



# CATALOG



**NATIONWIDEINDUSTRIAL.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 BRASS .....154-163



## 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


































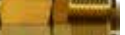

































Thread to Connect - Wing .....	422
ISO A Interchange .....	422
ISO B Interchange.....	422
Flush Face ISO .....	423
VEP Series .....	423
AG Interchange .....	424
Hydraulic Jack Q/D.....	424

### VALVES & ACCESSORIES

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

# PICTORIAL INDEX

# BRASS

<b>BRASS FITTINGS PGS 1-169</b>	<b>PIPE PGS 1-13</b>	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	<b>BULK- HEAD FITTINGS PGS 12-13</b>	BULKHEAD FXF  PG 12	BULKHEAD FXM  PG 12	BULKHEAD FXM  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	<b>HOSE BARB PGS 15-22</b>
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	<b>REUSE- ABLE FITTINGS PGS 23</b>	
REUSABLE MALE  PG 23	REUSABLE STEMS  PG 23	REUSABLE SWIVELS  PG 23	REUSABLE FERRULES  PG 23	REUSABLE STEMS  PG 23	<b>FUEL HOSE PGS 24-25</b>		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	<b>TUBE BARB PGS 26</b>		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	<b>SS. HOSE BARB PGS 27</b>		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	<b>BEVER- AGE BARB PGS 28</b>		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	<b>PUSH-ON BARB PGS 30-35</b>		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	<b>GARDEN HOSE PGS 37-47</b>	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












































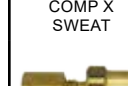
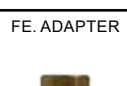
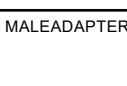


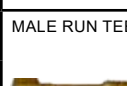
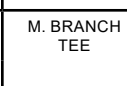
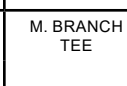

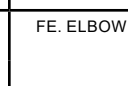
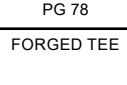
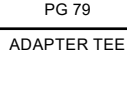
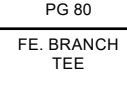
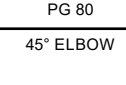
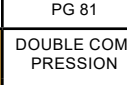
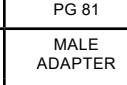
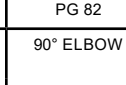
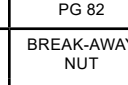
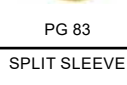
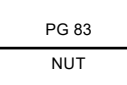
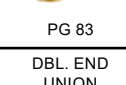
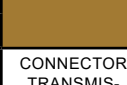
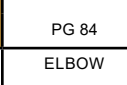
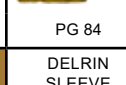
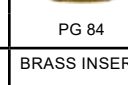
# PICTORIAL INDEX

 PG 46	 PG 47	 PG 47	 PG 47	 PG 47	 PG 47	 PG 47	 PG 47	<b>FLARE</b> <b>PGS 49-60</b>
 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	<b>SPACE HEATER</b> <b>PG 61</b>	 PG 61
 PG 61	 PG 61	 PG 61	<b>GAS RANGE</b> <b>PG 61</b>	 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	<b>INVERTED FLARE</b> <b>PGS 66-72</b>	 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	<b>COM- PRESSION PGS 74-83</b>
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	BULKHEAD NUTS  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	<b>DOUBLE COMP. PG 84</b>	DOUBLE COM- PRESSION  PG 84	MALE ADAPTER  PG 84	90° ELBOW  PG 84	BREAK-AWAY NUT  PG 84
<b>SPLIT SLEEVE PG 85</b>	SPLIT SLEEVE  PG 85	NUT  PG 85	DBL. END UNION  PG 85	CONNECTOR TRANSMISSION  PG 85	ELBOW  PG 85	<b>COMP AS- SEMBLIES PG 86</b>	DELRIN SLEEVE  PG 86	BRASS INSERT  PG 86

