
|-----------------------------|-----|
| Ground Joint Couplings..... | 309 |
| Fire Hose Fittings..... | 310 |



CLAMPS

| | |
|---------------------------|---------|
| Worm Gear Clamps..... | 312-315 |
| Quick Release..... | 316 |
| T-Bolt Clamps..... | 317 |
| Spring Loaded T-Bolt..... | 318 |
| Constant torque..... | 319 |
| V-Band..... | 319 |
| Muffler..... | 320 |
| Exhaust..... | 321 |

| | |
|----------------------------|---------|
| 1 Ear Clamps..... | 322-323 |
| Preformed..... | 324-325 |
| Clamp Tools/Strapping..... | 325-326 |
| Lined Band Clamps..... | 327-328 |
| Hose Ferrules..... | 329 |



TUBING

| | |
|----------------------|---------|
| Polyurethane..... | 331 |
| Polyethylene..... | 332-333 |
| Nylon 12 Tubing..... | 334 |

| | |
|-------------------|-----|
| PVC Tubing..... | 335 |
| Tube Cutters..... | 335 |
| Aluminum..... | 336 |
| Copper..... | 336 |

TABLE OF CONTENTS



HIGH PRESSURE SPRAYERS

| | |
|-------------------------|---------|
| Nozzles | 338 |
| Swivels..... | 339 |
| Sprayers | 340 |
| Quick Disconnects | 341-342 |



PNEUMATICS

| | |
|-----------------------------------|---------|
| Industrial Interchange | 344-345 |
| Universal Couplings..... | 346 |
| ARO 210 Interchange..... | 347 |
| Automotive Interchange | 348-349 |
| Lincoln Interchange | 349 |
| Straight Through..... | 350 |
| Mini/Mold..... | 350 |
| Vents, Mufflers and Filters | 351-352 |

| | |
|--------------------------|---------|
| Manifolds..... | 353 |
| Safety Valves..... | 354 |
| Tank & Vent | 355 |
| Blow Guns..... | 356 |
| Tire Gauges..... | 357 |
| Foot Chucks..... | 358 |
| Air Accessory Sets | 359-361 |
| Gauges | 362-364 |
| Teflon Tape..... | 365 |



TRUCK AND TRAILER

| | |
|--------------------|---------|
| Air Coils | 366 |
| Hose Support..... | 367-369 |
| Gladhands..... | 370-373 |
| Air Cylinder | 374-377 |

| | |
|-----------------------|---------|
| Coiled Cable | 378-383 |
| Accessories | 384-385 |
| Air Brake Tubing..... | 386 |
| Hose | 387 |



HYDRAULICS

STEEL ADAPTERS

| | |
|--------------------------------|---------|
| Technical information..... | 389-394 |
| Profile size chart..... | 395-396 |
| Steel Pipe Swivels..... | 397-398 |
| 37° JIC Flare Straights..... | 399-400 |
| 37° JIC Flare Shapes..... | 401-402 |
| Bulkhead Adapters | 402-403 |
| Steel Pipe Fittings..... | 404-407 |
| O-Ring Adapters Straight | 408-409 |
| JIC Swivels | 410-411 |
| O-Ring Adapters | 412-414 |
| O-Ring Face Seal | 414-417 |
| BSPT/ BSPP Adapters..... | 418-420 |
| Metric Adapters..... | 420-421 |

QUICK DISCONNECTS


































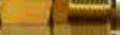


































| | |
|--------------------------------|-----|
| Thread to Connect - Wing | 422 |
| ISO A Interchange | 422 |
| ISO B Interchange..... | 422 |
| Flush Face ISO | 423 |
| VEP Series | 423 |
| AG Interchange | 424 |
| Hydraulic Jack Q/D..... | 424 |

VALVES & ACCESSORIES

| | |
|-----------------------------|---------|
| Hydraulic Motor | 425 |
| Hydraulic Gear Pump..... | 426-427 |
| Flow Control Valve | 428 |
| Variable Flow Counter | 429 |
| Air Breathers..... | 429 |

PICTORIAL INDEX

BRASS

| | | | | | | | | |
|--|---|---|---|---|---|--|---|---|
| BRASS FITTINGS PGS 1-169 | PIPE PGS 1-13 | 90° ELBOW  PG 2 | 90° FORGED EL  PG 2 | 45° ELBOW  PG 2 | UNION TEE  PG 2 | UNION  PG 2 | RED FRG TEE  PG 3 | CROSS  PG 3 |
| FORGED  PG 3 | COUPLING  PG 3 | REDCOUPLING  PG 4 | UNION  PG 4 | CAP  PG 4 | 90° ST EL  PG 4 | 90° ST EL  PG 4 | FORGE 90°  PG 5 | FORGE RED  PG 5 |
| HEX BUSHING  PG 5 | FACE BUSHING  PG 6 | SQ HEAD PLUG  PG 6 | COUNTER-SUNK  PG 6 | SLOTTED HEAD  PG 6 | CORED HEX  PG 6 | SOLID HEX  PG 7 | LOCKNUT  PG 7 | CLOSE NIPPLE  PG 7 |
| LONG NIPPLE  PG 7 | HEX NIPPLE  PG 8 | RED HEX NIPPLE  PG 8 | 45° ST EL  PG 8 | 45° FORGE ST EL  PG 8 | STREET TEE  PG 9 | FORGED ST TEE  PG 9 | EXTENDER  PG 9 | FPT X MPT SWIVEL  PG 9 |
| MPT X FPT SWIVEL  PG 9 | 90° MALE ELBOW  PG 10 | 90° RED EL-BOW  PG 10 | MALE BRANCH T  PG 10 | FGD BRANCH TEE  PG 10 | ALL MALE T  PG 11 | LONG ST EL  PG 11 | LONG EX ADAPT  PG 11 | FIP X MIP WYE  PG 11 |
| MALE WYE N/P  PG 11 | ALL FIP N/P WYE  PG 11 | BULK-HEAD FITTINGS PGS 12-13 | BULKHEAD FXF  PG 12 | BULKHEAD FXM  PG 12 | BULKHEADFXM  PG 12 | BULKHEAD FXM  PG 12 | BULK TUBE X F  PG 12 | FPXCLAMP-STUD  PG 12 |
| MARINE BULK-HEAD  PG 12 | STEEL BULK-HEAD  PG 13 | STEEL BULK-HEAD  PG 13 | STEEL BULK-HEAD  PG 13 | STEEL BULK-HEAD  PG 13 | STEEL BULK-HEAD  PG 13 | STAINLESS BULKHEAD  PG 13 | STAINLESS BULKHEAD  13 | HOSE BARB PGS 15-22 |
| MALE ADAPTER  PG 15 | BSPT ADAPTER  PG 16 | SWL MALE ADPT  PG 16 | SWL MALE ADPT  PG 16 | MENDER/SPLICER  PG 16 | FEMALE ADAPT  PG 17 | FEMALE SWIVEL  PG 17 | MALE SWIVEL  PG 17 | MALE SWIVEL  PG 17 |



















BRASS

PICTORIAL INDEX

| | | | | | | | | | |
|--|---|---|---|--|--|---|--|--|--|
| GASKET  PG 18 | HB 90° ELBOW  PG 18 | BS 90° ELBOW  PG 19 | TEE  PG 19 | 90° HB ELBOW  PG 19 | FEMALE HB EL  PG 20 | 45° ELBOW  PG 20 | CROSS  PG 20 | BALL END  PG 21 | |
| BALLSEAT  PG 21 | BALLSEAT  PG 21 | 45° FLARE  PG 21 | DUAL FLARE  PG 22 | DUAL FLARE  PG 22 | FEM FLARE  PG 22 | FEM FLARE  PG 22 | JIC FLARE SWL  PG 22 | REUSE- ABLE FITTINGS PGS 23 | |
| REUSABLE MALE  PG 23 | REUSABLE STEMS  PG 23 | REUSABLE SWIVELS  PG 23 | REUSABLE FERRULES  PG 23 | REUSABLE STEMS  PG 23 | FUEL HOSE PGS 24-25 | | FUEL HOSE  PG 24 | | BUBBLE BARB  PG 24 |
| 90° MALE ELBOW  PG 24 | BUBBLE BARB  PG 24 | SWL MALE ELBOW  PG 25 | WELD CON- NECTOR  PG 25 | WELD HOSE NUT  PG 25 | HOSE CON- NECT  PG 25 | TUBE BARB PGS 26 | | UNION SINGLE BARB  PG 26 | MALE ADAPT- ER 1 BARB  PG 26 |
| FEMALE ADAPTER  PG 26 | BULKHEAD UNION  PG 26 | UNION ELBOW  PG 26 | MALE 90° ELBOW  PG 26 | FEMALE 90° EL  PG 26 | 1 BARB TEE  PG 26 | MALE BRANCH T  PG 26 | FEMALE BRANCH T  PG 26 | TWO BARB  PG 26 | |
| 2 BARB TEE  PG 26 | 90° ELBOW 2 BARB  PG 26 | SS. HOSE BARB PGS 27 | | SS ADAPTER  PG 27 | SS SPLICER  PG 27 | SS BARB ELBOW  PG 27 | #304 SS HOSE  PG 27 | #304 RED NIPPLE  PG 27 | #304 SS HOSE NIPPLE  PG 27 |
| HOSE NIPPLE  27 | REDUCE HS NIP  PG 27 | BEVER- AGE BARB PGS 28 | | BEVERAGE NUT  PG 28 | BEVERAGE STEM  PG 28 | 90° SWL EL- BOW  PG 28 | HOSE SPLICER  PG 28 | BARB SPLICER  PG 28 | BARB HOSE TEE  PG 28 |
| FLARE ADAPTER  PG 28 | BEVERAGE  PG 28 | SWIVEL EL- BOW  PG 28 | NPT ELBOW  PG 28 | SPLICER ELBOW  PG 28 | PUSH-ON BARB PGS 30-35 | | MALE ADAPTER  PG 30 | MALE SWIVEL  PG 30 | FEMALE SWIVEL  PG 30 |












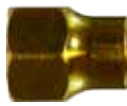





















































PICTORIAL INDEX

BRASS

| | | | | | | | | |
|--|---|---|--|---|---|---|--|---|
| HOSE SPLICER  PG 31 | FEMALE  PG 31 | MALE ELBOW  PG 31 | TUBE  PG 32 | SAE FLARE  PG 32 | 37° JIC FLARE  PG 32 | DUAL SEAL  PG 32 | 45° SAE FL  PG 33 | 37° JIC FL SWL  PG 33 |
| INV FLARE  PG 33 | FEMALE  PG 34 | BALLSEAT  PG 34 | FEMALE  PG 34 | 316 MALE ADPT  PG 35 | FEMALE  PG 35 | 37° JIC FL SWL  PG 35 | GARDEN HOSE PGS 37-47 | SWL MGH X  PG 37 |
| SWL FGH X FGH  PG 37 | FGH X FGH  PG 37 | SWL FGH X FPIPE  PG 37 | RGD FGH X FPIPE  PG 37 | RGD FGH X FPIPE  PG 38 | SWL FGH X MPIPE  PG 38 | DSHWSHR ELBOW  PG 38 | | SWL FGH X MPIPE  PG 38 |
| RGD FGH X MPIPE  PG 38 | RGD FEMALE PIPE  PG 39 | RGD FEMALE PIPE  PG 39 | RGD MALE PIPE  PG 39 | RGD MGH X MGH  PG 39 | GH NUT  PG 39 | GH NUT  PG 39 | GH WASHER  PG 40 | GH WASHER  PG 40 |
| GH FILTER WSHR  PG 40 | GH CAP  PG 40 | GH CAP W/ CHAIN  PG 40 | GH PLUG  PG 40 | QCK DISCON GH  PG 41 | QCK DISCON GH  PG 41 | MALE FL X FGH RGD  PG 41 | MALE FL SWIVEL  PG 41 | COMP X FGH  PG 41 |
| GH SWIVEL  PG 41 | FEMALE SWIVEL  PG 42 | SS FEMALE SWL  PG 42 | MALE END  PG 42 | SS MALE END  PG 42 | GH COUPLING  PG 42 | GH COUPLING  PG 42 | FEMALE END  PG 43 | MALE END  PG 43 |
| GH COUPLING  PG 43 | FEMALE SWL 2"  PG 43 | MALE END 2"  PG 43 | GH COUPLING 2"  PG 43 | FE. SHRT SHNK  PG 44 | MALE SHRT SHNK  PG 44 | SHRT SHNK SETS  PG 44 | FE. LONG SHNK  PG 44 | M. LONG SHANK  PG 44 |
| LONG SHNK SET  PG 44 | FEMALE END  PG 45 | BRASS BALL VALV  PG 45 | HOSE SHUT-OFF  PG 45 | PL. GH VALVE  PG 46 | CAST WYE  46 | 2-WAY SHUT-OFF  PG 46 | "Y" CONNecTOR  PG 46 | SWL HOSE CONN  PG 46 |



































































BRASS

PICTORIAL INDEX

| | | | | | | | | |
|--|--|--|--|--|---|--|--|--|
|  PG 46 |  PG 47 |  PG 47 |  PG 47 |  PG 47 |  PG 47 |  PG 47 |  PG 47 | FLARE PGS 49-60 |
|  PG 49 |  PG 49 |  PG 49 |  PG 50 |  PG 50 |  PG 50 |  PG 50 |  PG 51 | |
|  PG 51 |  PG 51 |  PG 52 |  PG 52 |  PG 52 |  PG 53 |  PG 53 |  PG 53 |  PG 54 |
|  PG 54 |  PG 55 |  PG 56 |  PG 56 |  PG 57 |  PG 57 |  PG 58 |  PG 58 |  PG 58 |
|  PG 58 |  PG 59 |  PG 59 |  PG 59 |  PG 60 |  PG 60 |  PG 60 | SPACE HEATER PG 61 |  PG 61 |
|  PG 61 |  PG 61 |  PG 61 | GAS RANGE PG 61 |  PG 61 |  PG 61 |  PG 61 | |  61 |
|  PG 62 |  PG 62 |  PG 62 | |  PG 62 |  PG 62 |  PG 62 |  PG 62 |  PG 62 |
|  PG 63 |  PG 63 |  PG 63 |  PG 64 |  PG 64 | INVERTED FLARE PGS 66-72 |  PG 66 |  PG 66 |  PG 66 |



































































PICTORIAL INDEX

BRASS

| | | | | | | | | |
|---|--|--|--|---|---|--|--|--|
| METRIC TUBE  PG 66 | METRIC TUBE  PG 66 | METRIC TUBE  PG 66 | METRIC TUBE  PG 66 | METRIC TUBE  PG 66 | METRIC TUBE  PG 66 | UNION INTER-  PG 67 | FE. ADAPTER  PG 67 | MALE  PG 67 |
| ELBOW  PG 68 | 45° ELBOW  68 | UNION TEE  PG 68 | STEEL PLUG  PG69 | M. BRANCH  PG 69 | FEMALE  PG 69 | MALE RUN TEE  PG 69 | FE. BRANCH  PG 70 | TRAIL BRAKE  PG 70 |
| CYLINDER ADAPT  PG 70 | CYLINDER ADAPT  PG 71 | CARBURETOR  PG 71 | RESTRICT. ADAPT  PG 71 | SAE FL X INVERT  PG 72 | METRIC ADAPTER  PG 72 | ADAPT STAND- DARD  PG 72 | METRIC UNION  PG 72 | COM- PRESSION PGS 74-83 |
| BRASS SLEEVE  PG 74 | BRASS NUT  PG 74 | CAP  PG 74 | COMPRESS PLUG  PG 74 | BRASS SLEEVE  PG 74 | UNION  PG 75 | REDUCING UNION  PG 75 | BULKHEAD UNION  PG 75 | |
| DRILLED UNION  PG 75 | CHECK VALVE  PG 76 | TEE  PG 76 | TEE  PG 76 | REDUCING TEE  PG 76 | UNION ELBOW  PG 77 | REDUCING ELBOW  PG 77 | TANK ADAPTER  PG 77 | COMP X SWEAT  PG 77 |
| FE. ADAPTER  PG 78 | MALE ADAPTER  PG 79 | MALE ELBOW  PG 80 | MALE ELBOW  PG 80 | MALE RUN TEE  PG 81 | M. BRANCH TEE  PG 81 | M. BRANCH TEE  PG 81 | FE. ELBOW  PG 82 | FE. ELBOW  PG 82 |
| FORGED TEE  PG 82 | ADAPTER TEE  PG 83 | FE. BRANCH TEE  PG 83 | 45° ELBOW  PG 83 | DOUBLE COMP. PG 84 | DOUBLE COM- PRESSION  PG 84 | MALE ADAPTER  PG 84 | 90° ELBOW  PG 84 | BREAK-AWAY NUT  PG 84 |
| SPLIT SLEEVE PG 85 | SPLIT SLEEVE  PG 85 | NUT  PG 85 | DBL. END UNION  PG 85 | | CONNECTOR TRANSMIS- SION  PG 85 | ELBOW  PG 85 | COMP AS- SEMBLIES PG 86 | DELRIN SLEEVE  PG 86 |

BRASS

PICTORIAL INDEX

| | | | | | | | | |
|--|--|---|---|---|--|---|---|---|
| <p>LONG NUT</p>  <p>PG 86</p> | <p>SELF-ALIGN</p>  <p>PG 86</p> | <p>CAPTIVE SLEEVE PG 87</p> | <p>CAP SLEEVE</p>  <p>PG 87</p> | <p>UNION</p>  <p>PG 87</p> | <p>MALE</p>  <p>PG 87</p> | <p>MALE ELBOW</p>  <p>PG 87</p> | <p>M. BRANCH</p>  <p>PG 87</p> | <p>ANG. NEED.</p>  <p>PG 87</p> |
| <p>SLE. NEED.</p>  <p>PG 87</p> | <p>FLARE-LESS PGS 82-92</p> | <p>NUT PLS.</p>  <p>PG 89</p> | <p>UNION</p>  <p>PG 89</p> | <p>BULKHEAD</p>  <p>PG 89</p> | <p>UNION TUBE</p>  <p>PG 89</p> | <p>BULKHEAD</p>  <p>PG 89</p> | <p>UNION TEE</p>  <p>PG 90</p> | <p>FE. CONNEC-</p>  <p>PG 90</p> |
| <p>M. CONNEC-TOR</p>  <p>PG 90</p> | <p>MALE ELBOW</p>  <p>PG 90</p> | <p>FEMALE ELBOW</p>  <p>PG 91</p> | <p>MALE RUN TEE</p>  <p>PG 91</p> | <p>M. BRANCH TEE</p>  <p>PG 91</p> | <p>FE. BRANCH TEE</p>  <p>PG 91</p> | <p>UNI NUT SLEEVE</p>  <p>PG 92</p> | <p>NUT</p>  <p>PG 92</p> | <p>PLASTIC SLEEVE</p>  <p>PG 92</p> |
| <p>PLASTIC CAP</p>  <p>PG 92</p> | <p>BRASS PUSH-IN PGS 95-99</p> | <p>UNION CON-NECT</p>  <p>PG 95</p> | <p>UNION TEE</p>  <p>PG 95</p> | <p>UNION ELBOW</p>  <p>PG 95</p> | <p>FE. CONNEC-TOR</p>  <p>PG 95</p> | <p>M. CONNEC-TOR</p>  <p>PG 96</p> | <p>SWVL. M. ELBOW</p>  <p>PG 96</p> | <p>FIXED M. ELBOW</p>  <p>PG 97</p> |
| <p>FE. SWVL ELBOW</p>  <p>PG 97</p> | <p>FEMALE ELBOW</p>  <p>PG 97</p> | <p>SWVL M. RUN T</p>  <p>PG 98</p> | <p>FIXED M. RUN T</p>  <p>PG 98</p> | <p>SWVL M. BRANCH</p>  <p>PG 98</p> | <p>FIX M. BRANCH T</p>  <p>PG 98</p> | <p>UNION "Y"</p>  <p>PG 99</p> | <p>BULKHEAD UNION</p>  <p>PG 99</p> | <p>FE. BLKHD UNION</p>  <p>PG 99</p> |
| <p>REDUCER</p>  <p>PG 99</p> | <p>PLASTIC PLUG</p>  <p>PG 99</p> | <p>N/P BRASS PUSH-IN PGS 101-104</p> | <p>UNION CON-NECT</p>  <p>PG 101</p> | <p>UNION TEE</p>  <p>PG 101</p> | <p>FE. CONNEC-TOR</p>  <p>PG 101</p> | <p>UNION ELBOW</p>  <p>PG 101</p> | <p>FIXED M. ELBOW</p>  <p>PG 102</p> | <p>MALE W/INT HEX</p>  <p>PG 102</p> |
| <p>M. CONNEC-TOR</p>  <p>PG 102</p> | <p>SWVL. M. ELBOW</p>  <p>PG 103</p> | <p>FE. SWVL ELBOW</p>  <p>PG 103</p> | <p>SWVL. M. RUN T</p>  <p>PG 103</p> | <p>REDUCER</p>  <p>PG 104</p> | <p>UNION "Y"</p>  <p>PG 104</p> | <p>SWVL M. BRANCH</p>  <p>PG 104</p> | <p>BULKHEAD UNION</p>  <p>PG 104</p> | <p>N/P VALVES PG 105</p> |
| <p>PUSH-IN VALVE</p>  <p>105</p> | <p>TUBE X MIP MINI</p>  <p>PG 105</p> | <p>FIP MINI BALL</p>  <p>PG 105</p> | <p>MXF MINI BALL</p>  <p>PG 105</p> | <p>FIP ANGLE BALL</p>  <p>PG 105</p> | <p>3-WAY MINI</p>  <p>PG 105</p> | <p>3_WAY MINI</p>  <p>PG 105</p> | <p>METRIC N/P BRASS PGS106-108</p> | <p>BULKHEAD UNION</p>  <p>PG 106</p> |





































































PICTORIAL INDEX

BRASS

| | | | | | | | | |
|--|---|--|--|--|---|--|--|---|
| UNION TEE  PG 106 | UNION ELBOW  PG 106 | UNION "Y"  PG 106 | PLUG  PG 106 | METRIC TUBE  PG 107 | INTERNAL HEX  PG 107 | METRIC TUBE  PG 107 | METRIC SWVL  PG 107 | METRIC SWVL  PG 108 |
| BULKHEAD  PG 108 | COM- POSITE PUSH-IN PGS 110-113 | UNION  PG 110 | UNION TEE  110 | FE. CONNec-  PG 110 | 90° UNION ELB.  PG 110 | UNION "Y"  PG 110 | M. CONNec-  111 | SW MALE  PG 111 |
| LONG PTTN M. EL  PG 111 | FE. SWVL ELBOW  PG 112 | 45 SWIVEL ELL  PG 112 | SWVL M. RUN T  PG 112 | SWVL M. BRANCH  PG 112 | BULKHEAD FE.  PG 113 | BULKHEAD UNION  PG 113 | SWIVEL "Y" CON  PG 113 | NEEDLE VALVE  PG 113 |
| FLOW CON- TROL  PG 113 | FLOW CON- TROL  PG 113 | METRIC PUSH-IN PGS 114-116 | METRIC MALE  PG 114 | METRIC EL- BOW  PG 114 | METRIC TEE  PG 114 | METRIC UNION  PG 114 | METRIC TEE  PG 115 | METRIC TEE  PG 115 |
| METRIC SW ELBOW  PG 115 | METRIC WYE  PG 116 | METRIC SW WYE  PG 116 | DOT BRASS PUSH-IN PGS 118-123 | PLUG  PG 118 | UNION  PG 118 | UNION TEE  PG 118 | UNION ELBOW  PG 118 | FEMALE CONN  PG 119 |
| MALE BRANCH TMALE CON- NECTOR  PG 119 | MALE ELBOW  PG 120 | MALE SWL ELBOW  PG 120 | FEMALE ELBOW  PG 121 | FEMALE SWL EL  PG 121 | MALE RUN TEE  PG 121 | MALE SWL RUN T  PG 122 | MALE 45° ELBOW  PG 122 | 45° SWL EL- BOW  PG 122 |
| MALE BRANCH T  PG 122 | SWL BRANCH TEE  PG 123 | FEM BRANCH T  PG 123 | BULK CON- NECT  PG 123 | BULKHEAD UNION  PG 123 | FEM BULK UNION  PG 123 | DOT COMP PUSH-IN PGS 125128 | STRAIGHT UNION  125 | UNION TEE  PG 125 |
| UNION 90° EL  PG 125 | FEM CONNec- TOR  PG 125 | MALE CON- NECTOR  PG 126 | 90° MALE ELBOW  PG 126 | 90° FEMALE EL  PG 126 | MALE RUN TEE  PG 127 | MALE BRANCH T  PG 127 | FEM BRANCH T  PG 127 | 45° MALE ELBOW  PG 127 |

BRASS

PICTORIAL INDEX

| | | | | | | | | | |
|---|--|--|--|--|--|--|---|---|---|
|  UNION "Y" PG 128 |  MALE BRANCH PG 128 |  BULKHEAD PG 128 |  FEM BULK PG 128 | <p>DOT FOR NYLON TUBE PG 130-133</p> | |  SLEEVE PG 130 |  NUT PG 130 |  UNION PG 130 |  BULKHEAD PG 130 |
|  SS INSERT PG 130 |  BRASS INSERT PG 130 |  TEE PG 131 |  RED BRANCH PG 131 |  ELBOW PG 131 |  FEMALE PG 131 |  MALE PG 132 |  SWL MALE PG 132 |  MALE ELBOW PG 132 | |
|  SWL MALE ELBOW PG 132 |  FEMALE ELBOW PG 132 |  MALE RUN TEE PG 133 |  MALE BRANCH T PG 133 |  FEM BRANCH T PG 133 |  45° ELBOW PG 133 |  SWL 45° ELBOW PG 133 | <p>DOT FOR COPPER PGS 134-135</p> | |  SLEEVE PG 134 |
|  NUT PG 134 |  UNION PG 134 |  MALE ADAPTER PG 135 |  90° MALE ELBOW PG 135 |  MALE BRANCH T PG 135 | <p>DOT FOR HOSE PGS 136-138</p> | |  SLEEVE PG 136 |  NUT PG 136 |  NUT-USE SPRING PG 136 |
|  SPRING PG 137 |  NUT/SPRING PG 137 |  UNION PG 137 |  CONNECTOR HOSE PG 137 |  MALE CONNECTOR PG 137 |  ADAPTER FOR SWL PG 138 |  MALE ADAPTER PG 138 |  ADAPTER BODY PG 138 |  MALE ADAPTER PG 138 | |
| <p>GREASE FITTINGS PGS 139-142</p> | |  1/8 STR. PG 139 |  BALL CHECK 1/8 LONG PG 139 |  1/8" 30 PG 139 |  1/8" 45 PG 139 |  65° 1/8" PG 139 |  90° 1/8" PG 139 |  1/4 STR PG 139 |  65° BALL CHECK PG 140 |
|  SHORT 1/4-28 PG 140 |  LONG 1/4-28 PG 140 |  EXTRA LONG 1/4-28 PG 140 |  SHORT 45° BC 1/4-28 PG 140 |  SHORT 45° BC 1/4-28 PG 140 |  LONG 45° BC 1/4-28 PG 140 |  90° BALL CHECK 1/4-28 PG 140 |  DRIVE TYPE PG 141 |  DRIVE TYPE PG 141 | |
|  6MM PG 141 |  6MM 45° PG 141 |  6MM 90° PG 141 |  8MM PG 141 |  8MM 45° PG 141 |  8MM 90° PG 141 |  10MM PG 142 |  10MM 45° PG 142 |  10MM 90° PG 142 | |

PICTORIAL INDEX

BRASS

| | | | | | | | | |
|--|---|--|--|---|---|---|---|---|
| 5/16"-24  PG 142 | 3/8" - 24  PG 142 | BUTTON HEAD  PG 142 | WHIP HOSE  PG 142 | DRAIN COCKS PGS 144-145 | GAS SHUT OFF  PG 144 | DRAIN COCK  PG 144 | TRUCK DRAIN  PG 144 | SHUT OFF  PG 144 |
| LEVER  PG 144 | AIR TANK  PG 144 | INTERNAL  PG 145 | INTERNAL  PG 145 | LG INTERNAL  PG 145 | TEE HANDLE  PG 145 | EXT W/ SPOUT  PG 145 | BIBB NEEDLE  PG 145 | RADIATOR  PG 145 |
| SHUT OFF COCKS PG 146 | COMP X MALE  PG 146 | COMP X COMP  PG 146 | FEMALE X FEM  PG 146 | MALE X FE-MALE  PG 146 | MALE X MALE  PG 146 | NEEDLE VALVES PGS 147-148 | COMP X MALE  PG 147 | COMP X M ANGLE  PG 147 |
| COMP X COMP  PG 147 | FLARE X MALE  PG 147 | FLARE X MALE  PG 148 | FLARE X FLARE  PG 148 | AIR VENT  PG 148 | MALE TO MALE  PG 148 | F X F  PG 148 | MALE X FE-MALE  PG 148 | TRUCK VALVES PG 149 |
| TRUCK VALVE  PG 149 | HOSE TO MALE  PG 149 | FEMALE TO MALE  PG 149 | FLARE TO MALE  PG 149 | SOLID BOTTOM VALVES PG 149 | SOLID BOTTOM  PG 149 | FIP X FIP  PG 149 | FUEL VALVE  PG 149 | MALE X MALE  PG 149 |
| F X F  PG 149 | MALE X FLARE  PG 149 | MULTI PORT VALVES PGS 150-151 | 3-WAY (SIDE)  PG 150 | 3-WAY (BOTTOM)  PG 150 | 4-WAY  PG 150 | 6-PORT  PG 151 | MARINE VALVES PG 151 | ANTI-SIPHON  PG 151 |
| ANTI-SIPHON  PG 151 | ALUM ANTI-SIPHON  PG 151 | MXF ANTI-SIPHON  PG 151 | ALUM MXF  PG 151 | ALUM BARB  PG 151 | FL X MIP  PG 151 | MINI BALL VALVES PG 152 | MINI BALL  PG 152 | MALE X MALE  PG 152 |
| PIPE X BARB  PG 152 | F X F  PG 152 | F X F  PG 152 | F X F  PG 152 | FNPT X FNPT  PG 152 | MNPT X FNPT  PG 152 | PANEL MOUNT VALVES PG 152 | PANAL MOUNT  PG 152 | F X F  PG 152 |

| | | | | | | | | |
|---|--|---|--|--|---|---|---|---|
| <p>F X F</p>  <p>PG 152</p> | <p>CHECK VALVES PG 153</p> | <p>FIPXFIP</p>  <p>PG 153</p> | <p>FXF BUNA-N</p>  <p>PG 153</p> | <p>MXM BUNA</p>  <p>PG 153</p> | <p>M X F BUNA-N</p>  <p>PG 153</p> | <p>MNPT X MNPT</p>  <p>PG 153</p> | <p>MNPT X FNPT</p>  <p>PG 153</p> | <p>FNPT X FNPT</p>  <p>PG 153</p> |
| <p>NPT X NPSM</p>  <p>PG 153</p> | <p>F X F</p>  <p>PG 153</p> | <p>F X M</p>  <p>PG 153</p> | <p>M X F</p>  <p>PG 153</p> | <p>M X M CHECK</p>  <p>PG 153</p> | <p>L/F PIPE PGS 155-157</p> | <p>90 ELBOW</p>  <p>PG 155</p> | <p>TEE</p>  <p>PG 155</p> | <p>90° STREET EL</p>  <p>PG 155</p> |
| <p>COUPLING</p>  <p>PG 155</p> | <p>RED COU-PLING</p>  <p>PG 155</p> | <p>HEX BUSHING</p>  <p>PG 155</p> | <p>FACE BUSHING</p>  <p>PG 155</p> | <p>HEX CAP</p>  <p>PG 156</p> | <p>SOLID SQ PLUG</p>  <p>PG 156</p> | <p>COUNTER-SUNK</p>  <p>PG 156</p> | <p>CORED HEX PLUG</p>  <p>PG 156</p> | <p>CLOSE NIPPLE</p>  <p>PG 156</p> |
| <p>HEX NIPPLE</p>  <p>PG 156</p> | <p>MALE BRANCH T</p>  <p>PG 156</p> | <p>EXT ADAPTER</p>  <p>PG 157</p> | <p>STR/SERVICE TEE</p>  <p>PG 157</p> | <p>L/F BARB PGS 157-158</p> | <p>RIGID M ADAPTER</p>  <p>PG 157</p> | <p>MENDER/SPLICER</p>  <p>PG 157</p> | <p>FE ADAPTER</p>  <p>PG 157</p> | <p>FORGED HB 90°</p>  <p>PG 157</p> |
| <p>HB TEE</p>  <p>PG 158</p> | <p>FE FL SWIVEL</p>  <p>PG 158</p> | <p>BXB BALL VALVE</p>  <p>PG 158</p> | <p>L/F PUSH-ON PG 158</p> | <p>MALE ADAPTER</p>  <p>PG 158</p> | <p>SAE/JIC F SWL</p>  <p>PG 158</p> | <p>L/F GARDEN PGS 158-159</p> | <p>FGHXFGH SWL</p>  <p>PG 158</p> | <p>MGH X F PIPE</p>  <p>PG 158</p> |
| <p>MGH X M PIPE</p>  <p>PG 158</p> | <p>FEMALE SWIVEL</p>  <p>PG 158</p> | <p>FGHXMIP SWL</p>  <p>PG 159</p> | <p>L/F FLARE PGS 159-160</p> | <p>SHORT ROD NUT</p>  <p>PG 159</p> | <p>SHORT FORGE NUT</p>  <p>PG 159</p> | <p>FLARED CAP</p>  <p>PG 159</p> | <p>UNION</p>  <p>PG 159</p> | <p>TEE</p>  <p>PG 159</p> |
| <p>FEMALE ADAPTER</p>  <p>PG 159</p> | <p>MALE ADAPTER</p>  <p>PG 159</p> | <p>90° MALE ELBOW</p>  <p>PG 160</p> | <p>MALE RUN TEE</p>  <p>PG 160</p> | <p>FORGED SWIVEL</p>  <p>PG 160</p> | <p>L/F COMP PGS 160-163</p> | <p>BRASS INSERT</p>  <p>PG 160</p> | <p>CAP</p>  <p>PG 161</p> | <p>UNION</p>  <p>PG 161</p> |
| <p>RED UNION</p>  <p>PG 161</p> | <p>TEE</p>  <p>PG 161</p> | <p>FORGED RED TEE</p>  <p>PG 161</p> | <p>UNION ELBOW</p>  <p>PG 161</p> | <p>FORGED RED EL</p>  <p>PG 161</p> | <p>COMP X SWEAT</p>  <p>PG 161</p> | <p>FEMALE ADAPTER</p>  <p>PG 162</p> | <p>MALE ADAPTER</p>  <p>PG 162</p> | <p>MALE ELBOW</p>  <p>PG 162</p> |









PICTORIAL INDEX

VALVES

| | | | | | | | | |
|--|---|--|--|---|---|---|--|--|
| FEMALE  PG 162 | NEEDLE VALVE  PG 163 | M X F PIPE  PG 163 | COMP X M  PG 163 | DISHWASHER  PG 163 | DISHWASHER  PG 163 | ICE MAKER KIT  PG 163 | ICE MAKER KIT  PG 163 | SADDLE VALVE  PG 163 |
| VALVES PGS 165- 209 | L/F BALL VALVES PGS 165-167 | LF BALL VALVE  PG 165 | SWT X SWT  PG 165 | FIP X FIP LF  PG 166 | SWT X SWT LF  PG 166 | LF ITALIAN  PG 167 | SWT X SWT LF  PG 167 | L/F VALVES PG 168 |
| GATE VALVE CXC  PG 168 | LF BRASS CHECK  PG 168 | SWING CHECK  PG 168 | CXC SWING CHK  PG 168 | Y-STRAINER  PG 168 | BRASS BALL VALVES PGS 169-180 | FORGED BRASS  PG 169 | LOCKING HANDLE  PG 170 | BUTTERFLY HANDLE  PG 171 |
| FXF NICKEL PLTD  PG 172 | NP/SS TRIM  PG 173 | ITALIAN BALL VALVE  PG 174 | M X F  PG 175 | ITALIAN M X F  PG 176 | MXF TEE HANDLE  PG 177 | FXM LOCKING  PG 178 | SPRING HANDLE  PG 179 | RIGHT ANGLE  PG 179 |
| 3WAY NON- VENT  PG 180 | 3WAY VENTED  PG 180 | SAFETY EX- HAUST  PG 180 | GAS BALL VALVES PG 181 | GAS BALL VALVE  PG 181 | FLARE X FLARE  PG 181 | FLARE X MIP  PG 181 | FLARE X FIP  PG 181 | ITALIAN GAS BALL  PG 181 |
| MINI BALL VALVES PGS 182-185 | ITALIAN MINI BALL  PG 182 | M X F  PG 182 | MINI MXF BRASS  PG 182 | FXF FLAG HANDLE  PG 183 | LEVER HANDLE  PG 183 | TEE HANDLE  PG 183 | TEE HANDLE  183 | MXF FLAG  PG 184 |
| LEVER HANDLE  PG 184 | SCREW- DRIVER  PG 184 | F X F MINI  PG 185 | F X M MINI  PG 185 | M X M MINI  PG 185 | BARB X MALE MINI  PG 185 | BARB X FE- MALE  PG 185 | BARB X BARB MINI  PG 185 | BRASS VALVES PGS 186-190 |
| 3-WAY SIDE OUT  PG 186 | 3-WAY BOT- TOM  PG 186 | STRAINER  187 | VACUUM BREAK  PG 187 | RADIATOR AIR  PG 187 | KEY ONLY  PG 187 | SILCOCK  PG 187 | HOSE BIBBS  PG 187 | GARDEN VALVE PG 187 |

NIPPLES & FITTINGS

PICTORIAL INDEX

| | | | | | | | | |
|--|--|--|---|--|--|---|--|--|
| <p>GATE VALVE</p>  <p>PG 188</p> | <p>QUICK OPEN-</p>  <p>PG 189</p> | <p>Y-STRAINER</p>  <p>PG 190</p> | <p>CHECK VALVES PGS 191-193</p> | <p>SWING CHECK</p>  <p>PG 191</p> | <p>Y-SWING</p>  <p>PG 191</p> | <p>CHECK VALVE</p>  <p>PG 192</p> | <p>IN LINE CHECK</p>  <p>PG 192</p> | <p>IN LINE CHECK</p>  <p>PG 193</p> |
| <p>SS BALL VALVES PGS 194-203</p> | <p>316 SS 2-PC</p>  <p>PG 194</p> | <p>316 SS 1-PC</p>  <p>PG 195</p> | <p>316 SS 2-PC</p>  <p>PG 196</p> | <p>SS MINI</p>  <p>PG 197</p> | <p>SS M X F</p>  <p>PG 197</p> | <p>FXF BUTTER-</p>  <p>PG 198</p> | <p>MXF BUT-</p>  <p>PG 198</p> | <p>MXM BUT-</p>  <p>PG 198</p> |
| <p>CHECK PGS 199-203</p> | <p>304 CHECK</p>  <p>PG 199</p> | <p>SS IN LINE</p>  <p>PG 200</p> | <p>FXF SPRING CHK</p>  <p>PG 201</p> | <p>MXF SPRING CHK</p>  <p>PG 201</p> | <p>Y-SPRING CHECK</p>  <p>PG 202</p> | <p>2PC BARREL</p>  <p>PG 202</p> | <p>SS SWING CHK</p>  <p>PG 203</p> | <p>SS GLOBE VALVE</p>  <p>PG 203</p> |
| <p>SS GATE VALVE</p>  <p>PG 203</p> | <p>STEEL VALVES PGS 204-207</p> | <p>STANDARD PORT</p>  <p>PG 204</p> | <p>2PC FULL PORT</p>  <p>PG 205</p> | <p>2 WAY</p>  <p>PG 206</p> | <p>3 WAY</p>  <p>PG 206</p> | <p>CHECK VALVES</p>  <p>PG 207</p> | <p>PVC PGS 208-209</p> | <p>PVC THREAD</p>  <p>PG 208</p> |
| <p>SLIP X SLIP</p>  <p>PG 208</p> | <p>FIP X FIP</p>  <p>PG 208</p> | <p>SLIP X SLIP</p>  <p>PG 208</p> | <p>IN LINE</p>  <p>PG 209</p> | <p>IN LINE FE-MALE</p>  <p>PG 209</p> | <p>DRUM FAUCET</p>  <p>PG 209</p> | <p>DRUM & BAR-REL</p>  <p>PG 209</p> | <p>NIPPLES & FITTINGS PGS 210-288</p> | <p>BRASS NIPPLES PGS 211-219</p> |
| <p>SEAMLESS SCH 40</p>  <p>PG 214</p> | <p>CHROME PLATED</p>  <p>PG 218</p> | <p>BRONZE FITTINGS PG 219-227</p> | <p>LEAD FREE BRONZE PG 219-227</p> | <p>90° ELBOW</p>  <p>PG 220</p> | <p>90° REDUCE ELB</p>  <p>PG 220</p> | <p>90° STREET ELLS</p>  <p>PG 220</p> | <p>45° ELBOW</p>  <p>PG 221</p> | <p>45 ST ELBOW</p>  <p>PG 221</p> |
| <p>CROSS</p>  <p>PG 221</p> | <p>TEE</p>  <p>PG 222</p> | <p>REDUCING TEE</p>  <p>PG 222</p> | <p>REDUCING TEE</p>  <p>PG 222</p> | <p>COUPLING</p>  <p>PG 223</p> | <p>REDUCE COUP</p>  <p>PG 223</p> | <p>CAP</p>  <p>PG 224</p> | <p>UNION</p>  <p>PG 224</p> | <p>HEX LOCKNUT</p>  <p>PG 224</p> |
| <p>HEX BUSHING</p>  <p>PG 225</p> | <p>HEX BUSHING</p>  <p>PG 225</p> | <p>CNTRSUNK PLUG</p>  <p>PG 226</p> | <p>CORED PLUG</p>  <p>PG 226</p> | <p>SOLID PLUG</p>  <p>PG 226</p> | <p>HEX NIPPLE</p>  <p>PG 227</p> | <p>REDUCE HEX NIP</p>  <p>PG 227</p> | <p>CLEANOUT PLUGS PG 228</p> | <p>CLEANOUT PLUG</p>  <p>PG 228</p> |

PICTORIAL INDEX

NIPPLES & FITTINGS

| | | | | | | | | |
|---|---|---|---|---|--|--|---|---|
| <p>CS C/O PLUG  PG 228</p> | <p>C/O PLUG W/  PG 228</p> | <p>DROP EAR ELBOWS PG 228</p> | <p>BRONZE D/E  PG 228</p> | <p>SWT X SWT  PG 228</p> | <p>PEX X FIP  228</p> | <p>BRASS INSERTS PGS 229-230</p> | <p>BARB FOR PL  PG 229</p> | <p>BRONZE TEE  PG 229</p> |
| <p>90 BRONZE  PG 229</p> | <p>UNION 90  229</p> | <p>STEEL INSERTS PG 229</p> | <p>STEEL INSERT  PG 229</p> | <p>REDUCER  PG 229</p> | <p>UNION  PG 229</p> | <p>SS IN-SERTS PG 230</p> | <p>SS MALE  PG 230</p> | <p>SS 90 ELBOW  PG 230</p> |
| <p>L/F INSERTS PG 230</p> | <p>LF UNION  PG 230</p> | <p>LF MALE BRANCH  PG 230</p> | <p>LF UNION ELBOW  PG 230</p> | <p>WELL COUPLINGS PG 230</p> | <p>SS DROP WELL  PG 230</p> | <p>SS HEAVY CPLG  PG 230</p> | <p>SS MERCHANT  PG 230</p> | <p>SS NIPPLES PG 231-236</p> |
| <p>304 SCH 40 WELDED  PG 234</p> | <p>316 SCH 40 WELDED  PG 234</p> | <p>SS FITTINGS PG 237-244</p> | <p>90° ELBOW  PG 238</p> | <p>90° STREET ELB.  PG 238</p> | <p>45° STREET ELB.  PG 238</p> | <p>TEE  PG 239</p> | <p>CROSS  PG 239</p> | <p>HEX NIPPLE  PG 239</p> |
| <p>REDUCE HEX NIP  PG 240</p> | <p>COUPLING  PG 240</p> | <p>REDUCE COUP  PG 240</p> | <p>MACHINED COUP  PG 240</p> | <p>HALF COUPLING  241</p> | <p>UNION  241</p> | <p>CAP-CAST  PG 241</p> | <p>HEX CAP-BRSTCK  PG 241</p> | <p>HEX BUSHING  PG 242</p> |
| <p>HEX LOCKNUT  PG 243</p> | <p>HEX SOCKET PLG  PG 243</p> | <p>CORED PLUG  PG 243</p> | <p>SOLID PLUG  PG 243</p> | <p>SOLID HEX PLUG  PG 244</p> | <p>CORED HEX PLUG  PG 244</p> | <p>HOSE NIPPLE  PG 244</p> | <p>REDUCING  PG 244</p> | <p>STEEL NIPPLES PG 245-262</p> |
| <p>SCH 40 GALVANIZED  PG 249</p> | <p>SCH 40 BLACK  PG 249</p> | <p>ASSORTMENTS  PG 253</p> | <p>TOTE TRAYS  PG 253</p> | <p>SCH 80 SEAMLESS  PG 259</p> | <p>XXS SEAMLESS  PG 260</p> | <p>GROOVE NIPPLES PG 261-262</p> | <p>THREAD X GROOVE  PG 261</p> | <p>GROOVE X GROOVE  PG 262</p> |
| <p>MERCHANT COUPLINGS PG 263-264</p> | <p>MERCHANT COUP  PG 263</p> | <p>MERCHANT COUP  PG 263</p> | <p>HALF MECHAN C  PG 263</p> | <p>API LINE COUP  PG 264</p> | <p>MAL-LEABLE FITTINGS PG 265-273</p> | <p>90° ELBOW GALV  PG 266</p> | <p>90° ELB. BLACK  PG 266</p> | <p>REDUCE ELBOW  PG 266</p> |


































































NIPPLES & FITTINGS

PICTORIAL INDEX

| | | | | | | | | |
|--|---|---|--|---|---|---|--|---|
| REDUCE  PG 266 | GALV ST.  PG 266 | BLK. ST. EL-  PG 266 | 45° GALV  PG 267 | 45° BLK. EL-  PG 267 | 45° GALV ST.  PG 267 | 45° BLK. ST.  PG 267 | GALV CROSS  PG 267 | BLACK CROSS  PG 267 |
| GLAV TEE  PG 268 | BLACK TEE  PG 268 | GALV REDUCE  PG 268 | BLK. REDUCE  PG 268 | BULLHEAD  PG 269 | BLK. BLKHD  PG 269 | REDUCING  PG 269 | MALL SERVICE  269 | MALL SERVICE  PG 269 |
| GALV OUT TEE  PG 269 | BLK. OUT TEE  PG 269 | GALV COU-PLING  PG 270 | BLK. COU-PLING  PG 270 | GALV RED COUP  PG 270 | BLK. RED COUP  PG 270 | GALV HEX BUSH  PG 271 | BLK. HEX BUSH  PG 271 | GALV HEX BUSH  271 |
| BLK. HEX BUSH  PG 271 | GALV UNION  PG 272 | BLACK UNION  PG 272 | GALV SQR PLUG  272 | BLK SQR PLUG  PG 272 | GALV CAP  PG 272 | BLACK CAP  PG 272 | GALV FLR FLANGE  PG 273 | BLK FLR FLANGE  PG 273 |
| EXTENSION  PG 273 | SHROOM CAP  PG 273 | STEEL FITTINGS PG 274-275 | GALV HEX BUSH  PG 274 | BLK HEX BUSH  PG 274 | GALV CAP  PG 274 | BLK CAP  PG 274 | GALV SQR PLUG  PG 274 | BLK SQR PLUG  PG 274 |
| GALV HEX PLUG  PG 274 | BLK HEX PLUG  PG 274 | GALV CS PLUG  PG 275 | BLK CS PLUG  PG 275 | CS HEX  PG 275 | BLK CS PLUG  PG 275 | GALV FACE BUSH  PG 275 | BLK FACE BUSH  PG 275 | 300# MAL-LEABLE PG 276-277 |
| 90° ELBOW  PG 276 | 45° ELBOW  PG 276 | 90° ST ELBOW  PG 276 | TEE  PG 276 | COUPLING  PG 276 | REDUCE COUP  PG 277 | CAP  PG 277 | UNION  PG 277 | MAG DRAIN PLUG  PG 277 |
| BULL PLUGS & SWAGES PG 278-279 | BULL PLUG  PG 278 | XH BULL PLUG  PG 278 | SCH 40 SWAGE  PG 278 | HEX SWAGE  PG 279 | SCH 80 SWAGE  279 | XXH SWAGE  PG 279 | STEEL FLANGES PG 280-281 | SLIP-ON  PG 280 |

PICTORIAL INDEX

PLASTIC FITTINGS

| | | | | | | | | | | |
|--|--|--|---|---|---|---|--|--|--|--|
| <p>THREADED</p>  <p>PG 280</p> | <p>WELD NECK</p>  <p>PG 281</p> | <p>BLIND FLNG</p>  <p>PG 281</p> | <p>COPPER FITTINGS PG 283-288</p> | <p>90° EL CXC</p>  <p>PG 283</p> | <p>90° ST EL FTG</p>  <p>PG 283</p> | <p>90° LONG</p>  <p>PG 283</p> | <p>90° LONG</p>  <p>PG 283</p> | <p>45° EL CXC</p>  <p>PG 284</p> | | |
| <p>45° ST FTG X C</p>  <p>PG 284</p> | <p>COUPLING</p>  <p>PG 284</p> | <p>284</p>  <p>284</p> | <p>COUPLING</p>  <p>PG 285</p> | <p>REDUCER W/</p>  <p>PG 285</p> | <p>FITTING RE-</p>  <p>PG 285</p> | <p>MALE</p>  <p>PG 286</p> | <p>FTGXM</p>  <p>PG 286</p> | <p>FEMALE</p>  <p>PG 287</p> | | |
| <p>FTG X F ADAPTER</p>  <p>PG 287</p> | <p>CAP</p>  <p>PG 287</p> | <p>UNION C X C</p>  <p>PG 287</p> | <p>U-TYPE STRAP</p>  <p>287</p> | <p>TEE</p>  <p>PG 288</p> | <p>PLASTIC FITTINGS PG 290-299</p> | | <p>PIPE PG 290-292</p> | | <p>ELBOW</p>  <p>PG 290</p> | <p>ELBOW</p>  <p>PG 290</p> |
| <p>TEE</p>  <p>PG 290</p> | <p>TEE</p>  <p>PG 290</p> | <p>STREET ELBOW</p>  <p>PG 290</p> | <p>STREET ELBOW</p>  <p>PG 290</p> | <p>HEX HEAD PLUG</p>  <p>PG 290</p> | <p>HEX HEAD PLUG</p>  <p>PG 290</p> | <p>HEX BUSHING</p>  <p>PG 291</p> | <p>HEX BUSHING</p>  <p>PG 291</p> | <p>HEX NIPPLE</p>  <p>PG 291</p> | | |
| <p>HEX NIPPLE</p>  <p>PG 291</p> | <p>RED NIPPLE</p>  <p>PG 291</p> | <p>RED NIPPLE</p>  <p>PG 291</p> | <p>COUPLING</p>  <p>PG 292</p> | <p>COUPLING</p>  <p>PG 292</p> | <p>PIPE CAP</p>  <p>PG 292</p> | <p>PLASTIC BULK- HEAD</p>  <p>PG 292</p> | <p>HOSE BARB PG 292-295</p> | | <p>MALE ADAPTER</p>  <p>PG 292</p> | |
| <p>MALE ADAPTER</p>  <p>PG 293</p> | <p>HOSE X MALE 90°</p>  <p>PG 293</p> | <p>HOSE X MALE 90°</p>  <p>PG 293</p> | <p>294</p>  <p>294</p> | <p>UNION ELBOW</p>  <p>PG 294</p> | <p>SPLICER</p>  <p>PG 294</p> | <p>SPLICER</p>  <p>PG 294</p> | <p>RED SPLICER</p>  <p>PG 294</p> | <p>RED SPLICER</p>  <p>PG 294</p> | | |
| <p>BARBED TEE</p>  <p>PG 295</p> | <p>BARBED TEE</p>  <p>PG 295</p> | <p>BARBED Y</p>  <p>PG 295</p> | <p>BARBED Y</p>  <p>PG 295</p> | <p>REDUCING TEE</p>  <p>PG 295</p> | <p>REDUCING TEE</p>  <p>PG 295</p> | <p>M BRANCH TEE</p>  <p>PG 295</p> | <p>GARDEN HOSE PG 296</p> | | <p>GH CAP</p>  <p>PG 296</p> | |
| <p>GH NUT</p>  <p>PG 296</p> | <p>GH ADPT INSERT</p>  <p>PG 296</p> | <p>GH THREAD ADPT</p>  <p>PG 296</p> | <p>MGH X F</p>  <p>PG 296</p> | <p>FGH X M</p>  <p>PG 296</p> | <p>FGH X F</p>  <p>PG 296</p> | <p>MGH X M</p>  <p>296</p> | <p>COMPRES- SION PG 297</p> | | <p>UNION CON- NECTOR</p>  <p>PG 297</p> | |


































































HOSE ACCESSORIES
























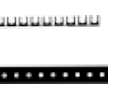










































PICTORIAL INDEX

| | | | | | | | | |
|---|--|--|--|--|--|--|--|--|
| BULKHEAD  PG 297 | UNION TEE  PG 297 | UNION ELBOW  PG 297 | FEMALE CON-  PG 297 | MALE CON-  PG 297 | MALE ELBOW  297 | PUSH-IN PG 298-299 | UNION CON-  PG 298 | REDUCING  PG 298 |
| BULKHEAD  PG 298 | UNION TEE  PG 298 | RED BRANCH  PG 298 | UNION ELBOW  PG 298 | REDUCING  PG 298 | FEMALE CON-  PG 298 | MALE CON-  PG 299 | STEM  PG 299 | REDUCER  PG 299 |
| FIXED ELBOW  PG 299 | PLUG-IN ELBOW  PG 299 | 2-WAY DIVIDER  PG 299 | PLUG  PG 299 | PLXPL  PG 299 | CHECK VALVE  PG 299 | HOSE ACCESSORIES PG 300-310 | ALUMINIUM CAM & GROOVE PG 301 | M ADPT X F NPT A  PG 301 |
| FEMALE COU- PLER B  301 | HOSE SHANK C  PG 301 | FEMALE COU- PLER D  PG 301 | HOSE SHANK E  PG 301 | MALE ADAPTER F  PG 301 | DUST CAP DC  PG 301 | DUST CAP DP  PG 301 | MALE ADAPTER  PG 302 | FEMALE COU- PLER DD  302 |
| FEMALE COU- PLER AA  PG 302 | MALE ADAPT- ER A  PG 302 | FEMALE COU- PLER B  PG 302 | FEMALE COU- PLER D  PG 302 | MALE ADAPT- ER F  PG 302 | POLYPROPYLENE CAM & GROOVE PG 303 | MALE ADAPT- ER A  PG 303 | FEMALE COU- PLER B  PG 303 | HOSE SHANK C  PG 303 |
| FEMALE COU- PLER D  PG 303 | M X HOSE SHANK E  PG 303 | MALE ADAPT- ER F  PG 303 | DUST CAP DC  PG 303 | DUST PLUG DP  PG 303 | STAINLESS STEEL CAM & GROOVE PG 304 | FEMALE ADAPTER A  PG 304 | FEMALE COU- PLER B  PG 304 | HOSE SHANK C  PG 304 |
| FEMALE COU- PLER D  PG 304 | HOSE SHANK E  PG 304 | MALE ADAPT- ER F  304 | DUST CAP DC  PG 304 | DUST PLUG DP  PG 304 | BRASS CAM & GROOVE PG 305 | MALE ADAPT- ER A  PG 305 | FEMALE COU- PLER B  PG 305 | HOSE SHANK C  PG 305 |
| FEMALE COU- PLER D  PG 305 | HOSE SHANK E  PG 305 | MALE ADAPT- ER F  PG 305 | DUST CAP DC  PG 305 | DUST CAP DP  PG 305 | SS ADAPTER  PG 306 | SS COUPLER DD  PG 306 | SS DA  PG 306 | BRASS ADAPTER  PG 306 |

PICTORIAL INDEX

PLASTIC/ HOSE ACCESSORIES

| | | | | | | | | |
|---|--|--|--|--|---|--|--|---|
| BRASS DA  PG 306 | SS HANDLE  PG 306 | BRASS  PG 306 | BUNA-N GAS-  PG 306 | SAFETY CLIP  PG 306 | SILICONE  PG 306 | VITON GASKET  PG 306 | KING NIPPLES PG 307 | HOSE NIPPLE  PG 307 |
| ZINC PLATED  PG 307 | REDUCER/EX-  PG 307 | 316 SS  PG 307 | BRASS  PG 307 | ALUMINUM  PG 307 | HOSE MENDER  PG 307 | PLATED STEEL  PG 307 | 316 HOSE  PG 307 | UNIVERSAL GROUND JOINT PG 308-309 |
| UNIVERSAL  PG 308 | WASHER  PG 308 | FEMALE NPT  PG 308 | HOSE END  PG 308 | TRIPLE CON- NECT  PG 308 | GROUND JOINT  PG 309 | HOSE STEM ONLY  PG 309 | WING NUT ONLY  PG 309 | F SPUT ONLY  PG 309 |
| M NPT STEM  PG 309 | BOLT CLAMP  PG 309 | FIRE HOSE FITTINGS PG 310 | FIRE HOSE  PG 310 | FXM HEX ADPT  PG 310 | DBL M HEX NIP  PG 310 | M SWL ADAPTER  PG 310 | BRASS CAP  PG 310 | HOSE CLAMPS PG 311-329 |
| 300 SERIES  312 | 600 SERIES  PG 312 | 325 SERIES  PG 313 | 611 SERIES  PG 313 | 350 SERIES  PG 314 | 620 SERIES  PG 314 | 350 SS SERIES  PG 315 | 620 SS SERIES  PG 315 | QUICK RE- LEASE  PG 316 |
| QUICK RE- LEASE  PG 316 | T-BOLT  PG 317 | SPRING LOAD- ED T-BOLT  PG 318 | CONSTANT TORQUE  PG 319 | V-BAND  PG 319 | MUFFLER  PG 320 | FLAT BAND  PG 320 | GUILLOTINE  320 | STEEL BUTT EXHAUST  PG 321 |
| STEEL LAP  PG 321 | SS STEEL LAP  PG 321 | SS EASY-FORM  PG 321 | 1-EAR  PG 322 | 2-EAR  PG 323 | GAPLESS EAR  PG 323 | F-CLAMP  PG 324 | K-CLAMP  324 | CLAMP-IT  PG 325 |
| BUCKLES  PG 325 | JAW PINCH- ERS  PG 326 | HOSE CRIMPER  PG 326 | FOLD UP ADAPTER  PG 326 | LOKING TOOL  PG 326 | LOKING TOOL  PG 326 | LINED BAND  PG 327 | MARINE  327 | MINI-F  PG 327 |

| | | | | | | | | |
|---|--|---|---|--|---|--|---|--|
| <p>SS MINI  PG 327</p> | <p>RUBBER CLIP  PG 328</p> | <p>RUBBER  PG 328</p> | <p>VINYL COATED  PG 328</p> | <p>HOSE FER-  PG 329</p> | <p>SS FERRULE  PG 329</p> | <p>TUBING PGS 331-336</p> | <p>POLYURE-  PG 331</p> | <p>BLACK  PG 331</p> |
| <p>BLUE  PG 331</p> | <p>RED  PG 331</p> | <p>POLYETHYL-  PG 332</p> | <p>BLACK POLY  PG 333</p> | <p>GREEN POLY  PG 333</p> | <p>WHITE POLY  PG 333</p> | <p>BLUE POLY  PG 333</p> | <p>RED POLY  PG 333</p> | <p>YELLOW POLY  333</p> |
| <p>ORANGE POLY  PG 333</p> | <p>NYLON 12  PG 334</p> | <p>PVC  PG 335</p> | <p>MINITUBING CUT  PG 335</p> | <p>TUBING CUT-TER  PG 335</p> | <p>PLASTIC TUBE CUT  PG 335</p> | <p>MOUNTING RACK  PG 335</p> | <p>ALUMINUM  PG 336</p> | <p>COPPER TUBE  PG 336</p> |
| <p>SOFT COPPER  336</p> | <p>PRESSURE WASHER PGS 337-342</p> | <p>QD NOZZLE  PG 338</p> | <p>MEG NOZZLE  PG 338</p> | <p>RUBBER TIP  PG 339</p> | <p>SS LIVE SWIVEL  PG 339</p> | <p>THERMAL RELIEF  PG 339</p> | <p>BOOM SWIVEL  PG 339</p> | <p>WAND  340</p> |
| <p>SPRAY GUN  PG 340</p> | <p>GUN W/EXT  PG 340</p> | <p>MALE STEEL PLUG  PG 341</p> | <p>FE. STEEL PLUG  PG 341</p> | <p>MOLDED GRIP  PG 342</p> | <p>MOLDED GRIP FE  PG 342</p> | <p>PNEUMATICS PG 343-363</p> | <p>QUICK DISCONNECTS PGS 344-350</p> | <p>INDUSTRIAL INTERCHANGE  PG 344</p> |
| <p>BRASS M. COUP  PG 344</p> | <p>STEEL FE. COUP  PG 344</p> | <p>STEEL M. COUP  PG 344</p> | <p>BR. HOSE COUP  PG 344</p> | <p>STL. HOSE COUP  PG 344</p> | <p>BR. PUSH-ON  PG 344</p> | <p>STL PUSH-ON  PG 345</p> | <p>STEEL M. PLUG  PG 345</p> | <p>STEEL FE. PLUG  345</p> |
| <p>BRASS M. PLUG  PG 345</p> | <p>STL HOSE PLUG  PG 345</p> | <p>PUSH-ON PLUG  PG 345</p> | <p>STL SWL M. PLUG  PG 345</p> | <p>UNIVERSAL QD PGS 345-346</p> | <p>UNIVERSAL SERIES  PG 346</p> | <p>BRASS FE. COUP  PG 346</p> | <p>BR. HOSE COUP  PG 346</p> | <p>SS M. COU-PLER  PG 346</p> |
| <p>SS FE. COU-PLER  PG 346</p> | <p>SS MALE PLUG  PG 346</p> | <p>SS FE. PLUG  PG 346</p> | <p>ARO QD PG 347</p> | <p>ARO 210  PG 347</p> | <p>FEMALE COU-PLER  PG 347</p> | <p>HOSE ID COUP  PG 347</p> | <p>MALE PLUG  PG 347</p> | <p>FEMALE PLUG  PG 347</p> |

PICTORIAL INDEX

PNEUMATICS

| | | | | | | | | |
|--|--|--|--|--|--|--|---|---|
| HOSE ID PLUG  PG 347 | AUTO QD PGS 348-349 | AUTO INTER-  PG 348 | BR. FE. COU-  PG 348 | STL. M. COU-  PG 348 | STL. FE. COU-  PG 348 | BR. MALE  PG 348 | BR. FE. PLUG  PG 348 | STEEL MALE  PG 348 |
| STEEL FE.  PG 348 | HOSE ID COUP  PG 349 | PUSH-ON  PG 349 | HOSE ID PLUG  PG 349 | PUSH-ON  PG 349 | LINCOLN QD PG 349 | LINCOLN  PG 349 | FEMALE COU-  PG 349 | STEEL MALE  PG 349 |
| STEEL FE. PLUG  PG 349 | MISC QD PG 350-351 | HIGH FLOW  PG 350 | FEMALE COU-PLER  PG 350 | MALE PLUG  PG 350 | FEMALE PLUG  PG 350 | MOLD COOL-ANT  PG 350 | FEMALE PLUG  PG 350 | MINI QD  PG 350 |
| FE COUPLER  PG 350 | FE PLUG  PG 350 | MUFFLERS/ BREATHERS PG 351-352 | BR. MUFFLER  PG 351 | STAINLESS MUFFLER  PG 351 | BR. BREATH VENT  PG 351 | STLS BREATH VENT  PG 351 | PSI SNUBBER  PG 351 | SPEED VALVE  PG 351 |
| SPEED VALVE  PG 352 | MUFF W/ FLOW  PG 352 | HI FLOW MUFF  PG 352 | HI FLOW MUFF  PG 352 | HI FLOW MUFF  PG 352 | HI FLOW MUFF  PG 352 | NIP INLINE FILTER  PG 352 | RPR AIR/OIL FILTER  PG 352 | AIR REGULA-TOR  PG 353 |
| MANIFOLD  PG 353 | AIR MANIFOLD  PG 353 | SAFETY VALVES PG 354 | SAFETY VALVES  PG 354 | SAFETY VALVES  PG 354 | CHECK VALVE  PG 354 | CHECK VALVE  PG 354 | TANK VALVES PG 355 | BIKE PUMP FITT  PG 355 |
| INFLATOR  PG 355 | SLIDE VALVE  PG 355 | SPRING CORE  PG 355 | SPRING CORE  PG 355 | SPRING CORE  PG 355 | BLK PLASTIC CAP  PG 355 | DOME CAP  PG 355 | BLOW GUNS PG 356 | CPCT BLOW GUN  PG 356 |
| SAFE BLOW GUN  PG 356 | SAFE BLOW GUN  PG 356 | CPCT BLOW GUN  PG 356 | PISTOL BLOW GUN  PG 356 | PISTOL BLO-GUN  PG 356 | GAUGES & CHUCKS PG 356-358 | RUB TIP NOZZLE  PG 356 | HI FLOW NOZZLE  PG 356 | M-TIRE GAUGE  PG 357 |

| | | | | | | | | |
|---|---|---|---|--|---|---|--|--|
| STANDARD  PG 357 | VOL REGULA-  PG 357 | EXTENSION  PG 357 | GUN ADAPTER  PG 357 | COIL AIR HOSE  PG 357 | COIL AIR HOSE  PG 357 | HEX BALL  PG 358 | M. BALL  PG 358 | BALL CHCK  PG 358 |
| DUAL AIR  PG 358 | DUAL STRT AIR  PG 358 | INFLATOR/  PG 358 | INFLATOR/  PG 358 | AIR ACCESSORY KITS PG 359-361 | GAUGES PG 362-364 | DRY GAUGE  PG 362 | CENTER BACK  PG 362 | LIQUID FILLED  PG 363 |
| WATER TEST  PG 364 | GAS TEST  PG 364 | THREAD SEAL  PG 365 | BLUE SEAL TAPE  PG 365 | YEL GAS TAPE  PG 365 | GRE OXY TAPE  PG 365 | GREY SS TAPE  PG 365 | TRUCK & TRAILER PG 366-387 | AIR COIL  PG 366 |
| SLIDER COIL  PG 366 | AIRLINE CABLE  PG 366 | AIRBRAKE REPAIR  PG 367 | AIRBRAKE REPAIR  PG 367 | AIRBRAKE REPAIR  PG 367 | POGO STICK  PG 367 | POGO STICK  PG 367 | HOSE HOLDER  PG 367 | HOSE HOLDER  PG 367 |
| HOSE HOLDER  PG 367 | HOSE HOLDER  PG 367 | HOSE HOLDER  PG 367 | HOSE HOLDER  PG 367 | HOSE SEPARA- TOR  PG 367 | HOSE SEPARA- TOR  PG 367 | 3 HOLE HOLDER  PG 367 | CLIP CARA- BINER  PG 368 | HANGER BRACKET  PG 368 |
| YOKE  PG 368 | FRAME CLIP  PG 368 | FRAME CLIP  PG 368 | FRAME CLIP  PG 368 | AIRHOSE CLIP  PG 368 | AXLE CLIP  PG 368 | TENDER KIT  PG 369 | TENDER KIT  PG 369 | TUBE  PG 369 |
| SPRING  PG 369 | SLIDER BAR  PG 369 | GLADHANDS  PG 370 | BRACKET MOUNT  PG 371 | KNOB STYLE GH  PG 371 | LEVER STYLE GH  PG 371 | GLADHAND GRIP  PG 372 | AL GLADHAND  PG 372 | GLADHAND PACIFER  PG 372 |
| GLADHAND SEAL  PG 372 | GLADHAND SEAL  PG 372 | GLADHAND SEAL  PG 372 | GLADHAND SEAL  PG 372 | GLADHAND SEAL  PG 372 | GLADHAND SEAL  PG 372 | GH COUPLING KIT  PG 373 | GH COUPLING KIT  PG 373 | NYLON GH HOLDER  PG 373 |

PICTORIAL INDEX

TRUCK AND TRAILER

| | | | | | | | | | | | |
|---|--|---|---|---|--|--|---|---|--|---|--|
| <p>NYLON GH</p>  <p>PG 373</p> | <p>GH HOLDER</p>  <p>PG 373</p> | <p>GH HOLDER</p>  <p>PG 373</p> | <p>GLADHAND</p>  <p>PG 373</p> | <p>KING PIN LOCK</p>  <p>PG 373</p> | <p>AIR CYLINDER</p>  <p>PG 374</p> | <p>HIGH LIFT</p>  <p>PG 374</p> | <p>TAILGATE</p>  <p>PG 375</p> | <p>TAILGATE AIR</p>  <p>PG 375</p> | | | |
| <p>TAILGATE AIR</p>  <p>PG 375</p> | <p>FIFTH WHEEL</p>  <p>PG 375</p> | <p>AIR TANK</p>  <p>PG 376</p> | <p>D2 AIR GOVER-</p>  <p>PG 376</p> | <p>QCK RELEASE</p>  <p>PG 376</p> | <p>R12 RELAY</p>  <p>PG 376</p> | <p>R14 RELAY</p>  <p>PG 377</p> | <p>3 WAY SOLE-</p>  <p>PG 377</p> | <p>UNI SOLENOID</p>  <p>PG 377</p> | | | |
| <p>AIR SOLENOID</p>  <p>PG 377</p> | <p>7 WAY CABLE</p>  <p>PG 378</p> | <p>7 WAY CABLE</p>  <p>PG 378</p> | <p>6 WAY ELEC CABLE</p>  <p>PG 379</p> | <p>4 WAY ELEC CABLE</p>  <p>PG 379</p> | <p>DUEL POLE</p>  <p>PG 379</p> | <p>SINGLE POLE</p>  <p>PG 379</p> | <p>PLUG</p>  <p>PG 380</p> | <p>PLUG</p>  <p>PG 380</p> | | | |
| <p>PLUG</p>  <p>PG 380</p> | <p>SOCKET</p>  <p>PG 380</p> | <p>7W DBLE GRIP</p>  <p>PG 380</p> | <p>ADAPTER</p>  <p>PG 380</p> | <p>RV 7WAY PLUG</p>  <p>PG 380</p> | <p>RV 7WAY SOCK</p>  <p>PG 380</p> | <p>6WAY PLUG</p>  <p>PG 381</p> | <p>6WAY SOCKET</p>  <p>PG 381</p> | <p>4WAY PLUG</p>  <p>PG 381</p> | | | |
| <p>4WAY SOCKET</p>  <p>PG 381</p> | <p>2 POLE PLUG</p>  <p>PG 381</p> | <p>2 POLE SOCKET</p>  <p>PG 381</p> | <p>1WAY PLUG</p>  <p>PG 381</p> | <p>1WAY SOCKET</p>  <p>PG 381</p> | <p>GROUND KIT</p>  <p>PG 381</p> | <p>PROTECTOR BOOT</p>  <p>PG 381</p> | <p>7WAY SOCKET</p>  <p>PG 382</p> | <p>CIRCUIT BREAKER</p>  <p>PG 382</p> | | | |
| <p>NOSE BOX-DEEP</p>  <p>PG 382</p> | <p>BATT GRND STRAP</p>  <p>PG 383</p> | <p>SS BATTERY NUT</p>  <p>PG 383</p> | <p>RUB GROM-MET</p>  <p>PG 383</p> | <p>DEER WHISTLE</p>  <p>PG 384</p> | <p>CONSP TAPE</p>  <p>PG 385</p> | <p>CONSP TAPE</p>  <p>PG 385</p> | <p>CONSP TAPE</p>  <p>PG 385</p> | <p>REFLECTOR</p>  <p>PG 385</p> | | | |
| <p>AMERICA TAPE</p>  <p>PG 385</p> | <p>TARP STRAP</p>  <p>PG 385</p> | <p>AIR BRAKE HOSE</p>  <p>PG 387</p> | <p>HYDRAULIC ADAPTERS PG 388-429</p> | | | <p>TECHNICAL INFORMATION PG 388-429</p> | | | <p>PIPE SWIVELS PG 397-398</p> | | |
| <p>FE. UNION ELB.</p>  <p>PG 397</p> | <p>M. 45° ELBOW</p>  <p>PG 398</p> | <p>FE. 45° UNION</p>  <p>PG 398</p> | <p>M. SWL TEE</p>  <p>PG 398</p> | <p>FE. SWL TEE</p>  <p>PG 398</p> | <p>FE. SWL TEE</p>  <p>PG 398</p> | <p>JIC 37 FLARE PG 399-403</p> | | | <p>JIC CAP</p>  <p>PG 399</p> | <p>JIC TUBE UNION</p>  <p>PG 399</p> | |

| | | | | | | | | |
|--|---|---|---|---|--|---|---|---|
| JIC M. CONN  PG 400 | JIC FE. CONN  PG 400 | JIC RED/EXP  PG 400 | PLUG  PG 401 | JIC UNION ELB.  PG 401 | JIC M. ELBOW  PG 401 | JIC M. ELBOW  PG 401 | MALE 45° ELBOW  PG 402 | M. BRANCH TEE  PG 402 |
| JIC FE. TEE  PG 402 | JIC UNION TEE  PG 402 | JIC BULK UNION  PG 403 | BULK UNION ELB  PG 403 | 45° UNION ELB  PG 403 | BULK BRANCH T  PG 403 | BULK RUN TEE  PG 403 | JIC TO FEMALE  PG 403 | JIC TO MALE  PG 403 |
| PIPE FITTINGS PG 404-407 | PIPE COU-PLING  PG 404 | HEX PIPE NIPPLE  PG 404 | EXP/ PIPE ADAP  PG 404 | HEX RED/ BUSH  PG 404 | HEX HEAD PLUG  PG 405 | HOLLOW HEX PLG  PG 405 | FLUSH HLW PLUG  PG 405 | SQR HEAD PLUG  PG 405 |
| PIPE CAP  PG 405 | MALE ELBOW  PG 405 | 45° M. ELBOW  PG 406 | 90° ST ELBOW  PG 406 | 45° ST ELBOW  PG 406 | FE. ELBOW  PG 406 | 45° FE. ELBOW  PG 406 | MALE PIPE TEE  PG 407 | FE. PIPE TEE  PG 407 |
| ST PIPE TEE  PG 407 | FE. RUN PIPE T  PG 407 | MALE PIPE TEE  PG 407 | FE. PIPE TEE  PG 407 | O-RING ADAPTERS PG 408-409 | JIC TO O-RING  PG 408 | O-RING TO PIPE  PG 408 | O-RING TO 37°  PG 408 | FE. O-RING  PG 408 |
| O-RING TO FE.  PG 409 | O-RING PLUG  PG 409 | O-RING HLW PLG  PG 409 | O-RING PORT  PG 409 | FEMALE SWIVELS PG 410-411 | JIC SWL ELBOW  PG 410 | JIC SWL ELBOW  PG 410 | JIC SWL 45°  PG 410 | JIC SWL TO F 90°  PG 410 |
| JIC SWL CONN  PG 410 | JIC SWL TO M  PG 410 | JIC SWL TO F ADP  PG 411 | JIC SWL BRANCH T  PG 411 | JIC SWL RUN T  PG 411 | SAE O-RING ADAPTERS PG 412-414 | JIC TO ORING 90°  PG 412 | JIC TO ORING 45°  PG 412 | JIC BRANCH TEE  PG 412 |
| JIC RUN TEE  PG 412 | ORING TO F 90°  PG 412 | ORING TO M 90°  PG 413 | ORING JIC 90°  PG 413 | F TO M ORING 90°  PG 413 | M ORING SWL AD  PG 413 | 90° ORING SWL  PG 413 | 45° ORING SWL  PG 414 | VITON O-RING  PG 414 |

PICTORIAL INDEX

HYDRAULICS

| | | | | | | | | |
|---|--|--|---|--|--|--|--|---|
| <p>NITRILE O-  PG 414</p> | <p>O-RING FACE SEAL PGS 414-418</p> | <p>BRAZE TUBE  PG 414</p> | <p>BRAZETUBE  PG 415</p> | <p>CAP  PG 415</p> | <p>BULKHEAD  PG 415</p> | <p>FACE SEAL  PG 415</p> | <p>PLUG  PG 416</p> | <p>ORFS UNION  PG 416</p> |
| <p>ORFS TO M 90°  PG 416</p> | <p>ORFS TO PIPE  PG 416</p> | <p>ORFS UNION T  PG 416</p> | <p>M ORFS TO  PG 417</p> | <p>M TO F 37° SWL  PG 417</p> | <p>SWL NUT  PG 417</p> | <p>37° SWIVEL  PG 417</p> | <p>O-RING ELBOW  PG 417</p> | <p>ORFS TO 45°  PG 417</p> |
| <p>SWIVEL EL- BOW  PG 418</p> | <p>BSPT, BSPP METRIC PGS 418-421</p> | <p>JIC BSPT  PG 418</p> | <p>BSPT ELBOW  PG 418</p> | <p>HEX NIPPLE  PG 418</p> | <p>PLUG  PG 418</p> | <p>HEX NIPPLE  PG 418</p> | <p>COUPLING  PG 419</p> | <p>FEMALE SWIVEL  PG 419</p> |
| <p>ELBOW  PG 419</p> | <p>45° ELBOW  PG 419</p> | <p>MALE NIPPLE  PG 419</p> | <p>MALE BSPP  PG 419</p> | <p>SWIVEL BSPP  PG 420</p> | <p>PLUG BSPP  PG 420</p> | <p>HOLLOW BSPP  PG 420</p> | <p>FEMALE BSPP  PG 420</p> | <p>MALE ELBOW  PG 421</p> |
| <p>STRAIGHT SWIVEL  PG 421</p> | <p>METRIC PAR- ALLEL  PG 421</p> | <p>HOLLOW  PG 421</p> | <p>FEMALE ADAPTER  PG 421</p> | <p>QUICK DISCONNECTS PGS 422-424</p> | <p>NO SPILL  PG 422</p> | <p>DRYBREAK  PG 422</p> | <p>ISO-A COU- PLER  PG 422</p> | <p>ISO-A PLUG  PG 422</p> |
| <p>ISO-B COU- PLER  PG 422</p> | <p>ISO-B PLUG  PG 422</p> | <p>FLUSH FACE  PG 423</p> | <p>FLUSH FACE  PG 423</p> | <p>LSQ SERIES  PG 423</p> | <p>LSQ SERIES  PG 423</p> | <p>AG SERIES  PG 424</p> | <p>AG SERIES  PG 424</p> | <p>KZE SERIES  PG 424</p> |
| <p>KZE SERIES  PG 424</p> | <p>MOTOR  PG 425</p> | <p>MOTOR  PG 425</p> | <p>PUMP  PG 426</p> | <p>PUMP  PG 427</p> | <p>FLOW VALVE  PG 428</p> | <p>NEEDLE VALVE  PG 428</p> | <p>PRESSURE VALVE  PG 429</p> | <p>AIR BREATHER  PG 429</p> |

PIPE



| | | | | | | | |
|-------------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------------------|
| Pipe Size | 1/16 | 1/8 | 1/4 | 3/8 | 1/2 | 3/4 | 1 |
| Thread Size | 1/16-27 | 1/8-27 | 1/4-18 | 3/8-18 | 1/2-14 | 3/4-14 | 1-11^{1/2} |
| Working Pressure | 1200 | 1200 | 1200 | 1200 | 1200 | 1000 | 1000 |
| Thread OD | 1/4 | 3/8 | 1/2 | 5/8 | 3/4 | 1 | 1-1/4 |

•Typical Application

Grease, fuels, LP and Natural gas (available on special order), refrigeration, instrumentation and hydraulic systems.

•Pressure

Operating pressure up to 1200 PSI.

•Vibration

Fair resistance.

•Temperature Range

-65°F to +250°F (-53°C to +121°C).

•Used With

Brass, bronze, copper, steel, aluminum and iron pipe.

• Tolerance

+/- .02 on all dimensions. Dimension Data can change without notice. Please call us when dimensions are critical.

• Conformance

Meets specifications and standards of ASA, ASME and SAE

• Not lead free

•“L” at the end of a Part# means Light Pattern

- these fittings are completely interchangeable with full pattern fittings, but have been modified in some way. This modification is usually in the length of the pipe threads. Used in plumbing and light industrial applications.

•Assembly Instructions

- 1- Tighten approximately 2-1/2 turns past hand tight.
- 2- Fittings with Everseal tighten two turns past hand tight. Brittle materials require special cautions.



• see page 310-312 for plastic pipe fittings.



• Lead Free Fittings
see pages 162-164

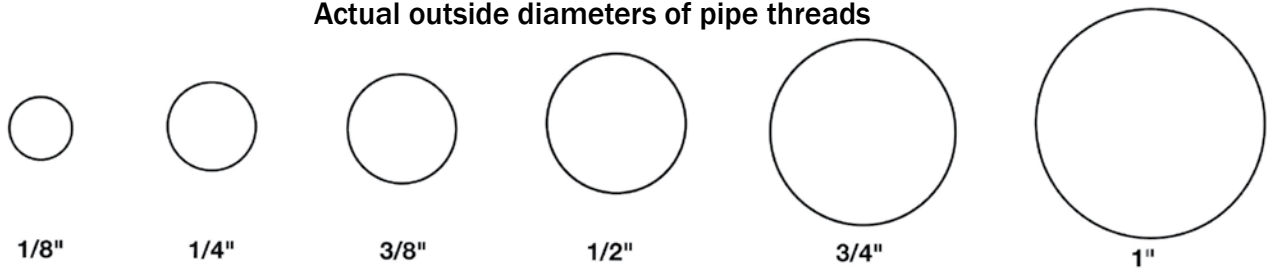


• For Bronze & Larger Sizes
see pages 224-232



• For BSPT/ BSPP
see pages 117-118

Actual outside diameters of pipe threads



Actual Male Thread Profiles

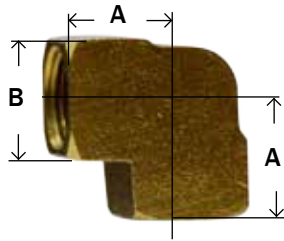


PIPE

BRASS FITTINGS

90° FEMALE ELBOW

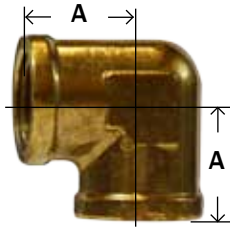
SAE# 130238



| Part # | Thread Size NPTF | A | B | Approx. Wt. Lbs. | List Price |
|--------|------------------|------|------|------------------|------------|
| 28-001 | 1/8" | 0.55 | 0.56 | 0.09 | 3.14 |
| 28-002 | 1/4" | 0.78 | 0.68 | 0.13 | 4.92 |
| 28-003 | 3/8" | 0.84 | 0.81 | 0.16 | 6.14 |
| 28-004 | 1/2" | 1.09 | 1.00 | 0.34 | 9.01 |
| 28-005 | 3/4" | 1.16 | 1.25 | 0.60 | 18.77 |

100 2200P 3500 302 200

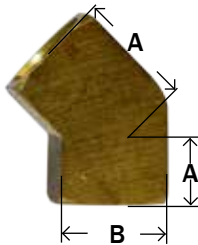
90° FORGED FEMALE ELBOW



| Part # | Thread size NPTF | A | Body Width | Approx. Wt. Lbs. | List Price |
|--------|------------------|------|------------|------------------|------------|
| 28-009 | 1/8" | 0.57 | 0.50 | 0.04 | 3.36 |
| 28-010 | 1/4" | 0.70 | 0.68 | 0.10 | 4.56 |
| 28-011 | 3/8" | 0.81 | 0.81 | 0.12 | 6.52 |
| 28-012 | 1/2" | 1.00 | 1.00 | 0.23 | 10.90 |
| 28-013 | 3/4" | 1.13 | 1.25 | 0.42 | 23.42 |
| 28-014 | 1/4" x 1/8" | 0.72 | 0.65 | 0.12 | 7.39 |
| 28-015 | 3/8" x 1/4" | 0.81 | 0.81 | 0.15 | 5.72 |
| 28-016 | 1/2" x 3/8" | 1.00 | 1.00 | 0.28 | 15.87 |
| 28-017 | 1" | 1.42 | 1.50 | 0.75 | 27.00 |

1200P E7 100AF 100B

45° FEMALE ELBOW

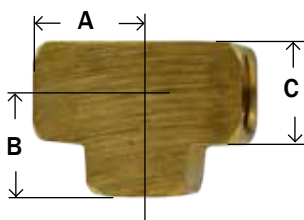


| Part # | Thread size NPTF | A | B | Approx. Wt. Lbs. | List Price |
|--------|------------------|------|------|------------------|------------|
| 28-018 | 1/8" | 0.45 | 0.56 | 0.06 | 4.99 |
| 28-019 | 1/4" | 0.66 | 0.68 | 0.12 | 6.13 |
| 28-020 | 3/8" | 0.69 | 0.81 | 0.16 | 9.07 |

129 2201P 205 23355 45EZ 105 100-45A

UNION TEE

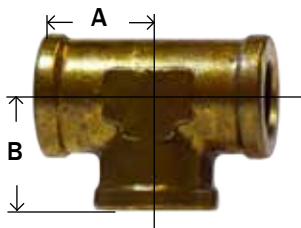
SAE# 130438



| Part # | Thread size NPTF | A | B | C | Approx. Wt. Lbs. | List Price |
|--------|------------------|------|------|------|------------------|------------|
| 28-024 | 1/8" | 0.55 | 0.55 | 0.56 | 0.08 | 3.55 |
| 28-025 | 1/4" | 0.78 | 0.78 | 0.68 | 0.17 | 5.24 |
| 28-026 | 3/8" | 0.84 | 0.84 | 0.81 | 0.22 | 8.36 |
| 28-027 | 1/2" | 1.09 | 1.09 | 1.00 | 0.43 | 13.39 |
| 28-028 | 3/4" | 1.16 | 1.16 | 1.25 | 0.64 | 25.71 |

311 101A 322 2203P 3700 203

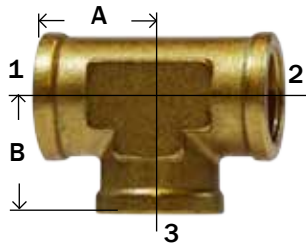
UNION FORGED TEE



| Part # | Thread size NPTF | A & B | Body Width | Approx. Wt. Lbs. | List Price |
|--------|------------------|-------|------------|------------------|------------|
| 28-032 | 1/8" | 0.56 | 0.50 | 0.06 | 3.34 |
| 28-033 | 1/4" | 0.71 | 0.68 | 0.13 | 5.38 |
| 28-034 | 3/8" | 0.81 | 0.81 | 0.16 | 6.37 |
| 28-035 | 1/2" | 1.00 | 1.00 | 0.27 | 12.67 |
| 28-036 | 3/4" | 1.16 | 1.25 | 0.53 | 19.39 |
| 28-023 | 1" | 1.42 | 1.50 | .924 | 39.01 |

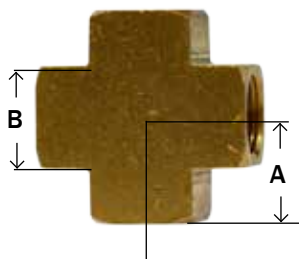
1203P LT7 101AF 101B

REDUCING FORGED TEES



| Part # | 1 NPT | 2 NPT | 3 NPT | A & B | Body Width | Approx. Wt. Lbs. | List Price |
|--------|----------|----------|----------|-------|---------------|---------------------|---------------|
| 28-029 | 1/8" | 1/8" | 1/4" | 0.72 | 0.69 | 0.16 | 9.04 |
| 28-030 | 1/4" | 1/4" | 1/8" | 0.72 | 0.69 | 0.14 | 7.69 |
| 28-031 | 1/4" | 1/4" | 3/8" | 0.81 | 0.81 | 0.21 | 14.97 |
| 28-038 | 3/8" | 1/4" | 3/8" | 0.81 | 0.81 | 0.18 | 13.23 |
| 28-039 | 3/8" | 3/8" | 1/4" | 0.81 | 0.81 | 0.18 | 13.83 |
| 28-046 | 1/2" | 1/2" | 3/8" | 1.00 | 1.00 | 0.30 | 14.42 |
| 28-047 | 3/4" | 1/2" | 3/4" | 1.20 | 1.25 | 0.59 | 32.67 |
| 28-048 | 3/4" | 3/4" | 1/2" | 1.16 | 1.25 | 0.59 | 36.79 |

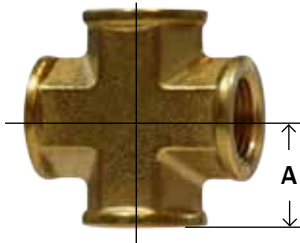
CROSS



| Part # | Thread size NPTF | A | B | Approx. Wt. Lbs. | List Price |
|--------|---------------------|------|------|---------------------|---------------|
| 28-041 | 1/8" | 0.55 | 0.56 | 0.10 | 8.00 |
| 28-042 | 1/4" | 0.78 | 0.68 | 0.21 | 8.22 |
| 28-043 | 3/8" | 0.84 | 0.81 | 0.25 | 10.02 |
| 28-044 | 1/2" | 1.09 | 1.00 | 0.51 | 19.00 |
| 28-045 | 3/4" | 1.16 | 1.25 | 0.75 | 29.74 |

2205P 3950 228 102A 102BE

FORGED CROSS

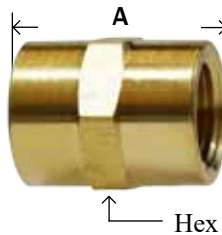


| Part # | Thread size NPTF | A | Body Width | Approx. Wt. Lbs. | List Price |
|--------|---------------------|------|---------------|---------------------|---------------|
| 28-049 | 1/8" | 0.56 | 0.50 | 0.06 | 6.78 |
| 28-050 | 1/4" | 0.72 | 0.69 | 0.15 | 8.46 |
| 28-051 | 3/8" | 0.81 | 0.81 | 0.18 | 12.12 |
| 28-052 | 1/2" | 1.00 | 1.00 | 0.34 | 18.37 |

C7 105 102AF 102B

COUPLING

SAE# 130138



| Part # | Thread size NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|---------|---------------------|------|------|---------------------|---------------|
| 28-058L | 1/8" | 0.75 | 0.50 | 0.02 | 0.92 |
| 28-058 | 1/8" | 0.75 | 0.56 | 0.03 | 1.98 |
| 28-059L | 1/4" | 0.88 | 0.63 | 0.03 | 1.38 |
| 28-059 | 1/4" | 1.12 | 0.75 | 0.09 | 3.19 |
| 28-060L | 3/8" | 1.00 | 0.81 | 0.06 | 2.33 |
| 28-060 | 3/8" | 1.12 | 0.87 | 0.10 | 4.17 |
| 28-061L | 1/2" | 1.19 | 0.93 | 0.09 | 4.55 |
| 28-061 | 1/2" | 1.50 | 1.06 | 0.19 | 6.83 |
| 28-062L | 3/4" | 1.19 | 1.25 | 0.18 | 6.56 |
| 28-062 | 3/4" | 1.53 | 1.25 | 0.24 | 15.89 |
| 28-063 | 1" | 1.89 | 1.50 | .357 | 19.47 |

207P 371 3300 103AH 103B



* For larger sizes, see bronze fittings on pg. 220-227



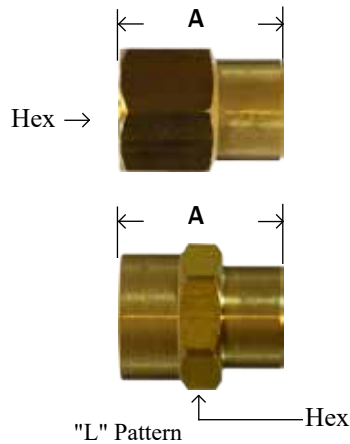
See hydraulic pipe fittings pg 410

PIPE

BRASS FITTINGS

REDUCING COUPLING

SAE# 130138

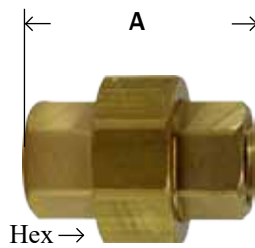


| Part # | Thread size NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|---------|---------------------|------|------|---------------------|------------|
| 28-181L | 1/4" x 1/8" | 0.94 | 0.62 | 0.04 | 2.03 |
| 28-181 | 1/4" x 1/8" | 0.97 | 0.75 | 0.08 | 2.85 |
| 28-182 | 3/8" x 1/8" | 0.94 | 0.87 | 0.10 | 5.96 |
| 28-183L | 3/8" x 1/4" | 1.00 | 0.81 | 0.06 | 2.82 |
| 28-183 | 3/8" x 1/4" | 1.16 | 0.87 | 0.12 | 4.23 |
| 28-180* | 1/2" x 1/8" | 1.19 | 0.93 | 0.15 | 14.52 |
| 28-184L | 1/2" x 1/4" | 1.11 | 1.00 | 0.10 | 6.15 |
| 28-184 | 1/2" x 1/4" | 1.28 | 1.06 | 0.20 | 8.26 |
| 28-185L | 1/2" x 3/8" | 1.19 | 0.93 | 0.10 | 5.55 |
| 28-185 | 1/2" x 3/8" | 1.38 | 1.06 | 0.20 | 10.35 |
| 28-188* | 3/4" x 3/8" | 1.32 | 1.37 | 0.20 | 24.45 |
| 28-189* | 3/4" x 1/2" | 1.19 | 1.18 | 0.14 | 10.54 |

*Not to SAE specs

377 3300 208P 108 119B 119AH

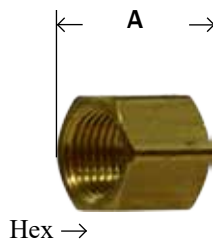
UNION



| Part # | Thread size NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|---------------------|------|------|---------------------|------------|
| 28-067 | 1/8" | 1.25 | 0.94 | 0.13 | 23.91 |
| 28-068 | 1/4" | 1.31 | 1.06 | 0.18 | 21.86 |
| 28-069 | 3/8" | 1.75 | 1.25 | 0.33 | 44.46 |
| 28-070 | 1/2" | 1.79 | 1.56 | 0.50 | 31.87 |

3250 212P 104A 104B

CAP

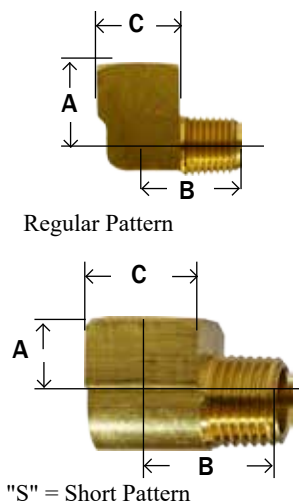


| Part # | Thread size NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|---------------------|------|------|---------------------|------------|
| 28-075 | 1/8" | 0.47 | 0.56 | 0.03 | 1.05 |
| 28-076 | 1/4" | 0.60 | 0.68 | 0.04 | 1.92 |
| 28-077 | 3/8" | 0.69 | 0.81 | 0.06 | 2.77 |
| 28-078 | 1/2" | 0.78 | 0.93 | 0.08 | 4.20 |
| 28-079 | 3/4" | 0.94 | 1.25 | 0.16 | 9.06 |
| 28-080 | 1" | 1.13 | 1.50 | 0.23 | 12.83 |

3129 213P 23129 108A 108B

90° STREET ELBOW

SAE# 130239



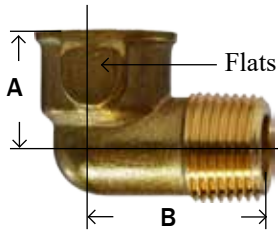
| Part # | Thread size NPTF | A | B | C | Approx. Wt. Lbs. | List Price |
|---------|---------------------|------|------|------|---------------------|------------|
| 28-156 | 1/8" | 0.48 | 0.66 | 0.56 | 0.05 | 2.31 |
| 28-156S | 1/8" short | 0.34 | 0.57 | 0.50 | 0.03 | 1.53 |
| 28-157 | 1/4" | 0.72 | 0.91 | 0.68 | 0.09 | 4.11 |
| 28-157S | 1/4" short | 0.45 | 0.78 | 0.68 | 0.07 | 2.70 |
| 28-158 | 3/8" | 0.78 | 0.97 | 0.81 | 0.16 | 5.57 |
| 28-159 | 1/2" | 1.03 | 1.25 | 1.00 | 0.33 | 9.78 |
| 28-160 | 3/4" | 1.12 | 1.38 | 1.25 | 0.52 | 17.71 |

2202P 304 115 202 3400 116A



See hydraulic pipe fittings pg 410

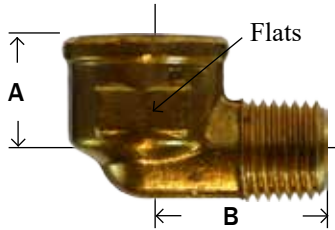
FORGED 90° STREET ELBOW



| Part # | Thread size NPTF | A | B | Wrench Flats | Approx. Wt. Lbs. | List Price |
|--------|---------------------|------|------|-----------------|---------------------|---------------|
| 28-165 | 1/8" | 0.61 | 0.85 | 0.62 | 0.06 | 3.67 |
| 28-166 | 1/4" | 0.50 | 0.86 | 0.72 | 0.08 | 3.46 |
| 28-167 | 3/8" | 0.70 | 1.00 | 0.88 | 0.10 | 5.35 |
| 28-168 | 1/2" | 0.96 | 1.43 | 1.00 | 0.20 | 8.02 |
| 28-169 | 3/4" | 0.90 | 1.40 | 1.25 | 0.25 | 12.72 |

5E8 1202P 116AF 116B

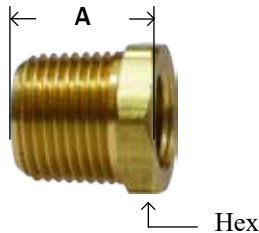
FORGED REDUCING 90° STREET ELBOW



| Part # | Thread size NPTF FxM | A | B | Wrench flats | Approx. Wt. Lbs. | List Price |
|----------|-------------------------|------|------|-----------------|---------------------|---------------|
| 28-260 | 1/8" x 1/4" | 0.50 | 0.87 | 0.71 | 0.08 | 5.15 |
| 28-261B* | 1/4" x 1/8" | 0.53 | 0.72 | 0.69 | 0.07 | 3.61 |
| 28-261 | 1/4" x 1/8" | 0.50 | 0.81 | 0.72 | 0.06 | 5.16 |
| 28-262 | 1/4" x 3/8" | 0.93 | 1.06 | 0.59 | 0.12 | 6.47 |
| 28-263 | 3/8" x 1/4" | 0.58 | 0.94 | 0.81 | 0.07 | 8.60 |
| 28-264 | 3/8" x 1/2" | 0.97 | 1.36 | 1.00 | 0.28 | 13.58 |
| 28-265 | 1/2" x 3/8" | 0.96 | 1.37 | 1.00 | 0.22 | 14.98 |

*Barstock

HEX BUSHING



SAE# 130140

| Part # | Thread size NPTF MxF | A | Hex | Approx. Wt. Lbs. | List Price |
|---------|-------------------------|------|------|---------------------|------------|
| 28-102L | 1/4" x 1/8" | 0.62 | 0.56 | 0.02 | 0.74 |
| 28-102 | 1/4" x 1/8" | 0.75 | 0.56 | 0.04 | 1.18 |
| 28-103 | 3/8" x 1/8" | 0.75 | 0.68 | 0.05 | 1.83 |
| 28-104L | 3/8" x 1/4" | 0.69 | 0.68 | 0.03 | 1.31 |
| 28-104 | 3/8" x 1/4" | 0.75 | 0.75 | 0.05 | 2.17 |
| 28-105L | 1/2" x 1/8" | 0.81 | 0.81 | 0.08 | 3.05 |
| 28-105 | 1/2" x 1/8" | 1.00 | 0.87 | 0.10 | 3.93 |
| 28-106L | 1/2" x 1/4" | 0.81 | 0.81 | 0.08 | 2.54 |
| 28-106 | 1/2" x 1/4" | 1.00 | 0.87 | 0.11 | 3.62 |
| 28-107L | 1/2" x 3/8" | 0.81 | 0.81 | 0.05 | 1.84 |
| 28-107 | 1/2" x 3/8" | 1.00 | 0.87 | 0.10 | 2.69 |
| 28-108 | 3/4" x 1/8" | 0.94 | 1.06 | 0.20 | 11.16 |
| 28-109L | 3/4" x 1/4" | 0.94 | 1.06 | 0.18 | 4.55 |
| 28-110L | 3/4" x 3/8" | 0.94 | 1.06 | 0.15 | 5.35 |
| 28-111L | 3/4" x 1/2" | 0.94 | 1.06 | 0.11 | 3.90 |
| 28-111 | 3/4" x 1/2" | 1.00 | 1.12 | 0.14 | 5.10 |
| 28-112 | 1" x 1/4" | 1.15 | 1.37 | 0.32 | 10.69 |
| 28-113 | 1" x 3/8" | 1.12 | 1.37 | 0.30 | 10.12 |
| 28-114 | 1" x 1/2" | 1.31 | 1.44 | 0.29 | 9.96 |
| 28-115 | 1" x 3/4" | 1.31 | 1.37 | 0.20 | 7.82 |

373 3220 209P 110A 110B

PIPE

BRASS FITTINGS

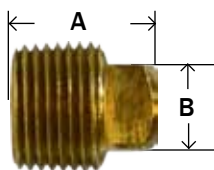
FACE BUSHING



| Part # | Thread size NPTF MxF | A | Approx. Wt. Lbs. | List Price |
|--------|-------------------------|------|---------------------|------------|
| 28-121 | 1/4" x 1/8" | 0.45 | 0.01 | 2.16 |
| 28-122 | 3/8" x 1/8" | 0.50 | 0.03 | 2.58 |
| 28-116 | 3/8" x 1/4" | 0.50 | 0.02 | 2.68 |
| 28-090 | 1/2" x 1/8" | 0.56 | 0.06 | 5.23 |
| 28-128 | 1/2" x 1/4" | 0.56 | 0.05 | 3.85 |
| 28-117 | 1/2" x 3/8" | 0.56 | 0.03 | 2.33 |
| 28-129 | 3/4" x 1/4" | 0.62 | 0.11 | 7.74 |
| 28-130 | 3/4" x 3/8" | 0.62 | 0.08 | 7.04 |
| 28-118 | 3/4" x 1/2" | 0.64 | 0.03 | 6.72 |
| 28-119 | 1" x 3/4" | 0.77 | 0.10 | 12.31 |

SQUARE HEAD PLUG

1/8 - 1/2 Solid



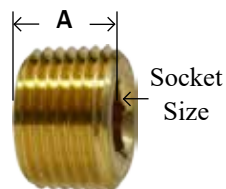
| Part # | Thread size NPTF | A | B | Approx. Wt. Lbs. | List Price |
|----------|---------------------|------|------|---------------------|------------|
| 28-084 | 1/8" | 0.58 | 0.27 | 0.02 | 0.82 |
| 28-085 | 1/4" | 0.80 | 0.37 | 0.03 | 1.21 |
| 28-086 | 3/8" | 0.80 | 0.43 | 0.06 | 2.03 |
| 28-087 | 1/2" | 1.07 | 0.55 | 0.13 | 3.30 |
| 28-088** | 3/4" | 1.09 | 0.61 | 0.20 | 5.19 |
| 28-089** | 1" | 1.24 | 0.81 | 0.35 | 12.10 |

** Cored

3151 211P 109A 109B

COUNTERSUNK HEX PLUG

3/4" taper thread



| Part # | Thread size NPTF | A | Socket size | Approx. Wt. Lbs. | List Price |
|--------|---------------------|------|-------------|---------------------|------------|
| 28-092 | 1/16" | 0.30 | 0.12 | 0.01 | 1.16 |
| 28-093 | 1/8" | 0.30 | 0.18 | 0.01 | 0.93 |
| 28-094 | 1/4" | 0.45 | 0.26 | 0.02 | 1.01 |
| 28-095 | 3/8" | 0.45 | 0.31 | 0.03 | 1.29 |
| 28-096 | 1/2" | 0.61 | 0.39 | 0.05 | 2.52 |
| 28-097 | 3/4" | 0.62 | 0.56 | 0.10 | 4.63 |

3153 219P 109CS 118

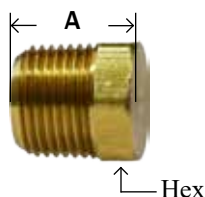
SLOTTED-HEAD PLUG



| Part # | Thread size NPTF | A | Approx. Wt. Lbs. | List Price |
|--------|---------------------|------|---------------------|------------|
| 28-174 | 1/8" | 0.31 | 0.01 | 1.03 |
| 28-175 | 1/4" | 0.42 | 0.02 | 1.28 |
| 28-176 | 3/8" | 0.45 | 0.05 | 3.13 |

220P 3150 117A 117B

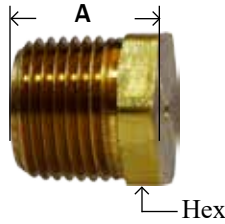
CORED HEX PLUGS



| Part # | Thread size NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|---------------------|------|------|---------------------|------------|
| 28-201 | 1/8" | 0.55 | 0.43 | 0.01 | 0.82 |
| 28-202 | 1/4" | 0.62 | 0.56 | 0.02 | 1.16 |
| 28-203 | 3/8" | 0.72 | 0.68 | 0.06 | 1.63 |
| 28-204 | 1/2" | 0.81 | 0.87 | 0.09 | 3.04 |
| 28-205 | 3/4" | 0.94 | 1.06 | 0.16 | 4.28 |
| 28-206 | 1" | 1.16 | 1.37 | 0.28 | 14.36 |

218P 3152 121A 103 121B PPH 218P

SOLID HEX HEAD PLUGS

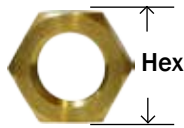


| Part # | Thread size NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|---------|------------------|------|------|------------------|------------|
| 28-201S | 1/8" | 0.55 | 0.43 | 0.02 | 1.60 |
| 28-202S | 1/4" | 0.75 | 0.56 | 0.05 | 1.83 |
| 28-203S | 3/8" | 0.66 | 0.68 | 0.07 | 3.60 |
| 28-204S | 1/2" | 0.81 | 0.87 | 0.12 | 3.74 |
| 28-205S | 3/4" | 0.92 | 1.06 | 0.24 | 6.82 |
| 28-206S | 1" | 1.00 | 1.31 | 0.38 | 19.01 |

121AS

LOCKNUT

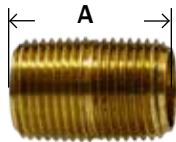
- Jam Nuts
- Straight pipe thread



| Part # | Thread size NPSL | Hex | Thickness | Approx. Wt. Lbs. | List Price |
|--------|------------------|-------|-----------|------------------|------------|
| 28-123 | 1/8" | 0.68 | 0.19 | 0.02 | 0.99 |
| 28-124 | 1/4" | 0.87 | 0.25 | 0.04 | 1.39 |
| 28-125 | 3/8" | 1.00 | 0.31 | 0.04 | 1.62 |
| 28-126 | 1/2" | 1.125 | 0.25 | 0.04 | 2.18 |

210P 21102 111A 111B

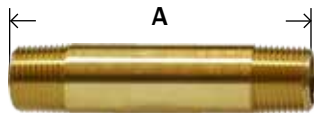
CLOSE NIPPLE



| Part # | Thread size NPTF | A | Approx. Wt. Lbs. | List Price |
|--------|------------------|------|------------------|------------|
| 28-131 | 1/8" | 0.75 | 0.01 | 0.60 |
| 28-132 | 1/4" | 0.88 | 0.02 | 1.12 |
| 28-133 | 3/8" | 1.00 | 0.05 | 1.90 |
| 28-134 | 1/2" | 1.12 | 0.06 | 2.31 |
| 28-135 | 3/4" | 1.31 | 0.11 | 4.31 |

165 215PN 3326 112A 112B

LONG NIPPLE



| Part # | Thread size NPTF | A Length | Approx. Wt. Lbs. | List Price |
|--------|------------------|----------|------------------|------------|
| 28-140 | 1/8" | 1.50 | 0.03 | 1.50 |
| 28-141 | 1/8" | 2.00 | 0.04 | 1.60 |
| 28-142 | 1/8" | 2.50 | 0.06 | 2.82 |
| 28-143 | 1/8" | 3.00 | 0.06 | 3.09 |
| 28-475 | 1/8" | 3.50 | 0.07 | 6.31 |
| 28-144 | 1/4" | 1.50 | 0.03 | 2.15 |
| 28-145 | 1/4" | 2.00 | 0.05 | 2.29 |
| 28-146 | 1/4" | 2.50 | 0.08 | 4.10 |
| 28-147 | 1/4" | 3.00 | 0.10 | 5.26 |
| 28-481 | 1/4" | 3.50 | 0.12 | 8.79 |
| 28-148 | 3/8" | 1.50 | 0.06 | 2.66 |
| 28-149 | 3/8" | 2.00 | 0.10 | 3.84 |
| 28-150 | 3/8" | 2.50 | 0.10 | 5.20 |
| 28-151 | 3/8" | 3.00 | 0.13 | 5.23 |
| 28-487 | 3/8" | 3.50 | 0.17 | 13.26 |
| 28-152 | 1/2" | 1.50 | 0.08 | 2.85 |
| 28-153 | 1/2" | 2.00 | 0.12 | 4.40 |
| 28-154 | 1/2" | 2.50 | 0.16 | 6.20 |
| 28-155 | 1/2" | 3.00 | 0.20 | 8.17 |
| 28-493 | 1/2" | 3.50 | 0.24 | 8.79 |
| 28-136 | 3/4" | 1.50 | 0.12 | 8.99 |
| 28-497 | 3/4" | 2.00 | 0.18 | 12.68 |
| 28-498 | 3/4" | 2.50 | 0.23 | 16.21 |
| 28-499 | 3/4" | 3.00 | 0.28 | 21.37 |

• NOTE: For longer lengths and larger diameters, see our red brass nipples section, pg. 212-218



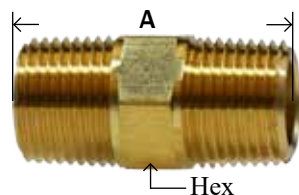
113B 113A 166 3327, 3328, 3329, 3330 3331 215PNL

PIPE

BRASS FITTINGS

HEX NIPPLE

SAE# 130137

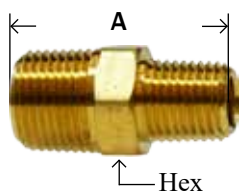


| Part # | Thread size NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|---------|---------------------|------|------|---------------------|---------------|
| 28-211L | 1/8" | 0.91 | 0.43 | 0.02 | 1.04 |
| 28-211 | 1/8" | 0.97 | 0.43 | 0.03 | 1.04 |
| 28-212L | 1/4" | 1.12 | 0.56 | 0.04 | 1.33 |
| 28-212 | 1/4" | 1.38 | 0.56 | 0.06 | 1.77 |
| 28-213L | 3/8" | 1.25 | 0.68 | 0.07 | 2.05 |
| 28-213 | 3/8" | 1.41 | 0.68 | 0.07 | 2.81 |
| 28-214L | 1/2" | 1.50 | 0.87 | 0.11 | 3.55 |
| 28-214 | 1/2" | 1.81 | 0.87 | 0.17 | 4.33 |
| 28-215L | 3/4" | 1.55 | 1.07 | 0.17 | 9.12 |
| 28-215 | 3/4" | 1.96 | 1.13 | 0.23 | 8.28 |
| 28-216L | 1" | 1.75 | 1.39 | 0.22 | 12.00 |
| 28-216 | 1" | 2.30 | 1.37 | 0.43 | 13.57 |

216P 3325 379 122AH 122B

REDUCING HEX NIPPLE

SAE# 130137



| Part # | Thread size NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|---------|---------------------|------|------|---------------------|------------|
| 28-220L | 1/4" x 1/8" | 1.00 | 0.56 | 0.04 | 1.37 |
| 28-220 | 1/4" x 1/8" | 1.19 | 0.56 | 0.04 | 1.77 |
| 28-221L | 3/8" x 1/8" | 1.11 | 0.68 | 0.06 | 3.27 |
| 28-221 | 3/8" x 1/8" | 1.22 | 0.68 | 0.07 | 3.01 |
| 28-222L | 3/8" x 1/4" | 1.19 | 0.68 | 0.06 | 1.89 |
| 28-222 | 3/8" x 1/4" | 1.41 | 0.68 | 0.07 | 2.62 |
| 28-223L | 1/2" x 1/4" | 1.34 | 0.87 | 0.09 | 3.38 |
| 28-223 | 1/2" x 1/4" | 1.62 | 0.87 | 0.12 | 3.75 |
| 28-224L | 1/2" x 3/8" | 1.41 | 0.87 | 0.11 | 3.97 |
| 28-224 | 1/2" x 3/8" | 1.62 | 0.87 | 0.12 | 4.66 |
| 28-225 | 3/4" x 1/2" | 1.50 | 1.06 | 0.15 | 6.12 |

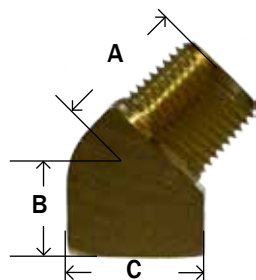
216P 3325 379 122AH 122B



See page 410 for steel hydraulic pipe adapters

45° STREET ELBOW

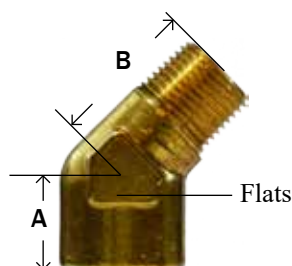
SAE# 130339



| Part # | Thread size NPTF | B | A | C | Approx. Wt. Lbs. | List Price |
|--------|---------------------|------|------|------|---------------------|---------------|
| 28-230 | 1/8" | 0.38 | 0.50 | 0.56 | 0.03 | 2.69 |
| 28-231 | 1/4" | 0.56 | 0.72 | 0.68 | 0.09 | 3.60 |
| 28-232 | 3/8" | 0.56 | 0.78 | 0.81 | 0.12 | 6.15 |
| 28-233 | 1/2" | 0.75 | 1.00 | 1.00 | 0.20 | 9.55 |
| 28-234 | 3/4" | 0.75 | 1.06 | 1.25 | 0.34 | 31.26 |

306 3350 2214P 224

45° FORGED STREET ELBOW

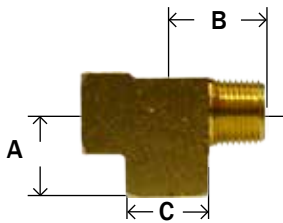


| Part # | Thread size NPTF | A | B | Wrench flats | Approx. Wt. Lbs. | List Price |
|--------|---------------------|------|------|-----------------|---------------------|---------------|
| 28-238 | 1/8" | 0.63 | 0.81 | 0.56 | 0.05 | 5.44 |
| 28-239 | 1/4" | 0.63 | 1.06 | 0.81 | 0.11 | 6.91 |
| 28-240 | 3/8" | 0.72 | 1.06 | 0.93 | 0.17 | 9.85 |

45E8 124B

STREET TEE/ SERVICE TEE/ MALE RUN TEE

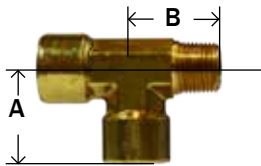
SAE# 130424



| Part # | Thread size NPTF | A | B | C | Approx. Wt. Lbs. | List Price |
|--------|---------------------|------|------|------|---------------------|---------------|
| 28-245 | 1/8" | 0.55 | 0.66 | 0.56 | 0.08 | 3.39 |
| 28-246 | 1/4" | 0.78 | 0.91 | 0.68 | 0.17 | 6.43 |
| 28-247 | 3/8" | 0.84 | 0.97 | 0.81 | 0.22 | 7.20 |
| 28-248 | 1/2" | 1.09 | 1.25 | 1.00 | 0.40 | 13.10 |
| 28-249 | 3/4" | 1.16 | 1.39 | 1.25 | 0.60 | 21.03 |

225 2225P 3750 326 225 127A

FORGED STREET TEE

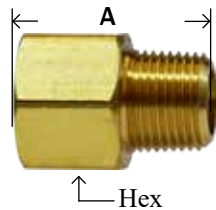


| Part # | Thread size NPTF | A | B | Body Width | Approx. Wt. Lbs. | List Price |
|--------|---------------------|------|------|---------------|---------------------|---------------|
| 28-253 | 1/8" | 0.56 | 0.75 | 0.50 | 0.05 | 5.21 |
| 28-254 | 1/4" | 1.03 | 1.00 | 0.46 | 0.13 | 5.78 |
| 28-255 | 3/8" | 1.19 | 1.09 | 0.68 | 0.24 | 7.46 |
| 28-256 | 1/2" | 1.52 | 1.40 | 0.88 | 0.45 | 22.59 |
| 28-257 | 3/4" | 1.34 | 1.73 | 1.25 | 0.65 | 54.76 |

107 T8 127B

EXTENDER ADAPTER

SAE# 130139

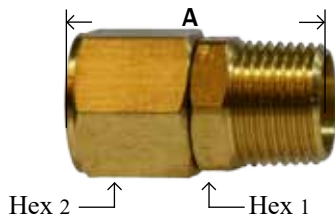


| Part # | Thread size NPTF FxM | A | Hex | Approx. Wt. Lbs. | List Price |
|---------|-------------------------|------|------|---------------------|---------------|
| 28-190L | 1/8" x 1/8" | 0.83 | 0.50 | 0.03 | 1.63 |
| 28-190 | 1/8" x 1/8" | 0.88 | 0.56 | 0.04 | 1.33 |
| 28-191L | 1/4" x 1/8" | 0.94 | 0.62 | 0.04 | 1.38 |
| 28-191 | 1/4" x 1/8" | 1.06 | 0.75 | 0.07 | 3.22 |
| 28-192L | 1/4" x 1/4" | 1.00 | 0.62 | 0.04 | 1.52 |
| 28-192 | 1/4" x 1/4" | 1.25 | 0.75 | 0.07 | 3.14 |
| 28-198 | 3/8" x 1/8" | 1.00 | 0.81 | 0.06 | 4.15 |
| 28-193L | 3/8" x 1/4" | 1.12 | 0.81 | 0.08 | 2.56 |
| 28-193 | 3/8" x 1/4" | 1.25 | 0.87 | 0.09 | 4.16 |
| 28-194L | 3/8" x 3/8" | 1.24 | 0.81 | 0.10 | 3.41 |
| 28-194 | 3/8" x 3/8" | 1.25 | 0.87 | 0.11 | 3.84 |
| 28-197 | 1/2" x 1/8" | | | | 11.38 |
| 28-199 | 1/2" x 1/4" | 1.46 | 1.06 | 0.08 | 5.60 |
| 28-195L | 1/2" x 3/8" | 1.19 | 0.93 | 0.09 | 4.94 |
| 28-195 | 1/2" x 3/8" | 1.47 | 1.06 | 0.18 | 7.20 |
| 28-196L | 1/2" x 1/2" | 1.25 | 0.94 | 0.10 | 5.00 |
| 28-196 | 1/2" x 1/2" | 1.66 | 1.06 | 0.12 | 6.88 |
| 28-207 | 3/4" x 3/8" | 1.59 | 1.25 | 0.26 | 15.50 |
| 28-208 | 3/4" x 1/2" | 1.69 | 1.37 | 0.14 | 15.76 |
| 28-208L | 3/4" x 1/2" | 1.22 | 1.25 | 0.13 | 14.76 |
| 28-209 | 3/4" x 3/4" | 1.69 | 1.37 | 0.34 | 20.15 |

375 222P 3200 R1 120AH 120B

PIPE SWIVEL ADAPTER

*300 PSI all sizes



| Part # | Thread size NPTF FxM | A | Hex 1 | Hex 2 | Approx. Wt. Lbs. | List Price |
|--------|-------------------------|------|-------|-------|---------------------|---------------|
| 28-424 | 1/8" | 1.10 | 0.43 | 0.50 | 0.05 | 4.81 |
| 28-425 | 1/4" | 1.34 | 0.56 | 0.62 | 0.06 | 10.81 |
| 28-426 | 3/8" | 1.36 | 0.68 | 0.75 | 0.08 | 23.69 |
| 28-427 | 1/2" | 1.87 | 0.87 | 0.95 | 0.10 | 32.20 |

Male NPT x Female NPT

- 360° Turning
- Swivels



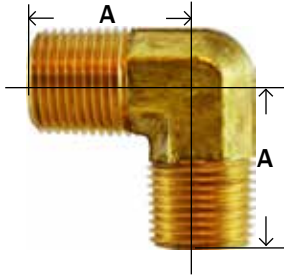
| Part # | Size | List Price |
|---------|------|------------|
| 320-061 | 1/4 | 12.14 |

344R 3183

PIPE

BRASS FITTINGS

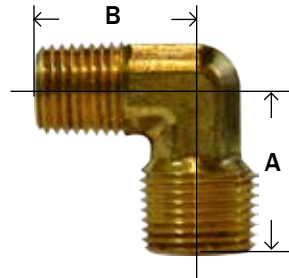
FORGED 90° MALE ELBOW



| Part # | Thread size NPTF | A | Body Width | Approx. Wt. Lbs. | List Price |
|--------|---------------------|------|---------------|---------------------|------------|
| 28-266 | 1/8" | 0.79 | 0.38 | 0.04 | 3.40 |
| 28-267 | 1/4" | 0.87 | 0.45 | 0.06 | 3.40 |
| 28-268 | 3/8" | 1.06 | 0.59 | 0.12 | 6.54 |
| 28-269 | 1/2" | 1.38 | 0.78 | 0.21 | 9.09 |

LE5 3455 116AMF

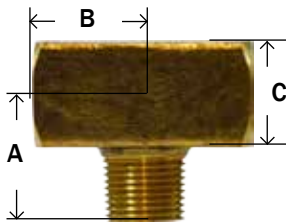
FORGED 90° MALE REDUCING ELBOW



| Part # | Thread size NPTF | A | B | Body Width | Approx. Wt. Lbs. | List Price |
|--------|---------------------|------|------|---------------|---------------------|------------|
| 28-274 | 1/4" x 1/8" | 0.88 | 0.78 | 0.47 | 0.06 | 4.89 |
| 28-275 | 3/8" x 1/4" | 0.90 | 0.90 | 0.46 | 0.06 | 5.02 |
| 28-276 | 1/2" x 3/8" | 1.12 | 1.00 | 0.59 | 0.12 | 9.00 |

MALE BRANCH TEE

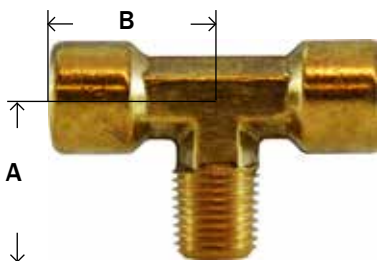
SAE# 130425



| Part # | Thread size NPTF | A | B | C | Approx. Wt. Lbs. | List Price |
|--------|---------------------|------|------|------|---------------------|------------|
| 28-281 | 1/8" | 0.66 | 0.55 | 0.56 | 0.08 | 3.50 |
| 28-282 | 1/4" | 0.91 | 0.78 | 0.68 | 0.15 | 6.37 |
| 28-283 | 3/8" | 0.97 | 0.84 | 0.81 | 0.22 | 8.39 |
| 28-284 | 1/2" | 1.25 | 1.09 | 1.00 | 0.40 | 19.26 |
| 28-285 | 3/4" | 1.38 | 1.16 | 1.25 | 0.62 | 23.47 |

T9 X106 23601 3600 2224P 226 329 128

FORGED MALE BRANCH TEE



| Part # | Thread size NPTF | A | B | Body Width | Approx. Wt. Lbs. | List Price |
|---------|---------------------|------|------|---------------|---------------------|------------|
| 28-281F | 1/8" | 0.75 | 0.56 | 0.50 | 0.06 | 4.77 |
| 28-282F | 1/4" | 1.00 | 1.03 | 0.46 | 0.12 | 7.80 |

T9

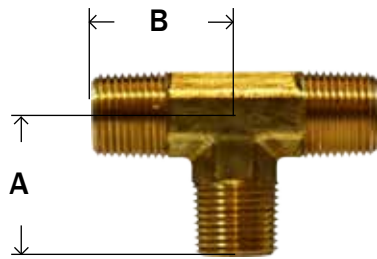
The foolish man seeks happiness in the distance; the wise grows it under his feet. - James Oppenheim

BRASS FITTINGS

PIPE

BRASS

FORGED ALL MALE TEE

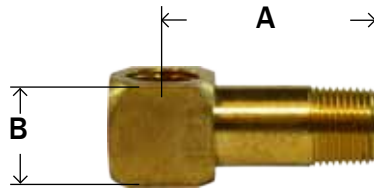


| Part # | Thread size NPTF | A | B | Body Width | Approx. Wt. Lbs. | List Price |
|--------|------------------|------|------|------------|------------------|------------|
| 28-290 | 1/8" | 0.75 | 0.75 | 0.43 | 0.06 | 5.24 |
| 28-291 | 1/4" | 0.86 | 0.86 | 0.43 | 0.08 | 5.13 |
| 28-292 | 3/8" | 1.09 | 1.09 | 0.60 | 0.16 | 8.56 |
| 28-293 | 1/2" | 1.22 | 1.22 | 0.68 | 0.22 | 10.25 |
| 28-294 | 3/4" | 1.43 | 1.43 | 0.87 | 0.38 | 33.05 |

T12 M101

LONG STREET ELLS

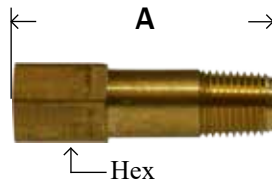
D.O.T. Approved



| Part # | Thread size NPTF | A | B | Approx. Wt. Lbs. | List Price |
|--------|------------------|----------|------|------------------|------------|
| 28-440 | 1/8" | 1-3/16" | 0.50 | 0.06 | 10.30 |
| 28-441 | 1/8" | 1-7/16" | 0.50 | 0.06 | 5.37 |
| 28-442 | 1/8" | 1-11/16" | 0.50 | 0.06 | 8.51 |
| 28-443 | 1/8" | 1-7/8" | 0.50 | 0.16 | 14.95 |
| 28-328 | 1/4" | 1-3/16" | 0.75 | 0.12 | 17.29 |
| 28-329 | 1/4" | 1-7/16" | 0.75 | 0.14 | 14.08 |
| 28-330 | 1/4" | 1-11/16" | 0.75 | 0.15 | 14.05 |
| 28-331 | 1/4" | 1-7/8" | 0.62 | 0.09 | 13.30 |
| 28-332 | 1/4" | 2-1/4" | 0.75 | 0.17 | 19.15 |
| 28-333 | 3/8" | 1-3/4" | 0.87 | 0.22 | 21.93 |

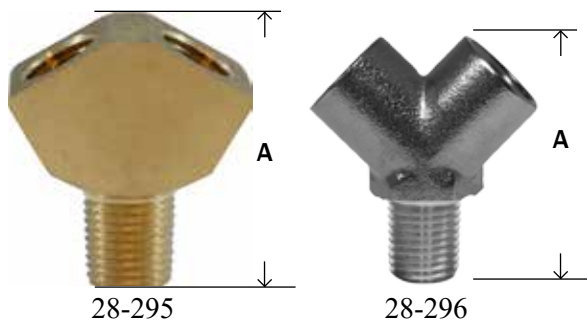
LONG EXTENSION ADAPTERS

D.O.T. Approved



| Part # | Thread size NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|------------------|----------|------|------------------|------------|
| 28-335 | 1/8" | 1-1/4" | 0.50 | 0.04 | 11.33 |
| 28-336 | 1/8" | 1-3/4" | 0.50 | 0.05 | 12.33 |
| 28-337 | 1/8" | 3" | 0.50 | 0.09 | 22.22 |
| 28-338 | 1/4" | 1-9/16" | 0.62 | 0.07 | 6.80 |
| 28-339 | 1/4" | 1-13/16" | 0.62 | 0.08 | 8.66 |
| 28-340 | 1/4" | 2-1/16" | 0.62 | 0.10 | 8.04 |

PIPE WYE FIP x MIP



| Part # | Thread Size NPT | A | Approx. Wt. Lbs. | List Price |
|--------|-----------------|------|------------------|------------|
| 28-295 | 1/4" | 1.56 | .15 | 7.00 |
| 28-296 | 1/4 N/P | 1.4 | .12 | 5.76 |

PIPE WYE FIP x FIP - NICKEL PLATED

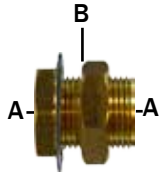


| Part # | Thread Size NPT | A | Approx. Wt. Lbs. | List Price |
|--------|-----------------|-----|------------------|------------|
| 28-298 | 1/4 | 1.4 | .12 | 5.76 |

BULKHEAD/ ANCHOR FRAME COUPLINGS

BRASS FITTINGS

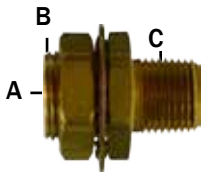
BULKHEAD / ANCHOR / FRAME COUPLINGS

FEMALE PIPE X
FEMALE PIPE

| Part # | Terminal Bolts/ Frame | | Hole Size | Length (in.) | List Price |
|----------|-----------------------|--------------|-----------|--------------|------------|
| | A | B | | | |
| 28-299 | 1/8-27 NPTF | 5/8-18 UNS | 5/8 | 0.96 | 19.66 |
| 28-300 | 1/8-27 NPTF | 5/8-18 UNS | 5/8 | 1-1/2 | 7.72 |
| 28-301 | 1/4-18 NPTF | 3/4-16 UNS | 3/4 | 15/16 | 7.39 |
| 28-302 | 1/4-18 NPTF | 3/4-16 UNS | 3/4 | 1-1/2 | 8.32 |
| 28-315* | 1/4-18 NPTF | 3/4-16 UNS | 3/4 | 1-1/2 | 9.81 |
| 28-303 | 3/8-18 NPTF | 1-14 UNS | 1 | 1-5/16 | 10.92 |
| 28-304 | 1/2-14 NPTF | 1-1/8-14 UNS | 1-1/8 | 1-1/2 | 13.70 |
| 28-311 | 3/4-14 NPTF | 1-5/16-12 | 1-5/16 | 1-1/2 | 95.55 |
| 28-316** | 1-11/12 | 1-5/8-14 | 1-5/8 | 1.68 | 256.49 |

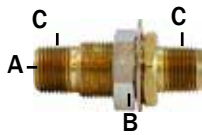
* Same as 28-302 except with a larger mounting nut. **Without washer

FEMALE PIPE X MALE PIPE



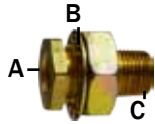
| | Terminal Bolts/ Frame | | Hole Size | Length (in.) | List Price |
|--------|-----------------------|----------|-------------|--------------|------------|
| | A | B | | | |
| 28-317 | 1/4-18 NPTF | 1-14 UNS | 1/2-14 NPTF | 2-1/8 | 29.43 |
| 28-318 | 3/8-18 NPTF | 1-14 UNS | 1/2-14 NPTF | 1-11/16 | 15.46 |
| 28-319 | 3/8-18 NPTF | 1-14 UNS | 1/2-14 NPTF | 1-29/32 | 15.40 |

FEMALE PIPE X MALE PIPE



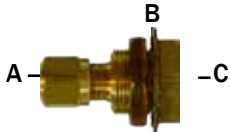
| | | | | | |
|--------|-------------|----------|-------------|-------|-------|
| 28-313 | 1/4-18 NPTF | 1-14 UNS | 1/2-14 NPTF | 2-7/8 | 29.14 |
|--------|-------------|----------|-------------|-------|-------|

FEMALE PIPE X MALE PIPE



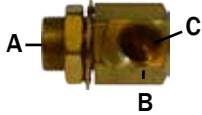
| | | | | | |
|--------|-------------|----------|-------------|-------|-------|
| 28-346 | 3/8-18 NPTF | 1-14 UNS | 1/2-14 NPTF | 1-7/8 | 19.27 |
| 28-347 | 1/2-14 NPTF | 1-14 UNS | 1/2-14 NPTF | 2-3/8 | 26.86 |

TUBE X FEMALE PIPE



| | | | | | |
|--------|---------------|-------------|-------------|--------|-------|
| 28-321 | 1/2-O.D. Tube | 7/8-20 UNCF | 3/8-18 NPTF | 1-5/16 | 13.34 |
| 28-322 | 3/8-O.D. Tube | 7/8-20 UNCF | 3/8-18 NPTF | 1-3/8 | 12.70 |

FEMALE PIPE X CLAMPING STUD ELBOW



| | | | | | |
|--------|-------------|-------------|-------------|--------|-------|
| 28-348 | 3/8-18 NPTF | 7/8-20 UNEF | 3/8-18 NPTF | 2-5/16 | 25.90 |
|--------|-------------|-------------|-------------|--------|-------|

BRASS MARINE BULKHEAD



| | | | | | |
|--------|--------------|------|------|------|-------|
| 46-540 | 5/16 Hose ID | ---- | ---- | 2.37 | 22.10 |
| 46-541 | 3/8 Hose ID | ---- | ---- | 2.37 | 22.98 |

CROSSOVER NUMBERS

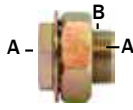
| | | | | | | | | | | | | | | | | | | |
|--------|-------|---------|-------|-------|-------------|---------|------|---------|---------|--------|---------|------------|-----------|-------|-------|-------|-------|--|
| 28-300 | 207x2 | 129A-A | 50004 | 55207 | | | | | | | 1495B-A | ACBH207-2 | 207ACBH-2 | | | | | |
| 28-301 | 207X4 | 129AS-B | | 55611 | S611 | 114-44 | 1345 | 382-44S | 392C-94 | | | ACBHS207-4 | | | | | | |
| 28-302 | 207X4 | 129A-B | 50005 | 55661 | | 114B-44 | 1344 | 382-44L | | 035081 | | ACBH207-4 | 207ACBH-4 | | 11306 | | 90648 | |
| 28-303 | 207X6 | 129A-C | 50006 | 55607 | S661/S607 | 114-66 | 1346 | 382-66 | | 035087 | | ACBH207-6 | 207ACBH-6 | | 11307 | 17709 | | |
| 28-304 | 207X8 | 129A-D | 50007 | 55807 | S807 | 114-88 | 1351 | | | | | ACBH207-8 | 207ACBH-8 | | | | | |
| 28-317 | | | | 55615 | S615 | 117-84 | | | | | | | | | | | | |
| 28-318 | | | | 55620 | S620 | | | 381-86S | | | | | | 11304 | | | | |
| 28-319 | | | 50001 | | | 115-86 | | | | 035079 | 1496-DC | | | | | | | |
| 28-313 | | | 50010 | 55600 | S664 | 115-88 | 1342 | 380-84 | 5730 | 035021 | | | | 11300 | 55X6 | | | |
| 28-346 | | | 50013 | 55613 | S613 | | | | | | | | | | | | | |
| 28-347 | | | 50012 | 55629 | S629 | | | | | 035039 | | | | | | | | |
| 28-321 | | | | | 391-86/1347 | S608 | | | | | | | | | | | | |
| 28-322 | | | | | 391-66 | S609 | | | | | | | | | | | | |
| 28-348 | | | | 55616 | | | | | | | | | | | | | | |

BRASS FITTINGS

BULKHEAD/ ANCHOR/ FRAME COUPLINGS

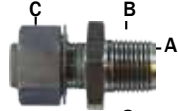
| Part # | Terminal Bolts/ Frame | | | Length (in.) | List |
|--------|-----------------------|---|---|--------------|------|
| | A | B | C | | |

STEEL BULKHEAD FITTINGS

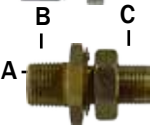


| | | | | | |
|--------|-------------|--------------|--|------|-------|
| 28-306 | 1/4-18 NPTF | 3/4 - 16 UNS | | 0.94 | 10.70 |
| 28-307 | 1/4-18 NPTF | 3/4 - 16 UNS | | 1.50 | 10.95 |
| 28-308 | 3/8-18 NPTF | 1 - 14 UNS | | 1.31 | 12.54 |

FEMALE PIPE X MALE PIPE



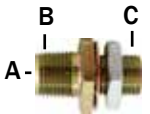
| | | | | | |
|--------|-------------|--------------|-------------|------|-------|
| 28-309 | 1/4-18 NPTF | 3/4 - 16 UNS | 1/2-14 NPTF | 2.16 | 21.49 |
| 28-310 | 1/4-18 NPTF | 3/4 - 16 UNS | 1/2-14 NPTF | 2.53 | 38.59 |



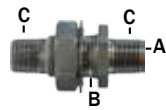
| | | | | | |
|---------|-------------|--------------|-------------|---------|-------|
| 28-345* | 1/4-18 NPTF | 3/4 - 16 UNS | 1/2-14 NPTF | 2-5/32 | 20.78 |
| 28-324 | 3/8-18NPTF | 1-14 UNS | 1/2-14 NPTF | 1-11/16 | 26.22 |

* Steel

FEMALE PIPE X MALE PIPE



| | | | | | |
|--------|-------------|--------------|-------------|---------|-------|
| 28-325 | 1/4-18 NPTF | 3/4 - 16 UNS | 1/2-14 NPTF | 1-11/16 | 22.45 |
|--------|-------------|--------------|-------------|---------|-------|



| | | | | | |
|--------|-------------|----------|-------------|---------|-------|
| 28-312 | 1/4-18 NPTF | 1-14 UNS | 1/2-14 NPTF | 2.94 | 26.50 |
| 28-320 | 1/4-18 NPTF | 1-14 UNS | 1/2-14 NPTF | 3-15/16 | 41.46 |

STAINLESS STEEL BULKHEAD FITTINGS

- Temperature range: -20F°- 360F°
- Working pressure: 1450 - 2175PSI

NEW

BULKHEAD FITTINGS - STAINLESS STEEL 316L NPT (1/8-1/2")



| Part # | Size | Hole Size | Hex | Length | List Price |
|---------|------|-----------|-------|--------|------------|
| 28300SS | 1/8" | 0.701 | 0.866 | 0.748 | 29.21 |
| 28301SS | 3/4" | 0.858 | 1.063 | 0.748 | 34.34 |
| 28303SS | 3/8" | 1.055 | 1.260 | 1.102 | 48.40 |
| 28304SS | 1/2" | 1.173 | 1.417 | 1.378 | 62.48 |

NEW

BULKHEAD FITTINGS - STAINLESS STEEL 316 NPT (3/4-2")



| Part # | Size | Hole Size | Hex | Length | List Price |
|--------|--------|-----------|----------|----------|------------|
| 63214 | 3/4" | 1-5/8" | 2-15/32" | 1-13/16" | 118.30 |
| 63215 | 1" | 2-1/4" | 3-1/16" | 2-7/8" | 259.00 |
| 63216 | 1-1/4" | 2-1/4" | 3-1/16" | 2-3/8" | 224.00 |
| 63217 | 1-1/2" | 3" | 4-1/4" | 2-5/8" | 339.50 |
| 63218 | 2" | 3" | 4-1/4" | 2-5/8" | 327.74 |

It is not how much we have, but how much we enjoy, that makes happiness. – Charles H. Spurgeon

HOSE BARB FITTINGS



• Temperature and Working Pressure Ranges

From -40°F to +160°F at 150 PSI maximum.

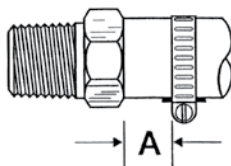
• Tolerance

+/- .02 on all dimensions. Dimension Data can change without notice. Please call us when dimensions are critical.

Note: These fittings are intended for use with hose clamp, similar type clamp or a crimped ferrule.

• Assembly Instructions

- 1- Cut hose cleanly and squarely to length.
- 2- Slide clamp on hose.
- 3- Lubricate hose. Push hose on fitting until hose bottoms against stop ring or hex.
- 4- Position hose clamp as shown below and secure with a screwdriver or wrench. Maintain "A" dimension noted below for proper clamp positioning.



• For Lead Free AB1953 Compliant Fittings
see pages 157-158

Other Barbs available



See page 292-295 for plastic hose barb fittings



See page 27-28 for stainless steel hose barbs



See page 307 for King Nipples

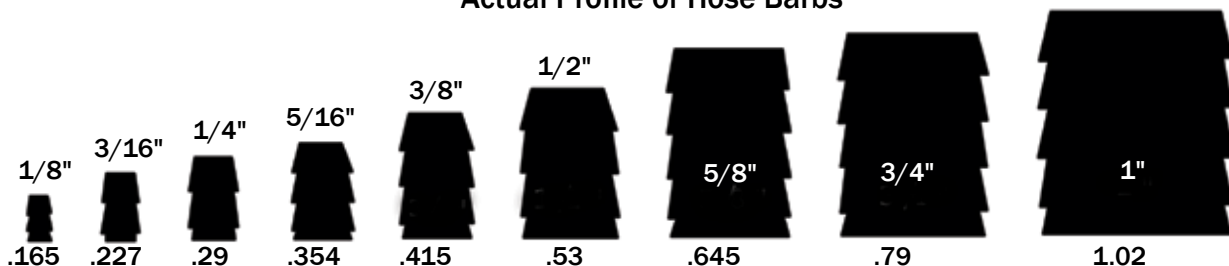


Stainless Steel hose barbs for beverage service available -

See beverage fitting section, pg. 28

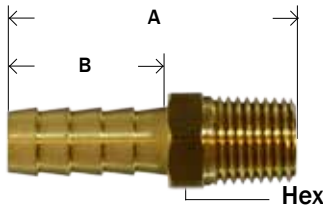
| Hose Size | A |
|-----------|------|
| 3/16" | 1/4" |
| 1/4" | 1/4" |
| 5/16" | 1/4" |
| 3/8" | 1/8" |
| 1/2" | 1/8" |
| 5/8" | 1/8" |
| 3/4" | 1/8" |

Actual Profile of Hose Barbs



RIGID MALE ADAPTER

- These are not Lead Free



| Part # | Hose I.D. x Male NPTF | A | B | Hex | Approx. Wt. Lbs. | List Price |
|----------|-----------------------|------|------|------|------------------|------------|
| 32-001 * | 1/8" x 1/8" | 1.19 | 0.69 | 0.43 | 0.02 | 1.04 |
| 32-027 | 1/8" x 1/4" | 1.16 | 0.46 | 0.56 | 0.02 | 1.43 |
| 32-002 * | 3/16" x 1/8" | 1.19 | 0.75 | 0.43 | 0.02 | 0.99 |
| 32-003 * | 3/16" x 1/4" | 1.37 | 0.69 | 0.56 | 0.04 | 1.70 |
| 32-301 | 1/4" x 1/16" | 1.44 | 0.88 | 0.43 | 0.02 | 3.10 |
| 32-004 * | 1/4" x 1/8" | 1.47 | 0.97 | 0.43 | 0.02 | 1.25 |
| 32-005 * | 1/4" x 1/4" | 1.72 | 0.97 | 0.56 | 0.04 | 1.39 |
| 32-006 * | 1/4" x 3/8" | 1.72 | 0.97 | 0.68 | 0.05 | 2.08 |
| 32-007 | 1/4" x 1/2" | 1.72 | 0.81 | 0.87 | 0.10 | 3.66 |
| 32-008 * | 5/16" x 1/8" | 1.47 | 0.97 | 0.43 | 0.02 | 1.17 |
| 32-009 * | 5/16" x 1/4" | 1.72 | 0.97 | 0.56 | 0.04 | 1.63 |
| 32-010 * | 5/16" x 3/8" | 1.76 | 0.97 | 0.68 | 0.06 | 2.17 |
| 32-390 | 5/16" x 1/2" | 1.88 | 0.95 | 0.87 | 0.10 | 4.10 |
| 32-011 * | 3/8" x 1/8" | 1.53 | 0.97 | 0.56 | 0.03 | 1.52 |
| 32-012 * | 3/8" x 1/4" | 1.75 | 0.97 | 0.56 | 0.05 | 1.41 |
| 32-013 * | 3/8" x 3/8" | 1.72 | 0.96 | 0.68 | 0.06 | 1.97 |
| 32-014 * | 3/8" x 1/2" | 1.87 | 0.97 | 0.87 | 0.09 | 3.57 |
| 32-026 * | 3/8" x 3/4" | 1.97 | 0.97 | 1.06 | 0.16 | 4.78 |
| 32-302 | 1/2" x 1/8" | 1.57 | 0.95 | 0.56 | 0.06 | 3.95 |
| 32-015 * | 1/2" x 1/4" | 1.72 | 0.97 | 0.56 | 0.04 | 2.04 |
| 32-016 * | 1/2" x 3/8" | 1.76 | 0.97 | 0.68 | 0.07 | 2.46 |
| 32-017 * | 1/2" x 1/2" | 1.87 | 0.96 | 0.87 | 0.11 | 3.14 |
| 32-018 * | 1/2" x 3/4" | 1.94 | 0.97 | 1.06 | 0.16 | 5.14 |
| 32-303 | 1/2" x 1" | 2.31 | 0.99 | 1.37 | 0.33 | 14.75 |
| 32-304 | 5/8" x 1/4" | 1.67 | 0.92 | 0.68 | 0.06 | 4.83 |
| 32-019 * | 5/8" x 3/8" | 1.76 | 0.97 | 0.68 | 0.08 | 2.72 |
| 32-020 * | 5/8" x 1/2" | 1.87 | 0.96 | 0.87 | 0.11 | 3.38 |
| 32-021 * | 5/8" x 3/4" | 1.87 | 0.96 | 1.06 | 0.14 | 4.69 |
| 32-305 | 5/8" x 1" | 2.31 | 0.96 | 1.37 | 0.36 | 17.68 |
| 32-306 | 3/4" x 3/8" | 1.65 | 0.87 | 0.81 | 0.12 | 5.93 |
| 32-022 * | 3/4" x 1/2" | 1.87 | 0.96 | 0.87 | 0.14 | 4.69 |
| 32-023 * | 3/4" x 3/4" | 1.87 | 0.96 | 1.06 | 0.15 | 5.66 |
| 32-316 | 3/4" x 1" | 2.55 | 1.15 | 1.37 | 0.38 | 13.06 |
| 32-307 | 1" x 1/2" | 1.80 | 0.87 | 1.06 | 0.18 | 7.90 |
| 32-024 * | 1" x 3/4" | 2.19 | 1.19 | 1.06 | 0.32 | 7.05 |
| 32-025 * | 1" x 1" | 2.48 | 1.19 | 1.37 | 0.39 | 12.25 |
| 32-029 | 1-1/4" x 3/4" | 2.37 | 1.19 | 1.37 | 0.35 | 16.56 |
| 32-028 | 1-1/4" x 1" | 2.55 | 1.19 | 1.37 | 0.46 | 15.74 |

4244 PGH 101 102 201A 125HBL 105B-1 KF-PS MPB

See blanket order program for more sizes.



* See page 27 for stainless steel.



See page 28 for beverage #303 stainless fittings

HOSE BARB

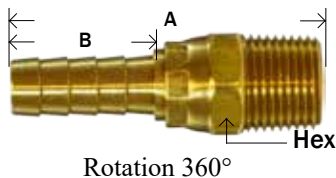
BRASS FITTINGS

BRASS RIGID MALE BSPT BARB ADAPTER



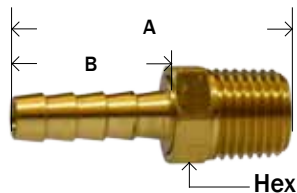
| Part # | Hose I.D. x MALE BSPT | List Price |
|--------|-----------------------|------------|
| 32-450 | 1/4" x 1/8" | 1.47 |
| 32-451 | 1/4" x 1/4" | 2.10 |
| 32-452 | 3/8" x 1/4" | 2.43 |
| 32-453 | 3/8" x 3/8" | 6.15 |
| 32-454 | 3/8" x 1/2" | 4.12 |
| 32-455 | 1/2" x 3/8" | 3.17 |
| 32-456 | 1/2" x 1/2" | 4.57 |
| 32-457 | 3/4" x 3/4" | 7.90 |
| 32-458 | 1" x 1" | 14.66 |

SWIVEL MALE ADAPTER



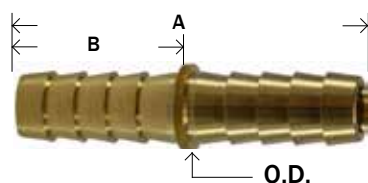
| Part # | Hose I.D. x Male NPTF | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------------------|------|------|------|------------------|------------|
| 32-329 | 3/16" x 1/8" | 2.00 | 0.78 | 0.56 | 0.06 | 6.16 |
| 32-331 | 3/16" x 1/4" | 1.95 | 0.78 | 0.56 | 0.06 | 6.04 |
| 32-332 | 1/4" x 1/8" | 2.19 | 0.97 | 0.56 | 0.06 | 5.83 |
| 32-349 | 1/4" x 1/4" | 2.12 | 0.97 | 0.56 | 0.06 | 5.26 |
| 32-351 | 3/8" x 1/8" | 2.12 | 0.97 | 0.56 | 0.07 | 6.06 |
| 32-201 | 3/8" x 1/4" | 2.12 | 0.97 | 0.56 | 0.07 | 4.26 |
| 32-360 | 3/8" x 3/8" | 2.12 | 0.97 | 0.69 | 0.08 | 6.47 |
| 32-355 | 1/2" x 3/8" | 2.12 | 0.97 | 0.68 | 0.10 | 6.81 |
| 32-356 | 1/2" x 1/2" | 2.33 | 0.97 | 0.87 | 0.14 | 9.44 |
| 32-357 | 3/4" x 3/4" | 2.33 | 0.97 | 1.06 | 0.20 | 11.11 |
| 32-386 | 1" x 1" | 2.88 | 1.19 | 1.38 | 0.40 | 72.18 |

SMS 103



| Part # | Hose I.D. x Male NPTF | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------------------|------|------|------|------------------|------------|
| 32-200 | 1/4" x 1/4" | 1.65 | .89 | 0.56 | 0.04 | 4.16 |
| 32-202 | 3/8" x 3/8" | 1.75 | 1.00 | 0.68 | 0.08 | 5.66 |

MENDER/ SPLICER



| Part # | Hose I.D. x Hose I.D. | A | B | O.D. | Approx. Wt. Lbs. | List Price |
|-----------|-----------------------|------|------|------|------------------|------------|
| 32-091 * | 1/8" | 0.98 | 0.45 | 0.31 | 0.01 | 1.36 |
| 32-092 | 3/16" | 1.62 | 0.77 | 0.36 | 0.02 | 1.82 |
| 32-093 * | 1/4" | 2.00 | 0.96 | 0.37 | 0.02 | 1.52 |
| 32-079 * | 1/4" x 1/8" | 1.50 | 0.97 | 0.37 | 0.02 | 3.48 |
| 32-094 * | 5/16" | 2.00 | 0.96 | 0.39 | 0.02 | 1.44 |
| 32-090 * | 5/16" x 1/4" | 2.00 | 0.97 | 0.50 | 0.03 | 2.41 |
| 32-095 * | 3/8" | 2.00 | 0.97 | 0.51 | 0.04 | 1.53 |
| 32-080 ** | 3/8" x 1/4" | 2.06 | 0.97 | 0.56 | 0.03 | 4.18 |
| 32-375 * | 3/8" x 5/16" | 2.00 | 0.97 | 0.50 | 0.03 | 2.34 |
| 32-096 * | 1/2" | 2.00 | 0.96 | 0.62 | 0.06 | 2.22 |
| 32-087 * | 1/2" x 3/8" | 2.06 | 0.97 | 0.71 | 0.06 | 6.01 |
| 32-097 | 5/8" | 2.05 | 0.96 | 0.75 | 0.08 | 3.00 |
| 32-088 | 5/8" x 3/8" | 2.06 | 0.97 | 0.75 | 0.06 | 6.85 |
| 32-376 | 5/8" x 1/2" | 2.06 | 0.97 | 0.75 | 0.07 | 6.78 |
| 32-098 * | 3/4" | 2.50 | 1.15 | 0.87 | 0.10 | 5.22 |
| 32-089 | 3/4" x 1/2" | 2.28 | 1.19 | 0.87 | 0.10 | 9.43 |
| 32-379 | 3/4" x 5/8" | 2.02 | 0.96 | 0.87 | 0.10 | 5.44 |
| 32-380 | 1" x 3/4" | 2.58 | 1.19 | 1.12 | 0.18 | 5.94 |
| 32-099 | 1" | 3.00 | 1.44 | 1.02 | 0.23 | 9.94 |



* Add SS to the end of the part number for Stainless.

MSB 122HBL HM 129 178 73 108

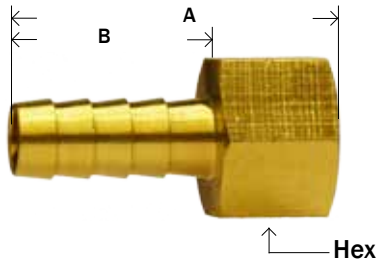
** See hose splicers on page 27 for Stainless.

• See future program for many more sizes

BRASS FITTINGS

HOSE BARB

RIGID FEMALE ADAPTER



| Part # | Hose I.D. x Female NPTF | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------------------------|------|------|------|------------------|------------|
| 32-050 | 1/8" x 1/8" | 0.96 | 0.46 | 0.50 | 0.02 | 1.69 |
| 32-317 | 1/8" x 1/4" | 1.15 | 0.46 | 0.62 | 0.04 | 5.14 |
| 32-051 | 3/16" x 1/8" | 1.10 | 0.68 | 0.50 | 0.02 | 1.46 |
| 32-062 | 3/16" x 1/4" | 1.44 | 0.75 | 0.62 | 0.04 | 5.85 |
| 32-052 | 1/4" x 1/8" | 1.35 | 0.93 | 0.50 | 0.02 | 1.87 |
| 32-053 | 1/4" x 1/4" | 1.60 | 0.97 | 0.62 | 0.06 | 1.88 |
| 32-054 | 1/4" x 3/8" | 1.65 | 1.03 | 0.75 | 0.04 | 2.66 |
| 32-441 | 1/4" x 1/2" | 1.66 | 0.97 | 0.93 | 0.08 | 8.17 |
| 32-055 | 5/16" x 1/8" | 1.47 | 0.97 | 0.56 | 0.04 | 2.93 |
| 32-056 | 5/16" x 1/4" | 1.66 | 0.97 | 0.62 | 0.04 | 2.55 |
| 32-318 | 5/16" x 3/8" | 1.66 | 0.97 | 0.75 | 0.06 | 5.75 |
| 32-320 | 5/16" x 1/2" | 1.67 | 0.96 | 0.93 | 0.08 | 6.50 |
| 32-057 | 3/8" x 1/8" | 1.47 | 0.97 | 0.56 | 0.04 | 2.59 |
| 32-058 | 3/8" x 1/4" | 1.61 | 0.97 | 0.62 | 0.06 | 2.21 |
| 32-059 | 3/8" x 3/8" | 1.63 | 1.00 | 0.81 | 0.08 | 2.42 |
| 32-063 | 3/8" x 1/2" | 1.72 | 0.94 | 0.93 | 0.12 | 4.35 |
| 32-442 | 3/8" x 3/4" | 1.97 | 0.97 | 1.18 | 0.20 | 14.65 |
| 32-064 | 1/2" x 1/4" | 1.66 | 0.96 | 0.62 | 0.08 | 2.98 |
| 32-060 | 1/2" x 3/8" | 1.66 | 0.97 | 0.75 | 0.08 | 5.51 |
| 32-061 | 1/2" x 1/2" | 1.76 | 0.96 | 0.93 | 0.12 | 4.39 |
| 32-443 | 1/2" x 3/4" | 1.97 | 0.97 | 1.18 | 0.26 | 14.91 |
| 32-444 | 5/8" x 3/8" | 1.66 | 0.97 | 0.75 | 0.08 | 6.53 |
| 32-445 | 5/8" x 1/2" | 1.66 | 0.97 | 0.93 | 0.10 | 8.27 |
| 32-446 | 5/8" x 3/4" | 1.97 | 0.97 | 1.18 | 0.21 | 14.80 |
| 32-447 | 3/4" x 1/2" | 1.88 | 1.19 | 0.93 | 0.13 | 9.25 |
| 32-065 | 3/4" x 3/4" | 2.19 | 1.21 | 1.18 | 0.22 | 7.86 |
| 32-049 | 1" x 3/4" | 2.19 | 1.19 | 1.18 | 0.26 | 19.43 |
| 32-321 | 1" x 1" | 2.32 | 1.19 | 1.44 | 0.35 | 25.29 |
| 32-448 | 1-1/4" x 1" | 2.32 | 1.19 | 1.43 | 0.44 | 24.67 |

209A 128 29A 29F 126HB 126 FPB 105B-2 KF-RS 104 144

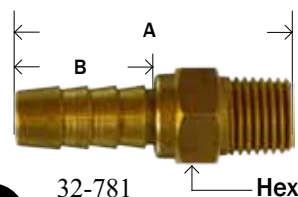
SWIVEL FEMALE ADAPTER NPTF



| Part # | Hose I.D. x Female NPTF | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------------------------|------|------|------|------------------|------------|
| 32-470 | 1/4" x 1/4" | 1.80 | 0.97 | 0.62 | 0.06 | 10.22 |
| 32-472 | 3/8" x 1/4" | 1.80 | 0.97 | 0.62 | 0.06 | 10.50 |
| 32-473 | 3/8" x 3/8" | 1.82 | 0.97 | 0.75 | 0.09 | 10.89 |
| 32-475 | 1/2" x 3/8" | 1.82 | 0.97 | 0.75 | 0.09 | 13.04 |
| 32-476 | 1/2" x 1/2" | 1.86 | 0.97 | 0.93 | 0.14 | 13.63 |

HIGH VOLUME MALE SWIVEL

- 300 PSI
- Nitrile Buna (NBR) O-Ring



32-781

NEW



28-415

| Part # | Hose I.D. x Male NPTF | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------------------|------|------|------|------------------|------------|
| 32-781 | 3/8" x 1/4" | 1.83 | 0.87 | 0.62 | 0.07 | 17.80 |
| 28-415 | 1/4" x 1/4" | 1.30 | 0.94 | 0.81 | 0.14 | 35.18 |

4065

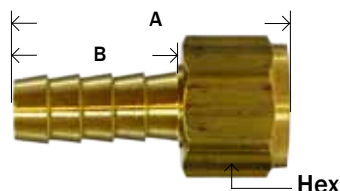
HOSE BARB

BRASS FITTINGS

SWIVEL FEMALE ADAPTER - With Gasket

- NPSM Thread

National Pipe Straight Gasket Seal Swivel

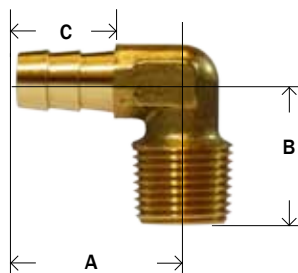


| Part # | Hose I.D. x Female NPSM | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------------------------|------|------|------|------------------|------------|
| 32-131 | 1/8" x 1/8" | 0.90 | 0.46 | 0.50 | 0.02 | 7.98 |
| 32-132 | 3/16" x 1/8" | 1.19 | 0.75 | 0.50 | 0.03 | 7.74 |
| 32-133 | 3/16" x 1/4" | 1.28 | 0.75 | 0.62 | 0.04 | 8.56 |
| 32-120 | 1/4" x 1/8" | 1.41 | 0.97 | 0.50 | 0.02 | 9.55 |
| 32-121 | 1/4" x 1/4" | 1.50 | 0.97 | 0.62 | 0.02 | 3.15 |
| 32-129 | 1/4" x 3/8" | 1.63 | 0.97 | 0.75 | 0.04 | 9.46 |
| 32-130 | 5/16" x 1/4" | 1.50 | 0.97 | 0.62 | 0.04 | 11.89 |
| 32-122 | 3/8" x 1/4" | 1.54 | 1.00 | 0.62 | 0.06 | 5.20 |
| 32-123 | 3/8" x 3/8" | 1.60 | 0.97 | 0.75 | 0.06 | 9.77 |
| 32-354 | 3/8" x 1/2" | 1.66 | 0.97 | 0.93 | 0.10 | 11.30 |
| 32-124 | 1/2" x 3/8" | 1.60 | 0.97 | 0.75 | 0.08 | 11.84 |
| 32-125 | 1/2" x 1/2" | 1.66 | 0.97 | 0.93 | 0.12 | 8.48 |
| 32-117 | 1/2" x 3/4" | 1.82 | 1.19 | 1.18 | 0.16 | 12.12 |
| 32-118 | 5/8" x 3/4" | 1.82 | 1.19 | 1.18 | 0.18 | 13.00 |
| 32-119 | 3/4" x 3/4" | 1.82 | 1.19 | 1.18 | 0.14 | 8.46 |

- Not recommend for water due to fiber gasket - for air service only.

130 126 29FSG KF-RN NPSM Gasket Seat

FORGED HOSE BARB 90° ELBOW



32-330

**Square Barstock Body

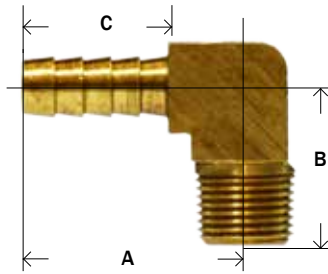
| Part # | Hose I.D. x Male NPTF | A | B | C | Body Size | Approx. Wt. Lbs. | List Price |
|-----------|-----------------------|------|------|------|-----------|------------------|------------|
| 32-308 | 3/16" x 1/8" | 0.95 | 0.70 | 0.66 | 0.37 | 0.02 | 2.94 |
| 32-391 | 3/16" x 1/4" | 1.00 | 0.84 | 0.63 | 0.46 | 0.10 | 3.77 |
| 32-038 * | 1/4" x 1/8" | 1.01 | 0.81 | 0.71 | 0.47 | 0.06 | 2.52 |
| 32-039 * | 1/4" x 1/4" | 1.01 | 0.87 | 0.63 | 0.47 | 0.06 | 3.49 |
| 32-309 ** | 1/4" x 3/8" | 1.08 | 0.97 | 0.73 | 0.69 | 0.12 | 4.47 |
| 32-036 | 5/16" x 1/8" | 1.01 | 0.81 | 0.63 | 0.47 | 0.04 | 3.08 |
| 32-040 | 5/16" x 1/4" | 1.01 | 0.87 | 0.63 | 0.47 | 0.06 | 4.06 |
| 32-310 | 5/16" x 3/8" | 1.06 | 0.94 | 0.63 | 0.50 | 0.06 | 6.62 |
| 32-046 * | 3/8" x 1/8" | 1.01 | 0.81 | 0.63 | 0.47 | 0.06 | 2.74 |
| 32-041 * | 3/8" x 1/4" | 1.02 | 0.88 | 0.65 | 0.47 | 0.06 | 3.49 |
| 32-042 * | 3/8" x 3/8" | 1.09 | 0.93 | 0.68 | 0.50 | 0.08 | 4.20 |
| 32-047 * | 3/8" x 1/2" | 1.11 | 1.09 | 0.63 | 0.59 | 0.10 | 4.50 |
| 32-048 | 1/2" x 1/4" | 1.06 | 1.00 | 0.68 | 0.59 | 0.10 | 4.29 |
| 32-043 * | 1/2" x 3/8" | 1.06 | 1.09 | 0.69 | 0.59 | 0.10 | 5.20 |
| 32-311 * | 1/2" x 1/2" | 1.31 | 1.19 | 0.87 | 0.56 | 0.12 | 6.47 |
| 32-044 | 5/8" x 3/8" | 1.12 | 1.06 | 0.61 | 0.56 | 0.12 | 7.03 |
| 32-045 | 5/8" x 1/2" | 1.12 | 1.12 | 0.61 | 0.63 | 0.14 | 6.39 |
| 32-312 | 5/8" x 3/4" | 1.46 | 1.26 | 0.93 | 1.06 | 0.32 | 11.45 |
| 32-313 | 3/4" x 1/2" | 1.31 | 1.28 | 0.87 | 0.85 | 0.22 | 8.75 |
| 32-314 * | 3/4" x 3/4" | 1.46 | 1.26 | 0.91 | 1.06 | 0.32 | 14.03 |
| 32-330 ** | 3/4" x 1" | 1.57 | 1.64 | 0.90 | 1.34 | 0.64 | 27.06 |
| 32-315 | 1" x 3/4" | 1.60 | 1.40 | 0.95 | 1.06 | 0.32 | 12.90 |
| 32-319 | 1" x 1" | 1.69 | 1.64 | 0.98 | 1.30 | 0.43 | 52.77 |

129 HBE1 KF-PS90 HE-1 29E 146



* Add SS to the end of the part number for Stainless. See page 27.

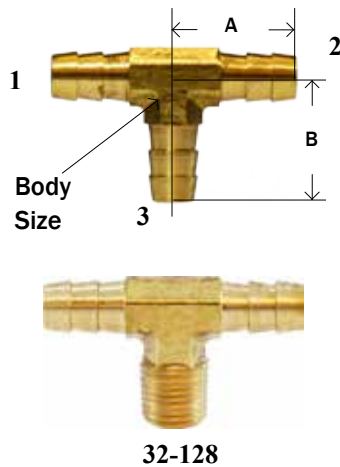
BARSTOCK HOSE BARB 90° ELBOW



| Part # | Hose I.D. x Male NPTF | A | B | C | Body Size | Approx. Wt. Lbs. | List Price |
|---------|-----------------------|------|------|------|-----------|------------------|------------|
| 32-038B | 1/4" X 1/8" | 1.00 | 0.75 | 0.75 | 0.50 | 0.02 | 5.52 |
| 32-039B | 1/4" X 1/4" | 1.02 | 0.91 | 0.74 | 0.56 | 0.04 | 6.12 |
| 32-041B | 3/8" X 1/4" | 1.32 | 0.89 | 0.97 | 0.58 | 0.08 | 8.75 |
| 32-042B | 3/8" X 3/8" | 1.50 | 1.06 | 0.97 | 0.75 | 0.14 | 14.91 |
| 32-043B | 1/2" X 3/8" | 1.53 | 1.07 | 0.97 | 0.72 | 0.16 | 13.99 |

129HB

HOSE BARB TEES



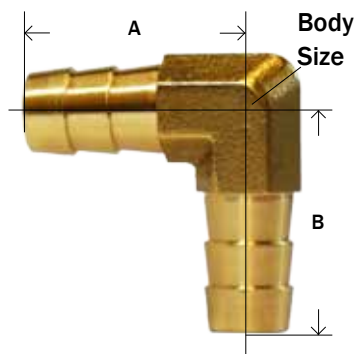
| Part # | Hose Barb Size (1 & 2) x 3 | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|-----------|----------------------------|------|------|-----------|------------------|------------|
| 32-367 * | 1/8" | 0.84 | 0.83 | 0.25 | 0.02 | 3.99 |
| 32-368 | 3/16" | 1.02 | 1.02 | 0.37 | 0.03 | 3.73 |
| 32-365 ** | 1/4" | 1.00 | 1.00 | 0.44 | 0.06 | 3.37 |
| 32-350 * | (1/4") x 1/8" | 0.94 | 0.94 | 0.44 | 0.04 | 8.09 |
| 32-366 | 5/16" | 1.00 | 1.00 | 0.44 | 0.06 | 4.19 |
| 32-126 ** | 3/8" | 1.01 | 1.01 | 0.43 | 0.06 | 4.22 |
| 32-400 * | 1/2" | 1.02 | 1.00 | 0.43 | 0.08 | 5.13 |
| 32-352 * | (1/2") x 3/8" | 1.26 | 1.26 | 0.43 | 0.10 | 13.81 |
| 32-361 | 5/8" | 1.26 | 1.26 | 0.75 | 0.16 | 19.55 |
| 32-363 | 3/4" | 1.26 | 1.26 | 0.88 | 0.18 | 26.91 |
| 32-353 | (3/4") x 1/2" | 1.41 | 1.41 | 0.88 | 0.23 | 28.32 |
| 32-128 * | 3/8"HB x 1/4" MIP | 1.00 | 0.94 | 0.43 | 0.06 | 11.95 |



* Add SS to the end of the part number for Stainless.

** See page 27 for stainless steel.

90° HOSE BARB ELBOW



| Part # | Hose I.D. x Hose I.D. | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|----------|-----------------------|------|------|-----------|------------------|------------|
| 32-429 | 1/8" x 1/8" | 0.55 | 0.55 | 0.37 | 0.03 | 7.02 |
| 32-433 | 3/16" x 3/16" | 0.90 | 0.90 | 0.37 | 0.03 | 5.90 |
| 32-412 | 1/4" x 1/8" | 1.02 | 1.02 | 0.44 | 0.04 | 3.67 |
| 32-413 * | 1/4" x 1/4" | 1.01 | 1.01 | 0.44 | 0.04 | 3.87 |
| 32-425 | 5/16" x 5/16" | 1.15 | 1.15 | 0.48 | 0.05 | 9.03 |
| 32-414 | 3/8" x 1/8" | 1.01 | 1.01 | 0.44 | 0.04 | 5.05 |
| 32-415 | 3/8" x 1/4" | 1.00 | 1.00 | 0.44 | 0.04 | 4.20 |
| 32-416 * | 3/8" x 3/8" | 1.02 | 1.02 | 0.44 | 0.04 | 6.95 |
| 32-417 | 3/8" x 1/2" | 1.24 | 1.10 | 0.50 | 0.06 | 6.37 |
| 32-418 | 1/2" x 1/4" | 1.24 | 1.08 | 0.50 | 0.06 | 5.57 |
| 32-419 | 1/2" x 3/8" | 1.22 | 1.09 | 0.50 | 0.06 | 9.69 |
| 32-420 * | 1/2" x 1/2" | 1.24 | 1.24 | 0.50 | 0.06 | 5.83 |
| 32-434 | 5/8" x 5/8" | 1.20 | 1.20 | 0.75 | 0.16 | 20.27 |
| 32-435 | 3/4" x 1/2" | 1.41 | 1.41 | 0.88 | 0.21 | 21.08 |
| 32-436 | 3/4" x 3/4" | 1.41 | 1.41 | 0.88 | 0.21 | 25.22 |



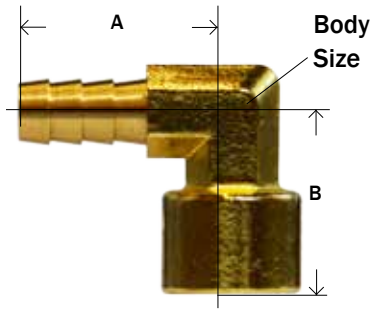
* Add SS to the end of the part number for Stainless.

See beverage fittings on page 28

HOSE BARB

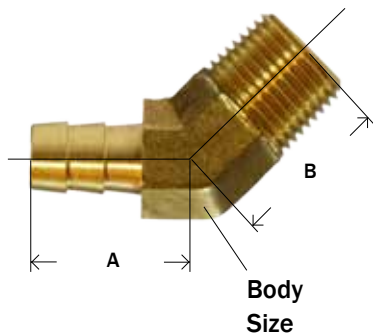
BRASS FITTINGS

90° FEMALE HOSE BARB ELBOW



| Part # | Hose I.D. x Female NPTF | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|--------|-------------------------|------|------|-----------|------------------|------------|
| 32-401 | 1/4" x 1/8" | 1.01 | 0.82 | 0.47 | 0.06 | 4.88 |
| 32-402 | 1/4" x 1/4" | 1.13 | 0.91 | 0.56 | 0.10 | 6.25 |
| 32-403 | 3/8" x 1/8" | 1.01 | 0.82 | 0.47 | 0.06 | 5.77 |
| 32-404 | 3/8" x 1/4" | 1.15 | 0.91 | 0.56 | 0.10 | 6.29 |
| 32-405 | 3/8" x 3/8" | 1.15 | 1.11 | 0.68 | 0.14 | 14.02 |
| 32-406 | 3/8" x 1/2" | 1.26 | 1.39 | 0.75 | 0.20 | 12.43 |
| 32-407 | 1/2" x 1/4" | 1.26 | 0.91 | 0.56 | 0.10 | 7.37 |
| 32-410 | 1/2" x 3/8" | 1.24 | 1.11 | 0.68 | 0.14 | 10.15 |
| 32-411 | 1/2" x 1/2" | 1.37 | 1.39 | 0.75 | 0.20 | 11.55 |
| 32-409 | 3/4" x 3/4" | 1.52 | 1.75 | 0.81 | 0.50 | 16.20 |

45° ELBOW



| Part # | Hose I.D. x Male NPTF | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|---------|-----------------------|------|------|-----------|------------------|------------|
| 32-110 | 1/4" x 1/8" | 0.91 | 0.62 | 0.53 | 0.04 | 3.88 |
| 32-109* | 1/4" x 1/4" | 1.00 | 0.62 | 0.57 | 0.06 | 7.94 |
| 32-111 | 3/8" x 1/8" | 0.83 | 0.66 | 0.53 | 0.04 | 5.48 |
| 32-112 | 3/8" x 1/4" | 0.82 | 0.84 | 0.53 | 0.06 | 4.93 |
| 32-113 | 3/8" x 3/8" | 0.93 | 0.87 | 0.59 | 0.08 | 6.31 |
| 32-346 | 1/2" x 1/4" | 1.00 | 0.84 | 0.59 | 0.08 | 10.06 |
| 32-114 | 1/2" x 3/8" | 1.00 | 0.88 | 0.59 | 0.08 | 8.26 |
| 32-116 | 1/2" x 1/2" | 1.15 | 0.94 | 0.59 | 0.12 | 13.61 |
| 32-115 | 5/8" x 3/8" | 0.97 | 0.88 | 0.59 | 0.10 | 8.80 |
| 32-345 | 3/4" x 1/2" | 1.15 | 0.94 | 0.81 | 0.13 | 25.37 |

* Barstock

140 HE145 139HB KF-PS45 13945

CROSSES



| Part # | Hose ID | List Price |
|--------|---------|------------|
| 32-608 | 1/4 | 3.68 |
| 32-609 | 5/16 | 4.27 |
| 32-610 | 3/8 | 5.47 |

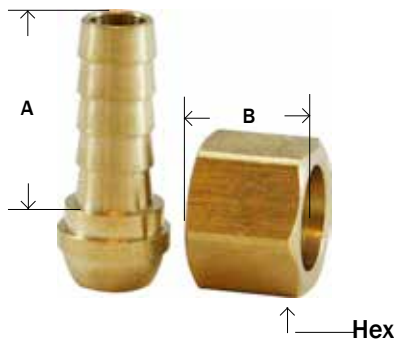
HOSE WYES AVAILABLE WITH EXTENDED LEAD TIME.

BRASS FITTINGS

HOSE BARB

BALL END SWIVEL

NPSM - Ball seat type

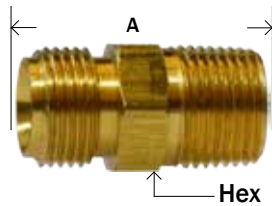


| Part # | Hose I.D. x NPSM | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|------------------|------|------|------|------------------|------------|
| 32-066 | 1/8" x 1/8" | 0.46 | 0.44 | 0.50 | 0.03 | 5.64 |
| 32-067 | 3/16" x 1/8" | 0.75 | 0.44 | 0.50 | 0.03 | 4.45 |
| 32-068 | 3/16" x 1/4" | 0.75 | 0.52 | 0.62 | 0.04 | 3.04 |
| 32-069 | 1/4" x 1/8" | 0.97 | 0.44 | 0.50 | 0.04 | 2.80 |
| 32-070 | 1/4" x 1/4" | 0.97 | 0.53 | 0.62 | 0.06 | 2.90 |
| 32-078 | 1/4" x 3/8" | 0.97 | 0.63 | 0.75 | 0.06 | 6.32 |
| 32-071 | 5/16" x 1/4" | 0.97 | 0.52 | 0.62 | 0.05 | 3.90 |
| 32-389 | 5/16" x 3/8" | 0.97 | 0.63 | 0.75 | 0.07 | 8.94 |
| 32-072 | 3/8" x 1/4" | 0.97 | 0.53 | 0.62 | 0.06 | 2.62 |
| 32-073 | 3/8" x 3/8" | 0.97 | 0.59 | 0.75 | 0.08 | 3.14 |
| 32-074 | 3/8" x 1/2" | 0.97 | 0.69 | 0.94 | 0.14 | 9.38 |
| 32-075 | 1/2" x 3/8" | 0.97 | 0.59 | 0.75 | 0.08 | 3.18 |
| 32-076 | 1/2" x 1/2" | 0.97 | 0.69 | 0.94 | 0.10 | 4.19 |
| 32-077 | 3/4" x 3/4" | 0.97 | 0.70 | 1.12 | 0.14 | 7.30 |

128HBLSV 29FS 209AS 124 131

BALLSEAT MALE ADAPTER

Beveled seat

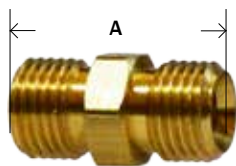


30° Seat

| Part # | NPSM x Male NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|------------------|------|------|------------------|------------|
| 32-359 | 1/8" x 1/8" | 0.94 | 0.43 | 0.03 | 4.78 |
| 32-034 | 1/4" x 1/8" | 1.06 | 0.56 | 0.04 | 3.90 |
| 32-030 | 1/4" x 1/4" | 1.25 | 0.56 | 0.06 | 3.69 |
| 32-362 | 3/8" x 1/4" | 1.28 | 0.68 | 0.08 | 6.12 |
| 32-031 | 3/8" x 3/8" | 1.30 | 0.68 | 0.08 | 5.15 |
| 32-392 | 3/8" x 1/2" | 1.47 | 0.88 | 0.13 | 11.68 |
| 32-364 | 1/2" x 3/8" | 1.35 | 0.87 | 0.10 | 8.87 |
| 32-032 | 1/2" x 1/2" | 1.53 | 0.87 | 0.14 | 6.87 |
| 32-033 | 3/4" x 3/4" | 1.53 | 1.06 | 0.20 | 10.45 |

172 134 127HB 122AS

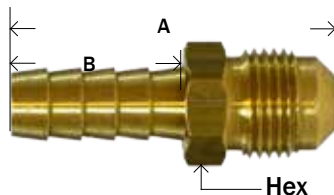
BALLSEAT UNION



30° Seat

| Part # | NPSM x NPSM | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------------|------|------|------------------|------------|
| 32-460 | 1/8" | 0.79 | 0.43 | 0.02 | 4.45 |
| 32-461 | 1/4" | 1.09 | 0.56 | 0.04 | 5.30 |
| 32-462 | 3/8" | 1.19 | 0.68 | 0.07 | 8.65 |
| 32-463 | 1/2" | 1.31 | 0.87 | 0.10 | 10.15 |

45° FLARE ADAPTER



| Part # | Hose I.D. x 45° Flare | Thread | A | B | Hex | Approx. Wt. Lbs. | List Price |
|----------|-----------------------|---------|------|------|------|------------------|------------|
| 32-322 | 3/16" x 1/4" | 7/16-20 | 1.5 | 0.75 | 0.43 | 0.03 | 6.46 |
| 32-081 * | 1/4" x 1/4" | 7/16-20 | 1.72 | 0.97 | 0.43 | 0.03 | 3.62 |
| 32-082 * | 1/4" x 3/8" | 5/8-18 | 1.82 | 0.97 | 0.62 | 0.07 | 4.84 |
| 32-083 | 5/16" x 5/16" | 1/2-20 | 1.75 | 0.97 | 0.50 | 0.08 | 6.24 |
| 32-084 * | 3/8" x 3/8" | 5/8-18 | 1.82 | 0.97 | 0.62 | 0.08 | 5.24 |
| 32-085 | 3/8" x 1/2" | 3/4-16 | 1.97 | 0.97 | 0.75 | 0.10 | 8.44 |
| 32-086 | 1/2" x 1/2" | 3/4-16 | 1.97 | 0.97 | 0.75 | 0.10 | 7.22 |

* Add SS to the end of the part number for Stainless.

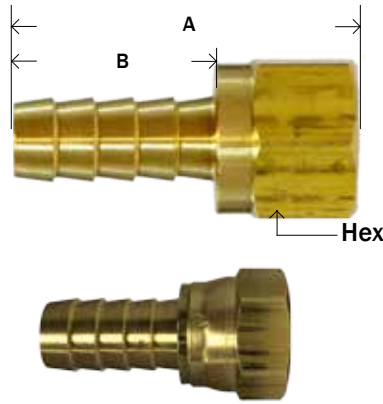
142 201BF KF-MS KDS

Every man is the maker of his own fortune. - *Appius Claudius Caecus*

HOSE BARB

BRASS FITTINGS

DUAL 45° / 37° FLARE SWIVEL



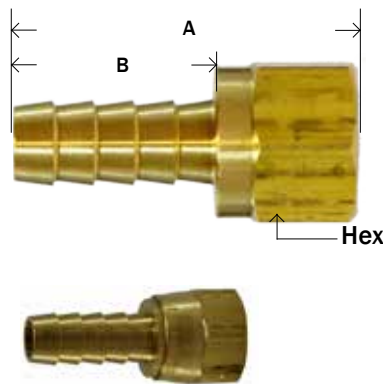
CRIMP STYLE

| Part # | Hose ID x Dual Seat | Thread | A | B | Hex | Approx. Wt. Lbs. | List Price |
|-----------|---------------------|---------|------|------|------|------------------|------------|
| 32-107 | 3/16" x 1/4" | 7/16-20 | 1.34 | 0.75 | 0.56 | 0.04 | 3.53 |
| 32-107C** | 3/16 X 1/4 | 7/16-20 | 1.42 | 0.78 | 0.56 | 0.04 | 3.79 |
| 32-337 | 1/4" x 1/4" | 7/16-20 | 1.56 | 0.97 | 0.56 | 0.04 | 2.73 |
| 32-337C** | 1/4" X 1/4" | 7/16-20 | 1.60 | 0.97 | 0.56 | 0.04 | 2.98 |
| 32-102 | 1/4" x 5/16" | 1/2-20 | 1.61 | 0.97 | 0.62 | 0.06 | 3.20 |
| 32-339 | 5/16" x 5/16" | 1/2-20 | 1.60 | 0.97 | 0.62 | 0.06 | 3.97 |
| 32-340 | 3/8" x 1/2" | 3/4-16 | 1.68 | 0.97 | 0.87 | 0.10 | 5.52 |
| 32-341 | 1/2" x 1/2" | 3/4-16 | 1.68 | 0.97 | 0.87 | 0.10 | 4.93 |
| 32-341C** | 1/2" X 1/2" | 3/4-16 | 1.75 | 0.97 | 0.87 | 0.09 | 5.97 |
| 32-342 | 1/2" x 5/8" | 7/8-14 | 1.76 | 0.97 | 1.00 | 0.12 | 7.07 |
| 32-394** | 5/8" x 5/8" | 7/8-14 | 1.83 | 0.97 | 1.00 | 0.14 | 7.57 |

** Swivel crimp style

KDS

FEMALE 45° FLARE SWIVEL



CRIMP STYLE

| Part # | Hose I.D. x Female 45° Flare | UNF Thread | A | B | Hex | Approx. Wt. Lbs. | List Price |
|-----------|------------------------------|------------|------|------|------|------------------|------------|
| 32-326 | 3/16" x 3/16" | 3/8-24 | 1.19 | 0.75 | 0.43 | 0.04 | 7.41 |
| 30-295** | 3/16" x 3/8" | 5/8-18 | 1.82 | 0.90 | 0.75 | 0.04 | 4.26 |
| 32-101 | 1/4" x 1/4" | 7/16-20 | 1.57 | 0.97 | 0.56 | 0.04 | 2.27 |
| 32-103 | 1/4" x 3/8" | 5/8-18 | 1.64 | 0.97 | 0.75 | 0.08 | 2.73 |
| 32-104 | 5/16" x 5/16" | 1/2-20 | 1.61 | 0.97 | 0.62 | 0.05 | 5.58 |
| 32-327 | 5/16" x 3/8" | 5/8-18 | 1.67 | 0.97 | 0.75 | 0.08 | 3.98 |
| 32-105 | 3/8" x 3/8" | 5/8-18 | 1.64 | 0.97 | 0.75 | 0.08 | 3.64 |
| 32-105C** | 3/8" x 3/8" | 5/8-18 | 1.71 | 0.97 | 0.75 | 0.07 | 4.55 |
| 32-106 | 3/8" x 1/2" | 3/4-16 | 1.81 | 0.97 | 0.87 | 0.10 | 8.85 |
| 32-100 | 1/2" x 1/2" | 3/4-16 | 1.68 | 0.97 | 0.87 | 0.12 | 4.59 |
| 32-328 | 3/4" x 3/4" | 1-1/16-14 | 2.00 | 0.97 | 1.25 | 0.20 | 18.90 |

29SAE 209ASF 146HBLFSV KF-NS 128 FSS 146 144

** Swivel crimp style (crimped on the outside of fitting)

FEMALE 37° J.I.C. FLARE SWIVEL



CRIMP STYLE

STAINLESS STEEL

32338SS

| Part # | Hose ID x Female 37° Flare | Thread | A | B | Hex | Approx. Wt. Lbs. | List Price |
|-----------|----------------------------|-----------|------|------|------|------------------|------------|
| 32-334 | 1/4" x 3/8" | 9/16-18 | 1.60 | 0.97 | 0.68 | 0.06 | 4.14 |
| 32-335 | 5/16" x 3/8" | 9/16-18 | 1.60 | 0.97 | 0.68 | 0.06 | 4.28 |
| 32-336 | 3/8" x 3/8" | 9/16-18 | 1.60 | 0.97 | 0.68 | 0.10 | 3.76 |
| 32-336C** | 3/8" X 3/8" | 9/16-18 | 1.66 | 0.97 | 0.68 | 0.06 | 3.80 |
| 32-338* | 3/4" x 3/4" | 1-1/16-12 | 2.00 | 0.97 | 1.25 | 0.20 | 19.56 |
| 32-338SS | 3/4" x 3/4" | 1-1/16-12 | 2.00 | 0.97 | 1.25 | 0.24 | 23.94 |
| 32-338C | 3/4" x 3/4" | 1-1/16-12 | 2.13 | 1.19 | 1.25 | 0.20 | 12.29 |
| 32-397** | 1" x 1" | 1-5/16-12 | 2.31 | 1.19 | 1.50 | 0.33 | 18.14 |

KJS

*Available in swivel crimp style - add a "C" at the end of the part # (100 piece minimum)

** Swivel crimp style

The belief that youth is the happiest time of life is founded on a fallacy. The happiest person is the person who thinks the most interesting thoughts, and we grow happier as we grow older.

- William Lyon Phelps

REUSABLE MALE FITTINGS

NEW



| Part # | Hose ID | Hose OD | Male NPTF | List Price |
|--------|---------|---------|-----------|------------|
| 32-727 | 1/4" | 1/2" | 1/4" | 4.83 |
| 32-728 | 1/4" | 9/16" | 1/4" | 5.89 |
| 32-726 | 1/4" | 5/8" | 1/4" | 5.89 |
| 32-742 | 3/8" | 5/8" | 1/4" | 6.38 |
| 32-744 | 3/8" | 11/16" | 1/4" | 7.33 |
| 32-725 | 3/8" | 3/4" | 1/4" | 6.42 |
| 32-747 | 3/8" | 5/8" | 3/8" | 7.44 |
| 32-750 | 3/8" | 11/16" | 3/8" | 8.38 |
| 32-746 | 1/2" | 7/8" | 1/2" | 12.66 |

REUSABLE FEMALE SWIVEL STEMS

NEW



| Part # | Hose ID | Female NPSM | List Price |
|--------|---------|-------------|------------|
| 32-770 | 1/4" | 1/4"-18 | 4.17 |
| 32-771 | 3/8" | 3/8"-18 | 5.89 |

REUSABLE FEMALE SWIVELS

NEW



| Part # | Hose ID | Hose OD | Female NPSM | List Price |
|--------|---------|---------|-------------|------------|
| 32-772 | 1/4" | 1/2" | 1/4" | 5.86 |
| 32-773 | 3/8" | 5/8" | 3/8" | 8.29 |
| 32-774 | 3/8" | 11/16" | 3/8" | 8.57 |
| 32-775 | 1/2" | 7/8" | 3/8" | 14.00 |

REUSABLE FERRULES

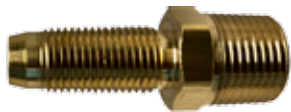
NEW



| Part # | Hose ID | Hose OD | List Price |
|--------|---------|---------|------------|
| 32-749 | 1/4" | 1/2" | 1.99 |
| 32-751 | 1/4" | 9/16" | 2.95 |
| 32-752 | 1/4" | 5/8" | 2.95 |
| 32-753 | 3/8" | 5/8" | 2.95 |
| 32-754 | 3/8" | 11/16" | 3.81 |
| 32-755 | 3/8" | 3/4" | 2.99 |
| 32-756 | 1/2" | 7/8" | 5.77 |

REUSABLE MALE STEMS

NEW



| Part # | Hose ID | Male NPT Thread | List Price |
|--------|---------|-----------------|------------|
| 32-758 | 1/4" | 1/4" | 2.40 |
| 32-759 | 3/8" | 1/4" | 2.85 |
| 32-760 | 3/8" | 3/8" | 3.81 |
| 32-761 | 1/2" | 1/2" | 5.74 |

I am more and more convinced that our happiness or unhappiness depends far more on the way we meet the events of life than on the nature of those events themselves.

—Wilhelm Von Humboldt

HOSE BARB

BRASS FITTINGS

BRASS FUEL HOSE BARBS

Typical Application: Low pressure air, fuel and oil applications. Generally used for automotive, light truck, and small engine fuel lines. Use with fuel hose SAE 30R7 & SAE 30R9.

Advantages: Easy to assemble, just push the fitting into the hose & clamp. Good selection of configurations at reasonable cost.

MALE CONNECTOR
HOSE BARB X MALE PIPE



| Part # | Hose ID | MIP | Ind # | List Price |
|--------|---------|-----|-------|------------|
| 38-800 | 3/16 | 1/8 | 1541 | 2.66 |
| 38-802 | 1/4 | 1/8 | 1537 | 2.09 |
| 32-377 | 1/4 | 1/4 | 1581 | 2.18 |
| 38-806 | 5/16 | 1/8 | 1551 | 2.80 |
| 38-808 | 5/16 | 1/4 | 1555 | 2.57 |
| 38-810 | 3/8 | 1/8 | 1565 | 4.02 |
| 32-381 | 3/8 | 1/4 | 1564 | 2.57 |
| 32-382 | 3/8 | 3/8 | 1566 | 4.70 |
| 32-383 | 1/2 | 3/8 | | 3.97 |
| 32-384 | 1/2 | 1/2 | | 6.26 |
| 32-385 | 5/8 | 1/2 | 1431 | 7.32 |
| 32-387 | 3/4 | 1/2 | 1430 | 6.66 |
| 32-388 | 3/4 | 3/4 | | 10.05 |

68HB

BUBBLE BARB MALE ADAPTER

BUBBLE X MIP



NEW

| Part # | Bubble x MIP | List Price |
|--------|--------------|------------|
| 32176 | 3/8 x 3/8 | 4.49 |
| 32177 | 1/2 x 1/4 | 4.84 |
| 32178 | 1/2 x 3/8 | 10.60 |
| 32179 | 1/2 x 1/2 | 7.44 |
| 32182 | 5/8 x 3/8 | 7.51 |
| 32183 | 5/8 x 1/2 | 8.10 |
| 32184 | 3/4 x 1/2 | 6.00 |
| 32180 | 3/4 x 3/4 | 12.20 |
| 32185 | 1 x 3/4 | 17.14 |
| 32181 | 1 x 1 | 22.00 |

INVERTED FLARE MALE CONNECTOR

HOSE BARB X INVERTED FLARE



| Part # | Hose ID | Inv. Flare | Ind # | List Price |
|--------|---------|------------|-------|------------|
| 38-828 | 5/16 | 1/4 | 1598 | 4.01 |
| 38-830 | 5/16 | 5/16 | 1560 | 2.95 |
| 38-832 | 5/16 | 3/8 | 1561 | 6.33 |
| 38-834 | 3/8 | 5/16 | 1568 | 4.41 |
| 38-836 | 3/8 | 3/8 | 1570 | 7.59 |

269HB

90° MALE ELBOW

HOSE BARB X MALE PIPE



| Part # | Hose ID | MIP | Ind # | List Price |
|--------|---------|-----|-------|------------|
| 38-860 | 1/4 | 1/8 | 1582 | 6.42 |
| 38-862 | 5/16 | 1/8 | 1556 | 10.80 |
| 38-864 | 5/16 | 1/4 | 1557 | 7.20 |
| 38-866 | 3/8 | 1/8 | 1572 | 11.40 |
| 38-868 | 3/8 | 1/4 | 1571 | 6.43 |

BUBBLE BARB



| Part # | Hose ID | MIP | List Price |
|--------|---------|-----|------------|
| 32-186 | 3/8 | 3/8 | 11.39 |
| 32-194 | 1/2 | 1/4 | 10.50 |
| 32-187 | 1/2 | 3/8 | 15.37 |
| 32-191 | 1/2 | 1/2 | 20.79 |
| 32-195 | 5/8 | 1/4 | 11.00 |
| 32-188 | 5/8 | 3/8 | 10.56 |
| 32-189 | 5/8 | 1/2 | 12.26 |
| 32-190 | 3/4 | 1/2 | 17.32 |
| 32-192 | 3/4 | 3/4 | 19.00 |

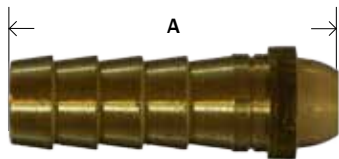
INVERTED FLARE MALE SWIVEL 90° ELBOW

HOSE BARB X TUBE O.D.



| Part # | Hose ID | Inv. Flare | Ind # | List Price |
|--------|---------|------------|-------|------------|
| 38-873 | 5/16 | 5/16 | 1405 | 46.08 |
| 38-874 | 3/8 | 3/8 | 1407 | 15.42 |

STEM ONLY - WELDING HOSE CONNECTOR

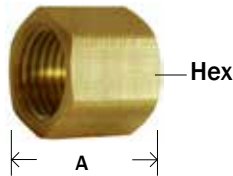


| Part # | Hose I.D. | A | Approx. Wt. Lbs. | List Price |
|--------|-----------|------|------------------|------------|
| 30-410 | 3/16" | 1.43 | 0.02 | 4.25 |
| 30-411 | 1/4" | 1.43 | 0.02 | 1.79 |
| 30-413 | 3/8" | 1.43 | 0.04 | 2.31 |

Assemble with nuts below.

201RWA WRS WLS

RIGHT HAND 9/16 - 18 FOR OXYGEN LINE - WELDING HOSE NUT

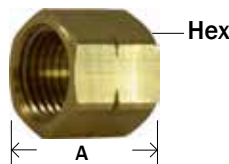


| Part # | Size | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|---------------|------|------|------------------|------------|
| 30-420 | R.H. Nut only | 0.63 | 0.68 | 0.04 | 2.14 |

Assemble with stem above.

201RWA WRS KF-PE 152

LEFT HAND 9/16 - 18 FOR ACETYLENE LINE - WELDING HOSE NUT



| Part # | Size | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|---------------|------|------|------------------|------------|
| 30-421 | L.H. Nut only | 0.63 | 0.68 | 0.04 | 2.00 |

Assemble with stem above.

209LWA WLS 154 KF-RE

RIGHT HAND 9/16 - 18 #122RWA - WELDING HOSE CONNECTOR

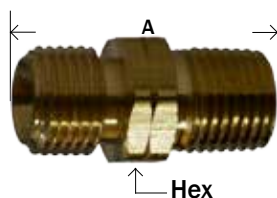


| Part # | Size | A | Hex | Approx. Wt. Lbs. | List Price |
|---------|----------|------|------|------------------|------------|
| 30-401 | 1/4"-18 | 1.30 | 0.62 | 0.06 | 3.14 |
| 32-437 | 3/8"-18 | 1.30 | 0.68 | 0.09 | 12.34 |
| 32-438* | 9/16"-18 | 1.25 | 0.68 | 0.07 | 5.94 |

* Right UNF thread

156

LEFT HAND 9/16 - 18 #122LWA - WELDING HOSE CONNECTOR



| Part # | Size | A | Hex | Approx. Wt. Lbs. | List Price |
|---------|----------|------|------|------------------|------------|
| 30-406 | 1/4"-18 | 1.30 | 0.62 | 0.06 | 3.09 |
| 32-439 | 3/8"-18 | 1.30 | 0.68 | 0.09 | 13.54 |
| 32-440* | 9/16"-18 | 1.25 | 0.68 | 0.07 | 6.28 |

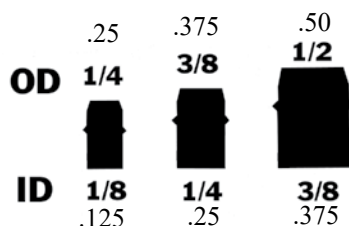
* Left UNF thread

158

BARBED FOR PLASTIC TUBING

BRASS BARBS FOR POLYETHYLENE TUBING

- Quick connecting fittings that do not require tube preparations for hand assembly. Inexpensive with excellent resistance to vibration.
- All sizes are tube O.D. (I.D.)



UNION



TUBE O.D. (TUBE I.D.) X TUBE O.D. (TUBE I.D.)

| Part # | Size | List Price |
|--------|---------------------|------------|
| 21-003 | 1/4(1/8) x 1/4(1/8) | 6.42 |
| 21-007 | 3/8(1/4) x 1/4(1/8) | 7.99 |
| 21-009 | 3/8(1/4) x 3/8(1/4) | 3.41 |

1062 962

MALE ADAPTER



TUBE O.D. (TUBE I.D.) X MALE PIPE

| Part # | Size | List Price |
|--------|-----------------|------------|
| 21-021 | 1/4(1/8) x 1/16 | 7.06 |
| 21-023 | 1/4(1/8) x 1/8 | 2.69 |
| 21-025 | 1/4(1/8) x 1/4 | 7.14 |
| 21-027 | 3/8(1/4) x 1/8 | 5.38 |

1068 968 688

FEMALE ADAPTER



TUBE O.D. (TUBE I.D.) X FEMALE PIPE

| Part # | Size | List Price |
|--------|----------------|------------|
| 21-043 | 1/4(1/8) x 1/8 | 19.66 |

1066 966 26 668

BULKHEAD UNION



TUBE O.D. (TUBE I.D.)

| Part # | Size | List Price |
|--------|----------|------------|
| 21-082 | 1/4(1/8) | 20.49 |
| 21-083 | 3/8(1/4) | 39.29 |

1074

UNION ELBOW

1065
965

TUBE O.D. (I.D.)

| Part # | Size | List Price |
|--------|----------|------------|
| 21-095 | 1/4(1/8) | 10.71 |
| 21-097 | 3/8(1/4) | 11.29 |
| 21-099 | 1/2(3/8) | 20.95 |

MALE 90° ELBOW



TUBE O.D. (I.D.) X MALE PIPE

| Part # | Size | List Price |
|--------|-------------------|------------|
| 21-111 | 1/4(1/8) x 1/16 | 20.40 |
| 21-113 | 1/4(1/8) x 1/8 | 3.83 |
| 21-115 | 1/4(1/8) x 1/4 | 10.45 |
| 21-117 | 3/8(1/4) x 1/8 | 9.16 |
| 21-119 | 3/8(1/4) x 1/4 | 5.21 |
| 21-109 | 1/2(3/8) x 1/4-28 | 1.46 |
| 21-121 | 1/2(3/8) x 3/8 | 34.13 |

1069 969 229

FEMALE 90° ELBOW



TUBE O.D. (I.D.) X FEMALE PIPE

| Part # | Size | List Price |
|--------|----------------|------------|
| 21-133 | 1/4(1/8) x 1/8 | 14.61 |

1070 970 230

UNION TEE



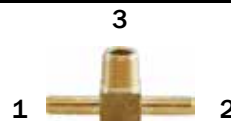
O.D. (I.D.) X O.D. (I.D.) X O.D. (I.D.)

| Part # | Size | List Price |
|--------|--------------------------------|------------|
| 21-151 | 1/4(1/8) | 9.68 |
| 21-153 | 3/8(1/4) X 3/8(1/4) X 1/4(1/8) | 10.80 |
| 21-155 | 3/8(1/4) | 1.79 |
| 21-159 | 1/2(3/8) X 1/2(3/8) X 3/8(1/4) | 69.39 |
| 21-161 | 1/2(3/8) | 19.56 |

1064 964 224

BRASS FITTINGS

MALE BRANCH TEE

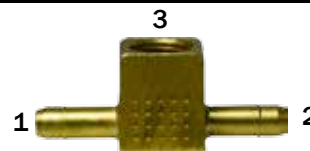


O.D. (I.D.) X O.D. (I.D.) X MALE PIPE

| Part # | Size | List Price |
|--------|---------------------------|------------|
| 21-193 | 1/4(1/8) x 1/4(1/8) x 1/8 | 5.89 |
| 21-195 | 3/8(1/4) x 3/8(1/4) x 1/8 | 12.69 |
| 21-197 | 3/8(1/4) x 3/8(1/4) x 1/4 | 15.88 |

1072 972 232

FEMALE BRANCH TEE



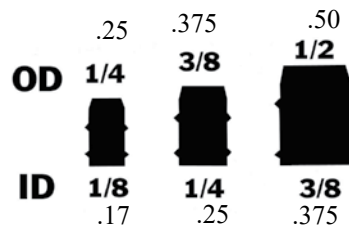
O.D. (I.D.) X O.D. (I.D.) X FEMALE PIPE

| Part # | Size | List Price |
|--------|---------------------------|------------|
| 21-207 | 1/4(1/8) x 1/4(1/8) x 1/8 | 14.98 |

1077 978

TWO BARB FITTINGS

More Sizes Available - Please Ask!



MALE ADAPTER PIPE



TUBE O.D. (I.D.) X MALE PIPE

| Part # | Size | List Price |
|--------|----------------|------------|
| 32-150 | 1/4(1/8) x 1/8 | 4.41 |
| 32-151 | 1/4(1/8) x 1/4 | 9.21 |
| 32-153 | 3/8(1/4) x 1/4 | 8.48 |

28

UNION TEE



| Part # | Tube O.D. (I.D.) | List Price |
|--------|------------------|------------|
| 32-159 | 1/4(1/8 ID) | 7.06 |
| 32-160 | 3/8(1/4 ID) | 12.79 |

90° ELBOW



| Part # | Tube O.D. (I.D.) | List Price |
|--------|------------------|------------|
| 32-170 | 1/4(1/8 ID) | 7.68 |
| 32-171 | 3/8(1/4 ID) | 14.22 |

225

STAINLESS FITTINGS

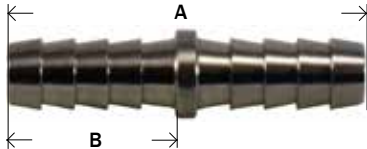
BARSTOCK / CAST SS HOSE BARB

316 STAINLESS STEEL MACHINED RIGID MALE ADAPTER



| Part # | Hose I.D. x NPT | List Price |
|----------|-----------------|------------|
| 32-001SS | 1/8" x 1/8" | 6.86 |
| 32-002SS | 3/16" x 1/8" | 7.39 |
| 32-003SS | 3/16" x 1/4" | 9.83 |
| 32-004SS | 1/4" x 1/8" | 8.91 |
| 32-005SS | 1/4" x 1/4" | 9.90 |
| 32-006SS | 1/4" x 3/8" | 18.46 |
| 32-008SS | 5/16" x 1/8" | 8.00 |
| 32-009SS | 5/16" x 1/4" | 10.89 |
| 32-010SS | 5/16" x 3/8" | 15.15 |
| 32-011SS | 3/8" x 1/8" | 8.92 |
| 32-012SS | 3/8" x 1/4" | 11.02 |
| 32-013SS | 3/8" x 3/8" | 14.06 |
| 32-014SS | 3/8" x 1/2" | 23.52 |
| 32-015SS | 1/2" x 1/4" | 12.21 |
| 32-016SS | 1/2" x 3/8" | 19.07 |
| 32-017SS | 1/2" x 1/2" | 18.47 |
| 32-018SS | 1/2" x 3/4" | 25.08 |
| 32-019SS | 5/8" x 3/8" | 13.68 |
| 32-020SS | 5/8" x 1/2" | 22.11 |
| 32-021SS | 5/8" x 3/4" | 29.04 |
| 32-022SS | 3/4" x 1/2" | 19.56 |
| 32-023SS | 3/4" x 3/4" | 27.90 |
| 32-024SS | 1" x 3/4" | 28.12 |

316 STAINLESS STEEL SPLICER



| Part # | Hose I.D. x Hose I.D. | A | B | List Price |
|----------|-----------------------|------|------|------------|
| 32-093SS | 1/4" | 2.03 | 0.97 | 5.13 |
| 32-095SS | 3/8" | 2.06 | 0.97 | 6.49 |
| 32-096SS | 1/2" | 2.06 | 0.97 | 10.23 |
| 32-098SS | 3/4" | 2.50 | 1.19 | 15.13 |

316 STAINLESS STEEL BARB ELBOW



| Part # | Hose I.D. x NPT | List Price |
|----------|-----------------|------------|
| 32-038SS | 1/4 x 1/8 | 14.92 |
| 32-039SS | 1/4 x 1/4 | 17.07 |
| 32-041SS | 3/8 x 1/4 | 16.77 |
| 32-042SS | 3/8 x 3/8 | 16.77 |
| 32-043SS | 1/2" x 3/8" | 28.85 |
| 32-311SS | 1/2 x 1/2 | 19.15 |
| 32-314SS | 3/4" x 3/4" | 80.72 |

304 STAINLESS STEEL HOSE NIPPLES



• Cast

| Part # | Hose I.D. x Male Pipe | List Price |
|--------|-----------------------|------------|
| 73-951 | 1/4" | 7.08 |
| 73-952 | 3/8" | 10.99 |
| 73-953 | 1/2" | 12.22 |
| 73-954 | 3/4" | 14.55 |
| 73-955 | 1" | 17.70 |
| 73-956 | 1-1/4" | 27.73 |
| 73-957 | 1-1/2" | 34.75 |
| 73-958 | 2" | 44.69 |
| 73-959 | 2-1/2" | 104.00 |
| 73-960 | 3" | 119.24 |

304 STAINLESS STEEL REDUCING HOSE NIPPLES



• Cast


| Part # | Hose I.D. x Male Pipe | List Price |
|--------|-----------------------|------------|
| 73-970 | 1/4" X 1/8" | 7.64 |
| 73-971 | 3/8" X 1/4" | 8.89 |
| 73-972 | 1/2" X 3/8" | 12.23 |
| 73-973 | 1/2" X 1/4" | 12.69 |
| 73-974 | 3/4" X 1/2" | 15.69 |
| 73-975 | 1" X 3/4" | 18.65 |
| 73-976 | 1" X 1/2" | 29.90 |
| 73-977 | 1-1/4" X 1" | 28.93 |
| 73-979 | 1-1/2" X 1-1/4" | 46.69 |
| 73-980 | 1-1/2" X 1" | 39.58 |
| 73-981 | 2" X 1-1/2" | 56.00 |
| 73-982 | 2" X 1-1/4" | 44.78 |

316 STAINLESS STEEL HOSE NIPPLES



• Cast

| Part # | Hose I.D. x Male Pipe | List Price |
|---------|-----------------------|------------|
| 973-951 | 1/4" | 7.14 |
| 973-952 | 3/8" | 10.36 |
| 973-953 | 1/2" | 16.35 |
| 973-954 | 3/4" | 20.96 |
| 973-955 | 1" | 20.58 |
| 973-956 | 1-1/4" | 31.09 |
| 973-957 | 1-1/2" | 53.95 |
| 973-958 | 2" | 57.54 |
| 973-959 | 2-1/2" | 133.67 |
| 973-990 | 3" | 164.70 |
| 973-991 | 4" | 204.55 |

 • See King nipples on page 307

BEVERAGE FITTINGS

SWIVEL NUT (NICKEL PLATED BRASS)



| Part # | Size | List Price |
|--------|------|------------|
| 34-500 | 1/4" | 1.41 |
| 34-512 | 3/8" | 2.31 |
| 34-513 | 1/2" | 4.47 |

SWIVEL HOSE STEM



| Part # | Size | List Price |
|--------|------|------------|
| 34-503 | 1/4" | 2.47 |
| 34-515 | 3/8" | 3.00 |
| 34-516 | 1/2" | 5.33 |

1/4 stem for 1/4 nut
3/8 stem for 3/8 nut
1/2 stem for 1/2 nut

SWIVEL ELBOWS

90° SWIVEL ELBOW



HOSE ID x FEMALE 45° FLARE

| Part # | Size | List Price |
|--------|-------------|------------|
| 34-525 | 1/4" x 1/4" | 5.88 |
| 34-529 | 3/8" x 3/8" | 11.64 |

Today is Life- the only life you are sure of. Make the most of today. Get interested in something. Shake yourself awake. Develop a hobby. Let the winds of enthusiasm sweep through you. Live today with gusto.

- Dale Carnegie

NICKEL PLATED/ SS FITTINGS

BARB SPLICERS

HOSE SPLICER (STRAIGHT)



ID HOSE

| Part # | Size | List Price |
|----------|-------------|------------|
| 32-091SS | 1/8" | 5.71 |
| 34-533 | 1/4" | 3.84 |
| 32-095SS | 5/16" | 6.49 |
| 34-535 | 3/8" | 4.67 |
| 34-543 | 3/8" x 1/4" | 4.67 |

TEES

BARB HOSE TEES



ID HOSE

| Part # | Size | List Price |
|--------|------|------------|
| 34-562 | 1/4" | 12.59 |
| 34-563 | 3/8" | 14.38 |

LIGHT PATTERN TEES



| Part # | Size | List Price |
|----------|------|------------|
| 32-365SS | 1/4" | 4.16 |
| 32-126SS | 3/8" | 4.39 |

ADAPTERS

BARB TO MALE FLARE ADAPTER



HOSE ID x 45° FLARE

| Part # | Size | List Price |
|--------|-------------|------------|
| 34-579 | 1/4" x 1/4" | 5.89 |
| 34-583 | 3/8" x 1/4" | 8.17 |
| 34-584 | 1/4" x 3/8" | 7.68 |
| 34-585 | 3/8" x 3/8" | 8.37 |

BARB TO MALE PIPE ADAPTER



HOSE ID x MALE NPT

| Part # | Size | List Price |
|--------|-------------|------------|
| 34-587 | 1/4" x 1/8" | 7.28 |
| 34-588 | 1/4" x 1/4" | 6.78 |
| 34-589 | 1/4" x 3/8" | 9.34 |
| 34-590 | 3/8" x 1/8" | 9.38 |
| 34-591 | 3/8" x 1/4" | 7.42 |
| 34-592 | 3/8" x 3/8" | 9.34 |
| 34-595 | 3/8" x 1/2" | 14.76 |
| 34-597 | 1/2" x 3/4" | 21.48 |

SWIVEL ELBOWS

BARB TO SWIVEL ELBOW



HOSE ID x FEMALE 45° FLARE

| Part # | Size | List Price |
|--------|-------------|------------|
| 34-600 | 1/4" x 1/4" | 12.47 |

ADAPTERS

NPT ELBOWS



HOSE ID x MALE NPT

| Part # | Size | List Price |
|--------|-------------|------------|
| 34-610 | 1/4" x 1/8" | 14.41 |
| 34-611 | 3/8" x 1/4" | 14.73 |
| 34-612 | 3/8" x 3/8" | 16.05 |
| 34-613 | 1/2" x 1/2" | 33.74 |

90° BARB SPLICER



ID HOSE

| Part # | Size | List Price |
|--------|------|------------|
| 34-551 | 1/4" | 4.60 |
| 34-552 | 3/8" | 7.35 |

PUSH ON BARB FITTINGS



Typical Application: Low Pressure Air, Fuel, Lube, and Oil Lines

- Pressure determined by tube material and hardness. Our Parts have been tested to max 150 PSI.

Advantages: Easy assembly. No clamps needed!!

• **Assembly Instructions**

- 1- Lubricate insert.
- 2- Hold hose at angle as shown & push on and up over first barb.
- 3- Continue to push straight on until hose is seated under protective plastic cap. Keep hands back from hose end area so that hose can expand.

• **Disassembling Instructions**

- 1- Split hose. Do not cut completely through hose. Sealing edge of barb could be damaged.
- 2- Bend hose and remove with a quick pull.

See lead free section for lead free push-on barb fittings.
Stainless steel available at the end of this section.

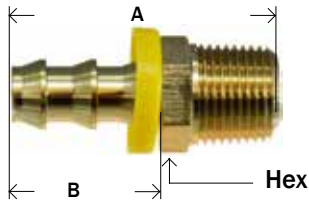
Actual Profile of Push On Barbs



PUSH ON HOSE BARB

BRASS FITTINGS

MALE ADAPTER

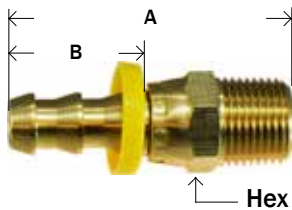


| Part # | Hose I.D. x Male NPTF | A | B | Hex | Approx. Wt. Lbs. | List Price |
|----------|-----------------------|------|------|------|------------------|------------|
| 30-200 * | 1/4" x 1/8" | 1.43 | 0.87 | 0.50 | 0.04 | 1.43 |
| 30-201 * | 1/4" x 1/4" | 1.66 | 0.87 | 0.56 | 0.06 | 2.03 |
| 30-211 | 1/4" x 3/8" | 1.66 | 0.87 | 0.68 | 0.06 | 2.94 |
| 30-212 | 5/16" x 1/8" | 1.42 | 0.77 | 0.43 | 0.04 | 3.14 |
| 30-213 | 5/16" x 1/4" | 1.66 | 0.87 | 0.56 | 0.06 | 3.13 |
| 30-202 | 3/8" x 1/8" | 1.53 | 0.97 | 0.50 | 0.04 | 2.18 |
| 30-203 * | 3/8" x 1/4" | 1.69 | 0.89 | 0.56 | 0.07 | 2.31 |
| 30-204 * | 3/8" x 3/8" | 1.76 | 0.97 | 0.68 | 0.08 | 2.81 |
| 30-205 | 3/8" x 1/2" | 1.97 | 0.97 | 0.87 | 0.10 | 5.04 |
| 30-392 | 3/8" x 3/4" | 1.97 | 0.92 | 1.06 | 0.16 | 13.28 |
| 30-216 | 1/2" x 1/4" | 1.76 | 0.97 | 0.68 | 0.08 | 2.98 |
| 30-206 * | 1/2" x 3/8" | 1.76 | 0.97 | 0.68 | 0.09 | 2.93 |
| 30-207 * | 1/2" x 1/2" | 1.97 | 0.97 | 0.87 | 0.14 | 4.86 |
| 30-217 | 1/2" x 3/4" | 1.97 | 0.97 | 1.06 | 0.16 | 7.10 |
| 30-219 | 5/8" x 3/8" | 2.34 | 1.50 | 0.75 | 0.12 | 7.69 |
| 30-209 | 5/8" x 1/2" | 2.45 | 1.45 | 0.87 | 0.16 | 6.71 |
| 30-214 | 5/8" x 3/4" | 2.45 | 1.45 | 1.06 | 0.18 | 7.98 |
| 30-215 * | 3/4" x 1/2" | 2.45 | 1.45 | 0.87 | 0.21 | 8.24 |
| 30-210 * | 3/4" x 3/4" | 2.45 | 1.45 | 1.06 | 0.20 | 7.72 |
| 30-238 | 1" x 3/4" | 2.93 | 1.50 | 1.25 | 0.43 | 28.65 |
| 30-239 | 1" x 1" | 3.11 | 1.50 | 1.37 | 0.49 | 31.44 |

• See page 35 for Stainless

301 P990A HLM 100B-1 KA-MB 272 29PO 725 625 BPN 941 30182

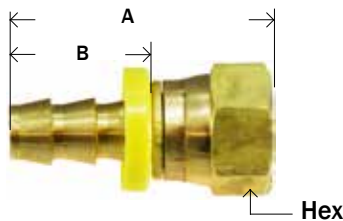
MALE SWIVEL



| Part # | Hose I.D. x Male NPTF | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------------------|------|------|------|------------------|------------|
| 30-422 | 1/4" x 1/8" | 2.07 | 0.87 | 0.56 | 0.06 | 6.10 |
| 30-385 | 1/4" x 1/4" | 2.02 | 0.87 | 0.56 | 0.06 | 5.54 |
| 30-423 | 3/8" x 1/8" | 2.12 | 0.97 | 0.56 | 0.07 | 5.88 |
| 30-386 | 3/8" x 1/4" | 2.12 | 0.97 | 0.56 | 0.08 | 6.39 |
| 30-387 | 3/8" x 3/8" | 2.12 | 0.97 | 0.68 | 0.08 | 7.16 |
| 30-388 | 1/2" x 3/8" | 2.12 | 0.97 | 0.68 | 0.10 | 6.70 |
| 30-389 | 1/2" x 1/2" | 2.33 | 0.97 | 0.87 | 0.14 | 9.17 |
| 30-424 | 5/8" x 1/2" | 2.80 | 1.45 | 0.88 | 0.18 | 12.72 |
| 30-390 | 3/4" x 3/4" | 2.80 | 1.45 | 1.06 | 0.24 | 11.13 |

921 HMS 285 31382

FEMALE GASKET SEAL SWIVEL - NPSM

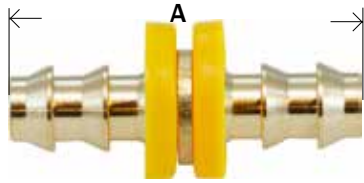


| Part # | Hose I.D. x Gasket Swivel (NPSM) | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|----------------------------------|------|------|------|------------------|------------|
| 30-359 | 1/4" x 1/8" | 1.39 | 0.77 | 0.50 | 0.03 | 14.98 |
| 30-358 | 1/4" x 1/4" | 1.47 | 0.82 | 0.68 | 0.06 | 6.69 |
| 30-360 | 3/8" x 1/4" | 1.61 | 1.00 | 0.68 | 0.06 | 6.26 |
| 30-361 | 3/8" x 3/8" | 1.77 | 0.97 | 0.81 | 0.08 | 9.99 |
| 30-362 | 3/8" x 1/2" | 1.80 | 0.92 | 0.93 | 0.09 | 15.75 |
| 30-363 | 1/2" x 1/2" | 1.90 | 1.02 | 0.93 | 0.11 | 12.64 |
| 30-366 | 3/4" x 3/4" | 2.36 | 1.55 | 1.18 | 0.32 | 25.27 |

280

• Not recommend for water due to fiber gasket - for air service only.

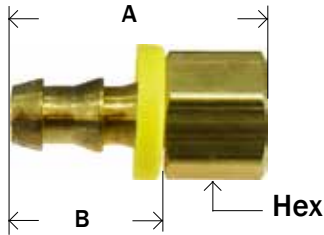
HOSE SPLICER



| Part # | Hose I.D. | A | Approx. Wt. Lbs. | List Price |
|--------|-----------|------|------------------|------------|
| 30-300 | 1/4" | 1.87 | 0.04 | 1.78 |
| 30-305 | 5/16" | 1.80 | 0.04 | 2.94 |
| 30-301 | 3/8" | 2.00 | 0.06 | 2.21 |
| 30-302 | 1/2" | 2.01 | 0.08 | 3.36 |
| 30-303 | 5/8" | 3.03 | 0.14 | 7.71 |
| 30-304 | 3/4" | 3.03 | 0.14 | 8.08 |
| 30-306 | 1" | 3.21 | 0.28 | 22.28 |

BPM 696 29SPO 296 915 729 100B-Y KA-RM MHL 296 38282

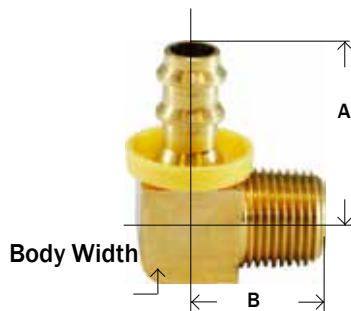
RIGID FEMALE ADAPTER



| Part # | Hose I.D. x Female NPTF | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------------------------|------|------|------|------------------|------------|
| 30-220 | 1/4" x 1/8" | 1.35 | 0.87 | 0.50 | 0.02 | 2.56 |
| 30-221 | 1/4" x 1/4" | 1.51 | 0.87 | 0.62 | 0.06 | 2.20 |
| 30-384 | 1/4" x 3/8" | 1.51 | 0.77 | 0.75 | 0.06 | 7.78 |
| 30-391 | 5/16" x 1/8" | 1.32 | 0.77 | 0.50 | 0.03 | 6.70 |
| 30-222 | 5/16" x 1/4" | 1.51 | 0.87 | 0.62 | 0.06 | 4.01 |
| 30-393 | 3/8" x 1/8" | 1.47 | 0.92 | 0.56 | 0.06 | 7.93 |
| 30-224 | 3/8" x 1/4" | 1.61 | 0.97 | 0.62 | 0.06 | 2.54 |
| 30-225 | 3/8" x 3/8" | 1.63 | 0.97 | 0.75 | 0.06 | 3.62 |
| 30-394 | 3/8" x 1/2" | 1.66 | 0.92 | 0.93 | 0.12 | 8.54 |
| 30-397 | 3/8" x 3/4" | 1.97 | 0.97 | 1.18 | 0.20 | 20.90 |
| 30-223 | 1/2" x 1/4" | 1.76 | 1.02 | 0.68 | 0.08 | 12.56 |
| 30-226 | 1/2" x 3/8" | 1.63 | 0.97 | 0.75 | 0.08 | 4.12 |
| 30-227 | 1/2" x 1/2" | 1.77 | 0.97 | 0.93 | 0.14 | 7.06 |
| 30-396 | 1/2" x 3/4" | 2.07 | 1.02 | 1.18 | 0.20 | 17.62 |
| 30-398 | 5/8" x 3/8" | 2.24 | 1.55 | 0.75 | 0.10 | 10.85 |
| 30-229 | 5/8" x 1/2" | 2.24 | 1.48 | 0.93 | 0.11 | 9.09 |
| 30-399 | 3/4" x 1/2" | 2.24 | 1.50 | 0.93 | 0.14 | 12.22 |
| 30-395 | 3/4" x 3/4" | 2.55 | 1.50 | 1.18 | 0.24 | 16.68 |
| 30-400 | 1" x 3/4" | 2.55 | 1.55 | 1.18 | 0.25 | 24.30 |
| 30-402 | 1" x 1" | 2.68 | 1.55 | 1.43 | 0.37 | 30.49 |

30282 29FPO HLF 626 274 726 940

MALE ELBOW



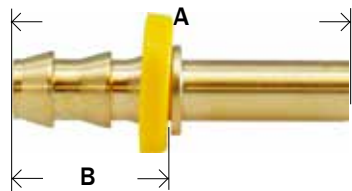
| Part # | Hose I.D. x Male NPTF | A | B | Body Width | Approx. Wt. Lbs. | List Price |
|--------|-----------------------|------|------|------------|------------------|------------|
| 30-372 | 1/4" x 1/8" | 0.98 | 0.75 | 0.50 | 0.04 | 8.16 |
| 30-373 | 1/4" x 1/4" | 1.04 | 0.95 | 0.56 | 0.06 | 7.86 |
| 30-374 | 5/16" x 1/8" | 1.02 | 0.94 | 0.50 | 0.06 | 20.38 |
| 30-375 | 5/16" x 1/4" | 1.09 | 0.94 | 0.56 | 0.08 | 10.53 |
| 30-370 | 3/8" x 1/8" | 1.11 | 0.75 | 0.50 | 0.10 | 5.67 |
| 30-371 | 3/8" x 1/4" | 1.13 | 0.90 | 0.56 | 0.10 | 5.28 |
| 30-376 | 3/8" x 3/8" | 1.21 | 0.92 | 0.70 | 0.12 | 5.88 |
| 30-377 | 3/8" x 1/2" | 1.30 | 1.19 | 0.87 | 0.22 | 20.69 |
| 30-382 | 1/2" x 3/8" | 1.32 | 1.02 | 0.70 | 0.13 | 14.02 |
| 30-378 | 1/2" x 1/2" | 1.50 | 1.19 | 0.87 | 0.22 | 12.77 |
| 30-379 | 5/8" x 1/2" | 1.98 | 1.19 | 0.87 | 0.26 | 17.53 |
| 30-383 | 3/4" x 1/2" | 2.15 | 1.24 | 0.87 | 0.25 | 35.35 |
| 30-381 | 3/4" x 3/4" | 2.07 | 1.28 | 1.06 | 0.34 | 17.25 |

100-C 29EPO 273

PUSH ON HOSE BARB

BRASS FITTINGS

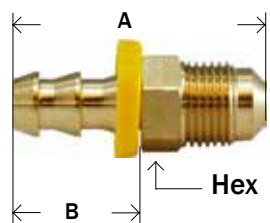
RIGID TUBE ADAPTER



| Part # | Hose I.D. x O.D Tube | A | B | Approx. Wt. Lbs. | List Price |
|--------|----------------------|------|------|------------------|------------|
| 30-290 | 1/4" x 3/16" | 1.68 | 0.77 | 0.04 | 7.46 |
| 30-291 | 1/4" x 1/4" | 1.88 | 0.77 | 0.04 | 2.05 |
| 30-292 | 1/4" x 5/16" | 1.88 | 0.77 | 0.04 | 7.61 |
| 30-293 | 5/16" x 5/16" | 1.91 | 0.79 | 0.04 | 4.59 |
| 30-294 | 3/8" x 3/8" | 2.03 | 0.92 | 0.06 | 3.55 |
| 30-426 | 3/8" x 1/2" | 1.81 | 0.97 | 0.04 | 5.15 |
| 30-297 | 1/2" x 1/2" | 2.13 | 1.02 | 0.06 | 7.51 |
| 30-298 | 5/8" x 5/8" | 2.61 | 1.50 | 0.10 | 11.75 |
| 30-299 | 3/4" x 3/4" | 2.61 | 1.50 | 0.25 | 13.86 |

294 100B-X KA-RL 303 732 694

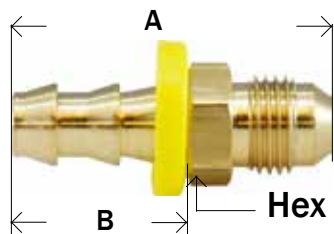
MALE SAE FLARE ADAPTER



| Part # | Hose I.D. x 45° Male Flare | UNF Thread | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|----------------------------|------------|------|------|-------|------------------|------------|
| 30-240 | 1/4" x 1/4" | 7/16-20 | 1.45 | 0.75 | 0.43 | 0.04 | 4.41 |
| 30-241 | 1/4" x 5/16" | 1/2-20 | 1.59 | 0.84 | 0.50 | 0.04 | 5.20 |
| 30-249 | 5/16" x 5/16" | 1/2-20 | 1.60 | 0.80 | 0.50 | 0.06 | 4.12 |
| 30-271 | 3/8" x 5/16" | 1/2-20 | 1.64 | 0.86 | 0.50 | 0.08 | 3.96 |
| 30-243 | 3/8" x 3/8" | 5/8-18 | 1.83 | 0.92 | 0.62 | 0.08 | 4.41 |
| 30-245 | 1/2" x 1/2" | 3/4-16 | 1.98 | 1.02 | 0.875 | 0.10 | 10.86 |
| 30-246 | 5/8" x 5/8" | 7/8-14 | 2.73 | 1.50 | 0.87 | 0.19 | 13.29 |
| 30-247 | 3/4" x 3/4" | 1-1/16-14 | 2.98 | 1.50 | 1.06 | 0.32 | 20.87 |

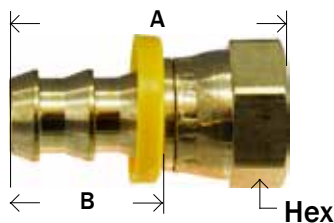
100B-3 KA-MS 727 945 682 302 282

37° MALE JIC FLARE ADAPTER



| Part # | Hose I.D. x Male JIC | UNF Thread | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|----------------------|------------|------|------|------|------------------|------------|
| 32-900 | 1/4" x 1/4" | 7/16-20 | 1.57 | 0.84 | 0.50 | 0.04 | 5.26 |
| 32-901 | 1/4" x 5/16" | 1/2-20 | 1.60 | 0.83 | 0.56 | 0.04 | 6.18 |
| 32-906 | 1/4" x 3/8" | 9/16-18 | 1.63 | 0.77 | 0.62 | 0.05 | 8.70 |
| 32-902 | 3/8" x 3/8" | 9/16-18 | 1.78 | 0.97 | 0.62 | 0.06 | 8.27 |
| 32-903 | 1/2" x 1/2" | 3/4-16 | 1.97 | 0.97 | 0.75 | 0.10 | 13.80 |
| 32-907 | 5/8" x 5/8" | 7/8-14 | 2.62 | 1.50 | 0.93 | 0.19 | 15.00 |
| 32-905 | 3/4" x 3/4" | 1-1/16-12 | 2.79 | 1.50 | 1.12 | 0.29 | 19.79 |

SAE/JIC DUAL 45°/37° FEMALE SWIVEL

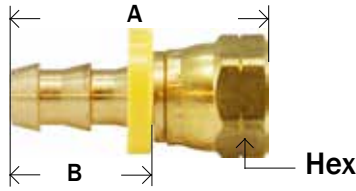


| Part # | Hose I.D. x Dual Seat | UNF Thread | A | B | Hex | Approx. Wt. Lbs. | List Price |
|----------|-----------------------|------------|------|------|------|------------------|------------|
| 30-230 * | 1/4" x 1/4" | 7/16-20 | 1.53 | 0.87 | 0.56 | 0.06 | 2.44 |
| 30-231 | 1/4" x 5/16" | 1/2-20 | 1.53 | 0.87 | 0.62 | 0.04 | 3.87 |
| 30-232 | 5/16" x 5/16" | 1/2-20 | 1.56 | 0.87 | 0.62 | 0.04 | 4.02 |
| 30-427 | 3/8" x 5/16" | 1/2-20 | 1.74 | 0.87 | 0.62 | 0.06 | 11.34 |
| 30-233 | 3/8" x 1/2" | 3/4-16 | 1.79 | 0.97 | 0.87 | 0.10 | 4.99 |
| 30-234 * | 1/2" x 1/2" | 3/4-16 | 1.77 | 0.97 | 0.87 | 0.10 | 4.80 |
| 30-235 | 1/2" x 5/8" | 7/8-14 | 1.84 | 0.97 | 1.00 | 0.12 | 7.55 |
| 30-236 | 5/8" x 1/2" | 3/4-16 | 2.27 | 1.45 | 0.87 | 0.18 | 8.62 |
| 30-237 | 5/8" x 5/8" | 7/8-14 | 2.33 | 1.45 | 1.00 | 0.14 | 8.55 |
| 30-428 | 3/4" x 5/8" | 7/8-14 | 2.33 | 1.45 | 1.00 | 0.20 | 11.56 |

* See page 35 for stainless

29FDS 287 HDF 309 735 690 P990-K 305 935/934

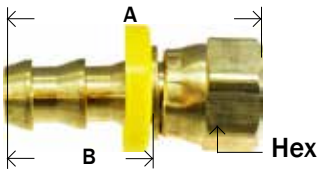
45° SAE FLARE FEMALE SWIVEL



| Part # | Hose I.D. x 45° Female Flare | UNF Thread | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|------------------------------|------------|------|------|------|------------------|------------|
| 30-250 | 1/4" x 1/4" | 7/16-20 | 1.54 | 0.87 | 0.56 | 0.04 | 2.75 |
| 30-251 | 1/4" x 5/16" | 1/2-20 | 1.57 | 0.87 | 0.62 | 0.04 | 4.35 |
| 30-253 | 1/4" x 3/8" | 5/8-18 | 1.63 | 0.87 | 0.75 | 0.06 | 4.06 |
| 30-254 | 5/16" x 5/16" | 1/2-20 | 1.58 | 0.87 | 0.68 | 0.06 | 17.80 |
| 30-260 | 5/16" x 3/8" | 5/8-18 | 1.63 | 0.87 | 0.75 | 0.08 | 5.96 |
| 30-252 | 3/8" x 3/8" | 5/8-18 | 1.73 | 0.97 | 0.75 | 0.10 | 3.96 |
| 30-257 | 3/8" x 1/2" | 3/4-16 | 1.85 | 0.87 | 0.87 | 0.10 | 10.18 |
| 30-261 | 1/2" x 3/8" | 5/8-18 | 1.92 | 1.05 | 0.75 | 0.10 | 8.08 |
| 30-255 | 1/2" x 1/2" | 3/4-16 | 1.77 | 0.97 | 0.87 | 0.12 | 6.43 |
| 30-258 | 5/8" x 5/8" | 7/8-14 | 2.35 | 1.45 | 1.00 | 0.14 | 11.92 |
| 30-259 | 3/4" x 3/4" | 1-1/16-14 | 2.42 | 1.45 | 1.25 | 0.22 | 10.51 |

30882 728 P990-H 29AEPO 307 284 100S-4 KA-NS HSF 684 934

FEMALE 37° JIC FLARE SWIVEL

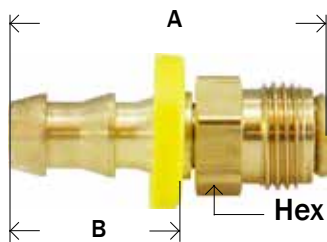


| Part # | Hose I.D. x Female JIC | UNF Thread | A | B | Hex | Approx. Wt. Lbs. | List Price |
|----------|------------------------|------------|------|------|------|------------------|------------|
| 30-265 | 1/4" x 1/4" | 7/16-20 | 1.54 | 0.87 | 0.56 | 0.04 | 2.31 |
| 30-264 | 1/4" x 3/8" | 9/16-18 | 1.57 | 0.87 | 0.68 | 0.06 | 4.48 |
| 30-270 | 5/16" x 3/8" | 9/16-18 | 1.60 | 0.82 | 0.68 | 0.06 | 3.73 |
| 30-266 * | 3/8" x 3/8" | 9/16-18 | 1.70 | 0.97 | 0.68 | 0.08 | 3.64 |
| 30-267 | 1/2" x 1/2" | 3/4-16 | 1.78 | 0.97 | 0.87 | 0.10 | 5.63 |
| 30-268 | 5/8" x 5/8" | 7/8-14 | 2.33 | 1.45 | 1.00 | 0.14 | 7.32 |
| 30-269 * | 3/4" x 3/4" | 1-1/16-12 | 2.40 | 1.45 | 1.25 | 0.22 | 10.09 |
| 30-429 | 1" x 1" | 1-5/16-12 | 2.60 | 1.45 | 1.50 | 0.39 | 27.59 |

* See page 35 for stainless

JF 944/934 29J1CPO HJF 688 738 288 100B-6 308 P990-F 30682 KA-NJ

INVERTED FLARE MALE SWIVEL



| Part # | Hose I.D. x Male INV Flare | UNF Thread | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|----------------------------|------------|------|------|------|------------------|------------|
| 30-275 | 1/4" x 3/16" | 3/8-24 | 1.52 | 0.87 | 0.37 | 0.04 | 8.47 |
| 30-276 | 1/4" x 1/4" | 7/16-24 | 1.56 | 0.87 | 0.43 | 0.04 | 4.11 |
| 30-277 | 1/4" x 5/16" | 1/2-20 | 1.62 | 0.87 | 0.50 | 0.04 | 4.49 |
| 30-280 | 5/16" x 5/16" | 1/2-20 | 1.62 | 0.87 | 0.50 | 0.06 | 7.44 |
| 30-283 | 5/16" x 3/8" | 5/8-18 | 1.63 | 0.87 | 0.62 | 0.06 | 8.90 |
| 30-284 | 3/8" x 5/16" | 1/2-20 | 1.72 | 0.97 | 0.50 | 0.06 | 6.63 |
| 30-279 | 3/8" x 3/8" | 5/8-18 | 1.76 | 0.97 | 0.62 | 0.06 | 5.18 |
| 30-282 | 1/2" x 1/2" | 3/4-18 | 1.84 | 0.97 | 0.75 | 0.10 | 10.20 |
| 30-286 | 5/8" x 5/8" | 7/8-18 | 2.50 | 1.57 | 0.87 | 0.14 | 21.77 |

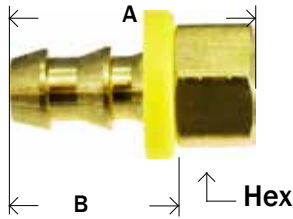
290 100B-B KA-MF 1MS 947

He who enjoys doing and enjoys what he has done is happy. — Johann Wolfgang Von Goethe

PUSH ON HOSE BARB

BRASS FITTINGS

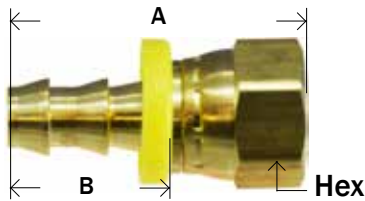
INVERTED FLARE FEMALE ADAPTER



| Part # | Hose I.D. x Female INV Flare | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|------------------------------|------|------|------|------------------|------------|
| 30-310 | 1/4" x 3/16" | 1.12 | 0.84 | 0.50 | 0.02 | 8.05 |
| 30-311 | 1/4" x 1/4" | 1.14 | 0.84 | 0.56 | 0.02 | 5.45 |
| 30-312 | 1/4" x 5/16" | 1.18 | 0.82 | 0.62 | 0.02 | 9.25 |
| 30-316 | 5/16" x 5/16" | 1.25 | 0.81 | 0.62 | 0.04 | 7.26 |
| 30-313 | 3/8" x 5/16" | 1.32 | 0.87 | 0.62 | 0.04 | 9.41 |
| 30-314 | 3/8" x 3/8" | 1.35 | 0.95 | 0.75 | 0.06 | 5.70 |
| 30-315 | 1/2" x 1/2" | 1.73 | 1.04 | 0.87 | 0.12 | 23.51 |

306 100B-A KA-NG 292 P990-J 736 692 946

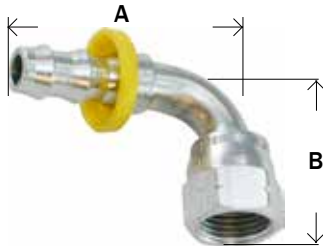
FEMALE BALLSEAT SWIVEL



| Part # | Hose I.D. x Female NPSM | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------------------------|------|------|------|------------------|------------|
| 30-340 | 1/4" X 1/8" | 1.39 | 0.85 | 0.50 | 0.06 | 11.29 |
| 30-341 | 1/4" X 1/4" | 1.47 | 0.80 | 0.68 | 0.06 | 7.98 |
| 30-342 | 1/4" x 3/8" | 1.40 | 0.77 | 0.68 | 0.09 | 8.44 |
| 30-343 | 3/8" X 1/4" | 1.61 | 0.97 | 0.68 | 0.08 | 11.75 |
| 30-344 | 3/8" X 3/8" | 1.75 | 0.95 | 0.81 | 0.10 | 10.86 |
| 30-430 | 3/8" x 1/2" | 1.79 | 0.97 | 0.93 | 0.11 | 13.44 |
| 30-346 | 1/2" X 1/2" | 1.88 | 1.09 | 0.93 | 0.12 | 16.13 |
| 30-345 | 1/2" x 3/4" | 2.36 | 1.02 | 1.18 | 0.18 | 20.34 |
| 30-349 | 3/4" X 3/4" | 2.36 | 1.55 | 1.18 | 0.22 | 22.83 |

628 278 295PO 731 NPSM

SAE/ JIC 37°/ 45° FEMALE SWIVEL 90° ZINC PLATED STEEL



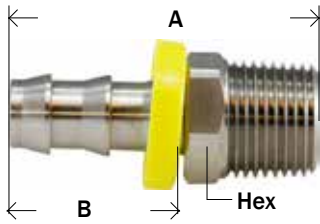
| Part # | Hose I.D. x Female 37°/45° | UNF Thread | A | B | Approx. Wt. Lbs. | List Price |
|---------|----------------------------|------------|------|------|------------------|------------|
| 30-480 | 1/4" | 7/16-20 | 1.55 | 0.83 | .064 | 39.00 |
| 30-482 | 3/8" | 9/16-18 | 1.85 | 0.91 | .095 | 36.60 |
| 30-483* | 3/8" | 5/8-18 | 1.98 | 0.85 | .095 | 52.68 |
| 30-484 | 1/2" | 3/4-16 | 2.33 | 1.09 | .171 | 43.22 |
| 30-486 | 3/4" | 1-1/16-12 | 3.26 | 1.81 | .281 | 115.97 |

* SAE

If you can hold up your head and admit that you were in the wrong, then a wrong deed can benefit you. For to admit a wrong will not only increase the respect of those about you, it will increase your own self-respect.

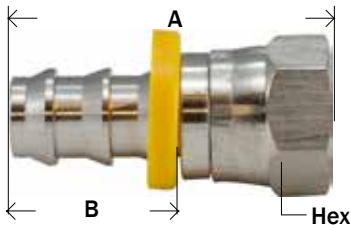
- Dale Carnegie

316 STAINLESS STEEL MALE ADAPTERS



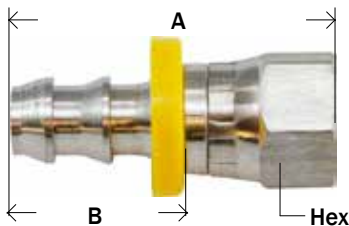
| Part # | Hose I.D. x NPT | A | B | Hex | Approx. Wt. Lbs. | List Price |
|----------|-----------------|------|------|------|------------------|------------|
| 30-200SS | 1/4" x 1/8" | 1.42 | 0.77 | 0.44 | 0.027 | 9.99 |
| 30-201SS | 1/4" x 1/4" | 1.61 | 0.77 | 0.56 | 0.043 | 10.00 |
| 30-203SS | 3/8" x 1/4" | 1.76 | 0.92 | 0.56 | 0.053 | 11.20 |
| 30-204SS | 3/8" x 3/8" | 1.76 | 0.92 | 0.69 | 0.067 | 12.25 |
| 30-206SS | 1/2" x 3/8" | 1.86 | 1.02 | 0.69 | 0.071 | 12.41 |
| 30-207SS | 1/2" x 1/2" | 2.07 | 1.02 | 0.88 | 0.119 | 27.38 |
| 30-215SS | 3/4" x 1/2" | 2.55 | 1.50 | 0.88 | 0.20 | 31.30 |
| 30-210SS | 3/4" x 3/4" | 2.55 | 1.50 | 1.06 | 0.194 | 32.30 |

316 STAINLESS STEEL SAE/ JIC 45°/ 37° FEMALE SWIVEL



| Part # | Hose I.D. x Female 45°/37° | A | B | Hex | Approx. Wt. Lbs. | List Price |
|----------|----------------------------|------|------|------|------------------|------------|
| 30-230SS | 1/4" x 1/4" | 1.48 | 0.74 | 0.56 | 0.023 | 27.14 |
| 30-234SS | 1/2" x 1/2" | 1.93 | 1.03 | 0.88 | 0.04 | 50.50 |

316 STAINLESS STEEL FEMALE 37° JIC FLARE SWIVEL



| Part # | Hose I.D. x Female 37° | A | B | Hex | Approx. Wt. Lbs. | List Price |
|----------|------------------------|------|------|------|------------------|------------|
| 30-266SS | 3/8" x 3/8" | 1.75 | .92 | 0.68 | 0.065 | 35.90 |
| 30-269SS | 3/4" x 3/4" | 2.53 | 1.50 | 1.25 | 0.259 | 80.20 |

I've missed more than 9000 shots in my career. I've lost almost 300 games. 26 times, I've been trusted to take the game winning shot and missed. I've failed over and over and over again in my life. And that is why I succeed.

- Michael Jordan

GARDEN HOSE FITTINGS



• Temperature and Working Pressure Ranges

From +35°F to +100°F at 75 PSI maximum or the recommended working pressure of the garden hose. (Not to exceed 150 PSI.)

Note: All female connector ends should have a rubber washer inserted prior to usage.

FGH = Female Garden Hose threads
MGH = Male Garden Hose threads
 Male garden hose threads are all 3/4" with an outside diameter of 1.0625 and 11-1/2" threads per inch.



Male Garden Hose Profile



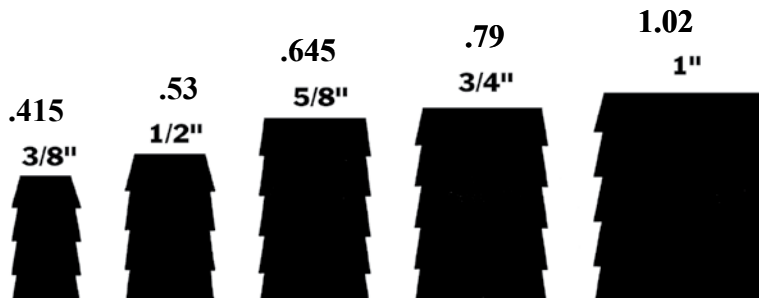
See Plastic section for Plastic Garden Hose Fittings



See page 158 for lead free Garden Hose

Washers included are #30150B black rubber washers.

Actual Profile of Garden Hose Barbs



SWIVEL - MGH X FGH

•WASHER INCLUDED

Internal Hex ↘

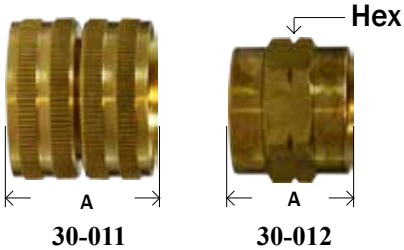


| Part # | MGH X FGH | A | Hex | Approx. Wt. Lbs. | List Price |
|----------|-------------|------|-------|------------------|------------|
| 30-000** | 3/4" x 3/4" | 1.03 | 0.50* | 0.26 | 6.06 |

* Internal Hex
 * Not a live swivel
 ** available in swivel crimp style

SWIVEL - FGH X FGH

•WASHER INCLUDED



| Part # | FGH X FGH | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------------|------|-----------|------------------|------------|
| 30-011 | 3/4" x 3/4" | 1.03 | 1.18 O.D. | 0.24 | 5.24 |
| 30-012 | No Swivel | 1.08 | 1.19 | 0.24 | 9.52 |

HUS 91 203W GSU 101GHSV 22AS 506 FS66

SWIVEL - FGH X FEMALE PIPE

•WASHER INCLUDED



| Part # | FGH x Female NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------------------|------|------|------------------|------------|
| 30-001 | 3/4" x 1/2" | 1.20 | 1.00 | 0.11 | 5.79 |
| 30-006 | 3/4" x 3/4" | 1.11 | 1.12 | 0.11 | 5.55 |

S1 HSU11 91Z 197S 98GHSV 5AS 21517 502 FS65

RIGID - FGH X FEMALE PIPE

•WASHER INCLUDED



| Part # | FGH x Female NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------------------|------|------|------------------|------------|
| 30-016 | 3/4" x 1/8" | 1.02 | 1.18 | 0.08 | 13.60 |
| 30-017 | 3/4" x 1/4" | 0.65 | 1.12 | 0.07 | 4.60 |
| 30-018 | 3/4" x 3/8" | 1.19 | 1.18 | 0.11 | 4.93 |

95GH 501

GARDEN HOSE

BRASS FITTINGS

RIGID - FGH X FEMALE PIPE

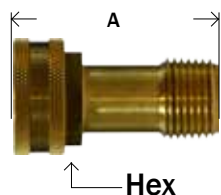


| Part # | FGH x Female NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------------------|------|------|------------------|------------|
| 30-078 | 3/4" x 1/2" | 1.06 | 1.18 | 0.10 | 4.43 |
| 30-083 | 3/4" x 3/4" | 1.06 | 1.18 | 0.12 | 5.52 |

FS67 198 HU11 21507 501 99GH 5A H15PP

SWIVEL - FGH X MALE PIPE

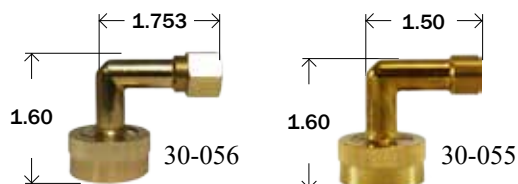
•WASHER INCLUDED



| Part # | FGH x Male NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------------|------|------|------------------|------------|
| 30-047 | 3/4" x 1/4" | 2.04 | 0.75 | 0.13 | 6.30 |
| 30-048 | 3/4" x 3/8" | 2.06 | 0.75 | 0.14 | 5.36 |
| 30-049 | 3/4" x 1/2" | 2.06 | 0.87 | 0.18 | 7.63 |

504 89GH W1 62H4 88GH W1

3/8" Comp 3/4" FGH DISHWASHER 90° ELBOW



| Part # | 3/4 Female Garden Hose Thread x 3/8 Compression | List Price |
|--------|---|------------|
| 30-055 | 3/4" x 3/8" Body Only | 9.68 |
| 30-056 | 3/4" x 3/8" w/ nut & sleeve | 10.10 |

SWIVEL - FGH X MALE PIPE

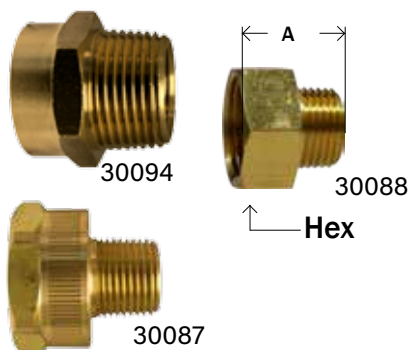
•WASHER INCLUDED



* Crimp style

| Part # | FGH x Male NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|---------|-----------------|------|------|------------------|------------|
| 30-181* | 3/4" x 1/4" | 1.43 | 1.18 | 0.13 | 5.67 |
| 30-184* | 3/4" x 3/8" | 1.43 | 1.18 | 0.15 | 5.27 |
| 30-183 | 3/4" x 1/2" | 1.32 | 0.81 | 0.11 | 7.63 |
| 30-182* | 3/4" x 3/4" | 1.43 | 1.18 | 0.14 | 15.35 |

RIGID - FGH X MALE PIPE



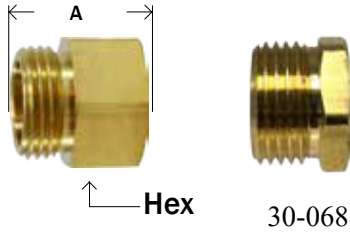
| Part # | FGH x Male NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|----------|--------------------------|------|------|------------------|------------|
| 30-087 | 3/4" x 3/8" | 1.37 | 1.18 | 0.11 | 5.25 |
| 30-088 | 3/4" x 1/2" (1/2" SWT)** | 1.06 | 1.18 | 0.09 | 6.77 |
| 30-093 | 3/4" x 3/4" | 1.06 | 1.18 | 0.11 | 4.85 |
| 30-094 | 3/4" x 3/4" (1/2" FIP) | 1.17 | 1.18 | 0.11 | 5.75 |
| 30-093L* | 3/4" x 3/4" | 1.22 | 1.18 | 0.14 | 14.59 |

* Long pattern

** 1/2 Swt = 5/8 O.D.

21505 503 83GH 20A HU21 199 H7

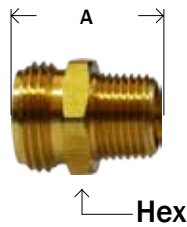
RIGID - MGH X FEMALE PIPE



| Part # | MGH X Female NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------------------|------|------|------------------|------------|
| 30-066 | 3/4" x 1/4" | 1.10 | 1.06 | 0.09 | 5.69 |
| 30-067 | 3/4" x 3/8" | 1.09 | 1.06 | 0.12 | 6.93 |
| 30-068 | 3/4" x 1/2" | 0.81 | 1.06 | 0.10 | 3.57 |
| 30-073 | 3/4" x 3/4" | 1.12 | 1.18 | 0.10 | 4.41 |

197 18R HU12 H11PP 18A 507 18H 81GH 21503 MF67

RIGID - MGH X MALE PIPE



| Part # | MGH X Male NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|-------------|--------------------|------|------|------------------|------------|
| 30-053 | 3/4" x 3/8" | 1.25 | 1.06 | 0.10 | 3.92 |
| 30-058* | 3/4" x 1/2" | 1.31 | 1.06 | 0.12 | 4.20 |
| 30-063** | 3/4" x 3/4" x 1/2" | 1.31 | 1.06 | 0.13 | 4.90 |
| 30-063BE*** | 3/4" x 3/4" | 1.31 | 1.06 | 0.15 | 6.92 |
| 30-063S | 3/4" x 3/4" Short | 1.10 | 1.06 | 0.10 | 4.64 |
| 30-064 | 3/4" x 1" | 1.88 | 1.37 | 0.35 | 12.52 |

No Tap

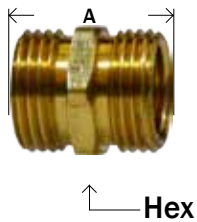
19R 196 H530 21501 508 HU22 514 71GH 19A

* (1/2 Swt = 5/8 O.D.)