# BRASS

# PICTORIAL INDEX

 <p>LONG NUT PG 86</p>	 <p>SELF-ALIGN PG 86</p>	<p><b>CAPTIVE SLEEVE PG 87</b></p>	 <p>CAP SLEEVE PG 87</p>	 <p>UNION PG 87</p>	 <p>MALE PG 87</p>	 <p>MALE ELBOW PG 87</p>	 <p>M. BRANCH PG 87</p>	 <p>ANG. NEED. PG 87</p>
 <p>SLE. NEED. PG 87</p>	<p><b>FLARE-LESS PGS 82-92</b></p>	 <p>NUT PLS. PG 89</p>	 <p>UNION PG 89</p>	 <p>BULKHEAD PG 89</p>	 <p>UNION TUBE PG 89</p>	 <p>BULKHEAD PG 89</p>	 <p>UNION TEE PG 90</p>	 <p>FE. CONNEC- PG 90</p>
 <p>M. CONNEC-TOR PG 90</p>	 <p>MALE ELBOW PG 90</p>	 <p>FEMALE ELBOW PG 91</p>	 <p>MALE RUN TEE PG 91</p>	 <p>M. BRANCH TEE PG 91</p>	 <p>FE. BRANCH TEE PG 91</p>	 <p>UNI NUT SLEEVE PG 92</p>	 <p>NUT PG 92</p>	 <p>PLASTIC SLEEVE PG 92</p>
 <p>PLASTIC CAP PG 92</p>	<p><b>BRASS PUSH-IN PGS 95-99</b></p>	 <p>UNION CON-NECT PG 95</p>	 <p>UNION TEE PG 95</p>	 <p>UNION ELBOW PG 95</p>	 <p>FE. CONNEC-TOR PG 95</p>	 <p>M. CONNEC-TOR PG 96</p>	 <p>SWVL. M. ELBOW PG 96</p>	 <p>FIXED M. ELBOW PG 97</p>
 <p>FE. SWVL ELBOW PG 97</p>	 <p>FEMALE ELBOW PG 97</p>	 <p>SWVL M. RUN T PG 98</p>	 <p>FIXED M. RUN T PG 98</p>	 <p>SWVL M. BRANCH PG 98</p>	 <p>FIX M. BRANCH T PG 98</p>	 <p>UNION "Y" PG 99</p>	 <p>BULKHEAD UNION PG 99</p>	 <p>FE. BLKHD UNION PG 99</p>
 <p>REDUCER PG 99</p>	 <p>PLASTIC PLUG PG 99</p>	<p><b>N/P BRASS PUSH-IN PGS 101-104</b></p>	 <p>UNION CON-NECT PG 101</p>	 <p>UNION TEE PG 101</p>	 <p>FE. CONNEC-TOR PG 101</p>	 <p>UNION ELBOW PG 101</p>	 <p>FIXED M. ELBOW PG 102</p>	 <p>MALE W/INT HEX PG 102</p>
 <p>M. CONNEC-TOR PG 102</p>	 <p>SWVL. M. ELBOW PG 103</p>	 <p>FE. SWVL ELBOW PG 103</p>	 <p>SWVL. M. RUN T PG 103</p>	 <p>REDUCER PG 104</p>	 <p>UNION "Y" PG 104</p>	 <p>SWVL M. BRANCH PG 104</p>	 <p>BULKHEAD UNION PG 104</p>	<p><b>N/P VALVES PG 105</b></p>
 <p>PUSH-IN VALVE 105</p>	 <p>TUBE X MIP MINI PG 105</p>	 <p>FIP MINI BALL PG 105</p>	 <p>MXF MINI BALL PG 105</p>	 <p>FIP ANGLE BALL PG 105</p>	 <p>3-WAY MINI PG 105</p>	 <p>3_WAY MINI PG 105</p>	<p><b>METRIC N/P BRASS PGS106-108</b></p>	 <p>BULKHEAD UNION 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	<b>COM- POSITE PUSH-IN PGS 110-113</b>	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	<b>METRIC PUSH-IN PGS 114-116</b>	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	<b>DOT BRASS PUSH-IN PGS 118-123</b>	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	<b>DOT COMP PUSH-IN PGS 125128</b>	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**

 <p>PG 128</p>	 <p>PG 128</p>	 <p>PG 128</p>	 <p>PG 128</p>	<p><b>DOT FOR NYLON TUBE PG 130-133</b></p>		 <p>PG 130</p>	 <p>PG 130</p>	 <p>PG 130</p>	 <p>PG 130</p>
 <p>PG 130</p>	 <p>PG 130</p>	 <p>PG 131</p>	 <p>PG 131</p>	 <p>PG 131</p>	 <p>PG 131</p>	 <p>PG 132</p>	 <p>PG 132</p>	 <p>PG 132</p>	
 <p>PG 132</p>	 <p>PG 132</p>	 <p>PG 133</p>	 <p>PG 133</p>	 <p>PG 133</p>	 <p>PG 133</p>	 <p>PG 133</p>	<p><b>DOT FOR COPPER PGS 134-135</b></p>		
 <p>PG 134</p>	 <p>PG 134</p>	 <p>PG 135</p>	 <p>PG 135</p>	 <p>PG 135</p>	<p><b>DOT FOR HOSE PGS 136-138</b></p>		 <p>PG 136</p>	 <p>PG 136</p>	 <p>PG 136</p>
 <p>PG 137</p>	 <p>PG 137</p>	 <p>PG 137</p>	 <p>PG 137</p>	 <p>PG 137</p>	 <p>PG 138</p>	 <p>PG 138</p>	 <p>PG 138</p>	 <p>PG 138</p>	
<p><b>GREASE FITTINGS PGS 139-142</b></p>		 <p>PG 139</p>	 <p>PG 139</p>	 <p>PG 139</p>	 <p>PG 139</p>	 <p>PG 139</p>	 <p>PG 139</p>	 <p>PG 139</p>	 <p>PG 140</p>
 <p>PG 140</p>	 <p>PG 140</p>	 <p>PG 140</p>	 <p>PG 140</p>	 <p>PG 140</p>	 <p>PG 140</p>	 <p>PG 140</p>	 <p>PG 141</p>	 <p>PG 141</p>	
 <p>PG 141</p>	 <p>PG 141</p>	 <p>PG 141</p>	 <p>PG 141</p>	 <p>PG 141</p>	 <p>PG 141</p>	 <p>PG 142</p>	 <p>PG 142</p>	 <p>PG 142</p>	

**PICTORIAL INDEX**

**BRASS**


5/16"-24  PG 142	3/8" - 24  PG 142	BUTTON HEAD  PG 142	WHIP HOSE  PG 142	<b>DRAIN COCKS PGS 144-145</b>	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
<b>SHUT OFF COCKS PG 146</b>	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	<b>NEEDLE VALVES PGS 147-148</b>	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	<b>TRUCK VALVES PG 149</b>
TRUCK VALVE  PG 149	HOSE TO MALE  PG 149	FEMALE TO MALE  PG 149	FLARE TO MALE  PG 149	<b>SOLID BOTTOM VALVES PG 149</b>	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	<b>MULTI PORT VALVES PGS 150-151</b>	3-WAY (SIDE)  PG 150	3-WAY (BOTTOM)  PG 150	4-WAY  PG 150	6-PORT  PG 151	<b>MARINE VALVES PG 151</b>	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	<b>MINI BALL VALVES PG 152</b>	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	<b>PANEL MOUNT VALVES PG 152</b>	PANAL MOUNT  PG 152	F X F  PG 152

<p>F X F</p>  <p>PG 152</p>	<p><b>CHECK VALVES</b> 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><b>L/F PIPE</b> 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>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><b>L/F BARB</b> 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><b>L/F PUSH-ON</b> PG 158</p>		<p>MALE ADAPTER</p>  <p>PG 158</p>	<p>SAE/JIC F SWL</p>  <p>PG 158</p>	<p><b>L/F GARDEN</b> PGS 158-159</p>	<p>FGHXFGH SWL</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><b>L/F FLARE</b> 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>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><b>L/F COMP</b> PGS 160-163</p>	<p>BRASS INSERT</p>  <p>PG 160</p>	<p>CAP</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>