** (Tapped 1/2 FIP)

*** (Tapped 1/2 FIP Both ends)

RIGID - MGH X MGH

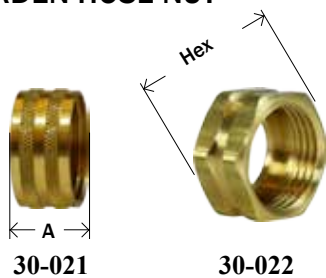


| Part # | MGH X MGH | A | Hex | Approx. Wt. Lbs. | List Price |
|---------|------------------------|------|------|------------------|------------|
| 30-098 | 3/4" x 3/4" (1/2" FIP) | 1.22 | 1.06 | 0.13 | 4.88 |
| 30-099 | 3/4" x 3/4" | 1.38 | 1.06 | | 5.04 |
| 30-100* | 1" x 3/4" | 1.31 | 1.37 | 0.21 | 7.66 |

* 1-11-1/2

21500 509 75GH 23A H8 19R

GARDEN HOSE NUT



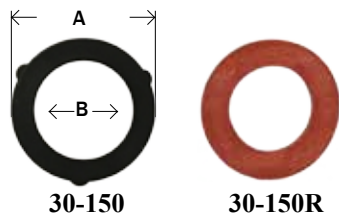
| Part # | Size | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|---------|------|-----------|------------------|------------|
| 30-021 | Knurled | 0.61 | 1.37 O.D. | 0.08 | 3.24 |
| 30-022 | Hex Nut | 0.62 | 1.18 | 0.08 | 3.90 |

94GH GHN1 HNR 21514

GARDEN HOSE

BRASS FITTINGS

GARDEN HOSE WASHERS

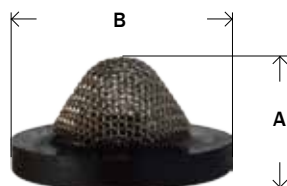


| Part # | Size | A | B | Thickness | Approx. Wt. Lbs. | List Price |
|---------|--------------|------|------|-----------|------------------|------------|
| 30-150 | black* | 0.98 | 0.68 | 0.13 | 0.01 | 0.22 |
| 30-150R | red | 1.00 | 0.68 | 0.13 | 0.01 | 0.19 |
| 30-150B | black rubber | 1.00 | 0.68 | 0.13 | 0.01 | 0.28 |
| 30-151 | 1" | 1.27 | 0.86 | 0.16 | 0.01 | 0.53 |

GHW 901GH

* plasticized rubber

GARDEN HOSE FILTER WASHER

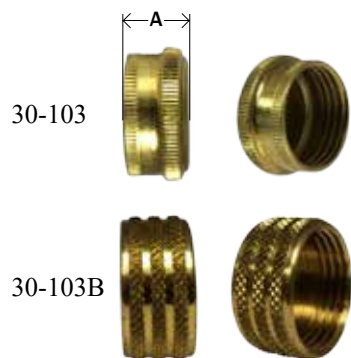


• 300 Series Stainless Steel Screen

| Part # | Size | A | B | Approx. Wt. Lbs. | List Price |
|---------|---------|------|------|------------------|------------|
| 30-180 | 30 Mesh | 0.52 | 1.00 | 0.02 | 1.03 |
| 30-180F | 60 Mesh | 0.52 | 1.00 | 0.02 | 1.12 |

LA662

GARDEN HOSE CAP

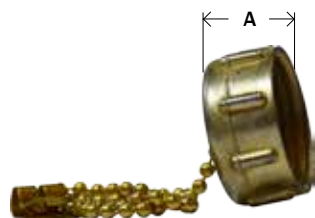


| Part # | Size | A | Approx. Wt. Lbs. | List Price |
|---------|---------------|------|------------------|------------|
| 30-103 | 3/4" Die Cast | 0.58 | 0.04 | 1.79 |
| 30-103B | 3/4" Barstock | 0.60 | 0.048 | 5.04 |

513 96GH GHN5 HC1 LA215 21518 200-W

• Garden hose washers sold separately

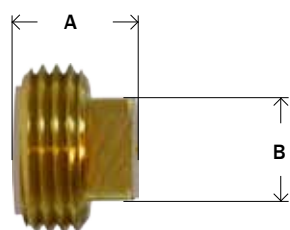
GARDEN HOSE CAP WITH CHAIN



| Part # | Size | A | Approx. Wt. Lbs. | List Price |
|--------|-------------------|------|------------------|------------|
| 30-142 | 3/4" w/ 12" Chain | 0.58 | 0.06 | 8.17 |

* Zinc die cast

GARDEN HOSE PLUG



| Part # | Size | A | B | Approx. Wt. Lbs. | List Price |
|--------|------|------|------|------------------|------------|
| 30-026 | 3/4" | 0.69 | 0.61 | 0.12 | 9.51 |

HOSE MENDERS - SOLID BARB X BARB

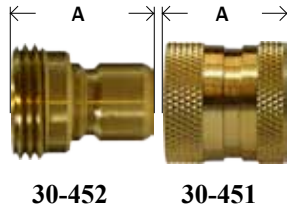


| Part # | Hose I.D. x Hose I.D. | A | B | O.D. | Approx. Wt. Lbs. | List Price |
|--------|-----------------------|------|------|------|------------------|------------|
| 32-096 | 1/2" | 2.00 | 0.96 | 0.62 | 0.06 | 2.22 |
| 32-097 | 5/8" | 2.05 | 0.96 | 0.75 | 0.08 | 3.00 |
| 32-098 | 3/4" | 2.50 | 1.15 | 0.87 | 0.10 | 5.22 |
| 32-099 | 1" | 3.00 | 1.44 | 1.02 | 0.23 | 9.94 |

QUICK DISCONNECT GARDEN HOSE COUPLERS

•WASHER INCLUDED

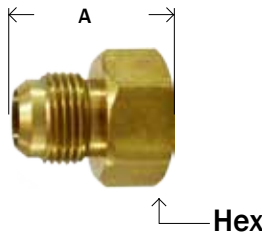
- Unvalved construction allows maximum Flow
- 150 PSI
- NBR Seals



| Part # | Size | A | Approx. Wt. Lbs. | List Price |
|--------|-----------------|------|------------------|------------|
| 30-450 | Complete | 1.70 | 0.24 | 17.09 |
| 30-451 | Female end | 1.14 | 0.12 | 9.58 |
| 30-452 | Male end | 1.26 | 0.12 | 4.19 |
| 30-149 | Recessed Washer | 1.02 | 0.01 | |

LA73C

MALE FLARE X FGH RIGID

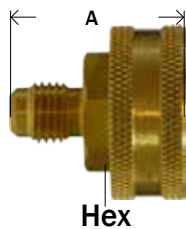


| Part # | Male Flare x FGH | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|------------------|------|------|------------------|------------|
| 30-123 | 3/8" x 3/4" | 1.31 | 1.18 | 0.10 | 8.65 |
| 30-128 | 1/2" x 3/4" | 1.38 | 1.18 | 0.12 | 7.81 |
| 30-133 | 5/8" x 3/4" | 1.53 | 1.18 | 0.14 | 12.91 |

190 46WH HFU21

MALE FLARE x FGH SWIVEL

•WASHER INCLUDED



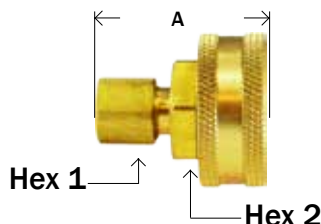
| Part # | Male Flare x FGH | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|------------------|------|-------|------------------|------------|
| 30-052 | 1/4" x 3/4" | 1.24 | 0.75 | 0.10 | 5.48 |
| 30-138 | 3/8" x 3/4" | 1.25 | 0.25* | 0.12 | 23.43 |
| 30-139 | 1/2" x 3/4" | 1.49 | 0.81 | 0.14 | 9.32 |

* Internal Hex

50GHSV 51GHSV W1 68H 191

COMPRESSION X FGH

•WASHER INCLUDED



| Part # | Compression x FGH | A | Hex 1 | Hex 2 | Approx. Wt. Lbs. | List Price |
|--------|-------------------|------|-------|-------|------------------|------------|
| 30-050 | 1/4" x 3/4" | 1.02 | 0.50 | 0.75 | 0.09 | 8.63 |
| 30-051 | 3/8" x 3/4" | 1.04 | 0.62 | 0.75 | 0.12 | 8.10 |

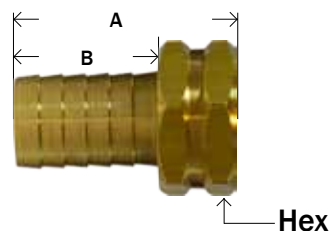
GARDEN HOSE

BRASS/STAINLESS FITTINGS

BARSTOCK BRASS GARDEN HOSE COUPLINGS

FEMALE SWIVEL ONLY

•WASHER INCLUDED



BRASS

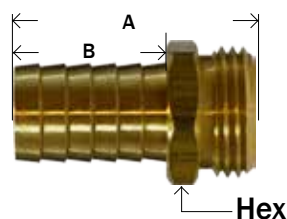
| Part # | Hose Barb x FGH | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------------|------|------|------|------------------|------------|
| 30-031 | 3/8" x 3/4" | 1.82 | 1.19 | 1.18 | 0.11 | 4.87 |
| 30-032 | 1/2" x 3/4" | 1.82 | 1.19 | 1.18 | 0.12 | 4.83 |
| 30-033 | 5/8" x 3/4" | 1.82 | 1.19 | 1.18 | 0.13 | 5.16 |
| 30-034 | 3/4" x 3/4" | 1.82 | 1.19 | 1.18 | 0.15 | 5.60 |
| 30-044 | 1" x 3/4" | 2.10 | 1.19 | 1.18 | 0.18 | 8.01 |
| 30-035 | 1" x 1" | 2.28 | 1.47 | 1.50 | 0.18 | 15.66 |



STAINLESS STEEL 316

| | | | | | | |
|----------|-------------|------|------|------|------|-------|
| 30-032SS | 1/2" x 3/4" | 1.82 | 1.19 | 1.18 | 0.12 | 27.41 |
| 30-033SS | 5/8" x 3/4" | 1.82 | 1.19 | 1.18 | 0.13 | 27.41 |
| 30-034SS | 3/4" x 3/4" | 1.82 | 1.19 | 1.18 | 0.15 | 31.94 |

MALE END ONLY



BRASS

| Part # | Hose Barb x MGH | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------------|------|------|------|------------------|------------|
| 30-039 | 3/8" x 3/4" | 1.88 | 1.19 | 1.06 | 0.12 | 4.42 |
| 30-040 | 1/2" x 3/4" | 1.88 | 1.19 | 1.06 | 0.12 | 3.97 |
| 30-041 | 5/8" x 3/4" | 1.88 | 1.19 | 1.06 | 0.12 | 4.38 |
| 30-042 | 3/4" x 3/4" | 1.88 | 1.19 | 1.06 | 0.13 | 4.29 |
| 30-045 | 1" x 3/4" | 1.94 | 1.19 | 1.06 | 0.21 | 6.41 |
| 30-043 | 1" x 1" | 2.34 | 1.47 | 1.37 | 0.26 | 15.00 |



STAINLESS STEEL 316

| | | | | | | |
|----------|-------------|------|------|------|------|-------|
| 30-040SS | 1/2" x 3/4" | 1.88 | 1.19 | 1.06 | 0.12 | 22.91 |
| 30-041SS | 5/8" x 3/4" | 1.88 | 1.19 | 1.06 | 0.12 | 22.91 |
| 30-042SS | 3/4" x 3/4" | 1.88 | 1.19 | 1.06 | 0.13 | 26.36 |

GARDEN HOSE COUPLING

•WASHER INCLUDED



BRASS

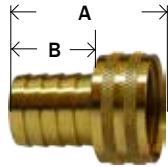
| Part # | Hose Barb | List Price |
|--------|------------------|------------|
| 30-025 | 3/8" | 9.19 |
| 30-027 | 1/2" | 10.16 |
| 30-028 | 5/8" | 10.76 |
| 30-029 | 3/4" | 9.91 |
| 30-046 | 1"(3/4" threads) | 30.06 |
| 30-030 | 1" | 30.49 |



STAINLESS STEEL 316

| | | |
|----------|------|-------|
| 30-027SS | 1/2" | 55.34 |
| 30-028SS | 5/8" | 55.34 |
| 30-029SS | 3/4" | 59.21 |

FEMALE SWIVEL ONLY - Short Shank Knurled Nut



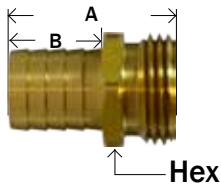
| Part # | Hose Barb x FGH | A | B | Approx. Wt. Lbs. | List Price |
|--------|-----------------|------|------|------------------|------------|
| 30-466 | 1/2" x 3/4" | 1.50 | 0.88 | 0.08 | 5.68 |
| 30-467 | 5/8" x 3/4" | 1.50 | 0.88 | 0.09 | 4.69 |
| 30-468 | 3/4" x 3/4" | 1.47 | 0.88 | 0.10 | 4.80 |

FEMALE END ONLY - Short Shank w/ hex



| Part # | Hose x FGH | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------------|------|------|------|------------------|------------|
| 30-453 | 1/2" x 3/4" | 1.63 | 1.00 | 1.18 | 0.11 | 4.40 |
| 30-454 | 5/8" x 3/4" | 1.63 | 1.00 | 1.18 | 0.11 | 4.60 |
| 30-455 | 3/4" x 3/4" | 1.63 | 1.00 | 1.18 | 0.13 | 5.07 |

MALE END ONLY - Short Shank



| Part # | Hose Barb x MGH | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------------|------|------|------|------------------|------------|
| 30-471 | 1/2" x 3/4" | 1.55 | 0.88 | 1.06 | 0.11 | 5.65 |
| 30-472 | 5/8" x 3/4" | 1.56 | 0.88 | 1.06 | 0.12 | 5.08 |
| 30-473 | 3/4" x 3/4" | 1.56 | 0.88 | 1.06 | 0.13 | 5.56 |

GARDEN HOSE COUPLING SETS - Short Shank with Knurled Nut



| Part # | Hose Barb | List Price |
|--------|-----------|------------|
| 30-461 | 1/2" | 10.68 |
| 30-462 | 5/8" | 10.68 |
| 30-463 | 3/4" | 10.89 |

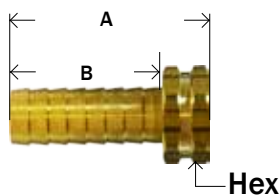
GARDEN HOSE COUPLING SETS - Short Shank w/ hex nut



| Part # | Hose Barb | List Price |
|--------|-----------|------------|
| 30-457 | 1/2" | 9.26 |
| 30-458 | 5/8" | 9.26 |
| 30-459 | 3/4" | 9.90 |

FEMALE SWIVEL ONLY - 2" SHANK

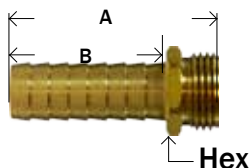
•WASHER INCLUDED



| Part # | Hose Barb x FGH | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------------|------|------|------|------------------|------------|
| 30-505 | 1/2" x 3/4" | 2.55 | 2.04 | 1.18 | 0.13 | 6.58 |
| 30-506 | 5/8" x 3/4" | 2.56 | 2.04 | 1.18 | 0.16 | 7.62 |
| 30-507 | 3/4" x 3/4" | 2.67 | 2.04 | 1.18 | 0.17 | 6.18 |
| 30-508 | 1" x 1" | 2.84 | 2.03 | 1.43 | 0.29 | 10.39 |

GHFL 594

MALE END ONLY - 2" SHANK



| Part # | Hose Barb x MGH | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------------|------|------|------|------------------|------------|
| 30-510 | 1/2" x 3/4" | 2.72 | 2.04 | 1.06 | 0.16 | 7.44 |
| 30-511 | 5/8" x 3/4" | 2.72 | 2.04 | 1.06 | 0.17 | 11.56 |
| 30-512 | 3/4" x 3/4" | 2.72 | 2.04 | 1.06 | 0.20 | 6.82 |
| 30-513 | 1" x 1" | 2.90 | 2.03 | 1.37 | 0.28 | 11.33 |

GHML 593

GARDEN HOSE COUPLING SETS - 2" SHANK

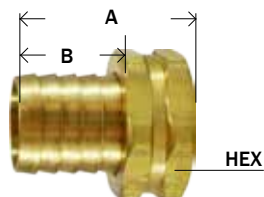


| Part # | Hose x FGH | List Price |
|--------|------------|------------|
| 30-516 | 1/2" | 13.64 |
| 30-517 | 5/8" | 13.64 |
| 30-518 | 3/4" | 17.01 |
| 30-519 | 1" | 49.63 |

NPSM GARDEN HOSE

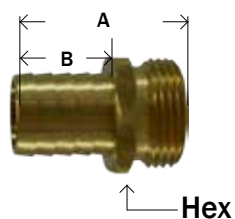
BRASS FITTINGS

NPSM FEMALE SHORT SHANK



| Part # | Hose ID | NPSM Thread | A | B | Hex | List Price |
|--------|---------|-------------|------|------|------|------------|
| 30-545 | 1/2 | 3/4" | 1.45 | 0.88 | 1.18 | 4.62 |
| 30-546 | 5/8 | 3/4" | 1.47 | 0.88 | 1.18 | 5.73 |
| 30-547 | 3/4 | 3/4" | 1.47 | 0.88 | 1.18 | 5.67 |
| 30-548 | 1 | 1" | 1.50 | 1.00 | 1.50 | 11.24 |

NPSM MALE SHORT SHANK



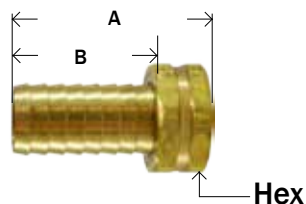
| Part # | Hose ID | NPSM Thread | A | B | Hex | List Price |
|--------|---------|-------------|------|------|------|------------|
| 30-550 | 1/2 | 3/4" | 1.56 | 0.88 | 1.06 | 4.88 |
| 30-551 | 5/8 | 3/4" | 1.56 | 0.88 | 1.06 | 4.55 |
| 30-552 | 3/4 | 3/4" | 1.56 | 0.88 | 1.06 | 5.22 |
| 30-553 | 1 | 1" | 1.77 | 0.98 | 1.30 | 9.64 |

NPSM SHORT SHANK SETS



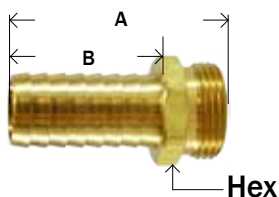
| Part # | Size | List Price |
|--------|------|------------|
| 30-540 | 1/2" | 9.11 |
| 30-541 | 5/8" | 9.31 |
| 30-542 | 3/4" | 9.50 |
| 30-543 | 1" | 19.60 |

NPSM FEMALE LONG SHANK



| Part # | Hose ID | NPSM Thread | A | B | Hex | List Price |
|--------|---------|-------------|------|------|------|------------|
| 30-565 | 1/2 | 1/2" | 2.09 | 1.50 | 0.94 | 3.97 |
| 30-566 | 5/8 | 3/4" | 2.09 | 1.50 | 1.18 | 6.67 |
| 30-567 | 3/4 | 3/4" | 2.09 | 1.50 | 1.18 | 6.11 |
| 30-568 | 1 | 1" | 2.12 | 1.53 | 1.50 | 17.64 |

NPSM MALE LONG SHANK



| Part # | Hose ID | NPSM Thread | A | B | Hex | List Price |
|--------|---------|-------------|------|------|------|------------|
| 30-570 | 1/2 | 1/2" | 2.18 | 1.50 | 0.87 | 4.52 |
| 30-571 | 5/8 | 3/4" | 2.18 | 1.50 | 1.06 | 6.13 |
| 30-572 | 3/4 | 3/4" | 2.18 | 1.50 | 1.06 | 6.45 |
| 30-573 | 1 | 1" | 2.32 | 1.53 | 1.30 | 13.66 |

NPSM LONG SHANK SETS

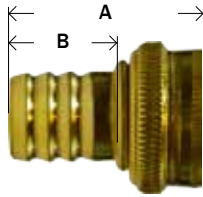


| Part # | Size | List Price |
|--------|------|------------|
| 30-560 | 1/2" | 8.58 |
| 30-561 | 5/8" | 12.61 |
| 30-562 | 3/4" | 12.74 |
| 30-563 | 1" | 29.04 |

WROUGHT BRASS

WROUGHT BRASS - Female end only

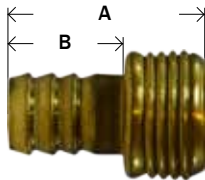
•WASHER INCLUDED



| Part # | Hose Barb x FGH | A | B | Approx. Wt. Lbs. | List Price |
|--------|-----------------|------|------|------------------|------------|
| 30-526 | 5/8" x 3/4" | 1.58 | 0.91 | 0.05 | 4.66 |
| 30-527 | 3/4" x 3/4" | 1.50 | 0.84 | 0.06 | 4.68 |

85L

WROUGHT BRASS COUPLINGS - Male end only



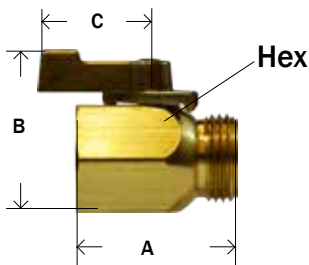
| Part # | Hose Barb x MGH | A | B | Approx. Wt. Lbs. | List Price |
|--------|-----------------|------|------|------------------|------------|
| 30-530 | 1/2" x 3/4" | 1.50 | 0.88 | 0.02 | 4.49 |

85M

GARDEN HOSE VALVES

ONE WAY BRASS BALL VALVE - FGH x MGH

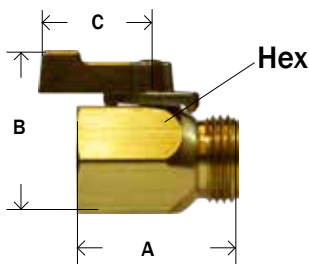
• 500 PSI • 180°F



| Part # | FGH x MGH | A | B | C | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------------|------|------|------|------|------------------|------------|
| 30-161 | 3/4" x 3/4" | 1.87 | 1.89 | 1.31 | 1.06 | 0.42 | 58.53 |

ONE WAY BRASS BALL VALVE - Female Pipe x MGH

• 500 PSI • 180°F



| Part # | Female NPTF x MGH | A | B | C | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------------------|------|------|------|------|------------------|------------|
| 30-162 | 3/4" x 3/4" | 1.55 | 1.89 | 1.31 | 1.06 | 0.42 | 61.72 |

ZINC ALLOY HOSE SHUT-OFF W/ ONE LEVER

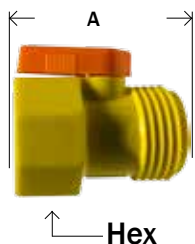


| Part # | FGH x MGH | A | Approx. Wt. Lbs. | List Price |
|--------|-------------|------|------------------|------------|
| 30-631 | 3/4" x 3/4" | 1.67 | 0.08 | 4.60 |

GARDEN HOSE VALVES

BRASS FITTINGS

PLASTIC GARDEN HOSE VALVE • CYCOLAC BODY & BALL

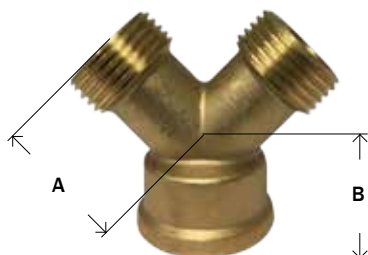


| Part # | FGH x MGH | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------------|------|------|------------------|------------|
| 30-163 | 3/4" x 3/4" | 1.75 | 1.25 | 0.04 | 6.58 |

LA450C

CAST BRASS HOSE - "Y" CONNECTOR

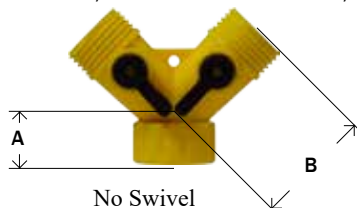
•WASHER INCLUDED



| Part # | Size | A | B | Approx. Wt. Lbs. | List Price |
|--------|------|------|------|------------------|------------|
| 30-140 | 3/4" | 1.40 | 0.67 | 0.22 | 11.39 |

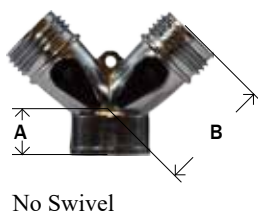
86Y 21A

PLASTIC, NON-CORROSIVE, 2-WAY HOSE SHUT-OFF "Y"



| Part # | Size | A | B | Approx. Wt. Lbs. | List Price |
|--------|------|------|------|------------------|------------|
| 30-160 | 3/4" | 0.74 | 1.87 | 0.08 | 3.48 |

"Y" SHAPE ZINC ALLOY CONNECTOR W/ TWO LEVERS



| Part # | Size | A | B | Approx. Wt. Lbs. | List Price |
|--------|------|------|------|------------------|------------|
| 30-626 | 3/4" | 0.60 | 1.66 | 0.10 | 9.20 |

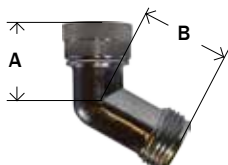
"Y" SHAPE BRASS CONNECTOR W/ 2-WAY SHUT OFF



• Brass Levers

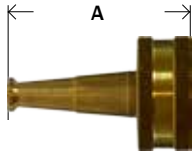
| Part # | Size | Description | Approx. Wt. Lbs. | List Price |
|--------|------|----------------------------------|------------------|------------|
| 30-627 | 3/4" | 3/4 Double Y valve, swivel inlet | 0.56 | 54.69 |

ZINC ALLOY SWIVEL HOSE CONNECTOR



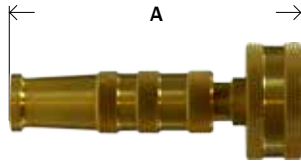
| Part # | Size | A | B | Approx. Wt. Lbs. | List Price |
|--------|------|------|------|------------------|------------|
| 30-629 | 3/4" | 1.31 | 1.50 | 0.08 | 4.68 |

2-1/2" BRASS NOZZLE



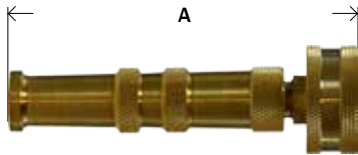
| Part # | Size | A | Approx. Wt. Lbs. | List Price |
|--------|------|------|------------------|------------|
| 30-637 | 3/4" | 2.50 | 0.14 | 7.36 |

3" CROSSED PATTERN BRASS NOZZLE



| Part # | Size | A | Approx. Wt. Lbs. | List Price |
|--------|------|------|------------------|------------|
| 30-640 | 3/4" | 2.89 | 0.25 | 10.46 |

4" CROSSED PATTERN BRASS NOZZLE



| Part # | Size | A | Approx. Wt. Lbs. | List Price |
|--------|------|------|------------------|------------|
| 30-638 | 3/4" | 3.80 | 0.50 | 13.89 |

5-1/2

Adjustable Spray

| Part # | Size | Description | List Price |
|--------|--------|--|------------|
| 30-600 | 5-1/2" | Zinc Alloy spray nozzle with insulated handle soft grip and front thread protector | 17.84 |

4-1/4

Lead Free

| Part # | Size | Description | List Price |
|--------|--------|-------------------------|------------|
| 30-620 | 4-1/4" | Zinc Alloy spray nozzle | 6.90 |

5-1/4

Lead Free Adjustable Spray

| Part # | Size | Description | List Price |
|--------|--------|--|------------|
| 30-609 | 5-1/4" | Zinc Alloy spray nozzle with easily adjustable brass head and plastic grip | 18.76 |

4-1/2

Plastic spray nozzle

| Part # | Size | Description | List Price |
|--------|--------|----------------------|------------|
| 30-630 | 4-1/2" | Plastic spray nozzle | 3.51 |

SAE 45° FLARE



| Tube O.D. | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 5/8 | 3/4 |
|---------------|---------|--------|---------|--------|--------|----------|--------|--------|-----------|
| Thread Size-B | 5/16-24 | 3/8-24 | 7/16-20 | 1/2-20 | 5/8-18 | 11/16-16 | 3/4-16 | 7/8-14 | 1-1/16-14 |

•Typical Application

LP and natural gas, flammable liquids, instrumentation, refrigeration, power steering, hydraulic and pneumatic systems.

•Working Pressure Ranges

Temperature and type of tubing used are important factors. However, the following table is a good guide for proper selection. Temperature 73°F with copper tubing:

| PSI | Tube O.D. (in.) | Tube Wall (in.) |
|------|-----------------|-----------------|
| 2800 | 1/8 | .030 |
| 1900 | 3/16 | .030 |
| 1400 | 1/4 | .030 |
| 1200 | 5/16 | .032 |
| 1000 | 3/8 | .032 |
| 750 | 1/2 | .032 |
| 650 | 5/8 | .035 |
| 550 | 3/4 | .035 |
| 450 | 7/8 | .035 |

•Vibration

Good resistance - use long nut when greater vibration resistance is required.

•Temperature Range

-65°F to +250°F (-53°C to +121°C) range at maximum operating pressures.

•Used With

Copper, brass, aluminum and steel hydraulic tubing that can be flared.

•Tolerance

+/- .03 on all dimensions. Dimension data can change without notice. Please call us when dimensions are critical.

•Conformance

Meets specifications and standards of ASA, ASME, SAE and MS (Military standards).

Assembly Instructions

- 1- Cut tubing to desired length. Make sure all burrs are removed and ends are cut square.
- 2- Slide nut on tube. Threaded end "A" of nut must face out.
- 3- Flare end of tube with a 45° flaring tool.
 - a- Measure flare diameter.
 - b- Examine flare for excessive thin out.
- 4- Lubricate threads and assemble to fitting body. Nut should be turned hand tight.
- 5- Tighten assembly with wrench until a solid feeling is encountered. From that point, apply a one-sixth turn.

Note: Do not over-torque as it may damage the fitting or split the tubing at the flare.



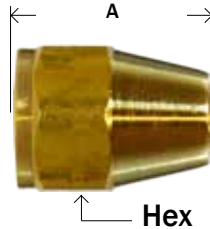
• See Lead Free Flare Fittings page 159

Actual O.D. of Flare Fittings



SHORT ROD NUT

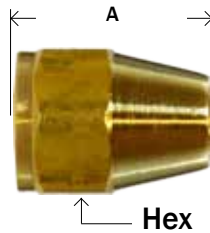
SAE# 010110



| Part # | Thread Size UNF | Thread | A | Hex | Approx. Wt. Lbs. | List Price |
|---------|--------------------|-----------|------|------|---------------------|------------|
| 10-013 | 1/8" | 5/16-24 | 0.50 | 0.37 | 0.01 | 2.09 |
| 10-014 | 3/16" | 3/8-24 | 0.62 | 0.43 | 0.02 | 1.05 |
| 10-015 | 1/4" | 7/16-20 | 0.75 | 0.56 | 0.03 | 1.47 |
| 10-015L | 1/4" | 7/16-20 | 0.75 | 0.50 | 0.03 | 0.95 |
| 10-016 | 5/16" | 1/2-20 | 0.88 | 0.62 | 0.04 | 2.41 |
| 10-017L | 3/8" | 5/8-18 | 0.77 | 0.75 | 0.05 | 1.60 |
| 10-017 | 3/8" | 5/8-18 | 1.00 | 0.75 | 0.04 | 2.42 |
| 10-018 | 7/16" | 11/16-16 | 1.06 | 0.81 | 0.06 | 9.27 |
| 10-019L | 1/2" | 3/4-16 | 0.93 | 0.87 | 0.06 | 1.95 |
| 10-019 | 1/2" | 3/4-16 | 1.12 | 0.87 | 0.09 | 3.18 |
| 10-020L | 5/8" | 7/8-14 | 1.08 | 1.00 | 0.10 | 3.43 |
| 10-020 | 5/8" | 7/8-14 | 1.31 | 1.06 | 0.15 | 8.85 |
| 10-021 | 3/4" | 1-1/16-14 | 1.50 | 1.25 | 0.24 | 7.79 |
| 10-022 | 7/8" | 1-1/4-12 | 1.62 | 1.50 | 0.36 | 16.45 |
| 10-026 | 1" | 1-3/8-12 | 1.81 | 1.62 | 0.44 | 23.07 |

20910 41FS 1110 N1 41FX 441S 'L'

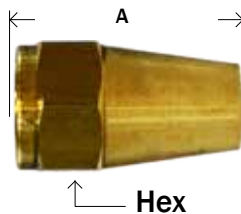
REDUCING SHORT ROD NUT



| Part # | Thread Size UNF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|--------------------|------|------|---------------------|------------|
| 10-023 | 3/8" x 1/4" | 0.74 | 0.81 | 0.06 | 11.78 |
| 10-024 | 1/2" x 3/8" | 0.86 | 0.94 | 0.10 | 12.80 |
| 10-025 | 5/8" x 1/2" | 0.99 | 1.06 | 0.12 | 16.49 |

LONG ROD NUT

SAE# 010111



NEW

| Part # | Thread Size UNF | A | Hex | Approx. Wt. Lbs. | List Price |
|---------|--------------------|------|------|---------------------|------------|
| 10-001 | 1/8" | 0.75 | 0.37 | 0.01 | 6.75 |
| 10-002 | 3/16" | 0.81 | 0.43 | 0.02 | 2.60 |
| 10-003L | 1/4" | 0.98 | 0.55 | 0.03 | 1.56 |
| 10-003 | 1/4" | 0.94 | 0.56 | 0.03 | 2.36 |
| 10-004 | 5/16" | 1.12 | 0.62 | 0.04 | 4.50 |
| 10-005 | 3/8" | 1.31 | 0.75 | 0.06 | 4.09 |
| 10-006 | 1/2" | 1.62 | 0.87 | 0.12 | 6.85 |
| 10-007 | 5/8" | 1.88 | 1.06 | 0.20 | 10.70 |
| 10-008 | 3/4" | 2.19 | 1.25 | 0.34 | 51.60 |

41FL N2 241 441 41

**"L" means light pattern.**

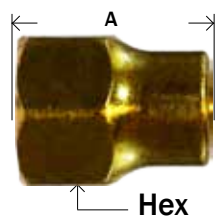
-These fittings are completely interchangeable with full pattern fittings, but have been modified in some way. This modification is usually in the length of the pipe threads. Used in plumbing and light industrial applications.

SAE 45° FLARE

BRASS FITTINGS

LONG FORGED NUT

SAE# 010167

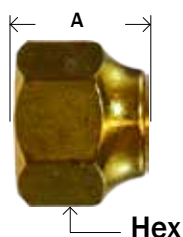


| Part # | Thread Size UNF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|--------------------|------|------|---------------------|------------|
| 10-028 | 1/4" | 0.94 | 0.62 | 0.05 | 4.43 |
| 10-030 | 3/8" | 1.06 | 0.81 | 0.08 | 6.72 |
| 10-031 | 1/2" | 1.19 | 0.94 | 0.12 | 7.14 |
| 10-032 | 5/8" | 1.44 | 1.06 | 0.26 | 12.59 |
| 10-033 | 3/4" | 1.75 | 1.31 | 0.35 | 16.70 |

41FF 39 N4 14FL 641

SHORT FORGED NUT

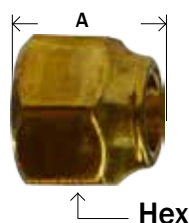
SAE# 010166



| Part # | Thread Size UNF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|--------------------|------|------|---------------------|------------|
| 10-038 | 3/16" | 0.56 | 0.50 | 0.02 | 5.59 |
| 10-039 | 1/4" | 0.60 | 0.62 | 0.04 | 1.70 |
| 10-040 | 5/16" | 0.66 | 0.69 | 0.04 | 3.42 |
| 10-041 | 3/8" | 0.70 | 0.81 | 0.06 | 2.39 |
| 10-042 | 1/2" | 0.82 | 0.94 | 0.08 | 3.36 |
| 10-043 | 5/8" | 0.95 | 1.06 | 0.12 | 5.41 |
| 10-044 | 3/4" | 1.16 | 1.31 | 0.22 | 11.35 |
| 10-045 | 7/8" | 1.18 | 1.38 | 0.30 | 14.67 |

14FS 41FFS 40 641-S 1116 NSA

EXTRA HEAVY SHORT FORGED NUT



| Part # | Thread Size UNF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|--------------------|------|------|---------------------|------------|
| 10-046 | 1/4" | 0.63 | 0.75 | 0.04 | 3.48 |
| 10-047 | 3/8" | 0.72 | 0.88 | 0.06 | 3.85 |
| 10-048 | 1/2" | 0.88 | 1.00 | 0.08 | 4.70 |
| 10-049 | 5/8" | 0.98 | 1.12 | 0.12 | 7.17 |

NSA

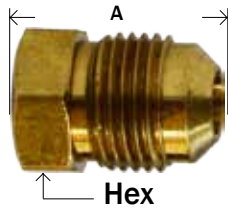
FORGED REDUCING NUT



| Part # | Female Flare x OD | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|----------------------|------|------|---------------------|------------|
| 10-051 | 5/16" x 1/4" | 0.66 | 0.75 | 0.06 | 13.07 |
| 10-052 | 3/8" x 1/4" | 0.72 | 0.81 | 0.06 | 5.28 |
| 10-053 | 3/8" x 5/16" | 0.72 | 0.81 | 0.08 | 4.98 |
| 10-054 | 1/2" x 3/8" | 0.81 | 0.94 | 0.08 | 4.44 |
| 10-055 | 5/8" x 3/8" | 0.96 | 1.12 | 0.15 | 12.88 |
| 10-056 | 5/8" x 1/2" | 0.97 | 1.06 | 0.12 | 7.63 |
| 10-058 | 3/4" x 5/8" | 1.17 | 1.31 | 0.30 | 17.65 |

NSR4 14FS 41FRS 40R 662-S

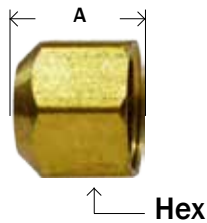
FLARED PLUG



| Part # | Thread Size UNF | A | Hex | Approx. Wt. Lbs. | List Price |
|----------|--------------------|------|------|---------------------|------------|
| 10-063 | 3/16" | 0.59 | 0.50 | 0.02 | 5.15 |
| 10-064 * | 1/4" | 0.69 | 0.43 | 0.02 | 1.38 |
| 10-065 * | 5/16" | 0.78 | 0.50 | 0.04 | 2.99 |
| 10-066 * | 3/8" | 0.88 | 0.62 | 0.06 | 2.40 |
| 10-067 | 1/2" | 1.06 | 0.75 | 0.10 | 4.00 |
| 10-068 | 5/8" | 1.19 | 0.87 | 0.14 | 3.89 |
| 10-069 | 3/4" | 1.32 | 1.06 | | 17.19 |

* Available in Stainless Steel. Add SS to the part# 58 639F PF 57 P2 2229 439

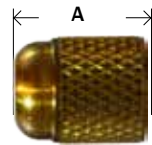
FLARED CAP



| Part # | Thread Size UNF | A | Hex | Approx. Wt. Lbs. | List Price |
|----------|--------------------|------|------|---------------------|------------|
| 10-074 | 3/16" | 0.47 | 0.50 | 0.02 | 3.52 |
| 10-075 * | 1/4" | 0.48 | 0.50 | 0.02 | 0.85 |
| 10-076 | 5/16" | 0.62 | 0.62 | 0.04 | 2.68 |
| 10-077 * | 3/8" | 0.58 | 0.75 | 0.03 | 2.02 |
| 10-078 | 1/2" | 0.69 | 0.81 | 0.14 | 1.97 |
| 10-079 | 5/8" | 0.81 | 0.94 | 0.20 | 3.22 |
| 10-080 | 3/4" | 1.17 | 1.37 | 0.30 | 11.42 |

* Available in Stainless Steel. Add SS to the part# 640F 41FC 56 N5 2129 54 440

FINGER TIGHTENING CAP



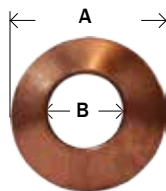
- Neoprene
- O-Ring Included

| Part # | Thread Size UNF | A | Approx. Wt. Lbs. | List Price |
|--------|--------------------|------|---------------------|------------|
| 10-081 | 1/4" | 0.62 | 0.02 | 1.52 |

NFT5

COPPER GASKET

SAE# 010113



| Part # | Size | A | B | Approx. Wt. Lbs. | List Price |
|--------|-------|------|------|---------------------|------------|
| 10-084 | 3/16" | 0.31 | 0.12 | 0.01 | 0.77 |
| 10-085 | 1/4" | 0.36 | 0.19 | 0.01 | 0.40 |
| 10-086 | 5/16" | 0.42 | 0.22 | 0.01 | 1.15 |
| 10-087 | 3/8" | 0.55 | 0.28 | 0.01 | 0.83 |
| 10-088 | 1/2" | 0.66 | 0.41 | 0.01 | 1.14 |
| 10-089 | 5/8" | 0.77 | 0.50 | 0.01 | 1.47 |
| 10-090 | 3/4" | 0.95 | 0.62 | 0.01 | 1.70 |

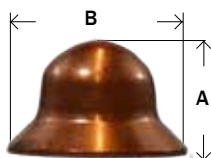
B2 2GF 6251 FG 157 59 46

SAE 45° FLARE

BRASS FITTINGS

COPPER BONNET

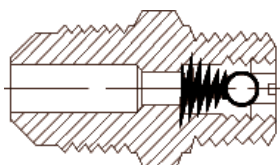
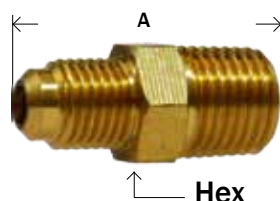
SAE# 010114



| Part # | Size | A | B | Approx. Wt. Lbs. | List Price |
|--------|-------|------|------|------------------|------------|
| 10-094 | 3/16" | 0.16 | 0.31 | 0.01 | 2.64 |
| 10-095 | 1/4" | 0.22 | 0.36 | 0.01 | 2.26 |
| 10-097 | 3/8" | 0.34 | 0.55 | 0.01 | 2.22 |
| 10-098 | 1/2" | 0.41 | 0.66 | 0.01 | 3.03 |
| 10-099 | 5/8" | 0.44 | 0.77 | 0.01 | 2.84 |
| 10-100 | 3/4" | 0.56 | 0.95 | 0.01 | 6.71 |

B1 3GF 64C 57 156 FB 695 464

MALE BALL CHECK CONNECTOR



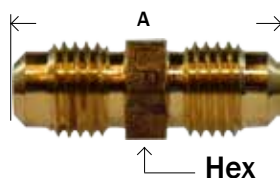
| Part # | Male Flare x Male NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|---------|------------------------|------|------|------------------|------------|
| 10-131* | 1/4" x 1/8" | 1.06 | 0.43 | | 32.58 |
| 10256WC | 1/4" x 1/4" | 1.24 | 0.6 | 0.04 | 2.94 |
| 10-133* | 3/8" x 1/4" | 1.31 | 0.62 | 0.08 | 28.79 |

43A

* Note: Ball & Spring position may be reversed to change flow/check position. Min working pressure 3 PSI.

UNION

SAE# 010101



| Part # | Thread Size UNF | A | Hex | Approx. Wt. Lbs. | List Price |
|----------|-----------------|------|------|------------------|------------|
| 10-104 | 1/8" | 0.91 | 0.31 | 0.02 | 7.58 |
| 10-105 | 3/16" | 1.06 | 0.37 | 0.02 | 4.62 |
| 10-106L | 1/4" | 1.19 | 0.43 | 0.03 | 1.50 |
| 10-106 * | 1/4" | 1.19 | 0.43 | 0.03 | 2.69 |
| 10-107 | 5/16" | 1.34 | 0.50 | 0.05 | 2.79 |
| 10-108L | 3/8" | 1.50 | 0.62 | 0.09 | 4.43 |
| 10-108 * | 3/8" | 1.50 | 0.62 | 0.09 | 3.11 |
| 10-109L | 1/2" | 1.67 | 0.75 | 0.12 | 6.04 |
| 10-109 | 1/2" | 1.81 | 0.75 | 0.14 | 6.68 |
| 10-110L | 5/8" | 2.00 | 0.87 | 0.20 | 7.16 |
| 10-110 | 5/8" | 2.12 | 0.87 | 0.20 | 6.69 |
| 10-111 | 3/4" | 2.44 | 1.06 | 0.35 | 12.27 |
| 10-112 | 7/8" | 2.72 | 1.25 | 0.52 | 48.18 |

* Available in Stainless Steel. Add SS to the part#

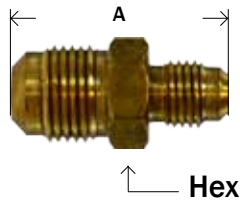
42F U2



"L" means light pattern.

-These fittings are completely interchangeable with full pattern fittings, but have been modified in some way. This modification is usually in the length of the pipe threads. Used in plumbing and light industrial applications.

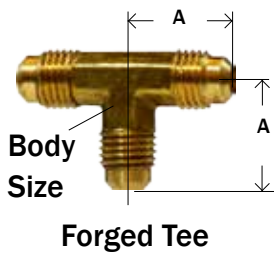
REDUCING UNION



| Part # | Thread Size UNF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|--------------------|------|------|---------------------|------------|
| 10-117 | 5/16" x 1/4" | 1.28 | 0.50 | 0.04 | 6.04 |
| 10-118 | 3/8" x 1/4" | 1.38 | 0.62 | 0.06 | 4.75 |
| 10-119 | 3/8" x 5/16" | 1.44 | 0.62 | 0.08 | 8.44 |
| 10-120 | 1/2" x 1/4" | 1.53 | 0.75 | 0.10 | 7.26 |
| 10-121 | 1/2" x 3/8" | 1.69 | 0.75 | 0.10 | 7.16 |
| 10-122 | 5/8" x 3/8" | 1.88 | 0.87 | 0.17 | 12.00 |
| 10-123 | 5/8" x 1/2" | 1.87 | 0.87 | 0.14 | 6.22 |

656F UR2 42-R

UNION TEE



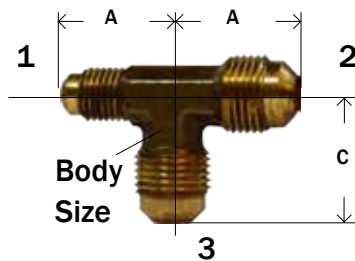
SAE# 010401

| Part # | Thread Size UNF | A | Body Size | Approx. Wt. Lbs. | List Price |
|-----------|--------------------|------|--------------|---------------------|------------|
| 10-157 | 1/8" | 0.67 | 0.36 | 0.04 | 8.11 |
| 10-158 | 3/16" | 0.75 | 0.36 | 0.06 | 4.67 |
| 10-159 ** | 1/4" | 0.78 | 0.36 | 0.06 | 4.88 |
| 10-160 ** | 5/16" | 0.91 | 0.44 | 0.10 | 6.94 |
| 10-161 ** | 3/8" | 1.00 | 0.44 | 0.12 | 7.04 |
| 10-162 | 1/2" | 1.16 | 0.59 | 0.19 | 7.25 |
| 10-163 | 5/8" | 1.41 | 0.69 | 0.30 | 13.30 |
| 10-164 | 3/4" | 1.64 | 0.88 | 0.53 | 28.28 |
| 10-165 | 7/8" | 1.75 | 1.25 | 0.93 | 57.47 |

** Available in Stainless Steel. Add SS to the part#

244F T2 144F

REDUCING TEE 1 x 2 x 3

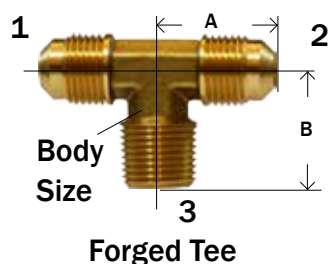


| Part # | Thread Size UNF 1x2x3 | A | C | Body Size | Approx. Wt. Lbs. | List Price |
|--------|--------------------------|------|------|--------------|---------------------|---------------|
| 10-170 | 1/4" x 1/4" x 3/8" | 0.91 | 1.00 | 0.44 | 0.10 | 7.65 |
| 10-171 | 5/16" x 5/16" x 1/4" | 0.94 | 0.94 | 0.44 | 0.12 | 11.45 |
| 10-172 | 3/8" x 1/4" x 1/4" | 0.91 | 1.00 | 0.44 | 0.10 | 9.15 |
| 10-173 | 3/8" x 1/4" x 3/8" | 1.00 | 0.91 | 0.44 | 0.12 | 11.41 |
| 10-174 | 3/8" x 3/8" x 1/4" | 1.00 | 0.88 | 0.44 | 0.11 | 8.22 |
| 10-175 | 3/8" x 3/8" x 1/2" | 1.00 | 1.19 | 0.59 | 0.14 | 11.45 |
| 10-176 | 3/8" x 3/8" x 5/8" | 1.16 | 1.44 | 0.69 | 0.16 | 22.10 |
| 10-178 | 1/2" x 3/8" x 3/8" | 1.16 | 1.12 | 0.59 | 0.18 | 8.69 |
| 10-179 | 1/2" x 3/8" x 1/2" | 1.16 | 1.09 | 0.59 | 0.18 | 10.61 |
| 10-180 | 1/2" x 1/2" x 1/4" | 1.16 | 0.97 | 0.59 | 0.18 | 14.68 |
| 10-181 | 1/2" x 1/2" x 3/8" | 1.16 | 1.12 | 0.59 | 0.19 | 9.61 |
| 10-182 | 1/2" x 1/2" x 5/8" | 1.28 | 1.41 | 0.69 | 0.28 | 13.99 |
| 10-187 | 5/8" x 1/2" x 5/8" | 1.44 | 1.33 | 0.69 | 0.27 | 21.69 |
| 10-188 | 5/8" x 5/8" x 3/8" | 1.38 | 1.16 | 0.69 | 0.30 | 18.89 |
| 10-189 | 5/8" x 5/8" x 1/2" | 1.38 | 1.28 | 0.69 | 0.28 | 27.08 |
| 10-197 | 3/4" x 3/4" x 5/8" | 1.66 | 1.50 | 0.88 | 0.36 | 47.10 |

144F TR2 659F 684F 44R

SAE 45° FLARE

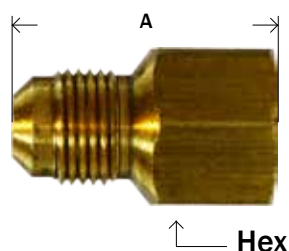
BRASS FITTINGS

MALE BRANCH TEE
SAE# 010425

| Part # | Male Flare x Male NPT (1&2)x3 | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|-----------|----------------------------------|------|------|--------------|---------------------|---------------|
| 10-203 | 3/16" x 1/8" | 0.75 | 0.75 | 0.36 | 0.10 | 5.52 |
| 10-204 | 1/4" x 1/8" | 0.78 | 0.75 | 0.36 | 0.05 | 5.65 |
| 10-205 | 1/4" x 1/4" | 0.88 | 0.88 | 0.44 | 0.08 | 5.85 |
| 10-206 | 1/4" x 3/8" | 0.92 | 1.00 | 0.47 | 0.10 | 9.48 |
| 10-207 | 5/16" x 1/8" | 0.89 | 0.78 | 0.44 | 0.08 | 6.74 |
| 10-208 | 5/16" x 1/4" | 0.94 | 0.94 | 0.44 | 0.08 | 7.75 |
| 10-209 | 3/8" x 1/8" | 1.00 | 0.91 | 0.44 | 0.14 | 11.27 |
| 10-210 | 3/8" x 1/4" | 1.00 | 0.94 | 0.44 | 0.12 | 7.44 |
| 10-211 ** | 3/8" x 3/8" | 1.00 | 1.00 | 0.47 | 0.13 | 9.17 |
| 10-212 ** | 3/8" x 1/2" | 1.12 | 1.22 | 0.69 | 0.22 | 13.46 |
| 10-213 | 1/2" x 1/4" | 1.16 | 1.00 | 0.59 | 0.20 | 19.83 |
| 10-214 | 1/2" x 3/8" | 1.16 | 1.14 | 0.59 | 0.19 | 14.02 |
| 10-215 | 1/2" x 1/2" | 1.22 | 1.22 | 0.69 | 0.24 | 13.32 |
| 10-216 | 1/2" x 3/4" | 1.38 | 1.41 | 0.88 | 0.22 | 26.45 |
| 10-217 | 5/8" x 3/8" | 1.38 | 1.25 | 0.69 | 0.24 | 22.52 |
| 10-218 | 5/8" x 1/2" | 1.41 | 1.31 | 0.69 | 0.29 | 17.65 |
| 10-219 | 5/8" x 3/4" | 1.41 | 1.41 | 0.88 | 0.36 | 26.61 |
| 10-220 | 3/4" x 1/2" | 1.63 | 1.59 | 0.88 | 0.49 | 33.35 |
| 10-221 | 3/4" x 3/4" | 1.63 | 1.44 | 0.88 | 0.48 | 34.29 |

** Available in Stainless Steel. Add SS to the part#

T1 145F 45

FEMALE ADAPTER
SAE# 010103

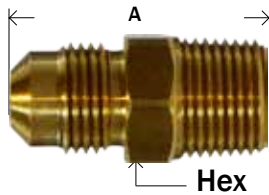
| Part # | Male Flare x Female NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|---------|-----------------------------|------|------|---------------------|------------|
| 10-227 | 3/16" x 1/8" | 0.97 | 0.56 | 0.03 | 4.60 |
| 10-228L | 1/4" x 1/8" | 1.03 | 0.56 | 0.03 | 1.55 |
| 10-228 | 1/4" x 1/8" | 1.03 | 0.56 | 0.04 | 3.23 |
| 10-229L | 1/4" x 1/4" | 1.06 | 0.68 | 0.06 | 3.85 |
| 10-229 | 1/4" x 1/4" | 1.23 | 0.68 | 0.07 | 1.81 |
| 10-230 | 1/4" x 3/8" | 1.18 | 0.81 | 0.08 | 4.49 |
| 10-231 | 1/4" x 1/2" | 1.31 | 0.94 | 0.06 | 7.24 |
| 10-232 | 5/16" x 1/8" | 1.06 | 0.56 | 0.05 | 17.30 |
| 10-233 | 5/16" x 1/4" | 1.28 | 0.68 | 0.08 | 4.27 |
| 10-234 | 3/8" x 1/8" | 1.09 | 0.62 | 0.08 | 4.18 |
| 10-235L | 3/8" x 1/4" | 1.25 | 0.68 | 0.08 | 3.29 |
| 10-235 | 3/8" x 1/4" | 1.31 | 0.81 | 0.08 | 5.01 |
| 10-236L | 3/8" x 3/8" | 1.25 | 0.81 | 0.08 | 4.15 |
| 10-236 | 3/8" x 3/8" | 1.25 | 0.81 | 0.10 | 7.19 |
| 10-237L | 3/8" x 1/2" | 1.31 | 0.94 | 0.08 | 3.51 |
| 10-237 | 3/8" x 1/2" | 1.60 | 1.00 | 0.16 | 10.49 |
| 10-238 | 3/8" x 3/4" | 1.41 | 1.18 | 0.11 | 9.49 |
| 10-239 | 1/2" x 1/4" | 1.37 | 0.75 | 0.10 | 4.75 |
| 10-240L | 1/2" x 3/8" | 1.38 | 0.81 | 0.12 | 4.36 |
| 10-240 | 1/2" x 3/8" | 1.50 | 0.81 | 0.14 | 8.85 |
| 10-241L | 1/2" x 1/2" | 1.42 | 0.94 | 0.10 | 6.44 |
| 10-241 | 1/2" x 1/2" | 1.75 | 1.00 | 0.12 | 11.46 |
| 10-242L | 1/2" x 3/4" | 1.40 | 1.10 | | 3.74 |
| 10-242 | 1/2" x 3/4" | 1.60 | 1.12 | 0.16 | 5.83 |
| 10-243 | 5/8" x 3/8" | 1.24 | 0.87 | 0.12 | 9.58 |
| 10-244L | 5/8" x 1/2" | 1.51 | 0.86 | | 3.06 |
| 10-244 | 5/8" x 1/2" | 1.62 | 0.94 | 0.12 | 6.10 |
| 10-245 | 5/8" x 3/4" | 1.65 | 1.12 | 0.17 | 7.69 |
| 10-246 | 3/4" x 1/2" | 1.74 | 1.18 | 0.32 | 21.05 |
| 10-247 | 3/4" x 3/4" | 1.75 | 1.18 | 0.22 | 20.42 |
| 10-248 | 7/8" x 3/4" | 1.94 | 1.31 | 0.26 | 21.28 |

🔑 **"L" means light pattern.**

-These fittings are completely interchangeable with full pattern fittings, but have been modified in some way. This modification is usually in the length of the pipe threads. Used in plumbing and light industrial applications.

MALE ADAPTER

SAE# 010102



| Part # | Male Flare x Male NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|----------|------------------------|------|------|------------------|------------|
| 10-253 | 1/8" x 1/8" | 0.92 | 0.43 | 0.02 | 3.89 |
| 10-254 | 3/16" x 1/8" | 1.00 | 0.43 | 0.03 | 2.13 |
| 10-255L | 1/4" x 1/8" | 1.06 | 0.43 | 0.03 | 1.46 |
| 10-255 * | 1/4" x 1/8" | 1.06 | 0.43 | 0.04 | 1.29 |
| 10-256L | 1/4" x 1/4" | 1.15 | 0.56 | 0.03 | 1.71 |
| 10-256 * | 1/4" x 1/4" | 1.25 | 0.56 | 0.04 | 1.70 |
| 10-257 * | 1/4" x 3/8" | 1.31 | 0.68 | 0.06 | 2.62 |
| 10-258 | 1/4" x 1/2" | 1.44 | 0.87 | 0.11 | 6.14 |
| 10-259L | 5/16" x 1/8" | 1.15 | 0.50 | 0.04 | 2.96 |
| 10-259 | 5/16" x 1/8" | 1.16 | 0.50 | 0.04 | 2.79 |
| 10-260L | 5/16" x 1/4" | 1.31 | 0.56 | 0.06 | 3.40 |
| 10-260 | 5/16" x 1/4" | 1.34 | 0.56 | 0.06 | 3.27 |
| 10-261 * | 5/16" x 3/8" | 1.38 | 0.68 | 0.08 | 5.93 |
| 10-262 | 3/8" x 1/8" | 1.25 | 0.62 | 0.07 | 2.29 |
| 10-263L | 3/8" x 1/4" | 1.31 | 0.62 | 0.06 | 2.42 |
| 10-263 * | 3/8" x 1/4" | 1.44 | 0.62 | 0.08 | 2.43 |
| 10-264L | 3/8" x 3/8" | 1.37 | 0.68 | 0.09 | 2.89 |
| 10-264 * | 3/8" x 3/8" | 1.42 | 0.68 | 0.09 | 2.83 |
| 10-265L | 3/8" x 1/2" | 1.44 | 0.89 | 0.12 | 3.39 |
| 10-265 * | 3/8" x 1/2" | 1.69 | 0.87 | 0.14 | 6.24 |
| 10-266 | 3/8" x 3/4" | 1.81 | 1.06 | 0.18 | 7.62 |
| 10-267 | 1/2" x 1/4" | 1.60 | 0.75 | 0.11 | 3.81 |
| 10-268L | 1/2" x 3/8" | 1.46 | 0.75 | 0.10 | 3.26 |
| 10-268 | 1/2" x 3/8" | 1.62 | 0.75 | 0.12 | 3.88 |
| 10-269L | 1/2" x 1/2" | 1.62 | 0.87 | 0.13 | 3.71 |
| 10-269 | 1/2" x 1/2" | 1.79 | 0.87 | 0.15 | 5.55 |
| 10-270 | 1/2" x 3/4" | 1.75 | 1.06 | 0.22 | 7.48 |
| 10-271 | 5/8" x 1/4" | 1.81 | 0.87 | 0.14 | 10.66 |
| 10-272L | 5/8" x 3/8" | 1.67 | 0.87 | 0.14 | 4.80 |
| 10-272 | 5/8" x 3/8" | 1.81 | 0.87 | 0.18 | 8.12 |
| 10-273L | 5/8" x 1/2" | 1.80 | 0.87 | 0.11 | 4.92 |
| 10-273 | 5/8" x 1/2" | 2.00 | 0.87 | 0.20 | 8.54 |
| 10-274 | 5/8" x 3/4" | 1.85 | 1.06 | 0.21 | 6.27 |
| 10-275 | 3/4" x 1/2" | 2.19 | 1.06 | 0.28 | 13.69 |
| 10-276 | 3/4" x 3/4" | 2.08 | 1.06 | 0.28 | 8.46 |
| 10-277 | 7/8" x 1/2" | 2.22 | 1.25 | 0.52 | 35.71 |
| 10-278 | 7/8" x 3/4" | 2.35 | 1.25 | 0.41 | 22.63 |
| 10-279 | 1" x 3/4" | 2.44 | 1.43 | 0.53 | 26.95 |
| 10-280 | 1" x 1" | 2.44 | 1.43 | 0.53 | 33.08 |

* Available in Stainless Steel. Add SS to the part#

U1 48

**"L" means light pattern.**

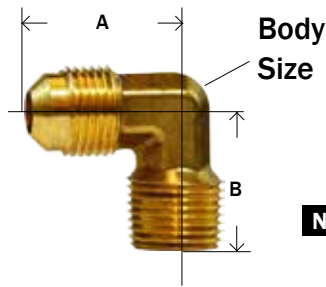
-These fittings are completely interchangeable with full pattern fittings, but have been modified in some way. This modification is usually in the length of the pipe threads. Used in plumbing and light industrial applications.

SAE 45° FLARE

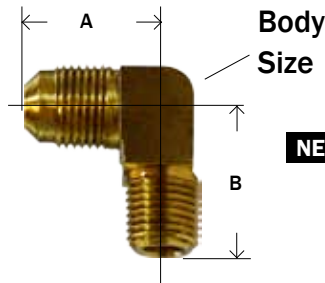
BRASS FITTINGS

90° MALE ELBOW

SAE# 010202



Forged Elbow



Barstock Elbow

NEW**NEW****NEW**

| Part # | Male Flare x Male NPTF | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|-----------|------------------------|------|------|-----------|------------------|------------|
| 10-283 | 1/8" x 1/8" | 0.63 | 0.73 | 0.37 | 0.04 | 10.57 |
| 10-283B* | 1/8" x 1/8" | 0.62 | 0.69 | 0.43 | 0.04 | 36.84 |
| 10-284 | 3/16" x 1/8" | 0.75 | 0.75 | 0.38 | 0.04 | 7.98 |
| 10-284B* | 3/16" x 1/8" | 0.75 | 0.75 | 0.43 | 0.06 | 5.28 |
| 10-285 | 3/16" x 1/4" | 0.81 | 0.88 | 0.44 | 0.08 | 6.40 |
| 10-286 | 1/4" x 1/8" | 0.84 | 0.78 | 0.38 | 0.04 | 3.54 |
| 10-286L | 1/4" x 1/8" | 0.96 | 0.80 | 0.37 | 0.04 | 2.40 |
| 10-286B* | 1/4" x 1/8" | 0.81 | 0.78 | 0.47 | 0.05 | 2.54 |
| 10-287 ** | 1/4" x 1/4" | 0.81 | 0.88 | 0.44 | 0.05 | 3.21 |
| 10-287B* | 1/4" x 1/4" | 0.91 | 0.93 | 0.59 | 0.08 | 4.09 |
| 10-288 ** | 1/4" x 3/8" | 0.91 | 0.91 | 0.47 | 0.08 | 5.56 |
| 10-289 | 1/4" x 1/2" | 1.03 | 1.09 | 0.59 | 0.10 | 6.99 |
| 10-290 | 5/16" x 1/8" | 0.91 | 0.88 | 0.44 | 0.06 | 2.88 |
| 10-290B* | 5/16" x 1/8" | 0.91 | 0.78 | 0.52 | 0.06 | 7.56 |
| 10-291 | 5/16" x 1/4" | 0.98 | 0.96 | 0.44 | 0.08 | 2.97 |
| 10-291B* | 5/16" x 1/4" | 0.95 | 0.92 | 0.62 | 0.08 | 8.58 |
| 10-292 | 5/16" x 3/8" | 1.06 | 1.09 | 0.59 | 0.08 | 6.37 |
| 10-293 | 3/8" x 1/8" | 1.00 | 0.91 | 0.53 | 0.08 | 6.43 |
| 10-293B* | 3/8" x 1/8" | 1.03 | 0.91 | 0.65 | 0.08 | 8.30 |
| 10-294 | 3/8" x 1/4" | 1.01 | 0.89 | 0.48 | 0.08 | 3.76 |
| 10-294B* | 3/8" x 1/4" | 0.97 | 1.04 | 0.68 | 0.11 | 6.19 |
| 10-295 ** | 3/8" x 3/8" | 1.00 | 0.88 | 0.47 | 0.10 | 3.90 |
| 10-295L | 3/8" x 3/8" | 0.95 | 0.89 | 0.46 | | 3.04 |
| 10-295B* | 3/8" x 3/8" | 1.06 | 1.09 | 0.69 | 0.12 | 7.40 |
| 10-296 ** | 3/8" x 1/2" | 1.10 | 1.09 | 0.59 | 0.12 | 5.53 |
| 10-297 | 3/8" x 3/4" | 1.25 | 1.31 | 0.81 | 0.12 | 14.46 |
| 10-298 | 1/2" x 1/4" | 1.19 | 1.00 | 0.59 | 0.12 | 5.50 |
| 10-298B* | 1/2" x 1/4" | 1.22 | 1.19 | 0.81 | 0.12 | 15.15 |
| 10-299 | 1/2" x 3/8" | 1.10 | 1.00 | 0.59 | 0.13 | 5.35 |
| 10-299B* | 1/2" x 3/8" | 1.22 | 1.12 | 0.77 | 0.18 | 9.97 |
| 10-300 | 1/2" x 1/2" | 1.16 | 1.13 | 0.59 | 0.14 | 6.18 |
| 10-300B* | 1/2" x 1/2" | 1.26 | 1.26 | 0.94 | 0.26 | 13.05 |
| 10-301 | 1/2" x 3/4" | 1.42 | 1.25 | 0.81 | 0.24 | 11.15 |
| 10-311 | 5/8" x 1/4" | 1.34 | 1.13 | 0.72 | 0.28 | 11.64 |
| 10-302 | 5/8" x 3/8" | 1.35 | 1.22 | 0.72 | 0.20 | 10.09 |
| 10-302B* | 5/8" x 3/8" | 1.41 | 1.25 | 0.94 | 0.20 | 24.76 |
| 10-303 | 5/8" x 1/2" | 1.35 | 1.22 | 0.72 | 0.20 | 8.28 |
| 10-303L | 5/8" x 1/2" | 1.29 | 1.11 | 0.70 | 0.20 | 5.64 |
| 10-303B* | 5/8" x 1/2" | 1.41 | 1.38 | 0.94 | 0.20 | 17.91 |
| 10-304 | 5/8" x 3/4" | 1.44 | 1.31 | 0.81 | 0.25 | 13.95 |
| 10-305 | 3/4" x 1/2" | 1.67 | 1.50 | 0.88 | 0.34 | 17.25 |
| 10-306 | 3/4" x 3/4" | 1.67 | 1.63 | 0.88 | 0.30 | 14.99 |
| 10-306B* | 3/4" x 3/4" | 1.60 | 1.62 | 0.91 | 0.32 | 27.88 |
| 10-307 | 7/8" x 3/4" | 1.75 | 1.68 | 1.00 | 0.44 | 45.81 |
| 10-308 | 1" x 3/4" | 1.94 | 1.69 | 1.31 | 0.75 | 53.02 |
| 10-309 | 1" x 1" | 1.94 | 1.75 | 1.25 | 0.78 | 47.15 |

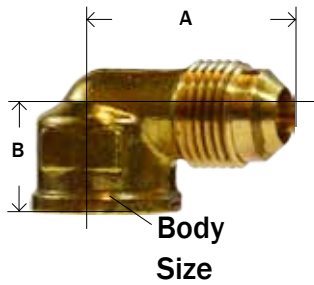
* Barstock

** Available in Stainless Steel. Add SS to the part#

249F 49 E1 149F

90° FEMALE ELBOW

SAE# 010203

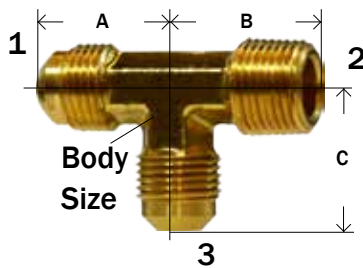


Forged Elbow

| Part # | Male Flare x Female NPTF | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|--------------------|--------------------------|------|------|-----------|------------------|------------|
| 10-312 | 3/16" x 1/8" | 0.81 | 0.44 | 0.56 | 0.05 | 7.21 |
| 10-313 | 1/4" x 1/8" | 0.90 | 0.46 | 0.56 | 0.06 | 4.38 |
| 10-314 | 1/4" x 1/4" | 0.97 | 0.59 | 0.75 | 0.08 | 5.81 |
| 10-315 | 1/4" x 3/8" | 1.03 | 0.57 | 0.81 | 0.09 | 8.60 |
| 10-333 | 1/4" x 1/2" | 1.08 | 0.66 | 1.00 | 0.12 | 11.01 |
| 10-316 | 5/16" x 1/8" | 0.94 | 0.88 | 0.45 | 0.08 | 7.59 |
| 10-317 | 5/16" x 1/4" | 1.03 | 0.58 | 0.75 | 0.06 | 12.34 |
| 10-318 | 3/8" x 1/8" | 1.00 | 0.88 | 0.47 | 0.10 | 8.02 |
| 10-319 | 3/8" x 1/4" | 1.06 | 0.59 | 0.75 | 0.09 | 3.76 |
| 10-320 | 3/8" x 3/8" | 1.06 | 0.57 | 0.81 | 0.10 | 5.33 |
| 10-321 | 3/8" x 1/2" | 1.16 | 0.66 | 1.00 | 0.14 | 7.08 |
| NEW 10-321L | 3/8" x 1/2" | 1.21 | 0.42 | 0.96 | 0.13 | 6.00 |
| 10-322 | 3/8" x 3/4" | 1.28 | 0.72 | 1.25 | 0.12 | 12.27 |
| 10-323 | 1/2" x 1/4" | 1.25 | 0.70 | 0.88 | 0.13 | 10.71 |
| 10-324 | 1/2" x 3/8" | 1.25 | 0.70 | 0.88 | 0.12 | 7.96 |
| 10-325 | 1/2" x 1/2" | 1.29 | 0.72 | 1.00 | 0.18 | 8.38 |
| NEW 10-325L | 1/2" x 1/2" | 1.24 | 0.71 | 0.98 | 0.17 | 5.45 |
| 10-326 | 1/2" x 3/4" | 1.41 | 0.72 | 1.25 | 0.20 | 11.43 |
| 10-327 | 5/8" x 3/8" | 1.35 | 1.22 | 0.72 | 0.22 | 14.27 |
| 10-328 | 5/8" x 1/2" | 1.38 | 0.75 | 1.00 | 0.20 | 12.50 |
| 10-329 | 5/8" x 3/4" | 1.50 | 0.76 | 1.25 | 0.28 | 12.64 |
| 10-330 | 3/4" x 1/2" | 1.63 | 1.06 | 1.06 | 0.42 | 23.87 |
| 10-331 | 3/4" x 3/4" | 1.88 | 1.06 | 1.31 | 0.40 | 35.30 |

E3 50 150F

FORGED MALE RUN TEE



| Part # | Male Flare x Male NPTF (1&3) x 2 | A | B | C | Body Size | Approx. Wt. Lbs. | List Price |
|--------|----------------------------------|------|------|------|-----------|------------------|------------|
| 10-361 | 3/16" x 5/16" x 1/8" | 0.87 | 0.78 | 0.97 | 0.44 | 0.08 | 5.57 |
| 10-343 | 3/16" x 1/8" | 0.75 | 0.75 | 0.75 | 0.37 | 0.05 | 7.11 |
| 10-344 | 1/4" x 1/8" | 0.78 | 0.75 | 0.78 | 0.37 | 0.06 | 6.13 |
| 10-345 | 1/4" x 1/4" | 0.88 | 0.88 | 0.88 | 0.44 | 0.08 | 7.52 |
| 10-347 | 5/16" x 1/8" | 0.88 | 0.80 | 0.88 | 0.44 | 0.08 | 6.55 |
| 10-348 | 5/16" x 1/4" | 0.94 | 0.94 | 0.94 | 0.44 | 0.08 | 9.61 |
| 10-350 | 3/8" x 1/4" | 1.00 | 0.94 | 1.00 | 0.44 | 0.12 | 9.61 |
| 10-351 | 3/8" x 3/8" | 1.00 | 1.00 | 1.00 | 0.47 | 0.10 | 13.32 |
| 10-340 | 3/8" x 1/2" x 3/8" | 1.09 | 1.09 | 1.16 | 0.59 | 0.18 | 12.35 |
| 10-352 | 3/8" x 1/2" | 1.12 | 1.22 | 1.12 | 0.69 | 0.12 | 18.71 |
| 10-353 | 1/2" x 3/8" x 1/2" | 1.22 | 1.22 | 1.15 | 0.69 | 0.22 | 14.65 |
| 10-354 | 1/2" x 3/8" | 1.16 | 1.09 | 1.16 | 0.59 | 0.18 | 16.19 |
| 10-355 | 1/2" x 1/2" | 1.22 | 1.22 | 1.22 | 0.69 | 0.22 | 14.27 |
| 10-357 | 5/8" x 1/2" | 1.41 | 1.31 | 1.41 | 0.69 | 0.28 | 20.07 |
| 10-359 | 3/4" x 1/2" | 1.63 | 1.59 | 1.63 | 0.88 | 0.48 | 39.51 |
| 10-360 | 3/4" x 3/4" | 1.62 | 1.44 | 1.62 | 0.88 | 0.48 | 34.90 |

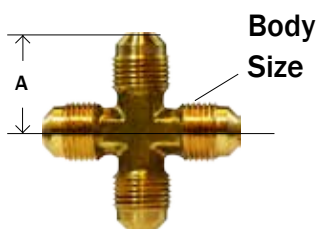
T3 151F 51

SAE 45° FLARE

BRASS FITTINGS

FORGED FLARE CROSS

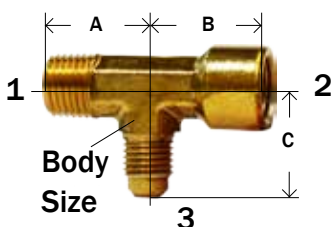
SAE# 010501



| Part # | Thread Size UNF | A | Body Size | Approx. Wt. Lbs. | List Price |
|--------|--------------------|------|--------------|---------------------|------------|
| 10-373 | 1/4" | 0.88 | 0.44 | 0.10 | 14.46 |
| 10-374 | 5/16" | 0.92 | 0.44 | 0.10 | 14.16 |
| 10-375 | 3/8" | 1.00 | 0.44 | 0.16 | 13.51 |
| 10-376 | 1/2" | 1.16 | 0.59 | 0.24 | 15.92 |

455 C1 147F 52

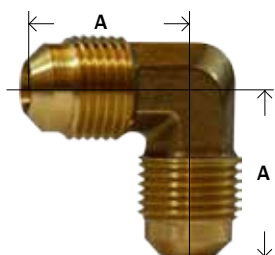
FORGED ADAPTER TEE / SERVICE TEE



| Part # | Size 1 x 2 x 3 | A | B | C | Body Size | Approx. Wt. Lbs. | List Price |
|--------|--------------------|------|------|------|--------------|---------------------|---------------|
| 10-382 | 1/8" x 1/8" x 1/4" | 0.72 | 0.53 | 0.80 | 0.47 | 0.08 | 7.44 |
| 10-383 | 1/4" x 1/4" x 1/4" | 0.88 | 1.00 | 0.91 | 0.47 | 0.11 | 9.41 |

T17 53

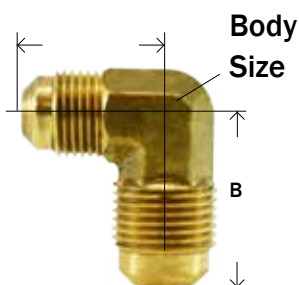
FORGED 90° FLARE ELBOW



| Part # | Thread Size UNF | A | Approx. Wt. Lbs. | List Price |
|--------|--------------------|------|---------------------|------------|
| 10-404 | 1/8" | 0.64 | 0.04 | 23.86 |
| 10-405 | 3/16" | 0.75 | 0.06 | 10.91 |
| 10-406 | 1/4" | 0.81 | 0.08 | 2.04 |
| 10-407 | 5/16" | 0.91 | 0.10 | 6.32 |
| 10-408 | 3/8" | 1.00 | 0.10 | 5.34 |
| 10-409 | 1/2" | 1.16 | 0.14 | 8.02 |
| 10-410 | 5/8" | 1.41 | 0.22 | 13.03 |
| 10-411 | 3/4" | 1.66 | 0.68 | 26.14 |
| 10-412 | 7/8" | 1.81 | 0.82 | 47.87 |

E2 155F

FORGED REDUCING ELBOW

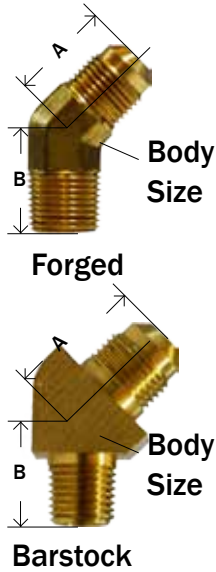


| Part # | Male Flare x Male Flare | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|--------|----------------------------|------|------|--------------|---------------------|------------|
| 10-416 | 3/8" x 1/4" | 1.00 | 0.88 | 0.47 | 0.08 | 6.43 |
| 10-419 | 1/2" x 3/8" | 1.19 | 1.02 | 0.59 | 0.14 | 8.17 |
| 10-421 | 5/8" x 1/2" | 1.34 | 1.23 | 0.72 | 0.21 | 12.33 |

ER2 657F 55R

45° ELBOW

SAE# 010302



| Part # | Male Flare x Male NPTF | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|----------|------------------------|------|------|-----------|------------------|------------|
| 10-448 | 1/4" x 1/8" | 0.67 | 0.64 | 0.41 | 0.04 | 3.39 |
| 10-448B* | 1/4" x 1/8" | 0.67 | 0.64 | 0.44 | 0.04 | 11.73 |
| 10-449 | 1/4" x 1/4" | 0.75 | 0.86 | 0.53 | 0.07 | 3.95 |
| 10-450 | 5/16" x 1/8" | 0.78 | 0.64 | 0.53 | 0.06 | 3.96 |
| 10-451 | 5/16" x 1/4" | 0.81 | 0.86 | 0.53 | 0.07 | 7.17 |
| 10-452 | 3/8" x 1/4" | 0.91 | 0.86 | 0.53 | 0.09 | 6.36 |
| 10-452B* | 3/8" x 1/4" | 0.89 | 0.86 | 0.64 | 0.12 | 11.26 |
| 10-453 | 3/8" x 3/8" | 0.93 | 0.94 | 0.59 | 0.11 | 6.57 |
| 10-454 | 3/8" x 1/2" | 0.99 | 1.17 | 0.75 | 0.19 | 9.48 |
| 10-455 | 1/2" x 3/8" | 1.07 | 0.88 | 0.59 | 0.12 | 7.48 |
| 10-455B* | 1/2" x 3/8" | 1.06 | 0.94 | 0.76 | 0.18 | 24.90 |
| 10-456 | 1/2" x 1/2" | 1.12 | 1.18 | 0.75 | 0.20 | 10.80 |
| 10-460 | 5/8" x 3/8" | 1.13 | 0.95 | 0.81 | 0.22 | 15.64 |
| 10-457 | 5/8" x 1/2" | 1.12 | 1.17 | 0.78 | 0.18 | 11.77 |
| 10-458 | 3/4" x 1/2" | 1.28 | 1.16 | 0.88 | 0.26 | 18.78 |
| 10-459 | 3/4" x 3/4" | 1.41 | 1.20 | 0.88 | 0.31 | 19.28 |

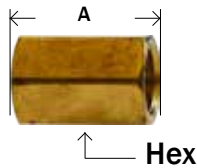
* Barstock

E145 54 159F 654F 59FF 254 47 4945

FEMALE 45° FLARE FITTINGS

UNION

• Use with Copper Gasket



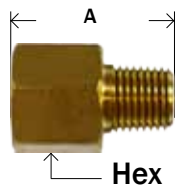
SAE# 010107

| Part # | Female Flare x Female Flare | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------------------------|------|------|------------------|------------|
| 10-135 | 1/4" | 1.00 | 0.62 | 0.06 | 11.52 |
| 10-136 | 3/8" | 1.25 | 0.81 | 0.14 | 20.43 |
| 10-137 | 1/2" | 1.43 | 0.94 | 0.18 | 26.08 |

2310 U4 660HD 32

FEMALE FLARE ADAPTER

SAE# 010106

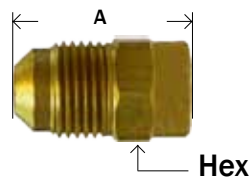


| Part # | Female Flare x Male NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|--------------------------|------|------|------------------|------------|
| 10-440 | 1/4" x 1/8" | 0.91 | 0.62 | 0.05 | 4.19 |
| 10-441 | 1/4" x 1/4" | 1.01 | 0.62 | 0.06 | 6.14 |
| 10-442 | 3/8" x 1/4" | 1.28 | 0.81 | 0.10 | 6.36 |
| 10-443 | 1/2" x 3/8" | 1.36 | 0.94 | 0.14 | 25.92 |
| 10-444 | 1/2" x 1/2" | 1.46 | 0.94 | 0.14 | 4.38 |

U5 664FHD 33 48-FF

FLARE REDUCER

SAE# 010105



| Part # | Male Flare x Female Flare | A | Hex | Approx. Wt. Lbs. | List Price |
|----------|---------------------------|------|------|------------------|------------|
| 10-462 | 1/4" x 3/8" | 1.22 | 0.81 | 0.10 | 2.70 |
| 10-461 | 1/4" x 1/2" | 1.36 | 0.94 | 0.14 | 21.12 |
| 10-463 * | 3/8" x 1/4" | 1.12 | 0.62 | 0.06 | 5.02 |
| 10-464 | 3/8" x 1/2" | 1.44 | 0.94 | 0.14 | 8.01 |
| 10-473 | 3/8" x 5/8" | 1.63 | 1.12 | 0.16 | 17.97 |
| 10-467 | 1/2" x 3/8" | 1.41 | 0.81 | 0.13 | 7.88 |
| 10-468 | 1/2" x 5/8" | 1.68 | 1.06 | 0.20 | 35.09 |
| 10-469 | 5/8" x 1/2" | 1.63 | 1.00 | 0.17 | 21.11 |
| 10-470 | 5/8" x 3/4" | 1.97 | 1.31 | 0.31 | 20.34 |
| 10-471 | 3/4" x 5/8" | 1.75 | 1.18 | 0.32 | 23.53 |

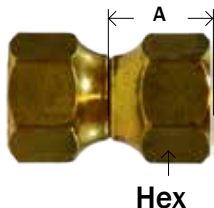
* Available in Stainless Steel. Add SS to the part#

UR3 661FHD 227 46-FF

SAE 45° FLARE

BRASS FITTINGS

BRASS FLARE SWIVEL FITTINGS

FORGED SWIVEL
SAE# 010108

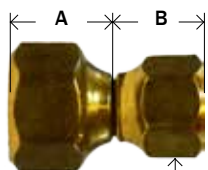
NEW

NEW

| Part # | Female Flare UNF | A | Hex | Approx. Wt. Lbs. | List Price |
|---------|------------------|------|------|------------------|------------|
| 10-481 | 1/4" | 0.59 | 0.62 | 0.04 | 6.51 |
| 10-482 | 5/16" | 0.62 | 0.68 | 0.06 | 9.32 |
| 10-483 | 3/8" | 0.69 | 0.81 | 0.10 | 6.54 |
| 10-483L | 3/8" | 0.63 | 0.80 | | 4.35 |
| 10-484 | 1/2" | 0.81 | 0.94 | 0.16 | 9.52 |
| 10-484L | 1/2" | 0.82 | 0.92 | | 5.70 |
| 10-485 | 5/8" | 0.94 | 1.06 | 0.24 | 11.05 |
| 10-486 | 3/4" | 1.12 | 1.31 | 0.34 | 37.65 |

1350 US4 14FSV 34

REDUCING SWIVELS

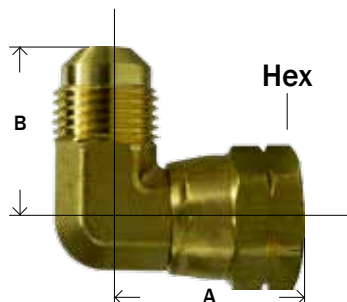


Hex 1

Hex 2

| Part # | Female Flare UNF | A | B | Hex 1 | Hex 2 | Approx. Wt. Lbs. | List Price |
|--------|------------------|------|------|-------|-------|------------------|------------|
| 10-487 | 3/8" x 1/4" | 0.72 | 0.60 | 0.81 | 0.62 | 0.08 | 14.17 |
| 10-488 | 1/2" x 3/8" | 0.84 | 0.70 | 0.94 | 0.81 | 0.12 | 17.31 |
| 10-489 | 5/8" x 1/2" | 0.98 | 0.82 | 1.03 | 0.94 | 0.22 | 21.16 |

FORGED SWIVEL ELBOWS



| Part # | Male Flare x Female Flare | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|---------------------------|------|------|------|------------------|------------|
| 10-493 | 1/4" | 0.93 | 0.86 | .563 | 0.12 | 14.86 |
| 10-494 | 3/8" | 1.13 | 1.1 | .75 | 0.20 | 23.44 |
| 10-495 | 1/2" | 1.29 | 1.20 | .88 | 0.25 | 33.33 |
| 10-496 | 5/8" | 1.50 | 1.30 | 1.00 | 0.37 | 43.04 |
| 10-497 | 3/4" | 1.83 | 1.60 | 1.25 | 0.54 | 77.15 |

ES4

It is not the strongest of the species that survive, nor the most intelligent, but the one most responsive to change.

- Charles Darwin


SPACE HEATER FITTINGS

#M-82SH **NUT** **9/16-24 FINE THREAD FLARE**




| Part # | Size | List Price |
|--------|------|------------|
| 14-001 | 3/8 | 3.50 |

#M-83SH **MALE ADAPTER**




| Part # | Size | List Price |
|--------|-----------|------------|
| 14-016 | 3/8 x 3/8 | 6.43 |
| 14-017 | 3/8 x 1/2 | 6.95 |

#M-80SH **FEMALE ADAPTER**



| Part # | Size | List Price |
|--------|-----------|------------|
| 14-018 | 3/8 x 3/8 | 6.56 |
| 14-025 | 3/8 x 1/2 | 3.32 |

UNION




| Part # | Size | List Price |
|--------|------|------------|
| 14-011 | 3/8 | 5.64 |

BRASS GAS RANGE FITTINGS


BRASS MALE ADAPTERS

15/16-16 FLARE THREAD



| Part # | Male Flare x Male NPTF | List Price |
|--------|------------------------------|------------|
| 35-132 | 1/2" x 1/2" (3/8" FIP TAP) | 6.60 |
| 35-134 | 15/16" x 1/2" | 6.33 |
| 35-135 | 15/16" x 3/4" (1/2" FIP TAP) | 10.26 |


BRASS FEMALE ADAPTERS



| Part # | Flare x FIP | List Price |
|--------|---------------|------------|
| 35-136 | 15/16" x 1/2" | 9.31 |
| 35-142 | 15/16" x 3/4" | 11.25 |

DRUM ADAPTERS

• Straight Thread



SAE# 010165

| Part # | Male Flare x FIP | List Price |
|--------|------------------|------------|
| 50-011 | 1/4" x 1/2" | 30.37 |
| 50-001 | 1/4" x 3/4" | 14.55 |

CAP



| Part # | Size | List Price |
|--------|--------|------------|
| 35-186 | 15/16" | 26.56 |

RD IF K1

POL FITTINGS

BRASS FITTINGS

TEE CONNECTION



| Part # | Pipe Size | List Price |
|--------|-----------------------------------|------------|
| 34-001 | 1/4" Inverted flare x 1/4" MPT | 34.25 |

41-1-390-0014 2000

TAILPIECE WITH FLATS

1/4 NPT



| Part # | Length | List Price |
|--------|----------------------|------------|
| 34-011 | 2.34 w/ wrench Flats | 20.07 |
| 34-012 | 2.13 w/ Hex | 9.23 |

1001AUL 21605 M-2001-A 2002A 2001AHN

STANDARD NUT

7/8" Hex



| Part # | Pipe Size | List Price |
|--------|------------|------------|
| 34-016 | .880-14 LH | 4.54 |

2001B

TAILPIECE & NUT ASSEMBLY



| Part # | Pipe Size | List Price |
|--------|-----------|------------|
| 34-022 | 1/4 | 21.53 |

2002AB

POL CAP



| Part # | Pipe Size | List Price |
|--------|-----------|------------|
| 34-031 | .880-14LH | 12.86 |

ME1699 POL2004 1004A M-2004

POL PLUG WITH CHAIN



| Part # | Length | List Price |
|--------|---------------------|------------|
| 34-141 | POL PLUG WITH CHAIN | 41.10 |

ME1691-1

SINGLE PIECE POL ADAPTER



| Part # | Length | List Price |
|--------|--------------------|------------|
| 34-130 | MALE POL X 1/4 FPT | 7.08 |
| 34-131 | MALE POL X 1/2 FPT | 33.93 |

ME351 ME357

ADAPTERS



| Part # | Pipe Size | List Price |
|--------|-----------------------|------------|
| 34-041 | 3/8 Flare x .880-14LH | 17.59 |
| 34-046 | 1/2 Flare x .880-14LH | 17.49 |
| 34-051 | 5/8 Flare x .880-14LH | 23.61 |

ME3510 2906E 2007

STRAIGHT TUBE UNION



| Part # | Tube OD | Tube Thread | L | Hex | Working Pressure | List Price |
|--------|---------|-------------|------|------|------------------|------------|
| 28-966 | 1/4 | 7/16-20 | 1.35 | 0.49 | 3250 psi | 8.37 |
| 28-969 | 3/8 | 9/16-18 | 1.41 | 0.63 | 3250 psi | 10.59 |
| 28-970 | 1/2 | 3/4-16 | 1.62 | 0.81 | 3250 psi | 12.85 |
| 28-971 | 3/4 | 1-1/16-12 | 2.14 | 1.13 | 3250 psi | 63.05 |
| 28-972 | 1" | 1-5/16-12 | 2.25 | 1.38 | 2600 psi | 38.42 |

SBC 132403 HTX

FEMALE STRAIGHT ADAPTER



| Part # | Tube OD | Pipe | Tube Thread | L | Hex | Working Pressure | List Price |
|--------|---------|---------|-------------|------|------|------------------|------------|
| 28-957 | 1/4 | 1/8-27 | 7/16-20 | 1.19 | 0.56 | 3250 psi | 8.04 |
| 28-958 | 1/4 | 1/4-18 | 7/16-20 | 1.40 | 0.75 | 3250 psi | 10.19 |
| 28-959 | 3/8 | 1/4-18 | 9/16-18 | 1.40 | 0.75 | 3250 psi | 22.98 |
| 28-960 | 3/8 | 3/8-18 | 9/16-18 | 1.40 | 0.88 | 3250 psi | 16.75 |
| 28-961 | 1/2 | 3/8-18 | 3/4-16 | 1.56 | 0.88 | 3250 psi | 8.94 |
| 28-962 | 1/2 | 1/2-14 | 3/4-16 | 1.79 | 1.13 | 3250 psi | 25.27 |
| 28-963 | 5/8 | 1/2-14 | 7/8-14 | 1.87 | 1.13 | 3250 psi | 18.61 |
| 28-964 | 3/4 | 3/4-1/4 | 1-1/16-12 | 2.06 | 1.38 | 2600 psi | 44.20 |

STRAIGHT



| Part # | Tube OD | A NPTF | Tube Thread | L | Hex | Working Pressure | List Price |
|--------|---------|----------|-------------|------|------|------------------|------------|
| 28-701 | 1/4 | 1/8-27 | 7/16-20 | 1.22 | 0.45 | 3250 psi | 3.12 |
| 28-702 | 1/4 | 1/4-18 | 7/16-20 | 1.37 | 0.56 | 3250 psi | 6.33 |
| 28-703 | 1/4 | 3/8-18 | 7/16-20 | 1.42 | 0.75 | 3250 psi | 15.90 |
| 28-705 | 5/16 | 1/4-18 | 1/2-20 | 1.42 | 0.56 | 3250 psi | 20.91 |
| 28-706 | 3/8 | 1/8-27 | 9/16-18 | 1.24 | 0.63 | 3250 psi | 6.98 |
| 28-707 | 3/8 | 1/4-18 | 9/16-18 | 1.43 | 0.63 | 3250 psi | 6.53 |
| 28-708 | 3/8 | 3/8-18 | 9/16-18 | 1.38 | 0.75 | 3250 psi | 5.23 |
| 28-709 | 3/8 | 1/2-14 | 9/16-18 | 1.69 | 0.88 | 3250 psi | 9.90 |
| 28-710 | 1/2 | 1/4-18 | 3/4-16 | 1.53 | 0.81 | 3250 psi | 12.35 |
| 28-711 | 1/2 | 3/8-18 | 3/4-16 | 1.53 | 0.81 | 3250 psi | 10.22 |
| 28-712 | 1/2 | 1/2-14 | 3/4-16 | 1.79 | 0.88 | 3250 psi | 13.98 |
| 28-713 | 1/2 | 3/4-14 | 3/4-16 | 1.85 | 1.13 | 2600 psi | 28.86 |
| 28-715 | 5/8 | 1/2-14 | 7/8-14 | 1.89 | 0.94 | 3250 psi | 20.19 |
| 28-716 | 5/8 | 3/4-14 | 7/8-14 | 1.95 | 1.13 | 2600 psi | 22.28 |
| 28-748 | 3/4 | 1/2-14 | 1 1/16-12 | 2.06 | 1.13 | 2925 psi | 28.64 |
| 28-717 | 3/4 | 3/4-14 | 1 1/16-12 | 2.06 | 1.13 | 2600 psi | 22.66 |
| 28-749 | 3/4 | 1-11 1/2 | 1 1/16-12 | 2.25 | 1.38 | 1950 psi | 45.84 |
| 28-719 | 1 | 3/4-14 | 1 5/16-12 | 2.06 | 1.13 | 2275 psi | 40.56 |
| 28-718 | 1 | 1-11 1/2 | 1 5/16-12 | 2.3 | 1.38 | 1950 psi | 40.56 |

NEW

B2404 SB FTXB

STRAIGHT SWIVEL ADAPTER



NEW

| Part # | Tube OD | A NPTF | Tube Thread | L | Hex | Working Pressure | List Price |
|--------|---------|--------|-------------|-------|------|------------------|------------|
| 28-752 | 1/4 | 1/4-18 | 7/16-20 | 1.389 | .563 | 3250 psi | 6.29 |
| 28-753 | 3/8 | 1/4-18 | 9/16-18 | 1.6 | .563 | 3250 psi | 14.09 |
| 28-754 | 3/8 | 3/8-18 | 9/16-18 | 1.574 | .690 | 2925 psi | 19.44 |
| 28-756 | 1/2 | 1/2-14 | 3/4-16 | 1.706 | .875 | 2600 psi | 20.33 |

B6505 SJS

JIC 37° FLARE SHAPES

BRASS FITTINGS

90° FORGED ELBOW



| Part # | Tube OD | Tube Thread | A NPTF | M | N | Y | Working Pressure | List Price |
|---------|---------|-------------|----------|------|------|------|------------------|------------|
| 28-760F | 1/4 | 7/16-20 | 1/8-27 | 0.89 | 0.78 | 0.5 | 2160 psi | 8.20 |
| 28-762F | 1/4 | 7/16-20 | 1/4-18 | 1.05 | 1.03 | 0.53 | 1846 psi | 7.36 |
| 28-766F | 1/4 | 1/2-20 | 3/8-18 | 1.10 | 1.10 | 0.55 | 3905 psi | 12.65 |
| 28-768F | 3/8 | 9/16-18 | 1/8-27 | 1.06 | 1.00 | 0.56 | 3128 psi | 20.00 |
| 28-770F | 3/8 | 9/16-18 | 1/4-18 | 1.06 | 1.09 | 0.54 | 1564 psi | 7.45 |
| 28-772F | 3/8 | 9/16-18 | 3/8-18 | 1.15 | 1.22 | 0.74 | 1464 psi | 13.66 |
| 28-773F | 3/8 | 9/16-18 | 1/2-14 | 1.22 | 1.47 | 0.90 | 1265 psi | 23.10 |
| 28-774F | 1/2 | 3/4-16 | 3/8-18 | 1.25 | 1.22 | 0.81 | 1467 psi | 19.92 |
| 28-777F | 1/2 | 3/4-16 | 1/2-14 | 1.31 | 1.47 | 0.90 | 1265 psi | 17.02 |
| 28-778F | 1/2 | 3/4-16 | 3/4-14 | 1.4 | 1.59 | 0.89 | 2061 psi | 42.72 |
| 28-780F | 5/8 | 7/8-14 | 1/2-14 | 1.45 | 1.47 | 0.88 | 1265 psi | 28.15 |
| 28-781F | 3/4 | 1 1/16-12 | 1/2-14 | 1.66 | 1.56 | 1.08 | 1265 psi | 57.38 |
| 28-783F | 3/4 | 1 1/16-12 | 3/4-14 | 1.66 | 1.59 | 1.06 | 1084 psi | 32.69 |
| 28-784F | 1 | 1 5/16-12 | 1-11 1/2 | 1.88 | 1.77 | 1.32 | 1802 psi | 53.12 |
| 28-786F | 1 | 1 5/16-12 | 1-11 1/2 | 1.81 | 1.97 | 1.3 | 2361 psi | 60.96 |

DL3B2 3F69CL GGL6A1 F23L2 EE48D3 EE46B2 FF45A2 F48C3 FF22C3 D49B1 D25B1 3F47C1

FEMALE ELBOW FORGED BODY



| Part # | Tube OD | Tube Thread | A NPTF | M | N | Working Pressure | List Price |
|--------|---------|-------------|--------|------|------|------------------|------------|
| 28-973 | 1/4 | 7/16-20 | 1/8-27 | 1.08 | 0.66 | 2797 psi | 14.33 |
| 28-974 | 1/4 | 7/16-20 | 1/4-18 | 1.25 | 0.55 | 3066 psi | 21.86 |
| 28-975 | 3/8 | 9/16-18 | 1/4-18 | 1.23 | 0.88 | 2842 psi | 20.83 |

B2502 EBF DTXB

45° FORGED ELBOW



| Part # | Tube OD | Tube Thread | A NPTF | M | N | Y | Working Pressure | List Price |
|---------|---------|-------------|--------|------|------|------|------------------|------------|
| 28-722F | 1/4 | 7/16-20 | 1/8-27 | 0.72 | 0.64 | 0.5 | 4367 psi | 9.03 |
| 28-724F | 1/4 | 7/16-20 | 1/4-18 | 0.81 | 0.84 | 0.53 | 3750 psi | 12.09 |
| 28-729F | 3/8 | 9/16-18 | 1/8-27 | 0.83 | 0.65 | 0.63 | 3128 psi | 28.62 |
| 28-731F | 3/8 | 9/16-18 | 1/4-18 | 0.83 | 0.86 | 0.63 | 3128 psi | 9.37 |
| 28-733F | 3/8 | 9/16-18 | 3/8-18 | 0.91 | 0.95 | 0.81 | 3100 psi | 8.01 |
| 28-734F | 3/8 | 9/16-18 | 1/2-14 | 1.03 | 1.17 | 0.94 | 2826 psi | 18.26 |
| 28-736F | 1/2 | 3/4-16 | 3/8-18 | 0.98 | 0.95 | 0.75 | 2938 psi | 12.68 |
| 28-738F | 1/2 | 3/4-16 | 1/2-14 | 1.13 | 1.17 | 0.86 | 2826 psi | 37.05 |
| 28-742F | 3/4 | 1 1/16-12 | 3/4-14 | 1.28 | 1.2 | 1.13 | 2442 psi | 64.52 |

B2503 FBC-F VTXB

Thread Chart

| Size | JIC Thread |
|------|------------|
| 1/8 | 5/16-24 |
| 3/16 | 3/8-24 |
| 1/4 | 7/16-20 |
| 5/16 | 1/2-20 |
| 3/8 | 9/16-18 |
| 1/2 | 3/4-16 |
| 5/8 | 7/8-14 |
| 3/4 | 1-1/16-12 |
| 1 | 1-5/16-12 |

INVERTED FLARE



| | | | | | | | | | | | |
|------------------------------|----------------|---------------|----------------|---------------|---------------|-----------------|---------------|---------------|------------------|------------------|------------------|
| Tube O.D. | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 5/8 | 3/4 | 7/8 | 1 |
| Thread O.D. threads per inch | 5/16-28 | 3/8-24 | 7/16-24 | 1/2-20 | 5/8-18 | 11/16-18 | 3/4-18 | 7/8-18 | 1-1/16-16 | 1-3/16-16 | 1-5/16-16 |

•Typical Application

Hydraulic brake, power steering, fuel lines and transmission cooler lines, LP and natural gas.

•Working Pressure Ranges

Temperature and type of tubing used are important factors. However, the following table is a good guide for proper selection. Temperature 73°F with copper tubing:

| PSI | Tube O.D. (in.) | Tube Wall (in.) |
|-------------|-----------------|-----------------|
| 2800 | 1/8 | .030 |
| 1900 | 3/16 | .030 |
| 1400 | 1/4 | .030 |
| 1200 | 5/16 | .032 |
| 1000 | 3/8 | .032 |
| 750 | 1/2 | .032 |
| 650 | 5/8 | .035 |
| 550 | 3/4 | .035 |

•Vibration

Excellent resistance.

•Temperature Range

-65°F to +250°F (-53°C to +121°C) range at maximum operating pressures.

•Used With

Copper, brass, aluminum and steel hydraulic tubing that can be flared.

•Advantages

Very low cost and reusable. Seats and threads are internal and protected. Compact, excellent vibration life. Short nut affords very close tube bends. Steel or brass tube nut.

•Tolerance

+/- .03 on all dimensions.

•Conformance

Meets specifications and standards of ASA, ASME, SAE and MS (Military Standards).

•Assembly Instructions

- 1-Cut tubing to desired length. Make sure all burrs are removed and the ends are cut square.
- 2- Slide nut on tube. Threaded end "A" of nut must face out.
- 3- Flare end of tube with a 45° flaring tool.
 - a- Measure flare diameter.
 - b- Examine flare for excessive thin out.
 - c- On thin wall, welded or brazed tubing, use double flare to prevent pinch-off and cracked flares.
- 4- Lubricate threads and assemble to fitting body. Nut should be turned hand tight.
- 5- Tighten assembly with wrench until a solid feeling is encountered. From that point, apply a one-sixth turn.

Note: Do not over-torque as it may damage the fitting or split the tubing at the flare.

STANDARD METRIC THREADS

| Description Tube Size | Thread O.D. | Crest (Pitch) | Thread Description |
|-----------------------|-------------|---------------|--------------------|
| Japanese 3/16" | 10mm | 1.0mm | M10 x 1.0 |
| European 3/16" | 10mm | 1.0mm | M10 x 1.0 |
| GM 6mm | 12mm | 1.0mm | M12 x 1.0 |
| Fuel 5/16" | 14mm | 1.5mm | M14 x 1.5 |
| Fuel 3/8" | 16mm | 1.5mm | M16 x 1.5 |

Measuring Metric Threads: Measure the O.D. of the threads and the crest to crest distance (pitch) in millimeters between threads.

Actual O.D. of male inverted flare threads

| | | | | | | | |
|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|-------------------|
| 5/16"-28 | 3/8"-24 | 7/16"-24 | 1/2"-20 | 5/8"-18 | 3/4"-18 | 7/8"-18 | 1-1/16"-16 |
| 2800 PSI | 1900 PSI | 1400 PSI | 1200 PSI | 1000 PSI | 750 PSI | 650 PSI | 550 PSI |

1/8"

3/16"

1/4"

5/16"

3/8"

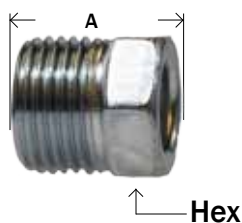
1/2"

5/8"

3/4"

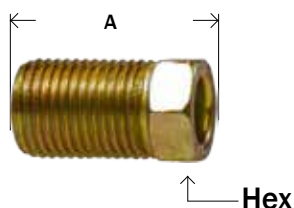
INVERTED FLARE**BRASS FITTINGS****ZINC CHROMATE STEEL NUT**

SAE# 040110



| Part # | Size | Thread | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------|-----------|------|------|------------------|------------|
| 12-001 | 1/8" | 5/16-28 | 0.52 | 0.31 | 0.01 | 2.82 |
| 12-002 | 3/16" | 3/8-24 | 0.56 | 0.37 | 0.02 | 0.41 |
| 12-018 | 3/16" | 7/16-24 | 0.56 | 0.43 | 0.02 | 1.98 |
| 12-003 | 1/4" | 7/16-24 | 0.56 | 0.43 | 0.02 | 0.46 |
| 12-004 | 5/16" | 1/2-20 | 0.62 | 0.50 | 0.02 | 0.53 |
| 12-005 | 3/8" | 5/8-18 | 0.66 | 0.62 | 0.03 | 0.89 |
| 12-000 | 7/16" | 11/16-18 | 0.68 | 0.68 | 0.04 | 5.40 |
| 12-011 | 3/8" | 11/16-18 | 0.66 | 0.68 | 0.05 | 6.42 |
| 12-006 | 1/2" | 3/4-18 | 0.74 | 0.75 | 0.08 | 3.03 |
| 12-007 | 5/8" | 7/8-18 | 0.80 | 0.87 | 0.10 | 3.37 |
| 12-008 | 3/4" | 1-1/16-16 | 0.88 | 1.06 | 0.10 | 5.98 |

121XXX 2105 411FS 105 41W

LONG STEEL NUT

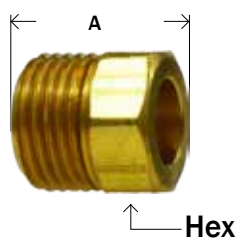
for Domestic lines

| Part # | Size | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------|------|------|------------------|------------|
| 12-009 | 3/16" | 0.84 | 0.37 | 0.02 | 1.57 |
| 12-010 | 1/4" | 0.81 | 0.43 | 0.02 | 1.78 |

7896

INVERTED FLARE BRASS NUT

SAE# 040110



| Part # | Size | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------|------|------|------------------|------------|
| 12-012 | 1/8" | 0.52 | 0.31 | 0.01 | 2.90 |
| 12-013 | 3/16" | 0.56 | 0.37 | 0.01 | 1.87 |
| 12-014 | 1/4" | 0.56 | 0.43 | 0.02 | 0.65 |
| 12-015 | 5/16" | 0.62 | 0.50 | 0.03 | 1.31 |
| 12-016 | 3/8" | 0.66 | 0.62 | 0.04 | 1.72 |
| 12-017 | 1/2" | 0.74 | 0.75 | 0.05 | 4.41 |

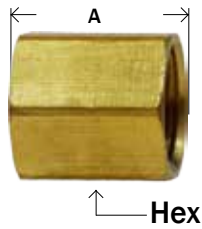
2100 411F 100 41B

ZINC STEEL METRIC TUBE NUTS

| Part # | Tube size | Thread | Ref# | List Price |
|--------|---------------|------------------------|--------|------------|
| 12-260 | 3/16 British | 3/8-24 Bubble | --- | 2.04 |
| 12-261 | 3/16 European | M10 x 1.0 Bubble | 276110 | 1.98 |
| 12-262 | 3/16 Japanese | M10 x 1.0 Inv. | 121050 | 1.98 |
| 12-263 | 3/16 Domestic | 1/2 x 20 Inv. | --- | 2.52 |
| 12-264 | 3/16 Domestic | 9/16 - 18 Inv. | 121039 | 2.52 |
| 12-265 | 3/16 Imported | M11 x 1.5 Bubble | 276011 | 2.52 |
| 12-266 | 3/16 Imported | M12 x 1.0 Bubble | 276012 | 2.46 |
| 12-267 | 3/16 Imported | M13 x 1.5 Bubble | 276013 | 2.58 |
| 12-268 | 1/4 Domestic | 9/16 x 18 Inv. | 121049 | 2.46 |
| 12-269 | 1/4 Domestic | 1/2 x 20 Inv. | 121045 | 2.58 |
| 12-270 | 6mm Imported | M12 x 1.0 Bubble | | 2.58 |
| 12-271 | 6mm GM | M12 x 1.0 Bubble | | 2.58 |
| 12-272 | 6mm GM | M12 x 1.5 Bubble | | 2.64 |
| 12-273 | 6mm GM | M14 x 1.5 Bubble | | 2.64 |
| 12-274 | 5/16 Domestic | M14 x 1.5 Surface Seal | 121069 | 7.80 |
| 12-275 | 3/8 Domestic | M16 x 1.5 Surface Seal | 121070 | 8.16 |

UNION INTERNAL

SAE# 040101



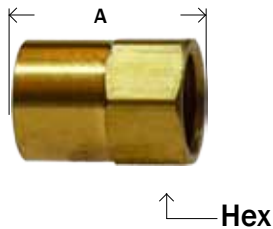
| Part # | Inv. Flare X Inv. Flare | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|----------------------------|------|------|---------------------|------------|
| 12-022 | 1/8" | 0.59 | 0.40 | 0.02 | 2.40 |
| 12-023 | 3/16" | 0.62 | 0.43 | 0.02 | 0.84 |
| 12-024 | 1/4" | 0.62 | 0.50 | 0.03 | 1.79 |
| 12-025 | 5/16" | 0.70 | 0.56 | 0.04 | 2.63 |
| 12-026 | 3/8" | 0.80 | 0.75 | 0.08 | 3.17 |
| 12-027 | 1/2" | 0.91 | 0.90 | 0.10 | 8.18 |

see page 72 for metric unions

302 2300 42IFHD

FEMALE ADAPTER

SAE# 040103

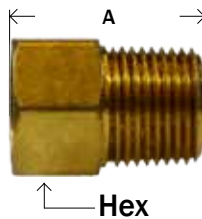


| Part # | Inv. Flare X Female NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------------------------|------|------|---------------------|------------|
| 12-032 | 3/16" x 1/8" | 0.75 | 0.50 | 0.02 | 3.14 |
| 12-033 | 1/4" x 1/8" | 0.75 | 0.53 | 0.02 | 1.98 |
| 12-034 | 5/16" x 1/8" | 0.78 | 0.59 | 0.04 | 6.12 |
| 12-035 | 3/8" x 1/4" | 1.03 | 0.75 | 0.08 | 6.62 |
| 12-036 | 1/2" x 3/8" | 1.10 | 0.90 | 0.12 | 13.04 |

46IFHD 252 46W

MALE ADAPTER

SAE# 040102



| Part # | Inv. Flare X Male NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|---------------------------|------|------|---------------------|------------|
| 12-041 | 1/8" x 1/8" | 0.63 | 0.40 | 0.02 | 2.83 |
| 12-042 | 3/16" x 1/8" | 0.70 | 0.43 | 0.02 | 1.09 |
| 12-043 | 1/4" x 1/8" | 0.74 | 0.50 | 0.03 | 1.05 |
| 12-044 | 1/4" x 1/4" | 0.89 | 0.56 | 0.04 | 1.58 |
| 12-045 | 5/16" x 1/8" | 0.79 | 0.56 | 0.03 | 2.10 |
| 12-046 | 5/16" x 1/4" | 0.98 | 0.56 | 0.05 | 2.15 |
| 12-047 | 3/8" x 1/8" | 0.88 | 0.72 | 0.05 | 2.89 |
| 12-048 | 3/8" x 1/4" | 1.02 | 0.75 | 0.06 | 2.38 |
| 12-049 | 3/8" x 3/8" | 1.02 | 0.75 | 0.08 | 4.81 |
| 12-038 | 1/2" x 1/4" | 0.97 | 0.87 | 0.10 | 5.46 |
| 12-050 | 1/2" x 3/8" | 1.06 | 0.87 | 0.08 | 6.56 |
| 12-051 | 1/2" x 1/2" | 1.06 | 0.87 | 0.11 | 6.33 |
| 12-052 | 5/8" x 1/2" | 1.32 | 1.06 | 0.15 | 5.25 |
| 12-040 | 3/4" x 3/4" | 1.39 | 1.25 | 0.24 | 27.18 |

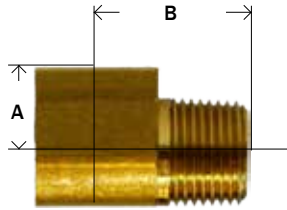
2200 48IFHD 202 48W 200

INVERTED FLARE

BRASS FITTINGS

ELBOW

SAE# 040202



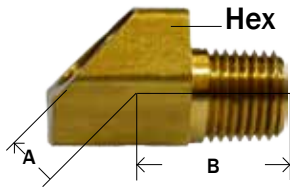
| Part # | Inv. Flare X Male NPTF | A | B | Approx. Wt. Lbs. | List Price |
|---------|------------------------|------|------|------------------|------------|
| 12-057 | 1/8" x 1/8" | 0.26 | 0.59 | 0.03 | 9.27 |
| 12-058 | 3/16" x 1/8" | 0.26 | 0.61 | 0.03 | 2.95 |
| 12-059 | 1/4" x 1/8" | 0.33 | 0.65 | 0.04 | 1.68 |
| 12-054* | 1/4" x 1/8" | 0.33 | 0.65 | 0.04 | 29.95 |
| 12-060 | 1/4" x 1/4" | 0.28 | 0.82 | 0.06 | 3.36 |
| 12-061 | 5/16" x 1/8" | 0.47 | 0.68 | 0.05 | 2.31 |
| 12-062 | 5/16" x 1/4" | 0.45 | 0.85 | 0.08 | 3.36 |
| 12-063 | 3/8" x 1/8" | 0.54 | 0.76 | 0.14 | 5.52 |
| 12-064 | 3/8" x 1/4" | 0.53 | 0.92 | 0.14 | 4.97 |
| 12-065 | 3/8" x 3/8" | 0.50 | 0.94 | 0.12 | 10.12 |
| 12-066 | 1/2" x 3/8" | 0.59 | 1.03 | 0.16 | 6.93 |
| 12-067 | 1/2" x 1/2" | 0.66 | 1.22 | 0.25 | 9.03 |
| 12-056 | 5/8" x 3/8" | 0.67 | 1.09 | 0.20 | 17.78 |
| 12-068 | 5/8" x 1/2" | 0.67 | 1.29 | 0.18 | 9.90 |
| 12-069 | 3/4" x 1/2" | 0.80 | 1.39 | 0.42 | 57.45 |
| 12-080 | 7/8" x 3/4" | 0.94 | 1.43 | 0.48 | 90.72 |
| 12-081 | 1" x 1" | 1.02 | 1.69 | 0.60 | 106.44 |

* Restricted pipe end .062

400 2400 249IFHD 402 249IF 49W

45° ELBOW

SAE# 040302

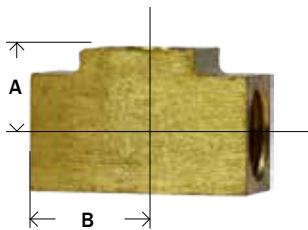


| Part # | Inv. Flare X Male NPTF | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|------------------------|------|------|------|------------------|------------|
| 12-072 | 3/16" x 1/8" | 0.25 | 0.55 | 0.53 | 0.02 | 8.59 |
| 12-073 | 1/4" x 1/8" | 0.27 | 0.58 | 0.56 | 0.04 | 4.10 |
| 12-074 | 5/16" x 1/8" | 0.36 | 0.56 | 0.62 | 0.06 | 6.34 |
| 12-075 | 5/16" x 1/4" | 0.23 | 0.83 | 0.62 | 0.06 | 18.19 |
| 12-076 | 3/8" x 1/4" | 0.51 | 0.84 | 0.78 | 0.09 | 13.30 |
| 12-077 | 1/2" x 3/8" | 0.38 | 0.91 | 0.84 | 0.11 | 13.14 |
| 12-079 | 5/8" x 1/2" | 0.44 | 1.00 | 1.06 | 0.21 | 57.13 |

154 2352 259IFHD 352 94W

UNION TEE

SAE# 040401



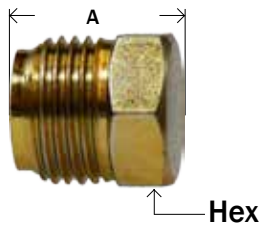
| Part # | Size | A | B | Approx. Wt. Lbs. | List Price |
|--------|-------|------|------|------------------|------------|
| 12-085 | 1/8" | 0.33 | 0.47 | 0.04 | 13.13 |
| 12-086 | 3/16" | 0.39 | 0.55 | 0.04 | 4.33 |
| 12-087 | 1/4" | 0.42 | 0.56 | 0.08 | 6.96 |
| 12-088 | 5/16" | 0.45 | 0.63 | 0.09 | 7.77 |
| 12-089 | 3/8" | 0.56 | 0.74 | 0.17 | 13.32 |
| 12-090 | 1/2" | 0.67 | 0.88 | 0.24 | 31.37 |

244IFHD 702 44I

STEEL PLUG

• cored

SAE# 040109

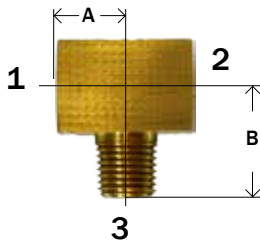


| Part # | Size | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------|------|------|------------------|------------|
| 12-091 | 3/16" | 0.53 | 0.37 | 0.01 | 0.83 |
| 12-092 | 1/4" | 0.54 | 0.43 | 0.02 | 1.04 |
| 12-093 | 5/16" | 0.59 | 0.50 | 0.03 | 1.15 |
| 12-094 | 3/8" | 0.66 | 0.62 | 0.04 | 2.69 |

106 41P 131 2131

MALE BRANCH TEE

SAE# 040425

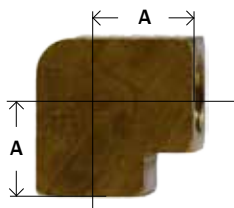


| Part # | Inv. Flare x Male NPTF (1&2)x3 | A | B | Approx. Wt. Lbs. | List Price |
|--------|--------------------------------|------|------|------------------|------------|
| 12-100 | 3/16" x 1/8" | 0.41 | 0.60 | 0.04 | 4.92 |
| 12-101 | 1/4" x 1/8" | 0.42 | 0.64 | 0.06 | 6.89 |
| 12-102 | 5/16" x 1/8" | 0.47 | 0.68 | 0.07 | 11.34 |
| 12-103 | 3/8" x 1/4" | 0.58 | 0.93 | 0.15 | 34.17 |

145 245IFHD 602 2600 600

FEMALE ELBOW

SAE# 040203

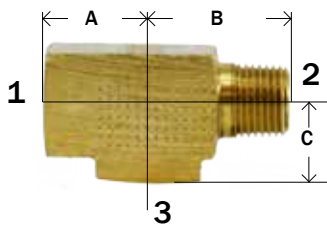


| Part # | Inv. Flare x Female NPTF | A | Approx. Wt. Lbs. | List Price |
|--------|--------------------------|------|------------------|------------|
| 12-110 | 1/4" x 1/8" | 0.55 | 0.07 | 11.67 |
| 12-111 | 5/16" x 1/8" | 0.51 | 0.08 | 23.53 |
| 12-112 | 3/8" x 1/4" | 0.68 | 0.10 | 12.12 |

450

MALE RUN TEE

SAE# 040424



| Part # | Inv. Flare x Male NPTF (1&3)x2 | A | B | C | Approx. Wt. Lbs. | List Price |
|--------|--------------------------------|------|------|------|------------------|------------|
| 12-118 | 3/16" x 1/8" | 0.53 | 0.72 | 0.39 | 0.06 | 39.61 |
| 12-119 | 1/4" x 1/8" | 0.56 | 0.75 | 0.42 | 0.08 | 39.38 |
| 12-120 | 5/16" x 1/8" | 0.62 | 0.85 | 0.45 | 0.10 | 12.50 |
| 12-121 | 3/8" x 1/4" | 0.75 | 1.08 | 0.56 | 0.14 | 36.09 |

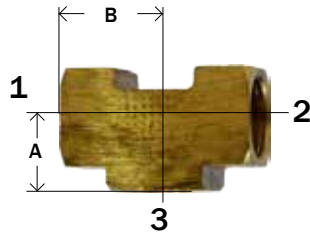
251IFHD 752 550 151

INVERTED FLARE

BRASS FITTINGS

FEMALE BRANCH TEE

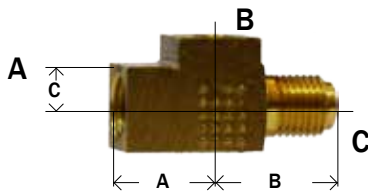
SAE# 040427



| Part # | Inv. Flare x Female NPTF (1&2)x3 | A | B | Approx. Wt. Lbs. | List Price |
|--------|--|------|------|---------------------|------------|
| 12-127 | 3/16" x 1/8" | 0.39 | 0.55 | 0.06 | 16.33 |
| 12-129 | 5/16" x 1/8" | 0.45 | 0.63 | 0.12 | 34.65 |
| 12-130 | 3/8" x 1/4" | 0.56 | 0.74 | 0.17 | 30.25 |

252IFHD 652 136

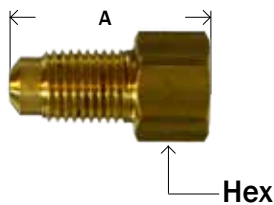
TOWED TRAILER BRAKE TEE



| Part # | A | B | C | Reference # | Approx. Wt. Lbs. | List Price |
|--------|----------------------------|---------------------------|----------------------------|-------------|---------------------|---------------|
| 12-147 | 3/16" 0.57 | 3/16" 0.76 | 3/16" 0.42 | 7900 | 0.08 | 7.35 |
| 12-145 | 3/16" (1/2-20) 0.68 | 3/16" (3/8-24) 0.94 | 3/16" (1/2-20) 0.47 | 7906 | 0.17 | 38.46 |
| 12-148 | 3/16" (9/16-18) | 3/16" (3/8-24) | 3/16" (9/16-18) | 7933 | 0.10 | 14.76 |
| 12-144 | 3/16" (9/16-20) 0.82 | 3/16" (3/8-24) 0.94 | 3/16" (9/16-20) 0.47 | 7905 | 0.18 | 55.92 |
| 12-146 | 3/16" (7/16-24) 0.54 | 3/16" (3/8-24) 0.78 | 1/4" (7/16-24) 0.42 | 7914 | 0.08 | 32.82 |
| 12-150 | 1/4" 0.56 | 3/16" 0.77 | 1/4" 0.43 | 7901 | 0.10 | 31.14 |
| 12-149 | 1/4" (9/16-18) 0.81 | 3/16" (3/8-24) 0.93 | 1/4" (9/16-18) 0.50 | 7904 | 0.10 | 49.51 |
| 12-151 | 1/4" 0.56 | 1/4" 0.77 | 1/4" 0.43 | 7898 | 0.12 | 18.06 |

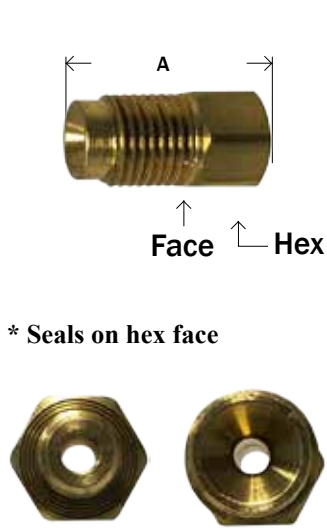
INVERTED FLARE AUTO FITTINGS

DUAL MASTER CYLINDER ADAPTER



| Part # | Male Flare x Female Inv. | A | Hex | Reference # | Approx. Wt. Lbs. | List Price |
|--------|-----------------------------|------|------|-------------|---------------------|------------|
| 12-200 | 3/16" x 3/16" | 1.00 | 0.50 | 1441 | 0.03 | 4.08 |
| 12-202 | 5/16" x 3/16" | 0.96 | 0.68 | 7897 | 0.07 | 9.72 |

DUAL MASTER CYLINDER ADAPTER

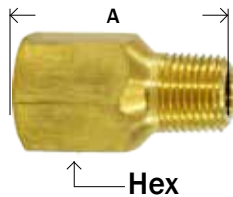


* Seals on hex face

| Part # | Male Inverted Thread | Female Inverted Thread | Ref# | List Price |
|---------|----------------------|------------------------|------|------------|
| 12-206 | 3/16(9/16-18) | 3/16 | 7911 | 7.56 |
| 12-209 | 3/16(9/16-18) | 3/16(1/2-20) | 7913 | 7.00 |
| 12-207 | 3/16(9/16-20) | 3/16 | 7910 | 5.40 |
| 12-210 | 3/16 | 1/4 | 7828 | 3.10 |
| 12-212 | 1/4 | 3/16 | 7818 | 2.82 |
| 12-214* | 7/16-20 | 1/4 | 7732 | 8.45 |
| 12-211 | 1/4(9/16-18) | 1/4 | 7908 | 7.19 |
| 12-215 | 1/4 | 5/16 | 7917 | 12.30 |
| 12-213* | 5/16 | 3/16 | 7817 | 19.54 |
| 12-216 | 5/16 | 3/16 | 7909 | 5.27 |
| 12-208 | 5/16 | 3/16(9/16-18) | 7912 | 6.92 |
| 12-218* | 5/16 | 1/4 | 7727 | 7.91 |
| 12-220 | 5/16 | 1/4 | 7829 | 5.45 |
| 12-222* | 5/16 | 5/16 | 1074 | 74.04 |
| 12-221 | 5/16 | 3/8 | 7915 | 6.69 |
| 12-224 | 3/8" NPTF | 5/16 | 7771 | 18.11 |
| 12-217 | 3/8 | 5/16 | 7916 | 12.30 |

47W

CARBURETOR TO FUEL LINE ADAPTER - FORD

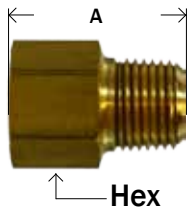


| Part # | Female Tube OD x Male NPTF | A | Hex | Ref # | Approx. Wt. Lbs. | List Price |
|--------|----------------------------|------|------|-------|------------------|------------|
| 12-230 | 1/4"(1/2-20) x 1/8" | 1.06 | 0.56 | 1513 | 0.04 | 19.33 |

1513

RESTRICTION PIPE ADAPTER

(.0625 ORIFICE)



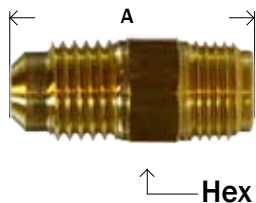
| Part # | Size FIP x MIP | A | Hex | Ref # | Approx. Wt. Lbs. | List Price |
|--------|----------------|------|------|-------|------------------|------------|
| 12-310 | 1/8" | 0.75 | 0.50 | 1512 | 0.02 | 7.99 |

1510

INVERTED FLARE

BRASS FITTINGS

SAE FLARE X INVERTED FLARE

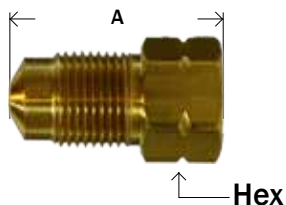


| Part # | SAE Flare x Inv. Flare | A | Hex | Ref # | Approx. Wt. Lbs. | List Price |
|--------|---------------------------|------|------|-------|---------------------|---------------|
| 12-250 | 1/4" x 3/16" | 1.03 | 0.43 | 1518 | 0.02 | 13.84 |
| 12-252 | 1/4" x 1/4" | 1.03 | 0.43 | 1522 | 0.03 | 2.69 |
| 12-254 | 3/8" x 5/16" | 1.34 | 0.63 | 1553 | 0.08 | 25.52 |
| 12-256 | 3/8" x 3/8" | 1.37 | 0.63 | 1563 | 0.09 | 12.14 |
| 12-257 | 3/8" x 7/16" | 1.40 | 0.68 | 1554 | 0.10 | 22.49 |

4205

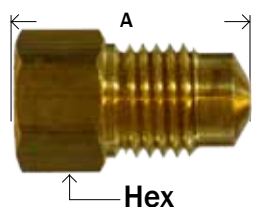
METRIC HYDRAULIC BRAKE FITTINGS

METRIC ADAPTER



| Part # | Bubble Male Thread | Tube O.D./ Female Thread | A | Hex | Ref # | Approx. Wt. Lbs. | List Price |
|--------|--------------------------|-----------------------------|------|------|-------|---------------------|---------------|
| 12-335 | M10x1.0 | 3/16"(3/8-24) | 1.02 | 0.50 | 1442 | 0.02 | 3.90 |
| 12-326 | M11x1.5 | 3/16"(M10x1.0) | 1.06 | 0.50 | 7935 | 0.02 | 18.76 |
| 12-327 | M12x1.0 | 3/16"(M10x1.0) | 1.02 | 0.53 | 7936 | 0.04 | 18.10 |
| 12-328 | M16x1.5 | 3/16"(M10x1.0) | 1.02 | 0.56 | 7937 | 0.06 | 19.19 |

ADAPTER STANDARD TO METRIC BUBBLE



| Part # | Female Inv. Flare Seat | Male Metric Bubble Flare | A | Hex | Ref # | Approx. Wt. Lbs. | List Price |
|--------|---------------------------|-----------------------------|------|------|-------|---------------------|---------------|
| 12-336 | 3/16" (3/8-24) | 11x1.5 | | | 7973 | | 11.22 |
| 12-337 | 3/16" (3/8-24) | (3/16") (10x1.25) | 1.00 | 0.50 | 7970 | 0.02 | 21.06 |
| 12-339 | 3/16" (3/8-24) | 13x1.5 | 1.03 | 0.56 | 7972 | 0.04 | 23.09 |
| 12-341 | 3/16" (3/8-24) | 12x1.0 | 1.02 | 0.53 | 7974 | 0.04 | 18.97 |

FEMALE X MALE ADAPTERS



| Part # | Female Standard Flare Seat | Male Bubble Flare | Material | List Price |
|--------|-------------------------------|----------------------|----------|------------|
| 12-330 | 3/8-24 (3/16) | 7/16-20 | Steel | 6.18 |

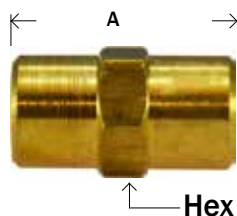


| Part # | Tube OD/ Female Thread | Inverted Male Thread | Ref # | List Price |
|--------|---------------------------|-------------------------|-------|------------|
| 12-205 | 3/16 (3/8-24) | M10 x 1.0 | 1443 | 4.68 |



| Part # | Female Standard Flare | Inverted Male Thread | Material | List Price |
|--------|--------------------------|-------------------------|----------|------------|
| 12-329 | 3/8-24 (3/16) | M9 x 1.0 | Steel | 9.18 |

METRIC UNION



| Part # | Size | A | Hex | Ref # | Approx. Wt. Lbs. | List Price |
|--------|---|------|------|-------|---------------------|---------------|
| 12-342 | British Brake Lines 3/16 (3/8-24 Bubble) | 0.87 | 0.50 | 1594 | 0.03 | 7.32 |
| 12-343 | European Brake Lines 3/16"(10.0MM) | 1.04 | 0.56 | 7975 | 0.04 | 17.81 |
| 12-344 | Japanese Brake Lines 3/16 (M10 x 1.0) Inverted | 1.00 | 0.50 | 7934A | 0.04 | 7.32 |
| 12-345 | GM Brake Lines 6mm M12 x 1.0 Bubble | 1.11 | 0.63 | | 0.06 | 7.20 |

COMPRESSION FITTINGS



These are NOT Lead Free

See pages 160-164 for Lead Free products

| | | | | | | | | | | |
|-------------------------|---------|--------|---------|--------|---------|--------|----------|----------|------|----------|
| Tube O.D. | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 5/8 | 3/4 | 7/8 |
| Thread Size-B | 5/16-24 | 3/8-24 | 7/16-24 | 1/2-24 | 9/16-24 | 5/8-24 | 11/16-20 | 13/16-18 | 1-18 | 1-1/8-18 |
| Working Pressure | 400 | 400 | 300 | 300 | 200 | 200 | 200 | 150 | 100 | 75 |

• Typical Application

Use with copper, aluminum and thermoplastic tubing. Not recommended for steel tubing. Manufactured for low and medium pressure tubing connection work where excessive vibration or tube movement is not involved. Not recommended for application using gaseous media.

• Pressure

See table above for working pressures at 73°F.

• Vibration

Fair resistance - use long nut when greater vibration resistance is needed.

• Temperature Range

-65°F to +250°F (-53°C to +121°C) range at maximum operating pressures. (Refer to tubing temperature range.)

• Used With

Aluminum, copper, brass and plastic tubing. Plastic tubing requires insert. Not recommended for steel tubing.

• Tolerance

+/- .02 on all dimensions. Dimension data can change without notice. Please call us when dimensions are critical.

• Conformance

Meets specifications and standards of ASA, ASME and SAE.

• Assembly Instructions

- 1- Cut tubing to desired length.
- 2- Slide nut and then sleeve on tube. Threaded end "A" of nut must face toward fitting.
- 3- Insert tubing into fitting body. Be sure tubing is bottomed on fitting shoulder.
- 4- Lubricate threads and assemble nut to fitting body.
- 5- Tighten nut hand tight. From that point, tighten with a wrench the number of turns indicated in the chart below.

| Tube Size | Additional Turns from Hand Tight |
|----------------|----------------------------------|
| 1/8" thru 1/4" | 1-1/4" |
| 5/16" | 1-3/4" |
| 3/8" thru 1" | 2-1/4" |

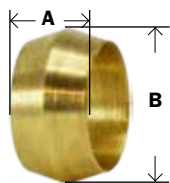
• "L" at the end of a Part# means **Light Pattern** - These fittings are completely interchangeable with full pattern fittings, but have been modified in some way. This modification is usually in the length of the pipe threads. Used in plumbing and light industrial applications.

Actual Profile of Compression Threads

| | | | | | | | | |
|----------|---------|----------|---------|----------|-----------|-----------|-------|---------------------|
| 5/16"-24 | 3/8"-24 | 7/16"-24 | 1/2"-24 | 9/16"-24 | 11/16"-20 | 13/16"-18 | 1"-18 | 1-1/8"-18 75 PSI |
| 1/8" | 3/16" | 1/4" | 5/16" | 3/8" | 1/2" | 5/8" | 3/4" | 7/8" |

COMPRESSION**BRASS FITTINGS****BRASS SLEEVE**

• FERRULES

SAE# 060115

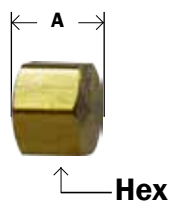
| Part # | Size | A | B | Approx. Wt. Lbs. | List Price |
|--------|-------|------|------|------------------|------------|
| 18-001 | 1/8" | 0.19 | 0.19 | 0.01 | 0.30 |
| 18-002 | 3/16" | 0.22 | 0.27 | 0.01 | 0.21 |
| 18-003 | 1/4" | 0.25 | 0.34 | 0.01 | 0.25 |
| 18-004 | 5/16" | 0.25 | 0.41 | 0.01 | 0.20 |
| 18-005 | 3/8" | 0.25 | 0.47 | 0.02 | 0.24 |
| 18-006 | 7/16" | 0.31 | 0.53 | 0.02 | 0.57 |
| 18-007 | 1/2" | 0.38 | 0.59 | 0.02 | 0.58 |
| 18-008 | 5/8" | 0.38 | 0.71 | 0.03 | 0.62 |
| 18-009 | 3/4" | 0.44 | 0.87 | 0.03 | 1.64 |
| 18-010 | 7/8" | 0.41 | 0.99 | 0.03 | 1.05 |

60 260

BRASS NUT**SAE# 060110**

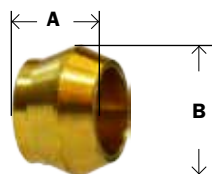
| Part # | Size | Thread | A | Hex | Approx. Wt. Lbs. | List Price |
|---------|-------|------------|------|------|------------------|------------|
| 18-033 | 1/8" | 5/16-24 | 0.38 | 0.37 | 0.01 | 0.90 |
| 18-034 | 3/16" | 3/8-24 | 0.41 | 0.43 | 0.01 | 0.53 |
| 18-035L | 1/4" | 7/16-24 | 0.44 | 0.50 | 0.02 | 0.57 |
| 18-035 | 1/4" | 7/16-24 | 0.44 | 0.50 | 0.02 | 0.79 |
| 18-036 | 5/16" | 1/2-24 | 0.44 | 0.56 | 0.02 | 0.85 |
| 18-037L | 3/8" | 9/16-24 | 0.47 | 0.62 | 0.04 | 0.90 |
| 18-037 | 3/8" | 9/16-24 | 0.47 | 0.62 | 0.04 | 1.37 |
| 18-038 | 7/16" | 5/8-24 | 0.50 | 0.68 | 0.04 | 3.87 |
| 18-039L | 1/2" | 11/16-20 | 0.56 | 0.75 | 0.04 | 1.83 |
| 18-039 | 1/2" | 11/16-20 | 0.62 | 0.81 | 0.04 | 2.83 |
| 18-040L | 5/8" | 13/16-18 | 0.56 | 0.87 | 0.06 | 1.80 |
| 18-040 | 5/8" | 13/16-18 | 0.62 | 0.94 | 0.06 | 3.15 |
| 18-041 | 3/4" | 1-18 | 0.68 | 1.12 | 0.08 | 3.86 |
| 18-042 | 7/8" | 1-1/8 - 18 | 0.62 | 1.25 | 0.10 | 4.88 |

61 261

CAP

| Part # | Size | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|------|------|------|------------------|------------|
| 18-047 | 1/4" | 0.44 | 0.50 | 0.02 | 1.39 |
| 18-048 | 3/8" | 0.40 | 0.62 | 0.04 | 1.64 |
| 18-049 | 1/2" | 0.48 | 0.75 | 0.06 | 3.64 |
| 18-050 | 5/8" | 0.56 | 0.94 | 0.10 | 6.17 |

61-CC N5CT

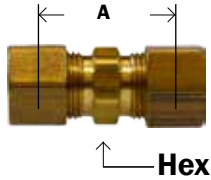
COMPRESSION PLUG

| Part # | Size | A | B | Approx. Wt. Lbs. | List Price |
|--------|------|------|------|------------------|------------|
| 18-029 | 3/8" | 0.31 | 0.47 | 0.04 | 2.04 |
| 18-030 | 1/2" | 0.34 | 0.59 | 0.06 | 2.83 |

CSP

UNION

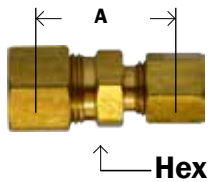
SAE# 060101BA



| Part # | Size | A | Hex | Approx. Wt. Lbs. | List Price |
|---------|-------|------|------|------------------|------------|
| 18-062 | 1/8" | 0.64 | 0.31 | 0.03 | 4.83 |
| 18-063 | 3/16" | 0.75 | 0.37 | 0.04 | 2.39 |
| 18-064L | 1/4" | 0.79 | 0.43 | 0.06 | 2.55 |
| 18-064 | 1/4" | 0.81 | 0.43 | 0.06 | 2.90 |
| 18-065 | 5/16" | 0.88 | 0.50 | 0.06 | 3.72 |
| 18-066L | 3/8" | 0.96 | 0.56 | 0.09 | 3.55 |
| 18-066 | 3/8" | 0.98 | 0.56 | 0.10 | 3.64 |
| 18-067 | 7/16" | 1.02 | 0.62 | 0.12 | 19.44 |
| 18-068L | 1/2" | 1.06 | 0.68 | 0.16 | 7.66 |
| 18-068 | 1/2" | 1.25 | 0.68 | 0.16 | 9.17 |
| 18-069L | 5/8" | 1.43 | 0.81 | 0.24 | 8.16 |
| 18-069 | 5/8" | 1.25 | 0.81 | 0.26 | 11.91 |
| 18-070 | 3/4" | 1.41 | 1.00 | 0.35 | 21.35 |
| 18-071L | 7/8" | 1.03 | 1.12 | 0.34 | 17.33 |
| 18-071 | 7/8" | 1.00 | 1.12 | 0.36 | 17.12 |

M-62

REDUCING UNION

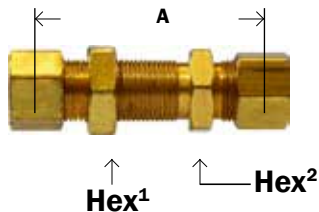


| Part # | Size | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|--------------|------|------|------------------|------------|
| 18-076 | 1/4" x 1/8" | 0.73 | 0.44 | 0.04 | 4.41 |
| 18-077 | 1/4" x 3/16" | 0.78 | 0.44 | 0.06 | 7.99 |
| 18-078 | 5/16" x 1/4" | 0.81 | 0.50 | 0.06 | 4.75 |
| 18-079 | 3/8" x 1/4" | 0.90 | 0.56 | 0.10 | 7.20 |
| 18-080 | 3/8" x 5/16" | 0.94 | 0.56 | 0.10 | 7.13 |
| 18-081 | 1/2" x 3/8" | 1.03 | 0.68 | 0.12 | 8.12 |
| 18-082 | 5/8" x 3/8" | 1.03 | 0.81 | 0.15 | 8.00 |
| 18-084 | 7/8" x 5/8" | 1.23 | 1.18 | 0.20 | 29.44 |

62-R

BULKHEAD UNIONS

SAE# 060101



| Part # | Size | A | Hex 1 | Hex 2 | Approx. Wt. Lbs. | List Price |
|--------|------|------|-------|-------|------------------|------------|
| 18-088 | 1/4" | 1.58 | 0.56 | 0.56 | 0.10 | 8.62 |
| 18-090 | 3/8" | 1.76 | 0.68 | 0.68 | 0.14 | 23.77 |

62BH 75 274

BULKHEAD NUTS



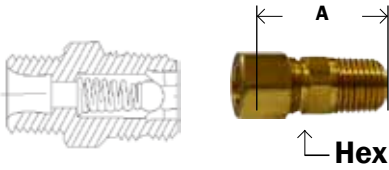
| Part # | Size | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|------|------|------|------------------|------------|
| 18-097 | 1/4" | 0.25 | 0.56 | 0.02 | 5.68 |
| 18-099 | 3/8" | 0.25 | 0.68 | 0.04 | 6.28 |
| 18-100 | 1/2" | 0.38 | 0.94 | 0.06 | 28.13 |

20102

COMPRESSION

BRASS FITTINGS

BALL CHECK VALVE - Min. Working pressure 3 psi.

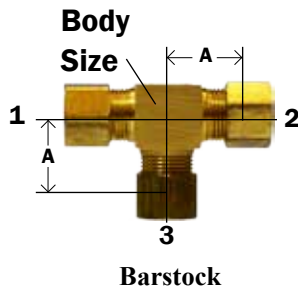
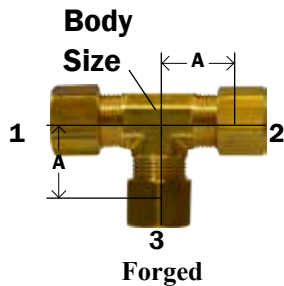


| Part # | Tube OD x Male NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|---------------------|------|------|------------------|------------|
| 18-092 | 1/8" x 1/8" | 0.78 | 0.44 | 0.04 | 11.63 |
| 18-094 | 1/4" x 1/8" | 0.88 | 0.44 | 0.04 | 12.20 |
| 18-096 | 3/8" x 1/4" | 1.16 | 0.56 | 0.08 | 16.11 |

63 263 63A

TEE

SAE# 060401

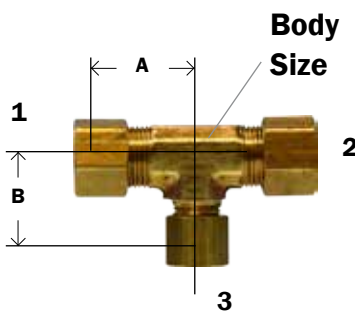


| Part # | Size | A | Body Size | Approx. Wt. Lbs. | List Price |
|----------|-------|------|-----------|------------------|------------|
| 18-101 | 1/8" | 0.61 | 0.37 | 0.04 | 12.96 |
| 18-101B* | 1/8" | 0.62 | 0.33 | 0.04 | 11.29 |
| 18-102 | 3/16" | 0.59 | 0.36 | 0.08 | 5.80 |
| 18-102B* | 3/16" | 0.60 | 0.38 | 0.08 | 8.20 |
| 18-103 | 1/4" | 0.63 | 0.36 | 0.10 | 5.35 |
| 18-103B* | 1/4" | 0.62 | 0.49 | 0.10 | 10.20 |
| 18-104 | 5/16" | 0.72 | 0.50 | 0.13 | 8.49 |
| 18-104B* | 5/16" | 0.60 | 0.50 | 0.14 | 13.33 |
| 18-105 | 3/8" | 0.75 | 0.50 | 0.16 | 7.34 |
| 18-105B* | 3/8" | 0.73 | 0.59 | 0.16 | 13.55 |
| 18-106 | 1/2" | 0.94 | 0.59 | 0.22 | 14.36 |
| 18-106B* | 1/2" | 0.94 | 0.69 | 0.24 | 30.90 |
| 18-107 | 5/8" | 1.06 | 0.69 | 0.28 | 15.31 |
| 18-108 | 3/4" | 1.22 | 0.88 | 0.32 | 49.88 |
| 18-109 | 7/8" | 1.25 | 0.94 | 0.34 | 40.07 |

* Barstock

64 264C

FORGED REDUCING TEE



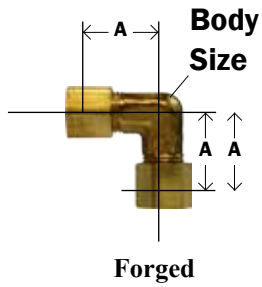
| Part # | Size 1 x 2 x 3 | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|--------|--------------------|------|------|-----------|------------------|------------|
| 18-114 | 1/4" x 1/4" x 1/8" | 0.62 | 0.59 | 0.38 | 0.09 | 7.68 |
| 18-110 | 1/4" x 1/4" x 3/8" | 0.69 | 0.75 | 0.50 | 0.14 | 16.99 |
| 18-111 | 3/8" x 1/4" x 1/4" | 0.75 | 0.69 | 0.50 | 0.12 | 10.44 |
| 18-115 | 3/8" x 3/8" x 1/4" | 0.75 | 0.69 | 0.50 | 0.14 | 7.67 |
| 18-116 | 1/2" x 1/2" x 1/4" | 0.94 | 0.81 | 0.59 | 0.16 | 14.50 |
| 18-117 | 1/2" x 1/2" x 3/8" | 0.94 | 0.81 | 0.59 | 0.24 | 15.60 |
| 18-118 | 5/8" x 5/8" x 3/8" | 1.06 | 0.94 | 0.69 | 0.28 | 18.66 |
| 18-119 | 5/8" x 5/8" x 1/2" | 1.06 | 1.06 | 0.69 | 0.30 | 20.66 |

64-R

our life is what our thoughts make it. — Marcus Aurelius

UNION ELBOW

SAE# 060201

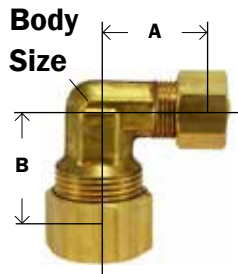


| Part # | Size | A | Body Size | Approx. Wt. Lbs. | List Price |
|----------|-------|------|-----------|------------------|------------|
| 18-122B* | 1/8" | 0.62 | 0.35 | 0.04 | 8.32 |
| 18-123 | 3/16" | 0.61 | 0.37 | 0.06 | 7.44 |
| 18-124 | 1/4" | 0.66 | 0.38 | 0.08 | 4.80 |
| 18-125 | 5/16" | 0.69 | 0.47 | 0.09 | 7.91 |
| 18-126 | 3/8" | 0.72 | 0.43 | 0.12 | 6.33 |
| 18-127 | 1/2" | 0.94 | 0.59 | 0.19 | 10.20 |
| 18-128 | 5/8" | 1.06 | 0.72 | 0.26 | 10.71 |
| 18-129 | 3/4" | 1.19 | 0.94 | 0.48 | 27.08 |
| 18-130 | 7/8" | 1.25 | 0.94 | 0.44 | 30.00 |

Forged
Barstock

65 BSE2 165C 265C

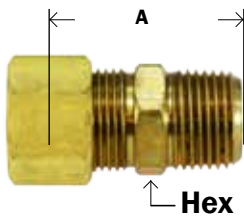
REDUCING ELBOW - Forged



| Part # | Size | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|--------|-------------------|---------------|------|-----------|------------------|------------|
| 18-135 | 3/8" x 1/4" | 0.69 | 0.75 | 0.47 | 0.12 | 10.57 |
| 18-136 | 1/2" x 3/8" | 0.88 | 0.94 | 0.59 | 0.15 | 11.63 |
| 18-137 | 5/8" x 3/8" | 0.88 | 0.97 | 0.56 | 0.18 | 16.10 |
| 31-137 | 3/8" OD x 5/8" OD | Chrome Plated | | | | 9.56 |

65-R

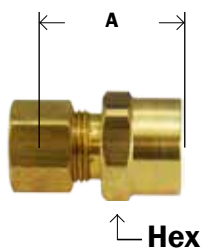
TANK ADAPTER DRILLED THRU (NO STOP)



| Part # | Comp. X Male NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------------------|------|------|------------------|------------|
| 18-208 | 1/4" x 1/8" | 0.88 | 0.43 | 0.04 | 3.34 |
| 18-209 | 1/4" x 1/4" | 0.99 | 0.56 | 0.05 | 2.51 |
| 18-210 | 3/8" x 1/4" | 1.16 | 0.56 | 0.05 | 4.68 |
| 18-211 | 3/8" x 3/8" | 1.09 | 0.68 | 0.08 | 3.88 |
| 18-212 | 3/8" x 1/2" | 1.19 | 0.87 | 0.10 | 6.22 |
| 18-213 | 1/2" x 3/8" | 1.22 | 0.68 | 0.12 | 8.40 |
| 18-214 | 1/2" x 1/2" | 1.09 | 0.81 | 0.14 | 6.79 |
| 18-215 | 5/8" x 1/2" | 1.12 | 0.81 | 0.18 | 8.01 |

68-T 682C 80F

COMP X SWEAT ADAPTER



| Part # | Comp. X Sweat Adapter | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------------------|---------------|------|------------------|------------|
| 18-171 | 3/8" x 1/2" nom.swt. | 0.98 | 0.75 | 0.08 | 6.58 |
| 31-171 | 3/8" OD x 1/2" SWT | Chrome Plated | | | 6.11 |

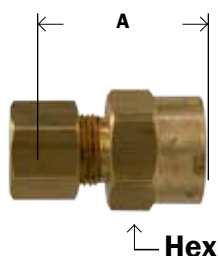
66-S

COMPRESSION

BRASS FITTINGS

FEMALE ADAPTER

SAE# 060103



| Part # | Comp. X Female NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|---------|------------------------|------|------|---------------------|------------|
| 18-142 | 1/8" x 1/8" | 0.75 | 0.56 | 0.02 | 3.43 |
| 18-143 | 3/16" x 1/8" | 0.78 | 0.56 | 0.04 | 4.45 |
| 18-144 | 3/16" x 1/4" | 0.96 | 0.68 | 0.04 | 10.42 |
| 18-145L | 1/4" x 1/8" | 0.84 | 0.50 | 0.05 | 1.96 |
| 18-145 | 1/4" x 1/8" | 0.78 | 0.56 | 0.05 | 2.82 |
| 18-146L | 1/4" x 1/4" | 0.88 | 0.62 | 0.09 | 3.89 |
| 18-146 | 1/4" x 1/4" | 1.03 | 0.68 | 0.09 | 6.40 |
| 18-148 | 1/4" x 1/2" | 1.02 | 0.87 | 0.12 | 16.56 |
| 18-149 | 5/16" x 1/8" | 0.81 | 0.56 | 0.05 | 3.95 |
| 18-150 | 5/16" x 1/4" | 0.91 | 0.62 | 0.06 | 5.83 |
| 18-152 | 3/8" x 1/8" | 0.88 | 0.56 | 0.06 | 3.89 |
| 18-153L | 3/8" x 1/4" | 0.97 | 0.62 | 0.08 | 4.96 |
| 18-153 | 3/8" x 1/4" | 1.06 | 0.68 | 0.08 | 5.25 |
| 18-154L | 3/8" x 3/8" | 1.03 | 0.75 | 0.08 | 3.31 |
| 18-154 | 3/8" x 3/8" | 1.06 | 0.81 | 0.10 | 7.47 |
| 18-155 | 3/8" x 1/2" | 1.12 | 1.00 | 0.08 | 5.59 |
| 18-156 | 3/8" x 3/4" | 1.19 | 1.16 | 0.14 | 16.89 |
| 18-157 | 1/2" x 1/4" | 1.09 | 0.68 | 0.10 | 10.36 |
| 18-158L | 1/2" x 3/8" | 0.94 | 0.81 | 0.12 | 8.45 |
| 18-158 | 1/2" x 3/8" | 1.12 | 0.81 | 0.12 | 8.45 |
| 18-159L | 1/2" x 1/2" | 1.19 | 1.00 | 0.12 | 6.71 |
| 18-159 | 1/2" x 1/2" | 1.31 | 1.00 | 0.12 | 13.81 |
| 18-160 | 1/2" x 3/4" | 1.25 | 1.16 | 0.18 | 16.15 |
| 18-162L | 5/8" x 1/2" | 1.20 | 0.94 | 0.18 | 7.37 |
| 18-162 | 5/8" x 1/2" | 1.38 | 1.00 | 0.18 | 12.06 |
| 18-163 | 5/8" x 3/4" | 1.20 | 1.12 | 0.22 | 10.58 |
| 18-164 | 3/4" x 1/2" | 1.25 | 1.06 | 0.26 | 19.10 |
| 18-165 | 3/4" x 3/4" | 1.28 | 1.19 | 0.28 | 27.63 |
| 18-167 | 7/8" x 1/2" | 1.28 | 1.19 | 0.32 | 18.39 |
| 18-166 | 7/8" x 3/4" | 1.31 | 1.12 | 0.34 | 22.09 |

66

DRILLED THRU UNION - NO STOP



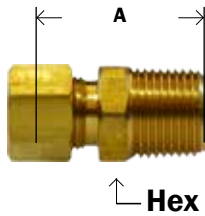
| Part # | Size | List Price |
|---------|------|------------|
| 18-066D | 3/8" | 5.72 |
| 18-069D | 5/8" | 13.38 |
| 18-071D | 7/8" | 30.66 |

A long life may not be good enough, but a good life is long enough.

-Benjamin Franklin

MALE ADAPTER

SAE# 060102



| Part # | Comp. X Male NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|---------|----------------------|------|------|---------------------|------------|
| 18-175 | 1/8" x 1/16" | 0.78 | 0.37 | 0.02 | 8.49 |
| 18-176 | 1/8" x 1/8" | 0.78 | 0.43 | 0.04 | 2.25 |
| 18-177 | 3/16" x 1/8" | 0.84 | 0.43 | 0.04 | 1.95 |
| 18-178 | 3/16" x 1/4" | 0.94 | 0.56 | 0.06 | 5.00 |
| 18-179L | 1/4" x 1/8" | 0.88 | 0.56 | 0.04 | 2.07 |
| 18-179 | 1/4" x 1/8" | 0.88 | 0.43 | 0.04 | 2.02 |
| 18-180L | 1/4" x 1/4" | 0.94 | 0.56 | 0.05 | 1.77 |
| 18-180 | 1/4" x 1/4" | 1.06 | 0.56 | 0.06 | 3.28 |
| 18-181 | 1/4" x 3/8" | 1.03 | 0.68 | 0.08 | 3.23 |
| 18-182 | 1/4" x 1/2" | 1.09 | 0.81 | 0.10 | 4.46 |
| 18-183 | 5/16" x 1/8" | 0.91 | 0.50 | 0.05 | 2.74 |
| 18-184L | 5/16" x 1/4" | 1.01 | 0.56 | 0.06 | 3.54 |
| 18-184 | 5/16" x 1/4" | 1.09 | 0.56 | 0.06 | 3.28 |
| 18-185 | 5/16" x 3/8" | 1.06 | 0.68 | 0.07 | 5.96 |
| 18-186 | 5/16" x 1/2" | 1.14 | 0.87 | 0.10 | 9.31 |
| 18-187L | 3/8" x 1/8" | 0.94 | 0.56 | 0.06 | 3.07 |
| 18-187 | 3/8" x 1/8" | 0.97 | 0.56 | 0.06 | 4.23 |
| 18-188L | 3/8" x 1/4" | 1.03 | 0.56 | 0.06 | 3.33 |
| 18-188 | 3/8" x 1/4" | 1.16 | 0.56 | 0.07 | 3.57 |
| 18-189L | 3/8" x 3/8" | 1.09 | 0.68 | 0.08 | 3.44 |
| 18-189 | 3/8" x 3/8" | 1.14 | 0.69 | 0.08 | 4.59 |
| 18-190L | 3/8" x 1/2" | 1.19 | 0.88 | 0.12 | 5.28 |
| 18-190 | 3/8" x 1/2" | 1.34 | 0.87 | 0.13 | 5.86 |
| 18-191 | 3/8" x 3/4" | 1.29 | 1.06 | 0.16 | 11.56 |
| 18-192 | 7/16" x 1/4" | 1.06 | 0.62 | 0.10 | 10.87 |
| 18-204 | 7/16" x 3/8" | 1.10 | 0.68 | 0.12 | 8.88 |
| 18-193L | 1/2" x 1/4" | 1.09 | 0.69 | 0.11 | 6.33 |
| 18-193 | 1/2" x 1/4" | 1.22 | 0.68 | 0.11 | 6.33 |
| 18-194L | 1/2" x 3/8" | 1.16 | 0.68 | 0.12 | 4.65 |
| 18-194 | 1/2" x 3/8" | 1.16 | 0.69 | 0.12 | 5.01 |
| 18-195L | 1/2" x 1/2" | 1.09 | 0.81 | 0.12 | 5.71 |
| 18-195 | 1/2" x 1/2" | 1.41 | 0.87 | 0.19 | 8.09 |
| 18-196 | 1/2" x 3/4" | 1.38 | 1.06 | 0.22 | 8.09 |
| 18-197 | 5/8" x 3/8" | 1.22 | 0.87 | 0.24 | 6.36 |
| 18-198 | 5/8" x 1/2" | 1.12 | 0.81 | 0.24 | 7.28 |
| 18-199 | 5/8" x 3/4" | 1.31 | 1.06 | 0.26 | 7.50 |
| 18-200 | 3/4" x 1/2" | 1.44 | 1.00 | 0.26 | 11.98 |
| 18-201 | 3/4" x 3/4" | 1.50 | 1.06 | 0.26 | 12.02 |
| 18-202 | 7/8" x 1/2" | 1.18 | 1.12 | 0.26 | 18.85 |
| 18-203 | 7/8" x 3/4" | 1.22 | 1.12 | 0.28 | 10.67 |
| 18-205 | 7/8" x 1" | 1.67 | 1.37 | 0.32 | 56.21 |

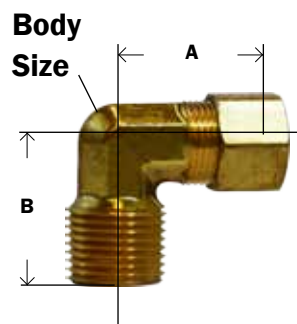
68

COMPRESSION

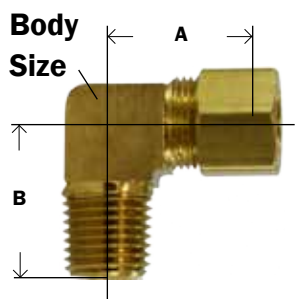
BRASS FITTINGS

MALE ELBOW

SAE# 060202



Forged



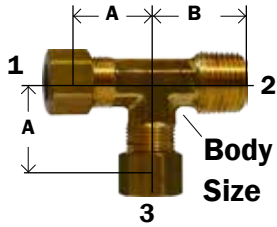
Barstock

| Part # | Comp. X Male NPTF | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|----------|----------------------|------|------|--------------|---------------------|------------|
| 18-220 | 1/8" x 1/8" | 0.59 | 0.75 | 0.34 | 0.02 | 3.59 |
| 18-220B* | 1/8" x 1/8" | 0.60 | 0.67 | 0.43 | 0.04 | 3.61 |
| 18-221 | 3/16" x 1/8" | 0.63 | 0.72 | 0.34 | 0.04 | 4.43 |
| 18-221B* | 3/16" x 1/8" | 0.62 | 0.69 | 0.43 | 0.06 | 3.42 |
| 18-223 | 3/16" x 1/4" | 0.60 | 0.81 | 0.39 | 0.05 | 5.19 |
| 18-224 | 1/4" x 1/8" | 0.60 | 0.75 | 0.37 | 0.06 | 3.69 |
| 18-224B* | 1/4" x 1/8" | 0.62 | 0.75 | 0.43 | 0.06 | 3.02 |
| 18-225 | 1/4" x 1/4" | 0.65 | 0.94 | 0.36 | 0.08 | 3.51 |
| 18-225B* | 1/4" x 1/4" | 0.61 | 0.81 | 0.56 | 0.08 | 3.61 |
| 18-226 | 1/4" x 3/8" | 0.75 | 0.91 | 0.47 | 0.08 | 4.82 |
| 18-227 | 1/4" x 1/2" | 0.81 | 1.13 | 0.56 | 0.12 | 7.80 |
| 18-228 | 5/16" x 1/8" | 0.66 | 0.75 | 0.47 | 0.06 | 5.12 |
| 18-228B* | 5/16" x 1/8" | 0.62 | 0.75 | 0.42 | 0.06 | 4.22 |
| 18-229 | 5/16" x 1/4" | 0.66 | 0.81 | 0.47 | 0.07 | 5.07 |
| 18-229B* | 5/16" x 1/4" | 0.69 | 0.84 | 0.57 | 0.08 | 6.66 |
| 18-230 | 5/16" x 3/8" | 0.75 | 0.91 | 0.47 | 0.10 | 5.97 |
| 18-231 | 5/16" x 1/2" | 0.84 | 1.12 | 0.56 | 0.12 | 9.58 |
| 18-232 | 3/8" x 1/8" | 0.72 | 0.66 | 0.39 | 0.06 | 4.09 |
| 18-232B* | 3/8" x 1/8" | 0.69 | 0.69 | 0.57 | 0.06 | 7.02 |
| 18-233 | 3/8" x 1/4" | 0.75 | 0.82 | 0.46 | 0.08 | 5.39 |
| 18-233B* | 3/8" x 1/4" | 0.75 | 0.94 | 0.57 | 0.08 | 5.41 |
| 18-234 | 3/8" x 3/8" | 0.81 | 0.94 | 0.46 | 0.10 | 5.65 |
| 18-234B* | 3/8" x 3/8" | 0.71 | 0.83 | 0.69 | 0.10 | 9.54 |
| 18-235 | 3/8" x 1/2" | 0.87 | 1.12 | 0.56 | 0.14 | 11.62 |
| 18-235B* | 3/8" x 1/2" | 0.88 | 1.16 | 0.94 | 0.14 | 18.81 |
| 18-248 | 3/8" x 3/4" | 1.03 | 1.19 | 0.81 | 0.18 | 12.11 |
| 18-247 | 7/16" x 1/4" | 0.84 | 1.00 | 0.56 | 0.14 | 10.29 |
| 18-236 | 1/2" x 1/4" | 0.88 | 0.97 | 0.56 | 0.14 | 8.30 |
| 18-237 | 1/2" x 3/8" | 0.88 | 1.03 | 0.56 | 0.19 | 7.39 |
| 18-237B* | 1/2" x 3/8" | 0.94 | 1.12 | 0.70 | 0.19 | 10.64 |
| 18-238 | 1/2" x 1/2" | 0.94 | 1.13 | 0.59 | 0.17 | 8.33 |
| 18-238B* | 1/2" x 1/2" | 0.94 | 1.31 | 0.86 | 0.17 | 16.89 |
| 18-239 | 1/2" x 3/4" | 1.16 | 1.25 | 0.81 | 0.18 | 14.72 |
| 18-240 | 5/8" x 3/8" | 1.06 | 1.12 | 0.68 | 0.18 | 9.05 |
| 18-241 | 5/8" x 1/2" | 1.06 | 1.16 | 0.68 | 0.20 | 9.80 |
| 18-241B* | 5/8" x 1/2" | 1.06 | 1.31 | 0.86 | 0.20 | 16.94 |
| 18-242 | 5/8" x 3/4" | 1.16 | 1.31 | 0.81 | 0.24 | 15.57 |
| 18-243 | 3/4" x 1/2" | 1.19 | 1.31 | 0.94 | 0.26 | 16.79 |
| 18-245 | 3/4" x 3/4" | 1.19 | 1.38 | 0.94 | 0.30 | 18.99 |
| 18-246 | 7/8" x 3/4" | 1.25 | 1.38 | 0.94 | 0.35 | 29.10 |

* Barstock

69 269C BSE1 169C

FORGED MALE RUN TEE

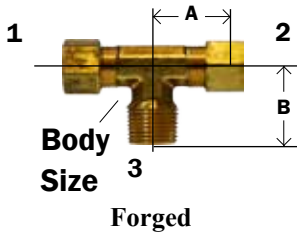


| Part # | Comp. X Male NPTF (1&3) X 2 | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|--------|-----------------------------|------|------|-----------|------------------|------------|
| 18-272 | 1/8" x 1/8" | 0.63 | 0.69 | 0.36 | 0.06 | 6.65 |
| 18-273 | 3/16" x 1/8" | 0.63 | 0.69 | 0.36 | 0.07 | 6.65 |
| 18-274 | 1/4" x 1/8" | 0.63 | 0.75 | 0.36 | 0.08 | 5.73 |
| 18-275 | 1/4" x 1/4" | 0.69 | 0.88 | 0.44 | 0.10 | 6.78 |
| 18-276 | 5/16" x 1/8" | 0.72 | 0.75 | 0.50 | 0.10 | 8.93 |
| 18-277 | 5/16" x 1/4" | 0.75 | 0.88 | 0.44 | 0.10 | 8.67 |
| 18-278 | 3/8" x 1/8" | 0.75 | 0.75 | 0.50 | 0.14 | 9.60 |
| 18-279 | 3/8" x 1/4" | 0.79 | 0.87 | 0.44 | 0.18 | 7.43 |
| 18-280 | 3/8" x 3/8" | 0.88 | 1.00 | 0.47 | 0.20 | 11.45 |
| 18-281 | 1/2" x 3/8" | 0.94 | 1.09 | 0.59 | 0.24 | 13.94 |
| 18-282 | 1/2" x 1/2" | 0.97 | 1.19 | 0.69 | 0.26 | 18.19 |
| 18-283 | 5/8" x 1/2" | 1.06 | 1.31 | 0.69 | 0.28 | 16.97 |
| 18-284 | 3/4" x 1/2" | 1.22 | 1.34 | 0.88 | 0.30 | 40.26 |

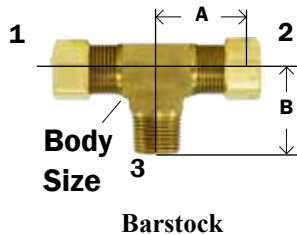
71 171C BST3

MALE BRANCH TEE

SAE# 060425



Forged



Barstock

| Part # | Comp. X Male NPTF (1&2) X 3 | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|----------|-----------------------------|------|------|-----------|------------------|------------|
| 18-290 | 3/16" x 1/8" | 0.63 | 0.69 | 0.36 | 0.08 | 8.66 |
| 18-291 | 1/4" x 1/8" | 0.62 | 0.75 | 0.36 | 0.10 | 6.20 |
| 18-291B* | 1/4" x 1/8" | 0.64 | 0.73 | 0.45 | 0.10 | 10.61 |
| 18-292 | 1/4" x 1/4" | 0.69 | 0.86 | 0.44 | 0.10 | 7.18 |
| 18-293 | 5/16" x 1/8" | 0.72 | 0.75 | 0.50 | 0.11 | 7.18 |
| 18-294 | 5/16" x 1/4" | 0.75 | 0.88 | 0.44 | 0.12 | 8.03 |
| 18-295 | 3/8" x 1/8" | 0.75 | 0.75 | 0.50 | 0.14 | 9.59 |
| 18-296 | 3/8" x 1/4" | 0.78 | 0.88 | 0.44 | 0.16 | 7.35 |
| 18-297 | 3/8" x 3/8" | 0.78 | 0.97 | 0.47 | 0.18 | 10.77 |
| 18-298 | 3/8" x 1/2" | 0.88 | 1.22 | 0.69 | 0.20 | 16.49 |
| 18-304 | 1/2" x 1/4" | 0.94 | 0.97 | 0.59 | 0.22 | 14.26 |
| 18-299B* | 1/2" x 3/8" | 0.96 | 1.09 | 0.70 | 0.24 | 26.78 |
| 18-299 | 1/2" x 3/8" | 0.94 | 1.12 | 0.59 | 0.24 | 13.65 |
| 18-300 | 1/2" x 1/2" | 0.97 | 1.19 | 0.69 | 0.30 | 17.25 |
| 18-301 | 5/8" x 1/2" | 1.06 | 1.31 | 0.69 | 0.32 | 19.43 |
| 18-302 | 3/4" x 1/2" | 1.22 | 1.34 | 0.88 | 0.50 | 43.18 |
| 18-303 | 3/4" x 3/4" | 1.25 | 1.50 | 0.88 | 0.54 | 40.66 |

* Barstock

72 BST1 172C

Be glad of life because it gives you the chance to love and to work and to play and to look up at the stars.

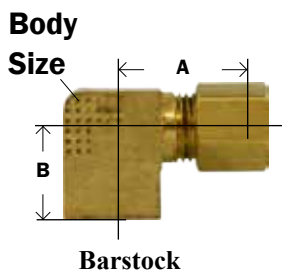
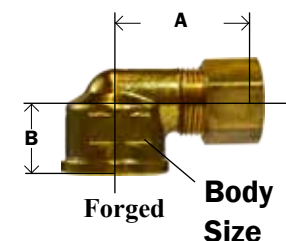
— Henry Van Dyke

COMPRESSION

BRASS FITTINGS

FEMALE ELBOW

SAE# 060203

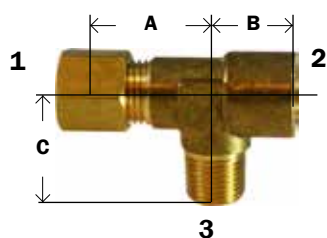


| Part # | Comp. X Female NPTF | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|----------|------------------------|------|------|--------------|---------------------|------------|
| 18-251 | 1/8" x 1/8" | 0.69 | 0.56 | 0.56 | 0.04 | 8.46 |
| 18-252 | 3/16" x 1/8" | 0.69 | 0.47 | 0.56 | 0.04 | 5.01 |
| 18-253 | 1/4" x 1/8" | 0.69 | 0.47 | 0.56 | 0.06 | 4.98 |
| 18-253B* | 1/4" x 1/8" | 0.69 | 0.56 | 0.56 | 0.06 | 6.00 |
| 18-254 | 1/4" x 1/4" | 0.75 | 0.50 | 0.72 | 0.08 | 5.64 |
| 18-267 | 1/4" x 3/8" | 0.81 | 0.58 | 0.81 | 0.08 | 7.99 |
| 18-268 | 1/4" x 1/2" | 0.89 | 0.66 | 1.00 | 0.10 | 10.57 |
| 18-255 | 5/16" x 1/8" | 0.72 | 0.84 | 0.47 | 0.08 | 9.21 |
| 18-256 | 5/16" x 1/4" | 0.78 | 0.50 | 0.72 | 0.09 | 7.18 |
| 18-257 | 3/8" x 1/8" | 0.75 | 0.84 | 0.47 | 0.10 | 5.94 |
| 18-258 | 3/8" x 1/4" | 0.84 | 0.59 | 0.75 | 0.10 | 6.33 |
| 18-259 | 3/8" x 3/8" | 0.88 | 0.58 | 0.81 | 0.12 | 7.31 |
| 18-260 | 3/8" x 1/2" | 0.97 | 0.66 | 1.00 | 0.14 | 8.39 |
| 18-250 | 3/8" x 3/4" | 1.09 | 0.72 | 1.25 | 0.18 | 13.38 |
| 18-261 | 1/2" x 1/4" | 1.06 | 0.70 | 0.88 | 0.18 | 11.66 |
| 18-262 | 1/2" x 3/8" | 1.00 | 0.70 | 0.88 | 0.16 | 9.73 |
| 18-263 | 1/2" x 1/2" | 1.03 | 0.72 | 1.00 | 0.20 | 10.04 |
| 18-270 | 1/2" x 3/4" | 1.16 | 0.72 | 1.25 | 0.23 | 14.42 |
| 18-269 | 5/8" x 3/8" | 1.09 | 0.77 | 1.00 | 0.20 | 14.76 |
| 18-264 | 5/8" x 1/2" | 1.09 | 0.77 | 1.00 | 0.22 | 11.48 |
| 18-265 | 5/8" x 3/4" | 1.22 | 0.77 | 1.25 | 0.24 | 15.75 |
| 18-266 | 3/4" x 1/2" | 1.25 | 1.25 | 0.94 | 0.28 | 25.79 |

* Barstock

70 270C BSE3 170C

FORGED TEE



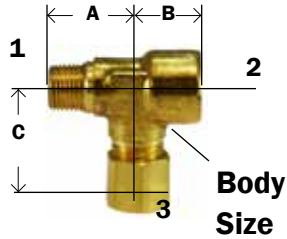
| Part # | Comp. X Female NPTF x Male NPTF 1x(2&3) | A | B | C | Approx. Wt. Lbs. | List Price |
|--------|--|------|------|------|---------------------|------------|
| 18-307 | 1/4" x 1/8" | 0.72 | 0.53 | 0.72 | 0.20 | 7.73 |

71 171C BST3

Don't be afraid to give your best to what seemingly are small jobs. Every time you conquer one it makes you that much stronger. If you do the little jobs well, the big ones will tend to take care of themselves.

- Dale Carnegie

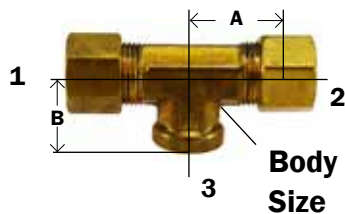
ADAPTER TEE



| Part # | Male NPTF x Female NPTF x Comp. 3x (1&2) | A | B | C | Body Size | Approx. Wt. Lbs. | List Price |
|--------|---|------|------|------|--------------|---------------------|------------|
| 18-314 | 1/8" x 1/4" | 0.72 | 0.53 | 0.72 | 0.47 | 0.08 | 8.56 |
| 18-316 | 3/8" x 1/4" | 0.84 | 0.97 | 0.81 | 0.47 | 0.10 | 9.97 |

76 176C

FEMALE BRANCH FORGED TEE

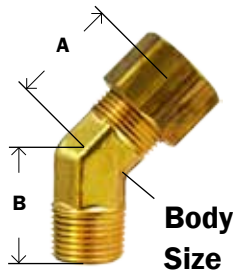


| Part # | Comp. X Female NPTF (1&2)x3 | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|--------|-----------------------------------|------|------|--------------|---------------------|------------|
| 18-321 | 1/4" x 1/8" | 0.78 | 0.75 | 0.45 | 0.10 | 7.37 |
| 18-328 | 1/4" x 1/4" | 0.78 | 0.75 | 0.44 | 0.12 | 11.51 |
| 18-325 | 3/8" x 1/8" | 0.75 | 0.63 | 0.50 | 0.12 | 9.57 |
| 18-322 | 3/8" x 1/4" | 0.81 | 0.97 | 0.47 | 0.14 | 11.59 |
| 18-323 | 3/8" x 3/8" | 0.97 | 0.69 | 1.05 | 0.16 | 17.32 |
| 18-326 | 1/2" x 1/8" | 0.94 | 0.75 | 0.59 | 0.20 | 15.17 |
| 18-324 | 1/2" x 3/8" | 1.00 | 0.72 | 0.88 | 0.22 | 22.81 |
| 18-327 | 5/8" x 1/8" | 1.06 | 0.81 | 0.69 | 0.26 | 20.57 |

78 BST4 77 177C 2908

45° ELBOW

SAE# 060302

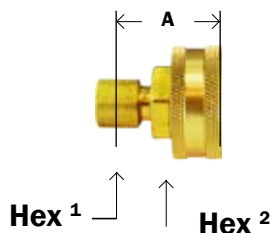


| Part # | Comp. X Male NPTF | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|--------|----------------------|------|------|--------------|---------------------|------------|
| 18-329 | 3/16" x 1/8" | 0.40 | 0.63 | 0.41 | 0.04 | 5.72 |
| 18-330 | 1/4" x 1/8" | 0.40 | 0.61 | 0.41 | 0.04 | 5.26 |
| 18-336 | 1/4" x 1/4" | 0.59 | 0.84 | 0.53 | 0.06 | 7.71 |
| 18-331 | 5/16" x 1/8" | 0.59 | 0.65 | 0.53 | 0.06 | 8.47 |
| 18-332 | 5/16" x 1/4" | 0.59 | 0.83 | 0.53 | 0.08 | 8.96 |
| 18-333 | 3/8" x 1/4" | 0.62 | 0.83 | 0.53 | 0.08 | 6.89 |
| 18-338 | 3/8" x 3/8" | 0.75 | 0.95 | 0.59 | 0.10 | 18.75 |
| 18-334 | 1/2" x 3/8" | 0.75 | 0.88 | 0.59 | 0.14 | 8.52 |
| 18-339 | 1/2" x 1/2" | 0.94 | 1.14 | 0.75 | 0.14 | 16.54 |
| 18-335 | 5/8" x 1/2" | 0.78 | 1.14 | 0.78 | 0.14 | 17.60 |

6945 45BSE1 74 179C 273 77

GARDEN HOSE SWIVEL

•WASHER INCLUDED



| Part # | Compression x FGH | A | Hex 1 | Hex 2 | Approx. Wt. Lbs. | List Price |
|--------|----------------------|------|-------|-------|---------------------|------------|
| 30-050 | 1/4" x 3/4" | 1.02 | 0.50 | 0.75 | 0.09 | 8.63 |
| 30-051 | 3/8" x 3/4" | 1.04 | 0.62 | 0.75 | 0.12 | 8.10 |

COMPRESSION

BRASS FITTINGS

DOUBLE COMPRESSION THREADED SLEEVE FITTINGS

- Use with aluminum and copper tubing or plastic tubing with internal tube support. Not recommended for steel tubing.
- Easy to assemble, no flaring, two piece construction.
- For use on oil, air, water and grease lubrication systems.
- When design makes a dimension critical, contact us for information.

| Tube OD | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 |
|------------------|---------|--------|---------|--------|---------|
| Thread | 5/16-24 | 3/8-24 | 7/16-24 | 1/2-20 | 9/16-20 |
| Working Pressure | 500 | 500 | 500 | 250 | 250 |

NUT



| Part # | Size | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------|------|------|------------------|------------|
| 16-001 | 1/8" | 0.50 | 0.37 | 0.02 | 1.18 |
| 16-002 | 3/16" | 0.53 | 0.43 | 0.02 | 2.20 |
| 16-003 | 1/4" | 0.56 | 0.50 | 0.04 | 2.92 |
| 16-004 | 5/16" | 0.61 | 0.56 | 0.04 | 3.39 |
| 16-005 | 3/8" | 0.61 | 0.62 | 0.04 | 3.84 |

181 6100 11

MALE ADAPTER

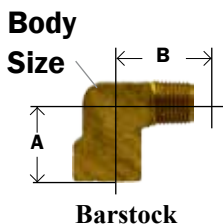


| Part # | THRD Sleeve x Male NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------------------------|------|------|------------------|------------|
| 16-117 | 1/8" x * | 0.62 | 0.43 | 0.02 | 13.26 |
| 16-118 | 1/8" x 1/8" | 0.62 | 0.43 | 0.02 | 2.62 |
| 16-119 | 3/16" x 1/8" | 0.69 | 0.43 | 0.02 | 3.30 |
| 16-121 | 1/4" x 1/8" | 0.75 | 0.50 | 0.04 | 2.93 |
| 16-122 | 5/16" x 1/8" | 0.89 | 0.56 | 0.04 | 5.72 |
| 16-123 | 3/8" x 1/4" | 0.84 | 0.62 | 0.06 | 8.28 |

* 1/4 - 28 Male Thread Tapered.

188 6200 12

90° ELBOW



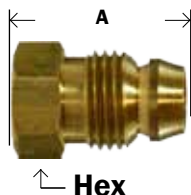
Barstock

| Part # | THRD Sleeve x Male NPTF | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|--------|-------------------------|------|------|-----------|------------------|------------|
| 16-127 | 1/8" x * | 0.50 | 0.52 | 0.41 | 0.02 | 10.12 |
| 16-128 | 1/8" x 1/8" | 0.50 | 0.66 | 0.43 | 0.02 | 14.94 |
| 16-129 | 3/16" x 1/8" | 0.56 | 0.62 | 0.44 | 0.02 | 33.70 |
| 16-130 | 1/4" x 1/8" | 0.52 | 0.62 | 0.50 | 0.04 | 23.56 |

* 1/4 - 28 Male Thread Tapered

189 6400 15

BREAK-AWAY NUT



- 1-Piece Fiting

| Part # | Size | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------|------|------|------------------|------------|
| 16-090 | 3/16" | 0.57 | 0.37 | 0.02 | 8.42 |
| 16-010 | 1/4" | 0.62 | 0.43 | 0.02 | 2.09 |

* Threaded sleeve fittings on page 85.

181-BA 21604 99LB 81LB

I never did a day's work in my life. It was all fun.

-Thomas A. Edison

BRASS SPLIT SLEEVE D.O.T. FITTINGS (5/32 O.D.)

TRANSMISSION BRASS FITTINGS

APPLICATIONS: Used with SAE J844 Type A nylon tube in pressure protected air transmission applications.

TECHNICAL DATA: Maximum working pressure up to 150 PSI. Fittings will withstand variations from -40°F to +220°F (-40°C to + 104°C)

Ideally suited for use in passive protected air transmission applications. A specially designed slotted sleeve helps eliminate notch stress related to over torque.

COLLET



| Part # | Tube O.D. | List Price |
|--------|-----------|------------|
| 38-711 | 5/32" | 1.65 |
| 25-001 | 1/8" | 1.66 |

1460 90791 280 90946

NUT



| Part # | Tube O.D. | List Price |
|--------|-----------|------------|
| 38-732 | 5/32" | 1.98 |
| 25-033 | 1/8" | 1.87 |

1461 90790 281 90885

DOUBLE END UNION



| Part # | Tube O.D. | List Price |
|--------|-----------|------------|
| 38-761 | 5/32" | 15.15 |
| 25-062 | 1/8" | 8.84 |

1462 90792 283 90891

CONNECTOR WITH NUT AND SLEEVE



| Part # | Tube O.D. | Pipe Thread | List Price |
|--------|-----------|-------------|------------|
| 38-769 | 5/32" | 1/16" | 10.01 |
| 38-770 | 5/32" | 1/8" | 9.48 |
| 25-175 | 1/8" | 1/16" | 10.00 |
| 25-176 | 1/8" | 1/8" | 9.06 |

• Shipped with nut and split sleeve, picture shows insert 1468 90794 282 90985

ELBOW

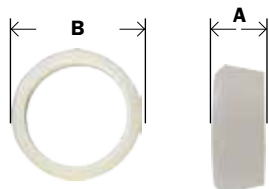


| Part # | Tube O.D. | Pipe Thread | List Price |
|--------|-----------|-------------|------------|
| 38-718 | 5/32" | 1/8" | 10.59 |
| 25-220 | 1/8" | 1/8" | 8.88 |

SPECIAL COMPRESSION ASSEMBLIES**BRASS FITTINGS**

To purchase special compression assemblies, delete the 18 prefix on part# and add the prefix of the type of special assembly you desire. Pricing and availability upon request.

- 22 - Plastic sleeve (inserts should be ordered separately)
- 24 - Long nut compression
- 26 - Captive sleeve (parts listed on following pages)
- 27 - Self align sleeve

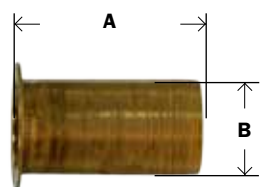
DELRIN SLEEVE

| Part # | Size | A | B | Approx. Wt. Lbs. | List Price |
|--------|-------|------|------|------------------|------------|
| 18-015 | 1/4" | 0.19 | 0.37 | 0.01 | 0.07 |
| 18-016 | 5/16" | 0.19 | 0.43 | 0.01 | 1.09 |
| 18-017 | 3/8" | 0.19 | 0.50 | 0.02 | 0.23 |
| 18-018 | 1/2" | 0.25 | 0.63 | 0.02 | 0.15 |
| 18-019 | 5/8" | 0.22 | 0.74 | 0.02 | 0.21 |

60-P

BRASS INSERT

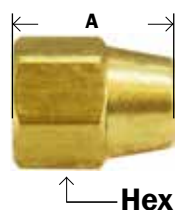
• SLEEVE



| Part # | Size | A | B | Approx. Wt. Lbs. | Wall | List Price |
|---------|-------|------|-------|------------------|------|------------|
| 22-008 | 1/8" | 0.46 | 0.080 | 0.01 | .016 | 0.73 |
| 22-009 | 3/16" | 0.45 | 0.135 | 0.01 | .025 | 0.80 |
| 22-009A | 3/16" | 0.52 | 0.095 | 0.01 | .040 | 0.82 |
| 22-010 | 1/4" | 0.50 | 0.163 | 0.02 | .04 | 0.41 |
| 22-010A | 1/4" | 0.59 | 0.125 | 0.02 | .04 | 1.16 |
| 22-010B | 1/4" | 0.53 | 0.172 | 0.02 | .03 | 1.90 |
| 22-011A | 5/16" | 0.50 | 0.232 | 0.02 | .04 | 1.76 |
| 22-011 | 5/16" | 0.53 | 0.187 | 0.02 | .062 | 0.73 |
| 22-012 | 3/8" | 0.56 | 0.250 | 0.03 | .062 | 0.64 |
| 22-013 | 1/2" | 0.72 | 0.370 | 0.03 | .062 | 0.83 |
| 22-014 | 5/8" | 0.72 | 0.483 | 0.03 | .062 | 1.69 |
| 22-015 | 3/4" | 1.03 | 0.563 | 0.03 | .03 | 5.04 |

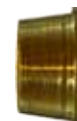
See lead free insert on page 167

63-BI 60AE 2030 63PT

LONG NUT COMPRESSION - Can be assembled on any compression fitting

| Part # | Size | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------|------|------|------------------|------------|
| 10-013 | 1/8" | 0.50 | 0.37 | 0.01 | 2.09 |
| 24-002 | 3/16" | 0.62 | 0.43 | 0.01 | 1.71 |
| 24-003 | 1/4" | 0.75 | 0.50 | 0.02 | 1.95 |
| 24-004 | 5/16" | 0.84 | 0.56 | 0.02 | 1.51 |
| 24-005 | 3/8" | 0.97 | 0.62 | 0.04 | 2.96 |
| 24-006 | 1/2" | 1.06 | 0.81 | 0.06 | 7.63 |
| 24-007 | 5/8" | 1.19 | 0.94 | 0.11 | 7.58 |
| 24-008 | 3/4" | 1.50 | 1.25 | 0.14 | 15.47 |

161

SELF-ALIGN SLEEVES

| Part # | Size | List Price |
|--------|-------|------------|
| 27-001 | 1/8" | 0.32 |
| 27-002 | 3/16" | 0.99 |
| 27-003 | 1/4" | 0.38 |

| Part # | Size | List Price |
|--------|------|------------|
| 27-005 | 3/8" | 0.95 |
| 27-006 | 1/2" | 2.26 |

860

860 601

BRASS FITTINGS

CAPTIVE SLEEVE COMPRESSION

CAPTIVE SLEEVE NUT



| Part # | Size | List Price |
|--------|-------|------------|
| 26-001 | 1/8" | 1.59 |
| 26-002 | 3/16" | 1.66 |
| 26-003 | 1/4" | 1.35 |
| 26-004 | 5/16" | 1.86 |
| 26-005 | 3/8" | 1.74 |
| 26-007 | 1/2" | 3.48 |
| 26-008 | 5/8" | 6.22 |
| 26-015 | 3/4" | 14.25 |
| 26-016 | 7/8" | 36.44 |
| 26-009 | 1" | 36.86 |

CS61 61CA

UNION



| Part # | Size | List Price |
|--------|-------------|------------|
| 26-062 | 1/8" | 4.87 |
| 26-063 | 3/16" | 3.55 |
| 26-064 | 1/4" | 3.23 |
| 26-065 | 5/16" | 3.75 |
| 26-066 | 3/8" | 3.75 |
| 26-079 | 3/8" x 1/4" | 7.74 |

CS62 62CA

TEE



| Part # | Size | List Price |
|--------|-------|------------|
| 26-102 | 3/16" | 7.17 |
| 26-103 | 1/4" | 7.17 |
| 26-105 | 3/8" | 7.74 |

CS64 164CA

FEMALE ADAPTER



| Part # | Comp. X Female NPTF | List Price |
|--------|---------------------|------------|
| 26-145 | 1/4" x 1/8" | 3.37 |
| 26-153 | 3/8" x 1/4" | 5.83 |

CS66 66CA

MALE ADAPTER



| Part # | Comp. X Male NPTF | List Price |
|--------|-------------------|------------|
| 26-176 | 1/8" x 1/8" | 2.54 |
| 26-177 | 3/16" x 1/8" | 2.80 |
| 26-179 | 1/4" x 1/8" | 2.66 |
| 26-180 | 1/4" x 1/4" | 3.63 |
| 26-181 | 1/4" x 3/8" | 3.50 |
| 26-183 | 5/16" x 1/8" | 3.37 |
| 26-184 | 5/16" x 1/4" | 3.43 |
| 26-188 | 3/8" x 1/4" | 3.88 |
| 26-189 | 3/8" x 3/8" | 4.58 |
| 26-190 | 3/8" x 1/2" | 6.04 |
| 26-195 | 1/2" x 1/2" | 8.13 |

CS68 68CA

MALE ELBOW



| Part # | Comp. X Male NPTF | List Price |
|---------|-------------------|------------|
| 26-220 | 1/8" x 1/8" | 5.79 |
| 26-220B | 1/8" x 1/8" | 4.39 |
| 26-221 | 3/16" x 1/8" | 4.83 |
| 26-224B | 1/4" x 1/8" | 2.87 |
| 26-224 | 1/4" x 1/8" | 3.63 |
| 26-225 | 1/4" x 1/4" | 4.51 |
| 26-225B | 1/4" x 1/4" | 3.45 |
| 26-228 | 5/16" x 1/8" | 5.25 |
| 26-229 | 5/16" x 1/4" | 5.10 |
| 26-233 | 3/8" x 1/4" | 5.42 |
| 26-237 | 1/2" x 3/8" | 8.14 |
| 26-238 | 1/2" x 1/2" | 7.96 |

CS69 169CA

Interchangeable with compress-align fittings.

These are NOT Lead Free
Lead Free products
available upon request

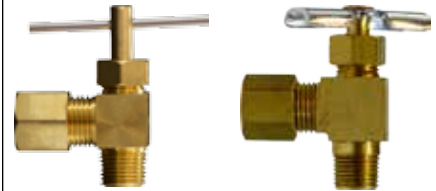
MALE BRANCH TEE



| Part # | Comp. X Male NPTF (1&2) X 3 | List Price |
|--------|-----------------------------|------------|
| 26-291 | 1/4" x 1/8" | 6.84 |
| 26-292 | 1/4" x 1/4" | 8.01 |
| 26-293 | 5/16" x 1/8" | 8.01 |
| 26-296 | 3/8" x 1/4" | 9.03 |

CS72 172CA

CAPTIVE SLEEVE x MALE PIPE ANGLE NEEDLE VALVE



| Part # | Comp X Male Pipe | List Price |
|--------|------------------|------------|
| 26-011 | 1/4" x 1/8" | 7.17 |
| 26-014 | 5/16" x 1/4" | 49.16 |

CAPTIVE SLEEVE x CAPTIVE SLEEVE NEEDLE VALVE



| Part # | Comp X Comp | List Price |
|--------|-------------|------------|
| 26-021 | 1/4" | 7.21 |
| 26-023 | 3/8" | 11.77 |

- More sizes available
- Lead Free - add LF to part #

Flareless

Flareless Brass Tube Fittings are Interchangeable with Poly-Flo®, Poly-Tite® and Poly-Line® and Poly-Fit®



Built-in SS
Tube Support

| Tube O.D. | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 1/2 |
|---------------|---------|--------|--------|---------|--------|----------|
| Thread Size-B | 5/16-24 | 3/8-24 | 3/8-24 | 7/16-24 | 1/2-24 | 1 1/8-20 |

•Typical Application

Pneumatic instrumentation circuits, lubricant and cooling lines.

•Working Pressure and Temperature Ranges

Up to 150 PSI from 0°F to + 150°F with thermoplastic tubing. Up to 300 PSI from 0°F to + 175°F with soft metal tubing.

•Maximum allowable metal tube wall thickness for use with Poly-Tite fittings:

1/8", 3/16" O.D. --no limitation,
1/4" O.D.--.035 5/16", 3/8", 1/2" O.D.--.049

•Vibration

Excellent Resistance.

•Temperature Range

Depends on tubing used. -65°F to +250°F (-53°C to +121°C) with brass sleeve, -40°F to +150°F (-40°C to +66°C) with plastic sleeve. (Refer to tubing temperature range.)

•Used With

Aluminum & copper tubing. Hard plastic tubing requires brass sleeve. Not recommended for steel tubing.

•Tolerance

+/- .02 on all dimensions. Dimension data can change without notice. Please call us when dimensions are critical.

•Advantages

No flaring of tubing required. Easy installation, captive sleeve, pre-assembled for installation and can be reassembled. Nuts rotate around the sleeve during tightening, preventing twisting of tubing.

•Assembly Instructions

- 1- Cut tubing to desired length.
- 2- Slide nut/sleeve assembly on tube. Threaded end "A" of nut must face toward fitting.
- 3- Bottom tubing into fitting.
- 4- Plastic sleeve - Tighten nut hand tight.
Brass Sleeve - Tighten nut hand tight, then an additional 3/4 turn.

* Note: 1/8 and 3/16 sizes have brass sleeves

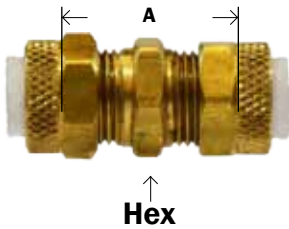
NUT AND PLASTIC SLEEVE ASSEMBLY



| Part # | Tube O.D. | Thread | A | Hex (Dia.) | Approx. Wt. Lbs. | List Price |
|--------|-----------|----------|------|------------|------------------|------------|
| 20-211 | 1/4" | 3/8-24 | 0.34 | 0.43 | 0.02 | 1.50 |
| 20-212 | 5/16" | 7/16-24 | 0.45 | 0.50 | 0.02 | 2.68 |
| 20-213 | 3/8" | 1/2-24 | 0.38 | 0.56 | 0.04 | 1.99 |
| 20-214 | 1/2" | 11/16-20 | 0.42 | 0.81 | 0.04 | 3.50 |

261PF 1261 61PN

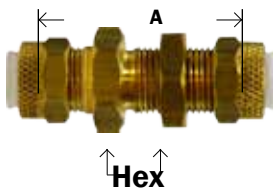
UNION



| Part # | Tube O.D. | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------------|------|------|------------------|------------|
| 20-240 | 1/8" | 0.66 | 0.31 | 0.02 | 8.13 |
| 20-241 | 3/16" | 0.75 | 0.37 | 0.04 | 8.86 |
| 20-242 | 1/4" | 0.69 | 0.37 | 0.04 | 3.56 |
| 20-243 | 5/16" | 0.69 | 0.44 | 0.04 | 10.38 |
| 20-244 | 3/8" | 0.72 | 0.50 | 0.10 | 10.45 |
| 20-200 | 3/8" x 1/4" | 0.72 | 0.50 | 0.08 | 15.16 |
| 20-245 | 1/2" | 0.84 | 0.69 | 0.14 | 15.20 |

262PF 1262 62P 262P

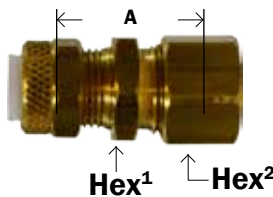
BULKHEAD UNION



| Part # | Tube O.D. | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------|------|------|------------------|------------|
| 20-337 | 1/4" | 1.25 | 0.56 | 0.06 | 11.82 |
| 20-338 | 5/16" | 1.25 | 0.62 | 0.08 | 14.62 |
| 20-339 | 3/8" | 1.31 | 0.69 | 0.10 | 16.57 |

62PBH 329P 282P

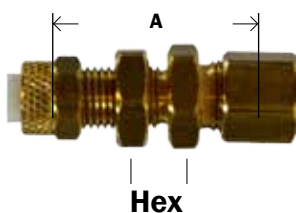
UNION TUBE #M62C - FLARELESS X STANDARD COMPRESSION



| Part # | Tube O.D. | A | Hex 1 | Hex 2 | Approx. Wt. Lbs. | List Price |
|--------|-----------|------|-------|-------|------------------|------------|
| 20-235 | 1/4" | 0.75 | 0.44 | 0.50 | 0.04 | 9.46 |
| 20-237 | 3/8" | 0.84 | 0.62 | 0.62 | 0.08 | 13.90 |

262S 62PCA 262PC

BULKHEAD UNION - FLARELESS X COMPRESSION



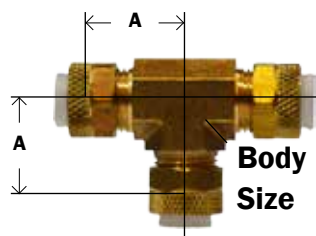
| Part # | Tube O.D. | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------|------|------|------------------|------------|
| 20-333 | 1/4" | 1.31 | 0.56 | 0.07 | 12.61 |
| 20-334 | 3/8" | 1.44 | 0.69 | 0.12 | 16.08 |

1274

FLARELESS

BRASS FITTINGS

UNION TEE

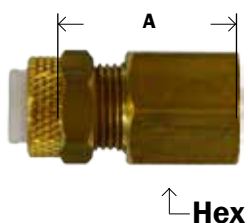


| Part # | Tube O.D. | A | Body Size | Approx. Wt. Lbs. | List Price |
|---------|-------------|------|-----------|------------------|------------|
| 20-248 | 1/8" | 0.62 | 0.31 | 0.02 | 15.05 |
| 20-249 | 3/16" | 0.62 | 0.31 | 0.04 | 13.13 |
| 20-250 | 1/4" | 0.73 | 0.44 | 0.06 | 10.36 |
| 20-251 | 5/16" | 0.62 | 0.37 | 0.08 | 15.00 |
| 20-252 | 3/8" | 0.86 | 0.56 | 0.08 | 11.64 |
| 20-330* | 3/8" x 1/4" | 0.72 | 0.44 | 0.08 | 22.19 |
| 20-253 | 1/2" | 0.81 | 0.62 | 0.24 | 32.11 |

* Reducing Branch

1264 164P 264P

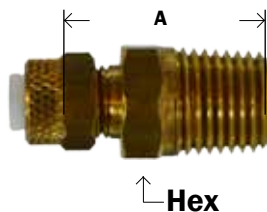
FEMALE CONNECTOR



| Part # | Tube O.D. x Female NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------------------------|------|------|------------------|------------|
| 20-256 | 1/8" x 1/8" | 0.75 | 0.56 | 0.03 | 7.24 |
| 20-257 | 3/16" x 1/8" | 0.78 | 0.56 | 0.05 | 7.08 |
| 20-259 | 1/4" x 1/8" | 0.76 | 0.50 | 0.04 | 8.46 |
| 20-260 | 1/4" x 1/4" | 1.08 | 0.62 | 0.05 | 7.21 |
| 20-261 | 5/16" x 1/8" | 0.75 | 0.50 | 0.03 | 7.92 |
| 20-265 | 3/8" x 1/8" | 0.77 | 0.56 | 0.05 | 14.67 |
| 20-262 | 3/8" x 1/4" | 0.94 | 0.62 | 0.05 | 8.52 |
| 20-263 | 1/2" x 3/8" | 1.00 | 0.81 | 0.12 | 12.89 |

1266 66P 266P

MALE CONNECTOR

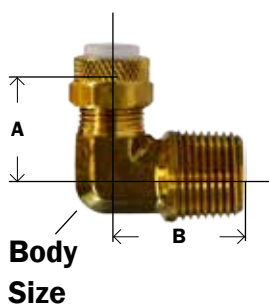


| Part # | Tube O.D. x Male NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------------------|------|------|------------------|------------|
| 20-268 | 1/8" x 1/8" | 0.80 | 0.34 | 0.04 | 5.30 |
| 20-269 | 3/16" x 1/8" | 0.86 | 0.44 | 0.04 | 4.65 |
| 20-271 | 1/4" x 1/8" | 0.82 | 0.44 | 0.03 | 3.67 |
| 20-272 | 1/4" x 1/4" | 1.00 | 0.56 | 0.05 | 4.45 |
| 20-273 | 1/4" x 3/8" | 1.03 | 0.69 | 0.08 | 8.15 |
| 20-274 | 5/16" x 1/8" | 0.81 | 0.44 | 0.04 | 5.03 |
| 20-275 | 5/16" x 1/4" | 1.00 | 0.56 | 0.05 | 5.63 |
| 20-276 | 3/8" x 1/8" | 1.00 | 0.56 | 0.06 | 5.26 |
| 20-277 | 3/8" x 1/4" | 1.03 | 0.56 | 0.08 | 6.74 |
| 20-278 | 3/8" x 3/8" | 1.03 | 0.69 | 0.10 | 8.02 |
| 20-279 | 1/2" x 3/8" | 1.09 | 0.69 | 0.16 | 9.48 |
| 20-282 | 1/2" x 1/2" | 1.33 | 0.88 | 0.18 | 14.99 |

* Furnished with gasket.

1268 68P 268P

MALE ELBOW

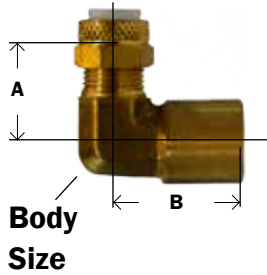


| Part # | Tube O.D. x Male NPTF | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|---------|-----------------------|------|------|-----------|------------------|------------|
| 20-287 | 1/8" x 1/8" | 0.62 | 0.69 | 0.31 | 0.02 | 5.46 |
| 20-288 | 3/16" x 1/8" | 0.62 | 0.69 | 0.37 | 0.04 | 5.58 |
| 20-289* | 1/4" x 1/8" | 0.53 | 0.73 | 0.50 | 0.04 | 4.66 |
| 20-290 | 1/4" x 1/4" | 0.66 | 0.94 | 0.37 | 0.06 | 7.20 |
| 20-291 | 1/4" x 3/8" | 0.75 | 1.03 | 0.50 | 0.10 | 11.69 |
| 20-292 | 5/16" x 1/8" | 0.62 | 0.75 | 0.41 | 0.04 | 5.79 |
| 20-293 | 3/8" x 1/8" | 0.79 | 0.73 | 0.37 | 0.08 | 7.18 |
| 20-294 | 3/8" x 1/4" | 0.72 | 0.94 | 0.44 | 0.10 | 8.57 |
| 20-295 | 3/8" x 3/8" | 0.78 | 1.03 | 0.50 | 0.14 | 10.90 |
| 20-296 | 1/2" x 3/8" | 1.09 | 1.10 | 0.73 | 0.16 | 11.00 |

* Barstock

1269 169P 269P

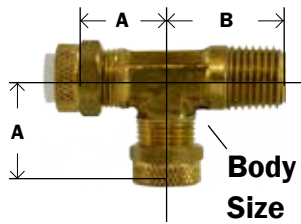
FEMALE ELBOW



| Part # | Tube O.D. x Female NPTF | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|--------|-------------------------|------|------|-----------|------------------|------------|
| 20-300 | 1/8" x 1/8" | 0.69 | 0.55 | 0.56 | 0.02 | 8.28 |
| 20-301 | 3/16" x 1/8" | 0.72 | 0.55 | 0.56 | 0.02 | 9.37 |
| 20-302 | 1/4" x 1/8" | 0.62 | 0.75 | 0.37 | 0.08 | 8.89 |
| 20-303 | 1/4" x 1/4" | 0.72 | 0.88 | 0.50 | 0.10 | 9.85 |
| 20-304 | 3/8" x 1/4" | 0.72 | 0.88 | 0.50 | 0.12 | 9.45 |
| 20-305 | 1/2" x 3/8" | 0.91 | 0.94 | 0.63 | 0.16 | 19.10 |

1270 170P

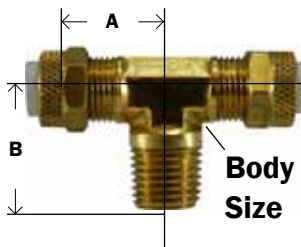
MALE RUN TEE



| Part # | Tube O.D. x Male NPTF | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|--------|-----------------------|------|------|-----------|------------------|------------|
| 20-308 | 1/8" x 1/8" | 0.62 | 0.69 | 0.31 | 0.04 | 11.99 |
| 20-309 | 3/16" x 1/8" | 0.62 | 0.69 | 0.31 | 0.04 | 11.22 |
| 20-310 | 1/4" x 1/8" | 0.62 | 0.75 | 0.37 | 0.08 | 10.81 |
| 20-311 | 1/4" x 1/4" | 0.66 | 0.94 | 0.37 | 0.10 | 14.42 |
| 20-312 | 5/16" x 1/8" | 0.62 | 0.75 | 0.37 | 0.08 | 11.87 |
| 20-313 | 3/8" x 1/4" | 0.66 | 0.94 | 0.44 | 0.10 | 15.17 |
| 20-314 | 1/2" x 3/8" | 0.81 | 1.06 | 0.63 | 0.16 | 19.86 |

1271 171P

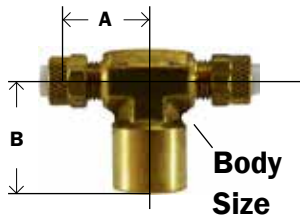
MALE BRANCH TEE



| Part # | Tube O.D. x Male NPTF | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|--------|-----------------------|------|------|-----------|------------------|------------|
| 20-317 | 1/8" x 1/8" | 0.63 | 0.69 | 0.31 | 0.04 | 16.57 |
| 20-318 | 3/16" x 1/8" | 0.63 | 0.69 | 0.31 | 0.04 | 11.69 |
| 20-319 | 1/4" x 1/8" | 0.63 | 0.75 | 0.37 | 0.07 | 10.56 |
| 20-320 | 1/4" x 1/4" | 0.66 | 0.94 | 0.37 | 0.09 | 13.52 |
| 20-321 | 5/16" x 1/8" | 0.63 | 0.75 | 0.37 | 0.10 | 12.13 |
| 20-322 | 3/8" x 1/8" | 0.63 | 0.75 | 0.44 | 0.08 | 18.70 |
| 20-323 | 3/8" x 1/4" | 0.66 | 0.94 | 0.44 | 0.11 | 15.07 |
| 20-324 | 1/2" x 3/8" | 0.81 | 1.06 | 0.63 | 0.21 | 30.76 |

1272 172P 272P

FEMALE BRANCH TEE



| Part # | Tube O.D. x Female NPTF | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|--------|-------------------------|------|------|-----------|------------------|------------|
| 20-327 | 1/4" x 1/8" | 0.66 | 0.94 | 0.37 | 0.12 | 21.24 |
| 20-328 | 1/4" x 1/4" | 0.84 | 1.16 | 0.56 | 0.16 | 18.44 |

1277 177P 277P

FLARELESS

BRASS FITTINGS

UNIVERSAL NUT AND BRASS SLEEVE ASSEMBLY



| Part # | Tube O.D. | Thread | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------|----------|------|------|------------------|------------|
| 20-227 | 1/8" | 5/16-24 | 0.37 | 0.37 | 0.02 | 1.91 |
| 20-228 | 3/16" | 3/8-24 | 0.41 | 0.44 | 0.02 | 2.31 |
| 20-229 | 1/4" | 3/8-24 | 0.34 | 0.43 | 0.02 | 2.50 |
| 20-230 | 5/16" | 7/16-24 | 0.34 | 0.50 | 0.02 | 2.23 |
| 20-231 | 3/8" | 1/2-24 | 0.37 | 0.56 | 0.04 | 3.21 |
| 20-232 | 1/2" | 11/16-20 | 0.42 | 0.81 | 0.04 | 4.32 |

261PFB 1261B 61PB 261UB

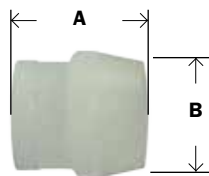
NUT



| Part # | Tube O.D. | Thread | A | Hex (Dia.) | Approx. Wt. Lbs. | List Price |
|--------|-----------|----------|------|------------|------------------|------------|
| 20-218 | 1/8" | 5/16-24 | 0.37 | 0.37 | 0.01 | 1.40 |
| 20-219 | 3/16" | 3/8-24 | 0.41 | 0.44 | 0.01 | 1.20 |
| 20-220 | 1/4" | 3/8-24 | 0.34 | 0.44 | 0.02 | 1.46 |
| 20-221 | 5/16" | 7/16-24 | 0.34 | 0.50 | 0.02 | 0.98 |
| 20-222 | 3/8" | 1/2-24 | 0.38 | 0.56 | 0.04 | 2.08 |
| 20-223 | 1/2" | 11/16-20 | 0.42 | 0.81 | 0.06 | 2.62 |

61PN 1261 261FPN

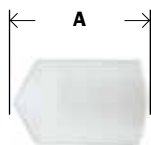
PLASTIC SLEEVE



| Part # | Tube O.D. | A | B | Approx. Wt. Lbs. | List Price |
|--------|-----------|------|------|------------------|------------|
| 20-205 | 1/4" | 0.34 | 0.26 | 0.01 | 0.31 |
| 20-206 | 5/16" | 0.39 | 0.32 | 0.01 | 0.35 |
| 20-207 | 3/8" | 0.41 | 0.38 | 0.01 | 0.74 |
| 20-208 | 1/2" | 0.44 | 0.51 | 0.01 | 1.14 |

260FF 1260 60P 260P

PLASTIC CAP



| Part # | Tube O.D. | A | Approx. Wt. Lbs. | List Price |
|--------|-----------|------|------------------|------------|
| 20-201 | 1/4" | 0.50 | 0.01 | 2.19 |
| 20-203 | 3/8" | 0.56 | 0.01 | 1.75 |
| 20-204 | 1/2" | 0.59 | 0.01 | 2.65 |

1229 59P 259P

PUSH-IN/ PUSH-TO-CONNECT FITTINGS

BRASS PUSH-IN

PAGE 95-99



NICKEL PLATED BRASS PUSH-IN

PAGE 100-104



BALL VALVES FOR N/P PUSH-IN

PAGE 105



METRIC N/P BRASS PUSH-IN

PAGE 106-108



COMPOSITE BODY PUSH-IN

PAGE 109-113



COMPOSITE BODY METRIC PUSH-IN

PAGE 114-116



PLASTIC PUSH-IN

PAGE 298-299



DOT BRASS PUSH-IN

PAGE 117-123



DOT COMPOSITE PUSH-IN

PAGE 124-128

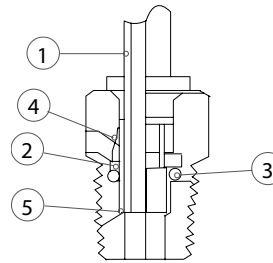


BRASS PUSH-IN FITTINGS



ENGINEERING AND DESIGN

- **QUICK CONNECT**, simply push tubing in, no tools. Saves up to 75% of assembly time of standard compression fittings.
- **QUICK DISCONNECT**, hold two fingers on insert and pull tubing out, no tools required.
- **REUSEABLE**, connect and disconnect numerous times.
- **FULL FLOW DESIGN**, provides up to 60% more flow area than conventional fittings with internal tube supports.
- **POSITIVE SEAL**, no leaks. After tubing is inserted, seal is made.
- **VERSATILE**, BunaN "O" rings standard. Other materials of "O" rings available.
- **SECURE TUBE RETENTION**, pulling on tubing only serves to tighten the connection.
- **SELF CONTAINED ASSEMBLY**, no loose parts, brass body and insert.
- **BRASS CONSTRUCTION**, elbows and tees are forged brass.
- **CHOICE** of convenient swivel or economical stationary elbows and tees.
- **STRAIGHT CONNECTORS** have interior hex for Allen key tightening where space is limited...no need to use a wrench.
- **PRE-APPLIED TEFLON®** based pipe sealant on all male pipe threads, saving customer additional labor.
- **METRIC SIZES AVAILABLE**: Metric tube sizes from 2mm through 12mm in both standard NPT and metric pipe sizes are available on a special order basis.
- **WORKING PRESSURE**:
The fitting is suitable for use up to the maximum working pressure of the plastic tubing used.
- **WORKING TEMPERATURE**:
-10°F to 200°F (other ranges available on request).
- **PIPE THREAD**: NPTF with Teflon® based sealant pre-applied.



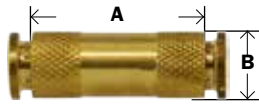
When tubing (1) is inserted into the fitting, it first passes through the gripping teeth (2). Just beyond the gripping teeth is the o-ring (3) which provides the leak proof seal against the OD of the tube. The gripping teeth grab the tube, which

expands the insert. Pulling back on the tube only tightens the grip as the insert moves onto the camming surface (4). Pressure through the tube also serves to tighten the grip. The tube bottoms against a positive tube stop (5) in a cavity providing tube support to prevent leakage.

• Tolerance

+/- .02 on all dimensions. Dimension data can change without notice. Please call us when dimensions are critical

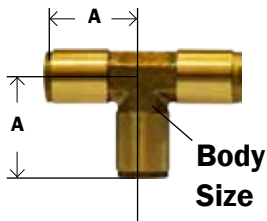
UNION CONNECTOR



| Part # | Tube O.D. | A | B | Approx. Wt. Lbs. | List Price |
|--------|-------------|------|------|------------------|------------|
| 20-017 | 1/8" | 1.07 | 0.38 | 0.03 | 5.83 |
| 20-018 | 5/32" | 1.07 | 0.38 | 0.03 | 7.62 |
| 20-019 | 1/4" | 1.50 | 0.44 | 0.05 | 7.26 |
| 20-022 | 3/8" x 1/4" | 1.46 | 0.56 | 0.05 | 9.80 |
| 20-020 | 3/8" | 1.44 | 0.56 | 0.06 | 10.08 |
| 20-021 | 1/2" | 1.63 | 0.81 | 0.18 | 14.75 |

AQ62 6580 3106 62PL KQH 12-020 50-562 262-OF 1162 262PP

UNION TEE

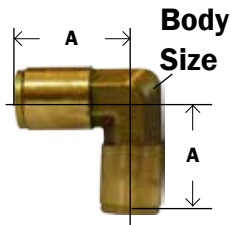


| Part # | Tube O.D. | A | Body Size | Approx. Wt. Lbs. | List Price |
|---------|-----------|------|-----------|------------------|------------|
| 20-025 | 1/8" | 0.65 | 0.31 | 0.04 | 6.66 |
| 20-026 | 5/32" | 0.67 | 0.31 | 0.04 | 8.28 |
| 20-027 | 3/16" | 0.75 | 0.37 | 0.06 | 14.68 |
| 20-028 | 1/4" | 0.92 | 0.37 | 0.09 | 10.04 |
| 20-031* | 5/16" | 0.89 | 0.49 | 0.10 | 28.36 |
| 20-029 | 3/8" | 0.98 | 0.50 | 0.13 | 13.80 |
| 20-030 | 1/2" | 1.16 | 0.62 | 0.24 | 21.20 |

* Nickel Plated

KQT 12-060 50-564 264OF 264PP 1164 AQ64 6540 3140

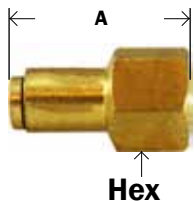
UNION ELBOW



| Part # | Tube O.D. | A | Body Size | Approx. Wt. Lbs. | List Price |
|--------|-----------|------|-----------|------------------|------------|
| 20-150 | 1/8" | 0.65 | 0.31 | 0.02 | 12.05 |
| 20-151 | 5/32" | 0.67 | 0.31 | 0.04 | 10.94 |
| 20-152 | 1/4" | 0.87 | 0.37 | 0.06 | 10.94 |
| 20-155 | 5/16" | 0.91 | 0.47 | 0.08 | 34.03 |
| 20-153 | 3/8" | 0.97 | 0.50 | 0.09 | 13.75 |
| 20-154 | 1/2" | 1.15 | 0.62 | 0.18 | 19.44 |

AQ65 6550 3102 165PL KQL 12-040 50-565 265-OF

FEMALE CONNECTOR



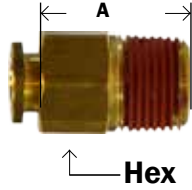
| Part # | Tube O.D. x Female NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------------------------|------|------|------------------|------------|
| 20-032 | 1/8" x 1/8" | 0.96 | 0.56 | 0.04 | 10.45 |
| 20-038 | 1/8" x 1/4" | 1.04 | 0.67 | 0.04 | 29.02 |
| 20-012 | 5/32" x 1/8" | 1.09 | 0.56 | 0.05 | 14.95 |
| 20-034 | 1/4" x 1/8" | 1.23 | 0.56 | 0.06 | 7.03 |
| 20-035 | 1/4" x 1/4" | 1.42 | 0.75 | 0.09 | 12.58 |
| 20-036 | 3/8" x 1/4" | 1.32 | 0.75 | 0.09 | 17.81 |
| 20-037 | 3/8" x 3/8" | 1.31 | 0.87 | 0.12 | 10.87 |

266PP AQ66 6463 3114 66PL 12-426 50-566 266-OF 1166

BRASS PUSH-IN FITTINGS

BRASS FITTINGS

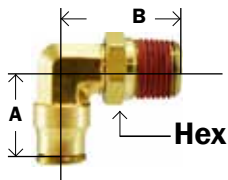
MALE CONNECTOR



| Part # | Tube O.D. x Male NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|---------|--------------------------|------|------|---------------------|------------|
| 20-047* | 1/8" x 10-32** | 0.69 | 0.37 | 0.02 | 5.71 |
| 20-045 | 1/8" x 1/16" | 0.68 | 0.37 | 0.02 | 11.43 |
| 20-048 | 1/8" x 1/8" | 0.61 | 0.43 | 0.02 | 3.99 |
| 20-023 | 1/8" x 1/4" | 0.98 | 0.56 | 0.04 | 5.85 |
| 20-049* | 5/32" x 10-32** | 0.67 | 0.37 | 0.02 | 6.30 |
| 20-050 | 5/32" x 1/8" | 0.67 | 0.43 | 0.03 | 4.85 |
| 20-046 | 5/32" x 1/4" | 0.85 | 0.56 | 0.05 | 10.09 |
| 20-051* | 3/16" x 10-32** | 0.80 | 0.37 | 0.02 | 2.69 |
| 20-052 | 3/16" x 1/8" | 0.93 | 0.43 | 0.03 | 6.02 |
| 20-053* | 1/4" x 10-32** | 0.70 | 0.43 | 0.03 | 4.31 |
| 20-039 | 1/4" x 1/16" | 0.92 | 0.43 | 0.06 | 10.84 |
| 20-054 | 1/4" x 1/8" | 0.93 | 0.43 | 0.06 | 4.67 |
| 20-055 | 1/4" x 1/4" | 0.93 | 0.56 | 0.10 | 5.51 |
| 20-056 | 1/4" x 3/8" | 0.94 | 0.68 | 0.08 | 7.84 |
| 20-530 | 5/16" x 1/8" | 1.07 | 0.56 | 0.05 | 17.71 |
| 20-531 | 5/16" x 1/4" | 0.98 | 0.56 | 0.10 | 18.64 |
| 20-532 | 5/16" x 3/8" | 1.06 | 0.75 | 0.08 | 21.92 |
| 20-057 | 3/8" x 1/8" | 1.10 | 0.56 | 0.06 | 7.68 |
| 20-058 | 3/8" x 1/4" | 1.11 | 0.56 | 0.05 | 7.13 |
| 20-059 | 3/8" x 3/8" | 1.02 | 0.68 | 0.08 | 7.61 |
| 20-062 | 3/8" x 1/2" | 1.02 | 0.87 | 0.08 | 13.13 |
| 20-060 | 1/2" x 1/4" | 1.36 | 0.81 | 0.11 | 9.88 |
| 20-061 | 1/2" x 3/8" | 1.30 | 0.81 | 0.12 | 11.36 |
| 20-063 | 1/2" x 1/2" | 1.23 | 0.87 | 0.14 | 14.34 |

* Furnished with gaskets 268PP AQ68 6510 3115 68PL KQH 12-425 50-568 268-OF 1168

SWIVEL MALE ELBOW



| Part # | Tube O.D. x Male NPTF | A | B | Hex | Approx. Wt. Lbs. | List Price |
|----------|--------------------------|------|------|------|---------------------|------------|
| 20-079 | 1/8" x 1/8" | 0.69 | 0.98 | 0.43 | 0.07 | 7.51 |
| 20-535* | 1/8" x 1/4" | 0.76 | 0.87 | 0.56 | 0.06 | 22.41 |
| 20-076** | 5/32" x 10-32" | 0.67 | 0.71 | 0.37 | 0.04 | 15.56 |
| 20-080 | 5/32" x 1/8" | 0.68 | 0.89 | 0.43 | 0.05 | 8.24 |
| 20-077 | 5/32" x 1/4" | 0.68 | 1.08 | 0.56 | 0.07 | 12.18 |
| 20-078** | 1/4" x 10-32" | 0.86 | 0.79 | 0.31 | 0.05 | 11.28 |
| 20-081 | 1/4" x 1/8" | 0.90 | 0.93 | 0.37 | 0.08 | 7.32 |
| 20-082 | 1/4" x 1/4" | 0.90 | 0.99 | 0.56 | 0.10 | 8.29 |
| 20-086 | 1/4" x 3/8" | 0.98 | 1.14 | 0.68 | 0.09 | 16.03 |
| 20-538* | 5/16" x 1/4" | 0.91 | 0.85 | 0.56 | 0.07 | 23.79 |
| 20-539* | 5/16" x 3/8" | 0.91 | 0.87 | 0.75 | 0.08 | 37.88 |
| 20-087 | 3/8" x 1/8" | 1.00 | 1.06 | 0.43 | 0.09 | 12.74 |
| 20-083 | 3/8" x 1/4" | 0.99 | 1.15 | 0.56 | 0.10 | 10.20 |
| 20-084 | 3/8" x 3/8" | 1.00 | 1.24 | 0.68 | 0.20 | 11.67 |
| 20-088 | 3/8" x 1/2" | 1.00 | 1.54 | 0.87 | 0.19 | 19.03 |
| 20-085 | 1/2" x 3/8" | 1.16 | 1.34 | 0.68 | 0.18 | 14.70 |
| 20-092 | 1/2" x 1/2" | 1.16 | 1.51 | 0.87 | 0.24 | 20.91 |

* Nickel Plated

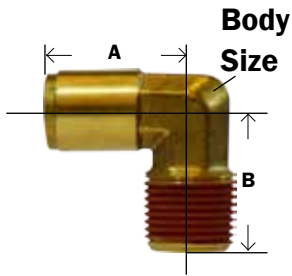
aq69-ps 56520 3109 169pl kql 12-447 50-579 269-OFS 11695

** Furnished with gaskets

BRASS FITTINGS

BRASS PUSH-IN FITTINGS

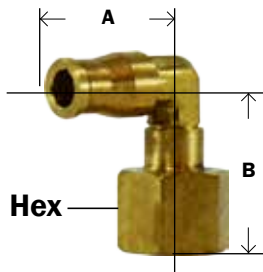
FIXED MALE ELBOW



| Part # | Tube O.D. x Male NPTF | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|--------|-----------------------|------|------|-----------|------------------|------------|
| 20-065 | 1/8" x 1/8" | 0.69 | 0.69 | 0.31 | 0.03 | 7.57 |
| 20-066 | 5/32" x 1/8" | 0.68 | 0.68 | 0.31 | 0.03 | 11.86 |
| 20-067 | 3/16" x 1/8" | 0.75 | 0.71 | 0.37 | 0.04 | 8.56 |
| 20-068 | 1/4" x 1/8" | 0.89 | 0.75 | 0.37 | 0.06 | 6.29 |
| 20-069 | 1/4" x 1/4" | 0.95 | 0.96 | 0.37 | 0.08 | 6.13 |
| 20-070 | 1/4" x 3/8" | 1.00 | 0.98 | 0.50 | 0.10 | 12.06 |
| 20-071 | 3/8" x 1/8" | 0.99 | 0.80 | 0.50 | 0.06 | 10.39 |
| 20-072 | 3/8" x 1/4" | 0.98 | 0.98 | 0.50 | 0.09 | 8.24 |
| 20-073 | 3/8" x 3/8" | 0.97 | 0.98 | 0.50 | 0.12 | 15.31 |
| 20-074 | 1/2" x 1/4" | 1.15 | 1.05 | 0.62 | 0.15 | 13.20 |
| 20-075 | 1/2" x 3/8" | 1.18 | 1.05 | 0.62 | 0.22 | 12.85 |
| 20-064 | 1/2" x 1/2" | 1.16 | 1.66 | 0.62 | 0.20 | 15.11 |

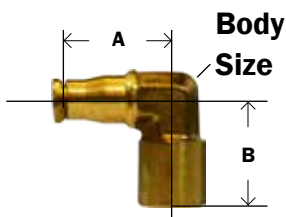
269PP AQ69-P 6500 169PLNS 12-445 1169

FEMALE SWIVEL ELBOW



| Part # | Tube O.D. x Female NPTF | A | B | Hex | List Price |
|---------|-------------------------|------|------|------|------------|
| 20-094S | 5/32" x 1/8" | 0.76 | 1.06 | 0.56 | 16.12 |
| 20-089S | 1/4" x 1/8" | 0.98 | 1.08 | 0.56 | 15.83 |
| 20-090S | 1/4" x 1/4" | 0.98 | 1.26 | 0.75 | 14.33 |
| 20-091S | 3/8" x 1/4" | 1.07 | 1.48 | 0.75 | 20.92 |

FEMALE ELBOW



| Part # | Tube O.D. x Female NPTF | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|--------|-------------------------|------|------|-----------|------------------|------------|
| 20-192 | 1/8" x 1/8" | 0.78 | 0.82 | 0.31 | 0.02 | 8.65 |
| 20-094 | 5/32" x 1/8" | 0.68 | 0.82 | 0.37 | 0.02 | 10.27 |
| 20-089 | 1/4" x 1/8" | 0.91 | 0.75 | 0.37 | 0.06 | 11.82 |
| 20-090 | 1/4" x 1/4" | 1.03 | 1.03 | 0.50 | 0.11 | 13.82 |
| 20-091 | 3/8" x 1/4" | 0.98 | 0.95 | 0.50 | 0.16 | 21.10 |

AQ70-P 3009

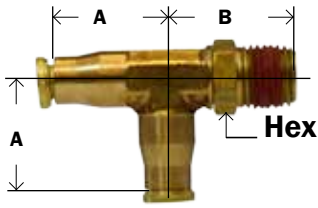
May your choices reflect your hopes, not your fears.

- Nelson Mandela

BRASS PUSH-IN FITTINGS

BRASS FITTINGS

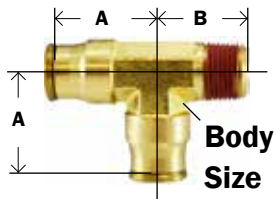
SWIVEL MALE RUN TEE



| Part # | Tube O.D. x Male NPTF | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------------------|------|------|------|------------------|------------|
| 20-160 | 1/8" x 1/8" | 0.65 | 0.86 | 0.43 | 0.08 | 11.67 |
| 20-161 | 5/32" x 1/8" | 0.67 | 1.04 | 0.43 | 0.09 | 13.95 |
| 20-162 | 1/4" x 1/8" | 0.92 | 1.04 | 0.44 | 0.09 | 12.98 |
| 20-163 | 1/4" x 1/4" | 0.92 | 1.13 | 0.56 | 0.11 | 14.58 |
| 20-164 | 3/8" x 1/4" | 0.94 | 1.19 | 0.56 | 0.11 | 15.05 |
| 20-165 | 3/8" x 3/8" | 0.96 | 1.24 | 0.50 | 0.12 | 24.21 |
| 20-174 | 1/2" x 1/4" | 1.12 | 1.18 | 0.51 | 0.16 | 66.30 |
| 20-166 | 1/2" x 3/8" | 1.14 | 1.31 | 0.68 | 0.14 | 27.69 |
| 20-167 | 1/2" x 1/2" | 1.14 | 1.61 | 0.87 | 0.16 | 34.91 |

AQ71-PS 56440 3103 171PL KQY 12-468 50-571 271-OFS 11715

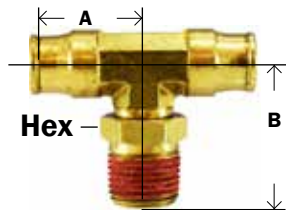
FIXED MALE RUN TEE



| Part # | Tube O.D. x Male NPTF | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|--------|-----------------------|------|------|-----------|------------------|------------|
| 20-095 | 1/8" x 1/8" | 0.65 | 0.72 | 0.31 | 0.04 | 13.49 |
| 20-097 | 3/16" x 1/8" | 0.75 | 0.73 | 0.37 | 0.06 | 16.74 |
| 20-098 | 1/4" x 1/8" | 0.92 | 0.74 | 0.37 | 0.08 | 12.90 |
| 20-093 | 1/4" x 1/4" | 0.92 | 0.92 | 0.43 | 0.10 | 14.50 |
| 20-099 | 3/8" x 1/8" | 0.94 | 0.82 | 0.50 | 0.14 | 15.56 |
| 20-100 | 3/8" x 1/4" | 0.98 | 0.98 | 0.50 | 0.12 | 18.59 |
| 20-101 | 3/8" x 3/8" | 1.05 | 1.05 | 0.62 | 0.10 | 18.77 |
| 20-102 | 1/2" x 3/8" | 1.14 | 1.05 | 0.62 | 0.18 | 27.82 |

AQ71-P

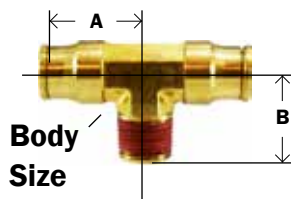
SWIVEL MALE BRANCH TEE



| Part # | Tube O.D. x Male NPTF | A | B | Hex | Approx. Wt. Lbs. | List Price |
|---------|-----------------------|------|------|------|------------------|------------|
| 20-103 | 1/8" x 1/8" | 0.65 | 0.81 | 0.31 | 0.04 | 19.56 |
| 20-104* | 5/32" x 10-32** | 0.65 | 0.71 | 0.31 | 0.04 | 24.76 |
| 20-109 | 5/32" x 1/8" | 0.67 | 0.94 | 0.37 | 0.06 | 16.11 |
| 20-105 | 1/4" x 1/8" | 0.92 | 0.97 | 0.37 | 0.08 | 15.84 |
| 20-106 | 1/4" x 1/4" | 0.92 | 1.09 | 0.55 | 0.10 | 12.09 |
| 20-107 | 3/8" x 1/4" | 0.96 | 1.14 | 0.56 | 0.18 | 16.36 |
| 20-108 | 3/8" x 3/8" | 0.96 | 1.23 | 0.69 | 0.16 | 22.24 |
| 20-110 | 1/2" x 3/8" | 1.16 | 1.34 | 0.69 | 0.24 | 26.94 |
| 20-111 | 1/2" x 1/2" | 1.16 | 1.64 | 0.87 | 0.28 | 32.30 |

* Furnished with gaskets

FIXED MALE BRANCH TEE



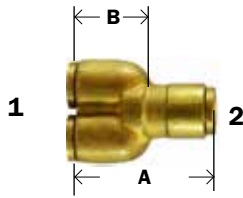
| Part # | Tube O.D. x Male NPTF | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|--------|-----------------------|------|------|-----------|------------------|------------|
| 20-112 | 1/8" x 1/8" | 0.69 | 0.72 | 0.31 | 0.04 | 13.08 |
| 20-113 | 5/32" x 1/8" | 0.69 | 0.65 | 0.31 | 0.04 | 14.92 |
| 20-115 | 1/4" x 1/8" | 0.92 | 0.74 | 0.37 | 0.12 | 13.73 |
| 20-116 | 1/4" x 1/4" | 0.91 | 0.91 | 0.43 | 0.10 | 14.06 |
| 20-117 | 3/8" x 1/8" | 0.98 | 0.80 | 0.50 | 0.08 | 17.30 |
| 20-118 | 3/8" x 1/4" | 0.98 | 0.97 | 0.50 | 0.12 | 18.33 |
| 20-119 | 3/8" x 3/8" | 0.98 | 0.97 | 0.50 | 0.14 | 19.04 |
| 20-120 | 1/2" x 3/8" | 1.16 | 1.05 | 0.62 | 0.18 | 26.40 |

AQ72-P

BRASS FITTINGS

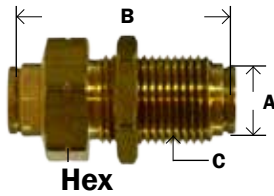
BRASS PUSH-IN FITTINGS

UNION "Y"



| Part # | Tube O.D. 1 X 2 | A | B | Approx. Wt. Lbs. | List Price |
|--------|--------------------|------|------|---------------------|------------|
| 20-551 | 5/32" x 5/32" | 1.36 | 0.81 | 0.11 | 59.99 |
| 20-552 | 1/4" x 1/8" | 1.61 | 1.06 | 0.12 | 40.05 |
| 20-553 | 1/4" x 1/4" | 1.81 | 1.16 | 0.14 | 37.39 |

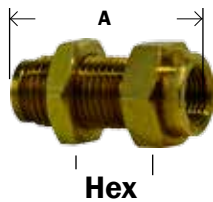
BULKHEAD UNION



| Part # | Tube O.D. A | B | C | Hex | Approx. Wt. Lbs. | List Price |
|--------|----------------|------|----------|------|---------------------|------------|
| 20-124 | 1/8" | 1.12 | 7/16-20 | 0.62 | 0.03 | 28.39 |
| 20-125 | 5/32" | 1.12 | 7/16-20 | 0.62 | 0.03 | 31.09 |
| 20-126 | 3/16" | 1.27 | 1/2-20 | 0.68 | 0.04 | 27.24 |
| 20-127 | 1/4" | 1.69 | 1/2-20 | 0.68 | 0.06 | 18.10 |
| 20-128 | 3/8" | 1.69 | 3/4-16 | 0.81 | 0.13 | 23.60 |
| 20-129 | 1/2" | 1.85 | 15/16-20 | 1.12 | 0.16 | 38.12 |

AQ82-P 6590 62PLBH KQE 12-029 50-582 282-OF 1174

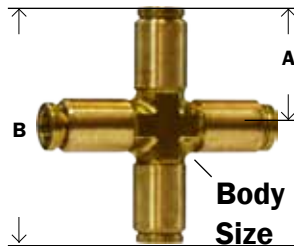
FEMALE BULKHEAD UNION



| Part # | Tube O.D. x Female NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|----------------------------|------|------|---------------------|------------|
| 20-170 | 1/4" x 1/8" | 1.19 | 0.68 | 0.08 | 16.34 |
| 20-171 | 1/4" x 1/4" | 1.36 | 0.75 | 0.10 | 23.23 |
| 20-172 | 3/8" x 1/4" | 1.71 | 0.75 | 0.14 | 25.36 |

AQ86-P 1166BH

CROSS



| Size | Size | A | B | Body Size | List Price |
|--------|------|------|------|-----------|------------|
| 20-142 | 1/4" | 1.03 | 2.06 | 0.37 | 26.87 |
| 20-143 | 3/8" | 1.06 | 2.12 | 0.50 | 26.33 |

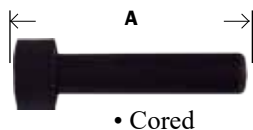
REDUCER - NICKEL PLATED - TUBE OD X STUD



| Part # | Tube O.D. 1 X 2 | A | B | Approx. Wt. Lbs. | List Price |
|--------|--------------------|------|------|---------------------|------------|
| 20-510 | 1/8" x 1/4" | 1.38 | 0.39 | 0.02 | 16.78 |
| 20-511 | 5/32" x 1/4" | 1.33 | 0.35 | 0.02 | 16.94 |
| 20-512 | 1/4" x 3/8" | 1.50 | 0.51 | 0.04 | 20.07 |

67PPL 286PP

PLASTIC PLUG



| Part # | Tube O.D. | A | Approx. Wt. Lbs. | List Price |
|--------|-----------|------|---------------------|------------|
| 20-009 | 5/32" | 1.16 | 0.01 | 1.56 |
| 20-010 | 1/4" | 1.40 | 0.01 | 1.90 |
| 20-011 | 3/8" | 1.40 | 0.02 | 3.60 |
| 20-013 | 1/2" | 1.50 | 0.02 | 4.73 |

284PP AQ59 209-OF 1129 6900 639PL 12-004 50-526

NICKEL PLATED PUSH-IN FITTINGS

with GLOBAL THREAD

• NPTF • BSPP • BSPT • ISO 7 • ISO 228 • G THREAD • J THREAD



- Saves time and money
- No stripped threads
- No stripped parts
- Reduce inventory
- Completely reusable
- Quick installation
- No pitch identification

| Component Parts and Materials | |
|-------------------------------|------------------------------------|
| Body | Brass - Nickel Plated |
| Thrust Ring | Acetalic Resin/ Glass filled Nylon |
| Sleeve | Brass - Nickel Plated |
| Gripper Collet | Stainless Steel |
| Safety Ring | PA66 |
| Lip Seal (1/8 O-Ring Seal) | NBR 70 |
| Thread Seal | NBR 70 |

Max Operating Pressure: 0-250 psi (17 bar) Vacuum service.

Min Temperature: 0°F (-18°C)

Max Temperature: 160°F (+70°C)

Tubing: Nylon, Polyethylene, Polyurethane.

- For best results use 95 Durometer

Media: Compressed air, water.

• Tolerance

+/- .02 on all dimensions. Dimension data can change without notice. Please call us when dimensions are critical.

GLOBAL THREAD

Works With Inch or Metric Threads

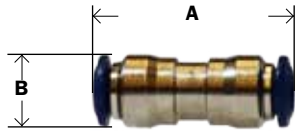


“Global Thread” fittings can be assembled with female threads produced to the following standards:

- Tapered NPTF
- Parrallel (BSPP, BSP, ISO 7)
- Tapered (BSPT, PT, ISO 7, ISO 228)

NICKEL PLATED PUSH-IN FITTINGS

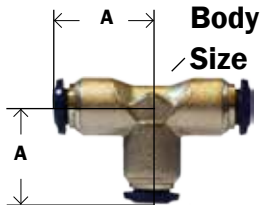
UNION CONNECTOR



| Part # | Tube O.D. | A | B | Approx. Wt. Lbs. | List Price |
|---------|--------------|------|------|------------------|------------|
| 20-017N | 1/8" | 1.06 | 0.34 | 0.03 | 7.54 |
| 20-018N | 5/32" | 1.20 | 0.41 | 0.03 | 7.62 |
| 20-016N | 5/32" x 1/4" | 1.20 | 0.40 | 0.04 | 8.15 |
| 20-019N | 1/4" | 1.38 | 0.49 | 0.05 | 7.32 |
| 20-015N | 5/16" | 1.46 | 0.57 | 0.06 | 8.22 |
| 20-020N | 3/8" | 1.69 | 0.69 | 0.06 | 10.90 |
| 20-022N | 3/8" x 1/4" | 1.69 | 0.68 | 0.06 | 10.98 |
| 20-021N | 1/2" | 1.93 | 0.81 | 0.18 | 15.09 |
| 20-024N | 1/2" x 3/8" | 1.84 | 0.80 | 0.17 | 13.01 |

62PL 88040

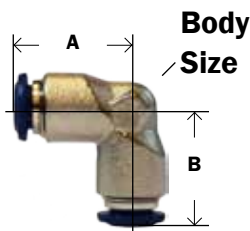
UNION TEE



| Part # | Tube O.D. | A | Body Size | Approx. Wt. Lbs. | List Price |
|---------|-----------|------|-----------|------------------|------------|
| 20-025N | 1/8" | 0.67 | 0.35 | 0.04 | 11.10 |
| 20-026N | 5/32" | 0.67 | 0.35 | 0.04 | 21.26 |
| 20-028N | 1/4" | 0.83 | 0.43 | 0.09 | 11.77 |
| 20-031N | 5/16" | 0.87 | 0.51 | 0.10 | 16.22 |
| 20-029N | 3/8" | 1.04 | 0.63 | 0.13 | 16.21 |
| 20-030N | 1/2" | 1.20 | 0.74 | 0.24 | 22.46 |

164PL 88230

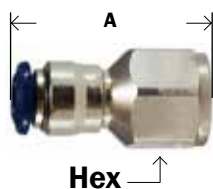
UNION ELBOW



| Part # | Tube O.D. | A | Body Size | Approx. Wt. Lbs. | List Price |
|---------|-----------|------|-----------|------------------|------------|
| 20-150N | 1/8" | 0.67 | 0.35 | 0.02 | 10.26 |
| 20-151N | 5/32" | 0.67 | 0.35 | 0.04 | 8.51 |
| 20-152N | 1/4" | 0.83 | 0.43 | 0.06 | 8.79 |
| 20-155N | 5/16" | 0.87 | 0.51 | 0.08 | 10.81 |
| 20-153N | 3/8" | 1.04 | 0.63 | 0.09 | 13.12 |
| 20-154N | 1/2" | 1.20 | 0.75 | 0.18 | 18.93 |

165PL 88130

FEMALE CONNECTOR



| Part # | Tube O.D. x Female NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|---------|-------------------------|------|------|------------------|------------|
| 20-032N | 1/8" x 1/8" | 0.93 | 0.51 | 0.04 | 12.43 |
| 20-038N | 1/8" x 1/4" | 1.14 | 0.63 | 0.04 | 11.28 |
| 20-034N | 1/4" x 1/8" | 1.06 | 0.51 | 0.06 | 9.94 |
| 20-035N | 1/4" x 1/4" | 1.26 | 0.63 | 0.09 | 10.90 |
| 20-036N | 3/8" x 1/4" | 1.38 | 0.71 | 0.09 | 18.60 |
| 20-037N | 3/8" x 3/8" | 1.38 | 0.79 | 0.12 | 18.24 |

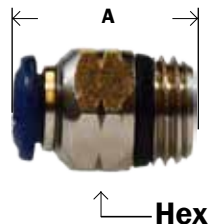
66PL 88030

Today is a GOOD day.

NICKEL PLATED PUSH-IN FITTINGS

BRASS FITTINGS

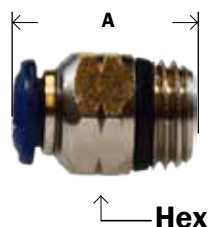
MALE CONNECTOR



NEW

| Part # | Tube O.D. x Male Global Thread | A | Hex | Approx. Wt. Lbs. | List Price |
|---------|-----------------------------------|------|------|---------------------|------------|
| 20-047N | 1/8" x 10-32" | 0.75 | 0.31 | 0.02 | 6.02 |
| 20-048N | 1/8" x 1/8" | 0.77 | 0.43 | 0.02 | 5.48 |
| 20-023N | 1/8" x 1/4" | 0.97 | 0.55 | 0.04 | 5.36 |
| 20-049N | 5/32" x 10-32" | 0.83 | 0.39 | 0.02 | 5.91 |
| 20-050N | 5/32" x 1/8" | 0.83 | 0.43 | 0.03 | 4.58 |
| 20-046N | 5/32" x 1/4" | 0.98 | 0.55 | 0.05 | 7.14 |
| 20-053N | 1/4" x 10-32" | 0.97 | 0.51 | 0.03 | 6.76 |
| 20-054N | 1/4" x 1/8" | 0.98 | 0.51 | 0.06 | 4.71 |
| 20-055N | 1/4" x 1/4" | 0.98 | 0.55 | 0.10 | 5.39 |
| 20-056N | 1/4" x 3/8" | 0.98 | 0.71 | 0.08 | 6.89 |
| 20-530N | 5/16" x 1/8" | 0.98 | 0.55 | 0.05 | 7.87 |
| 20-531N | 5/16" x 1/4" | 1.08 | 0.55 | 0.10 | 7.82 |
| 20-532N | 5/16" x 3/8" | 1.08 | 0.71 | 0.08 | 9.60 |
| 20-057N | 3/8" x 1/8" | 1.38 | 0.67 | 0.06 | 7.82 |
| 20-058N | 3/8" x 1/4" | 1.32 | 0.67 | 0.05 | 7.28 |
| 20-059N | 3/8" x 3/8" | 1.32 | 0.71 | 0.08 | 8.11 |
| 20-062N | 3/8" x 1/2" | 1.32 | 0.87 | 0.08 | 14.58 |
| 20-841N | 1/2" x 1/8" | 1.03 | 0.79 | 0.12 | 10.22 |
| 20-060N | 1/2" x 1/4" | 1.54 | 0.79 | 0.11 | 10.52 |
| 20-061N | 1/2" x 3/8" | 1.42 | 0.79 | 0.12 | 12.80 |
| 20-063N | 1/2" x 1/2" | 1.58 | 0.87 | 0.14 | 15.69 |

MALE CONNECTOR WITH INTERNAL HEX

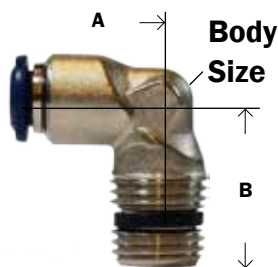


NEW

| Part # | Tube O.D. x Male Global Thread | A | Hex | Approx. Wt. Lbs. | List Price |
|---------|-----------------------------------|------|------|---------------------|------------|
| 20-842N | 1/8" x 10-32" UNF | 0.71 | 0.10 | 0.02 | 5.79 |
| 20-847N | 5/32" x 10-32 UNF | 0.79 | 0.10 | 0.02 | 5.79 |
| 20-846N | 5/32" x 1/8" | 0.71 | 0.12 | 0.03 | 5.01 |
| 20-845N | 1/4" x 10-32" UNF | 0.93 | 0.10 | 0.03 | 5.79 |
| 20-843N | 1/4" x 1/8" | 0.93 | 0.16 | 0.06 | 5.79 |
| 20-844N | 1/4" x 1/4" | 0.85 | 0.16 | 0.10 | 6.28 |

68PL 87000

FIXED MALE ELBOW



| Part # | Tube O.D. x Male NPTF | A | B | Body Size | Approx. Wt. Lbs. | List Price |
|---------|--------------------------|------|------|--------------|---------------------|------------|
| 20-068N | 1/4" x 1/8" | 0.83 | 0.73 | 0.43 | 0.06 | 6.30 |
| 20-069N | 1/4" x 1/4" | 0.83 | 0.91 | 0.43 | 0.08 | 6.89 |
| 20-072N | 3/8" x 1/4" | 1.04 | 1.04 | 0.63 | 0.09 | 10.88 |
| 20-073N | 3/8" x 3/8" | 1.04 | 1.00 | 0.63 | 0.12 | 11.77 |

W169PLNS 8100

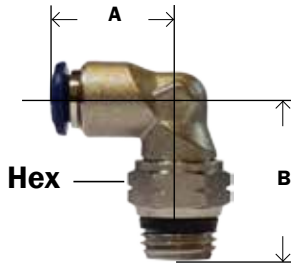
The more I want to get something done, the less I call it work.

- Richard Bach

BRASS FITTINGS

NICKEL PLATED PUSH-IN FITTINGS

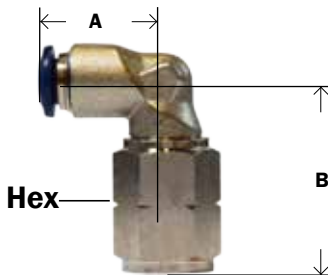
SWIVEL MALE ELBOW



| Part # | Tube O.D. x Male Global Thread | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------------------|-----------------------------------|------|------|------|---------------------|------------|
| 20-079N | 1/8" x 1/8" | 0.67 | 0.78 | 0.51 | 0.07 | 7.96 |
| 20-535N | 1/8" x 1/4" | 0.67 | 0.95 | 0.59 | 0.06 | 10.04 |
| 20-076N | 5/32" x 10-32" | 0.67 | 0.95 | 0.59 | 0.04 | 9.70 |
| 20-080N | 5/32" x 1/8" | 0.67 | 0.79 | 0.51 | 0.05 | 8.49 |
| NEW 20-848N | 5/32" x 1/4" | 0.67 | 1.00 | 0.59 | 0.05 | 9.70 |
| 20-081N | 1/4" x 1/8" | 0.83 | 0.87 | 0.51 | 0.08 | 7.81 |
| 20-082N | 1/4" x 1/4" | 0.83 | 0.98 | 0.59 | 0.10 | 8.71 |
| 20-086N | 1/4" x 3/8" | 0.83 | 1.10 | 0.67 | 0.09 | 14.49 |
| NEW 20-537N | 5/16" x 1/8" | 0.91 | 0.98 | 0.51 | 0.06 | 8.21 |
| 20-538N | 5/16" x 1/4" | 0.89 | 1.02 | 0.59 | 0.07 | 11.28 |
| 20-539N | 5/16" x 3/8" | 0.87 | 1.10 | 0.67 | 0.08 | 13.65 |
| 20-087N | 3/8" x 1/8" | 1.04 | 1.02 | 0.51 | 0.09 | 13.38 |
| 20-083N | 3/8" x 1/4" | 1.04 | 1.10 | 0.59 | 0.10 | 11.31 |
| 20-084N | 3/8" x 3/8" | 1.04 | 1.18 | 0.67 | 0.20 | 14.06 |
| 20-088N | 3/8" x 1/2" | 1.04 | 1.30 | 0.83 | 0.19 | 19.11 |
| NEW 20-184N | 1/2" x 1/4" | 1.24 | 1.30 | 0.59 | 0.17 | 17.59 |
| 20-085N | 1/2" x 3/8" | 1.20 | 1.24 | 0.59 | 0.18 | 17.77 |
| 20-092N | 1/2" x 1/2" | 1.20 | 1.42 | 0.83 | 0.24 | 19.97 |

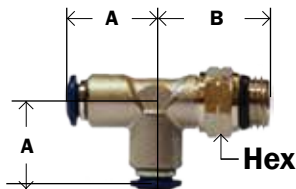
W169PL 87110

FEMALE SWIVEL ELBOW



| Part # | Tube O.D. x Female NPTF | A | B | Hex | List Price |
|---------|----------------------------|-------|-------|-------|------------|
| 20-094N | 5/32" x 1/8" | 0.669 | 0.994 | 0.354 | 9.99 |
| 20-089N | 1/4" x 1/8" | 0.826 | 1.023 | 0.433 | 11.80 |
| 20-090N | 1/4" x 1/4" | 0.826 | 1.200 | 0.433 | 11.62 |
| 20-762N | 3/8" x 1/8" | 0.885 | 1.082 | 0.511 | 12.72 |
| 20-091N | 3/8" x 1/4" | 0.885 | 1.240 | 0.511 | 13.45 |

SWIVEL MALE RUN TEE



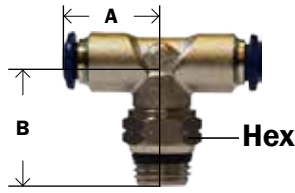
| Part # | Tube O.D. x Male Global Thread | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------------------|-----------------------------------|------|------|------|---------------------|------------|
| NEW 20-095N | 1/8" x 1/8" | 0.67 | 0.81 | 0.51 | 0.05 | 12.14 |
| NEW 20-851N | 1/8" x 1/4" | 0.67 | 0.95 | 0.59 | 0.06 | 14.14 |
| NEW 20-852N | 5/32" x 1/8" | 0.67 | 0.79 | 0.51 | 0.07 | 20.72 |
| NEW 20-853N | 5/32" x 1/4" | 0.67 | 0.95 | 0.59 | 0.07 | 13.86 |
| 20-162N | 1/4" x 1/8" | 0.83 | 0.87 | 0.51 | 0.09 | 13.01 |
| 20-163N | 1/4" x 1/4" | 0.83 | 0.98 | 0.59 | 0.11 | 13.85 |
| 20-164N | 1/4" x 3/8" | 0.83 | 1.10 | 0.59 | 0.11 | 15.05 |
| NEW 20-159N | 3/8" x 1/8" | 1.04 | 1.07 | 0.59 | 0.12 | 20.72 |
| 20-168N | 3/8" x 1/4" | 1.04 | 1.10 | 0.59 | 0.12 | 20.18 |
| 20-165N | 3/8" x 3/8" | 1.04 | 1.18 | 0.67 | 0.12 | 24.24 |
| NEW 20-181N | 3/8" x 1/2" | 1.20 | 1.24 | 0.59 | 0.15 | 26.13 |
| 20-174N | 1/2" x 1/4" | 1.20 | 1.24 | 0.59 | 0.16 | 28.51 |
| 20-166N | 1/2" x 3/8" | 1.20 | 1.30 | 0.67 | 0.14 | 32.15 |
| NEW 20-167N | 1/2" x 1/2" | 1.20 | 1.42 | 0.83 | 0.17 | 30.05 |

W171PL 87222

NICKEL PLATED PUSH-IN FITTINGS

BRASS FITTINGS

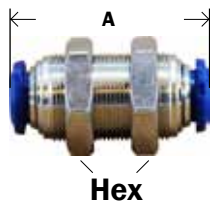
SWIVEL MALE BRANCH TEE



| Part # | Tube O.D. x Male Global Thread | A | B | Hex | Approx. Wt. Lbs. | List Price |
|----------------------------------|-----------------------------------|-------|------|------|---------------------|------------|
| 20-103N | 1/8" x 1/8" | 0.67 | 0.78 | 0.51 | 0.04 | 11.89 |
| 20-104N | 5/32" x 10-32" | 0.67 | 0.79 | 0.31 | 0.04 | 12.64 |
| NEW NEW 20-109N | 5/32" x 1/8" | 0.70 | 0.79 | 0.51 | 0.06 | 16.11 |
| 20-850N | 5/32" x 1/4" | 0.67 | 1.00 | 0.59 | 0.06 | 14.14 |
| 20-105N | 1/4" x 1/8" | 0.83 | 0.87 | 0.51 | 0.08 | 12.99 |
| 20-106N | 1/4" x 1/4" | 0.83 | 0.98 | 0.59 | 0.10 | 12.99 |
| 20-156N | 1/4" x 3/8" | 1.043 | 1.10 | 0.59 | 0.18 | 15.05 |
| NEW 20-157N | 3/8" x 1/8" | 1.04 | 1.08 | 0.59 | 0.18 | 19.61 |
| 20-107N | 3/8" x 1/4" | 1.04 | 1.10 | 0.59 | 0.18 | 17.88 |
| 20-108N | 3/8" x 3/8" | 1.04 | 1.18 | 0.67 | 0.16 | 21.25 |
| 20-158N | 3/8" x 1/2" | 1.04 | 1.30 | 0.82 | 0.18 | 24.68 |
| NEW 20-112N | 1/2" x 1/4" | 1.20 | 1.24 | 0.59 | 0.23 | 25.61 |
| 20-110N | 1/2" x 3/8" | 1.20 | 1.30 | 0.67 | 0.24 | 27.09 |
| 20-111N | 1/2" x 1/2" | 1.20 | 1.42 | 0.82 | 0.28 | 28.44 |

W172PL 87210

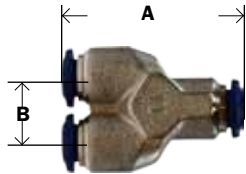
BULKHEAD UNION



| Part # | Tube O.D. | A | Hex | Approx. Wt. Lbs. | List Price |
|----------------------------------|-----------|------|------|---------------------|------------|
| NEW NEW 20-124N | 1/8" | 1.03 | 0.55 | 0.04 | 10.49 |
| 20-125N | 5/32" | 1.22 | 0.67 | 0.05 | 10.49 |
| 20-127N | 1/4" | 1.38 | 0.67 | 0.06 | 13.48 |
| 20-123N | 5/16" | 1.45 | 0.74 | 0.08 | 18.06 |
| 20-128N | 3/8" | 1.69 | 0.94 | 0.13 | 19.28 |
| NEW 20-129N | 1/2" | 1.93 | 1.02 | 0.15 | 20.19 |

62PLBH 88050

UNION "Y"



| Part # | Tube O.D. | A | B | Approx. Wt. Lbs. | List Price |
|---------|-------------|------|------|---------------------|------------|
| 20-553N | 1/4" x 1/4" | 1.44 | 0.53 | 0.14 | 24.98 |

662PL 88310

REDUCER



| Part # | Tube O.D. 2 | Tube O.D. 1 | A | List Price |
|---------|-------------|-------------|-------|------------|
| 20-510N | 1/4" | 1/8" | 1.142 | 5.39 |
| 20-511N | 1/4" | 5/32" | 1.181 | 5.64 |
| 20-512N | 3/8" | 1/4" | 1.496 | 7.30 |
| 20-513N | 1/2" | 1/4" | 1.693 | 7.30 |
| 20-514N | 1/2" | 3/8" | 1.693 | 9.26 |

67PPL 88700

Don't look back. You're not going that way

BRASS FITTINGS

NICKEL PLATED PUSH-IN FITTINGS

CHROME PLATED BRASS MINI BALL VALVES

- Compact Design
- Max Working Pressure 250 psi



PUSH-IN X PUSH-IN

| Part # | Size | Box/Case | Wgt. | List Price |
|--------|------|----------|------|------------|
| 28400 | 1/8 | 30/300 | .07 | 13.72 |
| 28401 | 1/4 | 30/300 | .10 | 13.72 |
| 28402 | 3/8 | 20/200 | .21 | 13.72 |



PUSH-IN X MALE PIPE

| Part # | Size | Box/Case | Wgt. | List Price |
|--------|------------|----------|------|------------|
| 28403 | 5/32 x 1/8 | 30/300 | .08 | 13.58 |
| 28407 | 1/4 x 1/8 | 30/300 | .08 | 13.58 |
| 28404 | 1/4 x 1/4 | 30/300 | .10 | 13.58 |
| 28405 | 3/8 x 3/8 | 20/200 | .17 | 13.58 |



FIP X FIP

| Part # | Size | Box/Case | Wgt. | List Price |
|--------|------|----------|------|------------|
| 46650 | 1/8 | 30/300 | .11 | 9.59 |
| 46651 | 1/4 | 30/300 | .10 | 9.59 |
| 46652 | 3/8 | 20/200 | .14 | 11.83 |
| 46653 | 1/2 | 15/150 | .25 | 12.18 |



MIP X FIP

| Part # | Size | Box/Case | Wgt. | List Price |
|--------|------|----------|------|------------|
| 46660 | 1/8 | 30/300 | .11 | 9.59 |
| 46661 | 1/4 | 30/300 | .10 | 9.59 |
| 46662 | 3/8 | 20/200 | .14 | 11.83 |
| 46663 | 1/2 | 15/150 | .25 | 12.18 |

- Optional colors of handle plate for identification

PANEL MOUNT DESIGN

NEW



FIP X FIP ANGLE

| Part # | Size | Box/Case | Wgt. | List Price |
|--------|------|----------|------|------------|
| 46670 | 1/8 | 20/200 | .19 | 23.00 |
| 46671 | 1/4 | 20/200 | .20 | 16.10 |
| 46672 | 3/8 | 25/250 | .11 | 18.90 |

NEW



3-WAY FIP - OPEN CENTER

| Part # | Size | Box/Case | Wgt. | List Price |
|--------|------|----------|------|------------|
| 466900 | 1/8 | 25/250 | .13 | 30.80 |
| 466901 | 1/4 | 20/200 | .21 | 30.80 |
| 466902 | 3/8 | 20/200 | .21 | 33.60 |

NEW



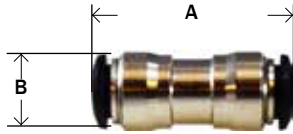
3-WAY FIP - CLOSED CENTER

| Part # | Size | Box/Case | Wgt. | List Price |
|--------|------|----------|------|------------|
| 46680 | 1/8 | 25/250 | .13 | 30.80 |
| 46681 | 1/4 | 20/200 | .21 | 30.80 |
| 46682 | 3/8 | 20/200 | .21 | 33.60 |

NICKEL PLATED METRIC PUSH-IN FITTINGS

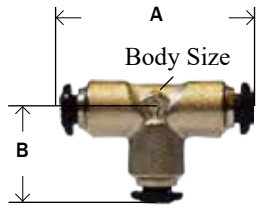
BRASS FITTINGS

BULKHEAD UNION



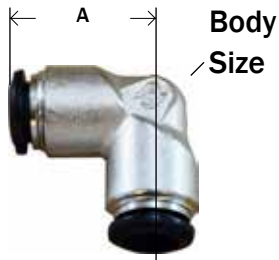
| Part # | Tube O.D. (mm) | Tube O.D. (mm) | A | B | List Price |
|---------|-------------------|-------------------|-------|-------|------------|
| 20-723N | 3 | | 1.014 | 0.332 | 11.87 |
| 20-600N | 4 | | 1.190 | 0.410 | 8.32 |
| 20-724N | 5 | | 1.287 | 0.449 | 8.64 |
| 20-725N | 6 | 4 | 1.248 | 0.488 | 8.64 |
| 20-601N | 6 | | 1.326 | 0.488 | 8.64 |
| 20-726N | 8 | 6 | 1.365 | 0.566 | 9.46 |
| 20-727N | 8 | | 1.404 | 0.566 | 9.65 |
| 20-728N | 10 | 8 | 1.638 | 0.683 | 11.87 |
| 20-603N | 10 | | 1.638 | 0.683 | 11.87 |
| 20-729N | 12 | 10 | 1.833 | 0.800 | 14.75 |
| 20-604N | 12 | | 1.833 | 0.800 | 14.03 |
| 20-730N | 14 | | 1.911 | 0.839 | 21.01 |

UNION TEE



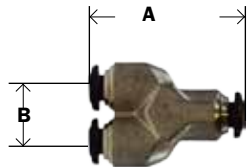
| Part # | Tube O.D. (mm) | A | B | Body Size | List Price |
|---------|-------------------|-------|-------|--------------|------------|
| 20-741N | 3 | 1.326 | 0.663 | 0.351 | 16.50 |
| 20-610N | 4 | 1.326 | 0.663 | 0.351 | 12.69 |
| 20-742N | 5 | 1.560 | 0.780 | 0.429 | 13.39 |
| 20-611N | 6 | 1.638 | 0.819 | 0.429 | 13.39 |
| 20-612N | 8 | 1.755 | 0.878 | 0.507 | 15.49 |
| 20-613N | 10 | 2.067 | 1.034 | 0.624 | 20.12 |
| 20-614N | 12 | 2.379 | 1.190 | 0.741 | 24.95 |
| 20-743N | 14 | 2.379 | 2.535 | 0.741 | 32.06 |

UNION ELBOW



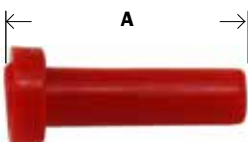
| Part # | Tube O.D. (mm) | A | Body Size | List Price |
|---------|-------------------|-------|--------------|------------|
| 20-738N | 3 | 0.663 | 0.51 | 11.87 |
| 20-206N | 4 | 0.663 | 0.351 | 9.21 |
| 20-739N | 5 | 0.780 | 0.429 | 9.33 |
| 20-660N | 6 | 0.780 | 0.429 | 9.33 |
| 20-661N | 8 | 0.878 | 0.507 | 10.98 |
| 20-807N | 10 | 1.034 | 0.624 | 13.52 |
| 20-808N | 12 | 1.190 | 0.741 | 17.78 |
| 20-740N | 14 | 1.268 | 0.741 | 21.90 |

UNION Y



| Part # | Tube O.D. (mm) | B | A | List Price |
|---------|-------------------|-------|-------|------------|
| 20-744N | 3 | 0.390 | 1.131 | 23.35 |
| 20-813N | 4 | 0.429 | 1.248 | 17.52 |
| 20-745N | 5 | 0.527 | 1.365 | 18.55 |
| 20-814N | 6 | 0.527 | 1.424 | 18.54 |
| 20-815N | 8 | 0.605 | 1.599 | 21.01 |
| 20-746N | 10 | 0.728 | 1.890 | 29.65 |

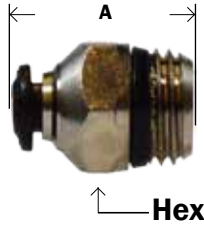
PLUG



| Part # | Tube O.D. (mm) | A | List Price |
|---------|-------------------|-------|------------|
| 20-748N | 4 | 0.917 | 1.14 |
| 20-749N | 5 | 0.956 | 1.14 |
| 20-750N | 6 | 0.956 | 1.14 |
| 20-751N | 8 | 1.014 | 1.40 |
| 20-752N | 10 | 1.112 | 1.42 |
| 20-753N | 12 | 1.190 | 1.43 |

NICKEL PLATED METRIC PUSH-IN FITTINGS

METRIC TUBE STRAIGHT MALE

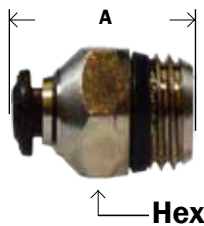


NEW
NEW



| Part # | Tube O.D. (mm) | Global Thread | A | Hex | List Price |
|---------|----------------|---------------|-------|-------|------------|
| 20-630N | 4 | 1/8" | 0.702 | 0.429 | 4.51 |
| 20-631N | 4 | 1/4" | 0.760 | 0.546 | 5.87 |
| 20-700N | 5 | 1/8" | 0.78 | 0.429 | 5.27 |
| 20-701N | 5 | 1/4" | 0.78 | 0.546 | 5.65 |
| 20-632N | 6 | 1/8" | 0.78 | 0.546 | 5.27 |
| 20-633N | 6 | 1/4" | 0.819 | 0.546 | 5.65 |
| 20-628N | 6 | 3/8" | 0.90 | 0.546 | 7.46 |
| 20-629N | 6 | 1/2" | 0.92 | 0.546 | 9.03 |
| 20-702N | 8 | 1/8" | 0.955 | 0.546 | 5.84 |
| 20-634N | 8 | 1/4" | 0.858 | 0.546 | 5.91 |
| 20-635N | 8 | 3/8" | 0.897 | 0.663 | 6.53 |
| 20-703N | 8 | 1/2" | 0.897 | 0.663 | 7.87 |
| 20-636N | 10 | 1/4" | 1.092 | 0.663 | 7.68 |
| 20-637N | 10 | 3/8" | 1.092 | 0.663 | 8.27 |
| 20-704N | 10 | 1/2" | 1.014 | 0.663 | 8.95 |
| 20-801N | 12 | 1/4" | 1.267 | 0.78 | 9.21 |
| 20-638N | 12 | 3/8" | 1.267 | 0.78 | 9.97 |
| 20-705N | 12 | 1/2" | 1.209 | 0.78 | 10.09 |
| 20-706N | 14 | 3/8" | 1.287 | 0.858 | 11.74 |
| 20-707N | 14 | 1/2" | 1.248 | 0.858 | 12.69 |

METRIC TUBE INTERNAL HEX

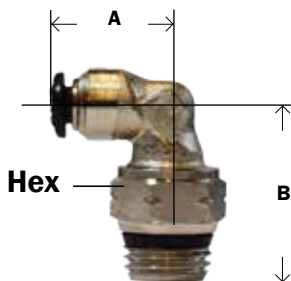


NEW



| Part # | Tube O.D. (mm) | Global Thread | A | Hex | List Price |
|---------|----------------|---------------|------|------|------------|
| 20-619N | 3 | M5 | 0.31 | 0.31 | 7.56 |
| 20-620N | 4 | 1/8" | 0.71 | 0.43 | 4.68 |
| 20-621N | 4 | M5 | 0.39 | 0.38 | 5.01 |
| 20-622N | 4 | M7 x 1" | 0.83 | 0.38 | 5.40 |
| 20-623N | 6 | 1/4" | 0.83 | 0.55 | 5.81 |
| 20-624N | 6 | 1/8" | 0.85 | 0.47 | 4.94 |
| 20-625N | 6 | M5 | 0.47 | 0.47 | 5.40 |
| 20-626N | 8 | 1/4" | 0.88 | 0.55 | 6.24 |
| 20-627N | 8 | 1/8" | 0.98 | 0.55 | 6.58 |

METRIC TUBE SWIVEL MALE ELBOW

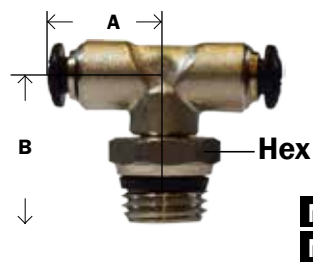


| Part # | Tube O.D. (mm) | Global Thread | A | B | Hex | List Price |
|---------|----------------|---------------|-------|-------|-------|------------|
| 20-708N | 4 | 1/8" | 0.663 | 0.780 | 0.507 | 9.14 |
| 20-709N | 4 | 1/4" | 0.663 | 0.936 | 0.585 | 9.97 |
| 20-710N | 5 | 1/8" | 0.780 | 0.858 | 0.507 | 9.21 |
| 20-642N | 6 | 1/8" | 0.819 | 0.858 | 0.507 | 8.73 |
| 20-803N | 6 | 1/4" | 0.819 | 0.975 | 0.585 | 9.97 |
| 20-711N | 8 | 1/8" | 0.878 | 0.917 | 0.507 | 10.17 |
| 20-805N | 8 | 1/4" | 0.878 | 1.014 | 0.585 | 11.13 |
| 20-655N | 8 | 3/8" | 0.878 | 1.092 | 0.663 | 14.48 |
| 20-712N | 8 | 1/2" | 0.878 | 1.404 | 0.819 | 15.68 |
| 20-656N | 10 | 1/4" | 1.034 | 1.092 | 0.585 | 14.03 |
| 20-657N | 10 | 3/8" | 1.034 | 1.170 | 0.663 | 15.68 |
| 20-713N | 10 | 1/2" | 1.034 | 1.287 | 0.819 | 18.22 |
| 20-658N | 12 | 3/8" | 1.190 | 1.287 | 0.663 | 18.08 |
| 20-659N | 12 | 1/2" | 1.190 | 1.404 | 0.819 | 20.63 |
| 20-714N | 14 | 3/8" | 1.268 | 1.404 | 0.663 | 21.79 |
| 20-715N | 14 | 1/2" | 1.268 | 1.443 | 0.819 | 23.10 |

NICKEL PLATED METRIC PUSH-IN FITTINGS

BRASS FITTINGS

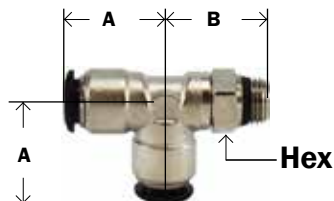
METRIC TUBE SWIVEL MALE BRANCH TEE



NEW
NEW

| Part # | Tube O.D. (mm) | Global Thread | A | B | Hex | List Price |
|---------|----------------|---------------|-------|-------|-------|------------|
| 20-680N | 4 | 1/8" | 0.663 | 0.780 | 0.507 | 12.76 |
| 20-716N | 4 | 1/4" | 0.663 | 0.936 | 0.585 | 13.90 |
| 20-717N | 5 | 1/8" | 0.78 | 0.858 | 0.507 | 12.76 |
| 20-682N | 6 | 1/8" | 0.819 | 0.858 | 0.507 | 12.76 |
| 20-683N | 6 | 1/4" | 0.819 | 0.975 | 0.585 | 13.90 |
| 20-809N | 8 | 1/8" | 0.877 | 0.917 | 0.507 | 15.49 |
| 20-684N | 8 | 1/4" | 0.877 | 1.014 | 0.585 | 15.81 |
| 20-690N | 8 | 3/8" | 0.886 | 1.024 | 0.585 | 18.32 |
| 20-691N | 8 | 1/2" | 0.886 | 1.122 | 0.585 | 21.02 |
| 20-686N | 10 | 1/4" | 1.033 | 1.092 | 0.585 | 20.56 |
| 20-687N | 10 | 3/8" | 1.033 | 1.170 | 0.663 | 21.77 |
| 20-810N | 10 | 1/2" | 1.033 | 1.287 | 0.819 | 23.10 |
| 20-688N | 12 | 3/8" | 1.189 | 1.287 | 0.663 | 24.12 |
| 20-689N | 12 | 1/2" | 1.189 | 1.404 | 0.819 | 26.08 |
| 20-718N | 14 | 3/8" | 1.267 | 1.404 | 0.663 | 30.15 |
| 20-719N | 14 | 1/2" | 1.267 | 1.443 | 0.819 | 32.52 |

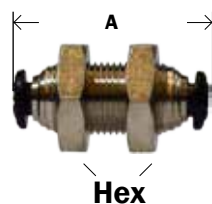
METRIC TUBE SWIVEL MALE RUN TEE



NEW
NEW

| Part # | Tube O.D. (mm) | Global Thread | A | B | Hex | List Price |
|---------|----------------|---------------|-------|-------|-------|------------|
| 20-670N | 4 | 1/8" | 0.663 | 0.780 | 0.507 | 12.76 |
| 20-720N | 4 | 1/4" | 0.663 | 0.936 | 0.585 | 13.90 |
| 20-721N | 5 | 1/8" | 0.780 | 0.858 | 0.507 | 12.76 |
| 20-672N | 6 | 1/8" | 0.819 | 0.858 | 0.507 | 12.76 |
| 20-673N | 6 | 1/4" | 0.819 | 0.975 | 0.585 | 13.90 |
| 20-811N | 8 | 1/8" | 0.819 | 0.917 | 0.507 | 15.49 |
| 20-674N | 8 | 1/4" | 0.878 | 1.014 | 0.585 | 15.81 |
| 20-668N | 8 | 3/8" | 0.885 | 1.063 | 0.585 | 19.94 |
| 20-669N | 8 | 1/2" | 0.885 | 1.063 | 0.585 | 19.35 |
| 20-676N | 10 | 1/4" | 0.878 | 1.092 | 0.585 | 20.56 |
| 20-677N | 10 | 3/8" | 1.034 | 1.170 | 0.663 | 21.77 |
| 20-722N | 10 | 1/2" | 1.034 | 1.287 | 0.819 | 23.10 |
| 20-678N | 12 | 3/8" | 1.190 | 1.287 | 0.663 | 24.14 |
| 20-679N | 12 | 1/2" | 1.190 | 1.404 | 0.819 | 26.08 |

BULKHEAD



| Part # | Tube O.D. (mm) | M | A | Hex | List Price |
|---------|----------------|-------|-------|-------|------------|
| 20-731N | 3 | M10x1 | 1.014 | 0.546 | 19.29 |
| 20-732N | 4 | M12x1 | 1.229 | 0.663 | 16.56 |
| 20-733N | 5 | M14x1 | 1.287 | 0.663 | 14.16 |
| 20-734N | 6 | M14x1 | 1.365 | 0.663 | 14.16 |
| 20-735N | 8 | M16x1 | 1.443 | 0.741 | 15.49 |
| 20-736N | 10 | M20x1 | 1.677 | 0.936 | 20.52 |
| 20-737N | 12 | M22x1 | 1.872 | 1.014 | 24.56 |

Composite Body Push-In Fittings



- For Food Grade,
see page 298-299

Specifications

| | |
|---------------------------|-------------------|
| Fluid admitted | Air |
| Working pressure range | 0-150 PSI (10BAR) |
| Min. Burst pressure | 340PSI (23BAR) |
| Working Temperature range | -104°F ~180°F |

Materials of Construction:

| | | |
|---|--------------|---|
| 1 | Body | Composite Polyacetal (hemopolymer,copolymer) |
| 2 | Body | Brass |
| 3 | Tube Release | Acetal Resin |
| 4 | Retainer | Brass |
| 5 | Gripper Ring | Stainless Steel |
| 6 | Spacer | Brass |
| 7 | O-Ring | NBR 70 |
| 8 | Threads | Brass w/ white sealant |

The latest generation of composite material is used in the body construction in addition to brass on threaded components and stainless steel on the tube gripper.

• Tolerance

+/- .02 on all dimensions. Dimension data can change without notice. Please call us when dimensions are critical.

COMPOSITE BODY PUSH-IN FITTINGS

BRASS FITTINGS

UNION



| Part # | Tube O.D. | Approx. Wt. Lbs. | List Price |
|--------------------|--------------|------------------|------------|
| 20-017C | 1/8" | 0.01 | 6.73 |
| 20-018C | 5/32" | 0.01 | 6.75 |
| 20-001C | 3/16" | 0.01 | 9.89 |
| 20-019C | 1/4" | 0.01 | 3.44 |
| 20-015C | 5/16" | 0.01 | 7.41 |
| 20-020C | 3/8" | 0.02 | 4.40 |
| 20-021C | 1/2" | 0.03 | 7.71 |
| NEW 20-016C | 1/4" x 5/32" | 0.01 | 5.14 |
| NEW 20-515C | 5/16" x 1/4" | 0.01 | 6.39 |
| 20-022C | 3/8" x 1/4" | 0.01 | 8.16 |
| NEW 20-516C | 3/8" x 5/16" | 0.02 | 6.27 |
| 20-024C | 1/2" x 3/8" | 0.03 | 19.77 |

PQ62P

UNION TEE



| Part # | Tube O.D. | Approx. Wt. Lbs. | List Price |
|--------------------|-----------|------------------|------------|
| 20-025C | 1/8" | 0.01 | 9.69 |
| 20-026C | 5/32" | 0.01 | 9.00 |
| NEW 20-027C | 3/16" | 0.02 | 7.91 |
| 20-028C | 1/4" | 0.02 | 2.75 |
| 20-031C | 5/16" | 0.02 | 10.88 |
| 20-029C | 3/8" | 0.02 | 5.46 |
| 20-030C | 1/2" | 0.08 | 10.60 |

PQ64P

90° UNION ELBOW



| Part # | Tube O.D. | Approx. Wt. Lbs. | List Price |
|--------------------|-----------|------------------|------------|
| 20-150C | 1/8" | 0.01 | 6.72 |
| 20-151C | 5/32" | 0.01 | 6.44 |
| NEW 20-149C | 3/16" | 0.01 | 5.76 |
| 20-152C | 1/4" | 0.02 | 5.25 |
| 20-155C | 5/16" | 0.02 | 8.89 |
| 20-153C | 3/8" | 0.02 | 6.16 |
| 20-154C | 1/2" | 0.02 | 7.20 |

PQ65P

UNION "Y" CONNECTOR



| Part # | Tube O.D. | Approx. Wt. Lbs. | List Price |
|---------|-----------|------------------|------------|
| 20-551C | 5/32" | 0.01 | 11.10 |
| 20-553C | 1/4" | 0.02 | 3.69 |
| 20-182C | 5/16" | 0.02 | 11.97 |
| 20-555C | 3/8" | 0.02 | 9.70 |
| 20-185C | 1/2" | 0.07 | 16.92 |

PQ89P

FEMALE CONNECTOR

• Brass



| Part # | Tube O.D. x Female NPT | Approx. Wt. Lbs. | List Price |
|---------|---------------------------|------------------|------------|
| 20-034C | 1/4" x 1/8" | 0.02 | 7.02 |
| 20-035C | 1/4" x 1/4" | 0.04 | 6.35 |
| 20-036C | 3/8" x 1/4" | 0.04 | 5.11 |
| 20-037C | 3/8" x 3/8" | 0.06 | 4.69 |

PQ66P

BRASS FITTINGS

COMPOSITE BODY PUSH-IN FITTINGS

MALE CONNECTOR

- Nickel Plated



- See broader range of sizes on page 102
- N/P push-in fittings

| Part # | Tube O.D. x Male NPT | Approx. Wt. Lbs. | List Price |
|---------|-------------------------|---------------------|------------|
| 20-050C | 5/32" x 1/8" | 0.02 | 5.05 |
| 20-053C | 1/4" x 10-32" | 0.02 | 6.31 |
| 20-054C | 1/4" x 1/8" | 0.02 | 3.59 |
| 20-055C | 1/4" x 1/4" | 0.02 | 2.21 |
| 20-056C | 1/4" x 3/8" | 0.04 | 4.53 |
| 20-530C | 5/16" x 1/8" | 0.05 | 6.59 |
| 20-531C | 5/16" x 1/4" | 0.05 | 5.73 |
| 20-057C | 3/8" x 1/8" | 0.05 | 6.88 |
| 20-058C | 3/8" x 1/4" | 0.06 | 3.51 |
| 20-059C | 3/8" x 3/8" | 0.06 | 3.63 |
| 20-062C | 3/8" x 1/2" | 0.08 | 6.84 |
| 20-060C | 1/2" x 1/4" | 0.06 | 6.79 |
| 20-061C | 1/2" x 3/8" | 0.08 | 6.13 |
| 20-063C | 1/2" x 1/2" | 0.10 | 6.60 |

PQ68P

SWIVEL MALE ELBOW

- Swivels for installation only.
- Not a live swivel



| Part # | Tube O.D. x Male NPT | Approx. Wt. Lbs. | List Price |
|---------------------|-------------------------|---------------------|------------|
| 20-079C | 1/8" x 1/8" | 0.01 | 7.38 |
| NEW 20-535C* | 1/8" x 1/4" | 0.01 | 5.02 |
| NEW 20-517C* | 3/16" x 1/4" | 0.01 | 6.69 |
| NEW 20-080C* | 5/32" x 1/8" | 0.01 | 6.69 |
| NEW 20-077C* | 5/32" x 1/4" | 0.01 | 5.10 |
| NEW 20-049C* | 5/32" x 10/32" | 0.01 | 5.18 |
| 20-078C | 1/4" x 10-32 | 0.01 | 6.72 |
| 20-081C | 1/4" x 1/8" | 0.02 | 3.94 |
| 20-082C | 1/4" x 1/4" | 0.04 | 3.75 |
| 20-086C | 1/4" x 3/8" | 0.06 | 4.90 |
| NEW 20-518C* | 1/4" x 1/2" | 0.07 | 9.16 |
| 20-537C | 5/16" x 1/8" | 0.04 | 8.72 |
| 20-538C | 5/16" x 1/4" | 0.04 | 7.02 |
| NEW 20-539C* | 5/16" x 3/8" | 0.06 | 5.70 |
| 20-087C | 3/8" x 1/8" | 0.04 | 4.98 |
| 20-083C | 3/8" x 1/4" | 0.08 | 5.20 |
| 20-084C | 3/8" x 3/8" | 0.10 | 4.96 |
| 20-088C | 3/8" x 1/2" | 0.12 | 8.82 |
| 20-184C | 1/2" x 1/4" | 0.14 | 10.77 |
| 20-085C | 1/2" x 3/8" | 0.16 | 10.63 |
| 20-092C | 1/2" x 1/2" | 0.18 | 13.20 |

* Global Thread

PQ69PS

LONG PATTERN MALE ELBOWS



| Part # | Tube O.D. x Thread | Approx. Wt. Lbs. | List Price |
|---------|-----------------------|---------------------|------------|
| 20-572C | 1/4 X 1/8 | 0.03 | 15.34 |
| 20-573C | 1/4 X 1/4 | 0.05 | 15.06 |
| 20-574C | 1/4 X 3/8 | 0.06 | 24.09 |
| 20-579C | 3/8 X 1/4 | 0.09 | 25.10 |
| 20-580C | 3/8 X 3/8 | 0.12 | 25.10 |
| 20-581C | 3/8 X 1/2 | 0.14 | 40.73 |
| 20-582C | 1/2 X 1/4 | 0.16 | 37.59 |
| 20-583C | 1/2 X 3/8 | 0.18 | 40.45 |
| 20-584C | 1/2 X 1/2 | 0.20 | 40.45 |

COMPOSITE BODY PUSH-IN FITTINGS

BRASS FITTINGS

FEMALE SWIVEL ELBOWS



| Part # | Tube O.D. x Female NPT | Approx. Wt. Lbs. | List Price |
|---------|---------------------------|---------------------|------------|
| 20-089C | 1/4 X 1/8 | 0.05 | 17.35 |
| 20-090C | 1/4 X 1/4 | 0.06 | 18.93 |
| 20-591C | 1/4 X 3/8 | 0.07 | 21.91 |
| 20-091C | 3/8 X 1/4 | 0.10 | 27.97 |
| 20-595C | 3/8 X 3/8 | 0.14 | 27.97 |
| 20-596C | 3/8 X 1/2 | 0.15 | 34.16 |
| 20-597C | 1/2 X 3/8 | 0.20 | 32.96 |
| 20-598C | 1/2 X 1/2 | 0.23 | 13.20 |

45° SWIVELS



| Part # | Tube O.D. x Male NPT | Approx. Wt. Lbs. | List Price |
|---------|-------------------------|---------------------|------------|
| 20-139C | 1/4 X 1/8 | 0.04 | 8.60 |
| 20-140C | 1/4 X 1/4 | 0.05 | 7.37 |

SWIVEL MALE RUN TEE

- Swivels for installation only.
- Not a live swivel



| Part # | Tube O.D. x Male NPT | Approx. Wt. Lbs. | List Price |
|---------------------|-------------------------|---------------------|------------|
| NEW 20-160C* | 1/8" x 1/8" | 0.03 | 8.44 |
| NEW 20-833C* | 1/8" x 1/4" | 0.03 | 8.95 |
| NEW 20-835C* | 5/32" x 10-32 | 0.03 | 7.92 |
| 20-162C | 1/4" x 1/8" | 0.04 | 9.06 |
| 20-163C | 1/4" x 1/4" | 0.04 | 5.54 |
| NEW 20-834C* | 1/4" x 10-32 | 0.04 | 7.61 |
| 20-099C | 3/8" x 1/8" | 0.06 | 6.22 |
| 20-100C | 3/8" x 1/4" | 0.08 | 5.77 |
| 20-165C | 3/8" x 3/8" | 0.10 | 6.86 |
| 20-181C | 3/8 x 1/2 | 0.12 | 16.92 |
| 20-174C | 1/2 x 1/4 | 0.12 | 16.53 |
| 20-166C | 1/2 x 3/8 | 0.14 | 16.92 |
| 20-167C | 1/2 x 1/2 | 0.16 | 19.89 |

PQ71PS

SWIVEL MALE BRANCH TEE

- Swivels for installation only.
- Not a live swivel



| Part # | Tube O.D. x Male NPT | Approx. Wt. Lbs. | List Price |
|---------------------|-------------------------|---------------------|------------|
| NEW 20-103C* | 1/8" x 1/8" | 0.02 | 10.94 |
| NEW 20-519C* | 1/8" x 1/4" | 0.03 | 11.22 |
| NEW 20-109C* | 5/32" x 1/8" | 0.02 | 10.37 |
| NEW 20-135C* | 5/32" x 1/4" | 0.03 | 10.26 |
| NEW 20-104C* | 5/32" x 10/32" | 0.03 | 7.10 |
| NEW 20-830C* | 3/16" x 1/8" | 0.03 | 9.98 |
| 20-105C | 1/4" x 1/8" | 0.04 | 9.29 |
| 20-106C | 1/4" x 1/4" | 0.06 | 5.69 |
| NEW 20-831C* | 1/4" x 10/32" | 0.06 | 7.61 |
| 20-121C | 1/4" x 3/8" | 0.08 | 6.11 |
| NEW 20-136C* | 5/16" x 1/8" | 0.04 | 11.28 |
| NEW 20-137C* | 5/16" x 1/4" | 0.05 | 11.00 |
| NEW 20-832C* | 5/16" x 3/8" | 0.06 | 9.98 |
| 20-107C | 3/8" x 1/4" | 0.10 | 10.45 |
| 20-108C | 3/8" x 3/8" | 0.12 | 12.49 |
| 20-158C | 3/8 X 1/2 | 0.14 | 16.92 |
| 20-138C | 1/2 X 1/4 | 0.14 | 16.53 |
| 20-110C | 1/2 X 3/8 | 0.16 | 16.92 |
| 20-111C | 1/2 X 1/2 | 0.21 | 19.83 |

* Global Thread

PQ72PS

BRASS FITTINGS

COMPOSITE BODY PUSH-IN FITTINGS

BULKHEAD UNION



| Part # | Tube O.D. | Approx. Wt. Lbs. | List Price |
|---------|-----------|------------------|------------|
| 20-127C | 1/4" | 0.04 | 8.44 |
| 20-128C | 3/8" | 0.06 | 6.67 |
| 20-129C | 1/2" | 0.10 | 10.74 |

PQ82P

BULKHEAD FEMALES



| Part # | Tube O.D. x Thread | Approx. Wt. Lbs. | List Price |
|---------|--------------------|------------------|------------|
| 20-170C | 1/4 X 1/8 | 0.04 | 21.51 |
| 20-171C | 1/4 X 1/4 | 0.04 | 16.58 |
| 20-172C | 3/8 X 1/4 | 0.06 | 39.30 |
| 20-173C | 3/8 X 3/8 | 0.07 | 35.57 |
| 20-175C | 1/2 X 1/4 | 0.07 | 51.49 |
| 20-176C | 1/2 X 3/8 | 0.09 | 41.74 |
| 20-179C | 1/2 X 1/2 | 0.10 | 44.89 |

SWIVEL "Y" CONNECTOR

- Swivels for installation only. • Not a live swivel



| Part # | Tube O.D. x Male NPT | Approx. Wt. Lbs. | List Price |
|---------|----------------------|------------------|------------|
| 20-187C | 1/4 X 1/8 | 0.02 | 12.36 |
| 20-557C | 1/4" x 1/4" | 0.02 | 11.13 |
| 20-188C | 3/8 X 1/4 | 0.04 | 14.59 |
| 20-189C | 3/8 X 3/8 | 0.04 | 16.13 |
| 20-193C | 3/8 X 1/2 | 0.07 | 19.26 |
| 20-194C | 1/2 X 3/8 | 0.06 | 19.09 |
| 20-195C | 1/2 X 1/2 | 0.09 | 22.34 |

PQ88PS

IN-LINE NEEDLE VALVE



| Part # | Tube O.D. | Approx. Wt. Lbs. | List Price |
|---------|-----------|------------------|------------|
| 20-487C | 1/4" | 0.04 | 27.32 |
| 20-488C | 5/16" | 0.05 | 26.39 |
| 20-489C | 3/8" | 0.06 | 33.00 |

PQ310C

RIGHT ANGLE FLOW CONTROL METER IN

- Free flow out



| Part # | Tube O.D. x Male NPT | Approx. Wt. Lbs. | List Price |
|---------|----------------------|------------------|------------|
| 20-727C | 1/4 X 1/8 | 0.04 | 33.36 |
| 20-728C | 1/4" x 1/4" | 0.04 | 23.79 |
| 20-780C | 3/8 X 1/4 | 0.06 | 31.80 |
| 20-781C | 3/8 X 3/8 | 0.06 | 49.36 |
| 20-782C | 1/2 X 1/2 | 0.10 | 63.78 |

JPQ

RIGHT ANGLE FLOW CONTROL METER OUT

- Free flow in

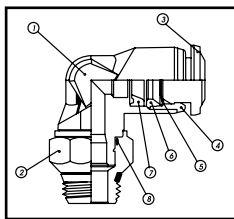


| Part # | Tube O.D. x Male NPT | Approx. Wt. Lbs. | List Price |
|---------|----------------------|------------------|------------|
| 20-785C | 1/4 x 1/8 | 0.04 | 31.69 |
| 20-786C | 1/4 x 1/4 | 0.04 | 35.28 |
| 20-787C | 3/8 x 1/4 | 0.06 | 31.80 |
| 20-788C | 3/8 x 3/8 | 0.06 | 41.89 |
| 20-789C | 1/2 x 1/2 | 0.10 | 74.44 |

METRIC COMPOSITE BODY PUSH-IN FITTINGS

BRASS FITTINGS

Technical Characteristics



| | | |
|--------|----------------|---------------------|
| PART 1 | BODY | COMPOSITE |
| PART 2 | BODY | NICKEL PLATED BRASS |
| PART 3 | TUBE RELEASE | ACETAL RESIN |
| PART 4 | RETAINER | NICKEL PLATED BRASS |
| PART 5 | GRIPPER RING | STAINLESS STEEL |
| PART 6 | SPACER | COMPOSITE |
| PART 7 | THREAD PACKING | NBR 70 |
| PART 8 | O-RING | NBR 70 |
| PART 9 | THREAD SEAL | NBR70 |

Operating Range

Pressure: 0 to 220 PSI (15 bar)

Vacuum: 0 to 29hg (-.99 bar)

Temperature

-5° F to + 175° F (-20° C to + 80° C)

Media

Compressed air.

Non-toxic fluids (water)

Materials

The latest generation of composite material is used in the body construction in addition to nickel-plated brass on threaded components and stainless steel on the tube gripper.

UNION



| Part # | Tube O.D. (mm) | List Price |
|--------|----------------|------------|
| 20-600 | 4 | 6.69 |
| 20-601 | 6 | 2.50 |
| 20-602 | 8 | 6.00 |
| 20-603 | 10 | 8.43 |
| 20-604 | 12 | 4.16 |

UNION TEE



NEW

NEW

| Part # | Tube O.D. (mm) | List Price |
|--------|----------------|------------|
| 20-610 | 4 | 16.64 |
| 20-862 | 5 | 7.92 |
| 20-611 | 6 | 5.55 |
| 20-612 | 8 | 5.69 |
| 20-613 | 10 | 25.61 |
| 20-614 | 12 | 26.12 |
| 20-861 | 14 | 13.48 |

3104

UNION ELBOW



NEW

| Part # | Tube O.D. (mm) | List Price |
|--------|----------------|------------|
| 20-806 | 4 | 6.69 |
| 20-660 | 6 | 4.80 |
| 20-661 | 8 | 7.12 |
| 20-807 | 10 | 17.04 |
| 20-808 | 12 | 22.55 |
| 20-740 | 14 | 9.26 |

3102

MALE ADAPTER



| Part # | Tube OD (mm) | BSPT Thread | List Price |
|--------|--------------|-------------|------------|
| 20-630 | 4 | 1/8" | 6.01 |
| 20-631 | 4 | 1/4" | 6.94 |
| 20-632 | 6 | 1/8" | 6.69 |
| 20-633 | 6 | 1/4" | 6.21 |
| 20-634 | 8 | 1/4" | 3.69 |
| 20-635 | 8 | 3/8" | 8.62 |
| 20-636 | 10 | 1/4" | 9.10 |
| 20-637 | 10 | 3/8" | 9.94 |
| 20-801 | 12 | 1/4" | 11.61 |
| 20-638 | 12 | 3/8" | 12.56 |

3175

NOTE: See page 102 for a complete line of male adapters with global thread.

BRASS FITTINGS

METRIC COMPOSITE BODY PUSH-IN FITTINGS

SWIVEL ELBOW



| | Part # | Tube OD (mm) | BSPT Thread | List Price |
|------------|---------|--------------|-------------|------------|
| NEW | 20-690* | 4 | M5 | 5.14 |
| NEW | 20-856* | 4 | 1/8" | 5.55 |
| NEW | 20-855* | 4 | 1/4" | 5.97 |
| NEW | 20-692* | 5 | M5 | 5.76 |
| NEW | 20-857* | 5 | 1/8" | 6.69 |
| NEW | 20-859* | 5 | M5 | 4.94 |
| | 20-642 | 6 | 1/8" | 6.45 |
| | 20-803 | 6 | 1/4" | 9.69 |
| NEW | 20-698* | 6 | 3/8" | 7.00 |
| NEW | 20-699* | 6 | 1/2" | 9.16 |
| NEW | 20-711* | 8 | 1/8" | 5.76 |
| | 20-805 | 8 | 1/4" | 14.35 |
| | 20-655 | 8 | 3/8" | 18.78 |
| NEW | 20-712* | 8 | 1/2" | 9.47 |
| | 20-656 | 10 | 1/4" | 13.27 |
| | 20-657 | 10 | 3/8" | 19.30 |
| NEW | 20-713* | 10 | 1/2" | 9.47 |
| | 20-658 | 12 | 3/8" | 22.23 |
| | 20-659 | 12 | 1/2" | 24.64 |
| NEW | 20-714* | 14 | 3/8" | 10.19 |
| NEW | 20-854* | 14 | 1/2" | 11.22 |

* Global Thread

SWIVEL BRANCH TEE



| | Part # | Tube OD (mm) | BSPT Thread | List Price |
|------------|---------|--------------|-------------|------------|
| | 20-680* | 4 | 1/8" | 12.41 |
| NEW | 20-860* | 4 | 1/4" | 8.44 |
| NEW | 20-717* | 5 | 1/8" | 9.98 |
| | 20-682 | 6 | 1/8" | 12.22 |
| | 20-683 | 6 | 1/4" | 14.23 |
| | 20-809 | 8 | 1/8" | 14.86 |
| | 20-684 | 8 | 1/4" | 20.78 |
| | 20-685 | 8 | 3/8" | 24.75 |
| | 20-686 | 10 | 1/4" | 19.66 |
| | 20-687 | 10 | 3/8" | 29.34 |
| | 20-810 | 10 | 1/2" | 29.45 |
| | 20-688 | 12 | 3/8" | 21.58 |
| | 20-689 | 12 | 1/2" | 26.46 |
| NEW | 20-718* | 14 | 3/8" | 14.10 |
| NEW | 20-719* | 14 | 1/2" | 15.13 |

SWIVEL RUN TEE



| | Part # | Tube OD (mm) | BSPT Thread | List Price |
|------------|---------|--------------|-------------|------------|
| | 20-670 | 4 | 1/8" | 12.29 |
| NEW | 20-720* | 4 | 1/4" | 8.44 |
| NEW | 20-721* | 5 | 1/8" | 9.98 |
| | 20-672 | 6 | 1/8" | 13.31 |
| | 20-673 | 6 | 1/4" | 12.35 |
| | 20-811 | 8 | 1/8" | 15.17 |
| | 20-674 | 8 | 1/4" | 14.61 |
| | 20-675 | 8 | 3/8" | 16.04 |
| | 20-676 | 10 | 1/4" | 27.67 |
| | 20-677 | 10 | 3/8" | 29.45 |
| | 20-678 | 12 | 3/8" | 23.03 |
| | 20-679 | 12 | 1/2" | 30.10 |

* Global Thread

METRIC COMPOSITE BODY PUSH-IN FITTINGS

BRASS FITTINGS

UNION WYE



NEW
NEW

| Part # | Tube OD (mm) | List Price |
|--------|--------------|------------|
| 20-813 | 4 | 21.83 |
| 20-814 | 6 | 14.81 |
| 20-815 | 8 | 26.08 |
| 20-746 | 10 | 9.98 |
| 20-827 | 12 | 12.97 |

SWIVEL MALE WYE



NEW

| Part # | Tube OD (mm) | Global Thread | List Price |
|--------|--------------|---------------|------------|
| 20-816 | 4 | 1/8" | 14.82 |
| 20-821 | 4 | 1/4" | 10.29 |
| 20-817 | 6 | 1/8" | 16.40 |
| 20-818 | 6 | 1/4" | 15.23 |
| 20-819 | 8 | 1/8" | 19.04 |
| 20-820 | 8 | 1/4" | 19.40 |
| 20-822 | 8 | 3/8" | 12.14 |
| 20-823 | 10 | 1/4" | 11.22 |
| 20-824 | 10 | 3/8" | 12.35 |
| 20-825 | 10 | 1/2" | 14.82 |
| 20-826 | 12 | 3/8" | 14.61 |
| 20-827 | 12 | 1/2" | 12.97 |

* Global Thread

The greatest discovery of my generation is that people can alter their lives by altering their attitudes.

- William James

D.O.T. PUSH-IN TUBE FITTINGS



Meets D.O.T. FMVSS 571.106 SAE J1131 Air Brake System Requirements

Benefits for Cost Savings & Engineering Project

- **Fast assembly:** No tools required. Simply push tubing in. Saves up to 75% of assembly time compared to standard air compression fittings. No loose parts to handle.
- **Fast disconnect:** Hold the collet collar with two fingers and pull out tube. No tools required.
- **Reusable:** Can be connected and disconnected several times.
- **Reliable sealing:** Using recommended tubing, full sealing is guaranteed.
- **Versatility:** Buna N O'ring standard. Viton and others available per request. Secure tube retention. Pulling on tubing only serves to tighten the connection.
- **Pre-Applied Teflon®** based pipe sealant on all male pipe threads, saving customer additional labor.
- **Full Flow Design,** provides more flow area than conventional fittings with internal tube supports even in the swivels.

DOT Fittings are constructed with an all brass captive eyelet which allows for maximum flow. The brass captive eyelet with extended length is floating and has a machined top end radius for easy installation of tubing. All male threads have a pre-applied Teflon® based pipe sealant to provide for easy assembly and leak proof seal.

• Materials:

Brass
"O" Ring: Buna - Nitrile (90 Durometer)
EP (Ethylene Propylene)

• Working Pressures & Temperature Ranges

Vacuum to 150 PSI
-40°F to 200° F (-40°C to +93°C)

D.O.T. PUSH-IN

BRASS FITTINGS

PLUG



| Part # | Tube O.D. | Approx. Wt. Lbs. | List Price |
|--------|-----------|------------------|------------|
| 595320 | 5/32" | 0.01 | 1.17 |
| 590400 | 1/4" | 0.02 | 2.54 |
| 590600 | 3/8" | 0.02 | 2.32 |
| 590800 | 1/2" | 0.04 | 4.34 |

1829 DQ59DOT 639PMT

UNION



| Part # | Tube O.D. | Approx. Wt. Lbs. | List Price |
|--------|-------------|------------------|------------|
| 620532 | 5/32" | 0.06 | 10.08 |
| 620400 | 1/4" | 0.06 | 11.27 |
| 620600 | 3/8" | 0.13 | 10.98 |
| 620604 | 3/8" x 1/4" | 0.15 | 28.80 |
| 620800 | 1/2" | 0.19 | 10.92 |
| 621000 | 5/8" | 0.30 | 26.19 |
| 621200 | 3/4" | 0.44 | 49.89 |

AQ62DOT 62PMT 1862 DQ62DOT

UNION TEE



| Part # | Tube O.D. | Approx. Wt. Lbs. | List Price |
|--------|-----------|------------------|------------|
| 640400 | 1/4" | 0.09 | 16.51 |
| 640600 | 3/8" | 0.16 | 20.26 |
| 640800 | 1/2" | 0.25 | 27.81 |
| 641000 | 5/8" | 0.32 | 44.61 |
| 641200 | 3/4" | 0.36 | 100.61 |

AQ64DOT 164 PMT 1864 DQ64DOT

UNION ELBOW



| Part # | Tube O.D. | Approx. Wt. Lbs. | List Price |
|--------|-----------|------------------|------------|
| 655320 | 5/32" | 0.03 | 22.85 |
| 650400 | 1/4" | 0.06 | 11.60 |
| 650600 | 3/8" | 0.12 | 15.93 |
| 650800 | 1/2" | 0.18 | 21.41 |

AQ65DOT 165 PMT 1865 DQ65DOT

FEMALE CONNECTOR



| Part # | Tube O.D. x Female NPTF | Approx. Wt. Lbs. | List Price |
|--------|----------------------------|---------------------|------------|
| 660402 | 1/4" x 1/8" | 0.06 | 10.80 |
| 660404 | 1/4" x 1/4" | 0.10 | 13.89 |
| 660602 | 3/8" x 1/8" | 0.11 | 34.53 |
| 660604 | 3/8" x 1/4" | 0.11 | 12.87 |
| 660606 | 3/8" x 3/8" | 0.17 | 22.56 |
| 660804 | 1/2" x 1/4" | 0.14 | 51.66 |
| 660806 | 1/2" x 3/8" | 0.16 | 28.43 |
| 660808 | 1/2" x 1/2" | 0.25 | 31.16 |

AQ66DOT 66PMT 1866 DQ66DOT

MALE CONNECTOR



| Part # | Tube O.D. x Male NPTF | Approx. Wt. Lbs. | List Price |
|--------|--------------------------|---------------------|------------|
| 685320 | 5/32" x 10/32" | 0.02 | 11.75 |
| 685321 | 5/32" x 1/16" | 0.02 | 8.41 |
| 685322 | 5/32" x 1/8" | 0.02 | 9.39 |
| 680302 | 3/16" x 1/8" | 0.02 | 10.73 |
| 680421 | 1/4" x 1/16" | 0.02 | 12.90 |
| 680402 | 1/4" x 1/8" | 0.03 | 5.16 |
| 680404 | 1/4" x 1/4" | 0.04 | 5.55 |
| 680406 | 1/4" x 3/8" | 0.07 | 9.75 |
| 680602 | 3/8" x 1/8" | 0.06 | 7.83 |
| 680604 | 3/8" x 1/4" | 0.07 | 7.06 |
| 680606 | 3/8" x 3/8" | 0.06 | 7.68 |
| 680608 | 3/8" x 1/2" | 0.13 | 13.57 |
| 680804 | 1/2" x 1/4" | 0.11 | 16.55 |
| 680806 | 1/2" x 3/8" | 0.12 | 9.81 |
| 680808 | 1/2" x 1/2" | 0.14 | 10.16 |
| 681006 | 5/8" x 3/8" | 0.18 | 19.12 |
| 681008 | 5/8" x 1/2" | 0.18 | 20.81 |
| 681208 | 3/4" x 1/2" | 0.20 | 26.60 |
| 681212 | 3/4" x 3/4" | 0.20 | 33.47 |

AQ68DOT 68PM 1868 DQ68DOT 68PMT

MALE ELBOW



Forged

| Part # | Tube O.D. x Male NPTF | Approx. Wt. Lbs. | List Price |
|--------|-----------------------|------------------|------------|
| 695302 | 5/32" x 1/16" | 0.03 | 15.21 |
| 695322 | 5/32" x 1/8" | 0.03 | 10.16 |
| 690302 | 3/16" x 1/8" | 0.03 | 19.40 |
| 690402 | 1/4" x 1/8" | 0.08 | 8.65 |
| 690404 | 1/4" x 1/4" | 0.06 | 9.09 |
| 690406 | 1/4" x 3/8" | 0.11 | 11.49 |
| 690602 | 3/8" x 1/8" | 0.08 | 12.47 |
| 690604 | 3/8" x 1/4" | 0.09 | 10.86 |
| 690606 | 3/8" x 3/8" | 0.11 | 11.95 |
| 690608 | 3/8" x 1/2" | 0.20 | 20.01 |
| 690804 | 1/2" x 1/4" | 0.22 | 17.13 |
| 690806 | 1/2" x 3/8" | 0.22 | 17.02 |
| 690808 | 1/2" x 1/2" | 0.24 | 22.21 |
| 691006 | 5/8" x 3/8" | 0.30 | 25.18 |
| 691008 | 5/8" x 1/2" | 0.32 | 26.11 |
| 691208 | 3/4" x 1/2" | 0.32 | 35.13 |
| 691212 | 3/4" x 3/4" | 0.34 | 42.35 |

AQ69DOT 169PMTNS 1869 DQ69DOT

MALE SWIVEL ELBOW



Forged

| Part # | Tube O.D. x Male NPTF | Approx. Wt. Lbs. | List Price |
|---------|-----------------------|------------------|------------|
| 695322S | 5/32" x 1/8" | 0.07 | 12.44 |
| 690402S | 1/4" x 1/8" | 0.06 | 11.07 |
| 690404S | 1/4" x 1/4" | 0.10 | 15.69 |
| 690406S | 1/4" x 3/8" | 0.10 | 20.01 |
| 690602S | 3/8" x 1/8" | 0.10 | 12.47 |
| 690604S | 3/8" x 1/4" | 0.11 | 14.27 |
| 690606S | 3/8" x 3/8" | 0.12 | 14.77 |
| 690608S | 3/8" x 1/2" | 0.20 | 21.75 |
| 690804S | 1/2" x 1/4" | 0.16 | 39.00 |
| 690806S | 1/2" x 3/8" | 0.18 | 18.41 |
| 690808S | 1/2" x 1/2" | 0.26 | 24.09 |
| 691006S | 5/8" x 3/8" | 0.28 | 24.95 |
| 691008S | 5/8" x 1/2" | 0.30 | 29.70 |
| 691208S | 3/4" x 1/2" | 0.50 | 96.10 |
| 691212S | 3/4" x 3/4" | 0.56 | 53.24 |

AQ69DOTS 169PMT 1869 DQ69DOTS

Ask for what you want and be prepared to get it! – Maya Angelou

FEMALE ELBOW



Forged

| Part # | Tube O.D. x Female NPTF | Approx. Wt. Lbs. | List Price |
|--------|-------------------------|------------------|------------|
| 700402 | 1/4" x 1/8" | 0.06 | 9.95 |
| 700404 | 1/4" x 1/4" | 0.10 | 12.80 |
| 700406 | 1/4" x 3/8" | 0.16 | 16.23 |
| 700602 | 3/8" x 1/8" | 0.15 | 54.66 |
| 700604 | 3/8" x 1/4" | 0.12 | 12.85 |
| 700606 | 3/8" x 3/8" | 0.17 | 17.89 |
| 700806 | 1/2" x 3/8" | 0.26 | 44.62 |
| 700808 | 1/2" x 1/2" | 0.30 | 50.78 |

AQ70DOTS 1870 DQ70DOTS 170PMTNS

FEMALE SWIVEL ELBOW



| Part # | Tube O.D. x Female NPTF | List Price |
|---------|-------------------------|------------|
| 700404S | 1/4" x 1/4" | 11.85 |

MALE RUN TEE



Forged

| Part # | Tube O.D. x Male NPTF (1 x 3) x 2 | Approx. Wt. Lbs. | List Price |
|----------|-----------------------------------|------------------|------------|
| 710402 | 1/4" x 1/8" | 0.06 | 13.99 |
| 71040604 | (1/4" x 3/8") x 1/4" | 0.20 | 84.59 |
| 710404 | 1/4" x 1/4" | 0.08 | 14.94 |
| 710604 | 3/8" x 1/4" | 0.20 | 18.41 |
| 71060404 | (3/8" x 1/4") x 1/4" | 0.20 | 50.95 |
| 710606 | 3/8" x 3/8" | 0.17 | 17.60 |
| 71060406 | (3/8" x 1/4") x 3/8" | 0.20 | 68.75 |
| 710608 | 3/8" x 1/2" | 0.14 | 92.35 |
| 710806 | 1/2" x 3/8" | 0.28 | 29.14 |

AQ71DOT 171PMTNS 1871 DQ71DOT

Leadership is not a position or a title, it is action and example.

D.O.T. PUSH-IN**BRASS FITTINGS****MALE SWIVEL RUN TEE****Forged**

| Part # | Tube O.D. x Male NPTF | Approx. Wt. Lbs. | List Price |
|---------|-----------------------|------------------|------------|
| 710402S | 1/4" x 1/8" | 0.09 | 15.69 |
| 710404S | 1/4" x 1/4" | 0.11 | 17.61 |
| 710604S | 3/8" x 1/4" | 0.15 | 21.07 |
| 710606S | 3/8" x 3/8" | 0.14 | 22.82 |
| 710804S | 1/2" x 1/4" | 0.24 | 93.23 |
| 710806S | 1/2" x 3/8" | 0.24 | 36.98 |
| 710808S | 1/2" x 1/2" | 0.30 | 38.76 |

AQ71DOTS 171PMT 1871 DQ71DOTS

MALE 45° ELBOW**Forged**

| Part # | Tube O.D. x Male NPTF | Approx. Wt. Lbs. | List Price |
|--------|-----------------------|------------------|------------|
| 540402 | 1/4" x 1/8" | 0.06 | 11.85 |
| 540404 | 1/4" x 1/4" | 0.06 | 12.88 |
| 540602 | 3/8" x 1/8" | 0.08 | 12.75 |
| 540604 | 3/8" x 1/4" | 0.09 | 14.66 |
| 540606 | 3/8" x 3/8" | 0.11 | 16.70 |
| 540608 | 3/8" x 1/2" | 0.15 | 18.10 |
| 540804 | 1/2" x 1/4" | 0.13 | 25.42 |
| 540806 | 1/2" x 3/8" | 0.16 | 18.24 |
| 540808 | 1/2" x 1/2" | 0.18 | 26.15 |
| 541006 | 5/8" x 3/8" | 0.22 | 49.61 |
| 541008 | 5/8" x 1/2" | 0.21 | 27.44 |
| 541208 | 3/4" x 1/2" | 0.28 | 35.28 |
| 541212 | 3/4" x 3/4" | 0.32 | 42.41 |

AQ54DOT 179MTNS 1880 DQ54DOT

MALE 45° SWIVEL ELBOW

| Part # | Tube O.D. x Male NPTF | Approx. Wt. Lbs. | List Price |
|---------|-----------------------|------------------|------------|
| 540402S | 1/4" x 1/8" | 0.06 | 17.75 |
| 540404S | 1/4" x 1/4" | 0.09 | 19.09 |
| 540602S | 3/8" x 1/8" | 0.10 | 16.47 |
| 540604S | 3/8" x 1/4" | 0.11 | 16.55 |
| 540606S | 3/8" x 3/8" | 0.13 | 17.37 |
| 540804S | 1/2" x 1/4" | 0.14 | 31.38 |
| 540806S | 1/2" x 3/8" | 0.16 | 28.72 |
| 540808S | 1/2" x 1/2" | 0.18 | 25.25 |
| 541008S | 5/8" x 1/2" | 0.24 | 41.17 |

AQ54DOTS 179PMT 1880 DQ54DOTS

MALE BRANCH TEE**Forged**

| Part # | Tube O.D. x Male NPTF (1 x 2) x 3 | Approx. Wt. Lbs. | List Price |
|----------|-----------------------------------|------------------|------------|
| 720302 | 3/16" x 1/8" | 0.07 | 31.65 |
| 720402 | 1/4" x 1/8" | 0.10 | 14.20 |
| 720404 | 1/4" x 1/4" | 0.10 | 14.73 |
| 720604 | 3/8" x 1/4" | 0.14 | 20.14 |
| 72060404 | (3/8" x 1/4") x 1/4" | 0.20 | 58.93 |
| 720606 | 3/8" x 3/8" | 0.15 | 28.00 |
| 720804 | 1/2" x 1/4" | 0.20 | 31.53 |
| 720806 | 1/2" x 3/8" | 0.24 | 28.05 |
| 720808 | 1/2" x 1/2" | 0.32 | 40.38 |
| 72100808 | (5/8" x 1/2") x 1/2" | 0.20 | 72.89 |

AQ72DOT 172PMTNS 1872 DQ72DOT

MALE SWIVEL BRANCH TEE



| Part # | Tube O.D. x Male NPTF | Approx. Wt. Lbs. | List Price |
|---------|-----------------------|------------------|------------|
| 720402S | 1/4" x 1/8" | 0.12 | 17.30 |
| 720404S | 1/4" x 1/4" | 0.14 | 16.93 |
| 720602S | 3/8" x 1/8" | 0.19 | 18.67 |
| 720604S | 3/8" x 1/4" | 0.15 | 22.39 |
| 720606S | 3/8" x 3/8" | 0.17 | 22.12 |
| 720804S | 1/2" x 1/4" | 0.30 | 34.02 |
| 720806S | 1/2" x 3/8" | 0.34 | 32.46 |
| 720808S | 1/2" x 1/2" | 0.22 | 36.06 |

AQ72DOTS 172PMT 1872 DQ72DOTS

FEMALE BRANCH TEE



(RUN) BRANCH

| Part # | (1 & 2) x 3 | List Price |
|--------|-------------|------------|
| 770402 | 1/4" x 1/8" | 18.50 |
| 770404 | 1/4" x 1/4" | 23.38 |
| 770604 | 3/8" x 1/4" | 17.68 |

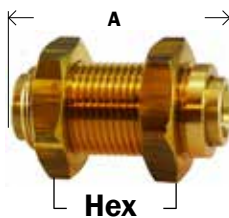
GLADHAND BULKHEAD CONNECTOR



TUBE OD x MALE NPTF

| Part # | Size | List Price |
|--------|-------------|------------|
| 830808 | 1/2" x 1/2" | 57.88 |

BULKHEAD UNION



| Part # | Tube O.D. | Approx. Wt. Lbs. | List Price |
|--------|-----------|------------------|------------|
| 820400 | 1/4" | 0.16 | 21.63 |
| 820600 | 3/8" | 0.21 | 35.89 |
| 820800 | 1/2" | 0.14 | 40.08 |
| 821000 | 5/8" | 0.30 | 47.15 |

AQ82DOT 62PMTBH 1874 DQ82DOT

FEMALE BULKHEAD UNION



| Part # | Tube O.D. x Female NPTF | Approx. Wt. Lbs. | List Price |
|--------|-------------------------|------------------|------------|
| 860402 | 1/4" x 1/8" | 0.08 | 13.90 |
| 860404 | 1/4" x 1/4" | 0.10 | 15.10 |
| 860604 | 3/8" x 1/4" | 0.14 | 15.65 |
| 860606 | 3/8" x 3/8" | 0.31 | 21.01 |
| 860808 | 1/2" x 1/2" | 0.32 | 41.50 |

• Jam nuts not available seperately

AQ86DOT 1873 DQ86DOT 66PMTBH

COMPOSITE BODY DOT AIRBRAKE FITTINGS

NEW

WARNING

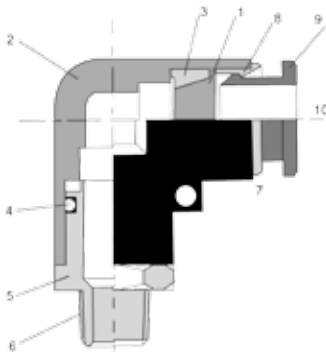
- Composite DOT push-to-connect fittings are designed only for use in applications where air is utilized as an operating fluid.
 - Fittings must be used in accordance with manufacturer and industry specifications.
 - They are not intended for use in environments exceeding 145psi or 140 degrees F.
 - The Department of Transportation FMVSS 49CFR571-106 prohibits use of this type of fitting for connections between towed and towing vehicles or between a driveshaft and chassis.
 - Using Composite DOT fittings in a manner inconsistent with manufacturer specifications may result in serious injury or property damage.
 - Under no circumstances shall the supplier be liable to buyer for any consequential or incidental damages of any nature whatsoever arising from nonconformity of goods, defective goods, or delay in shipment or any other breach by seller.
- Please feel free to email warning@compdotfitting.com with any questions or concerns.



- One touch connection reduces installation time and cost.
- Rugged ultraviolet and vibration resistant composite body.
- Various shapes and configurations to meet vehicle applications and make installations easier.

Specifications for FMVSS (D.O.T.) and SAE Compliant Fittings

| Operating Fluid | | Air | | | | | |
|--|------------------|---|---------|---------|--------|--------|--------|
| Max. Operating Pressure | | 145psi (1.0MPa) | | | | | |
| Proof Pressure | Size | 5/32" | 1/4" | 3/8" | 1/2" | 5/8" | 3/4" |
| | At 75°F (24°C) | 1200psi | 1200psi | 1400psi | 950psi | 900psi | 800psi |
| | At 200 °F (93°C) | 450psi (3.1MPa) | | | | | |
| Recommended Fluid and Ambient Temperature* | | -40°F to 140°F (-40°C to 60°C) | | | | | |
| Leak Rate at -40°F (-40°C) | | 7 Ncm ³ /min. or less | | | | | |
| Thread | Thread Portion | ANSI/ASME B1.20.1, 1983 R1992 | | | | | |
| | Nut | JIS B 0208 (Unified fine thread) ISO 263 | | | | | |
| Thread Sealant | | Fluorine/ Acrylic | | | | | |
| Applicable Standards | | D.O.T. FMVSS 49 CFR 571.106, SAE J2494-3 | | | | | |
| Applicable Tubing | | Tubing conforming to both SAE J844 and D.O.T. FMVSS 49 CFR 571.106. Material: Nylon12 | | | | | |
| Tube O.D. | | 5/32", 1/4", 3/8", 1/2", 5/8", 3/4" | | | | | |



| | |
|------------------------|---|
| 1. Chuck | Stainless steel or Brass |
| 2. Body | Polybutylene Terephthalate (PBT), Brass |
| 3/4. Tube seal, O-Ring | Buna-N, Nitrile Rubber |
| 5. Stud | Brass |
| 6. Sealant | Flourine/ Acrylic |
| 7. Guide | Stainless Steel or Polyacetal (Acetal) |
| 8. Stabilization Ring | Stainless Steel |
| 9. Release Button | Polyacetal, POM (Acetal) |
| 10. Tube support | Stainless Steel/ Brass |

STRAIGHT UNION



| Part # | Tube OD (inch) | Approx. Wt. Lbs. | List Price |
|---------|----------------|------------------|------------|
| 620532C | 5/32 | 0.01 | 22.23 |
| 620400C | 1/4 | 0.01 | 6.42 |
| 620600C | 3/8 | 0.03 | 9.50 |
| 620800C | 1/2 | 0.05 | 12.85 |
| 621000C | 5/8 | 0.08 | 37.92 |

UNION TEE



| Part # | Tube OD (inch) | Approx. Wt. Lbs. | List Price |
|---------|----------------|------------------|------------|
| 640400C | 1/4 | 0.02 | 9.27 |
| 640600C | 3/8 | 0.05 | 14.95 |
| 640800C | 1/2 | 0.07 | 18.17 |
| 641000C | 5/8 | 0.13 | 29.69 |

UNION 90° ELBOW



| Part # | Tube OD (inch) | Approx. Wt. Lbs. | List Price |
|---------|----------------|------------------|------------|
| 655320C | 5/32 | 0.01 | 35.12 |
| 650400C | 1/4 | 0.02 | 9.91 |
| 650600C | 3/8 | 0.04 | 12.42 |
| 650800C | 1/2 | 0.05 | 19.92 |

FEMALE CONNECTOR



| Part # | Tube OD (inch) | Thread NPT | Approx. Wt. Lbs. | List Price |
|---------|----------------|------------|------------------|------------|
| 660402C | 1/4 | 1/8-27 | 0.04 | 9.91 |
| 660404C | 1/4 | 1/4-18 | 0.06 | 10.71 |
| 660406C | 1/4 | 3/8-18 | 0.10 | 11.48 |
| 660602C | 3/8 | 1/8-27 | 0.07 | 16.85 |
| 660604C | 3/8 | 1/4-18 | 0.07 | 16.85 |
| 660606C | 3/8 | 3/8-18 | 0.11 | 16.98 |
| 660608C | 3/8 | 1/2-14 | 0.12 | 15.63 |
| 660802C | 1/2 | 1/8-27 | 0.11 | 13.92 |
| 660804C | 1/2 | 1/4-18 | 0.13 | 14.13 |
| 660806C | 1/2 | 3/8-18 | 0.12 | 23.90 |
| 660808C | 1/2 | 1/2-14 | 0.13 | 23.49 |

COMPOSITE BODY D.O.T. PUSH-IN

BRASS FITTINGS

STRAIGHT MALE CONNECTOR



| Part # | App. Tube OD (inch) | Thread NPT | Approx. Wt. Lbs. | List Price |
|---------|---------------------|------------|------------------|------------|
| 680402C | 1/4 | 1/8-27 | 0.02 | 4.53 |
| 680404C | 1/4 | 1/4-18 | 0.03 | 4.86 |
| 680406C | 1/4 | 3/8-18 | 0.05 | 6.21 |
| 680602C | 3/8 | 1/8-27 | 0.05 | 9.42 |
| 680604C | 3/8 | 1/4-18 | 0.06 | 7.31 |
| 680606C | 3/8 | 3/8-18 | 0.06 | 7.65 |
| 680608C | 3/8 | 1/2-14 | 0.09 | 12.20 |
| 680804C | 1/2 | 1/4-18 | 0.09 | 12.78 |
| 680806C | 1/2 | 3/8-18 | 0.09 | 13.49 |
| 680808C | 1/2 | 1/2-14 | 0.09 | 16.34 |
| 681006C | 5/8 | 3/8-18 | 0.15 | 24.18 |
| 681008C | 5/8 | 1/2-14 | 0.13 | 23.32 |
| 681208C | 3/4 | 1/2-14 | 0.38 | 27.97 |

90° MALE ELBOW

• Fixed



| Part # | Tube OD (inch) | Thread NPT | Approx. Wt. Lbs. | List Price |
|----------|----------------|------------|------------------|------------|
| 695322SC | 5/32 | 1/8-27 | 0.03 | 15.82 |
| 690402SC | 1/4 | 1/8-27 | 0.03 | 6.27 |
| 690404SC | 1/4 | 1/4-18 | 0.04 | 6.42 |
| 690406SC | 1/4 | 3/8-18 | 0.07 | 11.17 |
| 690602SC | 3/8 | 1/8-27 | 0.07 | 12.60 |
| 690604SC | 3/8 | 1/4-18 | 0.06 | 10.43 |
| 690606SC | 3/8 | 3/8-18 | 0.08 | 12.85 |
| 690608SC | 3/8 | 1/2-14 | 0.14 | 16.06 |
| 690804SC | 1/2 | 1/4-18 | 0.07 | 17.55 |
| 690806SC | 1/2 | 3/8-18 | 0.09 | 16.49 |
| 690808SC | 1/2 | 1/2-14 | 0.14 | 16.77 |
| 691006SC | 5/8 | 3/8-18 | 0.14 | 24.27 |
| 691008SC | 5/8 | 1/2-14 | 0.18 | 24.14 |
| 691208SC | 3/4 | 1/2-14 | 0.26 | 27.73 |

90° FEMALE ELBOW



| Part # | Tube OD (inch) | Thread NPT | Approx. Wt. Lbs. | List Price |
|----------|----------------|------------|------------------|------------|
| 700402SC | 1/4 | 1/8-27 | 0.03 | 8.35 |
| 700404SC | 1/4 | 1/4-18 | 0.05 | 13.43 |
| 700406SC | 1/4 | 3/8-18 | 0.08 | 14.92 |
| 700604SC | 3/8 | 1/4-18 | 0.07 | 15.42 |
| 700606SC | 3/8 | 3/8-18 | 0.09 | 18.42 |
| 700608SC | 3/8 | 1/2-14 | 0.10 | 16.45 |
| 700806SC | 1/2 | 3/8-18 | 0.10 | 24.20 |
| 700808SC | 1/2 | 1/2-14 | 0.11 | 26.41 |

MALE RUN TEE

• Fixed



| Part # | Tube OD (inch) | Thread NPT | Approx. Wt. Lbs. | List Price |
|----------|----------------|------------|------------------|------------|
| 710402SC | 1/4 | 1/8-27 | 0.04 | 12.77 |
| 710404SC | 1/4 | 1/4-18 | 0.05 | 12.77 |
| 710604SC | 3/8 | 1/4-18 | 0.08 | 16.98 |
| 710606SC | 3/8 | 3/8-18 | 0.10 | 18.57 |
| 710608SC | 3/8 | 1/2-14 | 0.15 | 23.22 |
| 710806SC | 1/2 | 3/8-18 | 0.11 | 28.12 |

MALE BRANCH TEE

• Fixed



| Part # | Tube OD (inch) | Thread NPT | Approx. Wt. Lbs. | List Price |
|----------|----------------|------------|------------------|------------|
| 720402SC | 1/4 | 1/8-27 | 0.04 | 11.17 |
| 720404SC | 1/4 | 1/4-18 | 0.05 | 12.06 |
| 720406SC | 1/4 | 3/8-18 | 0.08 | 22.05 |
| 720604SC | 3/8 | 1/4-18 | 0.08 | 15.76 |
| 720606SC | 3/8 | 3/8-18 | 0.10 | 17.84 |
| 720806SC | 1/2 | 3/8-18 | 0.11 | 22.12 |
| 720808SC | 1/2 | 1/2-14 | 0.17 | 30.90 |

FEMALE BRANCH TEE

| Part # | Tube OD (inch) | Thread NPT | Approx. Wt. Lbs. | List Price |
|---------|----------------|------------|------------------|------------|
| 770402C | 1/4 | 1/8-27 | 0.06 | 15.05 |
| 770404C | 1/4 | 1/4-18 | 0.08 | 17.56 |
| 770604C | 3/8 | 1/4-18 | 0.08 | 24.14 |

45° MALE ELBOW

• Fixed



| Part # | Tube OD (inch) | Thread NPT | Approx. Wt. Lbs. | List Price |
|----------|----------------|------------|------------------|------------|
| 540402SC | 1/4 | 1/8-27 | 0.03 | 10.71 |
| 540404SC | 1/4 | 1/4-18 | 0.04 | 12.63 |
| 540602SC | 3/8 | 1/8-27 | 0.06 | 14.28 |
| 540604SC | 3/8 | 1/4-18 | 0.06 | 14.28 |
| 540606SC | 3/8 | 3/8-18 | 0.08 | 23.56 |
| 540608SC | 3/8 | 1/2-14 | 0.13 | 19.98 |
| 540804SC | 1/2 | 1/4-18 | 0.08 | 23.99 |
| 540806SC | 1/2 | 3/8-18 | 0.10 | 23.56 |
| 540808SC | 1/2 | 1/2-14 | 0.15 | 23.19 |
| 541006SC | 5/8 | 3/8-18 | 0.14 | 41.55 |
| 541008SC | 5/8 | 1/2-14 | 0.17 | 31.61 |
| 541208SC | 3/4 | 1/2-14 | 0.26 | 29.77 |

COMPOSITE BODY D.O.T. PUSH-IN

BRASS FITTINGS

UNION "Y"



| Part # | A&B Tube OD (inch) | C Tube OD (inch) | Approx. Wt. Lbs. | List Price |
|---------|--------------------|------------------|------------------|------------|
| 620553C | 1/4 | 1/4 | 0.03 | 17.02 |
| 620409C | 1/4 | 3/8 | 0.03 | 18.84 |
| 620555C | 3/8 | 3/8 | 0.05 | 20.99 |
| 620559C | 3/8 | 1/4 | 0.07 | 23.99 |
| 620557C | 1/2 | 1/2 | 0.08 | 26.66 |

MALE BRANCH "Y"



| Part # | Tube OD (inch) | Thread NPT | Approx. Wt. Lbs. | List Price |
|---------|----------------|------------|------------------|------------|
| 620604C | 3/8 | 1/4-18 | 0.09 | 24.63 |
| 620606C | 3/8 | 3/8-18 | 0.12 | 25.59 |
| 620806C | 1/2 | 3/8-18 | 0.13 | 39.73 |
| 620808C | 1/2 | 1/2-14 | 0.15 | 40.80 |

BULKHEAD UNION



| Part # | Tube OD (inch) | Thread (UNF) | Approx. Wt. Lbs. | List Price |
|---------|----------------|--------------|------------------|------------|
| 820400C | 1/4 | 9/16-18 | 0.07 | 11.88 |
| 820600C | 3/8 | 7/8-14 | 0.19 | 17.62 |
| 820800C | 1/2 | 1-12 | 0.26 | 26.62 |
| 821000C | 5/8 | 1 1/8-12 | 0.42 | 66.33 |

FEMALE BULKHEAD CONNECTOR



| Part # | App. Tube OD (inch) | Thread NPT | T (UNF) | Approx. Wt. Lbs. | List Price |
|---------|---------------------|------------|---------|------------------|------------|
| 860402C | 1/4 | 1/8-27 | 9/16-18 | 0.01 | 16.70 |
| 860404C | 1/4 | 1/4-18 | 9/16-18 | 0.08 | 24.31 |
| 860604C | 3/8 | 1/4-18 | 7/8-14 | 0.20 | 24.95 |
| 860606C | 3/8 | 3/8-18 | 7/8-14 | 0.20 | 25.48 |
| 860806C | 1/2 | 3/8-18 | 1-12 | 0.26 | 28.91 |
| 860808C | 1/2 | 1/2-14 | 1-12 | 0.27 | 30.09 |

Your attitude determines your direction.

D.O.T. AIR BRAKE - NYLON TUBING



| Tube O.D | 1/4 | 3/8 | 1/2 | 5/8 | 3/4 |
|------------------|---------|----------|----------|----------|------|
| Thread Size-B | 7/16-24 | 17/32-24 | 11/16-20 | 13/16-18 | 1-18 |

•Typical Application

Air brake systems except where temperatures exceed +200°F or where battery acid can drip on tubing.

•Pressure

Maximum operating pressure of 150 PSI.

•Vibration

Fair resistance.

•Temperature Range

-40°F to +200°F (-40°C to +93°C).

•Material

Brass

•Used With

NT Nylon Tubing - SAE J844 Type A and B.

•Tolerance

+/- .02 on all dimensions. Dimension data can change without notice. Please call us when dimensions are critical

•Advantages

Easy to assemble (no tube preparation or flaring required.) Built in tube support. Fittings utilize a ribbed sleeve for compression and positive grip. May be used with copper tubing by replacing nut, sleeve and insert with long nut and spherical sleeve. Insert should be removed for copper tubing use.

•Conformance

Meets specifications and standards of SAE and DOT FMVSS 571,106.

•Assembly Instructions

- 1- Cut tubing to desired length.
- 2-Slide nut and then sleeve on tubing. Threaded end of nut "A" must face toward fitting body.
- 3-Insert tubing into the preassembled fitting. Be sure tubing is bottomed in fitting.
- 4- Tighten nut to required torque as indicated on chart.

Disassembling: Remove nut and pull tubing out of fitting body. Insert will remain in tubing.

Reassembly: Push tubing and insert into fitting body until it bottoms. Thread nut onto fitting body and torque as in step 4.

| Tube Size | Additional Number of Turns from Hand-Tight |
|--------------|---|
| 1/4 | 3 |
| 3/8, 1/2 | 4 |
| 5/8, 3/4 | 3-1/2 |

D.O.T. AIR BRAKE - NYLON TUBING**BRASS FITTINGS****SLEEVE**

SAE# 100115



| Part # | Tube O.D. | Approx. Wt. Lbs. | List Price |
|--------|-----------|------------------|------------|
| 38-001 | 1/4" | 0.01 | 0.41 |
| 38-002 | 3/8" | 0.01 | 0.54 |
| 38-003 | 1/2" | 0.01 | 0.75 |
| 38-004 | 5/8" | 0.01 | 1.20 |
| 38-005 | 3/4" | 0.01 | 2.15 |

60NAB 60NTA 1460

NUT

SAE# 100110



| Part # | Tube O.D. | Approx. Wt. Lbs. | List Price |
|--------|-----------|------------------|------------|
| 38-010 | 1/4" | 0.02 | 0.84 |
| 38-011 | 3/8" | 0.03 | 1.07 |
| 38-012 | 1/2" | 0.05 | 2.64 |
| 38-013 | 5/8" | 0.06 | 2.78 |
| 38-014 | 3/4" | 0.09 | 4.68 |

61NAB 61NTA 1461

UNION

SAE# 100101BA



| Part # | Tube O.D. | Approx. Wt. Lbs. | List Price |
|--------|-----------|------------------|------------|
| 38-019 | 1/4" | 0.07 | 5.65 |
| 38-020 | 3/8" | 0.11 | 6.83 |
| 38-021 | 1/2" | 0.20 | 11.00 |
| 38-022 | 5/8" | 0.25 | 23.01 |
| 38-023 | 3/4" | 0.40 | 34.89 |

62NAB 62NTA 1462

BULKHEAD UNION

| Part # | Tube O.D. | Approx. Wt. Lbs. | List Price |
|--------|-----------|------------------|------------|
| 38-028 | 1/4" | 0.11 | 15.05 |
| 38-029 | 3/8" | 0.16 | 18.50 |
| 38-030 | 1/2" | 0.26 | 30.00 |

62NBH 1474 475

STAINLESS STEEL INSERT

• 300 series stainless

• For SAE# J844 TUBING



| Part # | Tube O.D. | Approx. Wt. Lbs. | List Price |
|--------|-----------|------------------|------------|
| 38-035 | 1/4" | 0.01 | 1.04 |
| 38-036 | 3/8" | 0.01 | 0.79 |
| 38-037 | 1/2" | 0.01 | 1.38 |
| 38-038 | 5/8" | 0.01 | 3.46 |
| 38-039 | 3/4" | 0.01 | 4.02 |

59A 63NTA

BRASS INSERT

| Part # | Tube O.D. | Approx. Wt. Lbs. | List Price |
|--------|-----------|------------------|------------|
| 38-040 | 1/4" | 0.01 | 0.83 |
| 38-041 | 3/8" | 0.01 | 0.83 |
| 38-042 | 1/2" | 0.01 | 1.64 |
| 38-043 | 5/8" | 0.01 | 1.77 |
| 38-048 | 3/4" | 0.02 | 2.82 |

1484 463

TEE

SAE# 100401BA



| Part # | Tube O.D. | Approx. Wt. Lbs. | List Price |
|--------|-----------|------------------|------------|
| 38-044 | 1/4" | 0.12 | 12.27 |
| 38-045 | 3/8" | 0.19 | 11.76 |
| 38-046 | 1/2" | 0.36 | 18.65 |
| 38-047 | 5/8" | 0.48 | 40.20 |

64NAB 264NTA 1464

REDUCING BRANCH TEE



| Part # | Tube O.D. (1&2) x 3 | Approx. Wt. Lbs. | List Price |
|--------|---------------------|------------------|------------|
| 38-049 | 3/8" x 1/4" | 0.24 | 46.94 |
| 38-057 | 1/2" x 3/8" | 0.30 | 23.73 |

ELBOW

SAE# 100201BA



| Part # | Tube O.D. | Approx. Wt. Lbs. | List Price |
|--------|-----------|------------------|------------|
| 38-052 | 1/4" | 0.09 | 12.58 |
| 38-053 | 3/8" | 0.13 | 9.99 |
| 38-054 | 1/2" | 0.15 | 24.42 |
| 38-055 | 5/8" | 0.36 | 29.00 |

65NAB 265NTA 1465

FEMALE ADAPTER

SAE# 100103BA



| Part # | Tube O.D. x Female NPT | Approx. Wt. Lbs. | List Price |
|--------|------------------------|------------------|------------|
| 38-060 | 1/4" x 1/8" | 0.06 | 4.76 |
| 38-061 | 1/4" x 1/4" | 0.08 | 6.58 |
| 38-062 | 3/8" x 1/8" | 0.07 | 6.36 |
| 38-063 | 3/8" x 1/4" | 0.10 | 7.98 |
| 38-064 | 3/8" x 3/8" | 0.14 | 9.00 |
| 38-065 | 1/2" x 3/8" | 0.16 | 12.35 |
| 38-066 | 1/2" x 1/2" | 0.20 | 18.46 |
| 38-067 | 5/8" x 3/8" | 0.28 | 19.76 |
| 38-068 | 5/8" x 1/2" | 0.28 | 23.32 |

66NAB 66NTA 1466 66NBH

Nothing can bring you peace but yourself.

- Ralph Waldo Emerson

D.O.T. AIR BRAKE - NYLON TUBING

BRASS FITTINGS

MALE ADAPTER

SAE# 100102BA



| Part # | Tube O.D. x Male NPTF | Approx. Wt. Lbs. | List Price |
|--------|-----------------------|------------------|------------|
| 38-072 | 1/4" x 1/16" | 0.05 | 19.72 |
| 38-073 | 1/4" x 1/8" | 0.05 | 3.84 |
| 38-074 | 1/4" x 1/4" | 0.06 | 6.50 |
| 38-075 | 1/4" x 3/8" | 0.08 | 8.03 |
| 38-076 | 3/8" x 1/8" | 0.07 | 4.33 |
| 38-077 | 3/8" x 1/4" | 0.08 | 4.58 |
| 38-078 | 3/8" x 3/8" | 0.10 | 5.12 |
| 38-079 | 3/8" x 1/2" | 0.14 | 7.48 |
| 38-080 | 1/2" x 1/4" | 0.13 | 7.58 |
| 38-081 | 1/2" x 3/8" | 0.14 | 6.54 |
| 38-082 | 1/2" x 1/2" | 0.18 | 8.45 |
| 38-087 | 1/2" x 3/4" | 0.23 | 31.54 |
| 38-083 | 5/8" x 3/8" | 0.17 | 16.02 |
| 38-084 | 5/8" x 1/2" | 0.21 | 13.72 |
| 38-088 | 5/8" x 3/4" | 0.25 | 19.49 |
| 38-085 | 3/4" x 1/2" | 0.28 | 19.02 |

SWIVEL MALE ADAPTER



68NAB 68NTA 1468

| Part # | Tube O.D. x Male NPTF | Approx. Wt. Lbs. | List Price |
|---------|-----------------------|------------------|------------|
| 38-078S | 3/8" x 3/8" | 0.18 | 28.56 |
| 38-081S | 1/2" x 3/8" | 0.22 | 30.96 |

MALE ELBOW

SAE# 100202BA



| Part # | Tube O.D. x Male NPTF | Approx. Wt. Lbs. | List Price |
|--------|-----------------------|------------------|------------|
| 38-091 | 1/4" x 1/8" | 0.06 | 4.82 |
| 38-092 | 1/4" x 1/4" | 0.08 | 6.07 |
| 38-093 | 1/4" x 3/8" | 0.13 | 6.55 |
| 38-094 | 3/8" x 1/8" | 0.09 | 6.78 |
| 38-095 | 3/8" x 1/4" | 0.11 | 6.44 |
| 38-090 | 3/8" x 1/4" LONG | 0.14 | 21.32 |
| 38-101 | 3/8" x 3/8" | 0.14 | 7.46 |
| 38-102 | 3/8" x 1/2" | 0.20 | 9.69 |
| 38-103 | 1/2" x 1/4" | 0.16 | 9.42 |
| 38-104 | 1/2" x 3/8" | 0.20 | 10.26 |
| 38-109 | 1/2" x 3/8" LONG | 0.26 | 46.92 |
| 38-105 | 1/2" x 1/2" | 0.29 | 11.02 |
| 38-106 | 5/8" x 3/8" | 0.26 | 18.66 |
| 38-107 | 5/8" x 1/2" | 0.32 | 17.60 |
| 38-110 | 5/8" x 3/4" | 0.40 | 27.52 |
| 38-108 | 3/4" x 1/2" | 0.43 | 27.99 |

SWIVEL MALE ELBOW



269NTA 1469

| Part # | Tube O.D. x Male NPTF | Approx. Wt. Lbs. | List Price |
|---------|-----------------------|------------------|------------|
| 38-101S | 3/8" x 3/8" | 0.28 | 39.66 |
| 38-104S | 1/2" x 3/8" | 0.32 | 42.36 |

FEMALE ELBOW

SAE# 100203BA



| Part # | Tube O.D. x Female NPTF | Approx. Wt. Lbs. | List Price |
|--------|-------------------------|------------------|------------|
| 38-113 | 1/4" x 1/8" | 0.08 | 7.31 |
| 38-114 | 1/4" x 1/4" | 0.12 | 14.61 |
| 38-115 | 3/8" x 1/8" | 0.14 | 19.88 |
| 38-116 | 3/8" x 1/4" | 0.10 | 12.98 |
| 38-117 | 3/8" x 3/8" | 0.12 | 16.93 |
| 38-118 | 1/2" x 3/8" | 0.23 | 18.50 |
| 38-119 | 1/2" x 1/2" | 0.36 | 28.04 |
| 38-120 | 5/8" x 1/2" | 0.38 | 39.14 |

MALE RUN TEE

SAE# 100424BA



| Part # | Tube O.D. x Male NPTF x Tube O.D. 1x2x3 | Approx. Wt. Lbs. | List Price |
|--------|--|---------------------|------------|
| 38-125 | 1/4" x 1/8" x 1/4" | 0.10 | 13.80 |
| 38-126 | 1/4" x 1/4" x 1/4" | 0.13 | 11.44 |
| 38-124 | 3/8" x 1/4" x 1/4" | 0.14 | 31.54 |
| 38-127 | 3/8" x 1/4" x 3/8" | 0.17 | 11.56 |
| 38-128 | 3/8" x 3/8" x 3/8" | 0.20 | 10.01 |
| 38-129 | 1/2" x 3/8" x 1/2" | 0.30 | 13.05 |

71NAB 271NTA 1471

MALE BRANCH TEE

SAE# 100425BA



| Part # | Tube O.D. x Tube O.D. x Male NPTF 1x2x3 | Approx. Wt. Lbs. | List Price |
|--------|--|---------------------|------------|
| 38-136 | 1/4" x 1/4" x 1/8" | 0.10 | 9.60 |
| 38-137 | 1/4" x 1/4" x 1/4" | 0.13 | 18.41 |
| 38-138 | 3/8" x 3/8" x 1/8" | 0.14 | 16.12 |
| 38-132 | 3/8" x 1/4" x 1/4" | 0.15 | 52.23 |
| 38-139 | 3/8" x 3/8" x 1/4" | 0.17 | 11.24 |
| 38-133 | 1/2" x 1/2" x 1/4" | 0.26 | 28.69 |
| 38-140 | 3/8" x 3/8" x 3/8" | 0.21 | 11.65 |
| 38-134 | 1/2" x 3/8" x 3/8" | 0.26 | 39.42 |
| 38-141 | 1/2" x 1/2" x 3/8" | 0.30 | 14.76 |
| 38-142 | 1/2" x 1/2" x 1/2" | 0.37 | 23.35 |
| 38-143 | 5/8" x 5/8" x 1/2" | 0.44 | 52.50 |

72NAB 272NTA 1472

FEMALE BRANCH TEE



| Part # | Tube O.D. x Tube O.D. x Female NPTF 1x2x3 | Approx. Wt. Lbs. | List Price |
|--------|---|---------------------|------------|
| 38-144 | 3/8" x 3/8" x 1/4" | 0.21 | 53.70 |
| 38-146 | 5/8" x 5/8" x 1/4" | 0.48 | 82.94 |

45° ELBOW

SAE# 100302BA



| Part # | Tube O.D. x Male NPTF | Approx. Wt. Lbs. | List Price |
|--------|--------------------------|---------------------|------------|
| 38-148 | 1/4" x 1/8" | 0.06 | 10.10 |
| 38-149 | 1/4" x 1/4" | 0.08 | 11.27 |
| 38-150 | 3/8" x 1/8" | 0.09 | 22.46 |
| 38-151 | 3/8" x 1/4" | 0.11 | 8.19 |
| 38-152 | 3/8" x 3/8" | 0.14 | 11.59 |
| 38-153 | 3/8" x 1/2" | 0.24 | 19.03 |
| 38-157 | 1/2" x 1/4" | 0.18 | 28.44 |
| 38-154 | 1/2" x 3/8" | 0.19 | 13.35 |
| 38-155 | 1/2" x 1/2" | 0.25 | 18.27 |
| 38-156 | 5/8" x 1/2" | 0.30 | 21.33 |
| 38-158 | 3/4" x 1/2" | 0.38 | 44.04 |

6945NAB 279NTA 1480

SWIVEL 45° ELBOW



| Part # | Tube O.D. x Male NPTF | Approx. Wt. Lbs. | List Price |
|---------|--------------------------|---------------------|------------|
| 38-152S | 3/8" x 3/8" | 0.20 | 50.58 |
| 38-154S | 1/2" x 3/8" | 0.24 | 53.22 |

D.O.T. AIR BRAKE - COPPER TUBING

BRASS FITTINGS

SLEEVE

SAE# 120115BA

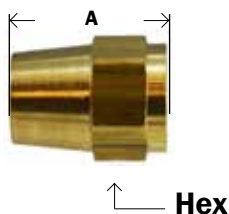


| Part # | Tube O.D. | A | Approx. Wt. Lbs. | List Price |
|--------|-----------|------|------------------|------------|
| 38-161 | 1/4" | 0.25 | 0.01 | 0.55 |
| 38-162 | 3/8" | 0.31 | 0.02 | 0.87 |
| 38-163 | 1/2" | 0.38 | 0.02 | 0.88 |
| 38-164 | 5/8" | 0.44 | 0.02 | 1.43 |
| 38-165 | 3/4" | 0.50 | 0.04 | 3.72 |

60AB 1360

NUT

SAE# 120111BA

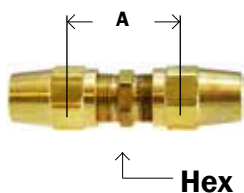


| Part # | Tube O.D. | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------|------|------|------------------|------------|
| 38-170 | 1/4" | 0.75 | 0.56 | 0.02 | 1.79 |
| 38-171 | 3/8" | 1.13 | 0.62 | 0.04 | 2.10 |
| 38-172 | 1/2" | 1.25 | 0.81 | 0.08 | 4.51 |
| 38-173 | 5/8" | 1.38 | 0.94 | 0.12 | 4.70 |
| 38-174 | 3/4" | 1.56 | 1.12 | 0.18 | 10.06 |

20961 61AB 1361

UNION

SAE# 120101BA

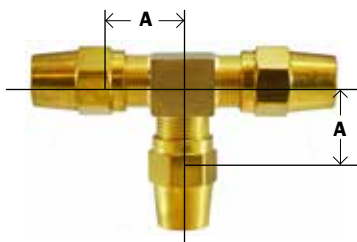


| Part # | Tube O.D. | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------|------|------|------------------|------------|
| 38-179 | 1/4" | 0.81 | 0.44 | 0.08 | 6.18 |
| 38-180 | 3/8" | 1.10 | 0.56 | 0.14 | 7.79 |
| 38-181 | 1/2" | 1.07 | 0.69 | 0.24 | 15.73 |
| 38-182 | 5/8" | 1.41 | 0.81 | 0.34 | 21.81 |
| 38-183 | 3/4" | | | | 42.57 |

62AB 1362

TEE

SAE# 120401BA

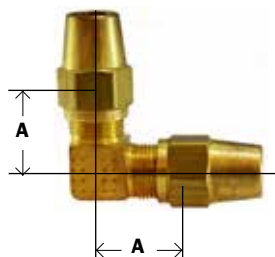


| Part # | Tube O.D. | A | Approx. Wt. Lbs. | List Price |
|--------|-----------|------|------------------|------------|
| 38-188 | 1/4" | 0.62 | 0.16 | 14.40 |
| 38-189 | 3/8" | 0.82 | 0.24 | 15.19 |
| 38-190 | 1/2" | 0.94 | 0.48 | 28.41 |

264AB 1364

ELBOW

SAE# 120201BA



| Part # | Tube O.D. | A | Approx. Wt. Lbs. | List Price |
|--------|-----------|------|------------------|------------|
| 38-196 | 1/4" | 0.62 | 0.10 | 16.03 |

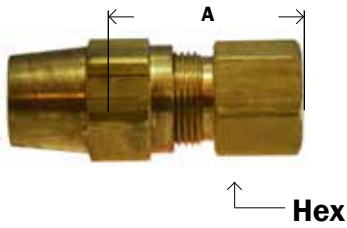
* Forged

265AB 1365

Don't complain about things you're not willing to change.

FEMALE ADAPTER

SAE# 120103BA

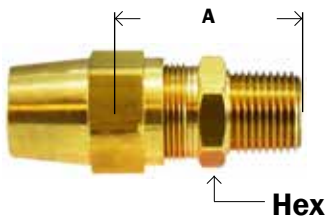


| Part # | Tube O.D. x Female NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------------------------|------|------|------------------|------------|
| 38-207 | 3/8" x 1/4" | 1.19 | 0.68 | 0.12 | 7.31 |
| 38-208 | 3/8" x 3/8" | 1.18 | 0.87 | 0.16 | 8.28 |
| 38-209 | 1/2" x 3/8" | 1.27 | 0.87 | 0.18 | 42.42 |

66AB 1366

MALE ADAPTER

SAE# 120102BA

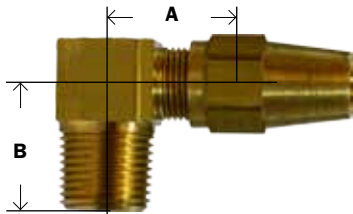


| Part # | Tube O.D. x Male NPTF | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------------------|------|------|------------------|------------|
| 38-217 | 1/4" x 1/8" | 0.88 | 0.43 | 0.06 | 3.68 |
| 38-218 | 1/4" x 1/4" | 0.97 | 0.56 | 0.08 | 5.19 |
| 38-221 | 3/8" x 1/4" | 1.09 | 0.56 | 0.10 | 5.84 |
| 38-222 | 3/8" x 3/8" | 1.19 | 0.69 | 0.12 | 6.25 |
| 38-223 | 3/8" x 1/2" | 1.45 | 0.87 | 0.18 | 6.67 |
| 38-224 | 1/2" x 1/4" | 1.32 | 0.69 | 0.16 | 13.48 |
| 38-225 | 1/2" x 3/8" | 1.35 | 0.69 | 0.18 | 9.47 |
| 38-226 | 1/2" x 1/2" | 1.51 | 0.87 | 0.24 | 16.37 |
| 38-227 | 5/8" x 3/8" | 1.39 | 0.81 | 0.22 | 16.08 |
| 38-228 | 5/8" x 1/2" | 1.57 | 0.87 | 0.24 | 19.34 |
| 38-229 | 3/4" x 1/2" | 1.67 | 1.00 | 0.34 | 19.85 |

68AB 368

90° MALE ELBOW

SAE# 120202BA

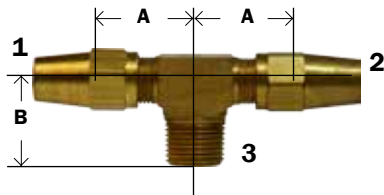


| Part # | Tube O.D. x Male NPTF | A | B | Approx. Wt. Lbs. | List Price |
|--------|-----------------------|------|------|------------------|------------|
| 38-235 | 1/4" x 1/8" | 0.64 | 0.76 | 0.08 | 5.96 |
| 38-236 | 1/4" x 1/4" | 0.69 | 0.88 | 0.10 | 10.20 |
| 38-237 | 1/4" x 3/8" | 0.73 | 0.86 | 0.14 | 12.35 |
| 38-239 | 3/8" x 1/4" | 0.80 | 0.93 | 0.12 | 8.92 |
| 38-240 | 3/8" x 3/8" | 0.83 | 0.90 | 0.16 | 9.55 |
| 38-243 | 1/2" x 3/8" | 0.92 | 0.98 | 0.22 | 12.47 |
| 38-244 | 1/2" x 1/2" | 1.04 | 1.19 | 0.30 | 23.28 |
| 38-246 | 5/8" x 1/2" | 1.10 | 1.25 | 0.36 | 27.30 |

269AB 1369

MALE BRANCH TEE

SAE# 120425BA



| Part # | Tube O.D. x Male NPTF (1&2)x3 | A | B | Approx. Wt. Lbs. | List Price |
|--------|-------------------------------|------|------|------------------|------------|
| 38-278 | 3/8" x 1/4" | 0.78 | 0.91 | 0.18 | 19.63 |
| 38-279 | 3/8" x 3/8" | 0.85 | 0.92 | 0.24 | 12.09 |

272AB 1372

D.O.T. AIR BRAKE REUSABLE HOSE/ FITTINGS



•Typical Application

Air Brake hose connections.
Meets SAE & DOT specifications
(FMVCS 10 GAL)

•Pressure

Determined by maximum working pressure for hose size.
Up to 125 psi

Temperature: -40°F to + 120° F (-40°C to +48°C)

•Advantages

Can be used for nearly any brake line. Easy to assemble with a good selection of hose end configurations. Brass material offers excellent resistance against corrosion.

• Tolerance

+/- .02 on all dimensions. Dimension data can change without notice. Please call us when dimensions are critical.

•Assembly Instructions

- 1- Slide nut and sleeve onto hose. Make sure bevel edge of sleeve faces out toward fitting.
- 2- Push hose into fitting until it bottoms.
- 3- Screw nut until contact is made with body hex.

NOTE: When reassembling fitting, body and nut should be inspected. Only reuse if in proper condition. Sleeves should never be reused.

SLEEVE

FERRULE



| Part # | Hose I.D. Size | Approx. Wt. Lbs. | List Price |
|--------|----------------|------------------|------------|
| 38-300 | 3/8" | 0.02 | 2.27 |
| 38-301 | 1/2" | 0.02 | 3.74 |

#60HC 3380-A 0903610 367 60RB

NUT



| Part # | Hose I.D. Size | Approx. Wt. Lbs. | List Price |
|--------|----------------|------------------|------------|
| 38-306 | 3/8" | 0.04 | 7.30 |
| 38-307 | 1/2" | 0.06 | 5.88 |

61RB #61HC 369 3380-B 0903624

NUT FOR USE WITH SPRING



| Part # | Hose I.D. Size | Thread | Approx. Wt. Lbs. | List Price |
|--------|----------------|-----------|------------------|------------|
| 38-312 | 3/8" | 31/32-20 | 0.04 | 4.60 |
| 38-313 | 1/2" | 1-3/32-20 | 0.06 | 6.02 |

#61HCS 0903613 3380-D 61RBSG

SPRING



| Part # | Hose I.D. | Approx. Wt. Lbs. | List Price |
|--------|-----------|------------------|------------|
| 38-351 | 3/8" | 0.20 | 1.93 |
| 38-352 | 1/2" | 0.22 | 3.55 |

#60SG 0901045 3380-C 377

NUT AND SPRING ASSEMBLY



| Part # | Hose I.D. Size | Approx. Wt. Lbs. | List Price |
|--------|----------------|------------------|------------|
| 38-015 | 3/8" | 0.18 | 4.90 |
| 38-016 | 1/2" | 0.24 | 8.54 |

379 67RBSG 0999999

UNION



| Part # | Hose I.D. | Thread | Approx. Wt. Lbs. | List Price |
|--------|-----------|----------|------------------|------------|
| 38-318 | 3/8" | 31/32-30 | 0.32 | 29.11 |
| 38-319 | 1/2" | 1-1/8-20 | 0.48 | 46.82 |

#62HC 3380B-Y0 362



BODY ONLY

| Part # | Hose I.D. | Thread | Approx. Wt. Lbs. | List Price |
|--------|-----------|----------|------------------|------------|
| 39-318 | 3/8" | 31/32-30 | 0.32 | 11.11 |
| 39-319 | 1/2" | 1-1/8-20 | 0.48 | 16.82 |

FEMALE CONNECTOR HOSE



| Part # | Hose I.D. x Female ABS | Approx. Wt. Lbs. | List Price |
|--------|------------------------|------------------|------------|
| 38-357 | 3/8" x 3/4-20 | 0.24 | 32.85 |
| 38-358 | 1/2" x 7/8-20 | 0.39 | 44.32 |

#66ABS 66RBSV 3380B-Y7 386



BODY ONLY

| Part # | Hose I.D. x Female ABS | Approx. Wt. Lbs. | List Price |
|--------|------------------------|------------------|------------|
| 39-357 | 3/8" x 3/4-20 | 0.24 | 12.85 |
| 39-358 | 1/2" x 7/8-20 | 0.38 | 14.32 |

MALE CONNECTOR



| Part # | Hose I.D. x Male Pipe | Approx. Wt. Lbs. | List Price |
|--------|-----------------------|------------------|------------|
| 38-363 | 3/8" x 1/4" | 0.38 | 39.84 |
| 38-364 | 1/2" x 3/8" | 0.46 | 93.42 |

#68ABS 09155 3380B-Y8 387

D.O.T. AIR BRAKE - HOSE/ ENDS**BRASS FITTINGS****ADAPTER FOR SWIVEL TYPE REUSABLE AND CRIMPED ON**

| Part # | Male ABS x Male Pipe | ABS Thread | Approx. Wt. Lbs. | List Price |
|--------|-------------------------|---------------|---------------------|------------|
| 38-369 | 3/8" x 1/4" | 3/4-20 | 0.05 | 3.63 |
| 38-368 | 3/8" x 3/8" | 3/4-20 | 0.08 | 3.40 |
| 38-372 | 3/8" x 1/2" | 3/4-20 | 0.12 | 5.47 |
| 38-370 | 1/2" x 3/8" | 7/8-20 | 0.10 | 6.81 |
| 38-371 | 1/2" x 1/2" | 7/8-20 | 0.12 | 11.42 |

#68ABS 1390 76RB 388

MALE ADAPTER

| Part # | Hose I.D. x Male Pipe | Approx. Wt. Lbs. | List Price |
|--------|--------------------------|---------------------|------------|
| 38-333 | 3/8" x 1/4" | 0.22 | 11.35 |
| 38-334 | 3/8" x 3/8" | 0.24 | 12.81 |
| 38-335 | 3/8" x 1/2" | 0.26 | 14.51 |
| 38-336 | 1/2" x 3/8" | 0.33 | 17.26 |
| 38-337 | 1/2" x 1/2" | 0.36 | 18.77 |

#68HC 368 3380B-Y2 68RB

ADAPTER BODY

| Part # | Hose I.D. x Male Pipe | Approx. Wt. Lbs. | List Price |
|--------|--------------------------|---------------------|------------|
| 38-324 | 3/8" x 1/4" | 0.12 | 5.86 |
| 38-325 | 3/8" x 3/8" | 0.14 | 5.69 |
| 38-326 | 3/8" x 1/2" | 0.20 | 6.20 |
| 38-327 | 1/2" x 3/8" | 0.18 | 16.31 |
| 38-328 | 1/2" x 1/2" | 0.20 | 9.36 |

#68B W1391Z

MALE ADAPTER

| Part # | Hose I.D. x Male Pipe | Approx. Wt. Lbs. | List Price |
|--------|--------------------------|---------------------|------------|
| 38-342 | 3/8" x 1/4" | 0.32 | 13.31 |
| 38-343 | 3/8" x 3/8" | 0.34 | 13.56 |
| 38-344 | 3/8" x 1/2" | 0.38 | 15.02 |
| 38-345 | 1/2" x 3/8" | 0.48 | 18.99 |
| 38-346 | 1/2" x 1/2" | 0.52 | 22.00 |

#68HCS 3380B-Y3 68RBSG 378

Happiness is an attitude. We either make ourselves miserable, or happy and strong. The amount of work is the same.

- Carlos Castaneda

STEEL FITTINGS

STEEL GREASE FITTINGS

- 8000 PSI max. pressure
- Exceeds 12hr salt spray

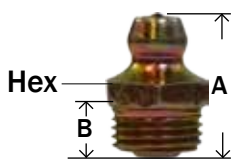
Meets SAE #J-534C

- Assortments also available

Many types available on special order.

PIPE THREAD

BALL CHECK

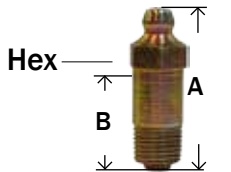


| Part # | Size | A | B | Hex | Approx. Wt. Lbs. | List Price |
|----------|----------------|------|------|-------|------------------|------------|
| 36-110 | 1/8" -27 NPTF | 0.66 | 0.28 | 0.437 | 0.01 | 0.95 |
| 36-110SS | 303 SS | 0.68 | 0.29 | 0.437 | 0.01 | 4.26 |
| 36-111 | Thread Forming | 0.62 | 0.23 | 0.437 | 0.01 | 1.18 |

#610 1610 2800 1720 5000

PIPE THREAD

BALL CHECK

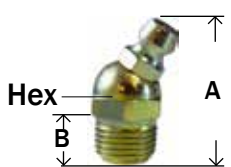


| Part # | Size | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|---------------|------|------|-------|------------------|------------|
| 36-112 | 1/8" -27 NPTF | 1.25 | 0.22 | 0.437 | 0.02 | 3.71 |
| 36-113 | 1/8" -27 NPTF | 1.75 | 1.26 | 0.437 | 0.02 | 2.70 |

#607 1607 2800 1669 5003

PIPE THREAD

30° ANGLE BALL CHECK

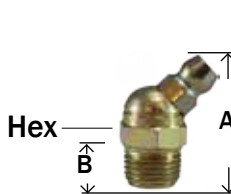


| Part # | Size | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|---------------|------|------|-------|------------------|------------|
| 36-114 | 1/8" -27 NPTF | 0.90 | 0.30 | 0.437 | 0.01 | 1.49 |

#611 1611 2830 5100

PIPE THREAD

45° ANGLE BALL CHECK

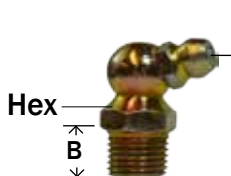


| Part # | Size | A | B | Hex | Approx. Wt. Lbs. | List Price |
|----------|---------------|------|------|-------|------------------|------------|
| 36-116 | 1/8" -27 NPTF | 0.88 | 0.22 | 0.437 | 0.01 | 1.59 |
| 36-116SS | 303 SS | 0.95 | 0.29 | 0.437 | 0.01 | 7.36 |

#688 1688 2845 5200

PIPE THREAD

65° ANGLE BALL CHECK

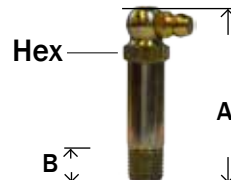


| Part # | Size | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|---------------|------|------|-------|------------------|------------|
| 36-118 | 1/8" -27 NPTF | 0.86 | 0.30 | 0.437 | 0.01 | 1.42 |

#612 1612 2865 5300

PIPE THREAD

90° ANGLE BALL CHECK



| Part # | Size | A | B | Hex | Approx. Wt. Lbs. | List Price |
|----------|---------------|------|------|-------|------------------|------------|
| 36-120 | 1/8" -27 NPTF | 0.84 | 0.30 | 0.437 | 0.01 | 1.41 |
| 36-120SS | 303 SS | 0.84 | 0.29 | 0.437 | 0.01 | 7.36 |
| 36-121 | 1/8" -27 NPTF | 1.81 | 1.25 | 0.437 | 0.01 | 4.84 |

#613 1613 2890 5400 5407

PIPE THREAD

BALL CHECK



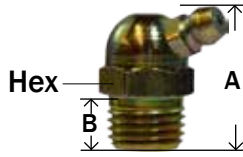
| Part # | Size | A | B | Hex | Approx. Wt. Lbs. | List Price |
|----------|---------------|------|------|-------|------------------|------------|
| 36-130 | 1/4" -18 NPTF | 0.84 | 0.30 | 0.437 | 0.02 | 1.58 |
| 36-130SS | 303 SS | 0.87 | 0.42 | 0.437 | 0.02 | 11.31 |

#627 1627 2900K 5050

STEEL GREASE FITTINGS

STEEL FITTINGS

PIPE THREAD

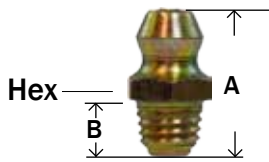


65° ANGLE BALL CHECK

| Part # | Size | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|--------------|------|------|------|------------------|------------|
| 36-132 | 1/4"-18 NPTF | 0.97 | 0.34 | 0.56 | 0.02 | 2.43 |

#629 1629 2965 5350

1/4-28 TAPER THREAD

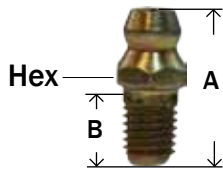


SHORT BALL CHECK

| Part # | Size | A | B | Hex | Approx. Wt. Lbs. | List Price |
|----------|----------------|------|------|------|------------------|------------|
| 36-140 | 1/4"-28 NPTF | 0.54 | 0.18 | 0.31 | 0.01 | 0.54 |
| 36-140SS | 303 SS | 0.54 | 0.18 | 0.31 | 0.01 | 1.95 |
| 36-141 | Thread Forming | 0.55 | 0.10 | 0.31 | 0.01 | 0.53 |

#641 1641 2400 3038 5010

1/4-28 TAPER THREAD

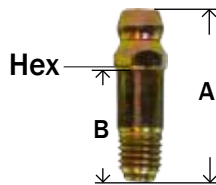


LONG BALL CHECK

| Part # | Size | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|----------------------|------|------|-------|------------------|------------|
| 36-142 | 1/4"-28 Taper Thread | 0.69 | 0.34 | 0.312 | 0.01 | 0.73 |

#652 1652 2400 5013

1/4-28 TAPER THREAD

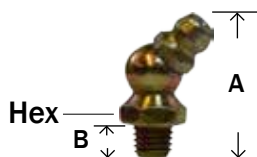


EXTRA LONG BALL CHECK

| Part # | Size | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|----------------------|------|------|-------|------------------|------------|
| 36-144 | 1/4"-28 Taper Thread | 0.92 | 0.60 | 0.312 | 0.02 | 1.15 |

#680 1680 2400 5014

1/4-28 TAPER THREAD

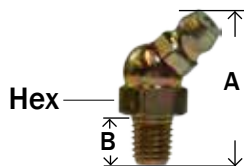


SHORT 45° BALL CHECK

| Part # | Size | Angle | A | B | Hex | Approx. Wt. Lbs. | List Price |
|----------|----------------------|-------|------|------|-------|------------------|------------|
| 36-146 | 1/4"-28 Taper Thread | 45° | 0.82 | 0.20 | 0.375 | 0.02 | 1.25 |
| 36-146SS | 303 SS | 45° | 0.81 | 0.20 | 0.375 | 0.02 | 5.17 |
| 36-147 | 1/4"-28 Taper Thread | 65° | 0.78 | 0.20 | 0.375 | 0.02 | 1.32 |

#637 1637 2445 1665 2465 3010 5210

1/4-28 TAPER THREAD

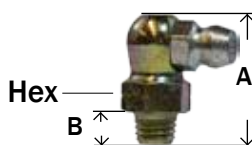


LONG 45° BALL CHECK

| Part # | Size | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|----------------------|------|------|-------|------------------|------------|
| 36-148 | 1/4"-28 Taper Thread | 0.94 | 0.30 | 0.375 | 0.02 | 2.07 |

#636 1630 2445

1/4-28 TAPER THREAD



90° ANGLE BALL CHECK

SAE# A515002

| Part # | Size | A | B | Hex | Approx. Wt. Lbs. | List Price |
|----------|----------------------|------|------|-------|------------------|------------|
| 36-150 | 1/4"-28 Taper Thread | 0.75 | 0.10 | 0.375 | 0.02 | 1.06 |
| 36-150SS | 303 SS | 0.75 | 0.20 | 0.375 | 0.02 | 5.17 |
| 36-152 | Thread Forming | 0.75 | 0.16 | 0.375 | 0.02 | 2.35 |

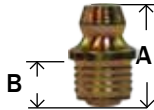
#911 1911 2490 3054 5410

STEEL FITTINGS

STEEL GREASE FITTINGS

DRIVE TYPE

BALL CHECK

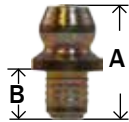


| Part # | Size | A | B | Approx. Wt. Lbs. | List Price |
|--------|-------|------|------|------------------|------------|
| 36-160 | 5/16" | 0.55 | 0.25 | 0.01 | 0.80 |

#608 1608 5021

DRIVE TYPE

BALL CHECK



| Part # | Size | A | B | Approx. Wt. Lbs. | List Price |
|----------|--------|------|------|------------------|------------|
| 36-164 | 3/16" | 0.52 | 0.25 | 0.01 | 0.71 |
| 36-164SS | 303 SS | 0.51 | 0.25 | 0.01 | 2.58 |

#728 1728 2316 5033

DRIVE TYPE

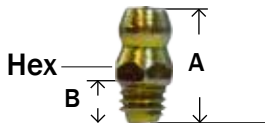
BALL CHECK



| Part # | Size | A | B | Approx. Wt. Lbs. | List Price |
|----------|--------|------|------|------------------|------------|
| 36-166 | 1/4" | 0.55 | 0.23 | 0.01 | 0.65 |
| 36-166SS | 303 SS | 0.55 | 0.23 | 0.01 | 2.58 |

#743 1743 214 5029

METRIC



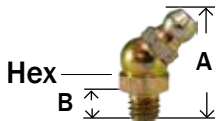
| Part # | Size | A (mm) | B (mm) | Hex (mm) | Approx. Wt. Lbs. | List Price |
|--------|---------|--------|--------|----------|------------------|------------|
| 36-168 | 6MM x 1 | 16 | 3.7 | 7 | 0.01 | 0.92 |

(Diameter x Pitch)

#711 6000 2106 2M6 5175

METRIC

45° ANGLE

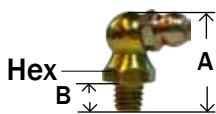


| Part # | Size | A (mm) | B (mm) | Hex (mm) | Approx. Wt. Lbs. | List Price |
|--------|---------|--------|--------|----------|------------------|------------|
| 36-170 | 6MM x 1 | 21 | 3.7 | 9 | 0.02 | 1.24 |

#712 6045 2107 5176

METRIC

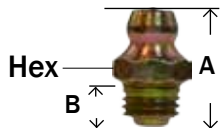
90° ANGLE



| Part # | Size | A (mm) | B (mm) | Hex (mm) | Approx. Wt. Lbs. | List Price |
|--------|---------|--------|--------|----------|------------------|------------|
| 36-172 | 6MM x 1 | 18 | 3.7 | 9 | 0.02 | 1.30 |

#713 6090 2108 ZM906 5177

METRIC

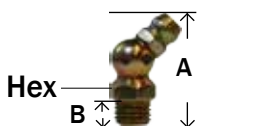


| Part # | Size | A (mm) | B (mm) | Hex (mm) | Approx. Wt. Lbs. | List Price |
|--------|---------|--------|--------|----------|------------------|------------|
| 36-174 | 8MM x 1 | 16 | 3.7 | 9 | 0.02 | 0.78 |

#811 8000 2103 ZM58 5178

METRIC

45° ANGLE



| Part # | Size | A (mm) | B (mm) | Hex (mm) | Approx. Wt. Lbs. | List Price |
|--------|---------|--------|--------|----------|------------------|------------|
| 36-176 | 8MM x 1 | 21 | 3.7 | 9 | 0.02 | 1.35 |

#812 8045 2104 ZM458 5179

METRIC

90° ANGLE



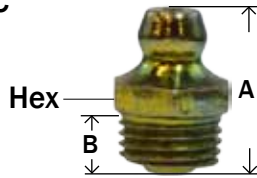
| Part # | Size | A (mm) | B (mm) | Hex (mm) | Approx. Wt. Lbs. | List Price |
|--------|---------|--------|--------|----------|------------------|------------|
| 36-178 | 8MM x 1 | 18 | 3.7 | 9 | 0.02 | 1.52 |

#813 8090 2105 ZM908 5180

STEEL GREASE FITTINGS

BRASS FITTINGS

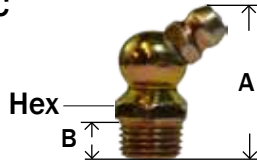
METRIC



| Part # | Size | A (mm) | B (mm) | Hex (mm) | Approx. Wt. Lbs. | List Price |
|--------|----------|-----------|-----------|-------------|---------------------|---------------|
| 36-180 | 10MM x 1 | 16 | 3.7 | 11 | 0.02 | 1.17 |

• Diameter x pitch (extra fine) #911 9000 2109 ZM510 5181

METRIC

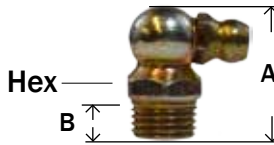


45° ANGLE

| Part # | Size | A (mm) | B (mm) | Hex (mm) | Approx. Wt. Lbs. | List Price |
|--------|----------|-----------|-----------|-------------|---------------------|---------------|
| 36-182 | 10MM x 1 | 21 | 3.7 | 11 | 0.02 | 1.71 |

#912 9045 2110 ZM4510

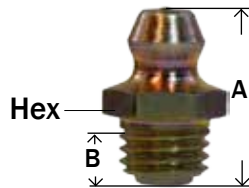
METRIC



90° ANGLE

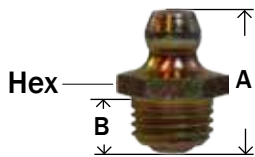
| Part # | Size | A (mm) | B (mm) | Hex (mm) | Approx. Wt. Lbs. | List Price |
|--------|----------|-----------|-----------|-------------|---------------------|---------------|
| 36-184 | 10MM x 1 | 18 | 3.7 | 11 | 0.02 | 1.52 |

#913 9090 2111 ZM9010 5183



| Part # | Size | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|----------|------|------|-------|---------------------|---------------|
| 36-186 | 5/16"-24 | 0.65 | 0.12 | 0.375 | 0.02 | 0.94 |

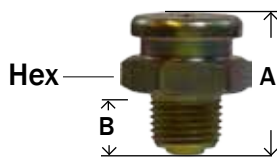
#711-B 1711 2500



| Part # | Size | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|---------|------|------|-------|---------------------|---------------|
| 36-188 | 3/8"-24 | 0.65 | 0.14 | 0.437 | 0.01 | 1.55 |

#710-B 1710 2600

BUTTON HEAD



| Part # | Size | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|-------------|------|------|-------|---------------------|---------------|
| 36-200 | 1/8"-27 PTF | 0.75 | 0.34 | 0.625 | 0.03 | 3.74 |
| 36-205 | 1/4"-18 NPT | 0.83 | 0.44 | 0.625 | 0.03 | 3.98 |

1184 1186

WHIP HOSE - EXCEEDS SAE 100R1-AT - use with hand grease guns only

10,000 PSI Burst Pressure Rubber Hose



1/8" NPT Solid Base

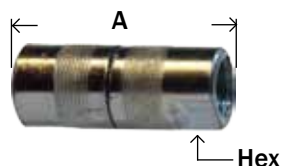
3/16" ID

3,000 PSI Working pressure

| Part # | Length | List Price |
|--------|------------|------------|
| 36-210 | 12" RUBBER | 36.93 |
| 36-212 | 18" RUBBER | 24.68 |
| 36-214 | 24" RUBBER | 30.79 |
| 36-216 | 36" RUBBER | 46.72 |

4 JAW GREASE GUN COUPLER

Provides quick, positive, leakproof connection w/ grease fittings.



1/8" NPTF

| Part # | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|------|------|---------------------|---------------|
| 36-220 | 1.50 | 0.56 | 0.05 | 16.43 |

SPECIALTY VALVES AND COCKS



DRAIN COCKS
PAGE 144-145



AIR COCKS



3, 4 AND 6 WAY
PAGE 150



NEEDLE
PAGE 147-148



MARINE & ANTI-SIPHON
PAGE 151



PANEL MOUNT BALL VALVES
PAGE 152



TRUCK
PAGE 149



USA MINI
PAGE 152



SOLID BOTTOM SHUT-OFF
PAGE 149



CHECK
PAGE 153



SPRING BOTTOM SHUT-OFF
PAGE 146

DRAIN COCKS

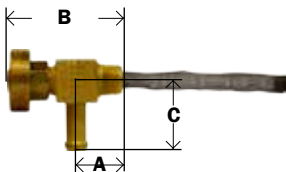
BRASS FITTINGS

DRAIN COCKS

- For use with low pressure air, water and fluids.
- Designed for a working pressure of 150 psi @ 250°.
- Hand-tightening provides a metal-to-metal seal.
- Not intended for natural gas, LPG, nuclear or aircraft applications.

Install on your tank for easy draining

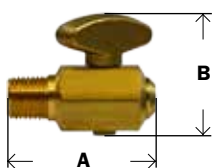
GASOLINE SHUT OFF w/ SCREEN FILTER



| Part # | Barb X Male Pipe | A | B | C | Approx. Wt. Lbs. | List Price |
|--------|------------------|------|------|------|------------------|------------|
| 46-064 | 1/4" x 1/8" | 0.55 | 1.34 | 0.66 | 0.06 | 81.74 |

827

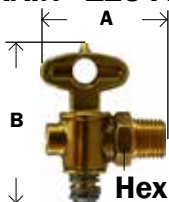
DRAIN COCK 150 PSI - Trunk Air Tank



| Part # | Male Pipe | A | B | Approx. Wt. Lbs. | List Price |
|--------|-----------|------|------|------------------|------------|
| 46-066 | 1/4" | 1.73 | 1.41 | 0.22 | 26.18 |

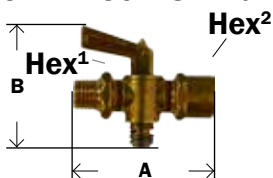
DCR601-4

TRUCK DRAIN - 125 P.S.I.G



| Part # | Male Pipe | Industry Number | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------|-----------------|------|------|------|------------------|------------|
| 46-067 | 1/8" | | 1.53 | 1.95 | 0.62 | 0.14 | 18.94 |
| 46-068 | 1/4" | W15310 | 1.53 | 1.95 | 0.62 | 0.18 | 18.95 |

SHUT OFF - 150 P.S.I max.

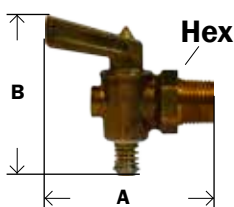


| Part # | Male Pipe x Female Pipe | Industry Number | A | B | Hex 1 | Hex 2 | Approx. Wt. Lbs. | List Price |
|--------|-------------------------|-----------------|------|------|-------|-------|------------------|------------|
| 46-069 | 1/4" | W20332 | 1.96 | 1.96 | 0.75 | 0.62 | 0.20 | 14.58 |

LOWER

#60HC 3380-A 0903610 367

LEVER HANDLE



| Part # | Male Pipe | Industry Number | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------|-----------------|------|------|------|------------------|------------|
| 46-070 | 1/8" | M-41-P | 1.99 | 1.80 | 0.62 | 0.04 | 15.12 |
| 46-071 | 1/4" | M-42-P | 2.06 | 1.81 | 0.62 | 0.06 | 12.69 |
| 46-072 | 3/8" | M-43-P | 2.30 | 2.29 | 0.81 | 0.08 | 18.48 |
| 46-073 | 1/2" | M-44-P | 3.00 | 2.50 | 0.87 | 0.16 | 51.46 |

LOWER

840 41D DC601

- 30 psi

*Valve is closed when handle is in the position of the picture

AIR TANK DRAIN PULL VALVE

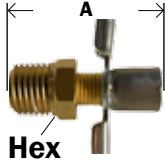


| Part # | Size | Description | List Price |
|--------|-----------|-----------------------------|------------|
| 39595 | 1/4" male | 5ft nylon coated pull cable | 12.77 |
| 39596 | 1/4" male | 4ft nylon coated pull cable | 11.94 |
| 39597 | 1/4" male | 3ft nylon coated pull cable | 11.77 |
| 39600 | 1/4" male | Air valve only | 11.54 |

BRASS FITTINGS

DRAIN COCKS

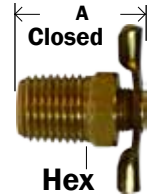
INTERNAL SEAT



| Part # | Male Pipe | Industry Number | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------|-----------------|------|------|------------------|------------|
| 46-079 | 1/8" | 6783 | 1.45 | 0.55 | 0.02 | 14.89 |

DC602 808 400A 1800A

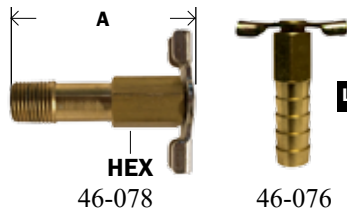
INTERNAL SEAT



| Part # | Male Pipe | Industry Number | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------|-----------------|------|------|------------------|------------|
| 46-074 | 1/8" | 130 | 0.92 | 0.40 | 0.04 | 11.02 |
| 46-075 | 1/4" | 140 | 0.94 | 0.56 | 0.06 | 6.31 |
| 46-077 | 3/8" | 230 | 1.27 | 0.68 | 0.08 | 9.40 |

HB-5/16 803 305A

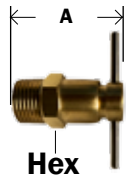
LONG INTERNAL SEAT



| Part # | Size | Ind # | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|----------------|-------|------|------|------------------|------------|
| 46-078 | 1/8 MIP | 1.85 | | | | 12.39 |
| 46-076 | 3/8" Hose I.D. | | 1.65 | 0.43 | 0.02 | 14.12 |

809

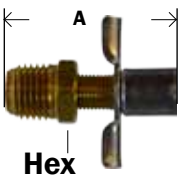
TEE HANDLE - Internal Seat



| Part # | Male Pipe | Industry Number | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------|-----------------|------|------|------------------|------------|
| 46-080 | 1/8" | M-200-P | 1.22 | 0.50 | 0.04 | 17.94 |
| 46-081 | 1/4" | M-201-P | 1.31 | 0.56 | 0.06 | 12.07 |
| 46-082 | 3/8" | M-202-P | 1.53 | 0.68 | 0.12 | 14.89 |

DC603 802

EXTERNAL SEAT w/ SPOUT

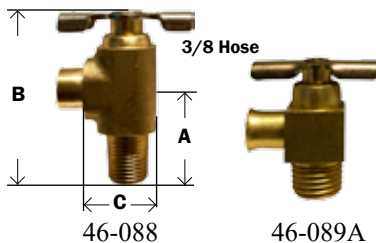


| Part # | Male Pipe | Industry Number | A | Hex | Approx. Wt. Lbs. | List Price |
|---------|-----------|-----------------|------|------|------------------|------------|
| 46-084* | 1/4" | 6788 | 1.56 | 0.56 | 0.02 | 10.49 |

* Replaces GM # 511771 & Chrysler #836015

200A 239 DC606 807

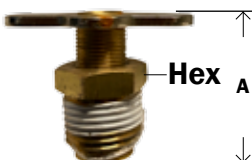
BIBB VALVE



| Part # | Male Pipe | Industry Number | A | B | C | Approx. Wt. Lbs. | List Price |
|---------|-----------|-----------------|------|------|------|------------------|------------|
| 46-088 | 1/8" | 150 | 0.82 | 1.60 | 0.55 | 0.04 | 7.56 |
| 46-089 | 1/4" | 120 | 0.89 | 1.59 | 0.54 | 0.06 | 8.53 |
| 46-089A | 1/4" | 6660 | 0.55 | 1.34 | 0.66 | 0.06 | 8.87 |

804 DC607 2019 201DH

RADIATOR TYPE - External Seat



| Part # | Male Pipe | Industry Number | Ind # | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------|-----------------|-------|------|------|------------------|------------|
| 46-085 | 1/8" | M-320-P | 135 | 0.90 | 0.43 | 0.02 | 3.66 |
| 46-086 | 1/4" | M-321-P | 145 | 1.00 | 0.56 | 0.04 | 3.84 |
| 46-087 | 3/8" | M-322-P | 270 | 1.25 | 0.68 | 0.08 | 8.56 |
| 46-083 | 1/2" | 108 | 108 | 1.48 | 0.87 | 0.12 | 16.10 |

320D 240 DC604 801

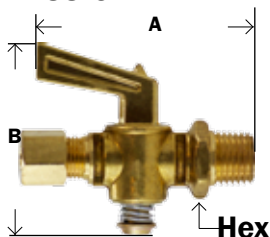
SHUT-OFF COCKS

BRASS FITTINGS

- Designed for working pressure of 30 PSI.
- Forged brass bodies and brass handles.

- Instantaneous off-on operation with 360° rotation.
- Not good for gasoline.

COMPRESSION X MALE PIPE

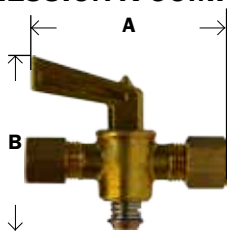


| Part # | Comp X Male Pipe | Ind. # | A | B | Hex | Approx. Wt. Lbs. | List Price |
|--------|------------------|--------|------|------|------|------------------|------------|
| 46-130 | 1/4" x 1/8" | 27-C | 1.87 | 1.81 | 0.51 | 0.14 | 17.08 |
| 46-131 | 1/4" x 1/4" | 227-C | 2.05 | 1.86 | 0.62 | 0.15 | 21.52 |
| 46-132 | 5/16" x 1/8" | 29-C | 2.05 | 1.90 | 0.50 | 0.16 | 17.08 |
| 46-134 | 3/8" x 1/4" | 57-C | 2.05 | 1.83 | 0.62 | 0.15 | 18.06 |

868 V304C 2068 133C VC206

COMPRESSION X COMPRESSION

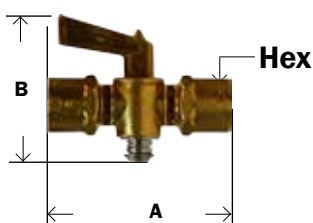
* See pg. 73-74 to order nut and sleeve separately.



| Part # | Comp X Comp | Ind. # | A | B | Approx. Wt. Lbs. | List Price |
|--------|-------------|--------|------|------|------------------|------------|
| 46-140 | 1/4" | 28-C | 1.82 | 1.84 | 0.12 | 19.29 |
| 46-141 | 5/16" | 30-C | 1.84 | 1.88 | 0.14 | 20.19 |
| 46-142 | 3/8" | 58-C | 1.87 | 1.80 | 0.14 | 21.12 |
| 46-143 | 1/2" | 68-C | 2.21 | 2.32 | 0.22 | 30.08 |

V3030F 2062 134C

FEMALE X FEMALE PIPE

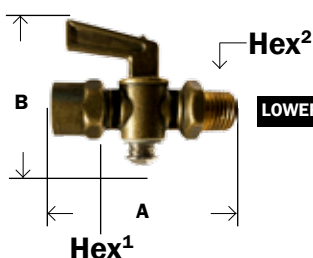


| Part # | Female Pipe X Female Pipe | A | B | Hex | Approx. Wt. Lbs. | List Price |
|----------|---------------------------|------|------|------|------------------|------------|
| 46-151 | 1/8" | 1.77 | 1.79 | 0.56 | 0.12 | 15.18 |
| 46-152 | 1/4" | 2.28 | 1.82 | 0.69 | 0.20 | 16.04 |
| 46-152T* | 1/4" | 2.28 | 2.00 | 0.68 | 0.20 | 23.92 |
| 46-153 | 3/8" | 2.44 | 2.28 | 0.81 | 0.30 | 25.89 |

* 150 PSI

V403P 132C 875

MALE PIPE X FEMALE

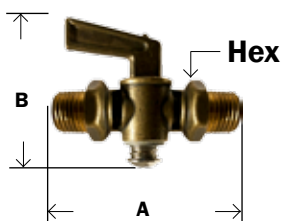


| Part # | Male Pipe X Female Pipe | Ind. # | A | B | Hex 1 | Hex 2 | Approx. Wt. Lbs. | List Price |
|----------|-------------------------|--------|------|------|-------|-------|------------------|------------|
| 46-160 | 1/8" | 48-P | 2.03 | 1.84 | 0.50 | 0.56 | 0.14 | 15.34 |
| 46-161 | 1/4" | 49-P | 2.26 | 1.79 | 0.69 | 0.69 | 0.18 | 12.14 |
| 46-161T* | 1/4" | | 2.26 | 1.98 | 0.69 | 0.69 | 0.20 | 21.75 |
| 46-162 | 3/8" | 50-P | 2.33 | 2.28 | 0.82 | 0.82 | 0.28 | 25.89 |

* 150 PSI

880 V402P 130C

MALE PIPE X MALE PIPE



| Part # | Male Pipe X Male Pipe | Ind. # | A | B | Hex | Approx. Wt. Lbs. | List Price |
|-----------------|-----------------------|--------|------|------|------|------------------|------------|
| L 46-165 | 1/8" | 76-P | 2.15 | 1.80 | 0.69 | 0.12 | 12.14 |
| L 46-166 | 1/4" | 77-P | 2.22 | 1.84 | 0.70 | 0.17 | 12.14 |
| 46-166T* | 1/4" | | 2.23 | 2.00 | 0.68 | 0.18 | 22.44 |
| 46-167 | 3/8" | 78-P | 2.43 | 2.24 | 0.82 | 0.22 | 30.15 |

* 150 PSI

1V401P 890

NEEDLE VALVES

THESE ARE NOT LEAD FREE SEE PAGES 169-182 FOR LEAD FREE PRODUCTS

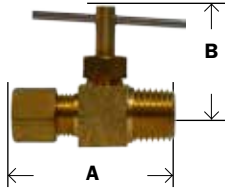
Made with either pin handle or pressed on handle.

Please specify if you have a preference.

- Used on instrumentation, hydraulic, and pneumatic systems.
- Designed for a maximum working pressure of 150 PSI.

- Provided with steel handles and metal-to-metal seats with fine-thread screwdown.
- Not designed for natural gas, LPG, nuclear or aircraft applications.
- Always install with pressure against the seat.

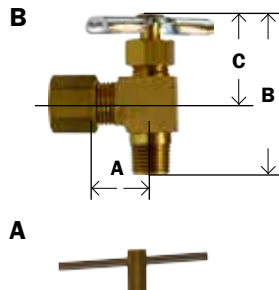
COMP X MALE PIPE



| Part # | Comp X Male Pipe | Ind. # | A | B | Approx. Wt. Lbs. | List Price |
|--------|------------------|---------|------|------|------------------|------------|
| 46-002 | 1/4" x 1/8" | M-101-C | 1.29 | 1.12 | 0.07 | 21.13 |
| 46-003 | 1/4" x 1/4" | M-101-C | 1.27 | 1.14 | 0.10 | 9.83 |

NV106C 2205 820 3068

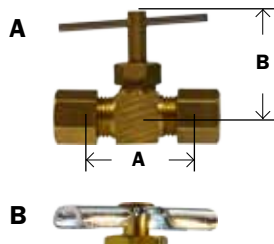
COMP X MALE PIPE-ANGLE



| Part # | Comp X Male Pipe | Handle | Ind. # | A | B | C | Approx. Wt. Lbs. | List Price |
|---------|------------------|--------|---------|------|------|------|------------------|------------|
| 46-011 | 1/4" x 1/8" | A | M-103-C | 0.56 | 1.48 | 0.93 | 0.08 | 6.68 |
| 46-011X | Heavy Pattern | B | M-103-C | 0.53 | 1.53 | 0.83 | 0.08 | 20.50 |
| 46-012 | 1/4" x 1/4" | B | M-104-C | 0.62 | 1.67 | 0.90 | 0.13 | 12.83 |
| 46-013 | 5/16" x 1/8" | B | M-104-C | 0.63 | 1.63 | 0.95 | 0.10 | 24.10 |
| 46-016 | 3/8" x 1/4" | A | M-303-C | 0.65 | 1.71 | 0.92 | 0.16 | 15.48 |

NV104C 2203 821 3069

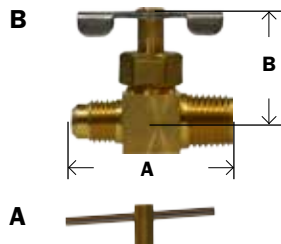
COMP X COMP



| Part # | Comp X Comp | Handle | Ind. # | A | B | Approx. Wt. Lbs. | List Price |
|--------|-------------|--------|---------|------|------|------------------|------------|
| 46-020 | 3/16" | B | M-105-C | 1.06 | 0.88 | 0.08 | 88.77 |
| 46-021 | 1/4" | A | M-106-C | 1.17 | 1.12 | 0.10 | 7.63 |
| 46-022 | 5/16" | A | M-107-C | 1.22 | 1.08 | 0.12 | 25.90 |
| 46-023 | 3/8" | B | M-113-C | 1.31 | 1.15 | 0.13 | 11.88 |

NV105C 3062 2201 822

FLARE X MALE PIPE



| Part # | Male Flare X Male Pipe | Handle | Ind. # | A | B | Approx. Wt. Lbs. | List Price |
|--------|------------------------|--------|------------|------|------|------------------|------------|
| 46-028 | 1/4" x 1/8" | A | M-104-SAE | 1.35 | 1.12 | 0.07 | 19.96 |
| 46-029 | 1/4" x 1/4" | B | M-1040-SAE | 1.38 | 0.88 | 0.09 | 15.45 |
| 46-031 | 3/8" x 1/4" | B | M-108-SAE | 1.73 | 1.22 | 0.18 | 90.79 |

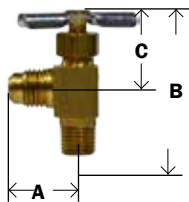
NV103F 2405 823 3048

Those who say it can not be done, should not interrupt those doing it. - Chinese Proverb

NEEDLE VALVES

BRASS FITTINGS

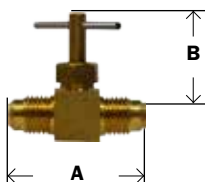
FLARE X MALE PIPE



| Part # | Male Flare X Male Pipe | Ind. # | A | B | C | Approx. Wt. Lbs. | List Price |
|--------|------------------------|-----------|------|------|------|------------------|------------|
| 46-036 | 1/4" x 1/8" | M-103-SAE | 0.68 | 1.54 | 0.86 | 0.08 | 15.22 |
| 46-038 | 5/16" x 1/8" | M-203-SAE | 0.88 | 1.59 | 0.94 | 0.11 | 52.16 |
| 46-039 | 5/16" x 1/4" | M-204-SAE | 0.90 | 1.94 | 1.00 | 0.14 | 22.66 |
| 46-040 | 3/8" x 1/4" | M-303-SAE | 0.97 | 1.84 | 0.90 | 0.17 | 76.55 |

NV101F 2403 824 3049

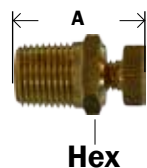
FLARE X FLARE



| Part # | Male Flare X Male Flare | Ind. # | A | B | Approx. Wt. Lbs. | List Price |
|--------|-------------------------|-----------|------|------|------------------|------------|
| 46-045 | 1/4" | M-110-SAE | 1.48 | 1.20 | 0.18 | 5.66 |
| 46-046 | 3/8" | M-115-SAE | 1.79 | 1.19 | 0.20 | 23.63 |

NV102F 3042 825 2401

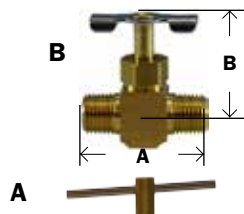
MULTI-PURPOSE AIR VENT



| Part # | Male Pipe | A | Hex | Approx. Wt. Lbs. | List Price |
|--------|-----------|------|------|------------------|------------|
| 46-048 | 1/8" | 0.78 | 0.43 | 0.02 | 3.74 |

705

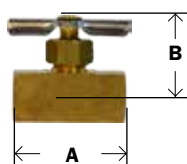
MALE PIPE TO MALE PIPE



| Part # | Male Pipe X Male Pipe | Handle | Ind. # | A | B | Approx. Wt. Lbs. | List Price |
|--------|-----------------------|--------|---------|------|------|------------------|------------|
| 46-050 | 1/8" | A | M-108-P | 1.25 | 1.09 | 0.08 | 24.12 |
| 46-051 | 1/4" | B | M-110-P | 1.69 | 1.00 | 0.16 | 18.11 |

NV107P 2301 826 3122

FEMALE PIPE X FEMALE PIPE

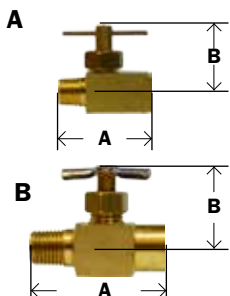


| Part # | Female Pipe X Female Pipe | Ind. # | A | B | Approx. Wt. Lbs. | List Price |
|----------|---------------------------|----------|------|------|------------------|------------|
| 46-055* | 1/8" | M-304-P | 1.18 | 0.84 | 0.18 | 10.13 |
| 46-056 | 1/4" | M-3044-P | 1.60 | 1.24 | 0.21 | 10.36 |
| 46-056P* | 1/4" Heavy | M-3044-P | 1.62 | 2.53 | 0.20 | 15.51 |

* Pressed on handle

6800 NV109P 2304 817 3103

MALE X FEMALE PIPE



NBR seals -30°C to 120°C

| Part # | Male Pipe X Female Pipe | Handle | Ind. # | A | B | Approx. Wt. Lbs. | List Price |
|---------|-------------------------|--------|----------|------|------|------------------|------------|
| 46-060 | 1/8" | A | M-305-P | 1.18 | 1.09 | 0.10 | 7.01 |
| 46-061 | 1/4" | A | M-3055-P | 1.60 | 1.14 | 0.18 | 11.11 |
| 46-061L | 1/4" Light Pattern | B | M-3055-P | 1.88 | 1.09 | 0.21 | 38.52 |

NV108P 2305 818 3120

BRASS FITTINGS

SPECIALTY VALVES

BRASS TRUCK VALVES

- Used in heavy duty truck, trailer and mobile markets.
- Used on water, oil and coolant lines.
- Forged brass construction with steel handle.
- Temperature range -40° - 250°
- Max pressure 250 psi
- Metal to metal seats for high heat/fluid compatibility
- Fine thread screw down to afford flow control ability and a positive seal.
- Not intended for natural gas, LPG, Nuclear or aircraft applications

200 PSI



HOSE TO MALE PIPE

| Part # | Size | List Price |
|----------|-----------|------------|
| L 46-450 | 3/8 x 3/8 | 14.20 |
| L 46-451 | 5/8 x 3/8 | 14.20 |

404V



HOSE TO MALE PIPE

| Part # | Size | List Price |
|--------|-----------|------------|
| 46-455 | 5/8 x 1/2 | 35.78 |
| 46-457 | 3/4 x 3/8 | 47.27 |
| 46-456 | 3/4 x 1/2 | 37.69 |

404V



FEMALE TO MALE PIPE

| Part # | Size | List Price |
|----------|-----------|------------|
| L 46-465 | 3/8 x 3/8 | 22.46 |
| L 46-466 | 3/8 x 1/2 | 25.60 |
| L 46-467 | 1/2 x 1/2 | 30.00 |

405V



FLARE TO MALE PIPE

| Part # | Size | List Price |
|--------|-----------|------------|
| 46-475 | 1/2 x 1/2 | 66.65 |
| 46-476 | 5/8 x 1/2 | 30.07 |

409V

SOLID BOTTOM VALVES

- Designed for instantaneous on-off operation.
- 360° rotation standard.
- 30 PSI
- Packed with grease.



8875

O-RING SEALED MIP X FIP

| Part # | Size | List Price |
|--------|------|------------|
| 46-400 | 1/8 | 29.19 |
| 46-401 | 1/4 | 26.78 |
| 46-402 | 3/8 | 29.60 |

1035D M-70-SBV

- Good for Propane



#M-72-SBV

FIP x FIP

| Part # | Size | List Price |
|--------|------|------------|
| 46-411 | 1/4 | 31.71 |

SOLID BOTTOM FUEL VALVES

- Approved for use on Motorcraft fuel lines.
- Pointer lever.
- 90° turn stop mechanism to assure positive location of the on and off positions.
- Corrosion proofed internal construction assures maximum salt atmosphere protection.
- Port hole is 1/4 (.250) diameter.
- UL listed for use in fuel oils no. 1 & no. 2, LP gas and utility gas.



PIPE MALE X FEMALE

| Part # | Size | List Price |
|---------|-----------|------------|
| 46-400M | 1/8 x 1/8 | 49.23 |
| 46-401M | 1/4 x 1/4 | 36.40 |
| 46-402M | 3/8 x 3/8 | 43.20 |

8980



PIPE

MALE x MALE

| Part # | Size | List Price |
|---------|-----------|------------|
| 46-406M | 1/4 x 1/4 | 44.95 |

8990

- Good for Propane



FEMALE X FEMALE

| Part # | Size | List Price |
|---------|-----------|------------|
| 46-411M | 1/4 x 1/4 | 43.79 |

8975



MALE PIPE X FLARE

| Part # | Size | List Price |
|---------|-----------|------------|
| 46-429M | 1/4 x 3/8 | 41.00 |
| 46-430M | 3/8 x 3/8 | 66.28 |

8948

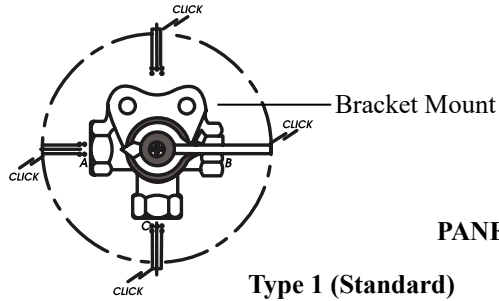
SPECIALTY VALVES

BRASS FITTINGS

GROUND PLUG SHUT-OFF COCKS

NON-LUBRICATED PLUG VALVES are designed to operate in systems where INSTANTANEOUS PORT SELECTION is desired. Since LUBRICANTS ARE NOT USED, relubrication is not required. There is no lubricant to freeze and lock the valve or to contaminate fine fluids. The O-RING SEALED CAP and STEM eliminate leakage to atmosphere. The mating BRASS BODY and CELCON PLUG produce a fine seal that WILL NOT SEIZE OR GALL.

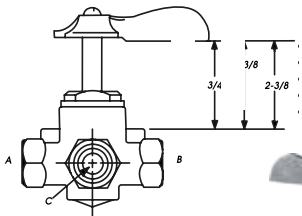
Designed for PANEL or BRACKET MOUNTING. They are generally recommended for operation in GASOLINE, OIL, AIR, WATER and DETERGENT systems from minus 40° to 180°F, at a maximum operating pressure of 30 p.s.i.g. The fluid port size is 9/32 (.281) diameter for 1/8 and 1/4 sizes, 5/16 (.312) diameter for the 3/8 size. (Consult factory for applications requiring a higher pressure).



PANEL MOUNTING AVAILABLE

Type 1 (Standard)

A pronounced "click" may be felt at each position.

THREE-WAY VALVES
(Side Outlet)

- 1-3/8" Stem
- Side Outlet
- Bracket Mounting
- O-Ring Sealed
- 4-way celcon roter standard



LESS CLICK

| Part # | A-B-C Female Pipe Thread | Length of Stem | List Price |
|--------|--------------------------------|----------------------|---------------|
| 46-247 | 1/4 | 1-3/8" | 35.71 |
| 46-248 | 3/8 | 1-3/8" | 42.08 |

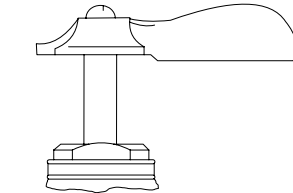
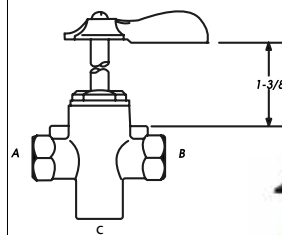
M-108-MID WITH CLICK 360°

| Part # | A-B-C Female Pipe Thread | Length of Stem | List Price |
|--------|--------------------------------|----------------------|---------------|
| 46-250 | 1/8 | 1-3/8" | 37.19 |
| 46-251 | 1/4 | 1-3/8" | 36.35 |
| 46-252 | 3/8 | 1-3/8" | 42.78 |

V406P 6749

Openings:

- Handle Pointer over A.....Valve Open A-C
- Handle Pointer over C.....Valve Open B-C
- Handle Pointer over B.....Valve "OFF"
- Handle Pointer over Bracket.....Valve "OFF"

THREE-WAY VALVES
(Bottom Outlet)

- 1-3/8" Stem
- Side Outlet
- Bracket Mounting
- O-Ring Sealed
- 4-way celcon roter standard



LESS CLICK

| Part # | A-B-C Female Pipe Thread | Length of Stem | List Price |
|--------|--------------------------------|----------------------|---------------|
| 46-241 | 1/4 | 1-3/8" | 37.25 |

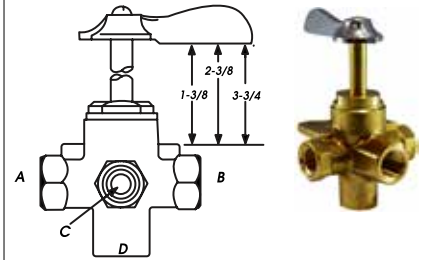
WITH CLICK 360°

| Part # | A-B-C Female Pipe Thread | Length of Stem | List Price |
|--------|--------------------------------|----------------------|---------------|
| 46-243 | 1/8 | 1-3/8" | 43.35 |
| 46-244 | 1/4 | 1-3/8" | 38.96 |

Openings:

- Handle Pointer over A.....Valve Open A-C
- Handle Pointer over B.....Valve Open B-C
- Handle Pointer over Bracket.....Valve "OFF"

FOUR-WAY VALVES



- Side Outlet
- Bracket Mounting
- O-Ring Sealed
- 4-way celcon roter standard

LESS CLICK

| Part # | A-B-C-D Female Pipe Thread | Length of Stem | List Price |
|--------|----------------------------------|----------------------|---------------|
| 46-257 | 1/4 | 1-3/8" | 34.96 |

M-114-MID WITH CLICK (360°)

| Part # | A-B-C-D Female Pipe Thread | Length of Stem | List Price |
|--------|----------------------------------|----------------------|---------------|
| 46-255 | 1/4 | 1-3/8" | 39.50 |
| 46-256 | 3/8 | 1-3/8" | 47.15 |

WITH 2-3/8" LONG STEM M-115-MID

| Part # | A-B-C-D Female Pipe Thread | Length of Stem | List Price |
|--------|----------------------------------|----------------------|---------------|
| 46-260 | 1/4 | 2-3/8" | 39.93 |

Openings:

V407P

- Handle Pointer over A.....Valve Open A-D
- Handle Pointer over C.....Valve Open C-D
- Handle Pointer over B.....Valve Open B-D
- Handle Pointer over Bracket.....Valve "OFF"

MARINE FITTINGS

• Calibrated to support 30" column of gasoline.



**BRASS ANTI-SIPHON VALVES
MALE X MALE**

| Part # | Size | List Price |
|-------------------|-----------|------------|
| 46-520 | 1/4 x 1/4 | 18.56 |
| 46-521 | 3/8 x 3/8 | 30.97 |
| NEW 46-522 | 1/2 x 1/2 | 30.21 |

• Flo direction <-



**BRASS ANTI-SIPHON VALVES
BARB X NPT**

| Part # | Size | List Price |
|--------|------------|------------|
| 46-529 | 1/4 x 1/4 | 12.80 |
| 46-530 | 5/16 x 1/4 | 19.08 |
| 46-531 | 3/8 x 1/4 | 16.37 |
| 46-532 | 3/8 x 3/8 | 30.05 |
| 46-533 | 1/2 x 3/8 | 30.05 |

NEW



**MINI BALL VALVE - BRASS
W/ SS HANDLE AND NUT**

| Part # | Barb x MIP | List Price |
|--------|------------|------------|
| 46-986 | 5/6 x 1/4 | 28.60 |
| 46-987 | 3/8 x 1/4 | 28.60 |
| 46-988 | 3/8 x 3/8 | 28.60 |
| 46-989 | 1/2 x 1/2 | 35.10 |

NEW



ALUMINUM

| Part # | Size | List Price |
|---------|-----------|------------|
| 46-520A | 1/4 x 1/4 | 18.56 |
| 46-521A | 3/8 x 3/8 | 30.97 |

NEW



ALUMINUM

| Part # | Size | List Price |
|---------|------------|------------|
| 46-530A | 5/16 x 1/4 | 11.50 |
| 46-531A | 3/8 x 1/4 | 11.50 |
| 46-532A | 3/8 x 3/8 | 19.19 |
| 46-533A | 1/2 x 3/8 | 21.11 |

- NBR O-Ring
- Working temp 180°F
- 3,000 PSI
- Brass or Aluminum
- #316 Ball & Spring

NEW



MALE MIP X FEMALE FIP BRASS

| Part # | Size | List Price |
|--------|------|------------|
| 46-523 | 1/4 | 21.17 |
| 46-524 | 3/8 | 29.33 |

NEW



ALUMINUM

| Part # | Size | List Price |
|---------|------|------------|
| 46-523A | 1/4 | 18.90 |
| 46-524A | 3/8 | 26.10 |

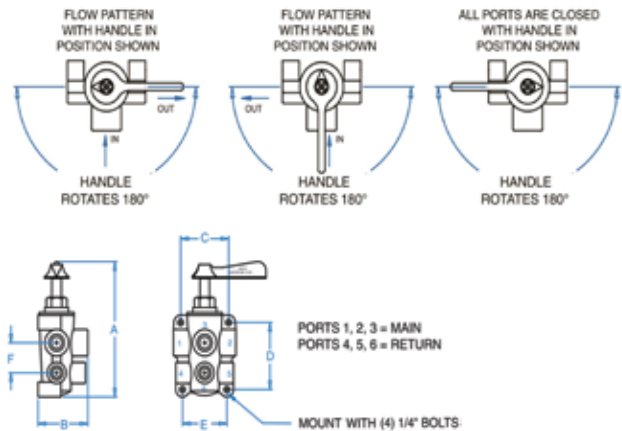
NEW



FLARE X MIP - BRASS

| Part # | Size | List Price |
|--------|-----------|------------|
| 46-526 | 3/8 x 1/4 | 15.11 |

SIX PORT VALVES



Six port fuel valves are used where 2 tanks supply a single engine, and a return to each supply tank is required.

ABYC H33.9.2 states that fuel system valves must have an independent means of support, so in-line valves are not suitable for fuel system applications



| Part # | Ind. # | Female Pipe Thread of 1-2-3 4-5-6 | Stem | Length Type | List Price |
|--------|---------|-----------------------------------|-------|-------------|------------|
| 46-237 | SK-1036 | 1/2 x 3/8 | 13/16 | 1 | 456.11 |

MINIATURE BALL VALVES

BRASS DOMESTIC MINIATURE BALL VALVES

- Working Pressure up to 1000 P.S.I.G.
- ASTM B-16 Corrosion Resistant Brass Body.
- Non-Adjusting Viton O-Ring Stem Seal Design Never Needs Tightening.
- Highly Inert Teflon Seats.
- Long Life Nickel Plated Brass Ball.
- Blow-Out Proof Stem for Safety.
- Temperature: -40°F to 300°F
- 1/4 Turn Instantaneous On-Off Operation.
- Quarter Turn Handle Design.
- Water, Oil, and Air Pressure Systems.
- Ideal for tight, confined areas, or when routing aesthetics are desired. Applications include instrumentation, gas sampling systems, high pressure gauges, test stands, hydraulic and pneumatic service lines on capital equipment.
- Not good for steam.
- Good for propane, gas and diesel.



MALE X FEMALE

| Part # | Size | List Price |
|--------|-----------|------------|
| 46-900 | 1/8 x 1/8 | 25.15 |
| 46-903 | 1/4 x 1/4 | 25.13 |



MALE X MALE

| Part # | Size | List Price |
|--------|-----------|------------|
| 46-910 | 1/8 x 1/8 | 27.86 |
| 46-912 | 1/4 x 1/4 | 27.19 |



MALE PIPE X HOSE BARB

| Part # | Size | List Price |
|--------|-----------|------------|
| 47-042 | 1/8 x 1/4 | 33.91 |
| 46-980 | 1/4 x 1/4 | 25.36 |
| 46-981 | 1/4 x 3/8 | 23.77 |

FEMALE X FEMALE



| Part # | Size | List Price |
|--------|-----------|------------|
| 46-920 | 1/8 x 1/8 | 25.78 |
| 46-921 | 1/8 x 1/4 | 29.04 |
| 46-922 | 1/4 x 1/4 | 25.01 |



| Part # | Size | List Price |
|---------|-----------|------------|
| 46-922A | 1/4 x 1/4 | 20.64 |
| 46-923 | 3/8 x 3/8 | 34.00 |



| Part # | Size | List Price |
|--------|-----------|------------|
| 46-924 | 1/2 x 1/2 | 55.56 |
| 46-925 | 3/4 x 3/4 | 51.50 |

U.L. TWO WAY VALVES

- Buna-N Seal, Teflon Seat Plated metal handle, plated brass ball.
- 250 PSI Working Pressure



U.L. TWO WAY VALVES FNPT X FNPT

| Part # | Size | List Price |
|--------|-----------|------------|
| 46-440 | 1/4 x 1/4 | 28.34 |



U.L. TWO WAY VALVES MNPT X FNPT

| Part # | Size | List Price |
|--------|-----------|------------|
| 46-443 | 1/4 x 1/4 | 28.34 |

BRASS FITTINGS

PANEL MOUNT BRASS BALL VALVES

- Working pressure: 1500 psi wog for 1/8" to 1/4", 1000 psi wog for 3/8" to 1/2"
- Vacuum rating: 29.92" Hg
- Working temp: -40°F to +300°F
- Panel mount hole is 9/16" Dia.
- Brass body cap, PTFE ball seats, Viton stem sealing, Brass chrome plated ball

FEMALE X FEMALE



| Part # | Size | List Price |
|--------|-----------|------------|
| 46-830 | 1/8 x 1/8 | 58.70 |
| 46-832 | 1/4 x 1/4 | 58.75 |
| 46-833 | 3/8 x 3/8 | 115.00 |
| 46-834 | 1/2 x 1/2 | 130.75 |

FEMALE X FEMALE



| Part # | Size | List Price |
|--------|-----------|------------|
| 46-875 | 1/8 x 1/8 | 57.75 |
| 46-878 | 1/4 x 1/4 | 58.00 |



| Part # | Size | List Price |
|--------|---------|------------|
| 46-951 | 1/8 FPT | 61.45 |
| 46-956 | 1/4 FPT | 61.55 |

BRASS FITTINGS

CHECK VALVES

BRASS CHECK VALVES

- 500 PSI
- 180° temp rating
- 1 PSI Cracking Pressure
- Buna-N Seal for water, air and inert gas
- Viton Seal for oil, gas and diesel fuel



FIP X FIP BUNA-N

| Part # | Size | List |
|--------|------|-------|
| 46-560 | 1/8" | 29.08 |
| 46-561 | 1/4" | 32.41 |
| 46-562 | 3/8" | 47.05 |
| 46-563 | 1/2" | 57.41 |
| 46-564 | 3/4" | 99.93 |

FIP X FIP VITON

| Part # | Size | List |
|---------|------|-------|
| 46-560V | 1/8" | 29.08 |
| 46-561V | 1/4" | 32.41 |
| 46-562V | 3/8" | 47.05 |
| 46-563V | 1/2" | 57.41 |
| 46-564V | 3/4" | 99.93 |



FEMALE X MALE BUNA-N

| Part # | Size | List Price |
|--------|------|------------|
| 46-565 | 1/8" | 29.08 |
| 46-566 | 1/4" | 27.84 |
| 46-567 | 3/8" | 34.83 |
| 46-568 | 1/2" | 42.47 |
| 46-569 | 3/4" | 99.93 |



MALE X MALE

| Part # | Size | Buna-N List |
|--------|------|-------------|
| 46-570 | 1/8" | 29.08 |
| 46-571 | 1/4" | 27.84 |
| 46-572 | 3/8" | 34.82 |
| 46-573 | 1/2" | 42.47 |



MALE X FEMALE

| Part # | Size | Buna-N Price |
|--------|------|--------------|
| 46-575 | 1/8" | 29.08 |
| 46-576 | 1/4" | 27.84 |
| 46-577 | 3/8" | 34.83 |
| 46-578 | 1/2" | 42.47 |

HIGH PRESSURE CHECK VALVES

LOWER PRICE

MAX. 2500 PSI

Cracking Pressure 1 PSI

- Opening diameter .187
- 180° max operating temp.
- SS ball and spring
- CV = 0.4



MNPT X MNPT

| Part # | Size | Opening Dia. | List Price |
|--------|-----------|--------------|------------|
| 46-500 | 1/4 x 1/4 | 0.187 | 16.88 |

LOWER PRICE

MAX. 2500 PSI

- Flo direction ->
- Opening diameter .187
- 180° max operating temp.
- Buna Seal
- SS ball and spring



MNPT X FNPT

| Part # | Size | Opening Dia. | List Price |
|--------|-----------|--------------|------------|
| 46-505 | 1/4 x 1/4 | 0.187 | 16.88 |

LOWER PRICE

MAX. 1200 PSI

- O-Ring poppet seal Bubble tight operation
- 180°F max operating temp.



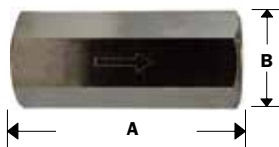
FNPT X FNPT

| Part # | Size | Opening Dia. | List Price |
|--------|-----------|--------------|------------|
| 46-510 | 1/4 x 1/4 | 0.25 | 18.00 |
| 46-511 | 3/8 x 3/8 | 0.375 | 24.13 |
| 46-512 | 1/2 x 1/2 | 0.437 | 45.81 |

PNEUMATIC CHECK VALVES

- Max Operating Pressure: 220 psi
- Working Pressure: 14.5-145 psi
- Cracking Pressure: 2.8 psi
- Maximum Temperatures: 140° F

| | |
|--------|---------------------|
| Body | Chrome plated Brass |
| Spring | Steel |
| O-Ring | NBR Rubber |



NPT- Inlet NPSM - Outlet

| Part # | Size | Dimensions (In.) | | List Price |
|--------|------|------------------|------|------------|
| | | A | B | |
| 46-200 | 1/4 | 1.97 | 0.67 | 18.98 |
| 46-201 | 3/8 | 1.97 | 0.83 | 19.32 |
| 46-202 | 1/2 | 2.48 | 0.98 | 38.69 |

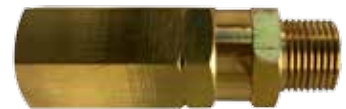
HIGH PRESSURE CHECK VALVES

- Operates in any position, and is available in mixed or matched end combinations.
- Standard cracking pressure 1 p.s.i with a maximum operating pressure of 3000 p.s.i. and a maximum operating temperature of 180°F using Buna-N seals.
- Buna-N seals standard, other seals available.
- Guided 316 stainless steel ball + spring.
- Fixed ringed seat prevents extrusion of seal.
- Opening diameter .28
- Approximate CV 1.2
- Brass
- Water G.P.M. @ 10 p.s.i. is 4.0
- Good for air



FEMALE X FEMALE

| Part # | Size | List Price |
|--------|------|------------|
| 46-513 | 1/4 | 55.02 |
| 46-517 | 3/8 | 57.16 |



FEMALE X MALE

| Part # | Size | List Price |
|--------|------|------------|
| 46-514 | 1/4 | 55.02 |
| 46-518 | 3/8 | 57.16 |



MALE X FEMALE

| Part # | Size | List Price |
|--------|------|------------|
| 46-516 | 1/4 | 50.41 |
| 46-539 | 3/8 | 56.03 |



MALE X MALE

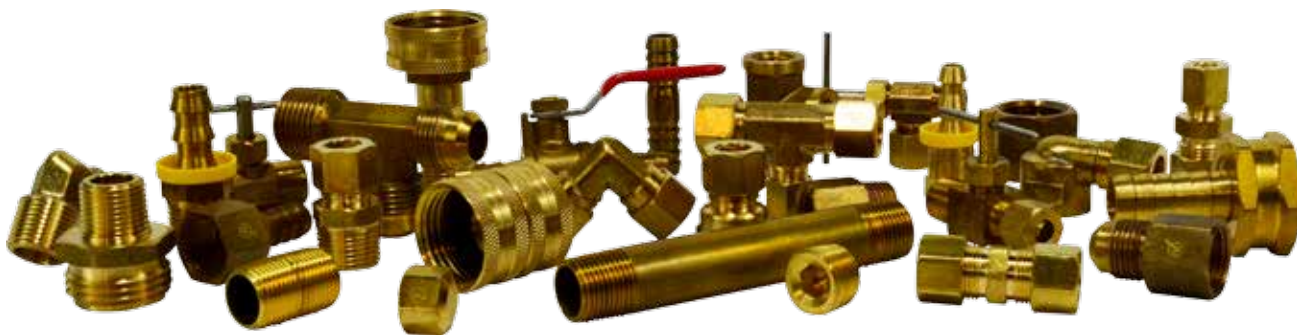
| Part # | Size | List Price |
|--------|------|------------|
| 46-515 | 1/4 | 48.47 |
| 46-519 | 3/8 | 56.04 |

NEW

NEW

NEW

LEAD FREE



What is the new lead-free requirement?

In 2011, the Reduction of Lead in Drinking Water Act was signed into law. The Act has reduced the lead content allowed in drinking water system and plumbing materials by changing the definition of "lead-free" in Section 1417 of the Safe Drinking Water Act.

The term "lead-free" has been updated from not more than 8% lead content to mean "not more than a weighted average of 0.25% lead when used with respect to the wetted surfaces of pipes, pipe fittings, plumbing fittings and fixtures."

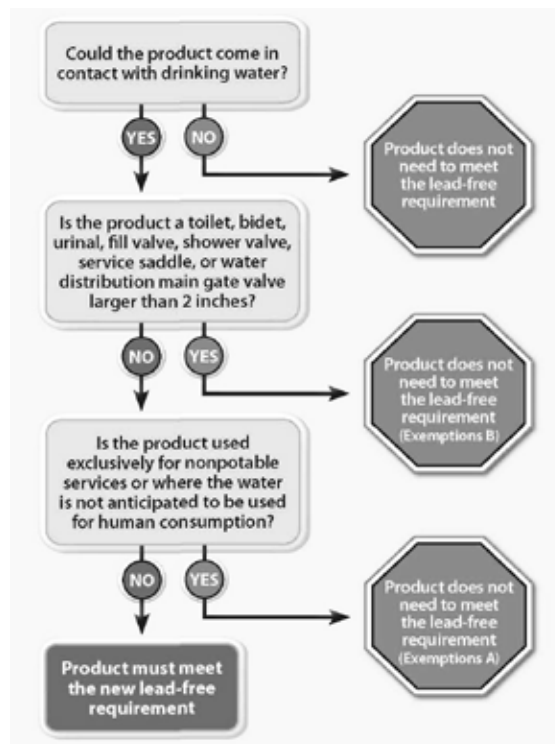
How do I know which products must meet the new lead-free requirement?

The prohibitions on use and introduction into commerce apply to all pipe, pipe fittings, plumbing fittings, and fixtures (henceforth referred to as "products"), including stocked inventories that have not been installed. This includes coated or uncoated brass or bronze materials. By using the flow-chart below as a guide, you can determine if a product must meet the new lead-free requirement:

Lead-Free Requirement Exemptions

(A) The new requirement does not apply to pipes, pipe fittings, plumbing fittings, or fixtures, including backflow preventers, that are used exclusively for nonpotable service such as manufacturing, industrial processing, irrigation, outdoor watering or any other uses where the water is not anticipated to be used for human consumption.

(B) The new requirement does not apply to toilets, bidets, urinals, fill valves, flushometer valves, tub fillers, shower valves, service saddles or water distribution main gate valves 2 inches in diameter or larger.



90° FORGED FEMALE ELBOW



| Part # | Thread size NPTF | List Price |
|----------|------------------|------------|
| 28-009LF | 1/8" | 6.18 |
| 28-010LF | 1/4" | 10.55 |
| 28-011LF | 3/8" | 7.99 |
| 28-012LF | 1/2" | 9.67 |
| 28-013LF | 3/4" | 16.13 |

UNION FORGED TEE



| Part # | Thread size NPTF | List Price |
|----------|------------------|------------|
| 28-032LF | 1/8" | 4.17 |
| 28-033LF | 1/4" | 7.64 |
| 28-034LF | 3/8" | 10.84 |
| 28-035LF | 1/2" | 16.50 |
| 28-036LF | 3/4" | 25.35 |

90° STREET ELBOW



| Part # | Thread size NPTF | List Price |
|----------|------------------|------------|
| 28-165LF | 1/8" | 2.70 |
| 28-166LF | 1/4" | 4.07 |
| 28-167LF | 3/8" | 5.98 |
| 28-168LF | 1/2" | 12.18 |
| 28-169LF | 3/4" | 10.80 |

COUPLING



| Part # | Thread size NPTF | List Price |
|----------|------------------|------------|
| 28-058LF | 1/8" | 2.18 |
| 28-059LF | 1/4" | 2.38 |
| 28-060LF | 3/8" | 3.92 |
| 28-061LF | 1/2" | 5.94 |

REDUCING COUPLING



| Part # | Thread size NPTF | List Price |
|----------|------------------|------------|
| 28-183LF | 3/8" x 1/4" | 6.54 |
| 28-185LF | 1/2" x 3/8" | 5.21 |
| 28-189LF | 3/4" x 1/2" | 6.99 |

HEX BUSHING



| Part # | Thread size NPTF Mx F | List Price |
|----------|-----------------------|------------|
| 28-102LF | 1/4" x 1/8" | 1.68 |
| 28-103LF | 3/8" x 1/8" | 3.72 |
| 28-104LF | 3/8" x 1/4" | 2.60 |
| 28-105LF | 1/2" x 1/8" | 6.27 |
| 28-106LF | 1/2" x 1/4" | 3.83 |
| 28-107LF | 1/2" x 3/8" | 4.70 |
| 28-108LF | 3/4" x 1/8" | 11.93 |
| 28-109LF | 3/4" x 1/4" | 8.55 |
| 28-110LF | 3/4" x 3/8" | 8.58 |
| 28-111LF | 3/4" x 1/2" | 6.97 |
| 28-119LF | 1 x 1/8 | 27.36 |
| 28-112LF | 1 x 1/4 | 27.42 |
| 28-114LF | 1 x 1/2 | 17.19 |
| 28-115LF | 1" x 3/4" | 15.58 |

FACE BUSHING



| Part # | Thread size NPTF Mx F | List Price |
|----------|-----------------------|------------|
| 28-121LF | 1/4" x 1/8" | 2.08 |
| 28-122LF | 3/8" x 1/8" | 6.92 |
| 28-116LF | 3/8" x 1/4" | 3.92 |
| 28-128LF | 1/2" x 1/4" | 4.50 |
| 28-117LF | 1/2" x 3/8" | 6.30 |
| 28-129LF | 3/4" x 1/4" | 7.43 |
| 28-130LF | 3/4" x 3/8" | 7.05 |
| 28-118LF | 3/4" x 1/2" | 10.14 |

PIPE

LEAD FREE BRASS FITTINGS



HEX CAP



| Part # | Thread size NPTF | List Price |
|----------|------------------|------------|
| 28-075LF | 1/8" | 3.11 |
| 28-076LF | 1/4" | 3.36 |
| 28-077LF | 3/8" | 1.99 |
| 28-078LF | 1/2" | 4.36 |
| 28-079LF | 3/4" | 12.00 |

SOLID SQUARE HEAD PLUG



| Part # | Thread size NPTF | List Price |
|----------|------------------|------------|
| 28-084LF | 1/8" | 1.82 |
| 28-085LF | 1/4" | 1.18 |
| 28-086LF | 3/8" | 4.41 |
| 28-087LF | 1/2" | 3.73 |
| 28-088LF | 3/4" | 15.00 |

COUNTERSUNK HEX PLUG



| Part # | Thread size NPTF | List Price |
|----------|------------------|------------|
| 28-093LF | 1/8" | 0.81 |
| 28-094LF | 1/4" | 3.49 |
| 28-095LF | 3/8" | 3.58 |
| 28-096LF | 1/2" | 5.25 |
| 28-097LF | 3/4" | 8.31 |
| 28-098LF | 1" | 16.14 |

CORED HEX PLUGS



| Part # | Thread size NPTF | List Price |
|----------|------------------|------------|
| 28-201LF | 1/8" | 1.15 |
| 28-202LF | 1/4" | 2.87 |
| 28-204LF | 1/2" | 8.71 |

CLOSE NIPPLE



| Part # | Thread size NPTF | List Price |
|----------|------------------|------------|
| 28-131LF | 1/8" | 2.70 |
| 28-132LF | 1/4" | 2.22 |
| 28-133LF | 3/8" | 2.69 |
| 28-134LF | 1/2" | 3.09 |
| 28-135LF | 3/4" | 4.45 |

LONG NIPPLE



| Part # | Thread size NPTF | List Price |
|----------|------------------|------------|
| 28-144LF | 1/4" x 1-1/2" | 2.25 |
| 28-145LF | 1/4" x 2" | 2.80 |
| 28-147LF | 1/4" x 3" | 3.86 |
| 28-148LF | 3/8" x 1-1/2" | 3.02 |
| 28-149LF | 3/8" x 2" | 4.58 |

HEX NIPPLE



| Part # | Thread size NPTF | List Price |
|----------|------------------|------------|
| 28-211LF | 1/8" | 2.09 |
| 28-212LF | 1/4" | 2.98 |
| 28-213LF | 3/8" | 3.33 |
| 28-222LF | 3/8" x 1/4" | 8.06 |
| 28-214LF | 1/2" | 7.25 |
| 28-224LF | 1/2" x 3/8" | 10.56 |
| 28-215LF | 3/4" | 29.27 |
| 28-225LF | 3/4" x 1/2" | 16.19 |

MALE BRANCH TEE



| Part # | Thread size NPTF | List Price |
|----------|------------------|------------|
| 28-283LF | 3/8" | 12.55 |

EXTENDER ADAPTER



| Part # | Thread size NPTF FxM | List Price |
|----------|----------------------|------------|
| 28-191LF | 1/4" X 1/8" | 2.80 |
| 28-192LF | 1/4" x 1/4" | 4.43 |
| 28-193LF | 3/8" x 1/4" | 10.53 |
| 28-195LF | 1/2" x 3/8" | 10.16 |
| 28-196LF | 1/2" X 1/2" | 12.01 |
| 28-208LF | 3/4" x 1/2" | 8.00 |

STREET TEE/ SERVICE TEE



| Part # | Thread size NPTF | List Price |
|----------|------------------|------------|
| 28-246LF | 1/4" | 9.44 |

HOSE BARBS

RIGID MALE ADAPTER



| Part # | Hose I.D. x Male NPTF | List Price |
|----------|-----------------------|------------|
| 32-001LF | 1/8" x 1/8" | 3.68 |
| 32-027LF | 1/8" x 1/4" | 4.87 |
| 32-002LF | 3/16" x 1/8" | 2.50 |
| 32-003LF | 3/16" x 1/4" | 3.90 |
| 32-004LF | 1/4" x 1/8" | 2.86 |
| 32-005LF | 1/4" x 1/4" | 1.95 |
| 32-006LF | 1/4" x 3/8" | 2.64 |
| 32-007LF | 1/4" x 1/2" | 4.21 |
| 32-008LF | 5/16" x 1/8" | 1.51 |
| 32-009LF | 5/16" x 1/4" | 2.96 |
| 32-010LF | 5/16" x 3/8" | 5.72 |
| 32-011LF | 3/8" x 1/8" | 3.56 |
| 32-012LF | 3/8" x 1/4" | 2.68 |
| 32-013LF | 3/8" x 3/8" | 3.07 |
| 32-014LF | 3/8" x 1/2" | 4.15 |
| 32-026LF | 3/8" x 3/4" | 6.10 |
| 32-015LF | 1/2" x 1/4" | 3.41 |
| 32-016LF | 1/2" x 3/8" | 3.57 |
| 32-017LF | 1/2" x 1/2" | 5.15 |
| 32-018LF | 1/2" x 3/4" | 7.07 |
| 32-019LF | 5/8" x 3/8" | 5.40 |
| 32-020LF | 5/8" x 1/2" | 5.64 |
| 32-021LF | 5/8" x 3/4" | 9.68 |
| 32-306LF | 3/4" x 3/8" | 10.26 |
| 32-022LF | 3/4" x 1/2" | 8.02 |
| 32-023LF | 3/4" x 3/4" | 15.18 |
| 32-024LF | 1" x 3/4" | 19.15 |
| 32-025LF | 1" x 1" | 25.99 |

MENDER/ SPLICER



| Part # | Hose I.D. x Hose I.D. | List Price |
|----------|-----------------------|------------|
| 32-091LF | 1/8" | 2.32 |
| 32-092LF | 3/16" | 4.45 |
| 32-093LF | 1/4" | 4.33 |
| 32-094LF | 5/16" | 4.36 |
| 32-095LF | 3/8" | 5.43 |
| 32-096LF | 1/2" | 7.68 |
| 32-097LF | 5/8" | 8.74 |
| 32-098LF | 3/4" | 11.05 |

RIGID FEMALE ADAPTER



| Part # | Hose I.D. x Female NPTF | List Price |
|----------|-------------------------|------------|
| 32-050LF | 1/8" x 1/8" | 3.25 |
| 32-317LF | 1/8" x 1/4" | 5.14 |
| 32-052LF | 1/4" x 1/8" | 3.99 |
| 32-053LF | 1/4" x 1/4" | 5.47 |
| 32-054LF | 1/4" x 3/8" | 5.82 |
| 32-055LF | 5/16" x 1/8" | 2.20 |
| 32-056LF | 5/16" x 1/4" | 3.30 |
| 32-058LF | 3/8" x 1/4" | 5.23 |
| 32-059LF | 3/8" x 3/8" | 8.78 |
| 32-063LF | 3/8" x 1/2" | 8.38 |
| 32-064LF | 1/2" x 1/4" | 6.65 |
| 32-060LF | 1/2" x 3/8" | 7.70 |
| 32-061LF | 1/2" x 1/2" | 4.25 |
| 32-065LF | 3/4" x 3/4" | 15.42 |

FORGED HOSE BARB 90° ELBOW



| Part # | Hose I.D. x Male NPTF | List Price |
|----------|-----------------------|------------|
| 32-038LF | 1/4" x 1/8" | 5.18 |
| 32-039LF | 1/4" x 1/4" | 2.69 |
| 32-309LF | 1/4" x 3/8" | 7.76 |
| 32-036LF | 5/16" x 1/8" | 3.92 |
| 32-040LF | 5/16" x 1/4" | 4.80 |
| 32-046LF | 3/8" x 1/8" | 5.22 |
| 32-041LF | 3/8" x 1/4" | 2.89 |
| 32-042LF | 3/8" x 3/8" | 3.36 |
| 32-047LF | 3/8" x 1/2" | 5.45 |
| 32-048LF | 1/2" x 1/4" | 7.12 |
| 32-043LF | 1/2" x 3/8" | 6.01 |
| 32-311LF | 1/2" x 1/2" | 5.29 |
| 32-313LF | 3/4" x 1/2" | 11.02 |

HOSE BARB/ PUSH-ON/ GARDEN HOSE

LEAD FREE BRASS FITTINGS

HOSE BARB TEES



| Part # | Hose Barb Size | List Price |
|----------|----------------|------------|
| 32-365LF | 1/4" | 5.30 |
| 32-126LF | 3/8" | 4.15 |

FEMALE 45° FLARE SWIVEL



| Part # | List Price |
|----------|------------|
| 32-105LF | 5.20 |

**LEAD FREE MINI BALL VALVES
BARB x BARB**



| Part # | H.B. x H.B. | List Price |
|-----------|-------------|------------|
| 944-142LF | 1/4" | 12.73 |
| 944-134LF | 3/8" | 12.88 |

PUSH-ON

MALE ADAPTER



| Part # | Hose I.D. x Male NPTF | List Price |
|----------|-----------------------|------------|
| 30-200LF | 1/4" x 1/8" | 2.45 |
| 30-201LF | 1/4" x 1/4" | 3.29 |
| 30-203LF | 3/8" x 1/4" | 3.40 |
| 30-204LF | 3/8" x 3/8" | 4.64 |
| 30-206LF | 1/2" x 3/8" | 5.35 |
| 30-207LF | 1/2" x 1/2" | 8.83 |

SAE/JIC DUAL 45°/37° FEMALE SWIVEL



| Part # | Hose I.D. x Female 45°/37° | List Price |
|----------|----------------------------|------------|
| 30-230LF | 1/4" x 1/4" | 3.37 |

GARDEN HOSE

SWIVEL - FGH X FGH

•WASHER INCLUDED



| Part # | FGH X FGH | List Price |
|----------|-------------|------------|
| 30-011LF | 3/4" x 3/4" | 14.89 |

RIGID - MGH X FEMALE PIPE



| Part # | MGH x Female NPTF | List Price |
|----------|-------------------|------------|
| 30-073LF | 3/4" x 3/4" | 11.75 |

RIGID - MGH X MALE PIPE



| Part # | MGH x Male NPTF | List Price |
|----------|--------------------|------------|
| 30-052LF | 3/4" x 1/4" | 12.58 |
| 30-063LF | 3/4" x 3/4" x 1/2" | 14.28 |

FEMALE SWIVEL ONLY



| Part # | Hose Barb x FGH | List Price |
|----------|-----------------|------------|
| 30-031LF | 3/8" x 3/4" | 6.06 |
| 30-032LF | 1/2" x 3/4" | 5.00 |
| 30-033LF | 5/8" x 3/4" | 13.97 |

SWIVEL FGH X MIP



| Part # | MIP x FGH | List Price |
|----------|-------------|------------|
| 30-047LF | 3/4" x 1/4" | 10.56 |
| 30-049LF | 3/4" x 1/2" | 13.12 |

SAE 45° FLARE

SHORT ROD NUT



| Part # | Thread Size UNF | List Price |
|----------|-----------------|------------|
| 10-015LF | 1/4" | 2.28 |
| 10-017LF | 3/8" | 2.31 |
| 10-019LF | 1/2" | 2.33 |
| 10-021LF | 3/4" | 15.96 |

SHORT FORGED NUT



| Part # | Thread Size UNF | List Price |
|----------|-----------------|------------|
| 10-041LF | 3/8" | 3.71 |
| 10-042LF | 1/2" | 5.33 |

FLARED CAP



| Part # | Thread Size UNF | List Price |
|----------|-----------------|------------|
| 10-075LF | 1/4" | 0.94 |
| 10-077LF | 3/8" | 2.49 |
| 10-078LF | 1/2" | 4.29 |
| 10-079LF | 5/8" | 6.06 |

UNION



| Part # | Thread Size UNF | List Price |
|----------|-----------------|------------|
| 10-106LF | 1/4" | 2.14 |
| 10-108LF | 3/8" | 3.85 |
| 10-118LF | 3/8" x 1/4" | 6.35 |
| 10-109LF | 1/2" | 7.99 |
| 10-110LF | 5/8" | 15.86 |

TEE



| Part # | Size | List Price |
|----------|------|------------|
| 10-159LF | 1/4" | 6.46 |
| 10-161LF | 3/8" | 12.66 |

MALE BRANCH TEE



| Part # | Size | List Price |
|----------|-------------|------------|
| 10-204LF | 1/4" x 1/8" | 7.62 |

FEMALE ADAPTER



| Part # | Male Flare x Female NPTF | List Price |
|----------|--------------------------|------------|
| 10-229LF | 1/4" x 1/4" | 4.20 |
| 10-236LF | 3/8" x 3/8" | 5.23 |
| 10-237LF | 3/8" x 1/2" | 5.63 |
| 10-240LF | 1/2" x 3/8" | 8.01 |
| 10-241LF | 1/2" x 1/2" | 7.99 |
| 10-242LF | 1/2" x 3/4" | 9.43 |

MALE ADAPTER



| Part # | Male Flare x Male NPTF | List Price |
|----------|------------------------|------------|
| 10-255LF | 1/4" x 1/8" | 1.59 |
| 10-256LF | 1/4" x 1/4" | 2.21 |
| 10-257LF | 1/4" x 3/8" | 2.73 |
| 10-258LF | 1/4" x 1/2" | 3.35 |
| 10-262LF | 3/8" x 1/8" | 6.04 |
| 10-263LF | 3/8" x 1/4" | 4.46 |
| 10-264LF | 3/8" x 3/8" | 5.44 |
| 10-265LF | 3/8" x 1/2" | 4.83 |
| 10-267LF | 1/2" x 1/4" | 8.86 |
| 10-268LF | 1/2" x 3/8" | 4.67 |
| 10-269LF | 1/2" x 1/2" | 5.19 |
| 10-270LF | 1/2" x 3/4" | 14.34 |
| 10-272LF | 5/8" x 5/8" | 14.94 |
| 10-273LF | 5/8" x 1/2" | 11.12 |
| 10-275LF | 3/4" x 1/2" | 17.65 |
| 10-276LF | 3/4" x 3/4" | 22.33 |



90° MALE ELBOW



Forged Elbow

| Part # | Male Flare x Male NPTF | List Price |
|----------|------------------------|------------|
| 10-286LF | 1/4" x 1/8" | 2.31 |
| 10-287LF | 1/4" x 1/4" | 3.47 |
| 10-288LF | 1/4" x 3/8" | 4.35 |
| 10-293LF | 3/8" x 1/8" | 8.98 |
| 10-294LF | 3/8" x 1/4" | 7.78 |
| 10-295LF | 3/8" x 3/8" | 4.41 |
| 10-296LF | 3/8" x 1/2" | 5.57 |
| 10-299LF | 1/2" x 3/8" | 11.72 |
| 10-300LF | 1/2" x 1/2" | 12.95 |
| 10-301LF | 1/2" x 3/4" | 18.56 |
| 10-305LF | 3/4" x 1/2" | 42.88 |
| 10-306LF | 3/4" x 3/4" | 49.59 |

FORGED MALE RUN TEE



| Part # | Male Flare x Male NPTF (1&3) x 2 | List Price |
|----------|-------------------------------------|------------|
| 10-351LF | 3/8" x 3/8" | 26.88 |
| 10-355LF | 1/2" x 1/2" | 9.95 |
| 10-359LF | 3/4" x 1/2" | 81.65 |

FORGED SWIVEL



| Part # | Female Flare UNF | List Price |
|----------|------------------|------------|
| 10-483LF | 3/8" | 12.86 |
| 10-484LF | 1/2" | 16.44 |
| 10-485LF | 5/8" | 39.50 |
| 10-487LF | 3/8" x 1/4" | 4.62 |

BRASS SLEEVE



• FERRULES

| Part # | Size | List Price |
|----------|-------|------------|
| 18-002LF | 3/16" | 1.44 |
| 18-003LF | 1/4" | 0.17 |
| 18-004LF | 5/16" | 0.22 |
| 18-005LF | 3/8" | 0.29 |
| 18-007LF | 1/2" | 0.32 |
| 18-008LF | 5/8" | 0.40 |
| 18-009LF | 3/4" | 7.26 |
| 18-010LF | 7/8" | 0.93 |

60 260

NUT



| Part # | Size | List Price |
|----------|------|------------|
| 18-037LF | 3/8" | 3.42 |

DELTRIN SLEEVE



| Part # | Size | List Price |
|--------|-------|------------|
| 18-015 | 1/4" | 0.07 |
| 18-016 | 5/16" | 1.09 |
| 18-017 | 3/8" | 0.23 |
| 18-018 | 1/2" | 0.15 |
| 18-019 | 5/8" | 0.21 |

60-P

BRASS INSERT



• SLEEVE

| Part # | Size | List Price |
|----------|-------|------------|
| 22-010LF | 1/4" | 0.15 |
| 22-011LF | 5/16" | 0.24 |
| 22-012LF | 3/8" | 0.21 |
| 22-013LF | 1/2" | 0.31 |
| 22-014LF | 5/8" | 0.54 |

63-BI 60AE 2030 63PT

CAP



| Part # | Size | List Price |
|----------|------|------------|
| 18-047LF | 1/4" | 0.73 |
| 18-048LF | 3/8" | 0.92 |
| 18-049LF | 1/2" | 2.29 |
| 18-050LF | 5/8" | 2.88 |

61-CC N5CT

UNION



| Part # | Size | List Price |
|----------|-------|------------|
| 18-062LF | 1/8" | 3.76 |
| 18-063LF | 3/16" | 4.69 |
| 18-064LF | 1/4" | 3.04 |
| 18-065LF | 5/16" | 3.04 |
| 18-066LF | 3/8" | 4.39 |
| 18-067LF | 7/16" | 10.01 |
| 18-068LF | 1/2" | 6.29 |
| 18-069LF | 5/8" | 7.60 |
| 18-070LF | 3/4" | 28.03 |
| 18-071LF | 7/8" | 16.06 |

M-62

REDUCING UNION



| Part # | Size | List Price |
|----------|--------------|------------|
| 18-076LF | 1/4" x 1/8" | 6.20 |
| 18-077LF | 1/4" x 3/16" | 5.89 |
| 18-078LF | 5/16" x 1/4" | 8.00 |
| 18-079LF | 3/8" x 1/4" | 3.95 |
| 18-081LF | 3/8" x 1/2" | 5.71 |
| 18-082LF | 3/8" x 5/8" | 6.50 |
| 18-083LF | 1/2" x 5/8" | 7.44 |

62-R

TEE



| Part # | Size | List Price |
|----------|-------|------------|
| 18-101LF | 1/8" | 5.67 |
| 18-102LF | 3/16" | 7.32 |
| 18-103LF | 1/4" | 4.89 |
| 18-104LF | 5/16" | 12.51 |
| 18-105LF | 3/8" | 7.04 |
| 18-106LF | 1/2" | 11.47 |
| 18-107LF | 5/8" | 16.36 |
| 18-109LF | 7/8" | 68.43 |

FORGED REDUCING TEE



| Part # | Size | List Price |
|----------|--------------------|------------|
| 18-115LF | 3/8" x 3/8" x 1/4" | 7.27 |
| 18-117LF | 1/2" x 1/2" x 3/8" | 26.07 |

64-R

UNION ELBOW



| Part # | Size | List Price |
|----------|-------|------------|
| 18-124LF | 1/4" | 3.59 |
| 18-125LF | 5/16" | 9.76 |
| 18-126LF | 3/8" | 4.75 |
| 18-127LF | 1/2" | 8.09 |
| 18-128LF | 5/8" | 11.10 |
| 18-129LF | 3/4" | 31.41 |
| 18-130LF | 7/8" | 65.35 |

65 BSE2 165C 265C

REDUCING ELBOW - Forged



| Part # | Size | List Price |
|----------|-------------|------------|
| 18-135LF | 3/8" x 1/4" | 8.85 |
| 18-137LF | 3/8" x 5/8" | 8.95 |

COMP X SWEAT ADAPTER

65-R



| Part # | Comp. X Sweat Adapter | List Price |
|----------|--------------------------|------------|
| 18-171LF | 3/8" x 1/2" nom.swt. | 5.16 |

66-S

COMPRESSION

LEAD FREE BRASS FITTINGS



FEMALE ADAPTER



| Part # | Comp. X Female NPTF | List Price |
|----------|---------------------|------------|
| 18-142LF | 1/8" x 1/8" | 7.41 |
| 18-143LF | 3/16" x 1/8" | 4.31 |
| 18-145LF | 1/4" x 1/8" | 4.56 |
| 18-146LF | 1/4" x 1/4" | 3.91 |
| 18-147LF | 1/4" x 3/8" | 5.59 |
| 18-148LF | 1/4" x 1/2" | 6.22 |
| 18-150LF | 5/16" x 1/4" | 5.02 |
| 18-151LF | 5/16" x 3/8" | 9.52 |
| 18-152LF | 3/8" x 1/8" | 6.22 |
| 18-153LF | 3/8" x 1/4" | 3.12 |
| 18-154LF | 3/8" x 3/8" | 3.56 |
| 18-155LF | 3/8" x 1/2" | 3.92 |
| 18-156LF | 3/8" x 3/4" | 17.34 |
| 18-158LF | 1/2" x 3/8" | 4.17 |
| 18-159LF | 1/2" x 1/2" | 5.01 |
| 18-160LF | 1/2" x 3/4" | 17.98 |
| 18-162LF | 5/8" x 1/2" | 6.64 |
| 18-163LF | 5/8" x 3/4" | 10.42 |
| 18-166LF | 7/8" x 3/4" | 11.55 |

66

MALE ADAPTER



| Part # | Comp. X Male NPTF | List Price |
|----------|-------------------|------------|
| 18-176LF | 1/8" x 1/8" | 3.17 |
| 18-177LF | 3/16" x 1/8" | 3.53 |
| 18-178LF | 3/16" x 1/4" | 13.15 |
| 18-179LF | 1/4" x 1/8" | 2.21 |
| 18-180LF | 1/4" x 1/4" | 2.69 |
| 18-181LF | 1/4" x 3/8" | 3.46 |
| 18-182LF | 1/4" x 1/2" | 5.18 |
| 18-183LF | 5/16" x 1/8" | 4.59 |
| 18-184LF | 5/16" x 1/4" | 5.43 |
| 18-187LF | 3/8" x 1/8" | 5.12 |
| 18-188LF | 3/8" x 1/4" | 3.07 |
| 18-189LF | 3/8" x 3/8" | 3.68 |
| 18-190LF | 3/8" x 1/2" | 5.23 |
| 18-191LF | 3/8" x 3/4" | 9.94 |
| 18-192LF | 7/16" x 1/4" | 11.14 |
| 18-193LF | 1/2" x 1/4" | 4.95 |
| 18-194LF | 1/2" x 3/8" | 4.76 |
| 18-195LF | 1/2" x 1/2" | 6.12 |
| 18-196LF | 1/2" x 3/4" | 11.09 |
| 18-197LF | 5/8" x 3/8" | 5.60 |
| 18-198LF | 5/8" x 1/2" | 6.38 |
| 18-199LF | 5/8" x 3/4" | 7.51 |
| 18-201LF | 3/4" x 3/4" | 23.36 |
| 18-202LF | 7/8" x 1/2" | 21.55 |
| 18-203LF | 7/8" x 3/4" | 11.61 |

MALE ELBOW



| Part # | Comp. X Male NPTF | Forged List Price |
|----------|-------------------|-------------------|
| 18-221LF | 3/16" x 1/8" | 4.58 |
| 18-224LF | 1/4" x 1/8" | 2.89 |
| 18-225LF | 1/4" x 1/4" | 3.38 |
| 18-226LF | 1/4" X 3/8" | 3.93 |
| 18-227LF | 1/4" x 1/2" | 11.10 |
| 18-228LF | 5/16" x 1/8" | 6.78 |
| 18-229LF | 5/16" x 1/4" | 7.07 |
| 18-232LF | 3/8" x 1/8" | 7.92 |
| 18-233LF | 3/8" x 1/4" | 3.85 |
| 18-234LF | 3/8" x 3/8" | 4.74 |
| 18-235LF | 3/8" x 1/2" | 6.48 |
| 18-236LF | 1/2" x 1/4" | 13.38 |
| 18-237LF | 1/2" x 3/8" | 6.09 |
| 18-238LF | 1/2" x 1/2" | 7.37 |
| 18-239LF | 1/2" x 3/4" | 17.32 |
| 18-240LF | 5/8" x 3/8" | 15.85 |
| 18-241LF | 5/8" x 1/2" | 8.80 |
| 18-242LF | 5/8" x 3/4" | 12.65 |
| 18-246LF | 7/8" x 3/4" | 31.08 |

69 269C BSE1 169C

FEMALE ELBOW

Forged

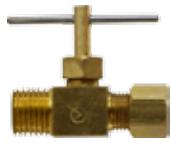


| Part # | Comp. X Female NPTF | List Price |
|----------|---------------------|------------|
| 18-253LF | 1/4" x 1/8" | 8.19 |
| 18-254LF | 1/4" x 1/4" | 12.02 |
| 18-267LF | 1/4" x 3/8" | 9.33 |
| 18-259LF | 3/8" x 3/8" | 5.94 |
| 18-260LF | 3/8" x 1/2" | 6.55 |
| 18-262LF | 1/2" x 3/8" | 11.80 |
| 18-263LF | 1/2" x 1/2" | 14.49 |
| 18-264LF | 5/8" x 1/2" | 9.57 |

70 270C BSE3 170C

NEEDLE VALVES

COMP X MALE PIPE



| Part # | Comp x Male Pipe | List Price |
|----------|------------------|------------|
| 46-002LF | 1/4" x 1/8" | 7.39 |
| 46-003LF | 1/4" x 1/4" | 15.96 |
| 46-005LF | 3/8" x 1/4" | 10.05 |

FEMALE PIPE X FEMALE PIPE



| Part # | Female x Female | List Price |
|----------|-----------------|------------|
| 46-055LF | 1/8" x 1/8" | 14.41 |
| 46-056LF | 1/4" x 1/4" | 12.28 |

MALE X FEMALE PIPE



| Part # | Male x Female | List Price |
|----------|-----------------|------------|
| 46-061LF | 1/4" x 1/4" MIP | 12.59 |

COMP X MALE PIPE-ANGLE



| Part # | Comp x Male Pipe | List Price |
|----------|------------------|------------|
| 46-011LF | 1/4" x 1/8" | 15.36 |
| 46-012LF | 1/4" x 1/4" | 26.29 |

LEAD FREE DISHWASHER TEES

COMP X COMP X SWIVEL FE COMPRESSION

- For adding a water line
- Ice makers, Coffe makers and instant hot water systems



| Part # | Comp x Male Pipe | List Price |
|----------|------------------|------------|
| 935044LF | 1/4 x 3/8 | 6.29 |
| 935045LF | 3/8 x 3/8 | 6.38 |

COMP X COMP



| Part # | Comp x Comp | List Price |
|----------|-------------|------------|
| 46-021LF | 1/4" | 8.64 |
| 46-023LF | 3/8" | 32.54 |

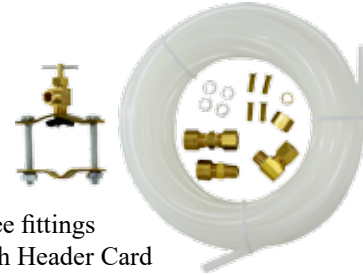
COMP X COMP



| Part # | Comp x Comp | List Price |
|----------|-------------|------------|
| 46-021LF | 1/4" | 8.64 |
| 46-023LF | 3/8" | 32.54 |

Ice Maker Kits

ICE MAKER WATER SUPPLY KIT with Poly Tubing

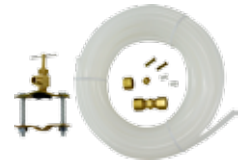


- Lead free fittings
- Bag with Header Card
- 25' 1/4" O.D. Polyethylene Tubing - 979215
- Self Piercing Saddle Valve
- 1/4" O.D. Compression x 1/8" MIP Elbow & Adapter
- 1/4" O.D. Compression Union
- 1/4" Inserts & Sleeves

| Part # | Description | List Price |
|----------|-------------------|------------|
| 43-265LF | Kit | 18.23 |
| 979-215 | 1/4" OD, 25' Tube | 7.53 |

ICE-MAKER WATER SUPPLY KIT

- Economy
- 25' Polyethylene Tubing
- Self Piercing Saddle Valve
- 1/4" Compression Union
- 1/4" Inserts & Sleeves



| Part # | List Price |
|----------|------------|
| 43-266LF | 13.53 |

SELF PIERCING SADDLE VALVES

FITS 3/8" OD THRU 3/4" OD

SELF PIERCING NEEDLE VALVE KIT #M-104-VSP

- INDIVIDUALLY BAGGED WITH NEEDLE VALVE
- SADDLE CLAMP
- 2 NUTS
- 2 BOLTS & WASHERS

Has brass sleeve for copper tube installation & delrin sleeve & brass insert for plastic tube installation.

| Part # | Tube O.D. | Min Pkg Qty | List Price |
|-----------|-----------|-------------|------------|
| 46-090ALF | 1/4 | 1 | 11.10 |



VALVES



| | |
|---|---------|
| VALVES..... | 164-209 |
| LEAD FREE BALL VALVES | 165-167 |
| LEAD FREE VALVES | 168 |
| BRASS VALVES | 169-193 |
| Full Port Ball..... | 169 |
| Locking Handle | 170 |
| Butterfly Handle..... | 171 |
| N/P Ball Valve | 172 |
| N/P Ball w/SS Trim | 173 |
| Italian Ball Valve | 174 |
| M X F Ball Valve..... | 175-176 |
| Tee Handle M X F Ball | 177 |
| M X F Ball Locking handle | 178 |
| Spring Handle Ball Valve | 179 |
| Right Angle Ball valve | 179 |
| Wye, 3-Way Ball Valve..... | 180 |
| Safety Exhaust Ball Valve..... | 180 |
| Gas Valves..... | 181 |
| Mini Ball Valves..... | 182-185 |
| 3-Way Valves..... | 186 |
| Strainer Ball Valve | 187 |
| Vacuum Breaker/Hose Bibb..... | 187 |
| Bent Nose Garden Valve - NEW | 187 |
| Gate Valves..... | 188 |
| Quick Opening Gate - NEW | 189 |

| | |
|-------------------|---------|
| Y Strainer | 190 |
| Check Valves..... | 191-193 |

STAINLESS STEEL VALVES

| | |
|--------------------------------|---------|
| 2000# Full Port..... | 194 |
| Standard Port..... | 195 |
| 1,000 PSI Full Port..... | 196 |
| SS Mini Ball Valve | 197-198 |
| Check Valves..... | 199-202 |
| Y-strainer, Globe,Gate | 203 |
| Carbon Steel valves | 204-206 |
| 2,000# Standard Port | 204 |
| 2,000 # FP 2-Piece..... | 205 |
| Hi Pressure 2-Way Valves | 206 |
| Hi Pressure 3-Way Balves | 206 |
| Check valves-5,000# | 207 |
| PVC Valves | 208-209 |



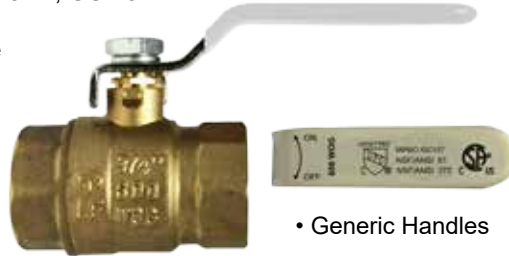
• **BRASS** • **600PSI** • **STAINLESS STEEL BALL** • **FULL PORT**



LEAD FREE BALL VALVE

IAMPO IGC 157 - 2004b

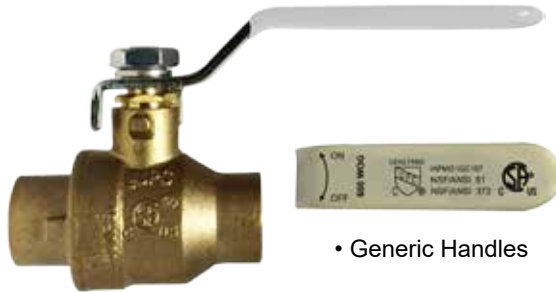
Lead Free Brass Ball Valve NPT,Female*Female
 Lead Free and dezincification resistant (DZR) material
 IAPMO listed to NSF/ANSI-61, NSF/ANSI-372 ,IGC-157
 CSA listed to NSF/ANSI-61, NSF/ANSI-372 ,IGC-157
 Vacuum Services 29.92 inches Hg
 600 psi (WOG) 150 psi (WSP) Service
 Thread conform ANSI B1.20.1
 Temperature Range : -40° F to 365° F
 Construction:Forging Brass Body
 PTFE Ball Seats
 Blow Out Proof Brass Stem
 Stainless Steel Ball
 Steel Handle w/Vinyl Grip
 Made in China



• Generic Handles

FIP X FIP LEAD FREE BALL VALVE

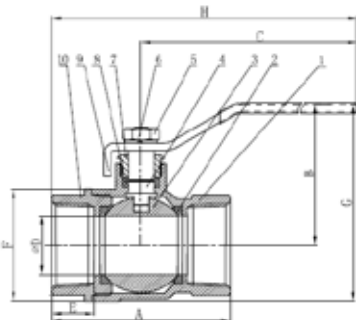
| Part # | Size | OD | A | B | C | E | F | G | H | Weight | Box/Case | List Price |
|----------|--------|-------|------|------|------|-------|-------|-------|-------|--------|----------|------------|
| 941151LF | 1/4" | 0.394 | 1.73 | 1.69 | 3.35 | 0.453 | 0.945 | 2.154 | 4.331 | 0.32 | 10/120 | 9.75 |
| 941152LF | 3/8" | 0.394 | 1.73 | 1.69 | 3.35 | 0.473 | 0.945 | 2.154 | 4.331 | 0.32 | 10/120 | 9.75 |
| 941153LF | 1/2" | 0.524 | 1.89 | 1.73 | 3.35 | 0.472 | 1.083 | 2.276 | 4.291 | 0.36 | 10/100 | 10.99 |
| 941154LF | 3/4" | 0.748 | 2.28 | 1.89 | 3.35 | 0.563 | 1.378 | 2.579 | 4.488 | 0.57 | 10/80 | 16.05 |
| 941155LF | 1" | 0.984 | 2.80 | 2.14 | 4.29 | 0.650 | 1.772 | 3.031 | 5.689 | 0.94 | 8/48 | 24.84 |
| 941156LF | 1-1/4" | 1.240 | 3.15 | 2.32 | 4.29 | 0.669 | 2.165 | 3.398 | 5.866 | 1.30 | 4/36 | 37.88 |
| 941157LF | 1-1/2" | 1.476 | 3.44 | 2.66 | 5.63 | 0.701 | 2.50 | 3.909 | 7.343 | 1.92 | 2/24 | 57.10 |
| 941158LF | 2" | 1.949 | 4.06 | 3.01 | 5.63 | 0.708 | 3.244 | 4.638 | 7.638 | 3.12 | 2/12 | 87.81 |



• Generic Handles

SWT X SWT LEAD FREE BALL VALVE

| Part # | Size | OD | A | B | C | E | G | H | Weight | WTG | Box/Case | List Price |
|----------|--------|-------|-------|------|------|-------|-------|-------|--------|------|----------|------------|
| 941163LF | 1/2" | 0.524 | 1.945 | 1.73 | 3.35 | 0.504 | 1.083 | 2.276 | 4.319 | 0.38 | 10/100 | 10.49 |
| 941164LF | 3/4" | 0.748 | 2.654 | 1.89 | 3.35 | 0.748 | 1.378 | 2.579 | 4.665 | 0.65 | 10/80 | 14.20 |
| 941165LF | 1" | 0.984 | 3.315 | 2.14 | 4.29 | 0.909 | 1.772 | 3.031 | 5.949 | 0.93 | 8/48 | 25.02 |
| 941166LF | 1-1/4" | 1.240 | 3.741 | 2.32 | 4.29 | 0.968 | 2.165 | 3.398 | 6.165 | 1.35 | 4/36 | 38.46 |
| 941167LF | 1-1/2" | 1.476 | 4.252 | 2.66 | 5.63 | 1.091 | 2.50 | 3.909 | 7.756 | 1.88 | 2/24 | 57.88 |
| 941168LF | 2" | 1.949 | 5.276 | 3.01 | 5.63 | 1.343 | 3.244 | 4.638 | 8.268 | 3.62 | 2/12 | 68.36 |



| No | Item | Qty | Material |
|----|-------------|-----|-----------------|
| 1 | Body | 1 | Lead Free Brass |
| 2 | Seat | 2 | PTFE |
| 3 | Ball | 1 | Stainless Steel |
| 4 | Stem | 1 | Brass |
| 5 | Handle Nut | 1 | Plated Steel |
| 6 | Lock Washer | 1 | Plated Steel |
| 7 | Packing Nut | 1 | Brass |
| 8 | Packing | 1 | PTFE |
| 9 | Handle | 1 | Plated Steel |
| 10 | Cap | 1 | Lead Free Brass |

LEAD FREE BALL VALVE

VALVES

1/2" - 2" Sizes Gas Approved



LEAD FREE BALL VALVE W/APPROVALS

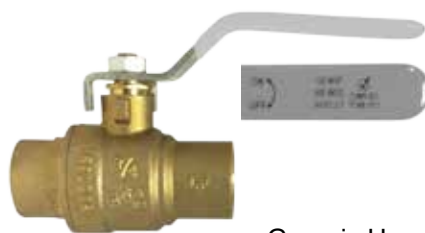
• BRASS • 600PSI • FULL PORT
 CSA, UL, FM(1/4"-2"), cUPC, NSF/ ANSI 61 & 372

FEATURES

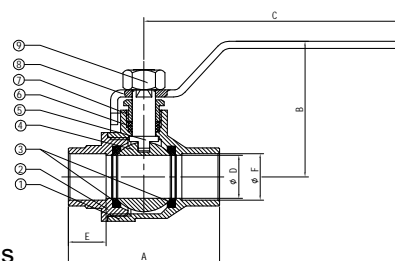
- Leadfree Brass Ball valve NPT, Female * Female
- Lead free and dezincification resistant (DZR) material
- 1/4"-1" Lead Free Brass Ball
- Size 1-1/4" thru 4" with Stainless steel ball
- IAMPO listed to cUPC, NSF/ ANSI 61 & 372, IGC 157
- CSA - 1/4" thru 2": ANSI Z21.15/ CSA 9.1 for 1/2 psig valves ASME B16.44, CGA CR91-002 for 2 & 5 psig valves; CAN/ CGA-3.16, ASME B16.33 (1/2"-2") for 125 psig valves
- UL 125, UL 1477, UL 842 - for size 1/4" thru 4", 250 psig
- UL 258 - for size 1/4" thru 2", 175 psig
- FM - for size 1/4" thru 2"
- ISO 9002 Manufacture
- Suitable for full range of liquids and gases
- Minimal pressure drop due to large full size ports
- Bottom loaded, pressure retaining stem
- Pressure rated for 1/4"-2" at 600psi (42 bars) and 2-1/2"-4" at 400 psi WOG (non-shock) and 150 WSP (10.34 bars) saturated steam. Virgin PTFE stem packing seal, thrust washer and seats
- White vinyl insulator on heavy duty plated carbon steel handles
- Fast 1/4 turn open or close operation
- Low operating torque

- Adjustable stem packing gland
- Maximum operating temperature: 302°F (150° C)
- Minimum operating temperature: -22°F (-30°C)
- Each valve individually tested
- Forged Brass - for more strength
- Threaded ends to ANSI B1.20.1
- Hard chromium plated solid ball
- Bottom entry, blow-out proof stem
- Deeper threads - for better connections
- Made in China

| POS | Components | Materials |
|-----|--------------|---|
| 1 | Body | Lead Free Brass |
| 2 | End Cap | Lead Free Brass |
| 3 | Ball Seat | PTFE |
| 4 | Ball | 1/4-1: Lead Free Brass 1 1/4-4: SS316 Hollowball |
| 5 | Stem | Brass |
| 6 | Stem Padding | PTFE |
| 7 | Padding Nut | Brass |
| 8 | Lever Handle | Nickel plating steel |
| 9 | Stem Nut | Brass plating steel |
| 10 | Seal | PTFE |



• Generic Handles



| Part# | Size | DIMENSIONS | | | | | | | | Weight | Box/Case | List Price |
|-----------|--------|------------|-------|-------|-------|-------|-------|-------|--------|--------|----------|------------|
| | | A | B | C | D | E | F | G | H | | | |
| 940-171LF | 1/4" | 1.756 | 1.732 | 3.543 | 0.394 | 0.457 | 1.012 | 2.238 | 4.421 | 0.34 | 70/140 | 13.55 |
| 940-172LF | 3/8" | 1.756 | 1.732 | 3.543 | 0.394 | 0.457 | 1.012 | 2.238 | 4.421 | 0.34 | 70/140 | 12.54 |
| 940-173LF | 1/2" | 2.047 | 2.040 | 3.543 | 0.583 | 0.520 | 1.240 | 2.559 | 4.567 | 0.45 | 50/100 | 17.58 |
| 940-174LF | 3/4" | 2.362 | 2.260 | 3.780 | 0.748 | 0.563 | 1.492 | 2.854 | 4.961 | 0.69 | 30/60 | 26.69 |
| 940-175LF | 1" | 2.756 | 2.579 | 4.528 | 0.945 | 0.630 | 1.791 | 3.476 | 5.906 | 1.11 | 20/40 | 42.81 |
| 940-176LF | 1-1/4" | 3.307 | 3.050 | 4.528 | 1.260 | 0.709 | 2.343 | 4.134 | 6.181 | 1.85 | 12/24 | 72.14 |
| 940-177LF | 1-1/2" | 3.661 | 3.366 | 5.420 | 1.575 | 0.717 | 2.835 | 4.783 | 7.343 | 2.60 | 9/18 | 106.95 |
| 940-178LF | 2" | 4.181 | 3.701 | 6.160 | 1.969 | 0.748 | 3.425 | 5.413 | 7.602 | 3.62 | 6/12 | 149.14 |
| 940-179LF | 2-1/2" | 4.181 | 4.650 | 8.870 | 2.520 | 1.024 | 4.331 | 6.969 | 11.350 | 7.93 | 3/6 | 342.06 |
| 940-180LF | 3" | 6.039 | 4.970 | 8.870 | 2.913 | 1.102 | 4.921 | 7.579 | 11.681 | 10.40 | 1/4 | 418.27 |
| 940-181LF | 4" | 7.386 | 6.130 | 10.85 | 3.898 | 1.220 | 6.430 | 9.055 | 13.299 | 20.99 | 1/2 | 907.10 |

SWT X SWT LEAD FREE BALL VALVE FM, cUPC, NSF/ ANSI 61 & 372

| Part # | SWT | A | B | C | D | E | F | Weight | Box/Case | List Price |
|-----------|--------|-------|-------|-------|-------|-------|-------|--------|----------|------------|
| 943-612LF | 1/2" | 2.047 | 1.839 | 3.543 | 0.583 | 0.512 | 0.630 | 0.45 | 50/100 | 13.73 |
| 943-613LF | 3/4" | 2.748 | 2.14 | 3.780 | 0.748 | 0.748 | 0.878 | 0.68 | 30/60 | 23.63 |
| 943-614LF | 1" | 3.228 | 2.449 | 4.528 | 0.945 | 0.906 | 1.130 | 1.08 | 20/40 | 37.77 |
| 943-615LF | 1-1/4" | 3.819 | 3.04 | 4.36 | 1.260 | 0.972 | 1.378 | 1.80 | 12/24 | 59.09 |
| 943-616LF | 1-1/2" | 4.425 | 3.169 | 5.39 | 1.575 | 1.088 | 1.630 | 2.51 | 9/18 | 86.07 |
| 943-617LF | 2" | 5.377 | 3.488 | 6.307 | 1.989 | 1.346 | 2.130 | 3.57 | 6/12 | 120.84 |

ITALIAN LEAD FREE BRASS BALL VALVE



ISO 9002 Manufacturer FEATURES

600 PSI non-shock cold water, gas, oil
- 150 PSI saturated steam

CSA AGA 3.88 5 PSIG IAMPO IGC 157 - 2004b

- **SOLID CHROME PLATED BRASS BALL**
- Suitable for full range of liquids and gases
- Minimal pressure drop due to large full size ports
- Bottom loaded, pressure retaining stem
- Pressure rated at 600psi (42 bars) WOG (non-shock) and 150 WSP (10.34 bars) saturated steam. Virgin TFE stem packing seal, thrust washer and seats.
- Blue vinyl insulator on heavy duty plated carbon steel handles.
- Fast 1/4 turn open or close operation
- Low operating torque
- Flow can go both directions

- Adjustable stem packing gland
- Maximum operating temperature: 248°F (120° C) at 600 PSI
- Minimum operating temperature: -20°F (-40°C)
- Each valve individually tested
- Forged Brass - for more strength
- Threaded ends to ANSI B1.20.1
- Hard chromium plated solid ball
- Bottom entry, blow-out proof stem
- Deeper threads - for better connections

MADE IN ITALY



FIP X FIP



SWT X SWT

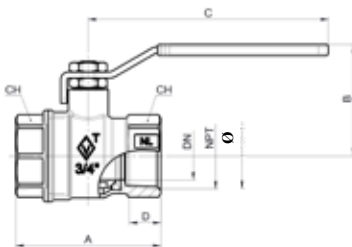
ANSI/INSE 61-8
• Generic Handles

FIP X FIP LEAD FREE FORGED BRASS BALL VALVE

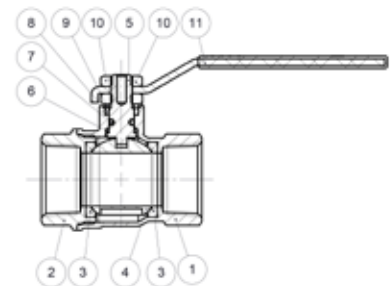
| Part # | NPT | DN | A | B | C | D | CH | Weight (lbs) | Box/Case | List Price |
|-----------|--------|------|------|------|------|------|------|--------------|----------|------------|
| 943-233LF | 1/2" | 0.57 | 2.09 | 1.57 | 3.35 | 0.46 | 0.98 | 0.39 | 20/80 | 18.74 |
| 943-234LF | 3/4" | 0.75 | 2.28 | 1.77 | 3.80 | 0.49 | 1.22 | 0.56 | 14/56 | 28.09 |
| 943-235LF | 1" | 0.94 | 3.04 | 2.03 | 3.80 | 0.59 | 1.50 | 0.89 | 6/24 | 46.68 |
| 943-236LF | 1-1/4" | 1.24 | 3.23 | 2.32 | 4.72 | 0.62 | 1.85 | 1.44 | 4/16 | 74.64 |
| 943-237LF | 1-1/2" | 1.49 | 3.70 | 2.60 | 4.72 | 0.64 | 2.13 | 2.19 | 2/8 | 115.67 |
| 943-238LF | 2" | 1.96 | 4.13 | 3.27 | 6.38 | 0.65 | 2.64 | 3.62 | 1/4 | 155.28 |

SWT X SWT LEAD FREE FORGED BRASS BALL VALVE

| Part # | SWT | Ø | DN | A | B | C | D | CH | Weight (lbs) | Box/Case | List Price |
|-----------|--------|-------|------|------|------|------|------|------|--------------|----------|------------|
| 940-212LF | 1/2" | 0.63 | 0.57 | 2.25 | 1.57 | 3.35 | 0.42 | 0.79 | 0.35 | 20/80 | 18.08 |
| 940-213LF | 3/4" | 0.866 | 0.75 | 3.26 | 1.77 | 3.80 | 0.61 | 1.06 | 0.55 | 10/40 | 26.99 |
| 940-214LF | 1" | 1.102 | 0.94 | 3.68 | 2.03 | 3.80 | 0.73 | 1.34 | 0.87 | 6/24 | 41.18 |
| 940-215LF | 1-1/4" | 1.377 | 1.24 | 4.23 | 2.32 | 4.72 | 0.91 | 1.61 | 1.41 | 6/24 | 67.88 |
| 940-216LF | 1-1/2" | 1.61 | 1.49 | 4.96 | 2.60 | 4.72 | 1.06 | 1.89 | 2.08 | 2/8 | 98.42 |
| 940-217LF | 2" | 2.125 | 1.96 | 5.47 | 3.27 | 6.38 | 1.26 | 2.40 | 3.62 | 1/4 | 155.28 |



| POS | Components | Materials |
|-----|----------------|-----------|
| 1 | Body | CW510L |
| 2 | End Connection | CW510L |
| 3 | Ball Seal | PTFE |
| 4 | Seal | CW510L |
| 5 | Stem | CW614N |
| 6 | Lower Stem | PTFE |
| 7 | O-Ring | NBR70sh |
| 8 | Upper Seal | PTFE |
| 9 | Brass Ring | CW614N |
| 10 | Nut | Steel |
| 11 | Handle | Steel P10 |



LEAD FREE GATE/CHECK/Y VALVES**VALVES****BRASS GATE VALVE IPS**

- **200 WOG (Cold water, oil, gas)**
- **125 WSP (Saturated Steam)**
- Brass Forged body/bonList- stronger than sand castings.
- Superior quality and finish.
- Each valve individually tested.
- Threaded ends to ANSI B1.20.1,
Solder ends to ANSI B16.18
- Non rising stem.
- Cast iron handle.
- Temp. 32°-320°F

**BRASS GATE VALVE IPS**

| Part# | Size | List Price |
|-----------|-------|------------|
| 940-130LF | 1/4 | 16.73 |
| 940-131LF | 3/8 | 16.74 |
| 940-132LF | 1/2 | 22.54 |
| 940-133LF | 3/4 | 26.86 |
| 940-134LF | 1 | 34.64 |
| 940-135LF | 1-1/4 | 65.46 |
| 940-136LF | 1-1/2 | 95.23 |
| 940-137LF | 2 | 101.49 |

BRASS GATE VALVE C X C

| Part# | Size | List Price |
|-----------|--------|------------|
| 940-142LF | 1/2" | 17.85 |
| 940-143LF | 3/4" | 24.29 |
| 940-144LF | 1" | 34.64 |
| 940-145LF | 1-1/4" | 56.89 |
| 940-146LF | 1-1/2" | 71.95 |
| 940-147LF | 2" | 102.08 |

BRASS CHECK VALVE

| NO | Part | Material |
|----|------------------|-----------------|
| 1 | Cap | C37700 |
| 2 | Gasket | NBR |
| 3 | Spring | Stainless Steel |
| 4 | Positioning Seat | BRASS |
| 5 | Screw | BRASS |
| 6 | Body | C37700 |

**LEAD-FREE**

| Part # | Size | List Price |
|-----------|-------|------------|
| 944-430LF | 1/2 | 25.41 |
| 944-431LF | 3/4 | 34.27 |
| 944-432LF | 1 | 47.69 |
| 944-433LF | 1-1/4 | 64.57 |
| 944-434LF | 1-1/2 | 88.00 |
| 944-435LF | 2 | 147.90 |

CAST BRASS SWING CHECK VALVE IPS**SCREWED ENDS**

- Working pressure non-shock: 200 psi W.O.G. (cold water,
oil, gas) 125 psi WSP (saturated steam)
- Swing type disc.
- Screwed Cap.
- Hard Seat.
- 90° Straight Pattern.
- Used to prevent reverse flow in commercial and
industrial applications.
- Threaded ends to ANSI B1.20.1
- Integral seat.



| Part # | Size | List Price |
|-----------|--------|------------|
| 940-352LF | 1/2" | 21.59 |
| 940-353LF | 3/4" | 22.83 |
| 940-354LF | 1" | 36.28 |
| 940-355LF | 1-1/4" | 61.14 |
| 940-356LF | 1-1/2" | 77.97 |
| 940-357LF | 2" | 116.22 |

C X C SWING CHECK VALVE

| Part # | Size | List Price |
|-----------|-------|------------|
| 940-362LF | 1/2 | 16.06 |
| 940-363LF | 3/4 | 22.68 |
| 940-364LF | 1 | 32.10 |
| 940-365LF | 1-1/4 | 57.45 |
| 940-366LF | 1-1/2 | 68.10 |
| 940-367LF | 2 | 130.25 |

CLASS 150 BRASS Y-PATTERN STRAINER**LEAD-FREE**

| Part# | Size | List Price |
|-----------|------|------------|
| 940-523LF | 1/2" | 38.36 |

FORGED BRASS BALL VALVE

• BRASS • 600WOG • FULL PORT

1/2" - 2" Sizes Gas Approved



ISO 9002 Manufacturer FEATURES

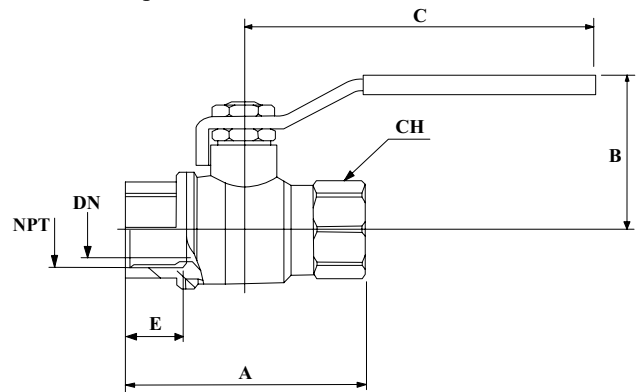
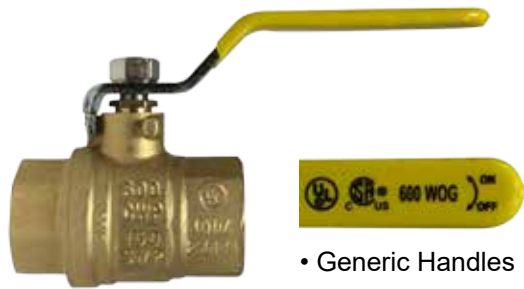
1/4"-2" 600 PSI non-shock cold water, gas, oil - 150 PSI saturated steam

2-1/2"- 4" 400 PSI non-shock cold water, gas, oil

Made in China

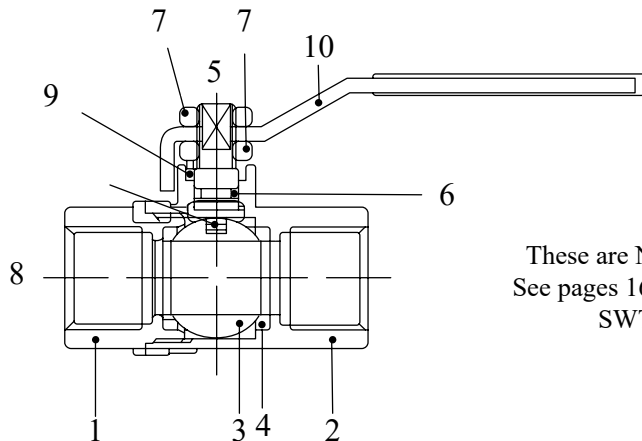
- Suitable for full range of liquids and gases
- Minimal pressure drop due to large full size ports
- Bottom loaded, pressure retaining stem
- Pressure rated for 1/4"-2" at 600psi (42 bars) and 2-1/2"-4" at 400 psi WOG (non-shock) and 150 WSP (10.34 bars) saturated steam. Virgin PTFE stem packing seal, thrust washer and seats
- Yellow vinyl insulator on heavy duty plated carbon steel handles
- Fast 1/4 turn open or close operation
- Not Lead Free
- Good for gasoline

- Low operating torque
- Adjustable stem packing gland
- Maximum operating temperature: 302°F (150° C)
- Minimum operating temperature: -22°F (-30°C)
- Each valve individually tested
- Forged Brass - for more strength
- Threaded ends to ANSI B1.20.1
- Hard chromium plated solid ball
- Bottom entry, blow-out proof stem
- Deeper threads - for better connections



| Part# | Size | | Dimension Inches | | | | | Weight | Box/Case | List Price |
|----------|--------|------|------------------|------|------|------|------|--------|----------|------------|
| | NPT | DN | A | B | C | E | CH | | | |
| 940-171 | 1/4" | 0.39 | 1.75 | 1.92 | 3.54 | 0.46 | 0.78 | 0.34 | 70/140 | 9.46 |
| 940-172 | 3/8" | 0.41 | 1.75 | 1.92 | 3.54 | 0.46 | 0.78 | 0.30 | 70/140 | 9.39 |
| 940-173 | 1/2" | 0.58 | 2.05 | 2.08 | 3.54 | 0.52 | 0.98 | 0.44 | 50/100 | 11.35 |
| 940-174 | 3/4" | 0.75 | 2.36 | 2.30 | 3.78 | 0.56 | 1.20 | 0.67 | 30/60 | 16.66 |
| 940-175 | 1" | 0.94 | 2.75 | 2.68 | 4.52 | 0.66 | 1.50 | 1.05 | 20/40 | 25.89 |
| 940-176 | 1-1/4" | 1.26 | 3.30 | 3.14 | 4.52 | 0.70 | 1.82 | 1.50 | 12/24 | 38.00 |
| 940-177 | 1-1/2" | 1.57 | 3.66 | 3.61 | 5.51 | 0.72 | 2.09 | 2.30 | 9/18 | 56.36 |
| 940-178 | 2" | 1.97 | 4.18 | 3.68 | 5.51 | 0.74 | 2.62 | 3.38 | 6/12 | 87.91 |
| 940-179* | 2-1/2" | 2.52 | 5.38 | 4.76 | 8.66 | 1.01 | 3.36 | 7.61 | 4/8 | 221.00 |
| 940-180* | 3" | 2.95 | 6.04 | 5.08 | 8.66 | 1.11 | 3.86 | 11.10 | 2/4 | 258.49 |
| 940-181* | 4" | 3.89 | 7.38 | 5.86 | 9.00 | 1.22 | 4.89 | 12.12 | 1/2 | 487.76 |

* 400 PSI



These are NOT Lead Free
See pages 165 for Lead Free
SWT Valves

| POS | Components | Materials | N |
|-----|----------------|--------------|---|
| 1 | Body | Forged Brass | 1 |
| 2 | End Connection | Forged Brass | 1 |
| 3 | Ball | CP Brass | 1 |
| 4 | Ball Seat | P.T.F.E. | 2 |
| 5 | Stem | Brass | 1 |
| 6 | Gland | Brass | 1 |
| 7 | Nut | Steel | 1 |
| 8 | Spring Inseat | Steel | 1 |
| 9 | Stem Seal | P.T.F.E. | 1 |
| 10 | Handle | Steel | 1 |

• Not Lead Free AB1953 Compliant

LOCKING HANDLE BALL VALVE

• BRASS • 600WOG • FULL PORT

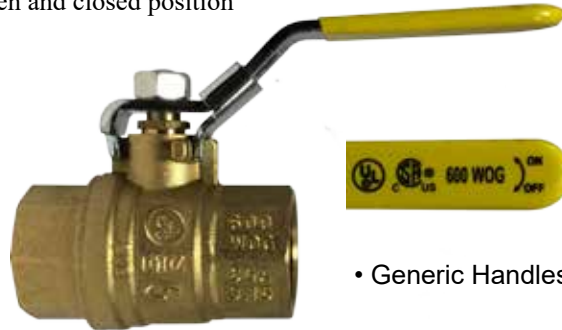
1/2" - 2" Sizes Gas Approved

ISO 9002 Manufacturer
FEATURES1/4-2" 600 PSI non-shock cold water, gas, oil -
150 PSI saturated steam

Made in China

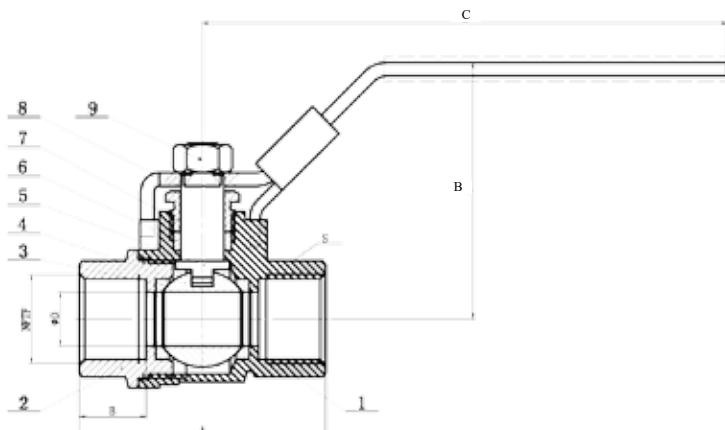
- Suitable for full range of liquids and gases
- Minimal pressure drop due to large full size ports
- Bottom loaded, pressure retaining stem
- Pressure rated for 1/4"-2" at 600psi (42 bars) and 2-1/2"-4" at 400 psi WOG (non-shock) and 150 WSP (10.34 bars) saturated steam. Virgin PTFE stem packing seal, thrust washer and seats
- Yellow vinyl insulator on heavy duty plated carbon steel handles
- Fast 1/4 turn open or close operation
- Not Lead Free
- Locking mechanism works in open and closed position

- Low operating torque
- Adjustable stem packing gland
- Maximum operating temperature: 302°F (150° C)
- Minimum operating temperature: -22°F (-30°C)
- Each valve individually tested
- Forged Brass - for more strength
- Threaded ends to ANSI B1.20.1
- Hard chromium plated solid ball
- Bottom entry, blow-out proof stem
- Deeper threads - for better connections



• Generic Handles

| Part# | Size | | Dimension Inches | | | | | Weight | Box/Case | List Price |
|----------|--------|------|------------------|------|------|------|------|--------|----------|------------|
| | NPT | DN | A | B | C | E | CH | | | |
| 940-171L | 1/4" | 0.31 | 1.73 | 1.84 | 3.15 | 0.49 | 0.71 | 0.39 | 70/140 | 11.50 |
| 940-172L | 3/8" | 0.39 | 1.81 | 1.88 | 3.86 | 0.49 | 0.79 | 0.35 | 70/140 | 11.36 |
| 940-173L | 1/2" | 0.58 | 2.23 | 2.09 | 3.43 | 0.61 | 0.98 | 0.49 | 50/100 | 13.30 |
| 940-174L | 3/4" | 0.75 | 2.48 | 2.24 | 3.62 | 0.62 | 1.20 | 0.78 | 30/60 | 20.33 |
| 940-175L | 1" | 0.94 | 2.95 | 2.67 | 4.42 | 0.73 | 1.50 | 1.18 | 20/40 | 30.13 |
| 940-176L | 1-1/4" | 1.26 | 3.42 | 3.05 | 4.73 | 0.77 | 1.81 | 1.76 | 12/24 | 46.12 |
| 940-177L | 1-1/2" | 1.57 | 3.78 | 3.51 | 5.18 | 0.78 | 2.09 | 2.53 | 9/18 | 70.52 |
| 940-178L | 2" | 1.97 | 4.18 | 3.84 | 5.24 | 0.75 | 2.60 | 3.53 | 6/12 | 100.96 |



| POS | Components | Materials | N |
|-----|----------------|--------------|---|
| 1 | Body | Forged Brass | 1 |
| 2 | End Connection | Forged Brass | 1 |
| 3 | Ball | CP Brass | 1 |
| 4 | Ball Seat | P.T.F.E. | 2 |
| 5 | Stem | Brass | 1 |
| 6 | Gland | Brass | 1 |
| 7 | Nut | Steel | 1 |
| 8 | Spring Inseat | Steel | 1 |
| 9 | Stem Seal | P.T.F.E. | 1 |
| 10 | Handle | Steel | 1 |

• Not Lead Free AB1953 Compliant

BUTTERFLY HANDLE BALL VALVE

• BRASS • 600WOG • FULL PORT

1/2" - 3/4" Sizes Gas Approved



ISO 9002 Manufacturer
FEATURES

1/4-3/4" 600 PSI non-shock cold water, gas, oil
- 150 PSI saturated steam

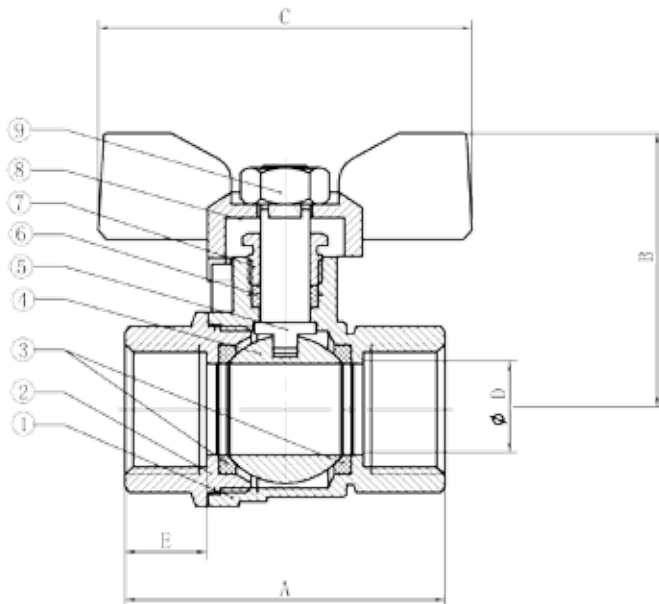
Made in China

- Suitable for full range of liquids and gases
- Minimal pressure drop due to large full size ports
- Bottom loaded, pressure retaining stem
- Pressure rated for 1/4"-3/4" at 600psi (42 bars) and 150 WSP (10.34 bars) saturated steam. Virgin PTFE stem packing seal, thrust washer and seats
- Fast 1/4 turn open or close operation
- Low operating torque
 - Adjustable stem packing gland
 - Maximum operating temperature: 302°F (150° C)

- Minimum operating temperature: -22°F (-30°C)
- Each valve individually tested
- Forged Brass - for more strength
- Threaded ends to ANSI B1.20.1
- Hard chromium plated solid ball
- Bottom entry, blow-out proof stem
- Deeper threads - for better connections
- Not Lead Free



| Part# | Size | A | B | C | D | E | Weight | Box/Case | List Price |
|----------|------|-------|-------|-------|-------|-------|--------|----------|------------|
| | NPT | | | | | | | | |
| 940-171T | 1/4" | 1.75 | 1.488 | 1.831 | 0.315 | 0.457 | 0.342 | 70/140 | 11.54 |
| 940-172T | 3/8" | 1.756 | 1.488 | 1.831 | 0.394 | 0.457 | 0.31 | 70/140 | 11.38 |
| 940-173T | 1/2" | 2.047 | 1.756 | 2.394 | 0.583 | 0.520 | 0.44 | 50/100 | 13.34 |
| 940-174T | 3/4" | 2.362 | 1.921 | 2.394 | 0.748 | 0.563 | 0.68 | 30/60 | 20.30 |



| POS | Components | Materials |
|-----|--------------|-----------|
| 1 | Body | C37700 |
| 2 | End Cap | C37700 |
| 3 | Ball Seat | PTFE |
| 4 | Ball | C37700 |
| 5 | Stem | C37700 |
| 6 | Stem Packing | PTFE |
| 7 | Packing Nut | C37700 |
| 8 | Lever Handle | ZL102 |
| 9 | Stem Nut | A570 |



Steel Tee handle option available with extended delivery (1/4" - 4")

• Not Lead Free AB1953 Compliant

NICKEL PLATED BALL VALVE**VALVES****NICKEL PLATED BALL VALVE**

- BRASS
- 600WOG
- FULL PORT
- NO APPROVALS

Vacuum service to 29 inches Hg

600 psi (WOG) 150 psi (WSP) Service

Thread conform ANSI B1.20.1

Temperature Range : -40° F to 365° F

Construction: Forging Brass Body, Nickel plated

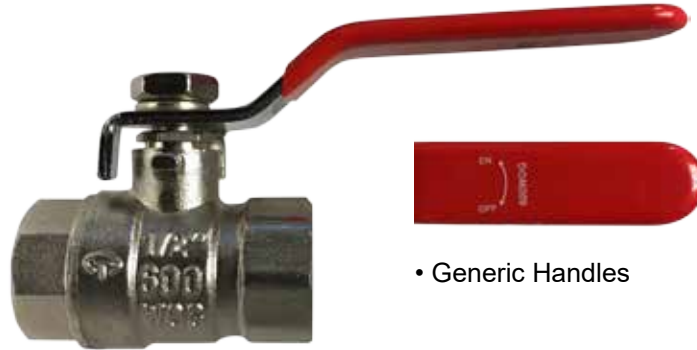
PTFE Ball Seats

Blow Out Proof Brass Stem

Steel Handle w/Vinyl Grip

Made in China

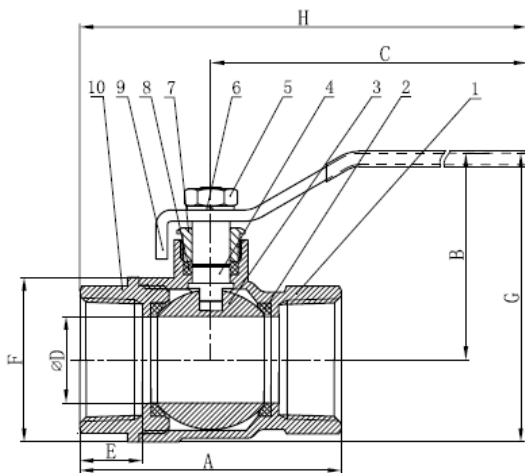
- Not Lead Free



- Generic Handles

FIP X FIP NICKEL PLATED BALL VALVE

| Part # | Size | OD | A | B | C | E | F | G | H | Weight | Box/Case | List Price |
|----------|--------|-------|------|------|------|-------|-------|-------|-------|--------|----------|------------|
| 941151NP | 1/4" | 0.394 | 1.73 | 1.69 | 3.35 | 0.453 | 0.945 | 2.154 | 4.331 | 0.32 | 10/120 | 8.96 |
| 941152NP | 3/8" | 0.394 | 1.73 | 1.69 | 3.35 | 0.473 | 0.945 | 2.154 | 4.331 | 0.32 | 10/120 | 8.96 |
| 941153NP | 1/2" | 0.524 | 1.89 | 1.73 | 3.35 | 0.472 | 1.083 | 2.276 | 4.291 | 0.36 | 10/100 | 10.88 |
| 941154NP | 3/4" | 0.748 | 2.28 | 1.89 | 3.35 | 0.563 | 1.378 | 2.579 | 4.488 | 0.57 | 10/80 | 17.36 |
| 941155NP | 1" | 0.984 | 2.80 | 2.14 | 4.29 | 0.650 | 1.772 | 3.031 | 5.689 | 0.65 | 8/48 | 28.56 |
| 941156NP | 1-1/4" | 1.240 | 3.15 | 2.32 | 4.29 | 0.669 | 2.165 | 3.398 | 5.866 | 1.75 | 4/36 | 43.68 |
| 941157NP | 1-1/2" | 1.476 | 3.44 | 2.66 | 5.63 | 0.701 | 2.50 | 3.909 | 7.343 | 2.10 | 2/24 | 64.96 |
| 941158NP | 2" | 1.949 | 4.06 | 3.01 | 5.63 | 0.708 | 3.244 | 4.638 | 7.638 | 3.35 | 2/12 | 90.48 |



| No | Item | Qty | Material |
|----|-------------|-----|--------------|
| 1 | Body | 1 | NP Brass |
| 2 | Seat | 2 | PTFE |
| 3 | Ball | 1 | Brass CP |
| 4 | Stem | 1 | Brass/ NP |
| 5 | Handle Nut | 1 | Plated Steel |
| 6 | Lock Washer | 1 | Plated Steel |
| 7 | Packing Nut | 1 | Brass/ NP |
| 8 | Packing | 1 | PTFE |
| 9 | Handle | 1 | Plated Steel |
| 10 | Cap | 1 | Brass/ NP |

When writing the story of your life, don't let anyone else hold the pen.

- Harley Davidson

Gas Approved



UL842, UL258, UL125.FM

CSA AGA 3.88 5 PSIG

N/P BALL VALVE W/SS TRIM

- NICKEL PLATED
- SS BALL, HANDLE, NUT & STEM
- LOCKING HANDLE
- W/APPROVALS

Features

- Vacuum service to 29 inches Hg
- Thread Conform ANSI B1.20.1
- Forged Brass Body
- Blow Out Proof Stem Design
- Packing Nut, O-RING & Packing On The Stem Seal
- Stainless Steel Ball, Handle, Nut&Stem
- Handle With Vinyl Grip

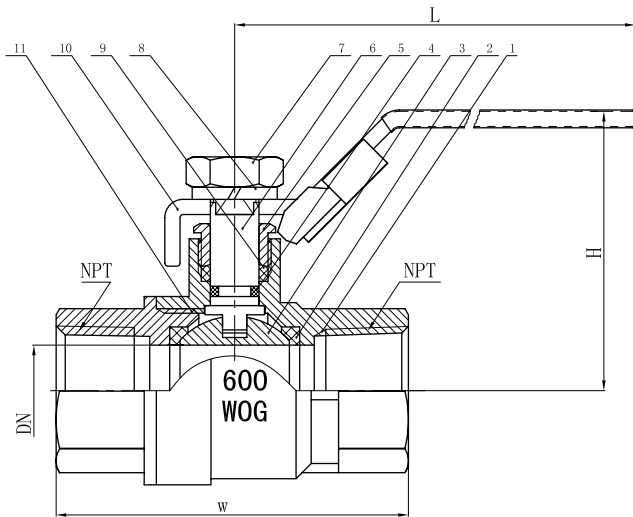
Performance rating

- 600 PSI (WOG) 150 PSI (WSP) Service
- Temperature range: -20° F to 300° F
- Made in China
- Not lead free
- No more rusty handles



• Generic Handles

| Part# | Size | D | L | H | W | Cv | Wt.(lbs.) | Box/Case | List Price |
|-----------|-------|-------|------|------|------|--------|-----------|----------|------------|
| 941-121NP | 1/4 | 0.394 | 3.22 | 1.84 | 1.73 | 8.23 | 0.326 | 10/120 | 13.12 |
| 941-122NP | 3/8 | 0.394 | 3.22 | 1.84 | 1.73 | 8.23 | 0.320 | 10/120 | 13.12 |
| 941-123NP | 1/2 | 0.591 | 3.22 | 2.02 | 2.24 | 18.55 | 0.474 | 10/100 | 17.20 |
| 941-124NP | 3/4 | 0.748 | 4.04 | 2.40 | 2.52 | 29.76 | 0.785 | 10/80 | 26.56 |
| 941-125NP | 1 | 0.984 | 4.08 | 2.20 | 2.97 | 51.55 | 1.155 | 8/48 | 39.28 |
| 941-126NP | 1-1/4 | 1.259 | 5.20 | 3.05 | 3.44 | 84.42 | 1.797 | 4/36 | 64.08 |
| 941-127NP | 1 1/2 | 1.574 | 5.20 | 3.18 | 3.88 | 131.93 | 2.447 | 2/24 | 83.92 |
| 941-128NP | 2 | 1.941 | 5.20 | 3.48 | 4.33 | 200.35 | 3.477 | 2/12 | 116.80 |



| Part Name | Material |
|-------------|----------------------|
| Body | Brass/ Nickel Plated |
| Seat | PTFE |
| Ball | Stainless Steel |
| O-ring | Viton |
| Packing Nut | Brass/ Nickel Plated |
| Stem | Stainless Steel |
| Handle Nut | Stainless Steel |
| Lock Washer | Stainless Steel |
| Packing | PTFE |
| Handle | Stainless Steel |
| Cap | Brass/ Nickel Plated |

BRONZE BELL VALVES AVAILABLE WITH UL-MARINE LISTING AND SS TRIM

ITALIAN BALL VALVE

• BRASS • 600WOG • FULL PORT

ISO 9002 Manufacturer
FEATURES

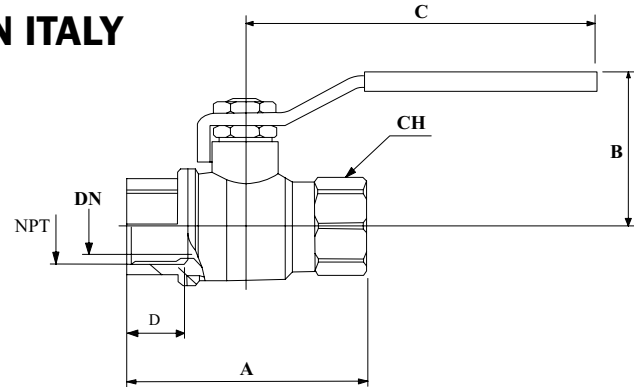
CSA AGA 3.88 5 PSIG IAMPO IGC 157 - 2004b

- **SOLID CHROME PLATED BRASS BALL**
- Suitable for full range of liquids and gases
- Minimal pressure drop due to large full size ports
- Bottom loaded, pressure retaining stem
- Pressure rated at 600psi (42 bars) WOG (non-shock) and 150 WSP (10.34 bars) saturated steam. Virgin TFE stem packing seal, thrust washer and seats.
- Yellow vinyl insulator on heavy duty plated carbon steel handles.
- Fast 1/4 turn open or close operation
- Low operating torque
- Flow can go both directions
- Generic Handles
- **Adjustable stem packing gland**
- Maximum operating temperature: 248°F (120°C) at 600 PSI
- Minimum operating temperature: -20°F (-40°C)
- Each valve individually tested
- Forged Brass - for more strength
- Threaded ends to ANSI B1.20.1
- Hard chromium plated solid ball
- Bottom entry, blow-out proof stem
- Deeper threads - for better connections
- **REVERSIBLE HANDLES**

MADE IN ITALY



Female x Female



| Part# | Size | | Dimension Inches | | | | | Weight | Box/Case | List Price |
|---------|--------|------|------------------|------|------|------|------|--------|----------|------------|
| | NPT | DN | A | B | C | D | CH | | | |
| 943-200 | 1/4" | .39 | 1.96 | 1.53 | 3.31 | .43 | .75 | 0.36 | 24/96 | 17.16 |
| 943-201 | 3/8" | .39 | 1.96 | 1.53 | 3.31 | .43 | .86 | 0.40 | 24/96 | 17.49 |
| 943-202 | 1/2" | .57 | 2.09 | 1.57 | 3.25 | .46 | .98 | 0.44 | 20/80 | 14.69 |
| 943-203 | 3/4" | .75 | 2.28 | 1.77 | 3.80 | .49 | 1.22 | 0.57 | 14/56 | 23.39 |
| 943-204 | 1" | .94 | 2.80 | 2.03 | 3.80 | .59 | 1.50 | 0.89 | 6/24 | 36.94 |
| 943-205 | 1-1/4" | 1.24 | 3.50 | 2.32 | 4.72 | 0.72 | 1.85 | 1.64 | 4/16 | 57.90 |
| 943-206 | 1-1/2" | 1.49 | 3.90 | 3.02 | 6.38 | 0.85 | 2.13 | 2.78 | 2/8 | 86.32 |
| 943-207 | 2" | 1.96 | 4.07 | 3.27 | 6.38 | .65 | 2.64 | 3.21 | 2/8 | 126.29 |
| 942-208 | 2-1/2" | 2.48 | 5.80 | 4.98 | 7.54 | 1.06 | 3.31 | 6.97 | 5 | 375.22 |
| 942-209 | 3" | 2.99 | 6.85 | 5.63 | 8.86 | 1.14 | 3.89 | 10.34 | 3 | 706.76 |
| 942-210 | 4" | 3.54 | 7.67 | 6.04 | 8.86 | 1.22 | 4.80 | 18.77 | 1 | 1235.42 |

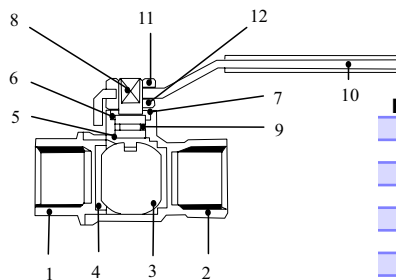
HANDLE OPTIONS

TEE HANDLES

| Part # | Valve Size | List Price |
|---------|-------------|------------|
| 43-200T | 1/4" - 3/4" | 3.41 |
| 43-204T | 1" | 4.07 |

LOCKING HANDLES

| Part # | Valve Size | List Price |
|---------|-----------------|------------|
| 43-200L | 1/4" - 3/4" | 16.05 |
| 43-204L | 1" | 28.75 |
| 43-206L | 1-1/4" - 1-1/2" | 38.55 |
| 43-207L | 2" | 53.13 |



| POS | Components | Materials | N |
|-----|------------------|--------------|---|
| 1 | Body | Forged Brass | 1 |
| 2 | End Connection | Forged Brass | 1 |
| 3 | Ball | CP Brass | 1 |
| 4 | Ball Stems | P.T.F.E. | 2 |
| 5 | Stem Antif. Seat | P.T.F.E. | 1 |
| 6 | Stem Seat | P.T.F.E. | 1 |
| 7 | Brass Ring | Brass | 1 |
| 8 | Stem | Brass | 1 |
| 9 | O-Ring | NBR 80 | 1 |
| 10 | Handle | Steel | 1 |
| 11 | Nut | Steel | 1 |
| 12 | Nut | Brass | 1 |

• Not Lead Free AB1953 Compliant

MALE X FEMALE BRASS BALL VALVE

• 600WOG • FULL PORT



UL842, UL258

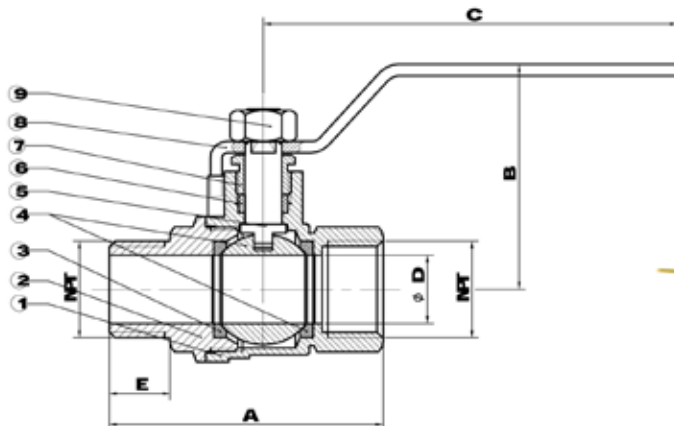
- Solid chrome plated brass ball
- Suitable for full range of liquids and gases.
- Minimal pressure drop due to large full size ports.
- Bottom loaded, pressure retaining stem.
- Pressure rated at 600psi (42 bars) WOG (non-shock) and 150psi (10.34 bars) saturated steam. Virgin TFE stem packing seal, thrust washer and seats.
- Yellow vinyl insulator on heavy duty plated carbon steel handles.
- Fast 1/4 turn open or close operation.
- Flow both directions.
- Low operating torque.
- Adjustable stem packing gland.
- Generic Handles

- Maximum operating temperature: 248°F (120°C)
- Minimum operating temperature: -20°F (-40°C)
- Each valve individually tested.
- Forged Brass - for more strength.
- Threaded ends to ANSI B1.20.1
- Hard chromium plated solid ball
- Bottom entry, blow-out proof stem.
- Made in China



• Not Lead Free

| Part# | Size | NPT | A | B | C | D | E | Weight | Box/Case | List Price |
|---------|-------|--------------|-------|-------|-------|-------|-------|--------|----------|------------|
| 948-170 | 1/4 | 1/4 - 18 | 2.016 | 1.689 | 2.756 | 0.315 | 0.457 | 0.29 | 70/140 | 10.62 |
| 948-171 | 3/8 | 3/8 - 18 | 2.094 | 1.89 | 3.543 | 0.394 | 0.457 | 0.33 | 70/140 | 10.90 |
| 948-172 | 1/2 | 1/2 - 14 | 2.343 | 2.05 | 3.543 | 0.583 | 0.520 | 0.47 | 50/100 | 13.26 |
| 948-173 | 3/4 | 3/4 - 14 | 2.618 | 2.20 | 3.780 | 0.748 | 0.563 | 0.68 | 30/60 | 19.71 |
| 948-174 | 1 | 1 - 11.5 | 3.000 | 2.579 | 4.528 | 0.945 | 0.630 | 1.11 | 20/40 | 29.19 |
| 948-175 | 1-1/4 | 1-1/4 - 11.5 | 3.563 | 2.953 | 4.528 | 1.260 | 0.709 | 1.70 | 12/24 | 42.55 |
| 948-176 | 1-1/2 | 1-1/2 - 11.5 | 3.965 | 3.346 | 5.512 | 1.575 | 0.717 | 2.50 | 9/18 | 63.32 |
| 948-177 | 2 | 2 - 11.5 | 4.496 | 3.681 | 5.512 | 1.969 | 0.748 | 3.57 | 6/12 | 91.74 |



| POS | Components | Materials |
|-----|---------------|-----------|
| 1 | Body | C37700 |
| 2 | End Cap | CS7700 |
| 3 | Ball Seat | PTFE |
| 4 | Ball | CS7700 |
| 5 | Stem | CS7700 |
| 6 | Stem Reducing | PTFE |
| 7 | Reducing Nut | CS7700 |
| 8 | Lever Handle | 1008 |
| 9 | Stem Nut | A570 Gr.A |



Locking Handle option
see pg. 178



Tee handle option
see pg. 177

ITALIAN MALE X FEMALE BALL VALVE

• BRASS • 600WOG • FULL PORT

Gas Approved

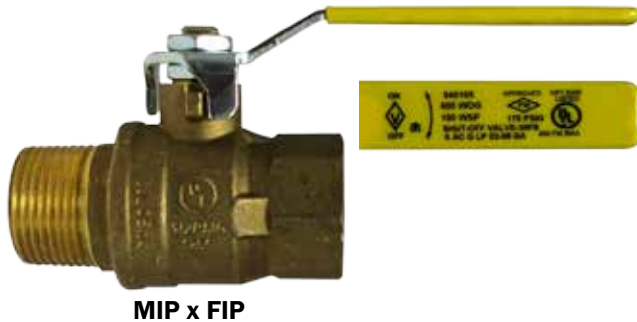


CSA AGA 3.88 5 PSIG Made in Italy

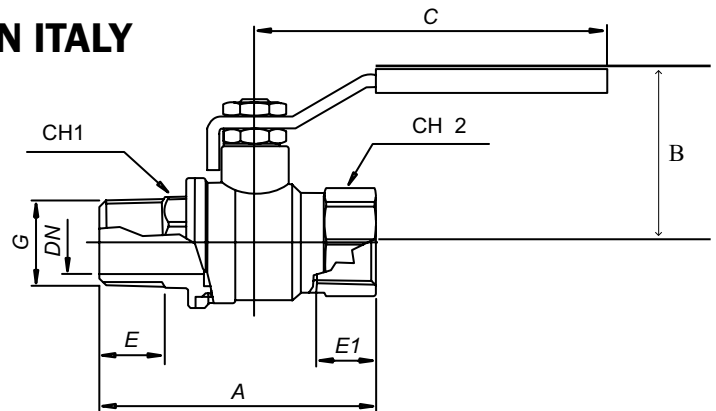
ISO 9002 Manufacturer
FEATURES

- Solid chrome plated brass ball
- Suitable for full range of liquids and gases.
- Minimal pressure drop due to large full size ports.
- Bottom loaded, pressure retaining stem.
- Pressure rated at 600psi (42 bars) WOG (non-shock) and 150psi (10.34 bars) saturated steam. Virgin TFE stem packing seal, thrust washer and seats.
- Yellow vinyl insulator on heavy duty plated carbon steel handles.
- Fast 1/4 turn open or close operation.
- Generic Handles
- Low operating torque.
- Adjustable stem packing gland.
- Maximum operating temperature: 248°F (120°C) at 600 p.s.i
- Minimum operating temperature: -20°F (-40°C)
- KV: Pressure drop m^3/h .
- Each valve individually tested.
- Forged Brass - for more strength.
- Threaded ends to ANSI B1.20.1
- Hard chromium plated solid ball
- Bottom entry, blow-out proof stem.
- Deeper threads - for better connections.