**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
<b>VALVES PGS 165- 209</b>	<b>L/F BALL VALVES PGS 165-167</b>	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	<b>L/F VALVES PG 168</b>
GATE VALVE CXC  PG 168	LF BRASS CHECK  PG 168	SWING CHECK  PG 168	CXC SWING CHK  PG 168	Y-STRAINER  PG 168	<b>BRASS BALL VALVES PGS 169-180</b>	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	<b>GAS BALL VALVES PG 181</b>	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
<b>MINI BALL VALVES PGS 182-185</b>	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	<b>BRASS VALVES PGS 186-190</b>
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	<b>GARDEN VALVE PG 187</b>

# 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><b>CHECK VALVES PGS 191-193</b></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><b>SS BALL VALVES PGS 194-203</b></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><b>CHECK PGS 199-203</b></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><b>STEEL VALVES PGS 204-207</b></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><b>PVC PGS 208-209</b></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 &amp; BAR-REL</p>  <p>PG 209</p>	<p><b>NIPPLES &amp; FITTINGS PGS 210-288</b></p>	<p><b>BRASS NIPPLES PGS 211-219</b></p>
<p>SEAMLESS SCH 40</p>  <p>PG 214</p>	<p>CHROME PLATED</p>  <p>PG 218</p>	<p><b>BRONZE FITTINGS PG 219-227</b></p>	<p><b>LEAD FREE BRONZE PG 219-227</b></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><b>CLEANOUT PLUGS PG 228</b></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><b>DROP EAR ELBOWS</b> PG 228</p>	<p>BRONZE D/E  PG 228</p>	<p>SWT X SWT  PG 228</p>	<p>PEX X FIP  228</p>	<p><b>BRASS INSERTS</b> 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><b>STEEL INSERTS</b> PG 229</p>	<p>STEEL INSERT  PG 229</p>	<p>REDUCER  PG 229</p>	<p>UNION  PG 229</p>	<p><b>SS IN-SERTS</b> PG 230</p>	<p>SS MALE  PG 230</p>	<p>SS 90 ELBOW  PG 230</p>
<p><b>L/F INSERTS</b> PG 230</p>	<p>LF UNION  PG 230</p>	<p>LF MALE BRANCH  PG 230</p>	<p>LF UNION ELBOW  PG 230</p>	<p><b>WELL COUPLINGS</b> PG 230</p>	<p>SS DROP WELL  PG 230</p>	<p>SS HEAVY CPLG  PG 230</p>	<p>SS MERCHANT  PG 230</p>	<p><b>SS NIPPLES</b> PG 231-236</p>
<p>304 SCH 40 WELDED  PG 234</p>	<p>316 SCH 40 WELDED  PG 234</p>	<p><b>SS FITTINGS</b> 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><b>STEEL NIPPLES</b> 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><b>GROOVE NIPPLES</b> PG 261-262</p>	<p>THREAD X GROOVE  PG 261</p>	<p>GROOVE X GROOVE  PG 262</p>
<p><b>MERCHANT COUPLINGS</b> 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><b>MAL-LEABLE FITTINGS</b> 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	<b>STEEL FITTINGS PG 274-275</b>	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	<b>300# MAL-LEABLE PG 276-277</b>
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
<b>BULL PLUGS &amp; SWAGES PG 278-279</b>	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	<b>STEEL FLANGES PG 280-281</b>	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><b>COPPER FITTINGS PG 283-288</b></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><b>PLASTIC FITTINGS PG 290-299</b></p>		<p><b>PIPE PG 290-292</b></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><b>HOSE BARB PG 292-295</b></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><b>GARDEN HOSE PG 296</b></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><b>COMPRES- SION PG 297</b></p>		<p>UNION CON- NECTOR</p>  <p>PG 297</p>	
























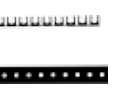










































BULKHEAD  PG 297	UNION TEE  PG 297	UNION ELBOW  PG 297	FEMALE CON-  PG 297	MALE CON-  PG 297	MALE ELBOW  297	<b>PUSH-IN PG 298-299</b>	UNION CON-  PG 298	REDUCING  PG 298
BULKHEAD  PG 298	UNION TEE  PG 298	RED BRANCH  PG 298	UNION ELBOW  PG 298	REDUCING  PG 298	FEMALE CON-  PG 298	MALE CON-  PG 299	STEM  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	<b>HOSE ACCESSORIES PG 300-310</b>	<b>ALUMINIUM CAM &amp; GROOVE PG 301</b>	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	<b>POLYPROPYLENE CAM &amp; GROOVE PG 303</b>	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	<b>STAINLESS STEEL CAM &amp; GROOVE PG 304</b>	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	<b>BRASS CAM &amp; GROOVE PG 305</b>	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	<b>KING NIPPLES PG 307</b>	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	<b>UNIVERSAL GROUND JOINT PG 308-309</b>
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	<b>FIRE HOSE FITTINGS PG 310</b>	FIRE HOSE  PG 310	FXM HEX ADPT  PG 310	DBL M HEX NIP  PG 310	M SWL ADAPTER  PG 310	BRASS CAP  PG 310	<b>HOSE CLAMPS PG 311-329</b>
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 LOA- DED 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	<b>MARINE</b>  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><b>TUBING</b> <b>PGS 331-336</b></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><b>PRESSURE WASHER</b> <b>PGS 337-342</b></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><b>PNEUMATICS</b> <b>PG 343-363</b></p>	<p><b>QUICK DISCONNECTS</b> <b>PGS 344-350</b></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><b>UNIVERSAL QD</b> <b>PGS 345-346</b></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><b>ARO QD</b> <b>PG 347</b></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	<b>AUTO QD</b> 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	<b>LINCOLN QD</b> PG 349	LINCOLN  PG 349	FEMALE COU-  PG 349	STEEL MALE  PG 349
STEEL FE. PLUG  PG 349	<b>MISC QD</b> 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	<b>MUFFLERS/BREATHERS</b> 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	<b>SAFETY VALVES</b> PG 354	SAFETY VALVES  PG 354	SAFETY VALVES  PG 354	CHECK VALVE  PG 354	CHECK VALVE  PG 354	<b>TANK VALVES</b> 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	<b>BLOW GUNS</b> 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	<b>GAUGES &amp; CHUCKS</b> 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	<b>AIR ACCESSORY KITS PG 359-361</b>	<b>GAUGES PG 362-364</b>	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	<b>TRUCK &amp; TRAILER PG 366-387</b>	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  PG 373</p>	<p>GH HOLDER  PG 373</p>	<p>GH HOLDER  PG 373</p>	<p>GLADHAND  PG 373</p>	<p>KING PIN LOCK  PG 373</p>	<p>AIR CYLINDER  PG 374</p>	<p>HIGH LIFT  PG 374</p>	<p>TAILGATE  PG 375</p>	<p>TAILGATE AIR  PG 375</p>	