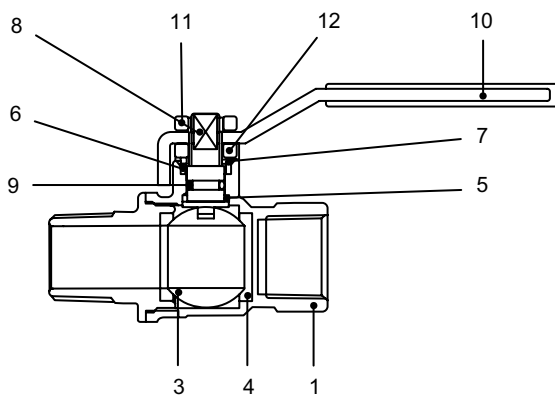
MADE IN ITALY



MIP x FIP



| Part# | Size | DN | A | B | C | E | E1 | CH1 | CH2 | Weight | Box/Case | List Price |
|---------|-------|------|------|------|------|-----|-----|------|------|--------|----------|------------|
| 948-101 | 1/4 | .39 | 2.18 | 1.53 | 3.28 | .39 | .43 | .55 | .75 | 0.35 | 24/96 | 17.51 |
| 948-102 | 3/8 | .39 | 2.20 | 1.53 | 3.28 | .43 | .43 | .71 | .86 | 0.35 | 24/96 | 19.07 |
| 948-103 | 1/2 | .57 | 2.54 | 1.57 | 3.28 | .62 | .46 | .87 | .98 | 0.42 | 14/56 | 18.73 |
| 948-104 | 3/4 | .75 | 2.75 | 1.77 | 3.80 | .55 | .49 | 1.12 | 1.22 | 0.68 | 12/48 | 28.77 |
| 948-105 | 1 | .94 | 3.23 | 2.03 | 3.80 | .69 | .59 | 1.34 | 1.50 | 0.95 | 6 /24 | 46.20 |
| 948-106 | 1-1/4 | 1.24 | 3.86 | 2.32 | 4.63 | .81 | .79 | 1.69 | 1.90 | 1.66 | 4/16 | 76.71 |
| 948-107 | 1-1/2 | 1.49 | 4.20 | 2.98 | 6.28 | .85 | .64 | 2.15 | 2.13 | 2.83 | 2/8 | 105.11 |
| 948-108 | 2 | 1.96 | 4.90 | 3.27 | 6.38 | .90 | .75 | 2.40 | 2.64 | 4.22 | 1/4 | 169.16 |



| POS | Components | Materials | N |
|-----|------------------|---------------------|---|
| 1 | Body | CW617N Forged Brass | 1 |
| 2 | End Connection | CW617N Forged Brass | 1 |
| 3 | Ball | CW617N CP Brass | 1 |
| 4 | Ball Stems | P.T.F.E. | 2 |
| 5 | Stem Antif. Seat | P.T.F.E. | 1 |
| 6 | Stem Seat | P.T.F.E. | 1 |
| 7 | Brass Ring | CW617N Brass | 1 |
| 8 | Stem | CW617N Brass | 1 |
| 9 | O-Ring | NBR 80 | 1 |
| 10 | Handle | UNI EN 10025 Steel | 1 |
| 11 | Nut | UN 5771 Steel | 1 |
| 12 | Nut | CW617N Brass | 1 |

• Not Lead Free

TEE HANDLE BALL VALVE - MALE X FEMALE



UL842, UL258

Features

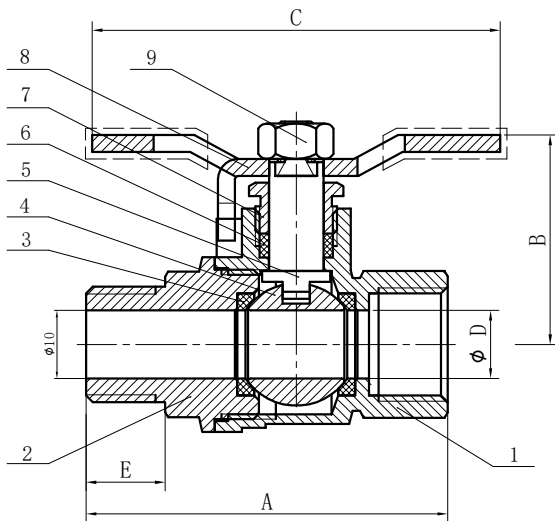
- Thread conform ANSI B1.20.1
- Forged brass body
- Blow out proof stem design
- Packing nut, O-Ring and packing on the stem seal
- Chrome Plated Brass Ball
- Handle with vinyl grip

Performance rating

- 600 PSI (WOG) 150 PSI (WSP) Service
- Temperature range: -20° F to 300° F
- Made in China
- Not lead free



| Part# | Size NPT | Dimension Inches | | | | | Weight | Box/Case | List Price |
|----------|-------------|------------------|-------|-------|-------|-------|--------|----------|------------|
| | | A | B | C | D | E | | | |
| 948-170T | 1/4" | 2.016 | 1.27 | 2.67 | 0.315 | 0.457 | 0.26 | 70/140 | 9.78 |
| 948-171T | 3/8" | 2.094 | 1.213 | 2.67 | 0.394 | 0.457 | 0.33 | 70/140 | 9.96 |
| 948-172T | 1/2" | 2.343 | 1.61 | 3.12 | 0.583 | 0.520 | 0.49 | 50/100 | 12.54 |
| 948-173T | 3/4" | 2.618 | 1.26 | 3.12 | 0.748 | 0.563 | 0.66 | 30/60 | 19.70 |
| 948-174T | 1" | 3.000 | 1.921 | 3.701 | 0.945 | 0.630 | 1.06 | 20/40 | 29.39 |
| 948-175T | 1-1/4" | 3.563 | 2.303 | 3.701 | 1.260 | 0.709 | 1.70 | 12/24 | 47.61 |
| 948-176T | 1-1/2" | 3.965 | 2.717 | 4.331 | 1.575 | 0.717 | 2.46 | 9/18 | 65.73 |
| 948-177T | 2" | 4.496 | 3.051 | 4.331 | 1.969 | 0.748 | 3.61 | 6/12 | 93.19 |



| Item | Part | Materials |
|------|--------------|----------------------|
| 1 | Body | Brass |
| 2 | End Cap | Brass |
| 3 | Ball Seat | PTFE |
| 4 | Ball | C/P Brass |
| 5 | Stem | Brass |
| 6 | Stem Packing | PTFE |
| 7 | Packing Nut | Brass |
| 8 | T-Handle | Nickel plating steel |
| 9 | Stem Nut | Brass plating steel |

A day without sunshine is like, you know, night. - Steve Martin

LOCKING HANDLE BALL VALVES - FEMALE X MALE



UL842, UL258

Features

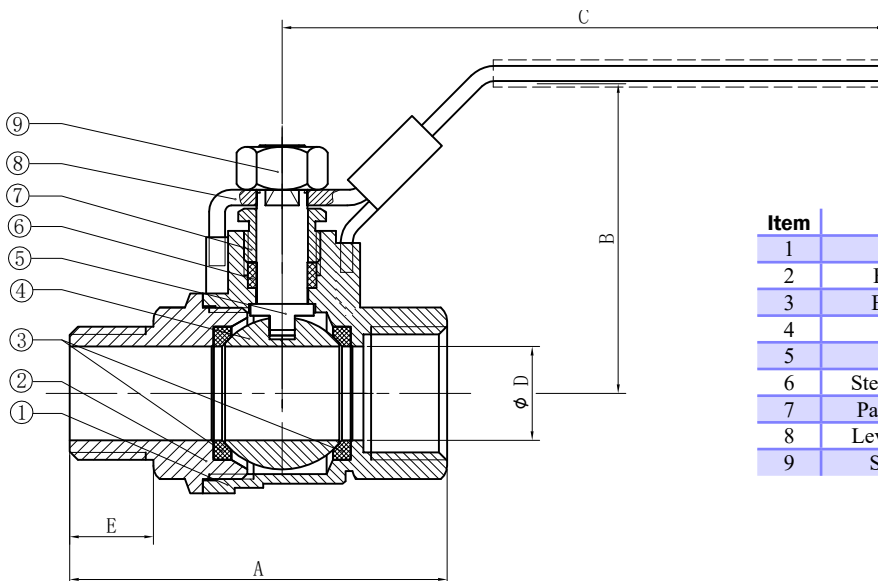
- Thread conform ANSI B1.20.1
- Forged brass body
- Blow out proof stem design
- Packing nut, O-Ring and packing on the stem seal
- Chrome Plated Brass ball
- Handle with vinyl grip

Performance rating

- 600 PSI (WOG) 150 PSI (WSP) Service
- Temperature range: -20° F to 300° F
- Made in China
- Not lead free



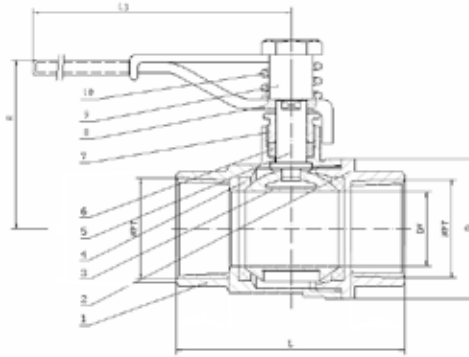
| Part# | Size | Dimension Inches | | | | | Weight | Box/Case | List Price |
|----------|--------|------------------|-------|-------|-------|-------|--------|----------|------------|
| | NPT | A | B | C | D | E | | | |
| 948-170L | 1/4" | 2.016 | 1.732 | 3.543 | 0.315 | 0.457 | 0.32 | 70/140 | 10.29 |
| 948-171L | 3/8" | 2.094 | 1.732 | 3.543 | 0.394 | 0.457 | 0.37 | 70/140 | 10.49 |
| 948-172L | 1/2" | 2.343 | 1.941 | 3.543 | 0.583 | 0.520 | 0.50 | 50/100 | 13.20 |
| 948-173L | 3/4" | 2.618 | 2.106 | 3.78 | 0.748 | 0.563 | 0.77 | 30/60 | 20.73 |
| 948-174L | 1" | 3.000 | 2.579 | 4.528 | 0.945 | 0.630 | 1.21 | 20/40 | 30.94 |
| 948-175L | 1-1/4" | 3.563 | 2.961 | 4.528 | 1.260 | 0.709 | 1.74 | 12/24 | 49.04 |
| 948-176L | 1-1/2" | 3.965 | 3.366 | 5.36 | 1.575 | 0.717 | 2.58 | 9/18 | 67.71 |
| 948-177L | 2" | 4.496 | 3.701 | 5.36 | 1.969 | 0.748 | 3.73 | 6/12 | 95.98 |



| Item | Part | Materials |
|------|--------------|----------------------|
| 1 | Body | Brass |
| 2 | End Cap | Brass |
| 3 | Ball Seat | PTFE |
| 4 | Ball | C/P Brass |
| 5 | Stem | Brass |
| 6 | Stem Packing | PTFE |
| 7 | Packing Nut | Brass |
| 8 | Lever Handle | Nickel plating steel |
| 9 | Stem Nut | Brass plating steel |

BRASS SPRING HANDLE BALL VALVE

Working pressure:600 PSI for brass
 Temperature Range:-40°F to 365°F(-40°C to +185°C)
 Material:Brass
 Spring Lever Handle w/Vinyl Grip
 Made in China
 Not lead free

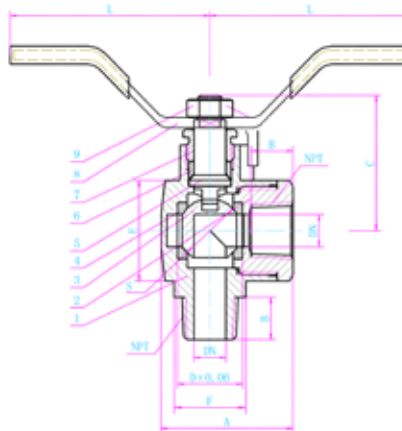


| Part # | Part Name | Material |
|--------|--------------|-----------------|
| 1 | Body | Brass |
| 2 | Bonnet | Brass |
| 3 | Ball | Brass |
| 4 | Sealing Seat | PTFE |
| 5 | Stem | Stainless Steel |
| 6 | Packing Ring | PTFE |
| 7 | Gland | Brass |
| 8 | Handle | Stainless Steel |
| 9 | Bolt | Brass |
| 10 | Spring | Stainless Steel |

| Item# | Size | L | D | DN | H | L3 | WTG | Box/Case | List Price |
|---------|------|------|------|------|------|------|------|----------|------------|
| 947-103 | 1/2" | 2.19 | 1.24 | 0.59 | 1.83 | 4.24 | 0.54 | 10/80 | 36.79 |
| 947-104 | 3/4" | 2.38 | 1.5 | 0.75 | 2.19 | 4.24 | 0.72 | 5/40 | 42.90 |
| 947-105 | 1" | 3.23 | 1.91 | 0.98 | 2.49 | 4.71 | 1.32 | 5/30 | 52.71 |

RIGHT ANGLE BRASS BALL VALVE

Working pressure: 250PSI
 Temperature Range -40° to 400°F(-40 °C to +205 °C)
 With lever Handle Teflon seats 2-pc,full port Heavy Duty forged Body Steel Handle w/Vinyl Grip
 Made in China
 Not lead free



| Part # | Part Name | Material |
|--------|-------------|----------|
| 1 | Body | Brass |
| 2 | Cap | Brass |
| 3 | Ball | Brass |
| 4 | Seat | PTFE |
| 5 | Stem | Brass |
| 6 | Stuffing | PTFE |
| 7 | Packing Nut | Brass |
| 8 | Handle | Steel |
| 9 | Nut | Brass |

| Part # | Size | A | B | C | D | S | DN | L | E | F | WTG | Box/Case | List Price |
|---------|------|------|------|------|------|------|------|------|------|------|------|----------|------------|
| 947-111 | 1/4 | 1.59 | 0.41 | 1.40 | 0.64 | 0.63 | 0.32 | 2.60 | 0.98 | 0.65 | 0.34 | 12/120 | 15.14 |
| 947-112 | 3/8 | 1.59 | 0.41 | 1.40 | 0.73 | 0.71 | 0.39 | 2.60 | 0.98 | 0.65 | 0.36 | 12/120 | 15.14 |
| 947-113 | 1/2 | 1.73 | 0.55 | 1.40 | 0.79 | 0.87 | 0.55 | 2.60 | 1.08 | 0.83 | 0.47 | 10/80 | 24.11 |

3-WAY AND SAFETY EXHAUST BALL VALVES

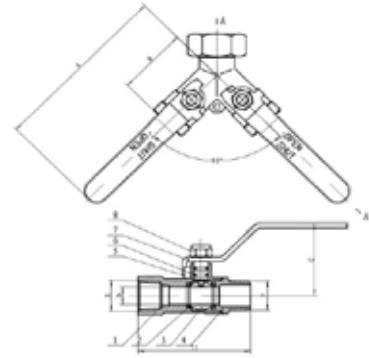
VALVES

3-WAY WYE BRASS BALL VALVE, VENTED AND UNVENTED

- Max. pressure: W.O.G. (water, oil, inert gas)
Unvented Valve: 600psi@70°F
Vented Valve: 250psi@70°F
W.S.P. (working steam pressure)
Unvented Valve: 150psi@365°F
Vented Valve: Not related
- Vacuum Rating: 29"Hg
- Temperature Range: -40° to 365°F
- Ports: Full

Designed for the portable air compressor industry, these valves control the flow of water, oil, and inert gases in two direction and are great for mixing and diverting. They have a single female inlet and two male outlets with two ball valves. Valves are Brass Nickel Plated and have chrome-plated brass balls, brass blow-out proof stems, PTFE seats and seals, and steel lever handles with vinyl grips. Vented valves has a drilled hole on the two valve balls and body that vents compressed air in the line when valve is closed. Connections: 1"NPT female inlet and 3/4"NPT male outlet. • Made in China • Not lead free

| Part# | Part Name | Material |
|-------|-----------|---------------------|
| 1 | Body | Brass Nickel Plated |
| 2 | Seat | PTFE |
| 3 | Ball | Brass, Cr. Plated |
| 4 | Cap | Brass Nickel Plated |
| 5 | Stem | Brass |
| 6 | O-Ring | Viton |
| 7 | Handle | Stainless Steel |
| 8 | Nut | Steel |



NON-VENTED



VENTED

NOW WITH STAINLESS STEEL HANDLES

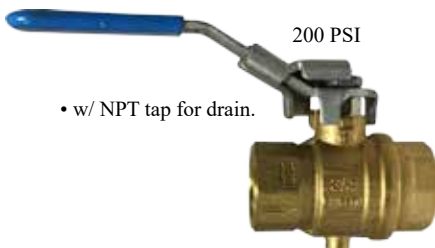
| Part # | Ball | E | F | A | B | C | D | G | WTG | Box/Case | List Price |
|---------|------------|-----------|-----------|-------|------|-------|-------|-----|------|----------|------------|
| 947-125 | Non-vented | 1" Female | 3/4" Male | 5.18" | 2.5" | 2.05" | 0.59" | 90° | 1.43 | 2/24 | 55.63 |
| 947-126 | Vented | | | | | | | | 1.48 | 2/24 | 57.32 |

EXHAUST VALVES

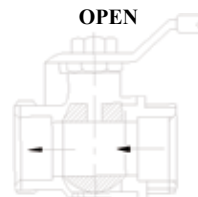
AUTOMATIC DRAIN & LATCH LOCK HANDLE

Full port hot forged brass ball valve, blow-out proof stem, downstream automatic vent with lockable handle in compliance with OSHA requirements.

- Maximum working pressure: 200 PSI (CWP).
- Temperature rating: -4°F through +350°F.
- Made in Italy
- Not lead free

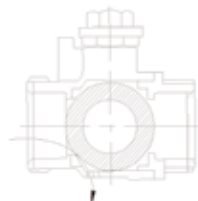


- w/ NPT tap for drain.



Valve - open position.
Drain vent shut off.

CLOSED



| Part# | Size | List Price |
|---------|------|------------|
| 948-131 | 1/4" | 54.96 |
| 948-132 | 3/8" | 58.30 |
| 948-133 | 1/2" | 60.87 |
| 948-134 | 3/4" | 83.43 |
| 948-135 | 1" | 100.20 |

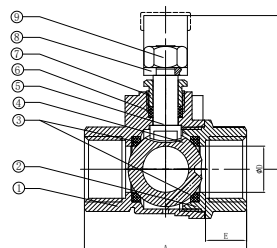
Valve - closed and draining occurs. Upstream seat prevents air flow. Downstream system is vented to atmosphere.

SAFETY EXHAUST BALL VALVE

- Threaded - Two Piece Body - Full Port
- Vented
- Blow-out Proof Stem - PTFE Seats
- 400 PSI WOG
- To Exhaust and Downstream Air in the Closed Position w/ locking lever handle.
- Made in China • Not lead free



| Part # | Size | A | B | D | E | List Price |
|---------|------|-------|------|-------|-------|------------|
| 948-141 | 1/4" | 1.756 | 1.88 | 0.394 | 0.457 | 11.34 |
| 948-142 | 3/8" | 1.756 | 1.88 | 0.394 | 0.457 | 10.91 |
| 948-143 | 1/2" | 2.047 | 2.13 | 0.583 | 0.520 | 14.88 |
| 948-144 | 3/4" | 2.362 | 2.28 | 0.748 | 0.563 | 22.98 |



MATERIAL LIST

| Item | Part | Material |
|------|--------------|----------------------|
| 1 | Body | Brass |
| 2 | End Cap | Brass |
| 3 | Ball Seat | PTFE |
| 4 | Ball | Brass |
| 5 | Stem | Brass |
| 6 | Stem Packing | PTFE |
| 7 | Packing Nut | Brass |
| 8 | Lever Handle | Nickel plating steel |
| 9 | Stem Nut | Nickel plating steel |

GAS BALL VALVES



CSA AGA 3.88 5 PSIG

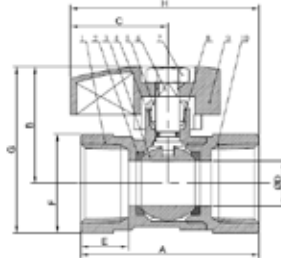


UL 842, UL 258, UL 125

Manual Valve LISTED Threaded NPT

ISO 9002 Manufacturer FEATURES

- Material: C37700
- Forged brass, Regular port, Thread*Flare Thread
- Thread ends in ANSI B1.20.1
- Working temperature: 0-65°(32-149°)
- Pressure : 1/2PSI; 5PSI;
- ASEM B16.44/CR91; ANSI Z21.15/CSA9.1
- UL 125 For LP-Gas 125psig
- Made in China



| | | | |
|-----|-----------------|-------|--------------|
| 10 | BALL VALVE CAP | 1 | BRASS |
| 9 | HANDLE | 1 | AL-alloy |
| 8 | PACKING | 1 | PTFE |
| 7 | HANDLE NUT | 1 | PLATED STEEL |
| 6 | STEM | 1 | BRASS |
| 5 | PACKING NUT | 1 | BRASS |
| 4 | O-RING | 1 | NBR |
| 3 | BALL | 1 | BRASS |
| 2 | SEALING WASHER | 2 | PTFE |
| 1 | BALL VALVE BODY | 1 | BRASS |
| NO. | ITEM | TOTAL | MATERIAL |

GAS BALL VALVE (2-Piece) FEMALE x FEMALE

| Part# | Size | WTG | Box/Case | List Price |
|---------|------|------|----------|------------|
| 943-311 | 3/8" | 0.35 | 10/100 | 7.35 |
| 943-312 | 1/2" | 0.44 | 10/100 | 7.35 |
| 943-313 | 3/4" | 0.62 | 10/100 | 10.80 |

| SIZE | ∅D | A | B | C | E | F | G | H |
|------|-------|-------|-------|------|-------|-------|-------|-------|
| 3/8" | 0.394 | 1.752 | 1.437 | 1.28 | 0.472 | 0.945 | 1.909 | 2.146 |
| 1/2" | 0.394 | 2.204 | 1.437 | 1.28 | 0.606 | 1.043 | 1.961 | 2.461 |
| 3/4" | 0.591 | 2.362 | 1.535 | 1.28 | 0.626 | 1.299 | 2.815 | 2.476 |



FLARE X FLARE

| Part# | Size | List Price |
|--------|-------|------------|
| 943342 | 3/8 | 6.79 |
| 943343 | 1/2 | 8.54 |
| 943345 | 5/8 | 14.07 |
| 943344 | 15/16 | 14.07 |



FLARE X MIP

| Part# | Size | List Price |
|--------|-----------|------------|
| 943347 | 3/8 x 1/2 | 7.63 |
| 943348 | 1/2 x 1/2 | 8.82 |

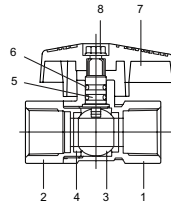


FLARE X FIP

| Part# | Size | List Price |
|--------|-------------|------------|
| 943331 | 3/8 x 1/2 | 7.28 |
| 943332 | 1/2 x 1/2 | 7.56 |
| 943351 | 5/8 x 3/4 | 13.23 |
| 943350 | 15/16 x 3/4 | 13.23 |

- For use with natural, manufactured, mixed liquified. petroleum and LP gas-air mixtures.
- Deeper thread connections. Smooth quarter-turn.
- Manufactured to ANSI Z21.15, C.G.A. 9.1-M81, 9.2-M88, 1/2 psig. 372 also to A.G.A.3-8, C.G.A. CR91-002, 2 psig.
- Solid chrome plated brass ball
- Bottom entry
- Blow out proof design.
- Double viton o-rings stem seals
- Teflon seats for durability.
- Forged construction for greater strength.
- Larger ports for increased flow capacity.
- Red Reversible handle.
- May be used with water 400 WOG.

MADE IN ITALY



| Components | Materials |
|------------------|----------------|
| 1 Body | Forged Brass |
| 2 End Connection | Forged Brass |
| 3 Ball | Forged Brass |
| 4 Ball Seats | P.T.F.E. |
| 5 Stem | Brass |
| 6 O-Ring | NBR |
| 7 Butterfly | Steel |
| 8 Screw | UNI 5771 Steel |



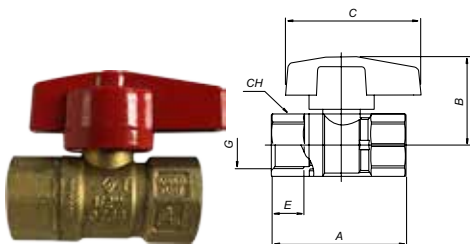
CSA AGA 3.88 5 PSIG



UL 842, UL 258, UL 125

Manual Valve LISTED Threaded NPT

GAS BALL VALVES FEMALE x FEMALE



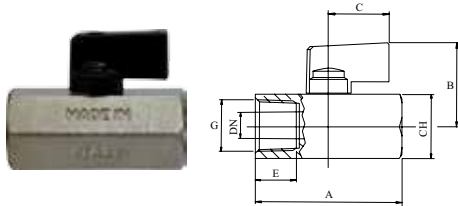
| Part# | Dimension Inches | | | | | | | | | | List Price |
|---------|------------------|-----|------|------|------|-----|------|-----|-----------|-------|------------|
| | Size | G | DN | A | B | C | E | CH | PN in psi | WTG | |
| 943-212 | 1/2" | .47 | 2.26 | 1.45 | 2.28 | .55 | .98 | 600 | 0.33 | 20/80 | 14.88 |
| 943-213 | 3/4" | .59 | 2.48 | 1.57 | 2.28 | .57 | 1.22 | 600 | 0.45 | 14/56 | 21.58 |

CHROME PLATED BRASS MINI BALL VALVE**VALVES****ITALIAN CHROME PLATED BRASS MINI BALL VALVE**

ISO 9002 Manufacturer

FEATURES

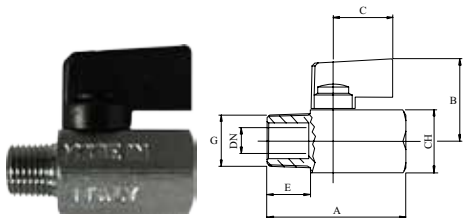
- Solid chrome plated brass ball
- Max working pressure 235 psi will handle 300psi@75° F
- Longer body style for longer, deeper thread connections
- One piece drawn sand blasted chrome plated body.
- Each valve is seal tested for maximum safety.
- Double seal system allows valve to be operated in both directions making installation easier.
- Blowout-proof brass stem.
- NPT taper ANSI B1.20.1 threads.
- 32°F to +176°F temperature.
- 1/4 Turn Aluminium handle with mechanical stop.
- NSF Approved valves available upon request!
- Not lead free



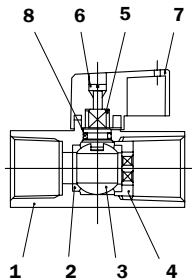
Made in Italy

Female x Female

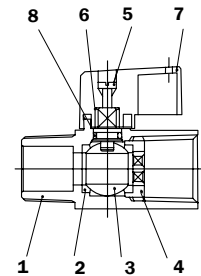
| Part# | Size | | Dimension Inches | | | | | | | |
|---------|------|------|------------------|------|-----|------|------|------|----------|------------|
| | G | DN | A | B | C | E | CH | WTG | Box/Case | List Price |
| 46-922I | 1/4" | 0.31 | 1.81 | 1.17 | 0.9 | 0.51 | 0.83 | 0.24 | 50/200 | 15.98 |
| 46-923I | 3/8" | 0.31 | 1.85 | 1.17 | 0.9 | 0.51 | 0.83 | 0.22 | 50/200 | 15.98 |
| 46-924I | 1/2" | 0.39 | 2.18 | 1.26 | 0.9 | 0.61 | 0.98 | 0.32 | 30/120 | 18.43 |

**Male x Female**

| Part# | Size | | Dimension Inches | | | | | | | |
|---------|------|------|------------------|------|-----|-----|------|------|----------|------------|
| | G | DN | A | B | C | E | CH | WTG | Box/Case | List Price |
| 46-903I | 1/4" | 0.31 | 1.75 | 1.17 | 0.9 | .40 | 0.83 | 0.20 | 50/200 | 15.54 |
| 46-904I | 3/8" | 0.31 | 1.81 | 1.17 | 0.9 | .41 | 0.83 | 0.20 | 50/200 | 15.54 |
| 46-905I | 1/2" | 0.39 | 2.14 | 1.26 | 0.9 | .52 | 0.98 | 0.30 | 40/160 | 17.28 |



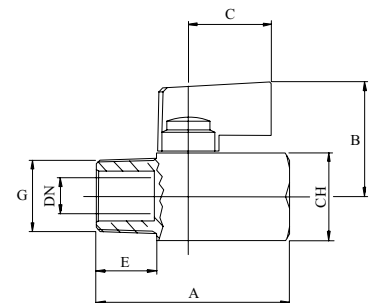
| POS | Components | Materials | N |
|-----|------------|---------------------|---|
| 1 | Body | CW517N Forged Brass | 1 |
| 2 | Ball Seats | P.T.F.E | 2 |
| 3 | Ball | CW517N CP Brass | 1 |
| 4 | Ring Unit | CW614N Brass | 1 |
| 5 | Stem | CW614N Brass | 1 |
| 6 | Screw | UNI 5771 Steel | 1 |
| 7 | Handle | Aluminum | 1 |
| 8 | O-Ring | NBR 80 | 1 |

**YELLOW BRASS 1/4" MINI MALE X FEMALE VALVE**

- Proprietary seal design extreme for low & high temperature applications
- -76° to +248°F temperature.
- Nominal working pressure 235 psi will handle 300psi@75° F
- One piece drawn sand blasted brass plated body. Solid chrome plate brass ball
- Double seal system allows valve to be operated in both directions making installation easier.
- Blowout-proof brass stem.
- NPT taper ANSI B1.20.1 threads.
- 1/4 TURN BLACK METAL HANDLE WITH MECHANICAL STOP.

**MALE x FEMALE**

MADE IN ITALY



| Part# | Size | | Dimension Inches | | | | | | | |
|-----------|------|-------|------------------|------|------|------|------|------|------------|--|
| | NPT | DN | A | B | C | E | CH | CASE | List Price | |
| 46-903ISB | 1/4" | 0.315 | 1.75 | 1.18 | 0.91 | 0.48 | 0.83 | 200 | 5.90 | |

MINI BALL VALVES

- Chrome plated forged brass body
- Chrome plated brass ball
- NPT taper ANSI B1.20.1 threads*
- 450 PSI working pressure
- At 212°F - 355 PSI
- At 356°F - 142 PSI
- 1/4 Turn Alumzinc handle
- Not lead free
- Made in China



FEMALE X FEMALE - FLAG HANDLE

| Part # | Size | Dimensions (In) | | | | Wt lbs | Box/Case | List Price |
|--------|------|-----------------|---------|------|------|--------|----------|------------|
| | | A | D(FLOW) | F | G | | | |
| 46-934 | 1/8 | 1.57 | 0.24 | 0.93 | 1.46 | 0.21 | 20/300 | 7.56 |
| 46-935 | 1/4 | 1.57 | 0.31 | 0.93 | 1.46 | 0.20 | 20/300 | 7.56 |
| 46-936 | 3/8 | 1.57 | 0.28 | 0.93 | 1.46 | 0.22 | 20/300 | 8.27 |
| 46-937 | 1/2 | 1.77 | 0.35 | 0.93 | 1.56 | 0.24 | 20/200 | 8.57 |

MINI BALL VALVES W/VITON SEALS

FEMALE X FEMALE - LEVER HANDLE



| Part # | Size | Dimensions (In) | | | | Wt lbs | Box/Case | List Price |
|---------|------|-----------------|---------|------|------|--------|----------|------------|
| | | A | D(FLOW) | F | G | | | |
| 46-934L | 1/8 | 1.57 | 0.24 | 1.99 | 1.50 | 0.21 | 20/300 | 8.23 |
| 46-935L | 1/4 | 1.57 | 0.31 | 1.99 | 1.50 | 0.20 | 20/300 | 7.33 |
| 46-936L | 3/8 | 1.60 | 0.28 | 1.99 | 1.50 | 0.22 | 20/300 | 6.79 |
| 46-937L | 1/2 | 1.77 | 0.35 | 1.99 | 1.59 | 0.24 | 20/200 | 8.61 |

FEMALE X FEMALE - TEE HANDLE



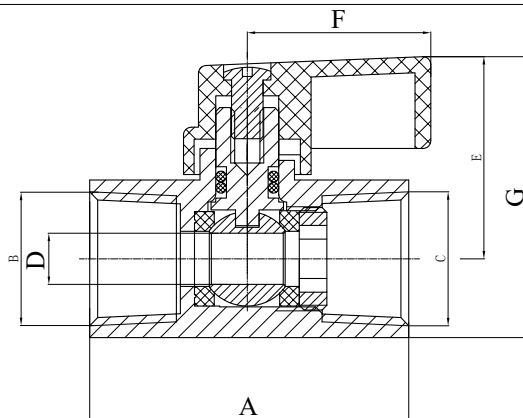
| Part # | Size | Dimensions (In) | | | | Wt lbs | Box/Case | List Price |
|----------|------|-----------------|---------|--------|------|--------|----------|------------|
| | | A | D(FLOW) | Handle | G | | | |
| 46-934LT | 1/8 | 1.60 | 0.24 | 1.34 | 1.43 | 0.21 | 20/300 | 8.13 |
| 46-935LT | 1/4 | 1.57 | 0.31 | 1.34 | 1.43 | 0.20 | 20/300 | 7.23 |
| 46-936LT | 3/8 | 1.60 | 0.28 | 1.34 | 1.43 | 0.22 | 20/300 | 6.70 |
| 46-937LT | 1/2 | 1.77 | 0.35 | 1.34 | 1.52 | 0.24 | 20/200 | 8.51 |

FEMALE X FEMALE - SCREWDRIVER

| Part # | Size | Dimensions (In) | | Wt lbs | Box/Case | List Price |
|----------|------|-----------------|---------|--------|----------|------------|
| | | A | D(FLOW) | | | |
| 46-934LS | 1/8 | 1.57 | 0.24 | 0.21 | 20/300 | 7.48 |
| 46-935LS | 1/4 | 1.57 | 0.31 | 0.20 | 20/300 | 6.57 |
| 46-936LS | 3/8 | 1.57 | 0.28 | 0.22 | 20/300 | 6.04 |
| 46-937LS | 1/2 | 1.77 | 0.35 | 0.24 | 20/200 | 7.85 |

* BSPP Threads available with extended delivery, same cost.

• Not lead free



| Pos | Components | Materials | N |
|-----|----------------------|-----------------|---|
| 1 | Body | CP Forged Brass | 1 |
| 2 | Ball Seats | P.T.F.E. | 2 |
| 3 | Ball | CP Brass | 1 |
| 4 | Ring Unit | Brass | 1 |
| 5 | Stern | Brass | 1 |
| 6 | O-Ring - flag handle | NBR 80 | 1 |
| 6 | O-Ring - all others | Viton | 1 |
| 7 | Handle | Alumzinc | 1 |
| 8 | Screw | Steel | 1 |

MINI BALL VALVE

VALVES

MINI BALL VALVES

- Chrome plated forged brass body
- Chrome plated brass ball
- NPT taper ANSI B1.20.1 threads*
- 450 PSI working pressure
- At 212°F - 355 PSI
- At 356°F - 142 PSI
- 1/4 Turn Alumzinc handle
- Not lead free
- Made in China



MALE X FEMALE - FLAG HANDLE

| Part # | Size | Dimensions (In) | | | | Wt lbs | Box/Case | List Price |
|--------|------|-----------------|---------|------|------|--------|----------|------------|
| | | A | D(FLOW) | F | G | | | |
| 46-930 | 1/8 | 1.57 | 0.24 | 0.93 | 1.46 | 0.17 | 20/300 | 7.56 |
| 46-931 | 1/4 | 1.57 | 0.31 | 0.93 | 1.46 | 0.15 | 20/300 | 7.56 |
| 46-932 | 3/8 | 1.57 | 0.28 | 0.93 | 1.46 | 0.21 | 20/300 | 8.27 |
| 46-933 | 1/2 | 1.77 | 0.35 | 0.93 | 1.56 | 0.24 | 20/200 | 8.57 |

MINI BALL VALVES W/VITON SEALS

MALE X FEMALE - LEVER HANDLE



| Part # | Size | Dimensions (In) | | | | Wt lbs | Box/Case | List Price |
|---------|------|-----------------|---------|------|------|--------|----------|------------|
| | | A | D(FLOW) | F | G | | | |
| 46-930L | 1/8 | 1.57 | 0.24 | 1.99 | 1.50 | 0.17 | 20/300 | 6.50 |
| 46-931L | 1/4 | 1.57 | 0.31 | 1.99 | 1.50 | 0.15 | 20/300 | 6.20 |
| 46-932L | 3/8 | 1.57 | 0.28 | 1.99 | 1.50 | 0.21 | 20/300 | 6.20 |
| 46-933L | 1/2 | 1.77 | 0.35 | 1.99 | 1.59 | 0.24 | 20/200 | 8.17 |

MALE X FEMALE - TEE HANDLE



| Part # | Size | Dimensions (In) | | | | Wt lbs | Box/Case | List Price |
|---------|------|-----------------|---------|--------|------|--------|----------|------------|
| | | A | D(FLOW) | Handle | G | | | |
| 46-930T | 1/8 | 1.57 | 0.24 | 1.34 | 1.46 | 0.17 | 20/300 | 6.42 |
| 46-931T | 1/4 | 1.57 | 0.31 | 1.34 | 1.46 | 0.15 | 20/300 | 6.11 |
| 46-932T | 3/8 | 1.57 | 0.28 | 1.34 | 1.40 | 0.21 | 20/300 | 6.11 |
| 46-933T | 1/2 | 1.77 | 0.35 | 1.34 | 1.56 | 0.24 | 20/200 | 8.07 |

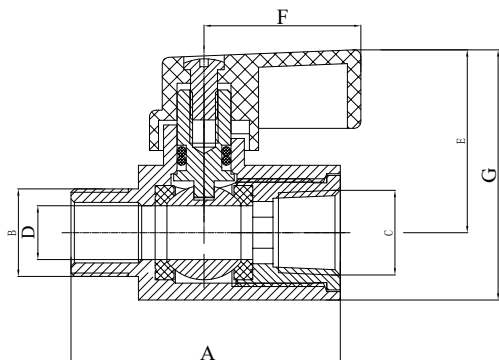
MALE X FEMALE - SCREWDRIVER



| Part # | Size | Dimensions (In) | | Wt lbs | Box/Case | List Price |
|---------|------|-----------------|---------|--------|----------|------------|
| | | A | D(FLOW) | | | |
| 46-930S | 1/8 | 1.57 | 0.24 | 0.17 | 20/300 | 5.76 |
| 46-931S | 1/4 | 1.57 | 0.31 | 0.15 | 20/300 | 5.45 |
| 46-932S | 3/8 | 1.57 | 0.28 | 0.21 | 20/300 | 5.45 |
| 46-933S | 1/2 | 1.77 | 0.35 | 0.24 | 20/200 | 7.42 |

* BSPP Threads available with extended delivery, same cost.

- Not lead free

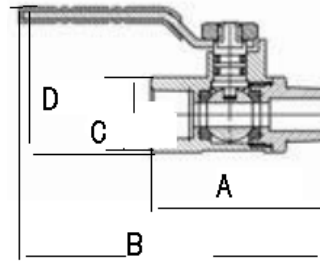


| Pos | Components | Materials | N |
|-----|----------------------|-----------------|---|
| 1 | Body | CP Forged Brass | 1 |
| 2 | Ball Seats | P.T.F.E. | 2 |
| 3 | Ball | CP Brass | 1 |
| 4 | Ring Unit | Brass | 1 |
| 5 | Stern | Brass | 1 |
| 6 | O-Ring - flag handle | NBR 80 | 1 |
| 6 | O-Ring - all others | Viton | 1 |
| 7 | Handle | Alumzinc | 1 |
| 8 | Screw | Steel | 1 |

FORGED BRASS MINI-BALL VALVES

- 180° operational handle, blow out proof stem. Stem with double “O” Rings
- 200 WOG
- Temp rating -20°F - 250°F
- Generic Handles
- Not lead free

| NO | Part Name | Material | QTY |
|----|-----------|----------|-----|
| 1 | Nut | Steel | 1 |
| 2 | Handle | Steel | 1 |
| 3 | Cover | PVC | 1 |
| 4 | O-Ring | NBR | 2 |
| 5 | Stem | Brass | 1 |
| 6 | Body | Brass | 1 |
| 7 | Seat | Teflon | 2 |
| 8 | Ball Disc | Brass | 1 |
| 9 | End Plug | Brass | 1 |



FEMALE x FEMALE

| Part # | Size | A | B | C | D | List Price |
|---------|------|------|------|------|------|------------|
| 944-113 | 1/8 | 1.53 | 2.80 | 0.73 | 1.42 | 7.12 |
| 944-116 | 1/4 | 1.53 | 2.80 | 0.73 | 1.42 | 8.25 |
| 944-117 | 3/8 | 1.73 | 2.90 | 0.87 | 1.50 | 8.77 |
| 944-140 | 1/2 | 2.07 | 3.08 | 0.98 | 1.45 | 9.90 |



HOSE BARB x MALE

| Part # | Size | A | B | C | D | List Price |
|---------|---------|------|------|------|------|------------|
| 944-132 | 1/4X1/8 | 2.05 | 2.91 | 0.73 | 1.51 | 5.70 |
| 944-138 | 1/4X1/4 | 2.08 | 2.98 | 0.73 | 1.51 | 8.00 |
| 944-128 | 3/8X1/4 | 2.08 | 3.04 | 0.73 | 1.51 | 7.51 |
| 944-130 | 3/8X3/8 | 2.12 | 3.06 | 0.73 | 1.51 | 6.15 |
| 944-139 | 1/2X1/2 | 2.15 | 3.19 | 0.73 | 1.51 | 9.90 |



FEMALE x MALE

| Part # | Size | A | B | C | D | List Price |
|---------|---------|------|------|------|------|------------|
| 944-106 | 1/8 | 1.69 | 3.02 | 0.73 | 1.46 | 10.30 |
| 944-100 | 1/4X1/8 | 1.28 | 2.90 | 0.66 | 1.32 | 13.70 |
| 944-101 | 1/4 | 1.70 | 3.00 | 0.73 | 1.46 | 11.99 |
| 944-103 | 3/8 | 1.78 | 3.02 | 0.87 | 1.50 | 9.00 |
| 944-102 | 3/8X1/4 | 1.78 | 2.50 | 0.89 | 1.50 | 10.12 |
| 944-104 | 1/2 | 2.34 | 3.35 | 0.98 | 1.45 | 10.65 |



HOSE BARB x FEMALE

| Part # | Size | A | B | C | D | List Price |
|---------|---------|------|------|------|------|------------|
| 944-135 | 1/8X1/8 | 1.78 | 2.44 | 0.62 | 1.38 | 10.30 |
| 944-136 | 1/4X1/4 | 1.97 | 2.87 | 0.73 | 1.55 | 9.53 |



MALE x MALE

| Part # | Size | A | B | C | D | List Price |
|---------|------|------|------|------|------|------------|
| 944-107 | 1/8 | 1.82 | 2.94 | 0.65 | 1.42 | 7.50 |
| 944-109 | 1/4 | 1.25 | 2.66 | 0.65 | 1.42 | 7.88 |
| 944-110 | 3/8 | 1.90 | 2.98 | 0.73 | 1.42 | 8.25 |
| 944-112 | 1/2 | 2.56 | 4.93 | 1.02 | 2.21 | 12.87 |



HOSE BARB x HOSE BARB

| Part # | Size | A | B | C | D | List Price |
|---------|---------|------|------|------|------|------------|
| 944-142 | 1/4X1/4 | 2.47 | 3.19 | 0.73 | 1.55 | 10.73 |
| 944-134 | 3/8X3/8 | 2.47 | 3.18 | 0.73 | 1.55 | 10.88 |

LEAD FREE

| Part # | Size | A | B | C | D | List Price |
|-----------|------|------|------|------|------|------------|
| 944-142LF | 1/4 | 2.49 | 3.19 | 0.73 | 1.55 | 10.73 |
| 944-134LF | 3/8 | 2.47 | 3.18 | 0.73 | 1.55 | 10.88 |

3-WAY BALL VALVE

VALVES

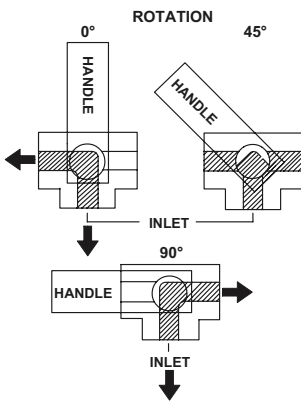
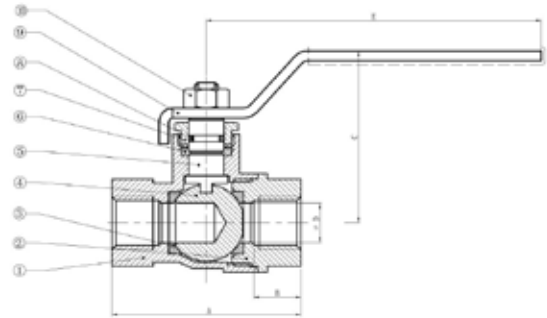
SIDE OUTLET 3-WAY BALL VALVE

- BRASS • 600WOG • FULL PORT

- Forged Brass
- 600 WOG
- Temp Rating 0-230°F



- Side outlet



- Full Port
- Blow-out proof stem
- double o-ring stem packing
- PTFE Seal
- Made in China
- Not lead free

Nomenclature & Materials

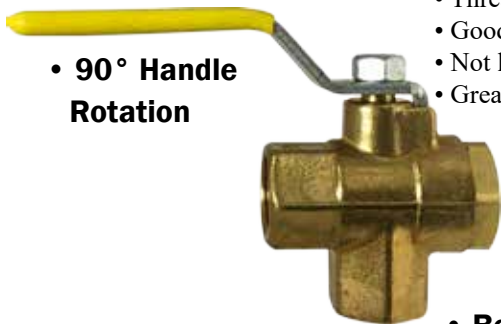
| NO | Part Name | Material | Qty |
|----|--------------|----------|-----|
| 1 | Body | Brass | 1 |
| 2 | End Cap | Brass | 1 |
| 3 | Ball Seat | PTFE | 1 |
| 4 | Ball | Brass | 1 |
| 5 | Stem | Brass | 2 |
| 6 | Seal | PTFE | 1 |
| 7 | Impacted Nut | Brass | 1 |
| 8 | O-Ring | NBR | 2 |
| 9 | Lever Handle | Steel | 1 |
| 10 | Stem Nut | Steel | 1 |

| Part# | Size | I | H | D | L | A | WTG | Box/Case | List Price |
|---------|------|------|------|------|------|------|------|----------|------------|
| 940-464 | 1/4" | 1.89 | 1.73 | 0.39 | 3.58 | 0.47 | 0.51 | 50/100 | 45.28 |
| 940-465 | 3/8" | 1.89 | 1.73 | 0.39 | 3.35 | 0.47 | 0.57 | 50/100 | 47.11 |
| 940-461 | 1/2" | 2.11 | 1.80 | 0.50 | 3.58 | 0.51 | 0.65 | 30/60 | 36.99 |
| 940-462 | 3/4" | 2.56 | 2.16 | 0.74 | 4.31 | 0.55 | 0.99 | 20/40 | 61.10 |

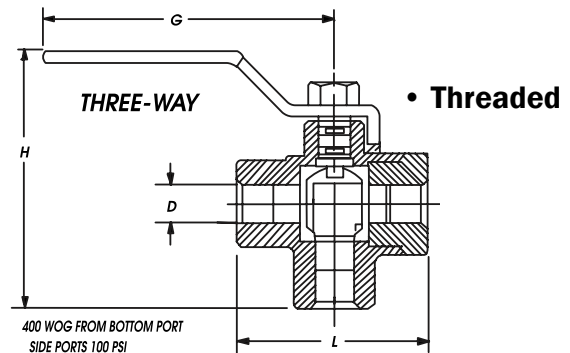
BOTTOM OUTLET 3 WAY BALL VALVE

- Forged Brass
- Bottom Port is inlet 400 psi
- Side Ports are inlet 100 psi
- Teflon ball seats
- Double O-Ring Stem Seals - primary seal is Viton secondary seal is Aflas
- Blow out proof stem
- Made in USA
- Threaded ports
- Good for propane
- Not lead free
- Great for diesel fuel

- 90° Handle Rotation



- Bottom outlet



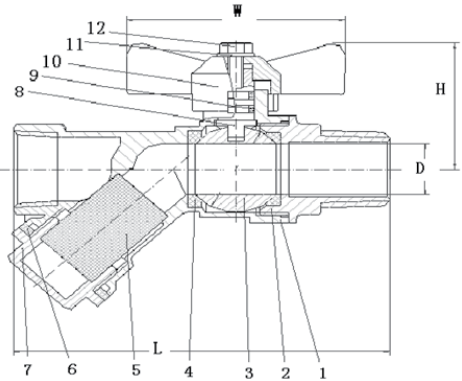
| Part# | Size | D | G | H | L | Cv | WTG | List Price |
|---------|------|-----|------|------|------|-----|------|------------|
| 940-121 | 1/4" | .44 | 3.50 | 3.12 | 2.25 | 5.2 | 0.76 | 58.45 |
| 940-122 | 3/8" | .50 | 3.50 | 3.12 | 2.25 | 5.5 | 0.69 | 54.10 |
| 940-123 | 1/2" | .50 | 3.50 | 3.12 | 2.25 | 5.5 | 1.00 | 61.36 |

BRASS BALL VALVE WITH STRAINER

All-in-One design for economical ,compact and convenient .With stamped stainless Steel Screen . 600PSI WOG Forged brass body,Crome plated ball ,PTFE ball seats and cap seal , and rubber o-ring stem seals. Not lead free



| Part # | Part Name | Material |
|--------|---------------|-----------------|
| 1 | Body | Brass |
| 2 | Caps | Brass |
| 3 | Ball | Brass,Cr.Plated |
| 4 | Seat | PTFE |
| 5 | Filter | SS |
| 6 | Gasket | PTFE |
| 7 | Caps | Brass |
| 8 | Stem | Brass |
| 9 | O-Ring | Viton |
| 10 | Handle | Zinc |
| 11 | Spring Washer | S.S |
| 12 | Nut | Steel |



| Item# | Size | L | D | W | H | WTG | Box/Case | List Price |
|---------|----------------|-------|-------|-------|-------|------|----------|------------|
| 947-133 | 1/2"x1/2"(MxF) | 3.77" | 0.59" | 2.00" | 1.50" | 0.60 | 8/64 | 24.70 |
| 947-134 | 3/4"x3/4"(MxF) | 4.32" | 0.75" | 2.40" | 1.85" | 1.00 | 8/64 | 32.69 |

VACUUM BREAKER

- Male hose and female hose threads can be broken off for permanent attachment
- Set screw
- Vandal proof
- Rough brass construction
- Prevents back-siphonage on hoses to prevent potable water from getting contaminated
- Certified under ASSE Std. 1011
- UPC
- IAMPO



| Part # | Size | List Price |
|---------|-------------|------------|
| 947-055 | 3/4" x 3/4" | 11.04 |

HOSE BIBBS
3/4" Hose Thread Outlet



IPS

| Part # | Size | WTG | Box/Case | List Price |
|---------|-------------|------|----------|------------|
| 942-170 | 1/2 (1/2"C) | 0.33 | 10/100 | 22.17 |
| 942-171 | 3/4 | 0.35 | 10/100 | 17.71 |

RADIATOR AIR VALVE
COIN SLOT OR LOSSE KEY



| Part # | Size | List Price |
|---------|----------|------------|
| 943-284 | 1/8" MIP | 3.25 |
| 943-287 | Key only | 0.54 |

ANGLE SILLCOCKS
3/4" Hose Thread Outlet

- Notched flange for convenient installation.
- Heavy brass construction.
- Cast Iron handle.
- Not lead free



| Part # | Size | Box | List Price |
|---------|------|-----|------------|
| 942-142 | 1/2 | 12 | 21.20 |

BENT NOSE GARDEN VALVES

- Heavy brass construction
- Cast iron handle
- Stuffing box
- Neoprene seal disc

NEW



| Part # | Size | Box | Case | List Price |
|---------|------|-----|------|------------|
| 942-100 | 1/2" | 12 | 72 | 14.86 |
| 942-101 | 3/4" | 12 | 72 | 14.86 |
| 942-102 | 1" | 12 | 72 | 15.87 |

BRASS GATE VALVE

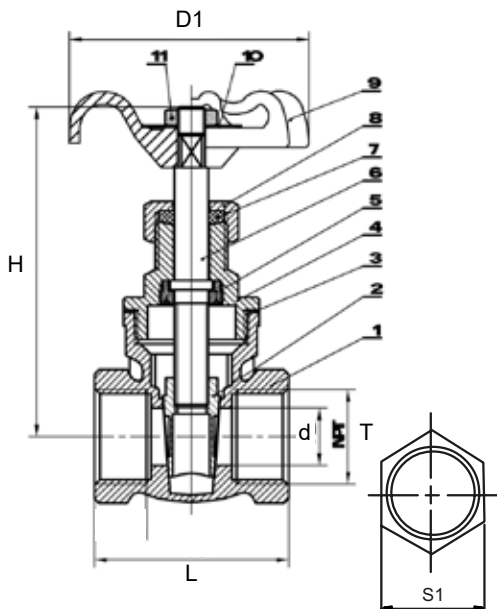
• BRASS • 200WOG • FULL PORT

- 200 WOG (cold water, oil, gas).
- 125 WSP (Saturated Steam).
- Full-port design for a better water flow.
- Screw-in Bonnet - Non-Rising Stem - Solid Wedge
- NPT Threaded ends to ANSI B1.20.1
- Cast iron handle.
- Each valve individually air tested under water.
- Good for diesel fuel.
- Made in Indonesia
- Not lead free
- Temp. 32°-320°F



BRASS GATE VALVES IPS

| Part# | Size | L | H | D1 | d | T | S1 | Weight | Box/Case | List Price |
|---------|-------|------|------|------|------|----------------|------|--------|----------|------------|
| 940-130 | 1/4 | 1.64 | 2.91 | 2.09 | 0.44 | 1/4-18 NPT | .85 | 0.60 | 10/120 | 19.81 |
| 940-131 | 3/8 | 1.71 | 2.91 | 2.09 | 0.48 | 3/8-18 NPT | .85 | 0.59 | 10/120 | 19.81 |
| 940-132 | 1/2 | 1.71 | 2.91 | 2.09 | 0.50 | 1/2-14 NPT | 1.03 | 0.75 | 10/120 | 16.79 |
| 940-133 | 3/4 | 1.71 | 3.06 | 2.13 | 0.74 | 3/4-14 NPT | 1.26 | 0.83 | 10/80 | 22.57 |
| 940-134 | 1 | 2.13 | 3.60 | 2.48 | 0.97 | 1-11.5 NPT | 1.51 | 1.24 | 5/60 | 30.92 |
| 940-135 | 1-1/4 | 2.24 | 4.50 | 2.66 | 1.22 | 1-1/4-11.5 NPT | 1.89 | 1.69 | 5/40 | 56.06 |
| 940-136 | 1-1/2 | 2.44 | 5.08 | 3.15 | 1.45 | 1-1/2-11.5 NPT | 2.17 | 2.17 | 5/30 | 71.75 |
| 940-137 | 2 | 2.70 | 5.94 | 3.52 | 1.85 | 2-11.5 NPT | 2.60 | 3.33 | 2/24 | 94.41 |
| 940-138 | 2-1/2 | 3.70 | 7.87 | 3.98 | 2.48 | 2-1/2-8 NPT | 3.27 | 6.26 | 1/10 | 163.97 |
| 940-139 | 3 | 4.02 | 8.82 | 4.37 | 2.80 | 3-8 NPT | 3.86 | 8.34 | 1/6 | 244.97 |
| 940-140 | 4 | 4.53 | 9.88 | 4.74 | 3.60 | 4-8 NPT | 4.88 | 13.09 | 1/4 | 394.42 |



See Lead Free section page 168 for lead free Gate Valves.

See page 203 for SS Gate Valve

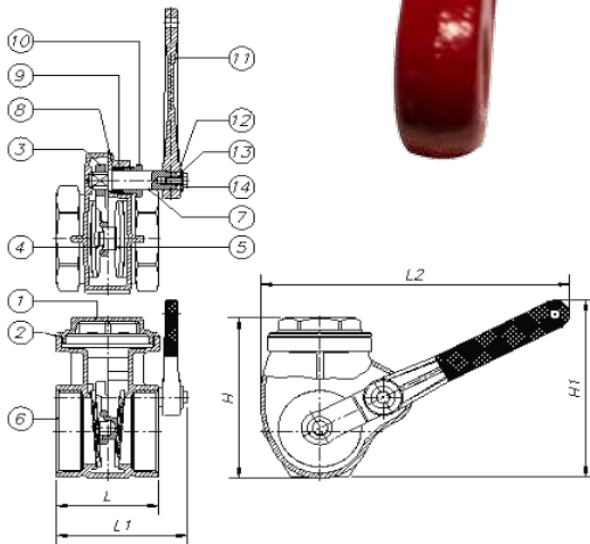
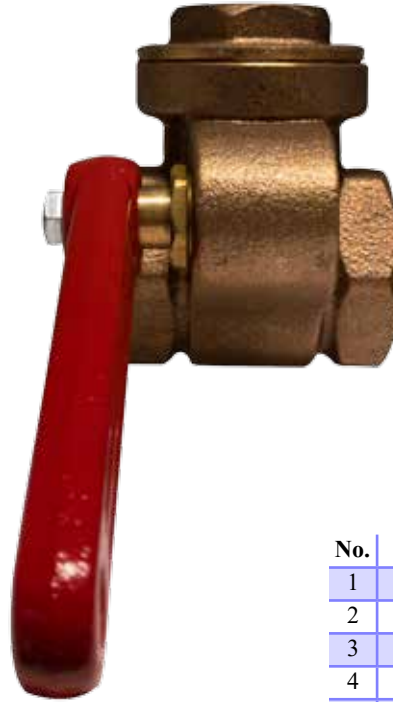


| NO | Description | Material |
|----|-------------|-----------|
| 1 | Body | C85700 |
| 2 | Disk | C85700 |
| 3 | Seat | PTFE |
| 4 | Cap | C85700 |
| 5 | Packing | C85700 |
| 6 | Stem | C85700 |
| 7 | Rubber Seat | NBR |
| 8 | Packing Nut | C85700 |
| 9 | Handle | Cast Iron |
| 10 | Nameplate | AL |
| 11 | Stem Nut | SAE 1010R |

GATE VALVE QUICK OPENING

Features: Bronze Material, Threaded Ends

NEW



MATERIAL SPECIFICATION

| No. | Part | Bronze |
|-----|-------------|--|
| 1 | BONNET | BRASS (C85700) |
| 2 | PACKING | FIBRE |
| 3 | ARM | BRASS (C85700) |
| 4 | DISC MALE | BRASS (C85700) |
| 5 | DISC FEMALE | BRASS (C85700) |
| 6 | BODY | BRASS (C85700) |
| 7 | STEM | BRASS (C37700) |
| 8 | WASHER | BRASS (C37700) |
| 9 | PACKING | TEFLON POLYFLON (PTFE M-392) |
| 10 | PACKING NUT | BRASS (C37700) |
| 11 | HANDLE | CAST IRON (JIS ZZ2202) RUBBER COATING BRASS (C85700) |
| 12 | NAME PLATE | ALUMINIUM (A1100) |
| 13 | WASHER | HOT ROLLED (SAE 1010R) |
| 14 | HANDLE BOLT | HOT ROLLED (SAE 1010R) |

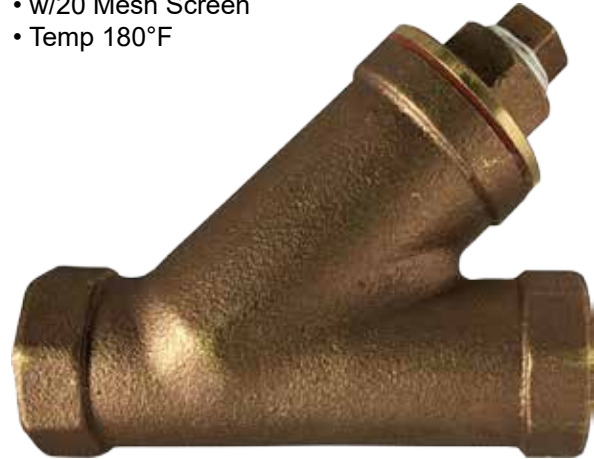
| Part # | Size | L | L1 | L2 | H | H1 | Box | Case | List Price |
|---------|--------|-------|-------|-------|-------|-------|-----|------|------------|
| 941-133 | 1/2" | 45.6 | 60.6 | 119 | 56.8 | 52.8 | 10 | 50 | 36.05 |
| 941-134 | 3/4" | 51 | 62 | 126.3 | 68 | 87.5 | 10 | 50 | 53.41 |
| 941-135 | 1" | 58.3 | 72.3 | 155 | 78.7 | 90.2 | 10 | 30 | 71.68 |
| 941-136 | 1-1/4" | 30.1 | 78 | 180.2 | 89.5 | 104 | 5 | 25 | 92.86 |
| 941-137 | 1-1/2" | 66.7 | 85.3 | 196.6 | 99.2 | 131 | 6 | 18 | 120.33 |
| 941-138 | 2" | 76.4 | 90.3 | 250.6 | 119.3 | 143.7 | 2 | 10 | 174.72 |
| 941-140 | 3" | 101 | 129.2 | 305.6 | 172.2 | 191.3 | 2 | 6 | 396.34 |
| 941-141 | 4" | 114.5 | 150.7 | 378.2 | 213.5 | 248.6 | 1 | 2 | 683.62 |

Life always offers you a second chance. It's called tomorrow.

CLASS 150 BRASS Y-PATTERN STRAINER

- Forged Brass body, size 1/4"-3".
- Pressure rating: 150 WOG (water, oil, gas)/PN25
150 WSP (Saturated Stem)
- NPT Threaded ends to ANSI B1.20.1
- Protects regulators, pumps, meters and other controls from damage due to sediment scale, metal chips or other foreign materials.
- Screwed cap is threaded & gasketed.
- Tapped drain plug opening in cap.
- 304 stainless steel screen #20 mesh.
- Self cleaning.
- Self cleaning can be accomplished by opening the valve or plug connected to the blow-off outlet.
- Made in Indonesia
- NOT LEAD FREE

- w/20 Mesh Screen
- Temp 180°F



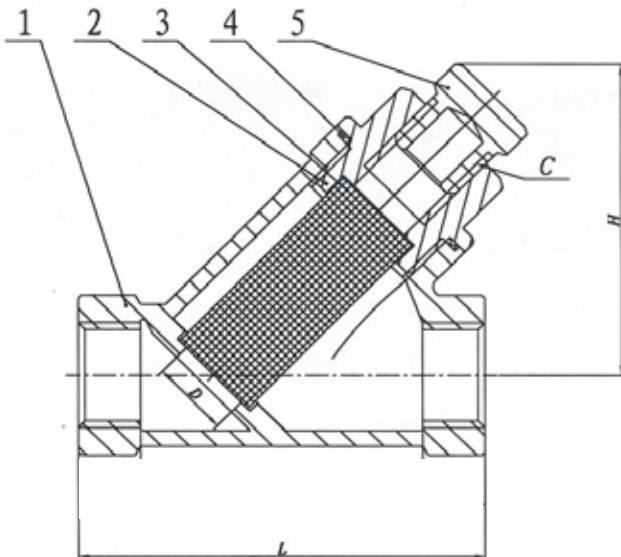
| Part# | Size | L | H | C (Plug) | Weight | Box/Case | List Price |
|---------|--------|------|------|----------|--------|----------|------------|
| 940-521 | 1/4" | 2.57 | 1.95 | NPT 3/8 | .53 | 10/100 | 40.32 |
| 940-522 | 3/8" | 3.23 | 2.44 | NPT 3/8 | .71 | 12/48 | 42.51 |
| 940-523 | 1/2" | 3.23 | 2.44 | NPT 3/8 | .66 | 12/48 | 31.75 |
| 940-524 | 3/4" | 3.94 | 2.78 | NPT 3/8 | 1.10 | 8/48 | 46.02 |
| 940-525 | 1" | 4.53 | 3.19 | NPT 1/2 | 1.71 | 8/32 | 79.88 |
| 940-526 | 1-1/4" | 5.33 | 3.66 | NPT 1/2 | 2.49 | 6/24 | 109.52 |
| 940-527 | 1-1/2" | 6.20 | 3.82 | NPT 1/2 | 3.24 | 2/16 | 144.90 |
| 940-528 | 2" | 7.44 | 4.65 | NPT 1/2 | 5.39 | 2/8 | 238.83 |
| 940-529 | 2-1/2" | 9.50 | 5.39 | NPT 3/4 | 9.56 | 1/6 | 555.00 |
| 940-530 | 3" | 9.4 | 5.67 | NPT 3/4 | 13.49 | 1/4 | 794.88 |



See page 168 for 1/2" Lead Free



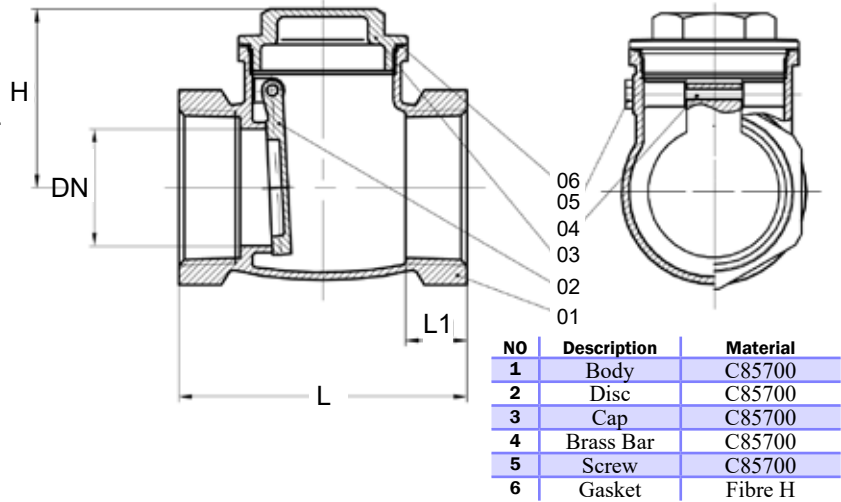
See page 203 for SS Y Strainer



| NO | Name | Material |
|----|-------------|----------|
| 1 | BODY | C85700 |
| 2 | BONNET | C85700 |
| 3 | STRAINER | 304 S.S. |
| 4 | SPRING SEAL | PTFE |
| 5 | END CAP | C85700 |

BRASS SWING CHECK VALVES

- Working pressure non-shock: 200 psi W.O.G. (cold water, oil, gas) 125 psi WSP (saturated steam)
- Swing type disc.
- Screwed Cap.
- Hard Seat.
- 90° Straight Pattern.
- Used to prevent reverse flow in commercial and industrial applications.
- Threaded ends to ANSI B1.20.1
- Integral seat.
- Temp range -5° - 150F°
- NOT LEAD FREE
- Cracking pressure 3-5 psi
- Made in Indonesia



CAST BRASS SWING CHECK VALVES IPS SCREWED ENDS

| Part # | Size | L | H | L1 | DN | Weight | Box/Case | List Price |
|---------|-------|------|------|-------|-------|--------|----------|------------|
| 940-352 | 1/2 | 2.09 | 1.42 | 0.531 | 0.512 | .41 | 10/100 | 19.15 |
| 940-353 | 3/4 | 2.36 | 1.56 | 0.579 | 0.728 | .56 | 10/80 | 21.55 |
| 940-354 | 1 | 2.62 | 1.77 | 0.748 | 0.925 | .73 | 5/60 | 30.87 |
| 940-355 | 1-1/4 | 3.19 | 2.07 | 0.748 | 1.201 | 1.36 | 5/40 | 48.71 |
| 940-356 | 1-1/2 | 3.54 | 2.16 | 0.846 | 1.417 | 1.56 | 5/30 | 67.20 |
| 940-357 | 2 | 4.21 | 2.74 | 0.886 | 1.772 | 2.58 | 2/20 | 100.90 |
| 940-358 | 2-1/2 | 5.14 | 3.09 | 1.063 | 2.224 | 4.55 | 1/15 | 190.84 |
| 940-359 | 3 | 5.77 | 3.80 | 1.102 | 2.579 | 6.53 | 1/6 | 268.43 |
| 940-360 | 4 | 6.84 | 4.25 | 1.102 | 3.602 | 10.18 | 1/4 | 436.02 |



• See page 168 for Lead Free Brass Swing Check Valves

• See page 203 for SS Swing Check Valves

Y PATTERN BRASS SWING CHECK VALVE SCREWED ENDS

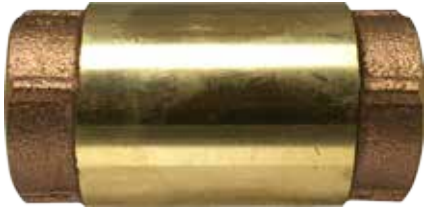


| Part # | Size | List Price |
|----------|--------|------------|
| 940-352B | 1/2" | 65.19 |
| 940-353B | 3/4" | 86.87 |
| 940-354B | 1" | 111.31 |
| 940-355B | 1-1/4" | 166.80 |
| 940-356B | 1-1/2" | 200.24 |
| 940-357B | 2" | 277.28 |

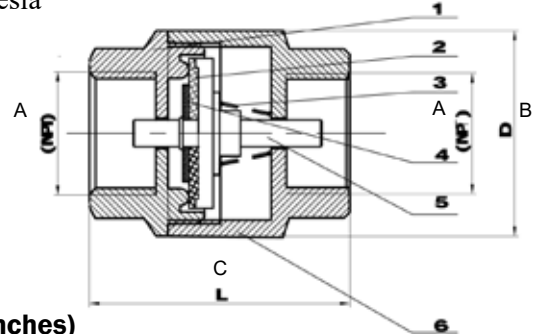
BRASS CHECK VALVES**VALVES****BRASS CHECK VALVES**

S.S. SPRING LOADED BRONZE POPPET - For positive sealing & self-cleaning. Insures against leakage.

- Inline Lift Type - Resilient Discs - Spring Actuated - Threaded.
- Pressure rating: 200 WOG (water, oil, gas) / 125 WSP (Saturated Steam)
- Spring in stainless steel AISI 304. • Resilient washer hold/ disc in brass. • Forged Brass Body for 1/2"-2"
- Corrosion resistant material. • Can be used vertically or horizontally. • Opens & Closes with flow of media.
- No cracking pressure. • NOT LEAD FREE • Made in Indonesia



Temp Range
-10°C - 110°C
14°F - 248°F

**Brass Check Valve (Inches)**

| Part# | Size | Enters Pipe Size | A NPT | B | C | Weight | Box/Case | List Price |
|---------|--------|------------------|--------|------|------|--------|----------|------------|
| 944-428 | 1/4" | - | 1/4" | 1.00 | 2.29 | .24 | 24/192 | 19.77 |
| 944-429 | 3/8" | - | 3/8" | 1.00 | 2.07 | .23 | 10/100 | 23.14 |
| 944-430 | 1/2" | 1-1/4" | 1/2" | 1.26 | 2.40 | .42 | 10/100 | 18.14 |
| 944-431 | 3/4" | 1-1/4" | 3/4" | 1.45 | 2.74 | .53 | 10/80 | 26.96 |
| 944-432 | 1" | 2" | 1" | 1.77 | 3.23 | .80 | 6/60 | 36.14 |
| 944-433 | 1-1/4" | 2-1/2" | 1-1/4" | 2.13 | 3.62 | 1.18 | 4/40 | 52.70 |
| 944-434 | 1-1/2" | 3" | 1-1/2" | 2.29 | 4.04 | 1.40 | 5/30 | 65.07 |
| 944-435 | 2" | 3-1/2" | 2" | 2.48 | 5.04 | 2.70 | 5/20 | 101.79 |



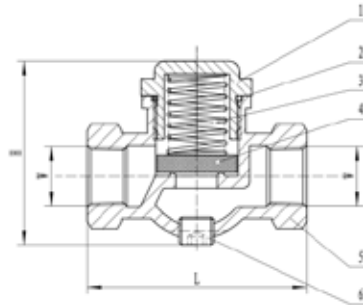
• See page 168 for Lead Free Brass Check Valves



• See page 200 for SS Check Valves

IN LINE CHECK VALVES VERTICAL OR HORIZONTAL**NEW**

- Working Pressure: 250 PSI • Temperature Range: -40° to 450°F (-40° to 230°C)
- Cracking Pressure: 3 PSI • Made in China • Not lead free
- Applications: Air Compressor Discharge Lines, may also used on water or oil lines
- Construction: Cast Bronze Body, Corrosion Resistant Stainless Steel Spring to Ensure Long Life, 15% Glass Filled • Teflon Poppet, C360 Machined Brass Cap, 1/8 NPT Unloader Port is Standard • Repairable



| Part# | Part Name | Material |
|-------|-----------|----------|
| 6 | Plug | Brass |
| 5 | Body | Bronze |
| 4 | Gasket | PTPF |
| 3 | Spring | S.Steel |
| 2 | O-ring | HNBR |
| 1 | Cap | Brass |

| Part # | Size | W | L | H | WTG | Box/Case | List Price |
|---------|------|-----|------|------|------|----------|------------|
| 947-140 | 1/8" | 1/8 | 1.75 | 1.34 | 0.28 | 20/100 | 23.40 |
| 947-141 | 1/4" | 1/4 | 1.75 | 1.37 | 0.29 | 20/100 | 23.40 |
| 947-142 | 3/8" | 3/8 | 2.50 | 2.18 | 0.62 | 10/50 | 35.10 |
| 947-143 | 1/2" | 1/2 | 2.50 | 2.13 | 0.54 | 10/50 | 49.40 |
| 947-144 | 3/4" | 3/4 | 2.88 | 2.64 | 1.17 | 8/40 | 73.84 |
| 947-145 | 1" | 1 | 3.61 | 3.30 | 1.98 | 2/20 | 103.41 |

BRASS IN-LINE CHECK VALVES

High Capacity, Size 1/4"-2" 400 WOG, 2 1/2"-4" 175 WOG

- Soft Seat for Bubble Tight Shutoff, Spring Loaded for Fast Seating Action.
- Compact design.
- Low Cracking Pressure 1/2 psi.
- Flow Profile Designed to Minimize Head Loss.
- Perfect Seating both at High and Low Pressure, Wide Temperature Range: +10° to 210°F.
- Polyetherimide Disc to ensure the Best Resistance For Corrosion and Abrasion.
- Patented Disc Guide to Prevent Any Side Loading.
- Connection: FNPT x FNPT.
- Made in Italy • Not lead free

NBR for water, oils and general purpose.

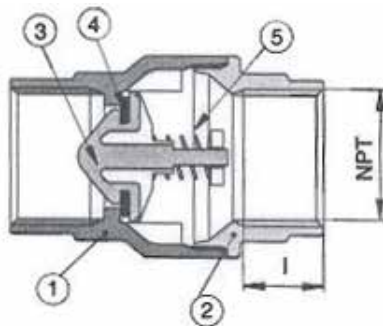
With VITON® Seal for fuels and hydrocarbons. Max working TEMPERATURE 325°F/125 psi steam

Add V to part# for Viton®



Brass In-Line Check

| Part# | NBR List | Size | I | psi | Lbs | Case | Viton Part# | Viton List |
|---------|----------|--------|------|-----|-------|------|-------------|------------|
| 944-401 | 20.27 | 1/4" | 0.39 | 400 | 0.22 | 144 | | |
| 944-402 | 20.27 | 3/8" | 0.40 | 400 | 0.18 | 144 | 944-402V | 20.88 |
| 944-403 | 22.42 | 1/2" | 0.60 | 400 | 0.32 | 144 | 944-403V | 24.92 |
| 944-404 | 32.52 | 3/4" | 0.65 | 400 | 0.49 | 90 | 944-404V | 32.70 |
| 944-405 | 40.12 | 1" | 0.66 | 400 | 0.71 | 90 | 944-405V | 42.17 |
| 944-406 | 63.05 | 1-1/4" | 0.68 | 400 | 1.13 | 30 | 944-406V | 67.25 |
| 944-407 | 94.90 | 1-1/2" | 0.68 | 400 | 1.53 | 30 | 944-407V | 99.81 |
| 944-408 | 136.78 | 2" | 0.69 | 400 | 2.28 | 12 | 944-408V | 133.88 |
| 944-409 | 293.75 | 2-1/2" | 0.93 | 175 | 4.83 | 4 | | |
| 944-410 | 397.82 | 3" | 1.01 | 175 | 6.70 | 4 | | |
| 944-411 | 640.09 | 4" | 1.09 | 175 | 12.43 | 2 | | |



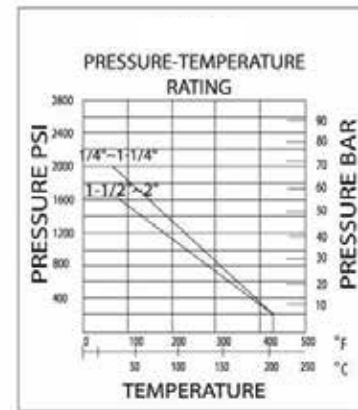
| NO | Part | Material | PCS |
|----|----------------|-----------------|-----|
| 1 | BODY | BRASS | 1 |
| 2 | END CONNECTION | BRASS | 1 |
| 3 | DISC | POLYETHERIMIDE | 1 |
| 4 | SEAT | 100002 NBR | 1 |
| | | 100003 Viton | 1 |
| 5 | SPRING | STAINLESS STEEL | 1 |

316 SS 2-PC BALL VALVE, FULL PORT, THREADED END, 2000 PSI

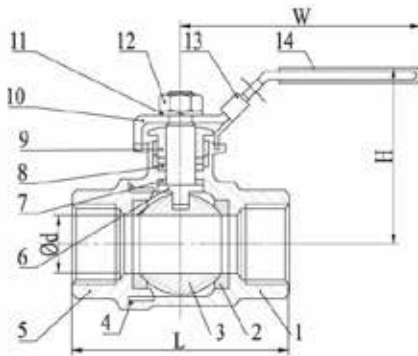
- Investment Castings for body and cap.
- Internal Entry blow-out proof stem.
- Pressure rating: 2000PSI.
- Threaded Ends: ANSI B2,1
- Material: CF8M (316SS)
- Pressure test: API 598
- Generic Handles



LOCKING HANDLE



| Part# | Size | D | L | H | W | N.M | lbs/ pc | Case | List Price |
|---------|--------|------|------|------|------|------|---------|------|------------|
| 949-171 | 1/4" | 0.36 | 2.13 | 2.13 | 4.33 | .157 | 0.64 | 80 | 34.14 |
| 949-172 | 3/8" | 0.50 | 2.13 | 2.16 | 4.33 | .157 | 0.58 | 80 | 34.14 |
| 949-173 | 1/2" | 0.59 | 2.24 | 2.28 | 4.53 | .197 | 0.71 | 70 | 43.92 |
| 949-174 | 3/4" | 0.79 | 2.76 | 2.40 | 4.53 | .315 | 1.18 | 50 | 60.48 |
| 949-175 | 1" | 0.98 | 3.50 | 3.03 | 6.04 | .394 | 2.33 | 30 | 90.72 |
| 949-176 | 1-1/4" | 1.25 | 4.12 | 3.19 | 6.04 | .551 | 3.48 | 20 | 134.64 |
| 949-177 | 1-1/2" | 1.50 | 4.05 | 3.54 | 6.10 | .709 | 4.03 | 14 | 187.32 |
| 949-178 | 2" | 1.96 | 4.90 | 4.25 | 6.10 | .984 | 7.50 | 7 | 260.46 |



| NO | Part | Material | QTY |
|----|---------------|----------|-----|
| 1 | BODY | 316SS | 1 |
| 2 | BALL SEAT | PTFE | 2 |
| 3 | BALL | 316SS | 1 |
| 4 | BODY SEAL | PTFE | 1 |
| 5 | CAP | 316SS | 1 |
| 6 | STEM | SS316 | 1 |
| 7 | THRUST WASHER | PTFE | 1 |
| 8 | PACKING | PTFE | 1 |
| 9 | GLAND NUT | SS304 | 1 |
| 10 | HANDLE | SS304 | 1 |
| 11 | WASHER | SS304 | 1 |
| 12 | NUT | SS304 | 1 |
| 13 | LOCK DEVICE | SS304 | 1 |
| 14 | HANDLE COVER | PLASTIC | 1 |

ONE PIECE STANDARD PORT BALL VALVE

316 Stainless Steel

1000 PSI

- Manufactured for harsh environments with female NPT threads.
- Locking handle for greater security.
- Standard port has restricted flow.
- Made with corrosion resistant stainless steel materials.
- PTFE seat and seals.
- Investment Castings for Body and Cap.
- Internal Entry Blow-out proof stem.
- Pressure rating: 1000PSI (PN63)
- Threaded Ends: ANSI B2.1
- Material: CF8M
- Pressure Test: API 598
- Generic handles

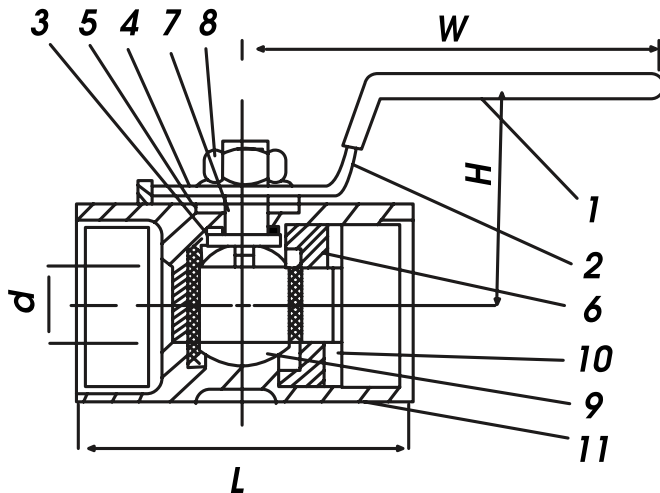


LOCKING HANDLE

Valves will accept a pad-lock on the handle.

| Part# | Size | dimensions (inches) | | | | | | | List Price |
|---------|--------|---------------------|------|------|------|--------|------|--------|------------|
| | | D | L | H | W | Weight | Case | | |
| 949-101 | 1/4" | 0.20 | 1.53 | 1.53 | 3.03 | 0.19 | 150 | 32.68 | |
| 949-102 | 3/8" | 0.27 | 1.74 | 1.53 | 3.03 | 0.23 | 150 | 33.15 | |
| 949-103 | 1/2" | 0.36 | 2.24 | 1.73 | 3.46 | 0.41 | 100 | 36.82 | |
| 949-104 | 3/4" | 0.50 | 2.32 | 1.89 | 3.46 | 0.63 | 70 | 43.10 | |
| 949-105 | 1" | 0.59 | 2.80 | 2.24 | 4.29 | 0.86 | 50 | 55.21 | |
| 949-106 | 1-1/4" | 0.79 | 3.07 | 2.32 | 4.29 | 1.34 | 30 | 96.48 | |
| 949-107 | 1-1/2" | 0.98 | 3.26 | 2.76 | 5.14 | 2.00 | 25 | 98.29 | |
| 949-108 | 2" | 1.25 | 3.94 | 2.24 | 6.50 | 2.88 | 15 | 139.91 | |

Larger sizes available on special order basis



| Item | Parts | Material |
|------|---------------|----------------------|
| 1 | Plastic Cover | Plastic |
| 2 | Handle | AISI 304 SS |
| 3 | Thrust Washer | PTFE |
| 4 | Packing Ring | AISI 304 SS |
| 5 | Stem Packing | PTFE |
| 6 | Seat | PTFE |
| 7 | Seat | AISI 316 SS |
| 8 | Stem Nut | AISI 304 SS |
| 9 | Ball | 316SS ASTM-A351 CF8M |
| 10 | Cap | 316SS ASTM-A351 CF8M |
| 11 | Body | 316SS ASTM-A351 CF8M |

SS = Stainless Steel

316 SS TWO PIECE FULL PORT VALVES

VALVES

TWO PIECE FULL PORT BALL VALVE

316 Stainless Steel

1000 PSI

Materials: CFM8M (SS316)

Features:

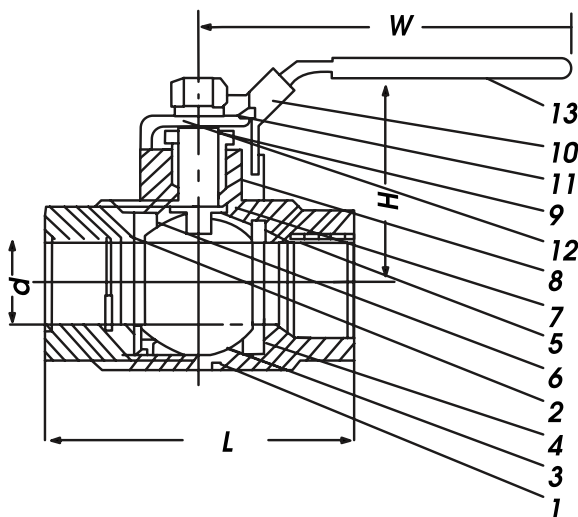
- Quality manufactured for harsh environments.
- Corrosion resistant.
- Investment Casting body
- Working pressure 1000 psi for W.O.G.
- Adjustable stem packing
- Pure teflon seals and seats
- Temperature range: -60 to 450°F
- Blow-out proof stem and safe pressure-reducing hole
- 100% leakage tested at 100 psi air under water
- Hydrostatic test pressure: 1500 psi
- Locking handle w/ blue generic sleeve
- 125 Steam rated
- Generic Handles



Valves will accept a pad-lock on the handle.

dimensions (inches)

| Part# | Size | D | L | H | W | Weight | Case | List Price |
|---------|--------|------|------|------|-------|--------|------|------------|
| 949-161 | 1/4" | 0.36 | 2.13 | 2.13 | 4.33 | 0.51 | 80 | 33.86 |
| 949-162 | 3/8" | 0.50 | 2.13 | 2.16 | 4.33 | 0.49 | 80 | 33.86 |
| 949-163 | 1/2" | 0.59 | 2.24 | 2.28 | 4.17 | 0.69 | 70 | 41.74 |
| 949-164 | 3/4" | 0.79 | 2.68 | 2.40 | 4.17 | 1.03 | 50 | 49.75 |
| 949-165 | 1" | 0.98 | 3.15 | 2.50 | 4.88 | 1.40 | 30 | 74.23 |
| 949-166 | 1-1/4" | 1.26 | 3.58 | 3.19 | 5.04 | 2.17 | 20 | 133.89 |
| 949-167 | 1-1/2" | 1.49 | 4.05 | 3.54 | 6.10 | 3.33 | 12 | 176.42 |
| 949-168 | 2" | 1.97 | 4.88 | 4.25 | 6.13 | 6.02 | 7 | 211.07 |
| 949-170 | 3" | 3.15 | 7.28 | 5.71 | 9.06 | 21.01 | 2 | 466.51 |
| 949-180 | 4" | 3.94 | 8.84 | 7.28 | 11.10 | 36.18 | 1 | 1220.30 |



| Item | Parts | Material |
|-------|---------------|----------------------|
| 1 | Body | 316SS ASTM-A351 CF8M |
| 2 | Body Cap | 316SS ASTM-A351 CF8M |
| 3 | Ball | 316SS ASTM-A351 CF8M |
| 4 | Seat | Reinforced PTFE |
| 5 | Stem | AISI 316 SS |
| 6 | Seal | Reinforced PTFE |
| 7 | Thrust Washer | Reinforced PTFE |
| 8 | Packing | Reinforced PTFE |
| 9 | Gland Nut | AISI 304SS |
| 10/11 | Nut & Washer | AISI 304SS |
| 12 | Handle | AISI 304SS |
| 13 | Plastic Cover | Plastic |

SS = Stainless Steel

STAINLESS STEEL MIN BALL VALVES

- 316 Stainless Steel
- Working pressure 400PSI
- Working Temperature -10°C to 150°C



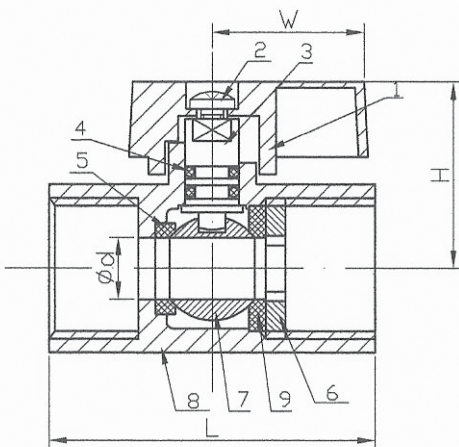
FEMALE PIPE x FEMALE PIPE

| Part# | Size | W | D | H | L | Weight | Case | List Price |
|---------|------|------|------|-------|-------|--------|------|------------|
| 46934SS | 1/8" | .898 | .197 | .985 | 1.693 | .18 | 150 | 19.50 |
| 46935SS | 1/4" | .898 | .276 | .984 | 1.693 | .21 | 150 | 19.50 |
| 46936SS | 3/8" | .898 | .276 | .984 | 1.693 | .19 | 150 | 20.46 |
| 46937SS | 1/2" | .898 | .362 | 1.114 | 1.811 | .26 | 100 | 25.19 |



MALE PIPE x FEMALE PIPE

| Part# | Size | W | D | H | L | Weight | Case | List Price |
|---------|------|------|------|-------|-------|--------|------|------------|
| 46930SS | 1/8" | .898 | .197 | .985 | 1.693 | .18 | 150 | 18.53 |
| 46931SS | 1/4" | .898 | .276 | .984 | 1.693 | .18 | 150 | 18.53 |
| 46932SS | 3/8" | .898 | .276 | .984 | 1.693 | .19 | 150 | 19.44 |
| 46933SS | 1/2" | .898 | .362 | 1.114 | 1.811 | .26 | 100 | 24.56 |



| NO | Part | Material | QTY |
|----|---------------|-----------------|-----|
| 1 | LEVER | ALUMINIUM ALLOY | 1 |
| | HANDLES | PLASTIC | |
| 2 | BOLT | 304 | 1 |
| 3 | STEM | 304/ 316 | 1 |
| 4 | "O" RING | NBR | 1-2 |
| 5 | BALL SEAT (A) | PTFE | 1 |
| 6 | CAP | CF8/ CF8M | 1 |
| 7 | BALL | CF8/ CF8M | 1 |
| 8 | BODY | CF8/ CF8M | 1 |
| 9 | BALL SEAT (B) | PTFE | 1 |

316 SS MINI BALL VALVES**VALVES****MINI STAINLESS STEEL BALL VALVE ,WITH BUTTERFLY HANDLE**

1000PSI WOG , 150PSI WSP

Temperature Range: -36°F to + 368°F

Full Port for 1/4" , Standard port for 3/8" and 1/2"

316 Stainless Steel body and Ball

Teflon seats and sealing

- Viton O-Ring
- #316 Stainless Steel
- Made in China

**FEMALE PIPE X FEMALE PIPE**

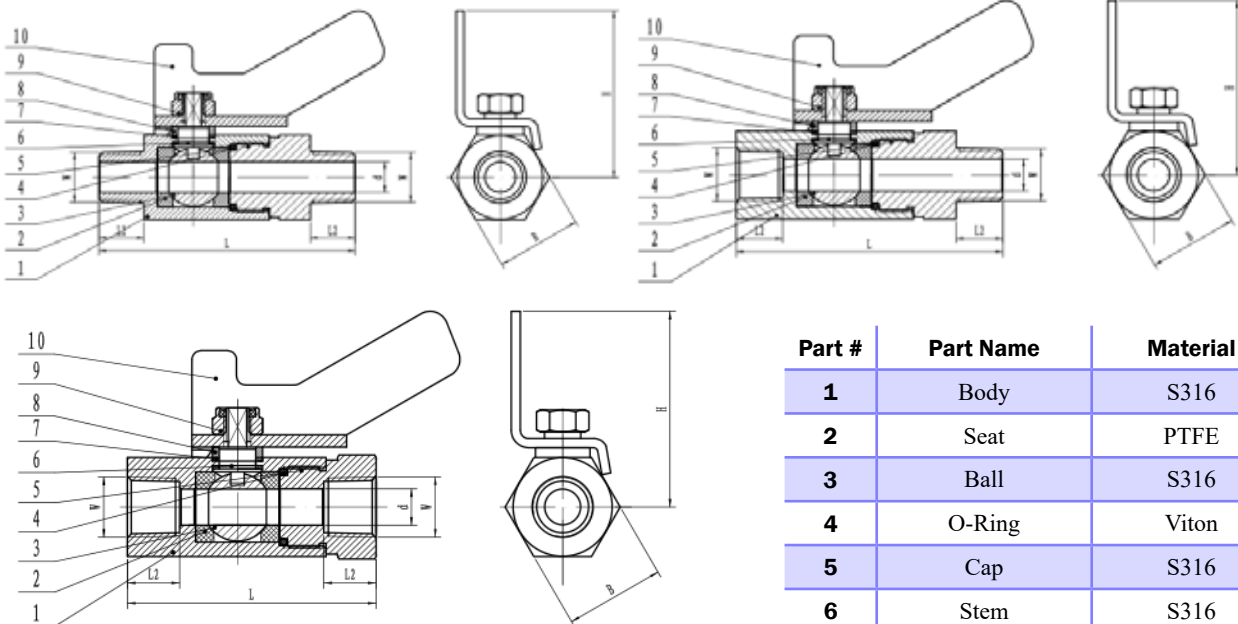
| Part # | Size FIP x FIP | Dimensions in | | | | WTG | Box | List Price |
|----------|-------------------|---------------|-------|------------|------|------|-----|---------------|
| | | d | L | B (Hex) | H | | | |
| 46-922SS | 1/4"×1/4" | 0.314" | 2.34" | 22.1/0.87" | 1.5" | 0.33 | 36 | 44.20 |
| 46-923SS | 3/8"×3/8" | 0.314" | 2.39" | 22.1/0.87" | 1.5" | 0.39 | 36 | 44.20 |
| 46-924SS | 1/2"×1/2" | 0.314" | 2.81" | 24.9/0.98" | 1.5" | 0.43 | 36 | 57.85 |

**MALE PIPE X FEMALE PIPE**

| Part # | Size MIP x FIP | Dimensions in | | | | WTG | Box | List Price |
|----------|-------------------|---------------|-------|---------|------|------|-----|---------------|
| | | d | L | B (Hex) | H | | | |
| 46-903SS | 1/4"×1/4" | 0.314" | 2.45" | 0.87" | 1.5" | 0.39 | 36 | 45.11 |
| 46-904SS | 3/8"×3/8" | 0.314" | 2.45" | 0.87" | 1.5" | 0.36 | 36 | 45.11 |
| 46-905SS | 1/2"×1/2" | 0.314" | 2.81" | 0.98" | 1.5" | 0.41 | 36 | 59.02 |

**MALE PIPE X MALE PIPE**

| Part # | Size MIP x MIP | Dimensions in | | | | WTG | Box | List Price |
|----------|-------------------|---------------|-------|---------|------|------|-----|---------------|
| | | d | L | B (Hex) | H | | | |
| 46-912SS | 1/4"×1/4" | 0.314" | 2.59" | 0.87" | 1.5" | 0.33 | 36 | 46.41 |
| 46-913SS | 3/8"×3/8" | 0.314" | 2.65" | 0.87" | 1.5" | 0.34 | 36 | 46.41 |
| 46-914SS | 1/2"×1/2" | 0.314" | 2.47" | 0.98" | 1.5" | 0.63 | 36 | 60.78 |



| Part # | Part Name | Material |
|--------|------------------|----------|
| 1 | Body | S316 |
| 2 | Seat | PTFE |
| 3 | Ball | S316 |
| 4 | O-Ring | Viton |
| 5 | Cap | S316 |
| 6 | Stem | S316 |
| 7 | Stem Bottom Seal | PTFE |
| 8 | Stem Up Seal | PTFE |
| 9 | Nut | Steel |
| 10 | Handle | Steel |

**#304 STAINLESS STEEL
CHECK VALVE**

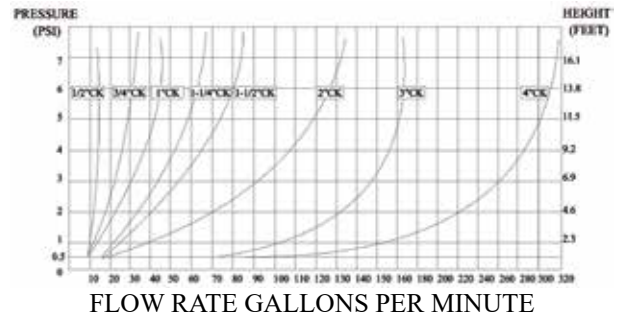
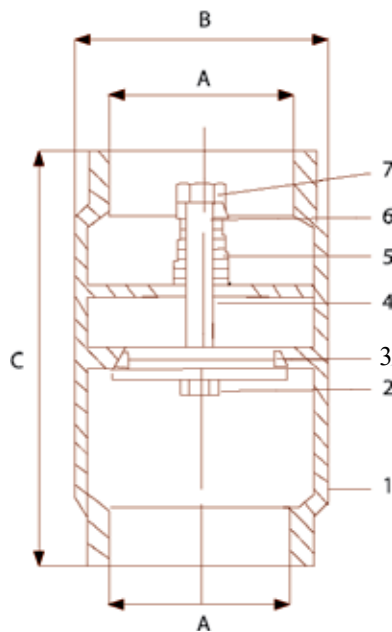
- No Lead.
- Water wells need a check valve installed above the pumps between lengths of drop pipes.
- Opens & Closes with flow of media.
- No cracking pressure.
- Working pressure unavailable.
- Made in Taiwan



Dimensions (Inches)

| Part# | Size | A NPT | B | C | Box/Case | List Price |
|---------|------|-------|------|------|----------|------------|
| 949-430 | 1/2" | 1/2" | 1.26 | 2.43 | 10/100 | 37.68 |
| 949-431 | 3/4" | 3/4" | 1.50 | 2.72 | 10/80 | 52.04 |
| 949-432 | 1" | 1" | 1.77 | 3.23 | 10/60 | 67.18 |

More sizes available on a special order basis.



| NO | Part | Material |
|----|---------|----------|
| 1 | Body | S.S 304 |
| 2 | Stopper | S.S 304 |
| 3 | O-Ring | Viton |
| 4 | Washer | PE |
| 5 | Spring | S.S 304 |
| 6 | Cap | S.S 304 |
| 7 | Nut | S.S 304 |

STAINLESS STEEL IN-LINE CHECK VALVE

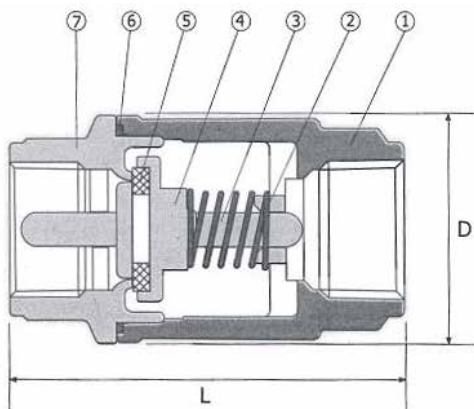
High Capacity, Size 1/4"-2" 800 WOG

- Soft PTFE Seat for Bubble Tight Shutoff, Spring Loaded for Fast Seating Action
- Low Cracking Pressure 1/2 psi.
- Flow Profile Designed to Minimize Head Loss.
- Perfect Seating both at High and Low Pressure, Wide Temperature Range: +10° to 450°F.
- Corrosion Resistant-Excellent for use on Chemicals.
- ASTM A351-CF8M Investment Casting.
- Connection: FNPT x FNPT.
- 125WSP Saturated Steam.
- ANSI B1.20.1 Threads.
- Dual Guided Stem & Disc.
- Made in Italy



Stainless Steel In-Line Check

| Part# | Size | D | L | psi | Lbs | List |
|---------|--------|------|------|-----|------|---------|
| 949-401 | 1/4" | 1.15 | 2.25 | 800 | 0.36 | 145.00 |
| 949-402 | 3/8" | 1.16 | 2.25 | 800 | 0.34 | 145.00 |
| 949-403 | 1/2" | 1.35 | 2.31 | 800 | 0.40 | 157.53 |
| 949-404 | 3/4" | 1.81 | 2.87 | 800 | 0.85 | 215.00 |
| 949-405 | 1" | 2.13 | 3.50 | 800 | 1.30 | 248.76 |
| 949-406 | 1-1/4" | 2.46 | 4.18 | 800 | 2.50 | 496.88 |
| 949-407 | 1-1/2" | 2.88 | 4.93 | 800 | 3.40 | 690.63 |
| 949-408 | 2" | 3.56 | 6.00 | 800 | 6.0 | 1012.75 |



| NO | Part | Material | PCS |
|----|--------------|----------------|-----|
| 1 | BODY | ASTM A351-CF8M | 1 |
| 2 | SPRING | SS316 | 1 |
| 3 | CENTER GUIDE | ASTM A351-CF8M | 1 |
| 4 | DISC | ASTM A351-CF8M | 1 |
| 5 | SEAT | PTFE | 1 |
| 6 | GASKET | PTFE | 1 |
| 7 | END CAP | ASTM A351-CF8M | 1 |

SPRING CHECK VALVE

- Working Pressure: 1500PSI (PN100)
- Working Temperature: -10 -150°C
- Opening Pressure: 2~3PSI
- Suitable Medium: W.O.G.
- Threaded End: NPT
- Made in China

FEMALE PIPE x FEMALE PIPE



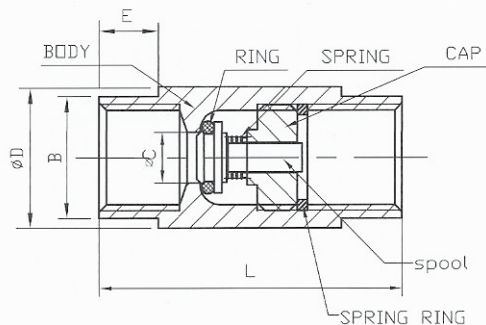
| Part# | Size | L | C | D | B | E | lbs/ pc | Case | List Price |
|---------|------|-------|------|-------|-------|------|---------|------|------------|
| 949-451 | 1/4" | 2.165 | .217 | .748 | .699 | .394 | .19 | 200 | 30.24 |
| 949-452 | 3/8" | 2.165 | .295 | .866 | .787 | .394 | .21 | 160 | 30.24 |
| 949-453 | 1/2" | 2.165 | .413 | 1.063 | .945 | .472 | .31 | 100 | 34.92 |
| 949-454 | 3/4" | 2.677 | .591 | 1.417 | 1.26 | .472 | .71 | 60 | 50.70 |
| 949-455 | 1" | 3.268 | .787 | 1.693 | 1.496 | .591 | 1.14 | 36 | 68.28 |

MALE PIPE x FEMALE PIPE



| Part# | Size | L | C | D | B | E | lbs/ pc | Case | List Price |
|---------|------|-------|------|-------|-------|------|---------|------|------------|
| 949-471 | 1/4" | 2.165 | .217 | .748 | .699 | .394 | .176 | 200 | 30.24 |
| 949-472 | 3/8" | 2.165 | .295 | .866 | .787 | .394 | .22 | 160 | 30.24 |
| 949-473 | 1/2" | 2.165 | .413 | 1.063 | .945 | .472 | .27 | 100 | 34.92 |
| 949-474 | 3/4" | 2.677 | .591 | 1.417 | 1.26 | .472 | .62 | 65 | 50.70 |
| 949-475 | 1" | 3.268 | .787 | 1.693 | 1.496 | .591 | 1.05 | 40 | 68.28 |

FLOWS MALE -> FEMALE



| NO | Part | Material | QTY |
|----|-------------|----------|-----|
| 1 | BODY | 316 | 1 |
| 2 | RING | Rubber | 1 |
| 3 | SPRING | 304 | 1 |
| 4 | CAP | CF8M | 1 |
| 5 | SPOOL | 304/316 | 1 |
| 6 | SPRING RING | 304 | 1 |

SS Y-SPRING CHECK VALVES

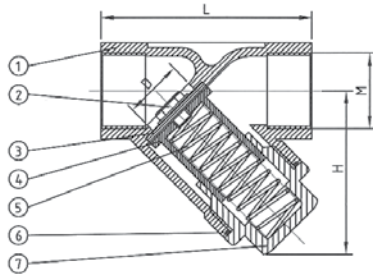
VALVES

Y-SPRING CHECK VALVE

- Working Pressure: 800PSI (PN55)
- Working Temperature: -10 -150°C
- Opening Pressure: 1.5PSI
- Suitable Medium: W.O.G.
- Made in China



| Part# | Size | L | H | D | lbs/ pc | Case | List Price |
|---------|--------|-------|-------|-------|---------|------|------------|
| 949-481 | 1/4" | 2.559 | 1.661 | .472 | .44 | 70 | 35.10 |
| 949-482 | 3/8" | 2.559 | 1.661 | .472 | .51 | 70 | 35.10 |
| 949-483 | 1/2" | 2.559 | 1.634 | .591 | .51 | 100 | 39.00 |
| 949-484 | 3/4" | 3.15 | 2.067 | .787 | .93 | 80 | 63.42 |
| 949-485 | 1" | 3.543 | 2.657 | .984 | 1.25 | 40 | 102.42 |
| 949-486 | 1-1/4" | 4.134 | 2.795 | 1.26 | 2.20 | 30 | 117.06 |
| 949-487 | 1-1/2" | 4.724 | 3.169 | 1.575 | 3.24 | 24 | 156.06 |
| 949-488 | 2" | 5.512 | 3.74 | 1.969 | 5.21 | 10 | 224.34 |



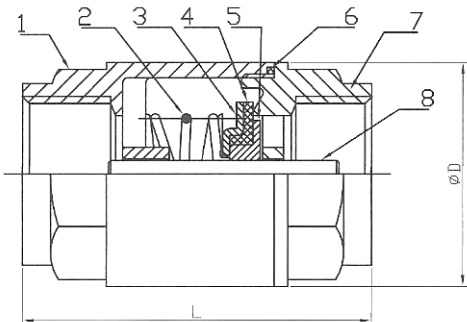
| NO | Part | Material | QTY |
|----|--------|-----------|-----|
| 1 | BODY | CF8M/ CF8 | 1 |
| 2 | BOLT | 304 | 1 |
| 3 | SEAT | Teflon | 1 |
| 4 | DISC | 304 | 1 |
| 5 | SPRING | 304 | 1 |
| 6 | GASKET | Teflon | 1 |
| 7 | CAP | CF8M/ CF8 | 1 |

2PC BARREL TYPE SPRING CHECK VALVE

- Working Pressure: 300PSI (PN20)
- Working Temperature: -10 -120°C
- Opening Pressure: 2PSI
- Suitable Medium: W.O.G.
- Threaded end: NPT
- Made in China



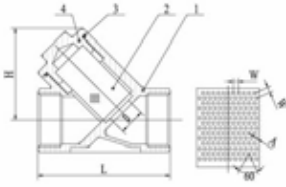
| Part# | Size | L | D | lbs/pc | Case | List Price |
|---------|--------|------|-------|--------|------|------------|
| 949-441 | 1/4" | 2.00 | 1.142 | .27 | 100 | 30.24 |
| 949-442 | 3/8" | 2.00 | 1.142 | .24 | 100 | 30.24 |
| 949-443 | 1/2" | 2.24 | 1.28 | .36 | 100 | 34.92 |
| 949-444 | 3/4" | 2.44 | 1.594 | .54 | 60 | 45.84 |
| 949-445 | 1" | 2.95 | 1.89 | .88 | 30 | 66.30 |
| 949-446 | 1-1/4" | 3.23 | 2.362 | 1.39 | 18 | 81.90 |
| 949-447 | 1-1/2" | 3.46 | 2.756 | 1.81 | 25 | 113.16 |
| 949-448 | 2" | 3.94 | 3.425 | 2.86 | 14 | 175.56 |



| NO | Part | Material | QTY |
|----|--------|-----------|-----|
| 1 | BODY | CF8M/ CF8 | 1 |
| 2 | BOLT | 304 | 1 |
| 3 | SEAT | PTFE | 1 |
| 4 | DISC | 304 | 1 |
| 5 | SPRING | 316/ 304 | 1 |
| 6 | GASKET | PTFE | 1 |
| 7 | CAP | CF8M/ CF8 | 1 |

#316 SS Y STRAINER

- Investment Castings for Body
- Pressure Rating: 800PSI (PN40)
- Threaded Ends: ANSI B2.1
- Material: CF8M (#316 SS)
- Pressure Test: API 598
- Made in China



- 40 Mesh screen

| Part | Material | QTY |
|----------------|----------|-----|
| 1 BODY | CF8M | 1 |
| 2 SCREEN | SS316 | 1 |
| 3 JOINT GASKET | PTFE | 1 |
| 4 BONNET | CF8M | 1 |

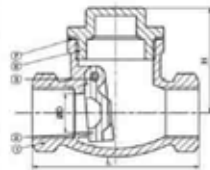
| Part # | Size | d | L | H | W | ØA | Lbs | List Price |
|---------|--------|-------|------|-----|------|----|------|------------|
| 949-521 | 1/4" | .38" | 2.53 | 51 | 1.69 | 1 | 0.44 | 27.41 |
| 949-522 | 3/8" | .48" | 2.53 | 51 | 1.69 | 1 | 0.38 | 27.41 |
| 949-523 | 1/2" | .59" | 2.53 | 51 | 1.76 | 1 | 0.46 | 28.50 |
| 949-524 | 3/4" | .79" | 3.12 | 60 | 2.07 | 1 | 0.69 | 37.85 |
| 949-525 | 1" | .98" | 3.57 | 72 | 2.67 | 1 | 1.27 | 57.06 |
| 949-526 | 1-1/4" | 1.26" | 4.17 | 77 | 2.9 | 1 | 1.74 | 68.09 |
| 949-527 | 1-1/2" | 1.57" | 4.71 | 87 | 3.23 | 1 | 2.38 | 93.42 |
| 949-528 | 2" | 1.96" | 5.49 | 102 | 3.88 | 1 | 3.57 | 128.88 |

316 SS SWING CHECK VALVE

- 200PSI(PN16)
- Threaded Ends: ANSI B2.1
- Material: CF8M (#316 SS)
- Pressure Test: API 598
- Made in China



| Part | Material | QTY |
|----------------|----------|-----|
| 1 BODY | CF8M | 1 |
| 2 DISC | CF8M | 1 |
| 3 PIPE PLUG | CF8 | 1 |
| 4 SCREW | CF8 | 1 |
| 5 SCREW GASKET | PTFE | 1 |
| 6 CAP | CF8M | 1 |
| 7 CAP GASKET | PTFE | 1 |



| Part # | Size | D | L | W | Lbs | List Price |
|---------|--------|-------|------|------|------|------------|
| 949-353 | 1/2" | .59" | 2.45 | 1.66 | 0.53 | 39.86 |
| 949-354 | 3/4" | .79" | 2.92 | 1.82 | 0.73 | 49.42 |
| 949-355 | 1" | .98" | 3.41 | 2.06 | 1.2 | 64.02 |
| 949-356 | 1-1/4" | 1.26" | 3.93 | 2.32 | 1.79 | 75.93 |
| 949-357 | 1-1/2" | 1.57" | 4.54 | 2.54 | 2.18 | 126.15 |
| 949-358 | 2" | 1.96" | 5.3 | 2.78 | 3.03 | 146.04 |

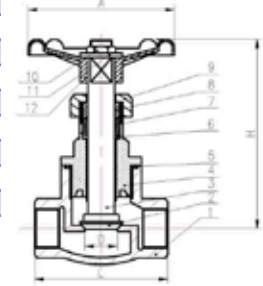
CF8 = 304SS
CF8M = 316SS

316 SS GLOBE VALVES

- 200PSI(PN16)
- Threaded Ends: ANSI B2.1
- Material: CF8M (#316 SS)
- Pressure Test: API 598
- Made in China



| Part | Material | QTY |
|------------------|----------|-----|
| 1 BODY | CF8M | 1 |
| 2 DISC | CF8M | 1 |
| 3 STEM | 304SS | 1 |
| 4 CAP | CF8M | 1 |
| 5 SEAL | PTFE | 1 |
| 6 GASKET | 304SS | 1 |
| 7 PACKING | PTFE | 1 |
| 8 GASKET | CF8 | 1 |
| 9 GLAND | 304SS | 1 |
| 10 NUT | 304SS | 1 |
| 11 SPRING WASHER | CF8 | 1 |
| 12 HANDLE WHEEL | Steel | 1 |



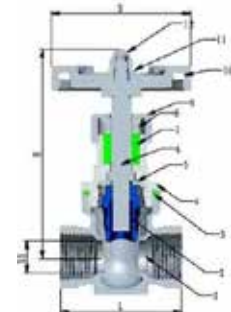
| Part # | Size | L | Lbs | List Price |
|---------|-------|------|------|------------|
| 949-303 | 1/2 | 2.64 | 0.89 | 34.33 |
| 949-304 | 3/4 | 3.19 | 1.3 | 44.72 |
| 949-305 | 1 | 3.46 | 1.72 | 62.43 |
| 949-306 | 1-1/4 | 3.81 | 2.33 | 88.45 |
| 949-307 | 1-1/2 | 4.25 | 3.11 | 98.76 |
| 949-308 | 2 | 5.1 | 4.38 | 156.08 |

316 SS GATE VALVES

- 200PSI(PN16)
- Threaded Ends: ANSI B2.1
- Material: CF8M (#316 SS)
- Pressure Test: API 598
- Made in China



| Part | Material | QTY |
|-----------------|----------|-----|
| 1 BODY | CF8M | 1 |
| 2 DISC | CF8M | 1 |
| 3 SEAL | CF8M | 1 |
| 4 CAP | CF8M | 1 |
| 5 SEAL | PTFE | 1 |
| 6 STEM | 304SS | 1 |
| 7 SEAL | PTFE | 1 |
| 8 GLAND | 304SS | 1 |
| 9 NUT | 304SS | 1 |
| 10 HANDLE WHEEL | Steel | 1 |
| 11 GASKET | PTFE | 1 |
| 12 CAP NUT | CF8 | 1 |



| Part # | Size | L | D | D1 | H | Lbs | List Price |
|---------|-------|------|------|------|------|------|------------|
| 949-253 | 1/2 | 2.07 | 2.54 | 0.55 | 3.37 | 0.78 | 37.45 |
| 949-254 | 3/4 | 2.28 | 2.89 | 0.74 | 4.03 | 0.99 | 46.79 |
| 949-255 | 1 | 2.42 | 2.89 | 0.95 | 4.46 | 1.25 | 63.70 |
| 949-256 | 1-1/4 | 2.79 | 3.06 | 1.18 | 4.86 | 1.76 | 95.49 |
| 949-257 | 1-1/2 | 2.92 | 3.79 | 1.49 | 5.53 | 2.59 | 121.75 |
| 949-258 | 2 | 3.3 | 4.17 | 1.85 | 6.12 | 3.54 | 177.95 |

CARBON STEEL BALL VALVES

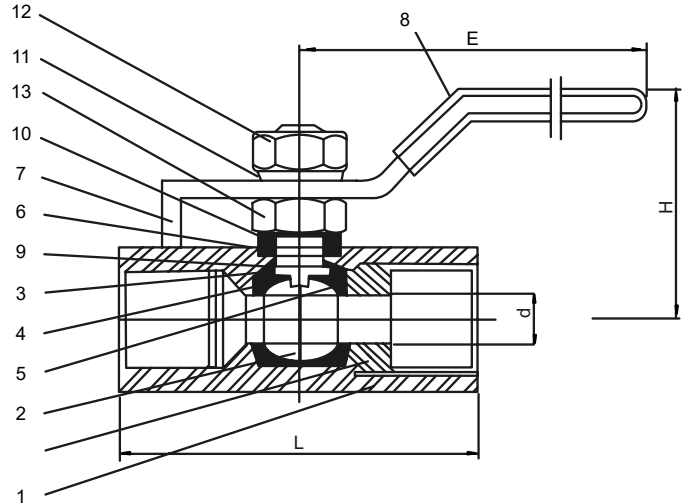
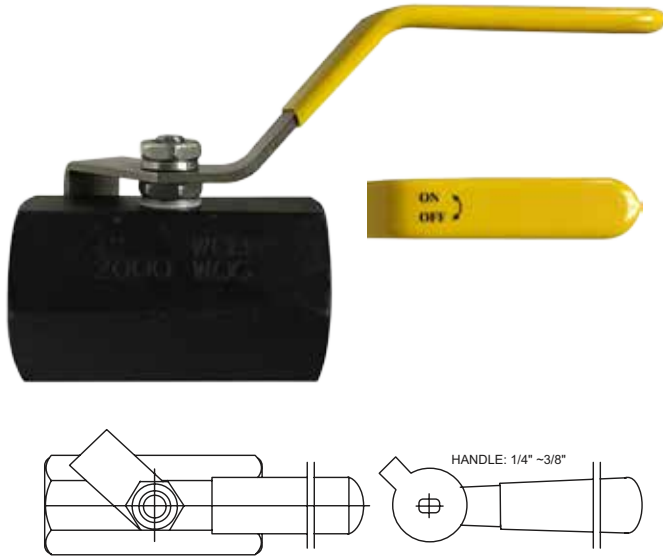
VALVES

STANDARD PORT CARBON STEEL BALL VALVE

- For chemical and industrial applications.
- Blow-out proof stem design.
- 100% air tested under water, at 100 psi, open and closed positions.
- Made in China
- Generic handles

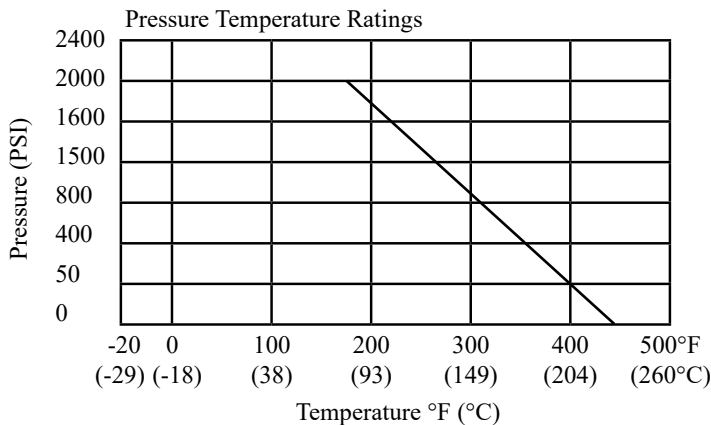
SPECIFICATIONS

- Working Pressure: 1/4" ~ 1" 2000 psi WOG,
1-1/4" ~ 2" 1500 psi WOG,
- Temperature Range: -60° to 450°F
- End types: Threaded
- 1 piece ball valve
- Reinforced PTFE seat



2000 PSI STANDARD PORT

| Part # | Size | d | H | E | L | WTG | Box/ Case | List Price |
|---------|-------|------|------|------|------|------|-----------|------------|
| 949-121 | 1/4 | .20 | 1.38 | 2.95 | 1.71 | 0.25 | 24/96 | 44.28 |
| 949-122 | 3/8 | .28 | 1.30 | 3.27 | 1.87 | 0.32 | 100/200 | 45.58 |
| 949-123 | 1/2 | .36 | 2.36 | 4.53 | 2.20 | 0.67 | 50/100 | 47.94 |
| 949-124 | 3/4 | .49 | 2.72 | 4.53 | 2.58 | 1.06 | 50/100 | 49.96 |
| 949-125 | 1 | .59 | 2.95 | 5.00 | 3.19 | 1.17 | 25/50 | 63.30 |
| 949-126 | 1-1/4 | .78 | 3.07 | 5.29 | 3.94 | 3.15 | 15/30 | 109.08 |
| 949-127 | 1-1/2 | 0.98 | 3.39 | 5.29 | 3.94 | 2.15 | 15/30 | 120.33 |
| 949-128 | 2 | 1.26 | 3.86 | 5.29 | 4.49 | 6.21 | 10/20 | 204.69 |



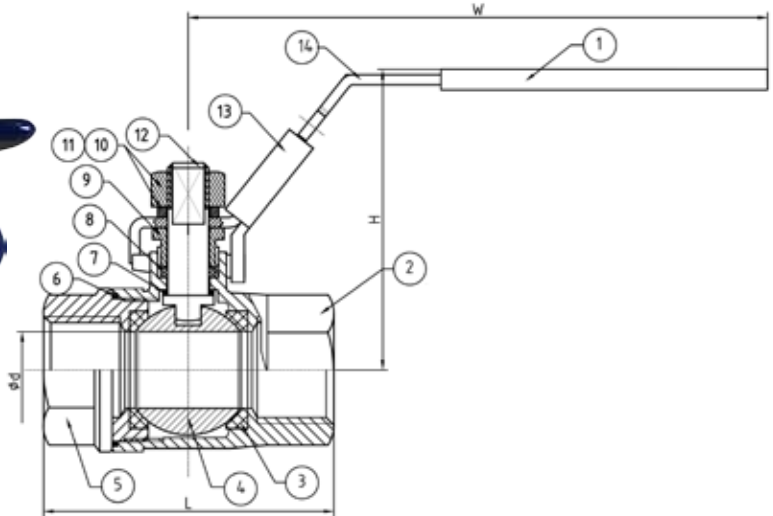
| Item | Parts | Material |
|------|---------------|---------------|
| 1 | Body | ASTM A216 WCB |
| 2 | Ball | ASTM A351 CF8 |
| 3 | Stem | 304 |
| 4 | Ball Seat | PTFE |
| 5 | Cap Seal | PTFE |
| 6 | Packing | PTFE |
| 7 | Handle | SS304 |
| 8 | Handle Sleeve | Vinyl Grip |
| 9 | Thrust Washer | PTFE |
| 10 | Gland | SS304 |
| 11 | Washer | SS304 |
| 12 | Handle Nut | SS304 |
| 13 | Stem Nut | SS304 |

2000 PSI CARBON STEEL 2PC FULL PORT BALL VALVE

• 2 PIECE

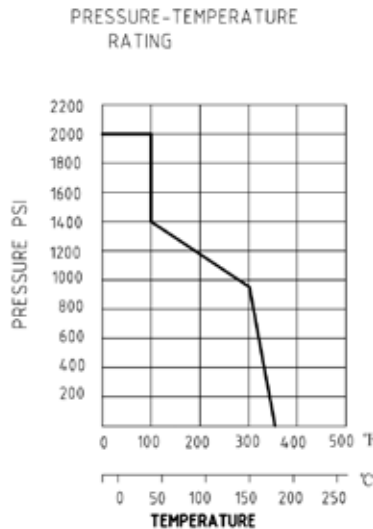
SPECIFICATIONS

- Working Pressure: 2000 PSI (138 Bar)
- Temperature Range: -10° C-150° C
- Suitable medium: WOG
- Threaded End conforms to ANSI B1.20.1
- Made in China
- Generic handle



2000 PSI FULL PORT

| Part # | Size | d | L | H | W | WTG | Box/ Case | List Price |
|---------|-------|------|------|------|------|------|-----------|------------|
| 949-111 | 1/4 | 0.36 | 2.13 | 2.13 | 4.33 | 0.59 | 70 | 48.15 |
| 949-112 | 3/8 | 0.50 | 2.13 | 2.17 | 4.33 | 0.59 | 70 | 48.15 |
| 949-113 | 1/2 | 0.59 | 2.24 | 2.28 | 4.33 | 0.75 | 60 | 53.12 |
| 949-114 | 3/4 | 0.79 | 2.76 | 2.40 | 4.33 | 1.17 | 50 | 58.63 |
| 949-115 | 1 | 0.98 | 3.25 | 3.03 | 5.04 | 1.88 | 30 | 67.60 |
| 949-116 | 1-1/4 | 1.26 | 3.58 | 3.19 | 5.04 | 2.45 | 20 | 119.58 |
| 949-117 | 1-1/2 | 1.50 | 4.06 | 3.54 | 6.10 | 4.06 | 20 | 131.32 |
| 949-118 | 2 | 1.97 | 4.90 | 4.25 | 6.10 | 2.43 | 7 | 225.86 |



| Item | Parts | Material |
|------|---------------|----------|
| 1 | Handle cover | Plastic |
| 2 | Body | CF8M |
| 3 | Ball seat | PTFE |
| 4 | Ball | CF8M |
| 5 | Cap | CF8M |
| 6 | Joint gasket | PTFE |
| 7 | Thrust washer | PTFE |
| 8 | Stem packing | PTFE |
| 9 | Gland nut | 304 |
| 10 | Spring washer | 304 |
| 11 | Stem nut | 304 |
| 12 | Stem | 316 |
| 13 | Lock device | 304 |
| 14 | Handle | 304 |

HIGH PRESSURE FULL PORT 2-WAY VALVES

VALVES

FULL PORT
Two-Way

BKH

| Part Number | Thread | Working Pressure | List Price |
|---------------|------------|------------------|------------|
| GE2-14-NPT | 1/4" NPT | 7250 PSI | 53.81 |
| GE2-38-NPT | 3/8" NPT | 7250 PSI | 52.65 |
| GE2-12-NPT | 1/2" NPT | 7250 PSI | 66.95 |
| GE2-34-NPT | 3/4" NPT | 5800 PSI | 128.15 |
| GE2-1-NPT | 1" NPT | 5075 PSI | 160.20 |
| GE2-114T-NPT* | 1-1/4" NPT | 5000 PSI | 188.10 |
| GE2-112T-NPT* | 1-1/2" NPT | 5000 PSI | 250.00 |
| GE2-2T-NPT | 2" NPT | 5000 PSI | 428.57 |

| Part Number | Thread | Working Pressure | List Price |
|--------------|---------------|------------------|------------|
| GE2-04-SAE | 7/16-20 UNF | 7250 PSI | 53.80 |
| GE2-06-SAE | 9/16-18 UNF | 7250 PSI | 54.82 |
| GE2-08-SAE | 3/4-16 UNF | 7250 PSI | 75.53 |
| GE2-12-SAE | 1-1/16-12 UNF | 5800 PSI | 115.52 |
| GE2-16-SAE | 1-5/16-12 UNF | 5000 PSI | 145.31 |
| GB2-20T-SAE+ | 1-5/8-12 UNF | 5000 PSI | SAE+ |
| GB2-24T-SAE+ | 1-7/8-12 UNF | 5000 PSI | SAE+ |
| GB2-32T-SAE+ | 2-1/2-12 UNF | 5000 PSI | SAE+ |

* Reduced Port
+ 'L' flow pattern

Temp Rating = -22° - 212°F

Construction: Steel Body, Ball, Stem
Zinc Chromate Plate
Buna "O" Rings (Viton on request)
Delrin Ball Seats

FULL PORT
Three-Way

BK3

| Part Number | Thread | Working Pressure | List Price |
|---------------|------------|------------------|------------|
| GE3L-14-NPT | 1/4" NPT | 5880 PSI | 142.86 |
| GE3L-38-NPT | 3/8" NPT | 5880 PSI | 108.84 |
| GE3L-12-NPT | 1/2" NPT | 5145 PSI | 116.10 |
| GE3L-34-NPT | 3/4" NPT | 5145 PSI | 167.62 |
| GE3L-1-NPT | 1" NPT | 5145 PSI | 203.17 |
| GE3L-114T-NPT | 1 1/4" NPT | 4500 PSI | 1073.92 |
| GE3L-112T-NPT | 1 1/2" NPT | 4500 PSI | 1668.80 |
| GE3L-2T-NPT | 2" NPT | 4500 PSI | 1456.69 |

| Part Number | Thread | Working Pressure | List Price |
|---------------|---------------|------------------|------------|
| GE3L-04-SAE | 7/16-20 UNF | 5880 PSI | 177.72 |
| GE3L-06-SAE | 9/16-18 UNF | 5880 PSI | 185.79 |
| GE3L-08-SAE | 3/4-16 UNF | 5145 PSI | 222.15 |
| GE3L-12-SAE | 1-1/16-12 UNF | 5145 PSI | 179.95 |
| GE3L-16-SAE | 1-5/16-12 UNF | 5145 PSI | 214.06 |
| GB3L-20T-SAE+ | 1-5/8-12 UNF | 4500 PSI | SAE+ |
| GB3L-24T-SAE+ | 1-7/8-12 UNF | 4500 PSI | SAE+ |
| GB3L-32T-SAE+ | 2-1/2-12 UNF | 4500 PSI | SAE+ |

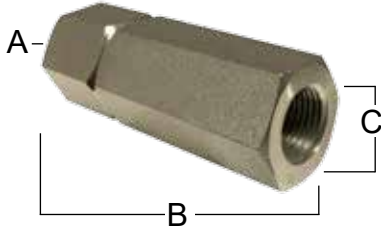
+ 'L' flow pattern

Temp Rating = -22° - 212°F

Construction: Steel Body, Ball, Stem
Zinc Chromate Plate
Buna "O" Rings (Viton on request)
Delrin Ball Seats

CHECK VALVES - HARD SEAT CARBON STEEL CONSTRUCTION - 5lb Cracking Pressure

• w/ NPT threads



A (NPT Female both ends)

| Part # | A Size | B Inches | C Inches | Rated Flow gpm | PSI | List Price |
|---------|-----------|----------|----------|----------------|-------|------------|
| 100025 | 1/4 NPT | 2.44 | .87 | 6 | 5,000 | 38.52 |
| 100035 | 3/8 NPT | 2.87 | .95 | 10 | 5,000 | 44.85 |
| 100045 | 1/2 NPT | 3.76 | 1.26 | 18 | 5,000 | 60.35 |
| 100065 | 3/4 NPT | 4.30 | 1.50 | 30 | 5,000 | 81.00 |
| 100085 | 1 NPT | 4.74 | 1.83 | 36 | 5,000 | 118.92 |
| 1000105 | 1-1/4 NPT | 5.56 | 2.40 | 50 | 3,000 | 281.14 |
| 1000125 | 1-1/2 NPT | 5.56 | 2.56 | 60 | 3,000 | 138.86 |

CHECK VALVES - HARD SEAT CARBON STEEL CONSTRUCTION - 65lb Cracking Pressure



| Part # | A Size | B Inches | C Inches | Rated Flow gpm | PSI | List Price |
|----------|----------|----------|----------|----------------|-------|------------|
| 1000265 | 1/4NPT | 2.45 | .87 | 6 | 5,000 | 35.00 |
| 1000365 | 3/8NPT | 2.91 | .94 | 10 | 5,000 | 43.00 |
| 1000465 | 1/2NPT | 3.74 | 1.18 | 18 | 5,000 | 55.00 |
| 1000665 | 3/4NPT | 4.29 | 1.26 | 30 | 5,000 | 80.95 |
| 1000865 | 1NPT | 5.00 | 1.81 | 36 | 5,000 | 112.00 |
| 10001065 | 1-1/4NPT | 5.20 | 2.41 | 50 | 3,000 | 158.00 |
| 10001265 | 1-1/2NPT | 5.20 | 2.56 | 60 | 3,000 | 162.00 |

CHECK VALVES - 5lb Cracking Pressure

• w/ SAE threads



| Part # | A Size | B Inches | C Inches | Rated Flow gpm | PSI | List Price |
|---------|---------------|----------|----------|----------------|-------|------------|
| 100145 | 7/16-20 SAE | 2.56 | .87 | 6 | 5,000 | 32.00 |
| 100165 | 9/16-18 SAE | 2.91 | .94 | 10 | 5,000 | 45.45 |
| 100185 | 3/4-16 SAE | 3.74 | 1.18 | 18 | 5,000 | 57.06 |
| 1001125 | 1-1/6-12 SAE | 4.29 | 1.50 | 30 | 3,000 | 103.84 |
| 1001165 | 1-5/16-12 SAE | 5.00 | 1.81 | 36 | 3,000 | 113.09 |
| 1001205 | 1-5/8-12 SAE | 5.20 | 2.41 | 50 | 3,000 | 235.83 |
| 1001245 | 1-7/8-12 SAE | 5.20 | 2.56 | 60 | 3,000 | 161.96 |

CHECK VALVES - 65lb Cracking Pressure

• w/ SAE threads



| Part # | A Size | B Inches | C Inches | Rated Flow gpm | PSI | List Price |
|----------|---------------|----------|----------|----------------|-------|------------|
| 1001465 | 7/16-20 SAE | 2.56 | .87 | 6 | 5,000 | 37.00 |
| 1001665 | 9/16-18 SAE | 2.91 | .94 | 10 | 5,000 | 45.00 |
| 1001865 | 3/4-16 SAE | 3.74 | 1.18 | 18 | 5,000 | 58.00 |
| 10011265 | 1-1/6-12 SAE | 4.29 | 1.50 | 30 | 3,000 | 87.00 |
| 10011665 | 1-5/16-12 SAE | 5.00 | 1.81 | 36 | 3,000 | 123.00 |
| 10012065 | 1-5/8-12 SAE | 5.20 | 2.41 | 50 | 3,000 | 175.00 |
| 10012465 | 1-7/8-12 SAE | 5.20 | 2.56 | 60 | 3,000 | 179.00 |

Rated Pressure: Sizes 2 thru 8 - 5000 psi / Sizes 10 thru 24 - 3000 psi

• Soft Seat available by special quote

PVC VALVES

- Quarter turn **WHITE PVC BALL VALVES**
- Solvent ends comply with ASTM D2466
- Designed for use in residential, commercial & industrial system as well as waste water, chemical, agricultural applications, marine, food processing, swimming pools.
- Corrosion resistant
- EPDM seal • FULL PORT • EPDM O-ring
- Fits both Sch. 40 & 80 pipe •NSF approved
- Rated for 150 PSI at 73°F • Threaded ends comply with ANSI B1.20.1

**MOLDED IN PLACE - WHITE PIPE THREADS**

| Part# | Size | Case | List Price |
|---------|--------|------|------------|
| 940-284 | 1/2" | 100 | 5.14 |
| 940-285 | 3/4" | 100 | 7.99 |
| 940-286 | 1" | 100 | 11.99 |
| 940-287 | 1-1/4" | 100 | 21.99 |
| 940-288 | 1-1/2" | 48 | 22.03 |
| 940-289 | 2" | 24 | 38.07 |
| 940-291 | 3" | 12 | 139.43 |
| 940-292 | 4" | 6 | 193.12 |

**WHITE SOCKET - SLIP X SLIP**

| Part # | Size | Case | List Price |
|---------|--------|------|------------|
| 940-294 | 1/2" | 100 | 6.07 |
| 940-295 | 3/4" | 100 | 8.56 |
| 940-296 | 1" | 100 | 12.44 |
| 940-297 | 1-1/4" | 100 | 21.62 |
| 940-298 | 1-1/2" | 48 | 26.75 |
| 940-299 | 2" | 24 | 29.03 |
| 940-300 | 2-1/2" | 12 | 102.83 |
| 940-301 | 3" | 12 | 136.84 |
| 940-302 | 4" | 6 | 259.71 |

VALVES

GREY PVC BALL VALVES**FEATURES**

- Sizes range from 1/2" to 4"
- Excellent flow characteristics
- Leak-tight shut-off
- EPPM O-Ring
- SCH 80
- Test pressure: 225 psi @ 73°F
- Working Pressure: 150 psi @ 73°F

**FIP X FIP THREADED BALL VALVE**

| Part # | Size | Case | List Price |
|--------|--------|------|------------|
| 899000 | 1/2" | 100 | 16.75 |
| 899001 | 3/4" | 100 | 16.08 |
| 899002 | 1" | 100 | 22.83 |
| 899003 | 1-1/4" | 100 | 28.57 |
| 899004 | 1-1/2" | 48 | 47.71 |
| 899005 | 2" | 24 | 60.02 |

**SLIP X SLIP BALL VALVE**

| Part # | Size | Case | List Price |
|--------|--------|------|------------|
| 899050 | 1/2" | 100 | 15.80 |
| 899051 | 3/4" | 100 | 17.28 |
| 899052 | 1" | 100 | 20.60 |
| 899053 | 1-1/4" | 100 | 25.04 |
| 899054 | 1-1/2" | 48 | 53.69 |
| 899055 | 2" | 24 | 67.22 |

VALVES

PLASTIC VALVES

INLINE PLASTIC SPRING CHECK VALVE

Socket x Socket

- 200 PSI working pressure @ 77°F .5 PSI to open.



| Part# | Size | List Price |
|---------|--------|------------|
| 940-325 | 1/2" | 15.37 |
| 940-326 | 3/4" | 15.23 |
| 940-327 | 1" | 21.73 |
| 940-328 | 1-1/4" | 29.13 |
| 940-329 | 1-1/2" | 30.65 |
| 940-330 | 2" | 36.01 |

INLINE PLASTIC SPRING CHECK VALVE FEMALE THREADED ENDS

- 200 PSI working pressure @ 77°F .5 PSI to open.



| Part# | Size | List Price |
|---------|--------|------------|
| 940-331 | 1/2" | 14.42 |
| 940-332 | 3/4" | 17.06 |
| 940-333 | 1" | 20.93 |
| 940-334 | 1-1/4" | 29.04 |
| 940-335 | 1-1/2" | 52.10 |
| 940-336 | 2" | 50.58 |

PLASTIC DRUM FAUCETS

- Pipe threads to ANSI B1.20.1 • Hose threads to ANSI B 1.20.7

The FLO-RITE faucet has been engineered to meet the demand for greater chemical resistance, using linear polyethylene for the stem.



"FLO-RITE" DRUM FAUCET

| Part # | Size | List Price |
|--------|------|------------|
| 46-277 | 3/4" | 17.11 |

DRUM & BARREL FAUCET VALVE

- Die cast body w/ nylon seat and steel spring.
- For use with all petroleum products except trichlorethylene.

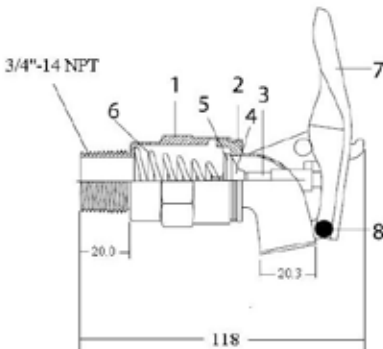


G261N

Not suitable for potable water

SELF-CLOSING DRUM & BARREL FAUCET

| Part # | Size | List Price |
|--------|------|------------|
| 46-270 | 3/4" | 13.87 |



| Part # | Part Name | Material |
|--------|-----------|-------------------|
| 1 | Body | Zinc |
| 2 | Bonnet | Zinc |
| 3 | Stem | Steel |
| 4 | Disc | Plastic |
| 5 | Seal | Rubber |
| 6 | Spring | Zinc plated steel |
| 7 | Handle | Aluminum |
| 8 | Rivet | Aluminum |

NIPPLES & FITTINGS



BRASS & BRONZE..... 210-288

Brass Nipples - Sch 40..... 211-217

C/P Brass Nipples..... 218

Bronze Fittings..... 219-227

Lead Free Bronze Fittings 219-227

C/P Fittings..... 227

Bronze Cleanout Plugs 228

Bronze Drop Ear Elbows..... 228

Bronze Barbs for PL. Pipe 229

Steel Barbs for PL. Pipe 229

Lead Free Bronze Barbs for PL. Pipe..... 230

Stainless Steel Barbs for PL. Pipe..... 230

Stainless Steel Well Couplings 230

Stainless Steel Merchant Couplings 230

STAINLESS STEEL..... 231-244

Stainless Nipples..... 231-236

150# Cast SS Fittings 237-244

BLACK & GALVANIZED 245-281

Sch. 40 Welded Steel Nipples..... 245-253

Sch. 80 Seamless Steel nipple 254-259

Sch. XXS Seamless Steel Nipple 260

Groove Nipples..... 261-262

Merchant Couplings..... 263

API Line Couplings..... 264

Malleable Fittings..... 265-273

Steel Fittings..... 274-275

300# Malleable 276-277

Bull Plugs and Swages 278-279

Forged Steel Fanges 280-281

Copper Fittings..... 282-288



We hereby certify that to the best of our knowledge and belief the CDA 230 alloy seamless Red Brass Pipe from which our nipples are produced meet the requirements of ASTM Specifications B43 and is free of mercury contamination. The chemical analysis is 85% copper, 15% Zinc and conforms to federal Specifications WWN-351. Our brass nipples meet ANSI/ASTM B687-96 and MS51846 for standard brass nipples, and MS51872 for extra heavy brass nipples.

Threads: Nipples are threaded with American Standard taper pipe threads (NPT) in accordance with screw-thread standard for Federal Services Handbook H-58. ANSI B1.20.1

This product is certified by NSF to NSF/ANSI 61 for use in drinking water supplies of pH 6.5 and above.

- ASTM B43
- ANSI B1.20.1, WW-N-351
- ANSI/ ASTM B687-96
- NSF-61 Approved
- MS51846 STD Brass Nipples
- RoHS compliant

**STANDARD RED BRASS 85%
PIPE WITH THREADED ENDS SPECIFICATIONS:**

| Pipe Size in Inches | Dimension in Inches | | | Allowable Pressure POUNDS PER SQUARE INCH | | | | |
|---------------------------|---------------------|-------|-------------------|--|-------------|-------------|-------------|-------------|
| | O.D. | I.D. | Wall Thickness | Standard Size (Inches) | @ 100° F | @ 200° F | @ 300° F | @ 400° F |
| 1/8" | .405 | .281 | .062 | 1/8" | 370 | 370 | 320 | 140 |
| 1/4" | .540 | .376 | .082 | 1/4" | 870 | 870 | 760 | 330 |
| 3/8" | .675 | .495 | .090 | 3/8" | 890 | 890 | 780 | 340 |
| 1/2" | .840 | .626 | .107 | 1/2" | 900 | 900 | 790 | 340 |
| 3/4" | 1.050 | .822 | .114 | 3/4" | 810 | 810 | 710 | 310 |
| 1" | 1.315 | 1.063 | .126 | 1" | 630 | 630 | 560 | 240 |
| 1-1/4" | 1.660 | 1.368 | .146 | 1-1/4" | 690 | 690 | 610 | 260 |
| 1-1/2" | 1.900 | 1.600 | .150 | 1-1/2" | 630 | 630 | 560 | 240 |
| 2" | 2.375 | 2.063 | .156 | 2" | 540 | 540 | 480 | 210 |
| 2-1/2" | 2.875 | 2.501 | .187 | 2-1/2" | 450 | 450 | 390 | 170 |
| 3" | 3.500 | 3.062 | .219 | 3" | 510 | 510 | 450 | 190 |
| 3-1/2" | 4.000 | 3.500 | .250 | 3-1/2" | 570 | 570 | 500 | 220 |
| 4" | 4.500 | 4.000 | .250 | 4" | 510 | 510 | 440 | 190 |
| 4-1/2" | 5.000 | 4.500 | .250 | 5" | 410 | 410 | 360 | 160 |
| 5" | 5.563 | 5.063 | .250 | 6" | 340 | 340 | 300 | 130 |
| 6" | 6.625 | 6.125 | .250 | | | | | |

No-Lead 125LB seamless Threaded
Red Brass Nipples - 2200

**LEAD
FREE**



SCH 40 SEAMLESS

BRASS NIPPLES



1/8" - 27



1/8" DIAMETER SCH 40 SEAMLESS

| Part # | Size | Box/Case | Approx. Wt. Lbs. | List Price |
|--------|----------------|----------|------------------|------------|
| 40-001 | Close (3/4") | 25/400 | 0.02 | 4.37 |
| 40-002 | x 1-1/2" | 25/400 | 0.03 | 4.94 |
| 40-003 | x 2" | 25/400 | 0.04 | 5.29 |
| 40-004 | x 2-1/2" | 25/400 | 0.05 | 6.01 |
| 40-005 | x 3" | 25/400 | 0.06 | 6.48 |
| 40-006 | x 3-1/2" | 25/400 | 0.07 | 7.00 |
| 40-007 | x 4" | 25/400 | 0.08 | 7.85 |
| 40-008 | x 4-1/2" | 25/400 | 0.10 | 8.87 |
| 40-009 | x 5" | 25/400 | 0.11 | 9.60 |
| 40-010 | x 5-1/2" | 25/400 | 0.12 | 10.38 |
| 40-011 | x 6" | 25/400 | 0.13 | 11.13 |
| 40-012 | x 7" | 25/400 | 0.15 | 13.22 |
| 40-013 | x 8" | 25/400 | 0.17 | 14.59 |
| 40-014 | x 9" | 25/400 | 0.19 | 17.93 |
| 40-015 | x 10" | 25/400 | 0.21 | 19.61 |
| 40-017 | x 12" | 25/400 | 0.25 | 22.65 |
| 40-018 | x 14" | 1/1 | 0.29 | 24.37 |
| 40-019 | x 16" | 1/1 | 0.34 | 22.76 |



1/4"-18

1/4" DIAMETER SCH 40 SEAMLESS

| Part # | Size | Box/Case | Approx. Wt. Lbs. | List Price |
|--------|----------------|----------|------------------|------------|
| 40-020 | Close (7/8") | 25/400 | 0.03 | 5.09 |
| 40-021 | x 1-1/2" | 25/400 | 0.05 | 5.90 |
| 40-022 | x 2" | 25/400 | 0.07 | 6.68 |
| 40-023 | x 2-1/2" | 25/400 | 0.09 | 7.24 |
| 40-024 | x 3" | 25/400 | 0.11 | 8.49 |
| 40-025 | x 3-1/2" | 25/400 | 0.13 | 9.24 |
| 40-026 | x 4" | 25/400 | 0.14 | 10.87 |
| 40-027 | x 4-1/2" | 25/400 | 0.16 | 11.81 |
| 40-028 | x 5" | 25/400 | 0.18 | 12.86 |
| 40-029 | x 5-1/2" | 25/400 | 0.20 | 13.95 |
| 40-030 | x 6" | 25/400 | 0.22 | 15.69 |
| 40-031 | x 7" | 25/200 | 0.25 | 17.88 |
| 40-032 | x 8" | 25/200 | 0.29 | 19.59 |
| 40-033 | x 9" | 25/200 | 0.33 | 21.77 |
| 40-034 | x 10" | 25/200 | 0.36 | 23.90 |
| 40-035 | x 11" | 25/200 | 0.40 | 31.71 |
| 40-036 | x 12" | 25/200 | 0.43 | 28.23 |

See page 7 for Yellow Brass Nipples



**LEAD
FREE**

3/8"-18

3/8" DIAMETER SCH 40 SEAMLESS

| Part # | Size | Box/Case | Approx. Wt. Lbs. | List Price |
|--------|--------------|----------|------------------|------------|
| 40-040 | Close (1") | 25/400 | 0.05 | 5.29 |
| 40-041 | x 1-1/2" | 25/400 | 0.08 | 6.26 |
| 40-042 | x 2" | 25/400 | 0.10 | 7.60 |
| 40-043 | x 2-1/2" | 25/400 | 0.13 | 8.23 |
| 40-044 | x 3" | 25/400 | 0.16 | 10.08 |
| 40-045 | x 3-1/2" | 25/400 | 0.18 | 10.87 |
| 40-046 | x 4" | 25/400 | 0.21 | 12.94 |
| 40-047 | x 4-1/2" | 25/300 | 0.23 | 16.76 |
| 40-048 | x 5" | 25/300 | 0.26 | 15.10 |
| 40-049 | x 5-1/2" | 25/300 | 0.29 | 16.42 |
| 40-050 | x 6" | 25/300 | 0.31 | 17.78 |
| 40-051 | x 7" | 25/200 | 0.36 | 21.57 |
| 40-052 | x 8" | 25/150 | 0.42 | 24.18 |
| 40-053 | x 9" | 25/150 | 0.47 | 34.78 |
| 40-054 | x 10" | 25/100 | 0.52 | 28.81 |
| 40-055 | x 11" | 25/100 | 0.57 | 31.45 |
| 40-056 | x 12" | 25/100 | 0.62 | 34.11 |



**LEAD
FREE**

1/2" - 14

1/2" DIAMETER SCH 40 SEAMLESS

| Part # | Size | Box/Case | Approx. Wt. Lbs. | List Price |
|--------|------------------|----------|------------------|------------|
| 40-060 | Close (1-1/8") | 25/400 | 0.09 | 7.04 |
| 40-061 | x 1-1/2" | 25/400 | 0.12 | 8.15 |
| 40-062 | x 2" | 25/400 | 0.16 | 9.58 |
| 40-063 | x 2-1/2" | 25/300 | 0.20 | 11.40 |
| 40-064 | x 3" | 25/300 | 0.23 | 13.39 |
| 40-065 | x 3-1/2" | 25/300 | 0.27 | 15.27 |
| 40-066 | x 4" | 25/200 | 0.31 | 17.50 |
| 40-067 | x 4-1/2" | 25/200 | 0.35 | 19.01 |
| 40-068 | x 5" | 25/200 | 0.39 | 20.93 |
| 40-069 | x 5-1/2" | 25/200 | 0.43 | 23.00 |
| 40-070 | x 6" | 25/200 | 0.47 | 25.49 |
| 40-071 | x 7" | 25/100 | 0.55 | 29.52 |
| 40-072 | x 8" | 25/100 | 0.62 | 33.08 |
| 40-073 | x 9" | 25/100 | 0.70 | 36.71 |
| 40-074 | x 10" | 25/75 | 0.78 | 40.61 |
| 40-075 | x 11" | 25/75 | 0.86 | 54.03 |
| 40-076 | x 12" | 25/75 | 0.94 | 48.30 |

Behind every great man is a woman rolling her eyes. - Jim Carrey

SCH 40 SEAMLESS

BRASS NIPPLES



3/4" - 14

3/4" DIAMETER SCH 40 SEAMLESS

| Part # | Length | Box/Case | Approx. Wt. Lbs. | List Price |
|--------|------------------|----------|------------------|------------|
| 40-080 | Close (1- 3/8") | 25/400 | 0.15 | 10.16 |
| 40-081 | x 1-1/2" | 25/400 | 0.16 | 10.84 |
| 40-082 | x 2" | 25/300 | 0.21 | 12.79 |
| 40-083 | x 2-1/2" | 25/300 | 0.27 | 14.84 |
| 40-084 | x 3" | 25/200 | 0.32 | 17.11 |
| 40-085 | x 3-1/2" | 25/200 | 0.37 | 19.22 |
| 40-086 | x 4" | 25/150 | 0.43 | 22.34 |
| 40-087 | x 4-1/2" | 25/150 | 0.48 | 24.28 |
| 40-088 | x 5" | 25/100 | 0.53 | 26.81 |
| 40-089 | x 5-1/2" | 25/100 | 0.59 | 29.28 |
| 40-090 | x 6" | 25/100 | 0.64 | 32.62 |
| 40-091 | x 7" | 25/75 | 0.75 | 38.21 |
| 40-092 | x 8" | 25/75 | 0.85 | 43.04 |
| 40-093 | x 9" | 25/75 | 0.96 | 47.65 |
| 40-094 | x 10" | 25/50 | 1.06 | 52.51 |
| 40-095 | x 11" | 25/50 | 1.17 | 57.31 |
| 40-096 | x 12" | 25/50 | 1.28 | 62.50 |
| 40-097 | x 18" | 1/1 | 1.92 | 106.10 |
| 40-098 | x 24" | 1/1 | 2.56 | 79.59 |
| 40-099 | x 36" | 1/1 | 3.84 | 163.15 |



1" - 11 1/2

1" DIAMETER SCH 40 SEAMLESS

| Part # | Length | Box/Case | Approx. Wt. Lbs. | List Price |
|--------|------------------|----------|------------------|------------|
| 40-100 | Close (1-1/2") | 25/200 | 0.23 | 14.98 |
| 40-101 | x 2" | 25/200 | 0.30 | 18.49 |
| 40-102 | x 2-1/2" | 25/150 | 0.38 | 21.57 |
| 40-103 | x 3" | 25/150 | 0.45 | 24.83 |
| 40-104 | x 3-1/2" | 25/100 | 0.53 | 28.75 |
| 40-105 | x 4" | 25/100 | 0.60 | 32.35 |
| 40-106 | x 4-1/2" | 25/100 | 0.68 | 36.07 |
| 40-107 | x 5" | 25/75 | 0.75 | 39.88 |
| 40-108 | x 5-1/2" | 25/75 | 0.83 | 43.68 |
| 40-109 | x 6" | 25/50 | 0.94 | 47.63 |
| 40-110 | x 7" | 25/50 | 1.05 | 55.63 |
| 40-111 | x 8" | 25/50 | 1.20 | 63.50 |
| 40-112 | x 9" | 25/50 | 1.35 | 70.86 |
| 40-113 | x 10" | 25/50 | 1.50 | 78.61 |
| 40-114 | x 11" | 25/50 | 1.65 | 84.80 |
| 40-115 | x 12" | 20/40 | 1.80 | 93.72 |

Laugh and the world laughs with you, snore and you sleep alone. - Anthony Burgess



**LEAD
FREE**

1 1/4" - 11 1/2"

1-1/4" DIAMETER SCH 40 SEAMLESS

| Part # | Length | Box/Case | Approx. Wt. Lbs. | List Price |
|--------|------------------|----------|------------------|------------|
| 40-120 | Close (1-5/8") | 25/100 | 0.36 | 22.61 |
| 40-121 | x 2" | 25/100 | 0.44 | 25.82 |
| 40-122 | x 2-1/2" | 25/100 | 0.56 | 29.19 |
| 40-123 | x 3" | 25/100 | 0.67 | 34.56 |
| 40-124 | x 3-1/2" | 25/100 | 0.78 | 40.44 |
| 40-125 | x 4" | 25/50 | 0.89 | 45.51 |
| 40-126 | x 4-1/2" | 25/50 | 1.00 | 50.40 |
| 40-127 | x 5" | 25/50 | 1.11 | 55.58 |
| 40-128 | x 5-1/2" | 25/50 | 1.22 | 73.92 |
| 40-129 | x 6" | 25/50 | 1.33 | 66.41 |
| 40-130 | x 7" | 25/50 | 1.56 | 78.32 |
| 40-131 | x 8" | 25/50 | 1.78 | 88.72 |
| 40-132 | x 9" | 25/50 | 2.00 | 105.23 |
| 40-133 | x 10" | 25/50 | 2.22 | 109.71 |
| 40-134 | x 11" | 25/50 | 2.45 | 125.60 |
| 40-135 | x 12" | 25/50 | 2.67 | 159.62 |
| 40-136 | x 18" | 1/1 | 4.00 | 178.85 |



**LEAD
FREE**

1-1/2" - 11 1/2"

1-1/2" DIAMETER SCH 40 SEAMLESS

| Part # | Length | Box/Case | Approx. Wt. Lbs. | List Price |
|--------|------------------|----------|------------------|------------|
| 40-140 | Close (1-3/4") | 25/100 | 0.46 | 29.40 |
| 40-141 | x 2" | 25/100 | 0.53 | 31.63 |
| 40-142 | x 2-1/2" | 25/50 | 0.66 | 37.88 |
| 40-143 | x 3" | 25/50 | 0.79 | 43.54 |
| 40-144 | x 3-1/2" | 25/50 | 0.93 | 50.01 |
| 40-145 | x 4" | 25/50 | 1.06 | 56.72 |
| 40-146 | x 4-1/2" | 25/50 | 1.19 | 63.73 |
| 40-147 | x 5" | 20/40 | 1.32 | 70.51 |
| 40-148 | x 5-1/2" | 20/40 | 1.46 | 93.83 |
| 40-149 | x 6" | 20/40 | 1.59 | 83.81 |
| 40-150 | x 7" | 20/40 | 1.85 | 97.93 |
| 40-151 | x 8" | 20/40 | 2.12 | 111.28 |
| 40-152 | x 9" | 20/40 | 2.38 | 124.55 |
| 40-153 | x 10" | 20/40 | 2.65 | 137.85 |
| 40-154 | x 11" | 1/40 | 2.91 | 151.15 |
| 40-155 | x 12" | 1/15 | 3.18 | 164.43 |
| 40-156 | x 18" | 1/1 | 4.77 | 207.44 |

SCH 40 SEAMLESS

BRASS NIPPLES



LEAD FREE

2" - 11 1/2

2" DIAMETER SCH 40 SEAMLESS

| Part # | Length | Box/Case | Approx. Wt. Lbs. | List Price |
|--------|--------------|----------|------------------|------------|
| 40-160 | Close (2") | 25/50 | 0.69 | 44.77 |
| 40-161 | x 2-1/2" | 25/50 | 0.86 | 48.32 |
| 40-162 | x 3" | 25/50 | 1.03 | 55.78 |
| 40-163 | x 3-1/2" | 25/50 | 1.20 | 64.21 |
| 40-164 | x 4" | 1/25 | 1.37 | 72.96 |
| 40-165 | x 4-1/2" | 1/25 | 1.54 | 81.36 |
| 40-166 | x 5" | 1/25 | 1.72 | 90.22 |
| 40-167 | x 5-1/2" | 1/25 | 1.89 | 98.96 |
| 40-168 | x 6" | 1/25 | 2.06 | 107.72 |
| 40-169 | x 7" | 1/20 | 2.40 | 126.01 |
| 40-170 | x 8" | 1/18 | 2.74 | 143.70 |
| 40-171 | x 9" | 1/18 | 3.09 | 160.24 |
| 40-172 | x 10" | 1/18 | 3.43 | 216.46 |
| 40-173 | x 11" | 1/18 | 3.77 | 192.34 |
| 40-174 | x 12" | 1/14 | 4.12 | 212.28 |
| 40-175 | x 18" | 1/1 | 6.18 | 227.72 |
| 40-176 | x 24" | 1/1 | 8.24 | 303.63 |
| 40-178 | x 36" | 1/1 | 12.36 | 467.57 |
| 40-179 | x 48" | 1/1 | 16.48 | 712.58 |



LEAD FREE

2 1/2" - 8

2-1/2" DIAMETER SCH 40 SEAMLESS

| Part # | Length | Box/Case | Approx. Wt. Lbs. | List Price |
|--------|------------------|----------|------------------|------------|
| 40-180 | Close (2-1/2") | 1/36 | 1.26 | 118.14 |
| 40-181 | x 3" | 1/36 | 1.51 | 123.52 |
| 40-182 | x 3-1/2" | 1/30 | 1.76 | 139.95 |
| 40-183 | x 4" | 1/30 | 2.02 | 155.57 |
| 40-184 | x 4-1/2" | 1/30 | 2.27 | 157.38 |
| 40-185 | x 5" | 1/20 | 2.52 | 161.89 |
| 40-186 | x 5-1/2" | 1/20 | 2.77 | 197.75 |
| 40-187 | x 6" | 1/20 | 3.03 | 216.49 |

The road to success is always under construction. - Lily Tomlin

See our Valve section for 2-1/2, 3 and 4" Valves



**LEAD
FREE**

3" DIAMETER SCH 40 SEAMLESS

| Part # | Length | Box/Case | Approx. Wt. Lbs. | List Price |
|--------|------------------|----------|------------------|------------|
| 40-200 | Close (2-5/8") | 1/24 | 1.89 | 160.66 |
| 40-201 | x 3" | 1/20 | 2.16 | 166.96 |
| 40-202 | x 3-1/2" | 1/18 | 2.52 | 229.68 |
| 40-203 | x 4" | 1/18 | 2.88 | 212.73 |
| 40-204 | x 4-1/2" | 1/18 | 3.24 | 233.85 |
| 40-205 | x 5" | 1/18 | 3.60 | 257.28 |
| 40-206 | x 5-1/2" | 1/18 | 3.96 | 279.55 |
| 40-207 | x 6" | 1/12 | 4.32 | 303.90 |
| 40-209 | x 8" | 1/1 | 5.76 | 403.98 |



**LEAD
FREE**

4" DIAMETER SCH 40 SEAMLESS

| Part # | Size | Box/Case | Approx. WT. Lbs. | List Price |
|--------|-----------------|----------|------------------|------------|
| 40-220 | Close (2-7/8) | 1/20 | 2.40 | 170.23 |
| 40-221 | x 3" | 1/10 | 2.72 | 186.31 |
| 40-222 | x 3-1/2" | 1/10 | 3.18 | 209.19 |
| 40-223 | x 4" | 1/10 | 3.71 | 286.51 |
| 40-224 | x 4-1/2" | 1/5 | 4.24 | 257.69 |
| 40-225 | x 5" | 1/5 | 4.77 | 346.13 |
| 40-226 | x 5-1/2" | 1/5 | 5.30 | 303.50 |
| 40-234 | x 6" | 1/5 | 6.36 | 335.12 |



**LEAD
FREE**

6" DIAMETER SCH 40 SEAMLESS

| Part # | Size | Box/Case | Approx. WT. Lbs. | List Price |
|--------|----------|----------|------------------|------------|
| 40-254 | Close | 1/1 | 4.94 | 590.69 |
| 40-256 | x 4" | 1/1 | 6.54 | 761.05 |
| 40-259 | x 4-1/2" | 1/1 | 7.12 | 824.74 |
| 40-260 | x 5" | 1/1 | 7.91 | 965.90 |
| 40-261 | x 6" | 1/1 | 9.49 | 1125.70 |

CHROME PLATED

BRASS NIPPLES



3/8" DIAMETER CHROME PLATED

| Part # | Size | Box/Case | Approx. Wt. Lbs. | List Price |
|--------|----------|----------|------------------|------------|
| 41-040 | X Close | 5/25 | 0.05 | 9.38 |
| 41-041 | x 1-1/2" | 5/25 | 0.08 | 11.11 |
| 41-042 | x 2" | 5/25 | 0.10 | 13.49 |
| 41-043 | x 2-1/2" | 5/25 | 0.13 | 13.26 |
| 41-044 | x 3" | 5/25 | 0.16 | 17.89 |
| 41-045 | x 3-1/2" | 5/25 | 0.18 | 19.30 |
| 41-046 | x 4" | 5/25 | 0.21 | 22.96 |
| 41-047 | x 4-1/2" | 5/25 | 0.23 | 22.14 |
| 41-048 | x 5" | 5/25 | 0.26 | 26.82 |
| 41-049 | x 5-1/2" | 5/25 | 0.29 | 29.16 |
| 41-050 | x 6" | 5/25 | 0.31 | 31.54 |



1/2" DIAMETER CHROME PLATED

| Part # | Size | Box/Case | Approx. Wt. Lbs. | List Price |
|--------|----------|----------|------------------|------------|
| 41-060 | X Close | 5/25 | 0.09 | 12.51 |
| 41-061 | x 1-1/2" | 5/25 | 0.12 | 14.48 |
| 41-062 | x 2" | 5/25 | 0.16 | 17.01 |
| 41-063 | x 2-1/2" | 5/25 | 0.20 | 20.24 |
| 41-064 | x 3" | 5/25 | 0.23 | 23.76 |
| 41-065 | x 3-1/2" | 5/25 | 0.27 | 27.12 |
| 41-066 | x 4" | 5/25 | 0.31 | 31.08 |
| 41-067 | x 4-1/2" | 5/25 | 0.35 | 33.73 |
| 41-068 | x 5" | 5/25 | 0.39 | 37.16 |
| 41-069 | x 5-1/2" | 5/25 | 0.43 | 41.48 |
| 41-070 | x 6" | 5/25 | 0.47 | 45.25 |
| 41-074 | x 10" | 1/1 | 0.78 | 82.94 |



New Nickel Plated Brass Ball Valve with SS trim see page 173

See page 305 for Brass Cam & Groove Fittings

BRONZE FITTINGS



UL842, UL258, UL125, FM

Class 125 (150) For steam, water, gas, oil and air service
Standard specifications

Materials - ASTM B62-93 (85,5,5,5) C83600

Dimensions - ANSI B 16.15

Threads - ANSI B2.1 or BA 21 and Fed. WW-P-460C, MSS-SP-106, ANSI/ASME B1.20.1

- UL/ FM Approved
- ISO 9001:2000
- Not Lead Free
- RoHS Compliant

Bronze threaded fittings are manufactured from smooth-cored castings, designed to provide full flow with minimum restriction. All threads are accurately machined and gauged to ensure a perfect fit with the pipe. All fittings are individually tested under water to ensure quality. Bronze provides a tighter seal and is easier to install than other metals. Can be used for water, plumbing, heating, pneumatic and marine applications, able to resist the harmful effects of corrosion when coming into contact with salt water or fresh water polluted with mineral acids or peaty soils.

LEAD FREE BRASS FITTINGS

LEAD
FREE

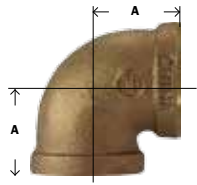


- Approved to ANSI/NSF 61-4 California AB 1953
- Meets Federal State Drinking Water Act, Lead Free Requirement
- Brass fittings conform to AWWA C800
- Brass castings conform to ASTM B584, UNS Alloy C8933

- Brass fittings dimensions conform to ASME B16.15
- NPT threads on all fittings conform to ASME B1.20.1
- Brass unions conform to specification A-A-59617
- Manufacturing facilities are ISO 9001:2008

BRONZE/ LEAD FREE BRONZE

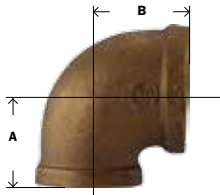
BRONZE FITTINGS



90° ELBOWS



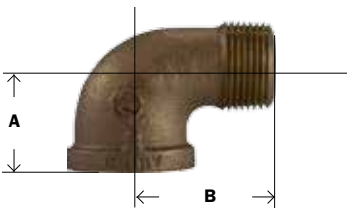
| Part # | List Price | Approx. Wt. Lbs. | Box/Case | Size | A | Approx. Wt. Lbs. | Part # | List Price |
|--------|------------|------------------|----------|--------|------|------------------|----------|------------|
| 44-100 | 7.27 | 0.08 | 50/600 | 1/8" | 0.55 | 0.06 | 44-100LF | 9.02 |
| 44-101 | 7.27 | 0.12 | 35/420 | 1/4" | 0.72 | 0.10 | 44-101LF | 5.88 |
| 44-102 | 7.27 | 0.17 | 90/360 | 3/8" | 0.83 | 0.15 | 44-102LF | 5.88 |
| 44-103 | 11.06 | 0.24 | 50/200 | 1/2" | 1.03 | 0.25 | 44-103LF | 8.94 |
| 44-104 | 14.87 | 0.34 | 35/105 | 3/4" | 1.19 | 0.41 | 44-104LF | 12.04 |
| 44-105 | 22.97 | 0.61 | 20/60 | 1" | 1.43 | 0.69 | 44-105LF | 18.58 |
| 44-106 | 36.53 | 0.95 | 20/40 | 1-1/4" | 1.71 | 1.02 | 44-106LF | 29.54 |
| 44-107 | 45.61 | 1.30 | 15/30 | 1-1/2" | 1.87 | 1.36 | 44-107LF | 36.87 |
| 44-108 | 74.27 | 2.07 | 8/16 | 2" | 2.14 | 2.14 | 44-108LF | 59.99 |
| 44-109 | 145.66 | 3.80 | 1/12 | 2-1/2" | 2.74 | 3.79 | | |
| 44-110 | 223.45 | 4.76 | 1/4 | 3" | 3.10 | 5.21 | 44-110LF | 248.68 |
| 44-112 | 538.88 | 9.71 | 1/2 | 4" | 3.80 | 8.59 | | |



90° REDUCING ELBOWS



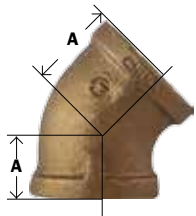
| Part # | List Price | Approx. Wt. Lbs. | Box/Case | Size | A | B | Approx. Wt. Lbs. | Part # | List Price |
|--------|------------|------------------|----------|-------------|------|------|------------------|----------|------------|
| 44-123 | 11.94 | 0.44 | 60/240 | 1/2" x 1/4" | 0.93 | 0.90 | 0.19 | | |
| 44-124 | 11.94 | 0.58 | 60/240 | 1/2" x 3/8" | 0.93 | 0.90 | 0.22 | 44-124LF | 14.86 |
| 44-127 | 16.29 | 0.80 | 40/160 | 3/4" x 1/2" | 1.08 | 1.11 | 0.31 | 44-127LF | 20.21 |
| 44-131 | 28.60 | 1.07 | 50/100 | 1" x 3/4" | 1.30 | 1.31 | 0.56 | 44-131LF | 35.49 |
| 44-134 | 44.66 | 0.80 | 25/50 | 1-1/4" x 1" | 1.52 | 1.60 | 0.81 | | |
| 44-137 | 56.43 | 1.07 | 10/40 | 1-1/2" x 1" | 1.56 | 1.72 | 1.02 | 44-137LF | 62.80 |
| | | | | 2" x 1" | | | | 44-140LF | 115.86 |



90° STREET ELLS

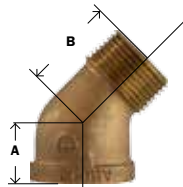


| Part # | List Price | Approx. Wt. Lbs. | Box/Case | Size | A | B | Approx. Wt. Lbs. | Part # | List Price |
|--------|------------|------------------|----------|--------|------|------|------------------|----------|------------|
| 44-160 | 11.06 | 0.07 | 60/720 | 1/8" | 0.55 | 0.92 | 0.06 | 44-160LF | 13.29 |
| 44-161 | 11.06 | 0.11 | 35/420 | 1/4" | 0.72 | 1.11 | 0.11 | 44-161LF | 8.94 |
| 44-162 | 11.06 | 0.18 | 60/240 | 3/8" | 0.83 | 1.24 | 0.16 | 44-162LF | 8.94 |
| 44-163 | 13.74 | 0.24 | 60/180 | 1/2" | 1.03 | 1.51 | 0.24 | 44-163LF | 11.12 |
| 44-164 | 19.40 | 0.37 | 35/105 | 3/4" | 1.19 | 1.66 | 0.38 | 44-164LF | 15.68 |
| 44-165 | 29.40 | 0.67 | 45/90 | 1" | 1.43 | 1.98 | 0.66 | 44-165LF | 25.95 |
| 44-166 | 49.10 | 1.00 | 25/50 | 1-1/4" | 1.71 | 2.26 | 0.99 | 44-166LF | 39.71 |
| 44-167 | 63.98 | 1.37 | 9/27 | 1-1/2" | 1.87 | 2.46 | 1.15 | 44-167LF | 51.72 |
| 44-168 | 108.47 | 1.93 | 8/16 | 2" | 2.14 | 2.98 | 2.07 | 44-168LF | 87.69 |
| 44-169 | 171.49 | 4.05 | 5/10 | 2-1/2" | 2.74 | 3.92 | 3.79 | | |
| 44-170 | 257.23 | 6.16 | 1/8 | 3" | 3.10 | 4.45 | 6.38 | | |



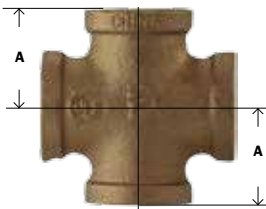
45° ELBOWS

| Part # | List Price | Approx. Wt. Lbs. | Box/Case | Size | A | Approx. Wt. Lbs. | Part # | List Price |
|--------|------------|------------------|----------|--------|------|------------------|----------|------------|
| 44-180 | 7.97 | 0.08 | 50/600 | 1/8" | 0.43 | 0.05 | 44-180LF | 8.86 |
| 44-181 | 7.97 | 0.13 | 30/360 | 1/4" | 0.55 | 0.09 | 44-181LF | 6.43 |
| 44-182 | 7.97 | 0.17 | 75/300 | 3/8" | 0.63 | 0.14 | 44-182LF | 21.23 |
| 44-183 | 10.10 | 0.21 | 50/200 | 1/2" | 0.79 | 0.19 | 44-183LF | 8.18 |
| 44-184 | 14.87 | 0.32 | 40/120 | 3/4" | 0.91 | 0.36 | 44-184LF | 12.04 |
| 44-185 | 25.15 | 0.52 | 20/60 | 1" | 1.07 | 0.59 | 44-185LF | 23.70 |
| 44-186 | 40.21 | 0.86 | 20/40 | 1-1/4" | 1.23 | 0.87 | 44-186LF | 32.50 |
| 44-187 | 50.39 | 1.10 | 10/30 | 1-1/2" | 1.31 | 1.13 | 44-187LF | 40.73 |
| 44-188 | 81.67 | 1.71 | 12/24 | 2" | 1.47 | 1.65 | 44-188LF | 66.01 |
| 44-189 | 160.59 | 3.24 | 1/12 | 2-1/2" | 1.95 | 2.69 | | |
| 44-190 | 258.16 | 4.12 | 1/10 | 3" | 2.17 | 3.68 | | |



45° STREET ELBOWS

| Part # | List Price | Approx. Wt. Lbs. | Box/Case | Size | A | B | Approx. Wt. Lbs. | Part # | List Price |
|--------|------------|------------------|----------|--------|------|------|------------------|----------|------------|
| 44-200 | 11.26 | 0.06 | 70/840 | 1/8" | 0.26 | 0.43 | 0.06 | | |
| 44-201 | 13.45 | 0.11 | 100/400 | 1/4" | 0.35 | 0.56 | 0.09 | 44-201LF | 33.87 |
| 44-202 | 11.26 | 0.13 | 100/400 | 3/8" | 0.37 | 0.63 | 0.12 | 44-202LF | 33.87 |
| 44-203 | 13.74 | 0.18 | 75/225 | 1/2" | 0.45 | 0.79 | 0.22 | 44-203LF | 11.12 |
| 44-204 | 27.03 | 0.28 | 40/120 | 3/4" | 0.52 | 0.91 | 0.31 | 44-204LF | 15.68 |
| 44-205 | 32.08 | 0.52 | 25/75 | 1" | 0.60 | 1.07 | 0.52 | 44-205LF | 39.82 |
| 44-206 | 49.10 | 0.77 | 10/40 | 1-1/4" | 0.67 | 1.23 | 0.72 | 44-206LF | 39.71 |
| 44-207 | 65.96 | 0.97 | 10/30 | 1-1/2" | 0.70 | 1.31 | 1.05 | 44-207LF | 53.31 |
| 44-208 | 111.80 | 2.04 | 12/24 | 2" | 0.76 | 1.47 | 2.04 | 44-208LF | 124.41 |

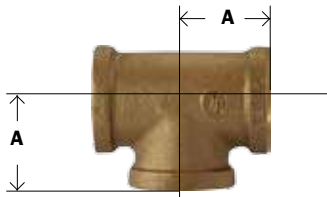


CROSSES

| Part # | List Price | Approx. Wt. Lbs. | Box/Case | Size | A | Approx. Wt. Lbs. | Part # | List Price |
|--------|------------|------------------|----------|--------|------|------------------|----------|------------|
| 44-391 | 16.90 | 0.20 | 60/240 | 1/4" | 0.72 | 0.15 | 44-391LF | 13.66 |
| 44-392 | 16.90 | 0.15 | 50/150 | 3/8" | 0.83 | 0.25 | 44-392LF | 21.91 |
| 44-393 | 20.53 | 0.45 | 30/90 | 1/2" | 1.03 | 0.38 | 44-393LF | 16.60 |
| 44-394 | 29.66 | 0.76 | 20/60 | 3/4" | 1.19 | 0.59 | 44-394LF | 23.98 |
| 44-395 | 47.04 | 1.04 | 15/30 | 1" | 1.19 | 0.94 | 44-395LF | 38.03 |
| 44-396 | 73.63 | 1.63 | 10/20 | 1-1/4" | 1.71 | 1.43 | 44-396LF | 95.55 |
| 44-397 | 94.06 | 2.10 | 8/16 | 1-1/2" | 1.87 | 1.89 | 44-397LF | 122.15 |
| 44-398 | 196.02 | 3.28 | 5/10 | 2" | 2.14 | 2.95 | 44-398LF | 158.44 |

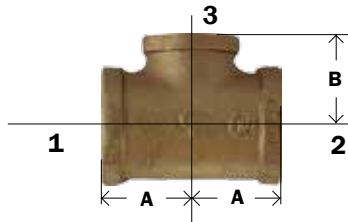
BRONZE/ LEAD FREE BRONZE

BRONZE FITTINGS



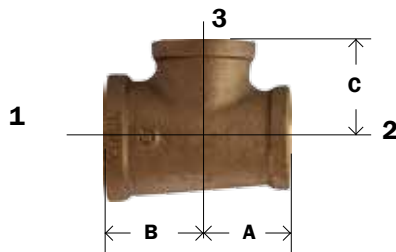
TEES

| Part # | List Price | Approx. Wt. Lbs. | Box/Case | Size | A | Approx. Wt. Lbs. | Part # | List Price |
|--------|------------|------------------|----------|--------|------|------------------|----------|------------|
| 44-250 | 10.10 | 0.11 | 120/480 | 1/8" | 0.55 | 0.09 | 44-250LF | 11.26 |
| 44-251 | 10.10 | 0.17 | 75/300 | 1/4" | 0.72 | 0.13 | 44-251LF | 8.18 |
| 44-252 | 10.10 | 0.25 | 45/180 | 3/8" | 0.83 | 0.21 | 44-252LF | 8.18 |
| 44-253 | 12.72 | 0.31 | 40/120 | 1/2" | 1.03 | 0.35 | 44-253LF | 10.29 |
| 44-254 | 18.30 | 0.50 | 35/70 | 3/4" | 1.19 | 0.55 | 44-254LF | 14.81 |
| 44-255 | 32.52 | 0.85 | 20/40 | 1" | 1.43 | 0.92 | 44-255LF | 26.29 |
| 44-256 | 45.61 | 1.29 | 14/28 | 1-1/4" | 1.71 | 1.34 | 44-256LF | 36.87 |
| 44-257 | 62.76 | 1.68 | 12/24 | 1-1/2" | 1.87 | 1.82 | 44-257LF | 50.73 |
| 44-258 | 102.80 | 2.70 | 8/16 | 2" | 2.14 | 2.80 | 44-258LF | 83.12 |
| 44-259 | 199.92 | 5.14 | 1/6 | 2-1/2" | 2.74 | 4.70 | | |
| 44-260 | 305.74 | 7.59 | 1/6 | 3" | 3.10 | 6.69 | | |



**REDUCING TEES
REDUCING ON THE BRANCH**

| Part # | List Price | Approx. Wt. Lbs. | Box/Case | Size (1 & 2) x 3 | A | B | Approx. Wt. Lbs. | Part # | List Price |
|--------|------------|------------------|----------|------------------|------|-------|------------------|----------|------------|
| 44-276 | 15.44 | 0.24 | 40/160 | 1/2" x 1/4" | 0.87 | 0.87 | 0.28 | 44-276LF | 19.14 |
| 44-280 | 29.90 | 0.46 | 40/160 | 1/2" x 3/4" | 2.42 | 1.155 | 0.48 | 44-280LF | 21.92 |
| 44-282 | 21.92 | 0.43 | 25/100 | 3/4" x 1/4" | 1.05 | 1.08 | 0.38 | 44-282LF | 27.22 |
| 44-283 | 21.92 | 0.45 | 25/100 | 3/4" x 3/8" | 1.00 | 1.00 | 0.46 | | |
| 44-286 | 21.92 | 0.53 | 20/80 | 3/4" x 1/2" | 1.08 | 1.11 | 0.40 | 44-286LF | 17.73 |
| 44-291 | 40.08 | 0.60 | 15/60 | 1" x 1/2" | 1.20 | 1.24 | 0.73 | 44-291LF | 32.39 |
| 44-298 | 40.08 | 0.80 | 12/48 | 1" x 3/4" | 1.30 | 1.31 | 0.71 | 44-298LF | 32.39 |
| 44-301 | 70.02 | 0.85 | 20/40 | 1-1/4" x 1/2" | 1.34 | 1.53 | 1.18 | 44-301LF | 70.02 |
| 44-303 | 56.43 | 0.90 | 20/40 | 1-1/4" x 3/4" | 1.30 | 1.31 | 1.08 | 44-303LF | 62.80 |
| 44-306 | 56.43 | 1.21 | 20/40 | 1-1/4" x 1" | 1.58 | 1.67 | 1.23 | 44-306LF | 62.80 |
| | | | | 2" x 1" | | | 1.88 | 44-330LF | 92.06 |
| | | | | 2" x 1-1/4" | | | 2.03 | 44-334LF | 240.01 |



**REDUCING TEES
REDUCING ON THE RUN**

| Part # | List Price | Size 1x2x3 | A | B | C | Box/Case | Approx. Wt. Lbs. | Part # | List Price |
|--------|------------|--------------------|--------|------|------|----------|------------------|----------|------------|
| 44-287 | 24.12 | 3/4" x 1/2" x 1/2" | 25/100 | 1.20 | 1.22 | 25/100 | 0.37 | 44-287LF | 31.83 |
| | | 3/4" x 1/2" x 3/4" | | | | | 0.49 | 44-288LF | 31.83 |
| 44-296 | 43.65 | 1" x 3/4" x 3/4" | 15/60 | 1.37 | 1.45 | 10/40 | 0.71 | | |



COUPLINGS

| Part # | List Price | Approx. Wt. Lbs. | Box/Case | Size | A | Approx. Wt. Lbs. | Part # | List Price |
|--------|------------|------------------|----------|--------|------|------------------|----------|------------|
| 44-410 | 7.27 | 0.12 | 70/840 | 1/8" | 0.80 | 0.06 | 44-410LF | 8.09 |
| 44-411 | 7.27 | 0.11 | 40/480 | 1/4" | 0.80 | 0.09 | 44-411LF | 5.88 |
| 44-412 | 7.27 | 0.15 | 40/480 | 3/8" | 1.05 | 0.13 | 44-412LF | 5.88 |
| 44-413 | 9.14 | 0.18 | 60/240 | 1/2" | 1.29 | 0.21 | 44-413LF | 7.37 |
| 44-414 | 12.05 | 0.28 | 50/150 | 3/4" | 1.43 | 0.32 | 44-414LF | 9.75 |
| 44-415 | 18.30 | 0.45 | 25/100 | 1" | 1.68 | 0.53 | 44-415LF | 14.81 |
| 44-416 | 28.60 | 0.63 | 16/64 | 1-1/4" | 1.86 | 0.73 | 44-416LF | 23.13 |
| 44-417 | 38.88 | 0.82 | 18/36 | 1-1/2" | 1.92 | 0.97 | 44-417LF | 31.42 |
| 44-418 | 63.98 | 1.38 | 12/24 | 2" | 2.20 | 1.51 | 44-418LF | 51.72 |
| 44-419 | 106.32 | 2.63 | 1 | 2-1/2" | 2.88 | 2.20 | | |
| 44-420 | 146.97 | 3.80 | 1 | 3" | 3.18 | 3.63 | 44-420LF | 163.56 |



REDUCING COUPLINGS

| Part # | List Price | Approx. Wt. Lbs. | Box/Case | Size | A | Approx. Wt. Lbs. | Part # | List Price |
|--------|------------|------------------|----------|-----------------|------|------------------|----------|------------|
| 44-430 | 7.81 | 0.08 | 70/840 | 1/4" x 1/8" | 0.88 | 0.08 | 44-430LF | 8.67 |
| 44-431 | 7.81 | 0.11 | 35/420 | 3/8" x 1/8" | 0.92 | 0.10 | | |
| 44-432 | 7.81 | 0.13 | 30/360 | 3/8" x 1/4" | 0.92 | 0.11 | 44-432LF | 6.30 |
| 44-433 | 11.26 | 0.16 | 75/300 | 1/2" x 1/8" | 1.17 | 0.14 | | |
| 44-434 | 9.72 | 0.16 | 75/300 | 1/2" x 1/4" | 1.17 | 0.16 | 44-434LF | 7.87 |
| 44-435 | 9.72 | 0.18 | 60/240 | 1/2" x 3/8" | 1.17 | 0.17 | 44-435LF | 7.87 |
| 44-436 | 16.09 | 0.23 | 45/180 | 3/4" x 1/4" | 1.35 | 0.20 | 44-436LF | 13.01 |
| 44-437 | 14.48 | 0.24 | 45/180 | 3/4" x 3/8" | 1.35 | 0.23 | 44-437LF | 17.97 |
| 44-438 | 14.48 | 0.23 | 60/180 | 3/4" x 1/2" | 1.35 | 0.26 | 44-438LF | 11.71 |
| 44-440 | 27.15 | 0.40 | 30/120 | 1" x 3/8" | 1.56 | 0.40 | | |
| 44-441 | 24.08 | 0.33 | 30/120 | 1" x 1/2" | 1.56 | 0.38 | 44-441LF | 19.47 |
| 44-442 | 24.08 | 0.44 | 25/100 | 1" x 3/4" | 1.56 | 0.43 | 44-442LF | 19.47 |
| 44-444 | 46.14 | 0.62 | 25/75 | 1-1/4" x 1/2" | 1.77 | 0.60 | 44-444LF | 51.36 |
| 44-445 | 38.88 | 0.64 | 25/75 | 1-1/4" x 3/4" | 1.77 | 0.57 | 44-445LF | 31.42 |
| 44-446 | 38.88 | 0.54 | 15/60 | 1-1/4" x 1" | 1.77 | 0.65 | 44-446LF | 31.42 |
| 44-447 | 55.29 | 0.80 | 20/60 | 1-1/2" x 1/2" | 1.80 | 0.77 | | |
| 44-448 | 55.29 | 0.83 | 15/60 | 1-1/2" x 3/4" | 1.80 | 0.74 | 44-448LF | 44.71 |
| 44-449 | 49.10 | 0.68 | 25/50 | 1-1/2" x 1" | 1.80 | 0.83 | 44-449LF | 39.71 |
| 44-450 | 49.10 | 0.99 | 12/48 | 1-1/2" x 1-1/4" | 1.80 | 0.87 | 44-450LF | 39.71 |
| 44-458 | 82.25 | 1.28 | 12/36 | 2" x 1/2" | 2.03 | 1.07 | | |
| 44-451 | 82.25 | 0.97 | 12/36 | 2" x 3/4" | 2.03 | 1.25 | 44-451LF | 91.54 |
| 44-452 | 82.25 | 1.40 | 12/36 | 2" x 1" | 2.03 | 1.19 | 44-452LF | 66.50 |
| 44-453 | 72.99 | 1.09 | 9/27 | 2" x 1-1/4" | 2.03 | 1.22 | 44-453LF | 60.27 |
| 44-454 | 72.99 | 3.60 | 9/27 | 2" x 1-1/2" | 2.03 | 1.28 | 44-454LF | 58.96 |
| 44-461 | 129.30 | 1.26 | 1 | 2-1/2" x 1-1/2" | 3.15 | 1.94 | | |
| 44-462 | 129.34 | 2.29 | 1 | 2-1/2" x 2" | 3.15 | 2.37 | 44-462LF | 143.89 |
| 44-456 | 171.36 | 2.49 | 1 | 3" x 2" | 3.69 | 2.46 | | |
| 44-463 | 171.36 | 3.92 | 1 | 3" x 2-1/2" | 3.69 | 3.82 | | |

BRONZE/ LEAD FREE BRONZE

BRONZE FITTINGS



CAPS

| Part # | List Price | Approx. Wt. Lbs. | Box/Case | Size | A | Approx. Wt. Lbs. | Part # | List Price |
|--------|------------|------------------|----------|--------|------|------------------|----------|------------|
| 44-470 | 5.44 | 0.04 | 80/160 | 1/8" | 0.53 | 0.03 | 44-470LF | 6.07 |
| 44-471 | 5.44 | 0.06 | 80/960 | 1/4" | 0.58 | 0.06 | 44-471LF | 11.13 |
| 44-472 | 5.44 | 0.10 | 60/720 | 3/8" | 0.66 | 0.09 | 44-472LF | 6.07 |
| 44-473 | 7.27 | 0.13 | 75/300 | 1/2" | 0.75 | 0.13 | 44-473LF | 5.88 |
| 44-474 | 9.61 | 0.19 | 40/160 | 3/4" | 0.87 | 0.21 | 44-474LF | 7.77 |
| 44-475 | 15.06 | 0.30 | 25/100 | 1" | 1.03 | 0.35 | 44-475LF | 12.18 |
| 44-476 | 22.90 | 0.51 | 20/80 | 1-1/4" | 1.10 | 0.52 | 44-476LF | 18.52 |
| 44-477 | 30.92 | 0.66 | 18/54 | 1-1/2" | 1.12 | 0.65 | 44-477LF | 25.00 |
| 44-478 | 52.47 | 1.00 | 12/36 | 2" | 1.35 | 1.14 | 44-478LF | 42.44 |
| 44-480 | 159.33 | 2.74 | 1 | 3" | 1.83 | 2.64 | | |



UNIONS

| Part # | List Price | Approx. Wt. Lbs. | Box/Case | Size | A | Approx. Wt. Lbs. | Part # | List Price |
|--------|------------|------------------|----------|--------|------|------------------|----------|------------|
| 44-600 | 25.78 | 0.17 | 40/160 | 1/8" | 1.18 | 0.13 | 44-600LF | 28.71 |
| 44-601 | 25.78 | 0.25 | 40/160 | 1/4" | 1.26 | 0.27 | 44-601LF | 20.85 |
| 44-602 | 25.78 | 0.37 | 40/160 | 3/8" | 1.50 | 0.39 | 44-602LF | 46.66 |
| 44-603 | 28.04 | 0.52 | 50/100 | 1/2" | 1.57 | 0.44 | 44-603LF | 22.67 |
| 44-604 | 38.88 | 0.78 | 35/70 | 3/4" | 1.89 | 0.59 | 44-604LF | 31.42 |
| 44-605 | 51.49 | 1.18 | 20/40 | 1" | 2.13 | 0.90 | 44-605LF | 41.62 |
| 44-606 | 75.42 | 1.64 | 15/30 | 1-1/4" | 2.36 | 1.33 | 44-606LF | 60.96 |
| 44-607 | 89.00 | 2.08 | 10/20 | 1-1/2" | 2.68 | 1.80 | 44-607LF | 71.95 |
| 44-608 | 136.98 | 3.24 | 6/12 | 2" | 2.99 | 2.66 | 44-608LF | 110.75 |
| 44-609 | 269.56 | 5.31 | 4/8 | 2-1/2" | 3.35 | 4.80 | | |
| 44-610 | 416.45 | 6.94 | 4/8 | 3" | 3.74 | 6.49 | | |



• Straight Thread

HEX LOCKNUTS

| Part # | Box/Case | Size | A | Thickness | Approx. Wt. Lbs. | List Price |
|--------|----------|--------|------|-----------|------------------|------------|
| 44-700 | 180/720 | 1/8" | 0.50 | 0.19 | 0.01 | 3.60 |
| 44-701 | 90/540 | 1/4" | 0.66 | 0.25 | 0.03 | 3.60 |
| 44-702 | 90/540 | 3/8" | 0.77 | 0.28 | 0.04 | 3.60 |
| 44-703 | 90/360 | 1/2" | 0.97 | 0.31 | 0.09 | 5.79 |
| 44-704 | 90/360 | 3/4" | 1.23 | 0.34 | 0.10 | 6.89 |
| 44-705 | 50/150 | 1" | 1.50 | 0.38 | 0.17 | 10.28 |
| 44-706 | 45/180 | 1-1/4" | 1.86 | 0.42 | 0.22 | 16.70 |
| 44-707 | 45/135 | 1-1/2" | 2.12 | 0.47 | 0.29 | 21.66 |
| 44-708 | 25/75 | 2" | 2.63 | 0.53 | 0.45 | 34.42 |



Hex

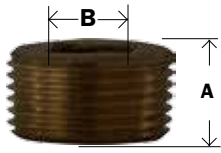


HEX BUSHINGS

| Part # | List Price | Approx. Wt. Lbs. | Box/Case | Size | A | Hex | Approx. Wt. Lbs. | Part # | List Price |
|---------|------------|------------------|----------|-----------------|------|------|------------------|-----------|------------|
| 44-500 | 4.92 | 0.02 | 120/1440 | 1/4" x 1/8" | 0.58 | 0.66 | 0.03 | 44-500LF | 7.15 |
| 44-501 | 4.92 | 0.06 | 75/900 | 3/8" x 1/8" | 0.64 | 0.72 | 0.06 | 44-501LF | 7.82 |
| 44-502 | 4.92 | 0.04 | 75/900 | 3/8" x 1/4" | 0.64 | 0.75 | 0.04 | 44-502LF | 6.15 |
| 44-503 | 6.89 | 0.10 | 150/600 | 1/2" x 1/8" | 0.75 | 0.92 | 0.09 | 44-503LF | 6.52 |
| 44-504 | 5.79 | 0.09 | 150/600 | 1/2" x 1/4" | 0.75 | 0.93 | 0.10 | 44-504LF | 4.68 |
| 44-505 | 5.79 | 0.08 | 150/600 | 1/2" x 3/8" | 0.75 | 0.92 | 0.08 | 44-505LF | 4.68 |
| 44-506 | 9.61 | 0.17 | 75/300 | 3/4" x 1/8" | 0.87 | 1.15 | 0.17 | 44-506LF | 10.70 |
| 44-507 | 9.61 | 0.15 | 75/300 | 3/4" x 1/4" | 0.85 | 1.14 | 0.18 | 44-507LF | 7.77 |
| 44-508 | 7.97 | 0.14 | 75/300 | 3/4" x 3/8" | 0.85 | 1.14 | 0.17 | 44-508LF | 6.43 |
| 44-509 | 7.97 | 0.14 | 75/300 | 3/4" x 1/2" | 0.85 | 1.15 | 0.14 | 44-509LF | 6.43 |
| 44-510* | 14.63 | 0.23 | 50/200 | 1" x 1/4" | 1.05 | 1.43 | 0.28 | 44-510LF* | 11.82 |
| 44-511* | 14.63 | 0.22 | 50/200 | 1" x 3/8" | 1.05 | 1.50 | 0.26 | 44-511LF | 16.28 |
| 44-512 | 12.05 | 0.25 | 50/200 | 1" x 1/2" | 1.00 | 1.40 | 0.30 | 44-512LF | 9.75 |
| 44-513 | 12.05 | 0.21 | 50/200 | 1" x 3/4" | 1.00 | 1.43 | 0.21 | 44-513LF | 9.75 |
| 44-514 | 24.79 | 0.34 | 30/120 | 1-1/4" x 1/4" | 1.22 | 1.10 | 0.34 | | |
| 44-515 | 58.02 | 0.35 | 30/120 | 1-1/4" x 3/8" | 1.19 | 1.84 | 0.29 | | |
| 44-516* | 24.79 | 0.34 | 30/120 | 1-1/4" x 1/2" | 1.14 | 1.33 | 0.39 | 44-516LF* | 44.53 |
| 44-517 | 20.53 | 0.40 | 30/120 | 1-1/4" x 3/4" | 1.08 | 1.75 | 0.43 | 44-517LF | 16.60 |
| 44-518 | 20.53 | 0.33 | 30/120 | 1-1/4" x 1" | 1.08 | 1.76 | 0.42 | 44-518LF | 16.60 |
| 44-519* | 32.08 | 0.47 | 25/75 | 1-1/2" x 1/4" | 1.09 | 2.12 | 0.29 | 44-519LF | 35.71 |
| 44-520* | 32.08 | 0.45 | 25/75 | 1-1/2" x 3/8" | 1.35 | 2.16 | 0.44 | 44-520LF | 51.27 |
| 44-521* | 32.08 | 0.44 | 25/75 | 1-1/2" x 1/2" | 1.20 | 2.10 | 0.51 | 44-521LF* | 25.95 |
| 44-522* | 32.08 | 0.48 | 25/75 | 1-1/2" x 3/4" | 1.20 | 2.12 | 0.54 | 44-522LF* | 25.95 |
| 44-523 | 26.22 | 0.53 | 25/75 | 1-1/2" x 1" | 1.14 | 2.08 | 0.57 | 44-523LF | 21.21 |
| 44-524 | 26.22 | 0.45 | 25/75 | 1-1/2" x 1-1/4" | 1.14 | 2.12 | 0.46 | 44-524LF | 21.21 |
| 44-527* | 46.83 | 0.67 | 20/60 | 2" x 1/2" | 1.27 | 1.32 | 1.10 | 44-527LF | 52.11 |
| 44-528* | 46.83 | 0.74 | 20/60 | 2" x 3/4" | 1.27 | 1.62 | 0.77 | 44-528LF | 32.31 |
| 44-529* | 46.83 | 0.76 | 20/60 | 2" x 1" | 1.29 | 1.95 | 0.77 | 44-529LF* | 37.85 |
| 44-530 | 38.88 | 0.86 | 20/60 | 2" x 1-1/4" | 1.22 | 2.47 | 0.88 | 44-530LF | 31.42 |
| 44-531 | 38.88 | 0.83 | 20/60 | 2" x 1-1/2" | 1.22 | 2.50 | 0.71 | 44-531LF | 31.42 |
| 44-532 | 96.41 | 1.16 | 15/30 | 2-1/2" x 1" | 1.53 | 1.94 | 1.19 | | |
| 44-534 | 92.71 | 1.36 | 15/30 | 2-1/2" x 1-1/2" | 1.50 | 2.38 | 1.15 | 44-534LF | 86.51 |
| 44-535 | 77.73 | 1.13 | 15/30 | 2-1/2" x 2" | 1.43 | 2.97 | 1.12 | 44-535LF | 86.51 |
| 44-537 | 152.80 | 1.82 | 12/24 | 3" x 1-1/2" | 1.61 | 2.68 | 2.44 | | |
| 44-538 | 117.53 | 2.33 | 12/24 | 3" x 2" | 1.61 | 3.70 | 1.82 | 44-538LF | 130.84 |
| 44-539 | 117.53 | 2.19 | 12/24 | 3" x 2-1/2" | 1.53 | 3.70 | 2.11 | | |
| 44-541 | 270.61 | 3.51 | 12/24 | 4" x 2" | | | 3.86 | | |
| 44-543 | 270.61 | 4.22 | 12/24 | 4" x 3" | 2.01 | 4.62 | 3.56 | 44-543LF | 300.01 |

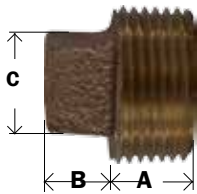


* INSIDE HEX



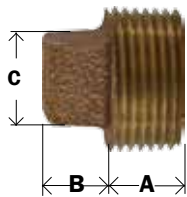
BRONZE COUNTERSUNK PLUGS

| Part # | Size | A | Socket Size | Box/Case | Approx. Wt. Lbs. | List Price |
|--------|--------|------|-------------|----------|------------------|------------|
| 44-633 | 1/2" | 0.57 | 0.43 | 120/1440 | 0.06 | 5.95 |
| 44-634 | 3/4" | 0.58 | 0.47 | 70/840 | 0.11 | 7.09 |
| 44-635 | 1" | 0.75 | 0.59 | 20/240 | 0.22 | 12.74 |
| 44-636 | 1-1/4" | 0.74 | 0.72 | 40/120 | 0.33 | 21.22 |
| 44-637 | 1-1/2" | 0.79 | 0.72 | 30/90 | 0.50 | 31.87 |
| 44-638 | 2" | 0.80 | 0.85 | 20/60 | 0.88 | 51.87 |
| 44-639 | 2-1/2" | 1.08 | 1.25 | 1/1 | 1.56 | 95.15 |
| 44-640 | 3" | 1.13 | 1.38 | 1/1 | 2.47 | 155.34 |
| 44-641 | 4" | 1.22 | 2.12 | 1/1 | 3.21 | 323.05 |



CORED SQUARE HEAD PLUGS

| Part # | List Price | Approx. Wt. Lbs. | Box/Case | Size | A | B | C | Approx. Wt. Lbs. | Part # | List Price |
|--------|------------|------------------|----------|--------|------|------|------|------------------|----------|------------|
| 44-650 | 5.44 | 0.02 | 300/3600 | 1/8" | 0.27 | 0.24 | 0.28 | 0.02 | 44-670LF | 5.56 |
| 44-651 | 5.44 | 0.04 | 150/1800 | 1/4" | 0.41 | 0.28 | 0.37 | 0.04 | 44-671LF | 5.98 |
| 44-652 | 5.44 | 0.06 | 100/1200 | 3/8" | 0.41 | 0.31 | 0.43 | 0.06 | 44-672LF | 6.12 |
| 44-653 | 7.60 | 0.10 | 50/600 | 1/2" | 0.54 | 0.38 | 0.56 | 0.10 | 44-653LF | 6.15 |
| 44-654 | 8.71 | 0.13 | 30/360 | 3/4" | 0.55 | 0.44 | 0.62 | 0.13 | 44-654LF | 7.87 |
| 44-655 | 11.48 | 0.25 | 20/240 | 1" | 0.69 | 0.50 | 0.81 | 0.22 | 44-655LF | 9.29 |
| 44-656 | 17.08 | 0.39 | 40/120 | 1-1/4" | 0.71 | 0.56 | 0.93 | 0.32 | 44-656LF | 13.83 |
| 44-657 | 21.79 | 0.57 | 30/90 | 1-1/2" | 0.73 | 0.62 | 1.12 | 0.47 | 44-657LF | 18.09 |
| 44-658 | 34.39 | 0.77 | 20/60 | 2" | 0.76 | 0.68 | 1.31 | 0.68 | 44-658LF | 27.79 |
| 44-659 | 58.85 | 1.25 | 16/32 | 2-1/2" | 1.07 | 0.74 | 1.50 | 1.26 | | |
| 44-660 | 94.06 | 2.02 | 16/32 | 3" | 1.13 | 0.80 | 1.68 | 1.49 | | |
| 44-662 | 183.75 | 3.20 | 6/12 | 4" | 1.22 | 0.92 | 2.25 | 3.20 | | |



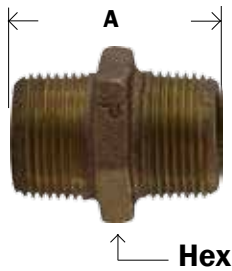
SOLID SQUARE HEAD PLUGS

| Part # | List Price | Size | A | B | C | Box/Case | Approx. Wt. Lbs. | Part # | List Price |
|--------|------------|--------|------|------|------|----------|------------------|----------|------------|
| 44-670 | 5.79 | 1/8" | 0.27 | 0.24 | 0.28 | 400/4800 | 0.02 | | |
| 44-671 | 5.79 | 1/4" | 0.41 | 0.28 | 0.37 | 150/1800 | 0.04 | | |
| 44-672 | 4.83 | 3/8" | 0.41 | 0.31 | 0.43 | 120/1440 | 0.06 | | |
| 44-673 | 9.14 | 1/2" | 0.54 | 0.38 | 0.56 | 50/600 | 0.12 | 44-673LF | 10.16 |
| 44-674 | 11.92 | 3/4" | 0.55 | 0.44 | 0.62 | 35/420 | 0.18 | 44-674LF | 13.26 |
| 44-675 | 20.32 | 1" | 0.69 | 0.50 | 0.81 | 20/240 | 0.36 | 44-675LF | 22.59 |
| 44-676 | 36.59 | 1-1/4" | 0.71 | 0.56 | 0.93 | 30/120 | 0.63 | 44-676LF | 40.74 |
| 44-677 | 47.57 | 1-1/2" | 0.73 | 0.62 | 1.12 | 30/90 | 0.84 | | |
| 44-678 | 75.42 | 2" | 0.76 | 0.68 | 1.31 | 10/60 | 1.27 | 44-678LF | 83.91 |

BRONZE FITTINGS

LEAD FREE CHROME PLATED FITTINGS

HEX NIPPLES



| Part # | Size | A | Hex | Box/Case | Approx. Wt. Lbs. | List Price |
|--------|--------|------|------|----------|------------------|------------|
| 44-720 | 1/8" | 1.25 | 0.50 | 400/4800 | 0.05 | 8.47 |
| 44-721 | 1/4" | 1.25 | 0.61 | 150/1800 | 0.06 | 14.05 |
| 44-722 | 3/8" | 1.55 | 0.68 | 120/1440 | 0.11 | 14.44 |
| 44-723 | 1/2" | 1.65 | 1.03 | 240/480 | 0.18 | 14.44 |
| 44-724 | 3/4" | 1.77 | 1.21 | 80/320 | 0.24 | 15.16 |
| 44-725 | 1" | 2.06 | 1.46 | 50/150 | 0.36 | 16.35 |
| 44-726 | 1-1/4" | 2.12 | 1.81 | 50/100 | 0.47 | 33.95 |
| 44-727 | 1-1/2" | 2.25 | 2.07 | 35/70 | 0.76 | 51.87 |
| 44-728 | 2" | 2.50 | 2.41 | 20/40 | 1.50 | 62.76 |
| 44-729 | 2-1/2" | 2.80 | 3.10 | 1 | 2.10 | 64.66 |

REDUCING HEX NIPPLES



| Part # | Size | Box/Case | Approx. Wt. Lbs. | List Price |
|--------|-----------------|----------|------------------|------------|
| 44-740 | 1/4" x 1/8" | 1/1 | 0.06 | 14.51 |
| 44-742 | 1/2" x 3/8" | 1/1 | 0.16 | 18.12 |
| 44-744 | 1" x 1/2" | 1/1 | 0.31 | 30.92 |
| 44-750 | 1-1/2" x 1" | 1/1 | 0.64 | 59.36 |
| 44-753 | 1-1/2" x 1-1/4" | 1/1 | 0.68 | 63.44 |

See page 239 for Stainless Steel Reducing Hex Nipples

CHROME PLATED 90° ELBOW



LEAD FREE

| Part # | Size | List Price |
|----------|------|------------|
| 45-102LF | 3/8" | 49.09 |
| 45-103LF | 1/2" | 47.56 |

CHROME PLATED 90° ELBOW



LEAD FREE

| Part # | Size | List Price |
|----------|------|------------|
| 45-163LF | 1/2" | 29.20 |

CHROME PLATED TEE



LEAD FREE

| Part # | Size | List Price |
|----------|------|------------|
| 45-252LF | 3/8" | 57.63 |
| 45-253LF | 1/2" | 55.86 |

CHROME PLATED COUPLING



LEAD FREE

| Part # | Size | List Price |
|----------|------|------------|
| 45-412LF | 3/8" | 41.06 |
| 45-413LF | 1/2" | 52.01 |

CLEANOUT PLUGS/ DROP EAR ELBOWS

BRONZE FITTINGS



NEW



• Southern Code

CAST BRASS SQUARE HEAD CLEANOUT PLUG

| Part # | Size | Box/Case | List Price |
|---------|--------|----------|------------|
| 970-300 | 1-1/2" | 100/200 | 5.07 |
| 970-301 | 2" | 100/200 | 6.27 |
| 970-302 | 2-1/2" | 50/200 | 8.37 |
| 970-303 | 3" | 20/160 | 13.90 |
| 970-304 | 3-1/2" | 20/120 | 14.59 |
| 970-305 | 4" | 10/80 | 17.21 |
| 970-330 | 5" | 10/60 | 30.95 |
| 970-331 | 6" | 10/40 | 43.66 |
| 970-332 | 8" | 5/20 | 112.52 |
| 970-333 | 10" | 1/1 | 157.95 |

CAST BRASS COUNTERSUNK CLEANOUT W 1/4-20 TAP

| Part # | Size | Box/Case | List Price |
|---------|--------|----------|------------|
| 970-700 | 1-1/2" | 1/1 | 7.41 |
| 970-701 | 2" | 1/1 | 10.31 |
| 970-702 | 2-1/2" | 1/1 | 13.90 |
| 970-703 | 3" | 1/1 | 16.70 |
| 970-704 | 3-1/2" | 1/1 | 24.85 |
| 970-705 | 4" | 1/1 | 25.87 |
| 970-706 | 5" | 1/1 | 47.53 |
| 970-707 | 6" | 1/1 | 59.90 |



• Southern Code

CAST BRASS COUNTERSUNK HEAD CLEANOUT PLUG

| Part # | Size | Box/Case | List Price |
|---------|--------|----------|------------|
| 970-306 | 1-1/2" | 100/200 | 4.73 |
| 970-307 | 2" | 100/200 | 8.94 |
| 970-308 | 2-1/2" | 100/200 | 9.06 |
| 970-309 | 3" | 50/200 | 11.62 |
| 970-310 | 3-1/2" | 20/160 | 14.19 |
| 970-311 | 4" | 20/120 | 21.03 |
| 970-312 | 5" | 10/60 | 32.49 |
| 970-313 | 6" | 10/40 | 44.46 |
| 970-314 | 8" | 5/20 | 118.21 |

DROP EAR ELBOWS

• Lead Free Brass

• Lead Free Bronze



| Part # | Swt x FIP | List Price |
|---------|------------------|------------|
| 44840LF | 1/2 x 1/2 Bronze | 5.67 |
| 44841LF | 1/2 x 1/2 Brass | 4.27 |
| 44842LF | 3/4 x 1/2 Brass | 6.23 |
| 44843LF | 3/4 x 3/4 Brass | 7.84 |



• Lead Free Brass

| Part # | Swt x Swt | List Price |
|---------|-----------|------------|
| 44844LF | 1/2 x 1/2 | 3.57 |



• Lead Free Bronze

| Part # | Pex x FIP | List Price |
|---------|-----------|------------|
| 44845LF | 1/2 x 1/2 | 5.88 |

BRONZE FITTINGS

BRONZE/ STEEL INSERT FITTINGS

BRONZE INSERT FITTINGS

150 PSI Genuine red brass - for plastic pipe

- Not Lead Free

HEX MALE ADAPTERS



(Barb x Male Pipe)

| Part # | Barb x Male | List Price |
|---------|-----------------|------------|
| 973-925 | 3/4" x 3/4" | 10.65 |
| 973-927 | 1" x 1" | 29.89 |
| 973-930 | 1" x 1-1/4" | 26.88 |
| 973-928 | 1-1/4" x 1-1/4" | 26.22 |
| 973-929 | 1-1/4" x 1" | 27.89 |
| 973-948 | 1-1/2" x 1-1/2" | 35.07 |
| 973-949 | 2" x 2" | 49.89 |

BRONZE TEES ALL BARB



| Part # | Size | List Price |
|---------|--------|------------|
| 973-965 | 3/4" | 21.37 |
| 973-966 | 1" | 30.91 |
| 973-967 | 1-1/4" | 62.92 |

ELBOWS



(Barb x Male Pipe)

| Part # | Size | List Price |
|---------|-------------|------------|
| 973-980 | 3/4" x 3/4" | 18.09 |
| 973-981 | 1" x 3/4" | 24.02 |
| 973-982 | 1" x 1" | 32.57 |

ELBOWS



(Barb x Barb)

| Part # | Hose Size | List Price |
|---------|-------------|------------|
| 973-975 | 3/4" | 21.78 |
| 973-976 | 1" | 24.14 |
| 973-977 | 1-1/4" x 1" | 42.31 |
| 973-978 | 1-1/4" | 48.17 |
| 973-979 | 1-1/2" | 113.93 |

STEEL INSERT FITTINGS FOR PLASTIC PIPE

MALE ADAPTER

- Galvanized



(Barb x Male Pipe)

| Part # | Size | Box/Case | List Price |
|---------|--------|----------|------------|
| 973-906 | 1/2" | 25/100 | 3.66 |
| 973-907 | 3/4" | 25/10 | 4.74 |
| 973-908 | 1" | 16/48 | 5.05 |
| 973-909 | 1-1/4" | 12/36 | 7.30 |
| 973-910 | 1-1/2" | 6/36 | 10.62 |
| 973-911 | 2" | 5/25 | 16.42 |
| 973-912 | 2-1/2" | 1/3 | 52.03 |
| 973-913 | 3" | 1/3 | 57.12 |
| 973-914 | 4" | 1/3 | 65.05 |

REDUCING ADAPTER



(Insert x NPT)

| Part # | Size | List Price |
|---------|---------------|------------|
| 974-264 | 3/4 x 1/2 | 6.30 |
| 974-265 | 1 x 3/4 | 7.61 |
| 974-266 | 1-1/4 x 1 | 23.94 |
| 974-267 | 1-1/2 x 1-1/4 | 29.14 |

COUPLINGS



| Part # | Size | Box/Case | List Price |
|---------|-------|----------|------------|
| 973-900 | 1/2 | 30/120 | 3.00 |
| 973-901 | 3/4 | 20/100 | 4.35 |
| 973-902 | 1 | 20/100 | 5.07 |
| 973-903 | 1-1/4 | 16/64 | 7.38 |
| 973-904 | 1-1/2 | 12/48 | 10.43 |
| 973-905 | 2 | 5/25 | 14.57 |

SS & LEAD FREE BRONZE INSERT

BRONZE FITTINGS

STAINLESS STEEL #304



#304 INSERT X MALE PIPE

• For coiled plastic pipe to submersible pump

| Part # | Size | List Price |
|----------|---------------|------------|
| 973947SS | 1/2 x 1/2 | 8.48 |
| 973925SS | 3/4 x 3/4 | 8.66 |
| 973926SS | 1 x 3/4 | 13.78 |
| 973927SS | 1 x 1 | 14.23 |
| 973930SS | 1 x 1-1/4 | 18.02 |
| 973928SS | 1-1/4 x 1-1/4 | 16.79 |
| 973948SS | 1-1/2 x 1-1/2 | 24.74 |
| 973949SS | 2 x 2 | 33.57 |



#304 INSERT X MIP ELBOW

• Hydrant elbow

| Part # | Size | List Price |
|----------|---------------|------------|
| 973980SS | 3/4 x 3/4 | 21.91 |
| 973982SS | 1 x 1 | 34.11 |
| 973985SS | 1-1/4 x 1-1/4 | 46.68 |

LEAD FREE BRONZE INSERT FITTINGS



INSERT X INSERT

| Part # | Size | List Price |
|----------|-------|------------|
| 973960LF | 1/2 | 7.01 |
| 973961LF | 3/4 | 9.86 |
| 973962LF | 1 | 12.37 |
| 973963LF | 1-1/4 | 19.55 |



INSERT TEE

| Part # | Size | List Price |
|----------|-------|------------|
| 973965LF | 3/4 | 14.14 |
| 973966LF | 1 | 19.21 |
| 973967LF | 1-1/4 | 43.43 |

NEW



INSERT X MALE BRANCH TEE

| Part # | Size | List Price |
|----------|---------|------------|
| 973969LF | 3/4 | 15.62 |
| 973970LF | 1 x 3/4 | 20.12 |
| 973971LF | 1 | 23.94 |



INSERT X INSERT ELBOW

| Part # | Size | List Price |
|----------|------|------------|
| 973975LF | 3/4 | 11.17 |
| 973976LF | 1 | 15.90 |

WELL COUPLINGS



304 SS DROP WELL COUPLINGS STANDARD

| Part # | Size | List Price |
|---------|-------|------------|
| 62415DC | 1 | 16.79 |
| 62416DC | 1-1/4 | 22.97 |
| 62417DC | 1-1/2 | 26.51 |
| 62418DC | 2 | 35.01 |



HEAVY WALLED SS 304 DROP WELL COUPLINGS

| Part # | Size | List Price |
|-----------|-------|------------|
| 62415HDDC | 1 | 23.15 |
| 62416HDDC | 1-1/4 | 27.39 |
| 62417HDDC | 1-1/2 | 34.10 |
| 62418HDDC | 2 | 38.34 |



#304 STAINLESS STEEL MERCHANT COUPLINGS

| Part # | Size | List Price |
|--------|-------|------------|
| 61775 | 1 | 14.00 |
| 61776 | 1-1/4 | 19.21 |
| 61777 | 1-1/2 | 22.17 |
| 61778 | 2 | 31.28 |

STAINLESS STEEL NIPPLES

**SCHEDULE 40 WELDED**

Stainless steel pipe nipples are manufactured from stainless steel pipe that conforms to specification ASTM A312/SA312.

All stainless steel nipples conform to specification ASTM A733. Threads conform to the requirements of ANSI B1.20.1.

304

The basic alloy. Type 304 (18-8) is an austenitic steel possessing a minimum of 18% chromium and 8% nickel, combined with a maximum of 0.08% carbon. It is a nonmagnetic steel which cannot be hardened by heat treatment, but instead, must be cold worked to obtain higher tensile strengths.

Because of its ability to withstand the corrosive action of various acids found in fruits, meats, milk, and vegetables, Type 304 is especially suited for all types of dairy equipment piping and valves, the brewing industry, the citrus and fruit juice industry, and in food processing applications. Also used for the dye tanks, pipelines buckets, dippers, etc. that come in contact with the lormic, acetic, and other organic acids used in the dyeing industry.

In the marine environment, because of its slightly higher strength and wear resistance than type 316 it is also used for nuts, bolts, screws, and other fasteners. It is also used for springs, cogs, and other components where both wear and corrosion resistance is needed.

Both #304 and #316 nipples are NSF/ANSI 372 and NSF/ANSI 61 compliant.

**SCHEDULE 80 SEAMLESS**

- SEAMLESS FOR UNRESTRICTED FLOW
- USE WITH AIR, WATER, OIL, NATURAL GAS, STEAM
- FITTINGS: USE THREADED CLASS 3000 HIGH-PRESSURE STAINLESS STEEL.
- ASTM A733 • ASTM A312 • ANSI/ ASME B1.20.1
- PSI 3000

316

For severe environments. Of course, there are many industrial processes that require a higher level of resistance to corrosion than Type 304 can offer. For these applications, Type 316 is the answer.

In type 316, the nickel content is increased slightly. What distinguishes Type 316 from Type 304 is the addition of molybdenum up to a maximum of 3%.

Molybdenum increases the corrosion resistance of this chromium-nickel alloy to withstand attack by many industrial chemicals and solvents, and, in particular, inhibits pitting caused by chlorides. As such, molybdenum is one of the single most useful alloying additives in the fight against corrosion.

Type 316 can withstand corrosive attack by sodium and calcium brines, hypochlorite solutions, phosphoric acid; and the sulfite liquors and sulfurous acids used in the paper pulp industry. This alloy, therefore, is specified for industrial equipment that handles the corrosive process chemicals used to produce inks, rayons, photographic chemicals, paper, textiles, bleaches, and rubber. Type 316 is also used extensively for surgical implants within the hostile environment of the body.

Type 316 is the main stainless used in the marine environment, with the exception of fasteners and other items where strength and wear resistance are needed, then Type 304 (18-8) is typically used.

SCH 40 STAINLESS STEEL NIPPLES

STAINLESS STEEL

#304

1/8" - 27

#316

**1/8" DIAMETER
SCH 40 WELDED**



| Part # 304 S.S. | List Price | Length | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|--------------------|------------|----------------|-----|------------------|--------------------|------------|
| 48-001 | 2.41 | X Close (3/4") | 25 | 0.01 | 49-001 | 3.00 |
| 48-002 | 3.17 | x 1-1/2" | 25 | 0.03 | 49-002 | 4.20 |
| 48-003 | 3.77 | x 2" | 25 | 0.04 | 49-003 | 5.12 |
| 48-004 | 4.37 | x 2-1/2" | 25 | 0.05 | 49-004 | 6.02 |
| 48-005 | 4.97 | x 3" | 25 | 0.06 | 49-005 | 6.94 |
| 48-006 | 5.58 | x 3-1/2" | 25 | 0.07 | 49-006 | 7.85 |
| 48-007 | 6.20 | x 4" | 25 | 0.07 | 49-007 | 8.78 |
| 48-008 | 6.80 | x 4-1/2" | 25 | 0.09 | 49-008 | 9.69 |
| 48-009 | 7.40 | x 5" | 25 | 0.10 | 49-009 | 10.63 |
| 48-010 | 8.03 | x 5-1/2" | 25 | 0.11 | 49-010 | 11.54 |
| 48-011 | 8.62 | x 6" | 25 | 0.12 | 49-011 | 12.46 |
| 48-015 | 12.14 | x 10" | 1 | 0.19 | | |
| | | x 12" | 1 | 0.24 | 49-017 | 23.43 |

1/4"-18

**1/4" DIAMETER
SCH 40 WELDED**



| Part # 304 S.S. | List Price | Length | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|--------------------|------------|----------------|-----|------------------|--------------------|------------|
| 48-020 | 2.74 | X Close (7/8") | 25 | 0.02 | 49-020 | 3.38 |
| 48-021 | 3.39 | x 1-1/2" | 25 | 0.04 | 49-021 | 4.32 |
| 48-022 | 4.07 | x 2" | 25 | 0.06 | 49-022 | 5.26 |
| 48-023 | 4.82 | x 2-1/2" | 25 | 0.07 | 49-023 | 6.27 |
| 48-024 | 5.57 | x 3" | 25 | 0.09 | 49-024 | 7.39 |
| 48-025 | 6.31 | x 3-1/2" | 25 | 0.11 | 49-025 | 8.31 |
| 48-026 | 7.12 | x 4" | 25 | 0.13 | 49-026 | 9.41 |
| 48-027 | 7.88 | x 4-1/2" | 25 | 0.14 | 49-027 | 10.41 |
| 48-028 | 8.62 | x 5" | 25 | 0.16 | 49-028 | 11.44 |
| 48-029 | 9.38 | x 5-1/2" | 25 | 0.18 | 49-029 | 12.45 |
| 48-030 | 10.13 | x 6" | 25 | 0.19 | 49-030 | 13.46 |
| 48-031 | 11.70 | x 7" | 1 | 0.22 | 49-031 | 20.76 |
| 48-032 | 13.32 | x 8" | 1 | 0.25 | 49-032 | 15.96 |
| | | x 9" | 1 | 0.31 | 49-033 | 21.36 |
| 48-034 | 16.31 | x 10" | 1 | 0.35 | 49-034 | 25.85 |
| | | x 11" | 1 | 0.40 | 49-035 | 25.32 |
| 48-036 | 19.32 | x 12" | 1 | 0.44 | 49-036 | 23.35 |
| | | x 14" | 1 | 0.46 | 49-037 | 41.94 |
| | | x 16" | 1 | 0.47 | 49-038 | 34.62 |

STAINLESS STEEL

SCH 40 STAINLESS STEEL NIPPLES

#304

3/8"-18

#316



**3/8" DIAMETER
SCH 40 WELDED**



| Part # 304 S.S. | List Price | Length | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|--------------------|---------------|--------------|-----|------------------|--------------------|---------------|
| 48-040 | 3.28 | X Close (1") | 25 | 0.03 | 49-040 | 4.16 |
| 48-041 | 3.97 | x 1-1/2" | 25 | 0.06 | 49-041 | 5.20 |
| 48-042 | 4.82 | x 2" | 25 | 0.07 | 49-042 | 6.38 |
| 48-043 | 5.73 | x 2-1/2" | 25 | 0.10 | 49-043 | 7.65 |
| 48-044 | 6.64 | x 3" | 25 | 0.12 | 49-044 | 8.93 |
| 48-045 | 7.58 | x 3-1/2" | 25 | 0.15 | 49-045 | 10.20 |
| 48-046 | 8.49 | x 4" | 25 | 0.17 | 49-046 | 11.47 |
| 48-047 | 9.41 | x 4-1/2" | 25 | 0.19 | 49-047 | 12.74 |
| 48-048 | 10.32 | x 5" | 25 | 0.22 | 49-048 | 14.03 |
| 48-049 | 11.23 | x 5-1/2" | 25 | 0.23 | 49-049 | 15.28 |
| 48-050 | 12.17 | x 6" | 25 | 0.26 | 49-050 | 16.57 |
| 48-052 | 16.12 | x 8" | 1 | 0.34 | 49-052 | 21.75 |
| 48-054 | 19.79 | x 10" | 1 | 0.43 | 49-054 | 26.80 |



1/2" - 14



**1/2" DIAMETER
SCH 40 WELDED**

| Part # 304 S.S. | List Price | Length | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|--------------------|---------------|----------------|-----|------------------|--------------------|---------------|
| 48-060 | 4.22 | X Close 1-1/8" | 25 | 0.05 | 49-060 | 5.54 |
| 48-061 | 5.09 | x 1-1/2" | 25 | 0.07 | 49-061 | 6.82 |
| 48-062 | 6.11 | x 2" | 25 | 0.10 | 49-062 | 8.34 |
| 48-063 | 7.33 | x 2-1/2" | 25 | 0.14 | 49-063 | 10.09 |
| 48-064 | 8.53 | x 3" | 25 | 0.18 | 49-064 | 11.83 |
| 48-065 | 9.75 | x 3-1/2" | 25 | 0.20 | 49-065 | 13.57 |
| 48-066 | 11.00 | x 4" | 25 | 0.25 | 49-066 | 14.41 |
| 48-067 | 12.20 | x 4-1/2" | 25 | 0.28 | 49-067 | 17.11 |
| 48-068 | 13.41 | x 5" | 25 | 0.31 | 49-068 | 18.66 |
| 48-069 | 14.61 | x 5-1/2" | 25 | 0.34 | 49-069 | 20.59 |
| 48-070 | 15.84 | x 6" | 25 | 0.39 | 49-070 | 22.34 |
| 48-071 | 18.46 | x 7" | 1 | 0.41 | | |
| 48-072 | 20.88 | x 8" | 1 | 0.52 | 49-072 | 29.24 |
| 48-073 | 23.30 | x 9" | 1 | 0.54 | | |
| 48-074 | 25.73 | 10" | 1 | 0.58 | 49-074 | 36.14 |
| 48-075 | 28.15 | x 11" | 1 | 0.64 | | |
| 48-076 | 30.56 | x 12" | 1 | 0.69 | | |

SCH 40 STAINLESS STEEL NIPPLES

STAINLESS STEEL

#304



3/4" - 14

**3/4" DIAMETER
SCH 40 WELDED**

#316



| Part # 304 S.S. | List Price | Length | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|--------------------|---------------|------------------|-----|------------------|--------------------|---------------|
| 48-080 | 5.71 | X Close (1-3/8") | 25 | 0.08 | 49-080 | 7.23 |
| 48-081 | 6.07 | x 1-1/2" | 25 | 0.13 | 49-081 | 7.71 |
| 48-082 | 7.28 | x 2" | 25 | 0.14 | 49-082 | 9.43 |
| 48-083 | 8.75 | x 2-1/2" | 25 | 0.17 | 49-083 | 11.40 |
| 48-084 | 10.20 | x 3" | 25 | 0.22 | 49-084 | 13.37 |
| 48-085 | 11.67 | x 3-1/2" | 25 | 0.27 | 49-085 | 15.35 |
| 48-086 | 13.12 | x 4" | 25 | 0.32 | 49-086 | 17.31 |
| 48-087 | 14.59 | x 4-1/2" | 25 | 0.38 | 49-087 | 19.31 |
| 48-088 | 16.06 | x 5" | 25 | 0.40 | 49-088 | 21.26 |
| 48-089 | 17.52 | x 5-1/2" | 25 | 0.42 | 49-089 | 23.25 |
| 48-090 | 18.98 | x 6" | 25 | 0.48 | 49-090 | 25.23 |
| 48-091 | 22.07 | x 7" | 1 | 0.45 | | |
| 48-092 | 24.99 | x 8" | 1 | 0.67 | 49-092 | 32.94 |
| 48-094 | 30.86 | x 10" | 1 | 0.94 | 49-094 | 41.18 |
| 48-096 | 36.71 | x 12" | 1 | 1.03 | | |



1" - 11 1/2

**1" DIAMETER
SCH 40 WELDED**



| Part # 304 S.S. | List Price | Length | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|--------------------|---------------|------------------|-----|------------------|--------------------|---------------|
| 48-100 | 7.49 | X Close (1-1/2") | 25 | 0.13 | 49-100 | 10.02 |
| 48-101 | 9.39 | x 2" | 25 | 0.20 | 49-101 | 12.72 |
| 48-102 | 11.14 | x 2-1/2" | 25 | 0.25 | 49-102 | 15.26 |
| 48-103 | 13.04 | x 3" | 25 | 0.33 | 49-103 | 17.95 |
| 48-104 | 14.92 | x 3-1/2" | 25 | 0.40 | 49-104 | 20.63 |
| 48-105 | 16.80 | x 4" | 25 | 0.47 | 49-105 | 23.33 |
| 48-106 | 18.69 | x 4-1/2" | 25 | 0.53 | 49-106 | 26.02 |
| 48-107 | 20.57 | x 5" | 25 | 0.55 | 49-107 | 28.69 |
| 48-108 | 22.46 | x 5-1/2" | 25 | 0.60 | 49-108 | 31.38 |
| 48-109 | 24.34 | x 6" | 25 | 0.71 | 49-109 | 34.06 |
| 48-110 | 28.50 | x 7" | 1 | 0.57 | | |
| 48-111 | 32.29 | x 8" | 1 | 1.02 | 49-111 | 44.75 |
| 48-113 | 39.83 | x 10" | 1 | 1.16 | 49-113 | 55.38 |
| 48-115 | 49.24 | x 12" | 1 | 1.31 | | |



1,000# 2 Piece FP #316 Stainless Steel Ball Valve on page 196

STAINLESS STEEL

SCH 40 STAINLESS STEEL NIPPLES



1 1/4" - 11 1/2



**1-1/4" DIAMETER
SCH 40 WELDED**

| Part # 304 S.S. | List Price | Length | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|--------------------|---------------|------------------|-----|------------------|--------------------|---------------|
| 48-120 | 10.08 | X Close (1-5/8") | 10 | 0.17 | 49-120 | 13.72 |
| 48-121 | 11.86 | x 2" | 10 | 0.23 | 49-121 | 16.34 |
| 48-122 | 14.06 | x 2-1/2" | 10 | 0.35 | 49-122 | 19.57 |
| 48-123 | 16.46 | x 3" | 10 | 0.46 | 49-123 | 23.03 |
| 48-124 | 18.84 | x 3-1/2" | 10 | 0.52 | 49-124 | 26.50 |
| 48-125 | 21.23 | x 4" | 10 | 0.65 | 49-125 | 29.96 |
| 48-126 | 23.62 | x 4-1/2" | 10 | 0.53 | 49-126 | 33.42 |
| 48-127 | 26.02 | x 5" | 10 | 0.60 | 49-127 | 36.88 |
| 48-128 | 28.40 | x 5-1/2" | 10 | 0.61 | 49-128 | 40.35 |
| 48-129 | 30.78 | x 6" | 10 | 0.71 | 49-129 | 43.81 |
| 48-131 | 40.48 | x 8" | 1 | 1.34 | | |
| 48-135 | 59.59 | x 12" | 1 | 1.54 | | |



1-1/2" - 11 1/2



**1-1/2" DIAMETER
SCH 40 WELDED**

| Part # 304 S.S. | List Price | Length | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|--------------------|---------------|------------------|-----|------------------|--------------------|---------------|
| 48-140 | 12.33 | X Close x 1-3/4" | 10 | 0.25 | 49-140 | 16.94 |
| 48-141 | 13.52 | x 2" | 10 | 0.32 | 49-141 | 18.76 |
| 48-142 | 16.35 | x 2-1/2" | 10 | 0.41 | 49-142 | 22.85 |
| 48-143 | 19.16 | x 3" | 10 | 0.52 | 49-143 | 26.94 |
| 48-144 | 21.99 | x 3-1/2" | 10 | 0.62 | 49-144 | 31.02 |
| 48-145 | 24.81 | x 4" | 10 | 0.73 | 49-145 | 35.11 |
| 48-146 | 27.64 | x 4-1/2" | 10 | 0.86 | 49-146 | 39.22 |
| 48-147 | 30.46 | x 5" | 10 | 0.95 | 49-147 | 43.29 |
| 48-148 | 33.28 | x 5-1/2" | 10 | 1.01 | 49-148 | 47.38 |
| 48-149 | 36.09 | x 6" | 10 | 1.19 | 49-149 | 51.47 |
| 48-151 | 47.69 | x 8" | 1 | 1.63 | 49-151 | 67.44 |
| 48-152 | 53.34 | x 9" | 1 | 1.88 | | |
| 48-153 | 48.14 | x 10" | 1 | 2.28 | | |
| 48-155 | 69.53 | x 12" | 1 | 2.43 | | |



New SS Mini Ball Valves w/Viton O-Ring on page 198

SCH 40 STAINLESS STEEL NIPPLES

STAINLESS STEEL



**2" DIAMETER
SCH 40 WELDED**

| Part # 304 S.S. | List Price | Length | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|--------------------|---------------|--------------|-----|------------------|--------------------|---------------|
| 48-160 | 19.15 | X Close (2") | 10 | 0.37 | 49-160 | 26.32 |
| 48-161 | 21.33 | x 2-1/2" | 10 | 0.54 | 49-161 | 30.11 |
| 48-162 | 24.68 | x 3" | 10 | 0.65 | 49-162 | 35.17 |
| 48-163 | 28.37 | x 3-1/2" | 10 | 0.88 | 49-163 | 40.56 |
| 48-164 | 32.04 | x 4" | 10 | 1.02 | 49-164 | 45.96 |
| 48-165 | 35.72 | x 4-1/2" | 10 | 1.16 | 49-165 | 51.34 |
| 48-166 | 39.40 | x 5" | 10 | 1.29 | 49-166 | 56.75 |
| 48-167 | 43.07 | x 5-1/2" | 10 | 1.46 | 49-167 | 62.13 |
| 48-168 | 46.75 | x 6" | 10 | 1.57 | 49-168 | 67.51 |
| 48-169 | 54.80 | x 7" | 1 | 1.92 | 49-169 | 79.06 |
| 48-170 | 62.16 | x 8" | 1 | 2.01 | 49-170 | 88.91 |
| 48-171 | 69.52 | x 9" | 1 | 2.55 | | |
| 48-172 | 76.87 | x 10" | 1 | 2.69 | | |
| 48-174 | 88.31 | x 12" | 1 | 2.89 | | |

**2-1/2" DIAMETER
SCH 40 WELDED**

| Part # 304 S.S. | Length | Box | Approx. Wt. Lbs. | List Price |
|-----------------|------------------|-----|------------------|------------|
| 48-180 | X Close (2-1/2") | 10 | 0.64 | 38.83 |
| 48-187 | x 6" | 1 | 2.37 | 77.67 |
| 48-193 | x 12" | 1 | 4.85 | 135.52 |



**3" DIAMETER
SCH 40 WELDED**

| Part # 304 S.S. | List Price | Length | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|--------------------|------------|------------------|-----|------------------|--------------------|------------|
| 48-200 | 54.64 | X Close (2-5/8") | 10 | 0.95 | 49-200 | 70.15 |
| 48-201 | 60.32 | x 3" | 10 | 1.32 | 49-201 | 77.95 |
| 48-203 | 75.52 | x 4" | 10 | 1.66 | 49-203 | 90.69 |
| 48-205 | 86.49 | x 5" | 5 | 1.72 | 49-205 | 115.01 |
| 48-207 | 101.68 | x 6" | 5 | 1.88 | 49-207 | 135.78 |
| 48-209 | 136.92 | x 8" | 1 | 1.91 | 49-209 | 182.44 |
| 48-213 | 202.70 | x 12" | 1 | 2.12 | | |



**4" DIAMETER
SCH 40 WELDED**

| Part # 304 S.S. | List Price | Length | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|--------------------|------------|------------------|-----|------------------|--------------------|------------|
| 48-220 | 69.82 | X Close (2-7/8") | 8 | 1.15 | 49-220 | 94.75 |
| | | x 4" | 1 | 2.98 | 49-223 | 126.35 |
| 48-227 | 130.52 | x 6" | 1 | 4.10 | 49-234 | 181.62 |
| | | x 8" | 1 | 5.95 | 49-236 | 244.33 |
| | | x 12" | 1 | 9.25 | 49-240 | 356.73 |



150# 304 & 316 Stainless Steel Fittings

Our high quality standard pattern 150lb rated stainless steel threaded fittings are manufactured to the highest standards. All stainless steel fittings are monitored by our quality control personnel for strict compliance with applicable standards and specifications.

These stainless steel pipe fittings are excellent for uses that involve chemicals or liquids that may be corrosive. Along with fighting corrosion, a stainless steel pipe fitting will prevent contamination making it useful to many professionals.

- Use with air, water, oil, natural gas, steam
- NPT and FNPT threads conform to ASME B1.20.1
- Maximum Pressure: 300 psi @ 72 F; 150 psi @ 366 F for steam
- Maximum Steam Pressure: 150 psi
- Material Conforms to ASTM A-351. Class 150 Pressure Ratings
- Manufacturing facility is ISO 9001:2008
- 304 Stainless Steel is economically priced, chromium-nickel material that offers very good corrosion resistance. 316 Stainless Steel has higher nickel content and contains molybdenum for even better corrosion resistance.

HIGH PRESSURE 1000# BARSTOCK



1000#

- Stainless bar stock dimensions conform to MSS SP-114
- NPT threads conform to ASME B1.20.1
- Manufacturing facility is ISO 9001:2008
- Fittings meet applicable chemical & physical properties

HIGH PRESSURE 3000# FORGED

A182 and ANSI/ASME B16.11.



3000#

- Use with air, water, oil, natural gas, steam
- Maximum Pressure:
 - Type 304 SS: 2,570 psi @ 72°F;
1,965 psi @ 350°F for steam
 - Type 316 SS: 3,000 psi @ 72°F
2810 psi @ 350°F for steam
- Pipe Nipples and Pipe: Use threaded Schedule 80 thickwall stainless steel

304 & 316 150# SS FITTINGS

STAINLESS STEEL

**90° ELBOW
304 & 316 150#**



| Part # 304 S.S | List Price | Size | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|-------------------|------------|--------|-----|------------------|--------------------|------------|
| 62-100 | 6.53 | 1/8" | 25 | 0.06 | 63-100 | 8.37 |
| 62-101 | 6.53 | 1/4" | 25 | 0.06 | 63-101 | 8.37 |
| 62-102 | 8.10 | 3/8" | 25 | 0.11 | 63-102 | 10.16 |
| 62-103 | 8.62 | 1/2" | 25 | 0.13 | 63-103 | 11.22 |
| 62-104 | 12.39 | 3/4" | 25 | 0.20 | 63-104 | 16.27 |
| 62-105 | 17.55 | 1" | 10 | 0.33 | 63-105 | 20.42 |
| 62-106 | 30.79 | 1-1/4" | 10 | 0.55 | 63-106 | 35.01 |
| 62-107 | 40.99 | 1-1/2" | 5 | 0.77 | 63-107 | 46.70 |
| 62-108 | 51.97 | 2" | 5 | 1.10 | 63-108 | 59.04 |
| 62-109 | 118.40 | 2-1/2" | 1 | 2.09 | 63-109 | 96.36 |
| 62-110 | 150.86 | 3" | 1 | 2.84 | 63-110 | 134.33 |
| 62-112 | 294.41 | 4" | 1 | 5.00 | 63-112 | 327.89 |

**90° STREET ELBOW
304 & 316 150#**



| Part # 304 S.S | List Price | Size | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|-------------------|------------|--------|-----|------------------|--------------------|------------|
| 62-160 | 9.32 | 1/8" | 25 | 0.04 | 63-160 | 11.20 |
| 62-161 | 9.32 | 1/4" | 25 | 0.07 | 63-161 | 11.42 |
| 62-162 | 11.22 | 3/8" | 25 | 0.09 | 63-162 | 14.04 |
| 62-163 | 13.21 | 1/2" | 25 | 0.15 | 63-163 | 16.52 |
| 62-164 | 18.33 | 3/4" | 25 | 0.24 | 63-164 | 21.77 |
| 62-165 | 31.70 | 1" | 10 | 0.31 | 63-165 | 34.75 |
| 62-166 | 46.04 | 1-1/4" | 10 | 0.51 | 63-166 | 51.94 |
| 62-167 | 54.47 | 1-1/2" | 5 | 0.84 | 63-167 | 57.85 |
| 62-168 | 73.76 | 2" | 5 | 1.26 | 63-168 | 82.64 |
| 62-169 | 121.00 | 3" | 1 | 4.16 | 63-170 | 275.75 |
| | | 4" | 1 | 7.61 | 63-171 | 544.58 |

**45° ELBOW
304 & 316 150#**



| Part # 304 S.S | List Price | Size | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|-------------------|------------|--------|-----|------------------|--------------------|------------|
| 62-180 | 8.25 | 1/8" | 25 | 0.04 | 63-180 | 9.97 |
| 62-181 | 8.25 | 1/4" | 25 | 0.07 | 63-181 | 9.97 |
| 62-182 | 9.70 | 3/8" | 25 | 0.09 | 63-182 | 12.17 |
| 62-183 | 10.66 | 1/2" | 25 | 0.13 | 63-183 | 13.35 |
| 62-184 | 15.55 | 3/4" | 25 | 0.20 | 63-184 | 17.54 |
| 62-185 | 18.98 | 1" | 10 | 0.33 | 63-185 | 21.97 |
| 62-186 | 30.40 | 1-1/4" | 10 | 0.49 | 63-186 | 34.57 |
| 62-187 | 36.17 | 1-1/2" | 5 | 0.66 | 63-187 | 41.10 |
| 62-188 | 50.89 | 2" | 5 | 1.14 | 63-188 | 57.48 |
| 62-189 | 154.58 | 2-1/2" | 1 | 2.82 | | |
| 62-190 | 213.04 | 3" | 1 | 2.91 | 63-190 | 239.98 |
| 62-191 | 379.13 | 4" | 1 | 5.05 | 63-192 | 451.78 |

STAINLESS STEEL

304 & 316 150# SS FITTINGS

**TEE
304 & 316 150#**



| Part # 304 S.S. | List Price | Size | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|--------------------|---------------|--------|-----|---------------------|--------------------|------------|
| 62-250 | 8.76 | 1/8" | 25 | 0.07 | 63-250 | 10.40 |
| 62-251 | 8.76 | 1/4" | 25 | 0.07 | 63-251 | 10.40 |
| 62-252 | 11.16 | 3/8" | 25 | 0.11 | 63-252 | 13.79 |
| 62-253 | 11.70 | 1/2" | 25 | 0.20 | 63-253 | 14.53 |
| 62-254 | 18.63 | 3/4" | 25 | 0.29 | 63-254 | 21.43 |
| 62-255 | 23.72 | 1" | 10 | 0.42 | 63-255 | 26.93 |
| 62-256 | 47.18 | 1-1/4" | 5 | 0.66 | 63-256 | 53.58 |
| 62-257 | 58.64 | 1-1/2" | 5 | 0.99 | 63-257 | 65.00 |
| 62-258 | 75.32 | 2" | 3 | 1.43 | 63-258 | 83.74 |
| 62-259 | 146.86 | 2-1/2" | 1 | 1.43 | | |
| 62-260 | 232.83 | 3" | 1 | 3.66 | 63-260 | 308.49 |
| | | 4" | 1 | 7.19 | 63-261 | 502.59 |

**CROSS
304 & 316 150#**



| Part # 304 S.S. | List Price | Size | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|--------------------|---------------|--------|-----|---------------------|--------------------|------------|
| | | 1/8" | 25 | 0.06 | 63-390 | 18.81 |
| 62-391 | 15.23 | 1/4" | 25 | 0.09 | 63-391 | 18.81 |
| 62-392 | 18.16 | 3/8" | 25 | 0.13 | 63-392 | 22.13 |
| 62-393 | 22.36 | 1/2" | 25 | 0.29 | 63-393 | 27.46 |
| 62-394 | 38.25 | 3/4" | 10 | 0.44 | 63-394 | 47.99 |
| 62-395 | 56.62 | 1" | 10 | 0.74 | 63-395 | 57.93 |
| 62-396 | 67.22 | 1-1/4" | 5 | 1.25 | 63-396 | 83.74 |
| 62-397 | 83.29 | 1-1/2" | 5 | 1.53 | 63-397 | 104.51 |
| 62-398 | 119.24 | 2" | 1 | 2.28 | 63-398 | 143.97 |
| | | 3" | 1 | 5.46 | 63-400 | 488.69 |
| | | 4" | 1 | 9.41 | 63-401 | 791.84 |

**HEX NIPPLE
304 & 316 150#**



| Part # 304 S.S. | List Price | Size | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|--------------------|---------------|--------|-----|---------------------|--------------------|---------------|
| 62-720 | 6.36 | 1/8" | 1 | 0.02 | 63-720 | 7.14 |
| 62-721 | 5.98 | 1/4" | 1 | 0.04 | 63-721 | 7.14 |
| 62-722 | 7.06 | 3/8" | 1 | 0.07 | 63-722 | 7.91 |
| 62-723 | 8.38 | 1/2" | 1 | 0.11 | 63-723 | 9.37 |
| 62-724 | 10.30 | 3/4" | 1 | 0.18 | 63-724 | 12.25 |
| 62-725 | 15.08 | 1" | 1 | 0.22 | 63-725 | 16.86 |
| 62-726 | 23.10 | 1-1/4" | 1 | 0.37 | 63-726 | 27.54 |
| 62-727 | 29.19 | 1-1/2" | 1 | 0.46 | 63-727 | 32.68 |
| 62-728 | 46.89 | 2" | 1 | 0.61 | 63-728 | 66.62 |

**REDUCING HEX NIPPLE
304 & 316 150#**



| Part # 304 S.S. | List Price | Size | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|--------------------|---------------|-------------|-----|---------------------|--------------------|---------------|
| 62-740 | 6.58 | 1/4" x 1/8" | 1 | 0.04 | 63-740 | 7.85 |
| 62-741 | 7.77 | 3/8" x 1/8" | 1 | 0.07 | 63-741 | 8.71 |
| 62-742 | 7.77 | 3/8" x 1/4" | 1 | 0.07 | 63-742 | 8.71 |
| 62-744 | 9.22 | 1/2" x 1/4" | 1 | 0.09 | 63-744 | 10.31 |
| 62-745 | 9.22 | 1/2" x 3/8" | 1 | 0.11 | 63-745 | 10.31 |
| 62-747 | 12.80 | 3/4" x 1/4" | 1 | 0.15 | 63-747 | 14.83 |
| 62-748 | 11.33 | 3/4" x 3/8" | 1 | 0.15 | 63-748 | 13.49 |
| 62-749 | 11.33 | 3/4" x 1/2" | 1 | 0.15 | 63-749 | 13.49 |

304 & 316 150# SS FITTINGS

STAINLESS STEEL

COUPLING 304 & 316 150#



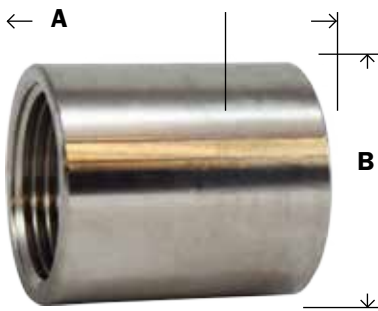
| Part # 304 S.S. | List Price | Size* | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|--------------------|------------|--------|-----|------------------|--------------------|------------|
| 62-410 | 5.47 | 1/8" | 25 | 0.03 | 63-410 | 6.96 |
| 62-411 | 6.50 | 1/4" | 25 | 0.06 | 63-411 | 6.96 |
| 62-412 | 7.57 | 3/8" | 25 | 0.07 | 63-412 | 8.16 |
| 62-413 | 6.97 | 1/2" | 25 | 0.13 | 63-413 | 8.07 |
| 62-414 | 10.07 | 3/4" | 25 | 0.18 | 63-414 | 11.66 |
| 62-415 | 15.30 | 1" | 25 | 0.24 | 63-415 | 17.38 |
| 62-416 | 24.31 | 1-1/4" | 10 | 0.44 | 63-416 | 27.61 |
| 62-417 | 28.86 | 1-1/2" | 10 | 0.51 | 63-417 | 32.82 |
| 62-418 | 40.68 | 2" | 5 | 0.79 | 63-418 | 46.20 |
| 62-419 | 89.28 | 2-1/2" | 1 | 1.28 | 63-419 | 108.55 |
| 62-420 | 115.42 | 3" | 1 | 1.87 | 63-420 | 140.22 |
| 62-421 | 179.43 | 4" | 1 | 2.80 | 63-421 | 216.56 |

REDUCING COUPLING 304 & 316 150#



| Part # 304 S.S. | List Price | Size | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|--------------------|------------|-----------------|-----|------------------|--------------------|------------|
| 62-430 | 6.82 | 1/4" x 1/8" | 25 | 0.04 | 63-430 | 7.77 |
| 62-431 | 8.62 | 3/8" x 1/8" | 25 | 0.04 | 63-431 | 8.62 |
| 62-432 | 7.58 | 3/8" x 1/4" | 25 | 0.04 | 63-432 | 8.62 |
| 62-433 | 10.35 | 1/2" x 1/8" | 25 | 0.09 | 63-433 | 10.35 |
| 62-434 | 7.23 | 1/2" x 1/4" | 25 | 0.09 | 63-434 | 10.35 |
| 62-435 | 7.23 | 1/2" x 3/8" | 25 | 0.09 | 63-435 | 10.35 |
| 62-455 | 12.83 | 3/4" x 1/8" | 25 | 0.13 | 63-455 | 12.83 |
| 62-436 | 10.89 | 3/4" x 1/4" | 25 | 0.11 | 63-436 | 13.28 |
| 62-437 | 10.89 | 3/4" x 3/8" | 25 | 0.13 | 63-437 | 13.28 |
| 62-438 | 10.89 | 3/4" x 1/2" | 25 | 0.15 | 63-438 | 13.28 |
| | | 1" x 1/4" | 25 | 0.25 | 63-459 | 24.17 |
| 62-440 | 21.90 | 1" x 3/8" | 25 | 0.22 | 63-440 | 21.90 |
| 62-441 | 14.89 | 1" x 1/2" | 25 | 0.24 | 63-441 | 21.90 |
| 62-442 | 14.89 | 1" x 3/4" | 25 | 0.24 | 63-442 | 21.90 |
| 62-445 | 21.70 | 1-1/4" x 3/4" | 10 | 0.33 | 63-445 | 28.59 |
| 62-446 | 21.70 | 1-1/4" x 1" | 10 | 0.35 | 63-446 | 28.59 |
| 62-447 | 31.29 | 1-1/2" x 1/2" | 10 | 0.40 | 63-447 | 38.18 |
| 62-448 | 31.29 | 1-1/2" x 3/4" | 10 | 0.42 | 63-448 | 38.18 |
| 62-449 | 31.29 | 1-1/2" x 1" | 10 | 0.44 | 63-449 | 38.18 |
| 62-450 | 31.29 | 1-1/2" x 1-1/4" | 10 | 0.46 | 63-450 | 38.18 |
| 62-452 | 52.27 | 2" x 1" | 5 | 0.57 | 63-452 | 64.39 |
| 62-453 | 52.27 | 2" x 1-1/4" | 5 | 0.62 | 63-453 | 64.39 |
| 62-454 | 52.27 | 2" x 1-1/2" | 5 | 0.62 | 63-454 | 64.39 |
| 62-428 | 176.16 | 3" x 1" | 1 | 1.82 | | |
| 62-456 | 176.16 | 3" x 2" | 1 | 2.25 | | |

OD MACHINED COUPLING 304 & 316 150#

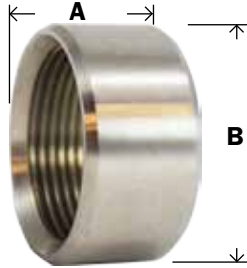


| Part # 304 S.S. | List Price | Size | A | B | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|--------------------|------------|--------|------|------|-----|------------------|--------------------|------------|
| 62-410B | 5.46 | 1/8" | 0.67 | 0.56 | 25 | 0.04 | 63-410B | 6.35 |
| 62-411B | 5.31 | 1/4" | 0.94 | 0.71 | 25 | 0.04 | 63-411B | 6.35 |
| 62-412B | 6.80 | 3/8" | 1.01 | 0.84 | 25 | 0.07 | 63-412B | 6.93 |
| 62-413B | 7.33 | 1/2" | 1.33 | 1.01 | 25 | 0.09 | 63-413B | 9.71 |
| 62-414B | 10.15 | 3/4" | 1.41 | 1.27 | 25 | 0.16 | 63-414B | 13.64 |
| 62-415B | 19.95 | 1" | 1.69 | 1.54 | 10 | 0.21 | 63-415B | 22.16 |
| 62-416B | 26.05 | 1-1/4" | 1.93 | 1.90 | 10 | 0.31 | 63-416B | 31.07 |
| 62-417B | 34.74 | 1-1/2" | 1.93 | 2.16 | 5 | 0.41 | 63-417B | 38.85 |
| 62-418B | 50.39 | 2" | 2.06 | 2.66 | 5 | 0.68 | 63-418B | 58.24 |
| 62-420B | 173.80 | 3" | 3.23 | 3.76 | 1 | | | |

STAINLESS STEEL

304 & 316 150# SS FITTINGS

HALF COUPLING 304 & 316 150#



| Part # 304 S.S. | List Price | Size | A | B | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|--------------------|------------|--------|------|------|-----|---------------------|--------------------|------------|
| 62-771 | 2.83 | 1/4" | 0.43 | 0.69 | 25 | 0.02 | 63-771 | 2.99 |
| 62-772 | 3.06 | 3/8" | 0.41 | 0.81 | 25 | 0.02 | 63-772 | 5.83 |
| 62-773 | 4.25 | 1/2" | 0.59 | 0.98 | 25 | 0.09 | 63-773 | 5.08 |
| 62-774 | 5.68 | 3/4" | 0.67 | 1.22 | 25 | 0.11 | 63-774 | 6.46 |
| 62-775 | 7.29 | 1" | 0.79 | 1.47 | 25 | 0.13 | 63-775 | 16.39 |
| 62-776 | 11.91 | 1-1/4" | 0.95 | 1.83 | 10 | 0.24 | 63-776 | 19.71 |
| 62-777 | 15.27 | 1-1/2" | 0.94 | 2.10 | 10 | 0.26 | 63-777 | 24.65 |
| 62-778 | 23.87 | 2" | 1.06 | 2.60 | 5 | 0.44 | 63-778 | 29.38 |

UNION 304 & 316 150#

• Stainless Steel Seat



| Part # 304 S.S. | List Price | Size | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|--------------------|------------|--------|-----|---------------------|--------------------|------------|
| 62-600 | 22.04 | 1/8" | 25 | 0.09 | 63-600 | 25.00 |
| 62-601 | 22.04 | 1/4" | 25 | 0.13 | 63-601 | 25.00 |
| 62-602 | 22.46 | 3/8" | 25 | 0.22 | 63-602 | 25.43 |
| 62-603 | 24.31 | 1/2" | 25 | 0.26 | 63-603 | 27.61 |
| 62-604 | 30.79 | 3/4" | 25 | 0.46 | 63-604 | 35.02 |
| 62-605 | 46.45 | 1" | 10 | 0.60 | 63-605 | 52.87 |
| 62-606 | 80.59 | 1-1/4" | 5 | 0.90 | 63-606 | 91.41 |
| 62-607 | 91.14 | 1-1/2" | 5 | 1.10 | 63-607 | 103.75 |
| 62-608 | 109.11 | 2" | 1 | 1.81 | 63-608 | 123.73 |
| 62-610 | 372.17 | 3" | 1 | 3.40 | 63-610 | 442.14 |

CAP - CAST 304 & 316 150#



| Part # 304 S.S. | List Price | Size | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|--------------------|------------|--------|-----|---------------------|--------------------|------------|
| 62-470 | 3.29 | 1/8" | 25 | 0.02 | 63-470 | 3.98 |
| 62-471 | 4.71 | 1/4" | 25 | 0.02 | 63-471 | 5.36 |
| 62-472 | 5.54 | 3/8" | 25 | 0.04 | 63-472 | 6.32 |
| 62-473 | 5.75 | 1/2" | 25 | 0.07 | 63-473 | 7.31 |
| 62-474 | 7.19 | 3/4" | 25 | 0.11 | 63-474 | 8.40 |
| 62-475 | 10.80 | 1" | 10 | 0.18 | 63-475 | 12.86 |
| 62-476 | 19.57 | 1-1/4" | 10 | 0.29 | 63-476 | 25.27 |
| 62-477 | 25.66 | 1-1/2" | 10 | 0.40 | 63-477 | 32.42 |
| 62-478 | 32.72 | 2" | 10 | 0.60 | 63-478 | 41.50 |
| 62-480 | 81.61 | 3" | 1 | 1.28 | 63-480 | 85.54 |
| 62-481 | 135.73 | 4" | 1 | 1.54 | | |

304 & 316 150# SS FITTINGS

STAINLESS STEEL

**HEX BUSHING
304 & 316 150#**



| Part # 304 S.S | List Price | Size M x F | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|-------------------|------------|-----------------|-----|---------------------|--------------------|------------|
| 62-500 | 4.25 | 1/4" x 1/8" | 25 | 0.04 | 63-500 | 4.80 |
| 62-501 | 4.25 | 3/8" x 1/8" | 25 | 0.04 | 63-501 | 5.48 |
| 62-502 | 4.65 | 3/8" x 1/4" | 25 | 0.04 | 63-502 | 5.48 |
| 62-503 | 5.88 | 1/2" x 1/8" | 25 | 0.09 | | |
| 62-504 | 5.88 | 1/2" x 1/4" | 25 | 0.09 | 63-504 | 6.44 |
| 62-505 | 5.88 | 1/2" x 3/8" | 25 | 0.11 | 63-505 | 6.44 |
| 62-506 | 9.40 | 3/4" x 1/8" | 25 | 0.13 | 63-506 | 9.57 |
| 62-507 | 4.84 | 3/4" x 1/4" | 25 | 0.15 | 63-507 | 9.57 |
| 62-508 | 8.60 | 3/4" x 3/8" | 25 | 0.15 | 63-508 | 10.81 |
| 62-509 | 8.60 | 3/4" x 1/2" | 25 | 0.15 | 63-509 | 9.57 |
| 62-557 | 13.20 | 1" x 1/8" | 25 | 0.27 | | |
| 62-510 | 11.95 | 1" x 1/4" | 25 | 0.22 | 63-510 | 13.66 |
| 62-511 | 11.95 | 1" x 3/8" | 25 | 0.24 | 63-511 | 13.66 |
| 62-512 | 11.95 | 1" x 1/2" | 25 | 0.24 | 63-512 | 13.66 |
| 62-513 | 11.95 | 1" x 3/4" | 25 | 0.24 | 63-513 | 13.66 |
| 62-515 | 23.97 | 1-1/4" x 3/8" | 25 | 0.37 | | |
| 62-516 | 13.50 | 1-1/4" x 1/2" | 25 | 0.37 | 63-516 | 26.70 |
| 62-517 | 21.40 | 1-1/4" x 3/4" | 25 | 0.37 | 63-517 | 26.70 |
| 62-518 | 21.40 | 1-1/4" x 1" | 25 | 0.37 | 63-518 | 26.70 |
| 62-521 | 25.61 | 1-1/2" x 1/2" | 25 | 0.44 | 63-521 | 31.56 |
| 62-522 | 25.61 | 1-1/2" x 3/4" | 25 | 0.46 | 63-522 | 31.56 |
| 62-532 | 31.30 | 1-1/2" x 1" | 25 | 0.49 | 63-523 | 31.56 |
| 62-524 | 25.61 | 1-1/2" x 1-1/4" | 25 | 0.46 | 63-524 | 31.56 |
| 62-559 | 43.11 | 2" x 1/4" | 10 | 0.95 | | |
| 62-527 | 39.06 | 2" x 1/2" | 10 | 0.66 | 63-527 | 49.49 |
| 62-528 | 39.06 | 2" x 3/4" | 10 | 0.66 | 63-528 | 44.82 |
| 62-529 | 39.06 | 2" x 1" | 10 | 0.66 | 63-529 | 44.82 |
| 62-530 | 39.06 | 2" x 1-1/4" | 10 | 0.68 | 63-530 | 44.82 |
| 62-531 | 39.06 | 2" x 1-1/2" | 10 | 0.68 | 63-531 | 44.82 |
| 62-536 | 73.90 | 2-1/2" x 1" | 5 | 1.70 | | |
| 62-534 | 66.93 | 2-1/2" x 1-1/2" | 5 | 1.23 | 63-534 | 76.16 |
| 62-535 | 66.93 | 2-1/2" x 2" | 5 | 1.21 | 63-535 | 76.16 |
| | | 3" x 1" | 5 | 2.20 | 63-550 | 129.28 |
| | | 3" x 1-1/2" | 5 | 1.97 | 63-537 | 129.28 |
| 62-538 | 102.56 | 3" x 2" | 5 | 1.72 | 63-538 | 117.11 |
| 62-539 | 102.56 | 3" x 2-1/2" | 5 | 1.81 | | |
| | | 4" x 1-1/2" | 5 | 3.92 | 63-540 | 232.54 |
| | | 4" x 2" | 1 | 3.72 | 63-541 | 232.54 |
| 62-543 | 186.64 | 4" x 3" | 1 | 2.43 | 63-543 | 232.54 |

• SEE PAGE 13 FOR STAINLESS STEEL BULKHEAD FITTINGS

• SEE PAGE 230 FOR STAINLESS STEEL:

- BARBED FOR PLASTIC PIPE
- WELL COUPLINGS
- MERCHANT COUPLINGS

**HEX LOCKNUT
304 & 316 150#**

• Straight Thread



| Part # 304 S.S. | List Price | Size | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|--------------------|------------|--------|-----|------------------|--------------------|------------|
| 62-700 | 13.42 | 1/8" | 25 | 0.02 | | |
| 62-701 | 13.42 | 1/4" | 25 | 0.05 | 63-701 | 14.63 |
| 62-702 | 13.42 | 3/8" | 25 | 0.06 | 63-702 | 14.63 |
| 62-703 | 13.42 | 1/2" | 25 | 0.07 | 63-703 | 14.63 |
| 62-704 | 16.36 | 3/4" | 25 | 0.11 | 63-704 | 18.36 |
| 62-705 | 18.56 | 1" | 25 | 0.15 | 63-705 | 20.63 |
| 62-706 | 38.38 | 1-1/4" | 25 | 0.22 | 63-706 | 41.78 |
| 62-707 | 38.43 | 1-1/2" | 25 | 0.29 | 63-707 | 52.00 |
| 62-708 | 42.26 | 2" | 10 | 0.35 | 63-708 | 45.85 |

**HEX SOCKET PLUG - BARSTOCK
304 & 316 150#**



| Part # 316 S.S. | Size | Box | Approx. Wt. Lbs. | List Price |
|--------------------|-------|-----|------------------|------------|
| 63-759 | 1/16" | 1 | 0.03 | 3.92 |
| 63-760 | 1/8 " | 1 | 0.05 | 3.51 |
| 63-761 | 1/4 " | 1 | 0.07 | 5.00 |
| 63-762 | 3/8 " | 1 | 0.10 | 8.52 |
| 63-763 | 1/2 " | 1 | 0.14 | 11.73 |
| 63-764 | 3/4 " | 1 | 0.21 | 28.12 |
| 63-765 | 1" | 1 | 0.24 | 40.50 |

**CORED SQUARE HEAD PLUG
304 & 316 150#**



| Part # 304 S.S. | List Price | Size | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|--------------------|------------|--------|-----|------------------|--------------------|------------|
| 62-670 | 2.82 | 1/8" | 25 | 0.02 | 63-670 | 3.04 |
| 62-671 | 3.33 | 1/4" | 25 | 0.03 | 63-671 | 3.86 |
| 62-672 | 4.46 | 3/8" | 25 | 0.04 | 63-672 | 5.09 |
| 62-653 | 6.37 | 1/2" | 25 | 0.06 | 63-653 | 7.19 |
| 62-654 | 7.77 | 3/4" | 25 | 0.13 | 63-654 | 8.80 |
| 62-655 | 9.82 | 1" | 25 | 0.20 | 63-655 | 10.99 |
| 62-656 | 19.57 | 1-1/4" | 25 | 0.32 | 63-656 | 26.00 |
| 62-657 | 23.32 | 1-1/2" | 10 | 0.41 | 63-657 | 28.72 |
| 62-658 | 27.59 | 2" | 10 | 0.65 | 63-658 | 39.63 |
| 62-659 | 45.63 | 2-1/2" | 1 | 1.04 | | |
| 62-660 | 66.11 | 3" | 1 | 0.88 | | |

**SOLID SQUARE HEAD PLUG
316 150#**



| Part # 316 S.S. | Size | Box | Approx. Wt. Lbs. | List Price |
|--------------------|------|-----|------------------|------------|
| 63-680 | 1/8" | 25 | 0.04 | 6.57 |
| 63-681 | 1/4" | 25 | 0.04 | 8.84 |
| 63-682 | 3/8" | 25 | 0.05 | 10.36 |
| 63-683 | 1/2" | 25 | 0.06 | 15.54 |
| 63-684 | 3/4" | 25 | 0.12 | 29.58 |

304 & 316 150# SS FITTINGS

STAINLESS STEEL

**SOLID HEX HEAD PLUG
316 150#**



| Part # 316 S.S. | Size | Box | Approx. Wt. Lbs. | List Price |
|--------------------|------|-----|---------------------|------------|
| 63-660 | 1/8" | 25 | 0.04 | 7.23 |
| 63-661 | 1/4" | 25 | 0.06 | 9.10 |
| 63-662 | 3/8" | 25 | 0.08 | 13.32 |
| 63-663 | 1/2" | 25 | 0.12 | 23.68 |
| 63-664 | 3/4" | 25 | 0.15 | 31.86 |
| 63-665 | 1" | 25 | 0.24 | 46.23 |

**CORED HEX HEAD PLUG
304 & 316 150#**



| Part # 304 S.S. | List Price | Size | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|--------------------|------------|--------|-----|---------------------|--------------------|------------|
| 62-630 | 3.12 | 1/8" | 25 | 0.02 | 63-630 | 3.87 |
| 62-631 | 3.12 | 1/4" | 25 | 0.02 | 63-631 | 3.87 |
| 62-632 | 3.86 | 3/8" | 25 | 0.04 | 63-632 | 4.37 |
| 62-633 | 6.09 | 1/2" | 25 | 0.07 | 63-633 | 7.31 |
| 62-634 | 7.66 | 3/4" | 25 | 0.11 | 63-634 | 9.24 |
| 62-635 | 13.21 | 1" | 25 | 0.20 | 63-635 | 14.71 |
| 62-636 | 21.19 | 1-1/4" | 25 | 0.31 | 63-636 | 25.40 |
| 62-637 | 23.20 | 1-1/2" | 10 | 0.44 | 63-637 | 32.73 |
| 62-638 | 32.01 | 2" | 10 | 0.65 | 63-638 | 43.38 |
| | | 4" | 1 | 2.77 | 63-641 | 221.00 |

**HOSE NIPPLE
304 & 316 150#**



HOSE BARB X MALE PIPE

| Part # 304 S.S. | List Price | Hose I.D. x Male Pipe | Box | Approx. Wt. Lbs. | Part # 316 S.S. | List Price |
|--------------------|------------|--------------------------|-----|---------------------|--------------------|------------|
| 73-951 | 7.08 | 1/4" | 1 | 0.04 | 973-951 | 7.14 |
| 73-952 | 10.99 | 3/8" | 1 | 0.07 | 973-952 | 10.36 |
| 73-953 | 12.22 | 1/2" | 1 | 0.13 | 973-953 | 16.35 |
| 73-954 | 14.55 | 3/4" | 1 | 0.20 | 973-954 | 20.96 |
| 73-955 | 17.70 | 1" | 1 | 0.33 | 973-955 | 20.58 |
| 73-956 | 27.73 | 1-1/4" | 1 | 0.47 | 973-956 | 31.09 |
| 73-957 | 34.75 | 1-1/2" | 1 | 0.67 | 973-957 | 53.95 |
| 73-958 | 44.69 | 2" | 1 | 0.88 | 973-958 | 57.54 |
| 73-959 | 104.00 | 2-1/2" | 1 | 1.45 | 973-959 | 133.67 |
| 73-960 | 119.24 | 3" | 1 | 1.94 | 973-990 | 164.70 |
| 73-961 | 377.81 | 4" | 1 | 3.57 | 973-991 | 204.55 |

**REDUCING HOSE NIPPLE
304 & 316 150#**



HOSE BARB X MALE PIPE

| Part # 304 S.S. | Hose I.D. x Male Pipe | Box | Approx. Wt. Lbs. | List Price |
|--------------------|--------------------------|-----|---------------------|------------|
| 73-970 | 1/4" x 1/8" | 1 | 0.04 | 7.64 |
| 73-971 | 3/8" x 1/4" | 1 | 0.07 | 8.89 |
| 73-972 | 1/2" x 3/8" | 1 | 0.13 | 12.23 |
| 73-973 | 1/2" x 1/4" | 1 | 0.13 | 12.69 |
| 73-974 | 3/4" x 1/2" | 1 | 0.20 | 15.69 |
| 73-975 | 1" x 3/4" | 1 | 0.33 | 18.65 |
| 73-976 | 1" x 1/2" | 1 | 0.33 | 29.90 |
| 73-977 | 1-1/4" x 1" | 1 | 0.46 | 28.93 |
| 73-979 | 1-1/2" x 1-1/4" | 1 | 0.66 | 46.69 |
| 73-980 | 1-1/2" x 1" | 1 | 0.66 | 39.58 |
| 73-981 | 2" x 1-1/2" | 1 | 0.88 | 56.00 |
| 73-982 | 2" x 1-1/4" | 1 | 0.88 | 44.78 |



BLACK AND GALVANIZED STEEL NIPPLES

Product Specifications

Welded steel pipe nipples both galvanized and black in diameters ranging from 1/8” up to 4” in lengths from close to 12” and cut-pipe up to 120”. -200°-150° Temp Rating.

Technical Specifications

Standards: Product complies with ASTM A-53, A-733 and ANSI B1.20.1 for threading, dimensions and pipe specifications.

Pipe: Complies with ASTM A-53 mill tested schedule 40 and 80 for both Welded & Seamless Meets ANSI B36.1. All pipe is hydrostatic tested.

Galvanized: Zinc coating applied by hot dipped. Galvanized complying with ASTM A-123, NSF approved, RoHS compliant.

Black: Protected against oxidation with varnish coating.

Cutting Procedure: All pipe is roller cut. A visual inspection of seams, excessive galvanizing, mid-welds, poor galvanizing, bends, roundness, under and over weight of the pipe is made at the time it is cut. This is done for every length of pipe. Pipe lengths are cut to a tolerance of + or - 1/16” of the actual length.

Threading Procedure:

All pipe is chaser thread cut to American Standard Tapered Pipe Thread standards. This is 3/4” taper per foot. Pipe is visually inspected for roundness of threads and other visual faults as it is removed from the threading machine.

SCHEDULE 80 SEAMLESS



XXS SEAMLESS



- ASTM A106 Grade B Seamless Pipe
- ASTM A 53
- WVN 351
- Standard NPT Tapered Pipe Threads as per ANSI B 1.20.1 Specification

BLACK & GALVANIZED SCH 40

STEEL NIPPLES

1/8" - 27

Wall Thickness 0.068 - GradeB - Test Pressure 700 PSI - Thread Length 0.39



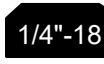
**1/8" DIAMETER
SCH 40 WELDED**



| Part # Galv | List Price | Length | Box/Case | Approx. Wt. Lbs. | Part # Black | List Price |
|-------------|------------|----------------|----------|------------------|--------------|------------|
| 56-001 | 2.29 | X Close (3/4") | 50/600 | 0.02 | 57-001 | 1.62 |
| 56-002 | 2.37 | x 1-1/2" | 50/600 | 0.03 | 57-002 | 1.83 |
| 56-003 | 2.65 | x 2" | 50/500 | 0.04 | 57-003 | 1.97 |
| 56-004 | 2.88 | x 2-1/2" | 100/400 | 0.06 | 57-004 | 2.19 |
| 56-005 | 3.27 | x 3" | 50/300 | 0.07 | 57-005 | 2.43 |
| 56-006 | 3.50 | x 3-1/2" | 50/300 | 0.08 | 57-006 | 2.65 |
| 56-007 | 3.86 | x 4" | 50/300 | 0.09 | 57-007 | 3.07 |
| 56-008 | 4.96 | x 4-1/2" | 50/300 | 0.10 | 57-008 | 3.99 |
| 56-009 | 6.51 | x 5" | 50/300 | 0.11 | 57-009 | 4.60 |
| 56-010 | 7.02 | x 5-1/2" | 50/300 | 0.12 | 57-010 | 5.05 |
| 56-011 | 7.33 | x 6" | 50/300 | 0.13 | 57-011 | 5.59 |
| 56-012 | 9.14 | x 7" | 50/300 | 0.15 | 57-012 | 6.64 |
| 56-013 | 9.64 | x 8" | 50/300 | 0.18 | 57-013 | 7.02 |
| 56-014 | 10.13 | x 9" | 50/300 | 0.21 | 57-014 | 7.29 |
| 56-015 | 10.98 | x 10" | 50/300 | 0.25 | 57-015 | 7.76 |
| 56-017 | 12.30 | x 12" | 50/300 | 0.29 | 57-017 | 8.18 |

1/4"-18

Wall Thickness 0.068 - GradeB - Test Pressure 700 PSI - Thread Length 0.39



**1/4" DIAMETER
SCH 40 WELDED**



| Part # Galv | List Price | Length | Box/Case | Approx. Wt. Lbs. | Part # Black | List Price |
|-------------|------------|----------------|----------|------------------|--------------|------------|
| 56-020 | 2.39 | X Close (7/8") | 50/600 | 0.04 | 57-020 | 1.96 |
| 56-021 | 2.56 | x 1-1/2" | 125/500 | 0.06 | 57-021 | 2.08 |
| 56-022 | 2.98 | x 2" | 125/500 | 0.06 | 57-022 | 2.31 |
| 56-023 | 3.43 | x 2-1/2" | 100/400 | 0.08 | 57-023 | 2.62 |
| 56-024 | 3.88 | x 3" | 50/300 | 0.10 | 57-024 | 2.88 |
| 56-025 | 4.18 | x 3-1/2" | 50/300 | 0.12 | 57-025 | 3.19 |
| 56-026 | 4.36 | x 4" | 50/300 | 0.14 | 57-026 | 3.52 |
| 56-027 | 5.24 | x 4-1/2" | 50/300 | 0.17 | 57-027 | 4.27 |
| 56-028 | 6.17 | x 5" | 50/300 | 0.19 | 57-028 | 5.05 |
| 56-029 | 7.16 | x 5-1/2" | 50/300 | 0.21 | 57-029 | 5.57 |
| 56-030 | 7.48 | x 6" | 50/300 | 0.23 | 57-030 | 6.19 |
| 56-031 | 9.00 | x 7" | 50/100 | 0.27 | 57-031 | 7.27 |
| 56-032 | 9.17 | x 8" | 50/100 | 0.31 | 57-032 | 7.40 |
| 56-033 | 9.64 | x 9" | 50/100 | 0.35 | 57-033 | 8.06 |
| 56-034 | 11.57 | x 10" | 50/100 | 0.40 | 57-034 | 8.73 |
| 56-035 | 13.86 | x 11" | 50/100 | 0.44 | 57-035 | 9.14 |
| 56-036 | 14.11 | x 12" | 50/100 | 0.48 | 57-036 | 9.68 |
| 56-038 | 37.99 | x 18" | 50/100 | 0.54 | | |



See page 204 for Standard port 2,000 Carbon Steel Ball Valve

STEEL NIPPLES

BLACK & GALVANIZED SCH 40



3/8" DIAMETER SCH 40 WELDED

Wall Thickness 0.091 - Grade B
- Test Pressure 700 PSI - Thread Length 0.6



| Part # Galv | List Price | Length | Box/Case | Approx. Wt. Lbs. | Part # Black | List Price |
|-------------|------------|--------------|----------|------------------|--------------|------------|
| 56-040 | 2.79 | X Close (1") | 50/600 | 0.05 | 57-040 | 2.15 |
| 56-041 | 3.23 | x 1-1/2" | 125/500 | 0.07 | 57-041 | 2.29 |
| 56-042 | 3.34 | x 2" | 125/500 | 0.08 | 57-042 | 2.83 |
| 56-043 | 3.74 | x 2-1/2" | 100/400 | 0.11 | 57-043 | 2.79 |
| 56-044 | 4.20 | x 3" | 50/300 | 0.13 | 57-044 | 3.33 |
| 56-045 | 5.41 | x 3-1/2" | 50/300 | 0.16 | 57-045 | 3.52 |
| 56-046 | 5.41 | x 4" | 50/300 | 0.19 | 57-046 | 3.89 |
| 56-047 | 5.70 | x 4-1/2" | 50/200 | 0.21 | 57-047 | 4.27 |
| 56-048 | 7.39 | x 5" | 50/150 | 0.24 | 57-048 | 5.70 |
| 56-049 | 7.99 | x 5-1/2" | 50/150 | 0.27 | 57-049 | 6.04 |
| 56-050 | 8.39 | x 6" | 50/100 | 0.29 | 57-050 | 6.40 |
| 56-051 | 8.91 | x 7" | 50/100 | 0.35 | 57-051 | 7.67 |
| 56-052 | 9.30 | x 8" | 50/100 | 0.40 | 57-052 | 8.39 |
| 56-053 | 11.23 | x 9" | 50/100 | 0.45 | 57-053 | 8.94 |
| 56-054 | 11.57 | x 10" | 50/100 | 0.51 | 57-054 | 9.50 |
| 56-055 | 16.58 | x 11" | 50/100 | 0.56 | 57-055 | 10.04 |
| 56-056 | 12.34 | x 12" | 50/100 | 0.62 | 57-056 | 10.32 |
| 56-430 | 27.38 | x 18" | 5/10 | 0.71 | 57-430 | 34.80 |
| | | x 24" | 1/1 | 1.02 | 57-431 | 25.56 |
| | | x 36" | 1/1 | 1.54 | 57-433 | 33.03 |



1/2" DIAMETER SCH 40 WELDED

Wall Thickness 0.109 - Grade B - Test Pressure 700 PSI - Thread Length 0.78



| Part # Galv | List Price | Length | Box/Case | Approx. Wt. Lbs. | Part # Black | List Price |
|-------------|------------|------------------|----------|------------------|--------------|------------|
| 56-060 | 1.69 | X Close (1-1/8") | 50/600 | 0.08 | 57-060 | 1.52 |
| 56-061 | 1.91 | x 1-1/2" | 125/500 | 0.08 | 57-061 | 1.62 |
| 56-062 | 2.10 | x 2" | 125/500 | 0.12 | 57-062 | 1.73 |
| 56-063 | 2.21 | x 2-1/2" | 100/400 | 0.15 | 57-063 | 1.83 |
| 56-064 | 2.39 | x 3" | 50/300 | 0.19 | 57-064 | 2.06 |
| 56-065 | 2.65 | x 3-1/2" | 50/300 | 0.23 | 57-065 | 2.27 |
| 56-066 | 2.93 | x 4" | 50/300 | 0.27 | 57-066 | 2.56 |
| 56-067 | 3.27 | x 4-1/2" | 50/200 | 0.30 | 57-067 | 2.76 |
| 56-068 | 3.53 | x 5" | 50/150 | 0.34 | 57-068 | 3.04 |
| 56-069 | 3.75 | x 5-1/2" | 50/150 | 0.38 | 57-069 | 3.40 |
| 56-070 | 3.99 | x 6" | 50/100 | 0.42 | 57-070 | 3.63 |
| 56-071 | 6.40 | x 7" | 50/100 | 0.49 | 57-071 | 5.51 |
| 56-072 | 7.00 | x 8" | 50/100 | 0.57 | 57-072 | 5.93 |
| 56-073 | 8.14 | x 9" | 50/100 | 0.65 | 57-073 | 6.68 |
| 56-074 | 8.33 | x 10" | 50/100 | 0.72 | 57-074 | 7.11 |
| 56-075 | 8.98 | x 11" | 50/100 | 0.80 | 57-075 | 7.94 |
| 56-076 | 9.47 | x 12" | 40/80 | 0.87 | 57-076 | 11.58 |
| 56-240 | 14.78 | x 18" | 1/3 | 1.29 | 57-240 | 17.22 |
| 56-241 | 23.19 | x 24" | 1/3 | 1.74 | 57-241 | 21.07 |
| 56-242 | 24.99 | x 30" | 1/3 | 2.16 | 57-242 | 25.92 |
| 56-243 | 34.36 | x 36" | 1/3 | 2.61 | 57-243 | 28.00 |
| 56-244 | 71.46 | x 42" | 1/3 | 3.03 | 57-244 | 59.51 |
| 56-245 | 43.59 | x 48" | 1/3 | 3.48 | 57-245 | 33.75 |
| 56-246 | 48.92 | x 60" | 1/3 | 4.35 | 57-246 | 39.20 |
| 56-247 | 72.22 | x 72" | 1/3 | 5.22 | 57-247 | 49.94 |

BLACK & GALVANIZED SCH 40

STEEL NIPPLES

**3/4" DIAMETER
SCH 40 WELDED**



Wall Thickness 0.113 -
Grade B - Test Pressure
700 PSI - Thread Length
0.79



| Part # Galv | List Price | Length | Box/Case | Approx. Wt. Lbs. | Part # Black | List Price |
|-------------|------------|------------------|----------|------------------|--------------|------------|
| 56-080 | 2.27 | X Close (1-3/8") | 50/300 | 0.13 | 57-080 | 2.06 |
| 56-081 | 2.39 | x 1-1/2" | 125/250 | 0.10 | 57-081 | 2.17 |
| 56-082 | 2.56 | x 2" | 125/250 | 0.15 | 57-082 | 2.28 |
| 56-083 | 2.77 | x 2-1/2" | 50/250 | 0.20 | 57-083 | 2.52 |
| 56-084 | 3.05 | x 3" | 50/200 | 0.24 | 57-084 | 2.76 |
| 56-085 | 3.37 | x 3-1/2" | 50/150 | 0.29 | 57-085 | 3.06 |
| 56-086 | 3.70 | x 4" | 50/150 | 0.34 | 57-086 | 3.36 |
| 56-087 | 4.03 | x 4-1/2" | 50/150 | 0.39 | 57-087 | 3.66 |
| 56-088 | 4.66 | x 5" | 50/150 | 0.43 | 57-088 | 4.06 |
| 56-089 | 5.32 | x 5-1/2" | 60/120 | 0.48 | 57-089 | 4.37 |
| 56-090 | 5.18 | x 6" | 50/100 | 0.53 | 57-090 | 4.72 |
| 56-091 | 8.78 | x 7" | 50/100 | 0.63 | 57-091 | 6.72 |
| 56-092 | 9.09 | x 8" | 50/100 | 0.72 | 57-092 | 7.47 |
| 56-093 | 9.91 | x 9" | 40/80 | 0.82 | 57-093 | 8.97 |
| 56-094 | 9.96 | x 10" | 40/80 | 0.91 | 57-094 | 9.39 |
| 56-095 | 12.42 | x 11" | 30/60 | 1.01 | 57-095 | 9.60 |
| 56-096 | 11.14 | x 12" | 30/60 | 1.10 | 57-096 | 9.96 |
| 56-250 | 18.25 | x 18" | 1/3 | 1.63 | 57-250 | 14.62 |
| 56-251 | 23.41 | x 24" | 1/3 | 2.20 | 57-251 | 17.94 |
| 56-252 | 26.10 | x 30" | 1/3 | 2.73 | 57-252 | 23.10 |
| 56-253 | 29.82 | x 36" | 1/3 | 3.30 | 57-253 | 27.34 |
| 56-254 | 76.69 | x 42" | 1/3 | 3.83 | 57-254 | 66.31 |
| 56-255 | 47.78 | x 48" | 1/3 | 4.40 | 57-255 | 36.34 |
| 56-256 | 56.89 | x 60" | 1/3 | 5.50 | 57-256 | 44.58 |
| 56-257 | 62.81 | x 72" | 1/3 | 6.60 | 57-257 | 49.09 |



See page 205 for Full port 2,000# Carbon Steel Ball Valve

Darkness cannot drive out darkness: only light can do that. Hate cannot drive out hate: only love can do that.

- *Martin Luther King Jr.*



**1" DIAMETER
SCH 40 WELDED**

Wall Thickness 0.133 - Grade
B - Test Pressure 700 PSI -
Thread Length 0.98



| Part # Galv | List Price | Length | Box/Case | Approx. Wt. Lbs. | Part # Black | List Price |
|----------------|---------------|------------------|----------|------------------|-----------------|------------|
| 56-100 | 3.33 | X Close (1-1/2") | 50/200 | 0.16 | 57-100 | 3.03 |
| 56-101 | 3.50 | x 2" | 50/150 | 0.23 | 57-101 | 3.36 |
| 56-102 | 3.82 | x 2-1/2" | 50/150 | 0.29 | 57-102 | 3.36 |
| 56-103 | 4.20 | x 3" | 50/100 | 0.36 | 57-103 | 3.74 |
| 56-104 | 5.05 | x 3-1/2" | 50/100 | 0.43 | 57-104 | 4.13 |
| 56-105 | 5.75 | x 4" | 50/100 | 0.50 | 57-105 | 4.58 |
| 56-106 | 5.73 | x 4-1/2" | 50/100 | 0.56 | 57-106 | 4.91 |
| 56-107 | 6.02 | x 5" | 50/100 | 0.63 | 57-107 | 5.29 |
| 56-108 | 6.70 | x 5-1/2" | 50/100 | 0.70 | 57-108 | 5.70 |
| 56-109 | 6.89 | x 6" | 40/80 | 0.77 | 57-109 | 6.19 |
| 56-110 | 10.32 | x 7" | 25/50 | 0.90 | 57-110 | 8.44 |
| 56-111 | 11.26 | x 8" | 25/50 | 1.03 | 57-111 | 9.23 |
| 56-112 | 22.43 | x 9" | 15/30 | 1.17 | 57-112 | 10.21 |
| 56-113 | 21.75 | x 10" | 15/30 | 1.30 | 57-113 | 10.97 |
| 56-114 | 26.59 | x 11" | 15/30 | 1.44 | 57-114 | 14.89 |
| 56-115 | 26.59 | x 12" | 15/30 | 1.57 | 57-115 | 12.79 |
| 56-260 | 30.06 | x 18" | 1/3 | 2.34 | 57-260 | 25.58 |
| 56-261 | 36.37 | x 24" | 1/3 | 3.14 | 57-261 | 29.59 |
| 56-262 | 60.84 | x 30" | 1/3 | 3.91 | 57-262 | 44.88 |
| 56-263 | 53.11 | x 36" | 1/3 | 4.71 | 57-263 | 42.06 |
| 56-264 | 97.76 | x 42" | 1/3 | 5.48 | 57-264 | 87.96 |
| 56-265 | 77.30 | x 48" | 1/3 | 6.28 | 57-265 | 60.13 |
| 56-266 | 92.73 | x 60" | 1/3 | 7.85 | 57-266 | 82.10 |
| 56-267 | 105.92 | x 72" | 1/3 | 9.42 | 57-267 | 139.56 |



High Pressure 7,250 psi Full Port Ball Valves - see page 206

If you tell the truth, you don't have to
remember anything.

- Mark Twain

BLACK & GALVANIZED SCH 40

STEEL NIPPLES



**1-1/4" DIAMETER
SCH 40 WELDED**

Wall Thickness 0.14 - Grade
B - Test Pressure 1300 PSI -
Thread Length 1.01



| Part # Galv | List Price | Length | Box/Case | Approx. Wt. Lbs. | Part # Black | List Price |
|-------------|------------|------------------|----------|------------------|--------------|------------|
| 56-120 | 4.48 | X Close (1-5/8") | 50/100 | 0.25 | 57-120 | 3.98 |
| 56-121 | 4.64 | x 2" | 50/100 | 0.32 | 57-121 | 4.27 |
| 56-122 | 5.06 | x 2-1/2" | 50/100 | 0.41 | 57-122 | 4.59 |
| 56-123 | 5.54 | x 3" | 50/100 | 0.50 | 57-123 | 5.04 |
| 56-124 | 6.36 | x 3-1/2" | 30/60 | 0.60 | 57-124 | 5.51 |
| 56-125 | 7.33 | x 4" | 30/60 | 0.69 | 57-125 | 6.09 |
| 56-126 | 8.13 | x 4-1/2" | 30/60 | 0.78 | 57-126 | 6.57 |
| 56-127 | 7.83 | x 5" | 25/50 | 0.87 | 57-127 | 7.23 |
| 56-128 | 8.62 | x 5-1/2" | 25/50 | 0.96 | 57-128 | 7.47 |
| 56-129 | 8.86 | x 6" | 25/50 | 1.06 | 57-129 | 7.99 |
| 56-130 | 17.17 | x 7" | 15/30 | 1.24 | 57-130 | 11.09 |
| 56-131 | 14.88 | x 8" | 15/30 | 1.42 | 57-131 | 12.29 |
| 56-132 | 24.67 | x 9" | 15/30 | 1.61 | 57-132 | 13.23 |
| 56-133 | 23.91 | x 10" | 15/30 | 1.79 | 57-133 | 14.17 |
| 56-134 | 24.18 | x 11" | 10/20 | 1.97 | 57-134 | 16.91 |
| 56-135 | 30.12 | x 12" | 10/20 | 2.16 | 57-135 | 25.80 |
| 56-270 | 36.06 | x 18" | 1/3 | 3.22 | 57-270 | 27.80 |
| 56-271 | 46.94 | x 24" | 1/3 | 4.32 | 57-271 | 36.06 |
| 56-272 | 54.75 | x 30" | 1/3 | 3.22 | 57-272 | 56.07 |
| 56-273 | 70.54 | x 36" | 1/3 | 6.48 | 57-273 | 70.52 |
| 56-275 | 94.06 | x 48" | | | 57-275 | 89.76 |



**1-1/2" DIAMETER
SCH 40 WELDED**

Wall Thickness 0.145 - Grade
B - Test Pressure 1300 PSI -
Thread Length 1.03



| Part # Galv | List Price | Length | Box/Case | Approx. Wt. Lbs. | Part # Black | List Price |
|-------------|------------|------------------|----------|------------------|--------------|------------|
| 56-140 | 5.59 | X Close (1-3/4") | 50/100 | 0.31 | 57-140 | 4.80 |
| 56-141 | 5.89 | x 2" | 40/80 | 0.37 | 57-141 | 4.94 |
| 56-142 | 6.17 | x 2-1/2" | 40/80 | 0.47 | 57-142 | 5.48 |
| 56-143 | 6.77 | x 3" | 40/80 | 0.58 | 57-143 | 6.17 |
| 56-144 | 7.38 | x 3-1/2" | 25/50 | 0.68 | 57-144 | 7.00 |
| 56-145 | 8.06 | x 4" | 25/50 | 0.78 | 57-145 | 7.41 |
| 56-146 | 9.06 | x 4-1/2" | 25/50 | 0.89 | 57-146 | 8.18 |
| 56-147 | 9.35 | x 5" | 25/50 | 1.10 | 57-147 | 8.33 |
| 56-148 | 10.44 | x 5-1/2" | 20/40 | 1.10 | 57-148 | 8.82 |
| 56-149 | 10.62 | x 6" | 15/30 | 1.20 | 57-149 | 9.23 |
| 56-150 | 15.96 | x 7" | 15/30 | 1.41 | 57-150 | 12.84 |
| 56-151 | 17.49 | x 8" | 15/30 | 1.62 | 57-151 | 14.05 |
| 56-152 | 22.87 | x 9" | 15/30 | 1.83 | 57-152 | 15.72 |
| 56-153 | 21.80 | x 10" | 1/20 | 2.04 | 57-153 | 16.61 |
| 56-154 | 28.35 | x 11" | 1/20 | 2.25 | 57-154 | 27.65 |
| 56-155 | 28.14 | x 12" | 1/20 | 2.46 | 57-155 | 19.38 |
| 56-280 | 42.56 | x 18" | 1/3 | 3.66 | 57-280 | 36.53 |
| 56-281 | 68.82 | x 24" | 1/3 | 4.92 | 57-281 | 51.08 |
| 56-282 | 86.08 | x 30" | 1/3 | 6.12 | 57-282 | 65.56 |
| 56-283 | 81.96 | x 36" | 1/3 | 7.38 | 57-283 | 79.50 |
| 56-285 | 103.73 | x 48" | 1/3 | 9.84 | 57-285 | 122.61 |
| | | x 60" | | | 57-286 | 136.96 |

STEEL NIPPLES

BLACK & GALVANIZED SCH 40



2" DIAMETER SCH 40 WELDED

Wall Thickness 0.154 - Grade
B - Test Pressure 2500 PSI -
Thread Length 1.06



| Part # Galv | List Price | Length | Box/Case | Approx. Wt. Lbs. | Part # Black | List Price |
|----------------|------------|--------------|----------|------------------|-----------------|------------|
| 56-160 | 7.62 | X Close (2") | 40/80 | 0.55 | 57-160 | 6.34 |
| 56-161 | 8.80 | x 2-1/2" | 25/50 | 0.70 | 57-161 | 7.62 |
| 56-162 | 9.12 | x 3" | 25/50 | 0.86 | 57-162 | 7.99 |
| 56-163 | 10.30 | x 3-1/2" | 1/30 | 1.01 | 57-163 | 9.39 |
| 56-164 | 11.90 | x 4" | 1/30 | 1.16 | 57-164 | 9.30 |
| 56-165 | 13.13 | x 4-1/2" | 1/25 | 1.31 | 57-165 | 10.47 |
| 56-166 | 14.17 | x 5" | 1/30 | 1.47 | 57-166 | 11.11 |
| 56-167 | 13.56 | x 5-1/2" | 1/30 | 1.62 | 57-167 | 12.06 |
| 56-168 | 14.93 | x 6" | 1/20 | 1.77 | 57-168 | 12.51 |
| 56-169 | 25.92 | x 7" | 1/20 | 2.08 | 57-169 | 17.18 |
| 56-170 | 23.23 | x 8" | 1/20 | 2.39 | 57-170 | 19.87 |
| 56-171 | 42.45 | x 9" | 1/10 | 2.70 | 57-171 | 21.95 |
| 56-172 | 27.23 | x 10" | 1/10 | 3.00 | 57-172 | 24.71 |
| 56-173 | 31.17 | x 11" | 1/10 | 3.31 | 57-173 | 27.17 |
| 56-174 | 34.88 | x 12" | 1/10 | 3.62 | 57-174 | 32.46 |
| 56-290 | 48.22 | x 18" | 1/3 | 5.39 | 57-290 | 48.55 |
| 56-291 | 63.45 | x 24" | 1/3 | 5.26 | 57-291 | 67.57 |
| 56-292 | 92.22 | x 30" | 1/3 | 7.03 | 57-292 | 75.67 |
| 56-293 | 102.20 | x 36" | 1/3 | 10.86 | 57-293 | 86.30 |
| 56-294 | 168.55 | x 42" | 1/3 | 12.63 | 57-294 | 140.61 |
| 56-295 | 128.25 | x 48" | 1/3 | 14.48 | 57-295 | 146.34 |
| 56-296 | 173.03 | x 60" | 1/3 | 18.10 | 57-296 | 169.87 |
| 56-297 | 211.31 | x 72" | 1/3 | 18.10 | 57-297 | 208.37 |



2-1/2" DIAMETER SCH 40 WELDED

Wall Thickness 0.203 - Grade
B - Test Pressure 2500 PSI -
Thread Length 1.57



| Part # Galv | List Price | Length | Box/Case | Approx. Wt. Lbs. | Part # Black | List Price |
|----------------|------------|------------------|----------|------------------|-----------------|------------|
| 56-180 | 22.29 | X Close (2-1/2") | 1/20 | 1.09 | 57-180 | 16.45 |
| 56-181 | 22.95 | x 3" | 1/20 | 1.33 | 57-181 | 16.76 |
| 56-182 | 32.18 | x 3-1/2" | 1/20 | 1.57 | 57-182 | 19.72 |
| 56-183 | 25.26 | x 4" | 1/20 | 1.82 | 57-183 | 19.72 |
| 56-184 | 28.48 | x 4-1/2" | 1/20 | 2.06 | 57-184 | 24.84 |
| 56-185 | 28.14 | x 5" | 1/20 | 2.30 | 57-185 | 26.15 |
| 56-186 | 31.46 | x 5-1/2" | 1/10 | 2.54 | 57-186 | 30.88 |
| 56-187 | 30.90 | x 6" | 1/10 | 2.78 | 57-187 | 28.64 |
| 56-188 | 39.20 | x 7" | 1/10 | 3.27 | 57-188 | 47.20 |
| 56-189 | 49.34 | x 8" | 1/10 | 3.75 | 57-189 | 39.55 |
| 56-190 | 47.10 | x 9" | 1/10 | 4.24 | 57-190 | 51.07 |
| 56-191 | 48.48 | x 10" | 1/8 | 4.72 | 57-191 | 41.00 |
| 56-192 | 51.17 | x 11" | 1/8 | 5.21 | 57-192 | 50.46 |
| 56-193 | 51.37 | x 12" | 1/8 | 5.69 | 57-193 | 47.86 |

BLACK & GALVANIZED SCH 40

STEEL NIPPLES



**3" DIAMETER
SCH 40 WELDED**

Wall Thickness 0.216 - Grade
B - Test Pressure 2500 PSI -
Thread Length 1.64



| Part # Galv | List Price | Length | Box/Case | Approx. Wt. Lbs. | Part # Black | List Price |
|----------------|---------------|------------------|----------|------------------|--------------|------------|
| 56-200 | 27.21 | X Close (2-5/8") | 1/20 | 1.52 | 57-200 | 19.18 |
| 56-201 | 28.75 | x 3" | 1/20 | 1.76 | 57-201 | 19.43 |
| 56-202 | 46.97 | x 3-1/2" | 1/10 | 2.08 | 57-202 | 21.78 |
| 56-203 | 32.26 | x 4" | 1/10 | 2.39 | 57-203 | 21.78 |
| 56-204 | 38.87 | x 4-1/2" | 1/10 | 2.71 | 57-204 | 42.57 |
| 56-205 | 39.88 | x 5" | 1/10 | 3.03 | 57-205 | 26.99 |
| 56-206 | 43.38 | x 5-1/2" | 1/10 | 3.35 | 57-206 | 30.32 |
| 56-207 | 41.99 | x 6" | 1/10 | 3.66 | 57-207 | 30.32 |
| 56-208 | 51.55 | x 7" | 1/8 | 4.30 | 57-208 | 51.33 |
| 56-209 | 52.06 | x 8" | 1/8 | 4.93 | 57-209 | 40.36 |
| 56-210 | 58.48 | x 9" | 1/8 | 5.57 | 57-210 | 56.41 |
| 56-211 | 62.67 | x 10" | 1/5 | 6.20 | 57-211 | 45.32 |
| 56-212 | 99.97 | x 11" | 1/5 | 7.20 | 57-212 | 69.17 |
| 56-213 | 83.37 | x 12" | 1/5 | 7.47 | 57-213 | 50.34 |
| | | x 24" | 1 | 14.94 | 57-311 | 189.27 |



**4" DIAMETER
SCH 40 WELDED**

Wall Thickness 0.237 - Grade
B - Test Pressure 2210 PSI -
Thread Length 1.74



| Part # Galv | List Price | Length | Box/Case | Approx. Wt. Lbs. | Part # Black | List Price |
|----------------|---------------|------------------|----------|------------------|-----------------|------------|
| 56-220 | 38.91 | X Close (2-7/8") | 1/10 | 2.00 | 57-220 | 25.23 |
| 56-221 | 39.93 | 3-1/2" | 1/8 | 2.21 | | |
| 56-223 | 42.79 | x 4" | 1/8 | 3.41 | 57-223 | 29.16 |
| 56-224 | 54.23 | x 4-1/2" | 1/6 | 3.86 | 57-224 | 33.34 |
| 56-225 | 53.82 | x 5" | 1/6 | 4.31 | 57-225 | 34.55 |
| 56-226 | 71.72 | x 5-1/2" | 1/6 | 4.76 | 57-226 | 52.51 |
| 56-227 | 58.04 | x 6" | 1/6 | 5.21 | 57-227 | 35.64 |
| 56-330 | 105.50 | x 7" | 1/5 | 6.48 | 57-330 | 41.14 |
| 56-229 | 102.44 | x 8" | 1/5 | 7.01 | 57-229 | 41.14 |
| 56-331 | 99.63 | x 9" | 1/5 | 7.54 | 57-331 | 46.83 |
| 56-332 | 116.88 | x 10" | 1/5 | 8.14 | 57-332 | 46.83 |
| 56-228 | 116.24 | x 12" | 1/4 | 8.54 | 57-228 | 46.83 |

Exercise? I thought you said extra fries!

STEEL NIPPLES

TOE NIPPLES & ASSORTMENTS

NEW



6" DIAMETER SCH 40 WELDED

Wall Thickness 0.154 - Grade
B - Test Pressure 2500 PSI -
Thread Length 1.06



| Part # Galv | List Price | Length | Box/Case | Approx. Wt. Lbs. | Part # Black | List Price |
|----------------|------------|------------------|----------|------------------|-----------------|------------|
| 56-300 | 240.61 | X Close (3-1/8") | 1/1 | 3.80 | 57-300 | 89.01 |
| | | x 4" | 1/1 | 5.30 | 57-304 | 82.68 |
| | | x 6" | 1/1 | 8.30 | 57-301 | 124.39 |
| | | x 8" | 1/1 | 11.30 | 57-305 | 125.59 |
| | | x 12" | 1/1 | 17.20 | 57-308 | 163.16 |

NEW



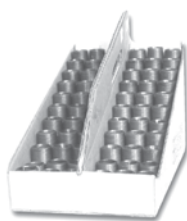
8" DIAMETER SCH 40 WELDED

Wall Thickness 0.154 - Grade
B - Test Pressure 2500 PSI -
Thread Length 1.06

| Part # | Length | Box/Case | Approx. Wt. Lbs. | List Price |
|--------|------------------|----------|------------------|------------|
| 57-320 | X Close (3-1/8") | 1/1 | 5.80 | 152.78 |
| 57-322 | x 4" | 1/1 | 6.50 | 195.55 |
| 57-324 | x 6" | 1/1 | 11.30 | 275.00 |
| 57-326 | x 8" | 1/1 | 19.00 | 314.72 |
| 57-328 | x 12" | 1/1 | 28.55 | 370.03 |

STEEL NIPPLE ASSORTMENTS

B "6" ASSORTMENTS



| Black | | LENGTH | | | | | | | | | | | Wt. Lbs. | Total Pieces | List Prices |
|---------|------|--------|--------|----|--------|----|--------|----|--------|----|--------|----|----------|--------------|-------------|
| | | Close | 1-1/2" | 2" | 2-1/2" | 3" | 3-1/2" | 4" | 4-1/2" | 5" | 5-1/2" | 6" | | | |
| 973-567 | 1/2" | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 20 | 66 | 201.27 |
| 973-568 | 3/4" | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 27 | 66 | 244.82 |
| 973-569 | 1" | 6 | | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 34 | 60 | 341.19 |
| Galv. | | LENGTH | | | | | | | | | | | Wt. Lbs. | Total Pieces | List Prices |
| | | Close | 1-1/2" | 2" | 2-1/2" | 3" | 3-1/2" | 4" | 4-1/2" | 5" | 5-1/2" | 6" | | | |
| 973-667 | 1/2" | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 20 | 66 | 250.05 |
| 973-668 | 3/4" | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 27 | 66 | 306.24 |
| 973-669 | 1" | 6 | | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 34 | 60 | 421.30 |

STEEL TOTE TRAYS



| Part # | Size | Capacity | List Price |
|---------|--------|----------|------------|
| 990-781 | 1/2" | 77pcs | 80.44 |
| 990-782 | 3/4" | 66pcs | 87.41 |
| 990-783 | 1" | 50pcs | 96.07 |
| 990-786 | 1-1/4" | 40pcs | 107.79 |
| 990-784 | 1-1/2" | 30pcs | 104.27 |
| 990-785 | 2" | 27pcs | 130.33 |

BLACK SCH 80 SEAMLESS

STEEL NIPPLES

EXTRA HEAVY SEAMLESS STEEL PIPE NIPPLES

1/8" - 27



1/8" DIAMETER SCHEDULE 80 SEAMLESS

Wall Thickness 0.094 - Grade B - Test Pressure 850 PSI - Thread Length 0.39

| Part # | Length | Box/Case | Approx. Wt. Lbs. | List Price |
|------------|----------|----------|------------------|------------|
| 59-001SMLS | x Close | 40/480 | 0.02 | 1.73 |
| 59-002SMLS | x 1-1/2" | 40/480 | 0.03 | 2.75 |
| 59-003SMLS | x 2" | 100/400 | 0.05 | 1.90 |
| 59-004SMLS | 2-1/2" | 100/400 | 0.06 | 23.32 |
| 59-005SMLS | x 3" | 40/240 | 0.08 | 3.39 |
| 59-006SMLS | x 3-1/2" | 40/240 | 0.09 | 28.27 |
| 59-007SMLS | x 4" | 40/240 | 0.11 | 3.51 |
| 59-009SMLS | x 5" | 40/120 | 0.12 | 46.75 |
| 59-010SMLS | x 5-1/2" | 40/120 | 0.13 | 50.16 |
| 59-011SMLS | x 6" | 40/80 | 0.16 | 6.58 |

1/4" - 18



1/4" DIAMETER SCHEDULE 80 SEAMLESS

Wall Thickness 0.119 - Grade B - Test Pressure 850 PSI - Thread Length 0.59

| Part # | Length | Box/Case | Approx. Wt. Lbs. | List Price |
|------------|----------------|-----------|------------------|------------|
| 59-020SMLS | x Close (7/8") | 40 / 480 | 0.03 | 2.97 |
| 59-021SMLS | x 1-1/2" | 100 / 400 | 0.06 | 3.51 |
| 59-022SMLS | x 2" | 100 / 400 | 0.08 | 3.51 |
| 59-023SMLS | x 2-1/2" | 80 / 320 | 0.10 | 4.54 |
| 59-024SMLS | x 3" | 40 / 240 | 0.12 | 4.54 |
| 59-025SMLS | x 3-1/2" | 40 / 240 | 0.15 | 4.96 |
| 59-026SMLS | x 4" | 40 / 240 | 0.17 | 4.96 |
| 59-027SMLS | x 4-1/2" | 40 / 120 | 0.19 | 7.81 |
| 59-028SMLS | x 5" | 40 / 120 | 0.21 | 7.81 |
| 59-029SMLS | x 5-1/2" | 40 / 80 | 0.24 | 8.90 |
| 59-030SMLS | x 6" | 40 / 80 | 0.26 | 8.90 |
| 59-031SMLS | x 7" | 40 / 80 | 0.30 | 14.95 |
| 59-032SMLS | x 8" | 40 / 80 | 0.35 | 14.95 |
| 59-033SMLS | x 9" | 40 / 80 | 0.39 | 15.92 |
| 59-034SMLS | x 10" | 40 / 80 | 0.44 | 15.92 |
| 59-036SMLS | x 12" | 40 / 80 | 0.53 | 17.55 |



5,000# Carbon Steel Check Valves on page 207

3/8" - 18



3/8" DIAMETER SCHEDULE 80 SEAMLESS

Wall Thickness 0.126 - Grade B - Test Pressure 850 PSI - Thread Length 0.6

| Part # | Length | Box/Case | Approx. Wt. Lbs. | List Price |
|------------|----------------|-----------|------------------|------------|
| 59-040SMLS | X Close (3/8") | 40 / 480 | 0.05 | 3.09 |
| 59-041SMLS | x 1-1/2" | 100 / 400 | 0.08 | 3.87 |
| 59-042SMLS | x 2" | 100 / 400 | 0.11 | 3.87 |
| 59-043SMLS | x 2-1/2" | 80 / 320 | 0.14 | 4.60 |
| 59-044SMLS | x 3" | 40 / 240 | 0.17 | 4.60 |
| 59-045SMLS | x 3-1/2" | 40 / 240 | 0.20 | 5.45 |
| 59-046SMLS | x 4" | 40 / 240 | 0.23 | 5.45 |
| 59-047SMLS | x 4-1/2" | 40 / 160 | 0.26 | 7.81 |
| 59-048SMLS | x 5" | 40 / 120 | 0.29 | 7.81 |
| 59-049SMLS | x 5-1/2" | 40 / 120 | 0.32 | 8.90 |
| 59-050SMLS | x 6" | 40 / 80 | 0.35 | 8.90 |
| 59-052SMLS | x 8" | 40/80 | 0.47 | 78.98 |
| 59-054SMLS | x 10" | 40/80 | 0.53 | 68.12 |
| 59-056SMLS | x 12" | 40/80 | 0.65 | 75.96 |

1/2" - 14



1/2" DIAMETER SCHEDULE 80 SEAMLESS

Wall Thickness 0.147 - Grade B - Test Pressure 850 PSI - Thread Length 0.78

| Part # | Length | Box/Case | Approx. Wt. Lbs. | List Price |
|------------|------------------|-----------|------------------|------------|
| 59-060SMLS | X Close (1-1/8") | 40 / 480 | 0.07 | 2.85 |
| 59-061SMLS | x 1-1/2" | 100 / 400 | 0.11 | 2.85 |
| 59-062SMLS | x 2" | 100 / 400 | 0.15 | 2.85 |
| 59-063SMLS | x 2-1/2" | 80 / 320 | 0.20 | 3.39 |
| 59-064SMLS | x 3" | 40 / 240 | 0.24 | 3.39 |
| 59-065SMLS | x 3-1/2" | 40 / 240 | 0.29 | 4.06 |
| 59-066SMLS | x 4" | 40 / 240 | 0.33 | 4.06 |
| 59-067SMLS | x 4-1/2" | 40 / 160 | 0.38 | 4.66 |
| 59-068SMLS | x 5" | 40 / 120 | 0.42 | 4.60 |
| 59-069SMLS | x 5-1/2" | 40 / 120 | 0.47 | 5.27 |
| 59-070SMLS | x 6" | 40 / 80 | 0.51 | 5.27 |
| 59-071SMLS | x 7" | 40 / 80 | 0.60 | 10.04 |
| 59-072SMLS | x 8" | 40 / 80 | 0.69 | 10.04 |
| 59-073SMLS | x 9" | 40/80 | 0.73 | 32.59 |
| 59-074SMLS | x 10" | 40 / 80 | 0.88 | 11.37 |
| 59-075SMLS | x 11" | 32/64 | 0.96 | 45.85 |
| 59-076SMLS | x 12" | 32 / 64 | 1.06 | 13.07 |

BLACK SCH 80 SEAMLESS

STEEL NIPPLES



3/4" - 14

3/4" DIAMETER SCHEDULE 80 SEAMLESS

Wall Thickness 0.154 - Grade B - Test Pressure 850 PSI - Thread Length 0.79

| Part # | Length | Box/Case | Approx. Wt. Lbs. | List Price |
|------------|------------------|----------|------------------|------------|
| 59-080SMLS | X Close (1-3/8") | 40/240 | 0.13 | 3.21 |
| 59-081SMLS | x 1-1/2" | 100/200 | 0.15 | 3.27 |
| 59-082SMLS | x 2" | 100/200 | 0.21 | 3.27 |
| 59-083SMLS | x 2-1/2" | 40/160 | 0.27 | 3.94 |
| 59-084SMLS | x 3" | 40/160 | 0.33 | 3.94 |
| 59-085SMLS | x 3-1/2" | 40/120 | 0.39 | 4.60 |
| 59-086SMLS | x 4" | 40/120 | 0.45 | 4.60 |
| 59-087SMLS | x 4-1/2" | 40/120 | 0.51 | 5.75 |
| 59-088SMLS | x 5" | 40/120 | 0.57 | 5.75 |
| 59-089SMLS | x 5-1/2" | 48/96 | 0.64 | 6.84 |
| 59-090SMLS | x 6" | 40/80 | 0.69 | 6.84 |
| 59-091SMLS | x 7" | 40/80 | 0.82 | 11.80 |
| 59-092SMLS | x 8" | 40/80 | 0.94 | 11.80 |
| 59-094SMLS | x 10" | 32/64 | 1.19 | 13.74 |
| 59-096SMLS | x 12" | 24/48 | 1.44 | 15.55 |

1" - 11 1/2



1" DIAMETER SCHEDULE 80 SEAMLESS

Wall Thickness 0.179 - Grade B - Test Pressure 850 PSI - Thread Length 0.98

| Part # | Length | Box/Case | Approx. Wt. Lbs. | List Price |
|------------|------------------|----------|------------------|------------|
| 59-100SMLS | X Close (1-1/2") | 40 / 160 | 0.21 | 4.79 |
| 59-101SMLS | x 2" | 40 / 120 | 0.30 | 5.39 |
| 59-102SMLS | x 2-1/2" | 40 / 120 | 0.37 | 5.57 |
| 59-103SMLS | x 3" | 40 / 80 | 0.47 | 5.57 |
| 59-104SMLS | x 3-1/2" | 40 / 80 | 0.56 | 6.66 |
| 59-105SMLS | x 4" | 40 / 80 | 0.65 | 6.66 |
| 59-106SMLS | x 4-1/2" | 40 / 80 | 0.74 | 7.93 |
| 59-107SMLS | x 5" | 40 / 80 | 0.83 | 7.93 |
| 59-108SMLS | x 5-1/2" | 40 / 80 | 0.92 | 9.38 |
| 59-109SMLS | x 6" | 32 / 64 | 1.01 | 9.38 |
| 59-110SMLS | x 7" | 20 / 40 | 1.19 | 15.85 |
| 59-111SMLS | x 8" | 20 / 40 | 1.37 | 15.85 |
| 59-112SMLS | x 9" | 20 / 40 | 1.55 | 19.00 |
| 59-113SMLS | x 10" | 12 / 24 | 1.74 | 19.00 |
| 59-114SMLS | x 11" | 12 / 24 | 1.92 | 20.52 |
| 59-115SMLS | x 12" | 12 / 24 | 2.10 | 20.52 |



1-1/4" DIAMETER SCHEDULE 80 SEAMLESS

Wall Thickness 0.191 - Grade B - Test Pressure 1900 PSI - Thread Length 1.01

| Part # | Length | Box/Case | Approx. Wt. Lbs. | List Price |
|------------|------------------|----------|------------------|------------|
| 59-120SMLS | X Close (1-5/8") | 40 / 80 | 0.31 | 5.87 |
| 59-121SMLS | x 2" | 40 / 80 | 0.42 | 6.36 |
| 59-122SMLS | x 2-1/2" | 40 / 80 | 0.52 | 6.90 |
| 59-123SMLS | x 3" | 40 / 80 | 0.64 | 6.90 |
| 59-124SMLS | x 3-1/2" | 24 / 48 | 0.77 | 8.66 |
| 59-125SMLS | x 4" | 24 / 48 | 0.90 | 8.66 |
| 59-126SMLS | x 4-1/2" | 24 / 48 | 1.02 | 10.65 |
| 59-127SMLS | x 5" | 20 / 40 | 1.15 | 10.65 |
| 59-128SMLS | x 5-1/2" | 20 / 40 | 1.27 | 11.98 |
| 59-129SMLS | x 6" | 20 / 40 | 1.40 | 11.98 |
| 59-130SMLS | x 7" | 20 / 40 | 1.65 | 19.97 |
| 59-131SMLS | x 8" | 12 / 24 | 1.90 | 19.97 |
| 59-132SMLS | x 9" | 12 / 24 | 2.15 | 23.06 |
| 59-133SMLS | x 10" | 12 / 24 | 2.40 | 23.06 |
| 59-134SMLS | x 11" | 8 / 16 | 2.65 | 26.57 |
| 59-135SMLS | x 12" | 8 / 16 | 2.90 | 26.57 |



1-1/2" DIAMETER SCHEDULE 80 SEAMLESS

Wall Thickness 0.2 - Grade B - Test Pressure 1900 PSI - Thread Length 1.03

| Part # | Length | Box/Case | Approx. Wt. Lbs. | List Price |
|------------|------------------|----------|------------------|------------|
| 59-140SMLS | X Close (1-3/4") | 40 / 80 | 0.41 | 7.38 |
| 59-141SMLS | x 2" | 32 / 64 | 0.51 | 7.99 |
| 59-142SMLS | x 2-1/2" | 32 / 64 | 0.64 | 8.59 |
| 59-143SMLS | x 3" | 32 / 64 | 0.78 | 8.59 |
| 59-144SMLS | x 3-1/2" | 20 / 40 | 0.94 | 10.35 |
| 59-145SMLS | x 4" | 20 / 40 | 1.09 | 10.35 |
| 59-146SMLS | x 4-1/2" | 20 / 40 | 1.23 | 12.05 |
| 59-147SMLS | x 5" | 20 / 40 | 1.39 | 12.05 |
| 59-148SMLS | x 5-1/2" | 16 / 32 | 1.54 | 13.79 |
| 59-149SMLS | x 6" | 12 / 24 | 1.69 | 13.79 |
| 59-150SMLS | x 7" | 12 / 24 | 2.00 | 23.06 |
| 59-151SMLS | x 8" | 12 / 24 | 2.30 | 23.06 |
| 59-152SMLS | x 9" | 12 / 24 | 2.61 | 26.57 |
| 59-153SMLS | x 10" | 8 / 16 | 2.90 | 26.57 |
| 59-154SMLS | x 11" | 8 / 16 | 3.20 | 32.07 |
| 59-155SMLS | x 12" | 8 / 16 | 3.51 | 32.07 |

BLACK SCH 80 SEAMLESS

STEEL NIPPLES

**2" DIAMETER SCHEDULE 80 SEAMLESS**

Wall Thickness 0.218 - Grade B - Test Pressure 2500 PSI - Thread Length 1.06

| Part # | Length | Box/Case | Approx. Wt. Lbs. | List Price |
|------------|--------------|----------|------------------|------------|
| 59-160SMLS | X Close (2") | 32/64 | 0.30 | 10.11 |
| 59-161SMLS | x 2-1/2" | 20 / 40 | 0.80 | 11.37 |
| 59-162SMLS | x 3" | 20 / 40 | 1.10 | 11.37 |
| 59-163SMLS | x 3-1/2" | 12 / 24 | 1.31 | 13.07 |
| 59-164SMLS | x 4" | 12 / 24 | 1.52 | 13.07 |
| 59-165SMLS | x 4-1/2" | 12 / 24 | 1.72 | 16.16 |
| 59-166SMLS | x 5" | 12 / 24 | 1.94 | 16.16 |
| 59-167SMLS | x 5-1/2" | 12 / 24 | 2.15 | 18.63 |
| 59-168SMLS | x 6" | 8 / 16 | 2.35 | 18.63 |
| 59-169SMLS | x 7" | 8 / 16 | 2.78 | 32.07 |
| 59-170SMLS | x 8" | 8 / 16 | 3.19 | 32.07 |
| 59-171SMLS | x 9" | 1 / 8 | 3.62 | 37.33 |
| 59-172SMLS | x 10" | 1 / 8 | 4.03 | 37.33 |
| 59-173SMLS | x 11" | 1 / 8 | 4.44 | 43.02 |
| 59-174SMLS | x 12" | 1 / 8 | 4.87 | 43.02 |
| 59-196SMLS | x 18" | 1/1 | 7.22 | 158.40 |
| 59-197SMLS | x 24" | 1/1 | 9.74 | 193.60 |
| 59-198SMLS | x 36" | 1/1 | 14.61 | 246.40 |
| 59-199SMLS | x 48" | 1/1 | 19.48 | 308.00 |

**2-1/2" DIAMETER SCHEDULE 80 SEAMLESS**

Wall Thickness 0.276 - Grade B - Test Pressure 2500 PSI - Thread Length 1.57

| Part # | Length | Box/Case | Approx. Wt. Lbs. | List Price |
|------------|--------------------|----------|------------------|------------|
| 59-180SMLS | x Close (2-1/2") | 1 / 16 | 1.25 | 30.92 |
| 59-181SMLS | x 3" | 1 / 16 | 1.57 | 32.25 |
| 59-182SMLS | x 3-1/2" | 1 / 16 | 1.82 | 37.51 |
| 59-183SMLS | x 4" | 1 / 16 | 2.15 | 37.51 |
| 59-184SMLS | x 4-1/2" | 1 / 16 | 1.75 | 42.66 |
| 59-185SMLS | x 5" | 1 / 16 | 2.78 | 42.66 |
| 59-186SMLS | x 5-1/2" | 1 / 8 | 2.25 | 46.46 |
| 59-187SMLS | x 6" | 1 / 8 | 3.41 | 46.46 |
| 59-188SMLS | x 7" | 1 / 8 | 3.89 | 56.09 |
| 59-189SMLS | x 8" | 1 / 8 | 4.69 | 56.09 |
| 59-190SMLS | x 9" | 1 / 8 | 5.34 | 63.35 |
| 59-191SMLS | x 10" | 1 / 6 | 5.97 | 63.35 |
| 59-192SMLS | x 11" | 1 / 6 | 4.89 | 69.88 |
| 59-193SMLS | x 12" | 1 / 5 | 7.26 | 69.88 |



3" DIAMETER SCHEDULE 80 SEAMLESS

Wall Thickness 0.3 - Grade B - Test Pressure 2500 PSI - Thread Length 1.64

| Part # | Length | Box/Case | Approx. Wt. Lbs. | List Price |
|------------|------------------|----------|------------------|------------|
| 59-200SMLS | X Close (2-5/8") | 1 / 16 | 1.79 | 37.75 |
| 59-201SMLS | x 3" | 1 / 16 | 2.11 | 41.99 |
| 59-202SMLS | x 3-1/2" | 1 / 16 | 2.55 | 48.64 |
| 59-203SMLS | x 4" | 1 / 8 | 2.89 | 48.64 |
| 59-204SMLS | x 4-1/2" | 1 / 8 | 3.30 | 53.79 |
| 59-205SMLS | x 5" | 1 / 8 | 3.73 | 53.79 |
| 59-206SMLS | x 5-1/2" | 1 / 8 | 4.17 | 58.69 |
| 59-207SMLS | x 6" | 1 / 8 | 4.57 | 58.69 |
| 59-208SMLS | x 7" | 1 / 6 | 5.45 | 80.29 |
| 59-209SMLS | x 8" | 1 / 6 | 6.29 | 80.29 |
| 59-210SMLS | x 9" | 1 / 6 | 7.17 | 89.49 |
| 59-211SMLS | x 10" | 1 / 4 | 8.01 | 89.49 |
| 59-212SMLS | x 11" | 1 / 4 | 8.85 | 96.80 |
| 59-213SMLS | x 12" | 1 / 4 | 9.72 | 96.80 |



4" DIAMETER SCHEDULE 80 SEAMLESS

Wall Thickness 0.337 - Grade B - Test Pressure 2800 PSI - Thread Length 1.74

| Part # | Length | Box/Case | Approx. Wt. Lbs. | List Price |
|------------|------------------|----------|------------------|------------|
| 59-220SMLS | X Close (2-7/8") | 1 / 8 | 2.91 | 56.94 |
| 59-221SMLS | x 4" | 1 / 6 | 4.26 | 64.68 |
| 59-223SMLS | x 5" | 1 / 5 | 5.49 | 72.67 |
| 59-225SMLS | x 6" | 1 / 5 | 6.72 | 78.96 |
| 59-226SMLS | x 7" | 1/3 | 7.33 | 92.61 |
| 59-227SMLS | x 8" | 1 / 3 | 9.23 | 92.93 |
| 59-229SMLS | x 10" | 1 / 3 | 11.73 | 107.03 |
| 59-231SMLS | x 12" | 1 / 3 | 14.24 | 118.77 |

SCHEDULE 80 SEAMLESS



6" DIAMETER



8" DIAMETER

| Part # | List Price | Length | Box/Case | Approx. Wt. Lbs. | | Part # | List Price |
|------------|------------|---------|----------|------------------|-------|------------|------------|
| | | | | 6" | 8" | | |
| 59-300SMLS | 76.38 | X Close | 2 | 3.57 | 4.62 | 59-320SMLS | 76.38 |
| 59-301SMLS | 171.12 | x 6" | 2 | 14.29 | 16.91 | 59-322SMLS | 171.12 |
| 59-305SMLS | 187.85 | x 8" | 2 | 19.05 | 22.54 | 59-324SMLS | 187.85 |
| 59-306SMLS | 232.22 | x 10" | 2 | 23.81 | 27.47 | 59-326SMLS | 232.22 |
| 59-308SMLS | 275.00 | x 12" | 2 | 28.57 | 34.18 | 59-328SMLS | 275.00 |

BLACK EXTRA HEAVY XXS SEAMLESS

STEEL NIPPLES



1/2" DIAMETER BLACK EXTRA HEAVY XXS SEAMLESS

Wall Thickness 0.294 - Grade B - Test Pressure 1000 PSI - Thread Length 0.79

| Part # | Length | Box/Case | Approx. Wt. Lbs. | List Price |
|--------------|---------|-----------|------------------|------------|
| 59-060SMLSXX | x Close | 100 / 200 | 0.31 | 10.84 |
| 59-062SMLSXX | x 2" | 100 / 200 | 0.58 | 12.83 |
| 59-064SMLSXX | x 3" | 50 / 100 | 0.62 | 15.55 |
| 59-066SMLSXX | x 4" | 50 / 100 | 0.66 | 19.43 |
| 59-070SMLSXX | x 6" | 25 / 50 | 0.75 | 28.92 |



3/4" DIAMETER DIAMETER BLACK EXTRA HEAVY XXS SEAMLESS

Wall Thickness 0.308 - Grade B - Test Pressure 1000 PSI - Thread Length 0.79

| Part # | Length | Box/Case | Approx. Wt. Lbs. | List Price |
|--------------|---------|----------|------------------|------------|
| 59-080SMLSXX | x Close | 40/240 | 0.55 | 9.54 |
| 59-082SMLSXX | x 2" | 50 / 100 | 0.62 | 17.67 |
| 59-086SMLSXX | x 4" | 25 / 50 | 0.68 | 27.71 |
| 59-090SMLSXX | x 6" | 25 / 50 | 0.71 | 39.88 |



1" DIAMETER DIAMETER BLACK EXTRA HEAVY XXS SEAMLESS

Wall Thickness 0.358 - Grade B - Test Pressure 1000 PSI - Thread Length 0.98

| Part # | Length | Box/Case | Approx. Wt. Lbs. | List Price |
|--------------|---------|----------|------------------|------------|
| 59-100SMLSXX | x close | 50 / 100 | 0.88 | 22.26 |
| 59-101SMLSXX | x 2" | 50 / 100 | 1.07 | 23.54 |
| 59-103SMLSXX | x 3" | 20/40 | 1.10 | 28.07 |
| 59-105SMLSXX | x 4" | 20 / 40 | 1.14 | 36.61 |
| 59-109SMLSXX | x 6" | 20 / 40 | 1.75 | 52.64 |
| 59-111SMLSXX | x 8" | 1 / 25 | 1.88 | 79.74 |
| 59-115SMLSXX | x 12" | 1 / 15 | 2.15 | 104.91 |

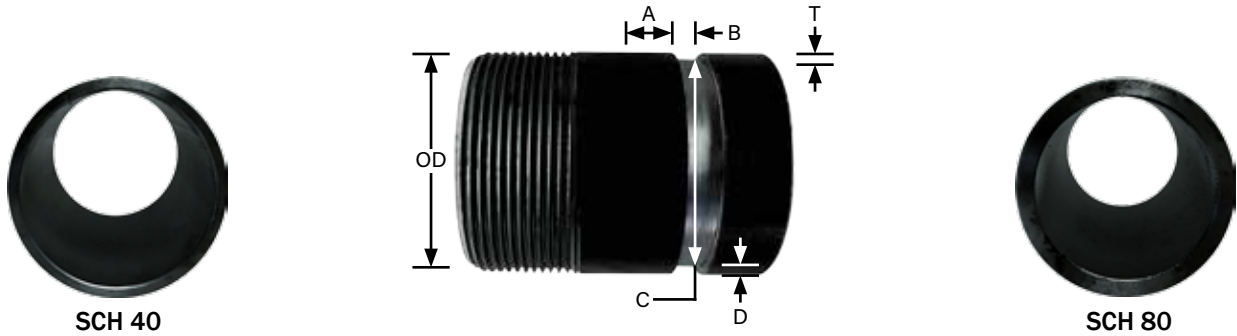


2" DIAMETER DIAMETER BLACK EXTRA HEAVY XXS SEAMLESS

Wall Thickness 0.436 - Grade B - Test Pressure 2500 PSI - Thread Length 1.06

| Part # | Length | Box/Case | Approx. Wt. Lbs. | List Price |
|--------------|----------|----------|------------------|------------|
| 59-160SMLSXX | x close | 1 / 25 | 1.36 | 33.88 |
| 59-161SMLSXX | x 2-1/2" | 1 / 20 | 1.67 | 38.79 |
| 59-162SMLSXX | x 3" | 1 / 20 | 2.09 | 49.97 |
| 59-163SMLSXX | x 3-1/2" | 1 / 12 | 2.51 | 53.85 |
| 59-164SMLSXX | x 4" | 1 / 12 | 2.86 | 60.08 |
| 59-166SMLSXX | x 5" | 1/12 | 3.04 | 85.54 |
| 59-168SMLSXX | x 6" | 1 / 11 | 3.20 | 86.76 |
| 59-169SMLSXX | x 7" | 1 / 8 | 4.35 | 91.54 |
| 59-170SMLSXX | x 8" | 1 / 8 | 5.86 | 97.41 |
| 59-171SMLSXX | x 9" | 1 / 8 | 6.58 | 101.71 |
| 59-172SMLSXX | x 10" | 1 / 8 | 7.31 | 106.48 |
| 59-174SMLSXX | x 12" | 1 / 8 | 9.34 | 116.16 |
| 59-179SMLSXX | x 24" | 1 / 1 | 14.77 | 405.79 |

THREAD X GROOVE



SCH 40

SCH 80

2" DIAMETER

| Part # | List Price | Box | Wtg | Length | Wtg | Box | Part # | List Price |
|---------|------------|-----|------|--------|------|-----|---------|------------|
| 57162TV | 8.89 | 50 | 0.70 | x 3 | 1.03 | 40 | 59162TV | 13.67 |
| 57164TV | 11.41 | 30 | 0.97 | x 4 | 1.40 | 24 | 59164TV | 15.69 |
| 57168TV | 16.56 | 20 | 1.64 | x 6 | 2.41 | 16 | 59168TV | 25.02 |
| 57170TV | 23.42 | 20 | 2.15 | x 8 | 3.20 | 16 | 59170TV | 35.66 |
| 57172TV | 28.22 | 10 | 2.80 | x 10 | 3.65 | 8 | 59172TV | 42.61 |
| 57174TV | 33.06 | 10 | 3.45 | x 12 | 4.01 | 8 | 59174TV | 49.71 |

3" DIAMETER

| Part # | List Price | Box | Wtg | Length | Wtg | Box | Part # | List Price |
|---------|------------|-----|------|--------|------|-----|---------|------------|
| 57201TV | 18.21 | 20 | 1.26 | x 3 | 2.01 | 16 | 59201TV | 31.48 |
| 57203TV | 23.52 | 10 | 1.80 | x 4 | 3.01 | 8 | 59203TV | 36.45 |
| 57207TV | 34.24 | 10 | 3.17 | x 6 | 4.87 | 8 | 59207TV | 52.29 |
| 57209TV | 48.50 | 8 | 4.13 | x 8 | 5.86 | 6 | 59209TV | 74.47 |
| 57211TV | 58.54 | 5 | 5.48 | x 10 | 6.19 | 4 | 59211TV | 89.01 |
| 57213TV | 68.68 | 5 | 6.24 | x 12 | 6.37 | 4 | 59213TV | 94.36 |

4" DIAMETER

| Part # | List Price | Box | Wtg | Length | Wtg | Box | Part # | List Price |
|---------|------------|-----|------|--------|-------|-----|---------|------------|
| 57222TV | 25.92 | 8 | 2.40 | x 3 | 4.11 | 6 | 59222TV | 50.98 |
| 57223TV | 33.52 | 8 | 2.52 | x 4 | 4.15 | 6 | 59221TV | 33.52 |
| 57227TV | 48.72 | 6 | 4.30 | x 6 | 6.52 | 5 | 59225TV | 74.55 |
| 57229TV | 69.10 | 4 | 5.63 | x 8 | 7.18 | 3 | 59229TV | 127.24 |
| 57332TV | 83.40 | 4 | 7.90 | x 10 | 11.74 | 3 | 59231TV | 134.70 |
| 57228TV | 97.76 | 4 | 8.25 | x 12 | 14.24 | 3 | 59227TV | 96.39 |

| Nominal IPS Pipe Size | O.D. Actual | Gasket Seat "A" | Groove Width "B" | Groove Diameter "C" | Actual Groove Depth "D" |
|-----------------------|-------------|-----------------|------------------|---------------------|-------------------------|
| 2 | 2.375 | 0.625 | 0.312 | 2.250 | 0.062 |
| 3 | 3.500 | 0.625 | 0.312 | 3.344 | 0.078 |
| 4 | 4.500 | 0.625 | 0.375 | 4.334 | 0.083 |

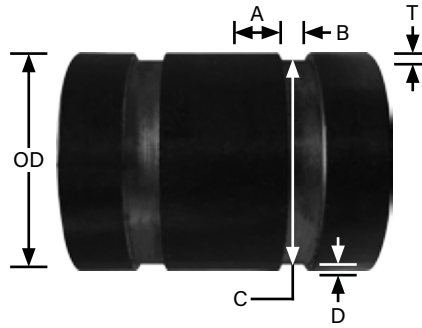
BLACK SCH 40 AND SCH 80 SEAMLESS

GROOVE NIPPLES

GROOVE X GROOVE



SCH 40



SCH 80

2" DIAMETER

| Part # | List Price | Box | Wtg | Length | Wtg | Box | Part # | List Price |
|--------|------------|-----|------|--------|------|-----|--------|------------|
| 57162V | 9.66 | 50 | 0.70 | x 3 | 1.03 | 40 | 59162V | 14.93 |
| 57164V | 12.44 | 30 | 0.97 | x 4 | 1.40 | 24 | 59164V | 17.13 |
| 57168V | 14.45 | 20 | 1.64 | x 6 | 2.41 | 16 | 59168V | 27.31 |
| 57170V | 25.52 | 20 | 2.15 | x 8 | 3.20 | 16 | 59170V | 35.40 |
| 57172V | 30.71 | 10 | 2.80 | x 10 | 3.65 | 8 | 59172V | 46.50 |
| 57174V | 36.00 | 10 | 3.45 | x 12 | 4.01 | 8 | 59174V | 59.67 |

3" DIAMETER

| Part # | List Price | Box | Wtg | Length | Wtg | Box | Part # | List Price |
|--------|------------|-----|------|--------|------|-----|--------|------------|
| 57201V | 19.75 | 20 | 1.26 | x 3 | 2.01 | 16 | 59201V | 31.27 |
| 57203V | 25.55 | 10 | 1.80 | x 4 | 3.01 | 8 | 59203V | 39.79 |
| 57207V | 37.28 | 10 | 3.17 | x 6 | 4.87 | 8 | 59207V | 57.06 |
| 57209V | 52.85 | 8 | 4.13 | x 8 | 5.86 | 6 | 59209V | 81.32 |
| 57211V | 63.75 | 5 | 5.48 | x 10 | 6.19 | 4 | 59211V | 97.17 |
| 57213V | 74.78 | 5 | 6.24 | x 12 | 6.37 | 4 | 59213V | 113.28 |

4" DIAMETER

| Part # | List Price | Box | Wtg | Length | Wtg | Box | Part # | List Price |
|--------|------------|-----|------|--------|-------|-----|--------|------------|
| 57223V | 36.38 | 8 | 2.52 | x 4 | 4.15 | 6 | 59221V | 51.67 |
| 57227V | 42.62 | 6 | 4.35 | x 6 | 6.52 | 5 | 59225V | 81.36 |
| 57229V | 75.27 | 4 | 5.63 | x 8 | 7.18 | 3 | 59227V | 115.76 |
| 57332V | 90.82 | 4 | 7.90 | x 10 | 11.74 | 3 | 59229V | 138.87 |
| 57228V | 106.45 | 4 | 8.25 | x 12 | 14.24 | 3 | 59231V | 161.68 |

| Nominal IPS Pipe Size | O.D. Actual | Gasket Seat "A" | Groove Width "B" | Groove Diameter "C" | Actual Groove Depth "D" |
|-----------------------|-------------|-----------------|------------------|---------------------|-------------------------|
| 2 | 2.375 | 0.625 | 0.312 | 2.250 | 0.062 |
| 3 | 3.500 | 0.625 | 0.312 | 3.344 | 0.078 |
| 4 | 4.500 | 0.625 | 0.375 | 4.334 | 0.083 |

STEEL NIPPLES

Product Specifications

Welded steel couplings both galvanized and black in diameters from 1/8" up to 4".

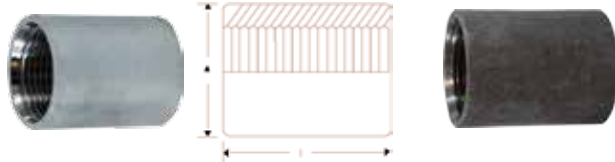
Technical Specifications

Standards: Product complies with ASTM A865 and ANSI B1.20.1 for threading, dimensions and pipe specifications. Federal Spec WW-P-404

Pipe: Complies with ASTM A-53 milltested schedule 40 and 80. Meets ANSI B36.1. All pipe is hydrostatic tested.

Galvanized: Zinc coating applied by hot dipping. Galvanized complying with ASTM-A-123.

MERCHANT COUPLINGS



- Straight threads thru 2"

| Part # Galv | List Price | Size | Part # Black | List Price |
|----------------|---------------|--------|-----------------|---------------|
| 64-770 | 4.25 | 1/8" | 65-770 | 2.65 |
| 64-771 | 5.48 | 1/4" | 65-771 | 3.74 |
| 64-772 | 5.01 | 3/8" | 65-772 | 3.15 |
| 64-773 | 4.38 | 1/2" | 65-773 | 3.06 |
| 64-774 | 6.22 | 3/4" | 65-774 | 4.50 |
| 64-775 | 9.99 | 1" | 65-775 | 7.08 |
| 64-776 | 11.87 | 1-1/4" | 65-776 | 9.78 |
| 64-777 | 15.15 | 1-1/2" | 65-777 | 10.48 |
| 64-778 | 24.83 | 2" | 65-778 | 14.89 |
| 64-779 | 52.90 | 2-1/2" | 65-779 | 45.38 |
| 64-780 | 105.83 | 3" | 65-780 | 87.59 |
| 64-781 | 141.15 | 4" | 65-781 | 112.37 |
| | | 5" | 65-782 | 252.25 |
| | | 6" | 65-783 | 252.25 |

MERCHANT COUPLINGS

HALF MERCHANT COUPLINGS



- Straight threads thru 2"

| Part # Galv | List Price | Size | Part # Black | List Price |
|----------------|---------------|--------|-----------------|---------------|
| | | 1/4" | 65-771H | 4.38 |
| | | 3/8" | 65-772H | 5.07 |
| 64-773H | 3.47 | 1/2" | 65-773H | 3.39 |
| 64-774H | 4.70 | 3/4" | 65-774H | 4.49 |
| 64-775H | 9.48 | 1" | 65-775H | 6.53 |
| 64-776H | 8.39 | 1-1/4" | 65-776H | 8.47 |
| 64-777H | 11.96 | 1-1/2" | 65-777H | 9.78 |
| 64-778H | 21.00 | 2" | 65-778H | 13.28 |
| | | 2-1/2" | 65-779H | 43.03 |
| 64-780H | 22.99 | 3" | 65-780H | 61.97 |
| 64-781H | 42.35 | 4" | 65-781H | 83.99 |



#304 STAINLESS STEEL MERCHANT COUPLINGS

| Part # | Size | List Price |
|--------|-------|------------|
| 61775 | 1 | 14.00 |
| 61776 | 1-1/4 | 19.21 |
| 61777 | 1-1/2 | 22.17 |
| 61778 | 2 | 31.28 |

Also available:
Extra Heavy Merchant Couplings

MERCHANT COUPLINGS SPECIFICATIONS

| Size | Outside Diam. | Length Inches | Weight 100 pcs approx. | | Quantity per box | Threads per Inch | Threads Type |
|--------|------------------|------------------|------------------------|---------|---------------------|---------------------|-----------------|
| | | | | Pounds | | | |
| 1/8" | .59" | .78 | | 3.5 | 1000 | 27 | Straight |
| 1/4" | .73" | 1.18 | | 7.5 | 500 | 18 | Straight |
| 3/8" | .86" | 1.18" | | 9 | 600 | 18 | Straight |
| 1/2" | 1.063" | 1-9/16" | | 13.0 | 100 | 14 | Straight |
| 3/4" | 1.313" | 1-5/8" | | 28.3 | 50 | 14 | Straight |
| 1" | 1.576" | 2" | | 40.1 | 30 | 11-1/2 | Straight |
| 1-1/4" | 1.900" | 2-1/16" | | 49.5 | 25 | 11-1/2 | Straight |
| 1-1/2" | 2.200" | 2-1/16" | | 71.48 | 25 | 11-1/2 | Straight |
| 2" | 2.750" | 2-1/8" | | 112.0 | 20 | 11-1/2 | Straight |
| 2-1/2" | 3.250" | 3-1/8" | | 231.2 | 8 | 8 | Taper Tapped |
| 3" | 4.000" | 3-1/4" | | 353.8 | 5 | 8 | Taper Tapped |
| 4" | 5.000" | 3-1/2" | | 471.8 | 4 | 8 | Taper Tapped |
| 6" | 7.32 | 4" | | 1000.05 | 4 | 8 | Taper Tapped |

A105 BLACK STEEL TAPER TAPPED COUPLINGS**Product Specifications**

These couplings are manufactured in accordance with American Petroleum Institute specifications 5L & 5B.

All couplings are phosphated.

All sizes are taper tapped 3/4" per foot on the diameter.

*Certified by the American Petroleum Institute

**A105**

- Black Steel
- API line API SL

- Each end has a short, unthreaded recess before the threads start.
- Use with sch 80 & sch. 160 nipples & pipe.
- Max. pressure: 300PSI

API LINE PIPE COUPLINGS

| Part # | NPT Size | Threads per Inch | Outside Diameter | Length | Unit Weight | List Price |
|----------|----------|------------------|------------------|--------|-------------|------------|
| 65770API | 1/8" | 27 | 0.563 | 1-1/16 | 0.04 | 3.86 |
| 65771API | 1/4" | 18 | 0.719 | 1-5/8 | 0.10 | 4.07 |
| 65772API | 3/8" | 18 | 0.875 | 1-5/8 | 0.13 | 5.05 |
| 65773API | 1/2" | 14 | 1.063 | 2-1/8 | 0.24 | 8.92 |
| 65774API | 3/4" | 14 | 1.313 | 2-1/8 | 0.35 | 9.20 |
| 65775API | 1" | 11.5 | 1.576 | 2-5/8 | 0.52 | 11.18 |
| 65776API | 1-1/4" | 11.5 | 2.054 | 2-3/4 | 1.00 | 15.13 |
| 65777API | 1-1/2" | 11.5 | 2.200 | 2-3/4 | 0.88 | 15.68 |
| 65778API | 2" | 11.5 | 2.875 | 2-7/8 | 1.83 | 29.68 |
| 65779API | 2-1/2" | 8 | 3.375 | 4-1/8 | 3.28 | 58.85 |
| 65780API | 3" | 8 | 4.000 | 4-1/4 | 4.09 | 76.85 |
| 65781API | 4" | 8 | 5.200 | 4-1/2 | 7.59 | 125.02 |
| 65783API | 6" | 8 | 7.390 | 4-5/8 | 12.92 | 237.84 |
| 65784API | 8" | 8 | 9.625 | 5-3/4 | 23.18 | 396.48 |

It is better to remain silent at the risk of being thought a fool, than to talk and remove all doubt of it.

- Maurice Switzer

MALLEABLE FITTINGS



ISO 9002 - CERTIFICATE OF QUALITY - UL/FM LISTED

Our quality fittings are made with care and attention to detail. With better molds we can reduce parting lines and rough edges resulting in better fluid flow. By using a low temperature galvanizing process the coating is more durable which means a longer lasting fitting. All Fittings are 100% Pressure Tested to 300# Class.

(Every fitting is subjected to an underwater fitness test to ensure the highest quality)

SPECIFICATIONS

- MATERIAL: ASTM A 197 - Cuppla Malleable Iron, ASTM A 153 - Hot dipped galvanizing • Coating ASTM A164 LS
- DIMENSIONS: ANSI B 16.3 - Malleable Iron threaded fittings, ANSI B 16.14 - Ferrous Pipe Plugs, Bushings etc..., ANSI B 16.39 - Malleable Iron threaded pipe unions.
- THREADS: ANSI B 2.1 or BS 21 ASME B1.20.1 • RoHS Compliant • Tapered Threads

MALLEABLE IRON - ANSI B 16.3

| F° | Class | Sizes | Sizes | Sizes |
|----------|-------------|-------|---------|---------|
| | 150 PSIG | 1/4-1 | 1 1/4-2 | 2 1/4-3 |
| -200-150 | 300 | 2000 | 1500 | 1000 |
| 200 | 265 | 1785 | 1350 | 910 |
| 250 | 225 | 1575 | 1200 | 825 |
| 300 | 185 | 1360 | 1050 | 735 |
| 366* | 150 | 1150 | 900 | 650 |

*Permissible for service temperature up to 366°F, reflecting the temperature of saturated steam at 150 psig.

STEEL FITTINGS



- 1010 Carbon Steel, 3/4 taper threads (see hydraulic section for 7/8 taper threads.)
- Finish or coating • Black Dipped in rust resistant
- Galvanized, Zinc Plated (Inside and Out)

300lb MALLEABLE FITTINGS



Max. pressure: 300 psi WOG @ 72°F; 150 psi WOG saturated steam

- Meet ANSI/ ASME B1.20.1 standards
- Black meet ASTM 197 standards

BULL PLUGS AND SWAGES



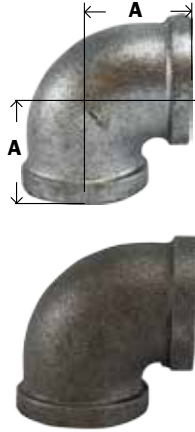
FLANGES



ELBOWS

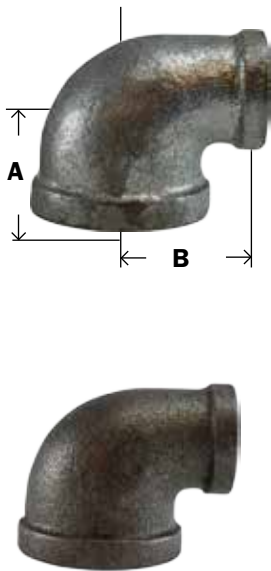
MALLEABLE FITTINGS

ELBOWS 90°



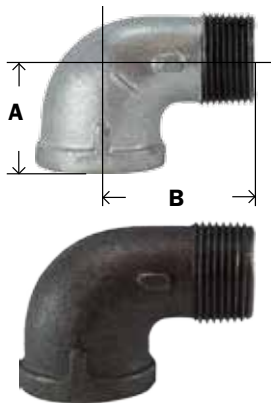
| Part # Galvanized | List Price | Size | A | Box/ Case | Approx. Wt. Lbs. | Part # Black | List Price |
|----------------------|---------------|--------|------|--------------|---------------------|-----------------|---------------|
| 64-100 | 4.83 | 1/8" | 0.69 | 50/600 | 0.07 | 65-100 | 3.25 |
| 64-101 | 4.59 | 1/4" | 0.81 | 35/420 | 0.10 | 65-101 | 2.95 |
| 64-102 | 4.35 | 3/8" | 0.95 | 90/360 | 0.16 | 65-102 | 2.95 |
| 64-103 | 2.79 | 1/2" | 1.12 | 50/200 | 0.23 | 65-103 | 2.34 |
| 64-104 | 3.73 | 3/4" | 1.31 | 35/105 | 0.35 | 65-104 | 3.21 |
| 64-105 | 6.24 | 1" | 1.50 | 20/60 | 0.57 | 65-105 | 5.13 |
| 64-106 | 10.51 | 1-1/4" | 1.75 | 20/40 | 0.86 | 65-106 | 7.72 |
| 64-107 | 13.83 | 1-1/2" | 1.94 | 15/30 | 1.31 | 65-107 | 10.26 |
| 64-108 | 21.01 | 2" | 2.25 | 8/16 | 1.79 | 65-108 | 16.41 |
| 64-109 | 57.50 | 2-1/2" | 2.70 | 6/12 | 3.35 | 65-109 | 37.59 |
| 64-110 | 96.53 | 3" | 3.08 | 4/8 | 5 | 65-110 | 53.12 |
| 64-112 | 161.76 | 4" | 3.79 | 1/2 | 9.02 | 65-112 | 119.15 |
| 64-114 | 571.49 | 6" | 5.13 | 1/1 | 23.68 | 65-114 | 384.07 |
| | | 8" | | | 41.1 | 65-115 | 1447.37 |

REDUCING ELBOWS 90°



| Part # Galvanized | List Price | Size | A | B | Box/ Case | Approx. Wt. Lbs. | Part # Black | List Price |
|----------------------|---------------|-----------------|------|------|--------------|---------------------|-----------------|---------------|
| 64-122 | 6.84 | 3/8" x 1/4" | 0.88 | 0.90 | 90/360 | 0.16 | 65-122 | 4.70 |
| 64-123 | 5.67 | 1/2" x 1/4" | 0.97 | 0.98 | 60/240 | 0.21 | 65-123 | 4.86 |
| 64-124 | 5.32 | 1/2" x 3/8" | 1.04 | 1.03 | 60/240 | 0.24 | 65-124 | 4.28 |
| 64-126 | 8.22 | 3/4" x 3/8" | 1.12 | 1.13 | 40/160 | 0.31 | 65-126 | 6.12 |
| 64-127 | 6.66 | 3/4" x 1/2" | 1.20 | 1.22 | 40/160 | 0.44 | 65-127 | 4.63 |
| 64-130 | 7.84 | 1" x 1/2" | 1.26 | 1.40 | 25/100 | 0.52 | 65-130 | 6.27 |
| 64-131 | 7.95 | 1" x 3/4" | 1.37 | 1.45 | 50/100 | 0.58 | 65-131 | 5.93 |
| 64-133 | 16.82 | 1-1/4" x 3/4" | 1.45 | 1.62 | 15/120 | 0.79 | 65-133 | 10.96 |
| 64-134 | 13.17 | 1-1/4" x 1" | 1.58 | 1.67 | 10/40 | 0.80 | 65-134 | 10.25 |
| 64-136 | 19.07 | 1-1/2" x 3/4" | 1.52 | 1.75 | 10/40 | 0.88 | 65-136 | 15.82 |
| 64-137 | 20.23 | 1-1/2" x 1" | 1.65 | 1.80 | 10/40 | 1.07 | 65-137 | 13.79 |
| 64-138 | 15.51 | 1-1/2" x 1-1/4" | 1.82 | 1.88 | 15/30 | 1.12 | 65-138 | 13.82 |
| 64-140 | 30.01 | 2" x 1" | 1.73 | 2.02 | 14/28 | 1.41 | 65-140 | 24.30 |
| 64-141 | 28.12 | 2" x 1-1/4" | 1.90 | 2.10 | 10/20 | 1.53 | 65-141 | 24.30 |
| 64-142 | 24.57 | 2" x 1-1/2" | 2.02 | 2.16 | 10/20 | 1.65 | 65-142 | 20.00 |
| 64-145 | 117.57 | 2-1/2" x 1-1/2" | 2.16 | 2.51 | 6/12 | 2.97 | 65-145 | 55.97 |
| 64-146 | 85.45 | 2-1/2" x 2" | 2.39 | 2.60 | 6/12 | 3.18 | 65-146 | 54.90 |
| 64-148 | 134.95 | 3" x 1-1/2" | 2.28 | 2.83 | 6/18 | 4.54 | 65-148 | 116.50 |
| | | 3" x 2-1/2" | 2.83 | 2.99 | 4/8 | 4.39 | 65-151 | 94.63 |
| | | 3" x 2" | 2.52 | 3.60 | 4/8 | 4.22 | 65-150 | 94.63 |

90° STREET ELBOWS

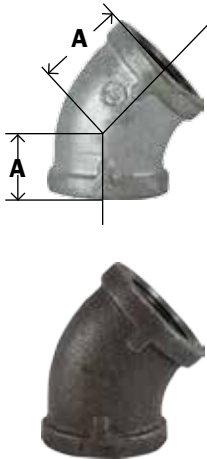


| Part # Galvanized | List Price | Size | A | B | Box/ Case | Approx. Wt. Lbs. | Part # Black | List Price |
|----------------------|---------------|--------|------|------|--------------|---------------------|-----------------|---------------|
| 64-160 | 5.92 | 1/8" | 0.69 | 1.00 | 60/720 | .06 | 65-160 | 4.70 |
| 64-161 | 6.02 | 1/4" | 0.80 | 1.17 | 35/420 | .10 | 65-161 | 4.48 |
| 64-162 | 6.24 | 3/8" | 0.95 | 1.48 | 40/240 | .15 | 65-162 | 4.48 |
| 64-163 | 6.12 | 1/2" | 1.10 | 1.59 | 60/180 | .22 | 65-163 | 4.60 |
| 64-164 | 5.90 | 3/4" | 1.28 | 1.85 | 35/105 | .39 | 65-164 | 4.42 |
| 64-165 | 8.03 | 1" | 1.47 | 2.10 | 35/105 | .60 | 65-165 | 6.50 |
| 64-166 | 14.39 | 1-1/4" | 1.75 | 2.57 | 25/50 | .95 | 65-166 | 9.90 |
| 64-167 | 17.70 | 1-1/2" | 1.90 | 2.63 | 9/27 | 1.37 | 65-167 | 12.62 |
| 64-168 | 27.97 | 2" | 2.21 | 3.19 | 8/16 | 2.25 | 65-168 | 21.41 |
| 64-169 | 83.26 | 2-1/2" | 2.65 | 3.78 | 5/10 | 3.32 | 65-169 | 54.56 |
| 64-170 | 125.66 | 3" | 3.02 | 4.42 | 4/8 | 5.27 | 65-170 | 80.55 |
| 64-171 | 207.42 | 4" | 3.72 | 5.57 | 2/4 | 8.94 | 65-171 | 121.51 |

MALLEABLE FITTINGS

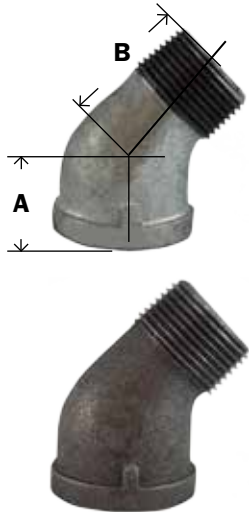
BLACK & GALVANIZED IRON #150

ELBOWS 45°



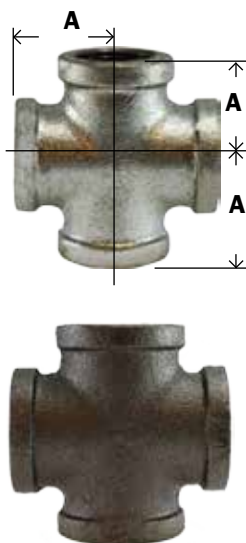
| Part # Galvanized | List Price | Size | A | Box/ Case | Approx. Wt. Lbs. | Part # Black | List Price |
|-------------------|------------|--------|------|-----------|------------------|--------------|------------|
| 64-180 | 6.89 | 1/8" | 0.63 | 50/600 | .07 | 65-180 | 4.96 |
| 64-181 | 6.14 | 1/4" | 0.73 | 30/360 | .10 | 65-181 | 5.03 |
| 64-182 | 6.14 | 3/8" | 0.80 | 75/300 | .14 | 65-182 | 4.58 |
| 64-183 | 4.70 | 1/2" | 0.88 | 50/200 | .21 | 65-183 | 3.95 |
| 64-184 | 6.55 | 3/4" | 0.98 | 40/120 | .33 | 65-184 | 4.86 |
| 64-185 | 7.55 | 1" | 1.12 | 20/60 | .50 | 65-185 | 6.20 |
| 64-186 | 13.75 | 1-1/4" | 1.29 | 20/40 | .74 | 65-186 | 10.81 |
| 64-187 | 16.43 | 1-1/2" | 1.43 | 10/30 | 1.01 | 65-187 | 13.41 |
| 64-188 | 24.49 | 2" | 1.68 | 12/24 | 1.53 | 65-188 | 19.50 |
| 64-189 | 82.96 | 2-1/2" | 1.95 | 9/18 | 2.78 | 65-189 | 56.97 |
| 64-190 | 120.62 | 3" | 2.17 | 1/10 | 4.49 | 65-190 | 71.54 |
| 64-191 | 202.17 | 4" | 2.61 | 2/4 | 7.44 | 65-191 | 143.62 |
| 64-192 | 714.38 | 6" | 3.46 | 1/1 | 18.63 | 65-192 | 568.25 |
| | | 8" | | | 26.40 | 65-194 | 1619.44 |

45° STREET ELBOWS



| Part # Galvanized | List Price | Size | A | B | Box/ Case | Approx. Wt. Lbs. | Part # Black | List Price |
|-------------------|------------|--------|------|------|-----------|------------------|--------------|------------|
| 64-200 | 8.99 | 1/8" | 0.63 | 0.83 | 70/840 | .05 | 65-200 | 7.65 |
| 64-201 | 7.65 | 1/4" | 0.73 | 0.94 | 40/480 | .09 | 65-201 | 5.41 |
| 64-202 | 8.81 | 3/8" | 0.80 | 1.03 | 100/400 | .14 | 65-202 | 6.48 |
| 64-203 | 6.81 | 1/2" | 0.86 | 1.30 | 75/225 | .19 | 65-203 | 5.19 |
| 64-204 | 10.96 | 3/4" | 0.96 | 1.48 | 40/120 | .28 | 65-204 | 7.54 |
| 64-205 | 13.55 | 1" | 1.10 | 1.69 | 25/75 | .48 | 65-205 | 9.31 |
| 64-206 | 20.33 | 1-1/4" | 1.26 | 1.87 | 10/40 | .71 | 65-206 | 15.57 |
| 64-207 | 22.03 | 1-1/2" | 1.40 | 2.05 | 10/30 | 1.02 | 65-207 | 19.79 |
| 64-208 | 42.34 | 2" | 1.65 | 2.38 | 12/24 | 1.68 | 65-208 | 35.07 |
| 64-209 | 99.61 | 2-1/2" | 1.95 | 2.72 | 6/12 | 2.69 | 65-209 | 74.46 |
| 64-210 | 161.08 | 3" | 2.17 | 3.16 | 3/6 | 4.61 | 65-210 | 109.75 |
| 64-211 | 334.72 | 4" | 2.61 | 3.90 | 2/4 | 7.74 | 65-211 | 203.75 |

CROSSES

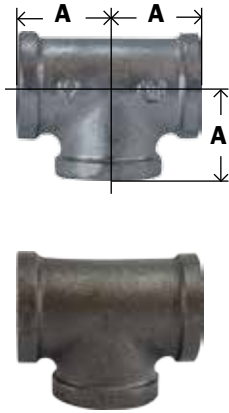


| Part # Galvanized | List Price | Size | A | Box/ Case | Approx. Wt. Lbs. | Part # Black | List Price |
|-------------------|------------|--------|------|-----------|------------------|--------------|------------|
| 64-390 | 26.36 | 1/8" | 0.65 | 50/600 | .14 | 65-390 | 19.36 |
| 64-391 | 20.39 | 1/4" | 0.80 | 60/240 | .17 | 65-391 | 13.74 |
| 64-392 | 20.39 | 3/8" | 0.95 | 50/150 | .26 | 65-392 | 13.74 |
| 64-393 | 20.39 | 1/2" | 1.12 | 30/90 | .42 | 65-393 | 13.74 |
| 64-394 | 22.69 | 3/4" | 1.31 | 20/60 | .64 | 65-394 | 15.69 |
| 64-395 | 25.63 | 1" | 1.50 | 15/30 | .98 | 65-395 | 17.42 |
| 64-396 | 37.10 | 1-1/4" | 1.75 | 10/20 | 1.45 | 65-396 | 28.29 |
| 64-397 | 45.03 | 1-1/2" | 1.94 | 8/16 | 1.90 | 65-397 | 35.04 |
| 64-398 | 85.92 | 2" | 2.25 | 5/10 | 2.96 | 65-398 | 58.00 |
| 64-399 | 214.69 | 2-1/2" | 2.71 | 4/8 | 5.49 | 65-399 | 130.44 |
| 64-400 | 289.20 | 3" | 3.06 | 2/4 | 7.71 | 65-400 | 207.88 |
| | | 4" | | 1/1 | 14.77 | 65-401 | 441.54 |

BLACK & GALVANIZED IRON #150

MALLEABLE FITTINGS

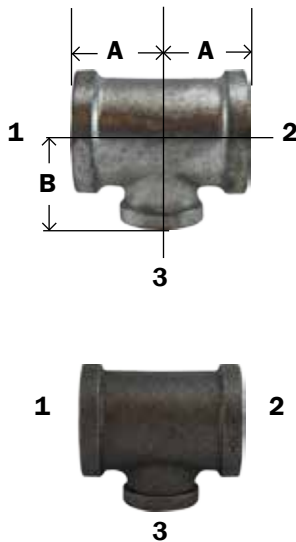
TEES



| Part # Galvanized | List Price | Size | A | Box/Case | Approx. Wt. Lbs. | Part # Black | List Price |
|----------------------|------------|--------|------|----------|------------------|-----------------|------------|
| 64-250 | 6.48 | 1/8" | 0.69 | 120/480 | .11 | 65-250 | 5.01 |
| 64-251 | 5.65 | 1/4" | 0.81 | 75/300 | .15 | 65-251 | 4.47 |
| 64-252 | 5.95 | 3/8" | 0.95 | 45/180 | .22 | 65-252 | 4.47 |
| 64-253 | 3.54 | 1/2" | 1.12 | 40/120 | .36 | 65-253 | 2.85 |
| 64-254 | 6.19 | 3/4" | 1.31 | 35/70 | .48 | 65-254 | 4.22 |
| 64-255 | 9.17 | 1" | 1.50 | 20/40 | .83 | 65-255 | 7.25 |
| 64-256 | 15.94 | 1-1/4" | 1.75 | 14/28 | 1.29 | 65-256 | 11.76 |
| 64-257 | 19.88 | 1-1/2" | 1.94 | 12/24 | 1.66 | 65-257 | 14.63 |
| 64-258 | 33.18 | 2" | 2.26 | 8/16 | 2.50 | 65-258 | 24.88 |
| 64-259 | 89.09 | 2-1/2" | 2.70 | 4/8 | 4.45 | 65-259 | 56.24 |
| 64-260 | 104.52 | 3" | 3.08 | 1/6 | 6.72 | 65-260 | 76.88 |
| 64-261 | 247.12 | 4" | 3.79 | 1/2 | 11.31 | 65-261 | 198.28 |
| 64-262 | 762.05 | 6" | 5.13 | 1/1 | 30.75 | 65-262 | 568.25 |
| | | 8" | | | 37.85 | 65-264 | 1930.57 |

REDUCING TEES

(SAME SIZE ON RUN, REDUCING ON BRANCH)

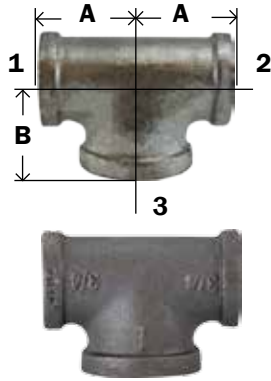


| Part # Galvanized | List Price | Size (1&2) x 3 | A | B | Box/ Case | Approx. Wt. Lbs. | Part # Black | List Price |
|----------------------|------------|-------------------|------|------|--------------|------------------|-----------------|------------|
| 64-273 | 9.36 | 3/8" x 1/4" | 0.81 | 0.90 | 25/300 | .18 | 65-273 | 8.97 |
| 64-276 | 7.13 | 1/2" x 1/4" | 0.97 | 0.98 | 40/160 | .24 | 65-276 | 5.40 |
| 64-279 | 8.31 | 1/2" x 3/8" | 1.04 | 1.03 | 40/160 | .35 | 65-279 | 6.75 |
| 64-282 | 8.82 | 3/4" x 1/4" | 1.05 | 1.08 | 25/100 | .43 | 65-282 | 9.72 |
| 64-283 | 9.39 | 3/4" x 3/8" | 1.12 | 1.13 | 25/100 | .39 | 65-283 | 8.64 |
| 64-286 | 9.99 | 3/4" x 1/2" | 1.20 | 1.18 | 20/80 | .49 | 65-286 | 6.51 |
| 64-268 | 16.80 | 1" x 1/4" | 1.11 | 1.22 | 20/80 | .51 | 65-268 | 9.68 |
| 64-269 | 14.66 | 1" x 3/8" | 1.18 | 1.27 | 15/60 | .55 | 65-269 | 12.53 |
| 64-291 | 11.96 | 1" x 1/2" | 1.26 | 1.40 | 15/60 | .63 | 65-291 | 8.87 |
| 64-298 | 11.96 | 1" x 3/4" | 1.37 | 1.45 | 12/48 | .71 | 65-298 | 8.87 |
| 64-301 | 27.97 | 1-1/4" x 1/2" | 1.34 | 1.45 | 20/40 | .91 | 65-301 | 16.08 |
| 64-303 | 18.47 | 1-1/4" x 3/4" | 1.45 | 1.62 | 20/40 | .99 | 65-303 | 14.12 |
| 64-306 | 18.47 | 1-1/4" x 1" | 1.58 | 1.66 | 20/40 | 1.07 | 65-306 | 15.31 |
| | | 1-1/2" x 1/2" | | | | 1.12 | 65-721 | 25.30 |
| 64-316 | 22.88 | 1-1/2" x 3/4" | 1.41 | 1.75 | 15/30 | 1.23 | 65-316 | 17.81 |
| 64-318 | 24.39 | 1-1/2" x 1" | 1.65 | 1.88 | 10/30 | 1.33 | 65-318 | 17.81 |
| 64-322 | 29.36 | 1-1/2" x 1-1/4" | 1.65 | 1.88 | 12/24 | 1.52 | 65-322 | 23.03 |
| 64-327 | 33.29 | 2" x 1/2" | 1.49 | 1.88 | 10/20 | 1.64 | 65-327 | 27.93 |
| 64-328 | 33.29 | 2" x 3/4" | 1.60 | 1.97 | 10/20 | 1.71 | 65-328 | 27.93 |
| 64-330 | 33.29 | 2" x 1" | 1.73 | 2.02 | 10/20 | 1.88 | 65-330 | 27.93 |
| 64-334 | 41.83 | 2" x 1-1/4" | 1.86 | 2.06 | 8/16 | 2.03 | 65-334 | 29.50 |
| 64-336 | 41.83 | 2" x 1-1/2" | 1.98 | 2.12 | 8/16 | 2.22 | 65-336 | 29.50 |
| | | 2-1/2" x 1" | | | | 2.85 | 65-342 | 98.23 |
| 64-343 | 113.47 | 2-1/2" x 1-1/2" | 2.16 | 2.51 | 5/10 | 2.97 | 65-343 | 73.16 |
| 64-729 | 170.01 | 3" x 1" | 2.00 | 2.00 | 3/6 | 4.15 | | |
| | | 3" x 1-1/2" | | | | 5.19 | 65-359 | 131.23 |
| 64-351 | 143.83 | 3" x 2" | 2.52 | 2.89 | 3/6 | 5.35 | 65-351 | 97.67 |



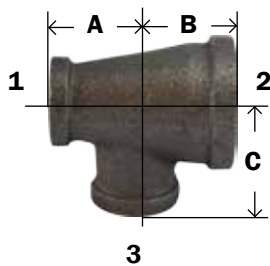
Quick Disconnects - see pages 344-350

BULLHEAD TEES



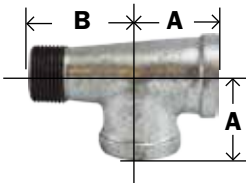
| Part # | List Price | Size (1&2) x 3 | A | B | Box/Case | Approx. Wt. Lbs. | Part # Black | List Price |
|--------|------------|-----------------|------|------|----------|------------------|--------------|------------|
| 64-280 | 9.75 | 1/2" x 3/4" | 1.22 | 1.20 | 30/120 | .4 | 65-280 | 7.95 |
| 64-733 | 14.67 | 1/2" x 1" | 1.36 | 1.26 | 25/100 | .50 | 65-733 | 18.17 |
| 64-289 | 14.39 | 3/4" x 1" | 1.45 | 1.37 | 20/120 | .60 | 65-289 | 10.08 |
| 64-299 | 22.88 | 1" x 1-1/4" | 1.67 | 1.58 | 15/30 | .96 | 65-299 | 18.74 |
| 64-300 | 38.89 | 1" x 1-1/2" | 1.80 | 1.65 | 9/36 | 1.11 | 65-300 | 29.84 |
| 64-317 | 32.98 | 1-1/4" x 1-1/2" | 1.88 | 1.82 | 12/24 | 1.07 | 65-317 | 46.54 |
| 64-319 | 61.46 | 1-1/2" x 2" | 2.12 | 1.98 | 8/32 | 2.10 | 65-319 | 64.69 |

**REDUCING TEES
REDUCING ON RUN**



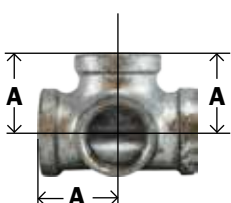
| Part # Black | Size 1 x 2 x 3 | A | B | C | Box/Case | Approx. Wt. Lbs. | List Price |
|--------------|--------------------------|------|------|------|----------|------------------|------------|
| 65-287 | 3/4" x 1/2" x 1/2" | 1.18 | 1.18 | 1.20 | 25/100 | 0.39 | 7.22 |
| 65-288 | 3/4" x 1/2" x 3/4" | 1.28 | 1.20 | 1.28 | 20/80 | 0.49 | 7.95 |
| 65-292 | 1" x 1/2" x 1/2" | 1.31 | 1.22 | 1.31 | 20/80 | 0.51 | 11.99 |
| 65-293 | 1" x 1/2" x 3/4" | 1.22 | 1.37 | 1.45 | 20/80 | 0.53 | 10.41 |
| 65-294 | 1" x 1/2" x 1" | 1.40 | 1.50 | 1.50 | 15/60 | 0.54 | 8.26 |
| 65-295 | 1" x 3/4" x 1/2" | 1.20 | 1.26 | 1.40 | 20/80 | 0.58 | 10.41 |
| 65-296 | 1" x 3/4" x 3/4" | 1.34 | 1.28 | 1.42 | 15/60 | 0.63 | 9.34 |
| 65-297 | 1" x 3/4" x 1" | 1.45 | 1.50 | 1.50 | 15/60 | 0.62 | 12.44 |
| 65-347 | 1-1/4" x 3/4" x 3/4" | 1.31 | 1.45 | 1.64 | 10/40 | 0.66 | 11.50 |
| 65-305 | 1-1/4" x 3/4" x 1-1/4" | 1.62 | 1.75 | 1.75 | 10/40 | 1.14 | 11.50 |
| 65-309 | 1-1/4" x 1" x 1" | 1.55 | 1.47 | 1.63 | 20/40 | 1.00 | 20.48 |
| 65-346 | 1-1/4" x 3/4" x 1/2" | 1.31 | 1.45 | 1.64 | 20/40 | 1.05 | 21.20 |
| 65-349 | 1-1/4" x 1" x 1/2" | 1.26 | 1.34 | 1.53 | 20/40 | 1.10 | 17.03 |
| 65-310 | 1-1/4" x 1" x 1-1/4" | 1.30 | 1.36 | 1.44 | 15/30 | 1.21 | 11.50 |
| 65-372 | 1-1/2" x 1" x 1" | 1.50 | 1.65 | 1.78 | 15/30 | 1.28 | 22.83 |
| 65-375 | 1-1/2" x 1-1/4" x 3/4" | 1.43 | 1.52 | 1.25 | 15/30 | 1.30 | 22.83 |
| 65-377 | 1-1/2" x 1-1/4" x 1-1/4" | 1.75 | 1.82 | 1.88 | 15/30 | 1.35 | 28.41 |
| 65-312 | 2" x 1-1/2" x 1-1/4" | 1.82 | 1.90 | 2.10 | 10/30 | 1.21 | 35.57 |
| 65-313 | 2" x 1-1/2" x 1-1/2" | 1.94 | 2.02 | 2.16 | 10/30 | 1.79 | 36.69 |

MALLEABLE SERVICE TEE (STREET TEE)



| Part # Galvanized | List Price | Size | A | B | Box/Case | Approx. Wt. Lbs. | Part # Black | List Price |
|-------------------|------------|------|------|------|----------|------------------|--------------|------------|
| 64-363 | 11.70 | 1/2" | 1.12 | 1.62 | 40/12 | 0.31 | 65-363 | 8.15 |
| 64-364 | 12.85 | 3/4" | 1.31 | 1.89 | 25/75 | 0.49 | 65-364 | 10.81 |

SIDE OUTLET TEES



| Part # Galvanized | List Price | Size | A | Box/Case | Approx. Wt. Lbs. | Part # Black | List Price |
|-------------------|------------|--------|------|----------|------------------|--------------|------------|
| 64-383 | 18.24 | 1/2" | 1.12 | 25/100 | .39 | 65-383 | 14.08 |
| 64-384 | 23.03 | 3/4" | 1.31 | 15/60 | .58 | 65-384 | 17.97 |
| 64-385 | 37.35 | 1" | 1.50 | 20/40 | .88 | 65-385 | 28.81 |
| 64-386 | 62.14 | 1-1/4" | 1.75 | 12/24 | 1.32 | 65-386 | 45.12 |
| | | 1-1/2" | 1.97 | 1/1 | 1.56 | 65-387 | 96.31 |
| | | 2" | 2.29 | 1/1 | 1.81 | 65-388 | 130.33 |

BLACK & GALVANIZED IRON #150

MALLEABLE FITTINGS

COUPLINGS



| Part # Galvanized | List Price | Size | A | Box/ Case | Approx. Wt. Lbs. | Part # Black | List Price |
|----------------------|------------|--------|------|--------------|---------------------|-----------------|------------|
| 64-410 | 5.72 | 1/8" | 0.96 | 70/840 | .07 | 65-410 | 4.64 |
| 64-411 | 5.32 | 1/4" | 1.06 | 40/480 | .09 | 65-411 | 4.39 |
| 64-412 | 5.32 | 3/8" | 1.16 | 40/480 | .13 | 65-412 | 4.76 |
| 64-413 | 4.22 | 1/2" | 1.34 | 60/240 | .19 | 65-413 | 4.76 |
| 64-414 | 4.93 | 3/4" | 1.52 | 50/150 | .28 | 65-414 | 3.89 |
| 64-415 | 8.11 | 1" | 1.67 | 25/100 | .45 | 65-415 | 5.93 |
| 64-416 | 11.14 | 1-1/4" | 1.93 | 16/64 | .66 | 65-416 | 7.57 |
| 64-417 | 12.73 | 1-1/2" | 2.15 | 18/36 | .84 | 65-417 | 10.15 |
| 64-418 | 18.55 | 2" | 2.54 | 12/24 | 1.39 | 65-418 | 13.83 |
| 64-419 | 56.71 | 2-1/2" | 2.88 | 8/16 | 2.42 | 65-419 | 40.13 |
| 64-420 | 75.79 | 3" | 3.18 | 1/12 | 3.49 | 65-420 | 54.21 |
| 64-421 | 160.96 | 4" | 3.69 | 3/6 | 5.81 | 65-421 | 108.19 |
| 64-422 | 420.46 | 6" | 4.23 | 1/2 | 28.62 | 65-422 | 290.31 |

REDUCING COUPLINGS



| Part # Galvanized | List Price | Size | A | Box/ Case | Approx. Wt. Lbs. | Part # Black | List Price |
|----------------------|------------|-----------------|------|--------------|---------------------|-----------------|------------|
| 64-430 | 4.93 | 1/4" x 1/8" | 1.00 | 50/600 | .07 | 65-430 | 3.63 |
| 64-431 | 4.99 | 3/8" x 1/8" | 1.13 | 35/420 | .09 | 65-431 | 3.95 |
| 64-432 | 4.99 | 3/8" x 1/4" | 1.13 | 30/360 | .11 | 65-432 | 3.63 |
| 64-433 | 5.59 | 1/2" x 1/8" | 1.25 | 75/300 | .13 | 65-433 | 3.92 |
| 64-434 | 4.55 | 1/2" x 1/4" | 1.25 | 75/300 | .11 | 65-434 | 3.63 |
| 64-435 | 4.22 | 1/2" x 3/8" | 1.25 | 60/240 | .15 | 65-435 | 3.30 |
| 64-439 | 6.14 | 3/4" x 1/8" | 1.44 | 60/240 | .18 | 65-439 | 4.58 |
| 64-436 | 5.67 | 3/4" x 1/4" | 1.44 | 45/18 | .19 | 65-436 | 4.48 |
| 64-437 | 5.67 | 3/4" x 3/8" | 1.44 | 45/18 | .21 | 65-437 | 4.48 |
| 64-438 | 4.99 | 3/4" x 1/2" | 1.44 | 60/180 | .25 | 65-438 | 3.58 |
| 64-459 | 10.00 | 1" x 1/4" | 1.69 | 45/135 | .34 | 65-459 | 6.93 |
| 64-440 | 10.23 | 1" x 3/8" | 1.69 | 30/120 | .35 | 65-440 | 7.04 |
| 64-441 | 7.82 | 1" x 1/2" | 1.69 | 30/120 | .36 | 65-441 | 6.03 |
| 64-442 | 7.65 | 1" x 3/4" | 1.69 | 25/100 | .39 | 65-442 | 5.90 |
| 64-460 | 20.85 | 1-1/4" x 3/8" | 2.06 | 25/75 | .55 | 65-460 | 15.99 |
| 64-444 | 13.05 | 1-1/4" x 1/2" | 2.06 | 25/75 | .53 | 65-444 | 8.71 |
| 64-445 | 10.56 | 1-1/4" x 3/4" | 2.06 | 25/75 | .57 | 65-445 | 7.57 |
| 64-446 | 10.56 | 1-1/4" x 1" | 2.06 | 15/60 | .61 | 65-446 | 8.31 |
| 64-443 | 24.49 | 1-1/2" x 3/8" | 2.31 | 20/60 | .71 | 65-443 | 14.15 |
| 64-447 | 15.38 | 1-1/2" x 1/2" | 2.31 | 20/60 | .69 | 65-447 | 11.10 |
| 64-448 | 15.38 | 1-1/2" x 3/4" | 2.31 | 15/60 | .71 | 65-448 | 12.51 |
| 64-449 | 13.60 | 1-1/2" x 1" | 2.31 | 25/50 | .78 | 65-449 | 11.10 |
| 64-450 | 12.87 | 1-1/2" x 1-1/4" | 2.31 | 12/48 | .87 | 65-450 | 9.58 |
| 64-458 | 35.46 | 2" x 1/2" | 2.81 | 12/36 | 1.14 | 65-458 | 18.04 |
| 64-451 | 22.22 | 2" x 3/4" | 2.81 | 12/36 | 1.14 | 65-451 | 15.90 |
| 64-452 | 18.55 | 2" x 1" | 2.81 | 12/36 | 1.21 | 65-452 | 15.00 |
| 64-453 | 19.61 | 2" x 1-1/4" | 2.81 | 9/27 | 1.19 | 65-453 | 15.90 |
| 64-454 | 18.55 | 2" x 1-1/2" | 2.81 | 9/27 | 1.38 | 65-454 | 13.88 |
| 64-461 | 58.51 | 2-1/2" x 1-1/2" | 3.25 | 20/40 | 2.07 | 65-461 | 41.35 |
| 64-462 | 57.40 | 2-1/2" x 2" | 3.25 | 7/14 | 2.23 | 65-462 | 35.46 |
| 64-486 | 84.73 | 3" x 1-1/2" | 3.69 | 6/12 | 3.23 | 65-486 | 55.32 |
| 64-456 | 74.15 | 3" x 2" | 3.69 | 6/12 | 3.30 | 65-456 | 41.78 |
| 64-463 | 76.32 | 3" x 2-1/2" | 3.69 | 5/10 | 3.55 | 65-463 | 55.32 |
| 64-464 | 165.11 | 4" x 2" | 4.38 | 3/6 | 5.55 | 65-464 | 110.85 |
| 64-465 | 151.40 | 4" x 2-1/2" | 4.38 | 3/6 | 5.90 | 65-465 | 110.85 |
| 64-457 | 165.11 | 4" x 3" | 4.38 | 3/6 | 6.05 | 65-457 | 104.34 |
| | | 6" x 4" | 4.24 | 1/2 | 10.86 | 65-491 | 420.40 |

MALLEABLE FITTINGS

BLACK & GALVANIZED IRON #150

HEX BUSHING



* INSIDE HEX

| Part # Galvanized | List Price | Size M x F | A | Hex | Box/ Case | Approx. Wt. Lbs. | Part # Black | List Price |
|----------------------|---------------|-----------------|------|------|--------------|---------------------|-----------------|---------------|
| 64-500 | 8.47 | *1/4" x 1/8" | 0.79 | 0.67 | 1/25 | .03 | 65-500 | 5.83 |
| 64-501 | 8.47 | *3/8" x 1/8" | 0.79 | 0.75 | 1/25 | .06 | 65-501 | 5.83 |
| 64-502 | 8.47 | *3/8" x 1/4" | 0.79 | 0.75 | 1/25 | .05 | 65-502 | 5.83 |
| 64-503 | 6.84 | 1/2" x 1/8" | 0.84 | 1.03 | 150/600 | .09 | 65-503 | 4.51 |
| 64-504 | 8.47 | 1/2" x 1/4" | | | | .08 | 65-504 | 5.83 |
| 64-505 | 6.84 | 1/2" x 3/8" | 0.75 | 1.03 | 150/600 | .07 | 65-505 | 4.22 |
| 64-506 | 7.28 | 3/4" x 1/8" | 0.85 | 1.15 | 75/300 | .14 | 65-506 | 4.42 |
| 64-507 | 7.04 | 3/4" x 1/4" | 0.85 | 1.15 | 75/300 | .13 | 65-507 | 4.36 |
| 64-508 | 7.45 | 3/4" x 3/8" | 0.85 | 1.15 | 75/300 | .12 | 65-508 | 4.42 |
| 64-509 | 6.37 | 3/4" x 1/2" | 0.93 | 1.15 | 75/300 | .10 | 65-509 | 3.74 |
| 64-510* | 7.62 | 1" x 1/4" | 1.13 | 1.12 | 50/200 | .20 | 65-510* | 5.19 |
| 64-511* | 11.96 | 1" x 3/8" | 1.13 | 1.12 | 50/200 | .18 | 65-511* | 5.34 |
| 64-512 | 6.89 | 1" x 1/2" | 1.10 | 1.42 | 50/200 | .21 | 65-512 | 3.65 |
| 64-513 | 6.14 | 1" x 3/4" | 1.10 | 1.42 | 50/200 | .17 | 65-513 | 3.65 |
| 64-514* | 10.36 | 1-1/4" x 1/4" | 1.24 | 1.12 | 30/120 | .29 | 65-514* | 6.69 |
| 64-515* | 10.36 | 1-1/4" x 3/8" | 1.24 | 1.12 | 30/120 | .29 | 65-515* | 5.95 |
| 64-516* | 9.67 | 1-1/4" x 1/2" | 1.24 | 1.24 | 30/120 | .31 | 65-516* | 5.75 |
| 64-517 | 8.82 | 1-1/4" x 3/4" | 1.08 | 1.76 | 30/120 | .35 | 65-517 | 5.13 |
| 64-518 | 8.82 | 1-1/4" x 1" | 1.08 | 1.76 | 30/120 | .29 | 65-518 | 5.13 |
| 64-519* | 22.41 | 1-1/2" x 1/4" | 1.30 | 1.12 | 25/75 | .40 | 65-519* | 7.94 |
| 64-520* | 22.41 | 1-1/2" x 3/8" | 1.30 | 1.12 | 25/75 | .38 | 65-520* | 7.94 |
| 64-521* | 12.85 | 1-1/2" x 1/2" | 1.30 | 1.34 | 25/75 | .38 | 65-521* | 6.30 |
| 64-522* | 12.85 | 1-1/2" x 3/4" | 1.30 | 1.44 | 25/75 | .40 | 65-522* | 6.30 |
| 64-523 | 11.53 | 1-1/2" x 1" | 1.23 | 2.00 | 25/75 | .45 | 65-523 | 6.03 |
| 64-524 | 10.65 | 1-1/2" x 1-1/4" | 1.23 | 2.00 | 25/75 | .34 | 65-524 | 6.03 |
| 64-526 | 10.11 | 2" x 1/4" | 1.29 | 1.12 | 20/60 | .57 | 65-526 | 18.99 |
| 64-525* | 90.90 | 2" x 3/8" | 1.28 | 1.12 | 20/60 | .57 | 65-525* | 9.88 |
| 64-527* | 15.98 | 2" x 1/2" | 1.39 | 1.34 | 20/60 | .57 | 65-527* | 9.88 |
| 64-528* | 14.89 | 2" x 3/4" | 1.39 | 1.63 | 20/60 | .63 | 65-528* | 8.35 |
| 64-529* | 14.08 | 2" x 1" | 1.39 | 1.77 | 20/60 | .66 | 65-529* | 8.35 |
| 64-530 | 14.08 | 2" x 1-1/4" | 1.50 | 2.48 | 20/60 | .74 | 65-530 | 8.35 |
| 64-531 | 11.97 | 2" x 1-1/2" | 1.50 | 2.48 | 20/60 | .61 | 65-531 | 8.35 |
| 64-546* | 35.09 | 2-1/2" x 1/2" | 1.51 | 1.34 | 15/30 | .97 | 65-546* | 14.15 |
| 64-547* | 23.19 | 2-1/2" x 3/4" | 1.51 | 1.63 | 15/30 | .91 | 65-547* | 15.09 |
| 64-532* | 33.17 | 2-1/2" x 1" | 1.51 | 1.95 | 15/30 | .97 | 65-532* | 14.15 |
| 64-533* | 22.65 | 2-1/2" x 1-1/4" | 1.51 | 2.39 | 15/30 | 1.03 | 65-533* | 14.15 |
| 64-534 | 22.70 | 2-1/2" x 1-1/2" | 1.51 | 2.98 | 15/30 | 1.16 | 65-534 | 14.15 |
| 64-535 | 20.22 | 2-1/2" x 2" | 1.54 | 2.98 | 15/30 | 1.01 | 65-535 | 14.15 |
| 64-550 | 35.88 | 3" x 1" | 1.61 | 1.95 | 12/24 | 1.41 | 65-550 | 18.84 |
| 64-549* | 35.88 | 3" x 1-1/4" | 1.61 | 2.39 | 12/24 | 1.42 | 65-549* | 20.57 |
| 64-537* | 27.21 | 3" x 1-1/2" | 1.61 | 2.68 | 12/24 | 1.51 | 65-537* | 20.57 |
| 64-538 | 28.77 | 3" x 2" | 1.61 | 3.86 | 12/24 | 1.71 | 65-538 | 20.57 |
| 64-539 | 54.73 | 3" x 2-1/2" | 1.61 | 3.86 | 12/24 | 1.68 | 65-539 | 19.33 |
| | | 3-1/2" x 3" | 1.86 | 4.20 | 5/10 | 2.17 | 65-555 | 52.17 |
| 64-551 | 117.72 | 4" x 3/4" | 2.15 | 4.90 | 5/10 | 3.88 | 65-551 | 49.04 |
| 64-553* | 68.40 | 4" x 1" | 2.00 | 4.75 | 5/10 | 3.79 | 65-553* | 42.34 |
| 64-552 | 44.57 | 4" x 1-1/4" | 1.82 | 2.39 | 5/10 | 2.39 | 65-552 | 39.44 |
| 64-540 | 76.08 | 4" x 1-1/2" | 1.82 | 2.68 | 5/10 | 2.39 | 65-540 | 41.17 |
| 64-541* | 56.51 | 4" x 2" | 1.82 | 3.31 | 5/10 | 2.52 | 65-541* | 40.34 |
| 64-542* | 56.51 | 4" x 2-1/2" | 2.06 | 3.87 | 5/10 | 2.87 | 65-542* | 35.29 |
| 64-543 | 56.51 | 4" x 3" | 2.17 | 4.96 | 5/10 | 2.95 | 65-543 | 38.50 |
| | | 5" x 4" | 2.16 | 5.34 | 2/4 | 6.80 | 65-544 | 96.80 |
| 64-545* | 123.07 | 6" x 4" | 2.33 | 5.79 | 2/4 | 7.11 | 65-545* | |

BLACK & GALVANIZED IRON #150

MALLEABLE FITTINGS

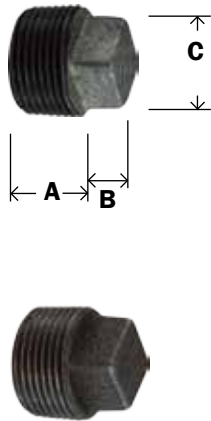
UNIONS



• Brass Seat

| Part # Galvanized | List Price | Size | A | Box/ Case | Approx. Wt. Lbs. | Part # Black | List Price |
|-------------------|------------|--------|------|-----------|------------------|--------------|------------|
| 64-600 | 21.24 | 1/8" | 1.26 | 60/240 | .17 | 65-600 | 17.67 |
| 64-601 | 20.57 | 1/4" | 1.44 | 20/240 | .25 | 65-601 | 16.26 |
| 64-602 | 13.71 | 3/8" | 1.61 | 40/160 | .37 | 65-602 | 13.13 |
| 64-603 | 13.05 | 1/2" | 1.72 | 50/100 | .52 | 65-603 | 9.88 |
| 64-604 | 14.31 | 3/4" | 1.94 | 35/70 | .78 | 65-604 | 12.85 |
| 64-605 | 17.88 | 1" | 2.06 | 20/40 | 1.18 | 65-605 | 15.40 |
| 64-606 | 27.71 | 1-1/4" | 2.26 | 15/30 | 1.64 | 65-606 | 20.57 |
| 64-607 | 34.21 | 1-1/2" | 2.41 | 10/20 | 2.08 | 65-607 | 26.95 |
| 64-608 | 44.33 | 2" | 2.75 | 6/12 | 3.24 | 65-608 | 38.12 |
| 64-609 | 134.06 | 2-1/2" | 3.22 | 4/8 | 5.31 | 65-609 | 97.97 |
| 64-610 | 187.64 | 3" | 3.50 | 4/8 | 6.94 | 65-610 | 113.54 |
| 64-611 | 406.44 | 4" | 3.85 | 2/4 | 12.02 | 65-611 | 298.31 |

SQUARE HEAD PLUGS • Cored



| Part # Galvanized | List Price | Size | A | B | C | Box/ Case | Approx. Wt. Lbs. | Part # Black | List Price |
|-------------------|------------|--------|------|------|------|-----------|------------------|--------------|------------|
| | | *1/8" | 0.41 | 0.23 | 0.30 | 1/25 | .02 | 65-650 | 2.86 |
| 64-651 | 4.62 | *1/4" | 0.48 | 0.28 | 0.38 | 1/25 | .03 | 65-651 | 2.86 |
| 64-652 | 4.86 | *3/8" | 0.53 | 0.31 | 0.43 | 1/25 | .04 | 65-652 | 2.86 |
| 64-653 | 3.06 | 1/2" | 0.58 | 0.38 | 0.56 | 50/600 | .08 | 65-653 | 1.83 |
| 64-654 | 4.75 | 3/4" | 0.65 | 0.44 | 0.63 | 30/360 | .13 | 65-654 | 2.04 |
| 64-655 | 4.36 | 1" | 0.75 | 0.50 | 0.82 | 20/240 | .22 | 65-655 | 2.85 |
| 64-656 | 7.29 | 1-1/4" | 0.82 | 0.56 | 0.94 | 40/120 | .33 | 65-656 | 4.36 |
| 64-657 | 9.90 | 1-1/2" | 0.85 | 0.62 | 1.13 | 30/90 | .41 | 65-657 | 5.27 |
| 64-658 | 12.24 | 2" | 0.91 | 0.68 | 1.31 | 20/60 | .68 | 65-658 | 6.74 |
| 64-659 | 24.17 | 2-1/2" | 1.26 | 0.74 | 1.50 | 16/64 | .89 | 65-659 | 15.90 |
| 64-660 | 33.25 | 3" | 1.16 | 0.80 | 1.69 | 16/32 | 1.68 | 65-660 | 22.55 |
| 64-661 | 42.87 | 4" | 1.22 | 1.00 | 2.28 | 6/12 | 3.02 | 65-661 | 46.99 |
| | | 6" | 1.85 | 1.13 | 5.97 | 5/10 | 11.41 | 65-662 | 87.14 |
| | | 8" | | | | 1/1 | | 65-664 | 458.34 |

CAPS



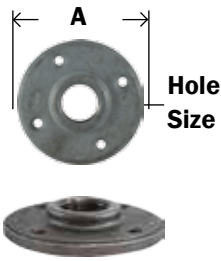
| Part # Galvanized | List Price | Size | A | Box/ Case | Approx. Wt. Lbs. | Part # Black | List Price |
|-------------------|------------|--------|------|-----------|------------------|--------------|------------|
| 64-470 | 5.50 | 1/8" | 0.55 | 1/25 | .03 | 65-470 | 4.29 |
| 64-471 | 5.50 | 1/4" | 0.62 | 80/960 | .07 | 65-471 | 1.89 |
| 64-472 | 4.30 | 3/8" | 0.74 | 60/720 | .08 | 65-472 | 2.33 |
| 64-473 | 3.29 | 1/2" | 0.87 | 75/300 | .13 | 65-473 | 2.42 |
| 64-474 | 4.72 | 3/4" | 0.97 | 40/160 | .18 | 65-474 | 3.19 |
| 64-475 | 5.23 | 1" | 1.16 | 25/100 | .30 | 65-475 | 3.53 |
| 64-476 | 7.59 | 1-1/4" | 1.28 | 20/80 | .47 | 65-476 | 4.81 |
| 64-477 | 9.67 | 1-1/2" | 1.33 | 18/54 | .66 | 65-477 | 6.82 |
| 64-478 | 12.22 | 2" | 1.45 | 12/36 | .99 | 65-478 | 8.10 |
| 64-479 | 38.87 | 2-1/2" | 1.70 | 20/40 | 1.58 | 65-479 | 20.94 |
| 64-480 | 47.09 | 3" | 1.80 | 12/24 | 2.51 | 65-480 | 33.10 |
| 64-481 | 93.51 | 4" | 2.08 | 6/12 | 4.09 | 65-481 | 51.67 |
| 64-482 | 340.37 | 6" | 2.55 | 2/4 | 5.18 | 65-482 | 207.89 |

* Use steel fittings for smaller sizes. See page 274-275 for Galvanized and Black Steel Fittings.

MALLEABLE FITTINGS

BLACK & GALVANIZED IRON #150

FLOOR FLANGES



| Part # Galvanized | List Price | Size | A | Thickness | Hole Size | Box/ Case | Approx. Wt. Lbs. | Part # Black | List Price |
|----------------------|---------------|--------|------|-----------|--------------|--------------|---------------------|-----------------|---------------|
| 64-692 | 20.05 | 1/2" | 3.50 | 0.50 | 0.25 | 25/100 | .63 | 65-692 | 9.24 |
| 64-693 | 22.37 | 3/4" | 3.50 | 0.63 | 0.25 | 15/45 | .73 | 65-693 | 9.58 |
| 64-694 | 24.63 | 1" | 4.00 | 0.69 | 0.25 | 15/45 | 1.02 | 65-694 | 13.82 |
| 64-695 | 28.05 | 1-1/4" | 4.00 | 0.75 | 0.25 | 15/30 | 1.00 | 65-695 | 15.40 |
| 64-696 | 34.99 | 1-1/2" | 4.50 | 0.87 | 0.31 | 8/24 | 1.37 | 65-696 | 16.92 |
| 64-697 | 46.09 | 2" | 5.50 | 1.00 | 0.31 | 8/16 | 2.11 | 65-697 | 21.85 |

EXTENSION FIP X MIP



| Part # | Size | Approx. WT. Lbs. | Box/Case | List Price |
|--------|------|------------------|----------|------------|
| 65-621 | 1/2" | 0.12 | 75 / 300 | 10.40 |
| 65-622 | 3/4" | 0.23 | 40 / 160 | 15.17 |
| 65-623 | 1" | 0.32 | 30 / 90 | 21.19 |

MUSHROOM VENT CAP

Cast Iron Galvanized Threaded Cap. 30 Mesh screen. Protects against driving rain, snow, sleet and insects.



| Part # | Size | Approx. WT. Lbs. | Box/Case | List Price |
|--------|------|------------------|----------|------------|
| 21-178 | 2" | 1.36 | 1/48 | 16.86 |

Other sizes available with extended delivery

BLACK & GALVANIZED

STEEL FITTINGS

ROHS, WEE, REACH COMPLIANT - MADE IN THE USA

• Merchant Steel

HEX BUSHINGS



| Part # Galvanized | List Price | Size M x F | A | Hex | Approx. Wt. Lbs. | Part # Black | List Price |
|----------------------|------------|---------------|------|------|---------------------|-----------------|------------|
| 66-500 | 1.53 | 1/4" x 1/8" | 0.63 | 0.62 | 0.02 | 67-500 | 1.76 |
| 66-501 | 1.95 | 3/8" x 1/8" | 0.66 | 0.68 | 0.04 | 67-501 | 2.28 |
| 66-502 | 1.81 | 3/8" x 1/4" | 0.66 | 0.68 | 0.02 | 67-502 | 2.24 |
| 66-503 | 2.76 | 1/2" x 1/8" | 0.80 | 0.87 | 0.10 | 67-503 | 2.48 |
| 66-504 | 2.75 | 1/2" x 1/4" | 0.80 | 0.87 | 0.08 | 67-504 | 2.48 |
| 66-505 | 2.65 | 1/2" x 3/8" | 0.80 | 0.87 | 0.06 | 67-505 | 2.50 |
| 66-506 | 4.05 | 3/4" x 1/8" | 0.94 | 1.06 | 0.18 | 67-506 | 3.78 |
| 66-507 | 4.79 | 3/4" x 1/4" | 0.94 | 1.06 | 0.14 | 67-507 | 3.98 |
| 66-508 | 4.81 | 3/4" x 3/8" | 0.94 | 1.06 | 0.14 | 67-508 | 3.91 |
| 66-509 | 4.54 | 3/4" x 1/2" | 0.94 | 1.06 | 0.10 | 67-509 | 4.02 |
| 66-510 | 7.61 | 1" x 1/4" | 1.00 | 1.31 | 0.16 | 67-510 | 6.86 |
| 66-511 | 7.61 | 1" x 3/8" | 1.00 | 1.31 | 0.26 | 67-511 | 6.66 |
| 66-512 | 9.78 | 1" x 1/2" | 1.00 | 1.31 | 0.22 | 67-512 | 6.66 |
| 66-513 | 8.66 | 1" x 3/4" | 1.00 | 1.31 | 0.14 | 67-513 | 7.29 |
| | | 1-1/4" x 1/8" | 1.08 | 1.31 | 0.16 | 67-514 | 10.24 |

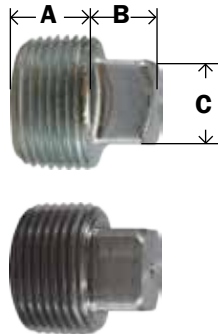
CAPS



| Part # Galvanized | List Price | Size NPTF | A | Hex | Approx. Wt. Lbs. | Part # Black | List Price |
|----------------------|------------|--------------|------|-------|---------------------|-----------------|------------|
| 66-470 | 1.31 | 1/8" | 0.53 | 0.56 | 0.02 | 67-470 | 1.27 |
| 66-471 | 1.64 | 1/4" | 0.63 | 0.62 | 0.04 | 67-471 | 1.45 |
| 66-472 | 2.36 | 3/8" | 0.69 | 0.81 | 0.06 | 67-472 | 2.23 |
| 66-473 | 5.06 | 1/2" | 0.87 | 1.00 | 0.12 | 67-473 | 3.43 |
| 66-474 | 6.22 | 3/4" | 0.97 | 1.18 | 0.16 | 67-474 | 5.07 |
| 66-475 | 8.44 | 1" | 1.16 | 1.50 | 0.30 | 67-475 | 7.25 |
| 66-476 | 40.68 | 1-1/4" | 1.28 | 2.00 | 0.68 | 67-476 | 33.79 |
| 66-477 | 51.17 | 1-1/2" | 1.35 | 2.25 | 0.83 | 67-477 | 50.18 |
| 66-478 | 107.46 | 2" | 1.45 | 2.625 | 1.36 | | |

SQUARE HEAD PLUGS

• Solid



| Part # Galvanized | List Price | Size NPTF | A | B | C | Approx. Wt. Lbs. | Part # Black | List Price |
|----------------------|------------|--------------|------|------|------|---------------------|-----------------|------------|
| | | 1/16" | 0.33 | 0.18 | 0.22 | 0.01 | 67-669 | 0.53 |
| 66-670 | 0.59 | 1/8" | 0.33 | 0.24 | 0.28 | 0.01 | 67-670 | 0.58 |
| 66-671 | 0.66 | 1/4" | 0.45 | 0.28 | 0.37 | 0.02 | 67-671 | 0.55 |
| 66-672 | 1.04 | 3/8" | 0.50 | 0.31 | 0.43 | 0.04 | 67-672 | 0.88 |
| 66-653 | 1.87 | 1/2" | 0.59 | 0.38 | 0.55 | 0.12 | 67-653 | 1.52 |
| 66-654 | 2.50 | 3/4" | 0.63 | 0.44 | 0.62 | 0.18 | 67-654 | 2.09 |
| 66-655 | 8.71 | 1" | 0.75 | 0.5 | 0.81 | 0.34 | 67-655 | 7.50 |
| 66-656 | 15.44 | 1-1/4" | 0.80 | 0.56 | 0.93 | 0.62 | 67-656 | 13.73 |
| 66-657 | 24.58 | 1-1/2" | 0.83 | 0.62 | 1.12 | 0.82 | 67-657 | 20.79 |
| 66-658 | 31.39 | 2" | 0.88 | 0.68 | 1.31 | 1.36 | 67-658 | 27.26 |

HEX HEAD PLUGS

• Solid



| Part # Galvanized | List Price | Size NPTF | A | Hex | Approx. Wt. Lbs. | Part # Black | List Price |
|----------------------|------------|--------------|------|------|---------------------|-----------------|------------|
| 66-770 | 0.55 | 1/8" | 0.55 | 0.43 | 0.01 | 67-770 | 0.41 |
| 66-771 | 0.93 | 1/4" | 0.74 | 0.56 | 0.04 | 67-771 | 0.76 |
| 66-772 | 1.57 | 3/8" | 0.67 | 0.68 | 0.06 | 67-772 | 1.43 |
| 66-773 | 2.66 | 1/2" | 0.80 | 0.70 | 0.12 | 67-773 | 2.36 |
| 66-774 | 4.95 | 3/4" | 0.94 | 1.06 | 0.18 | 67-774 | 3.68 |
| 66-775 | 8.90 | 1" | 1.00 | 1.31 | 0.22 | 67-775 | 6.66 |
| 66-776 | 12.74 | 1-1/4" | 1.17 | 1.75 | 0.7 | 67-776 | 11.45 |
| 66-777 | 41.98 | 1-1/2" | 1.51 | 2.00 | 1.2 | 67-777 | 23.14 |
| 66-778 | 64.64 | 2" | 1.65 | 2.50 | 2.06 | 67-778 | 42.59 |

- Available in Stainless Steel Aluminum, Cast Iron
- BSPT & DIN threads available

COUNTERSUNK PLUG - Square Socket



| Part # Galv | List Price | Size NPTF | A | Socket Size | Approx. Wt. Lbs. | Part # Black | List Price |
|----------------|---------------|--------------|------|----------------|---------------------|-----------------|---------------|
| 66-630 | 0.41 | 1/8" | 0.29 | 0.19 | 0.01 | 67-630 | 0.38 |
| 66-631 | 0.56 | 1/4" | 0.45 | 0.25 | 0.02 | 67-631 | 0.56 |
| 66-632 | 0.83 | 3/8" | 0.45 | 0.31 | 0.04 | 67-632 | 0.70 |
| 66-633 | 1.21 | 1/2" | 0.59 | 0.38 | 0.08 | 67-633 | 1.05 |
| 66-634 | 2.05 | 3/4" | 0.60 | 0.50 | 0.12 | 67-634 | 1.65 |
| 66-635 | 4.78 | 1" | 0.75 | 0.50 | 0.16 | 67-635 | 4.11 |
| 66-636 | 8.08 | 1-1/4" | 0.80 | 0.75 | 0.32 | 67-636 | 7.49 |
| 66-637 | 17.84 | 1-1/2" | 0.83 | 0.75 | 0.45 | 67-637 | 14.71 |
| 66-638 | 38.84 | 2" | 0.88 | 0.875 | 2.06 | 67-638 | 28.13 |

COUNTERSUNK PLUG - Hex Socket



| Part # Galv | List Price | Size NPTF | A | Socket Size | Approx. Wt. Lbs. | Part # Black | List Price |
|----------------|---------------|--------------|------|----------------|---------------------|-----------------|---------------|
| 66-760 | 0.64 | 1/16" | 0.29 | 0.15 | 0.01 | 67-760 | 0.53 |
| 66-761 | 0.45 | 1/8" | 0.29 | 0.18 | 0.01 | 67-761 | 0.56 |
| 66-762 | 0.60 | 1/4" | 0.44 | 0.25 | 0.02 | 67-762 | 0.53 |
| 66-763 | 0.76 | 3/8" | 0.44 | 0.31 | 0.04 | 67-763 | 0.70 |
| 66-764 | 1.13 | 1/2" | 0.59 | 0.37 | 0.08 | 67-764 | 1.14 |
| 66-765 | 2.09 | 3/4" | 0.60 | 0.56 | 0.14 | 67-765 | 1.63 |
| 66-766 | 5.57 | 1" | 0.75 | 0.625 | 0.22 | 67-766 | 3.45 |
| 66-767 | 7.87 | 1-1/4" | 0.80 | 0.75 | 0.37 | 67-767 | 6.16 |
| 66-768 | 16.33 | 1-1/2" | 0.83 | 1.0 | 0.45 | 67-768 | 15.45 |
| 66-769 | 29.65 | 2" | 0.88 | 1.0 | 0.86 | 67-769 | 25.18 |

- Slotted and Flush plugs available upon request

FACE BUSHING



| Part # Galv | List Price | Size M x F | A | Approx. Wt. Lbs. | Part # Black | List Price |
|----------------|------------|---------------|------|---------------------|-----------------|------------|
| 66-700 | 1.39 | 1/4" x 1/8" | 0.44 | 0.01 | 67-700 | 1.43 |
| 66-701 | 1.71 | 3/8" x 1/8" | 0.48 | 0.02 | 67-701 | 1.53 |
| 66-702 | 2.58 | 3/8" x 1/4" | 0.48 | 0.02 | 67-702 | 1.53 |
| | | 1/2" x 1/8" | 0.56 | 0.04 | 67-703 | 2.30 |
| 66-704 | 2.48 | 1/2" x 1/4" | 0.56 | 0.04 | 67-704 | 2.34 |
| 66-705 | 2.58 | 1/2" x 3/8" | 0.56 | 0.04 | 67-705 | 2.45 |
| | | 3/4" x 1/4" | 0.62 | 0.12 | 67-707 | 3.03 |
| 66-708 | 3.72 | 3/4" x 3/8" | 0.62 | 0.10 | 67-708 | 3.03 |
| 66-709 | 3.94 | 3/4" x 1/2" | 0.62 | 0.10 | 67-709 | 3.12 |
| | | 1" x 3/8" | 0.75 | 0.18 | 67-711 | 5.59 |
| 66-712 | 6.35 | 1" x 1/2" | 0.75 | 0.16 | 67-712 | 5.59 |
| 66-713 | 8.61 | 1" x 3/4" | 0.75 | 0.16 | 67-713 | 5.76 |



See Hydraulic Pipe Fittings pg 410

BLACK EXTRA HEAVY 300# IRON

MALLEABLE FITTINGS

90° ELBOW



| Part # | Size | List Price |
|--------|--------|------------|
| 69-101 | 1/4" | 31.87 |
| 69-102 | 3/8" | 20.31 |
| 69-103 | 1/2" | 11.25 |
| 69-104 | 3/4" | 12.91 |
| 69-105 | 1" | 19.15 |
| 69-106 | 1-1/4" | 29.62 |
| 69-107 | 1-1/2" | 39.82 |
| 69-108 | 2" | 96.10 |

45° ELBOW



| Part # | Size | List Price |
|--------|--------|------------|
| 69-181 | 1/4" | 72.30 |
| 69-182 | 3/8" | 67.78 |
| 69-183 | 1/2" | 37.87 |
| 69-184 | 3/4" | 58.59 |
| 69-185 | 1" | 49.78 |
| 69-186 | 1-1/4" | 74.65 |
| 69-187 | 1-1/2" | 96.43 |
| 69-188 | 2" | 147.00 |

90° STREET ELBOW



| Part # | Size | List Price |
|--------|--------|------------|
| 69-161 | 1/4" | 37.68 |
| 69-162 | 3/8" | 33.88 |
| 69-163 | 1/2" | 18.56 |
| 69-164 | 3/4" | 26.17 |
| 69-165 | 1" | 28.46 |
| 69-166 | 1-1/4" | 32.56 |
| 69-167 | 1-1/2" | 45.51 |
| 69-168 | 2" | 155.79 |

TEE



| Part # | Size | List Price |
|--------|--------|------------|
| 69-252 | 3/8" | 42.39 |
| 69-253 | 1/2" | 19.57 |
| 69-254 | 3/4" | 21.08 |
| 69-255 | 1" | 27.25 |
| 69-256 | 1-1/4" | 43.02 |
| 69-257 | 1-1/2" | 52.14 |
| 69-258 | 2" | 89.12 |

COUPLING



| Part # | Size | List Price |
|--------|--------|------------|
| 69-411 | 1/4" | 19.11 |
| 69-412 | 3/8" | 23.93 |
| 69-413 | 1/2" | 11.58 |
| 69-414 | 3/4" | 14.39 |
| 69-415 | 1" | 17.53 |
| 69-416 | 1-1/4" | 35.00 |
| 69-417 | 1-1/2" | 53.88 |
| 69-418 | 2" | 81.32 |

MALLEABLE FITTINGS

BLACK EXTRA 300# IRON

REDUCING COUPLING



| Part # | Size | List Price |
|--------|------------|------------|
| 69-432 | 3/8 x 1/4" | 31.14 |
| 69-434 | 1/2 x 1/4" | 37.22 |
| 69-435 | 1/2 x 3/8" | 38.02 |
| 69-438 | 3/4 x 1/2" | 31.05 |
| 69-441 | 1 x 1/2" | 44.29 |
| 69-442 | 1 x 3/4" | 48.73 |

CAP



| Part # | Size | List Price |
|--------|--------|------------|
| 69-471 | 1/4" | 21.12 |
| 69-472 | 3/8" | 24.81 |
| 69-473 | 1/2" | 23.97 |
| 69-474 | 3/4" | 26.44 |
| 69-475 | 1" | 34.72 |
| 69-476 | 1-1/4" | 43.71 |
| 69-477 | 1-1/2" | 63.90 |
| 69-478 | 2" | 84.28 |

UNION

• Brass Seat



| Part # | Size | List Price |
|--------|--------|------------|
| 69-600 | 1/8" | 61.18 |
| 69-601 | 1/4" | 68.94 |
| 69-602 | 3/8" | 73.56 |
| 69-603 | 1/2" | 61.18 |
| 69-604 | 3/4" | 62.93 |
| 69-605 | 1" | 65.69 |
| 69-606 | 1-1/4" | 103.09 |
| 69-607 | 1-1/2" | 140.32 |
| 69-608 | 2" | 124.14 |

STEEL MAGNETIC PLUGS

Steel Magnetic Drain Plugs - NPT Threaded

Magnetic Drain Plugs are similar to standard pipe or straight thread drain plugs with one important difference - a permanent magnet is fastened to the plug body. This magnet attracts and holds abrasive, ferrous metal particles preventing their circulation through the lubrication or hydraulic system.

These abrasive, ferrous metal particles appear in lubricating or hydraulic systems as a result of the following conditions:

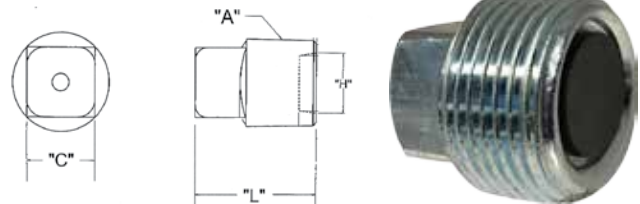
- The constant flaking effect of normal wear of moving parts.
- Particles not removed by flushing operations after boring or machining.
- Chipping due to sub-surface casting flaws.
- Minute component breakdown caused by stress usage.

Magnetic Drain Plugs prevent excessive wear to the system's components.

Magnetic Plugs are used by numerous manufacturers of gear boxes, transmissions, engines, and hydraulic systems for the automotive, aircraft, agricultural and machinery industries.

Typical applications include:

- Outbound Engines
- Earthmoving Equipment
- Combines
- Balers
- Crawler Tractors
- Lift Trucks
- Mining Equipment
- Military Vehicles
- Turbine Engines
- Truck Axles
- Heavy-Duty Transmissions



| Part | Size "A" | Head Width "C" | Recess Dia. "H" | O/L Length "L" | List Price |
|--------|----------|----------------|-----------------|----------------|------------|
| 28-996 | 3/8 - 18 | .428 - .440 | .435 - .445 | .805 - .860 | 3.71 |
| 28-997 | 1/2 - 14 | .553 - .565 | .560 - .570 | .970 - 1.04 | 4.43 |
| 28-998 | 3/4 - 14 | .615 - .627 | .725 - .735 | 1.120 - 1.170 | 5.61 |
| 28-999 | 1-11 1/2 | .803 - .815 | .895 - .905 | 1.25 - 1.33 | 8.13 |

BULL PLUGS & SWAGES

BULL PLUGS

STANDARD BULL PLUG

- Sch 40 150#
- Zinc plated



| Part # | Description | List Price |
|--------|----------------|------------|
| 91-008 | 2" | 39.00 |
| 91-007 | 2" w/ 1/2" TAP | 54.15 |
| 91-009 | 2-1/2" | 84.60 |
| 91-010 | 3" | 104.40 |
| 91-011 | 4" | 242.50 |

XH BULL PLUG

- Made from sch. 80 pipe.
- Zinc plated
- Hollow



| Part # | Description | List Price |
|---------|------------------|------------|
| 90-001 | 1/4" | 7.05 |
| 90-002 | 3/8" | 11.31 |
| 90-003 | 1/2" | 11.60 |
| 90-004 | 3/4" | 12.45 |
| 90-005 | 1" | 27.71 |
| 90-006 | 1-1/4" | 18.20 |
| 90-007 | 1-1/2" | 22.05 |
| 90-008 | 2" | 39.60 |
| 93-001* | 2" | 60.25 |
| 90-213 | 2" w/ 1/4" TAP | 45.10 |
| 90-212 | 2" w/ 1/2" TAP | 45.10 |
| 93-212* | 2"XXH w/1/2" TAP | 60.25 |
| 90-009 | 2-1/2" | 75.50 |
| 90-010 | 3" | 153.03 |
| 90-215 | 3" w/ 1/2" TAP | 302.71 |
| 90-011 | 4" | 252.03 |

* XXH

STANDARD SCH. 40 SWAGE

MIP X MIP

- Zinc plated



| Part # | Description | List Price |
|--------|-------------|------------|
| 93-113 | 1-1/4" x 1" | 24.66 |
| 93-121 | 2" x 1" | 52.47 |
| 93-122 | 2" x 1-1/4" | 32.75 |
| 93-123 | 2" x 1-1/2" | 43.74 |
| 93-124 | 2-1/2" x 2" | 50.75 |
| 93-125 | 3" x 1" | 129.29 |
| 93-127 | 3" x 1-1/2" | 80.66 |
| 93-128 | 3" x 2" | 105.69 |
| 93-129 | 3" x 2-1/2" | 76.45 |
| 93-130 | 4" x 2" | 157.15 |
| 93-131 | 4" x 3" | 151.40 |
| 93-139 | 6" x 3" | 442.20 |

SWAGES

SWAGES

**SCH 80 XH SWAGES
MIP X MIP**



* Hex Style



| Part # | Description | List Price |
|---------|-----------------|------------|
| 90-100* | 1/4" x 1/8" | 14.91 |
| 90-102* | 1/2" x 1/4" | 13.40 |
| 90-103* | 1/2" x 3/8" | 12.55 |
| 90-104* | 3/8" x 1/4" | 11.80 |
| 90-105* | 3/4" x 1/4" | 21.16 |
| 90-106* | 3/4" x 3/8" | 13.86 |
| 90-107* | 3/4" x 1/2" | 17.25 |
| 90-108* | 1" x 1/4" | 20.20 |
| 90-109* | 1" x 3/8" | 19.60 |
| 90-110* | 1" x 1/2" | 22.20 |
| 90-111* | 1" x 3/4" | 29.55 |
| 90-140 | 1-1/4" x 3/4" | 25.65 |
| 90-141 | 1-1/4" x 1" | 47.15 |
| 90-114 | 1-1/2" x 1/2" | 33.40 |
| 90-115 | 1-1/2" x 3/4" | 31.90 |
| 90-116 | 1-1/2" x 1" | 39.85 |
| 90-117 | 1-1/2" x 1-1/4" | 35.15 |
| 90-118 | 2" x 1/4" | 74.40 |
| 90-119 | 2" x 1/2" | 60.70 |
| 90-120 | 2" x 3/4" | 64.95 |
| 90-121 | 2" x 1" | 58.00 |
| 90-122 | 2" x 1-1/4" | 37.30 |
| 90-123 | 2" x 1-1/2" | 53.13 |
| 90-124 | 2-1/2" x 2" | 107.51 |
| 90-125 | 3" x 1" | 114.35 |
| 90-126 | 3" x 1-1/4" | 69.49 |
| 90-127 | 3" x 1-1/2" | 114.40 |
| 90-128 | 3" x 2" | 118.08 |
| 90-129 | 3" x 2-1/2" | 80.05 |
| 90-133 | 4" x 1" | 186.30 |
| 90-130 | 4" x 2" | 179.69 |
| 90-131 | 4" x 3" | 191.84 |
| 90-132 | 6" x 4" | 519.00 |
| 90-150 | 6" x 2" | 563.95 |
| 90-152 | 6" x 3" | 554.80 |

XXH SWAGE

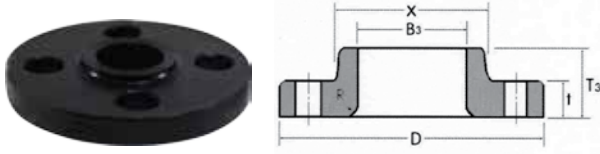


| Part # | Description | List Price |
|---------|---------------|------------|
| 92-102* | 1/2" x 1/4" | 15.83 |
| 92-107* | 3/4" x 1/2" | 24.11 |
| 92-108* | 1" x 1/4" | 25.88 |
| 92-109* | 1" x 3/8" | 25.88 |
| 92-110* | 1" x 1/2" | 24.80 |
| 92-111* | 1" x 3/4" | 20.95 |
| 92-114 | 1-1/2" x 1/2" | 28.13 |
| 92-115 | 1-1/2" x 3/4" | 28.13 |
| 92-116 | 1-1/2" x 1" | 35.44 |
| 92-119 | 2" x 1/2" | 42.09 |
| 92-120 | 2" x 3/4" | 42.09 |
| 92-121 | 2" x 1" | 69.40 |
| 92-122 | 2" x 1-1/4" | 83.60 |
| 92-123 | 2" x 1-1/2" | 51.28 |
| 92-128 | 3" x 2" | 203.69 |

ASTMA105
ASME SA105
ANSI B16.5

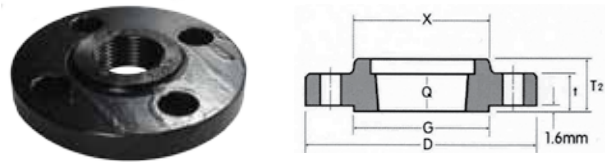
Forged Steel Flanges

• A105 Forged Steel • CLASS 150
(1-1/2 thru 6" available in #316 Stainless Steel add SS to part#)



SLIP-ON 1/16" RAISED FACE FORGED STEEL FLANGE

| Part # | Size | List Price |
|---------|--------|------------|
| 107-020 | 1/2" | 23.13 |
| 107-021 | 3/4" | 23.09 |
| 107-022 | 1" | 26.56 |
| 107-023 | 1-1/4" | 14.37 |
| 107-024 | 1-1/2" | 21.41 |
| 107-025 | 2" | 29.68 |
| 107-026 | 2-1/2" | 30.38 |
| 107-027 | 3" | 44.55 |
| 107-029 | 4" | 43.27 |
| 107-031 | 6" | 94.03 |
| 107-032 | 8" | 144.78 |
| 107-033 | 10" | 205.88 |
| 107-034 | 12" | 227.22 |



THREADED 1/16" RAISED FACE FORGED STEEL FLANGE

| Part # | Size | List Price |
|---------|--------|------------|
| 107-060 | 1/2" | 8.90 |
| 107-061 | 3/4" | 13.79 |
| 107-062 | 1" | 26.00 |
| 107-063 | 1-1/4" | 27.00 |
| 107-064 | 1-1/2" | 28.50 |
| 107-065 | 2" | 29.00 |
| 107-066 | 2-1/2" | 45.59 |
| 107-067 | 3" | 52.29 |
| 107-069 | 4" | 53.80 |
| 107-071 | 6" | 79.00 |
| 107-072 | 8" | 110.55 |
| 107-073 | 10" | 165.00 |
| 107-074 | 12" | 239.84 |

| Nominal Pipe Size | Depth of Socket in. | DRILLING | | | BOLTING | | | APPROXIMATE WEIGHT | | | |
|-------------------|---------------------|----------------------|-----------------|-------------------|--------------------------|---------------------|------------------|--------------------|--------------|----------------------|--------|
| | | Bolt Circle Diameter | Number of Holes | Diameter of Holes | Diameter of Bolts (inch) | Machine Bolt Length | Stud Bolt Length | | Welding Neck | Slip-on and Threaded | Blind |
| | | | | | | | Raised Face | Ring Joint | | | |
| Y | | | | | | | | LBS | LBS | LBS | |
| 1/2 | .382 | 2.382 | 4 | .618 | 1/2 | 2.00 | 2.252 | - | 1.146 | 1.036 | 1.036 |
| 3/4 | .441 | 2.752 | 4 | .618 | 1/2 | 2.00 | 2.50 | - | 2.028 | 1.653 | 1.389 |
| 1 | .500 | 3.118 | 4 | .618 | 1/2 | 2.252 | 2.50 | 3.00 | 2.425 | 1.893 | 2.094 |
| 1-1/4 | .559 | 3.50 | 4 | .618 | 1/2 | 2.252 | 2.752 | 3.252 | 3.086 | 3.086 | 3.086 |
| 1-1/2 | .618 | 3.882 | 4 | .618 | 1/2 | 2.50 | 2.752 | 3.252 | 3.99 | 3.109 | 3.571 |
| 2 | .689 | 4.752 | 4 | .752 | 5/8 | 2.752 | 3.252 | 3.752 | 6.173 | 4.982 | 5.82 |
| 2-1/2 | .752 | 5.5 | 4 | .752 | 5/8 | 3.00 | 3.50 | 4.00 | 9.436 | 7.562 | 8.951 |
| 3 | .811 | 6.0 | 4 | .752 | 5/8 | 3.00 | 3.50 | 4.00 | 11.42 | 8.818 | 11.023 |
| 4 | .941 | 7.50 | 8 | .752 | 5/8 | 3.00 | 3.50 | 4.00 | 16.138 | 12.677 | 16.535 |
| 6 | 1.059 | 9.50 | 8 | .882 | 3/4 | 3.252 | 4.00 | 4.50 | 24.824 | 17.196 | 26.455 |
| 8 | 1.252 | 11.752 | 8 | .882 | 3/4 | 3.50 | 4.252 | 4.752 | 39.683 | 28.66 | 44.092 |
| 10 | 1.311 | 14.252 | 12 | 1.00 | 7/8 | 4.00 | 4.50 | 5.00 | 55.116 | 37.699 | 66.139 |
| 12 | 1.559 | 17 | 12 | 1.00 | 7/8 | 4.00 | 4.752 | 5.252 | 85.936 | 61.024 | 97.003 |

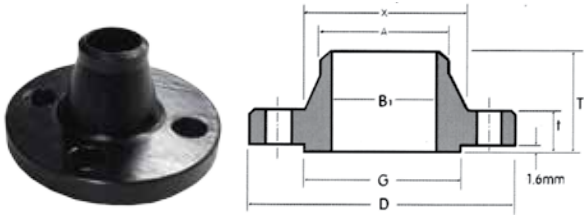
ASTMA105
ASME SA105
ANSI B16.5

Forged Steel Flanges

• A105 Forged Steel

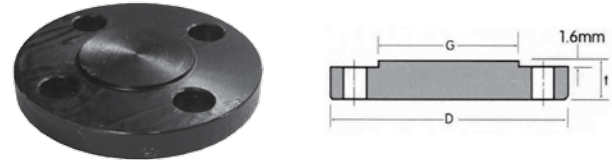
• CLASS 150

(1-1/2 thru 6" available in #316 Stainless Steel add SS to part#)



WELD NECK FORGED STEEL FLANGE

| Part # | Size | List Price |
|---------|--------|------------|
| 107-000 | 1/2" | 32.50 |
| 107-001 | 3/4" | 33.14 |
| 107-002 | 1" | 34.19 |
| 107-003 | 1-1/4" | 33.11 |
| 107-004 | 1-1/2" | 33.11 |
| 107-005 | 2" | 36.98 |
| 107-006 | 2-1/2" | 39.49 |
| 107-007 | 3" | 62.06 |
| 107-009 | 4" | 59.25 |
| 107-011 | 6" | 134.91 |
| 107-012 | 8" | 145.71 |
| 107-013 | 10" | 220.29 |
| 107-014 | 12" | 346.65 |



BLIND 1/16" RAISED FACE FORGED STEEL FLANGE

| Part # | Size | List Price |
|---------|--------|------------|
| 107-040 | 1/2" | 8.40 |
| 107-041 | 3/4" | 10.64 |
| 107-042 | 1" | 30.53 |
| 107-043 | 1-1/4" | 27.71 |
| 107-044 | 1-1/2" | 26.71 |
| 107-045 | 2" | 31.18 |
| 107-046 | 2-1/2" | 44.96 |
| 107-047 | 3" | 53.15 |
| 107-049 | 4" | 79.73 |
| 107-051 | 6" | 127.66 |
| 107-052 | 8" | 158.81 |
| 107-053 | 10" | 250.00 |
| 107-054 | 12" | 377.10 |

| Nominal Pipe Size | Outside Diameter | O.D of Raised Face | Diameter at Base of Hub | Thickness | BORE | | LENGTH THRU HUB | |
|-------------------|------------------|--------------------|-------------------------|-----------|-----------------------------|--------------|---------------------------------|--|
| | | | | | Welding Neck Socket Welding | Welding Neck | Slip-on Threaded Socket Welding | |
| | | | | | B1 | T1 | T2 | |
| D | G | X | T | B1 | T1 | T2 | | |
| 1/2 | 3.504 | 1.382 | 1.189 | .441 | .618 | 1.882 | .618 | |
| 3/4 | 3.898 | 1.689 | 1.50 | .50 | .819 | 2.059 | .618 | |
| 1 | 4.252 | 2.00 | 1.941 | .559 | 1.051 | 2.189 | .689 | |
| 1-1/4 | 4.606 | 2.50 | 2.311 | .618 | 1.382 | 2.252 | .811 | |
| 1-1/2 | 5.00 | 2.882 | 2.559 | .689 | 1.610 | 2.441 | .882 | |
| 2 | 5.984 | 3.618 | 3.059 | .752 | 2.071 | 2.50 | 1.00 | |
| 2-1/2 | 7.008 | 4.118 | 3.559 | .882 | 2.469 | 2.752 | 1.118 | |
| 3 | 7.52 | 5.00 | 4.252 | .941 | 3.071 | 2.752 | 1.189 | |
| 4 | 9.016 | 6.189 | 5.311 | .941 | 4.031 | 3.00 | 1.311 | |
| 6 | 10.984 | 8.50 | 7.559 | 1.00 | 6.071 | 3.50 | 1.559 | |
| 8 | 13.504 | 10.618 | 9.689 | 1.118 | 7.980 | 4.00 | 1.752 | |
| 10 | 15.984 | 12.752 | 12.00 | 1.189 | 10.02 | 4.00 | 1.941 | |
| 12 | 19.016 | 15.00 | 14.382 | 1.252 | 12.00 | 4.50 | 2.189 | |

COPPER FITTINGS



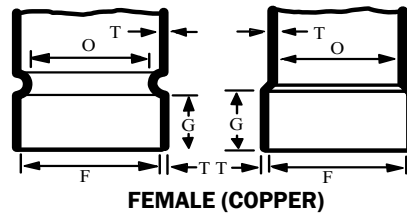
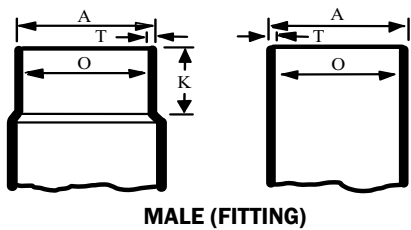
SYMBOL OF JOINT ENDS

- C** Solder joint fitting end made to receive copper tube diameter
- Ftg.** Solder joint fitting end made to copper tube diameter
- F** Internal ANSI Standard Taper Pipe Thread-Female
- M** External ANSI Standard Taper Pipe Thread-Male
Threaded ends ANSI/ ASME B1. Solder ends ASTM B88

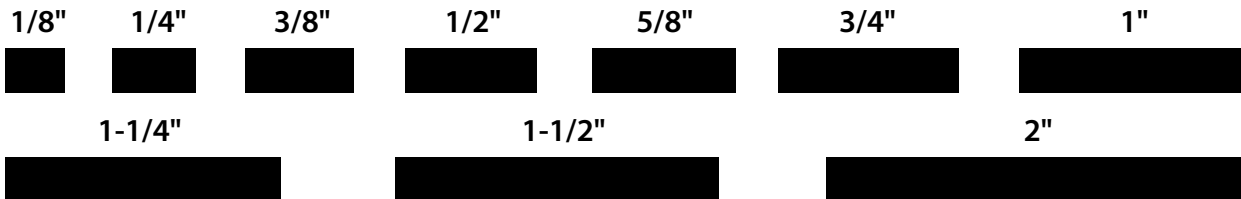
- Temp range 32° to 200°F
- Pressure @100° - 1/8-1 : 500 PSI
- 1-1/4-2 : 400 PSI
- 2-1/2 - 3: 300 PSI

**NSF - 61 CERTIFIED
ALLOY C12200**

THE ABOVE CONFORMS TO ASTM B 88 & ASTM B 306, A 306



| Nominal Size | Joint Ends | | | | | | | | | | Metal Thickness T (in) | Inside Diameter O (in) | |
|---------------|-------------------------|------------------------|---------------|-------------|---------------------|------------------------|------------------------|---------------|-------------|---------------------|------------------------|------------------------|-------|
| | Male End | | | | | Female End | | | | | | | |
| | Outside Diameter (A) in | Average Tolerance (mm) | Actual MIN in | O.D. MAX in | Length (Min) H (in) | Inside Diameter F (in) | Average Tolerance (mm) | Actual MIN in | O.D. MAX in | Length (Min) G (in) | | | |
| 1/8" | 2/8 | 0.03 | 2/8 | 2/8 | 3/8 | 2/8 | 0.03 | 2/8 | 2/8 | 3/8 | 0 | 2/8 | |
| 1/4" | 3/8 | | 3/8 | 3/8 | 3/8 | 3/8 | | 3/8 | 3/8 | 3/8 | 3/8 | 0 | 2/8 |
| 3/8" | 4/8 | | 4/8 | 4/8 | 3/8 | 4/8 | | 4/8 | 4/8 | 4/8 | 3/8 | 0 | 3/8 |
| 1/2" | 5/8 | | 5/8 | 5/8 | 4/8 | 5/8 | | 5/8 | 5/8 | 5/8 | 3/8 | 0 | 4/8 |
| 5/8" | 6/8 | | 6/8 | 6/8 | 5/8 | 6/8 | | 6/8 | 6/8 | 6/8 | 5/8 | 0 | 4/8 |
| 3/4" | 7/8 | | 7/8 | 7/8 | 6/8 | 7/8 | | 7/8 | 7/8 | 7/8 | 5/8 | 0 | 5/8 |
| 1" | 1-1/8 | 0.04 | 1-1/8 | 1-1/8 | 7/8 | 1-1/8 | 0.04 | 1-1/8 | 1-1/8 | 7/8 | 0 | 7/8 | |
| 1-1/4" | 1-3/8 | | 1-3/8 | 1-3/8 | 1 | 1-3/8 | | 1-3/8 | 1-3/8 | 1 | 1 | 0 | 1-1/8 |
| 1-1/2" | 1-5/8 | 0.05 | 1-5/8 | 1-5/8 | 1-1/8 | 1-5/8 | 0.05 | 1-5/8 | 1-5/8 | 1-1/8 | 0 | 1-3/8 | |
| 2" | 2-1/8 | | 2-1/8 | 2-1/8 | 1-3/8 | 2-1/8 | | 2-1/8 | 2-1/8 | 1-2/8 | 0 | 1-6/8 | |
| 2-1/2" | 2-5/8 | | 2-5/8 | 2-5/8 | 1-4/8 | 2-5/8 | | 2-5/8 | 2-5/8 | 1-4/8 | 1/8 | 2-1/8 | |
| 3" | 3-1/8 | | 3-1/8 | 2-1/8 | 1-6/8 | 3-1/8 | | 3-1/8 | 3-1/8 | 1-5/8 | 1/8 | 2-5/8 | |
| 4" | 4-1/8 | 4-1/8 | 4-1/8 | 2-1/8 | 4-1/8 | 4-1/8 | 4-1/8 | 2-1/8 | 1/8 | 3-4/8 | | | |



90° ELL C X C



| Part# | Nominal (ID) | OD | Approx Net Wt. | Ind # | List Price |
|--------|--------------|--------|----------------|---------|------------|
| 77-100 | 1/8" | 1/4" | 0.01 | W 02003 | 4.60 |
| 77-101 | 1/4" | 3/8" | 0.01 | W 02009 | 5.24 |
| 77-102 | 3/8" | 1/2" | 0.03 | W 02017 | 3.99 |
| 77-104 | 1/2" | 5/8" | 0.04 | W 02022 | 1.45 |
| 77-107 | 5/8" | 3/4" | 0.07 | W 02028 | 9.35 |
| 77-108 | 3/4" | 7/8" | 0.09 | W 02034 | 3.22 |
| 77-110 | 1" | 1-1/8" | 0.17 | W 02047 | 8.26 |
| 77-113 | 1-1/4" | 1-3/8" | 0.27 | W 02077 | 10.72 |
| 77-114 | 1-1/2" | 1-5/8" | 0.41 | W 02085 | 18.75 |
| 77-116 | 2" | 2-1/8" | 0.73 | W 02086 | 33.30 |

WE-500-R 607-R 107-C

**90° STREET ELL
FTG. X C**



| | | | | | |
|--------|--------|--------|------|---------|-------|
| 77-124 | 1/4" | 3/8" | 0.01 | W 02312 | 9.18 |
| 77-125 | 3/8" | 1/2" | 0.03 | W 02321 | 6.04 |
| 77-126 | 1/2" | 5/8" | 0.05 | W 01652 | 2.20 |
| 77-127 | 5/8" | 3/4" | 0.07 | W 02330 | 9.94 |
| 77-128 | 3/4" | 7/8" | 0.12 | W 01654 | 4.66 |
| 77-129 | 1" | 1-1/8" | 0.22 | W 02344 | 11.92 |
| 77-130 | 1-1/4" | 1-3/8" | 0.33 | W 02384 | 16.03 |
| 77-131 | 1-1/2" | 1-5/8" | 0.45 | W 02385 | 23.42 |
| 77-132 | 2" | 2-1/8" | 0.87 | W 02386 | 45.49 |

**90° LONG TURN ELL
C X C**



| | | | | | |
|--------|-------|------|------|---------|------|
| 77-139 | 1/8" | 1/4" | 0.01 | W 02715 | 6.81 |
| 77-140 | 1/4" | 3/8" | 0.02 | W 02716 | 5.71 |
| 77-141 | 5/16" | | 0.03 | | 8.73 |
| 77-142 | 3/8" | 1/2" | 0.04 | W 02717 | 6.70 |
| 77-143 | 1/2" | 5/8" | 0.06 | W 02722 | 6.48 |
| 77-144 | 5/8" | 3/4" | 0.10 | W 02728 | 6.79 |
| 77-145 | 3/4" | 7/8" | 0.15 | W 02734 | 8.68 |

WE-500-L 607-LT 107-L

**90° LONG TURN ST. ELL
FTG. X C**



| | | | | | |
|--------|--------|--------|------|---------|-------|
| 77-154 | 3/8" | 1/2" | 0.04 | W 02817 | 16.28 |
| 77-155 | 1/2" | 5/8" | 0.06 | W 02822 | 8.60 |
| 77-156 | 5/8" | 3/4" | 0.11 | | 10.53 |
| 77-157 | 3/4" | 7/8" | 0.15 | | 12.05 |
| 77-158 | 1" | 1-1/8" | 0.33 | | 18.75 |
| 77-159 | 1-1/4" | 1-3/8" | 0.46 | W 02828 | 10.53 |
| 77-160 | 1-1/2" | 1-5/8" | 0.64 | W 02834 | 12.05 |

WE-503-L 607-2LT

WROT SOLDER JOINT

COPPER FITTINGS

**45° ELL
C X C**



| Part# | Nominal | Approx Net Wt. | Ind # | List Price |
|--------|---------|----------------|---------|------------|
| 77-161 | 1/8" | 0.01 | W 03005 | 12.51 |
| 77-162 | 1/4" | 0.01 | W 03012 | 7.45 |
| 77-163 | 3/8" | 0.02 | W 03021 | 6.38 |
| 77-164 | 1/2" | 0.04 | W 03026 | 2.57 |
| 77-165 | 5/8" | 0.06 | W 03030 | 13.38 |
| 77-166 | 3/4" | 0.10 | W 03034 | 4.38 |
| 77-167 | 1" | 0.19 | W 03044 | 11.42 |
| 77-168 | 1-1/4" | 0.27 | W 03050 | 13.78 |
| 77-169 | 1-1/2" | 0.39 | W 03055 | 18.51 |
| 77-170 | 2" | 0.75 | W 03059 | 31.69 |

WE-504 606 106

**STREET 45°
FTG. X C**



| | | | | |
|--------|--------|------|---------|-------|
| 77-177 | 1/4" | 0.01 | W 03312 | 13.91 |
| 77-178 | 3/8" | 0.02 | W 03321 | 10.09 |
| 77-179 | 1/2" | 0.06 | W 03326 | 2.75 |
| 77-180 | 5/8" | 0.06 | W 03330 | 23.01 |
| 77-181 | 3/4" | 0.10 | W 03334 | 5.38 |
| 77-182 | 1" | 0.18 | W 03344 | 13.86 |
| 77-183 | 1-1/4" | 0.27 | W 03350 | 21.16 |
| 77-184 | 1-1/2" | 0.38 | W 03355 | 25.26 |
| 77-185 | 2" | 0.75 | W 03359 | 40.16 |

WE-505 606-2

**COUPLING (SOCKET)
W/ ROLLED UP TUBE
STOP C X C**



| | | | | |
|--------|--------|------|---------|-------|
| 77-201 | 1/8" | 0.01 | W 01003 | 1.22 |
| 77-202 | 1/4" | 0.01 | W 01009 | 1.01 |
| 77-203 | 3/8" | 0.02 | W 01017 | 1.31 |
| 77-204 | 1/2" | 0.03 | W 01022 | 1.12 |
| 77-205 | 5/8" | 0.04 | W 01028 | 2.71 |
| 77-206 | 3/4" | 0.06 | W 01034 | 2.25 |
| 77-207 | 1" | 0.10 | W 01047 | 4.49 |
| 77-208 | 1-1/4" | 0.15 | W 01055 | 7.59 |
| 77-209 | 1-1/2" | 0.22 | W 01063 | 10.03 |
| 77-210 | 2" | 0.39 | W 01072 | 16.74 |

WC-400 100

**COUPLING (SOCKET)
LESS TUBE STOP
C X C**



| | | | | |
|--------|--------|------|---------|-------|
| 77-219 | 1/8" | 0.01 | W 01900 | 4.03 |
| 77-220 | 1/4" | 0.01 | W 01901 | 1.25 |
| 77-222 | 1/2" | 0.03 | W 01903 | 1.43 |
| 77-223 | 3/4" | 0.06 | W 01905 | 3.08 |
| 77-224 | 1" | 0.10 | W 01906 | 6.48 |
| 77-225 | 1-1/4" | 0.15 | W 01907 | 9.14 |
| 77-226 | 1-1/2" | 0.22 | W 01908 | 12.34 |
| 77-227 | 2" | 0.39 | W 01909 | 18.99 |

WC-400NS 601



See page 165-167 for SWT x SWT LF Ball Valves

COPPER FITTINGS

WROT SOLDER JOINT

COUPLING (SOCKET) W/ DIMPLED TUBE STOP C X C



| Part# | Nominal | Approx Net Wt. | Ind # | List Price |
|--------|---------|----------------|-------|------------|
| 77-238 | 1/2" | 0.03 | | 1.73 |
| 77-240 | 3/4" | 0.06 | | 2.76 |
| 77-241 | 1" | 0.10 | | 5.46 |
| 77-242 | 1-1/4" | 0.15 | | 13.52 |
| 77-244 | 2" | 0.39 | | 21.20 |

WC-400S

REDUCER COUPLING W/ STOP C X C



| Part# | Nominal | Approx Net Wt. | Ind # | List Price |
|--------|-----------------|----------------|---------|------------|
| 77-252 | 1/4" x 1/8" | 0.01 | W 01011 | 6.33 |
| 77-254 | 3/8" x 1/8" | | | 3.58 |
| 77-253 | 3/8" x 1/4" | 0.02 | W 01019 | 2.70 |
| 77-256 | 1/2" x 1/4" | 0.03 | W 01023 | 2.51 |
| 77-255 | 1/2" x 3/8" | 0.03 | W 01021 | 2.17 |
| 77-258 | 5/8" x 1/2" | 0.04 | W 01025 | 5.40 |
| 77-263 | 3/4" x 3/8" | 0.06 | W 01036 | 5.67 |
| 77-262 | 3/4" x 1/2" | 0.06 | W 01029 | 3.51 |
| 77-267 | 1"x1/2" | 0.10 | W 01049 | 9.82 |
| 77-265 | 1"x3/4" | 0.12 | W 01038 | 6.98 |
| 77-270 | 1 -1/4" x 1/2" | 0.14 | W 01058 | 9.15 |
| 77-269 | 1 -1/4" x 3/4" | 0.17 | W 01056 | 9.68 |
| 77-268 | 1-1/4" x 1" | 0.17 | W 01051 | 9.73 |
| 77-273 | 1 -1/2" x 3/4" | 0.25 | W 01065 | 14.96 |
| 77-272 | 1-1/2" x1" | 0.24 | W 01064 | 16.36 |
| 77-271 | 1-1/2" x 1-1/4" | 0.24 | W 01060 | 16.04 |
| 77-277 | 2" x 1" | 0.48 | W 01074 | 29.70 |
| 77-276 | 2 x 1-1/4" | 0.46 | W 01073 | 29.87 |
| 77-275 | 2" x 1-1/2" | 0.42 | W 01069 | 22.68 |
| 77-280 | 2-1/2"x2" | 0.79 | W 01075 | 49.90 |

WC-400R 600-R

FITTING REDUCER FTG. C X C



| Part# | Nominal | Approx Net Wt. | Ind # | List Price |
|--------|------------------|----------------|---------|------------|
| 77-292 | 3/8" x 1/8" | 0.01 | W 01314 | 3.29 |
| 77-291 | 3/8" x 1/4" | 0.02 | W 01312 | 2.84 |
| 77-294 | 1/2" x 1/4" | 0.03 | W 01317 | 2.76 |
| 77-293 | 1/2" x 3/8" | 0.03 | W01315 | 2.97 |
| 77-295 | 5/8" X 1/2" | 0.03 | W 01320 | 5.48 |
| 77-298 | 3/4" x 3/8" | 0.05 | W 01327 | 6.23 |
| 77-297 | 3/4" x 1/2" | 0.06 | W 01326 | 3.84 |
| 77-296 | 3/4" x 5/8" | 0.08 | W 01325 | 3.49 |
| 77-352 | 1" x 1/2" | 0.10 | W 01265 | 7.56 |
| 77-300 | 1"x3/4" | 0.11 | W 01337 | 5.92 |
| 77-355 | 1 -1/4" x 3/4" | 0.15 | W 01345 | 10.58 |
| 77-354 | 1-1/4" x1" | 0.17 | W 01343 | 11.07 |
| 77-360 | 1 -1/2" x 1/2" | 0.21 | W 01355 | 12.85 |
| 77-359 | 1 -1/2" x 3/4" | 0.21 | W 01353 | 14.05 |
| 77-358 | 1-1/2"x1" | 0.22 | W 01351 | 16.59 |
| 77-357 | 1 -1/2" X 1-1/4" | 0.21 | W 01350 | 13.77 |
| 77-365 | 2" x 1/2" | 0.44 | W 01364 | 34.95 |
| 77-363 | 2" x 1" | 0.40 | W 01360 | 32.92 |
| 77-361 | 2" x 1-1/2" | 0.39 | W 01358 | 25.94 |

WC-403 600-2

| | |
|--------------------------|------------------------|
| WROT SOLDER JOINT | COPPER FITTINGS |
|--------------------------|------------------------|

**MALE ADAPTER
C X M**



| Part# | Nominal | Approx Net Wt. | Ind # | List Price |
|--------|-------------|----------------|---------|------------|
| 77-393 | 1/8" | 0.02 | | 19.19 |
| 77-394 | 1/4" | 0.04 | | 26.13 |
| 77-398 | 3/8" | 0.06 | W 01125 | 6.49 |
| 77-401 | 1/2" | 0.08 | WB01131 | 3.02 |
| 77-306 | 3/4" | 0.14 | WB01146 | 5.06 |
| 77-309 | 1" | 0.24 | WB01163 | 13.36 |
| 77-314 | 1-1/4" | 0.41 | W 01171 | 18.54 |
| 77-318 | 1-1/2" | 0.50 | W 01179 | 21.72 |
| 77-322 | 2" | 0.87 | W 01187 | 36.76 |
| 77-395 | 1/4" x 1/2" | 0.09 | W 01113 | 9.66 |
| 77-311 | 1/2" x 3/8" | 0.18 | | 6.94 |
| 77-303 | 1/2" x 3/4" | 0.16 | W 01130 | 9.01 |
| 77-308 | 3/4" x 1/2" | 0.31 | | 8.84 |
| 77-307 | 3/4" x 1" | 0.29 | W 01145 | 19.10 |
| 77-312 | 1" x 3/4" | 0.18 | W 01164 | 19.10 |

• 14 more reducing sizes available

WC-401 604

**FTG. MALE ADAPTER
FTG. X M**



| | | | | |
|--------|--------|------|----------|--------|
| 77-331 | 1/2" | 0.09 | W 01431 | 13.15 |
| 77-333 | 3/4" | 0.15 | W 01446 | 14.94 |
| 77-334 | 1" | 0.15 | W 01463 | 19.88 |
| 77-335 | 1-1/4" | 0.41 | W 01471 | 77.69 |
| 77-336 | 1-1/2" | 0.41 | W 0147X9 | 77.59 |
| 77-337 | 2" | 0.86 | W 01487 | 152.15 |

WC-404 604-2

COPPER TUBING

SEE COPPER TUBING FOR REFRIGERATION AND DRINKING WATER ON PAGE 336



A mind is like a parachute. It doesn't work if it is not open. - Frank Zappa

**FEMALE ADAPTERS
C X F**



| Part# | Nominal | Approx Net Wt. | Ind # | List Price |
|--------|-------------|----------------|---------|------------|
| 77-343 | 1/2" | 0.10 | WB01231 | 4.77 |
| 77-349 | 3/4" | 0.14 | WB01246 | 6.56 |
| 77-402 | 1" | 0.24 | WB01263 | 14.98 |
| 77-406 | 1-1/4" | 0.43 | W 01271 | 21.72 |
| 77-410 | 1-1/2" | 0.58 | W 01279 | 33.95 |
| 77-413 | 2" | 0.74 | W 01287 | 46.12 |
| 77-341 | 3/8" x 1/2" | 0.10 | W 01224 | 10.44 |
| 77-347 | 1/2" x 1/4" | 0.05 | W 01233 | 7.36 |
| 77-346 | 1/2"x3/8" | 0.70 | W 01232 | 7.36 |
| 77-345 | 1/2" x 3/4" | 0.15 | WB01230 | 10.24 |

**FEMALE FTG.
ADAPT. FTG. X F**



| | | | | |
|--------|------|------|---------|-------|
| 77-419 | 3/8" | 0.05 | W 01525 | 14.42 |
| 77-420 | 1/2" | 0.11 | W 01531 | 9.42 |
| 77-423 | 3/4" | 0.19 | W 01546 | 12.15 |
| 77-424 | 1 | | | 24.20 |

• More sizes available

WC402 603 WC402R 603R

CAP



| | | | | |
|--------|--------|------|---------|-------|
| 77-429 | 1/4" | 0.01 | W 07004 | 1.53 |
| 77-430 | 3/8" | 0.01 | W 07006 | 1.88 |
| 77-431 | 1/2" | 0.02 | WB07007 | 0.92 |
| 77-432 | 5/8" | 0.03 | W 07008 | 2.68 |
| 77-433 | 3/4" | 0.04 | WB07009 | 1.95 |
| 77-434 | 1" | 0.08 | WB07011 | 4.57 |
| 77-435 | 1-1/4" | 0.11 | W 07012 | 5.69 |
| 77-436 | 1-1/2" | 0.18 | W 07013 | 8.86 |
| 77-437 | 2" | 0.30 | W 07014 | 14.94 |

WC405 603-2 WC405R 603R

UNIONS C X C



• LF = Lead Free

| | | | | |
|----------|--------|------|---------|--------|
| 77-453 | 1/4" | 0.11 | W 08001 | 115.19 |
| 77-454 | 3/8" | 0.11 | W 08002 | 115.81 |
| 77-455LF | 1/2" | 0.17 | W 08003 | 23.36 |
| 77-456LF | 3/4" | 0.37 | W 08004 | 30.02 |
| 77-457LF | 1" | 0.51 | W 08005 | 52.45 |
| 77-606LF | 1-1/4" | 0.98 | W08006 | 80.58 |
| 77-607LF | 1-1/2" | 1.21 | W08007 | 109.05 |
| 77-608LF | 2" | | W08008 | 189.45 |

WC-415 617

U-TYPE STRAP



| | | | | |
|--------|--------|------|---------|------|
| 77-461 | 1/2" | 0.03 | A 02529 | 0.83 |
| 77-462 | 3/4" | 0.03 | A 02574 | 1.48 |
| 77-463 | 1" | 0.04 | A 02614 | 1.45 |
| 77-464 | 1-1/4" | 0.04 | A 02650 | 2.04 |

WC-407

WS-1100

WROT SOLDER JOINT

COPPER FITTINGS

**TEE
C X C X C**



| Part# | Nominal 1 x 2 x 3 | Approx Net Wt. | Ind # | List Price |
|--------|---------------------------|----------------|---------|------------|
| 77-467 | 1/8" | 0.02 | W 40306 | 9.16 |
| 77-468 | 1/4" | 0.03 | W 04000 | 9.69 |
| 77-470 | 3/8" | 0.05 | W 04001 | 7.77 |
| 77-473 | 1/2" | 0.08 | WB04006 | 2.57 |
| 77-481 | 5/8" | 0.12 | W 04017 | 14.02 |
| 77-483 | 3/4" | 0.18 | WB04031 | 5.92 |
| 77-490 | 1" | 0.35 | WB04048 | 18.04 |
| 77-504 | 1-1/4" | 0.58 | W 04068 | 22.92 |
| 77-519 | 1-1/2" | 0.72 | W 04084 | 37.00 |
| 77-543 | 2" | 1.35 | W 40102 | 58.84 |
| 77-489 | 3/4"x1/2"x1/2" | 0.15 | WB04043 | 7.47 |
| 77-488 | 3/4" x 1/2" x 3/4" | 0.19 | WB04041 | 8.07 |
| 77-486 | 3/4" x 3/4" x 1/2" | 0.15 | WB04033 | 5.85 |
| 77-485 | 3/4"x3/4"x1" | 0.25 | W 04065 | 21.28 |
| 77-501 | 1"x1/2"x1" | 0.34 | W 04061 | 25.20 |
| 77-499 | 1"x3/4"x3/4" | 0.31 | W 04056 | 25.25 |
| 77-498 | 1"x3/4"x1" | 0.38 | W 04055 | 19.76 |
| 77-496 | 1"x1"x1/2" | 0.24 | WB04051 | 20.23 |
| 77-493 | 1"x1"x3/4" | 0.29 | WB04049 | 16.62 |
| 77-518 | 1 -1/4" x 1/2" x 1-1/4" | 0.58 | W 04083 | 39.10 |
| 77-514 | 1 -1/4" x 3/4" x 1-1/4" | 0.63 | W 04078 | 33.96 |
| 77-508 | 1-1/4" x 1-1/4" x 3/4" | 0.39 | W 04070 | 24.20 |
| 77-507 | 1-1/4"x1-1/4"x1" | 0.47 | W 04069 | 24.20 |
| 77-506 | 1 -1/4" x1 -1/4" x 1-1/2" | 0.79 | W 40100 | 67.71 |
| 77-523 | 1 -1/2" x 1-1/2" x 3/4" | 0.51 | W 04087 | 30.69 |
| 77-522 | 1-1/2" x 1-1/2" x1" | 0.60 | W 04086 | 28.81 |
| 77-549 | 2"x2"x1/2" | 0.77 | W 40107 | 39.66 |
| 77-548 | 2" x 2" x 3/4" | 0.90 | W 40106 | 44.44 |
| 77-547 | 2"x2"x1" | 0.99 | W 40105 | 40.89 |

WT-600 611

DROP EAR ELBOWS



• Lead Free Bronze • Lead Free Brass

• Lead Free Brass

• Lead Free Bronze

| Part # | SWT x FIP | List Price |
|---------|------------------|------------|
| 44840LF | 1/2 x 1/2 Bronze | 5.67 |
| 44841LF | 1/2 x 1/2 Brass | 4.27 |
| 44842LF | 3/4 x 1/2 Brass | 6.23 |
| 44843LF | 3/4 x 3/4 Brass | 7.84 |

| Part # | SWT x SWT | List Price |
|---------|-----------|------------|
| 44844LF | 1/2 x 1/2 | 3.57 |

| Part # | Pex x FIP | List Price |
|---------|-----------|------------|
| 44845LF | 1/2 x 1/2 | 5.88 |

Everything is funny, as long as it's happening to somebody else. - Will Rogers

PLASTIC FITTINGS



SCH 80 PVC NIPPLES



Machined Schedule 80 PVC nipples comply fully with ASTM D2464, threads conform to ASTM F1498, and the pipe is extruded from PVC 1120-1220 meeting ASTM D1784 and meets ASTM D1785, products standard 21-70

SCH 40 PVC FITTINGS



- NSF 61 certified for use with drinking (potable) water
- Max Temperature: 140°F
- Max Pressure: Not Rated

Resistant to corrosion, strong and rigid - commonly used in low pressure plumbing applications. ASTM D1784 and D2466.

SCH 80 PVC FITTINGS



PVC Material is Type 1 according to the American Society for Testing Materials (ASTM) D-1784. Fittings conform to ASTM D-2464 & ASTM D-2467. Temperature rating is 140°F. PSI is based on water at 73°F. Derate 50% at 110°F and 78% at 140°F. Not recommended for use in compressed air or gas systems.

PIPE FITTINGS



- Nylon
- Polyethylene
- Polypropylene

HOSE BARB FITTINGS



- Nylon
- Polyethylene
- Polypropylene

GARDEN HOSE FITTINGS



- Nylon

NYLON & POLYPROPYLENE COMPRESSION FITTINGS



Machined Schedule 80 PVC nipples comply fully with ASTM D2464,

POLYPROPYLENE PUSH-IN TUBE FITTINGS AND VALVES



- NSF 61 certified for use with drinking (potable) water
- Max Temperature: 140°F
- Max Pressure: Not Rated

PLASTIC PIPE

PLASTIC FITTINGS

AVAILABLE IN THREE TYPES OF PLASTIC

(W) White Nylon

Made from virgin grade formulated to resist physical stress and abrasion. This material meets F.D.A. requirements of Code of Federal Regulation part 177.1500 and is therefore suitable for food contact surfaces.

Temperature Range: -40°F to 200° F

Working Pressure: 125 PSI maximum.

ELBOW



P

POLYPROPYLENE ELBOWS

| Part # | Size | List Price |
|---------|------|------------|
| 28-702P | 3/8" | 10.06 |
| 28-704P | 3/4" | 7.83 |



W

NYLON ELBOWS

| Part # | Size | List Price |
|---------|--------|------------|
| 28-701W | 1/4" | 8.49 |
| 28-703W | 1/2" | 7.32 |
| 28-704W | 3/4" | 7.91 |
| 28-705W | 1" | 14.03 |
| 28-706W | 1-1/4" | 16.08 |
| 28-707W | 1-1/2" | 18.29 |
| 28-708W | 2" | 24.97 |

TEE



P

POLYPROPYLENE TEES

| Part # | Size | List Price |
|---------|------|------------|
| 28-741P | 1/4" | 6.60 |
| 28-742P | 3/8" | 11.93 |
| 28-743P | 1/2" | 6.74 |
| 28-744P | 3/4" | 8.50 |

(B) Black Polyethylene

Made from a high molecular weight linear polyethylene formulated for chemical compatibility and high impact resistance at lower temperatures. Polyethylene is NSF approved for potable water.

Temperature Range: -65°F to 190°F

Working Pressure: 125 PSI maximum.



W

NYLON TEES

| Part # | Size | List Price |
|---------|--------|------------|
| 28-741W | 1/4" | 6.80 |
| 28-743W | 1/2" | 8.32 |
| 28-744W | 3/4" | 10.30 |
| 28-745W | 1" | 19.08 |
| 28-746W | 1-1/4" | 21.79 |
| 28-747W | 1-1/2" | 29.21 |
| 28-748W | 2" | 29.64 |

STREET ELBOW



P

POLYPROPYLENE STREET ELBOW

| Part # | Size | List Price |
|---------|------|------------|
| 28-819P | 1/8" | 3.71 |
| 28-723P | 1/2" | 5.57 |
| 28-820P | 2" | 17.79 |
| 28-821P | 3" | 143.62 |



W

NYLON STREET ELBOW

| Part # | Size | List Price |
|---------|--------|------------|
| 28-819W | 1/8" | 3.93 |
| 28-720W | 1/4" | 5.31 |
| 28-721W | 3/8" | 7.90 |
| 28-723W | 1/2" | 5.20 |
| 28-724W | 3/4" | 7.15 |
| 28-725W | 1" | 15.75 |
| 28-726W | 1-1/4" | 17.38 |
| 28-727W | 1-1/2" | 16.07 |
| 28-820W | 2" | 21.03 |

(P) Polypropylene

Made from the finest polypropylene resins. Polypropylene is used for its resistance to a wide range of chemicals. Working pressures decrease as temperatures increase.

- NSF-approved materials
- FDA-approved materials

Note: Do not use with compressed air or gas.

- 10% Fiberglass fill for extra strength

HEX HEAD PLUGS

- Cored



B

POLYETHYLENE PLUGS

| Part # | Size | List Price |
|---------|------|------------|
| 28-601B | 1/8" | 0.68 |
| 28-602B | 1/4" | 0.70 |
| 28-603B | 3/8" | 0.76 |
| 28-604B | 1/2" | 0.89 |
| 28-605B | 3/4" | 1.28 |



W

NYLON PLUGS

| Part # | Size | List Price |
|---------|--------|------------|
| 28-601W | 1/8" | 0.98 |
| 28-602W | 1/4" | 0.98 |
| 28-603W | 3/8" | 0.92 |
| 28-604W | 1/2" | 2.07 |
| 28-605W | 3/4" | 1.18 |
| 28-606W | 1" | 1.86 |
| 28-607W | 1-1/4" | 2.97 |
| 28-608W | 1-1/2" | 3.63 |
| 28-609W | 2" | 6.52 |

PLASTIC FITTINGS

PLASTIC PIPE

HEX BUSHING

P



POLYPROPYLENE BUSHINGS

| Part # | Size | List Price |
|---------|----------------|------------|
| 28-659P | 1/4 x 1/8" | 2.76 |
| 28-660P | 3/8 x 1/8" | 2.62 |
| 28-661P | 3/8 x 1/4" | 2.55 |
| 28-663P | 1/2 x 1/4" | 2.47 |
| 28-664P | 1/2 x 3/8" | 2.26 |
| 28-666P | 3/4 x 1/4" | 2.91 |
| 28-668P | 3/4 x 1/2" | 3.09 |
| 28-671P | 1 x 1/2" | 2.95 |
| 28-672P | 1 x 3/4" | 3.69 |
| 28-675P | 1-1/4" x 1" | 3.61 |
| 28-814P | 1-1/2" x 1/2" | 7.82 |
| 28-678P | 1-1/2 x 3/4" | 5.35 |
| 28-680P | 1-1/2 x 1-1/4" | 3.89 |

W



NYLON BUSHINGS

| Part # | Size | List Price |
|---------|----------------|------------|
| 28-659W | 1/4 x 1/8" | 2.46 |
| 28-661W | 3/8 x 1/4" | 2.45 |
| 28-663W | 1/2 x 1/4" | 2.02 |
| 28-664W | 1/2 x 3/8" | 2.53 |
| 28-666W | 3/4 x 1/4" | 1.98 |
| 28-667W | 3/4 x 3/8" | 2.69 |
| 28-668W | 3/4 x 1/2" | 2.13 |
| 28-671W | 1 x 1/2" | 3.22 |
| 28-672W | 1 x 3/4" | 2.42 |
| 28-674W | 1-1/4 x 3/4" | 6.05 |
| 28-675W | 1-1/4 x 1" | 6.57 |
| 28-678W | 1-1/2 x 3/4" | 6.41 |
| 28-679W | 1-1/2 x 1" | 6.22 |
| 28-680W | 1-1/2 x 1-1/4" | 5.35 |
| 28-815W | 2" x 1/2" | 12.11 |
| 28-682W | 2 x 3/4" | 13.80 |
| 28-683W | 2 x 1" | 11.90 |
| 28-685W | 2 x 1-1/2" | 6.34 |
| 28-818W | 3" x 2" | 16.30 |

HEX NIPPLES

B



POLYETHYLENE HEX NIPPLES

| Part # | Size | List Price |
|---------|------|------------|
| 28-611B | 1/8" | 0.85 |
| 28-612B | 1/4" | 0.80 |
| 28-613B | 3/8" | 0.80 |
| 28-614B | 1/2" | 1.11 |

P



POLYPROPYLENE HEX NIPPLES

| Part # | Size | List Price |
|---------|------|------------|
| 28-612P | 1/4" | 0.96 |
| 28-613P | 3/8" | 1.01 |
| 28-614P | 1/2" | 1.08 |
| 28-615P | 3/4" | 1.59 |

W



NYLON HEX NIPPLES

| Part # | Size | List Price |
|---------|---------|------------|
| 28-611W | 1/8" | 0.83 |
| 28-612W | 1/4" | 1.45 |
| 28-613W | 3/8" | 0.78 |
| 28-614W | 1/2" | 1.12 |
| 28-615W | 3/4" | 1.36 |
| 28-616W | 1" | 2.43 |
| 28-617W | 1 1/4 " | 5.30 |
| 28-618W | 1 1/2" | 5.24 |
| 28-619W | 2" | 7.48 |

REDUCER NIPPLES

B



POLYETHYLENE HEX NIPPLES

| Part # | Size | List Price |
|---------|------------|------------|
| 28-623B | 1/2 x 1/4" | 0.98 |
| 28-624B | 1/2 x 3/8" | 0.99 |
| 28-628B | 3/4 x 3/8" | 1.15 |
| 28-625B | 3/4 x 1/2" | 1.32 |

W



NYLON REDUCING HEX NIPPLES

| Part # | Size | List Price |
|---------|------------|------------|
| 28-620W | 1/4 x 1/8" | 1.19 |
| 28-621W | 3/8 x 1/8" | 1.01 |
| 28-622W | 3/8 x 1/4" | 1.04 |
| 28-623W | 1/2 x 1/4" | 1.22 |
| 28-624W | 1/2 x 3/8" | 1.12 |
| 28-628W | 3/4 x 3/8" | 1.00 |
| 28-625W | 3/4 x 1/2" | 1.37 |

P = Polypropylene
W = White Nylon
B = Black Polyethylene

PLASTIC PIPE/ HOSE BARB

PLASTIC FITTINGS

COUPLING



P

POLYETHYLENE COUPLINGS

| Part # | Size | List Price |
|---------|------|------------|
| 28-761P | 1/4" | 5.16 |
| 28-762P | 3/8" | 5.83 |
| 28-763P | 1/2" | 6.76 |
| 28-764P | 3/4" | 6.93 |



W

NYLON COUPLINGS

| Part # | Size | List Price |
|---------|--------|------------|
| 28-761W | 1/4" | 6.79 |
| 28-762W | 3/8" | 7.48 |
| 28-763W | 1/2" | 6.29 |
| 28-764W | 3/4" | 6.33 |
| 28-765W | 1" | 7.52 |
| 28-803W | 1-1/4" | 7.35 |
| 28-767W | 1-1/2" | 10.21 |
| 28-768W | 2" | 12.62 |

Forget yourself by becoming interested in others. Do every day a good deed that will put a smile of joy on someone's face.

-Dale Carnegie

PIPE CAP



W

NYLON CAPS

| Part # | Size | List Price |
|---------|------|------------|
| 28-640W | 1/4" | 0.90 |
| 28-641W | 3/8" | 1.17 |
| 28-642W | 1/2" | 1.19 |
| 28-643W | 3/4" | 1.14 |

PLASTIC BULKHEAD FITTINGS



P

20% Glass Filled Polypropylene
w/ Santoprene Gasket

NEW LOW COST

| Part # | Fpt | Hole | List Price |
|---------|--------|--------|------------|
| 28-693P | 1/2" | 1-3/8" | 16.32 |
| 28-694P | 3/4" | 1-3/8" | 12.96 |
| 28-695P | 1" | 1-3/4" | 16.56 |
| 28-696P | 1-1/4" | 2" | 17.82 |
| 28-697P | 1-1/2" | 3" | 25.14 |
| 28-698P | 2" | 3" | 25.68 |
| 28-699P | 3" | 4-1/2" | 127.96 |

P = Polypropylene

W = White Nylon

B = Black Polyethylene

MALE ADAPTERS



B

POLYETHYLENE BARB X MALE PIPE

| Part # | Size | List Price |
|---------|-------------|------------|
| 33-002B | 3/16 x 1/8" | 0.88 |
| 33-003B | 3/16 x 1/4" | 0.96 |
| 33-004B | 1/4 x 1/8" | 0.70 |
| 33-005B | 1/4 x 1/4" | 0.82 |
| 33-006B | 1/4 x 3/8" | 0.84 |
| 33-007B | 1/4 x 1/2" | 0.91 |
| 33-008B | 5/16 x 1/8" | 0.71 |
| 33-009B | 5/16 x 1/4" | 0.82 |
| 33-012B | 3/8 x 1/4" | 0.74 |
| 33-013B | 3/8 x 3/8" | 0.88 |
| 33-014B | 3/8 x 1/2" | 0.91 |
| 33-026B | 3/8 x 3/4" | 0.97 |
| 33-015B | 1/2 x 1/4" | 0.78 |
| 33-016B | 1/2 x 3/8" | 0.84 |
| 33-017B | 1/2 x 1/2" | 0.93 |
| 33-018B | 1/2 x 3/4" | 1.15 |
| 33-019B | 5/8 x 3/8" | 1.01 |
| 33-020B | 5/8 x 1/2" | 0.90 |
| 33-021B | 5/8 x 3/4" | 1.44 |
| 33-022B | 3/4 x 1/2" | 0.96 |
| 33-023B | 3/4 x 3/4" | 1.19 |
| 33-024B | 1 x 3/4" | 3.29 |
| 33-025B | 1 x 1" | 3.42 |



P

POLYPROPYLENE HOSE BARB
Hose ID x MIP

| Part # | Size | List Price |
|---------|------------|------------|
| 33-012P | 3/8 x 1/4" | 0.99 |
| 33-014P | 3/8 x 1/2" | 1.22 |
| 33-015P | 1/2 x 1/4" | 0.97 |
| 33-016P | 1/2 x 3/8" | 1.02 |
| 33-017P | 1/2 x 1/2" | 0.99 |
| 33-018P | 1/2 x 3/4" | 1.56 |
| 33-303P | 1/2" x 1" | 2.59 |
| 33-020P | 5/8 x 1/2" | 0.98 |
| 33-022P | 3/4 x 1/2" | 1.17 |
| 33-023P | 3/4 x 3/4" | 1.36 |
| 33-024P | 1 x 3/4" | 1.88 |
| 33-025P | 1 x 1" | 2.30 |
| 33-323P | 3" x 3" | 34.04 |

PLASTIC FITTINGS

PLASTIC BARBS

W



NYLON BARB MALE ADAPTERS Hose ID x MIP

| Part # | Size | List Price |
|---------|-----------------|------------|
| 33-002W | 3/16 x 1/8" | 0.89 |
| 33-003W | 3/16 x 1/4" | 0.98 |
| 33-004W | 1/4 x 1/8" | 0.91 |
| 33-005W | 1/4 x 1/4" | 0.82 |
| 33-006W | 1/4 x 3/8" | 1.09 |
| 33-007W | 1/4 x 1/2" | 1.16 |
| 33-380W | 1/4 x 3/4" | 1.33 |
| 33-008W | 5/16 x 1/8" | 0.90 |
| 33-009W | 5/16 x 1/4" | 0.93 |
| 33-010W | 5/16 x 3/8" | 0.97 |
| 33-011W | 3/8 X 1/8" | 0.93 |
| 33-012W | 3/8 x 1/4" | 1.39 |
| 33-013W | 3/8 x 3/8" | 1.05 |
| 33-014W | 3/8 x 1/2" | 1.13 |
| 33-026W | 3/8 x 3/4" | 1.31 |
| 33-015W | 1/2 x 1/4" | 0.89 |
| 33-016W | 1/2 x 3/8" | 0.97 |
| 33-017W | 1/2 x 1/2" | 0.99 |
| 33-018W | 1/2 x 3/4" | 1.53 |
| 33-303W | 1/2" x 1" | 1.96 |
| 33-019W | 5/8 x 3/8" | 0.85 |
| 33-020W | 5/8 x 1/2" | 1.30 |
| 33-021W | 5/8 x 3/4" | 1.48 |
| 33-329W | 5/8" x 1" | 2.82 |
| 33-306W | 3/4" x 3/8" | 1.50 |
| 33-022W | 3/4 x 1/2" | 1.41 |
| 33-023W | 3/4 x 3/4" | 1.41 |
| 33-000W | 3/4 x 1" | 1.84 |
| 33-318W | 3/4" x 1-1/4" | 3.10 |
| 33-319W | 3/4" x 1-1/2" | 6.20 |
| 33-307W | 1" x 1/2" | 2.55 |
| 33-024W | 1 x 3/4" | 1.86 |
| 33-025W | 1 x 1" | 2.05 |
| 33-029W | 1 x 1-1/4" | 3.99 |
| 33-320W | 1" x 1-1/2" | 6.20 |
| 33-349W | 1-1/4" x 3/4" | 4.45 |
| 33-028W | 1-1/4 x 1" | 3.22 |
| 33-030W | 1-1/4 x 1-1/4" | 3.60 |
| 33-032W | 1-1/4 x 1-1/2" | 3.35 |
| 33-321W | 1-1/2" x 1-1/4" | 4.10 |
| 33-033W | 1-1/2 x 1-1/2" | 4.09 |
| 33-322W | 2" x 1-1/2" | 18.04 |
| 33-035W | 2 x 2" | 7.59 |

ELBOWS

B



POLYETHYLENE ELBOWS Hose ID x MALE PIPE

| Part # | Size | List Price |
|---------|------------|------------|
| 33-308B | 3/16 x 1/8 | 1.32 |
| 33-038B | 1/4 x 1/8 | 1.34 |
| 33-039B | 1/4 x 1/4 | 1.28 |
| 33-309B | 1/4 x 3/8 | 0.97 |
| 33-046B | 3/8 x 1/8 | 1.28 |
| 33-041B | 3/8 x 1/4 | 1.53 |
| 33-042B | 3/8 x 3/8 | 2.52 |
| 33-047B | 3/8 x 1/2 | 1.70 |
| 33-043B | 1/2 x 3/8 | 1.61 |
| 33-311B | 1/2 x 1/2 | 1.44 |
| 33-385B | 1/2 x 3/4 | 3.28 |
| 33-044B | 5/8 x 3/8 | 1.94 |
| 33-045B | 5/8 x 1/2 | 2.28 |
| 33-312B | 5/8 x 3/4 | 2.61 |
| 33-313B | 3/4 x 1/2 | 2.38 |
| 33-314B | 3/4 x 3/4 | 3.36 |
| 33-316B | 1 x 1 | 3.38 |

P



POLYPROPYLENE BARB ELBOW

| Part # | Size | List Price |
|---------|---------------|------------|
| 33-048P | 1/2 x 1/4 | 1.63 |
| 33-311P | 1/2 x 1/2 | 1.72 |
| 33-385P | 1/2 x 3/4 | 2.59 |
| 33-313P | 3/4 x 1/2 | 2.01 |
| 33-314P | 3/4 x 3/4 | 2.35 |
| 33-316P | 1 x 1 | 2.84 |
| 33-334P | 1-1/4 x 1 | 6.75 |
| 33-461P | 1-1/4 x 1-1/4 | 4.96 |
| 33-463P | 1-1/2 x 1-1/2 | 7.50 |

W



NYLON BARB X MIP ELBOWS

| Part # | Size | List Price |
|---------|---------------|------------|
| 33-381W | 3/16 x 1/4 | 2.01 |
| 33-038W | 1/4 x 1/8 | 1.70 |
| 33-039W | 1/4 x 1/4 | 1.43 |
| 33-309W | 1/4 x 3/8 | 1.87 |
| 33-351W | 1/4 x 1/2 | 1.58 |
| 33-040W | 5/16 x 1/4 | 1.85 |
| 33-310W | 5/16 x 3/8 | 2.23 |
| 33-046W | 3/8 x 1/8 | 1.72 |
| 33-041W | 3/8 x 1/4 | 1.56 |
| 33-042W | 3/8 x 3/8 | 1.34 |
| 33-047W | 3/8 x 1/2 | 1.74 |
| 33-384W | 3/8 x 3/4 | 2.40 |
| 33-048W | 1/2 x 1/4 | 1.70 |
| 33-043W | 1/2 x 3/8 | 1.66 |
| 33-311W | 1/2 x 1/2 | 1.65 |
| 33-385W | 1/2 x 3/4 | 2.21 |
| 33-044W | 5/8 x 3/8 | 1.86 |
| 33-045W | 5/8 x 1/2 | 2.17 |
| 33-312W | 5/8 x 3/4 | 2.47 |
| 33-313W | 3/4 x 1/2 | 2.26 |
| 33-314W | 3/4 x 3/4 | 2.18 |
| 33-315W | 3/4 x 1 | 2.40 |
| 33-386W | 1x3/4 | 3.09 |
| 33-316W | 1 x 1 | 3.04 |
| 33-460W | 1 x 1-1/4 | 4.96 |
| 33-461W | 1-1/4 x 1-1/4 | 6.22 |
| 33-462W | 1-1/2 x 1-1/4 | 6.36 |
| 33-463W | 1-1/2 x 1-1/2 | 7.46 |
| 33-464W | 2 x 2 | 9.49 |

P = Polypropylene

W = White Nylon

B = Black Polyethylene

PLASTIC BARBS

HOSE BARB X FE ADAPTERS



B

POLYETHYLENE ADAPTER

Hose ID x FIP

| Part # | Size | List Price |
|---------|------------|------------|
| 33-053B | 1/4 x 1/4" | 5.57 |



W

NYLON ADAPTER Barb x FIP

| Part # | Size | List Price |
|---------|------------|------------|
| 33-052W | 1/4 x 1/8" | 3.73 |
| 33-053W | 1/4 x 1/4" | 5.71 |
| 33-058W | 3/8 x 1/4" | 1.92 |
| 33-059W | 3/8 x 3/8" | 4.41 |
| 33-060W | 3/8 x 1/2" | 6.22 |
| 33-442W | 3/8 x 3/4" | 4.67 |
| 33-066W | 1/2 x 1/4" | 3.63 |
| 33-061W | 1/2 x 1/2" | 3.79 |
| 33-067W | 1/2 x 3/4" | 4.26 |
| 33-068W | 5/8 x 1/2" | 3.51 |
| 33-063W | 5/8 x 3/4" | 6.04 |
| 33-064W | 3/4 x 1/2" | 5.04 |
| 33-065W | 3/4 x 3/4" | 6.10 |

HOSE BARB X FE ELBOW



W

NYLON ELBOW Hose ID x Female Pipe

| Part # | Size | List Price |
|---------|-----------|------------|
| 33-343W | 1/2 x 1/2 | 2.86 |
| 33-345W | 3/4 x 1/2 | 4.41 |
| 33-471W | 3/4 x 3/4 | 6.22 |

P = Polypropylene

W = White Nylon

B = Black Polyethylene

UNION ELBOWS



B

POLYETHYLENE ELBOW

| Part # | Size | List Price |
|---------|------|------------|
| 33-390B | 1/4 | 1.42 |
| 33-391B | 3/8 | 1.80 |
| 33-394B | 1/2 | 1.39 |
| 33-395B | 5/8 | 2.03 |
| 33-396B | 3/4 | 2.20 |



W

NYLON ELBOW

| Part # | Size | List Price |
|---------|-------|------------|
| 33-390W | 1/4 | 1.61 |
| 33-391W | 3/8 | 1.63 |
| 33-394W | 1/2 | 1.67 |
| 33-395W | 5/8 | 2.15 |
| 33-396W | 3/4 | 2.11 |
| 33-397W | 1 | 3.48 |
| 33-398W | 1-1/4 | 9.86 |
| 33-399W | 1-1/2 | 12.70 |
| 33-389W | 2 | 19.80 |

SPLICERS



B

POLYETHYLENE SPLICER

| Part # | Size | List Price |
|---------|------|------------|
| 33-091B | 1/8 | 0.70 |
| 33-092B | 3/16 | 0.84 |
| 33-093B | 1/4 | 0.72 |
| 33-095B | 3/8 | 0.82 |
| 33-096B | 1/2 | 0.78 |
| 33-097B | 5/8 | 0.97 |
| 33-098B | 3/4 | 2.46 |



POLYPROPYLENE SPLICER

| Part # | Size | List Price |
|---------|------|------------|
| 33-095P | 3/8 | 0.91 |
| 33-096P | 1/2 | 0.88 |
| 33-098P | 3/4 | 1.55 |
| 33-099P | 1 | 1.82 |

PLASTIC FITTINGS

SPLICERS



W

NYLON SPLICES

| Part # | Size | List Price |
|---------|-------|------------|
| 33-091W | 1/8 | 0.85 |
| 33-092W | 3/16 | 1.08 |
| 33-093W | 1/4 | 1.64 |
| 33-094W | 5/16 | 1.14 |
| 33-095W | 3/8 | 0.80 |
| 33-096W | 1/2 | 0.92 |
| 33-097W | 5/8 | 1.09 |
| 33-098W | 3/4 | 1.56 |
| 33-099W | 1 | 2.34 |
| 33-480W | 1-1/4 | 4.25 |
| 33-481W | 1-1/2 | 4.05 |
| 33-482W | 2 | 15.46 |

REDUCING SPLICERS



B

POLYETHYLENE SPLICES

| Part # | Size | List Price |
|---------|-----------|------------|
| 33-406B | 3/8 x 1/4 | 0.78 |
| 33-407B | 1/2 x 1/4 | 0.79 |
| 33-408B | 1/2 x 3/8 | 0.83 |
| 33-410B | 5/8 x 1/2 | 0.80 |



W

NYLON SPLICES

| Part # | Size | List Price |
|---------|------------|------------|
| 33-079W | 1/4 x 1/8 | 0.70 |
| 33-347W | 1/4 x 3/16 | 0.72 |
| 33-406W | 3/8 x 1/4 | 0.97 |
| 33-348W | 3/8 x 5/16 | 0.82 |
| 33-407W | 1/2 x 1/4 | 0.87 |
| 33-408W | 1/2 x 3/8 | 0.96 |
| 33-409W | 5/8 x 3/8 | 1.09 |
| 33-410W | 5/8 x 1/2 | 1.04 |
| 33-089W | 3/4 x 1/2 | 2.06 |

PLASTIC FITTINGS

PLASTIC BARBS

TEES BARBED ON ALL SIDES

B



POLYETHYLENE TEE

| Part # | Size | List Price |
|----------|------|------------|
| 33-415B | 1/8 | 1.32 |
| 33-418B* | 3/16 | 1.22 |
| 33-420B | 3/16 | 1.68 |
| 33-422B | 1/4 | 1.35 |
| 33-426B | 5/16 | 2.83 |
| 33-429B | 3/8 | 1.35 |
| 33-433B | 1/2 | 1.40 |
| 33-436B | 5/8 | 1.76 |
| 33-437B | 3/4 | 1.95 |
| 33-438B | 1 | 2.38 |

P



POLYPROPYLENE TEE

| Part # | Size | List Price |
|---------|-------|------------|
| 33-429P | 3/8 | 1.93 |
| 33-440P | 1-1/2 | 6.14 |

ALL HOSE BARB "Y"

P



POLYPROPYLENE WYE

| Part # | Size | List Price |
|----------|------|------------|
| 33-300P* | 1/4" | 7.29 |
| 33-301P* | 3/8" | 4.51 |
| 33-302P* | 1/2" | 8.25 |

**Natural Polypro*

W



NYLON WYE

| Part # | Size | List Price |
|---------|------|------------|
| 33-301W | 3/8" | 3.52 |

W



NYLON TEE

| Part # | Size | List Price |
|---------|-------|------------|
| 33-415W | 1/8 | 1.81 |
| 33-417W | 5/32 | 3.32 |
| 33-420W | 3/16 | 1.59 |
| 33-422W | 1/4 | 1.80 |
| 33-426W | 5/16 | 1.82 |
| 33-429W | 3/8 | 1.53 |
| 33-433W | 1/2 | 1.77 |
| 33-436W | 5/8 | 1.98 |
| 33-437W | 3/4 | 2.42 |
| 33-438W | 1 | 3.51 |
| 33-439W | 1-1/4 | 5.83 |
| 33-440W | 1-1/2 | 7.36 |
| 33-441W | 2 | 21.10 |

REDUCING TEES

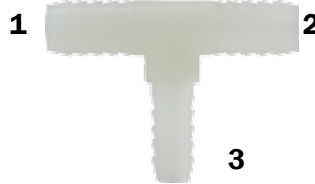
B



POLYETHYLENE TEE

| Part # | Size | List Price |
|---------|-----------------|------------|
| 33-423B | 3/8 x 3/8 x 1/4 | 1.55 |
| 33-430B | 1/2 x 1/2 x 3/8 | 1.73 |
| 33-432B | 3/8 x 3/8 x 1/2 | 2.02 |
| 33-434B | 1/2 x 5/8 x 1/2 | 1.96 |
| 33-435B | 3/4 x 3/4 x 1/2 | 2.01 |

W



NYLON TEE

| Part # | Size | List Price |
|---------|-----------------|------------|
| 33-430W | 1/2 x 1/2 x 3/8 | 2.06 |
| 33-431W | 5/8 x 5/8 x 3/8 | 1.84 |
| 33-432W | 3/8 x 3/8 x 1/2 | 2.30 |
| 33-435W | 3/4 x 3/4 x 1/2 | 2.69 |

MALE BRANCH TEE

W



NYLON BRANCH TEE

| Part # | Size | List Price |
|---------|-------------|------------|
| 33-448W | 1/4 x 1/4 | 1.79 |
| 33-450W | 3/8 x 1/4 | 2.04 |
| 33-451W | 3/8 x 3/8 | 2.85 |
| 33-453W | 1/2 x 1/4 | 2.71 |
| 33-454W | 1/2 x 3/8 | 1.87 |
| 33-455W | 1/2 x 1/2 | 1.71 |
| 33-458W | 5/8" x 3/4" | 2.38 |
| 33-456W | 3/4 x 3/4 | 2.52 |

Every house where love abides and friendship is a guest, is surely home, and home, sweet home, for there the heart can rest.

-Henry Van Dyke

PLASTIC GARDEN HOSE

PLASTIC FITTINGS

PLASTIC GARDEN HOSE FITTINGS

FITTINGS WITH GARDEN HOSE THREAD

GARDEN HOSE CAP

• Washer not included



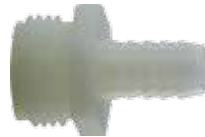
• White Nylon

P

| Part # | Size | List Price |
|---------|------|------------|
| 30-103P | 3/4" | 1.22 |

GARDEN HOSE THREAD ADAPTERS

BARB X MALE GARDEN HOSE



• White Nylon

| Part # | Size | List Price |
|--------|------|------------|
| 31-038 | 1/4" | 1.45 |
| 31-039 | 3/8" | 1.20 |
| 31-040 | 1/2" | 1.93 |
| 31-041 | 5/8" | 1.61 |
| 31-042 | 3/4" | 1.15 |

GARDEN HOSE ADAPTER INSERTS

• for assembly with 31-022



• White Nylon

| Part # | Size | List Price |
|--------|----------|------------|
| 31-030 | 1/4" | 0.63 |
| 31-031 | 3/8" | 0.49 |
| 31-032 | 1/2" | 0.98 |
| 31-033 | 5/8" | 0.94 |
| 31-034 | 3/4" | 0.87 |
| 31-035 | 1/2" MPT | 2.53 |

GARDEN HOSE NUT



• White Nylon

| Part # | Size | List Price |
|--------|----------|------------|
| 31-022 | 3/4" | 1.04 |
| 31-023 | 3/4" FIP | 1.15 |

MALE GARDEN HOSE X FEMALE PIPE



• White Nylon

| Part # | Size | List Price |
|--------|---------------|------------|
| 31-067 | MGH X 1/4 | 3.68 |
| 31-068 | MGH X 1/2 FIP | 4.37 |
| 31-069 | MGH X 3/4 | 2.95 |

FEMALE GARDEN HOSE X MALE PIPE



• White Nylon

| Part # | Size | List Price |
|--------|---------------|------------|
| 31-093 | FGH X 3/4 MPT | 4.28 |
| 31-095 | FGH X 3/4 MGH | 2.95 |

FEMALE GARDEN HOSE X FEMALE PIPE



• White Nylon

| Part # | Size | List Price |
|--------|---------------|------------|
| 31-096 | FGH X 1/2 FIP | 4.00 |
| 31-097 | FGH X 3/4 FIP | 6.63 |

MALE GARDEN HOSE X MALE PIPE



• White Nylon

| Part # | Size | List Price |
|--------|---------------|------------|
| 31-055 | GHT X 3/8 MPT | 1.21 |
| 31-058 | GHT X 1/2 MPT | 1.35 |
| 31-063 | GHT X 3/4 MPT | 1.58 |
| 31-064 | GHT X 1 MPT | 1.41 |

Be ever soft and pliable like a reed. Not hard and unbending like a cedar.

-The Talmud

PLASTIC FITTINGS

PLASTIC COMPRESSION

PLASTIC COMPRESSION FITTINGS

Corrosion resistant thermoresins designed to resist vibration, provide good electrical insulation, low flow resistance, and resistance to scale buildup.

The letter on the end of part no. denotes the type.

N = Nylon
P = Polypropylene

Standard nut and sleeves will be provided (sleeve is integral part of nut). Other sizes available upon request.

FDA and NSF Listed

UNION & REDUCING UNION CONNECTORS



| Part # | Size | List Price |
|---------|-------------|------------|
| 17-064P | 1/4" | 4.16 |
| 17-066P | 3/8" | 8.75 |
| 17-079P | 3/8" x 1/4" | 5.47 |
| 17-068P | 1/2" | 7.48 |
| 17-081P | 1/2" x 3/8" | 9.76 |



• Nylon

| Part # | Size | List Price |
|---------|--------------|------------|
| 17-064N | 1/4" | 3.91 |
| 17-065N | 5/16" | 4.20 |
| 17-078N | 5/16" x 1/4" | 4.41 |
| 17-066N | 3/8" | 6.40 |
| 17-079N | 3/8" x 1/4" | 7.77 |
| 17-068N | 1/2" | 9.62 |

BULKHEAD UNIONS



• Nylon

| Part # | Size | List Price |
|---------|------|------------|
| 17-088N | 1/4" | 6.51 |
| 17-090N | 3/8" | 9.04 |
| 17-091N | 1/2" | 9.19 |

UNION TEES



• Nylon

| Part # | Size | List Price |
|---------|------|------------|
| 17-103N | 1/4" | 6.97 |
| 17-105N | 3/8" | 13.65 |
| 17-106N | 1/2" | 12.50 |

UNION ELBOWS



• P

| Part # | Size | List Price |
|---------|------|------------|
| 17-124P | 1/4" | 4.70 |
| 17-126P | 3/8" | 6.87 |
| 17-127P | 1/2" | 9.87 |



• Nylon

| Part # | Size | List Price |
|---------|------|------------|
| 17-124N | 1/4" | 7.38 |
| 17-126N | 3/8" | 6.82 |

FEMALE CONNECTORS



• P

| Part # | Size | List Price |
|---------|-----------|------------|
| 17-145P | 1/4 x 1/8 | 3.45 |
| 17-153P | 3/8 x 1/4 | 6.00 |
| 17-154P | 3/8 x 3/8 | 5.76 |
| 17-158P | 1/2 x 3/8 | 6.31 |
| 17-159P | 1/2 x 1/2 | 5.43 |



• Nylon

| Part # | Size | List Price |
|---------|-----------|------------|
| 17-146N | 1/4 x 1/4 | 3.54 |
| 17-153N | 3/8 x 1/4 | 3.84 |
| 17-154N | 3/8 x 3/8 | 5.76 |

MALE CONNECTORS



• P

| Part # | Size | List Price |
|---------|-----------|------------|
| 17-179P | 1/4 x 1/8 | 3.60 |
| 17-180P | 1/4 x 1/4 | 3.78 |
| 17-188P | 3/8 x 1/4 | 4.04 |
| 17-189P | 3/8 x 3/8 | 4.21 |
| 17-190P | 3/8 x 1/2 | 5.55 |
| 17-193P | 1/2 x 1/4 | 8.79 |
| 17-194P | 1/2 x 3/8 | 6.06 |
| 17-195P | 1/2 x 1/2 | 8.37 |



• Nylon

| Part # | Size | List Price |
|---------|-----------|------------|
| 17-179N | 1/4 x 1/8 | 2.79 |
| 17-180N | 1/4 x 1/4 | 2.91 |
| 17-188N | 3/8 x 1/4 | 4.67 |
| 17-189N | 3/8 x 3/8 | 4.13 |
| 17-190N | 3/8 x 1/2 | 5.79 |
| 17-193N | 1/2 x 1/4 | 5.57 |
| 17-194N | 1/2 x 3/8 | 4.86 |
| 17-195N | 1/2 x 1/2 | 5.91 |

MALE ELBOWS



• P

| Part # | Size | List Price |
|---------|-----------|------------|
| 17-225P | 1/4 x 1/4 | 4.80 |
| 17-233P | 3/8 x 1/4 | 7.21 |
| 17-234P | 3/8 x 3/8 | 5.77 |
| 17-237P | 1/2 x 3/8 | 6.36 |
| 17-238P | 1/2 x 1/2 | 8.88 |



• Nylon

| Part # | Size | List Price |
|---------|-----------|------------|
| 17-224N | 1/4 x 1/8 | 4.77 |
| 17-225N | 1/4 x 1/4 | 5.15 |
| 17-233N | 3/8 x 1/4 | 6.44 |
| 17-234N | 3/8 x 3/8 | 8.61 |
| 17-237N | 1/2 x 3/8 | 5.49 |
| 17-238N | 1/2 x 1/2 | 6.00 |

PLASTIC PUSH-IN

PLASTIC FITTINGS

PLASTIC PUSH-IN TUBE FITTINGS

Manufactured from safe, non-toxic materials meeting the requirements of the US FDA, WRAS, ANSI/NSF-51, 61, and SK Zert. Our products are widely used in water purification, food/beverage and pneumatic systems.

- **Function & Quality :** provides quick and convenient assembly - saving time & expense. Our ISO9001, 14001 registered quality system ensures our customers a superior level of product quality. Defects are easily detectable and maintenance is easy with its easy dismantling for access.
- **Collet Design :** Unique oval collet design is superior and more practical.
- **Applications :** Beyond water and food use, fittings can be used with air, gases, vacuum, & liquids. And all connections can be assembled & disassembled repeatedly.
- **Material :** Grey Acetal Copolymer, also known as POM. Highly durable and resistant to fatigue and creep. It has high resistance to a wide range of organic & inorganic chemicals and detergents. Not recommended for use with strong acids or repeated exposure to strong oxidizers. (polypropylene may be subbed)

| SIZE | Small Size | | | | | | Large Size | | | | |
|-----------------|----------------|-------|------|-------|------|------|----------------|------|----------------|------|--|
| | 5/32" | 3/16" | 1/4" | 5/16" | 3/8" | 1/2" | 5/8" | 7/8" | 28mm | | |
| Temperature | 4mm | 5mm | 6mm | 8mm | 10mm | 12mm | 15mm | 16mm | 18mm | 22mm | |
| 1°C (34°F) | 16bar (230PSI) | | | | | | 11bar (170PSI) | | 11bar (170PSI) | | |
| 20°C (68°F) | 16bar (230PSI) | | | | | | 11bar (170PSI) | | 11bar (170PSI) | | |
| 65°C (150°F) | 10bar (150PSI) | | | | | | 7bar (100PSI) | | 7bar (100PSI) | | |

- Fittings are not recommended for use with liquids other than water and food or beverage products.
- Do not use pipe dope or other liquid thread sealers. Use only Teflon tape to seal threaded connections.
- After assembling a tube connection, tug with moderate force to check for proper gripping of the tube.
- Before disassembling tube connections, always verify that pressure has been removed from the system.

UNION CONNECTOR



| Part # | Tube OD | List Price |
|---------|---------|------------|
| 20-018P | 5/32" | 4.31 |
| 20-702P | 3/16" | 4.20 |
| 20-019P | 1/4" | 4.16 |
| 20-703P | 5/16" | 5.40 |
| 20-020P | 3/8" | 5.76 |
| 20-021P | 1/2" | 6.96 |

UNION TEE



| Part # | Tube OD | List Price |
|---------|---------|------------|
| 20-028P | 1/4" | 6.36 |
| 20-031P | 5/16" | 6.57 |
| 20-029P | 3/8" | 7.38 |
| 20-030P | 1/2" | 9.11 |

REDUCING ELBOW



| Part # | Tube OD | Tube OD | List Price |
|---------|---------|---------|------------|
| 20-732P | 5/16" | 1/4" | 8.31 |
| 20-733P | 3/8" | 3/16" | 5.69 |
| 20-734P | 3/8" | 1/4" | 8.68 |
| 20-736P | 1/2" | 3/8" | 12.42 |

REDUCING UNION



| Part # | Tube OD | Tube OD | List Price |
|---------|---------|---------|------------|
| 20-750P | 1/4" | 3/16" | 7.86 |
| 20-753P | 5/16" | 1/4" | 7.89 |
| 20-754P | 3/8" | 3/16" | 11.55 |
| 20-755P | 3/8" | 1/4" | 7.28 |
| 20-756P | 3/8" | 5/16" | 9.83 |
| 20-758P | 1/2" | 3/8" | 8.81 |

REDUCING BRANCH TEE



| Part # | Tube OD | Tube OD | List Price |
|---------|---------|---------|------------|
| 20-725P | 3/8" | 1/4" | 12.98 |
| 20-724P | 1/2" | 3/8" | 15.60 |

FEMALE CONNECTOR



| Part # | Tube OD | Thread NPTF | List Price |
|---------|---------|-------------|------------|
| 20-993P | 1/4" | 1/8" | 8.07 |
| 20-035P | 1/4" | 1/4" | 6.99 |
| 20-944P | 3/8" | 1/8" | 9.22 |
| 20-036P | 3/8" | 1/4" | 9.01 |

UNION ELBOW



| Part # | Tube OD | List Price |
|---------|---------|------------|
| 20-152P | 1/4" | 5.32 |
| 20-155P | 5/16" | 6.84 |
| 20-153P | 3/8" | 8.75 |
| 20-154P | 1/2" | 9.67 |

BULKHEAD UNION



| Part # | Tube OD | List Price |
|---------|---------|------------|
| 20-127P | 1/4" | 8.89 |
| 20-128P | 3/8" | 10.70 |
| 20-129P | 1/2" | 16.12 |

PLASTIC FITTINGS

PLASTIC PUSH-IN

MALE CONNECTOR



| Part # | Tube OD | Thread NPTF | List Price |
|---------|---------|-------------|------------|
| 20-050P | 5/32" | 1/8" | 3.53 |
| 20-054P | 1/4" | 1/8" | 3.50 |
| 20-055P | 1/4" | 1/4" | 3.64 |
| 20-056P | 1/4" | 3/8" | 5.05 |
| 20-531P | 5/16" | 1/4" | 4.58 |
| 20-532P | 5/16" | 3/8" | 5.77 |
| 20-057P | 3/8" | 1/8" | 6.90 |
| 20-058P | 3/8" | 1/4" | 5.06 |
| 20-059P | 3/8" | 3/8" | 5.15 |
| 20-062P | 3/8" | 1/2" | 9.78 |
| 20-061P | 1/2" | 3/8" | 7.49 |
| 20-063P | 1/2" | 1/2" | 8.76 |

STEM ADAPTER



| Part # | Tube OD | Thread NPTF | List Price |
|---------|---------|-------------|------------|
| 20-524P | 1/4" | 1/8" | 1.87 |
| 20-525P | 1/4" | 1/4" | 1.88 |
| 20-528P | 3/8" | 1/4" | 2.26 |
| 20-529P | 3/8" | 3/8" | 2.82 |

REDUCER



| Part # | Tube OD | Tube OD | List Price |
|---------|---------|---------|------------|
| 20-512P | 3/8" | 1/4" | 8.01 |
| 20-763P | 3/8" | 5/16" | 7.21 |
| 20-514P | 1/2" | 3/8" | 11.86 |

FIXED ELBOW



| Part # | Tube OD | Thread NPTF | List Price |
|---------|---------|-------------|------------|
| 20-068P | 1/4" | 1/8" | 5.02 |
| 20-069P | 1/4" | 1/4" | 5.33 |
| 20-070P | 1/4" | 3/8" | 6.05 |
| 20-072P | 3/8" | 1/4" | 6.92 |
| 20-073P | 3/8" | 3/8" | 9.39 |

PLUG-IN ELBOW



| Part # | Tube OD | Tube OD | List Price |
|---------|---------|---------|------------|
| 20-740P | 5/32" | 5/32" | 5.23 |
| 20-742P | 1/4" | 1/4" | 7.13 |
| 20-743P | 5/16" | 5/16" | 8.99 |
| 20-745P | 3/8" | 1/4" | 8.33 |
| 20-747P | 3/8" | 3/8" | 10.21 |
| 20-748P | 1/2" | 1/2" | 11.98 |

2-WAY DIVIDER



| Part # | Tube OD | List Price |
|---------|---------|------------|
| 20-776P | 5/16" | 11.28 |
| 20-777P | 3/8" | 9.88 |

PLUG



| Part # | Tube OD | List Price |
|---------|---------|------------|
| 20-876P | 5/32" | 1.37 |
| 20-878P | 1/4" | 1.44 |
| 20-880P | 3/8" | 2.33 |
| 20-881P | 1/2" | 3.68 |

TUBE END STOP



| Part # | Tube OD | List Price |
|---------|---------|------------|
| 20-925P | 1/4" | 3.88 |
| 20-927P | 3/8" | 5.00 |

PL X PL



| Part # | Tube OD | List Price |
|---------|---------|------------|
| 20-900P | 1/4" | 15.47 |
| 20-901P | 3/8" | 16.69 |

PL X MALE NPTF



| Part # | Tube OD | Thread NPTF | List Price |
|---------|---------|-------------|------------|
| 20-904P | 1/4" | 1/4" | 13.77 |
| 20-905P | 3/8" | 3/8" | 17.72 |

CHECK VALVE



| Part # | Tube OD | List Price |
|---------|---------|------------|
| 20-779P | 3/8" | 55.78 |



See Polyethylene Tubing on pages 332

HOSE ACCESSORIES



CAM AND GROOVE



ALUMINIUM



POLYPROPLYENE



STAINLESS STEEL



BRASS

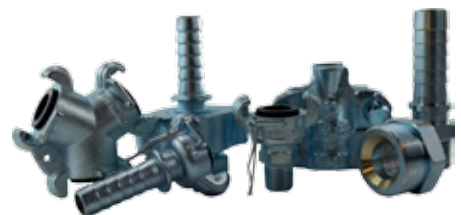
COMBINATION HOSE NIPPLES



FIRE HOSE FITTINGS



UNIVERSAL/ GROUND JOINT COUPLINGS



ALUMINUM

SEE PAGES 332 FOR JUMP SIZES IN ALUMINUM

MALE ADAPTER X FEMALE NPT

TYPE A



| Part# | Size | List Price |
|--------|--------|------------|
| 61-911 | 3/4" | 5.09 |
| 61-912 | 1" | 5.81 |
| 61-913 | 1-1/4" | 8.00 |
| 61-914 | 1-1/2" | 6.62 |
| 61-915 | 2" | 7.80 |
| 61-916 | 2-1/2" | 14.91 |
| 61-917 | 3" | 14.33 |
| 61-918 | 4" | 23.62 |
| 61-919 | 5" | 57.74 |
| 61-920 | 6" | 62.18 |
| 61-910 | 8" | 368.14 |

MALE ADAPTER X HOSE SHANK

TYPE E



| Part# | Size | List Price |
|--------|--------|------------|
| 61-951 | 3/4" | 5.64 |
| 61-952 | 1" | 6.61 |
| 61-953 | 1-1/4" | 9.35 |
| 61-954 | 1-1/2" | 7.17 |
| 61-955 | 2" | 9.37 |
| 61-956 | 2-1/2" | 17.25 |
| 61-957 | 3" | 19.15 |
| 61-958 | 4" | 31.81 |
| 61-959 | 5" | 144.95 |
| 61-905 | 6" | 140.62 |
| 61-906 | 8" | 411.83 |

FEMALE COUPLER X MALE NPT

TYPE B



| Part# | Size | List Price |
|--------|--------|------------|
| 61-921 | 3/4" | 11.03 |
| 61-922 | 1" | 13.15 |
| 61-923 | 1-1/4" | 16.51 |
| 61-924 | 1-1/2" | 15.52 |
| 61-925 | 2" | 17.54 |
| 61-926 | 2-1/2" | 44.23 |
| 61-927 | 3" | 30.47 |
| 61-928 | 4" | 38.34 |
| 61-929 | 5" | 100.88 |

MALE ADAPTER X MALE NPT

TYPE F



| Part# | Size | List Price |
|--------|--------|------------|
| 61-961 | 3/4" | 6.31 |
| 61-962 | 1" | 6.72 |
| 61-963 | 1-1/4" | 11.04 |
| 61-964 | 1-1/2" | 8.34 |
| 61-965 | 2" | 9.88 |
| 61-966 | 2-1/2" | 18.87 |
| 61-967 | 3" | 20.65 |
| 61-968 | 4" | 29.64 |
| 61-970 | 5" | 75.78 |
| 61-969 | 6" | 135.56 |
| 61-999 | 8" | 515.31 |

FEMALE COUPLER X HOSE SHANK

TYPE C



| Part# | Size | List Price |
|--------|--------|------------|
| 61-931 | 3/4" | 9.66 |
| 61-932 | 1" | 11.49 |
| 61-933 | 1-1/4" | 17.09 |
| 61-934 | 1-1/2" | 15.39 |
| 61-935 | 2" | 18.02 |
| 61-936 | 2-1/2" | 27.81 |
| 61-937 | 3" | 32.17 |
| 61-938 | 4" | 47.21 |
| 61-939 | 5" | 108.06 |
| 61-940 | 6" | 194.88 |
| 61-907 | 8" | 31.03 |

**DUST CAP
TYPE DC**



| Part# | Size | List Price |
|--------|--------|------------|
| 61-971 | 3/4" | 10.62 |
| 61-972 | 1" | 11.20 |
| 61-973 | 1-1/4" | 18.25 |
| 61-974 | 1-1/2" | 13.95 |
| 61-975 | 2" | 16.13 |
| 61-976 | 2-1/2" | 23.96 |
| 61-977 | 3" | 26.79 |
| 61-978 | 4" | 33.82 |
| 61-980 | 5" | 74.49 |
| 61-979 | 6" | 110.92 |
| 61-998 | 8" | 460.99 |

FEMALE COUPLER X FEMALE NPT

TYPE D



| Part# | Size | List Price |
|--------|--------|------------|
| 61-941 | 3/4" | 11.52 |
| 61-942 | 1" | 13.15 |
| 61-943 | 1-1/4" | 17.97 |
| 61-944 | 1-1/2" | 16.33 |
| 61-945 | 2" | 19.22 |
| 61-946 | 2-1/2" | 32.95 |
| 61-947 | 3" | 31.03 |
| 61-948 | 4" | 44.66 |
| 61-950 | 5" | 144.95 |
| 61-949 | 6" | 187.61 |
| 61-904 | 8" | 685.49 |

**DUST PLUG
TYPE DP**



| Part# | Size | List Price |
|--------|--------|------------|
| 61-981 | 3/4" | 5.26 |
| 61-982 | 1" | 5.63 |
| 61-983 | 1-1/4" | 6.57 |
| 61-984 | 1-1/2" | 5.61 |
| 61-985 | 2" | 6.58 |
| 61-986 | 2-1/2" | 13.52 |
| 61-987 | 3" | 12.79 |
| 61-988 | 4" | 20.49 |
| 61-909 | 5" | 73.19 |
| 61-908 | 6" | 83.26 |

ALUMINUM JUMP SIZES

MALE ADAPTER X MALE ADAPTER

ALUMINUM
SPOOL ADAPTER

| Part# | Size | List Price |
|--------|---------|------------|
| 61-872 | 1" | 8.97 |
| 61-873 | 1-1/2" | 15.82 |
| 61-874 | 2" | 20.63 |
| 61-875 | 2" x 3" | 25.46 |
| 61-876 | 2-1/2" | 60.47 |
| 61-877 | 3" | 38.90 |
| 61-878 | 3" x 4" | 47.17 |
| 61-879 | 4" | 55.76 |

FEMALE COUPLER X FEMALE COUPLER

ALUMINUM
TYPE DD

| Part# | Size | List Price |
|---------|--------|------------|
| 619-440 | 1-1/2" | 108.44 |
| 619-450 | 2" | 40.86 |
| 619-470 | 3" | 68.03 |
| 619-480 | 4" | 91.67 |

FEMALE COUPLER X MALE ADAPTER

ALUMINUM
TYPE DA

| Part# | Size | List Price |
|---------|-------------|------------|
| 619-001 | 1-1/2" x 1" | 110.10 |
| 619-002 | 1-1/2" x 2" | 112.85 |
| 619-003 | 2" x 1-1/2" | 96.33 |
| 619-004 | 2" x 3" | 41.47 |
| 619-005 | 2" x 4" | 54.76 |
| 619-006 | 3" x 1-1/2" | 134.38 |
| 619-007 | 3" x 2" | 47.87 |
| 619-008 | 3" x 4" | 68.00 |
| 619-009 | 4" x 2" | 61.56 |
| 619-010 | 4" x 3" | 64.09 |
| 619-011 | 4" x 6" | 287.84 |
| 619-012 | 6" x 4" | 129.04 |

MALE ADAPTER X FEMALE NPT

ALUMINUM
JUMP SIZE A

| Part# | Size | List Price |
|--------|---------|------------|
| 61-851 | 2" x 3" | 29.79 |
| 61-853 | 3" x 4" | 52.03 |
| 61-854 | 4" x 3" | 49.70 |

FEMALE COUPLER X MALE NPT

ALUMINUM
JUMP SIZE B

| Part# | Size | List Price |
|--------|---------|------------|
| 61-859 | 3" x 2" | 45.60 |
| 61-860 | 3" x 4" | 77.63 |
| 61-861 | 4" x 3" | 78.61 |

FEMALE COUPLER X FEMALE NPT

ALUMINUM
JUMP SIZE D

| Part# | Size | List Price |
|--------|---------|------------|
| 61-867 | 3" x 2" | 47.26 |
| 61-868 | 4" x 3" | 74.20 |

MALE ADAPTER X MALE NPT

ALUMINUM
JUMP SIZE F

| Part# | Size | List Price |
|--------|---------|------------|
| 61-870 | 3" x 2" | 36.43 |
| 61-871 | 3" x 4" | 58.42 |

TYPE A MALE COUPLER X FIP

TYPE B FEMALE COUPLER X MIP

TYPE C FEMALE COUPLER X HOSE SHANK

TYPE D FEMALE COUPLER X FIP

TYPE E MALE COUPLER X HOSE SHANK

TYPE F MALE COUPLER X MIP

TYPE DC DUST CAP

TYPE DP DUST PLUG

POLYPROPYLENE

MALE ADAPTER X FEMALE NPT

TYPE A



| Part# | Size | List Price |
|--------|--------|------------|
| 35-910 | 1/2" | 7.57 |
| 35-911 | 3/4" | 2.50 |
| 35-912 | 1" | 2.67 |
| 35-913 | 1-1/4" | 4.00 |
| 35-914 | 1-1/2" | 4.33 |
| 35-915 | 2" | 5.33 |

FEMALE COUPLER X MALE NPT

TYPE B



| Part# | Size | List Price |
|--------|--------|------------|
| 35-920 | 1/2" | 26.97 |
| 35-921 | 3/4" | 7.98 |
| 35-922 | 1" | 9.17 |
| 35-923 | 1-1/4" | 13.40 |
| 35-924 | 1-1/2" | 15.33 |
| 35-925 | 2" | 17.17 |
| 35-927 | 3" | 23.70 |

FEMALE COUPLER X HOSE SHANK

TYPE C



| Part# | Size | List Price |
|--------|--------|------------|
| 35-930 | 1/2" | 25.85 |
| 35-931 | 3/4" | 7.67 |
| 35-932 | 1" | 9.33 |
| 35-933 | 1-1/4" | 13.40 |
| 35-934 | 1-1/2" | 15.63 |
| 35-935 | 2" | 17.80 |
| 35-937 | 3" | 24.90 |

FEMALE COUPLER X FEMALE NPT

TYPE D



| Part# | Size | List Price |
|--------|--------|------------|
| 35-940 | 1/2" | 20.94 |
| 35-941 | 3/4" | 9.10 |
| 35-942 | 1" | 10.00 |
| 35-943 | 1-1/4" | 14.93 |
| 35-944 | 1-1/2" | 15.73 |
| 35-945 | 2" | 18.33 |
| 35-947 | 3" | 25.10 |

MALE ADAPTER X HOSE SHANK

TYPE E



| Part# | Size | List Price |
|--------|--------|------------|
| 35-950 | 1/2" | 11.29 |
| 35-951 | 3/4" | 1.80 |
| 35-952 | 1" | 2.23 |
| 35-953 | 1-1/4" | 3.33 |
| 35-954 | 1-1/2" | 4.33 |
| 35-955 | 2" | 5.93 |
| 35-957 | 3" | 9.70 |

MALE ADAPTER X MALE NPT

TYPE F



| Part# | Size | List Price |
|--------|--------|------------|
| 35-960 | 1/2" | 12.06 |
| 35-961 | 3/4" | 1.93 |
| 35-962 | 1" | 3.13 |
| 35-963 | 1-1/4" | 3.33 |
| 35-964 | 1-1/2" | 4.33 |
| 35-965 | 2" | 5.93 |
| 35-967 | 3" | 11.93 |

**DUST CAP
TYPE DC**



| Part# | Size | List Price |
|--------|--------|------------|
| 35-970 | 1/2" | 25.45 |
| 35-971 | 3/4" | 7.00 |
| 35-972 | 1" | 8.90 |
| 35-973 | 1-1/4" | 13.27 |
| 35-974 | 1-1/2" | 14.57 |
| 35-975 | 2" | 15.83 |
| 35-977 | 3" | 21.20 |

**DUST PLUG
TYPE DP**



| Part# | Size | List Price |
|--------|--------|------------|
| 35-980 | 1/2" | 11.78 |
| 35-981 | 3/4" | 1.63 |
| 35-982 | 1" | 1.53 |
| 35-983 | 1-1/4" | 3.27 |
| 35-984 | 1-1/2" | 3.50 |
| 35-985 | 2" | 4.83 |
| 35-987 | 3" | 6.50 |

CAM & GROOVE

HOSE ACCESSORIES

316 STAINLESS STEEL

FEMALE ADAPTER X FEMALE NPT

TYPE A



| Part# | Size | List Price |
|--------|--------|------------|
| 63-911 | 3/4" | 16.83 |
| 63-912 | 1" | 16.48 |
| 63-913 | 1-1/4" | 25.79 |
| 63-914 | 1-1/2" | 27.51 |
| 63-915 | 2" | 33.18 |
| 63-916 | 2-1/2" | 111.90 |
| 63-917 | 3" | 69.43 |
| 63-918 | 4" | 122.59 |
| 63-919 | 5" | 344.92 |

FEMALE COUPLER X MALE NPT

TYPE B



| Part# | Size | List Price |
|--------|--------|------------|
| 63-921 | 3/4" | 27.86 |
| 63-922 | 1" | 28.52 |
| 63-923 | 1-1/4" | 75.25 |
| 63-924 | 1-1/2" | 46.15 |
| 63-925 | 2" | 58.07 |
| 63-926 | 2-1/2" | 66.57 |
| 63-927 | 3" | 96.89 |
| 63-928 | 4" | 142.12 |
| 63-929 | 5" | 417.93 |

FEMALE COUPLER X HOSE SHANK

TYPE C



| Part# | Size | List Price |
|--------|--------|------------|
| 63-931 | 3/4" | 26.93 |
| 63-932 | 1" | 26.13 |
| 63-933 | 1-1/4" | 44.61 |
| 63-934 | 1-1/2" | 44.12 |
| 63-935 | 2" | 56.39 |
| 63-936 | 2-1/2" | 155.58 |
| 63-937 | 3" | 106.41 |
| 63-938 | 4" | 297.53 |
| 63-939 | 5" | 545.51 |

FEMALE COUPLER X FEMALE NPT

TYPE D



| Part# | Size | List Price |
|--------|--------|------------|
| 63-941 | 3/4" | 27.77 |
| 63-942 | 1" | 27.77 |
| 63-943 | 1-1/4" | 46.87 |
| 63-944 | 1-1/2" | 48.47 |
| 63-945 | 2" | 58.12 |
| 63-946 | 2-1/2" | 165.52 |
| 63-947 | 3" | 111.15 |
| 63-948 | 4" | 154.13 |
| 63-949 | 5" | 599.39 |
| 63-950 | 6" | 729.36 |

MALE ADAPTER X HOSE SHANK

TYPE E



| Part# | Size | List Price |
|--------|--------|------------|
| 63-951 | 3/4" | 14.83 |
| 63-952 | 1" | 19.89 |
| 63-953 | 1-1/4" | 52.03 |
| 63-954 | 1-1/2" | 32.12 |
| 63-955 | 2" | 44.69 |
| 63-956 | 2-1/2" | 135.55 |
| 63-957 | 3" | 97.69 |
| 63-958 | 4" | 142.65 |
| 63-959 | 5" | 431.02 |

MALE ADAPTER X MALE NPT

TYPE F



| Part# | Size | List Price |
|--------|--------|------------|
| 63-961 | 3/4" | 20.64 |
| 63-962 | 1" | 22.64 |
| 63-963 | 1-1/4" | 36.50 |
| 63-964 | 1-1/2" | 39.64 |
| 63-965 | 2" | 47.66 |
| 63-966 | 2-1/2" | 134.95 |
| 63-967 | 3" | 99.28 |
| 63-968 | 4" | 141.59 |
| 63-969 | 5" | 439.90 |
| 63-999 | 6" | 608.32 |

DUST CAP

TYPE DC



| Part# | Size | List Price |
|--------|--------|------------|
| 63-971 | 3/4" | 25.21 |
| 63-972 | 1" | 25.51 |
| 63-973 | 1-1/4" | 59.85 |
| 63-974 | 1-1/2" | 42.84 |
| 63-975 | 2" | 50.42 |
| 63-976 | 2-1/2" | 118.85 |
| 63-977 | 3" | 82.94 |
| 63-978 | 4" | 111.69 |
| 63-979 | 5" | 375.86 |
| 63-980 | 6" | 472.96 |

DUST PLUG


TYPE DP




| Part# | Size | List Price |
|--------|--------|------------|
| 63-981 | 3/4" | 14.05 |
| 63-982 | 1" | 16.70 |
| 63-983 | 1-1/4" | 34.80 |
| 63-984 | 1-1/2" | 25.83 |
| 63-985 | 2" | 29.73 |
| 63-986 | 2-1/2" | 91.85 |
| 63-987 | 3" | 64.54 |
| 63-988 | 4" | 76.95 |
| 63-989 | 6" | 474.55 |

BRASS


MALE ADAPTER X FEMALE NPT

| TYPE A | Part# | Size | List Price |
|--------|---|--------|------------|
| |  | 44-911 | 3/4" |
| | 44-912 | 1" | 13.05 |
| | 44-913 | 1-1/4" | 18.90 |
| | 44-914 | 1-1/2" | 21.40 |
| | 44-915 | 2" | 26.06 |
| | 44-916 | 2-1/2" | 47.57 |
| | 44-917 | 3" | 63.13 |
| | 44-918 | 4" | 87.49 |
| | 44-919 | 5" | 156.14 |
| | 44-920 | 6" | 229.08 |


FEMALE COUPLER X MALE NPT

| TYPE B | Part# | Size | List Price |
|--------|---|--------|------------|
| |  | 44-921 | 3/4" |
| | 44-922 | 1" | 24.96 |
| | 44-923 | 1-1/4" | 32.28 |
| | 44-924 | 1-1/2" | 60.71 |
| | 44-925 | 2" | 43.23 |
| | 44-926 | 2-1/2" | 82.11 |
| | 44-927 | 3" | 81.67 |
| | 44-928 | 4" | 117.34 |
| | 44-929 | 5" | 608.61 |
| | 44-930 | 6" | 283.76 |


FEMALE COUPLER X HOSE SHANK

| TYPE C | Part# | Size | List Price |
|--------|---|--------|------------|
| |  | 44-931 | 3/4" |
| | 44-932 | 1" | 25.57 |
| | 44-933 | 1-1/4" | 29.53 |
| | 44-934 | 1-1/2" | 40.01 |
| | 44-935 | 2" | 50.32 |
| | 44-936 | 2-1/2" | 78.54 |
| | 44-937 | 3" | 99.76 |
| | 44-938 | 4" | 150.19 |
| | 44-939 | 5" | 248.21 |
| | 44-940 | 6" | 376.06 |

FEMALE COUPLER X FEMALE NPT

| TYPE D | Part# | Size | List Price |
|--------|---|--------|------------|
| |  | 44-941 | 3/4" |
| | 44-942 | 1" | 27.46 |
| | 44-943 | 1-1/4" | 38.12 |
| | 44-944 | 1-1/2" | 41.73 |
| | 44-945 | 2" | 49.14 |
| | 44-946 | 2-1/2" | 64.84 |
| | 44-947 | 3" | 81.28 |
| | 44-948 | 4" | 128.39 |
| | 44-949 | 5" | 220.69 |
| | 44-950 | 6" | 290.86 |


MALE ADAPTER X HOSE SHANK

| TYPE E | Part# | Size | List Price |
|--------|--|--------|------------|
| |  | 44-951 | 3/4" |
| | 44-952 | 1" | 15.16 |
| | 44-953 | 1-1/4" | 22.11 |
| | 44-954 | 1-1/2" | 25.36 |
| | 44-955 | 2" | 42.98 |
| | 44-956 | 2-1/2" | 67.30 |
| | 44-957 | 3" | 93.86 |
| | 44-958 | 4" | 137.63 |
| | 44-959 | 5" | 562.44 |
| | 44-960 | 6" | 427.18 |


MALE ADAPTER X MALE NPT

| TYPE F | Part# | Size | List Price |
|--------|---|--------|------------|
| |  | 44-961 | 3/4" |
| | 44-962 | 1" | 15.83 |
| | 44-963 | 1-1/4" | 21.39 |
| | 44-964 | 1-1/2" | 25.68 |
| | 44-965 | 2" | 38.33 |
| | 44-966 | 2-1/2" | 74.93 |
| | 44-967 | 3" | 74.86 |
| | 44-968 | 4" | 115.43 |
| | 44-969 | 5" | 477.16 |
| | 44-970 | 6" | 282.54 |

**DUST CAP
TYPE DC**

| TYPE DC | Part# | Size | List Price |
|---------|--|--------|------------|
| |  | 44-971 | 3/4" |
| | 44-972 | 1" | 16.40 |
| | 44-973 | 1-1/4" | 25.39 |
| | 44-974 | 1-1/2" | 32.31 |
| | 44-975 | 2" | 38.19 |
| | 44-976 | 2-1/2" | 149.95 |
| | 44-977 | 3" | 70.59 |
| | 44-978 | 4" | 108.06 |
| | 44-979 | 5" | 160.19 |
| | 44-980 | 6" | 221.21 |

**DUST PLUG
TYPE DP**

| TYPE DP | Part# | Size | List Price |
|---------|--|--------|------------|
| |  | 44-981 | 3/4" |
| | 44-982 | 1" | 15.40 |
| | 44-983 | 1-1/4" | 14.48 |
| | 44-984 | 1-1/2" | 18.22 |
| | 44-985 | 2" | 23.43 |
| | 44-986 | 2-1/2" | 56.96 |
| | 44-987 | 3" | 48.59 |
| | 44-988 | 4" | 80.41 |
| | 44-989 | 5" | 322.52 |
| | 44-990 | 6" | 384.56 |

CAM & GROOVE

HOSE ACCESSORIES

STAINLESS STEEL AND BRASS JUMP SIZES

MALE ADAPTER X MALE ADAPTER

**316 SS
SPOOL ADAPTER**



| Part# | Size | List Price |
|--------|-------------|------------|
| 63-850 | 1" | 161.81 |
| 63-851 | 1-1/2" | 197.32 |
| 63-852 | 1-1/2" x 2" | 235.22 |
| 63-853 | 2" | 106.27 |
| 63-854 | 2" x 3" | 337.35 |
| 63-855 | 3" | 453.29 |
| 63-856 | 3" x 4" | 553.72 |
| 63-857 | 4" | 698.80 |

FEMALE COUPLER X FEMALE COUPLER

**316 SS
TYPE DD**



| Part# | Size | List Price |
|---------|--------|------------|
| 639-440 | 1-1/2" | 256.38 |
| 639-450 | 2" | 147.58 |
| 639-470 | 3" | 249.66 |
| 639-480 | 4" | 689.85 |

FEMALE COUPLER X MALE ADAPTER

**316 SS
TYPE DA**



| Part# | Size | List Price |
|---------|-------------|------------|
| 639-001 | 2" x 1-1/2" | 301.82 |
| 639-002 | 3" x 2" | 211.99 |
| 639-003 | 4" x 3" | 555.11 |
| 639-004 | 6" x 4" | 995.76 |

MALE ADAPTER X MALE ADAPTER

**BRASS
SPOOL ADAPTER**



| Part# | Size | List Price |
|--------|--------|------------|
| 44-212 | 1-1/2" | 67.21 |
| 44-213 | 2" | 82.14 |
| 44-214 | 2-1/2" | 257.08 |
| 44-215 | 3" | 156.82 |
| 44-216 | 4" | 224.02 |

FEMALE COUPLER X MALE ADAPTER

**BRASS
TYPE DA**



| Part# | Size | List Price |
|---------|---------|------------|
| 449-450 | 2" x 3" | 354.35 |
| 449-470 | 3" x 2" | 388.53 |
| 449-480 | 4" x 2" | 542.36 |
| 449-481 | 4" x 3" | 563.43 |
| 449-482 | 6" x 4" | 864.09 |

**INVESTMENT CAST STAINLESS STEEL
HANDLE, RING & PIN**



| Part# | Size | List Price |
|--------|-----------------|------------|
| 61-447 | 3/4" | 4.11 |
| 61-448 | 1" | 4.18 |
| 61-449 | 1-1/4" - 2-1/2" | 26.54 |
| 61-452 | 3" & 4" | 33.87 |
| 61-454 | 6" | 93.55 |

FORGED BRASS HANDLE - RING & PIN STEEL



| Part# | Size | List Price |
|--------|-----------------|------------|
| 61-455 | 3/4" | 2.08 |
| 61-450 | 1" | 2.61 |
| 61-451 | 1-1/4" - 2-1/2" | 13.74 |
| 61-453 | 3" & 4" | 18.62 |
| 61-457 | 6" | 78.92 |

SAFETY CLIP



| Part # | Size | List Price |
|--------|-----------------|------------|
| 66-015 | 1-1/4" - 2-1/2" | 0.75 |

BUNA-N GASKET



| Part# | Size | List Price |
|--------|--------|------------|
| BG-50 | 1/2" | 0.28 |
| BG-75 | 3/4" | 0.35 |
| BG-100 | 1" | 0.34 |
| BG-125 | 1-1/4" | 0.49 |
| BG-150 | 1-1/2" | 0.63 |
| BG-200 | 2" | 1.75 |
| BG-250 | 2-1/2" | 2.07 |
| BG-300 | 3" | 2.23 |
| BG-400 | 4" | 3.13 |
| BG-500 | 5" | 7.85 |
| BG-600 | 6" | 8.45 |
| BG-800 | 8" | 39.34 |

**SILICONE
GASKET**



| Part# | Size | List Price |
|-------|------|------------|
| SG300 | 3" | 14.70 |
| SG400 | 4" | 21.73 |

VITON GASKET



| Part# | Size | List Price |
|-------|--------|------------|
| VG100 | 1" | 3.54 |
| VG150 | 1-1/2" | 5.70 |
| VG200 | 2" | 7.38 |
| VG250 | 2-1/2" | 10.98 |
| VG300 | 3" | 12.42 |

HOSE ACCESSORIES

KING NIPPLES

STEEL HOSE NIPPLES



(Barb x Male Pipe) • Black

| Part # | Hose Size | List Price |
|---------|-----------|------------|
| 973-850 | 1/2" | 9.28 |
| 973-851 | 3/4" | 4.49 |
| 973-852 | 1" | 8.02 |
| 973-853 | 1-1/4" | 10.38 |
| 973-854 | 1-1/2" | 11.60 |
| 973-855 | 2" | 10.56 |
| 973-856 | 2-1/2" | 31.89 |
| 973-857 | 3" | 38.85 |
| 973-858 | 4" | 72.04 |

ZINC PLATED STEEL



| Part # | Size | List Price |
|---------|--------|------------|
| 973-870 | 1/2" | 5.24 |
| 973-871 | 3/4" | 6.07 |
| 973-872 | 1" | 7.12 |
| 973-873 | 1-1/4" | 9.45 |
| 973-874 | 1-1/2" | 11.37 |
| 973-875 | 2" | 12.71 |
| 973-876 | 2-1/2" | 31.37 |
| 973-877 | 3" | 61.10 |
| 973-878 | 4" | 51.35 |
| 973-879 | 5" | 165.53 |
| 973-880 | 6" | 140.26 |
| 973-881 | 8" | 385.94 |

ZINC PLATED STEEL EXPANDER & REDUCER



| Part # | Hose x MIP Size | List Price |
|---------|-----------------|------------|
| 973-862 | 3/4 x 1 | 22.10 |
| 973-884 | 1 x 3/4 | 13.97 |
| 973-863 | 1 x 1-1/4 | 28.97 |
| 973-885 | 1-1/4 x 1 | 17.70 |
| 973-886 | 1-1/4 x 1-1/2 | 24.03 |
| 973-887 | 1-1/2 x 1-1/4 | 17.77 |
| 973-864 | 1-1/2 x 2 | 33.16 |
| 973-859 | 2 x 2-1/2 | 62.16 |
| 973-869 | 2-1/2 x 2 | 58.16 |
| 973-865 | 2-1/2 x 3 | 73.25 |
| 973-867 | 3 x 2-1/2 | 72.40 |
| 973-866 | 3 x 4 | 147.04 |
| 973-868 | 4 x 3 | 158.40 |

316 STAINLESS STEEL



| Part # | Size | List Price |
|---------|--------|------------|
| 973-700 | 1/2" | 24.53 |
| 973-701 | 3/4" | 23.03 |
| 973-702 | 1" | 23.17 |
| 973-703 | 1-1/4" | 29.67 |
| 973-704 | 1-1/2" | 36.63 |
| 973-705 | 2" | 55.55 |
| 973-706 | 2-1/2" | 90.13 |
| 973-707 | 3" | 129.89 |
| 973-708 | 4" | 201.69 |

BRASS



• Lead Free

| Part # | Size | List Price |
|---------|--------|------------|
| 973-600 | 1/2" | 28.01 |
| 973-601 | 3/4" | 50.96 |
| 973-602 | 1" | 47.14 |
| 973-603 | 1-1/4" | 63.03 |
| 973-604 | 1-1/2" | 73.00 |
| 973-605 | 2" | 104.37 |
| 973-606 | 2-1/2" | 174.46 |
| 973-607 | 3" | 250.36 |

ALUMINUM



| Part # | Size | List Price |
|---------|--------|------------|
| 973-620 | 1/2" | 29.98 |
| 973-621 | 3/4" | 29.88 |
| 973-622 | 1" | 28.46 |
| 973-623 | 1-1/4" | 33.19 |
| 973-624 | 1-1/2" | 32.66 |
| 973-625 | 2" | 38.11 |
| 973-626 | 2-1/2" | 99.55 |
| 973-627 | 3" | 94.80 |
| 973-628 | 4" | 151.64 |

MENDERS

STEEL HOSE MENDERS



| Part # | Hose Size | List Price |
|---------|-----------|------------|
| 973-890 | 1/2" | 12.99 |
| 973-891 | 3/4" | 6.33 |
| 973-892 | 1" | 6.47 |
| 973-893 | 1-1/4" | 16.51 |
| 973-894 | 1-1/2" | 16.19 |
| 973-895 | 2" | 21.24 |

PLATED STEEL MENDER

• Zinc



| Part # | Size | List Price |
|---------|--------|------------|
| 973-650 | 3/8" | 13.98 |
| 973-651 | 1/2" | 13.94 |
| 973-652 | 3/4" | 10.37 |
| 973-653 | 1" | 12.08 |
| 973-654 | 1-1/4" | 15.15 |
| 973-655 | 1-1/2" | 15.44 |
| 973-656 | 2" | 19.00 |
| 973-657 | 2-1/2" | 38.84 |
| 973-658 | 3" | 46.09 |
| 973-659 | 4" | 77.96 |

316 STAINLESS STEEL HOSE MENDER



| Part # | Size | List Price |
|--------|--------|------------|
| 73-670 | 3/4" | 59.33 |
| 73-671 | 1" | 64.69 |
| 73-672 | 1-1/4" | 75.00 |
| 73-673 | 1-1/2" | 88.00 |
| 73-674 | 2" | 89.33 |

BRASS HOSE MENDER



• Lead Free

| Part # | Size | List Price |
|--------|--------|------------|
| 73-983 | 3/4" | 26.93 |
| 73-984 | 1" | 28.97 |
| 73-985 | 1-1/4" | 46.92 |
| 73-986 | 1-1/2" | 76.12 |
| 73-987 | 2" | 82.59 |

UNIVERSAL COUPLINGS **HOSE ACCESSORIES**

MALE NPT ENDS

• Twist claw/ universal/ chicago



- Malleable iron
- ISO PSI

* Safety clip included

| Part # | Size | List Price |
|--------|------|------------|
| 66005 | 3/8" | 4.95 |
| 66006 | 1/2" | 5.50 |
| 66007 | 3/4" | 6.27 |
| 66008 | 1" | 6.93 |

WASHER



| Part # | List Price |
|--------|------------|
| 66000 | 0.37 |

FEMALE NPT ENDS



* Safety clip included

| Part # | Size | List Price |
|--------|------|------------|
| 66009 | 3/8" | 8.13 |
| 66010 | 1/2" | 6.77 |
| 66011 | 3/4" | 7.18 |
| 66012 | 1" | 9.03 |

HOSE END



* Safety clip included

| Part # | Size | List Price |
|--------|------|------------|
| 66001 | 3/8" | 9.44 |
| 66002 | 1/2" | 6.14 |
| 66003 | 3/4" | 6.20 |
| 66004 | 1" | 8.13 |

SAFETY CLIP



| Part # | Size | List Price |
|--------|-----------------|------------|
| 66-015 | 1-1/4" - 2-1/2" | 0.75 |

TRIPLE CONNECTIONS



| Part # | List Price |
|--------|------------|
| 66013 | 21.16 |

**FOR SHOP USE ONLY,
NOT FOR STEAM OR
HYDRAULIC APPLICATIONS**

For high pressure air and water service, steam, sanitary, high pressure spray, LPG and anhydrous ammonia service, petroleum products and chemicals: All parts plated malleable iron. Insert and spud may be either steel or malleable iron. NPT Male and Female spud. Female wing nut-to-spud connection is NPSM ground joint.

HEAVY DUTY COUPLINGS - GROUND JOINT TYPE - PLATED

HOSE STEM W/ WING NUT AND FEMALE SPUD



| Part # | Size | List Price |
|--------|--------|------------|
| 73-003 | 1/2" | 36.49 |
| 73-004 | 3/4" | 39.96 |
| 73-005 | 1" | 44.32 |
| 73-006 | 1-1/4" | 81.60 |
| 73-007 | 1-1/2" | 81.60 |
| 73-008 | 2" | 99.48 |
| 73-009 | 2-1/2" | 277.21 |
| 73-010 | 3" | 284.88 |
| 73-011 | 4" | 544.50 |

HOSE STEM ONLY



| Part # | Size | List Price |
|--------|--------|------------|
| 73-023 | 1/2" | 8.06 |
| 73-024 | 3/4" | 15.31 |
| 73-025 | 1" | 15.37 |
| 73-026 | 1-1/4" | 25.70 |
| 73-027 | 1-1/2" | 24.23 |
| 73-028 | 2" | 27.23 |
| 73-029 | 2-1/2" | 93.66 |
| 73-030 | 3" | 98.01 |
| 73-031 | 4" | 174.89 |

WING NUT ONLY



| Part # | Size | List Price |
|--------|--------|------------|
| 73-033 | 1/2" | 8.71 |
| 73-035 | 1" | 11.22 |
| 73-036 | 1-1/4" | 23.23 |
| 73-037 | 1-1/2" | 25.71 |
| 73-038 | 2" | 33.06 |
| 73-039 | 2-1/2" | 107.04 |
| 73-040 | 3" | 90.09 |
| 73-041 | 4" | 182.95 |

FEMALE SPUD ONLY



| Part # | Size | List Price |
|--------|--------|------------|
| 73-063 | 1/2" | 19.90 |
| 73-064 | 3/4" | 17.35 |
| 73-065 | 1" | 17.99 |
| 73-066 | 1-1/4" | 39.39 |
| 73-067 | 1-1/2" | 37.29 |
| 73-068 | 2" | 39.24 |
| 73-069 | 2-1/2" | 145.65 |
| 73-070 | 3" | 126.68 |
| 73-071 | 4" | 196.57 |

MALE PIPE STEM ONLY (NPT)



| Part # | Size | List Price |
|--------|--------|------------|
| 73-043 | 1/2" | 10.00 |
| 73-044 | 3/4" | 14.60 |
| 73-045 | 1" | 17.24 |
| 73-046 | 1-1/4" | 21.89 |
| 73-047 | 1-1/2" | 26.13 |
| 73-048 | 2" | 41.66 |
| 73-049 | 2-1/2" | 65.32 |
| 73-050 | 3" | 81.31 |
| 73-051 | 4" | 141.85 |

2, 4, 6 BOLT CLAMPS



| Part # | Size | # Bolts | List Price |
|--------|--------|---------|------------|
| 73-056 | 3/4" | 2 | 8.28 |
| 73-057 | 1" | 4 | 18.15 |
| 73-058 | 1-1/2" | 4 | 25.52 |
| 73-059 | 2" | 4 | 29.18 |
| 73-060 | 3" | 4 | 75.10 |

Danger: Failure or improper selection or improper use of hose couplings or related accessories can cause death, personal injury and property damage. Possible consequences of failure or improper selection or improper use of hose couplings or related accessories include but are not limited to:

- Coupling or parts thrown off at high speed.
- High velocity fluid discharge.
- Explosion or burning of the conveyed fluid.
- Contact with suddenly moving or falling objects that are to be held in position or moved by the conveyor fluid.
- Dangerously whipping hose.
- Contact with conveyed fluids that may be hot, cold, toxic or otherwise injurious.
- Sparking or explosion while paint or flammable liquid spraying.

Before selecting or using any of our products, it is important to check with our offices for more detailed specifications regarding use.

FIRE HOSE FITTINGS**HOSE ACCESSORIES****HYDRANT ADAPTERS - BRASS****FEMALE X MALE**

| Part # | Description | List Price |
|---------|-------------------------|------------|
| 444-011 | 1-1/2" NST x 3/4" GHT | 49.31 |
| 444-000 | 2-1/2" NST x 3/4" GHT | 49.31 |
| 444-001 | 2-1/2" NST x 3/4" NPT | 49.31 |
| 444-002 | 2-1/2" NST x 1" NPT | 43.56 |
| 444-005 | 2-1/2" NST x 1-1/2" NPT | 50.08 |
| 444-007 | 2-1/2" NST x 2" NPSH | 53.48 |
| 444-008 | 2-1/2" NST x 2" NPT | 66.66 |
| 444-006 | 2-1/2" NST x 1-1/2" NST | 50.08 |

FEMALE TO MALE HEX ADAPTER - BRASS**FEMALE X MALE**

| Part # | Description | List Price |
|---------|--------------------------|------------|
| 444-021 | 1-1/2" NST x 1-1/2" NPSH | 47.86 |
| 444-023 | 1-1/2" NPT x 1-1/2" NPSH | 49.15 |
| 444-020 | 1-1/2" NST x 1-1/2" NPT | 29.02 |
| 444-318 | 2 NPT x 2-1/2" NST | 158.40 |

DOUBLE MALE HEX NIPPLE - BRASS

| Part # | Description | List Price |
|---------|--------------------------|------------|
| 444-042 | 1-1/2" NPT x 1-1/2" NPSH | 44.43 |
| 444-040 | 1-1/2" NPT x 1-1/2" NST | 35.83 |
| 444-095 | 2-1/2" NST x 1-1/2" NST | 98.28 |
| 444-045 | 2-1/2" NST x 2" NPT | 98.39 |
| 444-049 | 3" NPT x 2-1/2" NST | 182.41 |

CAP - BRASS






| Part # | Description | List Price |
|---------|-----------------|------------|
| 444-062 | 2-1/2" NST | 68.61 |
| 444-313 | 4-1/2" NST | 366.36 |
| 444-320 | 2-1/2" NST PLUG | 74.58 |

MALE SWIVEL ADAPTER - BRASS W/LUGS

| Part # | Description Female x Male | List Price |
|---------|---------------------------|------------|
| 444-111 | 2-1/2" NST x 2" NPT | 272.63 |
| 444-112 | 2-1/2" NST x 2-1/2" NPT | 210.34 |
| 444-113 | 2-1/2" NST x 3" NPT | 348.77 |

HOSE CLAMPS



| | | | |
|---|--|--|---|
|  | <p>WORM GEAR PAGE 312-315</p> |  | <p>QUICK RELEASE PAGE 316</p> |
|  | <p>T-BOLT PAGE 317</p> |  | <p>SPRING LOADED T-BOLT PAGE 318</p> |
|  | <p>CONSTANT TORQUE PAGE 319</p> |  | <p>V-BAND PAGE 319</p> |
|  | <p>MUFFLER PAGE 320</p> |  | <p>EXHAUST PAGE 321</p> |
|  | <p>1 EAR, 2 EAR, GAPLESS PAGE 322-323</p> |  | <p>PRE-FORMED PAGE 324-325</p> |
|  | <p>TOOLS & STRAPPING PAGE 325-326</p> |  | <p>NON-PERFORATED OR LINED BAND PAGE 327</p> |
|  | <p>RUBBER LINED PAGE 328</p> |  | <p>HOSE FERRULES PAGE 329</p> |

300 & 600 WORM GEAR CLAMPS

HOSE CLAMPS

MINIATURE CLAMPS - 5/16" BAND



Stainless Steel band with Carbon Steel Housing and Screw

5/16" band, 1/4" screw

300 Series

- 1/4" Hex Slotted Carbon Steel Screw
- 5/16" Wide 301 Stainless Steel Band
- Carbon Steel Housing

Applications: For marine, agricultural, industrial and automotive uses. Corrosion resistance varies with stainless components.

Mechanically interlocked, 3 piece construction for service sealing pressure without spot welding.

| Part # | Dia. Range | | Box/Case | List Price |
|----------|------------|---------|----------|------------|
| | Min. | Max. | | |
| 300-0004 | 7/32" | 5/8" | 200/2400 | 1.36 |
| 300-005 | 7/16" | 11/16" | 200/2400 | 1.19 |
| 300-0006 | 5/16" | 7/8" | 200/2400 | 1.15 |
| 300-0008 | 7/16" | 1" | 200/1200 | 1.31 |
| 300-010 | 1/2" | 1-1/16" | 200/1200 | 1.47 |
| 300-012 | 9/16" | 1-1/4" | 200/1200 | 1.25 |
| 300-016 | 11/16" | 1-1/2" | 200/1200 | 1.53 |
| 300-0020 | 7/8" | 1-3/4" | 200/1200 | 1.63 |

1/2" BAND CLAMPS



Stainless Steel band with Carbon Steel Housing and Screw

1/2" band, 5/16" screw

600 Series

- 5/16" Hex Slotted Carbon Steel Screw
- 1/2" Wide 201 Stainless Steel Band
- Carbon Steel Housing

Applications: A general purpose clamp for automobiles, plumbing, home and garden general clamping applications, with anti-corrosive properties varying with the number of components made from stainless steel.

- No PSI Rating
- 50lb/ Inch Torque Rating Die Set Function

| Part # | # | Dia. Range | | Bag/Case | List Price |
|---------|-----|------------|---------|----------|------------|
| | | Min. | Max. | | |
| 600-006 | 6 | 3/8" | 7/8" | 100/600 | 1.57 |
| 600-008 | 8 | 7/16" | 1" | 100/600 | 1.56 |
| 600-010 | 10 | 9/16" | 1-1/16" | 100/600 | 1.47 |
| 600-012 | 12 | 9/16" | 1-1/4" | 100/600 | 1.55 |
| 600-016 | 16 | 11/16" | 1-1/2" | 100/600 | 1.46 |
| 600-020 | 20 | 3/4" | 1-3/4" | 100/300 | 1.47 |
| 600-024 | 24 | 1-1/16" | 2" | 100/300 | 1.56 |
| 600-028 | 28 | 1-5/16" | 2-1/4" | 100/300 | 1.72 |
| 600-032 | 32 | 1-9/16" | 2-1/2" | 100/300 | 1.52 |
| 600-036 | 36 | 1-13/16" | 2-3/4" | 50/200 | 1.53 |
| 600-040 | 40 | 2-1/16" | 3" | 50/200 | 1.75 |
| 600-044 | 44 | 2-5/16" | 3-1/4" | 50/200 | 2.41 |
| 600-048 | 48 | 2-9/16" | 3-1/2" | 50/200 | 2.05 |
| 600-052 | 52 | 2-13/16" | 3-3/4" | 25/100 | 3.41 |
| 600-056 | 56 | 3-1/16" | 4" | 25/100 | 3.04 |
| 600-060 | 60 | 3-5/16" | 4-1/4" | 25/100 | 2.71 |
| 600-064 | 64 | 2-1/2" | 4-1/2" | 25/100 | 2.33 |
| 600-072 | 72 | 3" | 5" | 25/100 | 2.40 |
| 600-080 | 80 | 3-1/2" | 5-1/2" | 10/100 | 2.44 |
| 600-088 | 88 | 4" | 6" | 10/100 | 3.06 |
| 600-096 | 96 | 4-1/2" | 6-1/2" | 10/100 | 3.34 |
| 600-104 | 104 | 5" | 7" | 10/100 | 3.62 |

The more you use your brain, the more brain you will have to use. —George A. Dorsey

MINIATURE CLAMPS - 5/16" BAND



Stainless Steel band and housing with Carbon Steel Screw

5/16" band, 1/4" screw

| Part # | Dia. Range | | Box/Case | List Price |
|---------|------------|---------|----------|------------|
| | Min. | Max. | | |
| 325-004 | 7/32" | 5/8" | 200/2400 | 1.07 |
| 325-005 | 7/16" | 11/16" | 200/2400 | 1.17 |
| 325-006 | 5/16" | 7/8" | 200/2400 | 0.94 |
| 325-008 | 7/16" | 1" | 200/1200 | 1.24 |
| 325-010 | 1/2" | 1-1/16" | 200/1200 | 1.46 |
| 325-012 | 9/16" | 1-1/4" | 200/1200 | 2.76 |
| 325-016 | 11/16" | 1-1/2" | 200/1200 | 2.61 |
| 325-020 | 7/8" | 1-3/4" | 200/1200 | 1.76 |

325 Series

- 1/4" Hex Slotted Carbon Steel Screw
- 5/16" Wide 301 Stainless Steel Band
- 301 Stainless Steel Housing

Lightweight, low profile, compact design allows ease of installation in restricted applications. The 5/16 band width generates significant sealing pressure with relatively low installation torque levels. 300 series stainless band and housing

Applications: For agricultural, industrial and automotive uses. Corrosion resistance varies with stainless components.

Mechanically interlocked, 3 piece construction for service sealing pressure without spot welding.

Stainless Steel band and housing with Carbon Steel Screw

1/2" band, 5/16" screw

1/2" BAND CLAMPS



| Part # | # | Dia. Range | | Bag/Case | List Price |
|---------|-----|------------|---------|----------|------------|
| | | Min. | Max. | | |
| 611-006 | 6 | 3/8" | 7/8" | 100/600 | 1.58 |
| 611-008 | 8 | 7/16" | 1" | 100/600 | 1.67 |
| 611-010 | 10 | 9/16" | 1-1/16" | 100/600 | 1.43 |
| 611-012 | 12 | 9/16" | 1-1/4" | 100/600 | 1.69 |
| 611-016 | 16 | 11/16" | 1-1/2" | 100/600 | 1.86 |
| 611-020 | 20 | 3/4" | 1-3/4" | 100/300 | 1.83 |
| 611-024 | 24 | 1-1/16" | 2" | 100/300 | 1.58 |
| 611-028 | 28 | 1-5/16" | 2-1/4" | 100/300 | 2.41 |
| 611-032 | 32 | 1-9/16" | 2-1/2" | 100/300 | 2.41 |
| 611-036 | 36 | 1-13/16" | 2-3/4" | 50/200 | 1.53 |
| 611-040 | 40 | 2-1/16" | 3" | 50/200 | 1.74 |
| 611-044 | 44 | 2-5/16" | 3-1/4" | 50/200 | 2.88 |
| 611-048 | 48 | 2-9/16" | 3-1/2" | 50/200 | 1.97 |
| 611-052 | 52 | 2-13/16" | 3-3/4" | 25/100 | 2.16 |
| 611-056 | 56 | 3-1/16" | 4" | 25/100 | 2.51 |
| 611-060 | 60 | 3-5/16" | 4-1/4" | 25/100 | 2.72 |
| 611-064 | 64 | 2-1/2" | 4-1/2" | 25/100 | 2.46 |
| 611-072 | 72 | 3" | 5" | 25/100 | 3.15 |
| 611-080 | 80 | 3-1/2" | 5-1/2" | 10/100 | 3.67 |
| 611-088 | 88 | 4" | 6" | 10/100 | 3.22 |
| 611-096 | 96 | 4-1/2" | 6-1/2" | 10/100 | 3.22 |
| 611-104 | 104 | 5" | 7" | 10/100 | 2.94 |
| 611-116 | 116 | 5-3/4" | 7-3/4" | 100/100 | 6.66 |
| 611-128 | 128 | 6-1/2" | 8-1/2" | 100/100 | 4.18 |
| 611-152 | 152 | 2" | 10" | 100/100 | 4.80 |
| 611-164 | 164 | 1-3/4" | 10-3/4" | 100/100 | 8.28 |
| 611-176 | 176 | 9-1/4" | 11-1/4" | 100/100 | 4.58 |
| 611-188 | 188 | 2-1/16" | 12-1/4" | 100/100 | 5.28 |
| 611-200 | 200 | 11" | 13" | 100/100 | 5.75 |
| 611-212 | 212 | 11-3/4" | 13-3/4" | 100/100 | 7.46 |
| 611-224 | 224 | 12-1/2" | 14-1/2" | 100/100 | 5.89 |
| 611-248 | 248 | 10-3/4" | 16" | 100/100 | 5.71 |
| 611-270 | 270 | 15-3/8" | 17-3/8" | 100/100 | 12.11 |
| 611-312 | 312 | 18" | 20" | 100/100 | 8.47 |
| 611-332 | 332 | 19-1/8" | 21-1/4" | 100/100 | 6.22 |
| 611-390 | 390 | 22-7/8" | 24-7/8" | 100/100 | 11.94 |

611 Series

- 5/16" Hex Slotted Carbon Steel Screw
- 1/2" Wide 201 Stainless Steel Band
- 301 Stainless Steel Housing

Applications: The perfect clamp for automobiles, plumbing, home and garden general clamping applications, with anti-corrosive properties varying with the number of components made from stainless steel.

- No PSI Rating
- 50lb/ Inch Torque Rating Die Set Function

350 & 620 WORM GEAR CLAMPS**HOSE CLAMPS****MINIATURE CLAMPS - 5/16" BAND****350 Series**

- 1/4" Hex Slotted 410 Stainless Steel Screw
- 5/16" Wide 301 Stainless Steel Band
- 301 stainless Steel Housing
- 6mm thick

All Stainless Steel

5/16" band, 1/4" screw

| Part # | Dia. Range | | Box/Case | List Price |
|---------|------------|---------|----------|------------|
| | Min. | Max. | | |
| 350-004 | 7/32" | 5/8" | 200/2400 | 0.96 |
| 350-005 | 7/16" | 11/16" | 200/2400 | 1.72 |
| 350-006 | 5/16" | 7/8" | 200/2400 | 0.96 |
| 350-008 | 7/16" | 1" | 200/1200 | 1.08 |
| 350-010 | 1/2" | 1-1/16" | 200/1200 | 1.36 |
| 350-012 | 9/16" | 1-1/4" | 200/1200 | 1.36 |
| 350-016 | 11/16" | 1-1/2" | 200/1200 | 2.07 |
| 350-020 | 7/8" | 1-3/4" | 200/1200 | 1.85 |

Applications: For agricultural, industrial and automotive uses. Corrosion resistance varies with stainless components.

Mechanically interlocked, 3 piece construction for service sealing pressure without spot welding.

1/2" WIDE BAND CLAMPS (12.70mm)**620 Series**

- 5/16" Hex Slotted 305 Stainless Steel Screw
- 1/2" Wide 301 Stainless Steel Band
- 301 Stainless Steel Housing
- 60mm Thickness
- Use for underground and other high corrosive applications.
- For a sure grip application.
- Especially suited to industrial applications

All Stainless Steel

1/2" band, 5/16" screw

| Part # | # | Dia. Range | | Box/Case | List Price |
|---------|-----|------------|---------|----------|------------|
| | | Min. | Max. | | |
| 620-006 | 6 | 3/8" | 7/8" | 100/600 | 1.71 |
| 620-008 | 8 | 7/16" | 1" | 100/600 | 1.93 |
| 620-010 | 10 | 9/16" | 1-1/16" | 100/600 | 1.93 |
| 620-012 | 12 | 9/16" | 1-1/4" | 100/600 | 2.34 |
| 620-016 | 16 | 11/16" | 1-1/2" | 100/600 | 1.95 |
| 620-020 | 20 | 3/4" | 1-3/4" | 100/300 | 1.97 |
| 620-024 | 24 | 1-1/16" | 2" | 100/300 | 1.76 |
| 620-028 | 28 | 1-5/16" | 2-1/4" | 100/300 | 1.77 |
| 620-032 | 32 | 1-9/16" | 2-1/2" | 100/300 | 1.90 |
| 620-036 | 36 | 1-13/16" | 2-3/4" | 50/200 | 1.96 |
| 620-040 | 40 | 2-1/16" | 3" | 50/200 | 2.56 |
| 620-044 | 44 | 2-5/16" | 3-1/4" | 50/200 | 3.16 |
| 620-048 | 48 | 2-9/16" | 3-1/2" | 50/200 | 2.44 |
| 620-052 | 52 | 2-13/16" | 3-3/4" | 25/100 | 2.54 |
| 620-056 | 56 | 3-1/16" | 4" | 25/100 | 2.54 |
| 620-060 | 60 | 3-5/16" | 4-1/4" | 25/100 | 4.38 |
| 620-064 | 64 | 2-1/2" | 4-1/2" | 25/100 | 2.68 |
| 620-072 | 72 | 3" | 5" | 25/100 | 2.82 |
| 620-080 | 80 | 3-1/2" | 5-1/2" | 10/100 | 4.62 |
| 620-088 | 88 | 4" | 6" | 10/100 | 3.21 |
| 620-096 | 96 | 4-1/2" | 6-1/2" | 10/100 | 4.48 |
| 620-104 | 104 | 5" | 7" | 10/100 | 3.50 |
| 620-116 | 116 | 5-3/4" | 7-3/4" | 100/100 | 7.50 |
| 620-128 | 128 | 6-1/2" | 8-1/2" | 100/100 | 4.85 |
| 620-152 | 152 | 2" | 10" | 100/100 | 6.73 |
| 620-164 | 164 | 1-3/4" | 10-3/4" | 100/100 | 12.06 |
| 620-176 | 176 | 9-1/4" | 11-1/4" | 100/100 | 9.58 |
| 620-188 | 188 | 9.9" | 12-1/4" | 100/100 | 7.39 |
| 620-200 | 200 | 11" | 13" | 100/100 | 6.03 |
| 620-212 | 212 | 11-3/4" | 13-3/4" | 100/100 | 12.47 |
| 620-224 | 224 | 12-1/2" | 14-1/2" | 100/100 | 12.30 |
| 620-248 | 248 | 10-3/4" | 16" | 100/100 | 7.81 |
| 620-270 | 270 | 15-3/8" | 17-3/8" | 100/100 | 7.35 |
| 620-312 | 312 | 18" | 20" | 100/100 | 13.92 |
| 620-332 | 332 | 19-1/8" | 21-1/4" | 100/100 | 7.50 |
| 620-390 | 390 | 22-7/8" | 24-7/8" | 100/100 | 13.26 |

MINIATURE CLAMPS - 5/16" BAND

All #316 SS for Marine Environments

5/16" band, 1/4" screw



| Part # | Dia. Range | | Box/Case | List Price |
|-----------|------------|---------|----------|------------|
| | Min. | Max. | | |
| 350-004SS | 7/32" | 5/8" | 200/2400 | 0.72 |
| 350-005SS | 7/16" | 11/16" | 200/2400 | 0.75 |
| 350-006SS | 5/16" | 7/8" | 200/2400 | 0.87 |
| 350-008SS | 7/16" | 1" | 200/1200 | 0.90 |
| 350-010SS | 1/2" | 1-1/16" | 200/1200 | 0.87 |
| 350-012SS | 9/16" | 1-1/4" | 200/1200 | 0.96 |
| 350-016SS | 11/16" | 1-1/2" | 200/1200 | 1.14 |
| 350-020SS | 7/8" | 1-3/4" | 200/1200 | 1.01 |

350SS Series

- 1/4" Hex Slotted 316 Stainless Steel Screw
- 316 Stainless Steel Band
- 8mm wide
- 60 mm thick
- 316 stainless Steel Housing

Applications: For marine, agricultural, industrial and automotive uses. Corrosion resistance varies with stainless components.

Mechanically interlocked, 3 piece construction for service sealing pressure without spot welding.

1/2" WIDE BAND CLAMPS (12.70mm)



All #316 SS for Marine Environments

1/2" band, 5/16" screw

| All 316SS Part # | # | Dia. Range | | Box/Case | List Price |
|------------------|----|------------|---------|----------|------------|
| | | Min. | Max. | | |
| 620-006SS | 6 | 3/8" | 7/8" | 100/600 | 1.80 |
| 620-008SS | 8 | 7/16" | 1" | 100/600 | 1.83 |
| 620-010SS | 10 | 9/16" | 1-1/16" | 100/600 | 1.67 |
| 620-012SS | 12 | 9/16" | 1-1/4" | 100/600 | 1.92 |
| 620-016SS | 16 | 11/16" | 1-1/2" | 100/600 | 2.01 |
| 620-020SS | 20 | 3/4" | 1-3/4" | 100/300 | 2.10 |
| 620-024SS | 24 | 1-1/16" | 2" | 100/300 | 2.22 |
| 620-028SS | 28 | 1-5/16" | 2-1/4" | 100/300 | 2.13 |
| 620-032SS | 32 | 1-9/16" | 2-1/2" | 100/300 | 2.43 |
| 620-036SS | 36 | 1-13/16" | 2-3/4" | 50/200 | 2.52 |
| 620-040SS | 40 | 2-1/16" | 3" | 50/200 | 2.64 |
| 620-044SS | 44 | 2-5/16" | 3-1/4" | 50/200 | 2.73 |
| 620-048SS | 48 | 2-9/16" | 3-1/2" | 50/200 | 2.85 |
| 620-052SS | 52 | 2-13/16" | 3-3/4" | 25/100 | 2.94 |
| 620-056SS | 56 | 3-1/16" | 4" | 25/100 | 3.06 |
| 620-060SS | 60 | 3-5/16" | 4-1/4" | 25/100 | 3.12 |
| 620-064SS | 64 | 2-1/2" | 4-1/2" | 25/100 | 3.24 |
| 620-072SS | 72 | 3" | 5" | 25/100 | 3.45 |

620SS Series

- 5/16" Hex Slotted 316 Stainless Steel Screw
- 1/2" Wide 316 Stainless Steel Band
- 316 Stainless Steel Housing
- 60mm Thickness
- Use for marine, underground and other high corrosive applications.

Character building begins in our infancy and continues until our death. - Eleanor Roosevelt

QUICK RELEASE**HOSE CLAMPS****QUICK RELEASE 500/550 SERIES**

These clamps feature a unique quick release design between the one piece housing and band allowing for quick and easy installation in restricted or difficult areas.

Applications: Quick release action permits easy installation in applications where clamp must be opened to be applied. Quick release clamps are used extensively in the telecommunications industry on cable enclosures where open air application demands durability.



Open/Close design allows easy installation.

**500 Series**

- 5/16" Hex Slotted Carbon Steel Screw
- 1/2" 301 Stainless Steel band
- 301 Stainless Steel Housing
- 410 Stainless Steel Bridge

550 Series

- 5/16" Hex Slotted 410 Stainless Steel Screw
- 1/2" 301 Stainless Steel band
- 301 Stainless Steel Housing
- 410 Stainless Steel Bridge

| Part # | List Price | # | Dia. Range | | Part # | List Price |
|---------|------------|-----|------------|----------|---------|------------|
| | | | Min. | Max. | | |
| 500-012 | 2.41 | 12 | 1/2" | 1-1/4" | 550-012 | 3.26 |
| 500-020 | 2.45 | 20 | 3/4" | 1-3/4" | 550-020 | 2.59 |
| 500-028 | 2.51 | 28 | 1" | 2-1/4" | 550-028 | 2.78 |
| 500-036 | 1.90 | 36 | 1" | 2-3/4" | 550-036 | 2.88 |
| 500-048 | 3.20 | 48 | 1-1/2" | 3-1/2" | 550-048 | 3.41 |
| 500-056 | 3.65 | 56 | 1" | 4" | 550-056 | 4.95 |
| 500-072 | 3.08 | 72 | 2" | 5" | 550-072 | 5.70 |
| 500-088 | 4.58 | 88 | 2-1/16" | 6" | 550-088 | 5.91 |
| 500-104 | 4.82 | 104 | 1-3/4" | 7" | 550-104 | 11.75 |
| 500-128 | 4.28 | 128 | 1-3/4" | 8-9/16" | 550-128 | 6.13 |
| 500-152 | 4.53 | 152 | 2" | 10" | 550-152 | 6.66 |
| 500-188 | 5.28 | 188 | 2-1/16" | 12-5/16" | 550-188 | 8.49 |
| 500-216 | 5.43 | 216 | 10-3/16" | 14" | 550-216 | 10.23 |
| 500-248 | 5.61 | 248 | 10-3/4" | 16" | 550-248 | 9.45 |
| 500-280 | 6.79 | 280 | 14-1/4" | 18" | 550-280 | 9.08 |
| | | 312 | 14" | 20" | 550-312 | 10.78 |

Stop and look out the window and see how beautiful the world is.
It is there-enjoy it. Go out tonight and look up at the stars. They are
the wonders of nature.

-Dale Carnegie

T-Bolt Clamps

- All designs meet SAE J1508 specifications.
- .025" Band Thickness
- 3/4" Wide Band
- Band Material: 301 Series Stainless Steel
- Bolt Material: 304 Series Stainless Steel
- Nut Material: 304 Series Stainless Steel
- Nuts are Self-locking
- Torque Rating 75 in/lb

Opens 1/16" above and tightens 1/8" smaller than nominal I.D. for a total of 3/16" range for clamps sizes 150 through 250. Opens 1/16" above and tightens 7/32" smaller than nominal I.D. for clamps sizes 256 through 750.



Purpose: To provide a quick, yet effective means of clamping a variety of fittings to a wide range of hose. T-Bolts can be applied with a standard 7/16" socket wrench. They provide 360° sealing surface by using a shoe or formed bridge.

Services: The T-Bolt clamp is a high strength, reliable clamp with numerous applications in both the commercial and industrial markets including hose and ductwork connections for air, oil, water, other types of low pressure fluid lines, engine air intake, exhaust, hose and filters.

ALL STAINLESS STEEL

| Nominal Size | O.D. Range | | Part# | List Price |
|--------------|------------|-----------|----------|------------|
| | From: | To: | | |
| 1-1/4 | 1-5/32" | 1-15/32" | 840-131 | 5.06 |
| 1-1/2 | 1-3/8" | 1-9/16" | 840-150 | 4.63 |
| 1-3/4 | 1-5/8" | 1-13/16" | 840-175 | 4.40 |
| 1-7/8 | 1-3/4" | 1-15/16" | 840-188 | 4.80 |
| 2 | 1-7/8" | 2-1/16" | 840-200 | 4.88 |
| 2-1/4 | 2-1/8" | 2-5/16" | 840-225 | 5.67 |
| 2-3/8 | 2-1/4" | 2-7/16" | 840-238 | 4.84 |
| 2-1/2 | 2-3/8" | 2-9/16" | 840-250 | 4.73 |
| 2-9/16 | 2-11/32" | 2-5/8" | 840-256 | 6.77 |
| 2-5/8 | 2-13/32" | 2-11/16" | 840-263 | 4.82 |
| 2-3/4 | 2-17/32" | 2-13/16" | 840-275 | 5.78 |
| 2-7/8 | 2-21/32" | 2-15/16" | 840-288 | 5.35 |
| 3 | 2-25/32" | 3-1/16" | 840-300 | 5.47 |
| 3-1/8 | 2-29/32" | 3-3/16" | 840-312 | 6.72 |
| 3-1/4 | 3-1/32" | 3-5/16" | 840-325 | 5.45 |
| 3-1/2 | 3-9/32" | 3-9/16" | 840-350 | 5.40 |
| 3-3/4 | 3-17/32" | 3-13/16" | 840-375 | 6.38 |
| 3-53/64 | 3-19/32" | 3-7/8" | 840-382 | 7.15 |
| 4 | 3-25/32" | 4-1/16" | 840-400 | 5.80 |
| 4-1/4 | 4-1/32" | 4-5/16" | 840-425 | 5.85 |
| 4-1/2 | 4-9/32" | 4-9/16" | 840-450 | 6.24 |
| 4-3/4 | 4-17/32" | 4-13/16" | 840-475 | 6.34 |
| 5 | 4-25/32" | 5-1/16" | 840-500 | 7.04 |
| 5-1/4 | 5-1/32" | 5-5/16" | 840-525 | 8.15 |
| 5-1/2 | 5-9/32" | 5-9/16" | 840-550 | 7.26 |
| 5-3/4 | 5-17/32" | 5-13/16" | 840-575 | 8.18 |
| 6 | 5-25/32" | 6-1/16" | 840-600 | 8.32 |
| 6-1/4 | 6-1/32" | 6-5/16" | 840-625 | 8.56 |
| 6-1/2 | 6-9/32" | 6-9/16" | 840-650 | 8.68 |
| 6-3/4 | 6-17/32" | 6-13/16" | 840-675 | 8.80 |
| 7 | 6-25/32" | 7-1/16" | 840-700 | 8.92 |
| 7-1/2 | 7-9/32" | 7-9/16" | 840-750 | 10.39 |
| 8 | 7-25/32" | 8-1/16" | 840-800 | 9.43 |
| 8-1/4 | 8-9/32" | 8-9/16" | 840-850 | 12.09 |
| 8-7/8 | 8-21/32" | 8-15/16" | 840-888 | 12.54 |
| 10-7/8 | 10-21/32" | 10-15/16" | 840-1088 | 9.78 |

Spring Loaded T-Bolt Hose Clamp

- Per SAE standard J1508
Type "SLTB"
- .025 Band Thickness
- 3/4 (19mm) band width
- Heavy duty springs
- Band Material: 300 stainless
- T-bolt: Carbon steel w/ zinc plating
- Housing (Bridge): 300 Stainless
- Hex nut: Carbon Steel, Nylon insert
- Torque rating: 150 in-lbs (8.5 mm)



Purpose: To provide constant tension performance to compensate for the expansion and contraction when temperatures fluctuate. Provides high strength and a 360° seal. Tighten with a 7/16" wrench or hex nutdriver.

Services: Designed for use in high vibration and large diameter applications common in heavy trucks, industrial machinery, off road equipment, agricultural irrigation and machinery, for air intake and coolant adapter

| Part # | SAE # | Min - Max | WGT | Box Qty | List Price |
|---------|-------|-------------|-------|---------|------------|
| 844-213 | 40 | 2.13 - 2.44 | 0.170 | 100 | 7.95 |
| 844-225 | 44 | 2.25 - 2.56 | 0.174 | 100 | 8.02 |
| 844-238 | 48 | 2.38 - 2.69 | 0.179 | 100 | 8.02 |
| 844-250 | 52 | 2.50 - 2.81 | 0.181 | 100 | 8.17 |
| 844-263 | 56 | 2.63 - 2.94 | 0.183 | 100 | 8.25 |
| 844-275 | 60 | 2.75 - 3.06 | 0.185 | 100 | 8.40 |
| 844-300 | 68 | 3 - 3.31 | 0.187 | 100 | 9.34 |
| 844-306 | 70 | 3.06 - 3.38 | 0.190 | 100 | 8.55 |
| 844-313 | 72 | 3.13 - 3.44 | 0.192 | 100 | 8.62 |
| 844-325 | 76 | 3.25 - 3.56 | 0.194 | 100 | 8.62 |
| 844-338 | 80 | 3.38 - 3.69 | 0.196 | 100 | 8.77 |
| 844-350 | 84 | 3.50 - 3.81 | 0.196 | 100 | 8.85 |
| 844-356 | 86 | 3.56 - 3.88 | 0.196 | 100 | 8.85 |
| 844-363 | 88 | 3.63 - 3.94 | 0.198 | 100 | 8.85 |
| 844-375 | 92 | 3.75 - 4.06 | 0.198 | 100 | 8.92 |
| 844-406 | 102 | 4.06 - 4.38 | 0.203 | 100 | 9.15 |
| 844-413 | 104 | 4.13 - 4.44 | 0.209 | 100 | 9.22 |
| 844-425 | 108 | 4.25 - 4.56 | 0.214 | 100 | 9.22 |
| 844-456 | 118 | 4.56 - 4.88 | 0.216 | 100 | 9.45 |
| 844-500 | 132 | 5 - 5.31 | 0.218 | 100 | 9.67 |
| 844-525 | 140 | 5.25 - 5.56 | 0.220 | 100 | 9.82 |
| 844-600 | 164 | 6 - 6.31 | 0.223 | 100 | 10.20 |
| 844-625 | 172 | 6.25 - 6.56 | 0.225 | 100 | 10.35 |

Automatically adjust diameter for hose expansion and contraction due to temperature changes.

A great attitude becomes a great day which becomes a great month which becomes a great LIFE.

— Mandy Hale

Constant Torque Hose Clamps

- All designs meet SAE J1508 specifications type "SLHD"
- .028 Band thickness
- Band material: 304 thickness
- Band width: 9/16" for 45in-lb
5/8" for 90in-lb
- Band material: 304 stainless
- Housing: 304 stainless steel
- Bridge: 410 stainless steel
- Hex screw: 410 stainless steel



Purpose: To eliminate leaks by automatically increasing or decreasing the clamps diameter, decreasing the need for retightening. Constant torque clamps have an extended tail on the band to protect soft hose or tube from being cut.

Services: Constant torque clamps are an excellent choice for fluctuating and extreme temperature applications and thermal compensation.

| Part # | Clamping Range | Band Width | Torque | Screw Size | WGT | Box Qty | List Price |
|---------|-----------------|------------|---------------|------------|-------|---------|------------|
| 842-010 | 9/16" - 1 1/16" | 9/16" | 45 in-lb | 5/16" | 0.106 | 100 | 4.12 |
| 842-012 | 11/16" - 1 1/4" | 9/16" | 45 in-lb | 5/16" | 0.108 | 100 | 4.20 |
| 842-016 | 13/16" - 1 1/2" | 9/16" | 45 in-lb | 5/16" | 0.112 | 100 | 4.27 |
| 842-020 | 13/16" - 1 3/4" | 9/16" | 45 in-lb | 5/16" | 0.119 | 100 | 4.38 |
| 842-024 | 1 1/16" - 2" | 9/16" | 45 in-lb | 5/16" | 0.121 | 100 | 4.53 |
| 842-200 | 1 1/4" - 2 1/8" | 5/8" | 90 in-lb High | 3/8" | 0.207 | 100 | 7.65 |
| 842-250 | 1 3/4" - 2 5/8" | 5/8" | 90 in-lb High | 3/8" | 0.216 | 100 | 8.06 |
| 842-300 | 2 1/4" - 3 1/8" | 5/8" | 90 in-lb High | 3/8" | 0.220 | 100 | 8.43 |
| 842-350 | 2 3/4" - 3 5/8" | 5/8" | 90 in-lb High | 3/8" | 0.225 | 100 | 8.85 |
| 842-400 | 3 1/4" - 4 1/8" | 5/8" | 90 in-lb High | 3/8" | 0.231 | 100 | 9.18 |
| 842-450 | 3 3/4" - 4 5/8" | 5/8" | 90 in-lb High | 3/8" | 0.238 | 100 | 9.41 |
| 842-500 | 4 1/4" - 5 1/8" | 5/8" | 90 in-lb High | 3/8" | 0.256 | 100 | 9.67 |

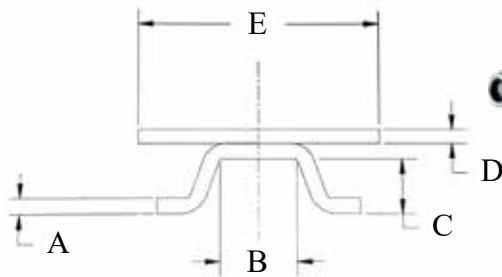
V-Band Hose Clamps

- Band thickness: see chart
- Band width: see chart
- Band material: 300 stainless
- Trunnion: 300 stainless
- 1/4" T-bolt: 410 stainless
- 7/17" Hex nut: 300 stainless



Purpose: to provide a fast, secure coupling for connecting flanged joints.

Services: V-Band clamps feature high strength and positive sealing integrity for applications including: heavy duty diesel engine exhaust and turbochargers, filter housings, emissions and general industrial applications.



| Part# | Nominal Diameter | V-Insert Sections | | | Bands | | WGT | Box Qty | List Price |
|---------|------------------|-------------------|-------|-------|-------|-------|-------|---------|------------|
| | | A | B | C | D | E | | | |
| 843-321 | 3.21 | 0.050 | 0.262 | 0.141 | 0.035 | 0.750 | 0.525 | 100 | 12.30 |
| 843-382 | 3.82 | 0.077 | 0.207 | 0.281 | 0.040 | 0.875 | 0.531 | 100 | 20.75 |
| 843-388 | 3.88 | 0.050 | 0.400 | 0.281 | 0.040 | 0.875 | 0.536 | 100 | 17.67 |
| 843-450 | 4.50 | 0.077 | 0.207 | 0.281 | 0.040 | 0.875 | 0.547 | 100 | 17.21 |
| 843-461 | 4.61 | 0.050 | 0.156 | 0.281 | 0.035 | 0.750 | 0.549 | 100 | 17.67 |
| 843-475 | 4.75 | 0.050 | 0.400 | 0.281 | 0.040 | 0.875 | 0.553 | 100 | 19.76 |
| 843-525 | 5.25 | 0.050 | 0.262 | 0.141 | 0.035 | 0.750 | 0.567 | 100 | 18.60 |
| 843-588 | 5.88 | 0.050 | 0.400 | 0.281 | 0.040 | 0.875 | 0.575 | 100 | 22.29 |

MUFFLER**HOSE CLAMPS****MUFFLER CLAMPS**

Muffler Clamps are designed with elongated and tapered holes that pulls the legs around the pipe as the nuts tighten, making a tight seal. Other clamp legs do not wrap around the pipe, they stay straight and the clamp only connects at two points.

- Carbon steel band, housing and bridge
- All muffler clamps are zinc plated for superior corrosion resistance
- Heavy duty U-Bolt and band construction
- 3/8 U-bolt
- Base 2.4mm

SADDLE

| Part # | Size | WGT | Box Qty | List Price |
|---------|--------|-------|---------|------------|
| 841-175 | 1-3/4" | 0.335 | 50 | 3.60 |
| 841-200 | 2" | 0.410 | 50 | 4.20 |
| 841-250 | 2-1/2" | 0.448 | 50 | 4.65 |
| 841-300 | 3" | 0.582 | 50 | 5.70 |
| 841-350 | 3-1/2" | 0.741 | 50 | 7.12 |
| 841-400 | 4" | 0.847 | 25 | 8.70 |
| 841-450 | 4-1/2" | 1.023 | 25 | 10.42 |
| 841-500 | 5" | 1.067 | 25 | 16.80 |

FLAT BAND

| Part # | Size | WGT | Box Qty | List Price |
|---------|------|-------|---------|------------|
| 841-004 | 4" | 0.847 | 25 | 9.90 |
| 841-005 | 5" | 1.093 | 25 | 12.37 |

GUILLOTINE - provides a complete 360° heavy duty seal



| Part # | Size | WGT | Box Qty | List Price |
|---------|--------|-------|---------|------------|
| 841-040 | 4" | 0.820 | 25 | 9.60 |
| 841-045 | 4-1/2" | 0.847 | 25 | 11.62 |
| 841-050 | 5" | 0.988 | 25 | 13.12 |

What consumes your mind, controls your life.

EXHAUST CLAMPS

Complete with:

- One metal band - 76mm width
- One spacer
- Two bolts
- Two reaction blocks
- Individually boxed

- Pre-attached hardware for easy and accurate installation.

- Conforms to pipe and flex tubing to create the best seal available without distorting any pipes.

ALUMINIZED STEEL BUTT CLAMPS

- .7mm band thickness
- 76mm band width



| Part # | Size | WGT | Box Qty | List Price |
|------------|-------|-------|---------|------------|
| 845-200 | 2" | 0.970 | 50 | 13.87 |
| 845-300 | 3" | 1.058 | 50 | 15.15 |
| 845-350 | 3.50" | 1.102 | 50 | 15.75 |
| 845-400 | 4" | 1.146 | 50 | 16.42 |
| 845-500 | 5" | 1.235 | 50 | 17.92 |
| 845-600 | 6" | 1.323 | 50 | 19.65 |
| 845-500SS* | 5" | 1.190 | 50 | 20.40 |

*Light pattern .5mm band thickness

ALUMINIZED STEEL LAP CLAMPS

- .7mm band thickness
- 76mm band width



| Part # | Size | WGT | Box Qty | List Price |
|---------|-------|-------|---------|------------|
| 846-200 | 2" | 0.970 | 50 | 14.02 |
| 846-250 | 2.50" | 1.014 | 50 | 14.70 |
| 846-275 | 2.75" | 1.036 | 50 | 15.30 |
| 846-300 | 3" | 1.058 | 50 | 15.22 |
| 846-350 | 3.50" | 1.102 | 50 | 15.15 |
| 846-400 | 4" | 1.146 | 50 | 16.50 |
| 846-500 | 5" | 1.235 | 50 | 17.70 |

STAINLESS STEEL LAP CLAMPS

- .5mm band thickness
- 76mm band width



| Part # | Size | WGT | Box Qty | List Price |
|---------|-------|-------|---------|------------|
| 847-200 | 2" | 0.926 | 50 | 15.15 |
| 847-250 | 2.50" | 0.970 | 50 | 16.20 |
| 847-275 | 2.75" | 0.992 | 50 | 16.27 |
| 847-300 | 3" | 1.014 | 50 | 16.72 |
| 847-350 | 3.50" | 1.058 | 50 | 17.92 |
| 847-400 | 4" | 1.102 | 50 | 18.90 |
| 847-500 | 5" | 1.190 | 50 | 20.62 |
| 847-600 | 6" | 1.279 | 50 | 22.27 |

STAINLESS STEEL EASY-FORM CLAMPS

- .5mm band thickness
- 76mm band width



| Part # | Size | WGT | Box Qty | List Price |
|---------|-------|-------|---------|------------|
| 848-200 | 2" | 0.926 | 50 | 15.45 |
| 848-225 | 2.25" | 0.948 | 50 | 15.97 |
| 848-250 | 2.50" | 0.970 | 50 | 16.80 |
| 848-275 | 2.75" | 0.992 | 50 | 17.40 |
| 848-300 | 3" | 1.014 | 50 | 17.85 |
| 848-350 | 3.50" | 1.058 | 50 | 19.12 |
| 848-400 | 4" | 1.102 | 50 | 20.10 |
| 848-500 | 5" | 1.190 | 50 | 21.90 |
| 848-600 | 6" | 1.279 | 50 | 23.25 |
| 848-700 | 7" | 1.367 | 50 | 26.62 |

CARBON STEEL 1-EAR CLAMPS

1-Ear Clamps are intended for low pressure applications such as automotive (not fuel lines), appliances, industrial machinery, underground irrigation systems and beverage dispensing equipment. They are specifically designed for mass production applications where inexpensive clamps are needed.

Pressure:

As a guideline, 1-Ear Clamps have held
30 bar - 441 psi.

This was done using a static water pressure test.

- 100 PER BAG

**Material:**

Hot dipped galvanized carbon steel band - G90

| Part # | Ref# | Nominal Size | Inches | | List Price |
|---------|------|--------------|--------|-------|------------|
| | | | Close | Open | |
| 1050000 | 105 | 3/8" | 0.350 | 0.414 | 0.48 |
| 1050001 | 113 | 7/16" | 0.381 | 0.444 | 0.65 |
| 1050002 | 123 | 15/32" | 0.394 | 0.486 | 0.65 |
| 1050003 | 133 | 1/2" | 0.453 | 0.524 | 0.67 |
| 1050006 | 140 | 35/64" | 0.472 | 0.551 | 0.90 |
| 1050007 | 145 | 9/16" | 0.496 | 0.571 | 0.60 |
| 1050008 | 157 | 5/8" | 0.543 | 0.618 | 0.71 |
| 1050009 | 170 | 11/16" | 0.594 | 0.669 | 0.53 |
| 1050010 | 185 | 23/32" | 0.618 | 0.728 | 0.58 |
| 1050011 | 198 | 3/4" | 0.669 | 0.779 | 0.70 |
| 1050012 | 210 | 13/16" | 0.716 | 0.827 | 0.58 |
| 1050013 | 226 | 7/8" | 0.779 | 0.890 | 1.12 |
| 1050014 | 241 | 15/16" | 0.839 | 0.949 | 0.70 |
| 1050015 | 256 | 1" | 0.898 | 1.008 | 0.73 |
| 1050016 | 271 | 1-1/16" | 0.945 | 1.067 | 0.81 |
| 1050017 | 286 | 1-1/8" | 1.004 | 1.126 | 0.76 |
| 1050018 | 301 | 1-3/16" | 1.063 | 1.185 | 0.69 |
| 1050020 | 331 | 1-5/16" | 1.181 | 1.303 | 0.88 |
| 1050021 | 346 | 1-3/8" | 1.240 | 1.362 | 0.75 |
| 1050023 | 376 | 1-15/32" | 1.358 | 1.480 | 1.35 |
| 1050025 | 396 | 1-9/16" | 1.437 | 1.559 | 0.78 |
| 1050026 | 410 | 1-5/8" | 1.492 | 1.614 | 2.70 |
| 1050029 | 455 | 1-3/4" | 1.669 | 1.791 | 1.37 |
| 1050030 | 470 | 1-16/16" | 1.728 | 1.850 | 0.92 |
| 1050032 | 500 | 1-15/16" | 1.846 | 1.968 | 0.98 |
| 1050033 | 515 | 2" | 1.905 | 2.028 | 1.02 |

Successful people never worry about what others are doing.

2-EAR CLAMPS

2-Ear Clamps are especially suited for industrial use and with heavily vibrating equipment.

This is a medium pressure clamp and is widely used for maintenance and OEM applications. Rubber hose, plastic tubing, coaxial and electrical cable, rope, etc. are all easily clamped. These clamps are installed on air, fluid, gas and steam lines. The one piece design offers a positive, tamper-proof seal without damaging the hose.

PRESSURE:

As a guideline, 2-Ear Clamps successfully seal at 54 bar - 800 psi with 35 pulsating strokes a minute.

MATERIAL:

Zinc plated carbon steel
SAE 1008/1010 or DIN 1.0338
Stainless steel tubing
UNS S30400 or DIN 1.4301



- 100 PER BAG

Note: When ordering your 2-Ear Clamps select nominal clamp size nearest to, but always larger than, O.D. of material to be clamped after insert has been fitted.

ZINC PLATED CARBON STEEL

| Part # | Nominal Size | Inches | | List Price |
|---------|--------------|--------|-------|------------|
| | | Close | Open | |
| 1010002 | 3/16" | 0.134 | 0.197 | 1.27 |
| 1010008 | 5/16" | 0.276 | 0.354 | 1.48 |
| 1010011 | 3/8" | 0.319 | 0.433 | 1.14 |
| 1010016 | 1/2" | 0.425 | 0.512 | 1.15 |
| 1010019 | 9/16" | 0.492 | 0.591 | 1.32 |
| 1010022 | 19/32" | 0.551 | 0.669 | 1.49 |
| 1010024 | 5/8" | 0.591 | 0.709 | 1.26 |
| 1010027 | 3/4" | 0.638 | 0.787 | 1.15 |

STAINLESS STEEL

| Part # | Nominal Size | Inches | | List Price |
|---------|--------------|--------|-------|------------|
| | | Close | Open | |
| 1510003 | 1/4" | 0.197 | 0.276 | 1.41 |
| 1510004 | 5/16" | 0.276 | 0.354 | 1.75 |
| 1510023 | 3/8" | 0.319 | 0.433 | 1.50 |
| 1510006 | 1/2" | 0.425 | 0.512 | 1.81 |
| 1510007 | 9/16" | 0.492 | 0.591 | 2.09 |
| 1510008 | 19/32" | 0.551 | 0.669 | 2.19 |
| 1510009 | 5/8" | 0.591 | 0.709 | 0.99 |
| 1510010 | 3/4" | 0.638 | 0.787 | 2.34 |
| 1510011 | 13/16" | 0.709 | 0.866 | 2.83 |
| 1510012 | 7/8" | 0.748 | 0.906 | 1.54 |
| 1510013 | 15/16" | 0.827 | 0.984 | 2.53 |
| 1510014 | 1" | 0.886 | 1.063 | 2.93 |
| 1510016 | 1-1/8" | 1.035 | 1.221 | 2.76 |
| 1510019 | 1-9/16" | 1.260 | 1.457 | 4.15 |
| 1510020 | 1-1/2" | 1.378 | 1.575 | 3.81 |

Minimum QTYs may apply

GAPLESS EAR CLAMPS

Features

- Assured clamping seal
- For low durometer and/ or thin-walled hose/ tubing
- Perfect for silicon, vinyl, polyurethane or other high tech materials used in all industries.
- Once installed, smooth inner band circumference prevents damage to the hose while the unique tongue-in-groove design provides a 360° seal
- There are no steps or gaps inside clamp



Material

- Stainless steel tubing UNS S30400 or DIN 1.4301

- 100 PER BAG

| Part # | Nominal Size | Band Width | Inches | | List Price |
|----------|--------------|------------|--------|-------|------------|
| | | | Close | Open | |
| 16700001 | 9/32" | 5mm | 0.228 | 0.276 | 1.25 |
| 16700004 | 3/8" | 5mm | 0.307 | 0.374 | 1.32 |
| 16700007 | 7/16" | 5mm | 0.378 | 0.445 | 1.72 |
| 16700010 | 1/2" | 7mm | 0.425 | 0.524 | 1.10 |
| 16700012 | 35/64" | 7mm | 0.453 | 0.551 | 1.45 |
| 16700013 | 9/16" | 7mm | 0.472 | 0.571 | 1.82 |
| 16700016 | 5/8" | 7mm | 0.520 | 0.618 | 1.66 |
| 16700017 | 11/16" | 7mm | 0.571 | 0.669 | 1.27 |
| 16700022 | 3/4" | 7mm | 0.654 | 0.780 | 1.58 |
| 16700024 | 13/16" | 7mm | 0.701 | 0.827 | 1.77 |

Attitude is a little thing
that makes a
big difference.

-Winston Churchill

PREFORMED

TO ORDER the correct size Fast Lok Clamps, measure the outside diameter of the hose or article and then select the next larger inside diameter clamp by catalog number.

- Minimum Qty may apply



Preformed Clamps are double wrapped and formed to a given diameter. Used primarily where one end of the hose or article is free to allow the clamps to be slid over the hose end before the fitting is inserted. All clamps may be pulled down to a smaller diameter but cannot be adjusted to a larger diameter.

PREFORMED CLAMPS

(3/8" AND 5/8" (NOMINAL) WIDTH) - 100/BOX

| Catalog Number Galv | Band Width & Thickness | List Price | Clamp I.D. Inches | Catalog Number SS | Band Width & Thickness | List Price |
|---------------------|------------------------|------------|-------------------|-------------------|------------------------|------------|
| F-3 | 3/8 x .025 | 1.39 | 13/16 | | | 1.39 |
| F-311 | 3/8 x .025 | 1.72 | 1 3/8 | | | 1.72 |
| F-4 | 5/8 x .025 | 1.27 | 1 | FS-4 | 5/8 x .022 | 3.18 |
| F-5 | 5/8 x .025 | 1.46 | 1 1/4 | FS-5 | 5/8 x .022 | 3.55 |
| F-6 | 5/8 x .031 | 1.79 | 1 1/2 | FS-6 | 5/8 x .022 | 3.51 |
| F-7 | 5/8 x .031 | 1.52 | 1 3/4 | FS-7 | 5/8 x .022 | 4.44 |
| F-8 | 5/8 x .031 | 1.52 | 2 | FS-8 | 5/8 x .022 | 4.10 |
| F-9 | 5/8 x .031 | 1.74 | 2 1/4 | FS-9 | 5/8 x .022 | 3.83 |

WITH STAINLESS STEEL LOK - 50/BOX

| | | | | | | |
|------|------------|------|-------|-------|------------|------|
| F-10 | 5/8 x .031 | 1.88 | 2 1/2 | FS-10 | 5/8 x .022 | 4.59 |
| F-11 | 5/8 x .031 | 2.18 | 2 3/4 | FS-11 | 5/8 x .022 | 5.67 |
| F-12 | 5/8 x .031 | 2.32 | 3 | FS-12 | 5/8 x .022 | 4.79 |
| F-14 | 5/8 x .031 | 2.15 | 3 1/2 | FS-14 | 5/8 x .022 | 5.63 |

25/ BOX

| | | | | | | |
|------|------------|------|-------|-------|------------|------|
| F-16 | 5/8 x .031 | 2.62 | 4 | FS-16 | 5/8 x .022 | 6.22 |
| F-18 | 5/8 x .031 | 2.95 | 4 1/2 | FS-18 | 5/8 x .022 | 6.87 |
| F-20 | 5/8 x .031 | 2.92 | 5 | FS-20 | 5/8 x .022 | 7.51 |
| | 5/8 x .031 | | 6 | FS-24 | 5/8 x .022 | 8.90 |
| | 5/8 x .031 | | 7 | FS-28 | 5/8 x .022 | 7.42 |

Double-wrapped, Triple Punched, Holds Permanently



Galvanized Preformed Clamps 2 1/2 inch I.D. and above, and 5/8" wide open end clamps have a stainless steel lock for greater strength and rigidity.

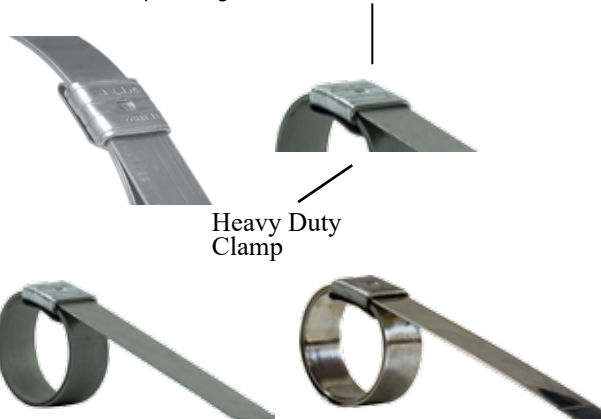
HOSE CLAMPS

K-CLAMP PREFORMED HOSE CLAMPS

Each clamp is a double wrapped metal band formed to a given diameter. The clamp is designed to be slid over the hose end before the fitting is inserted. A punch-type or fold-up tool is then used to apply the clamp.

Punch Indentation for ease of center punching

Heavy Duty Lock for greater strength and rigidity



Heavy Duty Clamp

K-Clamps may be secured by either a punch or fold-up method. (See cross sectioned views)

- Minimum Qty may apply

Center Punched

Less tension loss. Patented hole in inner band gives better internal mechanical locking after punching

Fold-up



PREFORMED CLAMPS

(3/8" AND 5/8" (NOMINAL) WIDTH) - 100/BOX

GALVANIZED

STAINLESS STEEL TYPE

STEEL 301

| Catalog Number | List Price | Clamp I.D. Inches | Band Width & Thickness | Catalog Number | List Price |
|----------------|------------|-------------------|------------------------|----------------|------------|
| K-3 | 1.38 | 13/16" | 3/8" x .025 | KS-3 | 2.39 |
| K-311 | 1.37 | 1-3/8" | 3/8" x .025 | KS-311 | 2.39 |
| K-4 | 1.76 | 1" | 5/8" x .030 | KS-4 | 4.03 |
| K-5 | 2.05 | 1-1/4" | 5/8" x .030 | KS-5 | 3.97 |
| K-6 | 1.97 | 1-1/2" | 5/8" x .030 | KS-6 | 4.25 |
| K-7 | 2.23 | 1-3/4" | 5/8" x .030 | KS-7 | 4.19 |
| K-8 | 2.16 | 2" | 5/8" x .030 | KS-8 | 4.96 |
| K-9 | 2.43 | 2-1/4" | 5/8" x .030 | KS-9 | 4.98 |

50/BOX

| | | | | | |
|------|------|--------|-------------|-------|------|
| K-10 | 2.35 | 2-1/2" | 5/8" x .030 | KS-10 | 5.77 |
| K-11 | 2.45 | 2-3/4" | 5/8" x .030 | KS-11 | 5.77 |
| K-12 | 2.89 | 3" | 5/8" x .030 | KS-12 | 6.71 |
| K-14 | 3.05 | 3-1/2" | 5/8" x .030 | KS-14 | 8.15 |

25/BOX

| | | | | | |
|------|------|--------|-------------|-------|------|
| K-16 | 2.93 | 4" | 5/8" x .030 | KS-16 | 7.53 |
| K-18 | 3.15 | 4-1/2" | 5/8" x .030 | KS-18 | 8.90 |
| K-20 | 3.33 | 5" | 5/8" x .030 | KS-20 | 9.43 |
| K-24 | 3.76 | 6" | 5/8" x .030 | | |
| K-28 | 5.09 | 7" | 5/8" x .030 | | |

TO ORDER the correct size Fast Lok Clamps, measure the outside diameter of the hose or article and then select the next larger inside diameter clamp by catalog number.



**FLJS-Clamp
SMOOTH I.D. CLAMPS**

• Minimum Qty may apply

FLJS - Clamps are double wrapped clamps with a more smooth inside diameter, intended for your thermoplastic and other thinner wall hose clamping applications. The JS series clamps slide on the hose prior to inserting the fitting.

Preformed JS - Clamps are available in 5/8" and 3/4" widths, 1" I.D. to 8" I.D. in 1/4" increments.

The FLJS - Clamp is intended to be applied with a KS001 tool or other comparable fold-up locking tool.

STAINLESS STEEL

5/8" (NOMINAL WIDTH) - 100/BOX

| Catalog # | Clamp I.D. Inches | Band Width & Thickness | List Price |
|-----------|-------------------|------------------------|------------|
| FLJS-203 | 1" | 5/8" x .030 | 4.08 |
| FLJS-204 | 1-1/4" | 5/8" x .030 | 4.77 |
| FLJS-205 | 1-1/2" | 5/8" x .030 | 4.80 |
| FLJS-207 | 2" | 5/8" x .030 | 5.54 |
| FLJS-208 | 2-1/4" | 5/8" x .030 | 5.89 |
| FLJS-209 | 2-1/2" | 5/8" x .030 | 6.25 |



100' CLAMP-IT STRAPPING

| Catalog # | Width | Thickness | Material 100'/CTN. | List Price/ CNT |
|-----------|-------|-----------|--------------------|-----------------|
| SS-3751 | 3/8" | .025 | 301 Stainless | 150.24 |
| SS-5001 | 1/2" | .030 | 301 Stainless | 232.60 |
| SS-6251 | 5/8" | .030 | 301 Stainless | 272.89 |
| SS-7501 | 3/4" | .030 | 301 Stainless | 327.51 |
| SG-5000 | 1/2" | .030 | Galvanized | 87.83 |

CLAMP-IT

The multi-sized clamps all rolled up in one..for your unknown requirements for 1 inch to 30 feet, be they round or otherwise. Clamp-It products will fill your needs. This Strapping in widths of 3/8", 1/2", 5/8", and 3/4" stainless or galvanized steel, as are the clamps (buckles).



CLAMPS (BUCKLES)

| Catalog # | Width | Material | Qty per box | List Price Each pc. |
|-----------|-------|---------------|-------------|---------------------|
| CS-3751 | 3/8" | 301 Stainless | 100 | 1.13 |
| CS-5001 | 1/2" | 301 Stainless | 100 | 1.22 |
| CS-6251 | 5/8" | 301 Stainless | 100 | 1.60 |
| CS-7501 | 3/4" | 301 Stainless | 50 | 2.04 |

Be the attitude you want to be around. -Tim DeTellis

CLAMPLING TOOLS **HOSE CLAMPS**

**Model 1098 I
Standard Jaw Pincers**



Part # 1410118 **List Price** 188.01

SIDE JAW PINCERS

This dual purpose, side jaw design allows clamps to be applied or removed in confined areas with pincers held parallel to the hose. Also used like standard Pincers.



Part # 1410083 **List Price** 184.21
Model 1099 I

HOSE CRIMPER

HOSE RULE CRIMPING TOOL

Tool is equipped with mounting holes for permanent installation or may be used as a portable tool assembly in the field.

IMPORTANT! BEFORE USING THIS TOOL

Make sure the crimping arm is in the closed (down) position and then set the adjusting screw so it touches the end stop.

OPERATION:

- A. FERRULE - The proper ferrule should fit easily over the hose. It is better to use a slightly oversized ferrule as an undersized ferrule may make inserting the barbed fitting difficult.
- B. BARBED FITTING - Dip the ferrule end of the hose into soapy water. Insert the chosen barbed fitting into the hose with a fair amount of force. A barbed fitting that slides into a hose too easily will not crimp properly.
- C. CRIMPING DIE - To find the proper crimping die find the smallest die opening which the hose will just pass through freely. Use the next smallest die and depress the crimping arm fully, keep fingers free from the crimper. Open the crimper and rotate the hose one quarter turn and repeat to finish the crimp.

- Provides production capability and "big tool" crimping advantages at just a fraction of the cost of other tools offering comparable results.



HOSE CRIMPER COMES WITH 5 DIES

Die Sizes = 5/8", 37/64", 12/32", 31/64", 11/16"

| Part # | | List Price |
|---------|--------------|------------|
| 308-070 | Hose Crimper | 244.44 |

FOLD UP ADAPTER



Part # KA001 **List Price**

LOKING TOOL



Part # F-38 **List Price** 127.84
Portable hand tool used to apply punch Type 3/8 & 5/8 Clamps

LOKING TOOL



Part # F-40 **List Price** 216.02
Used to apply Punch Type 3/8 & 5/8 clamps. Order mallet separately

LOKING TOOL



Part # F-100 **List Price** 505.98
Used to apply Punch Type 3/8 & 5/8 clamps. Order mallet separately

HOSE CLAMPS



Features unique one-piece housing, rolled-up band edges and a non-perforated (embossed) band that protects the hose. For added corrosion resistance, the band in the 12mm Standard is made of Aluzinc which gives three times the protection offered by conventional galvanized steel.

- Features high clamping force and high durability torque.
- Stainless: All parts in AISI 304 Stainless Steel.

A non-perforated band with rolled up edges eliminates hose damage while increasing clamping force.

Per SAE standard J1508 Type "FEO"

GENERAL PURPOSE EMBOSSED WORM-GEAR HOSE CLAMPS

- Minimum Qty may apply

| Part # | List Price | SAE Size | Clamping Range | | Bag | Part# 304 SS | List Price |
|--------|------------|----------|----------------|--------|------|--------------|------------|
| | | | Inches | mm | | | |
| 88-024 | 3.25 | 8 | 5/8-1 | 15-24 | 1000 | 89-024 | 6.51 |
| 88-028 | 3.66 | 10 | 3/4-1-1/8 | 19-28 | 500 | 89-028 | 7.58 |
| 88-032 | 4.45 | 12 | 7/8-1-1/4 | 22-32 | 500 | 89-032 | 8.58 |
| 88-038 | 3.70 | 16 | 1-1/16-1-1/2 | 26-38 | 500 | 89-038 | 7.17 |
| | | | 1-1/4-1-3/4 | 32-44 | 500 | 89-044 | 7.82 |
| 88-050 | 4.32 | 24 | 1-1/2-2 | 38-50 | 500 | 89-050 | 8.29 |
| 88-056 | 4.00 | 28 | 1-3/4-2-1/4 | 44-56 | 500 | 89-056 | 8.51 |
| 88-065 | 5.99 | 32 | 2-2-9/16 | 50-65 | 200 | 89-065 | 9.53 |
| 88-075 | 5.98 | 40 | 2-5/16-3 | 58-75 | 200 | 89-075 | 11.00 |
| 88-085 | 5.84 | 44 | 2-11/16-3-3/8 | 68-85 | 200 | 89-085 | 11.81 |
| 88-095 | 4.99 | 52 | 3-3-3/4 | 77-95 | 200 | 89-095 | 14.13 |
| 88-112 | 7.49 | 64 | 3-7/16-4-7/16 | 87-112 | 200 | 89-112 | 13.44 |

MINI CLAMPS

Sure seal for small, thin walled hoses. The nut is secured to the clamp, making installation easier and the hexagonal head can be tightened with a socket wrench or screw driver. Bandwidth is 9mm.

PAINTED ALUZINC STANDARD MINI CLAMPS



| Part # | Clamping Range | | Qty per Bag | List Price |
|--------|----------------|-----------|-------------|------------|
| | Inches | mm | | |
| 92-010 | .36-.41 | 9-10.5 | 1000 | 1.41 |
| 92-011 | .37-.45 | 9.5-11.5 | 900 | 1.26 |
| 92-012 | .41-.49 | 10.5-12.5 | 800 | 1.65 |
| 92-013 | .45-.53 | 11.5-13.5 | 800 | 1.58 |
| 92-014 | .49-.57 | 12.5-14.5 | 700 | 1.30 |
| 92-015 | .53-.61 | 13.5-15.5 | 600 | 1.82 |
| 92-016 | .55-.65 | 14-16.5 | 500 | 1.57 |
| 92-017 | .59-.69 | 15-17.5 | 500 | 1.40 |

LINED BAND CLAMPS

NEW



MARINE - EMBOSSED NON-PERFORATED WORM GEAR CLAMPS

- Meets the DIN 3017 Standard
- Replaces the Ultra Clamps 316 stainless steel
- 12mm band widths
- Installation torque 60lbs
- General purpose non perforated band especially suited for most hoses and soft silicone hoses.
- Band edges rolled to protect soft hoses from shearing and fraying
- Common applications include: vehicular, industrial, mechanical engineering, plumbing and marine.
- ROLLED EDGES
- BAND WILL NOT DAMAGE SOFT HOSES

ALL #316 SS MATERIAL

12MM WIDE EMBOSSED ALL 316 BAND CLAMPS

| Part # | Range of Adjust (in mm) | Range of Adjust (inches) | List Price |
|--------|-------------------------|--------------------------|------------|
| 96022 | 12-22 | .469-.859 | 2.42 |
| 96027 | 16-27 | .625-1.06 | 2.65 |
| 96032 | 20-32 | .787-1.26 | 2.83 |
| 96040 | 25-40 | .984-1.575 | 3.04 |
| 96050 | 35-50 | 1.26-1.969 | 3.31 |
| 96060 | 40-60 | 1.575-2.362 | 3.49 |
| 96070 | 50-70 | 1.969-2.756 | 3.67 |
| 96080 | 60-80 | 2.362-3.15 | 3.89 |
| 96090 | 70-90 | 2.756-3.543 | 4.12 |
| 96100 | 80-100 | 3.15-3.937 | 4.39 |
| 96110 | 90-110 | 3.543-4.33 | 4.46 |
| 96120 | 100-120 | 3.937-4.724 | 4.80 |
| 96130 | 110-130 | 4.33-5.118 | 5.12 |
| 96140 | 120-140 | 4.72-5.512 | 5.23 |
| 96150 | 130-150 | 5.118-5.906 | 5.66 |
| 96160 | 140-160 | 5.512-6.299 | 5.80 |

MINI CLAMPS

304 SS MINI CLAMPS



| Part # | Clamping Range | | Qty per Bag | List Price |
|--------|----------------|---------|-------------|------------|
| | Inches | mm | | |
| 93-008 | .30-.34 | 7.5-8.5 | 1000 | 3.49 |
| 93-009 | .34-.37 | 8.5-9.5 | 1000 | 4.25 |
| 93-011 | .41-.47 | 10.5-12 | 900 | 4.24 |
| 93-013 | .49-.55 | 12.5-14 | 800 | 4.65 |
| 93-014 | .53-.59 | 13.5-15 | 700 | 3.59 |
| 93-016 | .59-.67 | 15-17 | 1000 | 4.52 |
| 93-017 | .63-.71 | 16-18 | 500 | 3.81 |

LINED, MINI/ RUBBER LINED

HOSE CLAMPS



RUBBER LINED CLAMPS

Multiple uses for holding cable, wire, pipe and hose. The rubber cushion absorbs vibration, provides protection against scratching and is made of black EPDM type rubber.

Rubber cushion clamps are used in a variety of industries and applications including automotive, truck, hydraulics and pneumatics, ship building, refrigeration, large equipment packaging etc.

Bandwidths and mounting hose sizes vary by diameter and material.

- Aluzinc clamps have a .26 hole diameter
- Stainless Steel .20 diameter

| Part # Aluzinc | Qty per Bag | List Price | Clamping Range | | Part# 304 SS | Qty per Bag | List Price |
|-------------------|----------------|---------------|----------------|-----|-----------------|----------------|---------------|
| | | | Inches | mm | | | |
| 95-300 | 100 | 1.38 | 1/8 | 3 | | | |
| 95-301 | 100 | 1.55 | 3/16 | 5 | 96-301 | 1000 | 2.49 |
| 95-302 | 100 | 1.36 | 1/4 | 6 | 96-302 | 200 | 2.42 |
| 95-303 | 100 | 1.44 | 5/16 | 8 | 96-303 | 1000 | 2.39 |
| 95-304 | 100 | 1.29 | 3/8 | 10 | 96-304 | 100 | 2.75 |
| 95-305 | 100 | 1.32 | 7/16 | 11 | 96-305 | 1000 | 2.60 |
| 95-306 | 100 | 1.57 | 1/2 | 13 | 96-306 | 100 | 2.71 |
| 95-307 | 100 | 1.67 | 9/16 | 14 | 96-307 | 100 | 3.28 |
| 95-308 | 100 | 1.52 | 5/8 | 16 | 96-308 | 100 | 3.27 |
| 95-309 | 50 | 1.76 | 11/16 | 18 | | | |
| 95-310 | 50 | 1.65 | 3/4 | 19 | 96-310 | 500 | 3.31 |
| 95-311 | 50 | 2.10 | 13/16 | 21 | | | |
| 95-312 | 50 | 2.15 | 7/8 | 22 | 96-312 | 500 | 3.38 |
| 95-313 | 50 | 2.31 | 15/16 | 24 | | | |
| 95-314 | 50 | 1.94 | 1 | 25 | 96-314 | 500 | 4.22 |
| 95-315 | 50 | 2.62 | 1-1/16 | 27 | | | |
| 95-316 | 50 | 2.39 | 1-1/8 | 29 | 96-316 | 500 | 5.66 |
| 95-317 | 50 | 3.42 | 1-3/16 | 30 | | | |
| 95-318 | 50 | 3.68 | 1-1/4 | 32 | 96-318 | 500 | 5.98 |
| 95-319 | 50 | 4.01 | 1-5/16 | 33 | | | |
| 95-320 | 50 | 4.01 | 1-3/8 | 35 | 96-320 | 500 | 7.72 |
| 95-321 | 50 | 3.93 | 1-7/16 | 36 | | | |
| 95-322 | 500 | 4.25 | 1-1/2 | 38 | 96-322 | 100 | 7.35 |
| 95-326 | 50 | 6.68 | 1-5/8 | 41 | | | |
| 95-323 | 25 | 5.13 | 1-3/4 | 45 | 96-323 | 500 | 7.98 |
| 95-328 | 25 | 6.80 | 1-7/8 | 47 | | | |
| 95-324 | 25 | 5.29 | 2 | 51 | | | |
| 95-325 | 25 | 5.76 | 2-1/8 | 54 | | | |
| 95-329 | 25 | 6.98 | 2-3/8 | 60 | | | |
| 95-327 | 25 | 6.59 | 2-1/2 | 65 | | | |
| 95-330 | 15 | 6.86 | 2-15/16 | 74 | | | |
| 95-331 | 10 | 11.03 | 4-5/16 | 110 | | | |



RUBBER CUSHIONED SS CLAMP

| Part # | Mounting Dia | Clamp Dia | List Price |
|--------|--------------|-----------|------------|
| 95402 | 3/8" | 1/4" | 0.60 |
| 95404 | 3/8" | 3/8" | 0.60 |
| 95406 | 3/8" | 1/2" | 0.70 |
| 95408 | 3/8" | 5/8" | 0.73 |
| 95410 | 3/8" | 3/4" | 0.83 |
| 95414 | 3/8" | 1" | 0.98 |
| 95418 | 3/8" | 1 1/4" | 1.40 |
| 95422 | 3/8" | 1 1/2" | 1.55 |
| 95424 | 3/8" | 2" | 2.18 |
| 95427 | 3/8" | 2 1/2" | 3.45 |
| 95432 | 3/8" | 3" | 4.53 |
| 95433 | 3/8" | 4" | 5.85 |
| 95434 | 3/8" | 5" | 9.53 |



GALVANIZED STEEL VINYL COATED CLAMP

| Part # | Mounting Dia | Clamp Dia | List Price |
|--------|--------------|-----------|------------|
| 95504 | 1/4" | 3/8" | 0.38 |
| 95506 | 1/4" | 1/2" | 0.52 |
| 95508 | 1/4" | 5/8" | 0.61 |
| 95510 | 1/4" | 3/4" | 0.61 |
| 95512 | 1/4" | 7/8" | 0.78 |
| 95514 | 1/4" | 1" | 0.81 |
| 95516 | 1/4" | 1 1/8" | 1.33 |
| 95518 | 1/4" | 1 1/4" | 0.99 |
| 95522 | 1/4" | 1 1/2" | 1.28 |
| 95523 | 1/4" | 1 3/4" | 1.45 |
| 95524 | 1/4" | 2" | 2.78 |

HOSE CLAMPS

HOSE FERRULES

SMOOTH BRASS HOSE FERRULES

Brass Hose Ferrules offer an alternative to hose clamps. After crimping, the ferrule will provide a permanent clamping force on both the hose and fitting.

I.D.



Pierce/ Hole • ASTM B36 Alloy 268

| Part # | Ferrule # | I.D. | Length | Pierce | Gauge | List Price |
|--------|-----------|-------|--------|--------|-------|------------|
| 32-500 | 6231 | 0.330 | 0.49 | 0.250 | 0.020 | 0.38 |
| 32-501 | 833 | 0.358 | 0.500 | 0.265 | 0.020 | 0.39 |
| 32-503 | 833B | 0.375 | 0.718 | 0.265 | 0.025 | 0.42 |
| 32-502 | 622 | 0.380 | 0.500 | 0.265 | 0.020 | 0.36 |
| 32-550 | 619 | 0.400 | 0.47 | 0.27 | 0.020 | 0.57 |
| 32-504 | 620 | 0.410 | 0.500 | 0.265 | 0.020 | 0.39 |
| 32-551 | 769R | 0.450 | 0.562 | 0.343 | 0.020 | 0.50 |
| 32-552 | 4750 | 0.478 | 0.687 | 0.328 | 0.025 | 0.45 |
| 32-553 | 624R | 0.500 | 0.500 | 0.343 | 0.020 | 0.58 |
| 32-506 | 7322A | 0.500 | 1.000 | 0.343 | 0.025 | 0.61 |
| 32-554 | 7322 | 0.500 | 1.000 | 0.328 | 0.025 | 0.70 |
| 32-555 | 625 | 0.525 | 0.47 | 0.36 | 0.020 | 0.43 |
| 32-517 | 625A | 0.525 | 0.56 | 0.360 | 0.020 | 0.42 |
| 32-556 | 7323 | 0.525 | 1.000 | 0.375 | 0.025 | 0.81 |
| 32-521 | 9974 | 0.525 | 1.000 | 0.437 | 0.025 | 0.79 |
| 32-557 | 7324 | 0.531 | 1.000 | 0.375 | 0.025 | 0.70 |
| 32-558 | 626 | 0.550 | 0.484 | 0.375 | 0.020 | 0.53 |
| 32-507 | 3588 | 0.56 | 0.75 | 0.375 | 0.020 | 0.51 |
| 32-559 | 7325 | 0.56 | 1.000 | 0.437 | 0.025 | 0.77 |
| 32-561 | 7326 | 0.593 | 1.000 | 0.437 | 0.025 | 0.73 |
| 32-563 | JJ | 0.600 | 0.500 | 0.500 | 0.020 | 0.52 |
| 32-526 | II | 0.625 | 0.500 | 0.500 | 0.020 | 0.71 |
| 32-564 | 7327 | 0.625 | 1.000 | 0.437 | 0.025 | 0.69 |
| 32-565 | HH | 0.650 | 0.500 | 0.500 | 0.020 | 0.63 |
| 32-566 | 7328 | 0.656 | 1.000 | 0.437 | 0.025 | 0.80 |
| 32-567 | GG | 0.675 | 0.515 | 0.500 | 0.020 | 0.75 |
| 32-568 | 7329 | 0.69 | 1.000 | 0.500 | 0.025 | 0.86 |

| Part # | Ferrule # | I.D. | Length | Pierce | Gauge | List Price |
|--------|-----------|-------|--------|--------|-------|------------|
| 32-570 | 7330 | 0.718 | 1.000 | 0.500 | 0.025 | 0.83 |
| 32-508 | 7330A | 0.718 | 1.000 | 0.625 | 0.025 | 0.85 |
| 32-571 | EE | 0.725 | 0.530 | 0.500 | 0.020 | 0.65 |
| 32-572 | DD | 0.750 | 0.531 | 0.500 | 0.020 | 0.64 |
| 32-510 | 7331B | 0.75 | 1.00 | 0.500 | 0.025 | 0.89 |
| 32-573 | 7331 | 0.750 | 1.000 | 0.625 | 0.025 | 1.25 |
| 32-574 | CC | 0.775 | 0.531 | 0.500 | 0.020 | 0.74 |
| 32-533 | 7332B | 0.781 | 1.000 | 0.500 | 0.025 | 1.20 |
| 32-575 | 7332 | 0.781 | 1.000 | 0.625 | 0.025 | 0.88 |
| 32-576 | BB | 0.800 | 0.546 | 0.562 | 0.020 | 0.80 |
| 32-577 | 7333 | 0.812 | 1.000 | 0.625 | 0.025 | 1.20 |
| 32-578 | AA | 0.825 | 0.546 | 0.562 | 0.020 | 0.76 |
| 32-535 | | 0.85 | 0.968 | 0.687 | 0.025 | 0.86 |
| 32-579 | 7244 | 0.875 | 0.843 | 0.687 | 0.025 | 1.07 |
| 32-539 | 5029A | 0.900 | 0.875 | 0.687 | 0.025 | 1.07 |
| 32-580 | 7113 | 0.925 | 0.968 | 0.750 | 0.025 | 1.14 |
| 32-543 | 5028A | 0.975 | 0.843 | 0.687 | 0.025 | 1.29 |
| 32-545 | 5235A | 1.000 | 0.843 | 0.687 | 0.025 | 1.20 |
| 32-549 | 7145A | 1.050 | 0.843 | 0.687 | 0.025 | 1.51 |
| 32-584 | 5027 | 1.100 | 0.843 | 0.812 | 0.025 | 1.33 |
| 32-586 | 7104A | 1.15 | 0.843 | 0.875 | 0.025 | 1.05 |
| 32-588 | 7088A | 1.175 | 0.875 | 0.875 | 0.025 | 1.56 |
| 32-590 | 875L | 1.200 | 0.843 | 0.875 | 0.025 | 1.75 |
| 32-591 | 7291 | 1.225 | 0.968 | 0.875 | 0.025 | 2.09 |
| 32-592 | 7255 | 1.25 | 0.968 | 1.000 | 0.04 | 2.40 |
| 32-596 | 8000 | 1.425 | 0.875 | 1.062 | 0.025 | 1.98 |
| 32-597 | 1500 | 1.50 | 0.875 | 1.125 | 0.025 | 1.63 |



STAINLESS STEEL FERRULES

| Part # | Cross # | I.D. | Length | Hole | Metal Thickness | List Price |
|---------|---------|-------|--------|------|-----------------|------------|
| 32552SS | x4750 | .478 | .687 | .328 | .020 | 0.60 |
| 32557SS | 7324 | .531 | 1.00 | .438 | .020 | 0.71 |
| 32559SS | 7325 | .56 | 1.00 | .437 | .020 | 0.70 |
| 32561SS | 7326 | .593 | 1.00 | .437 | .020 | 0.75 |
| 32564SS | 7327 | .625 | 1.00 | .437 | .020 | 0.78 |
| 32566SS | 7328 | .656 | 1.00 | .437 | .020 | 1.51 |
| 32568SS | 7329 | .69 | 1.00 | .50 | .020 | 0.83 |
| 32570SS | 7330 | .718 | 1.00 | .625 | .020 | 0.88 |
| 32575SS | 7332 | .781 | 1.00 | .625 | .020 | 0.88 |
| 32577SS | 7333 | .812 | 1.00 | .625 | .020 | 1.87 |
| 32588SS | 7088A | 1.175 | .844 | .875 | .020 | 1.05 |

MORE SIZES AVAILABLE

AVAILABLE IN ALUMINUM
AND STEEL ALSO

TUBING

TUBING

TUBING



POLYURETHANE

POLYETHYLENE

Sold individually boxed

NYLON

Sold individually boxed



Natural, Black, Blue, Green, Red, Yellow, Orange



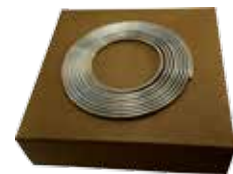
PVC

• Clear

Sold individually boxed

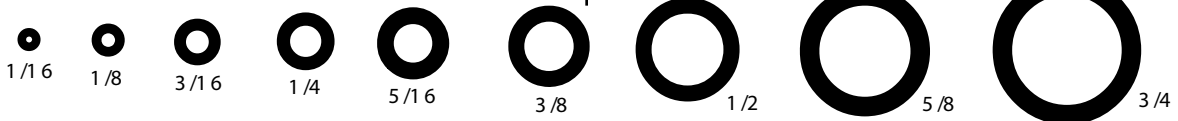


COPPER AND ALUMINUM



TYPE L AND REFRIGERATION

ALUMINUM





POLYURETHANE NSF 51®

NSF 51® polyurethane (PUR) Shore A 98 tubing is made from the highest quality raw materials available. It is etherbased to provide excellent hydrolysis, oil and cold resistance. Polyurethane NSF 51® is strong and flexible and offers superior kink resistance compared to other tubing. It is 5 to 10 times more wear resistant and lighter in weight than any rubber hose.

Polyurethane NSF 51® tubing has an outside diameter made to extremely tight tolerances. It is ideal for use with push-to-connect fittings, as well as barb-type and compression fittings for simple installation.

Features

- Strong
- Lightweight
- Flexible
- Abrasion Resistant
- Heat & Cold Resistant
- Chemical Resistant
- Kink Resistant
- NSF 51® Certified
- Meets NSF 61® Requirements

Specifications

Temperature Range: -40°F to +160°F
 Hardness: Shore A 98
 Vacuum Rating:
 To 28" Hg
 Tolerances:
 1/8"-1/2" O.D. +/- .005
 9/16"-3/4" O.D. +/- .006
 RoHS Compliant

Applications

Pneumatic Tools Lube Lines
 Pneumatic Piping Painting Systems
 Vacuum Food & Beverages
 Laboratories
 Robotics
 Motion Control
 Instrumentation
 Agriculture

100' FOOT LENGTHS

CLEAR



| Part # | O.D. (IN) | I.D. (IN) | Wall Thickness (IN) | Bend Radius (IN) | W.P. @70°F (PSI) | W.P. @150°F (PSI) | 3:1 Burst Pressure | Package Weight (lbs) | List Price |
|---------|-----------|-----------|---------------------|------------------|------------------|-------------------|--------------------|----------------------|------------|
| 973-341 | 4mm, 5/32 | .093 | .031 | .250 | 200 | 85 | 600 | .70 | 49.36 |
| 973-343 | .250 | .156 | .047 | .476 | 180 | 70 | 540 | 1.50 | 66.66 |
| 973-345 | .375 | .250 | .063 | 1.000 | 150 | 70 | 450 | 3.40 | 136.02 |
| 973-346 | .500 | .328 | .086 | 1.102 | 150 | 70 | 450 | 5.60 | 260.94 |

BLACK



| Part # | O.D. (IN) | I.D. (IN) | Wall Thickness (IN) | Bend Radius (IN) | W.P. @70°F (PSI) | W.P. @150°F (PSI) | 3:1 Burst Pressure | Package Weight (lbs) | List Price |
|---------|-----------|-----------|---------------------|------------------|------------------|-------------------|--------------------|----------------------|------------|
| 73-341B | 4mm, 5/32 | .093 | .031 | .250 | 200 | 85 | 600 | .70 | 37.50 |
| 73-343B | .250 | .156 | .047 | .476 | 180 | 70 | 540 | 1.50 | 66.66 |
| 73-345B | .375 | .250 | .063 | 1.000 | 150 | 70 | 450 | 3.40 | 136.02 |
| 73-346B | .500 | .328 | .086 | 1.102 | 150 | 70 | 450 | 5.60 | 260.94 |

BLUE



| Part # | O.D. (IN) | I.D. (IN) | Wall Thickness (IN) | Bend Radius (IN) | W.P. @70°F (PSI) | W.P. @150°F (PSI) | 3:1 Burst Pressure | Package Weight (lbs) | List Price |
|---------|-----------|-----------|---------------------|------------------|------------------|-------------------|--------------------|----------------------|------------|
| 73-341U | 4mm, 5/32 | .093 | .031 | .250 | 200 | 85 | 600 | .70 | 37.50 |
| 73-343U | .250 | .156 | .047 | .476 | 180 | 70 | 540 | 1.50 | 66.66 |
| 73-345U | .375 | .250 | .063 | 1.000 | 150 | 70 | 450 | 3.40 | 136.02 |
| 73-346U | .500 | .328 | .086 | 1.102 | 150 | 70 | 450 | 5.60 | 260.94 |

RED



| Part # | O.D. (IN) | I.D. (IN) | Wall Thickness (IN) | Bend Radius (IN) | W.P. @70°F (PSI) | W.P. @150°F (PSI) | 3:1 Burst Pressure | Package Weight (lbs) | List Price |
|---------|-----------|-----------|---------------------|------------------|------------------|-------------------|--------------------|----------------------|------------|
| 73-341R | 4mm, 5/32 | .093 | .031 | .250 | 200 | 85 | 600 | .70 | 37.50 |
| 73-343R | .250 | .156 | .047 | .476 | 180 | 70 | 540 | 1.50 | 66.60 |
| 73-345R | .375 | .250 | .063 | 1.000 | 150 | 70 | 450 | 3.40 | 136.02 |
| 73-346R | .562 | .375 | .093 | 1.142 | 140 | 60 | 420 | 5.60 | 260.94 |

OD Sizes Available

.125, .187, 1/4(1/8), 8mm(5/16)
 .562, .625 and .750

Other sizes, Lengths and
 Colors available

- Available in longer lengths upon request
- Other colors available

LINEAR LOW DENSITY POLYETHYLENE TUBING (LLDPE)

Features

- Chemically Inert
- Chemical Resistant
- Lightweight & Flexible
- Good Dielectric Properties
- Impermeable to Gases
- Meets FDA Requirements
- Multiple Colors Available
- Vacuum rating to 28" Hg

Polyethylene is made from 100% non-toxic ingredients. It's inert nature and FDA compliant status makes it perfect for food, water and beverage piping. It is ideal for use in pneumatic, drain piping, lab use and chemical transfer applications which require an inexpensive tubing

Polyethylene is highly-resistant to stress cracking from chemicals, aging and ultraviolet exposure. For use with barb-type, push-to-connect or compression-style fittings.

Specifications

Temperature Range: -50°F to +140°F

Hardness: Shore A 93A

Shore D 45D

Applications

Food & Beverage Process Control
 Pneumatic Tools Laboratories
 Pneumatic Piping
 Electrical Jacketing
 Drain Lines
 Instrumentation
 Chemical Transfer



100' LENGTH



500' LENGTH



1000' LENGTH

100' LENGTH - Natural

| Part # | Tube O.D. | Tube ID | Tube Wall | Working Pressure | List Price |
|---------|-----------|---------|-----------|------------------|------------|
| 973-200 | 1/8" | 0.08 | 0.022 | 250 | 23.54 |
| 973-201 | 4mm/5/32" | 0.106 | 0.025 | 180 | 24.40 |
| 973-203 | 1/4" | 0.17 | 0.040 | 150 | 22.81 |
| 973-204 | 1/4" | 0.125 | 0.0625 | 350 | 30.50 |
| 973-205 | 8mm/5/16" | 0.236 | 0.038 | 150 | 43.25 |
| 973-206 | 3/8" | 0.25 | 0.0625 | 150 | 49.87 |
| 973-207 | 1/2" | 0.375 | 0.0625 | 125 | 62.78 |
| 973-208 | 5/8" | 0.50 | 0.0625 | 100 | 140.58 |
| 973-211 | 3/4" | 0.625 | 0.0625 | 100 | 204.24 |
| 973-210 | 1" | 0.75 | 0.125 | 150 | 388.60 |

500' LENGTH

| Part # | Tube O.D. | Tube ID | Tube Wall | Working Pressure | List Price |
|----------|-----------|---------|-----------|------------------|------------|
| 73-200N5 | 1/8" | 0.085 | 0.020 | 250 | 103.17 |
| 73-203N5 | 1/4" | 0.17 | 0.040 | 150 | 137.47 |
| 73-204N5 | 1/4" | 0.125 | 0.0625 | 350 | 148.45 |
| 73-206N5 | 3/8" | 0.25 | 0.0625 | 150 | 244.62 |
| 73-207N5 | 1/2" | 0.375 | 0.0625 | 125 | 308.89 |

1000' LENGTH

| Part # | Tube O.D. | Tube ID | Tube Wall | Working Pressure | List Price |
|----------|-----------|---------|-----------|------------------|------------|
| 73-203N1 | 1/4" | 0.17 | 0.040 | 150 | 218.11 |
| 73-206N1 | 3/8" | 0.25 | 0.0625 | 150 | 428.64 |

LLDPE POLYETHYLENE TUBING - COLORS



BLACK

- 100'
- 500'
- 1000'

| Part # | Color | Length | Nominal O.D. | List Price |
|----------|-------|--------|--------------|------------|
| 73-200B | Black | 100' | 1/8" | 23.54 |
| 73-201B | Black | 100' | 5/32" | 26.87 |
| 73-203B | Black | 100' | 1/4" | 27.81 |
| 73-204B | Black | 100' | 1/4" | 28.50 |
| 73-205B | Black | 100' | 5/16" | 43.25 |
| 73-206B | Black | 100' | 3/8" | 47.54 |
| 73-207B | Black | 100' | 1/2" | 64.45 |
| 73-208B | Black | 100' | 5/8" | 117.19 |
| 73-203B5 | Black | 500' | 1/4" | 131.51 |
| 73-205B5 | Black | 500' | 5/16" | 187.98 |
| 73-206B5 | Black | 500' | 3/8" | 225.35 |
| 73-207B5 | Black | 500' | 1/2" | 308.89 |
| 73-203B1 | Black | 1000' | 1/4" | 428.64 |
| 73-206B1 | Black | 1000' | 3/8" | 428.64 |



GREEN

- 100'
- 500'
- 1000'

| Part # | Color | Length | Nominal O.D. | List Price |
|----------|-------|--------|--------------|------------|
| 73-201G | Green | 100' | 5/32" | 26.87 |
| 73-203G | Green | 100' | 1/4" | 28.35 |
| 73-204G | Green | 100' | 1/4" | 28.50 |
| 73-205G | Green | 100' | 5/16" | 43.25 |
| 73-206G | Green | 100' | 3/8" | 47.54 |
| 73-207G | Green | 100' | 1/2" | 64.45 |
| 73-203G5 | Green | 500' | 1/4" | 111.96 |
| 73-203G1 | Green | 1000' | 1/4" | 218.11 |



WHITE

- 100'
- 500'

| Part # | Color | Length | Nominal O.D. | List Price |
|----------|-------|--------|--------------|------------|
| 73-203W | White | 100' | 1/4" | 27.81 |
| 73-206W | White | 100' | 3/8" | 47.54 |
| 73-207W | White | 100' | 1/2" | 68.16 |
| 73-207W5 | White | 500' | 1/2" | 308.89 |



BLUE

- 100'
- 500'
- 1000'

| Part # | Color | Length | Nominal O.D. | List Price |
|----------|-------|--------|--------------|------------|
| 73-200U | Blue | 100' | 1/8" | 23.54 |
| 73-201U | Blue | 100' | 5/32" | 26.87 |
| 73-203U | Blue | 100' | 1/4" | 27.81 |
| 73-204U | Blue | 100' | 1/4" | 28.50 |
| 73-205U | Blue | 100' | 5/16" | 43.25 |
| 73-206U | Blue | 100' | 3/8" | 49.95 |
| 73-207U | Blue | 100' | 1/2" | 64.45 |
| 73-203U5 | Blue | 500' | 1/4" | 111.96 |
| 73-206U5 | Blue | 500' | 3/8" | 225.35 |
| 73-203U1 | Blue | 1000' | 1/4" | 218.11 |



RED

- 100'
- 500'
- 1000'

| Part # | Color | Length | Nominal O.D. | List Price |
|----------|-------|--------|--------------|------------|
| 73-203R | Red | 100' | 1/4" | 27.81 |
| 73-205R | Red | 100' | 5/16" | 43.25 |
| 73-206R | Red | 100' | 3/8" | 47.54 |
| 73-207R | Red | 100' | 1/2" | 62.07 |
| 73-203R5 | Red | 500' | 1/4" | 123.87 |
| 73-206R5 | Red | 500' | 3/8" | 225.35 |
| 73-203R1 | Red | 1000' | 1/4" | 218.11 |



YELLOW

- 100'

| Part # | Color | Length | Nominal O.D. | List Price |
|---------|--------|--------|--------------|------------|
| 73-203Y | Yellow | 100' | 1/4" | 27.81 |
| 73-204Y | Yellow | 100' | 1/4" | 28.50 |
| 73-205Y | Yellow | 100' | 5/16" | 43.25 |
| 73-206Y | Yellow | 100' | 3/8" | 47.54 |
| 73-207Y | Yellow | 100' | 1/2" | 64.45 |



ORANGE

| Part # | Color | Length | Nominal O.D. | List Price |
|---------|--------|--------|--------------|------------|
| 73-203O | Orange | 100' | 1/4" | 27.01 |

NYLON **TUBING**

NYLON 12 TUBING

Nylon 12 tubing is recognized as an industry standard for applications which require higher working pressures and higher heat and/or chemical resistance. It is ideal for outdoor use applications because of its superior stress crack resistance. Nylon 12 is strong, lightweight and has a very low moisture absorption rate compared to other nylons. By not absorbing moisture, Nylon 12 remains more flexible, which in turn extends its service life. Nylon 12 tubing can be used with standard push-to-connect fittings and compression fittings for simple installation.

Because of its semi-rigid properties, a thinner tube wall provides higher flow rates and working pressure.

Features

- Strong
- Lightweight
- Flexible
- Abrasion Resistant
- Heat Resistant
- Chemical Resistant
- Heat/ Light Stabilized
- Black - UV Rated

Specifications

Temperature Range: -60°F to +200°F
 Hardness: Rockwell 78 R
 Shore D 70
 Vacuum Rating: To 28" Hg
 Higher Flow Rates & Working Pressure
 Tolerances: 1/8"-1/4" +/- .004
 3/4"-1/2" +/- .006

Applications

Pneumatic Tools Chemical Transfer
 Pneumatic Piping Vacuum
 Instrumentation Process Control
 Lube Lines Fuel Lines
 Coolants Paint Supply Lines
 Refrigeration Laboratories

Part #'s shown are for natural. 500' and 1000' reels available on request.



100' LENGTH



BLACK TUBING & MISC.



METRIC LENGTH

100' LENGTH

| Part # | Tube O.D. | Tube ID | Tube Wall | Working Pressure | List Price |
|---------|-----------|---------|-----------|------------------|------------|
| 973-230 | 1/8" | 0.08 | .022 | 420 | 50.70 |
| 973-231 | 5/32" | 0.106 | .025 | 350 | 66.87 |
| 973-232 | 1/4" | 0.18 | .035 | 290 | 112.50 |
| 973-238 | 1/4" | 0.15 | .05 | 800 | 134.34 |
| 973-233 | 3/8" | 0.275 | .050 | 250 | 242.40 |
| 973-234 | 1/2" | 0.375 | .062 | 240 | 400.33 |

BLACK TUBING & MISC.

| Part # | O.D. | Tube ID | Wall | Working Pressure | List Price |
|-----------|------|---------|-------|------------------|------------|
| 73-230B | 1/8 | 0.08 | 0.022 | 420 | 54.67 |
| 73-231B | 5/32 | 0.106 | 0.025 | 350 | 66.84 |
| 73-232B | 1/4 | 0.18 | 0.035 | 290 | 112.51 |
| 73-238B | 1/4 | 0.15 | 0.05 | 800 | 131.25 |
| 73-233B | 3/8 | 0.275 | 0.05 | 250 | 242.40 |
| 73-232N5* | 1/4 | 0.18 | 0.035 | 290 | 479.30 |
| 73-238U** | 1/4 | 0.15 | 0.075 | 800 | 112.51 |

• 500' Natural **Blue

*METRIC LENGTH - 100 ft. coils • available in natural color only

| Part # | MM O.D. | MM I.D. | MM Wall | Working Pressure | List Price |
|---------|---------|---------|---------|------------------|------------|
| 973-323 | 4 | 2.7 | 0.65 | 350 | 66.84 |
| 973-326 | 6 | 3.5 | 1.25 | 350 | 111.49 |
| 973-325 | 6 | 4 | 1 | 340 | 143.88 |
| 973-327 | 8 | 6 | 1 | 250 | 202.44 |
| 973-329 | 10 | 8 | 1 | 225 | 234.62 |
| 973-332 | 12 | 10 | 1 | 200 | 393.30 |
| 973-334 | 14 | 11 | 1.5 | 175 | 648.36 |



PVC POLYVINYLCHLORIDE TUBING - NSF61

PVC is suited for general, low-pressure, industrial applications for the conveyance of liquids and solids of suitable granular size. Made from a PVC compound that complies with FDA regulations. Although it is primarily intended for applications where pressure is not essential, it will withstand the pressures shown.

The clear PVC Tubing provides good chemical resistance, is lightweight, flexible and economically priced.

Features

- Lightweight
- Flexible
- Food Grade
- Clear Color/ Blue tint

Specifications

Temperature Range: +25°F to +150°F
 Hardness: Shore A 75 PVC
 Meets FDA requirements
 NSF 61 Certified
 USP Class VI rated materials
 RoHS Compliant

Applications

Beverage Dispensing Distilled Water Transfer
 Drain Tubing Light Vacuum
 Potable Water Wire Harness
 Laboratory Tubing 3:1 Burst Pressure
 Wine Transfer
 Low Pressure Air Line

Colors Available: Clear

Package Lengths: 100'

100' LENGTH

| Part # | Tube I.D. | Tube O.D. | Tube Wall | Working Pressure | List Price |
|---------|-------------|--------------|-------------|------------------|------------|
| 973-224 | 1/8 (.125) | 1/4 (.25) | 1/16 (.032) | 50 | 53.76 |
| 973-223 | 3/16 (.187) | 5/16 (.313) | 1/16 (.062) | 55 | 41.14 |
| 973-215 | 1/4 (.25) | 3/8 (.375) | 1/16 (.062) | 55 | 56.56 |
| 973-252 | 5/16 (.312) | 7/16 (.438) | 1/16 (.062) | 50 | 68.79 |
| 973-253 | 5/16 (.312) | 1/2 (.500) | 3/32 (.094) | 55 | 93.23 |
| 973-216 | 3/8 (.375) | 1/2 (.500) | 1/16 (.062) | 45 | 72.85 |
| 973-255 | 3/8 (.375) | 5/8 (.625) | 1/8 (.125) | 55 | 169.53 |
| 973-262 | 3/8 (.375) | 9/16 (.563) | 3/32 (.094) | 50 | 147.88 |
| 973-217 | 1/2 (.500) | 5/8 (.625) | 1/16 (.062) | 30 | 139.64 |
| 973-219 | 3/4 (.750) | 1 (1.00) | 1/8 (.125) | 35 | 248.89 |
| 973-221 | 1 (1.00) | 1-1/4 (1.25) | 1/8 (.125) | 25 | 373.97 |

TUBING ACCESSORIES

MINI-TUBING CUTTER

• Great for tight places



| Part # | Size | List Price |
|---------|----------------------|------------|
| 990-571 | 3mm-22mm (1/8"-7/8") | 6.38 |

TUBING CUTTER



| Part # | Size | List Price |
|---------|-------------|------------|
| 990-570 | 1/8"-1-1/8" | 12.04 |

PLASTIC TUBE CUTTER

Range: 1/8" - 3/8" I.D. (3mm-10mm)



| Part # | Description | List Price |
|--------|----------------|------------|
| 91-707 | Cutter w/Blade | 9.77 |

MOUNTING RACKS



- Route and secure multiple tubing lines
- Mounting versatility
 - Racks can be easily hand separated down to single holders.
 - Thru holes provided (all sizes)
- Standard color is BLACK.
 Other colors available on special request.

| Part # | Tubing OD | Description | Channels | List Price |
|--------|-----------|--------------|----------|------------|
| 28-988 | 1/4 | non-adhesive | 10 | 3.91 |
| 28-989 | 1/4 | adhesive | 10 | 4.33 |
| 28-990 | 3/8 | non-adhesive | 7 | 13.99 |
| 28-991 | 1/2 | non-adhesive | 5 | 16.60 |

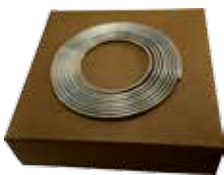
NOTE: MOUNTING SCREWS NOT PROVIDED

ALUMINUM & COPPER

TUBING

ALUMINUM TUBING - EASY BEND

Alloy
3003-0
ASTM
B-483



Material
to ASTM
B-483

900 PSI max
3700 Burst PSI

Bend this tubing into the shape you need without special tools or elbow fittings. It is also known as Alloy 3003. Tubing has seamless construction, which provides a smooth interior and allows it to be flared without splitting. Use with water, air, alcohol and oil. Tubing meets ASTM B483 and has a soft (annealed) temper. OD tolerance is ± 0.004 "

ALUMINUM VERSATUBE 50' COILS

| Part # | O.D. | Wall Thick | ID | Max PSI @ 100°F | Case | 50' Coils |
|---------|------|------------|-------|--------------------|----------|--------------|
| 972-190 | 1/8 | .025 | .075" | 2,300 | 10 coils | 45.11 |
| 972-191 | 3/16 | .028 | .132" | 1,600 | 10 coils | 57.93 |
| 972-192 | 1/4 | .032 | .186" | 1,400 | 10 coils | 53.39 |
| 972-193 | 5/16 | .035 | .243" | 1,200 | 10 coils | 75.14 |
| 972-194 | 3/8 | .035 | .305" | 1,000 | 10 coils | 81.54 |
| 972-195 | 1/2 | .035 | .43" | 740 | 10 coils | 121.70 |

COPPER TUBING - REFRIGERATION TUBING

ASTMB280



- Temp range: 32° to 400°F
- Bend with a bending tool
- Use with copper solder-connect fittings

This copper Alloy 122 tube comes cleaned and capped to prevent moisture and dirt from contaminating the inside. It's often called refrigeration and air conditioning tubing. Use with water, natural gas, oil and R22 refrigerant. Tubing meets ASTM B280. It has seamless construction, which provides a smooth interior. Tubing has a soft (annealed) temper.

REFRIGERATION COPPER TUBE 50' COILS

| Part # | Tube Size | OD | Wall | ID | Max PSI @ 100°F | Weight per 50' Coil | 50' Coils |
|---------|-----------|------|------|-------|--------------------|------------------------|--------------|
| 972-180 | - | 1/8 | .030 | .065" | 3,000 | 1.74 | POR |
| 972-181 | - | 3/16 | .030 | .128" | 1,900 | 2.88 | POR |
| 972-182 | 1/8 | 1/4 | .030 | .19" | 1,400 | 4.02 | POR |
| 972-183 | - | 5/16 | .032 | .248" | 1,100 | 5.45 | POR |
| 972-184 | 1/4 | 3/8 | .032 | .311" | 980 | 6.70 | POR |
| 972-185 | 3/8 | 1/2 | .032 | .436" | 720 | 9.10 | POR |
| 972-186 | 1/2 | 5/8 | .035 | .555" | 610 | 12.55 | POR |
| 972-187 | 5/8 | 3/4 | .035 | .68' | 510 | 15.25 | POR |

COPPER TUBING - DRINKING WATER

For residential water lines



- Temp range: 32° to 180°F
- Bend with a bending tool
- Use with copper solder-connect fittings

NSF 61 certified for drinking (potable) water, this copper Alloy 122 tubing is also called type L. Tubing meets ASTM B88. It has seamless construction, which provides a smooth interior. Coils - Have a soft (annealed) temper.

• Water service • Natural, liquified and petroleum gases • Fire protection • Solar • Fuel/ Fuel oil • HVAC • Snow melting - Air Brake

TYPE L SOFT COPPER TUBING 60' COILS

| Part # | TUBE SIZE | OD | WALL | ID | Max PSI @ 100°F | Weight per 60' Coil | 60' Coils |
|---------|-----------|------|-------|-------|--------------------|------------------------|--------------|
| 972-171 | 1/4 | 3/8" | .03" | .315" | 910 | 7.56 | POR |
| 972-172 | 3/8 | 1/2 | .035" | .43" | 770 | 11.88 | POR |
| 972-173 | 1/2 | 5/8" | .04" | .545" | 720 | 17.10 | POR |

HIGH PRESSURE SPRAYERS

NEW



STRAIGHT THROUGH QDS

NEW



FITTINGS AND SWIVELS

NEW



NOZZLES

NEW



SPRAY GUNS AND WANDS

NEW



NOZZLES**HIGH PRESSURE SPRAYER****QUICK DISCONNECT NOZZLE**

0-degree red tip nozzle, 15-degree yellow tip nozzle, 25-degree green tip nozzle, 40-degree white tip nozzle, and 65-degree black tip detergent nozzle. All nozzles are 4000 PSI and stainless steel, except for detergent nozzle, which is 600 PSI and brass. Nozzles attach with ¼" quick disconnect plug.



| Part # | Degree of Spray | Size of Opening | List Price |
|----------|-----------------|-----------------|------------|
| DX250030 | 0 | 3.0 | 4.20 |
| DX251530 | 15 | 3.0 | 4.20 |
| DX252530 | 25 | 3.0 | 4.20 |
| DX254030 | 40 | 3.0 | 4.20 |
| DX250040 | 0 | 4.0 | 4.20 |
| DX251540 | 15 | 4.0 | 4.20 |
| DX252540 | 25 | 4.0 | 4.20 |
| DX254040 | 40 | 4.0 | 4.20 |
| DX250050 | 0 | 5.0 | 4.20 |
| DX251550 | 15 | 5.0 | 4.20 |
| DX252550 | 25 | 5.0 | 4.20 |
| DX254050 | 40 | 5.0 | 4.20 |
| DX250060 | 0 | 6.0 | 4.20 |
| DX251560 | 15 | 6.0 | 4.20 |
| DX252560 | 25 | 6.0 | 4.20 |
| DX254060 | 40 | 6.0 | 4.20 |
| DX256500 | 65 | | 4.20 |

MEG NOZZLE

Available in 0-degree nozzle, 15-degree nozzle, 25-degree nozzle, or 40-degree nozzle. Nozzle sizes 3.0, 4.0, 5.0, 6.0 or 7.0. All nozzles are 7250 PSI, stainless steel and ¼" male pipe thread.



| Part # | Degree of Spray | Size of Opening | List Price |
|------------|-----------------|-----------------|------------|
| DX140030MG | 0 | 3.0 | 3.33 |
| DX141530MG | 15 | 3.0 | 3.33 |
| DX142530MG | 25 | 3.0 | 3.33 |
| DX144030MG | 40 | 3.0 | 3.33 |
| DX140040MG | 0 | 4.0 | 3.33 |
| DX141540MG | 15 | 4.0 | 3.33 |
| DX142540MG | 25 | 4.0 | 3.33 |
| DX144040MG | 40 | 4.0 | 3.33 |
| DX140050MG | 0 | 5.0 | 3.33 |
| DX141550MG | 15 | 5.0 | 3.33 |
| DX142550MG | 25 | 5.0 | 3.33 |
| DX144050MG | 40 | 5.0 | 3.33 |
| DX140060MG | 0 | 6.0 | 3.33 |
| DX141560MG | 15 | 6.0 | 3.33 |
| DX142560MG | 25 | 6.0 | 3.33 |
| DX144060MG | 40 | 6.0 | 3.33 |
| DX140070MG | 0 | 7.0 | 3.33 |
| DX141570MG | 15 | 7.0 | 3.33 |
| DX142570MG | 25 | 7.0 | 3.33 |
| DX144070MG | 40 | 7.0 | 3.33 |

5-PIECE KIT

| Part # | Size | List Price |
|----------|------|------------|
| DX259520 | 2.0 | 19.08 |
| DX259530 | 3.0 | 19.08 |
| DX259540 | 4.0 | 19.08 |
| DX259550 | 5.0 | 19.08 |
| DX259560 | 6.0 | 19.08 |
| DX259570 | 7.0 | 19.08 |



RUBBER-TIP TURBO NOZZLE

Rubber tip, rotating turbo nozzle, 1/4" NPT with steel male quick disconnect plug adaptor



| Part # | PSI | Size of Opening | List Price |
|----------|------|-----------------|------------|
| DX722530 | 2500 | 3.0 | 86.25 |
| DX722540 | 2500 | 4.0 | 86.25 |
| DX722550 | 2500 | 5.0 | 86.25 |
| DX722560 | 2500 | 6.0 | 86.25 |
| DX723230 | 3200 | 3.0 | 86.55 |
| DX723240 | 3200 | 4.0 | 86.55 |
| DX723250 | 3200 | 5.0 | 86.55 |
| DX723260 | 3200 | 6.0 | 86.55 |
| DX724030 | 4000 | 3.0 | 94.45 |
| DX724040 | 4000 | 4.0 | 94.45 |
| DX724050 | 4000 | 5.0 | 94.45 |
| DX724060 | 4000 | 6.0 | 94.45 |
| DX725030 | 5000 | 3.0 | 95.55 |
| DX725040 | 5000 | 4.0 | 95.55 |
| DX725050 | 5000 | 5.0 | 95.55 |
| DX725060 | 5000 | 6.0 | 95.55 |

STAINLESS STEEL LIVE SWIVEL

MxF straight through live swivel, NBR or Viton seal, 416 SS, 10.6 gpm, 180F max, 3500 PSI



| Part # | Seal | Size | List Price |
|----------|-------|------|------------|
| DX60021 | NBR | 1/4" | 39.27 |
| DX60022 | NBR | 3/8" | 40.78 |
| DX60023 | NBR | 1/2" | 51.33 |
| DX60021V | Viton | 1/4" | 39.27 |
| DX60022V | Viton | 3/8" | 40.78 |
| DX60023V | Viton | 1/2" | 51.33 |

THERMAL RELIEF VALVE

140F Thermal Relief Valve, Brass, 300 PSI



| Part # | Size | List Price |
|----------|------|------------|
| DX35TR25 | 1/4" | 10.32 |
| DX35TR38 | 3/8" | 10.25 |

90° BOOM SWIVEL

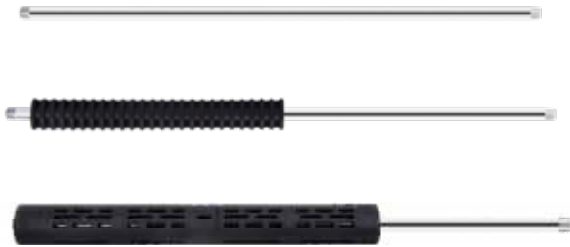


| Part # | Size | List Price |
|---------|------|------------|
| DX60092 | 3/8" | 61.90 |

SPRAY GUNS **HIGH PRESSURE SPRAYER**

CHROMED STEEL WAND

1/4" MNPT x 1/4" Extension Wands, 10.5 GPM, 300F



| Part # | Size | Grip | List Price |
|----------|------|-------------|------------|
| DX4324 | 24" | No Grip | 8.40 |
| DX4336 | 36" | No Grip | 11.70 |
| DX4424 | 24" | Molded Grip | 14.20 |
| DX4436 | 36" | Molded Grip | 16.80 |
| DX4524VG | 24" | Vented Grip | 20.40 |
| DX4536VG | 36" | Vented Grip | 24.20 |

SPRAY GUN

Rear entry spray gun, 4000 PSI, 7 GPM, 212F max



| Part # | Pressure | Flow | Temperature | List Price |
|--------|----------|------|-------------|------------|
| DX5090 | 4000 | 7 | 212 | 46.65 |
| DX5022 | 4000 | 6.6 | 300 | 46.50 |
| DX5005 | 5075 | 10.5 | 300 | 52.05 |

WEeping SPRAY GUN

Rear entry spray gun, weeping, 5000 PSI, 10.5 GPM, 300F

Weep style spray guns allow for a continuous flow of water by way of a small hole in the bottom of the gun that produces a slight leak, or a weeping effect. This helps prevent lines freezing in cold weather or scalding water temperatures in hot weather that could damage the pumps.



| Part # | List Price |
|--------|------------|
| DX5006 | 58.15 |

SPRAY GUN WITH EXTENSION

Rear entry spray gun with 12" extension, 4000psi, 7gpm, 300F max



| Part # | List Price |
|--------|------------|
| DX5190 | 53.95 |

SPRAY GUN WITH EXTENSION

Rrear entry spray gun with 12" extension, 5075psi, 10.5gpm, 300F max



| Part # | List Price |
|--------|------------|
| DX5197 | 64.65 |

STRAIGHT THROUGH STYLE

- Brass couplers have brass bodies and brass valves, 8 steel locking balls, Buna-N seal, and stainless steel springs
- Stainless steel couplers have stainless steel bodies, 8 stainless steel locking balls, Buna-N seal, and stainless steel springs
- Plugs are steel with green blue zinc plating or stainless steel
- Straight through design means there is no positive shut-off after disconnect
- Fully interchangeable with Parker, Hansen, Foster and Adams
- Use with liquids, hydraulic service, compressed air, gases, water and vacuum
- Ideal for applications such as high pressure water, steam washers, and carpet cleaners
- Max. Temp. 212°F for Couplers/ 300°F for Plugs • Max Flow: 10.5 GPM



MALE BRASS COUPLERS



| Part # | Body Size | Thread Size | PSI | List Price |
|--------|-----------|-------------|------|------------|
| 86-030 | 1/4 | 1/4 | 4000 | 6.78 |
| 86-031 | 3/8 | 3/8 | 4000 | 8.40 |
| 86-032 | 1/2 | 1/2 | 4000 | 12.75 |

FEMALE BRASS COUPLERS



| Part # | Body Size | Thread Size | PSI | List Price |
|--------|-----------|-------------|------|------------|
| 86-035 | 1/4 | 1/4 | 4000 | 6.78 |
| 86-036 | 3/8 | 3/8 | 4000 | 8.40 |
| 86-037 | 1/2 | 1/2 | 4000 | 13.14 |

MALE STAINLESS STEEL COUPLERS



| Part # | Body Size | Thread Size | PSI | List Price |
|----------|-----------|-------------|------|------------|
| 86-030SS | 1/4 | 1/4 | 6000 | 13.49 |
| 86-031SS | 3/8 | 3/8 | 6000 | 17.39 |

FEMALE STAINLESS STEEL COUPLERS



| Part # | Body Size | Thread Size | PSI | List Price |
|----------|-----------|-------------|------|------------|
| 86-035SS | 1/4 | 1/4 | 6000 | 12.49 |
| 86-036SS | 3/8 | 3/8 | 6000 | 16.09 |

MALE STEEL PLUGS



| Part # | Body Size | Thread Size | PSI | List Price |
|--------|-----------|-------------|------|------------|
| 86-040 | 1/4 | 1/4 | 4000 | 1.71 |
| 86-041 | 3/8 | 3/8 | 4000 | 1.94 |
| 86-042 | 1/2 | 1/2 | 4000 | 2.41 |

FEMALE STEEL PLUGS



| Part # | Body Size | Thread Size | PSI | List Price |
|--------|-----------|-------------|------|------------|
| 86-045 | 1/4 | 1/4 | 4000 | 1.94 |
| 86-046 | 3/8 | 3/8 | 4000 | 2.05 |
| 86-047 | 1/2 | 1/2 | 4000 | 2.86 |

MALE STAINLESS STEEL PLUGS



| Part # | Body Size | Thread Size | PSI | List Price |
|----------|-----------|-------------|------|------------|
| 86-040SS | 1/4 | 1/4 | 6000 | 4.52 |
| 86-041SS | 3/8 | 3/8 | 6000 | 10.69 |

FEMALE STAINLESS STEEL PLUGS



| Part # | Body Size | Thread Size | PSI | List Price |
|----------|-----------|-------------|------|------------|
| 86-045SS | 1/4 | 1/4 | 6000 | 5.02 |
| 86-046SS | 3/8 | 3/8 | 6000 | 6.56 |

COUPLERS/ KNOBS

HIGH PRESSURE SPRAYER

NEW

MOLDED GRIP MALE BRASS COUPLER



| Part # | Thread Size | Thread Size | PSI | List Price |
|----------|-------------|-------------|------|------------|
| 86-030RG | 1/4 | 1/4 | 4000 | 8.09 |
| 86-031RG | 3/8 | 3/8 | 4000 | 11.51 |

MOLDED GRIP FEMALE BRASS COUPLER



| Part # | Thread Size | Plug | PSI | List Price |
|----------|-------------|------|------|------------|
| 86-035RG | 1/4 | 1/4 | 4000 | 6.78 |
| 86-036RG | 3/8 | 3/8 | 4000 | 9.63 |

M22 SCREW TYPE X MNPT



| Part # | Thread Size | Male | PSI | List Price |
|--------|-------------|------|------|------------|
| 86-001 | M22 | 1/4 | 4000 | 7.50 |
| 86-002 | M22 | 3/8 | 4000 | 4.66 |

M22 SCREW TYPE X FNPT



| Part # | Thread Size | Female | PSI | List Price |
|--------|-------------|--------|------|------------|
| 86-005 | M22 | 1/4 | 4000 | 4.85 |
| 86-006 | M22 | 3/8 | 4000 | 4.85 |

INSULATED KNOB

M22 INSULATED KNOB X MNPT



| Part # | Thread Size | Male Size | PSI | List Price |
|--------|-------------|-----------|------|------------|
| 86-012 | M22 | 1/4 | 4000 | 8.78 |
| 86-013 | M22 | 3/8 | 4000 | 11.00 |

M22 INSULATED KNOB X FNPT



| Part # | Thread Size | Female Size | PSI | List Price |
|--------|-------------|-------------|------|------------|
| 86-017 | M22 | 1/4 | 4000 | 6.35 |
| 86-018 | M22 | 3/8 | 4000 | 8.82 |

M22 X M22 FNPT



| Part # | Thread Size | Thread Size | PSI | List Price |
|--------|-------------|-------------|------|------------|
| 86-022 | M22 | M22 | 4000 | 17.61 |

M22 INSULATED KNOB X QC PLUG



| Part # | Thread Size | Plug | PSI | List Price |
|--------|-------------|------|------|------------|
| 86-020 | M22 | 3/8 | 4000 | 13.05 |

PNEUMATICS



QUICK DISCONNECTS



- Universal
- ARO 210
- Lincoln
- Industrial
- Automotive
- ST Series - High Flow

BREATHER VENTS, MUFFLERS



- Mufflers
- Snubbers
- In-line filters
- Breather vents
- Control valves
- Manifolds

PNEUMATIC ACCESSORIES



- Kits NEW
- Tire gauge
- Tank and vent valves
- Blow guns
- Air chucks
- Inflators

GAUGES



- Liquid filled & Dry
- Lower mount & center mount
- Water test
- Syphons

INDUSTRIAL

QUICK DISCONNECTS

INDUSTRIAL INTERCHANGE

- Couplers are brass or plated steel body with brass or steel valves, 6 steel locking balls, NBR seal and stainless steel springs
- 6 Steel locking balls (1/2" body size has 8 steel locking balls)
- Plugs are brass or steel with green blue zinc plating
- Industry standard design for compressed air, water, grease, paint, limited vacuum and limited gases
- Manual retract for connecting and disconnecting
- Maximum working pressure is 250 PSI

BRASS FEMALE COUPLER



| Part# | Body Size | Thread Size | List Price |
|--------|-----------|-------------|------------|
| 28-540 | 1/4" | 1/4" | 7.23 |
| 28-541 | 1/4" | 3/8" | 7.80 |

BRASS MALE COUPLER



| Part# | Body Size | Thread Size | List Price |
|--------|-----------|-------------|------------|
| 28-552 | 1/4" | 1/4" | 7.16 |
| 28-553 | 1/4" | 3/8" | 7.69 |

STEEL FEMALE COUPLER



| Part# | Body Size | Thread Size | List Price |
|---------|-----------|-------------|------------|
| 28-540S | 1/4" | 1/4" | 5.34 |
| 28-541S | 1/4" | 3/8" | 6.01 |
| 98-810 | 3/8" | 1/4" | 12.01 |
| 98-811 | 3/8" | 3/8" | 11.47 |
| 98-812 | 3/8" | 1/2" | 13.41 |
| 99-812 | 1/2" | 1/2" | 16.68 |
| 99-813 | 1/2" | 3/4" | 21.71 |

STEEL MALE COUPLER



| Part# | Body Size | Thread Size | List Price |
|---------|-----------|-------------|------------|
| 28-552S | 1/4" | 1/4" | 5.46 |
| 28-553S | 1/4" | 3/8" | 5.78 |
| 98-823 | 3/8" | 1/4" | 10.82 |
| 98-824 | 3/8" | 3/8" | 12.88 |
| 98-825 | 3/8" | 1/2" | 16.17 |
| 99-825 | 1/2" | 1/2" | 15.84 |
| 99-826 | 1/2" | 3/4" | 22.92 |

BRASS HOSE ID COUPLER



| Part# | Body Size | Barb Size | List Price |
|--------|-----------|-----------|------------|
| 28-562 | 1/4" | 1/4" | 9.36 |
| 28-564 | 1/4" | 3/8" | 9.42 |

STEEL HOSE ID COUPLER



| Part# | Body Size | Barb Size | List Price |
|---------|-----------|-----------|------------|
| 28-562S | 1/4" | 1/4" | 5.51 |
| 28-564S | 1/4" | 3/8" | 6.04 |
| 98-840 | 3/8" | 1/4" | 15.17 |
| 98-841 | 3/8" | 3/8" | 15.36 |
| 99-841 | 1/2" | 3/8" | 21.63 |
| 99-843 | 1/2" | 1/2" | 18.90 |

BRASS PUSH-ON HOSE COUPLER



| Part# | Body Size | Barb Size | List Price |
|--------|-----------|-----------|------------|
| 28-565 | 1/4" | 1/4" | 10.51 |
| 28-566 | 1/4" | 3/8" | 11.40 |

STEEL PUSH-ON HOSE COUPLER



| Part# | Body Size | Barb Size | List Price |
|---------|-----------|-----------|------------|
| 28-565S | 1/4" | 1/4" | 6.01 |
| 28-566S | 1/4" | 3/8" | 6.55 |
| 98-842 | 3/8" | 3/8" | 15.66 |

STEEL MALE PLUG



| Part# | Body Size | Thread Size | List Price |
|--------|-----------|-------------|------------|
| 28-545 | 1/4" | 1/8" | 1.79 |
| 28-546 | 1/4" | 1/4" | 1.49 |
| 28-547 | 1/4" | 3/8" | 2.51 |
| 98-814 | 3/8" | 1/4" | 2.79 |
| 98-815 | 3/8" | 3/8" | 3.11 |
| 99-816 | 1/2" | 1/2" | 4.26 |
| 99-817 | 1/2" | 3/4" | 7.83 |

STEEL FEMALE PLUG



| Part# | Body Size | Thread Size | List Price |
|--------|-----------|-------------|------------|
| 28-533 | 1/4" | 1/8" | 1.48 |
| 28-534 | 1/4" | 1/4" | 1.33 |
| 28-535 | 1/4" | 3/8" | 2.54 |
| 98-801 | 3/8" | 1/4" | 2.01 |
| 98-802 | 3/8" | 3/8" | 2.61 |
| 99-803 | 1/2" | 1/2" | 5.31 |
| 99-804 | 1/2" | 3/4" | 9.36 |

BRASS MALE PLUG



| Part# | Body Size | Thread Size | List Price |
|---------|-----------|-------------|------------|
| 28-546B | 1/4" | 1/4" | 1.82 |

BRASS FEMALE PLUG



| Part# | Body Size | Thread Size | List Price |
|---------|-----------|-------------|------------|
| 28-534B | 1/4" | 1/4" | 2.03 |

STEEL HOSE ID PLUG



| Part# | Body Size | Barb Size | List Price |
|--------|-----------|-----------|------------|
| 28-557 | 1/4" | 1/4" | 1.43 |
| 28-559 | 1/4" | 3/8" | 1.83 |
| 98-828 | 3/8" | 3/8" | 4.15 |
| 99-828 | 1/2" | 3/8" | 5.55 |
| 99-830 | 1/2" | 1/2" | 5.10 |

STEEL PUSH-ON HOSE PLUG



| Part# | Body Size | Barb Size | List Price |
|--------|-----------|-----------|------------|
| 28-558 | 1/4" | 1/4" | 1.87 |
| 28-561 | 1/4" | 3/8" | 2.06 |
| 98-830 | 3/8" | 3/8" | 4.37 |

STEEL SWIVEL MALE PLUG



| Part# | Body Size | Thread Size | List Price |
|---------|-----------|-------------|------------|
| 320-065 | 1/4" | 1/4" | 11.04 |

UNIVERSAL

QUICK DISCONNECTS

UNIVERSAL SERIES COUPLERS

- Automatic Coupler means flow will cut off automatically at time of disconnect
- Brass Couplers have brass body and brass sleeve with brass valve, 6 steel locking balls, NBR seal and 6 stainless steel springs.
- Stainless Steel Couplers have stainless steel body and stainless steel sleeve with stainless steel valve, 6 steel locking balls, FKM seal, and stainless steel springs
- Coupler compatible with ARC 210, Parker Interchange and Industrial Interchange plugs
- Maximum working pressure is 250 PSI

BRASS MALE COUPLER



| Part# | Body Size | Thread Size | List Price |
|--------|-----------|-------------|------------|
| 28-579 | 1/4" | 1/4" | 10.61 |
| 28-589 | 1/4" | 3/8" | 10.16 |

BRASS FEMALE COUPLER



| Part# | Body Size | Thread Size | List Price |
|--------|-----------|-------------|------------|
| 28-560 | 1/4" | 1/4" | 13.54 |

BRASS HOSE ID COUPLER



| Part# | Body Size | Barb Size | List Price |
|--------|-----------|-----------|------------|
| 28-690 | 1/4" | 1/4" | 12.25 |
| 28-691 | 1/4" | 3/8" | 11.52 |

STAINLESS STEEL MALE COUPLER



| Part# | Body Size | Thread Size | List Price |
|----------|-----------|-------------|------------|
| 28-579SS | 1/4" | 1/4" | 186.11 |

STAINLESS STEEL FEMALE COUPLER



| Part# | Body Size | Thread Size | List Price |
|----------|-----------|-------------|------------|
| 28-560SS | 1/4" | 1/4" | 186.11 |

STAINLESS STEEL INDUSTRIAL MALE PLUG



| Part# | Body Size | Thread Size | List Price |
|----------|-----------|-------------|------------|
| 28-546SS | 1/4" | 1/4" | 36.26 |

STAINLESS STEEL INDUSTRIAL FEMALE PLUG



| Part# | Body Size | Thread Size | List Price |
|----------|-----------|-------------|------------|
| 28-534SS | 1/4" | 1/4" | 36.26 |

ARO 210 INTERCHANGE

- Couplers have brass bodies and brass valves, 6 steel locking balls, NBR seal, and stainless steel springs
- Plugs are steel with green blue zinc plating
- Couplers have a full opening tubular valve for maximum flow and a built-in sleeve guard to minimize accidental disconnect
- Maximum working pressure is 250 PSI

MALE COUPLER



| Part# | Body Size | Thread Size | List Price |
|--------|-----------|-------------|------------|
| 28-592 | 1/4" | 1/8" | 23.37 |
| 28-593 | 1/4" | 1/4" | 9.89 |
| 28-594 | 1/4" | 3/8" | 14.32 |

MALE PLUG



| Part# | Body Size | Thread Size | List Price |
|--------|-----------|-------------|------------|
| 28-586 | 1/4" | 1/8" | 4.07 |
| 28-587 | 1/4" | 1/4" | 1.83 |

FEMALE COUPLER



| Part# | Body Size | Thread Size | List Price |
|--------|-----------|-------------|------------|
| 28-583 | 1/4" | 1/8" | 19.46 |
| 28-584 | 1/4" | 1/4" | 9.00 |
| 28-585 | 1/4" | 3/8" | 28.00 |

FEMALE PLUG



| Part# | Body Size | Thread Size | List Price |
|--------|-----------|-------------|------------|
| 28-578 | 1/4" | 1/4" | 2.14 |

HOSE ID COUPLER



| Part# | Body Size | Barb Size | List Price |
|--------|-----------|-----------|------------|
| 28-601 | 1/4" | 1/4" | 10.01 |
| 28-603 | 1/4" | 3/8" | 14.13 |

HOSE ID PLUG



| Part# | Body Size | Barb Size | List Price |
|--------|-----------|-----------|------------|
| 28-595 | 1/4" | 1/4" | 4.39 |
| 28-597 | 1/4" | 3/8" | 7.83 |

AUTOMOTIVE/ PARKER INTERCHANGE

QUICK DISCONNECTS

AUTOMOTIVE/ PARKER INTERCHANGE (Tru-Flate)

- Brass couplers are brass bodies with brass valves, 6 steel locking balls, NBR seal, and stainless steel springs.
- Steel couplers are steel bodies with steel valves, 6 stainless steel locking balls, NBR seal, and stainless steel springs.
- Plugs are brass or steel with green blue zinc plating
- Unique design has been field proven as a long-lasting, high performance coupling especially when used with pneumatic tools
- Maximum working pressure is 300 PSI

BRASS MALE COUPLER



| Part# | Body Size | Thread Size | List Price |
|--------|-----------|-------------|------------|
| 28-515 | 1/4" | 1/8" | 20.71 |
| 28-516 | 1/4" | 1/4" | 7.83 |
| 28-517 | 1/4" | 3/8" | 19.11 |

BRASS FEMALE COUPLER



| Part# | Body Size | Thread Size | List Price |
|--------|-----------|-------------|------------|
| 28-507 | 1/4" | 1/4" | 7.88 |
| 28-508 | 1/4" | 3/8" | 17.54 |

STEEL MALE COUPLER



| Part# | Body Size | Thread Size | List Price |
|---------|-----------|-------------|------------|
| 28-516S | 1/4" | 1/4" | 5.11 |
| 28-514S | 3/8" | 1/4" | 7.70 |
| 28-519S | 3/8" | 3/8" | 8.12 |

STEEL FEMALE COUPLER



| Part# | Body Size | Thread Size | List Price |
|---------|-----------|-------------|------------|
| 28-507S | 1/4" | 1/4" | 5.11 |
| 28-525S | 3/8" | 1/4" | 7.70 |
| 28-526S | 3/8" | 3/8" | 8.12 |

BRASS MALE PLUG



| Part# | Body Size | Thread Size | List Price |
|---------|-----------|-------------|------------|
| 28-510B | 1/4" | 1/4" | 1.82 |

BRASS FEMALE PLUG



| Part# | Body Size | Thread Size | List Price |
|---------|-----------|-------------|------------|
| 28-501B | 1/4" | 1/4" | 2.03 |

STEEL MALE PLUG



| Part# | Body Size | Thread Size | List Price |
|--------|-----------|-------------|------------|
| 28-509 | 1/4" | 1/8" | 1.93 |
| 28-510 | 1/4" | 1/4" | 1.43 |
| 28-511 | 1/4" | 3/8" | 2.74 |
| 28-512 | 3/8" | 1/4" | 2.01 |
| 28-513 | 3/8" | 3/8" | 2.15 |

STEEL FEMALE PLUG



| Part# | Body Size | Thread Size | List Price |
|--------|-----------|-------------|------------|
| 28-500 | 1/4" | 1/8" | 5.70 |
| 28-501 | 1/4" | 1/4" | 1.61 |
| 28-502 | 1/4" | 3/8" | 2.65 |
| 28-503 | 3/8" | 1/4" | 1.76 |
| 28-504 | 3/8" | 3/8" | 2.17 |

QUICK DISCONNECTS

AUTOMOTIVE/ PARKER INTERCHANGE

HOSE ID COUPLER



| Part# | Body Size | Barb Size | List Price |
|--------|-----------|-----------|------------|
| 28-528 | 1/4" | 1/4" | 23.34 |
| 28-530 | 1/4" | 3/8" | 24.30 |
| 28-536 | 3/8" | 1/4" | 10.08 |
| 28-538 | 3/8" | 3/8" | 10.08 |

HOSE ID PLUG



| Part# | Body Size | Barb Size | List Price |
|--------|-----------|-----------|------------|
| 28-518 | 1/4" | 1/4" | 2.46 |
| 28-520 | 1/4" | 3/8" | 8.31 |
| 28-523 | 3/8" | 1/4" | 1.68 |
| 28-524 | 3/8" | 3/8" | 1.75 |

PUSH-ON HOSE COUPLER



| Part# | Body Size | Barb Size | List Price |
|--------|-----------|-----------|------------|
| 28-531 | 1/4" | 1/4" | 24.90 |
| 28-532 | 1/4" | 3/8" | 23.33 |

PUSH-ON HOSE PLUG



| Part# | Body Size | Barb Size | List Price |
|--------|-----------|-----------|------------|
| 28-521 | 1/4" | 1/4" | 14.24 |
| 28-522 | 1/4" | 3/8" | 14.35 |

LINCOLN INTERCHANGE

- Couplers have brass bodies with steel sleeves, Acetal valves, 6 steel locking balls, Nitrile seal and stainless steel springs
- Plugs are steel with green blue zinc plating
- Manual style
- Unique design includes long nose and short ball groove
- Maximum working pressure is 250 PSI

MALE COUPLER



| Part# | Body Size | Thread Size | List Price |
|--------|-----------|-------------|------------|
| 28-683 | 1/4" | 1/4" | 36.90 |

STEEL MALE PLUG



| Part# | Body Size | Thread Size | List Price |
|--------|-----------|-------------|------------|
| 28-685 | 1/4" | 1/8" | 5.97 |
| 28-686 | 1/4" | 1/4" | 5.62 |

FEMALE COUPLER



| Part# | Body Size | Thread Size | List Price |
|--------|-----------|-------------|------------|
| 28-684 | 1/4" | 1/4" | 31.71 |

STEEL FEMALE PLUG



| Part# | Body Size | Thread Size | List Price |
|--------|-----------|-------------|------------|
| 28-687 | 1/4" | 1/4" | 5.27 |

COUPLERS

PNEUMATIC ACCESSORIES

ST SERIES...HIGH FLOW

SPECIFICATIONS

Brass - Coupler & Steel Plug

| | | |
|-------------------|--------------|------|
| Temperature Range | -40° to 250° | |
| Rated Pressure | 4650 | 2350 |

- Non-valved couplings for applications where maximum flow is required. Ideal for applications such as high pressure water and steam washers, carpet cleaners and mold coolant lines. They are often used in food processing, on fluid and dye transfer lines.
- Standard seals are Buna-N (Nitrile).

MALE PIPE COUPLER

BRASS



| Part # | Body & Thread Size | List Price |
|--------|--------------------|------------|
| 28-667 | 1/8" | 20.63 |
| 28-665 | 1/4" | 16.12 |
| 28-666 | 3/8" | 16.91 |
| 28-668 | 1/2" | 24.80 |
| 28-669 | 3/4" | 50.80 |
| 28-670 | 1" | 79.14 |

FEMALE PIPE COUPLER

BRASS



| Part # | Body & Thread Size | List Price |
|--------|--------------------|------------|
| 28-671 | 1/8" | 13.33 |
| 28-651 | 1/4" | 14.68 |
| 28-652 | 3/8" | 15.87 |
| 28-672 | 1/2" | 24.16 |
| 28-673 | 3/4" | 44.90 |

MALE PLUG

STEEL



| Part # | Size | List Price |
|--------|------|------------|
| 28-675 | 1/8" | 8.88 |
| 28-639 | 1/4" | 6.88 |
| 28-640 | 3/8" | 5.24 |
| 28-676 | 1/2" | 5.97 |
| 28-677 | 3/4" | 18.26 |

FEMALE PLUG

STEEL



| Part # | Size | List Price |
|--------|------|------------|
| 28-688 | 1/8" | 5.71 |
| 28-619 | 1/4" | 6.93 |
| 28-620 | 3/8" | 5.84 |
| 28-679 | 1/2" | 9.00 |
| 28-680 | 3/4" | 17.32 |
| 28-681 | 1" | 46.18 |

MOLD COOLANT-LINE QUICK COUPLERS

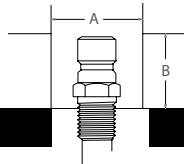
OPERATING PRESSURE:

200 PSIG (14.06 Kg/sq. cm)

Standard Seal:

SILICONE: -90°F to 400°F (-68°C to + 205°C)

- Our coolant couplers are engineered for optimum speed and performance in connecting coolant lines to molds used for thermoplastic, thermosetting, blow molding, diecasting and on other types of tooling and equipment utilizing a constant fluid flow pumped through cooling channels.



MALE PLUG (BRASS)

1/4" BASIC SIZE

| Part # | Size | A | B | List Price |
|--------|------|------|------|------------|
| 29-900 | 1/8" | 0.69 | 0.69 | 3.16 |
| 29-901 | 1/4" | 0.84 | 0.94 | 3.78 |
| 29-902 | 3/8" | 1.00 | 0.97 | 3.35 |

3/8" BASIC SIZE

| Part # | Size | A | B | List Price |
|--------|------|------|------|------------|
| 29-906 | 1/4" | 1.00 | 0.94 | 5.07 |
| 29-907 | 3/8" | 1.00 | 1.13 | 4.92 |
| 29-908 | 1/2" | 1.81 | 1.25 | 8.36 |

1/2" BASIC SIZE

| Part # | Size | A | B | List Price |
|--------|------|------|------|------------|
| 29-911 | 1/2" | 1.25 | 1.50 | 9.89 |
| 29-912 | 3/4" | 1.50 | 1.56 | 15.21 |

FEMALE PLUG (STEEL)

1/4" BASIC SIZE

| Part # | Size | List Price |
|--------|------|------------|
| 29-903 | 1/8" | 3.26 |
| 29-904 | 1/4" | 3.41 |
| 29-905 | 3/8" | 5.12 |

3/8" BASIC SIZE

| Part # | Size | List Price |
|--------|------|------------|
| 29-909 | 1/4" | 4.25 |
| 29-910 | 3/8" | 5.74 |

1/2" BASIC SIZE

| Part # | Size | List Price |
|--------|------|------------|
| 29-913 | 1/2" | 13.72 |
| 29-914 | 3/4" | 25.40 |

MINI TYPE QUICK DISCONNECTS

MALE COUPLER



| Part # | Size | List Price |
|--------|------|------------|
| 28-605 | 1/8" | 7.55 |

FEMALE PLUG



| Part # | Size | List Price |
|--------|------|------------|
| 28-608 | 1/8" | 2.02 |

BRASS MUFFLERS

Materials:
 Body: Brass
 Element: Sintered Bronze
 Max Operating Pressure: 300PSI
 Temperature: 35° to 300°F
 • Application: Designed to diffuse Air & Muffler noise to acceptable levels within OSHA noise requirements.
 • Used on exhaust ports, valves, cylinders and air tools.
 • Construction: Porous sintered bronze 40 micron filter element secured to a brass body



| Part # | Size | List Price |
|---------|--------|------------|
| 300-020 | 10/32" | 2.57 |
| 300-021 | 1/8" | 2.54 |
| 300-022 | 1/4" | 4.02 |
| 300-023 | 3/8" | 5.39 |
| 300-024 | 1/2" | 7.83 |
| 300-026 | 3/4" | 15.95 |
| 300-028 | 1" | 43.95 |

40 Micron element

STAINLESS MUFFLERS



Materials:
 Body: 303 Grade Stainless Steel
 Element: 316 Grade Stainless Steel
 Max Operating Pressure: 300PSI
 Temperature: 35° to 392°F

| Part # | Size | List Price |
|---------|--------|------------|
| 300-031 | 10/32" | 18.15 |
| 300-032 | 1/8" | 21.23 |
| 300-033 | 1/4" | 19.44 |
| 300-034 | 3/8" | 22.04 |
| 300-035 | 1/2" | 32.80 |
| 300-036 | 3/4" | 91.67 |
| 300-037 | 1" | 121.02 |

BRASS BREATHER VENT

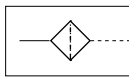


Materials:
 Body: Brass
 Element: Sintered Bronze
 Max Operating Pressure: 150PSI
 Temperature: 35° to 300°F
 • Application: Prevents Dirt and Foreign Particles from Entering Ports Open to Atmosphere. Typically used on Acting Cylinders
 • Additional Use is Vacuum Relief or Pressure Equalization on Storage Vessels or Tanks
 • Construction: Porous Sintered Bronzed 40 Micron Filter Element Secured to a brass body

| Part # | Size | List Price |
|---------|--------|------------|
| 300-000 | 10-32" | 3.72 |
| 300-001 | 1/8" | 2.41 |
| 300-002 | 1/4" | 3.55 |
| 300-003 | 3/8" | 4.38 |
| 300-004 | 1/2" | 5.87 |
| 300-006 | 3/4" | 16.36 |
| 300-008 | 1" | 31.63 |

40 Micron element

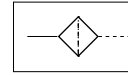
STAINLESS BREATHER VENT



Materials:
 Body: 303 Grade Stainless Steel
 Element: 316 Grade Stainless Steel
 Max Operating Pressure: 150PSI
 Temperature: 35° to 390°F

| Part # | Size | List Price |
|---------|------|------------|
| 300-014 | 1/8" | 11.73 |
| 300-015 | 1/4" | 16.46 |
| 300-017 | 3/8" | 24.82 |
| 300-018 | 1/2" | 29.72 |
| 300-019 | 3/4" | 77.01 |
| 300-007 | 1" | 108.98 |

PRESSURE SNUBBER

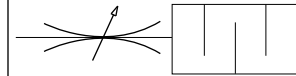


Materials:
 Body: Brass
 Element: Sintered Bronze
 Max Operating Pressure: 9000PSI
 Temperature: 35° to 300°F
 • Applications: Protect pressure instruments from sudden pressure surges and fluctuations providing more accurate gauge readings
 • Construction: Solid brass housing with porous bronze element
 • Can be used for mini in-line filters
 • 5 different porosity elements per package, allows each user to adjust snubbing capacity for the specific application

| Part # | Size | Porosity | List Price |
|--------|------|----------|------------|
| 28-354 | 1/4" | 40 um | 19.17 |
| 28-353 | 1/4" | 30 um | 16.24 |
| 28-352 | 1/4" | 25 um | 14.95 |
| 28-351 | 1/4" | 20 um | 16.24 |
| 28-350 | 1/4" | 10 um | 16.24 |

| Recommended Element Porosity Rating | | |
|-------------------------------------|--------|-------------------------------------|
| Rating | Color | Recommended Application |
| 40 um | None | Viscous Fluids (over 500 ssu) |
| 30 um | Black | Med. Type Oils (225 to 500 ssu) |
| 25 um | Brown | Water & LT. Oils (30 to 25 ssu) |
| 20 um | Green | Low Viscosity Fluids (under 30 ssu) |
| 10 um | Red | Air and Other Gases |
| 5 um | Purple | |

SPEED CONTROL VALVE



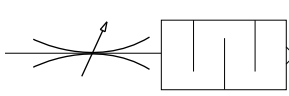
Materials:
 Body: Brass
 Element: 40 Micron Sintered Bronze
 Max Operating Pressure: 300PSI
 Temperature: 35° to 300°F
 • Application: Provide infinite variation of metering air flow at acceptable sound levels on air valve exhaust ports with complete safety
 • The speed of an operating cylinder or air tool may be increased or decreased with the adjusting screw, the final position is locked in place by a lock nut
 • Objectionable exhaust air noise is eliminated by the surrounding sleeve - 40 µm sintered bronze
 • Brass Body
 • Max operating pressure: 300PSI
 • Operating temperature: 35° F to 300° F

| Part # | Size | List Price |
|---------|------|------------|
| 940-800 | 1/8" | 9.04 |
| 940-801 | 1/4" | 10.63 |
| 940-803 | 3/8" | 15.05 |
| 940-804 | 1/2" | 19.38 |
| 940-805 | 3/4" | 35.77 |
| 940-806 | 1" | 58.11 |

VALVES/ MUFFLERS/ FILTERS

PNEUMATIC ACCESSORIES

STAINLESS SPEED CONTROL VALVE

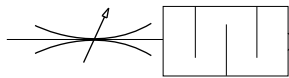


70 Micron filter element

Materials:
Body: 303 Grade Stainless Steel
Element: 316 Grade Stainless Steel
Max Operating Pressure: 300PSI
Temperature: 35° to 392°F

| Part # | Size | List Price |
|---------|------|------------|
| 940-810 | 1/8" | 53.15 |
| 940-811 | 1/4" | 64.89 |
| 940-812 | 3/8" | 63.87 |
| 940-813 | 1/2" | 83.61 |
| 940-814 | 3/4" | 119.96 |
| 940-815 | 1" | 163.23 |

MUFFLER W/ FLOW ADJUSTMENT



Materials:
Body: Brass
Element: Sintered Bronze
Max Operating Pressure: 300PSI
Temperature: 35° to 300°F

| Part # | Size | List Price |
|--------|------|------------|
| 28-379 | 1/8" | 8.38 |
| 28-380 | 1/4" | 10.00 |
| 28-381 | 3/8" | 16.21 |
| 28-382 | 1/2" | 15.58 |

HIGH FLOW ALUMINUM MUFFLER

• hole pattern



Materials:
Body: Aluminum
Element: 50 Mesh Stainless Steel
Max Operating Pressure: 300PSI
Temperature: 35° to 160°F

| Part # | Size | List Price |
|---------|------|------------|
| 940-822 | 1/8" | 15.00 |
| 940-823 | 1/4" | 6.92 |
| 940-824 | 3/8" | 9.36 |
| 940-825 | 1/2" | 10.98 |
| 940-826 | 3/4" | 19.02 |
| 940-827 | 1" | 22.40 |

HIGH FLOW STEEL MUFFLER



Materials:
Body: Steel
Element: 50 Mesh Stainless Steel
Max Operating Pressure: 300PSI
Temperature: 35° to 160°F

| Part # | Size | List Price |
|--------|------|------------|
| 28-373 | 1/8" | 9.10 |
| 28-374 | 1/4" | 8.25 |
| 28-375 | 3/8" | 11.30 |
| 28-376 | 1/2" | 13.41 |
| 28-377 | 3/4" | 23.51 |
| 28-378 | 1" | 26.09 |

ALUMINUM HIGH FLOW MUFFLER

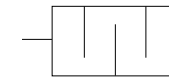


Materials:
Body: Aluminum
Element: 50 Mesh Stainless Steel
Max Operating Pressure: 300PSI
Temperature: 35° to 160°F

- Slit pattern
- Application: Used exhaust ports of Pneumatic valves or manifolds to reduce work area noise
- Construction: Aluminum body, 50 mesh self cleaning stainless steel screen corrosion resistant aluminum shell
- High flow & minimal back pressure

| Part # | Size | List Price |
|--------|------|------------|
| 28-367 | 1/8" | 22.46 |
| 28-368 | 1/4" | 20.43 |
| 28-369 | 3/8" | 29.11 |
| 28-370 | 1/2" | 26.75 |
| 28-371 | 3/4" | 55.14 |
| 28-372 | 1" | 57.02 |

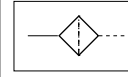
PLASTIC HIGH FLOW MUFFLER



Materials:
Body: Black Nylon
Element: 50 Mesh Stainless Steel
Max Operating Pressure: 150PSI
Temperature: 35° to 120°F

| Part # | Size | List Price |
|--------|------|------------|
| 28-363 | 1/8" | 7.23 |
| 28-364 | 1/4" | 7.94 |
| 28-365 | 3/8" | 16.53 |
| 28-366 | 1/2" | 16.53 |

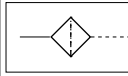
NIPPLE INLINE FILTER



Materials:
Body: Brass
Element: 40 Micron Sintered Bronze
Max Operating Pressure: 300PSI
Temperature: 35° to 300°F

| Part # | Size | List Price |
|---------|------|------------|
| 940-845 | 1/8" | 15.59 |
| 940-846 | 1/4" | 14.89 |
| 940-847 | 3/8" | 21.18 |
| 940-848 | 1/2" | 20.38 |

REPAIRABLE AIR/ OIL INLINE FILTER



Materials:
Body: Anodized Aluminum
Element: 40 Micron Sintered Bronze
Max Operating Pressure: 300PSI
Temperature: 35° to 200°F

- Application: Protect small air tools i.e. impact wrench grinders, screwdrivers and low pressure hydraulic applications
- Construction: All anodized, lightweight aluminum housing
- Can be installed directly before the air tool
- Features cleanable or replaceable 40 micron filter element

| Part # | Size | List Price |
|---------|------|------------|
| 940-840 | 1/8" | 24.15 |
| 940-841 | 1/4" | 21.96 |
| 940-842 | 3/8" | 32.27 |
| 940-843 | 1/2" | 75.43 |
| 940-844 | 3/4" | 79.43 |

I have never let my schooling interfere with my education.

- Mark Twain

AIR REGULATOR

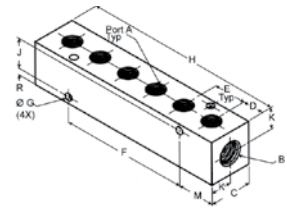
- Rated for Inlet Pressure up to 140PSI(10bar).
- Ambient and Fluid Temperature:5~60°C(41~140°F)
- Port Threads:NPT
- Flow Capacity:See Below,at 0.7Mpa Inlet Pressure and set at 0.5Mpa.
- Assembly Bracket is included.



| Part # | Size | Gauge Port | Regulating Range | List Price |
|--------|------|------------|--|------------|
| AR2 | 1/4" | 1/8 | 0.05~0.85Mpa(0.5~8.5kgf/cm2)(7.25psi~123psi) | 20.80 |

MANIFOLDS

Materials:
Aluminum with black anodizing for corrosion resistance.
Specifications:
Max Operating Pressure: 1000PSI
Temperature: -10° to 200°F
Media: Air and liquids compatible with materials of construction.
• Ports column = # of ports in top of manifold



THREADED PORTS

| Part # | Ports | List Price | A - out NPT | B - in NPT | C | D | E | F | G | H | J | K | M | R |
|--------|-------|------------|-------------|------------|------|------|------|------|------|------|------|------|------|------|
| 28-450 | 4 | 19.27 | 1/8" | 1/4" | 1.00 | 0.50 | 0.75 | 1.5 | 0.17 | 3.25 | 0.70 | 0.50 | 0.88 | 0.15 |
| 28-452 | 6 | 75.04 | | | | | | 3.00 | | 4.75 | | | | |
| 28-456 | 10 | 25.96 | | | | | | 6.00 | | 7.75 | | | | |
| 28-458 | 3 | 19.13 | | | | | | 0.88 | | 3.00 | | | | |
| 28-459 | 4 | 20.52 | | | | | | 1.75 | | 3.88 | | | | |
| 28-460 | 5 | 22.08 | | | | | | 2.63 | | 4.75 | | | | |
| 28-464 | 9 | 27.37 | | | | | | 6.13 | | 8.25 | | | | |
| 28-465 | 10 | 28.29 | | | | | | 7.00 | | 9.13 | | | | |
| 28-467 | 3 | 28.92 | 3/8" | 3/8" | 1.25 | 1.00 | 1.13 | 1.13 | 0.20 | 4.25 | 0.89 | 0.63 | 1.56 | 0.18 |
| 28-468 | 4 | 30.48 | | | | | | 2.25 | | 5.38 | | | | |
| 28-469 | 5 | 31.87 | | | | | | 3.38 | | 6.50 | | | | |
| 28-470 | 6 | 82.44 | | | | | | 4.50 | | 7.63 | | | | |

3 IN 1 ALUMINUM AIR MANIFOLD

No need to connect and disconnect every time you want to change tools. Supply 3 air tools from one outlet. These manifolds have one inlet with three 1/4 outlets.



| Part # | Size | List Price |
|---------|------------|------------|
| 320-120 | 1/4" Inlet | 10.94 |
| 320-121 | 3/8" Inlet | 28.00 |
| 320-122 | 1/2" Inlet | 43.96 |

three 1/4" Outlets

S685-4 S685-6 S685-8 D3404 D3406 D3408 3104 3106

VALVES

PNEUMATIC ACCESSORIES

ASME CODED SAFETY VALVES

- Valves are manufactured to ASME standards and certified by the national board of boiler and pressure vessel inspectors.
- Bubble tight to 10% of set pop-off pressure.
- ASME safety valves are interchangeable with all other ASME valves of same size and pressure.
- Brass construction.
- 1/ Blister card.



| Part # | Male NPT | Pop-off Pressure | Air Flow | List Price |
|--------|----------|------------------|----------|------------|
| 87001 | 1/4" | 70 PSI | 70 CFM | 17.25 |
| 87002 | 1/4" | 125 PSI | 120 CFM | 17.25 |
| 87003 | 1/4" | 150 PSI | 140 CFM | 17.25 |
| 87004 | 1/4" | 200 PSI | 170 CFM | 17.25 |

Note: Valve resets after pressure drops 50%

NON-CODED SAFETY RELIEF VALVES

- Non-coded safety valves are constructed of the same materials as the AMSE safety valves but are not national board certified and cannot be used on applications requiring ASME components.
- Valves are equipped with a lift ring for instant relief and are staked at the factory at the pre set pop-off pressure.



| Part # | Male NPT | Pop-off Pressure | List Price |
|--------|----------|------------------|------------|
| 87008 | 1/4" | 125 PSI | 7.36 |
| 87009 | 1/4" | 150 PSI | 7.36 |

Warning: These valves are not to be used on compressors with a capacity over 15 CFM or 3 HP or 12 gallon storage tank.

COMPRESSOR TANK CHECK VALVES

- Used in compressor tanks to prevent air volume and pressure from escaping back into compressor heads while the compressor is not operating.
- Brass body with Teflon poppet.
- 1/8" Female NPT side port for pressure switch application.
- Maximum working pressure: 450 PSI
- Maximum temperature: 400°F



| Part # | Tank Bung Hole Size | Compressor Air Line Size | SCFM | List Price |
|--------|---------------------|----------------------------|------|------------|
| 87020 | 1/2" NPT Male | 3/8" Tube Compression male | 20 | 13.66 |
| 87021 | 1/2" NPT Male | 1/2" Tube Compression male | 20 | 13.66 |



| | | | | |
|-------|---------------|-----------------|----|-------|
| 87023 | 1/2" NPT Male | 1/2" NPT Female | 20 | 19.60 |
|-------|---------------|-----------------|----|-------|

A man is what he thinks about all day long. —Ralph Waldo Emerson

MULTI-PURPOSE AIR VENT



| Part # | Size | List Price |
|----------|---------|------------|
| 46-048 | 1/8" | 3.74 |
| 46-048S* | 1/8" SS | 5.92 |

#303 SS

705

BRASS BICYCLE PUMP FITTING

Screw on swivel chuck for most hand operated tire pumps.
Buna-N-Seal • Deflator



INT x 3/16 Barb

| Part # | Size | List Price |
|--------|-------|------------|
| 32-782 | 3/16" | 3.80 |

INFLATOR



INT x 3/16

| Part # | Size | List Price |
|--------|-------|------------|
| 32-783 | 3/16" | 3.66 |

PNEUMATIC SLIDE VALVE

- Max Operating Pressure: 200 psig
- Temperatures: -20°F to +200°F

Manually operated slide valves provide simple on/off airflow control. They can be mounted horizontally, vertically or at any angle.

Open Position



MALE X FEMALE

| Part # | Size | L | Hex | List Price |
|--------|------|------|-------|------------|
| 20-780 | 1/8" | 2.15 | 9/16" | 9.27 |

INT = Inflation needle thread .305 in. OD x 32 threads per inch (see page 371)

TANK & VENT VALVE

Three standard styles of valve bodies, complete with short core, for air lifts, water pumps, vacuum, pressurized containers, air jacks, and other pneumatic devices.
REGULAR: 300 PSI and cracking pressure 80 PSI

1/8" NPT - .9" LONG SPRING CORE

7/16" Hex

1/8 x INT



| Part # | Size | List Price |
|--------|------|------------|
| 46-620 | 1/8 | 7.51 |

1/8" NPT 1.207" LONG SPRING CORE

7/16" Hex

1/8 x INT



| Part # | Size | List Price |
|--------|------|------------|
| 46-621 | 1/8 | 7.02 |

1/4" NPT 1.46" LONG SPRING CORE

9/16" Hex

w/ Black cap

1/4 x INT



| Part # | Size | List Price |
|--------|------|------------|
| 46-622 | 1/4 | 7.85 |

TANK VALVE ACCESSORIES

BLACK PLASTIC CAP

No gasket



Inflation needle threads

| Part # | List Price |
|--------|------------|
| 46-630 | 0.22 |

SHORT NICKEL PLATED DOME CAP

Dome skirted type



Inflation needle thread

| Part # | List Price |
|--------|------------|
| 46-631 | 1.14 |

BLOW GUNS

COMPACT BLOW GUN W/RUBBER TIP

- Includes One Rubber Tip and One Safety Tip
- Zinc Alloy Body
- 1/4" FPT Inlet
- Maximum 150 psi (Recommended Working Pressure 90-120 psi)
- Safety Tip Limits Air Pressure to 30 psi When Dead-Ended per OSHA requirement
- Maximum 87 dba
- 1/8" Outlet



| Part # | Size | List Price |
|---------|------|------------|
| 320-053 | 1/4" | 9.66 |

SAFETY BLOW GUN

- Heavy-Duty Design
- Internal Safety Valve that Limits Air Pressure to Less than 30 psi When dead-ended per OSHA
- Aluminium Alloy Body
- 1/4" FPT Inlet
- Maximum 150 psi (Recommended Working Pressure 90-120 psi)
- Safety Tip Limits Air Pressure to 30 psi When Dead-Ended per OSHA Requirement
- Maximum 87 dba
- 1/8" Outlet



| Part # | Size | List Price |
|---------|------|------------|
| 320-054 | 1/4" | 9.38 |

SAFETY BLOW GUN

- N/P steel handle with plastic sleeve
- Brass Valve
- Zinc body
- Aluminum nozzle



90 PSI

1/8" Outlet

| Part # | Size | List Price |
|---------|------------|------------|
| 320-050 | 1/4" Inlet | 9.29 |

5114 51-124 401 20430AD S148 D204-30 6475

COMPACT BLOW GUN

- With standard tip and safety tip
- Zinc Alloy Body
- 1/4" FPT Inlet
- Maximum 150 psi (Recommended Working Pressure 90-120 psi)
- Safety Tip Limits Air Pressure to 30 psi When Dead-Ended per OSHA Requirement
- Maximum 87 dba



| Part # | Size | List Price |
|---------|------|------------|
| 320-055 | 1/4" | 10.92 |

PNEUMATIC ACCESSORIES

PISTOL GRIP BLOW GUN

- Lightweight, Ergonomic Design
- Delrin® Body
- Trigger Air Flow Control
- 1/4" FPT Inlet
- 3" Nozzle Ideal for Tight Spaces
- Recommended Working Pressure 90-120 psi
- Maximum 87 DbA



| Part # | Size | List Price |
|---------|------|------------|
| 320-036 | 1/4" | 7.84 |

PISTOL GRIP BLO-GUN

Material

- Body: POM (engineering plastic)
- Nozzle: nickel plated carbon steel
- Blue Handle Color

Features

- Simple construction, economic
- Global thread connection
- Durable and versatile applications
- 4 inch nozzle



150 PSI

| Part # | Size | List Price |
|---------|------|------------|
| 320-035 | 1/4" | 8.92 |

RUBBER TIPPED NOZZLE



Makes positive seal between gun and fuel line or other openings. Use only on air line regulated to 30 PSI or less

| Part # | Thread Size | List Price |
|---------|-------------|------------|
| 320-070 | 1/8 - 27 | 7.83 |

51-521 2058 D201RT 411R

HIGH FLOW SAFETY NOZZLE



Meets OSHA regulations of 30 PSI maximum outlet pressure when line pressure is 150 PSI or less. Has an air pressure bypass which prevents build up of tip pressure even if nozzle is blocked. Adapts to any blow gun with a 1/8" NPT nozzle port

| Part # | Size | List Price |
|---------|--------------------------------|------------|
| 320-075 | 1/8 MIP x Female Needle Thread | 2.98 |

51-338 SST10 411BT 2056

POCKET TIRE GAUGES

M - TIRE GAUGE

320-021



HEAVY DUTY DUAL FOOT TIRE GAUGE

320-022



DUEL ANGLE FOOT TRUCK PENCIL GAUGE

320-023



| Part # | Pressure Range | Increment | Head | Body | Bar(psi/kPa) | List Price |
|---------|----------------|-----------|---------|-------|-----------------|------------|
| 320-021 | 20-120psi | 2 psi | Metal | Metal | 4 sided plastic | 3.50 |
| 320-022 | 10-120psi | 2 psi | Plastic | Metal | 4 sided plastic | 6.02 |
| 320-023 | 20-120psi | 2 psi | Metal | Metal | 4 sided plastic | 30.12 |

INFLATION NEEDLE



• See thread note below

| Part # | List Price |
|---------|------------|
| 320-095 | 0.33 |

1 PIECE BLOW GUN TAPERED NOZZLE



| Part # | Size | List Price |
|---------|------|------------|
| 320-076 | NT | 0.80 |

1 PIECE BLOW GUN STANDARD NOZZLE



| Part # | Size | List Price |
|---------|------|------------|
| 320-077 | | 0.80 |

VOLUME REGULATOR



| Part # | FIP X MIP | List Price |
|--------|-----------|------------|
| 46-615 | 1/4 | 7.00 |

What size thread is an inflation needle (INT)?

Metric: 7.7mm OD, thread root diameter is 6.9mm x 0.794 pitch
English: 0.305 OD, threadroot diameter 0.302 in x 32 tpi (threads per inch)

1 PIECE DIAL TIRE GAUGE



| Part # | List Price |
|---------|------------|
| 320-410 | 6.58 |

1 PIECE EXTENSION



| Part # | Size | List Price |
|---------|------|------------|
| 320-080 | NT | 0.84 |

1 PIECE BLOW GUN ADAPTER



| Part # | Size | List Price |
|---------|---------------------|------------|
| 320-078 | Female NT x 1/8 MPT | 1.10 |

NYLON COIL AIR HOSE

- 200 psi working pressure
- 4:1 Safety factor (burst vs working pressure)
- Spring end sleeves to prevent kinking
- 1/4 MPT Brass fittings on both ends
- Temperature range 32°F to 120°F
- Packaged for retail sale



| Part # | Description | Size | List Price |
|---------|-------------|----------|------------|
| 307-030 | 25' | 1/4" NPT | 9.73 |
| 307-031 | 50' | 1/4" NPT | 20.02 |

CHUCKS

PNEUMATIC ACCESSORIES

HEX BALL FOOT CHUCK



| Part # | | List Price |
|--------|------------------|------------|
| 46-600 | 1/4 FPT Live Air | 3.51 |

MALE BALL FOOT CHUCK



| Part # | | List Price |
|--------|------------------|------------|
| 46-605 | 1/4 MIP Live Air | 4.34 |

BALL FOOT CHUCK W/ 1/4 ID HOSE BARB



| Part # | | List Price |
|--------|-----------------|------------|
| 46-607 | 1/4 ID Live Air | 3.50 |

DUAL HEAD STRAIGHT AIR CHUCK



Dual Head Air Chuck 1/4"FNPT,the length is 6.08",the head is Zinc-alloy,and the nut is brass with chrome plated.

| Part # | | List Price |
|---------|-----|------------|
| 320-000 | 1/4 | 32.14 |

DUAL HEAD ANGLE FOOT AIR CHUCK



Dual Head Straight Foot Air Chuck 1/4"FNPT For inner duals;both ends lock on valve core threads,the length is 6.66",the head is Zinc-alloy,and the nut is brass with chrome plated.

| Part # | | List Price |
|---------|-----|------------|
| 320-005 | 1/4 | 10.48 |

INFLATORS WITH GAUGE

INFLATOR/ GAUGE

- Rugged Zinc Cast Body with Brass Internals for long life
- Solid Brass Gauge Bar
- Built-in Air Relief Valve
- 6"Dual-Foot Air Chuck



320-010

INFLATOR/ GAUGE

- Rugged Zinc Cast Body with Brass Internals for Long Life
- Easy to View Built-In Sight Gauge
- Full Swivel Hose Fittings
- Protective Rubber Bumper
- Built-in Air Relief Valve
- 6"Dual-Foot Air Chuck



320-011

| Part # | Pressure Range | Increment | Inlet | Hose Length | List Price |
|---------|----------------|-----------|---------|-------------|------------|
| 320-010 | 10-120 psi | 2 psi | 1/4 FPT | 12" | 32.06 |
| 320-011 | 10-120 psi | 2 psi | 1/4 FPT | 12" | 42.35 |

**16PCS-AIR ACCESSORY SET
PART# 87-400**



LIST PRICE: 33.00

Contents of blister card package

| Components and part#'s | | Page # |
|----------------------------------|---------|--------|
| 1pc-1/4"FNPT industrial coupler | 28-540 | 344 |
| 2pcs-1/4"FNPT industrial plugs | 28-534 | 345 |
| 2pcs-1/4"MNPT industrial plugs | 28-546 | 345 |
| 1pc-1/4" male connector | 28-212 | 8 |
| 1pc-1/4" double female connector | 28-059 | 3 |
| 1pc-ball foot chuck | 46-600 | 358 |
| 1pc-blow gun | 320-050 | 356 |
| 1pc-dial tire gauge | 320-410 | 357 |
| 1pc-tapered rubber tip | 320-070 | 356 |
| 1pc-blow gun safety nozzle | 320-075 | 356 |
| 1pc-blow gun tapered nozzle | 320-076 | 357 |
| 2pcs-inflation needles | 320-095 | 357 |
| 1pc-25ft. nylon recoil hose | 307-030 | 357 |

**10PCS-AIR ACCESSORY SET
PART# 87-402**



LIST PRICE: 15.12

Contents of blister card package

| Components and part#'s | | Page # |
|---------------------------------|---------|--------|
| 1pc-1/4"female connector | 28-059 | 3 |
| 1pc-blow gun safety nozzle | 320-075 | 356 |
| 1pc-blow gun tapered nozzle | 320-076 | 357 |
| 1pc-ball foot chuck | 46-605 | 358 |
| 1pc-blow gun | 320-050 | 356 |
| 1pc-1/4"FNPT industrial coupler | 28-540 | 344 |
| 1pc-1/4" FNPT industrial plug | 28-534 | 345 |
| 1pc-1/4"MNPT industrial plug | 28-546 | 345 |
| 2pcs-inflation needles | 320-095 | 357 |

**7PCS-AIR ACCESSORY SET
PART# 87-404**



LIST PRICE: 7.80

Contents of blister card package

| Components and part#'s | | Page # |
|-----------------------------|---------|--------|
| 1pc-blow gun rubber tip | 320-070 | 356 |
| 1pc-blow gun safety nozzle | 320-075 | 356 |
| 1pc-blow gun tapered nozzle | 320-076 | 357 |
| 1pc-extension | 320-080 | 357 |
| 1pc-blow gun | 320-050 | 356 |
| 2pcs-inflation needles | 320-095 | 357 |

**11PCS-AIR ACCESSORY SET
PART# 87-406**



LIST PRICE: 17.70

Contents of blister card package

| Components and part#'s | | Page # |
|---------------------------------|---------|--------|
| 1pc-blow gun rubber tip | 320-070 | 356 |
| 1pc-blow gun safety nozzle | 320-075 | 356 |
| 1pc-blow gun tapered nozzle | 320-076 | 357 |
| 1pc-blow gun standard nozzle | 320-077 | 357 |
| 1pc-blow gun adapter | 320-078 | 357 |
| 1pc-hose&chuck assembly | 320-414 | 357 |
| 1pc-blow gun | 320-050 | 357 |
| 1pc-inflation needle | 320-095 | 357 |
| 1pc-1/4"FNPT industrial coupler | 28-540 | 344 |
| 1pc-1/4" FNPT industrial plug | 28-534 | 345 |
| 1pc-1/4"MNPT industrial plug | 28-546 | 345 |

AIR ACCESSORY SET

PNEUMATIC ACCESSORIES

17PCS-AIR ACCESSORY SET

Contents of blister card package

PART# 87-408



LIST PRICE: 17.40

| Components and part#'s | | Page # |
|----------------------------------|---------|--------|
| 1pc-1/4" double female connector | 50004 | 410 |
| 2pcs-1/4" double male connectors | 54044 | 410 |
| 1pc-blow gun safety nozzle | 320-075 | 356 |
| 1pc-blow gun tapered nozzle | 320-076 | 357 |
| 1pc-dual-foot tire chuck | 320-005 | 358 |
| 1pc-tire gauge | 320-021 | 357 |
| 1pc-blow gun | 320-050 | 356 |
| 1pc-1/4" FNPT industrial coupler | 28-540S | 344 |
| 2pcs-1/4" FNPT industrial plug | 28-534 | 345 |
| 4pcs-1/4" MNPT industrial plug | 28-546 | 345 |
| 2pcs-inflation needles | 320-095 | 357 |

12PCS-AIR ACCESSORY SET

Contents of blister card package

PART# 87-410



LIST PRICE: 32.94

| Components and part#'s | | Page # |
|----------------------------------|---------|--------|
| 1pc-blow gun safety nozzle | 320-075 | 356 |
| 1pc-blow gun tapered nozzle | 320-076 | 357 |
| 1pc-blow gun rubber nozzle | 320-070 | 356 |
| 1pc-ball foot tire chuck | 46-600 | 358 |
| 1pc-blow gun | 320-050 | .56 |
| 1pc-1/4"FNPT industrial coupler | 28-540 | 344 |
| 1pc-1/4" MNPT industrial coupler | 28-552 | 344 |
| 2pcs-1/4"FNPT industrial plug | 28-534B | 345 |
| 2pcs-1/4"MNPT industrail plug | 28-546B | 345 |
| 1pc-inflation needle | 320-095 | 347 |

Contents of blister card package

20PCS-AIR ACCESSORY SET

PART# 87-412



LIST PRICE: 34.80

| Components and part#'s | | Page # |
|----------------------------------|---------|--------|
| 1pc-dual-foot tire chuck | 320-005 | 358 |
| 1pc-tire gauge | 320-021 | 357 |
| 1pc-blow gun rubber nozzle | 320-070 | 356 |
| 1pc-blow gun adapter | 320-078 | 357 |
| 1pc-1/4" double male connector | 54044 | 410 |
| 1pc-1/4" double female connector | 50004 | 410 |
| 1pc-blow gun safety nozzle | 320-075 | 356 |
| 1pc-blow gun tapered nozzle | 320-076 | 357 |
| 1pc-thread seal tape | 982-107 | 365 |
| 1pc-blow gun | 320-050 | 356 |
| 2pcs-1/4"FNPT industrial coupler | 28-540S | 344 |
| 2pcs-1/4"FNPT industrial plug | 28-534 | 345 |
| 3pcs-1/4"MNPT industrial plug | 28-546 | 345 |
| 2pcs-inflation needles | 320-095 | 357 |
| 1pc-1/4"x 25Ft coil Nylon hose | 307-030 | 357 |

**1/4" X 1/4" NPT INDUSTRIAL 7PCS
PART# 87-414**

Contents of blister card package



LIST PRICE: 8.64

| Components and part#'s | | Page # |
|----------------------------------|---------|--------|
| 2pc-1/4"x1/4" FNPT T I/M coupler | 28-540S | 344 |
| 2pcs-1/4"x1/4" FNPT I/M plugs | 28-534 | 345 |
| 2pcs-1/4"x1/4" MNPT I/M plugs | 28-546 | 345 |
| 1pc-double 1/4" MNPT fitting | 54044 | 410 |

**1/4" X 1/4" NPT INDUSTRIAL 5PCS
PART# 87-416**

Contents of blister card package



LIST PRICE: 5.52

| Components and part#'s | | Page # |
|-------------------------------|---------|--------|
| 1pc-1/4"x1/4"FNPT I/M coupler | 28-540S | 344 |
| 4pc-1/4"X1/4" MNPT I/M plug | 28-546 | 345 |

**1/4" X 1/4" NPT INDUSTRIAL 5PCS
PART# 87-418**

Contents of blister card package



LIST PRICE: 4.68

| Components and part#'s | | Page # |
|-------------------------------|---------|--------|
| 1pc-1/4"x1/4"FNPT I/M coupler | 28-540S | 344 |
| 1pc-1/4"x1/4"FNPT I/M plug | 28-534 | 345 |
| 1pc-1/4"X1/4" MNPT I/M plug | 28-546 | 345 |
| 1pc-double 1/4" MNPT fitting | 54-044 | 410 |

**1/4" X 1/4" NPT INDUSTRIAL 3PCS
PART# 87-420**

Contents of blister card package



LIST PRICE: 4.38

| Components and part#'s | | Page # |
|--------------------------------|---------|--------|
| 1pc-1/4"x1/4" FNPT I/M coupler | 28-540S | 344 |
| 1pc-1/4"x1/4" FNPT I/M plug | 28-534 | 345 |
| 1pc-1/4"x1/4" MNPT I/M plug | 28-546 | 345 |

**3/8" X 1/4" NPT AUTOMOTIVE 5PCS KIT
PART# 87-422**

Contents of blister card package



LIST PRICE: 16.20

| Components and part#'s | | Page # |
|---------------------------------------|---------|--------|
| 1pc-3/8"x1/4" FNPT Automotive coupler | 28-525S | 348 |
| 2pcs-3/8"x1/4"MNPT Automotive plugs | 28-512 | 348 |
| 1pc-double 1/4"MNPT fitting | 28-212 | 8 |
| 1pc-double 1/4"FNPT fitting | 28-059 | 3 |

STANDARD DRY GAUGES

STEEL CASE

All the gauges supplied by us are designed for long, reliable service under rugged conditions. Typical applications include compressors, filter regulators, water pumps, beverage dispensing equipment, hydraulic and pneumatic systems, and other applications, where the media does not corrode brass. ALL CONNECTIONS ARE BRASS.

LOWER MOUNT

- Plastic lens (window)



**1-1/2" FACE
1/8" NPT LOWER MOUNT**

| Part # | PSI | List Price |
|--------|-------|------------|
| 80-501 | 0-15 | 9.40 |
| 80-502 | 0-30 | 9.40 |
| 80-503 | 0-60 | 9.40 |
| 80-504 | 0-100 | 9.40 |
| 80-505 | 0-160 | 9.40 |
| 80-506 | 0-200 | 9.40 |



**2" FACE
1/4" LOWER MOUNT**

| Part # | PSI | List Price |
|--------|-------------|------------|
| 80-001 | 0-15 | 10.45 |
| 80-002 | 0-30 | 9.50 |
| 80-003 | 0-60 | 10.45 |
| 80-004 | 0-100 | 10.45 |
| 80-005 | 0-160 | 10.45 |
| 80-006 | 0-200 | 10.45 |
| 80-007 | 0-300 | 9.50 |
| 80-020 | 30-0 Vacuum | 16.00 |



**2-1/2" FACE
1/4" LOWER MOUNT**

| Part # | PSI | List Price |
|--------|-------|------------|
| 80-031 | 0-15 | 13.48 |
| 80-032 | 0-30 | 13.48 |
| 80-033 | 0-60 | 14.48 |
| 80-034 | 0-100 | 13.48 |
| 80-035 | 0-160 | 13.48 |
| 80-036 | 0-200 | 13.48 |



**1-1/2" FACE
1/8" NPT CENTER BACK MOUNT**

| Part # | PSI | List Price |
|--------|-------|------------|
| 80-511 | 0-15 | 9.45 |
| 80-512 | 0-30 | 9.45 |
| 80-513 | 0-60 | 9.45 |
| 80-514 | 0-100 | 9.45 |
| 80-515 | 0-160 | 9.45 |
| 80-516 | 0-200 | 9.45 |

CENTER BACK MOUNT



**2" FACE
1/4" CENTER BACK MOUNT**

| Part # | PSI | List Price |
|--------|-------|------------|
| 80-301 | 0-15 | 10.85 |
| 80-302 | 0-30 | 10.85 |
| 80-303 | 0-60 | 10.85 |
| 80-304 | 0-100 | 10.85 |
| 80-305 | 0-160 | 10.85 |
| 80-306 | 0-200 | 10.85 |
| 80-307 | 0-300 | 10.85 |



**2-1/2" FACE
1/4" CENTER BACK MOUNT**

| Part # | PSI | List Price |
|--------|-------|------------|
| 80-331 | 0-15 | 12.15 |
| 80-332 | 0-30 | 12.15 |
| 80-333 | 0-60 | 12.15 |
| 80-334 | 0-100 | 12.15 |
| 80-335 | 0-160 | 12.15 |
| 80-336 | 0-200 | 12.15 |

LIQUID FILLED GAUGES

STAINLESS CASE

Liquid filled gauges enhance the reliability and integrity of the measuring system for long periods. The glycerine filling helps dampen the effects of vibration and pulsation. It also lubricates the movement which extends the life of the gauge. ALL CONNECTIONS ARE BRASS.



**1-1/2" FACE
1/8" LOWER MOUNT**

| Part # | PSI | List Price |
|--------|-------|------------|
| 80-601 | 0-15 | 24.95 |
| 80-602 | 0-30 | 24.95 |
| 80-603 | 0-60 | 24.95 |
| 80-604 | 0-100 | 24.95 |
| 80-605 | 0-160 | 24.95 |
| 80-606 | 0-200 | 24.95 |



**2-1/2" FACE
1/4" LOWER MOUNT**

| Part # | PSI | List Price |
|--------|-------------|------------|
| 80-061 | 0-15 | 28.05 |
| 80-062 | 0-30 | 28.05 |
| 80-063 | 0-60 | 28.05 |
| 80-064 | 0-100 | 28.05 |
| 80-065 | 0-160 | 28.05 |
| 80-066 | 0-200 | 28.05 |
| 80-067 | 0-300 | 28.05 |
| 80-068 | 0-400 | 28.05 |
| 80-069 | 0-600 | 28.05 |
| 80-100 | 0-1000 | 28.05 |
| 80-101 | 0-1500 | 28.05 |
| 80-102 | 0-2000 | 28.05 |
| 80-103 | 0-3000 | 28.05 |
| 80-104 | 0-5000 | 28.05 |
| 80-105 | 0-10000 | 28.05 |
| 80-080 | 30-0 Vacuum | 28.05 |
| 80-081 | -30 to +30 | 28.05 |

- Liquid Filled Gauges with a stainless case are used for protection in harsh environments.
- Stainless Steel Case
- Copper Alloy Wetted parts
- Polycarbonate window
± 1.5% of span accuracy
- Temp. Range -104°F to 158°F

Keep your mind open to change all the time. Welcome it. Court it. It is only by examining and re-examining your opinions and ideas that you can progress.

-Dale Carnegie



**4" FACE
1/4" LOWER MOUNT**

| Part # | PSI | List Price |
|--------|-------|------------|
| 80-463 | 0-100 | 75.35 |

CENTER BACK MOUNT



**1-1/2" FACE
1/8" CENTER BACK MOUNT**

| Part # | PSI | List Price |
|--------|-------|------------|
| 80-611 | 0-15 | 25.05 |
| 80-612 | 0-30 | 25.05 |
| 80-613 | 0-60 | 25.05 |
| 80-614 | 0-100 | 25.05 |
| 80-615 | 0-160 | 25.05 |
| 80-616 | 0-200 | 25.05 |



**2-1/2" FACE
1/4" CENTER BACK MOUNT**

| Part # | PSI | List Price |
|--------|-------|------------|
| 80-201 | 0-15 | 29.43 |
| 80-202 | 0-30 | 29.43 |
| 80-204 | 0-60 | 29.43 |
| 80-203 | 0-160 | 29.43 |
| 80-205 | 0-100 | 29.43 |
| 80-206 | 0-200 | 29.43 |
| 80-207 | 0-300 | 29.43 |
| 80-208 | 0-400 | 29.43 |
| 80-209 | 0-600 | 29.43 |

GAUGES/ SYPHON

Water Test Gauge

0-300 PSI DIAL
3/4" FEMALE HOSE
CONNECTION



| Part # | Face Size | List Price |
|---------|-----------|------------|
| 991-249 | 2" | 24.04 |
| 991-250 | 2-1/2" | 24.04 |

**Water Test Gauge
w/Lazy Hand (Maximum pointer)**

2-1/2" GAUGE
0-300 PSI DIAL
3/4" FEMALE HOSE
CONNECTION



Regular pressure hand pushes LAZY hand to peak operating or surge pressure point where it remains until you manually reset it. Excellent to determine if P/T valve is leaking from failure or if leaking is caused by surge of excessive pressures. (Attach gauge to Boiler Drain Valve overnight.) LAZY hand operates over entire gauge range of 0-300psi

| Part # | List Price |
|---------|------------|
| 991-251 | 27.77 |

PNEUMATIC ACCESSORIES

GAS TEST GAUGE

Pressure test residential and commerical pipe systems



| Part # | Face Size | List Price |
|--------|-----------|------------|
| GT15 | 0-15 | 21.94 |
| GT30 | 0-30 | 21.94 |
| GT60 | 0-60 | 24.78 |

BODY ONLY



| Part # | Face Size | List Price |
|---------|---------------------|------------|
| 991-259 | 3/4" FIP x 1/4" TAP | 13.50 |

SYPHON

BRASS

Syphons protect instruments from effects of hot pressure media commonly used in steam applications



| Part # | Size | List Price |
|---------|-----------|------------|
| 995-210 | 1/4" 90° | 41.98 |
| 995-211 | 1/4" 180° | 46.40 |
| 995-212 | 1/4" 270° | 63.22 |
| 995-213 | 1/4" 360° | 67.78 |

STEEL

Syphons protect instruments from effects of hot pressure media commonly used in steam applications



| Part # | Size | List Price |
|---------|-----------|------------|
| 995-214 | 1/4" 90° | 16.04 |
| 995-215 | 1/4" 180° | 17.32 |
| 995-216 | 1/4" 270° | 19.67 |
| 995-217 | 1/4" 360° | 20.88 |

PNEUMATIC ACCESSORIES

TAPES/ SEALANT

PTFE THREAD SEAL TAPE

- Density 0.4
- Thickness 3.5 MIL
- Meets MIL specs T-27730A



| Part # | Size | Case Qty | List Price |
|---------|-------------|----------|------------|
| 982-107 | 1/2" x 260" | 500 | 1.34 |
| 982-108 | 1/2" x 520" | 500 | 1.50 |
| 982-109 | 3/4" x 260" | 350 | 2.50 |
| 982-110 | 3/4" x 520" | 350 | 2.50 |

POP OUT COVERED SPOOL

GREY STAINLESS STEEL

- Density 1.2
- Thickness 4MIL
- Meets MIL specs T-27730A & CID A-A 58092



| Part # | Size | Case Qty | List Price |
|---------|-------------|----------|------------|
| 982-135 | 1/2" x 260" | 250 | 6.72 |
| 982-136 | 1/2" x 520" | 150 | 9.12 |
| 982-137 | 3/4" x 260" | 150 | 8.10 |
| 982-138 | 3/4" x 520" | 150 | 12.60 |

GREEN OXYGEN TAPE

- Density 1.2
- Thickness 3.5MIL
- Meets MIL specs T-27730A & CID A-A 58092



| Part # | Size | Case Qty | List Price |
|---------|-------------|----------|------------|
| 982-130 | 1/2" x 260" | 250 | 1.44 |
| 982-131 | 1/2" x 520" | 150 | 2.47 |
| 982-132 | 3/4" x 520" | 150 | 3.72 |

PTFE BLUE SEAL TAPE

- Professional grade top -450 to +450°F
- Super long roll
- Twice the density of standard tape for less passes, lasts longer
- Density 0.8
- Thickness 3.5 MIL
- Meets MIL Spec T-27730A



| Part # | Size | Case Qty | List Price |
|---------|--------------|----------|------------|
| 982-120 | 1/2" x 1368" | 250 | 5.40 |
| 982-121 | 3/4" x 1368" | 150 | 7.68 |
| 982-122 | 1" x 1296" | 150 | 9.36 |

YELLOW GAS LINE TAPE

- Density 0.9
- Thickness 4MIL
- Meets MIL specs T-27730A



| Part # | Size | Case Qty | List Price |
|---------|-------------|----------|------------|
| 982-125 | 1/2" x 260" | 250 | 1.31 |
| 982-126 | 1/2" x 520" | 150 | 2.35 |
| 982-127 | 3/4" x 520" | 150 | 3.66 |

PVC ELECTRICAL TAPE

- Rated to 176 degrees fahrenheit
- Suitable for use up to 600V
- UL Listed
- Individually wrapped in cellophane



| Part # | Size | List Price |
|--------|------------------|------------|
| 982140 | 3/4" X 60' Black | 2.88 |

THREAD SEALANT

GASOILA SOFT-SET THREAD SEALANT WITH PTFE



| Part# | Size | Units per case | List Price |
|--------|---------------|----------------|------------|
| 983100 | 1/4 pt. Brush | 24 | 40.07 |
| 983101 | 1/2 pt. Brush | 24 | 55.98 |
| 983102 | 1 pt. Brush | 12 | 98.62 |

PLS 2 PREMIUM THREAD AND GASKET SEALER



| Part# | Size | Units per case | List Price |
|--------|---------------|----------------|------------|
| 983110 | 1/4 pt. Brush | 12 | 62.52 |
| 983111 | 1 pt. Brush | 6 | 212.64 |

GASOILA NT NON-PTFE THREAD SEALANT



| Part# | Size | Units per case | List Price |
|--------|---------------|----------------|------------|
| 983120 | 1/2 pt. Brush | 12 | 53.10 |
| 983121 | 1 pt. Brush | 6 | 93.67 |

JC-30 GASOILA HIGH-FILL



| Part# | Size | Units per case | List Price |
|--------|---------------|----------------|------------|
| 983115 | 1/4 pt. Brush | 12 | 53.34 |
| 983116 | 1 pt. Brush | 6 | 123.00 |

FREE ALL DEEP PENETRATING OIL



| Part# | Size | Units per case | List Price |
|--------|----------------|----------------|------------|
| 983125 | 6 oz. Aerosol | 12 | 20.93 |
| 983126 | 11 oz. Aerosol | 12 | 31.08 |

LUBE-IT ALL DEEP LUBRICATING OIL



| Part# | Size | Units per case | List Price |
|--------|---------------|----------------|------------|
| 983130 | 6 oz. Aerosol | 12 | 19.86 |

TRUCK AND TRAILER



INDUSTRY GRADE NYLON AIR COIL ASSEMBLY - SET

- Each kit contains one Emergency (Red) and one service (Blue) 1/2" O.D. nylon tubing assembly.
- 1/2" -14 NPTF end fitting with heavy gauge spring.
- Assemblies meet SAE J844 and DOT FMVSS 106 requirements.
- Temp rating -40° - +208°

| Part # | Length | Pigtail Length Tractor end | Pigtail Length Trailer end | List Price |
|--------|--------|-------------------------------|-------------------------------|---------------|
| 39404 | 12' | 6" | 6" | 74.67 |
| 39400 | 15' | 12" | 12" | 82.64 |
| 39402 | 15' | 40" | 12" | 104.15 |
| 39406 | 20' | 12" | 12" | 115.06 |



FIFTH WHEEL SLIDER COIL

- Temperatures range -40 to 208°F
- 150 psi max pressure rating
- Meets SAE J844 and DOT FMVSS 106 requirements.
- (2) 1/4" OD fittings assembled

| Part # | Description | Length | Fittings | List Price |
|--------|-----------------------|-----------|--------------|------------|
| 39839 | 5th Wheel slider coil | up to 54" | (2) 1/4" MPT | 25.94 |
| 39838 | 5th Wheel slider coil | up to 72" | (2) 1/4" MPT | 30.43 |



3-IN-1 AND 4-IN-1 COMBINATION AIRLINE CABLE

- (2) 3/8" ID SAE J1402 rubber service and emergency with blue (service) and red (emergency) gladhand grip handle
- Color-coded grip helps to minimize incorrect tractor/trailer connections have glad handle with Vibraseal
- ABS power line (green) – meets SAE J2222 requirements
- Auxiliary power line (yellow) – fitted with SAESS60 plugs that have an inverted (male) ground pin 4-in-1 only
- SAE J560 Plugs with sleeves for superior corrosion protection and strain relief
- Corrosion resistant all brass fittings 1/2" male NPT w/ Vibraseal
- Tapered grip flexes with airline during tight turns for kink protection
- Temp rating -40 - 208°F

| Part # | Description | List Price |
|--------|------------------------------|---------------|
| 39825 | Combo 3 in 1 assembly 15 ft. | 406.36 |
| 39962 | Combo 4 in 1 assembly 15 ft. | 600.86 |

AIRBRAKE HOSE REPAIR KIT



- Fittings to repair hose with a minimum 3/4" OD
- Meets DOT 106 SAE j1402
- Brass sleeve and barb
- Pre-applied sealant

| Part # | Description | List Price |
|--------|------------------------------------|------------|
| 39855 | 3/8" Quick fix hose fitting | 7.08 |
| *39856 | 3/8" Quick fix hose kit- clam pack | 11.33 |
| 39857 | 1/2" Quick fix hose fitting | 9.00 |

*Supplied with hex tool

POGO STICKS CANNISTER STYLE

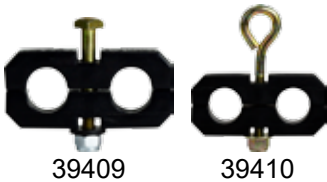


39425

39426

- Large diameter housing eliminates spring binding
- Increased resistance to sagging and bending
- Thick gauge heavy duty spring
- Used for all nylon and rubber air brake hose
- Forged steel mounting stud 7/16-20 thread
- All Pogo Sticks include Eyebolt and Nut

| Part # | Size | Description | List Price |
|--------|------|-------------------|------------|
| 39425 | 40" | Chrome finish | 86.48 |
| 39426 | 40" | Zinc Plated Steel | 80.76 |

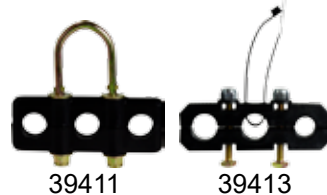


39409

39410

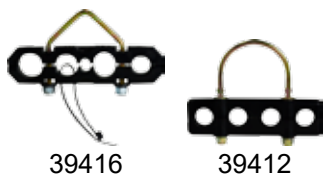
HOSE HOLDERS

- ABS Plastic
- 2, 3 and 4 Hold



39411

39413



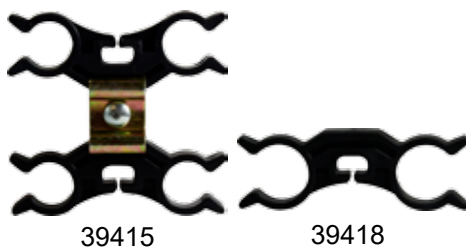
39416

39412

| Part # | Size | Description | List Price |
|--------|------|-----------------------------|------------|
| 39409 | 1/2" | 2-Hose Holder Hex Head | 3.30 |
| 39410 | 1/2" | 2-Hose Holder | 4.66 |
| 39411 | 1/2" | 3-Hose Holder | 4.26 |
| 39413 | 1/2" | 3-Hose Hex Head w Cable tie | 6.60 |
| 39416 | 1/2" | 4-Hose V Bolt w Cable Tie | 6.90 |
| 39412 | 1/2" | 4-Hose Holder | 5.34 |

HOSE SEPARATORS

- ABS Plastic



39415

39418

| Part # | Size | Description | List Price |
|--------|------|------------------|------------|
| 39414 | 3/8" | 2-Hose Separator | 1.00 |
| 39415 | 3/8" | 4-Hose Separator | 3.31 |
| 39418 | 1/2" | 2-Hose Separator | 4.66 |
| 39419 | 1/2" | 4-Hose Separator | 5.34 |

HOSE SUPPORT

TRUCK AND TRAILER



39469



39473



39472



39411

TENDER KIT COMPONENTS

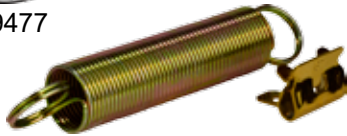
| Part # | Description | List Price |
|--------|--------------------------|------------|
| 39411 | 3 hole holder | 4.26 |
| 39469 | Clip Carabiner | 4.26 |
| 39472 | 1-1/2" ID Hanger Bracket | 5.33 |
| 39473 | Yoke | 2.03 |

• Sold individually



39477

39471



39463

SPRING WITH TANDEM FRAME CLIP

- Steel spring and clip - yellow dichromate finish
- 3/4" OD
- Beam clip

| Part # | Description | List Price |
|--------|---------------------------|------------|
| 39477 | Frame Clip with Cable Tie | 2.10 |

| Part # | Length | Description | List Price |
|--------|-----------|-------------------|------------|
| 39463 | 6" Spring | Tandem frame clip | 4.39 |
| 39464 | 3" Spring | Tandem frame clip | 2.96 |
| 39471 | | Frame clip only | 1.71 |



95631



95640

CLIPS

| Part # | Description | List Price |
|--------|----------------------------|------------|
| 95631 | ABS Clip for 1/2" Air Hose | 0.43 |
| 95640 | 5" Axle Clip | 2.22 |
| 95641 | 5-3/4" Axle Clip | 2.34 |

Two men look out the same bars; One sees mud, the other sees stars....

- Frederick Langbridge



TENDER KIT

Complete Tender Kit includes:

- Large snap Clip
- Heavy duty spring
- Protective tube

| Part # | Spring & Tube Length/ #pcs | One Clip | 3 Hole Clamp | Yoke | List Price |
|--------|----------------------------|----------|--------------|------|------------|
| 39442 | 16" / 1pc | 1pc | 1pc | | 24.23 |
| 39444 | 16" / 2 pcs | 1pc | 1pc | 2pcs | 48.91 |
| 39446 | 20" / 1pc | 1pc | 1pc | | 25.09 |
| 39448 | 20" / 2pcs | 1pc | 1pc | 2pcs | 34.11 |
| 39452 | 25" / 1pc | 1pc | 1pc | | 17.09 |
| 39453 | 25" / 2pcs | 1pc | 1pc | 2pcs | 34.11 |

HYDRAULIC TENDER KIT

| Part # | Spring & Tube Length/ #pcs | Large Clip | Hanger Bracket | Yoke | List Price |
|--------|----------------------------|------------|----------------|------|------------|
| 39457 | 25" / 2pcs | 1pc | 1pc | 2pcs | 40.26 |



SLIDER BAR KITS

| Part # | Spring & Tube Length/ #pcs | Large Clip | 3 Hole Clamp | Slider Bar Length | Yoke | List Price |
|--------|----------------------------|------------|--------------|-------------------|------|------------|
| 39437 | 16" / 1pc | 1pc | 1pc | 43" | | 96.54 |
| 39438 | 16" / 2pcs | 1pc | 1pc | 43" | 2pcs | 96.94 |
| 39459 | 20" / 2pcs | 1pc | 1pc | 43" | 2pcs | 76.20 |
| 39460 | 25" / 1pc | 1pc | 1pc | 43" | | 58.97 |
| 39461 | 25" / 2pcs | 1pc | 1pc | 43" | 2pcs | 73.97 |
| 39470 | 16" / 1pc | 1pc | 1pc | 38" | | 92.20 |
| 39462 | 16" / 2pcs | 1pc | 1pc | 38" | 2pcs | 121.51 |
| 39451 | 25" / 1pc | 1pc | 1pc | 38" | | 52.26 |
| 39454 | 25" / 2pcs | 1pc | 1pc | 38" | 2pcs | 67.29 |



BARS, SPRINGS, TUBES

| Part # | Spring & Tube Length/ #pcs | List Price |
|--------|----------------------------|------------|
| 39443 | 16" Tube only | 8.30 |
| 39447 | 20" Tube only | 9.06 |
| 39436 | 25" Tube only | 11.25 |
| 39466 | 16" Spring only | 7.52 |
| 39467 | 20" Spring only | 8.52 |
| 39468 | 25" Spring only | 9.00 |
| 39474 | 38" Slider Bar | 32.69 |
| 39475 | 43" Slider Bar | 66.66 |

ALUMINUM GLADHANDS

- 1/2 " FPT port
- Aluminum Casting
- Permanent Clamp Screw
- Black rubber seals
- Stainless Steel filter
- Meet SAE J318 requirements



PORT A

| Part # | Description | Material | Seal | Filter | Port A | List Price |
|--------|-----------------------|----------|------------|--------|--------|------------|
| 39870 | Universal | Aluminum | Blk Rubber | No | 1/2" | 6.00 |
| 39871 | Universal with filter | Aluminum | Blk Rubber | Yes | 1/2" | 6.56 |
| 39877 | Emergency Red | Aluminum | Blk Rubber | No | 1/2" | 6.00 |
| 39878 | Emergency with filter | Aluminum | Blk Rubber | Yes | 1/2" | 8.23 |
| 39874 | Service Blue | Aluminum | Blk Rubber | No | 1/2" | 6.00 |
| 39875 | Service with filter | Aluminum | Blk Rubber | Yes | 1/2" | 8.23 |

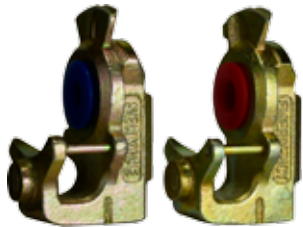
PLATED ALUMINUM GLADHANDS



| Part # | Description | Material | Seal | Filter | Port A | List Price |
|--------|--------------------|-----------------|------------|--------|--------|------------|
| 39832 | Universal Standard | Plated Aluminum | Blk Rubber | No | 1/2" | 11.43 |
| 39833 | Service - Blue | Plated Aluminum | Blk Rubber | No | 1/2" | 11.43 |
| 39834 | Emergency - Red | Plated Aluminum | Blk Rubber | No | 1/2" | 11.43 |
| 39828 | Service 38 degree | Plated Aluminum | Blk Rubber | No | 1/2" | 16.25 |
| 39829 | Emergency 38 dgree | Plated Aluminum | Blk Rubber | No | 1/2" | 16.25 |
| 39830 | Service 38 degree | Plated Aluminum | Blk Rubber | No | 3/8" | 23.11 |
| 39831 | Emergency 38 dgree | Plated Aluminum | Blk Rubber | No | 3/8" | 23.11 |

CAST IRON GLADHANDS

- 1/2 " FPT port
- One-piece casting eliminates problems with clamp separation
- "Positive-stop" post, assures a perfect connection
- Polyurethane seal resist oils, chemicals & provide improved sealing & service life
- Gladhands meet SAE J318 requirements including breakaway requirement.



PORT A

| Part # | Description | Material | Seal | Filter | Port A | List Price |
|--------|-------------|-----------|--------------------|--------|--------|------------|
| 39506 | Universal | Cast Iron | Black Polyurethane | No | 1/2" | 17.15 |
| 39507 | Emergency | Cast Iron | Red Polyurethane | No | 1/2" | 17.15 |
| 39508 | Service | Cast Iron | Blue Polyurethane | No | 1/2" | 17.15 |

ANGLE MOUNT ALUMINUM GLADHANDS

- For use in trailer mounting locations
- Dual port provides connection options
- Powder-coated clamp plates are color coded for easy identification
- Port "A" comes standard as unplugged
- (2) 3/8 inch FPT Ports (one plugged).
- (2) 11/32 inch diameter mounting holes.
- Available with Port "B" plugged or unplugged (plug is included, loose in bag)
- Meet SAE J318



PORT A

PORT B

| Part # | Type | Material | Seal | Filter | Port A | Port B | List Price |
|--------|-----------|----------|------------|--------|-----------|---------|------------|
| 39511 | Emergency | Aluminum | Blk Rubber | No | Unplugged | Plugged | 12.83 |
| 39512 | Service | Aluminum | Blk Rubber | No | Unplugged | Plugged | 12.83 |

POWDER COATED IRON GLADHAND

- Tough powder coating improves wear & corrosion resistance
- Vividly colored to provide improved identification of service & emergency lines
- Stainless steel plate eliminates corrosion of the mating surface
- Polyurethane seal resist oil, chemicals, provide improved sealing & service life
- Meet or exceeds SAE J318 standard



PORT A

| Part # | Description | Filter | Port A | List Price |
|--------|------------------------------|--------|--------|------------|
| 39509 | Service with blue poly seal | Yes | 1/2" | 8.45 |
| 39510 | Emergency with red poly seal | Yes | 1/2" | 8.45 |

BRACKET MOUNT SWING AWAY GLADHAND

- Bracket allows 180° rotation allowing for easy hookups, eliminating the need to twist lines during connections
- Helps protect rear-trailer gladhands when not in use
- Filter and closed seal are recommended
- Spring design provides consistent tension throughout rotation
- Design provides both back port and bottom port capabilities
Gladhand mount - 1/2" Male Thread



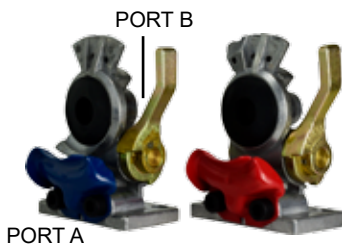
| Part # | Description | Material | Seal | Filter | List Price |
|--------|-----------------|----------|------------|--------|------------|
| 39515 | Service (Blue) | Aluminum | Blk Rubber | yes | 48.11 |
| 39516 | Emergency (Red) | Aluminum | Blk Rubber | yes | 48.11 |

KNOB STYLE SHUTOFF GLADHAND

- Economical trailer shutoff gladhand
- Centered low-profile "snap-stop" knob
- Full face rubber seal
- Available with assembled or separate fittings.
- Meets SAE J318



| Part # | Description | Material | Seal | Filter | List Price |
|--------|----------------------|----------|------------|--------|------------|
| 39520 | 1/2" Service (Blue) | Aluminum | Blk Rubber | No | 62.11 |
| 39521 | 3/8" Service (Blue) | Aluminum | Blk Rubber | No | 62.06 |
| 39522 | 1/2" Emergency (Red) | Aluminum | Blk Rubber | No | 62.11 |
| 39524 | 3/8" Emergency (Red) | Aluminum | Blk Rubber | No | 62.06 |



PORT A

LEVER STYLE SHUTOFF GLADHAND

- Flange mount
- Metal handle shutoff
- Full face rubber seal
- Tough metal Ball valve
- Color coded
- Meets SAE J318

| Part # | Description | Material | Seal | Filter | Port A NPT | Port B NPT | List Price |
|--------|-----------------|----------|------------|--------|------------|------------|------------|
| 39531 | Emergency (Red) | Aluminum | Blk Rubber | No | 3/8" | 1/4" | 59.26 |
| 39530 | Service (Blue) | Aluminum | Blk Rubber | No | 3/8" | 1/4" | 59.26 |

AIR

TRUCK AND TRAILER

GLADHAND GRIPS



1/2" NPTF.

- Comes with hardware and sealant
- Color-coded red and blue for easy air line identification - clamshell
- Handles are heat, oil and UV-resistant.
- Meet SAE J318

| Part # | Description | List Price |
|--------|--------------------|------------|
| 39535 | Poly grip hardware | 27.03 |

ALUMINUM GLADHAND GRIPS



- 1/2" NPTF
- Each pack contains (1) red and (1) blue - clamshell
- One piece design
- No screws or plastic parts
- Easy to install
- Class II anodized coating provides greater corrosion resistance

| Part # | Description | List Price |
|--------|-------------|------------|
| 39537 | Sure grip | 23.03 |

GLADHAND PACIFIER SEAL



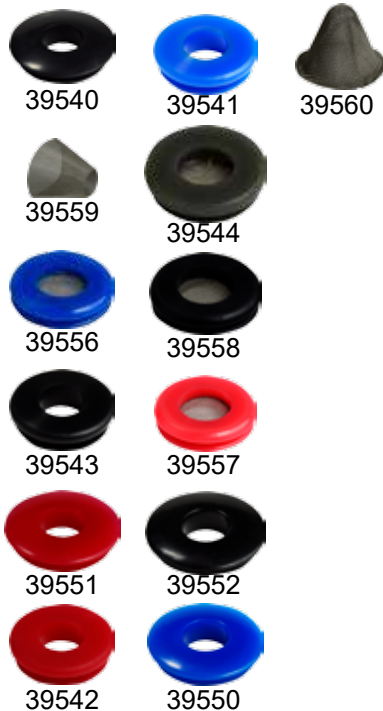
- Seals Gladhand from moisture, dirt and debris

| Part # | Description | List Price |
|--------|-------------------|------------|
| 39566 | Gladhand pacifier | 3.00 |

GLADHAND SEALS

Seal Options:

- Rubber
- Polyurethane
- With screen filter
- Double lip
- Filter screen only



| Part # | Description | List Price |
|--------|---|------------|
| 39540 | Black Rubber | 0.71 |
| 39541 | Blue, Polyurethane | 1.40 |
| 39542 | Red, Polyurethane | 1.40 |
| 39543 | Black, Polyurethane | 1.43 |
| 39556 | Blue with a screen filter Polyurethane | 3.20 |
| 39557 | Red with a screen filter Polyurethane | 3.20 |
| 39558 | Black with a screen filter Polyurethane | 3.29 |
| 39550 | Blue Double lip, Polyurethane | 2.23 |
| 39551 | Red Double Lips, Polyurethane | 2.31 |
| 39552 | Double Lip, Polyurethane | 3.06 |
| 39544 | Grey, Closed Style, Polyurethane | 1.43 |
| 39560 | Filter, Screen, Gladhand | 1.03 |
| 39559 | Filter, Screen, Gladhand | 1.75 |



39565

DUMMY GLADHAND COUPLING KIT

- 6 1/2" coupling length

| Part # | Connection | Vent | Material | List Price |
|--------|------------|------|--------------------------|------------|
| 39563 | Chain | Yes | Steel Yellow Zinc plated | 5.76 |
| 39564 | Chain | No | Steel Yellow Zinc plated | 5.76 |
| 39565 | Cable | N/A | Aluminum | 8.61 |



39574

39575

NYLON GLADHAND AND PLUG HOLDER

- Stores Gladhand and electrical hook ups at a 45° angle.
- Can accept heavy ABS plug
- Standard mounting holes to install on back of cab.
- Glass-filled nylon, non-corrosive construction.

| Part # | Description | List Price |
|--------|-------------|------------|
| 39574 | 1 plug slot | 28.29 |
| 39575 | 2 plug slot | 34.11 |



GLADHAND HOLDER KIT

- Steel - Zinc Yellow Dichromate
- Holds gladhands when disconnected

| Part # | Description | List Price |
|--------|--------------|------------|
| 39573 | Holder Kit | 10.94 |
| 39572 | Bracket only | 5.37 |



GLADHAND LOCK

- Red molded plastic
- Prevents unwanted connections with trailers
- Protects idle units
- Universal for Aluminum and Iron Gladhands
- Supplied with 2-keys

| Part # | Description | List Price |
|--------|-------------------------|------------|
| 39570 | Gladhand Lock w/ 2 keys | 34.26 |

** Not an Anti theft device*



KING PIN LOCK-ANTI HOOK UP

- Cast, Zinc plated
- Anti-tractor, trailer hook-up
- Supplied with 2 keys

| Part # | Description | List Price |
|--------|-------------------------|------------|
| 39860 | King Pin Lock w/ 2 keys | 36.91 |

AIR CYLINDER

- 300 series stainless steel cylinder shafts provide excellent corrosion resistance and extended cycle life -cylinders tested to over 500,000 cycles.
- Lightweight, corrosion resistant aluminum tube with die cast aluminum end caps.
- Rear clevis cast as integral part of the rear cover for improved durability and mounting integrity.
- Double acting, Emralon-coated piston cup assures smooth long lasting operation even in cold weather conditions to (- 40°F).
- Front end cap assembly includes pressure seal, dirt seal and oil impregnated bronze bushing.
- Cylinder tube imprinted with part number and date code for quick identification.
- All cylinders are factory pressure and leak tested prior to shipping.
- Front Cover Kit-Includes front cover with bushing and seals installed and two cylinder gaskets.
- Rear Cover Kit-Includes rear cover with two cylinder gaskets.
- Piston Cup Kit-Includes piston cup, lock nut and two cylinder gaskets.
- Shaft Kit-Includes shaft, lock nut and two cylinder gaskets.

| Part # | Size | Stroke | Retracted | Extended | Type | List Price |
|--------|--------|--------|-----------|----------|---------------|------------|
| 39672 | 2 1/2" | 4.0" | 9.89" | 13.89" | push/pull | 235.52 |
| 39673 | 2 1/2" | 6.0" | 11.89" | 17.89" | push/pull | 239.97 |
| 39674 | 2 1/2" | 8.0" | 13.89" | 21.89" | push/pull | 240.03 |
| 39675 | 2 1/2" | 6.0" | 13.75" | 19.75" | Spring return | 335.91 |
| 39676 | 3 1/2" | 8.0" | 15.60" | 24.28" | push/pull | 370.88 |
| 39677 | 3 1/2" | 10.0" | 16.92" | 26.95" | push/pull | 377.00 |

**HIGH LIFT AIR CYLINDERS**

- Aluminum tube with 16 RMS finish
- Temp rating -40 to 185°F
- Recommended working pressure 150 psi
- Minimum bursting pressure 150 psi
- 1275 lb. thrust at 100 psi
- 1158 lb. draw at 100 psi

| Part # | Dia. | Stroke | Retracted | Extended | Type | List Price |
|--------|------|--------|-----------|----------|-----------|------------|
| 39654 | 4" | 24" | 34.5" | 58.5" | push/pull | 942.67 |

TAILGATE AIR CYLINDERS

- Die cast aluminum with mount hole for 1/2" pin and 1/4" NPT port
- Molded piston cup
- Stainless steel piston rod with 5/8" – 18 thread
- 10 PSI – 120 PSI
- 10 psi min-120 psi max



| Part # | Dia. | Stroke | Length | Type | List Price |
|--------|--------|--------|--------|------------|------------|
| 39655 | 2-1/2" | 4.0" | 13.37 | Push/Pull | 144.54 |
| 39656 | 2-1/2" | 6.0" | 17.37 | Push/Pull | 157.18 |
| 39657 | 2-1/2" | 8.0" | 21.37 | Push/Pull | 170.79 |
| 39658 | 2-1/2" | 4.0" | 14.71 | Spring Ret | 322.63 |
| 39659 | 2-1/2" | 6.0" | 19.75 | Spring Ret | 195.95 |
| 39660 | 3-1/2" | 6.0" | 20.23 | Push/Pull | 259.33 |
| 39661 | 3-1/2" | 8.0" | 24.23 | Push/Pull | 276.79 |
| 39662 | 3-1/2" | 8.0" | 26.98 | Push/Pull | 297.61 |
| 39663 | 3-1/2" | 10.0" | 28.98 | Push/Pull | 288.42 |

TAILGATE AIR CYLINDERS

- Machined aluminum, 5/8" diameter ,stainless steel shaft with 5/8" - 18 threads, "O" rings and a UHMW polyethylene wear band
- Direct replacements to Haldex and MGM
- Standard operating pressure 100 psi
- 90psi min to 150 psi max



| Part # | Dia. | Stroke | Bracket | Type | List Price |
|--------|------|--------|---------|------------|------------|
| 39665 | 6" | 3" | Yes | Spring Ret | 780.60 |
| 39667 | 6" | 4.38" | No | Spring Ret | 780.60 |

FIFTH WHEEL AIR CYLINDER

- 1/4" FPT port cast aluminum front and rear
- 2-1/2" Bore
- 6-3/4" stroke
- Front and rear mounting hole for 17/32" clevis,
- 100 psi
- Gold anodized tube for corrosion resistance



| Part # | Description | List Price |
|--------|--------------------------|------------|
| 39669 | Fifth Wheel Air Cylinder | 314.89 |

AIR TANK DRAIN PULL VALVE

| Part # | Size | Description | List Price |
|--------|-----------|-----------------------------|------------|
| 39595 | 1/4" male | 5ft nylon coated pull cable | 12.77 |
| 39596 | 1/4" male | 4ft nylon coated pull cable | 11.94 |
| 39597 | 1/4" male | 3ft nylon coated pull cable | 11.77 |
| 39600 | 1/4" male | Air valve only | 11.54 |

AIR TANK CHECK VALVE

- Single check valves allow air to pass from a single source to its destination, and prevent air travel in the opposite direction.



| Part # | Male x Female | List Price |
|--------|---------------|------------|
| 39604 | 1/4" | 30.51 |
| 39605 | 3/8" | 23.49 |
| 39606 | 1/2" | 22.69 |

D-2 STYLE AIR BRAKE GOVERNOR

- Opening and closing pressures of 100 to 120 psi
- High temperature O-ring construction
- Gasket and plugs included
- Replaces Bendix 275491 & KN18530



| Part # | Thread | Description | List Price |
|--------|------------|-------------------------------|------------|
| 39592 | 6-1/8" NPT | Air Brake Governors D-2 style | 24.09 |

IN-LINE QUICK RELEASE VALVE

- Quick release for the air break system
- 3/8" female exhaust port
- 2-3/8" female delivery port
- Cracking pressure: 1 PSI
- Helps meet the FMVSS -121 requirement for timing



| Part # | Description | List Price |
|---------|--------------------------------------|------------|
| 39610* | 3/8" NPT In-Line quick release valve | 14.97 |
| 39611** | 1/2" NPT In-Line quick release valve | 14.97 |

* Replaces Bendix 229859, 288351 & KN32005

** Replaces Bendix 229860 & KN32011

R-12 RELAY VALVE

- 1/4" Relay Valve with multiple delivery ports
- Replaces Bendix 102166, 102626, 103009



| Part # | Supply Port | Delivery Port | Description | List Price |
|--------|-------------|---------------|-------------------|------------|
| 39613 | 1/2" NPT | 4, 1/2"NPT | 4 psi no Bracket | 59.44 |
| 39614 | 1/2" NPT | 4, 1/2"NPT | 4 psi Relay Valve | 59.73 |
| 39615 | 3/4" NPT | 2, 1/2" NPT | 4 psi Relay Valve | 61.17 |



R-14 RELAY VALVE

- 1/4" Relay Valve with two delivery and supply ports
- Replaces Bendix 103010

| Part # | Supply Port | Delivery Port | Description | List Price |
|--------|-------------|---------------|-------------------|------------|
| 39616 | 2-3/4"NPT | 2-1/2"NPT | 4 psi Relay Valve | 75.30 |

THREE WAY SOLENOID



- Operates a minimum GF 50,000 cycles
- Inlet port normally closed
- Must be mounted vertically with the air inlet port facing up
- 1/4" female NPT ports
- 12 Volts
- 100-120 psi operating pressure
- Attached mounting bracket with two 9/32" diameter mounting holes on 2-1/2" centers

| Part # | Supply Port | Description | List Price |
|--------|-------------|--------------------|------------|
| 39684 | 2, 1/4" FPT | Three way Solenoid | 75.43 |

UNIVERSAL SOLENOID



- Operates a minimum of 50,000 cycles.
- 125 amps at 12 volts.
- Continuous voltage.
- One on/off circuit
- 5/16 inch side studs, No. 10 top stud(s).
- 2 1/8 on Center
- 5/16 x 19/32
- Hardware included.
- Normally open

| Part # | Description | List Price |
|--------|-----------------|------------|
| 39687 | 4 stud Solenoid | 40.34 |
| 39688 | 3 stud Solenoid | 37.14 |

AIR SOLENOID VALVE



- Operates a minimum of 50,000 cycles.
- 100 psi max pressure.
- 1/4" Thread
- 10 Watts, 12 VDC
- Replaces Neway 90054075

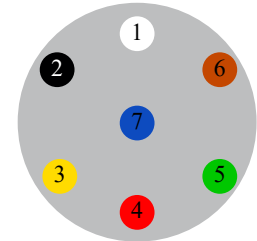
| Part # | Description | List Price |
|--------|-------------|------------|
| 39689 | 12V Closed | 188.54 |
| 39690 | 12V Open | 185.49 |

SEVEN-WAY COILED CABLE ASSEMBLIES

- ABS assemblies are heavy duty to power trailers
- HD Green gives clear ABS identification
- Resists abrasion, great coil retention
- Heavy duty plugs with spring guards
- ABS Cable meets SAE J2394
- Operating temperature range of -55° to +185°F



| Pin Location | Color code | Gauge | Circuit |
|--------------|------------|-------|------------------------------|
| 1 | White | 8 | Ground |
| 2 | Black | 12 | Clearance, side and ID lamps |
| 3 | Yellow | 12 | Left turn and Hazard |
| 4 | Red | 10 | Stop lamp and Anti-lock |
| 5 | Green | 12 | Right turn and Hazard |
| 6 | Brown | 12 | Tail and Plate lamp |
| 7 | Blue | 10 | ABS Power Aux |



ABS

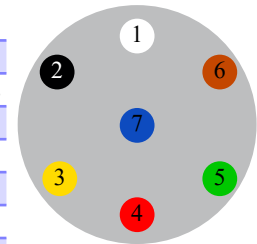
| Part # | Length | Description | List Price |
|--------|--------|--|------------|
| 39736 | 12' | Coiled Electrical Cord, ABS w/12 in lead, w/plugs, Green | 126.39 |
| 39737 | 15' | Coiled Electrical Cord, ABS w/12 in lead, w/plugs, Green | 141.09 |

SEVEN-WAY COILED CABLE BLACK

- This high quality, durable construction is recommended for single-trailer configurations using standard lighting on non-ABS vehicles.
- Durable black outer jacket with heavy duty zinc die cast plugs and two spring guards included.



| Pin | Color code | HD Gauge | Eco Gauge | Circuit |
|-----|------------|----------|-----------|------------------------------|
| 1 | White | 10 | 12 | Ground |
| 2 | Black | 12 | 14 | Clearance, side and ID lamps |
| 3 | Yellow | 12 | 14 | Left turn and Hazard |
| 4 | Red | 12 | 14 | Stop lamp and Anti-lock |
| 5 | Green | 12 | 14 | Right turn and Hazard |
| 6 | Brown | 12 | 14 | Tail and Plate lamp |
| 7 | Blue | 12 | 14 | ABS Power Aux |



STANDARD - HEAVY DUTY

| Part # | Length | Description | List Price |
|--------|--------|--|------------|
| 39738 | 12' | Coiled Electrical Cord, w/12 in lead, w/plugs, Black | 104.30 |
| 39739 | 15' | Coiled Electrical Cord, w/15 in lead, w/plugs, Black | 125.97 |

STANDARD - ECONOMY

| Part # | Length | Description | List Price |
|--------|--------|--|------------|
| 39740 | 12' | Coiled Electrical Cord, w/12 in lead, w/plugs, Black | 80.94 |
| 39741 | 15' | Coiled Electrical Cord, w/12 in lead, w/plugs, Black | 92.91 |

SIX WAY COILED ELECTRIC CABLE ASSEMBLY

- 6', 8', 12' Length
- Includes 2 Thermoseal 6-way plugs
- For light duty towing applications such as boats and utility trailers
- Plugs are molded for moisture and corrosion resistance
- 4/14 Gauge cable
- Flexible from -55°F to 150°F (-66°C to 66°C)



| Part # | Description | List Price |
|--------|----------------------------------|------------|
| 39752 | 6ft, 14awg w/12" Lead at 2 ends | 65.60 |
| 39753 | 8 ft, 14awg w/12" Lead at 2 ends | 69.61 |
| 39754 | 12ft, 14awg w/12" Lead at 2 ends | 79.61 |

FOUR WAY COILED ELECTRIC CABLE ASSEMBLY

- 4/14 Gauge cable
- 12' & 15' length
- Includes 2 Thermoseal 4-way plugs
- For light duty towing applications such as boats and utility trailers
- Plugs are molded for moisture and corrosion resistance
- Flexible from -55°F to 150°F (-66°C to 66°C)



| Part # | Description | List Price |
|--------|--------------------------------------|------------|
| 39748 | 12' with 12" Lead, both ends 4/14awg | 66.00 |
| 39749 | 15' with 12" Lead, both ends 4/14awg | 73.66 |

DUEL POLE COILED ELECTRIC CABLE ASSEMBLY

- Black Jacket
- 12' & 15' length
- 200 Amp at 12 VDC.
- Zinc die cast plugs.
- 4 gauge cable.



| Part # | Description | List Price |
|--------|---------------------------------------|------------|
| 39744 | 12' Coil With 12" Lead at 2 ends 4awg | 226.31 |
| 39745 | 15' Coil With 12" Lead at 2 ends 4awg | 261.77 |

SINGLE POLE COILED ELECTRIC CABLE ASSEMBLY

- Black Jacket
- 12' & 15' length
- For applications that require direct electrical power to trailer lift gates.
- Rated at 265 amps on/off service (30 seconds on/50 seconds off).
- Zinc die cast plugs with spring guards included.
- 4 gauge cable.



| Part # | Description | List Price |
|--------|---------------------------------------|------------|
| 39742 | 12' Coil With 12" Lead both ends 4awg | 245.49 |
| 39743 | 15' Coil With 12" Lead both ends 4awg | 261.40 |

7 WAY PLUGS AND SOCKETS

39758



39757



39772



- Heavy-duty, nickel-plated zinc die cast housings
- Brass terminal pins for maximum current carrying ability
- Field repairable with standard tools
- Fully interchangeable with other SAE-type, 7-way connectors
- ATA marked wire terminals.
- Internal clamp holds cable securely in place.
- Standard seven-way plugs meet ATA and SAE J560 requirements
- ISO plugs meet ISO 3731:1997 requirements.
- ISO socket prevents connections with Non-ISO plugs - Used in tractor/trailer systems
- ISO color-coded yellow, non-corrosive reinforced nylon housing.

PLUGS

| Part # | Description | List Price |
|--------|--|------------|
| 39757 | 7-Way Single Grip Plug w/Spring Guard | 13.43 |
| 39758 | 7-Way Single Grip Plug NO Spring. | 10.26 |
| 39772 | 7-Way Double Grip Plug w/Spring. | 11.74 |
| 39773 | 7-Way Double Grip Plug NO Spring Guard | 11.27 |
| 39788 | 7-way ISO plug | 22.57 |

SOCKETS

| Part # | Description | List Price |
|--------|------------------------------|------------|
| 39774 | Solid Pin 7-Way Metal Socket | 20.20 |
| 39775 | Split Pin 7-Way Metal Socket | 14.85 |
| 39789 | 7-way, ISO socket | 29.17 |

7 WAY DOUBLE GRIP PLUG

- T-Grip weather guard
- Plastic grip

| Part # | Description | List Price |
|--------|---------------------------------|------------|
| 39818 | 7-Way Double Grip Plug, Plastic | 12.79 |

6 AND 7 WAY ADAPTER

| Part # | Description | List Price |
|--------|--|------------|
| 39786 | Seven way plug to Six Way Socket Adapter | 61.54 |
| 39787 | Six way plug to Seven Way socket Adapter | 83.17 |

RV 7-WAY PLUG

- Primarily used in RV applications.
- Constructed of molded PVC for impact resistance
- Blade Style Pin

| Part # | Description | List Price |
|--------|--------------------|------------|
| 39819 | 7-way Plastic plug | 13.46 |

RV 7-WAY SOCKET

- RV Screw-type socket
- 6-24 VDC.
- Mounting 2-1/4" inch on center .
- Constructed of molded PVC

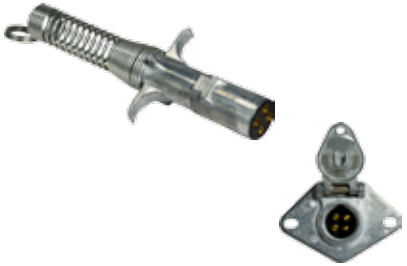
| Part # | Description | List Price |
|--------|--------------|------------|
| 39820 | 7-way socket | 13.80 |

**6 - WAY PLUGS AND SOCKETS**

| Part # | Description | List Price |
|--------|--|------------|
| 39782 | 6-Way Double Grip Metal Plug w/Spring Guard. | 9.71 |
| 39783 | 6-Way Metal Socket. | 10.77 |

4 WAY PLUGS AND SOCKETS

- Heavy-duty zinc die cast housings on plugs and sockets.
- Plug locking system works with socket door to ensure proper hookup and prevent unintentional disconnections.
- Spring guard supports and protects cable.

**4 - WAY**

| Part # | Description | List Price |
|--------|--|------------|
| 39778 | 4-Way Double Grip Metal Plug w/Spring Guard. | 8.60 |
| 39779 | 4-Way Metal Socket. | 9.03 |

2 POLE PLUGS AND SOCKETS

- 200 amp 4 gauge wire capacity.
- Heavy-duty zinc die cast housing.
- Internal ground.
- Spring guard supports and protects cable.



| Part # | Description | List Price |
|--------|---|------------|
| 39768 | 2 Pole Double Grip Metal Plug w/Spring Guard. | 24.86 |
| 39769 | 2 Pole Metal Socket | 28.26 |

SINGLE POLE PLUGS AND SOCKETS

- Used to provide power to heavy draw auxiliary trailer equipment.
- Heavy-duty zinc die cast housings.
- Power and ground terminals hold up to 1/0 gauge wire.



| Part # | Description | List Price |
|--------|--|------------|
| 39764 | 1-Way Double Grip Plug w/Spring Guard. | 22.06 |
| 39765 | 1-Way Double Grip Plug w/Spring Guard and Ground Kit | 24.40 |
| 39766 | 1-Way Metal Socket | 19.34 |
| 39767 | 1-Way Metal Socket and Ground Kit | 20.97 |

GROUND KIT

| Part # | Description | List Price |
|--------|--|------------|
| 39809 | Ground Kit (Bolt, Nut and Wire Lug) for 1-Way Plug or Socket | 1.60 |

PROTECTOR BOOT FOR PLUG

- Protective rubber boot seals out moisture and contaminants



| Part # | Description | List Price |
|--------|----------------|------------|
| 39807 | Protector Boot | 1.14 |

7 WAY SOCKET WITH CIRCUIT BREAKER

- Non-corrosive, reinforced nylon housing for added durability.
- Designed for No. 8 ring terminals.
- ATA color-coded contacts.
- Solid brass split pins are zinc-plated for corrosion resistance.
- Each socket includes automatic reset circuit breakers with positive snap action to eliminate arcing (unless otherwise noted).
- Mounting holes are 4 1/2 inch on center and include steel bushings for added housing protection.
- Adhesive-backed mounting gasket included.
- Circuit breaker sockets meet SAE J560 requirements.

| Part # | Description | List Price |
|--------|-------------------------------------|------------|
| 39792 | No circuit breakers | 33.09 |
| 39793 | 15amp Plastic with circuit breakers | 57.23 |
| 39794 | 20amp Plastic with circuit breakers | 57.23 |
| 39795 | 30amp Plastic with circuit breakers | 57.23 |

**7 WAY CIRCUIT CHASER**

- Instantly finds short or faulty circuits
- Portable

| Part # | Description | List Price |
|--------|---------------|------------|
| 39805 | 7 way circuit | 19.72 |

CIRCUIT BREAKERS - PLASTIC

- Colored Battery molded Stud
- 12 Volt
- Meets SAE j553 requirements
- Nuts included



| Part # | Description | List Price |
|--------|-------------|------------|
| 39800 | 15 AMP | 5.86 |
| 39801 | 20 AMP | 5.86 |
| 39802 | 25 AMP | 5.86 |
| 39803 | 30 AMP | 5.86 |

NOSE BOX - DEEP

- Zinc - extra deep



| Part # | Description | List Price |
|--------|---------------|------------|
| 39814 | Deep Nose Box | 31.69 |

BATTERY GROUND STRAP

- 4 gauge wire.
- Molded zinc-plated steel lugs and tin-plated copper stranding.
- 7/16 inch diameter bolt hole.
- 12" Long

| Part # | Description | List Price |
|--------|---------------------------|------------|
| 39712 | 12", 4 Gauge ground strap | 14.60 |

STAINLESS STEEL BATTERY NUT

| Part # | Type | List Price |
|--------|------|------------|
| 39713 | 3/8" | 3.60 |

RUBBER GROMMET

- Black Rubber



| Part # | ID | OD | List Price |
|--------|-------|--------|------------|
| 95450 | 5/16" | 9/16" | 0.29 |
| 95451 | 5/8" | 1 1/4" | 0.46 |
| 95452 | 3/4" | 1 3/4" | 0.80 |

Action may not always bring happiness; but there is not happiness without action.

—Benjamin Disraeli

ACCESSORIES

TRUCK AND TRAILER

**DEER WHISTLES**

- Produces two separate and unique frequencies
- High output airflow activated
- Can be removed from base for cleaning and car washes
- Mounts with high bond tape **(included)**
- Lowers risk for vehicle-animal collisions

| Part # | Description | List Price |
|--------|----------------|------------|
| 39465 | 2 pack whistle | 9.12 |

**CABLE TIE STRAPS - NYLON**

- Used to secure and bundle
- CSA Certified
- RoHs Compliant
- UV or Standard

STANDARD

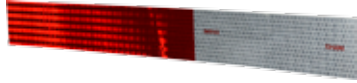
| Part # | Length | Strength | Package Qty | List Price |
|--------|--------|----------|-------------|------------|
| 95601 | 7 1/2" | 50lb | 100 | 11.40 |
| 95602 | 11" | 50 lb | 100 | 13.68 |
| 95603 | 14.5" | 50 lb | 100 | 22.23 |
| 95604 | 24" | 175 lb | 50 | 48.45 |
| 95605 | 36" | 175lb | 50 | 57.00 |
| 95606 | 48" | 175 lb | 50 | 88.35 |

UV BLACK

| Part # | Length | Strength | Package Qty | List Price |
|--------|--------|----------|-------------|------------|
| 95610 | 7 1/2" | 50lb | 100 | 11.40 |
| 95611 | 14" | 50 lb | 100 | 22.23 |
| 95612 | 24" | 175lb | 50 | 48.45 |
| 95613 | 36" | 175lb | 50 | 57.00 |



95620



CONSPICUITY TAPE

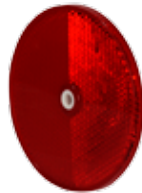
Tape is designed for trucks, trailers, and other vehicles for easy nighttime vehicle recognition and increased road safety. It is a high quality, durable microprismatic retroreflective material with a pressure sensitive adhesive. The solid construction does not require edge sealing. Conspicuity tape provides superior reflectivity and may help reduce accidents.

- DOT -C2 Certified
- Meets or exceeds NHTSA, FMVSS 108 & ASTM D4956
- Meets Canada TSD 108
- 10 year durability

| Part # | Description | App. Wt. | List Price |
|--------|---|----------|------------|
| 95620 | 2" x 150' Roll of 11" Red / 7" White | 0.32 | 310.00 |
| 95621 | 2" x 150' Roll of 6" Red / 6" White | 0.32 | 292.94 |
| 95622 | 2" x 150' Roll of solid white | 0.32 | 292.94 |
| 95623 | 2" x 18", kiss cut strip, white | 0.03 | 5.02 |
| 95624 | 2" x 18" kiss cut strip of 11" Red / 7" White | 0.03 | 4.63 |



95625



95627

- Meets or exceeds ANSI/SAE S279, ANSI/SAE S276 & ASTM D-4956
- 7 year durability



95628

| Part # | Description | App. Wt. | List Price |
|--------|--|----------|------------|
| 95625 | 1" X 150' Roll of solid yellow | 0.17 | 168.38 |
| 95626 | 2" X 150' Roll of solid yellow | 0.32 | 431.83 |
| 95627 | 3" round all plastic reflector, Red | 0.06 | 7.48 |
| 95628 | 3 3/4" x 6 1/2" American flag, type IV HIP | 0.02 | 9.03 |

TARP STRAPS

- Heavy Duty EPDM tarp straps
- Longer lasting than rubber
- Greater stretch length
- Ozone and weather resilient
- Made in the USA



| Part # | Strap Length | Material | Description | Qty | List Price |
|--------|--------------|----------|------------------------|-----|------------|
| 990790 | 10" | EPDM | Tarp strap with S hook | 50 | 2.26 |
| 990791 | 15" | EPDM | Tarp strap with S hook | 50 | 2.34 |
| 990792 | 21" | EPDM | Tarp strap with S hook | 50 | 2.51 |
| 990793 | 31" | EPDM | Tarp strap with S hook | 50 | 3.42 |
| 990794 | 41" | EPDM | Tarp strap with S hook | 50 | 5.06 |

NYLON DOT AIR BRAKE TUBING

TRUCK AND TRAILER

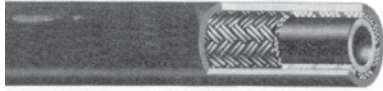


- Air Brake Tubing available from inventory in a large variety of colors and sizes
- Superior cold weather flexibility and abrasion resistance
- UV and ozone resistant nylon
- Meets or exceeds SAEJ844 (Type A - non-reinforced & Type B - reinforced)
- Meets or exceeds DOT requirements for use with compression fittings (NOTE: SAE does not recognize 1/8", 5/32" or 3/16" O.D. tubing for use with air brake systems)
- Air Brake Tubing identified per SAE J844 & FMVSS No. 106 Brake Hoses, 49 CFR 571.106
- Conforms to our own rigorous qualification and inspection testing which exceeds SAE and DOT requirements
- Designed to operate at up to 150 psi in air brake systems
- Resistant to attack by gasoline, diesel fuel and commonly used road and cleaning chemicals
- Air Brake Tubing available on bulk spools or by packages
- Operating range: -40° - 200°F - Not made for fuel

| Part Number | Color | Length | Nominal O.D. | Nominal Wall | List Price |
|-------------|--------|--------|--------------|--------------|------------|
| 38-950B2 | Black | 2000' | 1/8" | 0.023" | 1800.00 |
| 38-950 | Black | 100' | 1/8" | 0.023" | 101.70 |
| 38-95BA | Black | 50' | 1/8" | 0.023" | 60.00 |
| 38-951B1 | Black | 1000' | 5/32" | 0.032" | 1380.00 |
| 38-951 | Black | 100' | 5/32" | 0.032" | 1380.00 |
| 38-951BA | Black | 50' | 5/32" | 0.032" | 105.00 |
| 38-953B1 | Black | 1000' | 3/16" | 0.035" | 1800.00 |
| 38-953 | Black | 100' | 3/16" | 0.035" | 198.00 |
| 38-953BA | Black | 50' | 3/16" | 0.035" | 120.00 |
| 38-9523 | Black | 1000' | 1/4" | 0.040" | 1500.00 |
| 38-9522 | Black | 500' | 1/4" | 0.040" | 697.50 |
| 38-952 | Black | 100' | 1/4" | 0.040" | 142.80 |
| 38-952BA | Black | 50' | 1/4" | 0.040" | 76.74 |
| 38-952U1 | Blue | 1000' | 1/4" | 0.040" | 1080.00 |
| 38-952U | Blue | 100' | 1/4" | 0.040" | 178.73 |
| 38-952UA | Blue | 50' | 1/4" | 0.040" | 90.00 |
| 38-952O | Orange | 100' | 1/4" | 0.040" | 120.00 |
| 38-952OA | Orange | 50' | 1/4" | 0.040" | 90.00 |
| 38-952G1 | Green | 1000' | 1/4" | 0.040" | 1140.00 |
| 38-952G | Green | 100' | 1/4" | 0.040" | 142.80 |
| 38-952GA | Green | 50' | 1/4" | 0.040" | 90.00 |
| 38-952R1 | Red | 1000' | 1/4" | 0.040" | 1140.00 |
| 38-952R | Red | 100' | 1/4" | 0.040" | 133.39 |
| 38-952RA | Red | 50' | 1/4" | 0.040" | 90.00 |
| 38-952Y1 | Yellow | 1000' | 1/4" | 0.040" | 1140.00 |
| 38-952Y | Yellow | 100' | 1/4" | 0.040" | 120.00 |
| 38-952YA | Yellow | 50' | 1/4" | 0.040" | 90.00 |
| 38-954B5 | Black | 500' | 5/16" | 0.040" | 750.00 |
| 38-954 | Black | 100' | 5/16" | 0.040" | 156.00 |
| 38-954BA | Black | 50' | 5/16" | 0.040" | 141.00 |
| 38-960B5 | Black | 500' | 3/8" | 0.062" | 1472.00 |
| 38-960 | Black | 100' | 3/8" | 0.062" | 280.72 |
| 38-960BA | Black | 50' | 3/8" | 0.062" | 158.40 |
| 38-960U5 | Blue | 500' | 3/8" | 0.062" | 965.61 |
| 38-960U | Blue | 100' | 3/8" | 0.062" | 366.47 |
| 38-960UA | Blue | 50' | 3/8" | 0.062" | 156.00 |
| 38-960O5 | Orange | 500' | 3/8" | 0.062" | 960.00 |
| 38-960O | Orange | 100' | 3/8" | 0.062" | 210.00 |
| 38-960OA | Orange | 50' | 3/8" | 0.062" | 156.00 |
| 38-960G5 | Green | 500' | 3/8" | 0.062" | 960.00 |
| 38-960G | Green | 100' | 3/8" | 0.062" | 270.00 |
| 38-960GA | Green | 50' | 3/8" | 0.062" | 156.00 |
| 38-960R5 | Red | 500' | 3/8" | 0.062" | 960.00 |
| 38-960R | Red | 100' | 3/8" | 0.062" | 270.00 |
| 38-960RA | Red | 50' | 3/8" | 0.062" | 156.00 |

| Part Number | Color | Length | Nominal O.D. | Nominal Wall | List Price |
|-------------|--------|--------|--------------|--------------|------------|
| 38-960Y5 | Yellow | 500' | 3/8" | 0.062" | 960.00 |
| 38-960Y | Yellow | 100' | 3/8" | 0.062" | 270.00 |
| 38-960YA | Yellow | 50' | 3/8" | 0.062" | 156.00 |
| 38-965B5 | Black | 500' | 1/2" | 0.062" | 1799.55 |
| 38-965 | Black | 100' | 1/2" | 0.062" | 384.80 |
| 38-965BA | Black | 50' | 1/2" | 0.062" | 198.00 |
| 38-965U5 | Blue | 500' | 1/2" | 0.062" | 1290.00 |
| 38-965U | Blue | 100' | 1/2" | 0.062" | 450.00 |
| 38-965UA | Blue | 50' | 1/2" | 0.062" | 198.00 |
| 38-965O5 | Orange | 500' | 1/2" | 0.062" | 1290.00 |
| 38-965O | Orange | 100' | 1/2" | 0.062" | 270.00 |
| 38-965OA | Orange | 50' | 1/2" | 0.062" | 198.00 |
| 38-965G5 | Green | 500' | 1/2" | 0.062" | 1290.00 |
| 38-965G | Green | 100' | 1/2" | 0.062" | 270.00 |
| 38-965GA | Green | 50' | 1/2" | 0.062" | 198.00 |
| 38-965R5 | Red | 500' | 1/2" | 0.062" | 1290.00 |
| 38-965R | Red | 100' | 1/2" | 0.062" | 463.68 |
| 38-965RA | Red | 50' | 1/2" | 0.062" | 198.00 |
| 38-965Y5 | Yellow | 500' | 1/2" | 0.062" | 1290.00 |
| 38-965Y | Yellow | 100' | 1/2" | 0.062" | 270.00 |
| 38-965YA | Yellow | 50' | 1/2" | 0.062" | 198.00 |
| 38-970BC | Black | 250' | 5/8" | 0.092" | 1140.00 |
| 38-970 | Black | 100' | 5/8" | 0.092" | 478.43 |
| 38-970BA | Black | 50' | 5/8" | 0.092" | 243.00 |
| 38-970GC | Green | 250' | 5/8" | 0.092" | 1140.00 |
| 38-970G | Green | 100' | 5/8" | 0.092" | 462.00 |
| 38-970GA | Green | 50' | 5/8" | 0.092" | 309.00 |
| 38-970RC | Red | 250' | 5/8" | 0.092" | 1140.00 |
| 38-970R | Red | 100' | 5/8" | 0.092" | 462.00 |
| 38-970RA | Red | 50' | 5/8" | 0.092" | 290.70 |
| 38-975BC | Black | 250' | 3/4" | 0.092" | 1904.82 |
| 38-975 | Black | 100' | 3/4" | 0.092" | 797.50 |
| 38-975BA | Black | 50' | 3/4" | 0.092" | 348.00 |
| 38-975GC | Green | 250' | 3/4" | 0.092" | 1470.00 |
| 38-975G | Green | 100' | 3/4" | 0.092" | 594.00 |
| 38-975GA | Green | 50' | 3/4" | 0.092" | 414.00 |

FUEL LINE AND VAPOR EMISSION



- SAE 30R7
- Nitrile tube w/ spiral synthetic cord, hypalon cover.
- 50 p.s.i. working pressure. 1/2 -35 PSI
- 40° F to + 257° F temperature range.
- Low pressure/ high temperature fuel for cars, light trucks, and small engines.
- Meets SAE J1402

| Part # | ID | OD | Length | List Price |
|--------|------|-------|--------|------------|
| 38-920 | 3/16 | 13/32 | 25' | 160.50 |
| 38-926 | 5/16 | 9/16 | 25' | 196.50 |
| 38-923 | 1/4 | 1/2 | 25' | 172.50 |
| 38-927 | 3/8 | 5/8 | 50' | 252.00 |

AIR BRAKE HOSE



- Black

- Spiral synthetic cord reinforcement with neoprene cover.
- 40° F to +200° F temperature range.
- Max opperating pressure 255 psi
- Max burst pressure 900 psi
- Meets SAE J1402

| Part # | ID | OD | Length | List Price |
|--------|-----|-----|--------|------------|
| 38-910 | 3/8 | 3/4 | 50' | 120.44 |
| 38-915 | 1/2 | 7/8 | 50' | 180.48 |

If we all did the things we are capable of doing,
we would literally astound ourselves.

- *Thomas A. Edison*



STEEL ADAPTERS

HYDRAULIC QUICK DISCONNECTS

HYDRAULIC VALVES & ACCESSORIES

Technical information ... 389
Profile size chart 396
 Steel Pipe Swivels 397
 37° JIC Flare Straights 399
 37° JIC Flare Shapes 401
 Bulkhead Adapters 402
 Steel Pipe Fittings 404
 O-Ring Adapters Straight . 408
 JIC Swivels 410
 O-Ring Adapters 412
 O-Ring Face Seal 415
 BSPT/ BSPP Adapters 418
 Metric Adapters 420

Thread to Connect - Wing 422
 ISO A Interchange 422
 ISO B Interchange 422
 Flush Face ISO 423
 VEP Series 423
 AG Interchange 424
 Hydraulic Jack Q/D 424

Hydraulic Motor 425
 Hydraulic Gear Pump 426
 Flow Control Valve 428
 Variable Flow Counter 429
 Air Breathers 429

PLATING SPECIFICATION

Our standard Trivalent, Cr⁺³ plating performs at nearly double the S.A.E. corrosion resistance requirement. The plating meets ASTM B633, Fe/Zn 5. The thickness is 5um-13um. This plating is silver in appearance and has been testing at 96 hours to white rust and 120 hours to red rust.

WORKING PRESSURE

The tables on the following pages list the recommended working pressure for a variety of hydraulic fittings made in accordance with certain industry standards. Many factors such as impulse, vibration, mechanical shock, and improper assembly may affect the integrity of the fitting connection.

We recommend sufficient testing be conducted to ensure that performance levels will be safe and satisfactory, especially if installed in systems operating at elevated pressures or in severe conditions. Working pressure ratings are capable of a 4 to 1 minimum burst. All steel fittings meet or exceed the minimum SAE pressure ratings. Always consider application and maximum pressure requirements when selecting fittings.

METHODS FOR INSTALLING FITTINGS

There are three methods for installing a fitting:

- Torque wrench
- Flats From Wrench Resistance
- Turns From Finger Tight

For Flare and NPSM Fittings, we recommend the flats from wrench resistance method be used whenever possible.

The differences in material, plating, and surface finish impacts the coefficient of friction when installing or connecting fittings. To minimize these variances, we recommend that fitting connections are lubricated when installed. Connections that are lubricated provide a more accurate installation torque, which results in fewer leaks.

USING A TORQUE WRENCH

The torque values given in the tables on the following pages are for reference purposes only based on industry standard practice and for low carbon steel mating with steel/iron components. Actual torque values may need to be adjusted due to variances described above.

SAE recommends always making a wet (lubricated) installation or connection to reduce friction on moving parts, O-rings, and variances in material and plating. The torque values in these tables are based off SAE values using a .17 coefficient of friction as per SAE J2593. Many hydraulic leaks are a result of over-torque, which causes excessive deformation of material or exceeds the yield strength of the material, which may reduce the load or clamping force between seal contacts.

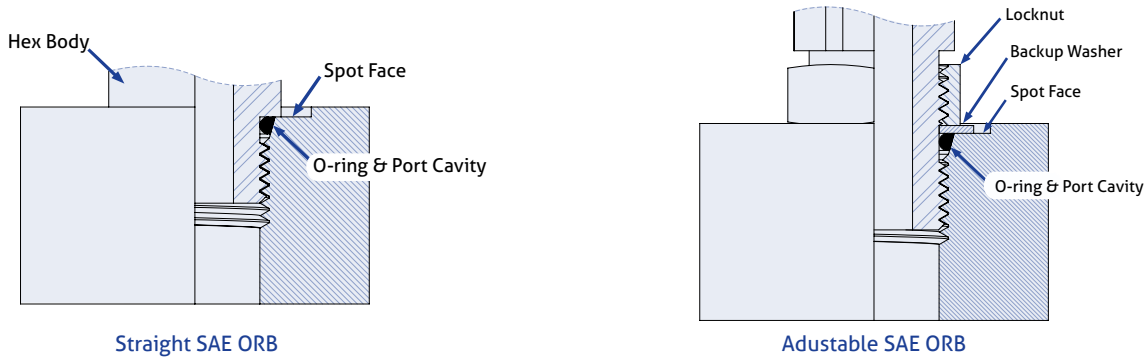
If more than one value or range is given, use the lower value first and increase only if required. Over-torquing can damage a fitting or mating component.

SAE O-Ring Boss Port Specifications

O-ring Boss ports (ORB) provide a seal by trapping the fitting's O-ring inside a port cavity. When a fitting is installed into the port, the O-ring is trapped between the fitting body hex or washer and port cavity.

Straight fittings include a hex, and sometimes an additional cylindrical shoulder below the hex and above the threads, to trap the O-ring in the port cavity.

Elbow and Tee fittings require a backup washer and a locknut above the O-ring on the threaded stud to permit a 360° orientation of the fitting around the port.



The following table lists the specifications for SAE O-Ring Boss Ports.

| SAE O-Ring Boss Specifications | | | | | | | | |
|--------------------------------|-----------|-----------|-----------------------------------|------------------|----------------|-----------------------------|------------------|----------------|
| Dash Size | Tube Size | Thread | SAE-ORB to JIC and Pipe Fittings* | | | SAE-ORB to ORFS Fittings** | | |
| | | | Torque | Working Pressure | | Torque | Working Pressure | |
| | | | Adjustable & Non-Adjustable | Adjustable | Non-Adjustable | Adjustable & Non-Adjustable | Adjustable | Non-Adjustable |
| | | | (ft-lbs) +25% -0% | (psi) | (psi) | (ft-lbs) +25% -0% | (psi) | (psi) |
| 02 | 1/8 | 5/16-24 | 6 | 4500 | 4500 | - | - | - |
| 03 | 3/16 | 3/8-24 | 7 | 4500 | 4500 | 7 | 5800 | 9100 |
| 04 | 1/4 | 7/16-20 | 13 | 4500 | 4500 | 15 | 5800 | 9100 |
| 05 | 5/16 | 1/2-20 | 18 | 4500 | 4500 | 18 | 5800 | 9100 |
| 06 | 3/8 | 9/16-18 | 22 | 3600 | 4500 | 26 | 5800 | 9100 |
| 08 | 1/2 | 3/4-16 | 37 | 3600 | 4500 | 52 | 5800 | 9100 |
| 10 | 5/8 | 7/8-14 | 44 | 2900 | 3600 | 74 | 5800 | 9100 |
| 12 | 3/4 | 1-1/16-12 | 70 | 2900 | 3600 | 125 | 5800 | 5800 |
| 14 | 7/8 | 1-3/16-12 | 92 | 2300 | 2900 | 158 | 5800 | 5800 |
| 16 | 1 | 1-5/16-12 | 111 | 2300 | 2900 | 199 | 4500 | 5800 |
| 20 | 1 1/4 | 1-5/8-12 | 147 | 1800 | 2300 | 210 | 3600 | 3600 |
| 24 | 1 1/2 | 1-7/8-12 | 155 | 1800 | 2300 | 273 | 2900 | 3600 |
| 32 | 2 | 2-1/2-12 | 221 | 1450 | 1800 | - | - | - |

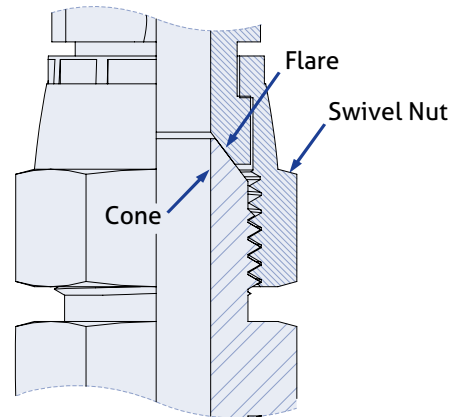
* = Light duty studs included on JIC, NPTF and NPSM fittings per SAE J1926/3 & J514
 ** = Heavy duty studs included on ORFS fittings per SAE J1926/2 & J1453

Note: Torque values are for wet torque and are allowed up to 25% the listed value according to SAE J2593.

JIC Adapter Specifications

Male flared fittings include a conical nose with external threads for clamping.

A flared fitting or tube assembly is tightened against the cone with a swivel nut. By forcing the flare against the cone during the torquing process, the nose cone is slightly deformed and meshes to create a metal to metal seal between the flare and the cone.



The following table lists the specifications for JIC adapters.

| JIC Specifications | | | | | | | |
|--------------------|-----------|-----------|------------------|-------------------|-----------|------------|-------------------|
| Dash Size | Tube Size | Thread | Working Pressure | | Torque | | |
| | | | Male | Female Swivel Nut | JIC Rigid | JIC Swivel | Bulkhead Locknut |
| | | | (psi) | (psi) | (FFWR) | (FFWR) | (ft-lbs) +25% -0% |
| 02 | 1/8 | 5/16-24 | 5000 | 5000 | 1/4 - 1/2 | 2 | 4 |
| 03 | 3/16 | 3/8-24 | 5000 | 5000 | 1/4 - 1/2 | 2 | 6 |
| 04 | 1/4 | 7/16-20 | 5000 | 4500 | 1/4 - 1/2 | 2 | 10 |
| 05 | 5/16 | 1/2-20 | 5000 | 4000 | 1/4 - 1/2 | 2 | 13 |
| 06 | 3/8 | 9/16-18 | 5000 | 4000 | 1/4 - 1/2 | 2 | 16 |
| 08 | 1/2 | 3/4-16 | 4500 | 4000 | 1/4 - 1/2 | 2 | 27 |
| 10 | 5/8 | 7/8-14 | 3500 | 3000 | 1/4 - 1/2 | 1 1/2 | 32 |
| 12 | 3/4 | 1-1/16-12 | 3500 | 3000 | 1/4 - 1/2 | 1 1/2 | 52 |
| 14 | 7/8 | 1-3/16-12 | 3000 | 2500 | 1/4 - 1/2 | 1 1/2 | 66 |
| 16 | 1 | 1-5/16-12 | 3000 | 2500 | 1/4 - 1/2 | 1 1/2 | 85 |
| 20 | 1 1/4 | 1-5/8-12 | 2500 | 2000 | 1/4 - 1/2 | 1 | 111 |
| 24 | 1 1/2 | 1-7/8-12 | 2000 | 1500 | 1/4 - 1/2 | 1 | 114 |
| 32 | 2 | 2-1/2-12 | 1500 | 1125 | 1/4 - 1/2 | 1 | 162 |

Values are per SAE J514

It has been my observation that most people get ahead during the time that others waste. -Henry Ford

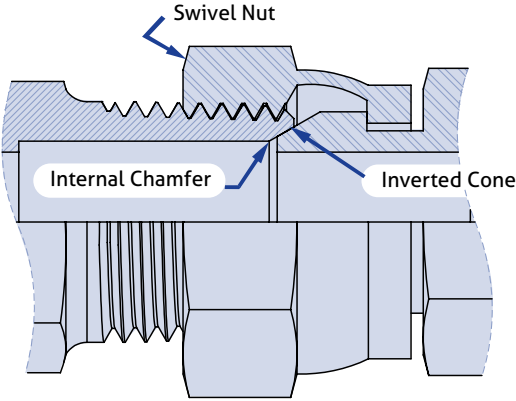
TECHNICAL INFORMATION

HYDRAULIC ADAPTERS

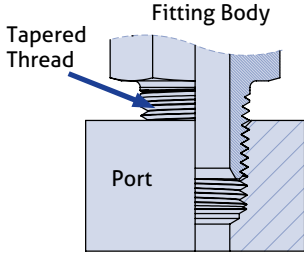
Pipe & Pipe Swivel Adapter Specifications

NPSM fittings include an inverted 60° cone inside an internally threaded swivel union nut. Male NPTF fittings that have a 30° internal chamfer that make a 60° inverted cone, will mate with NPSM swivel unions.

NOTE: THE MATING MALE THREADS MUST INCLUDE AN INSIDE CHAMFER ON THE END OF THE FITTING THAT MATES WITH THE INVERTED CONE. THREADS ARE FOR CLAMPING FORCE ONLY AND THE SEALING OCCURS ON A SMALL RADIAL SECTION BETWEEN THE MALE FITTING INTERNAL CHAMFER AND THE SWIVEL UNION INVERTED CONE.



NPTF & NPSM Union



NPT & NPTF Assembly

NPT and NPTF pipe threads seal by wedging the tapered threads through deformation into each other. Both of these threads require thread sealants to complete a seal.

The following table lists the specifications for NPT, NPTF, and NPSM Pipe adapters.

| NPT, NPTF, and NPSM Pipe Specifications | | | | | | |
|---|--------------|------------------|---------------------------|------------------------|---------------|-------------------|
| Dash Size | Thread Size | Major OD* (inch) | Working Pressure | | Torque | |
| | | | NPT, NPTF Male and Female | NPSM Female Swivel Nut | NPT, NPTF | NPSM Swivel Union |
| | | | (psi) | (psi) | (TFFT) | (FFWR) |
| 02 | 1/8-27 | .405 | 5000 | 5000 | 2-3 | 2 |
| 04 | 1/4-18 | .540 | 4000 | 5000 | 2-3 | 2 |
| 06 | 3/8-18 | .675 | 3000 | 4000 | 2-3 | 2 |
| 08 | 1/2-14 | .84 | 3000 | 3500 | 2-3 | 2 |
| 12 | 3/4-14 | 1.050 | 2500 | 2250 | 2-3 | 2 |
| 16 | 1-11 1/2 | 1.315 | 2000 | 2000 | 1 1/2 - 2 1/2 | 1 1/2 |
| 20 | 1 1/4-11 1/2 | 1.660 | 1150 | 1625 | 1 1/2 - 2 1/2 | 1 1/2 |
| 24 | 1 1/2-11 1/2 | 1.900 | 1000 | 1250 | 1 1/2 - 2 1/2 | 1 1/2 |
| 32 | 2-11 1/2 | 2.375 | 1000 | 1125 | 1 1/2 - 2 1/2 | 1 1/2 |

Values are per SAE J514 & J2593

NPT, NPTF, and NPSM Pipe Specifications

Folks who never do any more than they are paid for, never get paid for any more than they do.

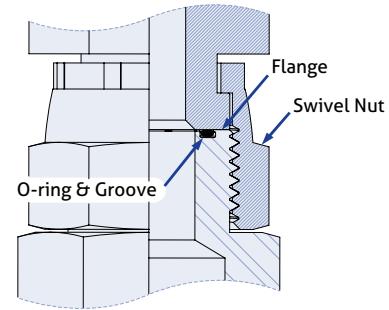
-Elebert Hubbard

O-ring Face Seal Adapter Specifications

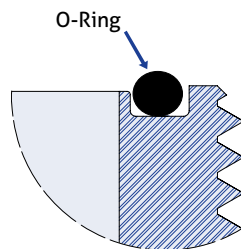
O-ring face seal fittings include a precision groove in the face of the male fitting. Sealing occurs when an O-ring is trapped in the groove by a smooth flat flange that is clamped against the face with a nut or nut and sleeve. The flat flange may be formed or brazed onto the end of a tube, or is machined on a fitting.

There are two SAE groove types:

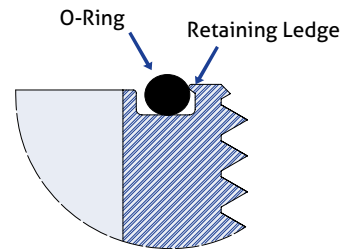
- Type A: The original style A O-ring has no retaining ledge.
- Type B: The Type B groove has a retaining ledge (half dovetail) that improves O-ring retention. The Type B style is more commonly found and is a design improvement over the Type A.



ORFS Fitting Assembly



Detail View of Cross Section of Groove Type A



View of Groove Type B

The following table lists the specifications for O-ring Face Seal adapters.

| ORFS Specifications | | | | | | | | |
|---------------------|-----------|-------------|------------------|-------------------|-------------------|-------------------|-----------|-------------|
| Dash Size | Tube Size | Thread Size | Working Pressure | | Torque | | | |
| | | | Male | Female Swivel Nut | Male & Female | Bulkhead Locknut | Tube Nuts | Swivel Nuts |
| | | | (psi) | (psi) | (ft-lbs) +25% -0% | (ft-lbs) +25% -0% | | |
| 04 | 1/4 | 9/16-18 | 6000 | 6000 | 18 | 16 | 1/4-1/2 | 1/2-3/4 |
| 06 | 3/8 | 11/16-16 | 6000 | 6000 | 29 | 22 | 1/4-1/2 | 1/2-3/4 |
| 08 | 1/2 | 13/16-16 | 6000 | 6000 | 41 | 29 | 1/4-1/2 | 1/2-3/4 |
| 10 | 5/8 | 1-14 | 6000 | 6000 | 44 | 44 | 1/4-1/2 | 1/2-3/4 |
| 12 | 3/4 | 1-3/16-12 | 6000 | 6000 | 66 | 66 | 1/4-1/2 | 1/3-1/2 |
| 16 | 1 | 1-7/16-12 | 6000 | 5000 | 92 | 92 | 1/4-1/2 | 1/3-1/2 |
| 20 | 1 1/4 | 1-11/16-12 | 4000 | 4000 | 125 | 111 | 1/4-1/2 | 1/3-1/2 |
| 24 | 1 1/2 | 2-12 | 4000 | 3000 | 147 | 125 | 1/4-1/2 | 1/3-1/2 |

Note: Values are per SAE J2593 & J1453

Torque values are for wet installation of steel components. Reduce torque values for softer material components.

ORFS Specifications

BSPT, BSPP and Metric Adapter Specifications

BSPT and Metric tapered threads install and work in the same manner as NPT and NPTF.

Male BSPP fittings include an inverted 60° cone inside an internally threaded swivel union nut. Male BSPP fittings that have a 30° internal chamfer that make a 60° inverted cone, will mate with Female BSPP swivel unions.

NOTE: THE MATING MALE THREADS MUST INCLUDE AN INSIDE CHAMFER ON THE END OF THE FITTING THAT MATES WITH THE INVERTED CONE. THREADS ARE FOR CLAMPING FORCE ONLY AND THE SEALING OCCURS ON A SMALL RADIAL SECTION BETWEEN THE MALE FITTING INTERNAL CHAMFER AND THE SWIVEL UNION INVERTED CONE.

DIN swivel unions have a 24° inverted cone and may be installed into DIN bite-ring compression fittings. To provide enhanced performance, an O-ring is sometimes included in the cone of some DIN swivel unions.

British Standard Pipe Parallel (BSPP) and Metric Parallel threaded ports do not include a port cavity like the O-ring Boss or ISO 6149 port. Instead, an O-ring sits on top of the spot face or external surface and is surrounded by a metal retaining ring or other retaining component to trap the O-ring between the fitting hex, body, and spot face.

Elbow and Tee fittings have a locknut, backup washer, O-ring and retaining washer to permit 360° orientation around the axis of the port.

The following table lists the specifications for **BSPP & BSPT Adapters**

| BSPP & BSPT Specifications | | | | |
|----------------------------|-------------|---------------------|-------------------|---------------|
| Dash Size | BSPT & BSPP | | Torque | |
| | THREAD SIZE | MAJOR OD* (inch) | BSPP Swivel Union | BSPT |
| 02 | 1/8-28 | 0.383 | 2 | 2-3 |
| 04 | 1/4-19 | 0.518 | 2 | 2-3 |
| 06 | 3/8-19 | 0.656 | 2 | 2-3 |
| 08 | 1/2-14 | 0.825 | 2 | 2-3 |
| 10 | 5/8-14 | 0.929 | 2 | 2-3 |
| 12 | 3/4-14 | 1.041 | 2 | 2-3 |
| 16 | 1-11 | 1.309 | 1 1/2 | 1 1/2 - 2 1/2 |
| 20 | 1 1/4-11 | 1.650 | 1 1/2 | 1 1/2 - 2 1/2 |
| 24 | 1 1/2-11 | 1.882 | 1 1/2 | 1 1/2 - 2 1/2 |
| 32 | 2-11 | 2.347 | 1 1/2 | 1 1/2 - 2 1/2 |

The following table lists the specifications for **Metric Adapters**

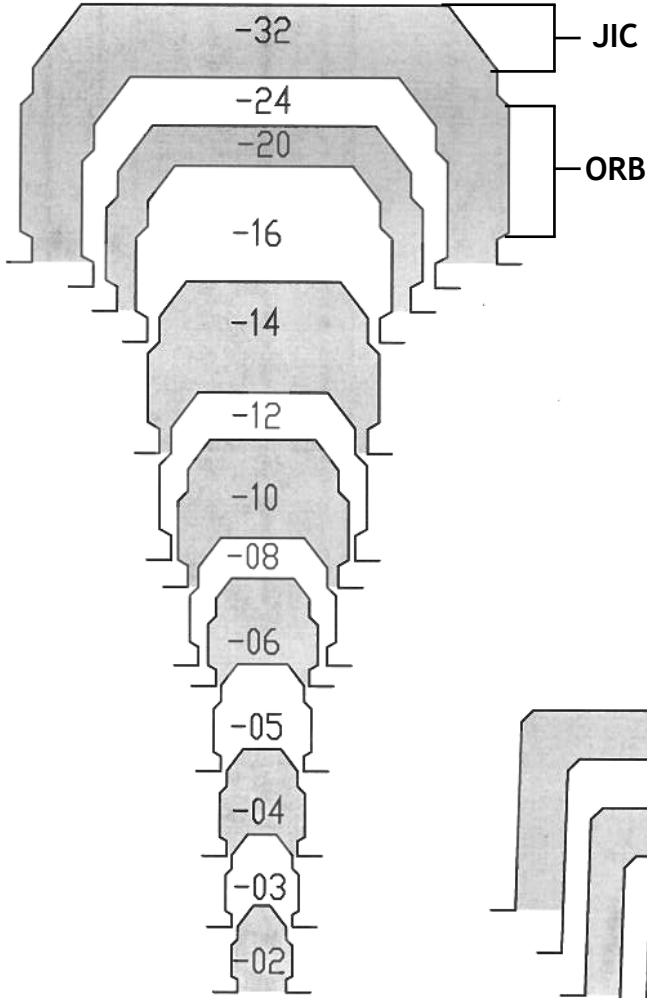
| Metric DIN 3852-1 Threads | |
|---------------------------|---------------------|
| Dash Size | THREAD SIZE (mm) |
| 08 | 8 x 1.0 |
| 10 | 10 x 1.0 |
| 12 | 12 x 1.5 |
| 14 | 14 x 1.5 |
| 16 | 16 x 1.5 |
| 18 | 18 x 1.5 |
| 20 | 20 x 1.5 |
| 22 | 22 x 1.5 |
| 24 | 24 x 1.5 |
| 26 | 26 x 1.5 |
| 27 | 27 x 2.0 |
| 30 | 30 x 2.0 |
| 33 | 33 x 2.0 |
| 39 | 39 x 2.0 |
| 42 | 42 x 2.0 |
| 48 | 48 x 2.0 |
| 60 | 60 x 2.0 |

Values are from DIN 3852-1

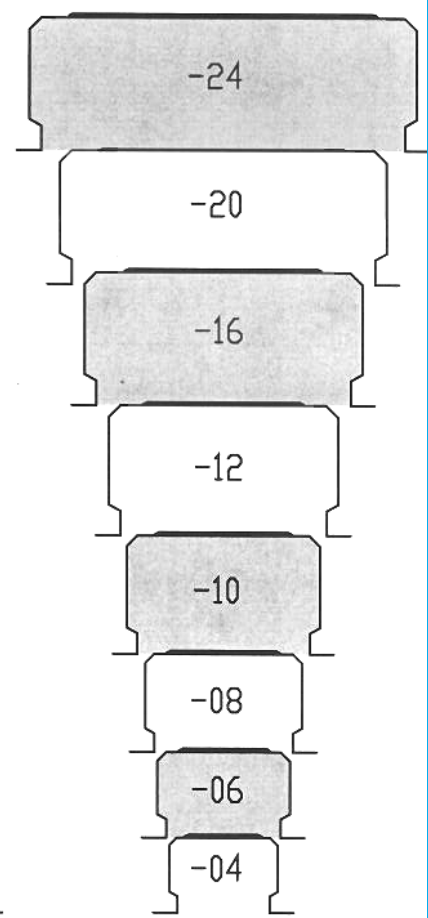
HYDRAULIC ADAPTERS

PROFILE SIZE CHART

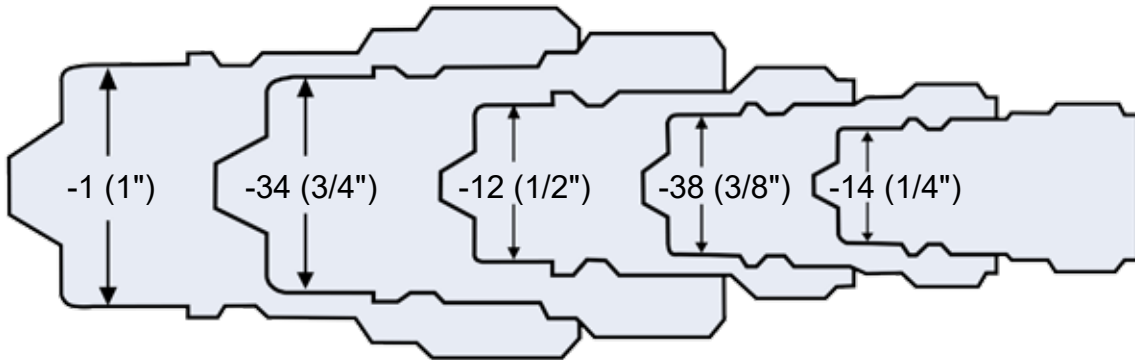
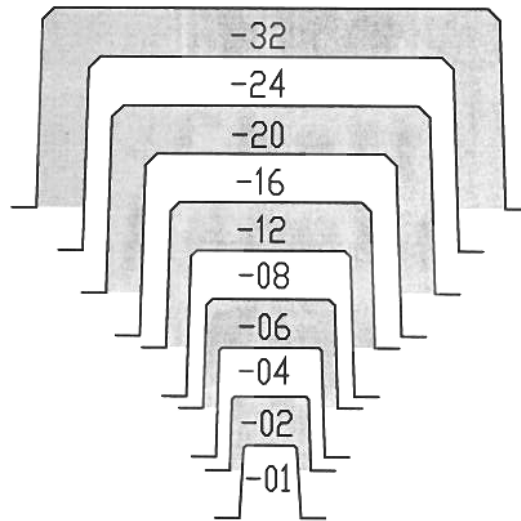
MALE JIC/ MALE O-RING BOSS



O-RING FACE SEAL



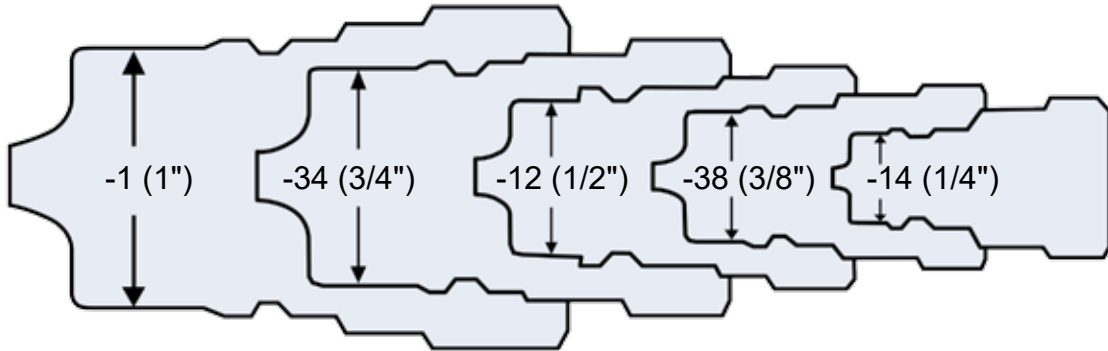
MALE PIPE



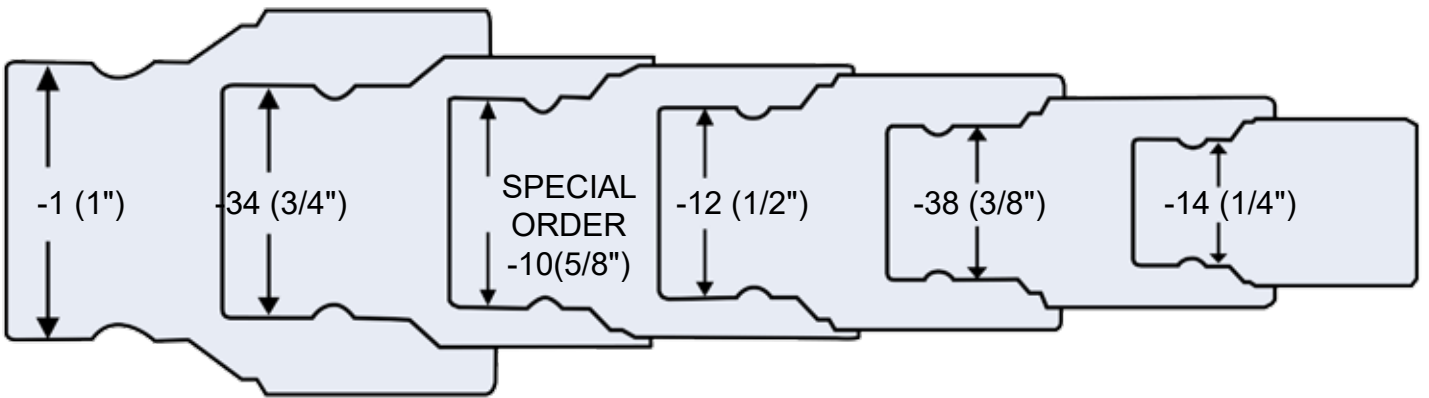
AG INTERCHANGE - NV SERIES

PROFILE SIZE CHART

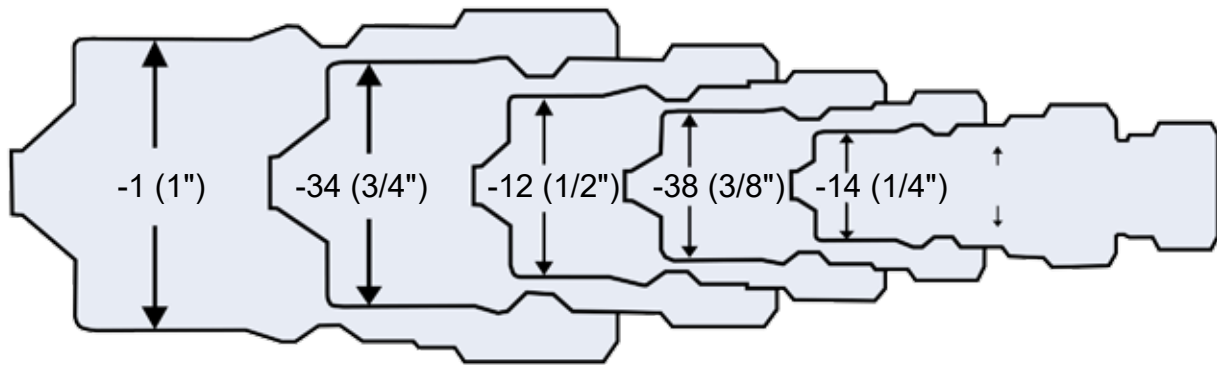
HYDRAULIC ADAPTERS



ISO 7241 - 1 - ISO A - ANV SERIES



ISO 16028 - FF SERIES



ISO 7241 - 1 ISO B - HNV SERIES

HYDRAULIC ADAPTERS

FEMALE PIPE SWIVELS

STEEL PIPE SWIVEL ADAPTERS

MALE PIPE SWIVEL ADAPTER

SAE 140130



| Part # | Male Pipe 1 | Female NPSM 2 | List Price |
|------------|-------------|---------------|------------|
| 1404-2-2 | 1/8 | 1/8 | 1.80 |
| 1404-4-2 | 1/4 | 1/8 | 3.86 |
| 1404-4-4 | 1/4 | 1/4 | 1.83 |
| 1404-6-6 | 3/8 | 3/8 | 3.83 |
| 1404-6-8 | 3/8 | 1/2 | 3.49 |
| 1404-8-4 | 1/2 | 1/4 | 4.29 |
| 1404-8-6 | 1/2 | 3/8 | 5.03 |
| 1404-8-8 | 1/2 | 1/2 | 3.50 |
| 1404-12-8 | 3/4 | 1/2 | 5.53 |
| 1404-12-12 | 3/4 | 3/4 | 5.10 |
| 1404-12-16 | 3/4 | 1 | 11.83 |
| 1404-16-12 | 1 | 3/4 | 11.36 |
| 1404-16-16 | 1 | 1 | 9.05 |
| 1404-20-16 | 1-1/4 | 1 | 18.92 |
| 1404-20-20 | 1-1/4 | 1-1/4 | 16.71 |
| 1404-24-24 | 1-1/2 | 1-1/2 | 22.29 |
| 1404-32-32 | 2 | 2 | 49.67 |

1404 2045R 1210 9205R 0107

FEMALE PIPE SWIVEL ADAPTER

SAE 140131



| Part # | Female Pipe 1 | Female NPSM 2 | List Price |
|------------|---------------|---------------|------------|
| 1405-2-2 | 1/8 | 1/8 | 3.00 |
| 1405-4-4 | 1/4 | 1/4 | 2.45 |
| 1405-6-4 | 3/8 | 1/4 | 2.90 |
| 1405-6-6 | 3/8 | 3/8 | 3.31 |
| 1405-6-8 | 3/8 | 1/2 | 3.72 |
| 1405-8-4 | 1/2 | 1/4 | 5.06 |
| 1405-8-8 | 1/2 | 1/2 | 3.87 |
| 1405-12-12 | 3/4 | 3/4 | 5.52 |
| 1405-16-12 | 1 | 3/4 | 13.10 |
| 1405-16-16 | 1 | 1 | 8.13 |
| 1405-20-20 | 1-1/4 | 1-1/4 | 25.52 |
| 1405-24-24 | 1-1/2 | 1-1/2 | 26.38 |
| 1405-32-32 | 2 | 2 | 41.52 |

1405 2046R 1212 9255 C207

MALE PIPE ELBOW SWIVEL ADAPTER

SAE 140230



| Part # | Male Pipe 1 | Female NPSM 2 | List Price |
|------------|-------------|---------------|------------|
| 1501-2-2 | 1/8 | 1/8 | 2.69 |
| 1501-4-2 | 1/4 | 1/8 | 2.79 |
| 1501-4-4 | 1/4 | 1/4 | 2.44 |
| 1501-6-4 | 3/8 | 1/4 | 6.56 |
| 1501-6-6 | 3/8 | 3/8 | 3.73 |
| 1501-8-6 | 1/2 | 3/8 | 4.43 |
| 1501-8-8 | 1/2 | 1/2 | 5.04 |
| 1501-12-8 | 3/4 | 1/2 | 8.46 |
| 1501-12-12 | 3/4 | 3/4 | 7.78 |
| 1501-16-12 | 1 | 3/4 | 17.20 |
| 1501-16-16 | 1 | 1 | 11.96 |
| 1501-20-20 | 1-1/4 | 1-1/4 | 26.64 |
| 1501-32-32 | 2 | 2 | 80.79 |

1501 2047R 1218 9405 2107

FEMALE UNION ELBOW SWIVEL ADAPTER

SAE 140231



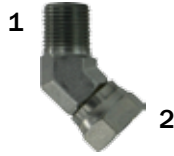
| Part # | Female Pipe 1 | Female NPSM 2 | List Price |
|------------|---------------|---------------|------------|
| 1502-2-2 | 1/8 | 1/8 | 4.38 |
| 1502-4-4 | 1/4 | 1/4 | 3.80 |
| 1502-6-4 | 3/8 | 1/4 | 6.45 |
| 1502-6-6 | 3/8 | 3/8 | 4.02 |
| 1502-6-8 | 3/8 | 1/2 | 13.15 |
| 1502-8-6 | 1/2 | 3/8 | 5.47 |
| 1502-8-8 | 1/2 | 1/2 | 6.48 |
| 1502-12-12 | 3/4 | 3/4 | 10.44 |
| 1502-16-16 | 1 | 1 | 31.33 |
| 1502-20-20 | 1-1/4 | 1-1/4 | 28.66 |
| 1502-24-24 | 1-1/2 | 1-1/2 | 57.61 |

1502 2207 1216 9455R

FEMALE PIPE SWIVELS

MALE 45° PIPE ELBOW SWIVEL ADAPTER

SAE 140330

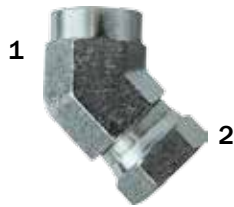


| Part # | Male Pipe 1 | Female NPSM 2 | List Price |
|------------|-------------|---------------|------------|
| 1503-2-2 | 1/8 | 1/8 | 4.10 |
| 1503-4-4 | 1/4 | 1/4 | 3.47 |
| 1503-6-4 | 3/8 | 1/4 | 4.08 |
| 1503-6-6 | 3/8 | 3/8 | 3.76 |
| 1503-8-6 | 1/2 | 3/8 | 6.11 |
| 1503-8-8 | 1/2 | 1/2 | 4.82 |
| 1503-12-8 | 3/4 | 1/2 | 10.42 |
| 1503-12-12 | 3/4 | 3/4 | 7.16 |
| 1503-16-12 | 1 | 3/4 | 13.11 |
| 1503-16-16 | 1 | 1 | 14.04 |

1503 2049R 3107 1214 9355R

FEMALE 45° UNION ELBOW SWIVEL ADAPTER

SAE 140331



| Part # | Female Pipe 1 | Female NPSM 2 | List Price |
|------------|---------------|---------------|------------|
| 1504-2-2 | 1/8 | 1/8 | 6.81 |
| 1504-4-4 | 1/4 | 1/4 | 5.09 |
| 1504-6-6 | 3/8 | 3/8 | 5.56 |
| 1504-8-8 | 1/2 | 1/2 | 9.61 |
| 1504-12-12 | 3/4 | 3/4 | 10.67 |
| 1504-16-16 | 1 | 1 | 18.15 |

1504 2050R 1249 9385R

MALE SWIVEL BRANCH TEE



| Part # | Female NPSM 1 & 2 | Male Pipe 3 | List Price |
|------------|-------------------|-------------|------------|
| 1601-2-2 | 1/8 | 1/8 | 8.24 |
| 1601-4-4 | 1/4 | 1/4 | 6.83 |
| 1601-6-6 | 3/8 | 3/8 | 10.35 |
| 1601-8-8 | 1/2 | 1/2 | 14.30 |
| 1601-12-12 | 3/4 | 3/4 | 26.91 |
| 1601-16-16 | 1 | 1 | 49.99 |

1601 2254R 1258 9406R

HYDRAULIC ADAPTERS

FEMALE SWIVEL TEE



| Part # | Female NPSM 1 & 2 | Female Pipe 3 | List Price |
|------------|-------------------|---------------|------------|
| 1602-4-4 | 1/4 | 1/4 | 5.63 |
| 1602-6-6 | 3/8 | 3/8 | 9.41 |
| 1602-8-8 | 1/2 | 1/2 | 24.22 |
| 1602-12-12 | 3/4 | 3/4 | 19.37 |
| 1602-16-16 | 1 | 1 | 39.10 |

1602 2253R 1259 9456R

FEMALE SWIVEL UNION TEE



| Part # | Female NPSM 1,2 & 3 | List Price |
|------------|---------------------|------------|
| 1603-4-4 | 1/4 | 9.95 |
| 1603-6-6 | 3/8 | 14.46 |
| 1603-8-8 | 1/2 | 14.00 |
| 1603-12-12 | 3/4 | 19.29 |
| 1603-16-16 | 1 | 57.10 |

1603 2255 1223 9705R

HYDRAULIC ADAPTERS

STRAIGHTS STEEL JIC FLARE 37°

LONG JIC TUBE NUT

SAE 070111



| Part # | Tube O.D | JIC Thread Size | List Price |
|---------|----------|-----------------|------------|
| 0304-4 | 1/4 | 7/16-20 | 2.62 |
| 0304-6 | 3/8 | 9/16-18 | 2.22 |
| 0304-8 | 1/2 | 3/4-16 | 2.99 |
| 0304-10 | 5/8 | 7/8-14 | 4.14 |
| 0304-12 | 3/4 | 1-1/16-12 | 7.61 |
| 0304-16 | 1 | 1-5/16-12 | 14.16 |

304 221000 0304 C5115

JIC CAP

SAE 070112
MS 51532



| Part # | Tube O.D. | JIC Thread Size | List Price |
|-----------|-----------|-----------------|------------|
| 0304-C-2 | 1/8 | 5/16-24 | 1.48 |
| 0304-C-3 | 3/16 | 3/8-24 | 2.44 |
| 0304-C-4 | 1/4 | 7/16-20 | 0.78 |
| 0304-C-5 | 5/16 | 1/2-20 | 0.75 |
| 0304-C-6 | 3/8 | 9/16-18 | 0.97 |
| 0304-C-8 | 1/2 | 3/4-16 | 0.92 |
| 0304-C-10 | 5/8 | 7/8-14 | 1.66 |
| 0304-C-12 | 3/4 | 1-1/16-12 | 1.93 |
| 0304-C-14 | 7/8 | 1-3/16-12 | 3.33 |
| 0304-C-16 | 1 | 1-5/16-12 | 3.35 |
| 0304-C-20 | 1-1/4 | 1-5/8-12 | 6.03 |
| 0304-C-24 | 1-1/2 | 1-7/8-12 | 10.66 |
| 0304-C-32 | 2 | 2-1/2-12 | 20.83 |

820 304 210292 FNTX 1329 C5129

JIC TUBE NUT (SLEEVE REQUIRED)

SAE 070110
MS 51531



| Part # | Tube O.D | JIC Thread Size | List Price |
|---------|----------|-----------------|------------|
| 0318-2 | 1/8 | 5/16-24 | 0.64 |
| 0318-3 | 3/16 | 3/8-24 | 0.64 |
| 0318-4 | 1/4 | 7/16-20 | 0.44 |
| 0318-5 | 5/16 | 1/2-20 | 0.84 |
| 0318-6 | 3/8 | 9/16-18 | 0.80 |
| 0318-8 | 1/2 | 3/4-16 | 1.30 |
| 0318-10 | 5/8 | 7/8-14 | 1.39 |
| 0318-12 | 3/4 | 1-1/16-12 | 2.40 |
| 0318-14 | 7/8 | 1-3/16-12 | 3.05 |
| 0318-16 | 1 | 1-5/16-12 | 3.38 |
| 0318-20 | 1-1/4 | 1-5/8-12 | 6.99 |
| 0318-24 | 1-1/2 | 1-7/8-12 | 10.46 |
| 0318-32 | 2 | 2-1/2-12 | 29.06 |

318 1290 BTX 1311 C5105

JIC TUBE SLEEVE

SAE 070115
MS 51533



| Part # | Tube O.D | List Price |
|---------|----------|------------|
| 0319-2 | 1/8 | 0.81 |
| 0319-3 | 3/16 | 0.51 |
| 0319-4 | 1/4 | 0.42 |
| 0319-5 | 5/16 | 0.42 |
| 0319-6 | 3/8 | 0.46 |
| 0319-8 | 1/2 | 0.60 |
| 0319-10 | 5/8 | 0.72 |
| 0319-12 | 3/4 | 0.95 |
| 0319-14 | 7/8 | 1.80 |
| 0319-16 | 1 | 1.94 |
| 0319-20 | 1-1/4 | 2.86 |
| 0319-24 | 1-1/2 | 5.59 |
| 0319-32 | 2 | 9.63 |

319 900605 TX 1253 C5165

JIC TUBE UNION

SAE 070101
MS 51501



| Part # | JIC Thread Size 1 | JIC Thread Size 2 | List Price |
|------------|-------------------|-------------------|------------|
| 2403-2-2 | 5/16-24 | 5/16-24 | 2.06 |
| 2403-3-3 | 3/8-24 | 3/8-24 | 1.34 |
| 2403-4-4 | 7/16-20 | 7/16-20 | 1.02 |
| 2403-5-5 | 1/2-20 | 1/2-20 | 1.91 |
| 2403-6-6 | 9/16-18 | 9/16-18 | 2.17 |
| 2403-6-4 | 9/16-18 | 7/16-20 | 2.78 |
| 2403-8-8 | 3/4-16 | 3/4-16 | 1.95 |
| 2403-8-6 | 3/4-16 | 9/16-18 | 2.00 |
| 2403-10-10 | 7/8-14 | 7/8-14 | 3.23 |
| 2403-10-8 | 7/8-14 | 3/4-16 | 2.50 |
| 2403-12-12 | 1-1/16-12 | 1-1/16-12 | 3.48 |
| 2403-12-8 | 1-1/16-12 | 3/4-16 | 4.27 |
| 2403-12-10 | 1-1/16-12 | 7/8-14 | 4.98 |
| 2403-14-14 | 1-3/16-12 | 1-3/16-12 | 8.16 |
| 2403-16-16 | 1-5/16-12 | 1-5/16-12 | 5.43 |
| 2403-16-12 | 1-5/16-12 | 1-1/16-12 | 10.48 |
| 2403-20-20 | 1-5/8-12 | 1-5/8-12 | 10.61 |
| 2403-24 | 1-7/8-12 | 1-7/8-12 | 14.35 |
| 2403-32 | 2-1/2-12 | 2-1/2-12 | 46.62 |

2403 2027 HTX 1204 C5305

STRAIGHTS STEEL JIC FLARE 37°

HYDRAULIC ADAPTERS

JIC MALE CONNECTOR

SAE 070102
MS 51500

| Part # | JIC Thread Size 1 | Male Pipe Thread 2 | List Price |
|------------|-------------------|--------------------|------------|
| 2404-2-2 | 5/16-24 | 1/8 | 2.16 |
| 2404-4-2 | 7/16-20 | 1/8 | 0.99 |
| 2404-4-4 | 7/16-20 | 1/4 | 1.38 |
| 2404-4-6 | 7/16-20 | 3/8 | 1.53 |
| 2404-4-8 | 7/16-20 | 1/2 | 3.00 |
| 2404-6-2 | 9/16-18 | 1/8 | 1.65 |
| 2404-6-4 | 9/16-18 | 1/4 | 1.09 |
| 2404-6-6 | 9/16-18 | 3/8 | 1.89 |
| 2404-6-8 | 9/16-18 | 1/2 | 3.70 |
| 2404-8-4 | 3/4-16 | 1/4 | 2.48 |
| 2404-8-6 | 3/4-16 | 3/8 | 2.10 |
| 2404-8-8 | 3/4-16 | 1/2 | 1.72 |
| 2404-8-12 | 3/4-16 | 3/4 | 2.95 |
| 2404-8-16 | 3/4-16 | 1 | 6.10 |
| 2404-10-8 | 7/8-14 | 1/2 | 2.66 |
| 2404-10-12 | 7/8-14 | 3/4 | 6.73 |
| 2404-12-6 | 1-1/16-12 | 3/8 | 6.50 |
| 2404-12-8 | 1-1/16-12 | 1/2 | 3.09 |
| 2404-12-12 | 1-1/16-12 | 3/4 | 3.71 |
| 2404-12-16 | 1-1/16-12 | 1 | 5.81 |
| 2404-16-12 | 1-5/16-12 | 3/4 | 6.91 |
| 2404-16-16 | 1-5/16-12 | 1 | 5.81 |
| 2404-20-16 | 1-5/8-12 | 1 | 7.02 |
| 2404-20-20 | 1-5/8-12 | 1-1/4 | 8.02 |
| 2404-24-16 | 1-7/8-12 | 1 | 45.80 |
| 2404-24-20 | 1-7/8-12 | 1-1/4 | 15.76 |
| 2404-24-24 | 1-7/8-12 | 1-1/2 | 11.00 |
| 2404-32-24 | 2-1/2-12 | 1-1/2 | 60.68 |
| 2404-32-32 | 2-1/2-12 | 2 | 33.11 |

2404 2021R FTX 1202R C5205 816

Work keeps at bay three great evils: boredom, vice and need.

- Voltaire

JIC FEMALE CONNECTOR

SAE 070103
MS 51503

| Part # | JIC Thread Size 1 | Female Pipe Size 2 | List Price |
|------------|-------------------|--------------------|------------|
| 2405-2-2 | 5/16-24 | 1/8 | 1.77 |
| 2405-3-2 | 3/8-24 | 1/8 | 2.28 |
| 2405-4-2 | 7/16-20 | 1/8 | 1.48 |
| 2405-4-4 | 7/16-20 | 1/4 | 1.81 |
| 2405-6-4 | 9/16-18 | 1/4 | 1.81 |
| 2405-6-6 | 9/16-18 | 3/8 | 2.23 |
| 2405-8-4 | 3/4-16 | 1/4 | 4.80 |
| 2405-8-6 | 3/4-16 | 3/8 | 4.60 |
| 2405-8-8 | 3/4-16 | 1/2 | 3.79 |
| 2405-10-6 | 7/8-14 | 3/8 | 4.99 |
| 2405-10-8 | 7/8-14 | 1/2 | 3.18 |
| 2405-12-8 | 1-1/16-12 | 1/2 | 6.05 |
| 2405-12-12 | 1-1/16-12 | 3/4 | 6.86 |
| 2405-16-12 | 1-5/16-12 | 3/4 | 18.50 |
| 2405-16-16 | 1-5/16-12 | 1 | 7.78 |
| 2405-20-20 | 1-5/8-12 | 1-1/4 | 22.50 |
| 2405-24-24 | 1-7/8-12 | 1-1/2 | 27.97 |
| 2405-32-32 | 2-1/2-12 | 2 | 72.19 |

2405 2022R GTX 1230R C5255

JIC REDUCER/ EXPANDER



| Part # | Female JIC Thread Size 1 | Male JIC Thread Size 2 | List Price |
|------------|--------------------------|------------------------|------------|
| 2406-6-4 | 9/16-18 | 7/16-20 | 2.36 |
| 2406-6-8 | 9/16-18 | 3/4-16 | 2.93 |
| 2406-8-4 | 3/4-16 | 7/16-20 | 2.84 |
| 2406-8-6 | 3/4-16 | 9/16-18 | 2.86 |
| 2406-8-12 | 3/4-16 | 1-1/16-12 | 5.08 |
| 2406-10-4 | 7/8-14 | 7/16-20 | 5.15 |
| 2406-10-6 | 7/8-14 | 9/16-18 | 4.48 |
| 2406-10-8 | 7/8-14 | 3/4-16 | 4.43 |
| 2406-12-4 | 1-1/16-12 | 7/16-20 | 6.00 |
| 2406-12-6 | 1-1/16-12 | 9/16-18 | 5.46 |
| 2406-12-8 | 1-1/16-12 | 3/4-16 | 4.91 |
| 2406-12-10 | 1-1/16-12 | 7/8-14 | 5.93 |
| 2406-16-4 | 1-5/16-12 | 7/16-20 | 6.68 |
| 2406-16-12 | 1-5/16-12 | 1-1/16-12 | 8.55 |
| 2406-16-20 | 1-5/16-12 | 1-5/8-12 | 12.24 |
| 2406-20-12 | 1-5/8-12 | 1-1/16-12 | 15.66 |
| 2406-20-16 | 1-5/8-12 | 1-5/16-12 | 15.67 |
| 2406-24-16 | 1-7/8-12 | 1-5/16-12 | 44.19 |
| 2406-32-24 | 2-1/2-12 | 1-7/8-12 | 66.95 |

2406 C5015 2215 TRTX 1246

HYDRAULIC ADAPTERS

STRAIGHTS STEEL JIC FLARE 37°

PLUG

SAE 070109
MS 51518



| Part # | Tube O.D. | JIC Thread Size | List Price |
|---------|-----------|-----------------|------------|
| 2408-2 | 1/8 | 5/16-24 | 2.63 |
| 2408-3 | 3/16 | 3/8-24 | 1.01 |
| 2408-4 | 1/4 | 7/16-20 | 1.06 |
| 2408-5 | 5/16 | 1/2-20 | 0.95 |
| 2408-6 | 3/8 | 9/16-18 | 0.93 |
| 2408-8 | 1/2 | 3/4-16 | 1.30 |
| 2408-10 | 5/8 | 7/8-14 | 1.71 |
| 2408-12 | 3/4 | 1-1/16-12 | 2.50 |
| 2408-14 | 7/8 | 1-3/16-12 | 4.90 |
| 2408-16 | 1 | 1-5/16-12 | 3.66 |
| 2408-20 | 1-1/4 | 1-5/8-12 | 7.82 |
| 2408-24 | 1-1/2 | 1-7/8-12 | 11.81 |
| 2408-32 | 2 | 2-1/2-12 | 25.83 |

2408 430549 PNTX 1254 C5229

JIC UNION ELBOW

SAE 070201
MS 51505



| Part # | JIC Thread Size 1 | JIC Thread Size 2 | List Price |
|------------|-------------------|-------------------|------------|
| 2500-2-2 | 5/16-24 | 5/16-24 | 4.73 |
| 2500-4-4 | 7/16-20 | 7/16-20 | 2.12 |
| 2500-5-5 | 1/2-20 | 1/2-20 | 3.15 |
| 2500-6-6 | 9/16-18 | 9/16-18 | 2.23 |
| 2500-6-4 | 9/16-18 | 7/16-20 | 3.43 |
| 2500-8-8 | 3/4-16 | 3/4-16 | 3.47 |
| 2500-8-6 | 3/4-16 | 9/16-18 | 3.68 |
| 2500-10-10 | 7/8-14 | 7/8-14 | 6.33 |
| 2500-12-12 | 1-1/16-12 | 1-1/16-12 | 6.71 |
| 2500-16-16 | 1-5/16-12 | 1-5/16-12 | 15.86 |
| 2500-20-20 | 1-5/8-12 | 1-5/8-12 | 24.80 |
| 2500-24-24 | 1-7/8-12 | 1-7/8-12 | 45.68 |
| 2500-32-32 | 2-1/2-12 | 2-1/2-12 | 78.13 |

2500 2039 1234 C5505 821

STEEL 37° JIC FLARE SHAPES

JIC MALE ELBOW

SAE 070202
MS 51504

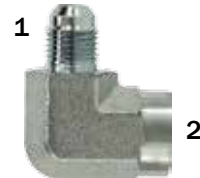


| Part # | JIC Thread Size 1 | Male Pipe Size 2 | List Price |
|------------|-------------------|------------------|------------|
| 2501-4-2 | 7/16-20 | 1/8 | 1.96 |
| 2501-4-4 | 7/16-20 | 1/4 | 2.10 |
| 2501-4-8 | 7/16-20 | 1/2 | 5.05 |
| 2501-6-2 | 9/16-18 | 1/8 | 2.77 |
| 2501-6-4 | 9/16-18 | 1/4 | 2.83 |
| 2501-6-6 | 9/16-18 | 3/8 | 2.90 |
| 2501-6-8 | 9/16-18 | 1/2 | 3.84 |
| 2501-8-4 | 3/4-16 | 1/4 | 3.53 |
| 2501-8-6 | 3/4-16 | 3/8 | 3.95 |
| 2501-8-8 | 3/4-16 | 1/2 | 3.33 |
| 2501-8-12 | 3/4-16 | 3/4 | 6.65 |
| 2501-10-6 | 7/8-14 | 3/8 | 4.39 |
| 2501-10-8 | 7/8-14 | 1/2 | 4.33 |
| 2501-12-8 | 1-1/16-12 | 1/2 | 7.15 |
| 2501-12-12 | 1-1/16-12 | 3/4 | 5.42 |
| 2501-12-16 | 1-1/16-12 | 1 | 8.64 |
| 2501-16-12 | 1-5/16-12 | 3/4 | 9.74 |
| 2501-16-16 | 1-5/16-12 | 1 | 8.01 |
| 2501-16-20 | 1-5/16-12 | 1-1/4 | 19.21 |
| 2501-20-20 | 1-5/8-12 | 1-1/4 | 19.11 |
| 2501-24-24 | 1-7/8-12 | 1-1/2 | 29.48 |
| 2501-32-32 | 2-1/2-12 | 2 | 77.47 |

1208R C5405 2501 2024R CTX 822

JIC FEMALE ELBOW

SAE 070203
MS 51506



| Part # | JIC Thread Size 1 | Female Pipe Size 2 | List Price |
|------------|-------------------|--------------------|------------|
| 2502-4-2 | 7/16-20 | 1/8 | 3.63 |
| 2502-4-4 | 7/16-20 | 1/4 | 2.80 |
| 2502-6-4 | 9/16-18 | 1/4 | 4.28 |
| 2502-6-6 | 9/16-18 | 3/8 | 3.78 |
| 2502-8-6 | 3/4-16 | 3/8 | 6.10 |
| 2502-8-8 | 3/4-16 | 1/2 | 6.72 |
| 2502-12-12 | 1-1/16-12 | 3/4 | 8.43 |
| 2502-16-16 | 1-5/16-12 | 1 | 14.60 |
| 2502-20-20 | 1-5/8-12 | 1-1/4 | 34.62 |

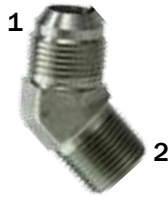
2502 2025R DTX 1240R C5455

SHAPES STEEL JIC FLARE 37°

HYDRAULIC ADAPTERS

SAE 070302
MS 51508

JIC MALE 45° ELBOW



| Part # | JIC Thread Size 1 | Male Pipe Size 2 | List Price |
|------------|-------------------|------------------|------------|
| 2503-2-2 | 5/16-24 | 1/8 | 5.43 |
| 2503-4-4 | 7/16-20 | 1/4 | 2.64 |
| 2503-6-4 | 9/16-18 | 1/4 | 2.70 |
| 2503-6-6 | 9/16-18 | 3/8 | 3.34 |
| 2503-6-8 | 9/16-18 | 1/2 | 3.99 |
| 2503-8-6 | 3/4-16 | 3/8 | 3.43 |
| 2503-8-8 | 3/4-16 | 1/2 | 4.59 |
| 2503-10-8 | 7/8-14 | 1/2 | 6.20 |
| 2503-12-12 | 1-1/16-12 | 3/4 | 6.44 |
| 2503-12-16 | 1-1/16-12 | 1 | 11.14 |
| 2503-16-16 | 1-5/16-12 | 1 | 13.50 |
| 2503-16-20 | 1-5/16-12 | 1-1/4 | 24.91 |
| 2503-20-16 | 1-5/8-12 | 1 | 36.28 |
| 2503-20-20 | 1-5/8-12 | 1-1/4 | 23.80 |

2503 2023R VTX 1206R C5355 823

JIC MALE BRANCH TEE



| Part # | JIC Thread Size 1&2 | Pipe Thread Size 3 | List Price |
|------------|---------------------|--------------------|------------|
| 2601-4-4 | 7/16-20 | 1/4 | 4.38 |
| 2601-6-6 | 9/16-18 | 3/8 | 6.29 |
| 2601-8-8 | 3/4-16 | 1/2 | 6.00 |
| 2601-12-12 | 1-1/16-12 | 3/4 | 11.15 |

2601 2030R STX 1221R C5605

JIC FEMALE BRANCH TEE

SAE 070427
MS 51513



| Part # | JIC Thread Size 1 & 2 | Female Pipe Size 3 | List Price |
|----------|-----------------------|--------------------|------------|
| 2602-4-4 | 7/16-20 | 1/4 | 5.77 |
| 2602-6-6 | 9/16-18 | 3/8 | 5.94 |
| 2602-8-8 | 3/4-16 | 1/2 | 8.21 |

2602 2031R OTX 1228R C6566

JIC UNION TEE

SAE 070401
MS 51510



| Part # | JIC Thread Size 1 & 2 | JIC Thread Size 3 | List Price |
|------------|-----------------------|-------------------|------------|
| 2603-2-2 | 5/16-24 | 5/16-24 | 3.97 |
| 2603-3-3 | 3/8-24 | 3/8-24 | 3.43 |
| 2603-4-4 | 7/16-20 | 7/16-20 | 3.24 |
| 2603-6-6 | 9/16-18 | 9/16-18 | 3.47 |
| 2603-8-8 | 3/4-16 | 3/4-16 | 5.89 |
| 2603-10-10 | 7/8-14 | 7/8-14 | 6.67 |
| 2603-12-12 | 1-1/16-12 | 1-1/16-12 | 9.57 |
| 2603-16-16 | 1-5/16-12 | 1-5/16-12 | 13.51 |

2603 2033 JTX 1220 C5705

STEEL BULKHEAD FITTINGS

LOCK NUT

SAE 070118
MS 51860



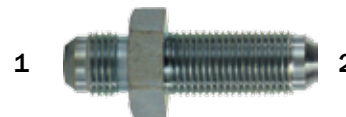
* Lock Nut no longer included on fittings

| Part # | Thread Size | List Price |
|---------|-------------|------------|
| 0306-2 | 5/16-24 | 0.48 |
| 0306-4 | 7/16-20 | 0.65 |
| 0306-5 | 1/2-20 | 0.81 |
| 0306-6 | 9/16-18 | 0.56 |
| 0306-8 | 3/4-16 | 1.05 |
| 0306-10 | 7/8-14 | 1.02 |
| 0306-12 | 1-1/16-12 | 2.14 |
| 0306-14 | 1-3/16-12 | 3.18 |
| 0306-16 | 1-5/16-12 | 2.94 |
| 0306-20 | 1-5/8-12 | 2.78 |

1306 894 210212 WLN 1332 C5624

JIC BULKHEAD UNION

SAE 070601
MS 51520



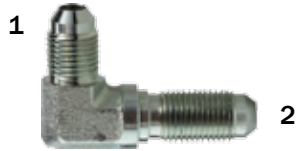
| Part # | JIC Thread Size 1 | JIC Thread Size 2 | List Price |
|----------|-------------------|-------------------|------------|
| 2700-2-2 | 5/16-24 | 5/16-24 | 2.95 |
| 2700-4-4 | 7/16-20 | 7/16-20 | 2.54 |
| 2700-5-5 | 1/2-20 | 1/2-20 | 3.32 |
| 2700-6-6 | 9/16-18 | 9/16-18 | 2.67 |
| 2700-8 | 3/4-16 | 3/4-16 | 4.28 |
| 2700-10 | 7/8-14 | 7/8-14 | 4.70 |
| 2700-12 | 1-1/16-12 | 1-1/16-12 | 5.29 |
| 2700-14 | 1-3/16-12 | 1-3/16-12 | 38.42 |
| 2700-16 | 1-5/16-12 | 1-5/16-12 | 10.88 |

2700 2041R WTX 1260 C5325

HYDRAULIC ADAPTERS

JIC BULKHEAD UNION ELBOW

SAE 070701
MS 51507



| Part # | JIC Thread Size 1 | JIC Bulkhead Thread 2 | List Price |
|---------|-------------------|-----------------------|------------|
| 2701-4 | 7/16-20 | 7/16-20 | 3.44 |
| 2701-5 | 1/2-20 | 1/2-20 | 5.49 |
| 2701-6 | 9/16-18 | 9/16-18 | 4.89 |
| 2701-8 | 3/4-16 | 3/4-16 | 5.73 |
| 2701-10 | 7/8-14 | 7/8-14 | 8.95 |
| 2701-12 | 1-1/16-12 | 1-1/16-12 | 14.60 |
| 2701-16 | 1-5/16-12 | 1-5/16-12 | 17.12 |
| 2701-20 | 1-5/8-12 | 1-5/8-12 | 38.53 |

2701 2043R WETX 1262 C5525

JIC BULKHEAD UNION 45° ELBOW

SAE 070801
MS 51509



| Part # | JIC Thread Size 1 | JIC Thread Size 2 | List Price |
|---------|-------------------|-------------------|------------|
| 2702-4 | 7/16-20 | 7/16-20 | 3.30 |
| 2702-6 | 9/16-18 | 9/16-18 | 6.18 |
| 2702-8 | 3/4-16 | 3/4-16 | 7.38 |
| 2702-10 | 7/8-14 | 7/8-14 | 8.57 |
| 2702-12 | 1-1/16-12 | 1-1/16-12 | 12.48 |
| 2702-16 | 1-5/16-12 | 1-5/16-12 | 16.86 |

2702 2042 WNTX 1261 C5375

JIC BULKHEAD BRANCH TEE

SAE 070959
MS 51515



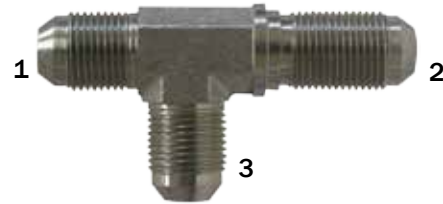
| Part # | JIC Thread Size 1&2 | JIC Thread Size 3 | List Price |
|---------|---------------------|-------------------|------------|
| 2703-4 | 7/16-20 | 7/16-20 | 6.43 |
| 2703-6 | 9/16-18 | 9/16-18 | 6.52 |
| 2703-8 | 3/4-16 | 3/4-16 | 11.46 |
| 2703-10 | 7/8-14 | 7/8-14 | 13.78 |
| 2703-12 | 1-1/16-12 | 1-1/16-12 | 20.62 |
| 2703-16 | 1-5/16-12 | 1-5/16-12 | 33.05 |

2703 203002 WJT 1283 C5725

STEEL BULKHEAD FITTINGS

JIC BULKHEAD RUN TEE

SAE 070958
MS 51516



| Part # | JIC Thread Size 1&3 | JIC Thread Size 2 | List Price |
|---------|---------------------|-------------------|------------|
| 2704-4 | 7/16-20 | 7/16-20 | 6.62 |
| 2704-6 | 9/16-18 | 9/16-18 | 6.14 |
| 2704-8 | 3/4-16 | 3/4-16 | 14.22 |
| 2704-10 | 7/8-14 | 7/8-14 | 18.14 |
| 2704-12 | 1-1/16-12 | 1-1/16-12 | 20.70 |
| 2704-16 | 1-5/16-12 | 1-5/16-12 | 25.72 |

2704 203008 WJJT 1284 C5726

JIC TO FEMALE PIPE BULKHEAD



| Part # | JIC Thread Size 1 | Female Pipe Size 2 | List Price |
|------------|-------------------|--------------------|------------|
| 2705-4-4 | 7/16-20 | 1/4 | 3.43 |
| 2705-6-6 | 9/16-18 | 3/8 | 5.52 |
| 2705-8-8 | 3/4-16 | 1/2 | 7.40 |
| 2705-12-12 | 1-1/16-12 | 3/4 | 16.33 |
| 2705-16-16 | 1-5/16-12 | 1 | 20.37 |

2705 2239 WGTX C5275

JIC TO MALE PIPE BULKHEAD



| Part # | JIC Thread Size 1 | Pipe Thread Size 2 | List Price |
|------------|-------------------|--------------------|------------|
| 2706-4-4 | 7/16-20 | 1/4 | 2.98 |
| 2706-6-6 | 9/16-18 | 3/8 | 4.50 |
| 2706-8-8 | 3/4-16 | 1/2 | 5.84 |
| 2706-12-12 | 1-1/16-12 | 3/4 | 13.40 |
| 2706-16-16 | 1-5/16-12 | 1 | 19.47 |

2706 2240

* Lock Nuts sold separately - pg. 403

STEEL PIPE FITTINGS

HYDRAULIC ADAPTERS

SAE 140138 **PIPE COUPLING** 910



| Part # | Female Pipe 1 | Female Pipe 2 | List Price |
|------------|---------------|---------------|------------|
| 5000-2 | 1/8 | 1/8 | 1.96 |
| 5000-4-2 | 1/4 | 1/8 | 3.28 |
| 5000-4 | 1/4 | 1/4 | 1.66 |
| 5000-6-4 | 3/8 | 1/4 | 2.45 |
| 5000-6-6 | 3/8 | 3/8 | 2.35 |
| 5000-8-4 | 1/2 | 1/4 | 4.45 |
| 5000-8-6 | 1/2 | 3/8 | 3.16 |
| 5000-8 | 1/2 | 1/2 | 3.38 |
| 5000-12-12 | 3/4 | 3/4 | 3.90 |
| 5000-16-12 | 1 | 3/4 | 13.45 |
| 5000-16 | 1 | 1 | 6.25 |
| 5000-20-20 | 1-1/4 | 1-1/4 | 15.48 |
| 5000-24 | 1-1/2 | 1-1/2 | 29.61 |
| 5000-32 | 2 | 2 | 79.72 |

5000 2096 GG 1273 C3309

SAE 140137 **HEX PIPE NIPPLES**



| Part # | Male Pipe 1 | Male Pipe 2 | List Price |
|------------|-------------|-------------|------------|
| 5404-2 | 1/8 | 1/8 | 0.93 |
| 5404-4-2 | 1/4 | 1/8 | 1.30 |
| 5404-4 | 1/4 | 1/4 | 1.45 |
| 5404-6-2 | 3/8 | 1/8 | 4.24 |
| 5404-6-4 | 3/8 | 1/4 | 1.83 |
| 5404-6 | 3/8 | 3/8 | 1.56 |
| 5404-8-4 | 1/2 | 1/4 | 2.43 |
| 5404-8-6 | 1/2 | 3/8 | 2.39 |
| 5404-8 | 1/2 | 1/2 | 2.06 |
| 5404-12-6 | 3/4 | 3/8 | 4.88 |
| 5404-12-8 | 3/4 | 1/2 | 3.14 |
| 5404-12 | 3/4 | 3/4 | 3.54 |
| 5404-16-12 | 1 | 3/4 | 10.90 |
| 5404-16 | 1 | 1 | 6.25 |
| 5404-20-16 | 1-1/4 | 1 | 11.60 |
| 5404-20 | 1-1/4 | 1-1/4 | 11.83 |
| 5404-24-20 | 1-1/2 | 1-1/4 | 27.22 |
| 5404-24 | 1-1/2 | 1-1/2 | 16.96 |
| 5404-32-24 | 2 | 1-1/2 | 52.56 |
| 5404-32 | 2 | 2 | 39.87 |

5404 2083 FF 1252 C3069 911

EXPANDING PIPE ADAPTER

SAE 140139



| Part # | Male Pipe 1 | Female Pipe 2 | List Price |
|------------|-------------|---------------|------------|
| 5405-2-2 | 1/8 | 1/8 | 6.38 |
| 5405-2-4 | 1/8 | 1/4 | 2.09 |
| 5405-4-2 | 1/4 | 1/8 | 2.39 |
| 5405-4-4 | 1/4 | 1/4 | 1.71 |
| 5405-6-4 | 3/8 | 1/4 | 3.67 |
| 5405-6-6 | 3/8 | 3/8 | 4.13 |
| 5405-6-8 | 3/8 | 1/2 | 4.13 |
| 5405-8-8 | 1/2 | 1/2 | 5.59 |
| 5405-8-12 | 1/2 | 3/4 | 5.73 |
| 5405-12-12 | 3/4 | 3/4 | 13.87 |
| 5405-16-16 | 1 | 1 | 15.96 |
| 5405-16-20 | 1 | 1-1/4 | 20.71 |
| 5405-20-20 | 1-1/4 | 1-1/4 | 26.64 |
| 5405-20-24 | 1-1/4 | 1-1/2 | 26.58 |
| 5405-24-24 | 1-1/2 | 1-1/2 | 34.05 |

920 5405 2040 FG-(R) 1274 C3209(R)

HEX REDUCER BUSHING

SAEF1
140140



| Part # | Male Pipe | Female Pipe | List Price |
|------------|-----------|-------------|------------|
| 5406-4-2 | 1/4 | 1/8 | 0.92 |
| 5406-6-2 | 3/8 | 1/8 | 1.84 |
| 5406-6-4 | 3/8 | 1/4 | 2.25 |
| 5406-8-2 | 1/2 | 1/8 | 2.10 |
| 5406-8-4 | 1/2 | 1/4 | 1.40 |
| 5406-8-6 | 1/2 | 3/8 | 2.52 |
| 5406-12-2 | 3/4 | 1/8 | 3.02 |
| 5406-12-4 | 3/4 | 1/4 | 4.36 |
| 5406-12-6 | 3/4 | 3/8 | 3.95 |
| 5406-12-8 | 3/4 | 1/2 | 3.99 |
| 5406-16-4 | 1 | 1/4 | 6.89 |
| 5406-16-6 | 1 | 3/8 | 10.98 |
| 5406-16-8 | 1 | 1/2 | 5.89 |
| 5406-16-12 | 1 | 3/4 | 6.18 |
| 5406-20-16 | 1-1/4 | 1 | 10.87 |
| 5406-24-20 | 1-1/2 | 1-1/4 | 17.90 |
| 5406-32-20 | 2 | 1-1/4 | 27.25 |
| 5406-32-24 | 2 | 1-1/2 | 28.59 |

5406 2081 PTR 1250 C3109 912

HYDRAULIC ADAPTERS

STEEL PIPE FITTINGS

HEX HEAD PLUG

SAE 130109E



| Part # | Male Pipe | List Price |
|-----------|-----------|------------|
| 5406-P-2 | 1/8 | 0.64 |
| 5406-P-4 | 1/4 | 0.96 |
| 5406-P-6 | 3/8 | 0.93 |
| 5406-P-8 | 1/2 | 1.53 |
| 5406-P-12 | 3/4 | 3.00 |
| 5406-P-16 | 1 | 4.44 |
| 5406-P-20 | 1-1/4 | 9.15 |
| 5406-P-24 | 1-1/2 | 15.03 |
| 5406-P-32 | 2 | 24.61 |

933 5406P 2082 HP 1251 C3159

HOLLOW HEX PLUG

SAE 130109



| Part # | Male Pipe | List Price |
|-------------|-----------|------------|
| 5406-HHP-2 | 1/8 | 0.41 |
| 5406-HHP-4 | 1/4 | 0.32 |
| 5406-HHP-6 | 3/8 | 0.43 |
| 5406-HHP-8 | 1/2 | 0.74 |
| 5406-HHP-12 | 3/4 | 1.27 |
| 5406-HHP-16 | 1 | 3.78 |
| 5406-HHP-20 | 1-1/4 | 7.20 |
| 5406-HHP-24 | 1-1/2 | 18.47 |

C3169 2222

FLUSH HOLLOW HEX PLUG W/ 7/8 TAPER



| Part # | Male Pipe | List Price |
|-------------|-----------|------------|
| 5406-FLP-2 | 1/8 | 0.42 |
| 5406-FLP-4 | 1/4 | 0.65 |
| 5406-FLP-6 | 3/8 | 0.98 |
| 5406-FLP-8 | 1/2 | 1.27 |
| 5406-FLP-12 | 3/4 | 3.54 |

SQUARE HEAD PLUG

SAE 130109A



| Part # | Male Pipe | List Price |
|-------------|-----------|------------|
| 5406-SHP-2 | 1/8 | 0.50 |
| 5406-SHP-4 | 1/4 | 0.52 |
| 5406-SHP-6 | 3/8 | 0.95 |
| 5406-SHP-8 | 1/2 | 1.32 |
| 5406-SHP-12 | 3/4 | 1.41 |
| 5406-SHP-16 | 1 | 5.63 |
| 5406-SHP-20 | 1-1/4 | 24.19 |
| 5406-SHP-24 | 1-1/2 | 24.98 |
| 5406-SHP-32 | 2 | 31.79 |

C3179

PIPE CAP



| Part # | Female Pipe | List Price |
|-----------|-------------|------------|
| 5406-C-2 | 1/8 | 1.51 |
| 5406-C-4 | 1/4 | 1.30 |
| 5406-C-6 | 3/8 | 1.99 |
| 5406-C-8 | 1/2 | 2.56 |
| 5406-C-12 | 3/4 | 5.71 |
| 5406-C-16 | 1 | 9.31 |

HPC

MALE ELBOW

SAE 140237



| Part # | Male Pipe 1 | Male Pipe 2 | List Price |
|------------|-------------|-------------|------------|
| 5500-2 | 1/8 | 1/8 | 2.73 |
| 5500-4 | 1/4 | 1/4 | 2.45 |
| 5500-6 | 3/8 | 3/8 | 3.44 |
| 5500-8-4 | 1/2 | 1/4 | 7.65 |
| 5500-8 | 1/2 | 1/2 | 4.72 |
| 5500-12-8 | 3/4 | 1/2 | 10.47 |
| 5500-12-12 | 3/4 | 3/4 | 7.15 |
| 5500-16 | 1 | 1 | 10.60 |
| 5500-16-12 | 1 | 3/4 | 14.78 |
| 5500-20-20 | 1-1/4 | 1-1/4 | 22.56 |

919 5500 2085 CR 1275 C3529

STEEL PIPE FITTINGS

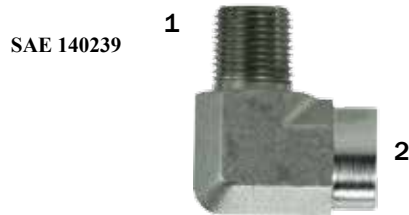
45° MALE ELBOW



| Part # | Male Pipe 1 | Male Pipe 2 | List Price |
|------------|-------------|-------------|------------|
| 5501-2-2 | 1/8 | 1/8 | 4.73 |
| 5501-4-4 | 1/4 | 1/4 | 3.39 |
| 5501-6-6 | 3/8 | 3/8 | 4.65 |
| 5501-8 | 1/2 | 1/2 | 9.04 |
| 5501-12-12 | 3/4 | 3/4 | 8.98 |
| 5501-16-16 | 1 | 1 | 37.52 |

5501 2247

90° STREET ELBOW



SAE 140239

| Part # | Male Pipe 1 | Female Pipe 2 | List Price |
|------------|-------------|---------------|------------|
| 5502-2 | 1/8 | 1/8 | 2.12 |
| 5502-4 | 1/4 | 1/4 | 2.97 |
| 5502-6-4 | 3/8 | 1/4 | 3.72 |
| 5502-6 | 3/8 | 3/8 | 4.15 |
| 5502-8-4 | 1/2 | 1/4 | 7.50 |
| 5502-8-6 | 1/2 | 3/8 | 6.00 |
| 5502-8-8 | 1/2 | 1/2 | 6.20 |
| 5502-12 | 3/4 | 3/4 | 7.47 |
| 5502-16-16 | 1 | 1 | 15.10 |
| 5502-20 | 1-1/4 | 1-1/4 | 25.55 |
| 5502-24 | 1-1/2 | 1-1/2 | 73.55 |

5502 2089 CD 1234R C3409 914

HYDRAULIC ADAPTERS

45° STREET ELBOW

SAE 140339



| Part # | Male Pipe 1 | Female Pipe 2 | List Price |
|------------|-------------|---------------|------------|
| 5503-2 | 1/8 | 1/8 | 2.62 |
| 5503-4 | 1/4 | 1/4 | 2.86 |
| 5503-6 | 3/8 | 3/8 | 3.31 |
| 5503-8 | 1/2 | 1/2 | 5.85 |
| 5503-12-12 | 3/4 | 3/4 | 6.54 |
| 5503-16 | 1 | 1 | 16.57 |

5503 CD45 1244

FEMALE ELBOW

SAE 140238



| Part # | Female Pipe 1 | Female Pipe 2 | List Price |
|----------|---------------|---------------|------------|
| 5504-2 | 1/8 | 1/8 | 2.59 |
| 5504-4 | 1/4 | 1/4 | 3.18 |
| 5504-6 | 3/8 | 3/8 | 3.93 |
| 5504-8-6 | 1/2 | 3/8 | 5.97 |
| 5504-8 | 1/2 | 1/2 | 6.41 |
| 5504-12 | 3/4 | 3/4 | 8.17 |
| 5504-16 | 1 | 1 | 13.14 |
| 5504-20 | 1-1/4 | 1-1/4 | 30.59 |
| 5504-24 | 1-1/2 | 1-1/2 | 69.76 |

5504 2087 DD 1245 C3509 916

45° FEMALE ELBOW

SAE 140338



| Part # | Female Pipe 1 | Female Pipe 2 | List Price |
|---------|---------------|---------------|------------|
| 5505-4 | 1/4 | 1/4 | 4.31 |
| 5505-6 | 3/8 | 3/8 | 6.06 |
| 5505-8 | 1/2 | 1/2 | 9.23 |
| 5505-12 | 3/4 | 3/4 | 10.94 |
| 5505-16 | 1 | 1 | 17.53 |
| 5505-20 | 1-1/4 | 1-1/4 | 27.20 |

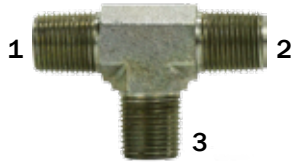
5505 DD45 1241 C3559

HYDRAULIC ADAPTERS

STEEL PIPE FITTINGS

MALE PIPE TEE

SAE 140437



| Part # | Male Pipe 1 & 2 | Male Pipe 3 | List Price |
|----------|-----------------|-------------|------------|
| 5600-2-2 | 1/8 | 1/8 | 10.39 |
| 5600-4-4 | 1/4 | 1/4 | 4.47 |
| 5600-6-6 | 3/8 | 3/8 | 6.54 |
| 5600-8-8 | 1/2 | 1/2 | 12.38 |
| 5600-12 | 3/4 | 3/4 | 14.78 |
| 5600-16 | 1 | 1 | 24.23 |

5600 2257 RRS

FEMALE BRANCH PIPE TEE

SAE 140427



| Part # | Male Pipe 1 & 2 | Female Pipe 3 | List Price |
|----------|-----------------|---------------|------------|
| 5601-2-2 | 1/8 | 1/8 | 7.52 |
| 5601-4-4 | 1/4 | 1/4 | 7.05 |
| 5601-6-6 | 3/8 | 3/8 | 7.81 |
| 5601-12 | 3/4 | 3/4 | 25.22 |
| 5601-16 | 1 | 1 | 33.19 |

901 5601 2256

STREET PIPE TEE

SAE 140424

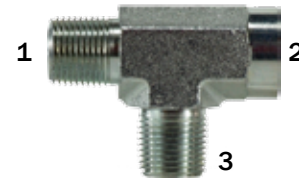


| Part # | Male Pipe 1 | Female Pipe 2 & 3 | List Price |
|----------|-------------|-------------------|------------|
| 5602-2-2 | 1/8 | 1/8 | 3.61 |
| 5602-4-4 | 1/4 | 1/4 | 5.44 |
| 5602-6-6 | 3/8 | 3/8 | 6.85 |
| 5602-8-8 | 1/2 | 1/2 | 10.08 |
| 5602-12 | 3/4 | 3/4 | 12.30 |
| 5602-16 | 1 | 1 | 22.55 |

902 5602 2092 MRO 1276 C3759

FEMALE RUN PIPE TEE

SAE 1404276



| Part # | Male Pipe 1 & 3 | Female Pipe 2 | List Price |
|----------|-----------------|---------------|------------|
| 5603-2-2 | 1/8 | 1/8 | 4.16 |
| 5603-4-4 | 1/4 | 1/4 | 5.11 |
| 5603-6-6 | 3/8 | 3/8 | 5.09 |
| 5603-8-8 | 1/2 | 1/2 | 9.12 |
| 5603-12 | 3/4 | 3/4 | 16.73 |
| 5603-16 | 1 | 1 | 21.65 |

5603 2093 MMO 1277

MALE BRANCH PIPE TEE



| Part # | Female Pipe 1 & 2 | Male Pipe 3 | List Price |
|----------|-------------------|-------------|------------|
| 5604-2-2 | 1/8 | 1/8 | 4.72 |
| 5604-4-4 | 1/4 | 1/4 | 6.80 |
| 5604-6-6 | 3/8 | 3/8 | 8.12 |
| 5604-8-8 | 1/2 | 1/2 | 9.47 |
| 5604-12 | 3/4 | 3/4 | 12.91 |
| 5604-16 | 1 | 1 | 23.71 |

904 5604 2091 MMS 1278 C3609

FEMALE PIPE TEE

SAE 140438



| Part # | Female Pipe | List Price |
|----------|-------------|------------|
| 5605-2-2 | 1/8 | 2.29 |
| 5605-4-4 | 1/4 | 5.24 |
| 5605-6-6 | 3/8 | 6.50 |
| 5605-8 | 1/2 | 7.38 |
| 5605-12 | 3/4 | 11.09 |
| 5605-16 | 1 | 23.28 |
| 5605-20 | 1-1/4 | 41.44 |

917 5605 2090 1225 C3709

STEEL O-RING ADAPTERS

HYDRAULIC ADAPTERS

JIC TO O-RING CONNECTOR

SAE 070120
MS 51525



| Part # | JIC Thread Size 1 | O-Ring Thread 2 | List Price |
|------------|-------------------|-----------------|------------|
| 6400-2 | 5/16-24 | 5/16-24 | 4.59 |
| 6400-4 | 7/16-20 | 7/16-20 | 1.19 |
| 6400-4-2 | 7/16-20 | 5/16-24 | 1.83 |
| 6400-4-6 | 7/16-20 | 9/16-18 | 1.38 |
| 6400-4-8 | 7/16-20 | 3/4-16 | 3.31 |
| 6400-5 | 1/2-20 | 1/2-20 | 1.74 |
| 6400-6 | 9/16-18 | 9/16-18 | 1.57 |
| 6400-6-4 | 9/16-18 | 7/16-20 | 1.51 |
| 6400-6-8 | 9/16-18 | 3/4-16 | 1.76 |
| 6400-6-10 | 9/16-18 | 7/8-14 | 2.98 |
| 6400-6-12 | 9/16-18 | 1-1/16-12 | 4.62 |
| 6400-8 | 3/4-16 | 3/4-16 | 1.69 |
| 6400-8-4 | 3/4-16 | 7/16-20 | 3.30 |
| 6400-8-6 | 3/4-16 | 9/16-18 | 1.76 |
| 6400-8-10 | 3/4-16 | 7/8-14 | 2.25 |
| 6400-8-12 | 3/4-16 | 1-1/16-12 | 3.44 |
| 6400-10 | 7/8-14 | 7/8-14 | 2.48 |
| 6400-10-8 | 7/8-14 | 3/4-16 | 3.19 |
| 6400-10-12 | 7/8-14 | 1-1/16-12 | 3.80 |
| 6400-12 | 1-1/16-12 | 1-1/16-12 | 3.44 |
| 6400-12-8 | 1-1/16-12 | 3/4-16 | 5.12 |
| 6400-12-10 | 1-1/16-12 | 7/8-14 | 4.10 |
| 6400-12-14 | 1-1/16-12 | 1-3/16-12 | 5.86 |
| 6400-12-16 | 1-1/16-12 | 1-5/16-12 | 4.25 |
| 6400-16 | 1-5/16-12 | 1-5/16-12 | 5.48 |
| 6400-16-12 | 1-5/16-12 | 1-1/16-12 | 11.07 |
| 6400-16-20 | 1-5/16-12 | 1-5/8-12 | 15.45 |
| 6400-20 | 1-5/8-12 | 1-5/8-12 | 10.62 |
| 6400-20-24 | 1-5/8-12 | 1-7/8-12 | 20.39 |
| 6400-24-32 | 1-7/8-12 | 2-1/2-12 | 74.91 |

6400 202702R F50X 1231 C5315

O-RING HEX NIPPLE UNION



| Part # | O-Ring Thread 1 | O-Ring Thread 2 | List Price |
|-----------|-----------------|-----------------|------------|
| 6403-O-6 | 9/16-18 | 9/16-18 | 5.12 |
| 6403-O-8 | 3/4-16 | 3/4-16 | 4.87 |
| 6403-O-12 | 1-1/16-12 | 1-1/16-12 | 8.49 |

O-RING TO PIPE ADAPTER



| Part # | O-Ring Thread 1 | Male Pipe Thread 2 | List Price |
|------------|-----------------|--------------------|------------|
| 6401-4-4 | 7/16-20 | 1/4 | 1.06 |
| 6401-6-4 | 9/16-18 | 1/4 | 2.00 |
| 6401-6-6 | 9/16-18 | 3/8 | 2.00 |
| 6401-8-6 | 3/4-16 | 3/8 | 3.11 |
| 6401-8-8 | 3/4-16 | 1/2 | 2.91 |
| 6401-10-8 | 7/8-14 | 1/2 | 4.56 |
| 6401-12-8 | 1-1/16-12 | 1/2 | 4.82 |
| 6401-12-12 | 1-1/16-12 | 3/4 | 4.90 |
| 6401-16-16 | 1-5/16-12 | 1 | 8.41 |
| 6401-20-20 | 1-5/8-12 | 1-1/4 | 16.13 |

6401 F5X 1264R C3249

O-RING TO 37° JIC - SWIVEL ADAPTER



| Part # | O-Ring Thread 1 | JIC Thread Size 2 | List Price |
|--------------|-----------------|-------------------|------------|
| 6402-O-4-4 | 7/16-20 | 7/16-20 | 3.31 |
| 6402-O-6-6 | 9/16-18 | 9/16-18 | 2.77 |
| 6402-O-8-8 | 3/4-16 | 3/4-16 | 3.88 |
| 6402-O-10-10 | 7/8-14 | 7/8-14 | 7.82 |
| 6402-O-12-12 | 1-1/16-12 | 1-1/16-12 | 7.05 |

6402 2266 F65X 1213 9316

FEMALE O-RING TO MALE PIPE ADAPTER



| Part # | O-Ring Thread 1 | Male Pipe Thread 2 | List Price |
|------------|-----------------|--------------------|------------|
| 6404-4-4 | 7/16-20 | 1/4 | 3.35 |
| 6404-6-4 | 9/16-18 | 1/4 | 6.64 |
| 6404-6-6 | 9/16-18 | 3/8 | 2.95 |
| 6404-6-8 | 9/16-18 | 1/2 | 4.68 |
| 6404-8-8 | 3/4-16 | 1/2 | 3.81 |
| 6404-10-8 | 7/8-14 | 1/2 | 5.46 |
| 6404-12-12 | 1-1/16-12 | 3/4 | 7.13 |

6404 2246R 1267R C3239 FHG5

HYDRAULIC ADAPTERS

STEEL O-RING ADAPTERS

O-RING TO FEMALE PIPE ADAPTER



| Part # | O-Ring Thread 1 | Female Pipe Thread 2 | List Price |
|--------------|-----------------|----------------------|------------|
| 6405-O-4-2 | 7/16-20 | 1/8 | 1.93 |
| 6405-O-4-4 | 7/16-20 | 1/4 | 2.72 |
| 6405-O-6-4 | 9/16-18 | 1/4 | 2.60 |
| 6405-O-6-6 | 9/16-18 | 3/8 | 2.82 |
| 6405-O-8-4 | 3/4-16 | 1/4 | 4.33 |
| 6405-O-8-6 | 3/4-16 | 3/8 | 2.59 |
| 6405-O-8-8 | 3/4-16 | 1/2 | 4.46 |
| 6405-O-10-6 | 7/8-14 | 3/8 | 3.81 |
| 6405-O-10-8 | 7/8-14 | 1/2 | 5.69 |
| 6405-O-12-8 | 1-1/16-12 | 1/2 | 7.97 |
| 6405-O-12-12 | 1-1/16-12 | 3/4 | 6.37 |
| 6405-O-16-12 | 1-5/16-12 | 3/4 | 8.41 |
| 6405-O-16-16 | 1-5/16-12 | 1 | 12.05 |
| 6405-O-20-20 | 1-5/8-12 | 1-1/4 | 15.66 |
| 6405-O-24-24 | 1-7/8-12 | 1-1/2 | 30.31 |
| 6405-O-32-32 | 2-1/2-12 | 2 | 32.22 |

6405 2216R F50G 1268R C3269

O-RING HEX HEAD PLUG

SAE 090109A



* Not all sizes are solid

| Part # | O-Ring Thread | List Price |
|-----------|---------------|------------|
| 6408-O-2 | 5/16-24 | 0.78 |
| 6408-O-4 | 7/16-20 | 0.74 |
| 6408-O-5 | 1/2-20 | 1.13 |
| 6408-O-6 | 9/16-18 | 0.88 |
| 6408-O-8 | 3/4-16 | 1.10 |
| 6408-O-10 | 7/8-14 | 1.94 |
| 6408-O-12 | 1-1/16-12 | 2.39 |
| 6408-O-14 | 1-3/16-20 | 4.40 |
| 6408-O-16 | 1-5/16-12 | 3.27 |
| 6408-O-20 | 1-5/8-12 | 6.67 |
| 6408-O-24 | 1-7/8-12 | 9.39 |

6408 900598 P50N 1265 7237

O-RING HOLLOW - HEX HEAD PLUG

SAE 090109B



| Part # | O-Ring Thread | List Price |
|-------------|---------------|------------|
| 6408-H-O-2 | 5/16-24 | 1.10 |
| 6408-H-O-4 | 7/16-20 | 0.70 |
| 6408-H-O-5 | 1/2-20 | 1.01 |
| 6408-H-O-6 | 9/16-18 | 0.74 |
| 6408-H-O-8 | 3/4-16 | 1.28 |
| 6408-H-O-10 | 7/8-14 | 2.09 |
| 6408-H-O-12 | 1-1/16-12 | 3.94 |
| 6408-H-O-14 | 1-3/16-20 | 7.15 |
| 6408-H-O-16 | 1-5/16-12 | 3.95 |
| 6408-H-O-20 | 1-5/8-12 | 8.64 |
| 6408-H-O-24 | 1-7/8-12 | 10.55 |
| 6408-H-O-32 | 2-1/2-12 | 30.92 |

6408HHP FF2138 HP50N 1256 7238 6409

O-RING PORT REDUCER/EXPANDER



| Part # | O-Ring Thread 1 | O-Ring Thread 2 | List Price |
|-------------|-----------------|-----------------|------------|
| 6410-O-8-4 | 3/4-16 | 7/16-20 | 3.27 |
| 6410-O-8-6 | 3/4-16 | 9/16-18 | 3.35 |
| 6410-O-8-8 | 3/4-16 | 3/4-16 | 3.84 |
| 6410-O-12-8 | 1-1/16-12 | 3/4-16 | 5.89 |

6410 FF1010 F50G5 1270 7033

FEMALE SWIVELS JIC

JIC SWIVEL NUT ELBOW

SAE 070221
MS 51521



| Part # | JIC Thread Size 1 | JIC Thread Size 2 | List Price |
|---------|-------------------|-------------------|------------|
| 6500-4 | 7/16-20 | 7/16-20 | 2.88 |
| 6500-6 | 9/16-18 | 9/16-18 | 3.85 |
| 6500-8 | 3/4-16 | 3/4-16 | 4.65 |
| 6500-10 | 7/8-14 | 7/8-14 | 7.34 |
| 6500-12 | 1-1/16-12 | 1-1/16-12 | 8.20 |
| 6500-16 | 1-5/16-12 | 1-5/16-12 | 14.82 |
| 6500-24 | 1-7/8-12 | 1-7/8-12 | 50.75 |

6500 2071R C6X 1236 G5506

JIC SWIVEL TO MALE PIPE ELBOW



| Part # | JIC Thread Size 1 | Male Pipe Thread 2 | List Price |
|------------|-------------------|--------------------|------------|
| 6501-4-4 | 7/16-20 | 1/4 | 3.66 |
| 6501-6-6 | 9/16-18 | 3/8 | 5.84 |
| 6501-8-8 | 3/4-16 | 1/2 | 8.58 |
| 6501-10-8 | 7/8-14 | 1/2 | 7.57 |
| 6501-12-12 | 1-1/16-12 | 3/4 | 8.99 |
| 6501-16-16 | 1-5/16-12 | 1 | 12.91 |

6501 2250 1247R TF5406

JIC SWIVEL 45° ELBOW

SAE 070321
MS 51522



| Part # | JIC Thread Size 1 | JIC Thread Size 2 | List Price |
|---------|-------------------|-------------------|------------|
| 6502-4 | 7/16-20 | 7/16-20 | 3.10 |
| 6502-6 | 9/16-18 | 9/16-18 | 4.45 |
| 6502-8 | 3/4-16 | 3/4-16 | 5.01 |
| 6502-10 | 7/8-14 | 7/8-14 | 5.93 |
| 6502-12 | 1-1/16-12 | 1-1/16-12 | 6.91 |
| 6502-16 | 1-5/16-12 | 1-5/16-12 | 14.40 |

6502 2070R V6X 1237 C5356

HYDRAULIC ADAPTERS

JIC SWIVEL TO FEMALE - PIPE ELBOW



| Part # | JIC Thread Size 1 | Female Pipe Thread 2 | List Price |
|------------|-------------------|----------------------|------------|
| 6503-4-4 | 7/16-20 | 1/4 | 11.00 |
| 6503-6-6 | 9/16-18 | 3/8 | 12.22 |
| 6503-8-8 | 3/4-16 | 1/2 | 11.86 |
| 6503-12-12 | 1-1/16-12 | 3/4 | 22.68 |

JIC SWIVEL CONNECTOR



| Part # | JIC Thread Size 1 | JIC Thread Size 2 | List Price |
|------------|-------------------|-------------------|------------|
| 6504-4-4 | 7/16-20 | 7/16-20 | 3.81 |
| 6504-6-6 | 9/16-18 | 9/16-18 | 3.81 |
| 6504-8-8 | 3/4-16 | 3/4-16 | 4.59 |
| 6504-10-10 | 7/8-14 | 7/8-14 | 6.18 |
| 6504-12-12 | 1-1/16-12 | 1-1/16-12 | 6.98 |
| 6504-16-16 | 1-5/16-12 | 1-5/16-12 | 10.27 |
| 6504-20-20 | 1-5/8-12 | 1-5/8-12 | 29.05 |

6504 1205

JIC SWIVEL TO MALE - PIPE ADAPTER



| Part # | JIC Thread Size 1 | Male Pipe Thread 2 | List Price |
|------------|-------------------|--------------------|------------|
| 6505-4-2 | 7/16-20 | 1/8 | 3.71 |
| 6505-4-4 | 7/16-20 | 1/4 | 2.32 |
| 6505-4-6 | 7/16-20 | 3/8 | 2.31 |
| 6505-6-4 | 9/16-18 | 1/4 | 2.70 |
| 6505-6-6 | 9/16-18 | 3/8 | 3.32 |
| 6505-8-6 | 3/4-16 | 3/8 | 5.10 |
| 6505-8-8 | 3/4-16 | 1/2 | 4.26 |
| 6505-12-12 | 1-1/16-12 | 3/4 | 6.55 |
| 6505-16-16 | 1-5/16-12 | 1 | 10.61 |
| 6505-24-24 | 1-7/8-12 | 1-1/2 | 30.96 |

6505 2018 F6X 1211 9100R

HYDRAULIC ADAPTERS

JIC SWIVEL TO FEMALE PIPE ADAPTER



| Part # | JIC Thread Size 1 | Female Pipe Thread 2 | List Price |
|------------|----------------------|-------------------------|---------------|
| 6506-4-2 | 7/16-20 | 1/8 | 4.81 |
| 6506-4-4 | 7/16-20 | 1/4 | 3.89 |
| 6506-6-4 | 9/16-18 | 1/4 | 4.22 |
| 6506-6-6 | 9/16-18 | 3/8 | 4.40 |
| 6506-6-8 | 9/16-18 | 1/2 | 4.36 |
| 6506-8-6 | 3/4-16 | 3/8 | 4.94 |
| 6506-8-8 | 3/4-16 | 1/2 | 4.09 |
| 6506-10-6 | 7/8-14 | 3/8 | 7.21 |
| 6506-12-12 | 1-1/16-12 | 3/4 | 8.69 |
| 6506-16-16 | 1-5/16-12 | 1 | 13.96 |
| 6506-20-20 | 1-5/8-12 | 1-1/4 | 25.31 |

6506 2242 1215

JIC SWIVEL BRANCH TEE

SAE 070433
MS 51524



| Part # | JIC Thread Size 1 & 2 | JIC Female Thread 3 | List Price |
|----------|--------------------------|------------------------|---------------|
| 6600-4-4 | 7/16-20 | 7/16-20 | 4.71 |
| 6600-6-6 | 9/16-18 | 9/16-18 | 6.19 |
| 6600-8-8 | 3/4-16 | 3/4-16 | 6.14 |
| 6600-10 | 7/8-14 | 7/8-14 | 9.69 |
| 6600-12 | 1-1/16-12 | 1-1/16-12 | 15.29 |
| 6600-16 | 1-5/16-12 | 1-5/16-12 | 27.18 |
| 6600-20 | 1-5/8-12 | 1-5/8-12 | 35.16 |

6600 203101R 65X 1227 C5707

NWO = Nut, Washer & O-Ring

FEMALE SWIVELS

JIC SWIVEL RUN TEE

SAE 070432
MS 51523



| Part # | JIC Thread Size 1 & 3 | JIC Female Thread 2 | List Price |
|---------|--------------------------|------------------------|---------------|
| 6602-4 | 7/16-20 | 7/16-20 | 3.46 |
| 6602-5 | 1/2-20 | 1/2-20 | 5.01 |
| 6602-6 | 9/16-18 | 9/16-18 | 4.00 |
| 6602-8 | 3/4-16 | 3/4-16 | 6.27 |
| 6602-12 | 1-1/16-12 | 1-1/16-12 | 13.07 |
| 6602-16 | 1-5/16-12 | 1-5/16-12 | 24.26 |
| 6602-24 | 1-7/8-12 | 1-7/8-12 | 54.52 |

6602 203102R R6X 1248 C5706

STEEL SAE O-RING ADAPTERS

JIC TO O-RING ELBOW CONNECTOR

SAE 070220
MS 51527



| Part # | JIC Thread | O-Ring Thread | List Price |
|----------------|------------|---------------|------------|
| | Size 1 | Size 2 | |
| 6801-NWO-4 | 7/16-20 | 7/16-20 | 2.35 |
| 6801-NWO-4-6 | 7/16-20 | 9/16-18 | 3.33 |
| 6801-NWO-6 | 9/16-18 | 9/16-18 | 2.37 |
| 6801-NWO-6-4 | 9/16-18 | 7/16-20 | 3.56 |
| 6801-NWO-8 | 3/4-16 | 3/4-16 | 4.15 |
| 6801-NWO-8-6 | 3/4-16 | 9/16-18 | 4.29 |
| 6801-NWO-8-10 | 3/4-16 | 7/8-14 | 6.73 |
| 6801-NWO-8-12 | 3/4-16 | 1-1/16-12 | 9.66 |
| 6801-NWO-10 | 7/8-14 | 7/8-14 | 6.13 |
| 6801-NWO-10-8 | 7/8-14 | 3/4-16 | 5.34 |
| 6801-NWO-12 | 1-1/16-12 | 1-1/16-12 | 9.06 |
| 6801-NWO-12-10 | 1-1/16-12 | 7/8-14 | 8.22 |
| 6801-NWO-12-16 | 1-1/16-12 | 1-5/16-12 | 13.06 |
| 6801-NWO-16 | 1-5/16-12 | 1-5/16-12 | 14.02 |
| 6801-NWO-20 | 1-5/8-12 | 1-5/8-12 | 22.82 |

6801 2062R C50X 1238L C5515

JIC TO O-RING 45° ELBOW

SAE 070320
MS 51528



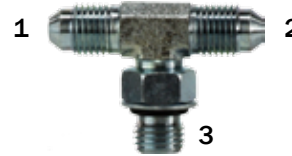
| Part # | JIC | O-Ring | List Price |
|---------------|---------------|---------------|------------|
| | Thread Size 1 | Thread Size 2 | |
| 6802-NWO-2 | 5/16-24 | 5/16-24 | 5.45 |
| 6802-NWO-4 | 7/16-20 | 7/16-20 | 3.33 |
| 6802-NWO-6 | 9/16-18 | 9/16-18 | 3.41 |
| 6802-NWO-8 | 3/4-16 | 3/4-16 | 4.74 |
| 6802-NWO-8-6 | 3/4-16 | 9/16-18 | 5.94 |
| 6802-NWO-8-10 | 3/4-16 | 7/8-14 | 9.62 |
| 6802-NWO-10 | 7/8-14 | 7/8-14 | 7.07 |
| 6802-NWO-10-8 | 7/8-14 | 3/4-16 | 7.78 |
| 6802-NWO-12 | 1-1/16-12 | 1-1/16-12 | 12.83 |
| 6802-NWO-16 | 1-5/16-12 | 1-5/16-12 | 15.60 |
| 6802-NWO-20 | 1-5/8-12 | 1-5/8-12 | 30.16 |

6802 2061 V50X 1240R C5365

HYDRAULIC ADAPTERS

JIC TO O-RING - BRANCH TEE

SAE 070429
MS 51529



| Part # | JIC Thread | O-Ring | List Price |
|-------------|------------|---------------|------------|
| | Size 1 & 2 | Thread Size 3 | |
| 6803-NWO-4 | 7/16-20 | 7/16-20 | 5.30 |
| 6803-NWO-6 | 9/16-18 | 9/16-18 | 8.28 |
| 6803-NWO-8 | 3/4-16 | 3/4-16 | 7.35 |
| 6803-NWO-10 | 7/8-14 | 7/8-14 | 10.57 |
| 6803-NWO-12 | 1-1/16-12 | 1-1/16-12 | 12.61 |
| 6803-NWO-16 | 1-5/16-12 | 1-5/16-12 | 22.68 |

6803 203003X S50X 1265R C5715

JIC TO O-RING RUN TEE

SAE 070428
MS 51530



| Part # | JIC Thread | O-Ring | List Price |
|-------------|------------|---------------|------------|
| | Size 1 & 3 | Thread Size 2 | |
| 6804-NWO-4 | 7/16-20 | 7/16-20 | 5.97 |
| 6804-NWO-6 | 9/16-18 | 9/16-18 | 6.44 |
| 6804-NWO-8 | 3/4-16 | 3/4-16 | 8.29 |
| 6804-NWO-10 | 7/8-14 | 7/8-14 | 14.64 |
| 6804-NWO-12 | 1-1/16-12 | 1-1/16-12 | 25.89 |
| 6804-NWO-16 | 1-5/16-12 | 1-5/16-12 | 23.81 |

6804 203005R R50X 1266R C5716

O-RING TO - FEMALE PIPE ELBOW



| Part # | O-Ring | Pipe Thread | List Price |
|----------------|---------------|-------------|------------|
| | Thread Size 1 | Size 2 | |
| 6805-NWO-4-4 | 7/16-20 | 1/4 | 4.23 |
| 6805-NWO-6-6 | 9/16-18 | 3/8 | 5.63 |
| 6805-NWO-8-8 | 3/4-16 | 1/2 | 7.38 |
| 6805-NWO-10-8 | 7/8-14 | 1/2 | 8.63 |
| 6805-NWO-12-8 | 1-1/16-12 | 1/2 | 18.53 |
| 6805-NWO-12-12 | 1-1/16-12 | 3/4 | 28.38 |
| 6805-NWO-16-16 | 1-5/16-12 | 1 | 21.59 |

6805 206801R AE0G 1264 C3459

O-RING TO MALE PIPE ELBOW



| Part # | O-Ring Thread Size 1 | Pipe Thread Size 2 | List Price |
|----------------|----------------------|--------------------|------------|
| 6806-NWO-4-4 | 7/16-20 | 1/4 | 3.59 |
| 6806-NWO-6-6 | 9/16-18 | 3/8 | 7.84 |
| 6806-NWO-8-8 | 3/4-16 | 1/2 | 5.91 |
| 6806-NWO-12-12 | 1-1/16-12 | 3/4 | 13.48 |
| 6806-NWO-16-16 | 1-5/16-12 | 1 | 23.28 |

6806 1263 TF3569

O-RING TO 37° JIC SWIVEL NUT TO O-RING ELBOW



| Part # | O-Ring Thread Size 1 | JIC Thread Size 2 | List Price |
|----------------|----------------------|-------------------|------------|
| 6809-NWO-4-4 | 7/16-20 | 7/16-20 | 4.46 |
| 6809-NWO-6-6 | 9/16-18 | 9/16-18 | 5.79 |
| 6809-NWO-8-8 | 3/4-16 | 3/4-16 | 12.06 |
| 6809-NWO-12-12 | 1-1/16-12 | 1-1/16-12 | 13.22 |

FEMALE O-RING TO MALE O-RING ELBOW



| Part # | O-Ring Thread Size 1 | O-Ring Thread Size 2 | List Price |
|----------------|----------------------|----------------------|------------|
| 6815-NWO-4-4 | 7/16-20 | 7/16-20 | 5.67 |
| 6815-NWO-6-6 | 9/16-18 | 9/16-18 | 5.42 |
| 6815-NWO-8-8 | 3/4-16 | 3/4-16 | 10.00 |
| 6815-NWO-10-10 | 7/8-14 | 7/8-14 | 22.20 |
| 6815-NWO-12-12 | 1-1/16-12 | 1-1/16-12 | 27.67 |

MALE O-RING SWIVEL ADAPTER

SAE 140157



| Part # | O-Ring Thread Size 1 | Female NPSM Size 2 | List Price |
|--------------|----------------------|--------------------|------------|
| 6900-O-4-2 | 7/16-20 | 1/8 | 6.26 |
| 6900-O-4-4 | 7/16-20 | 1/4 | 1.98 |
| 6900-O-6-4 | 9/16-18 | 1/4 | 3.53 |
| 6900-O-6-6 | 9/16-18 | 3/8 | 2.60 |
| 6900-O-6-8 | 9/16-18 | 1/2 | 4.59 |
| 6900-O-8-6 | 3/4-16 | 3/8 | 3.24 |
| 6900-O-8-8 | 3/4-16 | 1/2 | 3.06 |
| 6900-O-8-12 | 3/4-16 | 3/4 | 3.56 |
| 6900-O-10-8 | 7/8-14 | 1/2 | 4.22 |
| 6900-O-10-12 | 7/8-14 | 3/4 | 6.59 |
| 6900-O-12-8 | 1-1/16-12 | 1/2 | 6.11 |
| 6900-O-12-12 | 1-1/16-12 | 3/4 | 5.49 |
| 6900-O-16-16 | 1-5/16-12 | 1 | 13.07 |

6900 2066R 1235 9315

90° O-RING SWIVEL ADAPTER

SAE 140257



| Part # | O-Ring Thread Size 1 | Female NPSM Size 2 | List Price |
|----------------|----------------------|--------------------|------------|
| 6901-NWO-4-4 | 7/16-20 | 1/4 | 3.49 |
| 6901-NWO-6-4 | 9/16-18 | 1/4 | 4.97 |
| 6901-NWO-6-6 | 9/16-18 | 3/8 | 4.87 |
| 6901-NWO-6-8 | 9/16-18 | 1/2 | 7.53 |
| 6901-NWO-8-4 | 3/4-16 | 1/4 | 8.25 |
| 6901-NWO-8-6 | 3/4-16 | 3/8 | 5.08 |
| 6901-NWO-8-8 | 3/4-16 | 1/2 | 5.90 |
| 6901-NWO-8-12 | 3/4-16 | 3/4 | 11.31 |
| 6901-NWO-10-6 | 7/8-14 | 3/8 | 5.29 |
| 6901-NWO-10-8 | 7/8-14 | 1/2 | 7.65 |
| 6901-NWO-12-6 | 1-1/16-12 | 3/8 | 8.70 |
| 6901-NWO-12-8 | 1-1/16-12 | 1/2 | 19.19 |
| 6901-NWO-12-12 | 1-1/16-12 | 3/4 | 18.24 |
| 6901-NWO-16-12 | 1-5/16-12 | 3/4 | 29.84 |
| 6901-NWO-16-16 | 1-5/16-12 | 1 | 20.63 |
| 6901-NWO-20-20 | 1-5/8-12 | 1-1/4 | 38.89 |

6401 2068R 1271 9515

STEEL SAE O-RING

45° O-RING SWIVEL ADAPTER

SAE 140357



| Part # | O-Ring Thread Size 1 | Female NPSM Size 2 | List Price |
|----------------|----------------------|--------------------|------------|
| 6902-NWO-4-4 | 7/16-20 | 1/4 | 8.03 |
| 6902-NWO-6-4 | 9/16-18 | 1/4 | 7.48 |
| 6902-NWO-6-6 | 9/16-18 | 3/8 | 6.37 |
| 6902-NWO-8-8 | 3/4-16 | 1/2 | 9.33 |
| 6902-NWO-10-8 | 7/8-14 | 1/2 | 10.00 |
| 6902-NWO-12-8 | 1-1/16-12 | 1/2 | 12.20 |
| 6902-NWO-12-12 | 1-1/16-12 | 3/4 | 15.68 |
| 6902-NWO-16-16 | 1-5/16-12 | 1 | 20.00 |

6902 2067R 1272 9365

O-RINGS

VITON 75 SAE BOSS O-RING

Fluorocarbon



| Part # | O-Ring Thread | List Price |
|----------|---------------|------------|
| 4001-2-2 | 5/16-24 | 0.78 |
| 4001-4-4 | 7/16-20 | 1.02 |
| 4001-6-6 | 9/16-18 | 0.89 |
| 4001-8-8 | 3/4-16 | 1.17 |
| 4001-10 | 7/8-14 | 1.41 |
| 4001-12 | 1-1/16-12 | 1.86 |
| 4001-16 | 1-5/16-12 | 2.15 |
| 4001-20 | 1-5/8-12 | 3.86 |
| 4001-24 | 1-7/8-12 | 9.89 |
| 4001-32 | 2-1/2-12 | 13.65 |

HYDRAULIC ADAPTERS

NITRILE 90 SAE BOSS O-RING



| Part # | O-Ring Thread | List Price |
|----------|---------------|------------|
| 4000-2-2 | 5/16-24 | 0.26 |
| 4000-4-4 | 7/16-20 | 0.27 |
| 4000-6-6 | 9/16-18 | 0.34 |
| 4000-8-8 | 3/4-16 | 0.34 |
| 4000-10 | 7/8-14 | 0.42 |
| 4000-12 | 1-1/16-12 | 1.54 |
| 4000-14 | 1-3/16-12 | 0.57 |
| 4000-16 | 1-5/16-12 | 0.77 |
| 4000-20 | 1-5/8-12 | 1.04 |
| 4000-24 | 1-7/8-12 | 1.08 |
| 4000-32 | 2-1/2-12 | 1.47 |

BRAZE TUBE NUT (SLEEVE REQUIRED)

SAE 520110



| Part # | Tube O.D. | Braze Tube O.D. | List Price |
|-----------|-----------|-----------------|------------|
| FSO318-4 | 1/4 | .25 | 1.03 |
| FSO318-6 | 3/8 | .38 | 2.45 |
| FSO318-8 | 1/2 | .50 | 2.28 |
| FSO318-10 | 5/8 | .62 | 3.25 |
| FSO318-12 | 3/4 | .72 | 5.56 |
| FSO318-16 | 1 | 1.00 | 8.09 |
| FSO318-20 | 1 1/4 | 1.25 | 6.98 |
| FSO318-24 | 1 1/2 | 1.50 | 10.37 |

FF318 FF1311

HYDRAULIC ADAPTERS

O-RING FACE SEAL ADAPTERS

BRAZE TUBE SLEEVE

SAE 520115



| Part # | Tube O.D. | List Price |
|-----------|-----------|------------|
| FSO319-4 | 1/4 | 1.68 |
| FSO319-6 | 3/8 | 1.88 |
| FSO319-8 | 1/2 | 2.00 |
| FSO319-10 | 5/8 | 2.82 |
| FSO319-12 | 3/4 | 2.68 |
| FSO319-16 | 1 | 4.66 |
| FSO319-20 | 1-1/4 | 4.76 |
| FSO319-24 | 1-1/2 | 6.58 |

FF319 FF3019

See Page 414 for JIC Nut and Sleeve

CAP

SAE 520112



• Two Piece
Nut/ Insert

| Part # | Tube O.D. | Face Seal Thread | List Price |
|-------------|-----------|------------------|------------|
| FSO304-C-4 | 1/4 | 9/16-18 | 2.87 |
| FSO304-C-6 | 3/8 | 11/16-16 | 2.04 |
| FSO304-C-8 | 1/2 | 13/16-16 | 3.52 |
| FSO304-C-10 | 5/8 | 1-14 | 4.80 |
| FSO304-C-12 | 3/4 | 1-3/16-12 | 4.63 |
| FSO304-C-16 | 1 | 1-7/16-12 | 8.16 |
| FSO304-C-20 | 1-1/4 | 1-11/16-12 | 16.52 |
| FSO304-C-24 | 1-1/2 | 2-12 | 18.43 |

FF304C

BULKHEAD LOCKNUT

SAE 520118



| Part # | Thread Size | List Price |
|-----------|-------------|------------|
| FSO306-4 | 9/16-18 | 2.31 |
| FSO306-6 | 11/16-16 | 3.17 |
| FSO306-8 | 13/16-16 | 3.49 |
| FSO306-12 | 1-3/16-12 | 5.92 |
| FSO306-16 | 1-7/16-12 | 6.92 |

FF403

MALE UNION CONNECTOR

SAE 520102



| Part # | Tube O.D. | Face Seal Thread 1&2 | List Price |
|---------------|-----------|----------------------|------------|
| FSO2403-4-4 | 1/4 | 9/16-18 | 3.71 |
| FSO2403-6-6 | 3/8 | 11/16-16 | 5.83 |
| FSO2403-8-8 | 1/2 | 13/16-16 | 6.13 |
| FSO2403-12-12 | 3/4 | 1-3/16-12 | 10.22 |
| FSO2403-16-16 | 1 | 1-7/16-12 | 12.96 |

FF2403 FF1203

MALE O-RING FACE SEAL ADAPTER



| Part # | Face Seal Thread 1 | Male Pipe Size 2 | List Price |
|---------------|--------------------|------------------|------------|
| FSO2404-4-4 | 9/16-18 | 1/4-18 | 3.81 |
| FSO2404-6-4 | 11/16-16 | 1/4-18 | 3.92 |
| FSO2404-6-6 | 11/16-16 | 3/8-18 | 4.33 |
| FSO2404-8-4 | 13/16-16 | 1/4-18 | 4.48 |
| FSO2404-8-8 | 13/16-16 | 1/2-14 | 5.23 |
| FSO2404-12-12 | 1-3/16-12 | 3/4-14 | 8.76 |
| FSO2404-16-16 | 1-7/16-12 | 1-11-1/2 | 10.79 |

FF2404 4205 FLO

O-RING FACE SEAL ADAPTERS

FEMALE ORFS TO MALE ORFS REDUCER



| Part # | Female Face Seal Size 1 | Male Face Seal Thread 2 | List Price |
|--------------|-------------------------|-------------------------|------------|
| FSO2406-6-4 | 11/16-16 | 9/16-18 | 10.25 |
| FSO2406-8-4 | 13/16-16 | 9/16-18 | 20.38 |
| FSO2406-10-6 | 1-14 | 11/16-16 | 34.00 |
| FSO2406-10-8 | 1-14 | 13/16-16 | 8.25 |
| FSO2406-12-6 | 1-3/16-12 | 11/16-16 | 9.33 |

FF2406 TRLON

SAE 520109

PLUG



| Part # | Tube O.D. | Face Seal Thread | List Price |
|------------|-----------|------------------|------------|
| FSO2408-4 | 1/4 | 9/16-18 | 2.88 |
| FSO2408-6 | 3/8 | 11/16-16 | 1.59 |
| FSO2408-8 | 1/2 | 13/16-16 | 2.92 |
| FSO2408-10 | 5/8 | 1-14 | 3.46 |
| FSO2408-12 | 3/4 | 1-3/8-12 | 4.49 |
| FSO2408-16 | 1 | 1-7/16-12 | 6.90 |
| FSO2408-20 | 1-1/4 | 1-11/16-12 | 12.99 |
| FSO2408-24 | 1-1/2 | 2-12 | 11.00 |

FF2408 FF1254 4229 PNLO

ORFS UNION ELBOW 90°



| Part # | Face Seal Thread 1 | Face Seal Thread 2 | List Price |
|--------------|--------------------|--------------------|------------|
| FS2500-4-4 | 9/16-18 | 9/16-18 | 4.44 |
| FS2500-6-6 | 11/16-16 | 11/16-16 | 8.93 |
| FS2500-10-10 | 1-14 | 1-14 | 7.86 |
| FS2500-12-12 | 1-3/16-12 | 1-3/16-12 | 15.39 |
| FS2500-16-16 | 1-7/16-12 | 1-7/16-12 | 14.00 |

FF2500 4505 ELO

HYDRAULIC ADAPTERS

ORFS TO MALE ELBOW

SAE 520202



| Part # | Face Seal Thread 1 | Male Pipe Thread 2 | List Price |
|--------------|--------------------|--------------------|------------|
| FS2501-4-4 | 9/16-18 | 1/4 | 5.07 |
| FS2501-6-4 | 11/16-16 | 1/4 | 6.95 |
| FS2501-6-6 | 11/16-16 | 3/8 | 5.21 |
| FS2501-8-6 | 13/16-16 | 3/8 | 6.14 |
| FS2501-8-8 | 13/16-16 | 1/2 | 8.08 |
| FS2501-12-12 | 1-3/8-12 | 3/4 | 11.39 |
| FS2501-16-16 | 1-7/16-12 | 1 | 16.22 |
| FS2501-20-20 | 1-11/16-12 | 1-1/4 | 35.83 |

FF2501 FF1208 4405 CLO

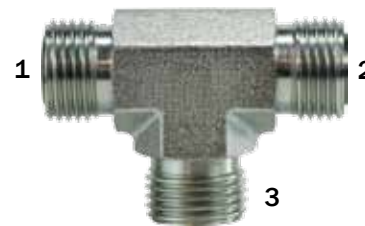
ORFS TO PIPE ELBOW 45°



| Part # | Face Seal Thread 1 | Male Pipe Thread 2 | List Price |
|--------------|--------------------|--------------------|------------|
| FS2503-4-4 | 9/16-18 | 1/4 | 5.87 |
| FS2503-6-6 | 11/16-16 | 3/8 | 7.94 |
| FS2503-8-8 | 13/16-16 | 1/2 | 6.05 |
| FS2503-12-12 | 1-3/16-12 | 3/4 | 9.84 |
| FS2503-16-16 | 1-7/16-12 | 1 | 18.14 |

FF2503 4355 VLO

ORFS UNION TEE



| Part # | Face Seal Thread 1+2+3 | List Price |
|--------------|------------------------|------------|
| FS2603-4-4 | 9/16-18 | 6.14 |
| FS2603-6-6 | 11/16-16 | 11.04 |
| FS2603-8-8 | 13/16-16 | 8.43 |
| FS2603-12-12 | 1-3/16-12 | 17.14 |

FF2603 4705 JLO

HYDRAULIC ADAPTERS

O-RING FACE SEAL ADAPTERS

MALE ORFS TO ORB CONNECTOR

SAE 520120



| Part # | Face Seal Thread 1 | O-Ring Thread 2 | List Price |
|----------------|--------------------|-----------------|------------|
| FS6400-O-4-4 | 9/16-18 | 7/16-20 | 1.93 |
| FS6400-O-4-6 | 9/16-18 | 9/16-18 | 1.99 |
| FS6400-O-6-4 | 11/16-16 | 7/16-20 | 6.03 |
| FS6400-O-6-6 | 11/16-16 | 9/16-18 | 1.72 |
| FS6400-O-6-8 | 11/16-16 | 3/4-16 | 6.95 |
| FS6400-O-8-6 | 13/16-16 | 9/16-18 | 6.62 |
| FS6400-O-10-8 | 1-14 | 3/4-16 | 7.95 |
| FS6400-O-10-10 | 1-14 | 7/8-14 | 7.76 |
| FS6400-O-12-8 | 1-3/16-12 | 3/4-16 | 7.93 |
| FS6400-O-12-10 | 1-3/16-12 | 7/8-14 | 7.62 |
| FS6400-O-12-12 | 1-3/16-12 | 1-1/16-12 | 7.58 |
| FS6400-O-12-16 | 1-3/16-12 | 1-5/16-12 | 9.71 |
| FS6400-O-16-12 | 1-7/16-12 | 1-1/16-12 | 9.97 |
| FS6400-O-16-16 | 1-7/16-12 | 1-5/16-12 | 10.19 |
| FS6400-O-20-20 | 1-11/16-12 | 1-5/8-12 | 16.35 |
| FS6400-O-24-24 | 2-12 | 1-7/8-12 | 30.74 |

4315 FF6400 FF1231

MALE FLAT FACE TO FEMALE 37 ° SWIVEL



| Part # | Face Seal Thread 1 | JIC Thread 2 | List Price |
|--------------|--------------------|--------------|------------|
| FS6402-4-4 | 9/16-18 | 7/16-20 | 4.81 |
| FS6402-6-6 | 11/16-16 | 9/16-18 | 8.05 |
| FS6402-8-8 | 13/16-16 | 3/4-16 | 6.61 |
| FS6402-10-10 | 1-14 | 7/8-14 | 8.10 |
| FS6402-12-12 | 1-3/16-12 | 1-1/16-12 | 59.52 |

FF6402 FF1294

SWIVEL NUT ELBOW



| Part # | Face Seal Thread 1 | Face Seal Thread 2 | List Price |
|--------------|--------------------|--------------------|------------|
| FS6500-4-4 | 9/16-18 | 9/16-18 | 7.24 |
| FS6500-6-6 | 11/16-16 | 11/16-16 | 7.24 |
| FS6500-8-8 | 13/16-16 | 13/16-16 | 12.16 |
| FS6500-12-12 | 1-3/16-12 | 1-3/16-12 | 17.53 |

FF6500 FF1236

MALE JIC 37° FLARE TO FEMALE FLAT FACE SWIVEL



| Part # | JIC Thread Size 1 | Face Seal Thread 2 | List Price |
|--------------|-------------------|--------------------|------------|
| FS6504-4-4 | 7/16-20 | 9/16-18 | 7.60 |
| FS6504-6-6 | 9/16-18 | 11/16-16 | 7.69 |
| FS6504-8-8 | 3/4-16 | 13/16-16 | 7.66 |
| FS6504-10-10 | 7/8-14 | 1-14 | 40.70 |
| FS6504-16-16 | 1-5/16-12 | 1-7/16-12 | 79.62 |

FF6504 FF1296

O-RING ELBOW CONNECTOR



| Part # | Face Seal Thread 1 | O-Ring Thread 2 | List Price |
|--------------|--------------------|-----------------|------------|
| FS6801-4-4 | 9/16-18 | 7/16-20 | 5.23 |
| FS6801-6-6 | 11/16-16 | 9/16-18 | 6.44 |
| FS6801-8-6 | 13/16-16 | 9/16-18 | 5.44 |
| FS6801-8-8 | 13/16-16 | 3/4-16 | 6.58 |
| FS6801-12-12 | 1-3/16-12 | 1-1/16-12 | 16.39 |
| FS6801-16-16 | 1-7/16-12 | 1-5/16-12 | 25.43 |
| FS6801-20-20 | 1-11/16-12 | 1-5/8-12 | 32.85 |

FF6801 FF1238 4515

ORFS TO O-RING ELBOW 45°



| Part # | Face Seal Thread 1 | O-Ring Size 2 | List Price |
|--------------|--------------------|---------------|------------|
| FS6802-4-4 | 9/16-18 | 7/16-20 | 5.18 |
| FS6802-6-6 | 11/16-16 | 9/16-18 | 7.24 |
| FS6802-8-8 | 13/16-16 | 3/4-16 | 8.43 |
| FS6802-10-10 | 1-14 | 7/8-14 | 11.48 |
| FS6802-12-12 | 1-3/16-12 | 1-1/16-12 | 14.44 |
| FS6802-16-16 | 1-7/16-12 | 1-5/16-12 | 32.29 |
| FS6802-20-20 | 1-11/16-12 | 1-5/8-12 | 33.76 |

FF6802 4365 V5OLO

STEEL BSPT ADAPTERS

STRAIGHT THREAD SWIVEL NUT ELBOW



| Part # | O-Ring Thread 1 | Face Seal Thread 2 | List Price |
|--------------|-----------------|--------------------|------------|
| FS6809-4-4 | 7/16-20 | 9/16-18 | 8.81 |
| FS6809-6-6 | 9/16-18 | 11/16-16 | 9.24 |
| FS6809-8-8 | 3/4-16 | 13/16-16 | 10.72 |
| FS6809-12-12 | 1-1/16-12 | 1-3/16-12 | 32.52 |

FF6809 FF1239 4535 AOELC

STEEL BSPT ADAPTERS

JIC MALE CONNECTOR BSPT



| Part # | JIC Thread Size 1 | Male BSPT 2 | List Price |
|------------|-------------------|-------------|------------|
| 7000-4-2 | 7/16-20 | 1/8-28 | 7.86 |
| 7000-4-4 | 7/16-20 | 1/4-19 | 8.09 |
| 7000-6-4 | 9/16-18 | 1/4-19 | 12.26 |
| 7000-6-6 | 9/16-18 | 3/8-19 | 9.55 |
| 7000-6-8 | 9/16-18 | 1/2-14 | 22.55 |
| 7000-8-6 | 3/4-16 | 3/8-19 | 9.67 |
| 7000-8-8 | 3/4-16 | 1/2-14 | 10.33 |
| 7000-8-12 | 3/4-16 | 3/4-14 | 24.60 |
| 7000-10-8 | 7/8-14 | 1/2-14 | 18.10 |
| 7000-10-12 | 7/8-14 | 3/4-14 | 21.77 |
| 7000-12-8 | 1-1/16-12 | 1/2-14 | 31.96 |
| 7000-12-12 | 1-1/16-12 | 3/4-14 | 15.63 |
| 7000-16-16 | 1-5/16-12 | 1-11 | 45.75 |
| 7000-20-20 | 1-5/8-12 | 1-1/4-11 | 150.48 |

3404 305

JIC MALE ELBOW BSPT



| Part # | JIC Thread Size 1 | Male BSPT 2 | List Price |
|------------|-------------------|-------------|------------|
| 7200-4-2 | 7/16-20 | 1/8-28 | 20.35 |
| 7200-4-4 | 7/16-20 | 1/4-19 | 14.54 |
| 7200-6-4 | 9/16-18 | 1/4-19 | 18.52 |
| 7200-6-6 | 9/16-18 | 3/8-19 | 22.76 |
| 7200-6-8 | 9/16-18 | 1/2-14 | 41.73 |
| 7200-8-6 | 3/4-16 | 3/8-19 | 28.53 |
| 7200-8-8 | 3/4-16 | 1/2-14 | 20.37 |
| 7200-12-12 | 1-1/16-12 | 3/4-14 | 28.00 |
| 7200-16-16 | 1-5/16-12 | 1-11 | 80.86 |

3501 315

HYDRAULIC ADAPTERS

BSPT HEX NIPPLE



| Part # | Male BSPT 1 | Male BSPT 2 | List Price |
|------------|-------------|-------------|------------|
| 7520-2-2 | 1/8-28 | 1/8-28 | 17.08 |
| 7520-4-4 | 1/4-19 | 1/4-19 | 4.80 |
| 7520-6-6 | 3/8-19 | 3/8-19 | 13.74 |
| 7520-8-8 | 1/2-14 | 1/2-14 | 15.24 |
| 7520-10-10 | 5/8-14 | 5/8-14 | 39.46 |
| 7520-12-12 | 3/4-14 | 3/4-14 | 23.74 |

3520 MBT

BSPT PLUG



| Part # | BSPT | List Price |
|---------|--------|------------|
| 9508-2 | 1/8-28 | 8.26 |
| 9508-4 | 1/4-19 | 5.95 |
| 9508-6 | 3/8-19 | 6.37 |
| 9508-8 | 1/2-14 | 11.11 |
| 9508-12 | 3/4-14 | 24.18 |
| 9508-16 | 1-11 | 27.33 |

100B-Y KA-RM MHL 296

STEEL BSPP ADAPTERS

BSPP HEX NIPPLE



| Part # | Male BSPP 1 | Male BSPP 2 | List Price |
|------------|-------------|-------------|------------|
| 7420-2-2 | 1/8-28 | 1/8-28 | 14.64 |
| 7420-4-2 | 1/4-19 | 1/8-28 | 11.43 |
| 7420-6-4 | 3/8-19 | 1/4-19 | 10.88 |
| 7420-6-6 | 3/8-19 | 3/8-19 | 14.22 |
| 7420-8-6 | 1/2-14 | 3/8-19 | 14.29 |
| 7420-8-8 | 1/2-14 | 1/2-14 | 18.19 |
| 7420-10-8 | 5/8-14 | 1/2-14 | 24.49 |
| 7420-12-8 | 3/4-14 | 1/2-14 | 24.04 |
| 7420-12-12 | 3/4-14 | 3/4-14 | 31.42 |
| 7420-16-12 | 1-11 | 3/4-14 | 36.04 |
| 7420-16-16 | 1-11 | 1-11 | 53.56 |

3420 MB 9022

HYDRAULIC ADAPTERS

STEEL BSPP ADAPTERS

BSPP COUPLING



| Part # | BSPP | List Price |
|---------|--------|------------|
| 7425-2 | 1/8-28 | 21.77 |
| 7425-4 | 1/4-19 | 13.29 |
| 7425-8 | 1/2-14 | 16.19 |
| 7425-10 | 5/8-14 | 27.21 |
| 7425-12 | 3/4-14 | 38.55 |
| 7425-16 | 1-11 | 64.63 |

3425 FB

JIC TO BSPP 45° ELBOW



| Part # | JIC Thread Size 1 | Male BSPP 2 | List Price |
|---------|-------------------|-------------|------------|
| 7802-4 | 7/16-20 | 1/4-19 | 36.12 |
| 7802-6 | 9/16-18 | 3/8-19 | 55.56 |
| 7802-8 | 3/4-16 | 1/2-14 | 73.70 |
| 7802-12 | 1-1/16-12 | 3/4-14 | 99.77 |
| 7802-16 | 1-5/16-12 | 1-11 | 103.40 |

3802 35J

JIC TO FEMALE BSPP STRAIGHT SWIVEL



| Part # | JIC Thread Size 1 | Female BSPP Swivel 2 | List Price |
|---------|-------------------|----------------------|------------|
| 7240-4 | 7/16-20 | 1/4-19 | 21.54 |
| 7240-6 | 9/16-18 | 3/8-19 | 19.47 |
| 7240-8 | 3/4-16 | 1/2-14 | 26.53 |
| 7240-10 | 7/8-14 | 5/8-14 | 38.55 |
| 7240-12 | 1-1/16-12 | 3/4-14 | 40.59 |
| 7240-16 | 1-5/16-12 | 1-11 | 54.42 |

3240 MJFBS

BSPP TO MALE PIPE NIPPLE



| Part # | Male BSPP Size 1 | Male Pipe Thread Size 2 | List Price |
|---------|------------------|-------------------------|------------|
| 7825-2 | 1/8-28 | 1/8 | 10.15 |
| 7825-4 | 1/4-19 | 1/4 | 5.66 |
| 7825-6 | 3/8-19 | 3/8 | 11.02 |
| 7825-8 | 1/2-14 | 1/2 | 12.67 |
| 7825-12 | 3/4-14 | 3/4 | 11.70 |
| 7825-16 | 1-11 | 1 | 21.83 |

MBMP 3825

JIC TO BSPP MALE ELBOW



| Part # | JIC Thread Size 1 | Male BSPP 2 | List Price |
|----------------|-------------------|-------------|------------|
| 7202-NWO-4-2 | 7/16-20 | 1/8-28 | 40.67 |
| 7202-NWO-4-4 | 7/16-20 | 1/4-19 | 31.93 |
| 7202-NWO-6-4 | 9/16-18 | 1/4-19 | 16.17 |
| 7202-NWO-6-6 | 9/16-18 | 3/8-19 | 24.10 |
| 7202-NWO-6-8 | 9/16-18 | 1/2-14 | 32.25 |
| 7202-NWO-8-6 | 3/4-16 | 3/8-19 | 24.79 |
| 7202-NWO-8-8 | 3/4-16 | 1/2-14 | 35.14 |
| 7202-NWO-8-12 | 3/4-16 | 3/4-14 | 47.60 |
| 7202-NWO-10-8 | 7/8-14 | 1/2-14 | 40.04 |
| 7202-NWO-12-12 | 1-1/16-12 | 3/4-14 | 31.07 |
| 7202-NWO-12-16 | 1-1/16-12 | 1-11 | 91.43 |
| 7202-NWO-16-16 | 1-5/16-12 | 1-11 | 56.92 |

3801 315

JIC TO BSPP MALE CONNECTOR



| Part # | JIC Thread Size 1 | Male BSPP 2 | List Price |
|------------|-------------------|-------------|------------|
| 7002-4-2 | 7/16-20 | 1/8-28 | 7.14 |
| 7002-4-4 | 7/16-20 | 1/4-19 | 8.33 |
| 7002-4-6 | 7/16-20 | 3/8-19 | 8.08 |
| 7002-4-8 | 7/16-20 | 1/2-14 | 31.74 |
| 7002-6-4 | 9/16-18 | 1/4-19 | 6.00 |
| 7002-6-6 | 9/16-18 | 3/8-19 | 9.50 |
| 7002-6-8 | 9/16-18 | 1/2-14 | 7.86 |
| 7002-8-6 | 3/4-16 | 3/8-19 | 7.47 |
| 7002-8-8 | 3/4-16 | 1/2-14 | 10.10 |
| 7002-8-12 | 3/4-16 | 3/4-14 | 21.37 |
| 7002-10-8 | 7/8-14 | 1/2-14 | 19.11 |
| 7002-12-12 | 1-1/16-12 | 3/4-14 | 11.57 |
| 7002-12-16 | 1-1/16-12 | 1-11 | 31.84 |
| 7002-16-16 | 1-5/16-12 | 1-11 | 30.10 |

30J 3800

STEEL BSPP ADAPTERS

JIC TO BSPP STRAIGHT SWIVEL



| Part # | JIC Thread Size 1 | Male BSPP 2 | List Price |
|------------|-------------------|-------------|------------|
| 7022-4-2 | 7/16-20 | 1/8-28 | 20.41 |
| 7022-4-4 | 7/16-20 | 1/4-19 | 20.42 |
| 7022-6-4 | 9/16-18 | 1/4-19 | 24.27 |
| 7022-6-6 | 9/16-18 | 3/8-19 | 17.67 |
| 7022-8-6 | 3/4-16 | 3/8-19 | 21.70 |
| 7022-8-8 | 3/4-16 | 1/2-14 | 17.91 |
| 7022-10-8 | 7/8-14 | 1/2-14 | 20.18 |
| 7022-12-12 | 1-1/16-12 | 3/4-14 | 50.15 |
| 7022-16-16 | 1-5/16-12 | 1-11 | 89.94 |

3402 3055

HEX HEAD PLUG BSPP



| Part # | Male BSPP | List Price |
|-----------|-----------|------------|
| 9522-P-2 | 1/8-28 | 4.23 |
| 9522-P-4 | 1/4-19 | 3.60 |
| 9522-P-6 | 3/8-19 | 5.24 |
| 9522-P-8 | 1/2-14 | 6.17 |
| 9522-P-12 | 3/4-14 | 9.80 |
| 9522-P-16 | 1-11 | 20.39 |

3408

HOLLOW HEX PLUG BSPP



| Part # | Male BSPP | List Price |
|-----------|-----------|------------|
| 9522-H-2 | 1/8-28 | 4.07 |
| 9522-H-4 | 1/4-19 | 4.57 |
| 9522-H-6 | 3/8-19 | 7.30 |
| 9522-H-8 | 1/2-14 | 11.17 |
| 9522-H-12 | 3/4-14 | 16.77 |
| 9522-H-16 | 1-11 | 43.58 |

3408 HHP

HYDRAULIC ADAPTERS

FEMALE ADAPTER BSPP



| Part # | Female Pipe 1 | Male BSPP 2 | List Price |
|------------|---------------|-------------|------------|
| 7042-2-2 | 1/8 | 1/8-28 | 7.87 |
| 7042-4-2 | 1/4 | 1/8-28 | 20.95 |
| 7042-4-4 | 1/4 | 1/4-19 | 12.76 |
| 7042-6-6 | 3/8 | 3/8-19 | 16.43 |
| 7042-8-8 | 1/2 | 1/2-14 | 28.57 |
| 7042-12-12 | 3/4 | 3/4-14 | 31.43 |
| 7042-16-16 | 1 | 1-11 | 38.94 |

3455 MMFP

STEEL METRIC ADAPTERS

MALE CONNECTOR



| Part # | JIC Thread Size 1 | Metric Thread 2 | List Price |
|------------|-------------------|-----------------|------------|
| 7005-4-10 | 7/16-20 | 10x1.0 | 7.14 |
| 7005-4-12 | 7/16-20 | 12x1.5 | 8.23 |
| 7005-4-14 | 7/16-20 | 14x1.5 | 8.47 |
| 7005-4-18 | 7/16-20 | 18x1.5 | 12.10 |
| 7005-5-12 | 1/2-20 | 12x1.5 | 12.38 |
| 7005-5-14 | 1/2-20 | 14x1.5 | 70.07 |
| 7005-6-14 | 9/16-18 | 14x1.5 | 7.30 |
| 7005-6-16 | 9/16-18 | 16x1.5 | 10.27 |
| 7005-6-18 | 9/16-18 | 18x1.5 | 13.07 |
| 7005-8-16 | 3/4-16 | 16x1.5 | 8.44 |
| 7005-8-18 | 3/4-16 | 18x1.5 | 10.27 |
| 7005-8-22 | 3/4-16 | 22x1.5 | 13.77 |
| 7005-10-18 | 7/8-14 | 18x1.5 | 13.54 |
| 7005-10-20 | 7/8-14 | 20x1.5 | 15.40 |
| 7005-10-22 | 7/8-14 | 22x1.5 | 17.61 |
| 7005-12-22 | 1-1/16-12 | 22x1.5 | 30.77 |
| 7005-12-27 | 1-1/16-12 | 27x1.5 | 47.00 |

Port-seal crush washer and O-ring included

7400 30J (R) 7011

HYDRAULIC ADAPTERS

MALE ELBOW



| Part # | JIC Thread Size 1 | Metric Thread 2 | List Price |
|----------------|----------------------|--------------------|---------------|
| 7205-NWO-4-10 | 7/16-20 | 10x1.0 | 29.93 |
| 7205-NWO-4-12 | 7/16-20 | 12x1.5 | 36.38 |
| 7205-NWO-4-14 | 7/16-20 | 14x1.5 | 23.13 |
| 7205NWO-5-12 | 1/2-20 | 12x1.5 | 59.81 |
| 7205-NWO-6-14 | 9/16-18 | 14x1.5 | 44.76 |
| 7205-NWO-6-16 | 9/16-18 | 16x1.5 | 33.91 |
| 7205-NWO-8-16 | 3/4-16 | 16x1.5 | 39.69 |
| 7205-NWO-8-18 | 3/4-16 | 18x1.5 | 13.10 |
| 7205-NWO-8-22 | 3/4-16 | 22x1.5 | 24.00 |
| 7205-NWO-10-18 | 7/8-14 | 18x1.5 | 20.80 |

Port-seal crush washer and O-ring included

7801 315 (R)

STRAIGHT SWIVEL



| Part # | JIC Thread Size 1 | Metric Thread 2 | List Price |
|------------|----------------------|--------------------|---------------|
| 7025-4-10 | 7/16-20 | 10x1.0 | 24.94 |
| 7025-4-12 | 7/16-20 | 12x1.5 | 57.45 |
| 7025-5-12 | 1/2-20 | 12x1.5 | 29.75 |
| 7025-6-14 | 9/16-18 | 14x1.5 | 29.36 |
| 7025-6-16 | 9/16-18 | 16x1.5 | 27.21 |
| 7025-8-16 | 3/4-16 | 16x1.5 | 79.72 |
| 7025-10-22 | 7/8-14 | 22x1.5 | 61.22 |
| 7025-12-27 | 1-1/16-12 | 27x2.0 | 42.36 |
| 7025-16-33 | 1-5/16-12 | 33x2.0 | 52.24 |

7402 30JS (R)

HEX HEAD PLUG METRIC PARALLEL



| Part # | Metric Thread | List Price |
|-----------|---------------|------------|
| 8555-P-10 | 10x1.0 | 1.93 |
| 8555-P-12 | 12x1.5 | 8.69 |
| 8555-P-14 | 14x1.5 | 12.11 |
| 8555-P-16 | 16x1.5 | 2.46 |
| 8555-P-18 | 18x1.5 | 20.64 |
| 8555-P-20 | 20x1.5 | 4.00 |
| 8555-P-22 | 22x1.5 | 4.66 |
| 8555-P-26 | 26x1.5 | 20.72 |
| 8555-P-30 | 30x1.5 | 56.01 |

7408

STEEL METRIC ADAPTERS

HOLLOW HEX HEAD PLUG METRIC PARALLEL



| Part # | Metric Thread | List Price |
|-----------|---------------|------------|
| 8555-H-10 | 10x1.0 | 4.23 |
| 8555-H-12 | 12x1.5 | 3.50 |
| 8555-H-14 | 14x1.5 | 6.41 |
| 8555-H-16 | 16x1.5 | 10.60 |
| 8555-H-18 | 18x1.5 | 12.23 |
| 8555-H-20 | 20x1.5 | 17.95 |
| 8555-H-22 | 22x1.5 | 10.56 |
| 8555-H-26 | 26x1.5 | 55.65 |
| 8555-H-30 | 30x1.5 | 35.78 |

7408 HHP

FEMALE ADAPTER



| Part # | Female Pipe Thread 1 | Metric Thread 2 | List Price |
|------------|-------------------------|--------------------|---------------|
| 7045-2-10 | 1/8 | 10x1.0 | 9.23 |
| 7045-4-12 | 1/4 | 12x1.5 | 19.89 |
| 7045-4-14 | 1/4 | 14x1.5 | 21.77 |
| 7045-6-12 | 3/8 | 12x1.5 | 33.06 |
| 7045-6-16 | 3/8 | 16x1.5 | 27.21 |
| 7045-6-18 | 3/8 | 18x1.5 | 18.74 |
| 7045-8-16 | 1/2 | 16x1.5 | 52.96 |
| 7045-8-18 | 1/2 | 18x1.5 | 27.65 |
| 7045-8-22 | 1/2 | 22x1.5 | 20.77 |
| 7045-12-27 | 3/4 | 27x2.0 | 51.88 |
| 7045-16-33 | 1 | 33x2.0 | 99.56 |

MMFP (R)

QUICK DISCONNECT

HYDRAULIC ADAPTERS



THREAD TO CONNECT, DRYBREAK NO-SPILL QUICK CONNECT

- Brass Body
- Steel Wing Nut
- Buna-Seal (-40° to +250°F)

- Aeroquip 5100
- Parker 6100
- Snaptite B78



- Bonded Face Seal
- External ORing Alleviates Full Connection

| Part # | Body Size | Female NPT | Max PSI | List Price |
|--------|-----------|------------|---------|------------|
| 61-150 | 3/4 | 1/2 | 3000 | 56.45 |
| 61-152 | 3/4 | 3/4 | 3000 | 56.45 |
| 61-153 | 1 | 1 | 3000 | 71.16 |
| 61-154 | 1-1/4 | 1-1/4 | 2750 | 98.74 |
| 61-155 | 1-1/2 | 1-1/2 | 2500 | 151.28 |

| Part # | Body Size | Female NPT | Max PSI | List Price |
|--------|-----------|------------|---------|------------|
| 61-050 | 3/4 | 1/2 | 3000 | 56.45 |
| 61-052 | 3/4 | 3/4 | 3000 | 56.45 |
| 61-053 | 1 | 1 | 3000 | 71.16 |
| 61-054 | 1-1/4 | 1-1/4 | 2750 | 98.74 |
| 61-055 | 1-1/2 | 1-1/2 | 2500 | 151.28 |

FEATURES - ISO A and ISO B

- Poppet valves to prevent uncoupled leakage
- Critical parts are induction hardened for durability
- Dependable ball-locking mechanism holds the mating halves together
- Socket and plug are precision machined from solid barstock
- Standard nitrile seals temp range -40°F to +250°F



ISO-A FEMALE PIPE COUPLER

| Part # | Body Size | NPT | List Price |
|----------|-----------|------|------------|
| ANV-14-F | 1/4" | 1/4" | 10.43 |
| ANV-38-F | 3/8" | 3/8" | 11.75 |
| ANV-12-F | 1/2" | 1/2" | 15.81 |
| ANV-34-F | 3/4" | 3/4" | 33.06 |
| ANV-1-F | 1" | 1" | 42.86 |

| Body Size | ISO 7241-1 ISO-A Interchange (Connected) | | | |
|-----------|--|-----|--------|-------|
| | Steel Coupler/ Plug | | | |
| | Maximum Working | | Burst | |
| | PSI | Bar | PSI | Bar |
| 1/4" | 5,000 | 345 | 18,270 | 1,200 |
| 3/8" | 4,000 | 275 | 18,270 | 1,200 |
| 1/2" | 4,000 | 275 | 16,500 | 1,100 |
| 3/4" | 4,000 | 275 | 14,800 | 1,000 |
| 1" | 4,000 | 275 | 12,400 | 850 |



ISO-A FEMALE PIPE PLUG

| Part # | Body Size | NPT | List Price |
|----------|-----------|------|------------|
| ANV-14-M | 1/4" | 1/4" | 4.53 |
| ANV-38-M | 3/8" | 3/8" | 6.38 |
| ANV-12-M | 1/2" | 1/2" | 7.34 |
| ANV-34-M | 3/4" | 3/4" | 10.95 |
| ANV-1-M | 1" | 1" | 18.65 |

INTERCHANGE DATA:

- Parker 6600, Aeroquip/ Eaton FD56, Dixon 'K' Series.
- Hansen HA 15000, Safeway S56

| Body Size | ISO 7241-1 Series B ISO-B Interchange (Connected) | | | | | | | |
|-----------|---|-----|--------|-------|---------------------|-----|--------|-------|
| | Steel Coupler/ Plug | | | | Brass Coupler/ Plug | | | |
| | Max. Working | | Burst | | Max. Working | | Burst | |
| | PSI | Bar | PSI | Bar | PSI | Bar | PSI | Bar |
| 1/4" | 5,000 | 345 | 22,500 | 1,550 | 3,000 | 200 | 15,000 | 1,000 |
| 3/8" | 4,000 | 275 | 16,500 | 1,150 | 2,500 | 175 | 12,000 | 800 |
| 1/2" | 4,000 | 275 | 16,000 | 1,100 | 2,500 | 175 | 11,500 | 750 |
| 3/4" | 4,000 | 275 | 16,500 | 1,150 | 2,000 | 150 | 12,000 | 800 |
| 1" | 4,000 | 275 | 16,000 | 1,100 | 1,500 | 100 | 8,500 | 800 |

INTERCHANGE DATA:

- Parker 60 Series, Snap-tite 72 series, Dixon 'H' series
- Hansen HK - series, Aeroquip/ Eaton FDH5



ISO-B FEMALE PIPE COUPLER

| Part # | Body Size | NPT | List Price |
|------------|-----------|------|------------|
| HNV-14-F | 1/4" | 1/4" | 11.46 |
| HNV-14-F-B | 1/4" | 1/4" | 19.05 |
| HNV-38-F | 3/8" | 3/8" | 12.00 |
| HNV-38-F-B | 3/8" | 3/8" | 30.48 |
| HNV-12-F | 1/2" | 1/2" | 17.39 |
| HNV-12-F-B | 1/2" | 1/2" | 34.77 |
| HNV-34-F | 3/4" | 3/4" | 28.00 |
| HNV-34-F-B | 3/4" | 3/4" | 72.06 |
| HNV-1-F | 1" | 1" | 44.73 |
| HNV-1-F-B | 1" | 1" | 112.92 |

B=BRASS



BRASS - HNV SERIES PLUG



BRASS - HNV SERIES COUPLER



ISO-B FEMALE PIPE PLUG

| Part # | Body Size | NPT | List Price |
|------------|-----------|------|------------|
| HNV-14-M | 1/4" | 1/4" | 5.40 |
| HNV-14-M-B | 1/4" | 1/4" | 9.01 |
| HNV-38-M | 3/8" | 3/8" | 6.64 |
| HNV-38-M-B | 3/8" | 3/8" | 13.33 |
| HNV-12-M | 1/2" | 1/2" | 7.81 |
| HNV-12-M-B | 1/2" | 1/2" | 22.61 |
| HNV-34-M | 3/4" | 3/4" | 13.75 |
| HNV-34-M-B | 3/4" | 3/4" | 27.05 |
| HNV-1-M | 1" | 1" | 23.63 |
| HNV-1-M-B | 1" | 1" | 40.95 |

FEATURES

- Steel construction, zinc plated trivalent finish. Hardened Nipples and sleeves and solid barstock construction for maximum resistance to damage from hydraulic and mechanical shock.
- This Anti-Blowout Nitrile/ PTFE bonded seal is designed to prevent blow out or damage during severe service conditions.
- Durable ball-locking mechanism assures reliable connection everytime.
- Temp Range -65° to +250°

ISO 16028

| Body Size | FLUSH FACE | | | |
|-----------|-----------------------------|-----|--------|-------|
| | Steel Coupler/ Plug Coupled | | | |
| | Maximum Working | | Burst | |
| | PSI | Bar | PSI | Bar |
| 1/4" | 5,000 | 345 | 18,270 | 1,200 |
| 3/8" | 4,000 | 275 | 18,270 | 1,200 |
| 1/2" | 4,000 | 275 | 16,500 | 1,100 |
| 5/8" | 4,000 | 275 | 14,800 | 1,000 |
| 3/4" | 4,000 | 275 | 12,400 | 850 |
| 1" | 3,000 | 200 | 12,600 | 850 |

FF Series
HTMC
74C



FEMALE PIPE COUPLER

| Part # | Body Size | NPT | List Price |
|-----------|-----------|------|------------|
| FF-14-F | 1/4" | 1/4" | 34.15 |
| FF-38-F | 3/8" | 3/8" | 45.53 |
| FF-12-F | 1/2" | 1/2" | 71.20 |
| FF-3812-F | 3/8" | 1/2" | 42.60 |
| FF-1234-F | 1/2" | 3/4" | 60.63 |
| FF-3416-F | 3/4" | 1" | 78.86 |
| FF-34-F | 3/4" | 3/4" | 68.87 |
| FF-1-F | 1" | 1" | 136.37 |

FF Series
HTMN
74N



FEMALE PIPE PLUG

| Part # | Body Size | NPT | List Price |
|-----------|-----------|------|------------|
| FF-14-M | 1/4" | 1/4" | 20.31 |
| FF-38-M | 3/8" | 3/8" | 22.97 |
| FF-12-M | 1/2" | 1/2" | 32.65 |
| FF-3812-M | 3/8" | 1/2" | 18.93 |
| FF-1234-M | 1/2" | 3/4" | 30.27 |
| FF-3416-M | 3/4" | 1" | 41.50 |
| FF-34-M | 3/4" | 3/4" | 26.66 |
| FF-1-M | 1" | 1" | 62.40 |

FLAT FACE THREAD LOCK - VEP QUICK COUPLING

APPLICATIONS

- Widely used in public equipment
- Portable construction equipment.
- Hydraulic tools
- Vehicles

FEATURES

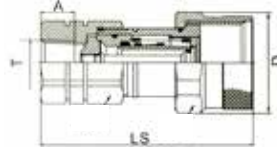
- New valve design provides better resistance from high flow and the pressure of impulse, thus providing advanced performance.
- Special nipple design for connecting under pressure, allows connection and disconnection with high residual pressures.
- The LSQ-VEP series employs a threaded sleeve locking mechanism, mates with matching male threads on the coupler.
- New plating treatment provides advanced anti-rust performance.
- LSQ-VEP series couplings employ flush valving when connecting or disconnecting, therefore only a small amount of fluid can be lost during disconnecting or air inclusion during reconnection.
- The Anti-Blowout bonded seal is designed to prevent blow-out or damage during severe service conditions.
- Machined form solid steel barstock for durability. Compatible with most other VEP series.
- O-Ring SAE Boss Thread available with import lead time (same list price)

SPECIFICATIONS

| Body Size (in) | 1/2(12) | 3/4(34) | 1(1) | 1-1/2(24) |
|----------------------|--------------|---------|------|-----------|
| Rated Pressure (PSI) | 7000 | 7000 | 6000 | 5000 |
| Rated Flow (GPM) | 12 | 50 | 88 | 152 |
| Temperature Range | -20°C +120°C | | | |

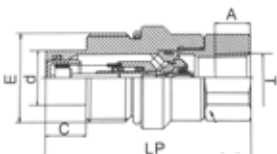
Standard seal material is **NBR**

Test Fluid-Oil = 200 SUS



FEMALE COUPLER

| Part # | LS | D | A | NPT | List Price |
|---------------|------|------|------|-------|------------|
| LSQ-VEP-12-SF | 4.09 | 1.13 | 0.67 | 1/2 | 168.37 |
| LSQ-VEP-34-SF | 4.49 | 2.13 | 0.79 | 3/4 | 218.97 |
| LSQ-VEP-1-SF | 5.28 | 2.33 | 0.83 | 1 | 277.48 |
| LSQ-VEP-20-SF | 5.71 | 2.72 | 0.83 | 1-1/4 | 320.85 |
| LSQ-VEP-24-SF | 7.41 | 3.63 | 0.83 | 1-1/2 | 682.91 |



FEMALE PLUG

| Part # | LS | D | A | NPT | List Price |
|---------------|------|------|------|-------|------------|
| LSQ-VEP-12-PF | 4.09 | 1.13 | 0.67 | 1/2 | 168.37 |
| LSQ-VEP-34-PF | 4.49 | 2.13 | 0.79 | 3/4 | 197.30 |
| LSQ-VEP-1-PF | 5.28 | 2.33 | 0.83 | 1 | 227.63 |
| LSQ-VEP-20-PF | 5.71 | 2.72 | 0.83 | 1-1/4 | 320.85 |
| LSQ-VEP-24-PF | 7.41 | 3.63 | 0.83 | 1-1/2 | 652.73 |

QUICK DISCONNECT

HYDRAULIC ADAPTERS

AG - Series Agricultural Interchange (Connected)

| Nominal Size | Steel Coupler/ Plug | | | |
|--------------|---------------------|-----|--------|-------|
| | Maximum Working | | Burst | |
| | PSI | Bar | PSI | Bar |
| 1/4" | 4,000 | 275 | 21,000 | 1,500 |
| 3/8" | 4,000 | 275 | 23,100 | 1,600 |
| 1/2" | 4,000 | 275 | 16,500 | 1,100 |
| 3/4" | 3,000 | 200 | 10,300 | 700 |
| 1" | 3,000 | 200 | 13,000 | 900 |

Snap-Tite 60 Series



FEMALE PIPE COUPLER

| Part # | Body Size | NPT | List Price |
|---------|-----------|------|------------|
| NV-14-F | 1/4" | 1/4" | 10.43 |
| NV-38-F | 3/8" | 3/8" | 11.75 |
| NV-12-F | 1/2" | 1/2" | 32.14 |
| NV-34-F | 3/4" | 3/4" | 53.57 |
| NV-1-F | 1" | 1" | 72.07 |

FEMALE PIPE PLUG

| Part # | Body Size | NPT | List Price |
|---------|-----------|------|------------|
| NV-14-M | 1/4" | 1/4" | 3.76 |
| NV-38-M | 3/8" | 3/8" | 9.75 |
| NV-12-M | 1/2" | 1/2" | 14.62 |
| NV-34-M | 3/4" | 3/4" | 27.10 |
| NV-1-M | 1" | 1" | 40.13 |

FEATURES

- Heavy duty heat treated poppet: valves are standard with rugged, specially-designed seals made of nitrite for leak-free performance in the toughest application.
- High-strength steel valve guides designed for high flow rates and made extra tough for agricultural service.
- Dependable hardened chrome alloy steel locking balls. Heat treated plugs and sleeves.
- Standard seals temp range -40°F to +250°F

THREAD LOCK HYDRAULIC JACK COUPLING

SPECIFICATIONS

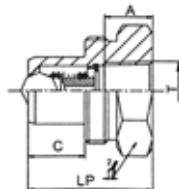
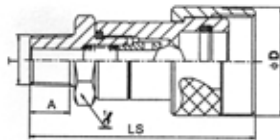
| | | |
|-------------------|--------------|---------|
| Body Size | 1/4(14) | 3/8(38) |
| Rated Pressure | 10.000 | |
| Rated Flow (GPM) | 3 | 6 |
| Temperature Range | -20°C +120°C | |

Standard seal material is **NBR**

APPLICATIONS

- Thread lock couplings with their threaded union locking system and precision ball-type check valves are designed for extreme high pressure applications such as portable hydraulic jacks.

• Ball Type.



MALE COUPLER

| Part # | LS | D | Hex | A | NPT | List Price |
|-------------|------|------|------|------|-----|------------|
| KZE-B-14-SM | 2.40 | 1.14 | 0.87 | 0.55 | 1/4 | 22.60 |
| KZE-B-38-SM | 2.91 | 1.38 | 0.98 | 0.57 | 3/8 | 23.74 |

FEMALE COUPLER

| Part # | LS | D | Hex | A | NPT | List Price |
|-------------|------|------|------|------|-----|------------|
| KZE-B-14-PF | 1.30 | 0.44 | 0.75 | 0.51 | 1/4 | 10.74 |
| KZE-B-38-PF | 1.38 | 0.63 | 1.26 | 0.55 | 3/8 | 11.34 |

(Charlynn 101 / Danfoss DH / White HS / Parker ME-MB-TE-TJ / -RR-USA HP)

The MMPH series gear set, shaft distribution flow, hydraulic motor is a compact, high efficient, low speed high torque design which can be used in either parallel or series systems.



| Part # | | MMPH50 | MMPH80 | MMPH100 | MMPH125 | MMPH160 | MMPH200 | MMPH250 | MMPH315 | MMPH400 |
|--|-------|----------------|----------------|---------------|--------------|--------------|---------------|---------------|-------------|---------------|
| List Price | | 448.39 | 450.48 | 462.99 | 476.55 | 486.98 | 495.33 | 505.76 | 515.15 | 559.57 |
| Displacement cm3/rev(cu.in/rev) | | 51.7 (3.15) | 77.7 (4.75) | 96.2 (5.9) | 118 (7.2) | 156 (9.5) | 190 (11.6) | 231 (14.1) | 312 (19) | 387 (23.6) |
| Max Speed rpm | Cont. | 880 | 740 | 590 | 475 | 370 | 295 | 240 | 190 | 150 |
| | Int. | 975 | 825 | 675 | 595 | 465 | 370 | 295 | 235 | 185 |
| Max Torque NW (in.lbs) | Cont. | 81 (717) | 129(1140) | 161(1425) | 202(1790) | 245(2170) | 286(2530) | 360(3185) | 406(3575) | 435(3850) |
| | Int. | 108(956) | 171(1514) | 213(1885) | 268(2372) | 342(3026) | 390(3450) | 456(4035) | 505(4470) | 533(4717) |
| Max performance KW/ (HP) | Cont. | 7(9.4) | 9.1(12.2) | 9(12.1) | 9.1(12.2) | 8.7(11.65) | 8.1(10.85) | 8.2(11) | 7.2(9.7) | 6.1(8.2) |
| | Int. | 8.9(12) | 11.8(15.8) | 11.9(15.95) | 11.8(15.8) | 11.9(15.95) | 10.9(14.7) | 10.1(13.5) | 8.6(11.5) | 7.2(9.65) |
| Max Differential Mpa/ (PSI) | Cont. | 12.5(1840) | 12.5(1840) | 12.5(1840) | 12.5(1840) | 12.5(1840) | 11(1625) | 11(1625) | 11(1625) | 10(1450) |
| | Int. | 16.5(2425) | 16.5(2425) | 16.5(2425) | 16.5(2425) | 16.5(2425) | 16.5(2425) | 14(2060) | 12.5(1840) | 10.5(1540) |
| Max flow L/min. / (gpm) | Cont. | 45(11.85) | 60(15.8) | 60(15.8) | 60(15.8) | 60(15.8) | 60(15.8) | 60(15.8) | 60(15.8) | 60(15.8) |
| | Int. | 50(13.15) | 75(19.75) | 75(19.75) | 75(19.75) | 75(19.75) | 75(19.75) | 75(19.75) | 75(19.75) | 75(19.75) |
| Weight | lb. | 5.6 | 5.7 | 5.9 | 6 | 6.2 | 6.4 | 6.6 | 6.9 | 7.4 |

ORDERING INFORMATION

| <u>MMPH</u> | <u>50</u> | <u>H2</u> | <u>K</u> | <u>P</u> |
|----------------|------------------------------|-------------------------|-------------------------|-------------------------|
| MODEL SERIES | FRAME SIZE | MOUNTING FLANGE TYPE | DRIVE SHAFT | PORT SIZE |
| MMPH (GEROTOR) | (cu.in/rev) | | K - 1 Inch Woodruff Key | P - 1/2 NPTF |
| MMRS (GEROTOR) | MMPH MMRS | H4 - 4 Bolt | S - SAE - 6B Spline | S - 7/8-14 SAE "O" Ring |
| | 50 (3.15) 50 (3.13) | H2 - SAE "A" 2 Bolt | H - 1 Inch parallel | F - Manifold |
| | 80 (4.74) 80 (4.92) | H6 - Magneto | 0.40 dia. crosshole | |
| | 100 (5.87) 100 (6.15) | | H1 - 1 Inch parallel | |
| | 125 (7.19) 125 (7.62) | | 0.31 dia. crosshole | |
| | 160 (9.49) 160 (9.59) | | | |
| | 200 (11.59) 200 (12.15) | | | |
| | 250 (15.25) 250 (15.38) | | | |
| | 315 (19.02) 315 (19.2) | | | |
| | 400 (23.57) 375 (22.58) | | | |

(Charlynn 103 & 158 / Danfoss DS / Parker ME-MB-TE-TJ / RR-USA HR)

The MMRS series advanced gear set, shaft distribution flow, hydraulic motor is a compact, low noise, highly efficient torque low speed design. The gear set also affords a reliable smooth start-up at low pressure. The special design of the drive linkage and high pressure capability of the shaft seal provides a long life and these motors can be used in either series or parallel operation.



| Part # | | MMRS50 | MMRS80 | MMRS100 | MMRS125 | MMRS160 | MMRS200 | MMRS250 | MMRS315 | MMRS375 |
|--|-------|----------------|----------------|-----------------|-----------------|-----------------|------------------|----------------|-----------------|----------------|
| List Price | | 538.10 | 555.83 | 560.00 | 576.69 | 592.34 | 599.64 | 624.67 | 628.84 | 659.09 |
| Displacement cm3/rev(cu.in/rev) | | 51.3 (3.13) | 80.6 (4.92) | 100.8 (6.15) | 124.9 (7.62) | 157.2 (9.59) | 199.2 (12.15) | 252 (15.38) | 314.5 (19.2) | 370 (22.58) |
| Max Speed rpm | Rated | 755 | 750 | 600 | 475 | 375 | 300 | 240 | 190 | 160 |
| | Cont. | 970 | 940 | 750 | 600 | 470 | 375 | 300 | 240 | 200 |
| Max Torque NW (in.lbs) | Cont. | 100(885) | 190(1682) | 240(2124) | 292(2584) | 363(3273) | 358(3168) | 352(3115) | 360(3186) | 420(3717) |
| | Int. | 126(1115) | 220(1947) | 280(2478) | 340(3010) | 430(3806) | 448(3965) | 470(4159) | 470(4159) | 548(4850) |
| Max performance KW/ (HP) | Cont. | 7.7(10.3) | 15(20.10) | 15(20.10) | 14(18.75) | 14(18.75) | 11(14.75) | 9(12.10) | 7.2(9.7) | 6.1(8.2) |
| | Int. | 9.7(13) | 17(22.8) | 17(22.8) | 16(21.45) | 16(21.45) | 14(18.75) | 12(16.10) | 9(12.10) | 12(16.10) |
| Max Differential Mpa/ (PSI) | Cont. | 14(2061) | 17.5(2576) | 17.5(2576) | 17.5(2576) | 16.5(2429) | 13(1914) | 11(1619) | 8.5(1251) | 8.5(1251) |
| | Int. | 17.5(2576) | 20(2944) | 20(2944) | 20(2944) | 20(2944) | 17.5(2576) | 14(2061) | 11.5(1693) | 11.5(1693) |
| Max flow L/min. / (gpm) | Cont. | 40(10.5) | 60(15.8) | 60(15.8) | 60(15.8) | 60(15.8) | 60(15.8) | 60(15.8) | 60(15.8) | 60(15.8) |
| | Int. | 50(13.1) | 75(19.75) | 75(19.75) | 75(19.75) | 75(19.75) | 75(19.75) | 75(19.75) | 75(19.75) | 75(19.75) |
| Weight | lb. | 6.7 | 6.9 | 6.9 | 7.2 | 7.5 | 8.0 | 8.5 | 9.0 | 9.3 |

HYDRAULIC GEAR PUMP

HYDRAULIC ADAPTERS

MODEL # MGP-F10

- All Aluminium construction.
- 7 Displacement sizes from 0.07 to 0.37 cu. in/rev.
- Mounting flange is SAE AA-2 bolt.
- Ports are SAE-8 inlet and SAE-6 outlet.
- Drive shaft is a 1/2 inch straight shaft with 1/8 key.

Recommended working conditions:

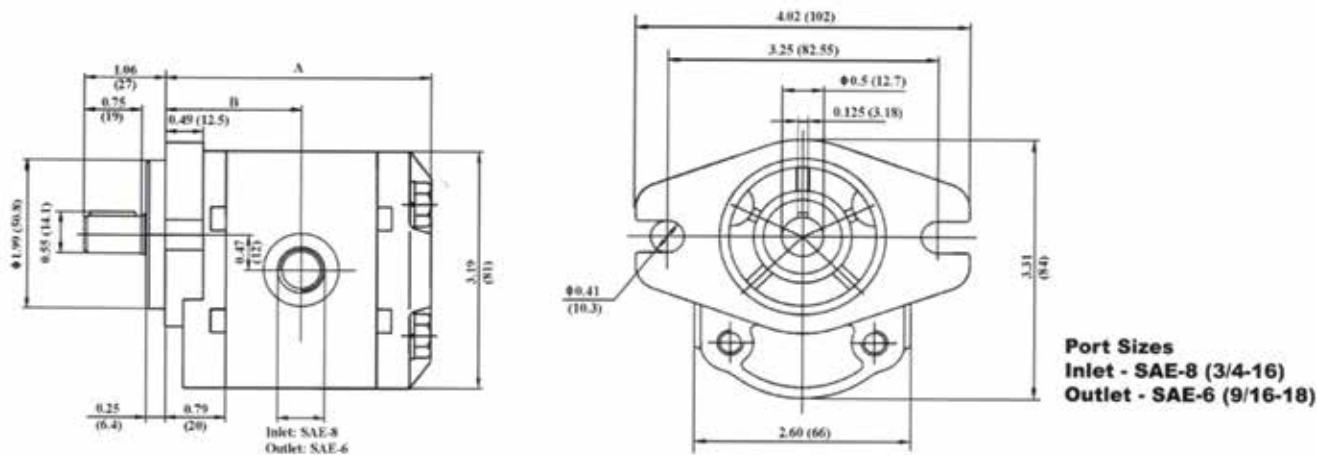
- Filtration 25 micron or better.
- Oil Viscosity 6 to 200 cSt.
- Inlet pressure 12 to 32 psi abs.
- Oil Temperature -25 to 55 degrees C (-12 to 175 F°).
- Ambient -22 to 55 C° (-8 to 130 F°).



| Part # | Displacement cu.in/rev | PSI | Speed RPM | | Weight Lbs | List Price |
|------------|---------------------------|------|-----------|------|---------------|---------------|
| | | | Rated | Max | | |
| MGP-F10-13 | 0.07 | 3625 | 2000 | 5000 | 2.02 | 323.30 |
| MGP-F10-20 | 0.12 | 3625 | 2000 | 5000 | 2.31 | 332.86 |
| MGP-F10-27 | 0.16 | 3625 | 2000 | 5000 | 2.68 | 332.86 |
| MGP-F10-34 | 0.20 | 3625 | 2000 | 5000 | 2.99 | 332.86 |
| MGP-F10-41 | 0.25 | 3625 | 2000 | 4000 | 3.34 | 391.08 |
| MGP-F10-51 | 0.31 | 3625 | 2000 | 4000 | 3.78 | 391.08 |
| MGP-F10-61 | 0.37 | 3625 | 2000 | 4000 | 4.18 | 391.08 |

- Displacement (cu.in/ rev) x speed (RPM)/ 231 Volumetric efficiency % \geq 93
- GPM X 231/ RPM = CU.IN

INSTALLATION DATA



| Part # | A | | B | |
|------------|-------------|--------|-------------|--------|
| | Millimeters | Inches | Millimeters | Inches |
| MGP-F10-13 | 82 | 3.23 | 42 | 1.65 |
| MGP-F10-20 | 84 | 3.3 | 43 | 1.69 |
| MGP-F10-27 | 86 | 3.39 | 44 | 1.73 |
| MGP-F10-34 | 88 | 3.46 | 45 | 1.77 |

| Part # | A | | B | |
|------------|-------------|--------|-------------|--------|
| | Millimeters | Inches | Millimeters | Inches |
| MGP-F10-41 | 90 | 3.54 | 46 | 1.81 |
| MGP-F10-51 | 93 | 3.66 | 47.5 | 1.87 |
| MGP-F10-61 | 96 | 3.78 | 49 | 1.93 |

ORDERING INFORMATION

| | | | | |
|-----------------------|----------------------------|--|-----------------------------|---|
| MGP | F10 | 16 | P | C |
| Aluminum Gear Pump | High Pressure Series | Displacement cm ³ /rev (see chart) 13/20/27/34 41/51/61 | Drive Shaft P-1/2 Dia | Rotation Direction C-Clockwise A-Counter Clockwise (viewed from drive shaft end) |

MODEL # MGP-F20

- Aluminium construction.
- 8 Displacement sizes from 0.36 to 1.52 cu. in/rev.
- Mounting flange is SAE A-2 bolt.
- Ports are SAE-12 inlet and SAE-10 outlet.
- Drive shaft is a 5/8 inch diameter straight with 5/32 straight key.

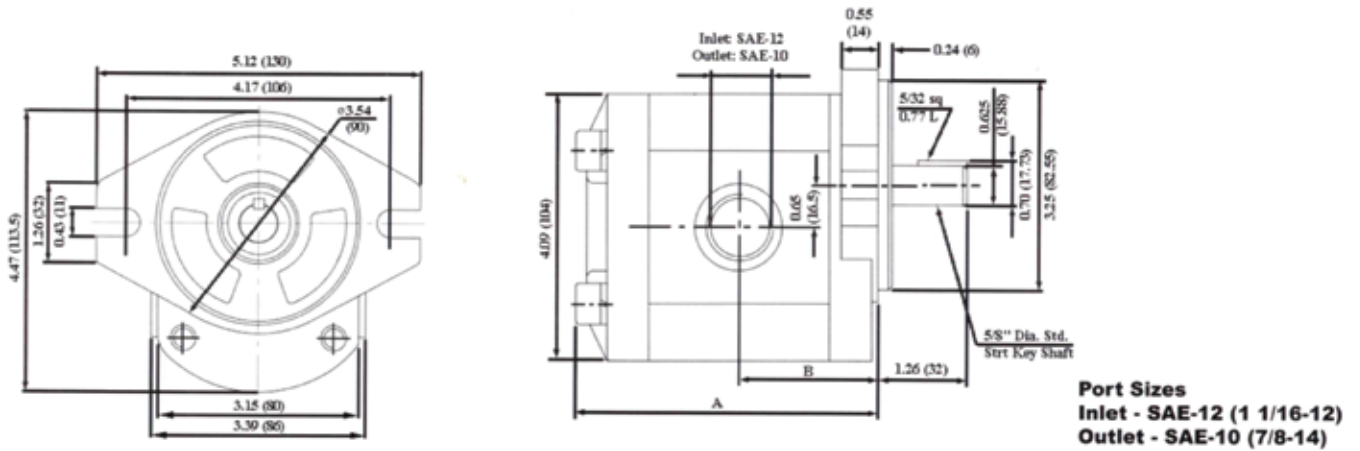
Recommended working conditions:

- Filtration 25 micron or better.
- Oil Viscosity 6 to 200 cSt.
- Inlet pressure 12 to 32 psi abs.
- Oil Temperature -25 to 55 degrees C (-12 to 175 F°).
- Ambient -22 to 55 C° (-8 to 130 F°).



| Part # | Displacement cu.in/rev | PSI | Speed RPM | | Weight Lbs | List Price |
|------------|---------------------------|------|-----------|------|---------------|---------------|
| | | | Rated | Max | | |
| MGP-F20-06 | 0.36 | 3650 | 2000 | 3000 | 5.35 | 391.60 |
| MGP-F20-08 | 0.48 | 3650 | 2000 | 3600 | 5.61 | 391.60 |
| MGP-F20-10 | 0.61 | 3650 | 2000 | 3600 | 5.72 | 391.60 |
| MGP-F20-12 | 0.73 | 3650 | 2000 | 3600 | 5.91 | 391.60 |
| MGP-F20-14 | 0.85 | 3650 | 2000 | 3600 | 6.00 | 408.34 |
| MGP-F20-16 | 0.97 | 2900 | 2000 | 3600 | 6.27 | 408.34 |
| MGP-F20-20 | 1.22 | 2900 | 2000 | 3600 | 6.73 | 408.34 |
| MGP-F20-25 | 1.52 | 2900 | 2000 | 3600 | 7.19 | 408.34 |

INSTALLATION DATA



| Part # | A | | B | |
|------------|-------------|--------|-------------|--------|
| | Millimeters | Inches | Millimeters | Inches |
| MGP-F20-06 | 98 | 3.87 | 45 | 1.77 |
| MGP-F20-08 | 100 | 3.95 | 47 | 1.85 |
| MGP-F20-10 | 104 | 4.12 | 48 | 1.89 |
| MGP-F20-12 | 108 | 4.25 | 50 | 1.97 |

| Part # | A | | B | |
|------------|-------------|--------|-------------|--------|
| | Millimeters | Inches | Millimeters | Inches |
| MGP-F20-14 | 110 | 4.35 | 51 | 2 |
| MGP-F20-16 | 114 | 4.50 | 52.5 | 2.07 |
| MGP-F20-20 | 120 | 4.72 | 56 | 2.2 |
| MGP-F20-25 | 128 | 5.05 | 60 | 2.36 |

ORDERING INFORMATION

MGP

Aluminum
Gear Pump

F20

High
Pressure
Series

16

Displacement
cm³/rev
(see chart)
06/08/10/12/14/16
20/25

P

Drive
Shaft
P-5/8 Dia
Straight
P1-3/4 Dia
Straight
S9-Spline 9 tooth

C

Rotation
Direction
C-Clockwise
A-Counter Clockwise
(viewed from drive shaft
end)

HYDRAULIC FLOW CONTROL/NEEDLE VALVES

HYDRAULIC ADAPTERS

MM-FC SERIES FLOW CONTROL VALVES

FEATURES:

- Micrometer adjustment knob for accurate valve setting.
- Rugged construction.

TECHNICAL DATA:

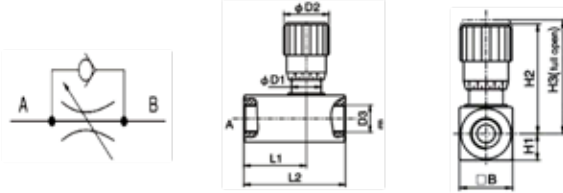
• Materials

Body: Carbon steel w/ black oxide plating
 Handle: Zinc Alloy
 Set Screw: Steel
 Packing: Buna O-Ring/ PTFE stem packing

Maximum Pressure: 5000PSI
 Temperature Ratings: -4°F to 176°F (-20°C to 80°C)
 Flow Rate: 0-42 GPM



INLET
 << FREE FLOW



| Part# | B | D1 | D2 | D3 | H1 | H2 | H3 | L1 | L2 | WEIGHT (lbs) | List Price |
|-----------|------|------|------|-----------|------|------|------|------|------|--------------|------------|
| MMFC4NPT | 1.10 | 0.76 | 1.18 | 1/4 NPT | 0.55 | 2.41 | 2.67 | 1.54 | 2.52 | 0.90 | 65.09 |
| MMFC6NPT | 1.10 | 0.76 | 1.18 | 3/8 NPT | 0.55 | 2.41 | 2.67 | 1.69 | 2.75 | 0.90 | 61.90 |
| MMFC8NPT | 1.50 | 0.95 | 1.46 | 1/2 NPT | 0.75 | 3.07 | 3.41 | 2.05 | 3.27 | 2.00 | 67.80 |
| MMFC12NPT | 1.50 | 0.95 | 1.46 | 3/4 NPT | 0.75 | 3.08 | 3.41 | 2.19 | 3.50 | 2.00 | 76.19 |
| MMFC16NPT | 1.89 | 1.38 | 1.89 | 1 NPT | 0.94 | 4.03 | 4.50 | 2.79 | 4.60 | 4.20 | 143.52 |
| MMFC20NPT | 2.38 | 1.96 | 2.28 | 1-1/4 NPT | 1.18 | 5.25 | 5.88 | 3.39 | 6.07 | 9.55 | 249.44 |

MM-NV SERIES NEEDLE VALVES

FEATURES:

- Micrometer adjustment knob for accurate valve setting.
- Rugged construction.

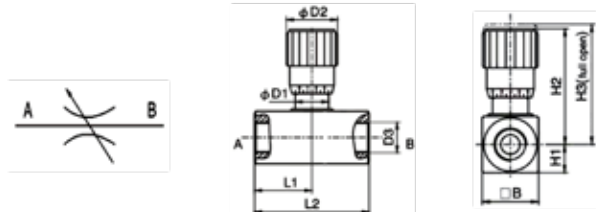
TECHNICAL DATA:

• Materials

Body: Carbon steel w/ black oxide plating
 Handle: Zinc Alloy
 Set Screw: Steel
 Packing: Buna O-Ring/ PTFE stem packing

Maximum Pressure: 5000PSI
 Temperature Ratings: -4°F to 176°F (-20°C to 80°C)
 Flow Rate: 0-42 GPM

• FULL SHUT-OFF



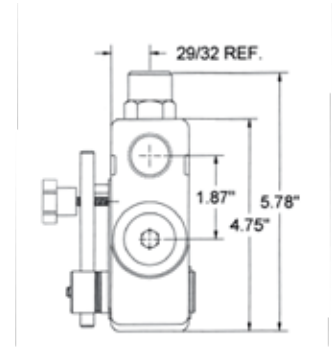
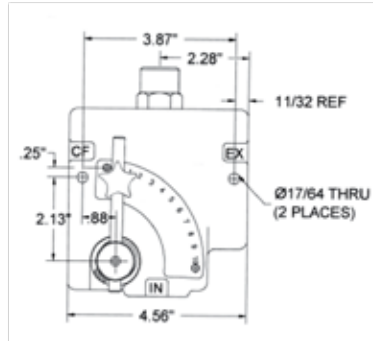
| Part# | B | D1 | D2 | D3 | H1 | H2 | H3 | L1 | L2 | WEIGHT (lbs) | List Price |
|-----------|------|------|------|---------|------|------|------|------|------|--------------|------------|
| MMNV4NPT | 1.10 | 0.76 | 1.18 | 1/4 NPT | 0.55 | 2.41 | 2.67 | 1.07 | 2.13 | 0.90 | 54.88 |
| MMNV6NPT | 1.10 | 0.76 | 1.18 | 3/8 NPT | 0.55 | 2.41 | 2.67 | 1.07 | 2.13 | 0.90 | 72.22 |
| MMNV8NPT | 1.50 | 0.95 | 1.46 | 1/2 NPT | 0.75 | 3.07 | 3.41 | 1.34 | 2.38 | 2.00 | 83.06 |
| MMNV12NPT | 1.50 | 0.95 | 1.46 | 3/4 NPT | 0.75 | 3.08 | 3.41 | 1.54 | 3.09 | 2.00 | 77.39 |
| MMNV16NPT | 1.89 | 1.38 | 1.89 | 1 NPT | 0.94 | 4.03 | 4.50 | 1.81 | 3.62 | 4.20 | 117.24 |

PRESSURE COMPENSATING VARIABLE FLOW CONTROL

FEATURES:

MFC-51 model is a full range pressure compensating variable flow control. It is designed so that the orifice area varies as the lever is rotated. The outlet flow is smooth and constant regardless of the pressure on the control flow or excess flow ports. An adjustable ball spring relief allows for pressure compensated flow up to the pressure setting on the relief. Relief valves are preset at 1500 PSI and field adjustable from 750 to 3000 PSI.

- Materials: Cast Iron Body, Heat Treated Compensator Spool, Stainless Steel Rotary Spool, Buna N "O" Rings (Standard)
- **ALL ARE STANDARD FLOW CONTROL**
- **ALL HAVE ADJUSTABLE BALL SPRING RELIEF**
- **SAE PORT AVAILABLE. MINIMUM ORDER REQUIRED**



| Part# | Size | Flow | List Price |
|----------|------------|----------|------------|
| MFC-38-N | 3/8" - NPT | 0-8 gpm | 194.11 |
| MFC-12-N | 1/2" - NPT | 0-16 gpm | 194.11 |
| MFC-34-N | 3/4" - NPT | 0-30 gpm | 194.11 |

SCREW-ON TYPE AIR BREATHERS



- **Chrome Plated Steel**
- **1/4 To 1 Inch NPT**
- **40 Micron Breather**

| Part Number | Flow cfm | NPT | List Price |
|-------------|----------|-----|------------|
| MB40-04 | 10 | 1/4 | 16.96 |
| MB40-06 | 10 | 3/8 | 22.68 |
| MB40-08 | 10 | 1/2 | 23.78 |
| MB40-12 | 25 | 3/4 | 27.77 |
| MB40-16 | 25 | 1 | 36.11 |

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|-----------|------|----------|------|----------|------|----------|------|----------|------|----------|------|
| 0304-10 | 399 | 100025 | 207 | 10-040 | 50 | 10-106 | 52 | 10-208 | 54 | 10-257LF | 159 |
| 0304-12 | 399 | 1000265 | 207 | 10-041 | 50 | 10-106L | 52 | 10-209 | 54 | 10-258 | 55 |
| 0304-16 | 399 | 10-003 | 49 | 10-041LF | 159 | 10-106LF | 159 | 10-210 | 54 | 10-258LF | 159 |
| 0304-4 | 399 | 100035 | 207 | 10-042 | 50 | 10-107 | 52 | 10-211 | 54 | 10-259 | 55 |
| 0304-6 | 399 | 1000365 | 207 | 10-042LF | 159 | 10-108 | 52 | 10-212 | 54 | 10-259L | 55 |
| 0304-8 | 399 | 10-003L | 49 | 10-043 | 50 | 10-108L | 52 | 10-213 | 54 | 10-260 | 55 |
| 0304-C-10 | 399 | 10-004 | 49 | 10-044 | 50 | 10-108LF | 159 | 10-214 | 54 | 10-260L | 55 |
| 0304-C-12 | 399 | 100045 | 207 | 10-045 | 50 | 10-109 | 52 | 10-215 | 54 | 10-261 | 55 |
| 0304-C-14 | 399 | 1000465 | 207 | 10-046 | 50 | 10-109L | 52 | 10-216 | 54 | 10-262 | 55 |
| 0304-C-16 | 399 | 10-005 | 49 | 10-047 | 50 | 10-109LF | 159 | 10-217 | 54 | 10-262LF | 159 |
| 0304-C-2 | 399 | 10-006 | 49 | 10-048 | 50 | 10-110 | 52 | 10-218 | 54 | 10-263 | 55 |
| 0304-C-20 | 399 | 100065 | 207 | 10-049 | 50 | 10-110L | 52 | 10-219 | 54 | 10-263L | 55 |
| 0304-C-24 | 399 | 1000665 | 207 | 10-051 | 50 | 10-110LF | 159 | 10-220 | 54 | 10-263LF | 159 |
| 0304-C-3 | 399 | 10-007 | 49 | 10-052 | 50 | 10-111 | 52 | 10-221 | 54 | 10-264 | 55 |
| 0304-C-32 | 399 | 10-008 | 49 | 10-053 | 50 | 10-112 | 52 | 10-222 | 54 | 10-264L | 55 |
| 0304-C-4 | 399 | 100085 | 207 | 10-054 | 50 | 10-117 | 53 | 10-228 | 54 | 10-264LF | 159 |
| 0304-C-5 | 399 | 1000865 | 207 | 10-055 | 50 | 10-118 | 53 | 10-228L | 54 | 10-265 | 55 |
| 0304-C-6 | 399 | 1001125 | 207 | 10-056 | 50 | 10-118LF | 159 | 10-229 | 54 | 10-265L | 55 |
| 0304-C-8 | 399 | 10011265 | 207 | 10-058 | 50 | 10-119 | 53 | 10-229L | 54 | 10-265LF | 159 |
| 0306-10 | 402 | 1001165 | 207 | 10-063 | 51 | 10-120 | 53 | 10-229LF | 159 | 10-266 | 55 |
| 0306-12 | 402 | 10011665 | 207 | 10-064 | 51 | 10-121 | 53 | 10-230 | 54 | 10-267 | 55 |
| 0306-14 | 402 | 1001205 | 207 | 10-065 | 51 | 10-122 | 53 | 10-231 | 54 | 10-267LF | 159 |
| 0306-16 | 402 | 10012065 | 207 | 10-066 | 51 | 10-123 | 53 | 10-232 | 54 | 10-268 | 55 |
| 0306-2 | 402 | 1001245 | 207 | 10-067 | 51 | 10-131 | 52 | 10-233 | 54 | 10-268L | 55 |
| 0306-20 | 402 | 10012465 | 207 | 10-068 | 51 | 10-133 | 52 | 10-234 | 54 | 10-268LF | 159 |
| 0306-4 | 402 | 10-013 | 49 | 10-069 | 51 | 10-135 | 59 | 10-235 | 54 | 10-269 | 55 |
| 0306-5 | 402 | 10-013 | 86 | 10-074 | 51 | 10-136 | 59 | 10-235L | 54 | 10-269L | 55 |
| 0306-6 | 402 | 10-014 | 49 | 10-075 | 51 | 10-137 | 59 | 10-236 | 54 | 10-269LF | 159 |
| 0306-8 | 402 | 100145 | 207 | 10-075LF | 159 | 10-157 | 53 | 10-236L | 54 | 10-270 | 55 |
| 0318-10 | 399 | 1001465 | 207 | 10-076 | 51 | 10-158 | 53 | 10-236LF | 159 | 10-270LF | 159 |
| 0318-12 | 399 | 10-015 | 49 | 10-077 | 51 | 10-159 | 53 | 10-237 | 54 | 10-271 | 55 |
| 0318-14 | 399 | 10-015L | 49 | 10-077LF | 159 | 10-159LF | 159 | 10-237L | 54 | 10-272 | 55 |
| 0318-16 | 399 | 10-015LF | 159 | 10-078 | 51 | 10-160 | 53 | 10-237LF | 159 | 10-272L | 55 |
| 0318-2 | 399 | 10-016 | 49 | 10-078LF | 159 | 10-161 | 53 | 10-238 | 54 | 10-272LF | 159 |
| 0318-20 | 399 | 100165 | 207 | 10-079 | 51 | 10-161LF | 159 | 10-239 | 54 | 10-273 | 55 |
| 0318-24 | 399 | 1001665 | 207 | 10-079LF | 159 | 10-162 | 53 | 10-240 | 54 | 10-273L | 55 |
| 0318-3 | 399 | 10-017 | 49 | 10-080 | 51 | 10-163 | 53 | 10-240L | 54 | 10-273LF | 159 |
| 0318-32 | 399 | 10-017L | 49 | 10-081 | 51 | 10-164 | 53 | 10-240LF | 159 | 10-274 | 55 |
| 0318-4 | 399 | 10-017LF | 159 | 10-084 | 51 | 10-165 | 53 | 10-241 | 54 | 10-275 | 55 |
| 0318-5 | 399 | 10-018 | 49 | 10-085 | 51 | 10-170 | 53 | 10-241L | 54 | 10-275LF | 159 |
| 0318-6 | 399 | 100185 | 207 | 10-086 | 51 | 10-171 | 53 | 10-241LF | 159 | 10-276 | 55 |
| 0318-8 | 399 | 1001865 | 207 | 10-087 | 51 | 10-172 | 53 | 10-242 | 54 | 10-276LF | 159 |
| 0319-10 | 399 | 10-019 | 49 | 10-088 | 51 | 10-173 | 53 | 10-242L | 54 | 10-277 | 55 |
| 0319-12 | 399 | 10-019L | 49 | 10-089 | 51 | 10-174 | 53 | 10-242LF | 159 | 10-278 | 55 |
| 0319-14 | 399 | 10-019LF | 159 | 10-090 | 51 | 10-175 | 53 | 10-243 | 54 | 10-279 | 55 |
| 0319-16 | 399 | 10-020 | 49 | 10-094 | 52 | 10-176 | 53 | 10-244 | 54 | 10-280 | 55 |
| 0319-2 | 399 | 10-020L | 49 | 10-095 | 52 | 10-178 | 53 | 10-244L | 54 | 10-283 | 56 |
| 0319-20 | 399 | 10-021 | 49 | 10-097 | 52 | 10-179 | 53 | 10-245 | 54 | 10-283B | 56 |
| 0319-24 | 399 | 10-021LF | 159 | 10-098 | 52 | 10-180 | 53 | 10-246 | 54 | 10-284 | 56 |
| 0319-3 | 399 | 10-022 | 49 | 10-099 | 52 | 10-181 | 53 | 10-247 | 54 | 10-284B | 56 |
| 0319-32 | 399 | 10-023 | 49 | 10-100 | 52 | 10-182 | 53 | 10-248 | 54 | 10-285 | 56 |
| 0319-4 | 399 | 10-024 | 49 | 1010002 | 323 | 10-187 | 53 | 10-253 | 55 | 10-286 | 56 |
| 0319-5 | 399 | 10-025 | 49 | 1010008 | 323 | 10-188 | 53 | 10-254 | 55 | 10-286B | 56 |
| 0319-6 | 399 | 10-026 | 49 | 1010011 | 323 | 10-189 | 53 | 10-255 | 55 | 10-286L | 56 |
| 0319-8 | 399 | 10-028 | 50 | 1010016 | 323 | 10-197 | 53 | 10-255L | 55 | 10-286LF | 160 |
| 10-001 | 49 | 10-030 | 50 | 1010019 | 323 | 10-203 | 54 | 10-255LF | 159 | 10-287 | 56 |
| 1000105 | 207 | 10-031 | 50 | 1010022 | 323 | 10-204 | 54 | 10-256 | 55 | 10-287B | 56 |
| 10001065 | 207 | 10-032 | 50 | 1010024 | 323 | 10-204LF | 159 | 10-256L | 55 | 10-287LF | 160 |
| 1000125 | 207 | 10-033 | 50 | 1010027 | 323 | 10-205 | 54 | 10-256LF | 159 | 10-288 | 56 |
| 10001265 | 207 | 10-038 | 50 | 10-104 | 52 | 10-206 | 54 | 10256WC | 52 | 10-288LF | 160 |
| 10-002 | 49 | 10-039 | 50 | 10-105 | 52 | 10-207 | 54 | 10-257 | 55 | 10-289 | 56 |

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|----------|------|----------|------|----------|------|---------|------|--------|------|
| 10-290 | 56 | 10-328 | 57 | 10-459 | 59 | 107-003 | 281 | 12-011 | 66 |
| 10-290B | 56 | 10-329 | 57 | 10-460 | 59 | 107-004 | 281 | 12-012 | 66 |
| 10-291 | 56 | 10-330 | 57 | 10-461 | 59 | 107-005 | 281 | 12-013 | 66 |
| 10-291B | 56 | 10-331 | 57 | 10-462 | 59 | 107-006 | 281 | 12-014 | 66 |
| 10-292 | 56 | 10-333 | 57 | 10-463 | 59 | 107-007 | 281 | 12-015 | 66 |
| 10-293 | 56 | 10-340 | 57 | 10-464 | 59 | 107-009 | 281 | 12-016 | 66 |
| 10-293B | 56 | 10-343 | 57 | 10-467 | 59 | 107-011 | 281 | 12-017 | 66 |
| 10-293LF | 160 | 10-344 | 57 | 10-468 | 59 | 107-012 | 281 | 12-018 | 66 |
| 10-294 | 56 | 10-345 | 57 | 10-469 | 59 | 107-013 | 281 | 12-022 | 67 |
| 10-294B | 56 | 10-347 | 57 | 10-470 | 59 | 107-014 | 281 | 12-023 | 67 |
| 10-294LF | 160 | 10-348 | 57 | 10-471 | 59 | 107-020 | 280 | 12-024 | 67 |
| 10-295 | 56 | 10-350 | 57 | 10-473 | 59 | 107-021 | 280 | 12-025 | 67 |
| 10-295B | 56 | 10-351 | 57 | 10-481 | 60 | 107-022 | 280 | 12-026 | 67 |
| 10-295L | 56 | 10-351LF | 160 | 10-482 | 60 | 107-023 | 280 | 12-027 | 67 |
| 10-295LF | 160 | 10-352 | 57 | 10-483 | 60 | 107-024 | 280 | 12-032 | 67 |
| 10-296 | 56 | 10-353 | 57 | 10-483L | 60 | 107-025 | 280 | 12-033 | 67 |
| 10-296LF | 160 | 10-354 | 57 | 10-483LF | 160 | 107-026 | 280 | 12-034 | 67 |
| 10-297 | 56 | 10-355 | 57 | 10-484 | 60 | 107-027 | 280 | 12-035 | 67 |
| 10-298 | 56 | 10-355LF | 160 | 10-484L | 60 | 107-029 | 280 | 12-036 | 67 |
| 10-298B | 56 | 10-357 | 57 | 10-484LF | 160 | 107-031 | 280 | 12-038 | 67 |
| 10-299 | 56 | 10-359 | 57 | 10-485 | 60 | 107-032 | 280 | 12-040 | 67 |
| 10-299B | 56 | 10-359LF | 160 | 10-485LF | 160 | 107-033 | 280 | 12-041 | 67 |
| 10-299LF | 160 | 10-360 | 57 | 10-486 | 60 | 107-034 | 280 | 12-042 | 67 |
| 10-300 | 56 | 10-361 | 57 | 10-487 | 60 | 107-040 | 281 | 12-043 | 67 |
| 10-300B | 56 | 10-373 | 58 | 10-487LF | 160 | 107-041 | 281 | 12-044 | 67 |
| 10-300LF | 160 | 10-374 | 58 | 10-488 | 60 | 107-042 | 281 | 12-045 | 67 |
| 10-301 | 56 | 10-375 | 58 | 10-489 | 60 | 107-043 | 281 | 12-046 | 67 |
| 10-301LF | 160 | 10-376 | 58 | 10-493 | 60 | 107-044 | 281 | 12-047 | 67 |
| 10-302 | 56 | 10-382 | 58 | 10-494 | 60 | 107-045 | 281 | 12-048 | 67 |
| 10-302B | 56 | 10-383 | 58 | 10-495 | 60 | 107-046 | 281 | 12-049 | 67 |
| 10-303 | 56 | 10-404 | 58 | 10-496 | 60 | 107-047 | 281 | 12-050 | 67 |
| 10-303B | 56 | 10-405 | 58 | 10-497 | 60 | 107-049 | 281 | 12-051 | 67 |
| 10-303L | 56 | 10-406 | 58 | 1050000 | 322 | 107-051 | 281 | 12-052 | 67 |
| 10-304 | 56 | 10-407 | 58 | 1050001 | 322 | 107-052 | 281 | 12-054 | 68 |
| 10-305 | 56 | 10-408 | 58 | 1050002 | 322 | 107-053 | 281 | 12-056 | 68 |
| 10-305LF | 160 | 10-409 | 58 | 1050003 | 322 | 107-054 | 281 | 12-057 | 68 |
| 10-306 | 56 | 10-410 | 58 | 1050006 | 322 | 107-060 | 280 | 12-058 | 68 |
| 10-306B | 56 | 10-411 | 58 | 1050007 | 322 | 107-061 | 280 | 12-059 | 68 |
| 10-306LF | 160 | 10-412 | 58 | 1050008 | 322 | 107-062 | 280 | 12-060 | 68 |
| 10-307 | 56 | 10-416 | 58 | 1050009 | 322 | 107-063 | 280 | 12-061 | 68 |
| 10-308 | 56 | 10-419 | 58 | 1050010 | 322 | 107-064 | 280 | 12-062 | 68 |
| 10-309 | 56 | 10-421 | 58 | 1050011 | 322 | 107-065 | 280 | 12-063 | 68 |
| 10-311 | 56 | 10-440 | 59 | 1050012 | 322 | 107-066 | 280 | 12-064 | 68 |
| 10-312 | 57 | 10-441 | 59 | 1050013 | 322 | 107-067 | 280 | 12-065 | 68 |
| 10-313 | 57 | 10-442 | 59 | 1050014 | 322 | 107-069 | 280 | 12-066 | 68 |
| 10-314 | 57 | 10-443 | 59 | 1050015 | 322 | 107-071 | 280 | 12-067 | 68 |
| 10-315 | 57 | 10-444 | 59 | 1050016 | 322 | 107-072 | 280 | 12-068 | 68 |
| 10-316 | 57 | 10-448 | 59 | 1050017 | 322 | 107-073 | 280 | 12-069 | 68 |
| 10-317 | 57 | 10-448B | 59 | 1050018 | 322 | 107-074 | 280 | 12-072 | 68 |
| 10-318 | 57 | 10-449 | 59 | 1050020 | 322 | 115.86 | 220 | 12-073 | 68 |
| 10-319 | 57 | 10-450 | 59 | 1050021 | 322 | 12-000 | 66 | 12-074 | 68 |
| 10-320 | 57 | 10-451 | 59 | 1050023 | 322 | 12-001 | 66 | 12-075 | 68 |
| 10-321 | 57 | 10-452 | 59 | 1050025 | 322 | 12-002 | 66 | 12-076 | 68 |
| 10-321L | 57 | 10-452B | 59 | 1050026 | 322 | 12-003 | 66 | 12-077 | 68 |
| 10-322 | 57 | 10-453 | 59 | 1050029 | 322 | 12-004 | 66 | 12-079 | 68 |
| 10-323 | 57 | 10-454 | 59 | 1050030 | 322 | 12-005 | 66 | 12-080 | 68 |
| 10-324 | 57 | 10-455 | 59 | 1050032 | 322 | 12-006 | 66 | 12-081 | 68 |
| 10-325 | 57 | 10-455B | 59 | 1050033 | 322 | 12-007 | 66 | 12-085 | 68 |
| 10-325L | 57 | 10-456 | 59 | 107-000 | 281 | 12-008 | 66 | 12-086 | 68 |
| 10-326 | 57 | 10-457 | 59 | 107-001 | 281 | 12-009 | 66 | 12-087 | 68 |
| 10-327 | 57 | 10-458 | 59 | 107-002 | 281 | 12-010 | 66 | 12-088 | 68 |
| | | | | | | | | 12-089 | 68 |
| | | | | | | | | 12-090 | 68 |
| | | | | | | | | 12-091 | 69 |
| | | | | | | | | 12-092 | 69 |
| | | | | | | | | 12-093 | 69 |
| | | | | | | | | 12-094 | 69 |
| | | | | | | | | 12-100 | 69 |
| | | | | | | | | 12-101 | 69 |
| | | | | | | | | 12-102 | 69 |
| | | | | | | | | 12-103 | 69 |
| | | | | | | | | 12-110 | 69 |
| | | | | | | | | 12-111 | 69 |
| | | | | | | | | 12-112 | 69 |
| | | | | | | | | 12-118 | 69 |
| | | | | | | | | 12-119 | 69 |
| | | | | | | | | 12-120 | 69 |
| | | | | | | | | 12-121 | 69 |
| | | | | | | | | 12-127 | 70 |
| | | | | | | | | 12-129 | 70 |
| | | | | | | | | 12-130 | 70 |
| | | | | | | | | 12-144 | 70 |
| | | | | | | | | 12-145 | 70 |
| | | | | | | | | 12-146 | 70 |
| | | | | | | | | 12-147 | 70 |
| | | | | | | | | 12-148 | 70 |
| | | | | | | | | 12-149 | 70 |
| | | | | | | | | 12-150 | 70 |
| | | | | | | | | 12-151 | 70 |
| | | | | | | | | 12-200 | 70 |
| | | | | | | | | 12-202 | 70 |
| | | | | | | | | 12-205 | 72 |
| | | | | | | | | 12-206 | 71 |
| | | | | | | | | 12-207 | 71 |
| | | | | | | | | 12-208 | 71 |
| | | | | | | | | 12-209 | 71 |
| | | | | | | | | 12-210 | 71 |
| | | | | | | | | 12-211 | 71 |
| | | | | | | | | 12-212 | 71 |
| | | | | | | | | 12-213 | 71 |
| | | | | | | | | 12-214 | 71 |
| | | | | | | | | 12-215 | 71 |
| | | | | | | | | 12-216 | 71 |
| | | | | | | | | 12-217 | 71 |
| | | | | | | | | 12-218 | 71 |
| | | | | | | | | 12-220 | 71 |
| | | | | | | | | 12-221 | 71 |
| | | | | | | | | 12-222 | 71 |
| | | | | | | | | 12-224 | 71 |
| | | | | | | | | 12-230 | 71 |
| | | | | | | | | 12-250 | 72 |
| | | | | | | | | 12-252 | 72 |
| | | | | | | | | 12-254 | 72 |
| | | | | | | | | 12-256 | 72 |
| | | | | | | | | 12-257 | 72 |
| | | | | | | | | 12-260 | 66 |
| | | | | | | | | 12-261 | 66 |
| | | | | | | | | 12-262 | 66 |
| | | | | | | | | 12-263 | 66 |
| | | | | | | | | 12-264 | 66 |
| | | | | | | | | 12-265 | 66 |
| | | | | | | | | 12-266 | 66 |

12-267

NUMERICAL INDEX

18-126LF

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|------------|------|------------|------|------------|------|----------|------|----------|------|----------|------|
| 12-267 | 66 | 1405-8-8 | 397 | 16-003 | 84 | 17-126N | 297 | 18-017 | 160 | 18-077LF | 161 |
| 12-268 | 66 | 1410083 | 326 | 16-004 | 84 | 17-126P | 297 | 18-018 | 86 | 18-078 | 75 |
| 12-269 | 66 | 1410118 | 326 | 16-005 | 84 | 17-127P | 297 | 18-018 | 160 | 18-078LF | 161 |
| 12-270 | 66 | 143.89 | 223 | 16-010 | 84 | 17-145P | 297 | 18-019 | 86 | 18-079 | 75 |
| 12-271 | 66 | 1501-12-12 | 397 | 1601-12-12 | 398 | 17-146N | 297 | 18-019 | 160 | 18-079LF | 161 |
| 12-272 | 66 | 1501-12-8 | 397 | 1601-16-16 | 398 | 17-153N | 297 | 18-029 | 74 | 18-080 | 75 |
| 12-273 | 66 | 1501-16-12 | 397 | 1601-2-2 | 398 | 17-153P | 297 | 18-030 | 74 | 18-081 | 75 |
| 12-274 | 66 | 1501-16-16 | 397 | 1601-4-4 | 398 | 17-154N | 297 | 18-033 | 74 | 18-081LF | 161 |
| 12-275 | 66 | 1501-20-20 | 397 | 1601-6-6 | 398 | 17-154P | 297 | 18-034 | 74 | 18-082 | 75 |
| 12-310 | 71 | 1501-2-2 | 397 | 1601-8-8 | 398 | 17-158P | 297 | 18-035 | 74 | 18-082LF | 161 |
| 12-326 | 72 | 1501-32-32 | 397 | 1602-12-12 | 398 | 17-159P | 297 | 18-035L | 74 | 18-083LF | 161 |
| 12-327 | 72 | 1501-4-2 | 397 | 1602-16-16 | 398 | 17-179N | 297 | 18-036 | 74 | 18-084 | 75 |
| 12-328 | 72 | 1501-4-4 | 397 | 1602-4-4 | 398 | 17-179P | 297 | 18-037 | 74 | 18-088 | 75 |
| 12-329 | 72 | 1501-6-4 | 397 | 1602-6-6 | 398 | 17-180N | 297 | 18-037L | 74 | 18-090 | 75 |
| 12-330 | 72 | 1501-6-6 | 397 | 1602-8-8 | 398 | 17-180P | 297 | 18-037LF | 160 | 18-092 | 76 |
| 12-335 | 72 | 1501-8-6 | 397 | 1603-12-12 | 398 | 17-188N | 297 | 18-038 | 74 | 18-094 | 76 |
| 12-336 | 72 | 1501-8-8 | 397 | 1603-16-16 | 398 | 17-188P | 297 | 18-039 | 74 | 18-096 | 76 |
| 12-337 | 72 | 1502-12-12 | 397 | 1603-4-4 | 398 | 17-189N | 297 | 18-039L | 74 | 18-097 | 75 |
| 12-339 | 72 | 1502-16-16 | 397 | 1603-6-6 | 398 | 17-189P | 297 | 18-040 | 74 | 18-099 | 75 |
| 12-341 | 72 | 1502-20-20 | 397 | 1603-8-8 | 398 | 17-190N | 297 | 18-040L | 74 | 18-100 | 75 |
| 12-342 | 72 | 1502-2-2 | 397 | 16-090 | 84 | 17-190P | 297 | 18-041 | 74 | 18-101 | 76 |
| 12-343 | 72 | 1502-24-24 | 397 | 16-117 | 84 | 17-193N | 297 | 18-042 | 74 | 18-101B | 76 |
| 12-344 | 72 | 1502-4-4 | 397 | 16-118 | 84 | 17-193P | 297 | 18-047 | 74 | 18-101LF | 161 |
| 12-345 | 72 | 1502-6-4 | 397 | 16-119 | 84 | 17-194N | 297 | 18-047LF | 161 | 18-102 | 76 |
| 124.41 | 221 | 1502-6-6 | 397 | 16-121 | 84 | 17-194P | 297 | 18-048 | 74 | 18-102B | 76 |
| 130.84 | 225 | 1502-6-8 | 397 | 16-122 | 84 | 17-195N | 297 | 18-048LF | 161 | 18-102LF | 161 |
| 14-001 | 61 | 1502-8-6 | 397 | 16-123 | 84 | 17-195P | 297 | 18-049 | 74 | 18-103 | 76 |
| 14-011 | 61 | 1502-8-8 | 397 | 16-127 | 84 | 17-224N | 297 | 18-049LF | 161 | 18-103B | 76 |
| 14-016 | 61 | 1503-12-12 | 398 | 16-128 | 84 | 17-225N | 297 | 18-050 | 74 | 18-103LF | 161 |
| 14-017 | 61 | 1503-12-8 | 398 | 16-129 | 84 | 17-225P | 297 | 18-050LF | 161 | 18-104 | 76 |
| 14-018 | 61 | 1503-16-12 | 398 | 16-130 | 84 | 17-233N | 297 | 18-062 | 75 | 18-104B | 76 |
| 14-025 | 61 | 1503-16-16 | 398 | 163.56 | 223 | 17-233P | 297 | 18-062LF | 161 | 18-104LF | 161 |
| 1404-12-12 | 397 | 1503-2-2 | 398 | 16700001 | 323 | 17-234N | 297 | 18-063 | 75 | 18-105 | 76 |
| 1404-12-16 | 397 | 1503-4-4 | 398 | 16700004 | 323 | 17-234P | 297 | 18-063LF | 161 | 18-105B | 76 |
| 1404-12-8 | 397 | 1503-6-4 | 398 | 16700007 | 323 | 17-237N | 297 | 18-064 | 75 | 18-105LF | 161 |
| 1404-16-12 | 397 | 1503-6-6 | 398 | 16700010 | 323 | 17-237P | 297 | 18-064L | 75 | 18-106 | 76 |
| 1404-16-16 | 397 | 1503-8-6 | 398 | 16700012 | 323 | 17-238N | 297 | 18-064LF | 161 | 18-106B | 76 |
| 1404-20-16 | 397 | 1503-8-8 | 398 | 16700013 | 323 | 17-238P | 297 | 18-065 | 75 | 18-106LF | 161 |
| 1404-20-20 | 397 | 1504-12-12 | 398 | 16700016 | 323 | 18-001 | 74 | 18-065LF | 161 | 18-107 | 76 |
| 1404-2-2 | 397 | 1504-16-16 | 398 | 16700017 | 323 | 18-002 | 74 | 18-066 | 75 | 18-107LF | 161 |
| 1404-24-24 | 397 | 1504-2-2 | 398 | 16700022 | 323 | 18-002LF | 160 | 18-066D | 78 | 18-108 | 76 |
| 1404-32-32 | 397 | 1504-4-4 | 398 | 16700024 | 323 | 18-003 | 74 | 18-066L | 75 | 18-109 | 76 |
| 1404-4-2 | 397 | 1504-6-6 | 398 | 17-064N | 297 | 18-003LF | 160 | 18-066LF | 161 | 18-109LF | 161 |
| 1404-4-4 | 397 | 1504-8-8 | 398 | 17-064P | 297 | 18-004 | 74 | 18-067 | 75 | 18-110 | 76 |
| 1404-6-6 | 397 | 1510003 | 323 | 17-065N | 297 | 18-004LF | 160 | 18-067LF | 161 | 18-111 | 76 |
| 1404-6-8 | 397 | 1510004 | 323 | 17-066N | 297 | 18-005 | 74 | 18-068 | 75 | 18-114 | 76 |
| 1404-8-4 | 397 | 1510006 | 323 | 17-066P | 297 | 18-005LF | 160 | 18-068L | 75 | 18-115 | 76 |
| 1404-8-6 | 397 | 1510007 | 323 | 17-068N | 297 | 18-006 | 74 | 18-068LF | 161 | 18-115LF | 161 |
| 1404-8-8 | 397 | 1510008 | 323 | 17-068P | 297 | 18-007 | 74 | 18-069 | 75 | 18-116 | 76 |
| 1405-12-12 | 397 | 1510009 | 323 | 17-078N | 297 | 18-007LF | 160 | 18-069D | 78 | 18-117 | 76 |
| 1405-16-12 | 397 | 1510010 | 323 | 17-079N | 297 | 18-008 | 74 | 18-069L | 75 | 18-117LF | 161 |
| 1405-16-16 | 397 | 1510011 | 323 | 17-079P | 297 | 18-008LF | 160 | 18-069LF | 161 | 18-118 | 76 |
| 1405-20-20 | 397 | 1510012 | 323 | 17-081P | 297 | 18-009 | 74 | 18-070 | 75 | 18-119 | 76 |
| 1405-2-2 | 397 | 1510013 | 323 | 17-088N | 297 | 18-009LF | 160 | 18-070LF | 161 | 18-122B | 77 |
| 1405-24-24 | 397 | 1510014 | 323 | 17-090N | 297 | 18-010 | 74 | 18-071 | 75 | 18-123 | 77 |
| 1405-32-32 | 397 | 1510016 | 323 | 17-091N | 297 | 18-010LF | 160 | 18-071D | 78 | 18-124 | 77 |
| 1405-4-4 | 397 | 1510019 | 323 | 17-103N | 297 | 18-015 | 86 | 18-071L | 75 | 18-124LF | 161 |
| 1405-6-4 | 397 | 1510020 | 323 | 17-105N | 297 | 18-015 | 160 | 18-071LF | 161 | 18-125 | 77 |
| 1405-6-6 | 397 | 1510023 | 323 | 17-106N | 297 | 18-016 | 86 | 18-076 | 75 | 18-125LF | 161 |
| 1405-6-8 | 397 | 16-001 | 84 | 17-124N | 297 | 18-016 | 160 | 18-076LF | 161 | 18-126 | 77 |
| 1405-8-4 | 397 | 16-002 | 84 | 17-124P | 297 | 18-017 | 86 | 18-077 | 75 | 18-126LF | 161 |

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page | | |
|----------|------|----------|------|----------|------|----------|------|---------|------|---------|-----|
| 18-127 | 77 | 18-167 | 78 | 18-201 | 79 | 18-239LF | 162 | 18-293 | 81 | 20-021N | 101 |
| 18-127LF | 161 | 18-171 | 77 | 18-201LF | 162 | 18-240 | 80 | 18-294 | 81 | 20-021P | 298 |
| 18-128 | 77 | 18-171LF | 161 | 18-202 | 79 | 18-240LF | 162 | 18-295 | 81 | 20-022 | 95 |
| 18-128LF | 161 | 18-175 | 79 | 18-202LF | 162 | 18-241 | 80 | 18-296 | 81 | 20-022C | 110 |
| 18-129 | 77 | 18-176 | 79 | 18-203 | 79 | 18-241B | 80 | 18-297 | 81 | 20-022N | 101 |
| 18-129LF | 161 | 18-176LF | 162 | 18-203LF | 162 | 18-241LF | 162 | 18-298 | 81 | 20-023 | 96 |
| 18-130 | 77 | 18-177 | 79 | 18-204 | 79 | 18-242 | 80 | 18-299 | 81 | 20-023N | 102 |
| 18-130LF | 161 | 18-177LF | 162 | 18-205 | 79 | 18-242LF | 162 | 18-299B | 81 | 20-024C | 110 |
| 18-135 | 77 | 18-178 | 79 | 18-208 | 77 | 18-243 | 80 | 18-300 | 81 | 20-024N | 101 |
| 18-135LF | 161 | 18-178LF | 162 | 18-209 | 77 | 18-245 | 80 | 18-301 | 81 | 20-025 | 95 |
| 18-136 | 77 | 18-179 | 79 | 18-210 | 77 | 18-246 | 80 | 18-302 | 81 | 20-025C | 110 |
| 18-137 | 77 | 18-179L | 79 | 18-211 | 77 | 18-246LF | 162 | 18-303 | 81 | 20-025N | 101 |
| 18-137LF | 161 | 18-179LF | 162 | 18-212 | 77 | 18-247 | 80 | 18-304 | 81 | 20-026 | 95 |
| 18-142 | 78 | 18-180 | 79 | 18-213 | 77 | 18-248 | 80 | 18-307 | 82 | 20-026C | 110 |
| 18-142LF | 162 | 18-180L | 79 | 18-214 | 77 | 18-250 | 82 | 18-314 | 83 | 20-026N | 101 |
| 18-143 | 78 | 18-180LF | 162 | 18-215 | 77 | 18-251 | 82 | 18-316 | 83 | 20-027 | 95 |
| 18-143LF | 162 | 18-181 | 79 | 18-220 | 80 | 18-252 | 82 | 18-321 | 83 | 20-027C | 110 |
| 18-144 | 78 | 18-181LF | 162 | 18-220B | 80 | 18-253 | 82 | 18-322 | 83 | 20-028 | 95 |
| 18-145 | 78 | 18-182 | 79 | 18-221 | 80 | 18-253B | 82 | 18-323 | 83 | 20-028C | 110 |
| 18-145L | 78 | 18-182LF | 162 | 18-221B | 80 | 18-253LF | 162 | 18-324 | 83 | 20-028N | 101 |
| 18-145LF | 162 | 18-183 | 79 | 18-221LF | 162 | 18-254 | 82 | 18-325 | 83 | 20-028P | 298 |
| 18-146 | 78 | 18-183LF | 162 | 18-223 | 80 | 18-254LF | 162 | 18-326 | 83 | 20-029 | 95 |
| 18-146L | 78 | 18-184 | 79 | 18-224 | 80 | 18-255 | 82 | 18-327 | 83 | 20-029C | 110 |
| 18-146LF | 162 | 18-184L | 79 | 18-224B | 80 | 18-256 | 82 | 18-328 | 83 | 20-029N | 101 |
| 18-147LF | 162 | 18-184LF | 162 | 18-224LF | 162 | 18-257 | 82 | 18-329 | 83 | 20-029P | 298 |
| 18-148 | 78 | 18-185 | 79 | 18-225 | 80 | 18-258 | 82 | 18-330 | 83 | 20-030 | 95 |
| 18-148LF | 162 | 18-186 | 79 | 18-225B | 80 | 18-259 | 82 | 18-331 | 83 | 20-030C | 110 |
| 18-149 | 78 | 18-187 | 79 | 18-225LF | 162 | 18-259LF | 162 | 18-332 | 83 | 20-030N | 101 |
| 18-150 | 78 | 18-187L | 79 | 18-226 | 80 | 18-260 | 82 | 18-333 | 83 | 20-030P | 298 |
| 18-150LF | 162 | 18-187LF | 162 | 18-226LF | 162 | 18-260LF | 162 | 18-334 | 83 | 20-031 | 95 |
| 18-151LF | 162 | 18-188 | 79 | 18-227 | 80 | 18-261 | 82 | 18-335 | 83 | 20-031C | 110 |
| 18-152 | 78 | 18-188L | 79 | 18-227LF | 162 | 18-262 | 82 | 18-336 | 83 | 20-031N | 101 |
| 18-152LF | 162 | 18-188LF | 162 | 18-228 | 80 | 18-262LF | 162 | 18-338 | 83 | 20-031P | 298 |
| 18-153 | 78 | 18-189 | 79 | 18-228B | 80 | 18-263 | 82 | 18-339 | 83 | 20-032 | 95 |
| 18-153L | 78 | 18-189L | 79 | 18-228LF | 162 | 18-263LF | 162 | 20-001C | 110 | 20-032N | 101 |
| 18-153LF | 162 | 18-189LF | 162 | 18-229 | 80 | 18-264 | 82 | 20-009 | 99 | 20-034 | 95 |
| 18-154 | 78 | 18-190 | 79 | 18-229B | 80 | 18-264LF | 162 | 20-010 | 99 | 20-034C | 110 |
| 18-154L | 78 | 18-190L | 79 | 18-229LF | 162 | 18-265 | 82 | 20-011 | 99 | 20-034N | 101 |
| 18-154LF | 162 | 18-190LF | 162 | 18-230 | 80 | 18-266 | 82 | 20-012 | 95 | 20-035 | 95 |
| 18-155 | 78 | 18-191 | 79 | 18-231 | 80 | 18-267 | 82 | 20-013 | 99 | 20-035C | 110 |
| 18-155LF | 162 | 18-191LF | 162 | 18-232 | 80 | 18-267LF | 162 | 20-015C | 110 | 20-035N | 101 |
| 18-156 | 78 | 18-192 | 79 | 18-232B | 80 | 18-268 | 82 | 20-015N | 101 | 20-035P | 298 |
| 18-156LF | 162 | 18-192LF | 162 | 18-232LF | 162 | 18-269 | 82 | 20-016C | 110 | 20-036 | 95 |
| 18-157 | 78 | 18-193 | 79 | 18-233 | 80 | 18-270 | 82 | 20-016N | 101 | 20-036C | 110 |
| 18-158 | 78 | 18-193L | 79 | 18-233B | 80 | 18-272 | 81 | 20-017 | 95 | 20-036N | 101 |
| 18-158L | 78 | 18-193LF | 162 | 18-233LF | 162 | 18-273 | 81 | 20-017C | 110 | 20-036P | 298 |
| 18-158LF | 162 | 18-194 | 79 | 18-234 | 80 | 18-274 | 81 | 20-017N | 101 | 20-037 | 95 |
| 18-159 | 78 | 18-194L | 79 | 18-234B | 80 | 18-275 | 81 | 20-018 | 95 | 20-037C | 110 |
| 18-159L | 78 | 18-194LF | 162 | 18-234LF | 162 | 18-276 | 81 | 20-018C | 110 | 20-037N | 101 |
| 18-159LF | 162 | 18-195 | 79 | 18-235 | 80 | 18-277 | 81 | 20-018N | 101 | 20-038 | 95 |
| 18-160 | 78 | 18-195L | 79 | 18-235B | 80 | 18-278 | 81 | 20-018P | 298 | 20-038N | 101 |
| 18-160LF | 162 | 18-195LF | 162 | 18-235LF | 162 | 18-279 | 81 | 20-019 | 95 | 20-039 | 96 |
| 18-162 | 78 | 18-196 | 79 | 18-236 | 80 | 18-280 | 81 | 20-019C | 110 | 20-045 | 96 |
| 18-162L | 78 | 18-196LF | 162 | 18-236LF | 162 | 18-281 | 81 | 20-019N | 101 | 20-046 | 96 |
| 18-162LF | 162 | 18-197 | 79 | 18-237 | 80 | 18-282 | 81 | 20-019P | 298 | 20-046N | 102 |
| 18-163 | 78 | 18-197LF | 162 | 18-237B | 80 | 18-283 | 81 | 20-020 | 95 | 20-047 | 96 |
| 18-163LF | 162 | 18-198 | 79 | 18-237LF | 162 | 18-284 | 81 | 20-020C | 110 | 20-047N | 102 |
| 18-164 | 78 | 18-198LF | 162 | 18-238 | 80 | 18-290 | 81 | 20-020N | 101 | 20-048 | 96 |
| 18-165 | 78 | 18-199 | 79 | 18-238B | 80 | 18-291 | 81 | 20-020P | 298 | 20-048N | 102 |
| 18-166 | 78 | 18-199LF | 162 | 18-238LF | 162 | 18-291B | 81 | 20-021 | 95 | 20-049 | 96 |
| 18-166LF | 162 | 18-200 | 79 | 18-239 | 80 | 18-292 | 81 | 20-021C | 110 | 20-049C | 111 |

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|---------|------|---------|------|---------|------|---------|------|---------|------|--------|------|
| 20-049N | 102 | 20-071 | 97 | 20-094 | 97 | 20-128C | 113 | 20-167C | 112 | 20-248 | 90 |
| 20-050 | 96 | 20-072 | 97 | 20-094N | 103 | 20-128N | 104 | 20-167N | 103 | 20-249 | 90 |
| 20-050C | 111 | 20-072N | 102 | 20-094S | 97 | 20-128P | 298 | 20-168N | 103 | 20-250 | 90 |
| 20-050N | 102 | 20-072P | 299 | 20-095 | 98 | 20-129 | 99 | 20-170 | 99 | 20-251 | 90 |
| 20-050P | 299 | 20-073 | 97 | 20-095N | 103 | 20-129C | 113 | 20-170C | 113 | 20-252 | 90 |
| 20-051 | 96 | 20-073N | 102 | 20-097 | 98 | 20-129N | 104 | 20-171 | 99 | 20-253 | 90 |
| 20-052 | 96 | 20-073P | 299 | 20-098 | 98 | 20-129P | 298 | 20-171C | 113 | 20-256 | 90 |
| 20-053 | 96 | 20-074 | 97 | 20-099 | 98 | 20-135C | 112 | 20-172 | 99 | 20-257 | 90 |
| 20-053C | 111 | 20-075 | 97 | 20-099C | 112 | 20-136C | 112 | 20-172C | 113 | 20-259 | 90 |
| 20-053N | 102 | 20-076 | 96 | 20-100 | 98 | 20-137C | 112 | 20-173C | 113 | 20-260 | 90 |
| 20-054 | 96 | 20-076N | 103 | 20-100C | 112 | 20-138C | 112 | 20-174 | 98 | 20-261 | 90 |
| 20-054C | 111 | 20-077 | 96 | 20-101 | 98 | 20-139C | 112 | 20-174C | 112 | 20-262 | 90 |
| 20-054N | 102 | 20-077C | 111 | 20-102 | 98 | 20-140C | 112 | 20-174N | 103 | 20-263 | 90 |
| 20-054P | 299 | 20-078 | 96 | 20-103 | 98 | 20-142 | 99 | 20-175C | 113 | 20-265 | 90 |
| 20-055 | 96 | 20-078C | 111 | 20-103C | 112 | 20-143 | 99 | 20-176C | 113 | 20-268 | 90 |
| 20-055C | 111 | 20-079 | 96 | 20-103N | 104 | 20-149C | 110 | 20-179C | 113 | 20-269 | 90 |
| 20-055N | 102 | 20-079C | 111 | 20-104 | 98 | 20-150 | 95 | 20-181C | 112 | 20-271 | 90 |
| 20-055P | 299 | 20-079N | 103 | 20-104C | 112 | 20-150C | 110 | 20-181N | 103 | 20-272 | 90 |
| 20-056 | 96 | 20-080 | 96 | 20-104N | 104 | 20-150N | 101 | 20-182C | 110 | 20-273 | 90 |
| 20-056C | 111 | 20-080C | 111 | 20-105 | 98 | 20-151 | 95 | 20-184C | 111 | 20-274 | 90 |
| 20-056N | 102 | 20-080N | 103 | 20-105C | 112 | 20-151C | 110 | 20-184N | 103 | 20-275 | 90 |
| 20-056P | 299 | 20-081 | 96 | 20-105N | 104 | 20-151N | 101 | 20-185C | 110 | 20-276 | 90 |
| 20-057 | 96 | 20-081C | 111 | 20-106 | 98 | 20-152 | 95 | 20-187C | 113 | 20-277 | 90 |
| 20-057C | 111 | 20-081N | 103 | 20-106C | 112 | 20-152C | 110 | 20-188C | 113 | 20-278 | 90 |
| 20-057N | 102 | 20-082 | 96 | 20-106N | 104 | 20-152N | 101 | 20-189C | 113 | 20-279 | 90 |
| 20-057P | 299 | 20-082C | 111 | 20-107 | 98 | 20-152P | 298 | 20-192 | 97 | 20-282 | 90 |
| 20-058 | 96 | 20-082N | 103 | 20-107C | 112 | 20-153 | 95 | 20-193C | 113 | 20-287 | 90 |
| 20-058C | 111 | 20-083 | 96 | 20-107N | 104 | 20-153C | 110 | 20-194C | 113 | 20-288 | 90 |
| 20-058N | 102 | 20-083C | 111 | 20-108 | 98 | 20-153N | 101 | 20-195C | 113 | 20-289 | 90 |
| 20-058P | 299 | 20-083N | 103 | 20-108C | 112 | 20-153P | 298 | 20-200 | 89 | 20-290 | 90 |
| 20-059 | 96 | 20-084 | 96 | 20-108N | 104 | 20-154 | 95 | 20-201 | 92 | 20-291 | 90 |
| 20-059C | 111 | 20-084C | 111 | 20-109 | 98 | 20-154C | 110 | 20-203 | 92 | 20-292 | 90 |
| 20-059N | 102 | 20-084N | 103 | 20-109C | 112 | 20-154N | 101 | 20-204 | 92 | 20-293 | 90 |
| 20-059P | 299 | 20-085 | 96 | 20-109N | 104 | 20-154P | 298 | 20-205 | 92 | 20-294 | 90 |
| 20-060 | 96 | 20-085C | 111 | 20-110 | 98 | 20-155 | 95 | 20-206 | 92 | 20-295 | 90 |
| 20-060C | 111 | 20-085N | 103 | 20-110C | 112 | 20-155C | 110 | 20-207 | 92 | 20-296 | 90 |
| 20-060N | 102 | 20-086 | 96 | 20-110N | 104 | 20-155N | 101 | 20-208 | 92 | 20-300 | 91 |
| 20-061 | 96 | 20-086C | 111 | 20-111 | 98 | 20-155P | 298 | 20-211 | 89 | 20-301 | 91 |
| 20-061C | 111 | 20-086N | 103 | 20-111C | 112 | 20-156N | 104 | 20-212 | 89 | 20-302 | 91 |
| 20-061N | 102 | 20-087 | 96 | 20-111N | 104 | 20-157N | 104 | 20-213 | 89 | 20-303 | 91 |
| 20-061P | 299 | 20-087C | 111 | 20-112 | 98 | 20-158C | 112 | 20-214 | 89 | 20-304 | 91 |
| 20-062 | 96 | 20-087N | 103 | 20-112N | 104 | 20-158N | 104 | 20-218 | 92 | 20-305 | 91 |
| 20-062C | 111 | 20-088 | 96 | 20-113 | 98 | 20-159N | 103 | 20-219 | 92 | 20-308 | 91 |
| 20-062N | 102 | 20-088C | 111 | 20-115 | 98 | 20-160 | 98 | 20-220 | 92 | 20-309 | 91 |
| 20-062P | 299 | 20-088N | 103 | 20-116 | 98 | 20-160C | 112 | 20-221 | 92 | 20-310 | 91 |
| 20-063 | 96 | 20-089 | 97 | 20-117 | 98 | 20-161 | 98 | 20-222 | 92 | 20-311 | 91 |
| 20-063C | 111 | 20-089C | 112 | 20-118 | 98 | 20-162 | 98 | 20-223 | 92 | 20-312 | 91 |
| 20-063N | 102 | 20-089N | 103 | 20-119 | 98 | 20-162C | 112 | 20-227 | 92 | 20-313 | 91 |
| 20-063P | 299 | 20-089S | 97 | 20-120 | 98 | 20-162N | 103 | 20-228 | 92 | 20-314 | 91 |
| 20-064 | 97 | 20-090 | 97 | 20-121C | 112 | 20-163 | 98 | 20-229 | 92 | 20-317 | 91 |
| 20-065 | 97 | 20-090C | 112 | 20-123N | 104 | 20-163C | 112 | 20-230 | 92 | 20-318 | 91 |
| 20-066 | 97 | 20-090N | 103 | 20-124 | 99 | 20-163N | 103 | 20-231 | 92 | 20-319 | 91 |
| 20-067 | 97 | 20-090S | 97 | 20-124N | 104 | 20-164 | 98 | 20-232 | 92 | 20-320 | 91 |
| 20-068 | 97 | 20-091 | 97 | 20-125 | 99 | 20-164N | 103 | 20-235 | 89 | 20-321 | 91 |
| 20-068N | 102 | 20-091C | 112 | 20-125N | 104 | 20-165 | 98 | 20-237 | 89 | 20-322 | 91 |
| 20-068P | 299 | 20-091N | 103 | 20-126 | 99 | 20-165C | 112 | 20-240 | 89 | 20-323 | 91 |
| 20-069 | 97 | 20-091S | 97 | 20-127 | 99 | 20-165N | 103 | 20-241 | 89 | 20-324 | 91 |
| 20-069N | 102 | 20-092 | 96 | 20-127C | 113 | 20-166 | 98 | 20-242 | 89 | 20-327 | 91 |
| 20-069P | 299 | 20-092C | 111 | 20-127N | 104 | 20-166C | 112 | 20-243 | 89 | 20-328 | 91 |
| 20-070 | 97 | 20-092N | 103 | 20-127P | 298 | 20-166N | 103 | 20-244 | 89 | 20-330 | 90 |
| 20-070P | 299 | 20-093 | 98 | 20-128 | 99 | 20-167 | 98 | 20-245 | 89 | 20-333 | 89 |

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|---------|------|---------|------|---------|------|---------|------|---------|------|
| 20-334 | 89 | 20-582C | 111 | 20-668N | 107 | 20-714 | 115 | 20-763P | 299 |
| 20-337 | 89 | 20-583C | 111 | 20-669N | 107 | 20-714N | 106 | 20-776P | 299 |
| 20-338 | 89 | 20-584C | 111 | 20-670 | 115 | 20-715N | 106 | 20-777P | 299 |
| 20-339 | 89 | 20-591C | 112 | 20-670N | 107 | 20-716N | 107 | 20-779P | 299 |
| 20-487C | 113 | 20-595C | 112 | 20-672 | 115 | 20-717 | 115 | 20-780 | 355 |
| 20-488C | 113 | 20-596C | 112 | 20-672N | 107 | 20-717N | 107 | 20-780C | 113 |
| 20-489C | 113 | 20-597C | 112 | 20-673 | 115 | 20-718 | 115 | 20-781C | 113 |
| 20-510 | 99 | 20-598C | 112 | 20-673N | 107 | 20-718N | 107 | 20-782C | 113 |
| 20-510N | 104 | 20-600 | 114 | 20-674 | 115 | 20-719 | 115 | 20-785C | 113 |
| 20-511 | 99 | 20-601 | 114 | 20-674N | 107 | 20-719N | 107 | 20-786C | 113 |
| 20-511N | 104 | 20-602 | 114 | 20-675 | 115 | 20-720 | 115 | 20-787C | 113 |
| 20-512 | 99 | 20-603 | 114 | 20-676 | 115 | 20-720N | 107 | 20-788C | 113 |
| 20-512N | 104 | 20-604 | 114 | 20-676N | 107 | 20-721 | 115 | 20-789C | 113 |
| 20-512P | 299 | 20-610 | 114 | 20-677 | 115 | 20-721N | 107 | 20-801 | 114 |
| 20-513N | 104 | 20-611 | 114 | 20-677N | 107 | 20-722N | 107 | 20-801N | 106 |
| 20-514N | 104 | 20-612 | 114 | 20-678 | 115 | 20-724P | 298 | 20-803 | 115 |
| 20-514P | 299 | 20-613 | 114 | 20-678N | 107 | 20-725P | 298 | 20-803N | 106 |
| 20-515C | 110 | 20-614 | 114 | 20-679 | 115 | 20-727C | 113 | 20-805 | 115 |
| 20-516C | 110 | 20-619N | 106 | 20-679N | 107 | 20-728C | 113 | 20-805N | 106 |
| 20-517C | 111 | 20-620N | 106 | 20-680 | 115 | 20-731N | 107 | 20-806 | 114 |
| 20-518C | 111 | 20-621N | 106 | 20-680N | 107 | 20-732N | 107 | 20-807 | 114 |
| 20-519C | 112 | 20-622N | 106 | 20-682 | 115 | 20-732P | 298 | 20-808 | 114 |
| 20-524P | 299 | 20-623N | 106 | 20-682N | 107 | 20-733N | 107 | 20-809 | 115 |
| 20-525P | 299 | 20-624N | 106 | 20-683 | 115 | 20-733P | 298 | 20-809N | 107 |
| 20-528P | 299 | 20-625N | 106 | 20-683N | 107 | 20-734N | 107 | 20-810 | 115 |
| 20-529P | 299 | 20-626N | 106 | 20-684 | 115 | 20-734P | 298 | 20-810N | 107 |
| 20-530 | 96 | 20-627N | 106 | 20-684N | 107 | 20-735N | 107 | 20-811 | 115 |
| 20-530C | 111 | 20-628N | 106 | 20-685 | 115 | 20-736N | 107 | 20-811N | 107 |
| 20-530N | 102 | 20-629N | 106 | 20-686 | 115 | 20-736P | 298 | 20-813 | 116 |
| 20-531 | 96 | 20-630 | 114 | 20-686N | 107 | 20-737N | 107 | 20-813N | 108 |
| 20-531C | 111 | 20-630N | 106 | 20-687 | 115 | 20-740 | 114 | 20-814 | 116 |
| 20-531N | 102 | 20-631 | 114 | 20-687N | 107 | 20-740P | 299 | 20-814N | 108 |
| 20-531P | 299 | 20-631N | 106 | 20-688 | 115 | 20-742P | 299 | 20-815 | 116 |
| 20-532 | 96 | 20-632 | 114 | 20-688N | 107 | 20-743P | 299 | 20-815N | 108 |
| 20-532N | 102 | 20-632N | 106 | 20-689 | 115 | 20-744N | 108 | 20-816 | 116 |
| 20-532P | 299 | 20-633 | 114 | 20-689N | 107 | 20-745N | 108 | 20-817 | 116 |
| 20-535 | 96 | 20-633N | 106 | 20-690 | 115 | 20-745P | 299 | 20-818 | 116 |
| 20-535C | 111 | 20-634 | 114 | 20-690N | 107 | 20-746 | 116 | 20-819 | 116 |
| 20-535N | 103 | 20-634N | 106 | 20-691N | 107 | 20-746N | 108 | 20-820 | 116 |
| 20-537C | 111 | 20-635 | 114 | 20-692 | 115 | 20-747P | 299 | 20-821 | 116 |
| 20-537N | 103 | 20-635N | 106 | 20-698 | 115 | 20-748N | 108 | 20-822 | 116 |
| 20-538 | 96 | 20-636 | 114 | 20-699 | 115 | 20-748P | 299 | 20-823 | 116 |
| 20-538C | 111 | 20-636N | 106 | 20-700N | 106 | 20-749N | 108 | 20-824 | 116 |
| 20-538N | 103 | 20-637 | 114 | 20-701N | 106 | 20-750N | 108 | 20-825 | 116 |
| 20-539 | 96 | 20-637N | 106 | 20-702N | 106 | 20-750P | 298 | 20-826 | 116 |
| 20-539C | 111 | 20-638 | 114 | 20-702P | 298 | 20-751N | 108 | 20-827 | 116 |
| 20-539N | 103 | 20-638N | 106 | 20-703N | 106 | 20-752N | 108 | 20-827 | 116 |
| 20-551 | 99 | 20-642 | 115 | 20-703P | 298 | 20-753N | 108 | 20-830C | 112 |
| 20-551C | 110 | 20-642N | 106 | 20-704N | 106 | 20-753P | 298 | 20-831C | 112 |
| 20-552 | 99 | 20-655 | 115 | 20-705N | 106 | 20-754N | 108 | 20-832C | 112 |
| 20-553 | 99 | 20-655N | 106 | 20-706N | 106 | 20-754P | 298 | 20-833C | 112 |
| 20-553C | 110 | 20-656 | 115 | 20-707N | 106 | 20-755N | 108 | 20-834C | 112 |
| 20-553N | 104 | 20-656N | 106 | 20-708N | 106 | 20-755P | 298 | 20-835C | 112 |
| 20-555C | 110 | 20-657 | 115 | 20-709N | 106 | 20-756N | 108 | 20-841N | 102 |
| 20-557C | 113 | 20-657N | 106 | 20-710N | 106 | 20-756P | 298 | 20-842N | 102 |
| 20-572C | 111 | 20-658 | 115 | 20-711 | 115 | 20-757N | 108 | 20-843N | 102 |
| 20-573C | 111 | 20-658N | 106 | 20-711N | 106 | 20-758N | 108 | 20-844N | 102 |
| 20-574C | 111 | 20-659 | 115 | 20-712 | 115 | 20-758P | 298 | 20-845N | 102 |
| 20-579C | 111 | 20-659N | 106 | 20-712N | 106 | 20-759N | 108 | 20-846N | 102 |
| 20-580C | 111 | 20-660 | 114 | 20-713 | 115 | 20-760N | 108 | 20-847N | 102 |
| 20-581C | 111 | 20-661 | 114 | 20-713N | 106 | 20-762N | 103 | 20-848N | 103 |
| | | | | | | | | 20-850N | 104 |
| | | | | | | | | 20-851N | 103 |
| | | | | | | | | 20-852N | 103 |
| | | | | | | | | 20-853N | 103 |
| | | | | | | | | 20-854 | 115 |
| | | | | | | | | 20-855 | 115 |
| | | | | | | | | 20-856 | 115 |
| | | | | | | | | 20-857 | 115 |
| | | | | | | | | 20-859 | 115 |
| | | | | | | | | 20-860 | 115 |
| | | | | | | | | 20-861 | 114 |
| | | | | | | | | 20-862 | 114 |
| | | | | | | | | 20-876P | 299 |
| | | | | | | | | 20-878P | 299 |
| | | | | | | | | 20-880P | 299 |
| | | | | | | | | 20-881P | 299 |
| | | | | | | | | 20-900P | 299 |
| | | | | | | | | 20-901P | 299 |
| | | | | | | | | 20-904P | 299 |
| | | | | | | | | 20-905P | 299 |
| | | | | | | | | 20-925P | 299 |
| | | | | | | | | 20-927P | 299 |
| | | | | | | | | 20-944P | 298 |
| | | | | | | | | 20-993P | 298 |
| | | | | | | | | 21-003 | 26 |
| | | | | | | | | 21-007 | 26 |
| | | | | | | | | 21-009 | 26 |
| | | | | | | | | 21-021 | 26 |
| | | | | | | | | 21-023 | 26 |
| | | | | | | | | 21-025 | 26 |
| | | | | | | | | 21-027 | 26 |
| | | | | | | | | 21-043 | 26 |
| | | | | | | | | 21-082 | 26 |
| | | | | | | | | 21-083 | 26 |
| | | | | | | | | 21-095 | 26 |
| | | | | | | | | 21-097 | 26 |
| | | | | | | | | 21-099 | 26 |
| | | | | | | | | 21-109 | 26 |
| | | | | | | | | 21-111 | 26 |
| | | | | | | | | 21-113 | 26 |
| | | | | | | | | 21-115 | 26 |
| | | | | | | | | 21-117 | 26 |
| | | | | | | | | 21-119 | 26 |
| | | | | | | | | 21-121 | 26 |
| | | | | | | | | 21-133 | 26 |
| | | | | | | | | 21-151 | 26 |
| | | | | | | | | 21-153 | 26 |
| | | | | | | | | 21-155 | 26 |
| | | | | | | | | 21-159 | 26 |
| | | | | | | | | 21-161 | 26 |
| | | | | | | | | 21-178 | 273 |
| | | | | | | | | 21-193 | 26 |
| | | | | | | | | 21-195 | 26 |
| | | | | | | | | 21-197 | 26 |
| | | | | | | | | 21-207 | 26 |
| | | | | | | | | 22-008 | 86 |
| | | | | | | | | 22-009 | 86 |
| | | | | | | | | 22-009A | 86 |
| | | | | | | | | 22-010 | 86 |
| | | | | | | | | 22-010A | 86 |
| | | | | | | | | 22-010B | 86 |

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|-----------------|------|-----------------|------|-----------------|------|-----------------|------|-----------------|------|---------------|------|
| 22-010LF..... | 160 | 2404-8-12..... | 400 | 2500-2-2..... | 401 | 26-003..... | 87 | 26-291..... | 87 | 28-010..... | 2 |
| 22-011..... | 86 | 2404-8-16..... | 400 | 2500-24-24..... | 401 | 26-004..... | 87 | 26-292..... | 87 | 28-010LF..... | 155 |
| 22-011A..... | 86 | 2404-8-4..... | 400 | 2500-32-32..... | 401 | 26-005..... | 87 | 26-293..... | 87 | 28-011..... | 2 |
| 22-011LF..... | 160 | 2404-8-6..... | 400 | 2500-4-4..... | 401 | 26-007..... | 87 | 26-296..... | 87 | 28-011LF..... | 155 |
| 22-012..... | 86 | 2404-8-8..... | 400 | 2500-5-5..... | 401 | 26-008..... | 87 | 27-001..... | 86 | 28-012..... | 2 |
| 22-012LF..... | 160 | 2405-10-6..... | 400 | 2500-6-4..... | 401 | 26-009..... | 87 | 2700-10..... | 402 | 28-012LF..... | 155 |
| 22-013..... | 86 | 2405-10-8..... | 400 | 2500-6-6..... | 401 | 26-011..... | 87 | 2700-12..... | 402 | 28-013..... | 2 |
| 22-013LF..... | 160 | 2405-12-12..... | 400 | 2500-8-6..... | 401 | 2601-12-12..... | 402 | 2700-14..... | 402 | 28-013LF..... | 155 |
| 22-014..... | 86 | 2405-12-8..... | 400 | 2500-8-8..... | 401 | 26-014..... | 87 | 2700-16..... | 402 | 28-014..... | 2 |
| 22-014LF..... | 160 | 2405-16-12..... | 400 | 2501-10-6..... | 401 | 2601-4-4..... | 402 | 27-002..... | 86 | 28-015..... | 2 |
| 22-015..... | 86 | 2405-16-16..... | 400 | 2501-10-8..... | 401 | 26-015..... | 87 | 2700-2-2..... | 402 | 28-016..... | 2 |
| 24-002..... | 86 | 2405-20-20..... | 400 | 2501-12-12..... | 401 | 26-016..... | 87 | 27-003..... | 86 | 28-017..... | 2 |
| 24-003..... | 86 | 2405-2-2..... | 400 | 2501-12-16..... | 401 | 2601-6-6..... | 402 | 2700-4-4..... | 402 | 28-018..... | 2 |
| 24-004..... | 86 | 2405-24-24..... | 400 | 2501-12-8..... | 401 | 2601-8-8..... | 402 | 27-005..... | 86 | 28-019..... | 2 |
| 24-005..... | 86 | 2405-3-2..... | 400 | 2501-16-12..... | 401 | 26-021..... | 87 | 2700-5-5..... | 402 | 28-020..... | 2 |
| 24-006..... | 86 | 2405-32-32..... | 400 | 2501-16-16..... | 401 | 26-023..... | 87 | 27-006..... | 86 | 28-023..... | 2 |
| 24-007..... | 86 | 2405-4-2..... | 400 | 2501-16-20..... | 401 | 2602-4-4..... | 402 | 2700-6-6..... | 402 | 28-024..... | 2 |
| 24-008..... | 86 | 2405-4-4..... | 400 | 2501-20-20..... | 401 | 2602-6-6..... | 402 | 2700-8..... | 402 | 28-025..... | 2 |
| 2403-10-10..... | 399 | 2405-6-4..... | 400 | 2501-24-24..... | 401 | 2602-8-8..... | 402 | 2701-10..... | 403 | 28-026..... | 2 |
| 2403-10-8..... | 399 | 2405-6-6..... | 400 | 2501-32-32..... | 401 | 2603-10-10..... | 402 | 2701-12..... | 403 | 28-027..... | 2 |
| 2403-12-10..... | 399 | 2405-8-4..... | 400 | 2501-4-2..... | 401 | 2603-12-12..... | 402 | 2701-16..... | 403 | 28-028..... | 2 |
| 2403-12-12..... | 399 | 2405-8-6..... | 400 | 2501-4-4..... | 401 | 2603-16-16..... | 402 | 2701-20..... | 403 | 28-029..... | 3 |
| 2403-12-8..... | 399 | 2405-8-8..... | 400 | 2501-4-8..... | 401 | 2603-2-2..... | 402 | 2701-4..... | 403 | 28-030..... | 3 |
| 2403-14-14..... | 399 | 2406-10-4..... | 400 | 2501-6-2..... | 401 | 2603-3-3..... | 402 | 2701-5..... | 403 | 28-031..... | 3 |
| 2403-16-12..... | 399 | 2406-10-6..... | 400 | 2501-6-4..... | 401 | 2603-4-4..... | 402 | 2701-6..... | 403 | 28-032..... | 2 |
| 2403-16-16..... | 399 | 2406-10-8..... | 400 | 2501-6-6..... | 401 | 2603-6-6..... | 402 | 2701-8..... | 403 | 28-032LF..... | 155 |
| 2403-20-20..... | 399 | 2406-12-10..... | 400 | 2501-6-8..... | 401 | 2603-8-8..... | 402 | 2702-10..... | 403 | 28-033..... | 2 |
| 2403-2-2..... | 399 | 2406-12-4..... | 400 | 2501-8-12..... | 401 | 26-062..... | 87 | 2702-12..... | 403 | 28-033LF..... | 155 |
| 2403-24..... | 399 | 2406-12-6..... | 400 | 2501-8-4..... | 401 | 26-063..... | 87 | 2702-16..... | 403 | 28-034..... | 2 |
| 2403-32..... | 399 | 2406-12-8..... | 400 | 2501-8-6..... | 401 | 26-064..... | 87 | 2702-4..... | 403 | 28-034LF..... | 155 |
| 2403-3-3..... | 399 | 2406-16-12..... | 400 | 2501-8-8..... | 401 | 26-065..... | 87 | 2702-6..... | 403 | 28-035..... | 2 |
| 2403-4-4..... | 399 | 2406-16-20..... | 400 | 2502-12-12..... | 401 | 26-066..... | 87 | 2702-8..... | 403 | 28-035LF..... | 155 |
| 2403-5-5..... | 399 | 2406-16-4..... | 400 | 2502-16-16..... | 401 | 26-079..... | 87 | 2703-10..... | 403 | 28-036..... | 2 |
| 2403-6-4..... | 399 | 2406-20-12..... | 400 | 2502-20-20..... | 401 | 26-102..... | 87 | 2703-12..... | 403 | 28-036LF..... | 155 |
| 2403-6-6..... | 399 | 2406-20-16..... | 400 | 2502-4-2..... | 401 | 26-103..... | 87 | 2703-16..... | 403 | 28-038..... | 3 |
| 2403-8-6..... | 399 | 2406-24-16..... | 400 | 2502-4-4..... | 401 | 26-105..... | 87 | 2703-4..... | 403 | 28-039..... | 3 |
| 2403-8-8..... | 399 | 2406-32-24..... | 400 | 2502-6-4..... | 401 | 26-145..... | 87 | 2703-6..... | 403 | 28-041..... | 3 |
| 2404-10-12..... | 400 | 2406-6-4..... | 400 | 2502-6-6..... | 401 | 26-153..... | 87 | 2703-8..... | 403 | 28-042..... | 3 |
| 2404-10-8..... | 400 | 2406-6-8..... | 400 | 2502-8-6..... | 401 | 26-176..... | 87 | 2704-10..... | 403 | 28-043..... | 3 |
| 2404-12-12..... | 400 | 2406-8-12..... | 400 | 2502-8-8..... | 401 | 26-177..... | 87 | 2704-12..... | 403 | 28-044..... | 3 |
| 2404-12-16..... | 400 | 2406-8-4..... | 400 | 2503-10-8..... | 402 | 26-179..... | 87 | 2704-16..... | 403 | 28-045..... | 3 |
| 2404-12-6..... | 400 | 2406-8-6..... | 400 | 2503-12-12..... | 402 | 26-180..... | 87 | 2704-4..... | 403 | 28-046..... | 3 |
| 2404-12-8..... | 400 | 2408-10..... | 401 | 2503-12-16..... | 402 | 26-181..... | 87 | 2704-6..... | 403 | 28-047..... | 3 |
| 2404-16-12..... | 400 | 2408-12..... | 401 | 2503-16-16..... | 402 | 26-183..... | 87 | 2704-8..... | 403 | 28-048..... | 3 |
| 2404-16-16..... | 400 | 2408-14..... | 401 | 2503-16-20..... | 402 | 26-184..... | 87 | 2705-12-12..... | 403 | 28-049..... | 3 |
| 2404-20-16..... | 400 | 2408-16..... | 401 | 2503-20-16..... | 402 | 26-188..... | 87 | 2705-16-16..... | 403 | 28-050..... | 3 |
| 2404-20-20..... | 400 | 2408-2..... | 401 | 2503-20-20..... | 402 | 26-189..... | 87 | 2705-4-4..... | 403 | 28-051..... | 3 |
| 2404-2-2..... | 400 | 2408-20..... | 401 | 2503-2-2..... | 402 | 26-190..... | 87 | 2705-6-6..... | 403 | 28-052..... | 3 |
| 2404-24-16..... | 400 | 2408-24..... | 401 | 25-033..... | 85 | 26-195..... | 87 | 2705-8-8..... | 403 | 28-058..... | 3 |
| 2404-24-20..... | 400 | 2408-3..... | 401 | 2503-4-4..... | 402 | 26-220..... | 87 | 2706-12-12..... | 403 | 28-058L..... | 3 |
| 2404-24-24..... | 400 | 2408-32..... | 401 | 2503-6-4..... | 402 | 26-220B..... | 87 | 2706-16-16..... | 403 | 28-058LF..... | 155 |
| 2404-32-24..... | 400 | 2408-4..... | 401 | 2503-6-6..... | 402 | 26-221..... | 87 | 2706-4-4..... | 403 | 28-059..... | 3 |
| 2404-32-32..... | 400 | 2408-5..... | 401 | 2503-6-8..... | 402 | 26-224..... | 87 | 2706-6-6..... | 403 | 28-059L..... | 3 |
| 2404-4-2..... | 400 | 2408-6..... | 401 | 2503-8-6..... | 402 | 26-224B..... | 87 | 2706-8-8..... | 403 | 28-059LF..... | 155 |
| 2404-4-4..... | 400 | 2408-8..... | 401 | 2503-8-8..... | 402 | 26-225..... | 87 | 28-001..... | 2 | 28-060..... | 3 |
| 2404-4-6..... | 400 | 248.68..... | 220 | 25-062..... | 85 | 26-225B..... | 87 | 28-002..... | 2 | 28-060L..... | 3 |
| 2404-4-8..... | 400 | 25-001..... | 85 | 25-175..... | 85 | 26-228..... | 87 | 28-003..... | 2 | 28-060LF..... | 155 |
| 2404-6-2..... | 400 | 2500-10-10..... | 401 | 25-176..... | 85 | 26-229..... | 87 | 28-004..... | 2 | 28-061..... | 3 |
| 2404-6-4..... | 400 | 2500-12-12..... | 401 | 25-220..... | 85 | 26-233..... | 87 | 28-005..... | 2 | 28-061L..... | 3 |
| 2404-6-6..... | 400 | 2500-16-16..... | 401 | 26-001..... | 87 | 26-237..... | 87 | 28-009..... | 2 | 28-061LF..... | 155 |
| 2404-6-8..... | 400 | 2500-20-20..... | 401 | 26-002..... | 87 | 26-238..... | 87 | 28-009LF..... | 155 | 28-062..... | 3 |

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|---------------|------|---------------|------|---------------|------|---------------|------|---------------|------|
| 28-062L..... | 3 | 28-109LF..... | 155 | 28-150..... | 7 | 28-198..... | 9 | 28-245..... | 9 |
| 28-063..... | 3 | 28-110L..... | 5 | 28-151..... | 7 | 28-199..... | 9 | 28-246..... | 9 |
| 28-067..... | 4 | 28-110LF..... | 155 | 28-152..... | 7 | 28-201..... | 6 | 28-246LF..... | 157 |
| 28-068..... | 4 | 28-111..... | 5 | 28-153..... | 7 | 28-201LF..... | 156 | 28-247..... | 9 |
| 28-069..... | 4 | 28-111L..... | 5 | 28-154..... | 7 | 28-201S..... | 7 | 28-248..... | 9 |
| 28-070..... | 4 | 28-111LF..... | 155 | 28-155..... | 7 | 28-202..... | 6 | 28-249..... | 9 |
| 28-075..... | 4 | 28-112..... | 5 | 28-156..... | 4 | 28-202LF..... | 156 | 28-253..... | 9 |
| 28-075LF..... | 156 | 28-112LF..... | 155 | 28-156S..... | 4 | 28-202S..... | 7 | 28-254..... | 9 |
| 28-076..... | 4 | 28-113..... | 5 | 28-157..... | 4 | 28-203..... | 6 | 28-255..... | 9 |
| 28-076LF..... | 156 | 28-114..... | 5 | 28-157S..... | 4 | 28-203S..... | 7 | 28-256..... | 9 |
| 28-077..... | 4 | 28-114LF..... | 155 | 28-158..... | 4 | 28-204..... | 6 | 28-257..... | 9 |
| 28-077LF..... | 156 | 28-115..... | 5 | 28-159..... | 4 | 28-204LF..... | 156 | 28-260..... | 5 |
| 28-078..... | 4 | 28-115LF..... | 155 | 28-160..... | 4 | 28-204S..... | 7 | 28-261..... | 5 |
| 28-078LF..... | 156 | 28-116..... | 6 | 28-165..... | 5 | 28-205..... | 6 | 28-261B..... | 5 |
| 28-079..... | 4 | 28-116LF..... | 155 | 28-165LF..... | 155 | 28-205S..... | 7 | 28-262..... | 5 |
| 28-079LF..... | 156 | 28-117..... | 6 | 28-166..... | 5 | 28-206..... | 6 | 28-263..... | 5 |
| 28-080..... | 4 | 28-117LF..... | 155 | 28-166LF..... | 155 | 28-206S..... | 7 | 28-264..... | 5 |
| 28-084..... | 6 | 28-118..... | 6 | 28-167..... | 5 | 28-207..... | 9 | 28-265..... | 5 |
| 28-084LF..... | 156 | 28-118LF..... | 155 | 28-167LF..... | 155 | 28-208..... | 9 | 28-266..... | 10 |
| 28-085..... | 6 | 28-119..... | 6 | 28-168..... | 5 | 28-208L..... | 9 | 28-267..... | 10 |
| 28-085LF..... | 156 | 28-119LF..... | 155 | 28-168LF..... | 155 | 28-208LF..... | 157 | 28-268..... | 10 |
| 28-086..... | 6 | 28-121..... | 6 | 28-169..... | 5 | 28-209..... | 9 | 28-269..... | 10 |
| 28-086LF..... | 156 | 28-121LF..... | 155 | 28-169LF..... | 155 | 28-211..... | 8 | 28-274..... | 10 |
| 28-087..... | 6 | 28-122..... | 6 | 28-174..... | 6 | 28-211L..... | 8 | 28-275..... | 10 |
| 28-087LF..... | 156 | 28-122LF..... | 155 | 28-175..... | 6 | 28-211LF..... | 156 | 28-276..... | 10 |
| 28-088..... | 6 | 28-123..... | 7 | 28-176..... | 6 | 28-212..... | 8 | 28-281..... | 10 |
| 28-088LF..... | 156 | 28-124..... | 7 | 28-180..... | 4 | 28-212L..... | 8 | 28-281F..... | 10 |
| 28-089..... | 6 | 28-125..... | 7 | 28-181..... | 4 | 28-212LF..... | 156 | 28-282..... | 10 |
| 28-090..... | 6 | 28-126..... | 7 | 28-181L..... | 4 | 28-213..... | 8 | 28-282F..... | 10 |
| 28-092..... | 6 | 28-128..... | 6 | 28-182..... | 4 | 28-213L..... | 8 | 28-283..... | 10 |
| 28-093..... | 6 | 28-128LF..... | 155 | 28-183..... | 4 | 28-213LF..... | 156 | 28-283LF..... | 156 |
| 28-093LF..... | 156 | 28-129..... | 6 | 28-183L..... | 4 | 28-214..... | 8 | 28-284..... | 10 |
| 28-094..... | 6 | 28-129LF..... | 155 | 28-183LF..... | 155 | 28-214L..... | 8 | 28-285..... | 10 |
| 28-094LF..... | 156 | 28-130..... | 6 | 28-184..... | 4 | 28-214LF..... | 156 | 28-290..... | 11 |
| 28-095..... | 6 | 28-130LF..... | 155 | 28-184L..... | 4 | 28-215..... | 8 | 28-291..... | 11 |
| 28-095LF..... | 156 | 28-131..... | 7 | 28-185..... | 4 | 28-215L..... | 8 | 28-292..... | 11 |
| 28-096..... | 6 | 28-131LF..... | 156 | 28-185L..... | 4 | 28-215LF..... | 156 | 28-293..... | 11 |
| 28-096LF..... | 156 | 28-132..... | 7 | 28-185LF..... | 155 | 28-216..... | 8 | 28-294..... | 11 |
| 28-097..... | 6 | 28-132LF..... | 156 | 28-188..... | 4 | 28-216L..... | 8 | 28-295..... | 11 |
| 28-097LF..... | 156 | 28-133..... | 7 | 28-189..... | 4 | 28-220..... | 8 | 28-296..... | 11 |
| 28-098LF..... | 156 | 28-133LF..... | 156 | 28-189LF..... | 155 | 28-220L..... | 8 | 28-298..... | 11 |
| 28-102..... | 5 | 28-134..... | 7 | 28-190..... | 9 | 28-221..... | 8 | 28-299..... | 12 |
| 28-102L..... | 5 | 28-134LF..... | 156 | 28-190L..... | 9 | 28-221L..... | 8 | 28-300..... | 12 |
| 28-102LF..... | 155 | 28-135..... | 7 | 28-191..... | 9 | 28-222..... | 8 | 28-300..... | 12 |
| 28-103..... | 5 | 28-135LF..... | 156 | 28-191L..... | 9 | 28-222L..... | 8 | 28300SS..... | 13 |
| 28-103LF..... | 155 | 28-136..... | 7 | 28-191LF..... | 157 | 28-222LF..... | 156 | 28-301..... | 12 |
| 28-104..... | 5 | 28-140..... | 7 | 28-192..... | 9 | 28-223..... | 8 | 28-301..... | 12 |
| 28-104L..... | 5 | 28-141..... | 7 | 28-192L..... | 9 | 28-223L..... | 8 | 28301SS..... | 13 |
| 28-104LF..... | 155 | 28-142..... | 7 | 28-192LF..... | 157 | 28-224..... | 8 | 28-302..... | 12 |
| 28-105..... | 5 | 28-143..... | 7 | 28-193..... | 9 | 28-224L..... | 8 | 28-302..... | 12 |
| 28-105L..... | 5 | 28-144..... | 7 | 28-193L..... | 9 | 28-224LF..... | 156 | 28-303..... | 12 |
| 28-105LF..... | 155 | 28-144LF..... | 156 | 28-193LF..... | 157 | 28-225..... | 8 | 28-303..... | 12 |
| 28-106..... | 5 | 28-145..... | 7 | 28-194..... | 9 | 28-225LF..... | 156 | 28303SS..... | 13 |
| 28-106L..... | 5 | 28-145LF..... | 156 | 28-194L..... | 9 | 28-230..... | 8 | 28-304..... | 12 |
| 28-106LF..... | 155 | 28-146..... | 7 | 28-195..... | 9 | 28-231..... | 8 | 28-304..... | 12 |
| 28-107..... | 5 | 28-147..... | 7 | 28-195L..... | 9 | 28-232..... | 8 | 28304SS..... | 13 |
| 28-107L..... | 5 | 28-147LF..... | 156 | 28-195LF..... | 157 | 28-233..... | 8 | 28-306..... | 13 |
| 28-107LF..... | 155 | 28-148..... | 7 | 28-196..... | 9 | 28-234..... | 8 | 28-307..... | 13 |
| 28-108..... | 5 | 28-148LF..... | 156 | 28-196L..... | 9 | 28-238..... | 8 | 28-308..... | 13 |
| 28-108LF..... | 155 | 28-149..... | 7 | 28-196LF..... | 157 | 28-239..... | 8 | 28-309..... | 13 |
| 28-109L..... | 5 | 28-149LF..... | 156 | 28-197..... | 9 | 28-240..... | 8 | 28-310..... | 13 |
| | | | | | | | | 28-311..... | 12 |
| | | | | | | | | 28-312..... | 13 |
| | | | | | | | | 28-313..... | 12 |
| | | | | | | | | 28-313..... | 12 |
| | | | | | | | | 28-315..... | 12 |
| | | | | | | | | 28-316..... | 12 |
| | | | | | | | | 28-317..... | 12 |
| | | | | | | | | 28-317..... | 12 |
| | | | | | | | | 28-318..... | 12 |
| | | | | | | | | 28-318..... | 12 |
| | | | | | | | | 28-319..... | 12 |
| | | | | | | | | 28-319..... | 12 |
| | | | | | | | | 28-320..... | 13 |
| | | | | | | | | 28-321..... | 12 |
| | | | | | | | | 28-321..... | 12 |
| | | | | | | | | 28-322..... | 12 |
| | | | | | | | | 28-322..... | 12 |
| | | | | | | | | 28-324..... | 13 |
| | | | | | | | | 28-325..... | 13 |
| | | | | | | | | 28-328..... | 11 |
| | | | | | | | | 28-329..... | 11 |
| | | | | | | | | 28-330..... | 11 |
| | | | | | | | | 28-331..... | 11 |
| | | | | | | | | 28-332..... | 11 |
| | | | | | | | | 28-333..... | 11 |
| | | | | | | | | 28-335..... | 11 |
| | | | | | | | | 28-336..... | 11 |
| | | | | | | | | 28-337..... | 11 |
| | | | | | | | | 28-338..... | 11 |
| | | | | | | | | 28-339..... | 11 |
| | | | | | | | | 28-340..... | 11 |
| | | | | | | | | 28-345..... | 13 |
| | | | | | | | | 28-346..... | 12 |
| | | | | | | | | 28-347..... | 12 |
| | | | | | | | | 28-347..... | 12 |
| | | | | | | | | 28-348..... | 12 |
| | | | | | | | | 28-348..... | 12 |
| | | | | | | | | 28-350..... | 351 |
| | | | | | | | | 28-351..... | 351 |
| | | | | | | | | 28-352..... | 351 |
| | | | | | | | | 28-353..... | 351 |
| | | | | | | | | 28-354..... | 351 |
| | | | | | | | | 28-363..... | 352 |
| | | | | | | | | 28-364..... | 352 |
| | | | | | | | | 28-365..... | 352 |
| | | | | | | | | 28-366..... | 352 |
| | | | | | | | | 28-367..... | 352 |
| | | | | | | | | 28-368..... | 352 |
| | | | | | | | | 28-369..... | 352 |
| | | | | | | | | 28-370..... | 352 |
| | | | | | | | | 28-371..... | 352 |
| | | | | | | | | 28-372..... | 352 |
| | | | | | | | | 28-373..... | 352 |
| | | | | | | | | 28-374..... | 352 |
| | | | | | | | | 28-375..... | 352 |
| | | | | | | | | 28-376..... | 352 |
| | | | | | | | | 28-377..... | 352 |
| | | | | | | | | 28-378..... | 352 |
| | | | | | | | | 28-379..... | 352 |
| | | | | | | | | 28-380..... | 352 |

28-381**NUMERICAL INDEX****29-913**

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|---------|------|----------|------|---------|------|---------|------|---------|------|---------|------|
| 28-381 | 352 | 28-522 | 349 | 28-602W | 290 | 28-665 | 350 | 28-706W | 290 | 28-767W | 292 |
| 28-382 | 352 | 28-523 | 349 | 28-603 | 347 | 28-666 | 350 | 28-707 | 63 | 28-768F | 64 |
| 28400 | 105 | 28-524 | 349 | 28-603B | 290 | 28-666P | 291 | 28-707W | 290 | 28-768W | 292 |
| 28401 | 105 | 28-525S | 348 | 28-603W | 290 | 28-666W | 291 | 28-708 | 63 | 28-770F | 64 |
| 28402 | 105 | 28-526S | 348 | 28-604B | 290 | 28-667 | 350 | 28-708W | 290 | 28-772F | 64 |
| 28403 | 105 | 28-528 | 349 | 28-604W | 290 | 28-667W | 291 | 28-709 | 63 | 28-773F | 64 |
| 28404 | 105 | 28-530 | 349 | 28-605 | 350 | 28-668 | 350 | 28-710 | 63 | 28-774F | 64 |
| 28405 | 105 | 28-531 | 349 | 28-605B | 290 | 28-668P | 291 | 28-711 | 63 | 28-777F | 64 |
| 28407 | 105 | 28-532 | 349 | 28-605W | 290 | 28-668W | 291 | 28-712 | 63 | 28-778F | 64 |
| 28-415 | 17 | 28-533 | 345 | 28-606W | 290 | 28-669 | 350 | 28-713 | 63 | 28-780F | 64 |
| 28-424 | 9 | 28-534 | 345 | 28-607W | 290 | 28-670 | 350 | 28-715 | 63 | 28-781F | 64 |
| 28-425 | 9 | 28-534B | 345 | 28-608 | 350 | 28-671 | 350 | 28-716 | 63 | 28-783F | 64 |
| 28-426 | 9 | 28-534SS | 346 | 28-608W | 290 | 28-671P | 291 | 28-717 | 63 | 28-784F | 64 |
| 28-427 | 9 | 28-535 | 345 | 28-609W | 290 | 28-671W | 291 | 28-718 | 63 | 28-786F | 64 |
| 28-440 | 11 | 28-536 | 349 | 28-611B | 291 | 28-672 | 350 | 28-719 | 63 | 28-803W | 292 |
| 28-441 | 11 | 28-538 | 349 | 28-611W | 291 | 28-672P | 291 | 28-720W | 290 | 28-814P | 291 |
| 28-442 | 11 | 28-540 | 344 | 28-612B | 291 | 28-672W | 291 | 28-721W | 290 | 28-815W | 291 |
| 28-443 | 11 | 28-540S | 344 | 28-612P | 291 | 28-673 | 350 | 28-722F | 64 | 28-818W | 291 |
| 28-450 | 353 | 28-541 | 344 | 28-612W | 291 | 28-674W | 291 | 28-723P | 290 | 28-819P | 290 |
| 28-452 | 353 | 28-541S | 344 | 28-613B | 291 | 28-675 | 350 | 28-723W | 290 | 28-819W | 290 |
| 28-456 | 353 | 28-545 | 345 | 28-613P | 291 | 28-675P | 291 | 28-724F | 64 | 28-820P | 290 |
| 28-458 | 353 | 28-546 | 345 | 28-613W | 291 | 28-675W | 291 | 28-724W | 290 | 28-820W | 290 |
| 28-459 | 353 | 28-546B | 345 | 28-614B | 291 | 28-676 | 350 | 28-725W | 290 | 28-821P | 290 |
| 28-460 | 353 | 28-546SS | 346 | 28-614P | 291 | 28-677 | 350 | 28-726W | 290 | 28-957 | 63 |
| 28-464 | 353 | 28-547 | 345 | 28-614W | 291 | 28-678P | 291 | 28-727W | 290 | 28-958 | 63 |
| 28-465 | 353 | 28-552 | 344 | 28-615P | 291 | 28-678W | 291 | 28-729F | 64 | 28-959 | 63 |
| 28-467 | 353 | 28-552S | 344 | 28-615W | 291 | 28-679 | 350 | 28-731F | 64 | 28-960 | 63 |
| 28-468 | 353 | 28-553 | 344 | 28-616W | 291 | 28-679W | 291 | 28-733F | 64 | 28-961 | 63 |
| 28-469 | 353 | 28-553S | 344 | 28-617W | 291 | 28-680 | 350 | 28-734F | 64 | 28-962 | 63 |
| 28-470 | 353 | 28-557 | 345 | 28-618W | 291 | 28-680P | 291 | 28-736F | 64 | 28-963 | 63 |
| 28-475 | 7 | 28-558 | 345 | 28-619 | 350 | 28-680W | 291 | 28-738F | 64 | 28-964 | 63 |
| 28-481 | 7 | 28-559 | 345 | 28-619W | 291 | 28-681 | 350 | 28-741P | 290 | 28-966 | 63 |
| 28-487 | 7 | 28-560 | 346 | 28-620 | 350 | 28-682W | 291 | 28-741W | 290 | 28-969 | 63 |
| 28-493 | 7 | 28-560SS | 346 | 28-620W | 291 | 28-683 | 349 | 28-742F | 64 | 28-970 | 63 |
| 28-497 | 7 | 28-561 | 345 | 28-621W | 291 | 28-683W | 291 | 28-742P | 290 | 28-971 | 63 |
| 28-498 | 7 | 28-562 | 344 | 28-622W | 291 | 28-684 | 349 | 28-743P | 290 | 28-972 | 63 |
| 28-499 | 7 | 28-562S | 344 | 28-623B | 291 | 28-685 | 349 | 28-743W | 290 | 28-973 | 64 |
| 28-500 | 348 | 28-564 | 344 | 28-623W | 291 | 28-685W | 291 | 28-744P | 290 | 28-974 | 64 |
| 28-501 | 348 | 28-564S | 344 | 28-624B | 291 | 28-686 | 349 | 28-744W | 290 | 28-975 | 64 |
| 28-501B | 348 | 28-565 | 344 | 28-624W | 291 | 28-687 | 349 | 28-745W | 290 | 28-988 | 335 |
| 28-502 | 348 | 28-565S | 345 | 28-625B | 291 | 28-688 | 350 | 28-746W | 290 | 28-989 | 335 |
| 28-503 | 348 | 28-566 | 344 | 28-625W | 291 | 28-690 | 346 | 28-747W | 290 | 28-990 | 335 |
| 28-504 | 348 | 28-566S | 345 | 28-628B | 291 | 28-691 | 346 | 28-748 | 63 | 28-991 | 335 |
| 28-507 | 348 | 28-578 | 347 | 28-628W | 291 | 28-693P | 292 | 28-748W | 290 | 28-996 | 277 |
| 28-507S | 348 | 28-579 | 346 | 28-639 | 350 | 28-694P | 292 | 28-749 | 63 | 28-997 | 277 |
| 28-508 | 348 | 28-579SS | 346 | 28-640 | 350 | 28-695P | 292 | 28-752 | 63 | 28-998 | 277 |
| 28-509 | 348 | 28-583 | 347 | 28-640W | 292 | 28-696P | 292 | 28-753 | 63 | 28-999 | 277 |
| 28-510 | 348 | 28-584 | 347 | 28-641W | 292 | 28-697P | 292 | 28-754 | 63 | 29-900 | 350 |
| 28-510B | 348 | 28-585 | 347 | 28-642W | 292 | 28-698P | 292 | 28-756 | 63 | 29-901 | 350 |
| 28-511 | 348 | 28-586 | 347 | 28-643W | 292 | 28-699P | 292 | 28-760F | 64 | 29-902 | 350 |
| 28-512 | 348 | 28-587 | 347 | 28-651 | 350 | 28-701 | 63 | 28-761P | 292 | 29-903 | 350 |
| 28-513 | 348 | 28-589 | 346 | 28-652 | 350 | 28-701W | 290 | 28-761W | 292 | 29-904 | 350 |
| 28-514S | 348 | 28-592 | 347 | 28-659P | 291 | 28-702 | 63 | 28-762F | 64 | 29-905 | 350 |
| 28-515 | 348 | 28-593 | 347 | 28-659W | 291 | 28-702P | 290 | 28-762P | 292 | 29-906 | 350 |
| 28-516 | 348 | 28-594 | 347 | 28-660P | 291 | 28-703 | 63 | 28-762W | 292 | 29-907 | 350 |
| 28-516S | 348 | 28-595 | 347 | 28-661P | 291 | 28-703W | 290 | 28-763P | 292 | 29-908 | 350 |
| 28-517 | 348 | 28-597 | 347 | 28-661W | 291 | 28-704P | 290 | 28-763W | 292 | 29-909 | 350 |
| 28-518 | 349 | 28-601 | 347 | 28-663P | 291 | 28-704W | 290 | 28-764P | 292 | 29-910 | 350 |
| 28-519S | 348 | 28-601B | 290 | 28-663W | 291 | 28-705 | 63 | 28-764W | 292 | 29-911 | 350 |
| 28-520 | 349 | 28-601W | 290 | 28-664P | 291 | 28-705W | 290 | 28-765W | 292 | 29-912 | 350 |
| 28-521 | 349 | 28-602B | 290 | 28-664W | 291 | 28-706 | 63 | 28-766F | 64 | 29-913 | 350 |

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|----------|------|----------|------|----------|------|----------|------|--------|------|
| 29-914 | 350 | 30-032SS | 42 | 30-140 | 46 | 30-231 | 32 | 30-305 | 31 |
| 300.01 | 225 | 30-033 | 42 | 30-142 | 40 | 30-232 | 32 | 30-306 | 31 |
| 30-000 | 37 | 30-033LF | 158 | 30-149 | 41 | 30-233 | 32 | 30-310 | 34 |
| 300-000 | 351 | 30-033SS | 42 | 30-150 | 40 | 30-234 | 32 | 30-311 | 34 |
| 300-0004 | 312 | 30-034 | 42 | 30-150B | 40 | 30-234SS | 35 | 30-312 | 34 |
| 300-0006 | 312 | 30-034SS | 42 | 30-150R | 40 | 30-235 | 32 | 30-313 | 34 |
| 300-0008 | 312 | 30-035 | 42 | 30-151 | 40 | 30-236 | 32 | 30-314 | 34 |
| 300-001 | 351 | 30-039 | 42 | 30-160 | 46 | 30-237 | 32 | 30-315 | 34 |
| 300-002 | 351 | 30-040 | 42 | 30-161 | 45 | 30-238 | 30 | 30-316 | 34 |
| 300-0020 | 312 | 30-040SS | 42 | 30-162 | 45 | 30-239 | 30 | 30-340 | 34 |
| 300-003 | 351 | 30-041 | 42 | 30-163 | 46 | 30-240 | 32 | 30-341 | 34 |
| 300-004 | 351 | 30-041SS | 42 | 30-180 | 40 | 30-241 | 32 | 30-342 | 34 |
| 300-005 | 312 | 30-042 | 42 | 30-180F | 40 | 30-243 | 32 | 30-343 | 34 |
| 300-006 | 351 | 30-042SS | 42 | 30-181 | 38 | 30-245 | 32 | 30-344 | 34 |
| 300-007 | 351 | 30-043 | 42 | 30-182 | 38 | 30-246 | 32 | 30-345 | 34 |
| 300-008 | 351 | 30-044 | 42 | 30-183 | 38 | 30-247 | 32 | 30-346 | 34 |
| 30-001 | 37 | 30-045 | 42 | 30-184 | 38 | 30-249 | 32 | 30-349 | 34 |
| 300-010 | 312 | 30-046 | 42 | 30-200 | 30 | 30-250 | 33 | 30-358 | 30 |
| 300-012 | 312 | 30-047 | 38 | 30-200LF | 158 | 30-251 | 33 | 30-359 | 30 |
| 300-014 | 351 | 30-047LF | 159 | 30-200SS | 35 | 30-252 | 33 | 30-360 | 30 |
| 300-015 | 351 | 30-048 | 38 | 30-201 | 30 | 30-253 | 33 | 30-361 | 30 |
| 300-016 | 312 | 30-049 | 38 | 30-201LF | 158 | 30-254 | 33 | 30-362 | 30 |
| 300-017 | 351 | 30-049LF | 159 | 30-201SS | 35 | 30-255 | 33 | 30-363 | 30 |
| 300-018 | 351 | 30-050 | 41 | 30-202 | 30 | 30-257 | 33 | 30-366 | 30 |
| 300-019 | 351 | 30-050 | 83 | 30-203 | 30 | 30-258 | 33 | 30-370 | 31 |
| 300-020 | 351 | 30-051 | 41 | 30-203LF | 158 | 30-259 | 33 | 30-371 | 31 |
| 300-021 | 351 | 30-051 | 83 | 30-203SS | 35 | 30-260 | 33 | 30-372 | 31 |
| 300-022 | 351 | 30-052 | 41 | 30-204 | 30 | 30-261 | 33 | 30-373 | 31 |
| 300-023 | 351 | 30-052LF | 158 | 30-204LF | 158 | 30-264 | 33 | 30-374 | 31 |
| 300-024 | 351 | 30-053 | 39 | 30-204SS | 35 | 30-265 | 33 | 30-375 | 31 |
| 300-026 | 351 | 30-055 | 38 | 30-205 | 30 | 30-266 | 33 | 30-376 | 31 |
| 300-028 | 351 | 30-056 | 38 | 30-206 | 30 | 30-266SS | 35 | 30-377 | 31 |
| 300-031 | 351 | 30-058 | 39 | 30-206LF | 158 | 30-267 | 33 | 30-378 | 31 |
| 300-032 | 351 | 30-063 | 39 | 30-206SS | 35 | 30-268 | 33 | 30-379 | 31 |
| 300-033 | 351 | 30-063BE | 39 | 30-207 | 30 | 30-269 | 33 | 30-381 | 31 |
| 300-034 | 351 | 30-063LF | 158 | 30-207LF | 158 | 30-269SS | 35 | 30-382 | 31 |
| 300-035 | 351 | 30-063S | 39 | 30-207SS | 35 | 30-270 | 33 | 30-383 | 31 |
| 300-036 | 351 | 30-064 | 39 | 30-209 | 30 | 30-271 | 32 | 30-384 | 31 |
| 300-037 | 351 | 30-066 | 39 | 30-210 | 30 | 30-275 | 33 | 30-385 | 30 |
| 30-006 | 37 | 30-067 | 39 | 30-210SS | 35 | 30-276 | 33 | 30-386 | 30 |
| 30-011 | 37 | 30-068 | 39 | 30-211 | 30 | 30-277 | 33 | 30-387 | 30 |
| 30-011LF | 158 | 30-073 | 39 | 30-212 | 30 | 30-279 | 33 | 30-388 | 30 |
| 30-012 | 37 | 30-073LF | 158 | 30-213 | 30 | 30-280 | 33 | 30-389 | 30 |
| 30-016 | 37 | 30-078 | 38 | 30-214 | 30 | 30-282 | 33 | 30-390 | 30 |
| 30-017 | 37 | 30-083 | 38 | 30-215 | 30 | 30-283 | 33 | 30-391 | 31 |
| 30-018 | 37 | 30-087 | 38 | 30-215SS | 35 | 30-284 | 33 | 30-392 | 30 |
| 30-021 | 39 | 30-088 | 38 | 30-216 | 30 | 30-286 | 33 | 30-393 | 31 |
| 30-022 | 39 | 30-093 | 38 | 30-217 | 30 | 30-290 | 32 | 30-394 | 31 |
| 30-025 | 42 | 30-093L | 38 | 30-219 | 30 | 30-291 | 32 | 30-395 | 31 |
| 30-026 | 40 | 30-094 | 38 | 30-220 | 31 | 30-292 | 32 | 30-396 | 31 |
| 30-027 | 42 | 30-098 | 39 | 30-221 | 31 | 30-293 | 32 | 30-397 | 31 |
| 30-027SS | 42 | 30-099 | 39 | 30-222 | 31 | 30-294 | 32 | 30-398 | 31 |
| 30-028 | 42 | 30-100 | 39 | 30-223 | 31 | 30-295 | 22 | 30-399 | 31 |
| 30-028SS | 42 | 30-103 | 40 | 30-224 | 31 | 30-297 | 32 | 30-400 | 31 |
| 30-029 | 42 | 30-103B | 40 | 30-225 | 31 | 30-298 | 32 | 30-401 | 25 |
| 30-029SS | 42 | 30-103P | 296 | 30-226 | 31 | 30-299 | 32 | 30-402 | 31 |
| 30-030 | 42 | 30-123 | 41 | 30-227 | 31 | 30-300 | 31 | 30-406 | 25 |
| 30-031 | 42 | 30-128 | 41 | 30-229 | 31 | 30-301 | 31 | 30-410 | 25 |
| 30-031LF | 158 | 30-133 | 41 | 30-230 | 32 | 30-302 | 31 | 30-411 | 25 |
| 30-032 | 42 | 30-138 | 41 | 30-230LF | 158 | 30-303 | 31 | 30-413 | 25 |
| 30-032LF | 158 | 30-139 | 41 | 30-230SS | 35 | 30-304 | 31 | 30-420 | 25 |
| | | | | | | | | 30-421 | 25 |
| | | | | | | | | 30-422 | 30 |
| | | | | | | | | 30-423 | 30 |
| | | | | | | | | 30-424 | 30 |
| | | | | | | | | 30-426 | 32 |
| | | | | | | | | 30-427 | 32 |
| | | | | | | | | 30-428 | 32 |
| | | | | | | | | 30-429 | 33 |
| | | | | | | | | 30-430 | 34 |
| | | | | | | | | 30-450 | 41 |
| | | | | | | | | 30-451 | 41 |
| | | | | | | | | 30-452 | 41 |
| | | | | | | | | 30-453 | 43 |
| | | | | | | | | 30-454 | 43 |
| | | | | | | | | 30-455 | 43 |
| | | | | | | | | 30-457 | 43 |
| | | | | | | | | 30-458 | 43 |
| | | | | | | | | 30-459 | 43 |
| | | | | | | | | 30-461 | 43 |
| | | | | | | | | 30-462 | 43 |
| | | | | | | | | 30-463 | 43 |
| | | | | | | | | 30-466 | 43 |
| | | | | | | | | 30-467 | 43 |
| | | | | | | | | 30-468 | 43 |
| | | | | | | | | 30-471 | 43 |
| | | | | | | | | 30-472 | 43 |
| | | | | | | | | 30-473 | 43 |
| | | | | | | | | 30-480 | 34 |
| | | | | | | | | 30-482 | 34 |
| | | | | | | | | 30-483 | 34 |
| | | | | | | | | 30-484 | 34 |
| | | | | | | | | 30-486 | 34 |
| | | | | | | | | 30-505 | 43 |
| | | | | | | | | 30-506 | 43 |
| | | | | | | | | 30-507 | 43 |
| | | | | | | | | 30-508 | 43 |
| | | | | | | | | 30-510 | 43 |
| | | | | | | | | 30-511 | 43 |
| | | | | | | | | 30-512 | 43 |
| | | | | | | | | 30-513 | 43 |
| | | | | | | | | 30-516 | 43 |
| | | | | | | | | 30-517 | 43 |
| | | | | | | | | 30-518 | 43 |
| | | | | | | | | 30-519 | 43 |
| | | | | | | | | 30-526 | 45 |
| | | | | | | | | 30-527 | 45 |
| | | | | | | | | 30-530 | 45 |
| | | | | | | | | 30-540 | 44 |
| | | | | | | | | 30-541 | 44 |
| | | | | | | | | 30-542 | 44 |
| | | | | | | | | 30-543 | 44 |
| | | | | | | | | 30-545 | 44 |
| | | | | | | | | 30-546 | 44 |
| | | | | | | | | 30-547 | 44 |
| | | | | | | | | 30-548 | 44 |
| | | | | | | | | 30-550 | 44 |
| | | | | | | | | 30-551 | 44 |
| | | | | | | | | 30-552 | 44 |
| | | | | | | | | 30-553 | 44 |
| | | | | | | | | 30-560 | 44 |
| | | | | | | | | 30-561 | 44 |

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|----------|------|----------|------|----------|------|----------|------|----------|------|----------|------|
| 30-562 | 44 | 32-002LF | 157 | 32-017 | 15 | 32-043SS | 27 | 32-088 | 16 | 32-128 | 19 |
| 30-563 | 44 | 32-002SS | 27 | 32-017LF | 157 | 32-044 | 18 | 32-089 | 16 | 32-129 | 18 |
| 30-565 | 44 | 32-003 | 15 | 32-017SS | 27 | 32-045 | 18 | 32-090 | 16 | 32-130 | 18 |
| 30-566 | 44 | 320-035 | 356 | 32-018 | 15 | 32-046 | 18 | 32-091 | 16 | 32-131 | 18 |
| 30-567 | 44 | 320-036 | 356 | 32-018LF | 157 | 32-046LF | 157 | 32-091LF | 157 | 32-132 | 18 |
| 30-568 | 44 | 32-003LF | 157 | 32-018SS | 27 | 32-047 | 18 | 32-091SS | 28 | 32-133 | 18 |
| 30-570 | 44 | 32-003SS | 27 | 32-019 | 15 | 32-047LF | 157 | 32-092 | 16 | 32-150 | 26 |
| 30-571 | 44 | 32-004 | 15 | 32-019LF | 157 | 32-048 | 18 | 32-092LF | 157 | 32-151 | 26 |
| 30-572 | 44 | 32-004LF | 157 | 32-019SS | 27 | 32-048LF | 157 | 32-093 | 16 | 32-153 | 26 |
| 30-573 | 44 | 32-004SS | 27 | 32-020 | 15 | 32-049 | 17 | 32-093LF | 157 | 32-159 | 26 |
| 30-600 | 47 | 32-005 | 15 | 32-020LF | 157 | 32-050 | 17 | 32-093SS | 27 | 32-160 | 26 |
| 30-609 | 47 | 320-050 | 356 | 32-020SS | 27 | 32-050LF | 157 | 32-094 | 16 | 32-170 | 26 |
| 30-620 | 47 | 320-053 | 356 | 32-021 | 15 | 32-051 | 17 | 32-094LF | 157 | 32-171 | 26 |
| 30-626 | 46 | 320-054 | 356 | 32-021LF | 157 | 32-052 | 17 | 32-095 | 16 | 32176 | 24 |
| 30-627 | 46 | 320-055 | 356 | 32-021SS | 27 | 32-052LF | 157 | 32-095LF | 157 | 32177 | 24 |
| 30-629 | 46 | 32-005LF | 157 | 32-022 | 15 | 32-053 | 17 | 32-095SS | 27 | 32178 | 24 |
| 30-630 | 47 | 32-005SS | 27 | 32-022LF | 157 | 32-053LF | 157 | 32-095SS | 28 | 32179 | 24 |
| 30-631 | 45 | 32-006 | 15 | 32-022SS | 27 | 32-054 | 17 | 32-096 | 16 | 32180 | 24 |
| 30-637 | 47 | 320-061 | 9 | 32-023 | 15 | 32-054LF | 157 | 32-096 | 41 | 32181 | 24 |
| 30-638 | 47 | 320-065 | 345 | 32-023LF | 157 | 32-055 | 17 | 32-096LF | 157 | 32182 | 24 |
| 30-640 | 47 | 32-006LF | 157 | 32-023SS | 27 | 32-055LF | 157 | 32-096SS | 27 | 32183 | 24 |
| 307-030 | 357 | 32-006SS | 27 | 32-024 | 15 | 32-056 | 17 | 32-097 | 16 | 32184 | 24 |
| 307-031 | 357 | 32-007 | 15 | 32-024LF | 157 | 32-056LF | 157 | 32-097 | 41 | 32185 | 24 |
| 308-070 | 326 | 320-070 | 356 | 32-024SS | 27 | 32-057 | 17 | 32-097LF | 157 | 32-186 | 24 |
| 31-022 | 296 | 320-075 | 356 | 32-025 | 15 | 32-058 | 17 | 32-098 | 41 | 32-187 | 24 |
| 31-023 | 296 | 320-076 | 357 | 32-025LF | 157 | 32-058LF | 157 | 32-098 | 16 | 32-188 | 24 |
| 31-030 | 296 | 320-077 | 357 | 32-026 | 15 | 32-059 | 17 | 32-098LF | 157 | 32-189 | 24 |
| 31-031 | 296 | 320-078 | 357 | 32-026LF | 157 | 32-059LF | 157 | 32-098SS | 27 | 32-190 | 24 |
| 31-032 | 296 | 32-007LF | 157 | 32-027 | 15 | 32-060 | 17 | 32-099 | 16 | 32-191 | 24 |
| 31-033 | 296 | 32-008 | 15 | 32-027LF | 157 | 32-060LF | 157 | 32-099 | 41 | 32-192 | 24 |
| 31-034 | 296 | 320-080 | 357 | 32-028 | 15 | 32-061 | 17 | 32-100 | 22 | 32-194 | 24 |
| 31-035 | 296 | 32-008LF | 157 | 32-029 | 15 | 32-061LF | 157 | 32-101 | 22 | 32-195 | 24 |
| 31-038 | 296 | 32-008SS | 27 | 32-030 | 21 | 32-062 | 17 | 32-102 | 22 | 32-200 | 16 |
| 31-039 | 296 | 32-009 | 15 | 32-031 | 21 | 32-063 | 17 | 32-103 | 22 | 32-201 | 16 |
| 31-040 | 296 | 320-095 | 357 | 32-032 | 21 | 32-063LF | 157 | 32-104 | 22 | 32-202 | 16 |
| 31-041 | 296 | 32-009LF | 157 | 32-033 | 21 | 32-064 | 17 | 32-105 | 22 | 32-301 | 15 |
| 31-042 | 296 | 32-009SS | 27 | 32-034 | 21 | 32-064LF | 157 | 32-105C | 22 | 32-302 | 15 |
| 31-055 | 296 | 32-010 | 15 | 32-036 | 18 | 32-065 | 17 | 32-105LF | 158 | 32-303 | 15 |
| 31-058 | 296 | 32-010LF | 157 | 32-036LF | 157 | 32-065LF | 157 | 32-106 | 22 | 32-304 | 15 |
| 31-063 | 296 | 32-010SS | 27 | 32-038 | 18 | 32-066 | 21 | 32-107 | 22 | 32-305 | 15 |
| 31-064 | 296 | 32-011 | 15 | 32-038B | 19 | 32-067 | 21 | 32-107C | 22 | 32-306 | 15 |
| 31-067 | 296 | 32-011LF | 157 | 32-038LF | 157 | 32-068 | 21 | 32-109 | 20 | 32-306LF | 157 |
| 31-068 | 296 | 32-011SS | 27 | 32-038SS | 27 | 32-069 | 21 | 32-110 | 20 | 32-307 | 15 |
| 31-069 | 296 | 32-012 | 15 | 32-039 | 18 | 32-070 | 21 | 32-111 | 20 | 32-308 | 18 |
| 31-093 | 296 | 320-120 | 353 | 32-039B | 19 | 32-071 | 21 | 32-112 | 20 | 32-309 | 18 |
| 31-095 | 296 | 320-121 | 353 | 32-039LF | 157 | 32-072 | 21 | 32-113 | 20 | 32-309LF | 157 |
| 31-096 | 296 | 320-122 | 353 | 32-039SS | 27 | 32-073 | 21 | 32-114 | 20 | 32-310 | 18 |
| 31-097 | 296 | 32-012LF | 157 | 32-040 | 18 | 32-074 | 21 | 32-115 | 20 | 32-311 | 18 |
| 31-137 | 77 | 32-012SS | 27 | 32-040LF | 157 | 32-075 | 21 | 32-116 | 20 | 32-311LF | 157 |
| 31-171 | 77 | 32-013 | 15 | 32-041 | 18 | 32-076 | 21 | 32-117 | 18 | 32-311SS | 27 |
| 320-000 | 358 | 32-013LF | 157 | 320-410 | 357 | 32-077 | 21 | 32-118 | 18 | 32-312 | 18 |
| 320-005 | 358 | 32-013SS | 27 | 32-041B | 19 | 32-078 | 21 | 32-119 | 18 | 32-313 | 18 |
| 32-001 | 15 | 32-014 | 15 | 32-041LF | 157 | 32-079 | 16 | 32-120 | 18 | 32-313LF | 157 |
| 320-010 | 358 | 32-014LF | 157 | 32-041SS | 27 | 32-080 | 16 | 32-121 | 18 | 32-314 | 18 |
| 320-011 | 358 | 32-014SS | 27 | 32-042 | 18 | 32-081 | 21 | 32-122 | 18 | 32-314SS | 27 |
| 32-001LF | 157 | 32-015 | 15 | 32-042B | 19 | 32-082 | 21 | 32-123 | 18 | 32-315 | 18 |
| 32-001SS | 27 | 32-015LF | 157 | 32-042LF | 157 | 32-083 | 21 | 32-124 | 18 | 32-316 | 15 |
| 32-002 | 15 | 32-015SS | 27 | 32-042SS | 27 | 32-084 | 21 | 32-125 | 18 | 32-317 | 17 |
| 320-021 | 357 | 32-016 | 15 | 32-043 | 18 | 32-085 | 21 | 32-126 | 19 | 32-317LF | 157 |
| 320-022 | 357 | 32-016LF | 157 | 32-043B | 19 | 32-086 | 21 | 32-126LF | 158 | 32-318 | 17 |
| 320-023 | 357 | 32-016SS | 27 | 32-043LF | 157 | 32-087 | 16 | 32-126SS | 28 | 32-319 | 18 |

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|----------|------|--------|------|---------|------|---------|------|---------|------|
| 32-320 | 17 | 32-390 | 15 | 32-500 | 329 | 32-578 | 329 | 33-006W | 293 |
| 32-321 | 17 | 32-391 | 18 | 325-004 | 313 | 32-579 | 329 | 33-007B | 292 |
| 32-322 | 21 | 32-392 | 21 | 325-005 | 313 | 32-580 | 329 | 33-007W | 293 |
| 32-326 | 22 | 32-394 | 22 | 325-006 | 313 | 32-584 | 329 | 33-008B | 292 |
| 32-327 | 22 | 32-397 | 22 | 325-008 | 313 | 32-586 | 329 | 33-008W | 293 |
| 32-328 | 22 | 32-400 | 19 | 32-501 | 329 | 32-588 | 329 | 33-009B | 292 |
| 32-329 | 16 | 32-401 | 20 | 325-010 | 313 | 32588SS | 329 | 33-009W | 293 |
| 32-330 | 18 | 32-402 | 20 | 325-012 | 313 | 32-590 | 329 | 33-010W | 293 |
| 32-331 | 16 | 32-403 | 20 | 325-016 | 313 | 32-591 | 329 | 33-011W | 293 |
| 32-332 | 16 | 32-404 | 20 | 32-502 | 329 | 32-592 | 329 | 33-012B | 292 |
| 32-334 | 22 | 32-405 | 20 | 325-020 | 313 | 32-596 | 329 | 33-012P | 292 |
| 32-335 | 22 | 32-406 | 20 | 32-503 | 329 | 32-597 | 329 | 33-012W | 293 |
| 32-336 | 22 | 32-407 | 20 | 32-504 | 329 | 32-608 | 20 | 33-013B | 292 |
| 32-336C | 22 | 32-409 | 20 | 32-506 | 329 | 32-609 | 20 | 33-013W | 293 |
| 32-337 | 22 | 32-410 | 20 | 32-507 | 329 | 32-610 | 20 | 33-014B | 292 |
| 32-337C | 22 | 32-411 | 20 | 32-508 | 329 | 32-725 | 23 | 33-014P | 292 |
| 32-338 | 22 | 32-412 | 19 | 32-510 | 329 | 32-726 | 23 | 33-014W | 293 |
| 32-338C | 22 | 32-413 | 19 | 32-517 | 329 | 32-727 | 23 | 33-015B | 292 |
| 32-338SS | 22 | 32-414 | 19 | 32-521 | 329 | 32-728 | 23 | 33-015P | 292 |
| 32-339 | 22 | 32-415 | 19 | 32-526 | 329 | 32-742 | 23 | 33-015W | 293 |
| 32-340 | 22 | 32-416 | 19 | 32-533 | 329 | 32-744 | 23 | 33-016B | 292 |
| 32-341 | 22 | 32-417 | 19 | 32-535 | 329 | 32-746 | 23 | 33-016P | 292 |
| 32-341C | 22 | 32-418 | 19 | 32-539 | 329 | 32-747 | 23 | 33-016W | 293 |
| 32-342 | 22 | 32-419 | 19 | 32-543 | 329 | 32-749 | 23 | 33-017B | 292 |
| 32-345 | 20 | 32-420 | 19 | 32-545 | 329 | 32-750 | 23 | 33-017P | 292 |
| 32-346 | 20 | 32-425 | 19 | 32-549 | 329 | 32-751 | 23 | 33-017W | 293 |
| 32-349 | 16 | 32-429 | 19 | 32-550 | 329 | 32-752 | 23 | 33-018B | 292 |
| 32-350 | 19 | 32-433 | 19 | 32-551 | 329 | 32-753 | 23 | 33-018P | 292 |
| 32-351 | 16 | 32-434 | 19 | 32-552 | 329 | 32-754 | 23 | 33-018W | 293 |
| 32-352 | 19 | 32-435 | 19 | 32552SS | 329 | 32-755 | 23 | 33-019B | 292 |
| 32-353 | 19 | 32-436 | 19 | 32-553 | 329 | 32-756 | 23 | 33-019W | 293 |
| 32-354 | 18 | 32-437 | 25 | 32-554 | 329 | 32-758 | 23 | 33-020B | 292 |
| 32-355 | 16 | 32-438 | 25 | 32-555 | 329 | 32-759 | 23 | 33-020P | 292 |
| 32-356 | 16 | 32-439 | 25 | 32-556 | 329 | 32-760 | 23 | 33-020W | 293 |
| 32-357 | 16 | 32-440 | 25 | 32-557 | 329 | 32-761 | 23 | 33-021B | 292 |
| 32-359 | 21 | 32-441 | 17 | 32557SS | 329 | 32-770 | 23 | 33-021W | 293 |
| 32-360 | 16 | 32-442 | 17 | 32-558 | 329 | 32-771 | 23 | 33-022B | 292 |
| 32-361 | 19 | 32-443 | 17 | 32-559 | 329 | 32-772 | 23 | 33-022P | 292 |
| 32-362 | 21 | 32-444 | 17 | 32559SS | 329 | 32-773 | 23 | 33-022W | 293 |
| 32-363 | 19 | 32-445 | 17 | 32-561 | 329 | 32-774 | 23 | 33-023B | 292 |
| 32-364 | 21 | 32-446 | 17 | 32561SS | 329 | 32-775 | 23 | 33-023P | 292 |
| 32-365 | 19 | 32-447 | 17 | 32-563 | 329 | 32-781 | 17 | 33-023W | 293 |
| 32-365LF | 158 | 32-448 | 17 | 32-564 | 329 | 32-782 | 355 | 33-024B | 292 |
| 32-365SS | 28 | 32-450 | 16 | 32564SS | 329 | 32-783 | 355 | 33-024P | 292 |
| 32-366 | 19 | 32-451 | 16 | 32-565 | 329 | 32-900 | 32 | 33-024W | 293 |
| 32-367 | 19 | 32-452 | 16 | 32-566 | 329 | 32-901 | 32 | 33-025B | 292 |
| 32-368 | 19 | 32-453 | 16 | 32566SS | 329 | 32-902 | 32 | 33-025P | 292 |
| 32-375 | 16 | 32-454 | 16 | 32-567 | 329 | 32-903 | 32 | 33-025W | 293 |
| 32-376 | 16 | 32-455 | 16 | 32-568 | 329 | 32-905 | 32 | 33-026B | 292 |
| 32-377 | 24 | 32-456 | 16 | 32568SS | 329 | 32-906 | 32 | 33-026W | 293 |
| 32-379 | 16 | 32-457 | 16 | 32-570 | 329 | 32-907 | 32 | 33-028W | 293 |
| 32-380 | 16 | 32-458 | 16 | 32570SS | 329 | 33-000W | 293 | 33-029W | 293 |
| 32-381 | 24 | 32-460 | 21 | 32-571 | 329 | 33-002B | 292 | 33-030W | 293 |
| 32-382 | 24 | 32-461 | 21 | 32-572 | 329 | 33-002W | 293 | 33-032W | 293 |
| 32-383 | 24 | 32-462 | 21 | 32-573 | 329 | 33-003B | 292 | 33-033W | 293 |
| 32-384 | 24 | 32-463 | 21 | 32-574 | 329 | 33-003W | 293 | 33-035W | 293 |
| 32-385 | 24 | 32-470 | 17 | 32-575 | 329 | 33-004B | 292 | 33-038B | 293 |
| 32-386 | 16 | 32-472 | 17 | 32575SS | 329 | 33-004W | 293 | 33-038W | 293 |
| 32-387 | 24 | 32-473 | 17 | 32-576 | 329 | 33-005B | 292 | 33-039B | 293 |
| 32-388 | 24 | 32-475 | 17 | 32-577 | 329 | 33-005W | 293 | 33-039W | 293 |
| 32-389 | 21 | 32-476 | 17 | 32577SS | 329 | 33-006B | 292 | 33-040W | 293 |
| | | | | | | | | 33-041B | 293 |
| | | | | | | | | 33-041W | 293 |
| | | | | | | | | 33-042B | 293 |
| | | | | | | | | 33-042W | 293 |
| | | | | | | | | 33-043B | 293 |
| | | | | | | | | 33-043W | 293 |
| | | | | | | | | 33-044B | 293 |
| | | | | | | | | 33-044W | 293 |
| | | | | | | | | 33-045B | 293 |
| | | | | | | | | 33-045W | 293 |
| | | | | | | | | 33-046B | 293 |
| | | | | | | | | 33-046W | 293 |
| | | | | | | | | 33-047B | 293 |
| | | | | | | | | 33-047W | 293 |
| | | | | | | | | 33-048P | 293 |
| | | | | | | | | 33-048W | 293 |
| | | | | | | | | 33-052W | 294 |
| | | | | | | | | 33-053B | 294 |
| | | | | | | | | 33-053W | 294 |
| | | | | | | | | 33-058W | 294 |
| | | | | | | | | 33-059W | 294 |
| | | | | | | | | 33-060W | 294 |
| | | | | | | | | 33-061W | 294 |
| | | | | | | | | 33-063W | 294 |
| | | | | | | | | 33-064W | 294 |
| | | | | | | | | 33-065W | 294 |
| | | | | | | | | 33-066W | 294 |
| | | | | | | | | 33-067W | 294 |
| | | | | | | | | 33-068W | 294 |
| | | | | | | | | 33-079W | 294 |
| | | | | | | | | 33-089W | 294 |
| | | | | | | | | 33-091B | 294 |
| | | | | | | | | 33-091W | 294 |
| | | | | | | | | 33-092B | 294 |
| | | | | | | | | 33-092W | 294 |
| | | | | | | | | 33-093B | 294 |
| | | | | | | | | 33-093W | 294 |
| | | | | | | | | 33-094W | 294 |
| | | | | | | | | 33-095B | 294 |
| | | | | | | | | 33-095P | 294 |
| | | | | | | | | 33-095W | 294 |
| | | | | | | | | 33-096B | 294 |
| | | | | | | | | 33-096P | 294 |
| | | | | | | | | 33-096W | 294 |
| | | | | | | | | 33-097B | 294 |
| | | | | | | | | 33-097W | 294 |
| | | | | | | | | 33-098B | 294 |
| | | | | | | | | 33-098P | 294 |
| | | | | | | | | 33-098W | 294 |
| | | | | | | | | 33-099P | 294 |
| | | | | | | | | 33-099W | 294 |
| | | | | | | | | 33-300P | 295 |
| | | | | | | | | 33-301P | 295 |
| | | | | | | | | 33-301W | 295 |
| | | | | | | | | 33-302P | 295 |
| | | | | | | | | 33-303P | 292 |
| | | | | | | | | 33-303W | 293 |
| | | | | | | | | 33-306W | 293 |
| | | | | | | | | 33-307W | 293 |
| | | | | | | | | 33-308B | 293 |
| | | | | | | | | 33-309B | 293 |

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|---------|------|---------|------|-----------|------|----------|------|----------|------|---------|------|
| 33-309W | 293 | 33-415B | 295 | 34-041 | 62 | 35-911 | 303 | 36-116SS | 139 | 38-028 | 130 |
| 33-310W | 293 | 33-415W | 295 | 34-046 | 62 | 35-912 | 303 | 36-118 | 139 | 38-029 | 130 |
| 33-311B | 293 | 33-417W | 295 | 34-051 | 62 | 35-913 | 303 | 36-120 | 139 | 38-030 | 130 |
| 33-311P | 293 | 33-418B | 295 | 34130 | 62 | 35-914 | 303 | 36-120SS | 139 | 38-035 | 130 |
| 33-311W | 293 | 33-420B | 295 | 34131 | 62 | 35-915 | 303 | 36-121 | 139 | 38-036 | 130 |
| 33-312B | 293 | 33-420W | 295 | 34141 | 62 | 35-920 | 303 | 36-130 | 139 | 38-037 | 130 |
| 33-312W | 293 | 33-422B | 295 | 34-500 | 28 | 35-921 | 303 | 36-130SS | 139 | 38-038 | 130 |
| 33-313B | 293 | 33-422W | 295 | 34-503 | 28 | 35-922 | 303 | 36-132 | 140 | 38-039 | 130 |
| 33-313P | 293 | 33-423B | 295 | 34-512 | 28 | 35-923 | 303 | 36-140 | 140 | 38-040 | 130 |
| 33-313W | 293 | 33-426B | 295 | 34-513 | 28 | 35-924 | 303 | 36-140SS | 140 | 38-041 | 130 |
| 33-314B | 293 | 33-426W | 295 | 34-515 | 28 | 35-925 | 303 | 36-141 | 140 | 38-042 | 130 |
| 33-314P | 293 | 33-429B | 295 | 34-516 | 28 | 35-927 | 303 | 36-142 | 140 | 38-043 | 130 |
| 33-314W | 293 | 33-429P | 295 | 34-525 | 28 | 35-930 | 303 | 36-144 | 140 | 38-044 | 131 |
| 33-315W | 293 | 33-429W | 295 | 34-529 | 28 | 35-931 | 303 | 36-146 | 140 | 38-045 | 131 |
| 33-316B | 293 | 33-430B | 295 | 34-533 | 28 | 35-932 | 303 | 36-146SS | 140 | 38-046 | 131 |
| 33-316P | 293 | 33-430W | 295 | 34-535 | 28 | 35-933 | 303 | 36-147 | 140 | 38-047 | 131 |
| 33-316W | 293 | 33-431W | 295 | 34-543 | 28 | 35-934 | 303 | 36-148 | 140 | 38-048 | 130 |
| 33-318W | 293 | 33-432B | 295 | 34-551 | 28 | 35-935 | 303 | 36-150 | 140 | 38-049 | 131 |
| 33-319W | 293 | 33-432W | 295 | 34-552 | 28 | 35-937 | 303 | 36-150SS | 140 | 38-052 | 131 |
| 33-320W | 293 | 33-433B | 295 | 34-562 | 28 | 35-940 | 303 | 36-152 | 140 | 38-053 | 131 |
| 33-321W | 293 | 33-433W | 295 | 34-563 | 28 | 35-941 | 303 | 36-160 | 141 | 38-054 | 131 |
| 33-322W | 293 | 33-434B | 295 | 34-579 | 28 | 35-942 | 303 | 36-164 | 141 | 38-055 | 131 |
| 33-323P | 292 | 33-435B | 295 | 34-583 | 28 | 35-943 | 303 | 36-164SS | 141 | 38-057 | 131 |
| 33-329W | 293 | 33-435W | 295 | 34-584 | 28 | 35-944 | 303 | 36-166 | 141 | 38-060 | 131 |
| 33-334P | 293 | 33-436B | 295 | 34-585 | 28 | 35-945 | 303 | 36-166SS | 141 | 38-061 | 131 |
| 33-343W | 294 | 33-436W | 295 | 34-587 | 28 | 35-947 | 303 | 36-168 | 141 | 38-062 | 131 |
| 33-345W | 294 | 33-437B | 295 | 34-588 | 28 | 35-950 | 303 | 36-170 | 141 | 38-063 | 131 |
| 33-347W | 294 | 33-437W | 295 | 34-589 | 28 | 35-951 | 303 | 36-172 | 141 | 38-064 | 131 |
| 33-348W | 294 | 33-438B | 295 | 34-590 | 28 | 35-952 | 303 | 36-174 | 141 | 38-065 | 131 |
| 33-349W | 293 | 33-438W | 295 | 34-591 | 28 | 35-953 | 303 | 36-176 | 141 | 38-066 | 131 |
| 33-351W | 293 | 33-439W | 295 | 34-592 | 28 | 35-954 | 303 | 36-178 | 141 | 38-067 | 131 |
| 33-380W | 293 | 33-440P | 295 | 34-595 | 28 | 35-955 | 303 | 36-180 | 142 | 38-068 | 131 |
| 33-381W | 293 | 33-440W | 295 | 34-597 | 28 | 35-957 | 303 | 36-182 | 142 | 38-072 | 132 |
| 33-384W | 293 | 33-441W | 295 | 34-600 | 28 | 35-960 | 303 | 36-184 | 142 | 38-073 | 132 |
| 33-385B | 293 | 33-442W | 294 | 34-610 | 28 | 35-961 | 303 | 36-186 | 142 | 38-074 | 132 |
| 33-385P | 293 | 33-448W | 295 | 34-611 | 28 | 35-962 | 303 | 36-188 | 142 | 38-075 | 132 |
| 33-385W | 293 | 33-450W | 295 | 34-612 | 28 | 35-963 | 303 | 36-200 | 142 | 38-076 | 132 |
| 33-386W | 293 | 33-451W | 295 | 34-613 | 28 | 35-964 | 303 | 36-205 | 142 | 38-077 | 132 |
| 33-389W | 294 | 33-453W | 295 | 350-004 | 314 | 35-965 | 303 | 36-210 | 142 | 38-078 | 132 |
| 33-390B | 294 | 33-454W | 295 | 350-004SS | 315 | 35-967 | 303 | 36-212 | 142 | 38-078S | 132 |
| 33-390W | 294 | 33-455W | 295 | 350-005 | 314 | 35-970 | 303 | 36-214 | 142 | 38-079 | 132 |
| 33-391B | 294 | 33-456W | 295 | 350-005SS | 315 | 35-971 | 303 | 36-216 | 142 | 38-080 | 132 |
| 33-391W | 294 | 33-458W | 295 | 350-006 | 314 | 35-972 | 303 | 36-220 | 142 | 38-081 | 132 |
| 33-394B | 294 | 33-460W | 293 | 350-006SS | 315 | 35-973 | 303 | 371 | 360 | 38-081S | 132 |
| 33-394W | 294 | 33-461P | 293 | 350-008 | 314 | 35-974 | 303 | 38-001 | 130 | 38-082 | 132 |
| 33-395B | 294 | 33-461W | 293 | 350-008SS | 315 | 35-975 | 303 | 38-002 | 130 | 38-083 | 132 |
| 33-395W | 294 | 33-462W | 293 | 350-010 | 314 | 35-977 | 303 | 38-003 | 130 | 38-084 | 132 |
| 33-396B | 294 | 33-463P | 293 | 350-010SS | 315 | 35-980 | 303 | 38-004 | 130 | 38-085 | 132 |
| 33-396W | 294 | 33-463W | 293 | 350-012 | 314 | 35-981 | 303 | 38-005 | 130 | 38-087 | 132 |
| 33-397W | 294 | 33-464W | 293 | 350-012SS | 315 | 35-982 | 303 | 38-010 | 130 | 38-088 | 132 |
| 33-398W | 294 | 33-471W | 294 | 350-016 | 314 | 35-983 | 303 | 38-011 | 130 | 38-090 | 132 |
| 33-399W | 294 | 33-480W | 294 | 350-016SS | 315 | 35-984 | 303 | 38-012 | 130 | 38-091 | 132 |
| 33-406B | 294 | 33-481W | 294 | 350-020 | 314 | 35-985 | 303 | 38-013 | 130 | 38-092 | 132 |
| 33-406W | 294 | 33-482W | 294 | 350-020SS | 315 | 35-987 | 303 | 38-014 | 130 | 38-093 | 132 |
| 33-407B | 294 | 34-001 | 62 | 35-132 | 61 | 36-110 | 139 | 38-015 | 137 | 38-094 | 132 |
| 33-407W | 294 | 34-011 | 62 | 35-134 | 61 | 36-110SS | 139 | 38-016 | 137 | 38-095 | 132 |
| 33-408B | 294 | 34-012 | 62 | 35-135 | 61 | 36-111 | 139 | 38-019 | 130 | 38-101 | 132 |
| 33-408W | 294 | 34-016 | 62 | 35-136 | 61 | 36-112 | 139 | 38-020 | 130 | 38-101S | 132 |
| 33-409W | 294 | 34-022 | 62 | 35-142 | 61 | 36-113 | 139 | 38-021 | 130 | 38-102 | 132 |
| 33-410B | 294 | 34-031 | 62 | 35-186 | 61 | 36-114 | 139 | 38-022 | 130 | 38-103 | 132 |
| 33-410W | 294 | 34036 | 62 | 35-910 | 303 | 36-116 | 139 | 38-023 | 130 | 38-104 | 132 |

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|---------|------|--------|------|----------|------|----------|------|-------|------|
| 38-104S | 132 | 38-183 | 134 | 38-371 | 138 | 38-960 | 386 | 39411 | 367 |
| 38-105 | 132 | 38-188 | 134 | 38-372 | 138 | 38-960B5 | 386 | 39411 | 368 |
| 38-106 | 132 | 38-189 | 134 | 38-711 | 85 | 38-960BA | 386 | 39412 | 367 |
| 38-107 | 132 | 38-190 | 134 | 38-718 | 85 | 38-960G | 386 | 39413 | 367 |
| 38-108 | 132 | 38-196 | 134 | 38-732 | 85 | 38-960G5 | 386 | 39414 | 367 |
| 38-109 | 132 | 38-207 | 135 | 38-761 | 85 | 38-960GA | 386 | 39415 | 367 |
| 38-110 | 132 | 38-208 | 135 | 38-769 | 85 | 38-960O | 386 | 39416 | 367 |
| 38-113 | 132 | 38-209 | 135 | 38-770 | 85 | 38-960O5 | 386 | 39418 | 367 |
| 38-114 | 132 | 38-217 | 135 | 38-800 | 24 | 38-960OA | 386 | 39419 | 367 |
| 38-115 | 132 | 38-218 | 135 | 38-802 | 24 | 38-960R | 386 | 39425 | 367 |
| 38-116 | 132 | 38-221 | 135 | 38-806 | 24 | 38-960R5 | 386 | 39426 | 367 |
| 38-117 | 132 | 38-222 | 135 | 38-808 | 24 | 38-960RA | 386 | 39436 | 369 |
| 38-118 | 132 | 38-223 | 135 | 38-810 | 24 | 38-960U | 386 | 39437 | 369 |
| 38-119 | 132 | 38-224 | 135 | 38-828 | 24 | 38-960U5 | 386 | 39438 | 369 |
| 38-120 | 132 | 38-225 | 135 | 38-830 | 24 | 38-960UA | 386 | 39442 | 369 |
| 38-124 | 133 | 38-226 | 135 | 38-832 | 24 | 38-960Y | 386 | 39443 | 369 |
| 38-125 | 133 | 38-227 | 135 | 38-834 | 24 | 38-960Y5 | 386 | 39444 | 369 |
| 38-126 | 133 | 38-228 | 135 | 38-836 | 24 | 38-960YA | 386 | 39446 | 369 |
| 38-127 | 133 | 38-229 | 135 | 38-860 | 24 | 38-965 | 386 | 39447 | 369 |
| 38-128 | 133 | 38-235 | 135 | 38-862 | 24 | 38-965B5 | 386 | 39448 | 369 |
| 38-129 | 133 | 38-236 | 135 | 38-864 | 24 | 38-965BA | 386 | 39451 | 369 |
| 38-132 | 133 | 38-237 | 135 | 38-866 | 24 | 38-965G | 386 | 39452 | 369 |
| 38-133 | 133 | 38-239 | 135 | 38-868 | 24 | 38-965G5 | 386 | 39453 | 369 |
| 38-134 | 133 | 38-240 | 135 | 38-873 | 25 | 38-965GA | 386 | 39454 | 369 |
| 38-136 | 133 | 38-243 | 135 | 38-874 | 25 | 38-965O | 386 | 39457 | 369 |
| 38-137 | 133 | 38-244 | 135 | 38-910 | 387 | 38-965O5 | 386 | 39459 | 369 |
| 38-138 | 133 | 38-246 | 135 | 38-915 | 387 | 38-965OA | 386 | 39460 | 369 |
| 38-139 | 133 | 38-278 | 135 | 38-920 | 387 | 38-965R | 386 | 39461 | 369 |
| 38-140 | 133 | 38-279 | 135 | 38-923 | 387 | 38-965R5 | 386 | 39462 | 369 |
| 38-141 | 133 | 38-300 | 136 | 38-926 | 387 | 38-965RA | 386 | 39463 | 368 |
| 38-142 | 133 | 38-301 | 136 | 38-927 | 387 | 38-965U | 386 | 39464 | 368 |
| 38-143 | 133 | 38-306 | 136 | 38-950 | 386 | 38-965U5 | 386 | 39465 | 384 |
| 38-144 | 133 | 38-307 | 136 | 38-950B2 | 386 | 38-965UA | 386 | 39466 | 369 |
| 38-146 | 133 | 38-312 | 136 | 38-951 | 386 | 38-965Y | 386 | 39467 | 369 |
| 38-148 | 133 | 38-313 | 136 | 38-951B1 | 386 | 38-965Y5 | 386 | 39468 | 369 |
| 38-149 | 133 | 38-318 | 137 | 38-951BA | 386 | 38-965YA | 386 | 39469 | 368 |
| 38-150 | 133 | 38-319 | 137 | 38-952 | 386 | 38-970 | 386 | 39470 | 369 |
| 38-151 | 133 | 38-324 | 138 | 38-9522 | 386 | 38-970BA | 386 | 39471 | 368 |
| 38-152 | 133 | 38-325 | 138 | 38-9523 | 386 | 38-970BC | 386 | 39472 | 368 |
| 38-152S | 133 | 38-326 | 138 | 38-952BA | 386 | 38-970G | 386 | 39473 | 368 |
| 38-153 | 133 | 38-327 | 138 | 38-952G | 386 | 38-970GA | 386 | 39474 | 369 |
| 38-154 | 133 | 38-328 | 138 | 38-952G1 | 386 | 38-970GC | 386 | 39475 | 369 |
| 38-154S | 133 | 38-333 | 138 | 38-952GA | 386 | 38-970R | 386 | 39477 | 368 |
| 38-155 | 133 | 38-334 | 138 | 38-952O | 386 | 38-970RA | 386 | 39506 | 370 |
| 38-156 | 133 | 38-335 | 138 | 38-952OA | 386 | 38-970RC | 386 | 39507 | 370 |
| 38-157 | 133 | 38-336 | 138 | 38-952R | 386 | 38-975 | 386 | 39508 | 370 |
| 38-158 | 133 | 38-337 | 138 | 38-952R1 | 386 | 38-975BA | 386 | 39509 | 371 |
| 38-161 | 134 | 38-342 | 138 | 38-952RA | 386 | 38-975BC | 386 | 39510 | 371 |
| 38-162 | 134 | 38-343 | 138 | 38-952U | 386 | 38-975G | 386 | 39511 | 370 |
| 38-163 | 134 | 38-344 | 138 | 38-952U1 | 386 | 38-975GA | 386 | 39512 | 370 |
| 38-164 | 134 | 38-345 | 138 | 38-952UA | 386 | 38-975GC | 386 | 39515 | 371 |
| 38-165 | 134 | 38-346 | 138 | 38-952Y | 386 | 39-318 | 137 | 39516 | 371 |
| 38-170 | 134 | 38-351 | 137 | 38-952Y1 | 386 | 39-319 | 137 | 39520 | 371 |
| 38-171 | 134 | 38-352 | 137 | 38-952YA | 386 | 39-357 | 137 | 39521 | 371 |
| 38-172 | 134 | 38-357 | 137 | 38-953 | 386 | 39-358 | 137 | 39522 | 371 |
| 38-173 | 134 | 38-358 | 137 | 38-953B1 | 386 | 39400 | 366 | 39524 | 371 |
| 38-174 | 134 | 38-363 | 137 | 38-953BA | 386 | 39402 | 366 | 39530 | 371 |
| 38-179 | 134 | 38-364 | 137 | 38-954 | 386 | 39404 | 366 | 39531 | 371 |
| 38-180 | 134 | 38-368 | 138 | 38-954B5 | 386 | 39406 | 366 | 39535 | 372 |
| 38-181 | 134 | 38-369 | 138 | 38-954BA | 386 | 39409 | 367 | 39537 | 372 |
| 38-182 | 134 | 38-370 | 138 | 38-95BA | 386 | 39410 | 367 | 39540 | 372 |
| | | | | | | | | 39541 | 372 |
| | | | | | | | | 39542 | 372 |
| | | | | | | | | 39543 | 372 |
| | | | | | | | | 39544 | 372 |
| | | | | | | | | 39550 | 372 |
| | | | | | | | | 39551 | 372 |
| | | | | | | | | 39552 | 372 |
| | | | | | | | | 39556 | 372 |
| | | | | | | | | 39557 | 372 |
| | | | | | | | | 39558 | 372 |
| | | | | | | | | 39559 | 372 |
| | | | | | | | | 39560 | 372 |
| | | | | | | | | 39563 | 373 |
| | | | | | | | | 39564 | 373 |
| | | | | | | | | 39565 | 373 |
| | | | | | | | | 39566 | 372 |
| | | | | | | | | 39570 | 373 |
| | | | | | | | | 39572 | 373 |
| | | | | | | | | 39573 | 373 |
| | | | | | | | | 39574 | 373 |
| | | | | | | | | 39575 | 373 |
| | | | | | | | | 39592 | 376 |
| | | | | | | | | 39595 | 144 |
| | | | | | | | | 39595 | 376 |
| | | | | | | | | 39596 | 144 |
| | | | | | | | | 39596 | 376 |
| | | | | | | | | 39597 | 144 |
| | | | | | | | | 39597 | 376 |
| | | | | | | | | 39600 | 144 |
| | | | | | | | | 39600 | 376 |
| | | | | | | | | 39604 | 376 |
| | | | | | | | | 39605 | 376 |
| | | | | | | | | 39606 | 376 |
| | | | | | | | | 39610 | 376 |
| | | | | | | | | 39611 | 376 |
| | | | | | | | | 39613 | 376 |
| | | | | | | | | 39614 | 376 |
| | | | | | | | | 39615 | 376 |
| | | | | | | | | 39616 | 377 |
| | | | | | | | | 39654 | 374 |
| | | | | | | | | 39655 | 375 |
| | | | | | | | | 39656 | 375 |
| | | | | | | | | 39657 | 375 |
| | | | | | | | | 39658 | 375 |
| | | | | | | | | 39659 | 375 |
| | | | | | | | | 39660 | 375 |
| | | | | | | | | 39661 | 375 |
| | | | | | | | | 39662 | 375 |
| | | | | | | | | 39663 | 375 |
| | | | | | | | | 39665 | 375 |
| | | | | | | | | 39667 | 375 |
| | | | | | | | | 39669 | 375 |
| | | | | | | | | 39672 | 374 |
| | | | | | | | | 39673 | 374 |
| | | | | | | | | 39674 | 374 |
| | | | | | | | | 39675 | 374 |
| | | | | | | | | 39676 | 374 |
| | | | | | | | | 39677 | 374 |
| | | | | | | | | 39684 | 377 |
| | | | | | | | | 39687 | 377 |
| | | | | | | | | 39688 | 377 |

39689

NUMERICAL INDEX

44-168LF

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|------------|------|---------------|------|-------------|------|-------------|------|-------------|------|---------------|------|
| 39689..... | 377 | 39834..... | 370 | 40-028..... | 212 | 40-098..... | 214 | 40-169..... | 216 | 41-070..... | 218 |
| 39690..... | 377 | 39838..... | 366 | 40-029..... | 212 | 40-099..... | 214 | 40-170..... | 216 | 41-074..... | 218 |
| 39712..... | 383 | 39839..... | 366 | 40-030..... | 212 | 40-100..... | 214 | 40-171..... | 216 | 43-200L..... | 174 |
| 39713..... | 383 | 39855..... | 367 | 40-031..... | 212 | 40-101..... | 214 | 40-172..... | 216 | 43-200T..... | 174 |
| 39736..... | 378 | 39856..... | 367 | 40-032..... | 212 | 40-102..... | 214 | 40-173..... | 216 | 43-204L..... | 174 |
| 39737..... | 378 | 39857..... | 367 | 40-033..... | 212 | 40-103..... | 214 | 40-174..... | 216 | 43-204T..... | 174 |
| 39738..... | 378 | 39860..... | 373 | 40-034..... | 212 | 40-104..... | 214 | 40-175..... | 216 | 43-206L..... | 174 |
| 39739..... | 378 | 39870..... | 370 | 40-035..... | 212 | 40-105..... | 214 | 40-176..... | 216 | 43-207L..... | 174 |
| 39740..... | 378 | 39871..... | 370 | 40-036..... | 212 | 40-106..... | 214 | 40-178..... | 216 | 43-265LF..... | 163 |
| 39741..... | 378 | 39874..... | 370 | 40-040..... | 213 | 40-107..... | 214 | 40-179..... | 216 | 43-266LF..... | 163 |
| 39742..... | 379 | 39875..... | 370 | 40-041..... | 213 | 40-108..... | 214 | 40-180..... | 216 | 44-100..... | 220 |
| 39743..... | 379 | 39877..... | 370 | 40-042..... | 213 | 40-109..... | 214 | 40-181..... | 216 | 44-100LF..... | 220 |
| 39744..... | 379 | 39878..... | 370 | 40-043..... | 213 | 40-110..... | 214 | 40-182..... | 216 | 44-101..... | 220 |
| 39745..... | 379 | 39962..... | 366 | 40-044..... | 213 | 40-111..... | 214 | 40-183..... | 216 | 44-101LF..... | 220 |
| 39748..... | 379 | 40-001..... | 212 | 40-045..... | 213 | 40-112..... | 214 | 40-184..... | 216 | 44-102..... | 220 |
| 39749..... | 379 | 4000-10..... | 414 | 40-046..... | 213 | 40-113..... | 214 | 40-185..... | 216 | 44-102LF..... | 220 |
| 39752..... | 379 | 4000-12..... | 414 | 40-047..... | 213 | 40-114..... | 214 | 40-186..... | 216 | 44-103..... | 220 |
| 39753..... | 379 | 4000-14..... | 414 | 40-048..... | 213 | 40-115..... | 214 | 40-187..... | 216 | 44-103LF..... | 220 |
| 39754..... | 379 | 4000-16..... | 414 | 40-049..... | 213 | 40-120..... | 215 | 40-200..... | 217 | 44-104..... | 220 |
| 39757..... | 380 | 40-002..... | 212 | 40-050..... | 213 | 40-121..... | 215 | 40-201..... | 217 | 44-104LF..... | 220 |
| 39758..... | 380 | 4000-20..... | 414 | 40-051..... | 213 | 40-122..... | 215 | 40-202..... | 217 | 44-105..... | 220 |
| 39764..... | 381 | 4000-2-2..... | 414 | 40-052..... | 213 | 40-123..... | 215 | 40-203..... | 217 | 44-105LF..... | 220 |
| 39765..... | 381 | 4000-24..... | 414 | 40-053..... | 213 | 40-124..... | 215 | 40-204..... | 217 | 44-106..... | 220 |
| 39766..... | 381 | 40-003..... | 212 | 40-054..... | 213 | 40-125..... | 215 | 40-205..... | 217 | 44-106LF..... | 220 |
| 39767..... | 381 | 4000-32..... | 414 | 40-055..... | 213 | 40-126..... | 215 | 40-206..... | 217 | 44-107..... | 220 |
| 39768..... | 381 | 40-004..... | 212 | 40-056..... | 213 | 40-127..... | 215 | 40-207..... | 217 | 44-107LF..... | 220 |
| 39769..... | 381 | 4000-4-4..... | 414 | 40-060..... | 213 | 40-128..... | 215 | 40-209..... | 217 | 44-108..... | 220 |
| 39772..... | 380 | 40-005..... | 212 | 40-061..... | 213 | 40-129..... | 215 | 40-220..... | 217 | 44-108LF..... | 220 |
| 39773..... | 380 | 40-006..... | 212 | 40-062..... | 213 | 40-130..... | 215 | 40-221..... | 217 | 44-109..... | 220 |
| 39774..... | 380 | 4000-6-6..... | 414 | 40-063..... | 213 | 40-131..... | 215 | 40-222..... | 217 | 44-110..... | 220 |
| 39775..... | 380 | 40-007..... | 212 | 40-064..... | 213 | 40-132..... | 215 | 40-223..... | 217 | 44-110LF..... | 220 |
| 39778..... | 381 | 40-008..... | 212 | 40-065..... | 213 | 40-133..... | 215 | 40-224..... | 217 | 44-112..... | 220 |
| 39779..... | 381 | 4000-8-8..... | 414 | 40-066..... | 213 | 40-134..... | 215 | 40-225..... | 217 | 44-123..... | 220 |
| 39782..... | 381 | 40-009..... | 212 | 40-067..... | 213 | 40-135..... | 215 | 40-226..... | 217 | 44-124..... | 220 |
| 39783..... | 381 | 40-010..... | 212 | 40-068..... | 213 | 40-136..... | 215 | 40-234..... | 217 | 44-124LF..... | 220 |
| 39786..... | 380 | 40-011..... | 212 | 40-069..... | 213 | 40-140..... | 215 | 40-254..... | 217 | 44-127..... | 220 |
| 39787..... | 380 | 4001-10..... | 414 | 40-070..... | 213 | 40-141..... | 215 | 40-256..... | 217 | 44-127LF..... | 220 |
| 39788..... | 380 | 4001-12..... | 414 | 40-071..... | 213 | 40-142..... | 215 | 40-259..... | 217 | 44-131..... | 220 |
| 39789..... | 380 | 4001-16..... | 414 | 40-072..... | 213 | 40-143..... | 215 | 40-260..... | 217 | 44-131LF..... | 220 |
| 39792..... | 382 | 40-012..... | 212 | 40-073..... | 213 | 40-144..... | 215 | 40-261..... | 217 | 44-134..... | 220 |
| 39793..... | 382 | 4001-20..... | 414 | 40-074..... | 213 | 40-145..... | 215 | 41-040..... | 218 | 44-137..... | 220 |
| 39794..... | 382 | 4001-2-2..... | 414 | 40-075..... | 213 | 40-146..... | 215 | 41-041..... | 218 | 44-137LF..... | 220 |
| 39795..... | 382 | 4001-24..... | 414 | 40-076..... | 213 | 40-147..... | 215 | 41-042..... | 218 | 44-140LF..... | 220 |
| 39800..... | 382 | 40-013..... | 212 | 40-080..... | 214 | 40-148..... | 215 | 41-043..... | 218 | 44-160..... | 220 |
| 39801..... | 382 | 4001-32..... | 414 | 40-081..... | 214 | 40-149..... | 215 | 41-044..... | 218 | 44-160LF..... | 220 |
| 39802..... | 382 | 40-014..... | 212 | 40-082..... | 214 | 40-150..... | 215 | 41-045..... | 218 | 44-161..... | 220 |
| 39803..... | 382 | 4001-4-4..... | 414 | 40-083..... | 214 | 40-151..... | 215 | 41-046..... | 218 | 44-161LF..... | 220 |
| 39805..... | 382 | 40-015..... | 212 | 40-084..... | 214 | 40-152..... | 215 | 41-047..... | 218 | 44-162..... | 220 |
| 39807..... | 381 | 4001-6-6..... | 414 | 40-085..... | 214 | 40-153..... | 215 | 41-048..... | 218 | 44-162LF..... | 220 |
| 39809..... | 381 | 40-017..... | 212 | 40-086..... | 214 | 40-154..... | 215 | 41-049..... | 218 | 44-163..... | 220 |
| 39814..... | 382 | 40-018..... | 212 | 40-087..... | 214 | 40-155..... | 215 | 41-050..... | 218 | 44-163LF..... | 220 |
| 39818..... | 380 | 4001-8-8..... | 414 | 40-088..... | 214 | 40-156..... | 215 | 41-060..... | 218 | 44-164..... | 220 |
| 39819..... | 380 | 40-019..... | 212 | 40-089..... | 214 | 40-160..... | 216 | 41-061..... | 218 | 44-164LF..... | 220 |
| 39820..... | 380 | 40-020..... | 212 | 40-090..... | 214 | 40-161..... | 216 | 41-062..... | 218 | 44-165..... | 220 |
| 39825..... | 366 | 40-021..... | 212 | 40-091..... | 214 | 40-162..... | 216 | 41-063..... | 218 | 44-165LF..... | 220 |
| 39828..... | 370 | 40-022..... | 212 | 40-092..... | 214 | 40-163..... | 216 | 41-064..... | 218 | 44-166..... | 220 |
| 39829..... | 370 | 40-023..... | 212 | 40-093..... | 214 | 40-164..... | 216 | 41-065..... | 218 | 44-166LF..... | 220 |
| 39830..... | 370 | 40-024..... | 212 | 40-094..... | 214 | 40-165..... | 216 | 41-066..... | 218 | 44-167..... | 220 |
| 39831..... | 370 | 40-025..... | 212 | 40-095..... | 214 | 40-166..... | 216 | 41-067..... | 218 | 44-167LF..... | 220 |
| 39832..... | 370 | 40-026..... | 212 | 40-096..... | 214 | 40-167..... | 216 | 41-068..... | 218 | 44-168..... | 220 |
| 39833..... | 370 | 40-027..... | 212 | 40-097..... | 214 | 40-168..... | 216 | 41-069..... | 218 | 44-168LF..... | 220 |

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|----------|------|----------|------|----------|------|----------|------|----------|------|
| 44-169 | 220 | 44-258LF | 222 | 44-410 | 223 | 44-451 | 223 | 44-514 | 225 |
| 44-170 | 220 | 44-259 | 222 | 44-410LF | 223 | 44-451LF | 223 | 44-515 | 225 |
| 44-180 | 221 | 44-260 | 222 | 44-411 | 223 | 44-452 | 223 | 44-516 | 225 |
| 44-180LF | 221 | 44-276 | 222 | 444-111 | 310 | 44-452LF | 223 | 44-516LF | 225 |
| 44-181 | 221 | 44-276LF | 222 | 444-112 | 310 | 44-453 | 223 | 44-517 | 225 |
| 44-181LF | 221 | 44-280 | 222 | 444-113 | 310 | 44-453LF | 223 | 44-517LF | 225 |
| 44-182 | 221 | 44-280LF | 222 | 44-411LF | 223 | 44-454 | 223 | 44-518 | 225 |
| 44-182LF | 221 | 44-282 | 222 | 44-412 | 223 | 44-454LF | 223 | 44-518LF | 225 |
| 44-183 | 221 | 44-282LF | 222 | 44-412LF | 223 | 44-456 | 223 | 44-519 | 225 |
| 44-183LF | 221 | 44-283 | 222 | 44-413 | 223 | 44-458 | 223 | 44-519LF | 225 |
| 44-184 | 221 | 44-286 | 222 | 44-413LF | 223 | 44-461 | 223 | 44-520 | 225 |
| 44-184LF | 221 | 44-286LF | 222 | 44-414 | 223 | 44-462 | 223 | 44-520LF | 225 |
| 44-185 | 221 | 44-287 | 222 | 44-414LF | 223 | 44-462LF | 223 | 44-521 | 225 |
| 44-185LF | 221 | 44-287LF | 222 | 44-415 | 223 | 44-463 | 223 | 44-521LF | 225 |
| 44-186 | 221 | 44-288LF | 222 | 44-415LF | 223 | 44-470 | 224 | 44-522 | 225 |
| 44-186LF | 221 | 44-291 | 222 | 44-416 | 223 | 44-470LF | 224 | 44-522LF | 225 |
| 44-187 | 221 | 44-291LF | 222 | 44-416LF | 223 | 44-471 | 224 | 44-523 | 225 |
| 44-187LF | 221 | 44-296 | 222 | 44-417 | 223 | 44-471LF | 224 | 44-523LF | 225 |
| 44-188 | 221 | 44-298 | 222 | 44-417LF | 223 | 44-472 | 224 | 44-524 | 225 |
| 44-188LF | 221 | 44-298LF | 222 | 44-418 | 223 | 44-472LF | 224 | 44-524LF | 225 |
| 44-189 | 221 | 44-301 | 222 | 44-418LF | 223 | 44-473 | 224 | 44-527 | 225 |
| 44-190 | 221 | 44-301LF | 222 | 44-419 | 223 | 44-473LF | 224 | 44-527LF | 225 |
| 44-200 | 221 | 44-303 | 222 | 44-420 | 223 | 44-474 | 224 | 44-528 | 225 |
| 44-201 | 221 | 44-303LF | 222 | 44-420LF | 223 | 44-474LF | 224 | 44-528LF | 225 |
| 44-201LF | 221 | 44-306 | 222 | 44-430 | 223 | 44-475 | 224 | 44-529 | 225 |
| 44-202 | 221 | 44-306LF | 222 | 44-430LF | 223 | 44-475LF | 224 | 44-529LF | 225 |
| 44-202LF | 221 | 44-330LF | 222 | 44-431 | 223 | 44-476 | 224 | 44-530 | 225 |
| 44-203 | 221 | 44-334LF | 222 | 444-313 | 310 | 44-476LF | 224 | 44-530LF | 225 |
| 44-203LF | 221 | 44-391 | 221 | 444-318 | 310 | 44-477 | 224 | 44-531 | 225 |
| 44-204 | 221 | 44-391LF | 221 | 44-432 | 223 | 44-477LF | 224 | 44-531LF | 225 |
| 44-204LF | 221 | 44-392 | 221 | 444-320 | 310 | 44-478 | 224 | 44-532 | 225 |
| 44-205 | 221 | 44-392LF | 221 | 44-432LF | 223 | 44-478LF | 224 | 44-534 | 225 |
| 44-205LF | 221 | 44-393 | 221 | 44-433 | 223 | 44-480 | 224 | 44-534LF | 225 |
| 44-206 | 221 | 44-393LF | 221 | 44-434 | 223 | 44-500 | 225 | 44-535 | 225 |
| 44-206LF | 221 | 44-394 | 221 | 44-434LF | 223 | 44-500LF | 225 | 44-535LF | 225 |
| 44-207 | 221 | 44-394LF | 221 | 44-435 | 223 | 44-501 | 225 | 44-537 | 225 |
| 44-207LF | 221 | 44-395 | 221 | 44-435LF | 223 | 44-501LF | 225 | 44-538 | 225 |
| 44-208 | 221 | 44-395LF | 221 | 44-436 | 223 | 44-502 | 225 | 44-538LF | 225 |
| 44-208LF | 221 | 44-396 | 221 | 44-436LF | 223 | 44-502LF | 225 | 44-539 | 225 |
| 44-212 | 306 | 44-396LF | 221 | 44-437 | 223 | 44-503 | 225 | 44-541 | 225 |
| 44-213 | 306 | 44-397 | 221 | 44-437LF | 223 | 44-503LF | 225 | 44-543 | 225 |
| 44-214 | 306 | 44-397LF | 221 | 44-438 | 223 | 44-504 | 225 | 44-543LF | 225 |
| 44-215 | 306 | 44-398 | 221 | 44-438LF | 223 | 44-504LF | 225 | 44-600 | 224 |
| 44-216 | 306 | 44-398LF | 221 | 44-440 | 223 | 44-505 | 225 | 44-600LF | 224 |
| 44-250 | 222 | 444-000 | 310 | 44-441 | 223 | 44-505LF | 225 | 44-601 | 224 |
| 44-250LF | 222 | 444-001 | 310 | 44-441LF | 223 | 44-506 | 225 | 44-601LF | 224 |
| 44-251 | 222 | 444-002 | 310 | 44-442 | 223 | 44-506LF | 225 | 44-602 | 224 |
| 44-251LF | 222 | 444-005 | 310 | 44-442LF | 223 | 44-507 | 225 | 44-602LF | 224 |
| 44-252 | 222 | 444-006 | 310 | 44-444 | 223 | 44-507LF | 225 | 44-603 | 224 |
| 44-252LF | 222 | 444-007 | 310 | 44-444LF | 223 | 44-508 | 225 | 44-603LF | 224 |
| 44-253 | 222 | 444-008 | 310 | 44-445 | 223 | 44-508LF | 225 | 44-604 | 224 |
| 44-253LF | 222 | 444-011 | 310 | 44-445LF | 223 | 44-509 | 225 | 44-604LF | 224 |
| 44-254 | 222 | 444-020 | 310 | 44-446 | 223 | 44-509LF | 225 | 44-605 | 224 |
| 44-254LF | 222 | 444-021 | 310 | 44-446LF | 223 | 44-510 | 225 | 44-605LF | 224 |
| 44-255 | 222 | 444-023 | 310 | 44-447 | 223 | 44-510LF | 225 | 44-606 | 224 |
| 44-255LF | 222 | 444-040 | 310 | 44-448 | 223 | 44-511 | 225 | 44-606LF | 224 |
| 44-256 | 222 | 444-042 | 310 | 44-448LF | 223 | 44-511LF | 225 | 44-607 | 224 |
| 44-256LF | 222 | 444-045 | 310 | 44-449 | 223 | 44-512 | 225 | 44-607LF | 224 |
| 44-257 | 222 | 444-049 | 310 | 44-449LF | 223 | 44-512LF | 225 | 44-608 | 224 |
| 44-257LF | 222 | 444-062 | 310 | 44-450 | 223 | 44-513 | 225 | 44-608LF | 224 |
| 44-258 | 222 | 444-095 | 310 | 44-450LF | 223 | 44-513LF | 225 | 44-609 | 224 |

44-727

NUMERICAL INDEX

46-931L

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|---------|------|----------|------|-----------|------|---------|------|---------|------|-----------|------|
| 44-727 | 227 | 449-481 | 306 | 46-013 | 147 | 46-131 | 146 | 46-505 | 153 | 46-621 | 355 |
| 44-728 | 227 | 449-482 | 306 | 46-016 | 147 | 46-132 | 146 | 46-510 | 153 | 46-622 | 355 |
| 44-729 | 227 | 44-949 | 305 | 46-020 | 147 | 46-134 | 146 | 46-511 | 153 | 46-630 | 355 |
| 44-740 | 227 | 44-950 | 305 | 46-021 | 147 | 46-140 | 146 | 46-512 | 153 | 46-631 | 355 |
| 44-742 | 227 | 44-951 | 305 | 46-021LF | 163 | 46-141 | 146 | 46-513 | 153 | 46650 | 105 |
| 44-744 | 227 | 44-952 | 305 | 46-021LF | 163 | 46-142 | 146 | 46-514 | 153 | 46651 | 105 |
| 44-750 | 227 | 44-953 | 305 | 46-022 | 147 | 46-143 | 146 | 46-515 | 153 | 46652 | 105 |
| 44-753 | 227 | 44-954 | 305 | 46-023 | 147 | 46-151 | 146 | 46-516 | 153 | 46653 | 105 |
| 44840LF | 228 | 44-955 | 305 | 46-023LF | 163 | 46-152 | 146 | 46-517 | 153 | 46660 | 105 |
| 44840LF | 288 | 44-956 | 305 | 46-023LF | 163 | 46-152T | 146 | 46-518 | 153 | 46661 | 105 |
| 44841LF | 228 | 44-957 | 305 | 46-028 | 147 | 46-153 | 146 | 46-519 | 153 | 46662 | 105 |
| 44841LF | 288 | 44-958 | 305 | 46-029 | 147 | 46-160 | 146 | 46-520 | 151 | 46663 | 105 |
| 44842LF | 228 | 44-959 | 305 | 46-031 | 147 | 46-161 | 146 | 46-520A | 151 | 46670 | 105 |
| 44842LF | 288 | 44-960 | 305 | 46-036 | 148 | 46-161T | 146 | 46-521 | 151 | 46671 | 105 |
| 44843LF | 228 | 44-961 | 305 | 46-038 | 148 | 46-162 | 146 | 46-521A | 151 | 46672 | 105 |
| 44843LF | 288 | 44-962 | 305 | 46-039 | 148 | 46-165 | 146 | 46-522 | 151 | 46680 | 105 |
| 44844LF | 228 | 44-963 | 305 | 46-040 | 148 | 46-166 | 146 | 46-523 | 151 | 46681 | 105 |
| 44844LF | 288 | 44-964 | 305 | 46-045 | 148 | 46-166T | 146 | 46-523A | 151 | 46682 | 105 |
| 44845LF | 228 | 44-965 | 305 | 46-046 | 148 | 46-167 | 146 | 46-524 | 151 | 466900 | 105 |
| 44845LF | 288 | 44-966 | 305 | 46-048 | 148 | 46-200 | 153 | 46-524A | 151 | 466901 | 105 |
| 44-911 | 305 | 44-967 | 305 | 46-048 | 355 | 46-201 | 153 | 46-526 | 151 | 466902 | 105 |
| 44-912 | 305 | 44-968 | 305 | 46-048S | 355 | 46-202 | 153 | 46-529 | 151 | 46-830 | 152 |
| 44-913 | 305 | 44-969 | 305 | 46-050 | 148 | 46-237 | 151 | 46-530 | 151 | 46-832 | 152 |
| 44-914 | 305 | 44-970 | 305 | 46-051 | 148 | 46-241 | 150 | 46-530A | 151 | 46-833 | 152 |
| 44-915 | 305 | 44-971 | 305 | 46-055 | 148 | 46-243 | 150 | 46-531 | 151 | 46-834 | 152 |
| 44-916 | 305 | 44-972 | 305 | 46-055LF | 163 | 46-244 | 150 | 46-531A | 151 | 46-875 | 152 |
| 44-917 | 305 | 44-973 | 305 | 46-056 | 148 | 46-247 | 150 | 46-532 | 151 | 46-878 | 152 |
| 44-918 | 305 | 44-974 | 305 | 46-056LF | 163 | 46-248 | 150 | 46-532A | 151 | 46-900 | 152 |
| 44-919 | 305 | 44-975 | 305 | 46-056P | 148 | 46-250 | 150 | 46-533 | 151 | 46-903 | 152 |
| 44-920 | 305 | 44-976 | 305 | 46-060 | 148 | 46-251 | 150 | 46-533A | 151 | 46-903I | 182 |
| 44-921 | 305 | 44-977 | 305 | 46-061 | 148 | 46-252 | 150 | 46-539 | 153 | 46-903ISB | 182 |
| 44-922 | 305 | 44-978 | 305 | 46-061L | 148 | 46-255 | 150 | 46-540 | 12 | 46-903SS | 198 |
| 44-923 | 305 | 44-979 | 305 | 46-061LF | 163 | 46-256 | 150 | 46-541 | 12 | 46-904I | 182 |
| 44-924 | 305 | 44-980 | 305 | 46-064 | 144 | 46-257 | 150 | 46-560 | 153 | 46-904SS | 198 |
| 44-925 | 305 | 44-981 | 305 | 46-066 | 144 | 46-260 | 150 | 46-560V | 153 | 46-905I | 182 |
| 44-926 | 305 | 44-982 | 305 | 46-067 | 144 | 46-270 | 209 | 46-561 | 153 | 46-905SS | 198 |
| 44-927 | 305 | 44-983 | 305 | 46-068 | 144 | 46-277 | 209 | 46-561V | 153 | 46-910 | 152 |
| 44-928 | 305 | 44-984 | 305 | 46-069 | 144 | 46-400 | 149 | 46-562 | 153 | 46-912 | 152 |
| 44-929 | 305 | 44-985 | 305 | 46-070 | 144 | 46-400M | 149 | 46-562V | 153 | 46-912SS | 198 |
| 44-930 | 305 | 44-986 | 305 | 46-071 | 144 | 46-401 | 149 | 46-563 | 153 | 46-913SS | 198 |
| 44-931 | 305 | 44-987 | 305 | 46-072 | 144 | 46-401M | 149 | 46-563V | 153 | 46-914SS | 198 |
| 44-932 | 305 | 44-988 | 305 | 46-073 | 144 | 46-402 | 149 | 46-564 | 153 | 46-920 | 152 |
| 44-933 | 305 | 44-989 | 305 | 46-074 | 145 | 46-402M | 149 | 46-564V | 153 | 46-921 | 152 |
| 44-934 | 305 | 44-990 | 305 | 46-075 | 145 | 46-406M | 149 | 46-565 | 153 | 46-922 | 152 |
| 44-935 | 305 | 45-102LF | 227 | 46-076 | 145 | 46-411 | 149 | 46-566 | 153 | 46-922A | 152 |
| 44-936 | 305 | 45-103LF | 227 | 46-077 | 145 | 46-411M | 149 | 46-567 | 153 | 46-922I | 182 |
| 44-937 | 305 | 45-163LF | 227 | 46-078 | 145 | 46-429M | 149 | 46-568 | 153 | 46-922SS | 198 |
| 44-938 | 305 | 45-252LF | 227 | 46-079 | 145 | 46-430M | 149 | 46-569 | 153 | 46-923 | 152 |
| 44-939 | 305 | 45-253LF | 227 | 46-080 | 145 | 46-440 | 152 | 46-570 | 153 | 46-923I | 182 |
| 44-940 | 305 | 45-412LF | 227 | 46-081 | 145 | 46-443 | 152 | 46-571 | 153 | 46-923SS | 198 |
| 44-941 | 305 | 45-413LF | 227 | 46-082 | 145 | 46-450 | 149 | 46-572 | 153 | 46-924 | 152 |
| 44-942 | 305 | 46-002 | 147 | 46-083 | 145 | 46-451 | 149 | 46-573 | 153 | 46-924I | 182 |
| 44-943 | 305 | 46-002LF | 163 | 46-084 | 145 | 46-455 | 149 | 46-575 | 153 | 46-924SS | 198 |
| 44-944 | 305 | 46-003 | 147 | 46-085 | 145 | 46-456 | 149 | 46-576 | 153 | 46-925 | 152 |
| 44-945 | 305 | 46-003LF | 163 | 46-086 | 145 | 46-457 | 149 | 46-577 | 153 | 46-930 | 184 |
| 449-450 | 306 | 46-005LF | 163 | 46-087 | 145 | 46-465 | 149 | 46-578 | 153 | 46-930L | 184 |
| 44-946 | 305 | 46-011 | 147 | 46-088 | 145 | 46-466 | 149 | 46-600 | 358 | 46-930S | 184 |
| 44-947 | 305 | 46-011LF | 163 | 46-089 | 145 | 46-467 | 149 | 46-605 | 358 | 46930SS | 197 |
| 449-470 | 306 | 46-011X | 147 | 46-089A | 145 | 46-475 | 149 | 46-607 | 358 | 46-930T | 184 |
| 44-948 | 305 | 46-012 | 147 | 46-090ALF | 163 | 46-476 | 149 | 46-615 | 357 | 46-931 | 184 |
| 449-480 | 306 | 46-012LF | 163 | 46-130 | 146 | 46-500 | 153 | 46-620 | 355 | 46-931L | 184 |

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|----------|------|--------|------|--------|------|--------|------|------------|------|
| 46-931S | 184 | 48-027 | 232 | 48-107 | 234 | 49-003 | 232 | 49-086 | 234 |
| 46931SS | 197 | 48-028 | 232 | 48-108 | 234 | 49-004 | 232 | 49-087 | 234 |
| 46-931T | 184 | 48-029 | 232 | 48-109 | 234 | 49-005 | 232 | 49-088 | 234 |
| 46-932 | 184 | 48-030 | 232 | 48-110 | 234 | 49-006 | 232 | 49-089 | 234 |
| 46-932L | 184 | 48-031 | 232 | 48-111 | 234 | 49-007 | 232 | 49-090 | 234 |
| 46-932S | 184 | 48-032 | 232 | 48-113 | 234 | 49-008 | 232 | 49-092 | 234 |
| 46932SS | 197 | 48-034 | 232 | 48-115 | 234 | 49-009 | 232 | 49-094 | 234 |
| 46-932T | 184 | 48-036 | 232 | 48-120 | 235 | 49-010 | 232 | 49-100 | 234 |
| 46-933 | 184 | 48-038 | 232 | 48-121 | 235 | 49-011 | 232 | 49-101 | 234 |
| 46-933L | 184 | 48-040 | 233 | 48-122 | 235 | 49-017 | 232 | 49-102 | 234 |
| 46-933S | 184 | 48-041 | 233 | 48-123 | 235 | 49-020 | 232 | 49-103 | 234 |
| 46933SS | 197 | 48-042 | 233 | 48-124 | 235 | 49-021 | 232 | 49-104 | 234 |
| 46-933T | 184 | 48-043 | 233 | 48-125 | 235 | 49-022 | 232 | 49-105 | 234 |
| 46-934 | 183 | 48-044 | 233 | 48-126 | 235 | 49-023 | 232 | 49-106 | 234 |
| 46-934L | 183 | 48-045 | 233 | 48-127 | 235 | 49-024 | 232 | 49-107 | 234 |
| 46-934LS | 183 | 48-046 | 233 | 48-128 | 235 | 49-025 | 232 | 49-108 | 234 |
| 46-934LT | 183 | 48-047 | 233 | 48-129 | 235 | 49-026 | 232 | 49-109 | 234 |
| 46934SS | 197 | 48-048 | 233 | 48-131 | 235 | 49-027 | 232 | 49-111 | 234 |
| 46-935 | 183 | 48-049 | 233 | 48-135 | 235 | 49-028 | 232 | 49-113 | 234 |
| 46-935L | 183 | 48-050 | 233 | 48-140 | 235 | 49-029 | 232 | 49-120 | 235 |
| 46-935LS | 183 | 48-052 | 233 | 48-141 | 235 | 49-030 | 232 | 49-121 | 235 |
| 46-935LT | 183 | 48-054 | 233 | 48-142 | 235 | 49-031 | 232 | 49-122 | 235 |
| 46935SS | 197 | 48-060 | 233 | 48-143 | 235 | 49-032 | 232 | 49-123 | 235 |
| 46-936 | 183 | 48-061 | 233 | 48-144 | 235 | 49-033 | 232 | 49-124 | 235 |
| 46-936L | 183 | 48-062 | 233 | 48-145 | 235 | 49-034 | 232 | 49-125 | 235 |
| 46-936LS | 183 | 48-063 | 233 | 48-146 | 235 | 49-035 | 232 | 49-126 | 235 |
| 46-936LT | 183 | 48-064 | 233 | 48-147 | 235 | 49-036 | 232 | 49-127 | 235 |
| 46936SS | 197 | 48-065 | 233 | 48-148 | 235 | 49-037 | 232 | 49-128 | 235 |
| 46-937 | 183 | 48-066 | 233 | 48-149 | 235 | 49-038 | 232 | 49-129 | 235 |
| 46-937L | 183 | 48-067 | 233 | 48-151 | 235 | 49-040 | 233 | 49-140 | 235 |
| 46-937LS | 183 | 48-068 | 233 | 48-152 | 235 | 49-041 | 233 | 49-141 | 235 |
| 46-937LT | 183 | 48-069 | 233 | 48-153 | 235 | 49-042 | 233 | 49-142 | 235 |
| 46937SS | 197 | 48-070 | 233 | 48-155 | 235 | 49-043 | 233 | 49-143 | 235 |
| 46-951 | 152 | 48-071 | 233 | 48-160 | 236 | 49-044 | 233 | 49-144 | 235 |
| 46-956 | 152 | 48-072 | 233 | 48-161 | 236 | 49-045 | 233 | 49-145 | 235 |
| 46-980 | 152 | 48-073 | 233 | 48-162 | 236 | 49-046 | 233 | 49-146 | 235 |
| 46-981 | 152 | 48-074 | 233 | 48-163 | 236 | 49-047 | 233 | 49-147 | 235 |
| 46-986 | 151 | 48-075 | 233 | 48-164 | 236 | 49-048 | 233 | 49-148 | 235 |
| 46-987 | 151 | 48-076 | 233 | 48-165 | 236 | 49-049 | 233 | 49-149 | 235 |
| 46-988 | 151 | 48-080 | 234 | 48-166 | 236 | 49-050 | 233 | 49-151 | 235 |
| 46-989 | 151 | 48-081 | 234 | 48-167 | 236 | 49-052 | 233 | 49-160 | 236 |
| 47-042 | 152 | 48-082 | 234 | 48-168 | 236 | 49-054 | 233 | 49-161 | 236 |
| 48-001 | 232 | 48-083 | 234 | 48-169 | 236 | 49-060 | 233 | 49-162 | 236 |
| 48-002 | 232 | 48-084 | 234 | 48-170 | 236 | 49-061 | 233 | 49-163 | 236 |
| 48-003 | 232 | 48-085 | 234 | 48-171 | 236 | 49-062 | 233 | 49-164 | 236 |
| 48-004 | 232 | 48-086 | 234 | 48-172 | 236 | 49-063 | 233 | 49-165 | 236 |
| 48-005 | 232 | 48-087 | 234 | 48-174 | 236 | 49-064 | 233 | 49-166 | 236 |
| 48-006 | 232 | 48-088 | 234 | 48-180 | 236 | 49-065 | 233 | 49-167 | 236 |
| 48-007 | 232 | 48-089 | 234 | 48-187 | 236 | 49-066 | 233 | 49-168 | 236 |
| 48-008 | 232 | 48-090 | 234 | 48-193 | 236 | 49-067 | 233 | 49-169 | 236 |
| 48-009 | 232 | 48-091 | 234 | 48-200 | 236 | 49-068 | 233 | 49-170 | 236 |
| 48-010 | 232 | 48-092 | 234 | 48-201 | 236 | 49-069 | 233 | 49-200 | 236 |
| 48-011 | 232 | 48-094 | 234 | 48-203 | 236 | 49-070 | 233 | 49-201 | 236 |
| 48-015 | 232 | 48-096 | 234 | 48-205 | 236 | 49-072 | 233 | 49-203 | 236 |
| 48-020 | 232 | 48-100 | 234 | 48-207 | 236 | 49-074 | 233 | 49-205 | 236 |
| 48-021 | 232 | 48-101 | 234 | 48-209 | 236 | 49-080 | 234 | 49-207 | 236 |
| 48-022 | 232 | 48-102 | 234 | 48-213 | 236 | 49-081 | 234 | 49-209 | 236 |
| 48-023 | 232 | 48-103 | 234 | 48-220 | 236 | 49-082 | 234 | 49-220 | 236 |
| 48-024 | 232 | 48-104 | 234 | 48-227 | 236 | 49-083 | 234 | 49-223 | 236 |
| 48-025 | 232 | 48-105 | 234 | 49-001 | 232 | 49-084 | 234 | 49-234 | 236 |
| 48-026 | 232 | 48-106 | 234 | 49-002 | 232 | 49-085 | 234 | 49-236 | 236 |
| | | | | | | | | 49-240 | 236 |
| | | | | | | | | 50-001 | 61 |
| | | | | | | | | 500-012 | 316 |
| | | | | | | | | 5000-12-12 | 404 |
| | | | | | | | | 5000-16 | 404 |
| | | | | | | | | 5000-16-12 | 404 |
| | | | | | | | | 5000-2 | 404 |
| | | | | | | | | 500-020 | 316 |
| | | | | | | | | 5000-20-20 | 404 |
| | | | | | | | | 5000-24 | 404 |
| | | | | | | | | 500-028 | 316 |
| | | | | | | | | 5000-32 | 404 |
| | | | | | | | | 500-036 | 316 |
| | | | | | | | | 5000-4 | 404 |
| | | | | | | | | 5000-4-2 | 404 |
| | | | | | | | | 500-048 | 316 |
| | | | | | | | | 500-056 | 316 |
| | | | | | | | | 5000-6-4 | 404 |
| | | | | | | | | 5000-6-6 | 404 |
| | | | | | | | | 500-072 | 316 |
| | | | | | | | | 5000-8 | 404 |
| | | | | | | | | 5000-8-4 | 404 |
| | | | | | | | | 5000-8-6 | 404 |
| | | | | | | | | 500-088 | 316 |
| | | | | | | | | 500-104 | 316 |
| | | | | | | | | 50-011 | 61 |
| | | | | | | | | 500-128 | 316 |
| | | | | | | | | 500-152 | 316 |
| | | | | | | | | 500-188 | 316 |
| | | | | | | | | 500-216 | 316 |
| | | | | | | | | 500-248 | 316 |
| | | | | | | | | 500-280 | 316 |
| | | | | | | | | 540402 | 122 |
| | | | | | | | | 540402S | 122 |
| | | | | | | | | 540402SC | 127 |
| | | | | | | | | 540404 | 122 |
| | | | | | | | | 540404S | 122 |
| | | | | | | | | 540404SC | 127 |
| | | | | | | | | 5404-12 | 404 |
| | | | | | | | | 5404-12-6 | 404 |
| | | | | | | | | 5404-12-8 | 404 |
| | | | | | | | | 5404-16 | 404 |
| | | | | | | | | 5404-16-12 | 404 |
| | | | | | | | | 5404-2 | 404 |
| | | | | | | | | 5404-20 | 404 |
| | | | | | | | | 5404-20-16 | 404 |
| | | | | | | | | 5404-24 | 404 |
| | | | | | | | | 5404-24-20 | 404 |
| | | | | | | | | 5404-32 | 404 |
| | | | | | | | | 5404-32-24 | 404 |
| | | | | | | | | 5404-4 | 404 |
| | | | | | | | | 5404-4-2 | 404 |
| | | | | | | | | 5404-6 | 404 |
| | | | | | | | | 5404-6-2 | 404 |
| | | | | | | | | 5404-6-4 | 404 |
| | | | | | | | | 5404-8 | 404 |
| | | | | | | | | 5404-8-4 | 404 |
| | | | | | | | | 5404-8-6 | 404 |
| | | | | | | | | 5405-12-12 | 404 |
| | | | | | | | | 5405-16-16 | 404 |
| | | | | | | | | 5405-16-20 | 404 |

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|-------------|------|-------------|------|------------|------|----------|------|----------|------|--------|------|
| 5405-20-20 | 404 | 5406-P-16 | 405 | 550-188 | 316 | 56-015 | 246 | 56-056 | 247 | 56-128 | 250 |
| 5405-20-24 | 404 | 5406-P-2 | 405 | 5502-12 | 406 | 5601-6-6 | 407 | 5605-6-6 | 407 | 56-129 | 250 |
| 5405-2-2 | 404 | 5406-P-20 | 405 | 550-216 | 316 | 56-017 | 246 | 5605-8 | 407 | 56-130 | 250 |
| 5405-2-4 | 404 | 5406-P-24 | 405 | 5502-16-16 | 406 | 5601-8 | 407 | 56-060 | 247 | 56-131 | 250 |
| 5405-24-24 | 404 | 5406-P-32 | 405 | 5502-2 | 406 | 56-020 | 246 | 56-061 | 247 | 56-132 | 250 |
| 5405-4-2 | 404 | 5406-P-4 | 405 | 5502-20 | 406 | 56-021 | 246 | 56-062 | 247 | 56-133 | 250 |
| 5405-4-4 | 404 | 5406-P-6 | 405 | 5502-24 | 406 | 5602-12 | 407 | 56-063 | 247 | 56-134 | 250 |
| 5405-6-4 | 404 | 5406-P-8 | 405 | 5502-4 | 406 | 5602-16 | 407 | 56-064 | 247 | 56-135 | 250 |
| 5405-6-6 | 404 | 5406-SHP-12 | 405 | 550-248 | 316 | 56-022 | 246 | 56-065 | 247 | 56-140 | 250 |
| 5405-6-8 | 404 | 5406-SHP-16 | 405 | 5502-6 | 406 | 5602-2-2 | 407 | 56-066 | 247 | 56-141 | 250 |
| 5405-8-12 | 404 | 5406-SHP-2 | 405 | 5502-6-4 | 406 | 56-023 | 246 | 56-067 | 247 | 56-142 | 250 |
| 5405-8-8 | 404 | 5406-SHP-20 | 405 | 550-280 | 316 | 56-024 | 246 | 56-068 | 247 | 56-143 | 250 |
| 540602 | 122 | 5406-SHP-24 | 405 | 5502-8-4 | 406 | 5602-4-4 | 407 | 56-069 | 247 | 56-144 | 250 |
| 540602S | 122 | 5406-SHP-32 | 405 | 5502-8-6 | 406 | 56-025 | 246 | 56-070 | 247 | 56-145 | 250 |
| 540602SC | 127 | 5406-SHP-4 | 405 | 5502-8-8 | 406 | 56-026 | 246 | 56-071 | 247 | 56-146 | 250 |
| 540604 | 122 | 5406-SHP-6 | 405 | 550-312 | 316 | 5602-6-6 | 407 | 56-072 | 247 | 56-147 | 250 |
| 540604S | 122 | 5406-SHP-8 | 405 | 5503-12-12 | 406 | 56-027 | 246 | 56-073 | 247 | 56-148 | 250 |
| 540604SC | 127 | 540804 | 122 | 5503-16 | 406 | 56-028 | 246 | 56-074 | 247 | 56-149 | 250 |
| 540606 | 122 | 540804S | 122 | 5503-2 | 406 | 5602-8-8 | 407 | 56-075 | 247 | 56-150 | 250 |
| 540606S | 122 | 540804SC | 127 | 5503-4 | 406 | 56-029 | 246 | 56-076 | 247 | 56-151 | 250 |
| 540606SC | 127 | 540806 | 122 | 5503-6 | 406 | 56-030 | 246 | 56-080 | 248 | 56-152 | 250 |
| 540608 | 122 | 540806S | 122 | 5503-8 | 406 | 56-031 | 246 | 56-081 | 248 | 56-153 | 250 |
| 540608SC | 127 | 540806SC | 127 | 5504-12 | 406 | 5603-12 | 407 | 56-082 | 248 | 56-154 | 250 |
| 5406-12-2 | 404 | 540808 | 122 | 5504-16 | 406 | 5603-16 | 407 | 56-083 | 248 | 56-155 | 250 |
| 5406-12-4 | 404 | 540808S | 122 | 5504-2 | 406 | 56-032 | 246 | 56-084 | 248 | 56-160 | 251 |
| 5406-12-6 | 404 | 540808SC | 127 | 5504-20 | 406 | 5603-2-2 | 407 | 56-085 | 248 | 56-161 | 251 |
| 5406-12-8 | 404 | 541006 | 122 | 5504-24 | 406 | 56-033 | 246 | 56-086 | 248 | 56-162 | 251 |
| 5406-16-12 | 404 | 541006SC | 127 | 5504-4 | 406 | 56-034 | 246 | 56-087 | 248 | 56-163 | 251 |
| 5406-16-4 | 404 | 541008 | 122 | 5504-6 | 406 | 5603-4-4 | 407 | 56-088 | 248 | 56-164 | 251 |
| 5406-16-6 | 404 | 541008S | 122 | 5504-8 | 406 | 56-035 | 246 | 56-089 | 248 | 56-165 | 251 |
| 5406-16-8 | 404 | 541008SC | 127 | 5504-8-6 | 406 | 56-036 | 246 | 56-090 | 248 | 56-166 | 251 |
| 5406-20-16 | 404 | 541208 | 122 | 5505-12 | 406 | 5603-6-6 | 407 | 56-091 | 248 | 56-167 | 251 |
| 5406-24-20 | 404 | 541208SC | 127 | 5505-16 | 406 | 56-038 | 246 | 56-092 | 248 | 56-168 | 251 |
| 5406-32-20 | 404 | 541212 | 122 | 5505-20 | 406 | 5603-8-8 | 407 | 56-093 | 248 | 56-169 | 251 |
| 5406-32-24 | 404 | 550-012 | 316 | 5505-4 | 406 | 56-040 | 247 | 56-094 | 248 | 56-170 | 251 |
| 5406-4-2 | 404 | 5500-12-12 | 405 | 5505-6 | 406 | 56-041 | 247 | 56-095 | 248 | 56-171 | 251 |
| 5406-6-2 | 404 | 5500-12-8 | 405 | 5505-8 | 406 | 5604-12 | 407 | 56-096 | 248 | 56-172 | 251 |
| 5406-6-4 | 404 | 5500-16 | 405 | 56-001 | 246 | 5604-16 | 407 | 56-100 | 249 | 56-173 | 251 |
| 5406-8-2 | 404 | 5500-16-12 | 405 | 5600-12 | 407 | 56-042 | 247 | 56-101 | 249 | 56-174 | 251 |
| 5406-8-4 | 404 | 5500-2 | 405 | 5600-16 | 407 | 5604-2-2 | 407 | 56-102 | 249 | 56-180 | 251 |
| 5406-8-6 | 404 | 550-020 | 316 | 56-002 | 246 | 56-043 | 247 | 56-103 | 249 | 56-181 | 251 |
| 5406-C-12 | 405 | 5500-20-20 | 405 | 5600-2-2 | 407 | 56-044 | 247 | 56-104 | 249 | 56-182 | 251 |
| 5406-C-16 | 405 | 550-028 | 316 | 56-003 | 246 | 5604-4-4 | 407 | 56-105 | 249 | 56-183 | 251 |
| 5406-C-2 | 405 | 550-036 | 316 | 56-004 | 246 | 56-045 | 247 | 56-106 | 249 | 56-184 | 251 |
| 5406-C-4 | 405 | 5500-4 | 405 | 5600-4-4 | 407 | 56-046 | 247 | 56-107 | 249 | 56-185 | 251 |
| 5406-C-6 | 405 | 550-048 | 316 | 56-005 | 246 | 5604-6-6 | 407 | 56-108 | 249 | 56-186 | 251 |
| 5406-C-8 | 405 | 550-056 | 316 | 56-006 | 246 | 56-047 | 247 | 56-109 | 249 | 56-187 | 251 |
| 5406-FLP-12 | 405 | 5500-6 | 405 | 5600-6-6 | 407 | 56-048 | 247 | 56-110 | 249 | 56-188 | 251 |
| 5406-FLP-2 | 405 | 550-072 | 316 | 56-007 | 246 | 5604-8-8 | 407 | 56-111 | 249 | 56-189 | 251 |
| 5406-FLP-4 | 405 | 5500-8 | 405 | 56-008 | 246 | 56-049 | 247 | 56-112 | 249 | 56-190 | 251 |
| 5406-FLP-6 | 405 | 5500-8-4 | 405 | 5600-8-8 | 407 | 56-050 | 247 | 56-113 | 249 | 56-191 | 251 |
| 5406-FLP-8 | 405 | 550-088 | 316 | 56-009 | 246 | 56-051 | 247 | 56-114 | 249 | 56-192 | 251 |
| 5406-HHP-12 | 405 | 550-104 | 316 | 56-010 | 246 | 5605-12 | 407 | 56-115 | 249 | 56-193 | 251 |
| 5406-HHP-16 | 405 | 5501-12-12 | 406 | 56-011 | 246 | 5605-16 | 407 | 56-120 | 250 | 56-200 | 252 |
| 5406-HHP-2 | 405 | 5501-16-16 | 406 | 5601-12 | 407 | 56-052 | 247 | 56-121 | 250 | 56-201 | 252 |
| 5406-HHP-20 | 405 | 5501-2-2 | 406 | 5601-16 | 407 | 5605-20 | 407 | 56-122 | 250 | 56-202 | 252 |
| 5406-HHP-24 | 405 | 550-128 | 316 | 56-012 | 246 | 5605-2-2 | 407 | 56-123 | 250 | 56-203 | 252 |
| 5406-HHP-4 | 405 | 5501-4-4 | 406 | 5601-2-2 | 407 | 56-053 | 247 | 56-124 | 250 | 56-204 | 252 |
| 5406-HHP-6 | 405 | 550-152 | 316 | 56-013 | 246 | 56-054 | 247 | 56-125 | 250 | 56-205 | 252 |
| 5406-HHP-8 | 405 | 5501-6-6 | 406 | 56-014 | 246 | 5605-4-4 | 407 | 56-126 | 250 | 56-206 | 252 |
| 5406-P-12 | 405 | 5501-8 | 406 | 5601-4-4 | 407 | 56-055 | 247 | 56-127 | 250 | 56-207 | 252 |

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|--------|------|--------|------|--------|------|---------|------|------------|------|
| 56-208 | 252 | 56-430 | 247 | 57-070 | 247 | 57-145 | 250 | 57-205 | 252 |
| 56-209 | 252 | 57-001 | 246 | 57-071 | 247 | 57-146 | 250 | 57-206 | 252 |
| 56-210 | 252 | 57-002 | 246 | 57-072 | 247 | 57-147 | 250 | 57-207 | 252 |
| 56-211 | 252 | 57-003 | 246 | 57-073 | 247 | 57-148 | 250 | 57207TV | 261 |
| 56-212 | 252 | 57-004 | 246 | 57-074 | 247 | 57-149 | 250 | 57207V | 262 |
| 56-213 | 252 | 57-005 | 246 | 57-075 | 247 | 57-150 | 250 | 57-208 | 252 |
| 56-220 | 252 | 57-006 | 246 | 57-076 | 247 | 57-151 | 250 | 57-209 | 252 |
| 56-221 | 252 | 57-007 | 246 | 57-080 | 248 | 57-152 | 250 | 57209TV | 261 |
| 56-223 | 252 | 57-008 | 246 | 57-081 | 248 | 57-153 | 250 | 57209V | 262 |
| 56-224 | 252 | 57-009 | 246 | 57-082 | 248 | 57-154 | 250 | 57-210 | 252 |
| 56-225 | 252 | 57-010 | 246 | 57-083 | 248 | 57-155 | 250 | 57-211 | 252 |
| 56-226 | 252 | 57-011 | 246 | 57-084 | 248 | 57-160 | 251 | 57211TV | 261 |
| 56-227 | 252 | 57-012 | 246 | 57-085 | 248 | 57-161 | 251 | 57211V | 262 |
| 56-228 | 252 | 57-013 | 246 | 57-086 | 248 | 57-162 | 251 | 57-212 | 252 |
| 56-229 | 252 | 57-014 | 246 | 57-087 | 248 | 57162TV | 261 | 57-213 | 252 |
| 56-240 | 247 | 57-015 | 246 | 57-088 | 248 | 57162V | 262 | 57213TV | 261 |
| 56-241 | 247 | 57-017 | 246 | 57-089 | 248 | 57-163 | 251 | 57213V | 262 |
| 56-242 | 247 | 57-020 | 246 | 57-090 | 248 | 57-164 | 251 | 57-220 | 252 |
| 56-243 | 247 | 57-021 | 246 | 57-091 | 248 | 57164TV | 261 | 57222TV | 261 |
| 56-244 | 247 | 57-022 | 246 | 57-092 | 248 | 57164V | 262 | 57-223 | 252 |
| 56-245 | 247 | 57-023 | 246 | 57-093 | 248 | 57-165 | 251 | 57223TV | 261 |
| 56-246 | 247 | 57-024 | 246 | 57-094 | 248 | 57-166 | 251 | 57223V | 262 |
| 56-247 | 247 | 57-025 | 246 | 57-095 | 248 | 57-167 | 251 | 57-224 | 252 |
| 56-250 | 248 | 57-026 | 246 | 57-096 | 248 | 57-168 | 251 | 57-225 | 252 |
| 56-251 | 248 | 57-027 | 246 | 57-100 | 249 | 57168TV | 261 | 57-226 | 252 |
| 56-252 | 248 | 57-028 | 246 | 57-101 | 249 | 57168V | 262 | 57-227 | 252 |
| 56-253 | 248 | 57-029 | 246 | 57-102 | 249 | 57-169 | 251 | 57227TV | 261 |
| 56-254 | 248 | 57-030 | 246 | 57-103 | 249 | 57-170 | 251 | 57227V | 262 |
| 56-255 | 248 | 57-031 | 246 | 57-104 | 249 | 57170TV | 261 | 57-228 | 252 |
| 56-256 | 248 | 57-032 | 246 | 57-105 | 249 | 57170V | 262 | 57228TV | 261 |
| 56-257 | 248 | 57-033 | 246 | 57-106 | 249 | 57-171 | 251 | 57228V | 262 |
| 56-260 | 249 | 57-034 | 246 | 57-107 | 249 | 57-172 | 251 | 57-229 | 252 |
| 56-261 | 249 | 57-035 | 246 | 57-108 | 249 | 57172TV | 261 | 57229TV | 261 |
| 56-262 | 249 | 57-036 | 246 | 57-109 | 249 | 57172V | 262 | 57229V | 262 |
| 56-263 | 249 | 57-040 | 247 | 57-110 | 249 | 57-173 | 251 | 57-240 | 247 |
| 56-264 | 249 | 57-041 | 247 | 57-111 | 249 | 57-174 | 251 | 57-241 | 247 |
| 56-265 | 249 | 57-042 | 247 | 57-112 | 249 | 57174TV | 261 | 57-242 | 247 |
| 56-266 | 249 | 57-043 | 247 | 57-113 | 249 | 57174V | 262 | 57-243 | 247 |
| 56-267 | 249 | 57-044 | 247 | 57-114 | 249 | 57-180 | 251 | 57-244 | 247 |
| 56-270 | 250 | 57-045 | 247 | 57-115 | 249 | 57-181 | 251 | 57-245 | 247 |
| 56-271 | 250 | 57-046 | 247 | 57-120 | 250 | 57-182 | 251 | 57-246 | 247 |
| 56-272 | 250 | 57-047 | 247 | 57-121 | 250 | 57-183 | 251 | 57-247 | 247 |
| 56-273 | 250 | 57-048 | 247 | 57-122 | 250 | 57-184 | 251 | 57-250 | 248 |
| 56-275 | 250 | 57-049 | 247 | 57-123 | 250 | 57-185 | 251 | 57-251 | 248 |
| 56-280 | 250 | 57-050 | 247 | 57-124 | 250 | 57-186 | 251 | 57-252 | 248 |
| 56-281 | 250 | 57-051 | 247 | 57-125 | 250 | 57-187 | 251 | 57-253 | 248 |
| 56-282 | 250 | 57-052 | 247 | 57-126 | 250 | 57-188 | 251 | 57-254 | 248 |
| 56-283 | 250 | 57-053 | 247 | 57-127 | 250 | 57-189 | 251 | 57-255 | 248 |
| 56-285 | 250 | 57-054 | 247 | 57-128 | 250 | 57-190 | 251 | 57-256 | 248 |
| 56-290 | 251 | 57-055 | 247 | 57-129 | 250 | 57-191 | 251 | 57-257 | 248 |
| 56-291 | 251 | 57-056 | 247 | 57-130 | 250 | 57-192 | 251 | 57-260 | 249 |
| 56-292 | 251 | 57-060 | 247 | 57-131 | 250 | 57-193 | 251 | 57-261 | 249 |
| 56-293 | 251 | 57-061 | 247 | 57-132 | 250 | 57-200 | 252 | 57-262 | 249 |
| 56-294 | 251 | 57-062 | 247 | 57-133 | 250 | 57-201 | 252 | 57-263 | 249 |
| 56-295 | 251 | 57-063 | 247 | 57-134 | 250 | 57201TV | 261 | 57-264 | 249 |
| 56-296 | 251 | 57-064 | 247 | 57-135 | 250 | 57201V | 262 | 57-265 | 249 |
| 56-297 | 251 | 57-065 | 247 | 57-140 | 250 | 57-202 | 252 | 57-266 | 249 |
| 56-300 | 253 | 57-066 | 247 | 57-141 | 250 | 57-203 | 252 | 57-267 | 249 |
| 56-330 | 252 | 57-067 | 247 | 57-142 | 250 | 57203TV | 261 | 57-270 | 250 |
| 56-331 | 252 | 57-068 | 247 | 57-143 | 250 | 57203V | 262 | 57-271 | 250 |
| 56-332 | 252 | 57-069 | 247 | 57-144 | 250 | 57-204 | 252 | 57-272 | 250 |
| | | | | | | | | 57-273 | 250 |
| | | | | | | | | 57-275 | 250 |
| | | | | | | | | 57-280 | 250 |
| | | | | | | | | 57-281 | 250 |
| | | | | | | | | 57-282 | 250 |
| | | | | | | | | 57-283 | 250 |
| | | | | | | | | 57-285 | 250 |
| | | | | | | | | 57-286 | 250 |
| | | | | | | | | 57-290 | 251 |
| | | | | | | | | 57-291 | 251 |
| | | | | | | | | 57-292 | 251 |
| | | | | | | | | 57-293 | 251 |
| | | | | | | | | 57-294 | 251 |
| | | | | | | | | 57-295 | 251 |
| | | | | | | | | 57-296 | 251 |
| | | | | | | | | 57-297 | 251 |
| | | | | | | | | 57-300 | 253 |
| | | | | | | | | 57-301 | 253 |
| | | | | | | | | 57-304 | 253 |
| | | | | | | | | 57-305 | 253 |
| | | | | | | | | 57-308 | 253 |
| | | | | | | | | 57-311 | 252 |
| | | | | | | | | 57-320 | 253 |
| | | | | | | | | 57-322 | 253 |
| | | | | | | | | 57-324 | 253 |
| | | | | | | | | 57-326 | 253 |
| | | | | | | | | 57-328 | 253 |
| | | | | | | | | 57-330 | 252 |
| | | | | | | | | 57-331 | 252 |
| | | | | | | | | 57-332 | 252 |
| | | | | | | | | 57332TV | 261 |
| | | | | | | | | 57332V | 262 |
| | | | | | | | | 57-430 | 247 |
| | | | | | | | | 57-431 | 247 |
| | | | | | | | | 57-433 | 247 |
| | | | | | | | | 59-001SMLS | 254 |
| | | | | | | | | 59-002SMLS | 254 |
| | | | | | | | | 59-003SMLS | 254 |
| | | | | | | | | 59-004SMLS | 254 |
| | | | | | | | | 59-005SMLS | 254 |
| | | | | | | | | 59-006SMLS | 254 |
| | | | | | | | | 59-007SMLS | 254 |
| | | | | | | | | 59-009SMLS | 254 |
| | | | | | | | | 59-010SMLS | 254 |
| | | | | | | | | 59-011SMLS | 254 |
| | | | | | | | | 59-020SMLS | 254 |
| | | | | | | | | 59-021SMLS | 254 |
| | | | | | | | | 59-022SMLS | 254 |
| | | | | | | | | 59-023SMLS | 254 |
| | | | | | | | | 59-024SMLS | 254 |
| | | | | | | | | 59-025SMLS | 254 |
| | | | | | | | | 59-026SMLS | 254 |
| | | | | | | | | 59-027SMLS | 254 |
| | | | | | | | | 59-028SMLS | 254 |
| | | | | | | | | 59-029SMLS | 254 |
| | | | | | | | | 59-030SMLS | 254 |
| | | | | | | | | 59-031SMLS | 254 |
| | | | | | | | | 59-032SMLS | 254 |
| | | | | | | | | 59-033SMLS | 254 |
| | | | | | | | | 59-034SMLS | 254 |
| | | | | | | | | 59-036SMLS | 254 |

590400**NUMERICAL INDEX****61-926**

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|-------------------|------|-------------------|------|-------------------|------|-----------------|------|---------------|------|--------------|------|
| 590400..... | 118 | 59-101SMLSXX .260 | | 59-163SMLSXX .260 | | 59207TV | 261 | 600-072 | 312 | 61775..... | 230 |
| 59-040SMLS..... | 255 | 59-102SMLS..... | 256 | 59-164SMLS..... | 258 | 59207V | 262 | 600-080 | 312 | 61775..... | 263 |
| 59-041SMLS..... | 255 | 59-103SMLS..... | 256 | 59-164SMLSXX .260 | | 59-208SMLS..... | 259 | 600-088 | 312 | 61776..... | 230 |
| 59-042SMLS..... | 255 | 59-103SMLSXX .260 | | 59164TV | 261 | 59-209SMLS..... | 259 | 600-096 | 312 | 61776..... | 263 |
| 59-043SMLS..... | 255 | 59-104SMLS..... | 256 | 59164V | 262 | 59209TV | 261 | 600-104 | 312 | 61777..... | 230 |
| 59-044SMLS..... | 255 | 59-105SMLS..... | 256 | 59-165SMLS..... | 258 | 59209V | 262 | 61-050 | 422 | 61777..... | 263 |
| 59-045SMLS..... | 255 | 59-105SMLSXX .260 | | 59-166SMLS..... | 258 | 59-210SMLS..... | 259 | 61-052 | 422 | 61778..... | 230 |
| 59-046SMLS..... | 255 | 59-106SMLS..... | 256 | 59-166SMLSXX .260 | | 59-211SMLS..... | 259 | 61-053 | 422 | 61778..... | 263 |
| 59-047SMLS..... | 255 | 59-107SMLS..... | 256 | 59-167SMLS..... | 258 | 59211TV | 261 | 61-054 | 422 | 61-851..... | 302 |
| 59-048SMLS..... | 255 | 59-108SMLS..... | 256 | 59-168SMLS..... | 258 | 59211V | 262 | 61-055 | 422 | 61-853..... | 302 |
| 59-049SMLS..... | 255 | 59-109SMLS..... | 256 | 59-168SMLSXX .260 | | 59-212SMLS..... | 259 | 611-006 | 313 | 61-854..... | 302 |
| 59-050SMLS..... | 255 | 59-109SMLSXX .260 | | 59168TV | 261 | 59-213SMLS..... | 259 | 611-008 | 313 | 61-859..... | 302 |
| 59-052SMLS..... | 255 | 59-110SMLS..... | 256 | 59168V | 262 | 59213TV | 261 | 611-010 | 313 | 61-860..... | 302 |
| 59-054SMLS..... | 255 | 59-111SMLS..... | 256 | 59-169SMLS..... | 258 | 59213V | 262 | 611-012 | 313 | 61-861..... | 302 |
| 59-056SMLS..... | 255 | 59-111SMLSXX .260 | | 59-169SMLSXX .260 | | 59-220SMLS..... | 259 | 611-016 | 313 | 61-867..... | 302 |
| 590600..... | 118 | 59-112SMLS..... | 256 | 59-170SMLS..... | 258 | 59-221SMLS..... | 259 | 611-020 | 313 | 61-868..... | 302 |
| 59-060SMLS..... | 255 | 59-113SMLS..... | 256 | 59-170SMLSXX .260 | | 59221TV | 261 | 611-024 | 313 | 61-870..... | 302 |
| 59-060SMLSXX .260 | | 59-114SMLS..... | 256 | 59170TV | 261 | 59221V | 262 | 611-028 | 313 | 61-871..... | 302 |
| 59-061SMLS..... | 255 | 59-115SMLS..... | 256 | 59170V | 262 | 59222TV | 261 | 611-032 | 313 | 61-872..... | 302 |
| 59-062SMLS..... | 255 | 59-115SMLSXX .260 | | 59-171SMLS..... | 258 | 59-223SMLS..... | 259 | 611-036 | 313 | 61-873..... | 302 |
| 59-062SMLSXX .260 | | 59-120SMLS..... | 257 | 59-171SMLSXX .260 | | 59-225SMLS..... | 259 | 611-040 | 313 | 61-874..... | 302 |
| 59-063SMLS..... | 255 | 59-121SMLS..... | 257 | 59-172SMLS..... | 258 | 59225TV | 261 | 611-044 | 313 | 61-875..... | 302 |
| 59-064SMLS..... | 255 | 59-122SMLS..... | 257 | 59-172SMLSXX .260 | | 59225V | 262 | 611-048 | 313 | 61-876..... | 302 |
| 59-064SMLSXX .260 | | 59-123SMLS..... | 257 | 59172TV | 261 | 59-226SMLS..... | 259 | 611-052 | 313 | 61-877..... | 302 |
| 59-065SMLS..... | 255 | 59-124SMLS..... | 257 | 59172V | 262 | 59-227SMLS..... | 259 | 611-056 | 313 | 61-878..... | 302 |
| 59-066SMLS..... | 255 | 59-125SMLS..... | 257 | 59-173SMLS..... | 258 | 59227TV | 261 | 611-060 | 313 | 61-879..... | 302 |
| 59-066SMLSXX .260 | | 59-126SMLS..... | 257 | 59-174SMLS..... | 258 | 59227V | 262 | 611-064 | 313 | 619-001..... | 302 |
| 59-067SMLS..... | 255 | 59-127SMLS..... | 257 | 59-174SMLSXX .260 | | 59-229SMLS..... | 259 | 611-072 | 313 | 619-002..... | 302 |
| 59-068SMLS..... | 255 | 59-128SMLS..... | 257 | 59174TV | 261 | 59229TV | 261 | 611-080 | 313 | 619-003..... | 302 |
| 59-069SMLS..... | 255 | 59-129SMLS..... | 257 | 59174V | 262 | 59229V | 262 | 611-088 | 313 | 619-004..... | 302 |
| 59-070SMLS..... | 255 | 59-130SMLS..... | 257 | 59-179SMLSXX .260 | | 59-231SMLS..... | 259 | 611-096 | 313 | 619-005..... | 302 |
| 59-070SMLSXX .260 | | 59-131SMLS..... | 257 | 59-180SMLS..... | 258 | 59231TV | 261 | 611-104 | 313 | 619-006..... | 302 |
| 59-071SMLS..... | 255 | 59-132SMLS..... | 257 | 59-181SMLS..... | 258 | 59231V | 262 | 611-116..... | 313 | 619-007..... | 302 |
| 59-072SMLS..... | 255 | 59-133SMLS..... | 257 | 59-182SMLS..... | 258 | 59-300SMLS..... | 259 | 611-128 | 313 | 619-008..... | 302 |
| 59-073SMLS..... | 255 | 59-134SMLS..... | 257 | 59-183SMLS..... | 258 | 59-301SMLS..... | 259 | 611-152 | 313 | 619-009..... | 302 |
| 59-074SMLS..... | 255 | 59-135SMLS..... | 257 | 59-184SMLS..... | 258 | 59-305SMLS..... | 259 | 611-164 | 313 | 619-010..... | 302 |
| 59-075SMLS..... | 255 | 59-140SMLS..... | 257 | 59-185SMLS..... | 258 | 59-306SMLS..... | 259 | 611-176 | 313 | 619-011..... | 302 |
| 59-076SMLS..... | 255 | 59-141SMLS..... | 257 | 59-186SMLS..... | 258 | 59-308SMLS..... | 259 | 611-188 | 313 | 619-012..... | 302 |
| 590800..... | 118 | 59-142SMLS..... | 257 | 59-187SMLS..... | 258 | 59-320SMLS..... | 259 | 611-200 | 313 | 61-904..... | 301 |
| 59-080SMLS..... | 256 | 59-143SMLS..... | 257 | 59-188SMLS..... | 258 | 59-322SMLS..... | 259 | 611-212 | 313 | 61-905..... | 301 |
| 59-080SMLSXX .260 | | 59-144SMLS..... | 257 | 59-189SMLS..... | 258 | 59-324SMLS..... | 259 | 611-224 | 313 | 61-906..... | 301 |
| 59-081SMLS..... | 256 | 59-145SMLS..... | 257 | 59-190SMLS..... | 258 | 59-326SMLS..... | 259 | 611-248 | 313 | 61-907..... | 301 |
| 59-082SMLS..... | 256 | 59-146SMLS..... | 257 | 59-191SMLS..... | 258 | 59-328SMLS..... | 259 | 611-270 | 313 | 61-908..... | 301 |
| 59-082SMLSXX .260 | | 59-147SMLS..... | 257 | 59-192SMLS..... | 258 | 595320..... | 118 | 611-312 | 313 | 61-909..... | 301 |
| 59-083SMLS..... | 256 | 59-148SMLS..... | 257 | 59-193SMLS..... | 258 | 600-006 | 312 | 611-332 | 313 | 61-910..... | 301 |
| 59-084SMLS..... | 256 | 59-149SMLS..... | 257 | 59-196SMLS..... | 258 | 600-008 | 312 | 611-390 | 313 | 61-911..... | 301 |
| 59-085SMLS..... | 256 | 59-150SMLS..... | 257 | 59-197SMLS..... | 258 | 600-010 | 312 | 61-150 | 422 | 61-912..... | 301 |
| 59-086SMLS..... | 256 | 59-151SMLS..... | 257 | 59-198SMLS..... | 258 | 600-012 | 312 | 61-152 | 422 | 61-913..... | 301 |
| 59-086SMLSXX .260 | | 59-152SMLS..... | 257 | 59-199SMLS..... | 258 | 600-016 | 312 | 61-153 | 422 | 61-914..... | 301 |
| 59-087SMLS..... | 256 | 59-153SMLS..... | 257 | 59-200SMLS..... | 259 | 600-020 | 312 | 61-154 | 422 | 61-915..... | 301 |
| 59-088SMLS..... | 256 | 59-154SMLS..... | 257 | 59-201SMLS..... | 259 | 600-024 | 312 | 61-155 | 422 | 61-916..... | 301 |
| 59-089SMLS..... | 256 | 59-155SMLS..... | 257 | 59201TV | 261 | 600-028 | 312 | 61-447 | 306 | 61-917..... | 301 |
| 59-090SMLS..... | 256 | 59-160SMLS..... | 258 | 59201V | 262 | 600-032 | 312 | 61-448 | 306 | 61-918..... | 301 |
| 59-090SMLSXX .260 | | 59-160SMLSXX .260 | | 59-202SMLS..... | 259 | 600-036 | 312 | 61-449 | 306 | 61-919..... | 301 |
| 59-091SMLS..... | 256 | 59-161SMLS..... | 258 | 59-203SMLS..... | 259 | 600-040 | 312 | 61-450 | 306 | 61-920..... | 301 |
| 59-092SMLS..... | 256 | 59-161SMLSXX .260 | | 59203TV | 261 | 600-044 | 312 | 61-451 | 306 | 61-921..... | 301 |
| 59-094SMLS..... | 256 | 59-162SMLS..... | 258 | 59203V | 262 | 600-048 | 312 | 61-452 | 306 | 61-922..... | 301 |
| 59-096SMLS..... | 256 | 59-162SMLSXX .260 | | 59-204SMLS..... | 259 | 600-052 | 312 | 61-453 | 306 | 61-923..... | 301 |
| 59-100SMLS..... | 256 | 59162TV | 261 | 59-205SMLS..... | 259 | 600-056 | 312 | 61-454 | 306 | 61-924..... | 301 |
| 59-100SMLSXX .260 | | 59162V | 262 | 59-206SMLS..... | 259 | 600-060 | 312 | 61-455 | 306 | 61-925..... | 301 |
| 59-101SMLS..... | 256 | 59-163SMLS..... | 258 | 59-207SMLS..... | 259 | 600-064 | 312 | 61-457 | 306 | 61-926..... | 301 |

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page | | |
|---------|------|-----------|------|---------|------|-----------|------|--------|------|--------|-----|
| 61-927 | 301 | 61-986 | 301 | 620409C | 128 | 62-258 | 239 | 62-453 | 240 | 62-631 | 244 |
| 61-928 | 301 | 61-987 | 301 | 620532 | 118 | 62-259 | 239 | 62-454 | 240 | 62-632 | 244 |
| 61-929 | 301 | 61-988 | 301 | 620532C | 125 | 62-260 | 239 | 62-455 | 240 | 62-633 | 244 |
| 61-931 | 301 | 61-998 | 301 | 620553C | 128 | 62-391 | 239 | 62-456 | 240 | 62-634 | 244 |
| 61-932 | 301 | 61-999 | 301 | 620555C | 128 | 62-392 | 239 | 62-470 | 241 | 62-635 | 244 |
| 61-933 | 301 | 620-006 | 314 | 620557C | 128 | 62-393 | 239 | 62-471 | 241 | 62-636 | 244 |
| 61-934 | 301 | 620-006SS | 315 | 620559C | 128 | 62-394 | 239 | 62-472 | 241 | 62-637 | 244 |
| 61-935 | 301 | 620-008 | 314 | 620600 | 118 | 62-395 | 239 | 62-473 | 241 | 62-638 | 244 |
| 61-936 | 301 | 620-008SS | 315 | 620600C | 125 | 62-396 | 239 | 62-474 | 241 | 62-653 | 243 |
| 61-937 | 301 | 620-010 | 314 | 620604 | 118 | 62-397 | 239 | 62-475 | 241 | 62-654 | 243 |
| 61-938 | 301 | 620-010SS | 315 | 620604C | 128 | 62-398 | 239 | 62-476 | 241 | 62-655 | 243 |
| 61-939 | 301 | 620-012 | 314 | 620606C | 128 | 62-410 | 240 | 62-477 | 241 | 62-656 | 243 |
| 61-940 | 301 | 620-012SS | 315 | 620800 | 118 | 62-410B | 240 | 62-478 | 241 | 62-657 | 243 |
| 61-941 | 301 | 620-016 | 314 | 620800C | 125 | 62-411 | 240 | 62-480 | 241 | 62-658 | 243 |
| 61-942 | 301 | 620-016SS | 315 | 620806C | 128 | 62-411B | 240 | 62-481 | 241 | 62-659 | 243 |
| 61-943 | 301 | 620-020 | 314 | 620808C | 128 | 62-412 | 240 | 62-500 | 242 | 62-660 | 243 |
| 61-944 | 301 | 620-020SS | 315 | 62-100 | 238 | 62-412B | 240 | 62-501 | 242 | 62-670 | 243 |
| 619-440 | 302 | 620-024 | 314 | 621000 | 118 | 62-413 | 240 | 62-502 | 242 | 62-671 | 243 |
| 61-945 | 301 | 620-024SS | 315 | 621000C | 125 | 62-413B | 240 | 62-503 | 242 | 62-672 | 243 |
| 619-450 | 302 | 620-028 | 314 | 62-101 | 238 | 62-414 | 240 | 62-504 | 242 | 62-700 | 243 |
| 61-946 | 301 | 620-028SS | 315 | 62-102 | 238 | 62-414B | 240 | 62-505 | 242 | 62-701 | 243 |
| 61-947 | 301 | 620-032 | 314 | 62-103 | 238 | 62-415 | 240 | 62-506 | 242 | 62-702 | 243 |
| 619-470 | 302 | 620-032SS | 315 | 62-104 | 238 | 62-415B | 240 | 62-507 | 242 | 62-703 | 243 |
| 61-948 | 301 | 620-036 | 314 | 62-105 | 238 | 62415DC | 230 | 62-508 | 242 | 62-704 | 243 |
| 619-480 | 302 | 620-036SS | 315 | 62-106 | 238 | 62415HDDC | 230 | 62-509 | 242 | 62-705 | 243 |
| 61-949 | 301 | 620-040 | 314 | 62-107 | 238 | 62-416 | 240 | 62-510 | 242 | 62-706 | 243 |
| 61-950 | 301 | 620-040SS | 315 | 62-108 | 238 | 62-416B | 240 | 62-511 | 242 | 62-707 | 243 |
| 61-951 | 301 | 620-044 | 314 | 62-109 | 238 | 62416DC | 230 | 62-512 | 242 | 62-708 | 243 |
| 61-952 | 301 | 620-044SS | 315 | 62-110 | 238 | 62416HDDC | 230 | 62-513 | 242 | 62-720 | 239 |
| 61-953 | 301 | 620-048 | 314 | 62-112 | 238 | 62-417 | 240 | 62-515 | 242 | 62-721 | 239 |
| 61-954 | 301 | 620-048SS | 315 | 621200 | 118 | 62-417B | 240 | 62-516 | 242 | 62-722 | 239 |
| 61-955 | 301 | 620-052 | 314 | 62-160 | 238 | 62417DC | 230 | 62-517 | 242 | 62-723 | 239 |
| 61-956 | 301 | 620-052SS | 315 | 62-161 | 238 | 62417HDDC | 230 | 62-518 | 242 | 62-724 | 239 |
| 61-957 | 301 | 620-056 | 314 | 62-162 | 238 | 62-418 | 240 | 62-521 | 242 | 62-725 | 239 |
| 61-958 | 301 | 620-056SS | 315 | 62-163 | 238 | 62-418B | 240 | 62-522 | 242 | 62-726 | 239 |
| 61-959 | 301 | 620-060 | 314 | 62-164 | 238 | 62418DC | 230 | 62-524 | 242 | 62-727 | 239 |
| 61-961 | 301 | 620-060SS | 315 | 62-165 | 238 | 62418HDDC | 230 | 62-527 | 242 | 62-728 | 239 |
| 61-962 | 301 | 620-064 | 314 | 62-166 | 238 | 62-419 | 240 | 62-528 | 242 | 62-740 | 239 |
| 61-963 | 301 | 620-064SS | 315 | 62-167 | 238 | 62-420 | 240 | 62-529 | 242 | 62-741 | 239 |
| 61-964 | 301 | 620-072 | 314 | 62-168 | 238 | 62-420B | 240 | 62-530 | 242 | 62-742 | 239 |
| 61-965 | 301 | 620-072SS | 315 | 62-169 | 238 | 62-421 | 240 | 62-531 | 242 | 62-744 | 239 |
| 61-966 | 301 | 620-080 | 314 | 62-180 | 238 | 62-428 | 240 | 62-532 | 242 | 62-745 | 239 |
| 61-967 | 301 | 620-088 | 314 | 62-181 | 238 | 62-430 | 240 | 62-534 | 242 | 62-747 | 239 |
| 61-968 | 301 | 620-096 | 314 | 62-182 | 238 | 62-431 | 240 | 62-535 | 242 | 62-748 | 239 |
| 61-969 | 301 | 620-104 | 314 | 62-183 | 238 | 62-432 | 240 | 62-536 | 242 | 62-749 | 239 |
| 61-970 | 301 | 620-116 | 314 | 62-184 | 238 | 62-433 | 240 | 62-538 | 242 | 62-771 | 241 |
| 61-971 | 301 | 620-128 | 314 | 62-185 | 238 | 62-434 | 240 | 62-539 | 242 | 62-772 | 241 |
| 61-972 | 301 | 620-152 | 314 | 62-186 | 238 | 62-435 | 240 | 62-543 | 242 | 62-773 | 241 |
| 61-973 | 301 | 620-164 | 314 | 62-187 | 238 | 62-436 | 240 | 62-557 | 242 | 62-774 | 241 |
| 61-974 | 301 | 620-176 | 314 | 62-188 | 238 | 62-437 | 240 | 62-559 | 242 | 62-775 | 241 |
| 61-975 | 301 | 620-188 | 314 | 62-189 | 238 | 62-438 | 240 | 62-600 | 241 | 62-776 | 241 |
| 61-976 | 301 | 620-200 | 314 | 62-190 | 238 | 62-440 | 240 | 62-601 | 241 | 62-777 | 241 |
| 61-977 | 301 | 620-212 | 314 | 62-191 | 238 | 62-441 | 240 | 62-602 | 241 | 62-778 | 241 |
| 61-978 | 301 | 620-224 | 314 | 62-250 | 239 | 62-442 | 240 | 62-603 | 241 | 63-100 | 238 |
| 61-979 | 301 | 620-248 | 314 | 62-251 | 239 | 62-445 | 240 | 62-604 | 241 | 63-101 | 238 |
| 61-980 | 301 | 620-270 | 314 | 62-252 | 239 | 62-446 | 240 | 62-605 | 241 | 63-102 | 238 |
| 61-981 | 301 | 620-312 | 314 | 62-253 | 239 | 62-447 | 240 | 62-606 | 241 | 63-103 | 238 |
| 61-982 | 301 | 620-332 | 314 | 62-254 | 239 | 62-448 | 240 | 62-607 | 241 | 63-104 | 238 |
| 61-983 | 301 | 620-390 | 314 | 62-255 | 239 | 62-449 | 240 | 62-608 | 241 | 63-105 | 238 |
| 61-984 | 301 | 620400 | 118 | 62-256 | 239 | 62-450 | 240 | 62-610 | 241 | 63-106 | 238 |
| 61-985 | 301 | 620400C | 125 | 62-257 | 239 | 62-452 | 240 | 62-630 | 244 | 63-107 | 238 |

63-108

NUMERICAL INDEX

6404-6-6

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|---------|------|---------|------|--------|------|---------|------|---------|------|--------------|------|
| 63-108 | 238 | 63-414 | 240 | 63-518 | 242 | 63-704 | 243 | 63-924 | 304 | 63-985 | 304 |
| 63-109 | 238 | 63-414B | 240 | 63-521 | 242 | 63-705 | 243 | 63-925 | 304 | 63-986 | 304 |
| 63-110 | 238 | 63-415 | 240 | 63-522 | 242 | 63-706 | 243 | 63-926 | 304 | 63-987 | 304 |
| 63-112 | 238 | 63-415B | 240 | 63-523 | 242 | 63-707 | 243 | 63-927 | 304 | 63-988 | 304 |
| 63-160 | 238 | 63-416 | 240 | 63-524 | 242 | 63-708 | 243 | 63-928 | 304 | 63-989 | 304 |
| 63-161 | 238 | 63-416B | 240 | 63-527 | 242 | 63-720 | 239 | 63-929 | 304 | 63-999 | 304 |
| 63-162 | 238 | 63-417 | 240 | 63-528 | 242 | 63-721 | 239 | 63-931 | 304 | 6400-10 | 408 |
| 63-163 | 238 | 63-417B | 240 | 63-529 | 242 | 63-722 | 239 | 63-932 | 304 | 6400-10-12 | 408 |
| 63-164 | 238 | 63-418 | 240 | 63-530 | 242 | 63-723 | 239 | 63-933 | 304 | 6400-10-8 | 408 |
| 63-165 | 238 | 63-418B | 240 | 63-531 | 242 | 63-724 | 239 | 63-934 | 304 | 6400-12 | 408 |
| 63-166 | 238 | 63-419 | 240 | 63-534 | 242 | 63-725 | 239 | 63-935 | 304 | 6400-12-10 | 408 |
| 63-167 | 238 | 63-420 | 240 | 63-535 | 242 | 63-726 | 239 | 63-936 | 304 | 6400-12-14 | 408 |
| 63-168 | 238 | 63-421 | 240 | 63-537 | 242 | 63-727 | 239 | 63-937 | 304 | 6400-12-16 | 408 |
| 63-170 | 238 | 63-430 | 240 | 63-538 | 242 | 63-728 | 239 | 63-938 | 304 | 6400-12-8 | 408 |
| 63-171 | 238 | 63-431 | 240 | 63-540 | 242 | 63-740 | 239 | 63-939 | 304 | 6400-16 | 408 |
| 63-180 | 238 | 63-432 | 240 | 63-541 | 242 | 63-741 | 239 | 63-941 | 304 | 6400-16-12 | 408 |
| 63-181 | 238 | 63-433 | 240 | 63-543 | 242 | 63-742 | 239 | 63-942 | 304 | 6400-16-20 | 408 |
| 63-182 | 238 | 63-434 | 240 | 63-550 | 242 | 63-744 | 239 | 63-943 | 304 | 6400-2 | 408 |
| 63-183 | 238 | 63-435 | 240 | 63-600 | 241 | 63-745 | 239 | 63-944 | 304 | 6400-20 | 408 |
| 63-184 | 238 | 63-436 | 240 | 63-601 | 241 | 63-747 | 239 | 639-440 | 306 | 6400-20-24 | 408 |
| 63-185 | 238 | 63-437 | 240 | 63-602 | 241 | 63-748 | 239 | 63-945 | 304 | 6400-24-32 | 408 |
| 63-186 | 238 | 63-438 | 240 | 63-603 | 241 | 63-749 | 239 | 639-450 | 306 | 6400-4 | 408 |
| 63-187 | 238 | 63-440 | 240 | 63-604 | 241 | 63-759 | 243 | 63-946 | 304 | 6400-4-2 | 408 |
| 63-188 | 238 | 63-441 | 240 | 63-605 | 241 | 63-760 | 243 | 63-947 | 304 | 6400-4-6 | 408 |
| 63-190 | 238 | 63-442 | 240 | 63-606 | 241 | 63-761 | 243 | 639-470 | 306 | 6400-4-8 | 408 |
| 63-192 | 238 | 63-445 | 240 | 63-607 | 241 | 63-762 | 243 | 63-948 | 304 | 6400-5 | 408 |
| 63214 | 13 | 63-446 | 240 | 63-608 | 241 | 63-763 | 243 | 639-480 | 306 | 6400-6 | 408 |
| 63215 | 13 | 63-447 | 240 | 63-610 | 241 | 63-764 | 243 | 63-949 | 304 | 6400-6-10 | 408 |
| 63216 | 13 | 63-448 | 240 | 63-630 | 244 | 63-765 | 243 | 63-950 | 304 | 6400-6-12 | 408 |
| 63217 | 13 | 63-449 | 240 | 63-631 | 244 | 63-771 | 241 | 63-951 | 304 | 6400-6-4 | 408 |
| 63218 | 13 | 63-450 | 240 | 63-632 | 244 | 63-772 | 241 | 63-952 | 304 | 6400-6-8 | 408 |
| 63-250 | 239 | 63-452 | 240 | 63-633 | 244 | 63-773 | 241 | 63-953 | 304 | 6400-8 | 408 |
| 63-251 | 239 | 63-453 | 240 | 63-634 | 244 | 63-774 | 241 | 63-954 | 304 | 6400-8-10 | 408 |
| 63-252 | 239 | 63-454 | 240 | 63-635 | 244 | 63-775 | 241 | 63-955 | 304 | 6400-8-12 | 408 |
| 63-253 | 239 | 63-455 | 240 | 63-636 | 244 | 63-776 | 241 | 63-956 | 304 | 6400-8-4 | 408 |
| 63-254 | 239 | 63-459 | 240 | 63-637 | 244 | 63-777 | 241 | 63-957 | 304 | 6400-8-6 | 408 |
| 63-255 | 239 | 63-470 | 241 | 63-638 | 244 | 63-778 | 241 | 63-958 | 304 | 6401-10-8 | 408 |
| 63-256 | 239 | 63-471 | 241 | 63-641 | 244 | 63-850 | 306 | 63-959 | 304 | 6401-12-12 | 408 |
| 63-257 | 239 | 63-472 | 241 | 63-653 | 243 | 63-851 | 306 | 63-961 | 304 | 6401-12-8 | 408 |
| 63-258 | 239 | 63-473 | 241 | 63-654 | 243 | 63-852 | 306 | 63-962 | 304 | 6401-16-16 | 408 |
| 63-260 | 239 | 63-474 | 241 | 63-655 | 243 | 63-853 | 306 | 63-963 | 304 | 6401-20-20 | 408 |
| 63-261 | 239 | 63-475 | 241 | 63-656 | 243 | 63-854 | 306 | 63-964 | 304 | 6401-4-4 | 408 |
| 63-390 | 239 | 63-476 | 241 | 63-657 | 243 | 63-855 | 306 | 63-965 | 304 | 6401-6-4 | 408 |
| 63-391 | 239 | 63-477 | 241 | 63-658 | 243 | 63-856 | 306 | 63-966 | 304 | 6401-6-6 | 408 |
| 63-392 | 239 | 63-478 | 241 | 63-660 | 244 | 63-857 | 306 | 63-967 | 304 | 6401-8-6 | 408 |
| 63-393 | 239 | 63-480 | 241 | 63-661 | 244 | 639-001 | 306 | 63-968 | 304 | 6401-8-8 | 408 |
| 63-394 | 239 | 63-500 | 242 | 63-662 | 244 | 639-002 | 306 | 63-969 | 304 | 6402-O-10-10 | 408 |
| 63-395 | 239 | 63-501 | 242 | 63-663 | 244 | 639-003 | 306 | 63-971 | 304 | 6402-O-12-12 | 408 |
| 63-396 | 239 | 63-502 | 242 | 63-664 | 244 | 639-004 | 306 | 63-972 | 304 | 6402-O-4-4 | 408 |
| 63-397 | 239 | 63-504 | 242 | 63-665 | 244 | 63-911 | 304 | 63-973 | 304 | 6402-O-6-6 | 408 |
| 63-398 | 239 | 63-505 | 242 | 63-670 | 243 | 63-912 | 304 | 63-974 | 304 | 6402-O-8-8 | 408 |
| 63-400 | 239 | 63-506 | 242 | 63-671 | 243 | 63-913 | 304 | 63-975 | 304 | 6403-O-12 | 408 |
| 63-401 | 239 | 63-507 | 242 | 63-672 | 243 | 63-914 | 304 | 63-976 | 304 | 6403-O-6 | 408 |
| 63-410 | 240 | 63-508 | 242 | 63-680 | 243 | 63-915 | 304 | 63-977 | 304 | 6403-O-8 | 408 |
| 63-410B | 240 | 63-509 | 242 | 63-681 | 243 | 63-916 | 304 | 63-978 | 304 | 640400 | 118 |
| 63-411 | 240 | 63-510 | 242 | 63-682 | 243 | 63-917 | 304 | 63-979 | 304 | 640400C | 125 |
| 63-411B | 240 | 63-511 | 242 | 63-683 | 243 | 63-918 | 304 | 63-980 | 304 | 6404-10-8 | 408 |
| 63-412 | 240 | 63-512 | 242 | 63-684 | 243 | 63-919 | 304 | 63-981 | 304 | 6404-12-12 | 408 |
| 63-412B | 240 | 63-513 | 242 | 63-701 | 243 | 63-921 | 304 | 63-982 | 304 | 6404-4-4 | 408 |
| 63-413 | 240 | 63-516 | 242 | 63-702 | 243 | 63-922 | 304 | 63-983 | 304 | 6404-6-4 | 408 |
| 63-413B | 240 | 63-517 | 242 | 63-703 | 243 | 63-923 | 304 | 63-984 | 304 | 6404-6-6 | 408 |

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|-------------------|------|-------------|------|-------------|------|-------------|------|-------------|------|-----------------|------|
| 6404-6-8..... | 408 | 64-110..... | 266 | 64-252..... | 268 | 64-414..... | 270 | 64-503..... | 271 | 64-652..... | 272 |
| 6404-8-8..... | 408 | 64-112..... | 266 | 64-253..... | 268 | 64-415..... | 270 | 64-504..... | 271 | 64-653..... | 272 |
| 6405-O-10-6..... | 409 | 64-114..... | 266 | 64-254..... | 268 | 64-416..... | 270 | 64-505..... | 271 | 64-654..... | 272 |
| 6405-O-10-8..... | 409 | 641200..... | 118 | 64-255..... | 268 | 64-417..... | 270 | 64-506..... | 271 | 64-655..... | 272 |
| 6405-O-12-12..... | 409 | 64-122..... | 266 | 64-256..... | 268 | 64-418..... | 270 | 64-507..... | 271 | 64-656..... | 272 |
| 6405-O-12-8..... | 409 | 64-123..... | 266 | 64-257..... | 268 | 64-419..... | 270 | 64-508..... | 271 | 64-657..... | 272 |
| 6405-O-16-12..... | 409 | 64-124..... | 266 | 64-258..... | 268 | 64-420..... | 270 | 64-509..... | 271 | 64-658..... | 272 |
| 6405-O-16-16..... | 409 | 64-126..... | 266 | 64-259..... | 268 | 64-421..... | 270 | 64-510..... | 271 | 64-659..... | 272 |
| 6405-O-20-20..... | 409 | 64-127..... | 266 | 64-260..... | 268 | 64-422..... | 270 | 64-511..... | 271 | 64-660..... | 272 |
| 6405-O-24-24..... | 409 | 64-130..... | 266 | 64-261..... | 268 | 64-430..... | 270 | 64-512..... | 271 | 64-661..... | 272 |
| 6405-O-32-32..... | 409 | 64-131..... | 266 | 64-262..... | 268 | 64-431..... | 270 | 64-513..... | 271 | 64-692..... | 273 |
| 6405-O-4-2..... | 409 | 64-133..... | 266 | 64-268..... | 268 | 64-432..... | 270 | 64-514..... | 271 | 64-693..... | 273 |
| 6405-O-4-4..... | 409 | 64-134..... | 266 | 64-269..... | 268 | 64-433..... | 270 | 64-515..... | 271 | 64-694..... | 273 |
| 6405-O-6-4..... | 409 | 64-136..... | 266 | 64-273..... | 268 | 64-434..... | 270 | 64-516..... | 271 | 64-695..... | 273 |
| 6405-O-6-6..... | 409 | 64-137..... | 266 | 64-276..... | 268 | 64-435..... | 270 | 64-517..... | 271 | 64-696..... | 273 |
| 6405-O-8-4..... | 409 | 64-138..... | 266 | 64-279..... | 268 | 64-436..... | 270 | 64-518..... | 271 | 64-697..... | 273 |
| 6405-O-8-6..... | 409 | 64-140..... | 266 | 64-280..... | 269 | 64-437..... | 270 | 64-519..... | 271 | 64-729..... | 268 |
| 6405-O-8-8..... | 409 | 64-141..... | 266 | 64-282..... | 268 | 64-438..... | 270 | 64-520..... | 271 | 64-733..... | 269 |
| 640600..... | 118 | 64-142..... | 266 | 64-283..... | 268 | 64-439..... | 270 | 64-521..... | 271 | 64-770..... | 263 |
| 640600C..... | 125 | 64-145..... | 266 | 64-286..... | 268 | 64-440..... | 270 | 64-522..... | 271 | 64-771..... | 263 |
| 640800..... | 118 | 64-146..... | 266 | 64-289..... | 269 | 64-441..... | 270 | 64-523..... | 271 | 64-772..... | 263 |
| 640800C..... | 125 | 64-148..... | 266 | 64-291..... | 268 | 64-442..... | 270 | 64-524..... | 271 | 64-773..... | 263 |
| 6408-H-O-10..... | 409 | 64-160..... | 266 | 64-298..... | 268 | 64-443..... | 270 | 64-525..... | 271 | 64-773H..... | 263 |
| 6408-H-O-12..... | 409 | 64-161..... | 266 | 64-299..... | 269 | 64-444..... | 270 | 64-526..... | 271 | 64-774..... | 263 |
| 6408-H-O-14..... | 409 | 64-162..... | 266 | 64-300..... | 269 | 64-445..... | 270 | 64-527..... | 271 | 64-774H..... | 263 |
| 6408-H-O-16..... | 409 | 64-163..... | 266 | 64-301..... | 268 | 64-446..... | 270 | 64-528..... | 271 | 64-775..... | 263 |
| 6408-H-O-2..... | 409 | 64-164..... | 266 | 64-303..... | 268 | 64-447..... | 270 | 64-529..... | 271 | 64-775H..... | 263 |
| 6408-H-O-20..... | 409 | 64-165..... | 266 | 64-306..... | 268 | 64-448..... | 270 | 64-530..... | 271 | 64-776..... | 263 |
| 6408-H-O-24..... | 409 | 64-166..... | 266 | 64-316..... | 268 | 64-449..... | 270 | 64-531..... | 271 | 64-776H..... | 263 |
| 6408-H-O-32..... | 409 | 64-167..... | 266 | 64-317..... | 269 | 64-450..... | 270 | 64-532..... | 271 | 64-777..... | 263 |
| 6408-H-O-4..... | 409 | 64-168..... | 266 | 64-318..... | 268 | 64-451..... | 270 | 64-533..... | 271 | 64-777H..... | 263 |
| 6408-H-O-5..... | 409 | 64-169..... | 266 | 64-319..... | 269 | 64-452..... | 270 | 64-534..... | 271 | 64-778..... | 263 |
| 6408-H-O-6..... | 409 | 64-170..... | 266 | 64-322..... | 268 | 64-453..... | 270 | 64-535..... | 271 | 64-778H..... | 263 |
| 6408-H-O-8..... | 409 | 64-171..... | 266 | 64-327..... | 268 | 64-454..... | 270 | 64-537..... | 271 | 64-779..... | 263 |
| 6408-O-10..... | 409 | 64-180..... | 267 | 64-328..... | 268 | 64-456..... | 270 | 64-538..... | 271 | 64-780..... | 263 |
| 6408-O-12..... | 409 | 64-181..... | 267 | 64-330..... | 268 | 64-457..... | 270 | 64-539..... | 271 | 64-780H..... | 263 |
| 6408-O-14..... | 409 | 64-182..... | 267 | 64-334..... | 268 | 64-458..... | 270 | 64-540..... | 271 | 64-781..... | 263 |
| 6408-O-16..... | 409 | 64-183..... | 267 | 64-336..... | 268 | 64-459..... | 270 | 64-541..... | 271 | 64-781H..... | 263 |
| 6408-O-2..... | 409 | 64-184..... | 267 | 64-343..... | 268 | 64-460..... | 270 | 64-542..... | 271 | 6500-10..... | 410 |
| 6408-O-20..... | 409 | 64-185..... | 267 | 64-351..... | 268 | 64-461..... | 270 | 64-543..... | 271 | 6500-12..... | 410 |
| 6408-O-24..... | 409 | 64-186..... | 267 | 64-363..... | 269 | 64-462..... | 270 | 64-545..... | 271 | 6500-16..... | 410 |
| 6408-O-4..... | 409 | 64-187..... | 267 | 64-364..... | 269 | 64-463..... | 270 | 64-546..... | 271 | 6500-24..... | 410 |
| 6408-O-5..... | 409 | 64-188..... | 267 | 64-383..... | 269 | 64-464..... | 270 | 64-547..... | 271 | 6500-4..... | 410 |
| 6408-O-6..... | 409 | 64-189..... | 267 | 64-384..... | 269 | 64-465..... | 270 | 64-549..... | 271 | 6500-6..... | 410 |
| 6408-O-8..... | 409 | 64-190..... | 267 | 64-385..... | 269 | 64-470..... | 272 | 64-550..... | 271 | 6500-8..... | 410 |
| 64-100..... | 266 | 64-191..... | 267 | 64-386..... | 269 | 64-471..... | 272 | 64-551..... | 271 | 6501-10-8..... | 410 |
| 641000..... | 118 | 64-192..... | 267 | 64-390..... | 267 | 64-472..... | 272 | 64-552..... | 271 | 6501-12-12..... | 410 |
| 641000C..... | 125 | 64-200..... | 267 | 64-391..... | 267 | 64-473..... | 272 | 64-553..... | 271 | 6501-16-16..... | 410 |
| 64-101..... | 266 | 64-201..... | 267 | 64-392..... | 267 | 64-474..... | 272 | 64-600..... | 272 | 6501-4-4..... | 410 |
| 64-102..... | 266 | 64-202..... | 267 | 64-393..... | 267 | 64-475..... | 272 | 64-601..... | 272 | 6501-6-6..... | 410 |
| 64-103..... | 266 | 64-203..... | 267 | 64-394..... | 267 | 64-476..... | 272 | 64-602..... | 272 | 6501-8-8..... | 410 |
| 64-104..... | 266 | 64-204..... | 267 | 64-395..... | 267 | 64-477..... | 272 | 64-603..... | 272 | 6502-10..... | 410 |
| 64-105..... | 266 | 64-205..... | 267 | 64-396..... | 267 | 64-478..... | 272 | 64-604..... | 272 | 6502-12..... | 410 |
| 64-106..... | 266 | 64-206..... | 267 | 64-397..... | 267 | 64-479..... | 272 | 64-605..... | 272 | 6502-16..... | 410 |
| 64-107..... | 266 | 64-207..... | 267 | 64-398..... | 267 | 64-480..... | 272 | 64-606..... | 272 | 6502-4..... | 410 |
| 64-108..... | 266 | 64-208..... | 267 | 64-399..... | 267 | 64-481..... | 272 | 64-607..... | 272 | 6502-6..... | 410 |
| 64-109..... | 266 | 64-209..... | 267 | 64-400..... | 267 | 64-482..... | 272 | 64-608..... | 272 | 6502-8..... | 410 |
| 6410-O-12-8..... | 409 | 64-210..... | 267 | 64-410..... | 270 | 64-486..... | 270 | 64-609..... | 272 | 6503-12-12..... | 410 |
| 6410-O-8-4..... | 409 | 64-211..... | 267 | 64-411..... | 270 | 64-500..... | 271 | 64-610..... | 272 | 6503-4-4..... | 410 |
| 6410-O-8-6..... | 409 | 64-250..... | 268 | 64-412..... | 270 | 64-501..... | 271 | 64-611..... | 272 | 6503-6-6..... | 410 |
| 6410-O-8-8..... | 409 | 64-251..... | 268 | 64-413..... | 270 | 64-502..... | 271 | 64-651..... | 272 | 6503-8-8..... | 410 |

650400

NUMERICAL INDEX

65-777

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|-----------------|------|-------------|------|-------------|------|-------------|------|--------------|------|---------------|------|
| 650400..... | 118 | 65-141..... | 266 | 65-273..... | 268 | 65-395..... | 267 | 65-476..... | 272 | 65-552..... | 271 |
| 650400C..... | 125 | 65-142..... | 266 | 65-276..... | 268 | 65-396..... | 267 | 65-477..... | 272 | 65-553..... | 271 |
| 6504-10-10..... | 410 | 65-145..... | 266 | 65-279..... | 268 | 65-397..... | 267 | 65-478..... | 272 | 65-555..... | 271 |
| 6504-12-12..... | 410 | 65-146..... | 266 | 65-280..... | 269 | 65-398..... | 267 | 65-479..... | 272 | 65-600..... | 272 |
| 6504-16-16..... | 410 | 65-148..... | 266 | 65-282..... | 268 | 65-399..... | 267 | 65-480..... | 272 | 65-601..... | 272 |
| 6504-20-20..... | 410 | 65-150..... | 266 | 65-283..... | 268 | 65-400..... | 267 | 65-481..... | 272 | 65-602..... | 272 |
| 6504-4-4..... | 410 | 65-151..... | 266 | 65-286..... | 268 | 65-401..... | 267 | 65-482..... | 272 | 65-603..... | 272 |
| 6504-6-6..... | 410 | 65-160..... | 266 | 65-287..... | 269 | 65-410..... | 270 | 65-486..... | 270 | 65-604..... | 272 |
| 6504-8-8..... | 410 | 65-161..... | 266 | 65-288..... | 269 | 65-411..... | 270 | 65-491..... | 270 | 65-605..... | 272 |
| 6505-12-12..... | 410 | 65-162..... | 266 | 65-289..... | 269 | 65-412..... | 270 | 65-500..... | 271 | 65-606..... | 272 |
| 6505-16-16..... | 410 | 65-163..... | 266 | 65-291..... | 268 | 65-413..... | 270 | 65-501..... | 271 | 65-607..... | 272 |
| 6505-24-24..... | 410 | 65-164..... | 266 | 65-292..... | 269 | 65-414..... | 270 | 65-502..... | 271 | 65-608..... | 272 |
| 6505-4-2..... | 410 | 65-165..... | 266 | 65-293..... | 269 | 65-415..... | 270 | 65-503..... | 271 | 65-609..... | 272 |
| 6505-4-4..... | 410 | 65-166..... | 266 | 65-294..... | 269 | 65-416..... | 270 | 65-504..... | 271 | 65-610..... | 272 |
| 6505-4-6..... | 410 | 65-167..... | 266 | 65-295..... | 269 | 65-417..... | 270 | 65-505..... | 271 | 65-611..... | 272 |
| 6505-6-4..... | 410 | 65-168..... | 266 | 65-296..... | 269 | 65-418..... | 270 | 65-506..... | 271 | 65-621..... | 273 |
| 6505-6-6..... | 410 | 65-169..... | 266 | 65-297..... | 269 | 65-419..... | 270 | 65-507..... | 271 | 65-622..... | 273 |
| 6505-8-6..... | 410 | 65-170..... | 266 | 65-298..... | 268 | 65-420..... | 270 | 65-508..... | 271 | 65-623..... | 273 |
| 6505-8-8..... | 410 | 65-171..... | 266 | 65-299..... | 269 | 65-421..... | 270 | 65-509..... | 271 | 65-650..... | 272 |
| 650600..... | 118 | 65-180..... | 267 | 65-300..... | 269 | 65-422..... | 270 | 65-510..... | 271 | 65-651..... | 272 |
| 650600C..... | 125 | 65-181..... | 267 | 65-301..... | 268 | 65-430..... | 270 | 65-511..... | 271 | 65-652..... | 272 |
| 6506-10-6..... | 411 | 65-182..... | 267 | 65-303..... | 268 | 65-431..... | 270 | 65-512..... | 271 | 65-653..... | 272 |
| 6506-12-12..... | 411 | 65-183..... | 267 | 65-305..... | 269 | 65-432..... | 270 | 65-513..... | 271 | 65-654..... | 272 |
| 6506-16-16..... | 411 | 65-184..... | 267 | 65-306..... | 268 | 65-433..... | 270 | 65-514..... | 271 | 65-655..... | 272 |
| 6506-20-20..... | 411 | 65-185..... | 267 | 65-309..... | 269 | 65-434..... | 270 | 65-515..... | 271 | 65-656..... | 272 |
| 6506-4-2..... | 411 | 65-186..... | 267 | 65-310..... | 269 | 65-435..... | 270 | 65-516..... | 271 | 65-657..... | 272 |
| 6506-4-4..... | 411 | 65-187..... | 267 | 65-312..... | 269 | 65-436..... | 270 | 65-517..... | 271 | 65-658..... | 272 |
| 6506-6-4..... | 411 | 65-188..... | 267 | 65-313..... | 269 | 65-437..... | 270 | 65-518..... | 271 | 65-659..... | 272 |
| 6506-6-6..... | 411 | 65-189..... | 267 | 65-316..... | 268 | 65-438..... | 270 | 65-519..... | 271 | 65-660..... | 272 |
| 6506-6-8..... | 411 | 65-190..... | 267 | 65-317..... | 269 | 65-439..... | 270 | 65-520..... | 271 | 65-661..... | 272 |
| 6506-8-6..... | 411 | 65-191..... | 267 | 65-318..... | 268 | 65-440..... | 270 | 65-521..... | 271 | 65-662..... | 272 |
| 6506-8-8..... | 411 | 65-192..... | 267 | 65-319..... | 269 | 65-441..... | 270 | 65-522..... | 271 | 65-664..... | 272 |
| 650800..... | 118 | 65-194..... | 267 | 65-322..... | 268 | 65-442..... | 270 | 65-523..... | 271 | 65-692..... | 273 |
| 650800C..... | 125 | 65-200..... | 267 | 65-327..... | 268 | 65-443..... | 270 | 65-524..... | 271 | 65-693..... | 273 |
| 65-100..... | 266 | 65-201..... | 267 | 65-328..... | 268 | 65-444..... | 270 | 65-525..... | 271 | 65-694..... | 273 |
| 65-101..... | 266 | 65-202..... | 267 | 65-330..... | 268 | 65-445..... | 270 | 65-526..... | 271 | 65-695..... | 273 |
| 65-102..... | 266 | 65-203..... | 267 | 65-334..... | 268 | 65-446..... | 270 | 65-527..... | 271 | 65-696..... | 273 |
| 65-103..... | 266 | 65-204..... | 267 | 65-336..... | 268 | 65-447..... | 270 | 65-528..... | 271 | 65-697..... | 273 |
| 65-104..... | 266 | 65-205..... | 267 | 65-342..... | 268 | 65-448..... | 270 | 65-529..... | 271 | 65-721..... | 268 |
| 65-105..... | 266 | 65-206..... | 267 | 65-343..... | 268 | 65-449..... | 270 | 65-530..... | 271 | 65-733..... | 269 |
| 65-106..... | 266 | 65-207..... | 267 | 65-346..... | 269 | 65-450..... | 270 | 65-531..... | 271 | 65-770..... | 263 |
| 65-107..... | 266 | 65-208..... | 267 | 65-347..... | 269 | 65-451..... | 270 | 65-532..... | 271 | 65770API..... | 264 |
| 65-108..... | 266 | 65-209..... | 267 | 65-349..... | 269 | 65-452..... | 270 | 655320..... | 118 | 65-771..... | 263 |
| 65-109..... | 266 | 65-210..... | 267 | 65-351..... | 268 | 65-453..... | 270 | 655320C..... | 125 | 65771API..... | 264 |
| 65-110..... | 266 | 65-211..... | 267 | 65-359..... | 268 | 65-454..... | 270 | 65-533..... | 271 | 65-771H..... | 263 |
| 65-112..... | 266 | 65-250..... | 268 | 65-363..... | 269 | 65-456..... | 270 | 65-534..... | 271 | 65-772..... | 263 |
| 65-114..... | 266 | 65-251..... | 268 | 65-364..... | 269 | 65-457..... | 270 | 65-535..... | 271 | 65772API..... | 264 |
| 65-115..... | 266 | 65-252..... | 268 | 65-372..... | 269 | 65-458..... | 270 | 65-537..... | 271 | 65-772H..... | 263 |
| 65-122..... | 266 | 65-253..... | 268 | 65-375..... | 269 | 65-459..... | 270 | 65-538..... | 271 | 65-773..... | 263 |
| 65-123..... | 266 | 65-254..... | 268 | 65-377..... | 269 | 65-460..... | 270 | 65-539..... | 271 | 65773API..... | 264 |
| 65-124..... | 266 | 65-255..... | 268 | 65-383..... | 269 | 65-461..... | 270 | 65-540..... | 271 | 65-773H..... | 263 |
| 65-126..... | 266 | 65-256..... | 268 | 65-384..... | 269 | 65-462..... | 270 | 65-541..... | 271 | 65-774..... | 263 |
| 65-127..... | 266 | 65-257..... | 268 | 65-385..... | 269 | 65-463..... | 270 | 65-542..... | 271 | 65774API..... | 264 |
| 65-130..... | 266 | 65-258..... | 268 | 65-386..... | 269 | 65-464..... | 270 | 65-543..... | 271 | 65-774H..... | 263 |
| 65-131..... | 266 | 65-259..... | 268 | 65-387..... | 269 | 65-465..... | 270 | 65-544..... | 271 | 65-775..... | 263 |
| 65-133..... | 266 | 65-260..... | 268 | 65-388..... | 269 | 65-470..... | 272 | 65-545..... | 271 | 65775API..... | 264 |
| 65-134..... | 266 | 65-261..... | 268 | 65-390..... | 267 | 65-471..... | 272 | 65-546..... | 271 | 65-775H..... | 263 |
| 65-136..... | 266 | 65-262..... | 268 | 65-391..... | 267 | 65-472..... | 272 | 65-547..... | 271 | 65-776..... | 263 |
| 65-137..... | 266 | 65-264..... | 268 | 65-392..... | 267 | 65-473..... | 272 | 65-549..... | 271 | 65776API..... | 264 |
| 65-138..... | 266 | 65-268..... | 268 | 65-393..... | 267 | 65-474..... | 272 | 65-550..... | 271 | 65-776H..... | 263 |
| 65-140..... | 266 | 65-269..... | 268 | 65-394..... | 267 | 65-475..... | 272 | 65-551..... | 271 | 65-777..... | 263 |

690806SC**NUMERICAL INDEX****73-207W5**

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|---------------|------|------------------|------|------------------|------|----------------------|------|---------------|------|----------------|------|
| 690806SC..... | 126 | 69-472 | 277 | 7005-4-12 | 420 | 710404S | 122 | 720604SC..... | 127 | 73-065 | 309 |
| 690808..... | 120 | 69-473 | 277 | 7005-4-14 | 420 | 710404SC..... | 127 | 720606..... | 122 | 73-066 | 309 |
| 690808S..... | 120 | 69-474 | 277 | 7005-4-18 | 420 | 71040604..... | 121 | 720606S | 123 | 73-067 | 309 |
| 690808SC..... | 126 | 69-475 | 277 | 7005-5-12 | 420 | 710604..... | 121 | 720606SC..... | 127 | 73-068 | 309 |
| 691006..... | 120 | 69-476 | 277 | 7005-5-14 | 420 | 71060404..... | 121 | 720804..... | 122 | 73-069 | 309 |
| 691006S..... | 120 | 69-477 | 277 | 7005-6-14 | 420 | 71060406..... | 121 | 720804S | 123 | 73-070 | 309 |
| 691006SC..... | 126 | 69-478 | 277 | 7005-6-16 | 420 | 710604S | 122 | 720806..... | 122 | 73-071 | 309 |
| 691008..... | 120 | 695302..... | 120 | 7005-6-18 | 420 | 710604SC..... | 127 | 720806S | 123 | 73-200B..... | 333 |
| 691008S..... | 120 | 695322..... | 120 | 7005-8-16 | 420 | 710606..... | 121 | 720806SC..... | 127 | 73-200N5 | 332 |
| 691008SC..... | 126 | 695322S | 120 | 7005-8-18 | 420 | 710606S | 122 | 720808..... | 122 | 73-200U | 333 |
| 69-101 | 276 | 695322SC..... | 126 | 7005-8-22 | 420 | 710606SC..... | 127 | 720808S | 123 | 73-201B..... | 333 |
| 69-102 | 276 | 69-600 | 277 | 700602..... | 121 | 710608..... | 121 | 720808SC..... | 127 | 73-201G | 333 |
| 69-103 | 276 | 69-601 | 277 | 700604..... | 121 | 710608SC..... | 127 | 72100808..... | 122 | 73-201U | 333 |
| 69-104 | 276 | 69-602 | 277 | 700604SC..... | 126 | 710804S | 122 | 7240-10 | 419 | 73-203B..... | 333 |
| 69-105 | 276 | 69-603 | 277 | 700606..... | 121 | 710806..... | 121 | 7240-12 | 419 | 73-203B1..... | 333 |
| 69-106 | 276 | 69-604 | 277 | 700606SC..... | 126 | 710806S | 122 | 7240-16 | 419 | 73-203B5..... | 333 |
| 69-107 | 276 | 69-605 | 277 | 700608SC..... | 126 | 710806SC..... | 127 | 7240-4 | 419 | 73-203G | 333 |
| 69-108 | 276 | 69-606 | 277 | 700806..... | 121 | 710808S | 122 | 7240-6 | 419 | 73-203G1 | 333 |
| 691208..... | 120 | 69-607 | 277 | 700806SC..... | 126 | 7200-12-12 | 418 | 7240-8 | 419 | 73-203G5 | 333 |
| 691208S..... | 120 | 69-608 | 277 | 700808..... | 121 | 7200-16-16 | 418 | 73-003 | 309 | 73-203N1 | 332 |
| 691208SC..... | 126 | 7000-10-12 | 418 | 700808SC..... | 126 | 7200-4-2 | 418 | 73-004 | 309 | 73-203N5 | 332 |
| 691212..... | 120 | 7000-10-8 | 418 | 7022-10-8 | 420 | 7200-4-4 | 418 | 73-005 | 309 | 73-203O | 333 |
| 691212S | 120 | 7000-12-12 | 418 | 7022-12-12 | 420 | 7200-6-4 | 418 | 73-006 | 309 | 73-203R..... | 333 |
| 69-161 | 276 | 7000-12-8 | 418 | 7022-16-16 | 420 | 7200-6-6 | 418 | 73-007 | 309 | 73-203R1..... | 333 |
| 69-162 | 276 | 7000-16-16 | 418 | 7022-4-2 | 420 | 7200-6-8 | 418 | 73-008 | 309 | 73-203R5..... | 333 |
| 69-163 | 276 | 7000-20-20 | 418 | 7022-4-4 | 420 | 7200-8-6 | 418 | 73-009 | 309 | 73-203U | 333 |
| 69-164 | 276 | 7000-4-2 | 418 | 7022-6-4 | 420 | 7200-8-8 | 418 | 73-010 | 309 | 73-203U1 | 333 |
| 69-165 | 276 | 7000-4-4 | 418 | 7022-6-6 | 420 | 7202-NWO-10-8 | 419 | 73-011 | 309 | 73-203U5 | 333 |
| 69-166 | 276 | 7000-6-4 | 418 | 7022-8-6 | 420 | 7202-NWO-12-12 | 419 | 73-023 | 309 | 73-203W | 333 |
| 69-167 | 276 | 7000-6-6 | 418 | 7022-8-8 | 420 | 7202-NWO-12-16 | 419 | 73-024 | 309 | 73-203Y | 333 |
| 69-168 | 276 | 7000-6-8 | 418 | 7025-10-22 | 421 | 7202-NWO-16-16 | 419 | 73-025 | 309 | 73-204B..... | 333 |
| 69-181 | 276 | 7000-8-12 | 418 | 7025-12-27 | 421 | 7202-NWO-4-2 | 419 | 73-026 | 309 | 73-204G | 333 |
| 69-182 | 276 | 7000-8-6 | 418 | 7025-16-33 | 421 | 7202-NWO-4-4 | 419 | 73-027 | 309 | 73-204N5 | 332 |
| 69-183 | 276 | 7000-8-8 | 418 | 7025-4-10 | 421 | 7202-NWO-6-4 | 419 | 73-028 | 309 | 73-204U | 333 |
| 69-184 | 276 | 7002-10-8 | 419 | 7025-4-12 | 421 | 7202-NWO-6-6 | 419 | 73-029 | 309 | 73-204Y | 333 |
| 69-185 | 276 | 7002-12-12 | 419 | 7025-5-12 | 421 | 7202-NWO-6-8 | 419 | 73-030 | 309 | 73-205B..... | 333 |
| 69-186 | 276 | 7002-12-16 | 419 | 7025-6-14 | 421 | 7202-NWO-8-12 | 419 | 73-031 | 309 | 73-205B5..... | 333 |
| 69-187 | 276 | 7002-16-16 | 419 | 7025-6-16 | 421 | 7202-NWO-8-6 | 419 | 73-033 | 309 | 73-205G | 333 |
| 69-188 | 276 | 7002-4-2 | 419 | 7025-8-16 | 421 | 7202-NWO-8-8 | 419 | 73-035 | 309 | 73-205R..... | 333 |
| 69-252 | 276 | 7002-4-4 | 419 | 7042-12-12 | 420 | 720302..... | 122 | 73-036 | 309 | 73-205U | 333 |
| 69-253 | 276 | 7002-4-6 | 419 | 7042-16-16 | 420 | 720402..... | 122 | 73-037 | 309 | 73-205Y | 333 |
| 69-254 | 276 | 7002-4-8 | 419 | 7042-2-2 | 420 | 720402S | 123 | 73-038 | 309 | 73-206B..... | 333 |
| 69-255 | 276 | 7002-6-4 | 419 | 7042-4-2 | 420 | 720402SC..... | 127 | 73-039 | 309 | 73-206B1..... | 333 |
| 69-256 | 276 | 7002-6-6 | 419 | 7042-4-4 | 420 | 720404..... | 122 | 73-040 | 309 | 73-206B5..... | 333 |
| 69-257 | 276 | 7002-6-8 | 419 | 7042-6-6 | 420 | 720404S | 123 | 73-041 | 309 | 73-206G | 333 |
| 69-258 | 276 | 7002-8-12 | 419 | 7042-8-8 | 420 | 720404SC..... | 127 | 73-043 | 309 | 73-206N1 | 332 |
| 69-411 | 276 | 7002-8-6 | 419 | 7045-12-27 | 421 | 720406SC..... | 127 | 73-044 | 309 | 73-206N5 | 332 |
| 69-412 | 276 | 7002-8-8 | 419 | 7045-16-33 | 421 | 7205-NWO-10-18 | 421 | 73-045 | 309 | 73-206R..... | 333 |
| 69-413 | 276 | 700402..... | 121 | 7045-2-10 | 421 | 7205-NWO-4-10 | 421 | 73-046 | 309 | 73-206R5..... | 333 |
| 69-414 | 276 | 700402SC..... | 126 | 7045-4-12 | 421 | 7205-NWO-4-12 | 421 | 73-047 | 309 | 73-206U | 333 |
| 69-415 | 276 | 700404..... | 121 | 7045-4-14 | 421 | 7205-NWO-4-14 | 421 | 73-048 | 309 | 73-206U5 | 333 |
| 69-416 | 276 | 700404S | 121 | 7045-6-12 | 421 | 7205NWO-5-12 | 421 | 73-049 | 309 | 73-206W..... | 333 |
| 69-417 | 276 | 700404SC..... | 126 | 7045-6-16 | 421 | 7205-NWO-6-14 | 421 | 73-050 | 309 | 73-206Y | 333 |
| 69-418 | 276 | 700406..... | 121 | 7045-6-18 | 421 | 7205-NWO-6-16 | 421 | 73-051 | 309 | 73-207B..... | 333 |
| 69-432 | 277 | 700406SC..... | 126 | 7045-8-16 | 421 | 7205-NWO-8-16 | 421 | 73-056 | 309 | 73-207B5..... | 333 |
| 69-434 | 277 | 7005-10-18 | 420 | 7045-8-18 | 421 | 7205-NWO-8-18 | 421 | 73-057 | 309 | 73-207G | 333 |
| 69-435 | 277 | 7005-10-20 | 420 | 7045-8-22 | 421 | 7205-NWO-8-22 | 421 | 73-058 | 309 | 73-207N5 | 332 |
| 69-438 | 277 | 7005-10-22 | 420 | 710402..... | 121 | 720602S | 123 | 73-059 | 309 | 73-207R..... | 333 |
| 69-441 | 277 | 7005-12-22 | 420 | 710402S | 122 | 720604..... | 122 | 73-060 | 309 | 73-207U | 333 |
| 69-442 | 277 | 7005-12-27 | 420 | 710402SC..... | 127 | 72060404..... | 122 | 73-063 | 309 | 73-207W..... | 333 |
| 69-471 | 277 | 7005-4-10 | 420 | 710404..... | 121 | 720604S | 123 | 73-064 | 309 | 73-207W5 | 333 |

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|----------|------|------------|------|--------|------|--------|------|----------|------|---------|------|
| 73-207Y | 333 | 73-977 | 27 | 77-131 | 283 | 77-255 | 285 | 77-398 | 286 | 7802-16 | 419 |
| 73-208B | 333 | 73-977 | 244 | 77-132 | 283 | 77-256 | 285 | 77-401 | 286 | 7802-4 | 419 |
| 73-230B | 334 | 73-979 | 27 | 77-139 | 283 | 77-258 | 285 | 77-402 | 287 | 7802-6 | 419 |
| 73-231B | 334 | 73-979 | 244 | 77-140 | 283 | 77-262 | 285 | 77-406 | 287 | 7802-8 | 419 |
| 73-232B | 334 | 73-980 | 27 | 77-141 | 283 | 77-263 | 285 | 77-410 | 287 | 7825-12 | 419 |
| 73-232N5 | 334 | 73-980 | 244 | 77-142 | 283 | 77-265 | 285 | 77-413 | 287 | 7825-16 | 419 |
| 73-233B | 334 | 73-981 | 27 | 77-143 | 283 | 77-267 | 285 | 77-419 | 287 | 7825-2 | 419 |
| 73-238B | 334 | 73-981 | 244 | 77-144 | 283 | 77-268 | 285 | 77-420 | 287 | 7825-4 | 419 |
| 73-238U | 334 | 73-982 | 27 | 77-145 | 283 | 77-269 | 285 | 77-423 | 287 | 7825-6 | 419 |
| 73-341B | 331 | 73-982 | 244 | 77-154 | 283 | 77-270 | 285 | 77-424 | 287 | 7825-8 | 419 |
| 73-341R | 331 | 73-983 | 307 | 77-155 | 283 | 77-271 | 285 | 77-429 | 287 | 80-001 | 362 |
| 73-341U | 331 | 73-984 | 307 | 77-156 | 283 | 77-272 | 285 | 77-430 | 287 | 80-002 | 362 |
| 73-343B | 331 | 73-985 | 307 | 77-157 | 283 | 77-273 | 285 | 77-431 | 287 | 80-003 | 362 |
| 73-343R | 331 | 73-986 | 307 | 77-158 | 283 | 77-275 | 285 | 77-432 | 287 | 80-004 | 362 |
| 73-343U | 331 | 73-987 | 307 | 77-159 | 283 | 77-276 | 285 | 77-433 | 287 | 80-005 | 362 |
| 73-345B | 331 | 7420-10-8 | 418 | 77-160 | 283 | 77-277 | 285 | 77-434 | 287 | 80-006 | 362 |
| 73-345R | 331 | 7420-12-12 | 418 | 77-161 | 284 | 77-280 | 285 | 77-435 | 287 | 80-007 | 362 |
| 73-345U | 331 | 7420-12-8 | 418 | 77-162 | 284 | 77-291 | 285 | 77-436 | 287 | 80-020 | 362 |
| 73-346B | 331 | 7420-16-12 | 418 | 77-163 | 284 | 77-292 | 285 | 77-437 | 287 | 80-031 | 362 |
| 73-346R | 331 | 7420-16-16 | 418 | 77-164 | 284 | 77-293 | 285 | 77-453 | 287 | 80-032 | 362 |
| 73-346U | 331 | 7420-2-2 | 418 | 77-165 | 284 | 77-294 | 285 | 77-454 | 287 | 80-033 | 362 |
| 73-670 | 307 | 7420-4-2 | 418 | 77-166 | 284 | 77-295 | 285 | 77-455LF | 287 | 80-034 | 362 |
| 73-671 | 307 | 7420-6-4 | 418 | 77-167 | 284 | 77-296 | 285 | 77-456LF | 287 | 80-035 | 362 |
| 73-672 | 307 | 7420-6-6 | 418 | 77-168 | 284 | 77-297 | 285 | 77-457LF | 287 | 80-036 | 362 |
| 73-673 | 307 | 7420-8-6 | 418 | 77-169 | 284 | 77-298 | 285 | 77-461 | 287 | 80-061 | 363 |
| 73-674 | 307 | 7420-8-8 | 418 | 77-170 | 284 | 77-300 | 285 | 77-462 | 287 | 80-062 | 363 |
| 73-951 | 27 | 7425-10 | 419 | 77-177 | 284 | 77-303 | 286 | 77-463 | 287 | 80-063 | 363 |
| 73-951 | 244 | 7425-12 | 419 | 77-178 | 284 | 77-306 | 286 | 77-464 | 287 | 80-064 | 363 |
| 73-952 | 27 | 7425-16 | 419 | 77-179 | 284 | 77-307 | 286 | 77-467 | 288 | 80-065 | 363 |
| 73-952 | 244 | 7425-2 | 419 | 77-180 | 284 | 77-308 | 286 | 77-468 | 288 | 80-066 | 363 |
| 73-953 | 27 | 7425-4 | 419 | 77-181 | 284 | 77-309 | 286 | 77-470 | 288 | 80-067 | 363 |
| 73-953 | 244 | 7425-8 | 419 | 77-182 | 284 | 77-311 | 286 | 77-473 | 288 | 80-068 | 363 |
| 73-954 | 27 | 7520-10-10 | 418 | 77-183 | 284 | 77-312 | 286 | 77-481 | 288 | 80-069 | 363 |
| 73-954 | 244 | 7520-12-12 | 418 | 77-184 | 284 | 77-314 | 286 | 77-483 | 288 | 80-080 | 363 |
| 73-955 | 27 | 7520-2-2 | 418 | 77-185 | 284 | 77-318 | 286 | 77-485 | 288 | 80-081 | 363 |
| 73-955 | 244 | 7520-4-4 | 418 | 77-201 | 284 | 77-322 | 286 | 77-486 | 288 | 80-100 | 363 |
| 73-956 | 27 | 7520-6-6 | 418 | 77-202 | 284 | 77-331 | 286 | 77-488 | 288 | 80-101 | 363 |
| 73-956 | 244 | 7520-8-8 | 418 | 77-203 | 284 | 77-333 | 286 | 77-489 | 288 | 80-102 | 363 |
| 73-957 | 27 | 770402 | 123 | 77-204 | 284 | 77-334 | 286 | 77-490 | 288 | 80-103 | 363 |
| 73-957 | 244 | 770402C | 127 | 77-205 | 284 | 77-335 | 286 | 77-493 | 288 | 80-104 | 363 |
| 73-958 | 27 | 770404 | 123 | 77-206 | 284 | 77-336 | 286 | 77-496 | 288 | 80-105 | 363 |
| 73-958 | 244 | 770404C | 127 | 77-207 | 284 | 77-337 | 286 | 77-498 | 288 | 80-201 | 363 |
| 73-959 | 27 | 770604 | 123 | 77-208 | 284 | 77-341 | 287 | 77-499 | 288 | 80-202 | 363 |
| 73-959 | 244 | 770604C | 127 | 77-209 | 284 | 77-343 | 287 | 77-501 | 288 | 80-203 | 363 |
| 73-960 | 27 | 77-100 | 283 | 77-210 | 284 | 77-345 | 287 | 77-504 | 288 | 80-204 | 363 |
| 73-960 | 244 | 77-101 | 283 | 77-219 | 284 | 77-346 | 287 | 77-506 | 288 | 80-205 | 363 |
| 73-961 | 244 | 77-102 | 283 | 77-220 | 284 | 77-347 | 287 | 77-507 | 288 | 80-206 | 363 |
| 73-970 | 27 | 77-104 | 283 | 77-222 | 284 | 77-349 | 287 | 77-508 | 288 | 80-207 | 363 |
| 73-970 | 244 | 77-107 | 283 | 77-223 | 284 | 77-352 | 285 | 77-514 | 288 | 80-208 | 363 |
| 73-971 | 27 | 77-108 | 283 | 77-224 | 284 | 77-354 | 285 | 77-518 | 288 | 80-209 | 363 |
| 73-971 | 244 | 77-110 | 283 | 77-225 | 284 | 77-355 | 285 | 77-519 | 288 | 80-301 | 362 |
| 73-972 | 27 | 77-113 | 283 | 77-226 | 284 | 77-357 | 285 | 77-522 | 288 | 80-302 | 362 |
| 73-972 | 244 | 77-114 | 283 | 77-227 | 284 | 77-358 | 285 | 77-523 | 288 | 80-303 | 362 |
| 73-973 | 27 | 77-116 | 283 | 77-238 | 285 | 77-359 | 285 | 77-543 | 288 | 80-304 | 362 |
| 73-973 | 244 | 77-124 | 283 | 77-240 | 285 | 77-360 | 285 | 77-547 | 288 | 80-305 | 362 |
| 73-974 | 27 | 77-125 | 283 | 77-241 | 285 | 77-361 | 285 | 77-548 | 288 | 80-306 | 362 |
| 73-974 | 244 | 77-126 | 283 | 77-242 | 285 | 77-363 | 285 | 77-549 | 288 | 80-307 | 362 |
| 73-975 | 27 | 77-127 | 283 | 77-244 | 285 | 77-365 | 285 | 77-606LF | 287 | 80-331 | 362 |
| 73-975 | 244 | 77-128 | 283 | 77-252 | 285 | 77-393 | 286 | 77-607LF | 287 | 80-332 | 362 |
| 73-976 | 27 | 77-129 | 283 | 77-253 | 285 | 77-394 | 286 | 77-608LF | 287 | 80-333 | 362 |
| 73-976 | 244 | 77-130 | 283 | 77-254 | 285 | 77-395 | 286 | 7802-12 | 419 | 80-334 | 362 |

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|----------|------|---------|------|-----------|------|-----------|------|--------|------|--------|------|
| 80-335 | 362 | 840-550 | 317 | 844-425 | 318 | 86-006 | 342 | 87-420 | 361 | 90-116 | 279 |
| 80-336 | 362 | 840-575 | 317 | 844-456 | 318 | 86-012 | 342 | 87-422 | 361 | 90-117 | 279 |
| 80-463 | 363 | 840-600 | 317 | 844-500 | 318 | 86-013 | 342 | 88-024 | 327 | 90-118 | 279 |
| 80-501 | 362 | 840-625 | 317 | 844-525 | 318 | 86-017 | 342 | 88-028 | 327 | 90-119 | 279 |
| 80-502 | 362 | 840-650 | 317 | 844-600 | 318 | 86-018 | 342 | 88-032 | 327 | 90-120 | 279 |
| 80-503 | 362 | 840-675 | 317 | 844-625 | 318 | 86-020 | 342 | 88-038 | 327 | 90-121 | 279 |
| 80-504 | 362 | 840-700 | 317 | 845-200 | 321 | 86-022 | 342 | 88-050 | 327 | 90-122 | 279 |
| 80-505 | 362 | 840-750 | 317 | 845-300 | 321 | 86-030 | 341 | 88-056 | 327 | 90-123 | 279 |
| 80-506 | 362 | 840-800 | 317 | 845-350 | 321 | 86-030RG | 342 | 88-065 | 327 | 90-124 | 279 |
| 80-511 | 362 | 840-850 | 317 | 845-400 | 321 | 86-030SS | 341 | 88-075 | 327 | 90-125 | 279 |
| 80-512 | 362 | 840-888 | 317 | 845-500 | 321 | 86-031 | 341 | 88-085 | 327 | 90-126 | 279 |
| 80-513 | 362 | 841-004 | 320 | 845-500SS | 321 | 86-031RG | 342 | 88-095 | 327 | 90-127 | 279 |
| 80-514 | 362 | 841-005 | 320 | 845-600 | 321 | 86-031SS | 341 | 88-112 | 327 | 90-128 | 279 |
| 80-515 | 362 | 841-040 | 320 | 846-200 | 321 | 86-032 | 341 | 89-024 | 327 | 90-129 | 279 |
| 80-516 | 362 | 841-045 | 320 | 846-250 | 321 | 86-035 | 341 | 89-028 | 327 | 90-130 | 279 |
| 80-601 | 363 | 841-050 | 320 | 846-275 | 321 | 86-035SRG | 342 | 89-032 | 327 | 90-131 | 279 |
| 80-602 | 363 | 841-175 | 320 | 846-300 | 321 | 86-035SS | 341 | 89-038 | 327 | 90-132 | 279 |
| 80-603 | 363 | 841-200 | 320 | 846-350 | 321 | 86-036 | 341 | 89-044 | 327 | 90-133 | 279 |
| 80-604 | 363 | 841-250 | 320 | 846-400 | 321 | 86-036RG | 342 | 89-050 | 327 | 90-140 | 279 |
| 80-605 | 363 | 841-300 | 320 | 846-500 | 321 | 86-036SS | 341 | 89-056 | 327 | 90-141 | 279 |
| 80-606 | 363 | 841-350 | 320 | 847-200 | 321 | 86-037 | 341 | 89-065 | 327 | 90-150 | 279 |
| 80-611 | 363 | 841-400 | 320 | 847-250 | 321 | 86-040 | 341 | 89-075 | 327 | 90-152 | 279 |
| 80-612 | 363 | 841-450 | 320 | 847-275 | 321 | 860402 | 123 | 89-085 | 327 | 90-212 | 278 |
| 80-613 | 363 | 841-500 | 320 | 847-300 | 321 | 860402C | 128 | 89-095 | 327 | 90-213 | 278 |
| 80-614 | 363 | 842-010 | 319 | 847-350 | 321 | 860404 | 123 | 89-112 | 327 | 90-215 | 278 |
| 80-615 | 363 | 842-012 | 319 | 847-400 | 321 | 860404C | 128 | 899000 | 208 | 91-007 | 278 |
| 80-616 | 363 | 842-016 | 319 | 847-500 | 321 | 86-040SS | 341 | 899001 | 208 | 91-008 | 278 |
| 820400 | 123 | 842-020 | 319 | 847-600 | 321 | 86-041 | 341 | 899002 | 208 | 91-009 | 278 |
| 820400C | 128 | 842-024 | 319 | 848-200 | 321 | 86-041SS | 341 | 899003 | 208 | 91-010 | 278 |
| 820600 | 123 | 842-200 | 319 | 848-225 | 321 | 86-042 | 341 | 899004 | 208 | 91-011 | 278 |
| 820600C | 128 | 842-250 | 319 | 848-250 | 321 | 86-045 | 341 | 899005 | 208 | 91-707 | 335 |
| 820800 | 123 | 842-300 | 319 | 848-275 | 321 | 86-045SS | 341 | 899050 | 208 | 92-010 | 327 |
| 820800C | 128 | 842-350 | 319 | 848-300 | 321 | 86-046 | 341 | 899051 | 208 | 92-011 | 327 |
| 821000 | 123 | 842-400 | 319 | 848-350 | 321 | 86-046SS | 341 | 899052 | 208 | 92-012 | 327 |
| 821000C | 128 | 842-450 | 319 | 848-400 | 321 | 86-047 | 341 | 899053 | 208 | 92-013 | 327 |
| 830808 | 123 | 842-500 | 319 | 848-500 | 321 | 860604 | 123 | 899054 | 208 | 92-014 | 327 |
| 840-1088 | 317 | 843-321 | 319 | 848-600 | 321 | 860604C | 128 | 899055 | 208 | 92-015 | 327 |
| 840-131 | 317 | 843-382 | 319 | 848-700 | 321 | 860606 | 123 | 90-001 | 278 | 92-016 | 327 |
| 840-150 | 317 | 843-388 | 319 | 8555-H-10 | 421 | 860606C | 128 | 90-002 | 278 | 92-017 | 327 |
| 840-175 | 317 | 843-450 | 319 | 8555-H-12 | 421 | 860806C | 128 | 90-003 | 278 | 92-102 | 279 |
| 840-188 | 317 | 843-461 | 319 | 8555-H-14 | 421 | 860808 | 123 | 90-004 | 278 | 92-107 | 279 |
| 840-200 | 317 | 843-475 | 319 | 8555-H-16 | 421 | 860808C | 128 | 90-005 | 278 | 92-108 | 279 |
| 840-225 | 317 | 843-525 | 319 | 8555-H-18 | 421 | 87001 | 354 | 90-006 | 278 | 92-109 | 279 |
| 840-238 | 317 | 843-588 | 319 | 8555-H-20 | 421 | 87002 | 354 | 90-007 | 278 | 92-110 | 279 |
| 840-250 | 317 | 844-213 | 318 | 8555-H-22 | 421 | 87003 | 354 | 90-008 | 278 | 92-111 | 279 |
| 840-256 | 317 | 844-225 | 318 | 8555-H-26 | 421 | 87004 | 354 | 90-009 | 278 | 92-114 | 279 |
| 840-263 | 317 | 844-238 | 318 | 8555-H-30 | 421 | 87008 | 354 | 90-010 | 278 | 92-115 | 279 |
| 840-275 | 317 | 844-250 | 318 | 8555-P-10 | 421 | 87009 | 354 | 90-011 | 278 | 92-116 | 279 |
| 840-288 | 317 | 844-263 | 318 | 8555-P-12 | 421 | 87020 | 354 | 90-100 | 279 | 92-119 | 279 |
| 840-300 | 317 | 844-275 | 318 | 8555-P-14 | 421 | 87021 | 354 | 90-102 | 279 | 92-120 | 279 |
| 840-312 | 317 | 844-300 | 318 | 8555-P-16 | 421 | 87023 | 354 | 90-103 | 279 | 92-121 | 279 |
| 840-325 | 317 | 844-306 | 318 | 8555-P-18 | 421 | 87-400 | 359 | 90-104 | 279 | 92-122 | 279 |
| 840-350 | 317 | 844-313 | 318 | 8555-P-20 | 421 | 87-402 | 359 | 90-105 | 279 | 92-123 | 279 |
| 840-375 | 317 | 844-325 | 318 | 8555-P-22 | 421 | 87-404 | 359 | 90-106 | 279 | 92-128 | 279 |
| 840-382 | 317 | 844-338 | 318 | 8555-P-26 | 421 | 87-406 | 359 | 90-107 | 279 | 93-001 | 278 |
| 840-400 | 317 | 844-350 | 318 | 8555-P-30 | 421 | 87-408 | 360 | 90-108 | 279 | 93-008 | 327 |
| 840-425 | 317 | 844-356 | 318 | 86.51 | 225 | 87-410 | 360 | 90-109 | 279 | 93-009 | 327 |
| 840-450 | 317 | 844-363 | 318 | 86.51 | 225 | 87-412 | 360 | 90-110 | 279 | 93-011 | 327 |
| 840-475 | 317 | 844-375 | 318 | 86-001 | 342 | 87-414 | 361 | 90-111 | 279 | 93-013 | 327 |
| 840-500 | 317 | 844-406 | 318 | 86-002 | 342 | 87-416 | 361 | 90-114 | 279 | 93-014 | 327 |
| 840-525 | 317 | 844-413 | 318 | 86-005 | 342 | 87-418 | 361 | 90-115 | 279 | 93-016 | 327 |

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|
| 93-017 | 327 | 940-175L | 170 | 940-355 | 191 | 941-122NP | 173 | 943-238LF | 167 |
| 93-113 | 278 | 940-175LF | 166 | 940-355B | 191 | 941-123NP | 173 | 943-284 | 187 |
| 93-121 | 278 | 940-176 | 169 | 940-355LF | 168 | 941-124NP | 173 | 943-287 | 187 |
| 93-122 | 278 | 940-176L | 170 | 940-356 | 191 | 941-125NP | 173 | 943-311 | 181 |
| 93-123 | 278 | 940-176LF | 166 | 940-356B | 191 | 941-126NP | 173 | 943-312 | 181 |
| 93-124 | 278 | 940-177 | 169 | 940-356LF | 168 | 941-127NP | 173 | 943-313 | 181 |
| 93-125 | 278 | 940-177L | 170 | 940-357 | 191 | 941-128NP | 173 | 943331 | 181 |
| 93-127 | 278 | 940-177LF | 166 | 940-357B | 191 | 941-133 | 189 | 943332 | 181 |
| 93-128 | 278 | 940-178 | 169 | 940-357LF | 168 | 941-134 | 189 | 943342 | 181 |
| 93-129 | 278 | 940-178L | 170 | 940-358 | 191 | 941-135 | 189 | 943343 | 181 |
| 93-130 | 278 | 940-178LF | 166 | 940-359 | 191 | 941-136 | 189 | 943344 | 181 |
| 93-131 | 278 | 940-179 | 169 | 940-360 | 191 | 941-137 | 189 | 943345 | 181 |
| 93-139 | 278 | 940-179LF | 166 | 940-362LF | 168 | 941-138 | 189 | 943347 | 181 |
| 93-212 | 278 | 940-180 | 169 | 940-363LF | 168 | 941-140 | 189 | 943348 | 181 |
| 935044LF | 163 | 940-180LF | 166 | 940-364LF | 168 | 941-141 | 189 | 943350 | 181 |
| 935045LF | 163 | 940-181 | 169 | 940-365LF | 168 | 941151LF | 165 | 943351 | 181 |
| 940-121 | 186 | 940-181LF | 166 | 940-366LF | 168 | 941151NP | 172 | 943-612LF | 166 |
| 940-122 | 186 | 940-212LF | 167 | 940-367LF | 168 | 941152LF | 165 | 943-613LF | 166 |
| 940-123 | 186 | 940-213LF | 167 | 940-461 | 186 | 941152NP | 172 | 943-614LF | 166 |
| 940-130 | 188 | 940-214LF | 167 | 940-462 | 186 | 941153LF | 165 | 943-615LF | 166 |
| 940-130LF | 168 | 940-215LF | 167 | 940-464 | 186 | 941153NP | 172 | 943-616LF | 166 |
| 940-131 | 188 | 940-216LF | 167 | 940-465 | 186 | 941154LF | 165 | 943-617LF | 166 |
| 940-131LF | 168 | 940-217LF | 167 | 940-521 | 190 | 941154NP | 172 | 944-100 | 185 |
| 940-132 | 188 | 940-284 | 208 | 940-522 | 190 | 941155LF | 165 | 944-101 | 185 |
| 940-132LF | 168 | 940-285 | 208 | 940-523 | 190 | 941155NP | 172 | 944-102 | 185 |
| 940-133 | 188 | 940-286 | 208 | 940-523LF | 168 | 941156LF | 165 | 944-103 | 185 |
| 940-133LF | 168 | 940-287 | 208 | 940-524 | 190 | 941156NP | 172 | 944-104 | 185 |
| 940-134 | 188 | 940-288 | 208 | 940-525 | 190 | 941157LF | 165 | 944-106 | 185 |
| 940-134LF | 168 | 940-289 | 208 | 940-526 | 190 | 941157NP | 172 | 944-107 | 185 |
| 940-135 | 188 | 940-291 | 208 | 940-527 | 190 | 941158LF | 165 | 944-109 | 185 |
| 940-135LF | 168 | 940-292 | 208 | 940-528 | 190 | 941158NP | 172 | 944-110 | 185 |
| 940-136 | 188 | 940-294 | 208 | 940-529 | 190 | 941163LF | 165 | 944-112 | 185 |
| 940-136LF | 168 | 940-295 | 208 | 940-530 | 190 | 941164LF | 165 | 944-113 | 185 |
| 940-137 | 188 | 940-296 | 208 | 940-800 | 351 | 941165LF | 165 | 944-116 | 185 |
| 940-137LF | 168 | 940-297 | 208 | 940-801 | 351 | 941166LF | 165 | 944-117 | 185 |
| 940-138 | 188 | 940-298 | 208 | 940-803 | 351 | 941167LF | 165 | 944-128 | 185 |
| 940-139 | 188 | 940-299 | 208 | 940-804 | 351 | 941168LF | 165 | 944-130 | 185 |
| 940-140 | 188 | 940-300 | 208 | 940-805 | 351 | 942-100 | 187 | 944-132 | 185 |
| 940-142LF | 168 | 940-301 | 208 | 940-806 | 351 | 942-101 | 187 | 944-134 | 185 |
| 940-143LF | 168 | 940-302 | 208 | 940-810 | 352 | 942-102 | 187 | 944-134LF | 158 |
| 940-144LF | 168 | 940-325 | 209 | 940-811 | 352 | 942-142 | 187 | 944-134LF | 185 |
| 940-145LF | 168 | 940-326 | 209 | 940-812 | 352 | 942-170 | 187 | 944-135 | 185 |
| 940-146LF | 168 | 940-327 | 209 | 940-813 | 352 | 942-171 | 187 | 944-136 | 185 |
| 940-147LF | 168 | 940-328 | 209 | 940-814 | 352 | 942-208 | 174 | 944-138 | 185 |
| 940-171 | 169 | 940-329 | 209 | 940-815 | 352 | 942-209 | 174 | 944-139 | 185 |
| 940-171L | 170 | 940-330 | 209 | 940-822 | 352 | 942-210 | 174 | 944-140 | 185 |
| 940-171LF | 166 | 940-331 | 209 | 940-823 | 352 | 943-200 | 174 | 944-142 | 185 |
| 940-171T | 171 | 940-332 | 209 | 940-824 | 352 | 943-201 | 174 | 944-142LF | 158 |
| 940-172 | 169 | 940-333 | 209 | 940-825 | 352 | 943-202 | 174 | 944-142LF | 185 |
| 940-172L | 170 | 940-334 | 209 | 940-826 | 352 | 943-203 | 174 | 944-401 | 193 |
| 940-172LF | 166 | 940-335 | 209 | 940-827 | 352 | 943-204 | 174 | 944-402 | 193 |
| 940-172T | 171 | 940-336 | 209 | 940-840 | 352 | 943-205 | 174 | 944-402V | 193 |
| 940-173 | 169 | 940-352 | 191 | 940-841 | 352 | 943-206 | 174 | 944-403 | 193 |
| 940-173L | 170 | 940-352B | 191 | 940-842 | 352 | 943-207 | 174 | 944-403V | 193 |
| 940-173LF | 166 | 940-352LF | 168 | 940-843 | 352 | 943-212 | 181 | 944-404 | 193 |
| 940-173T | 171 | 940-353 | 191 | 940-844 | 352 | 943-213 | 181 | 944-404V | 193 |
| 940-174 | 169 | 940-353B | 191 | 940-845 | 352 | 943-233LF | 167 | 944-405 | 193 |
| 940-174L | 170 | 940-353LF | 168 | 940-846 | 352 | 943-234LF | 167 | 944-405V | 193 |
| 940-174LF | 166 | 940-354 | 191 | 940-847 | 352 | 943-235LF | 167 | 944-406 | 193 |
| 940-174T | 171 | 940-354B | 191 | 940-848 | 352 | 943-236LF | 167 | 944-406V | 193 |
| 940-175 | 169 | 940-354LF | 168 | 941-121NP | 173 | 943-237LF | 167 | 944-407 | 193 |
| | | | | | | | | 944-407V | 193 |
| | | | | | | | | 944-408 | 193 |
| | | | | | | | | 944-408V | 193 |
| | | | | | | | | 944-409 | 193 |
| | | | | | | | | 944-410 | 193 |
| | | | | | | | | 944-411 | 193 |
| | | | | | | | | 944-428 | 192 |
| | | | | | | | | 944-429 | 192 |
| | | | | | | | | 944-430 | 192 |
| | | | | | | | | 944-430LF | 168 |
| | | | | | | | | 944-431 | 192 |
| | | | | | | | | 944-431LF | 168 |
| | | | | | | | | 944-432 | 192 |
| | | | | | | | | 944-432LF | 168 |
| | | | | | | | | 944-433 | 192 |
| | | | | | | | | 944-433LF | 168 |
| | | | | | | | | 944-434 | 192 |
| | | | | | | | | 944-434LF | 168 |
| | | | | | | | | 944-435 | 192 |
| | | | | | | | | 944-435LF | 168 |
| | | | | | | | | 947-055 | 187 |
| | | | | | | | | 947-103 | 179 |
| | | | | | | | | 947-104 | 179 |
| | | | | | | | | 947-105 | 179 |
| | | | | | | | | 947-111 | 179 |
| | | | | | | | | 947-112 | 179 |
| | | | | | | | | 947-113 | 179 |
| | | | | | | | | 947-125 | 180 |
| | | | | | | | | 947-126 | 180 |
| | | | | | | | | 947-133 | 187 |
| | | | | | | | | 947-134 | 187 |
| | | | | | | | | 947-140 | 192 |
| | | | | | | | | 947-141 | 192 |
| | | | | | | | | 947-142 | 192 |
| | | | | | | | | 947-143 | 192 |
| | | | | | | | | 947-144 | 192 |
| | | | | | | | | 947-145 | 192 |
| | | | | | | | | 948-101 | 176 |
| | | | | | | | | 948-102 | 176 |
| | | | | | | | | 948-103 | 176 |
| | | | | | | | | 948-104 | 176 |
| | | | | | | | | 948-105 | 176 |
| | | | | | | | | 948-106 | 176 |
| | | | | | | | | 948-107 | 176 |
| | | | | | | | | 948-108 | 176 |
| | | | | | | | | 948-131 | 180 |
| | | | | | | | | 948-132 | 180 |
| | | | | | | | | 948-133 | 180 |
| | | | | | | | | 948-134 | 180 |
| | | | | | | | | 948-135 | 180 |
| | | | | | | | | 948-141 | 180 |
| | | | | | | | | 948-142 | 180 |
| | | | | | | | | 948-143 | 180 |
| | | | | | | | | 948-144 | 180 |
| | | | | | | | | 948-170 | 175 |
| | | | | | | | | 948-170L | 178 |
| | | | | | | | | 948-170T | 177 |
| | | | | | | | | 948-171 | 175 |
| | | | | | | | | 948-171L | 178 |
| | | | | | | | | 948-171T | 177 |
| | | | | | | | | 948-172 | 175 |

948-172L**NUMERICAL INDEX****973-667**

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|---------------|------|--------------|------|----------------|------|-------------|------|--------------|------|--------------|------|
| 948-172L..... | 178 | 949-255..... | 203 | 9508-12..... | 418 | 95433..... | 328 | 96-308..... | 328 | 973-210..... | 332 |
| 948-172T..... | 177 | 949-256..... | 203 | 9508-16..... | 418 | 95434..... | 328 | 96-310..... | 328 | 973-211..... | 332 |
| 948-173..... | 175 | 949-257..... | 203 | 9508-2..... | 418 | 95450..... | 383 | 96-312..... | 328 | 973-215..... | 335 |
| 948-173L..... | 178 | 949-258..... | 203 | 9508-4..... | 418 | 95451..... | 383 | 96-314..... | 328 | 973-216..... | 335 |
| 948-173T..... | 177 | 949-303..... | 203 | 9508-6..... | 418 | 95452..... | 383 | 96-316..... | 328 | 973-217..... | 335 |
| 948-174..... | 175 | 949-304..... | 203 | 9508-8..... | 418 | 95504..... | 328 | 96-318..... | 328 | 973-219..... | 335 |
| 948-174L..... | 178 | 949-305..... | 203 | 9522-H-12..... | 420 | 95506..... | 328 | 96-320..... | 328 | 973-221..... | 335 |
| 948-174T..... | 177 | 949-306..... | 203 | 9522-H-16..... | 420 | 95508..... | 328 | 96-322..... | 328 | 973-223..... | 335 |
| 948-175..... | 175 | 949-307..... | 203 | 9522-H-2..... | 420 | 95510..... | 328 | 96-323..... | 328 | 973-224..... | 335 |
| 948-175L..... | 178 | 949-308..... | 203 | 9522-H-4..... | 420 | 95512..... | 328 | 970-300..... | 228 | 973-230..... | 334 |
| 948-175T..... | 177 | 949-353..... | 203 | 9522-H-6..... | 420 | 95514..... | 328 | 970-301..... | 228 | 973-231..... | 334 |
| 948-176..... | 175 | 949-354..... | 203 | 9522-H-8..... | 420 | 95516..... | 328 | 970-302..... | 228 | 973-232..... | 334 |
| 948-176L..... | 178 | 949-355..... | 203 | 9522-P-12..... | 420 | 95518..... | 328 | 970-303..... | 228 | 973-233..... | 334 |
| 948-176T..... | 177 | 949-356..... | 203 | 9522-P-16..... | 420 | 95522..... | 328 | 970-304..... | 228 | 973-234..... | 334 |
| 948-177..... | 175 | 949-357..... | 203 | 9522-P-2..... | 420 | 95523..... | 328 | 970-305..... | 228 | 973-238..... | 334 |
| 948-177L..... | 178 | 949-358..... | 203 | 9522-P-4..... | 420 | 95524..... | 328 | 970-306..... | 228 | 973-252..... | 335 |
| 948-177T..... | 177 | 949-401..... | 200 | 9522-P-6..... | 420 | 95601..... | 384 | 970-307..... | 228 | 973-253..... | 335 |
| 949-101..... | 195 | 949-402..... | 200 | 9522-P-8..... | 420 | 95602..... | 384 | 970-308..... | 228 | 973-255..... | 335 |
| 949-102..... | 195 | 949-403..... | 200 | 95-300..... | 328 | 95603..... | 384 | 970-309..... | 228 | 973-262..... | 335 |
| 949-103..... | 195 | 949-404..... | 200 | 95-301..... | 328 | 95604..... | 384 | 970-310..... | 228 | 973-323..... | 334 |
| 949-104..... | 195 | 949-405..... | 200 | 95-302..... | 328 | 95605..... | 384 | 970-311..... | 228 | 973-325..... | 334 |
| 949-105..... | 195 | 949-406..... | 200 | 95-303..... | 328 | 95606..... | 384 | 970-312..... | 228 | 973-326..... | 334 |
| 949-106..... | 195 | 949-407..... | 200 | 95-304..... | 328 | 95610..... | 384 | 970-313..... | 228 | 973-327..... | 334 |
| 949-107..... | 195 | 949-408..... | 200 | 95-305..... | 328 | 95611..... | 384 | 970-314..... | 228 | 973-329..... | 334 |
| 949-108..... | 195 | 949-430..... | 199 | 95-306..... | 328 | 95612..... | 384 | 970-330..... | 228 | 973-332..... | 334 |
| 949-111..... | 205 | 949-431..... | 199 | 95-307..... | 328 | 95613..... | 384 | 970-331..... | 228 | 973-334..... | 334 |
| 949-112..... | 205 | 949-432..... | 199 | 95-308..... | 328 | 95620..... | 385 | 970-332..... | 228 | 973-341..... | 331 |
| 949-113..... | 205 | 949-441..... | 202 | 95-309..... | 328 | 95621..... | 385 | 970-333..... | 228 | 973-343..... | 331 |
| 949-114..... | 205 | 949-442..... | 202 | 95-310..... | 328 | 95622..... | 385 | 970-700..... | 228 | 973-345..... | 331 |
| 949-115..... | 205 | 949-443..... | 202 | 95-311..... | 328 | 95623..... | 385 | 970-701..... | 228 | 973-346..... | 331 |
| 949-116..... | 205 | 949-444..... | 202 | 95-312..... | 328 | 95624..... | 385 | 970-702..... | 228 | 973-567..... | 253 |
| 949-117..... | 205 | 949-445..... | 202 | 95-313..... | 328 | 95625..... | 385 | 970-703..... | 228 | 973-568..... | 253 |
| 949-118..... | 205 | 949-446..... | 202 | 95-314..... | 328 | 95626..... | 385 | 970-704..... | 228 | 973-569..... | 253 |
| 949-121..... | 204 | 949-447..... | 202 | 95-315..... | 328 | 95627..... | 385 | 970-705..... | 228 | 973-600..... | 307 |
| 949-122..... | 204 | 949-448..... | 202 | 95-316..... | 328 | 95628..... | 385 | 970-706..... | 228 | 973-601..... | 307 |
| 949-123..... | 204 | 949-451..... | 201 | 95-317..... | 328 | 95631..... | 368 | 970-707..... | 228 | 973-602..... | 307 |
| 949-124..... | 204 | 949-452..... | 201 | 95-318..... | 328 | 95640..... | 368 | 972-171..... | 336 | 973-603..... | 307 |
| 949-125..... | 204 | 949-453..... | 201 | 95-319..... | 328 | 95641..... | 368 | 972-172..... | 336 | 973-604..... | 307 |
| 949-126..... | 204 | 949-454..... | 201 | 95-320..... | 328 | 96022..... | 327 | 972-173..... | 336 | 973-605..... | 307 |
| 949-127..... | 204 | 949-455..... | 201 | 95-321..... | 328 | 96027..... | 327 | 972-180..... | 336 | 973-606..... | 307 |
| 949-128..... | 204 | 949-471..... | 201 | 95-322..... | 328 | 96032..... | 327 | 972-181..... | 336 | 973-607..... | 307 |
| 949-161..... | 196 | 949-472..... | 201 | 95-323..... | 328 | 96040..... | 327 | 972-182..... | 336 | 973-620..... | 307 |
| 949-162..... | 196 | 949-473..... | 201 | 95-324..... | 328 | 96050..... | 327 | 972-183..... | 336 | 973-621..... | 307 |
| 949-163..... | 196 | 949-474..... | 201 | 95-325..... | 328 | 96060..... | 327 | 972-184..... | 336 | 973-622..... | 307 |
| 949-164..... | 196 | 949-475..... | 201 | 95-326..... | 328 | 96070..... | 327 | 972-185..... | 336 | 973-623..... | 307 |
| 949-165..... | 196 | 949-481..... | 202 | 95-327..... | 328 | 96080..... | 327 | 972-186..... | 336 | 973-624..... | 307 |
| 949-166..... | 196 | 949-482..... | 202 | 95-328..... | 328 | 96090..... | 327 | 972-187..... | 336 | 973-625..... | 307 |
| 949-167..... | 196 | 949-483..... | 202 | 95-329..... | 328 | 96100..... | 327 | 972-190..... | 336 | 973-626..... | 307 |
| 949-168..... | 196 | 949-484..... | 202 | 95-330..... | 328 | 96110..... | 327 | 972-191..... | 336 | 973-627..... | 307 |
| 949-170..... | 196 | 949-485..... | 202 | 95-331..... | 328 | 96120..... | 327 | 972-192..... | 336 | 973-628..... | 307 |
| 949-171..... | 194 | 949-486..... | 202 | 95402..... | 328 | 96130..... | 327 | 972-193..... | 336 | 973-650..... | 307 |
| 949-172..... | 194 | 949-487..... | 202 | 95404..... | 328 | 96140..... | 327 | 972-194..... | 336 | 973-651..... | 307 |
| 949-173..... | 194 | 949-488..... | 202 | 95406..... | 328 | 96150..... | 327 | 972-195..... | 336 | 973-652..... | 307 |
| 949-174..... | 194 | 949-521..... | 203 | 95408..... | 328 | 96160..... | 327 | 973-200..... | 332 | 973-653..... | 307 |
| 949-175..... | 194 | 949-522..... | 203 | 95410..... | 328 | 96-301..... | 328 | 973-201..... | 332 | 973-654..... | 307 |
| 949-176..... | 194 | 949-523..... | 203 | 95414..... | 328 | 96-302..... | 328 | 973-203..... | 332 | 973-655..... | 307 |
| 949-177..... | 194 | 949-524..... | 203 | 95418..... | 328 | 96-303..... | 328 | 973-204..... | 332 | 973-656..... | 307 |
| 949-178..... | 194 | 949-525..... | 203 | 95422..... | 328 | 96-304..... | 328 | 973-205..... | 332 | 973-657..... | 307 |
| 949-180..... | 196 | 949-526..... | 203 | 95424..... | 328 | 96-305..... | 328 | 973-206..... | 332 | 973-658..... | 307 |
| 949-253..... | 203 | 949-527..... | 203 | 95427..... | 328 | 96-306..... | 328 | 973-207..... | 332 | 973-659..... | 307 |
| 949-254..... | 203 | 949-528..... | 203 | 95432..... | 328 | 96-307..... | 328 | 973-208..... | 332 | 973-667..... | 253 |

FS-12

NUMERICAL INDEX

VG300

| Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page | Part# | Page |
|---------------------|------|--------------------|------|--------------------|------|--------------------|------|-----------------|------|--------------|------|
| FS-12..... | 324 | FS6504-8-8..... | 417 | FSO318-12..... | 414 | HNV-1-M-B..... | 422 | MFC-12-N..... | 429 | MMRS80..... | 425 |
| FS-14..... | 324 | FS6801-12-12..... | 417 | FSO318-16..... | 414 | HNV-34-F..... | 422 | MFC-34-N..... | 429 | NV-12-F..... | 424 |
| FS-16..... | 324 | FS6801-16-16..... | 417 | FSO318-20..... | 414 | HNV-34-F-B..... | 422 | MFC-38-N..... | 429 | NV-12-M..... | 424 |
| FS-18..... | 324 | FS6801-20-20..... | 417 | FSO318-24..... | 414 | HNV-34-M..... | 422 | MGP-F10-13..... | 426 | NV-14-F..... | 424 |
| FS-20..... | 324 | FS6801-4-4..... | 417 | FSO318-4..... | 414 | HNV-34-M-B..... | 422 | MGP-F10-13..... | 426 | NV-14-M..... | 424 |
| FS-24..... | 324 | FS6801-6-6..... | 417 | FSO318-6..... | 414 | HNV-38-F..... | 422 | MGP-F10-20..... | 426 | NV-1-F..... | 424 |
| FS2500-10-10..... | 416 | FS6801-8-6..... | 417 | FSO318-8..... | 414 | HNV-38-F-B..... | 422 | MGP-F10-20..... | 426 | NV-1-M..... | 424 |
| FS2500-12-12..... | 416 | FS6801-8-8..... | 417 | FSO319-10..... | 415 | HNV-38-M..... | 422 | MGP-F10-27..... | 426 | NV-34-F..... | 424 |
| FS2500-16-16..... | 416 | FS6802-10-10..... | 417 | FSO319-12..... | 415 | HNV-38-M-B..... | 422 | MGP-F10-27..... | 426 | NV-34-M..... | 424 |
| FS2500-4-4..... | 416 | FS6802-12-12..... | 417 | FSO319-16..... | 415 | K-10..... | 324 | MGP-F10-34..... | 426 | NV-38-F..... | 424 |
| FS2500-6-6..... | 416 | FS6802-16-16..... | 417 | FSO319-20..... | 415 | K-11..... | 324 | MGP-F10-34..... | 426 | NV-38-M..... | 424 |
| FS2501-12-12..... | 416 | FS6802-20-20..... | 417 | FSO319-24..... | 415 | K-12..... | 324 | MGP-F10-41..... | 426 | SG300..... | 306 |
| FS2501-16-16..... | 416 | FS6802-4-4..... | 417 | FSO319-4..... | 415 | K-14..... | 324 | MGP-F10-41..... | 426 | SG400..... | 306 |
| FS2501-20-20..... | 416 | FS6802-6-6..... | 417 | FSO319-6..... | 415 | K-16..... | 324 | MGP-F10-51..... | 426 | SG-5000..... | 325 |
| FS2501-4-4..... | 416 | FS6802-8-8..... | 417 | FSO319-8..... | 415 | K-18..... | 324 | MGP-F10-51..... | 426 | SS-3751..... | 325 |
| FS2501-6-4..... | 416 | FS6809-12-12..... | 418 | GB2-20T-SAE..... | 206 | K-20..... | 324 | MGP-F10-61..... | 426 | SS-5001..... | 325 |
| FS2501-6-6..... | 416 | FS6809-4-4..... | 418 | GB2-24T-SAE..... | 206 | K-24..... | 324 | MGP-F10-61..... | 426 | SS-6251..... | 325 |
| FS2501-8-6..... | 416 | FS6809-6-6..... | 418 | GB2-32T-SAE..... | 206 | K-28..... | 324 | MGP-F20-06..... | 427 | SS-7501..... | 325 |
| FS2501-8-8..... | 416 | FS6809-8-8..... | 418 | GB3L-20T-SAE..... | 206 | K-3..... | 324 | MGP-F20-06..... | 427 | VG100..... | 306 |
| FS2503-12-12..... | 416 | FS-7..... | 324 | GB3L-24T-SAE..... | 206 | K-311..... | 324 | MGP-F20-08..... | 427 | VG150..... | 306 |
| FS2503-16-16..... | 416 | FS-8..... | 324 | GB3L-32T-SAE..... | 206 | K-4..... | 324 | MGP-F20-08..... | 427 | VG200..... | 306 |
| FS2503-4-4..... | 416 | FS-9..... | 324 | GE2-04-SAE..... | 206 | K-5..... | 324 | MGP-F20-10..... | 427 | VG250..... | 306 |
| FS2503-6-6..... | 416 | FSO2403-12-12..... | 415 | GE2-06-SAE..... | 206 | K-6..... | 324 | MGP-F20-10..... | 427 | VG300..... | 306 |
| FS2503-8-8..... | 416 | FSO2403-16-16..... | 415 | GE2-08-SAE..... | 206 | K-7..... | 324 | MGP-F20-12..... | 427 | | |
| FS2603-12-12..... | 416 | FSO2403-4-4..... | 415 | GE2-112T-NPT..... | 206 | K-8..... | 324 | MGP-F20-12..... | 427 | | |
| FS2603-4-4..... | 416 | FSO2403-6-6..... | 415 | GE2-114T-NPT..... | 206 | K-9..... | 324 | MGP-F20-14..... | 427 | | |
| FS2603-6-6..... | 416 | FSO2403-8-8..... | 415 | GE2-12-NPT..... | 206 | KA001..... | 326 | MGP-F20-14..... | 427 | | |
| FS2603-8-8..... | 416 | FSO2404-12-12..... | 415 | GE2-12-SAE..... | 206 | KS-10..... | 324 | MGP-F20-16..... | 427 | | |
| FS-28..... | 324 | FSO2404-16-16..... | 415 | GE2-14-NPT..... | 206 | KS-11..... | 324 | MGP-F20-16..... | 427 | | |
| FS-4..... | 324 | FSO2404-4-4..... | 415 | GE2-16-SAE..... | 206 | KS-12..... | 324 | MGP-F20-20..... | 427 | | |
| FS-5..... | 324 | FSO2404-6-4..... | 415 | GE2-1-NPT..... | 206 | KS-14..... | 324 | MGP-F20-20..... | 427 | | |
| FS-6..... | 324 | FSO2404-6-6..... | 415 | GE2-2T-NPT..... | 206 | KS-16..... | 324 | MGP-F20-25..... | 427 | | |
| FS6400-O-10-10..... | 417 | FSO2404-8-4..... | 415 | GE2-34-NPT..... | 206 | KS-18..... | 324 | MGP-F20-25..... | 427 | | |
| FS6400-O-10-8..... | 417 | FSO2404-8-8..... | 415 | GE2-38-NPT..... | 206 | KS-20..... | 324 | MMFC12NPT..... | 428 | | |
| FS6400-O-12-10..... | 417 | FSO2406-10-6..... | 416 | GE3L-04-SAE..... | 206 | KS-3..... | 324 | MMFC16NPT..... | 428 | | |
| FS6400-O-12-12..... | 417 | FSO2406-10-8..... | 416 | GE3L-06-SAE..... | 206 | KS-311..... | 324 | MMFC20NPT..... | 428 | | |
| FS6400-O-12-16..... | 417 | FSO2406-12-6..... | 416 | GE3L-08-SAE..... | 206 | KS-4..... | 324 | MMFC4NPT..... | 428 | | |
| FS6400-O-12-8..... | 417 | FSO2406-6-4..... | 416 | GE3L-112T-NPT..... | 206 | KS-5..... | 324 | MMFC6NPT..... | 428 | | |
| FS6400-O-16-12..... | 417 | FSO2406-8-4..... | 416 | GE3L-114T-NPT..... | 206 | KS-6..... | 324 | MMFC8NPT..... | 428 | | |
| FS6400-O-16-16..... | 417 | FSO2408-10..... | 416 | GE3L-12-NPT..... | 206 | KS-7..... | 324 | MMNV12NPT..... | 428 | | |
| FS6400-O-20-20..... | 417 | FSO2408-12..... | 416 | GE3L-12-SAE..... | 206 | KS-8..... | 324 | MMNV16NPT..... | 428 | | |
| FS6400-O-24-24..... | 417 | FSO2408-16..... | 416 | GE3L-14-NPT..... | 206 | KS-9..... | 324 | MMNV4NPT..... | 428 | | |
| FS6400-O-4-4..... | 417 | FSO2408-20..... | 416 | GE3L-16-SAE..... | 206 | KZE-B-14-PF..... | 424 | MMNV6NPT..... | 428 | | |
| FS6400-O-4-6..... | 417 | FSO2408-24..... | 416 | GE3L-1-NPT..... | 206 | KZE-B-14-SM..... | 424 | MMNV8NPT..... | 428 | | |
| FS6400-O-6-4..... | 417 | FSO2408-4..... | 416 | GE3L-2T-NPT..... | 206 | KZE-B-38-PF..... | 424 | MMPH100..... | 425 | | |
| FS6400-O-6-6..... | 417 | FSO2408-6..... | 416 | GE3L-34-NPT..... | 206 | KZE-B-38-SM..... | 424 | MMPH125..... | 425 | | |
| FS6400-O-6-8..... | 417 | FSO2408-8..... | 416 | GE3L-38-NPT..... | 206 | LSQ-VEP-12-PF..... | 423 | MMPH160..... | 425 | | |
| FS6400-O-8-6..... | 417 | FSO304-C-10..... | 415 | GT15..... | 364 | LSQ-VEP-12-SF..... | 423 | MMPH200..... | 425 | | |
| FS6402-10-10..... | 417 | FSO304-C-12..... | 415 | GT30..... | 364 | LSQ-VEP-1-PF..... | 423 | MMPH250..... | 425 | | |
| FS6402-12-12..... | 417 | FSO304-C-16..... | 415 | GT60..... | 364 | LSQ-VEP-1-SF..... | 423 | MMPH315..... | 425 | | |
| FS6402-4-4..... | 417 | FSO304-C-20..... | 415 | HNV-12-F..... | 422 | LSQ-VEP-20-PF..... | 423 | MMPH400..... | 425 | | |
| FS6402-6-6..... | 417 | FSO304-C-24..... | 415 | HNV-12-F-B..... | 422 | LSQ-VEP-20-SF..... | 423 | MMPH500..... | 425 | | |
| FS6402-8-8..... | 417 | FSO304-C-4..... | 415 | HNV-12-M..... | 422 | LSQ-VEP-24-PF..... | 423 | MMPH80..... | 425 | | |
| FS6500-12-12..... | 417 | FSO304-C-6..... | 415 | HNV-12-M-B..... | 422 | LSQ-VEP-24-SF..... | 423 | MMRS100..... | 425 | | |
| FS6500-4-4..... | 417 | FSO304-C-8..... | 415 | HNV-14-F..... | 422 | LSQ-VEP-34-PF..... | 423 | MMRS125..... | 425 | | |
| FS6500-6-6..... | 417 | FSO306-12..... | 415 | HNV-14-F-B..... | 422 | LSQ-VEP-34-SF..... | 423 | MMRS160..... | 425 | | |
| FS6500-8-8..... | 417 | FSO306-16..... | 415 | HNV-14-M..... | 422 | MB40-04..... | 429 | MMRS200..... | 425 | | |
| FS6504-10-10..... | 417 | FSO306-4..... | 415 | HNV-14-M-B..... | 422 | MB40-06..... | 429 | MMRS250..... | 425 | | |
| FS6504-16-16..... | 417 | FSO306-6..... | 415 | HNV-1-F..... | 422 | MB40-08..... | 429 | MMRS315..... | 425 | | |
| FS6504-4-4..... | 417 | FSO306-8..... | 415 | HNV-1-F-B..... | 422 | MB40-12..... | 429 | MMRS375..... | 425 | | |
| FS6504-6-6..... | 417 | FSO318-10..... | 414 | HNV-1-M..... | 422 | MB40-16..... | 429 | MMRS50..... | 425 | | |