<p>TAILGATE AIR  PG 375</p>	<p>FIFTH WHEEL  PG 375</p>	<p>AIR TANK  PG 376</p>	<p>D2 AIR GOVER-  PG 376</p>	<p>QCK RELEASE  PG 376</p>	<p>R12 RELAY  PG 376</p>	<p>R14 RELAY  PG 377</p>	<p>3 WAY SOLE-  PG 377</p>	<p>UNI SOLENOID  PG 377</p>	
<p>AIR SOLENOID  PG 377</p>	<p>7 WAY CABLE  PG 378</p>	<p>7 WAY CABLE  PG 378</p>	<p>6 WAY ELEC CABLE  PG 379</p>	<p>4 WAY ELEC CABLE  PG 379</p>	<p>DUEL POLE  PG 379</p>	<p>SINGLE POLE  PG 379</p>	<p>PLUG  PG 380</p>	<p>PLUG  PG 380</p>	
<p>PLUG  PG 380</p>	<p>SOCKET  PG 380</p>	<p>7W DBLE GRIP  PG 380</p>	<p>ADAPTER  PG 380</p>	<p>RV 7WAY PLUG  PG 380</p>	<p>RV 7WAY SOCK  PG 380</p>	<p>6WAY PLUG  PG 381</p>	<p>6WAY SOCKET  PG 381</p>	<p>4WAY PLUG  PG 381</p>	
<p>4WAY SOCKET  PG 381</p>	<p>2 POLE PLUG  PG 381</p>	<p>2 POLE SOCKET  PG 381</p>	<p>1WAY PLUG  PG 381</p>	<p>1WAY SOCKET  PG 381</p>	<p>GROUND KIT  PG 381</p>	<p>PROTECTOR BOOT  PG 381</p>	<p>7WAY SOCKET  PG 382</p>	<p>CIRCUIT BREAKER  PG 382</p>	
<p>NOSE BOX- DEEP  PG 382</p>	<p>BATT GRND STRAP  PG 383</p>	<p>SS BATTERY NUT  PG 383</p>	<p>RUB GROM- MET  PG 383</p>	<p>DEER WHISTLE  PG 384</p>	<p>CONSP TAPE  PG 385</p>	<p>CONSP TAPE  PG 385</p>	<p>CONSP TAPE  PG 385</p>	<p>REFLECTOR  PG 385</p>	
<p>AMERICA TAPE  PG 385</p>	<p>TARP STRAP  PG 385</p>	<p>AIR BRAKE HOSE  PG 387</p>	<p><b>HYDRAULIC ADAPTERS PG 388-429</b></p>			<p><b>TECHNICAL INFORMATION PG 388-429</b></p>		<p><b>PIPE SWIVELS PG 397-398</b></p>	
<p>M. SWL ADAPTER  PG 397</p>	<p>FE. SWL ADAPTER  PG 397</p>	<p>M. ELB ADAPTER  PG 397</p>							
<p>FE. UNION ELB.  PG 397</p>	<p>M. 45° ELBOW  PG 398</p>	<p>FE. 45° UNION  PG 398</p>	<p>M. SWL TEE  PG 398</p>	<p>FE. SWL TEE  PG 398</p>	<p>FE. SWL TEE  PG 398</p>	<p><b>JIC 37 FLARE PG 399-403</b></p>		<p>JIC CAP  PG 399</p>	<p>JIC TUBE UNION  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
<b>PIPE FITTINGS PG 404-407</b>	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	<b>O-RING ADAPTERS PG 408-409</b>	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	<b>FEMALE SWIVELS PG 410-411</b>	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	<b>SAE O-RING ADAPTERS PG 412-414</b>	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><b>O-RING FACE SEAL PGS 414-418</b></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><b>BSPT, BSPP METRIC PGS 418-421</b></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><b>QUICK DISCONNECTS PGS 422-424</b></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



<b>Pipe Size</b>	<b>1/16</b>	<b>1/8</b>	<b>1/4</b>	<b>3/8</b>	<b>1/2</b>	<b>3/4</b>	<b>1</b>
<b>Thread Size</b>	<b>1/16-27</b>	<b>1/8-27</b>	<b>1/4-18</b>	<b>3/8-18</b>	<b>1/2-14</b>	<b>3/4-14</b>	<b>1-11<sup>1/2</sup></b>
<b>Working Pressure</b>	<b>1200</b>	<b>1200</b>	<b>1200</b>	<b>1200</b>	<b>1200</b>	<b>1000</b>	<b>1000</b>
<b>Thread OD</b>	<b>1/4</b>	<b>3/8</b>	<b>1/2</b>	<b>5/8</b>	<b>3/4</b>	<b>1</b>	<b>1-1/4</b>

**•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

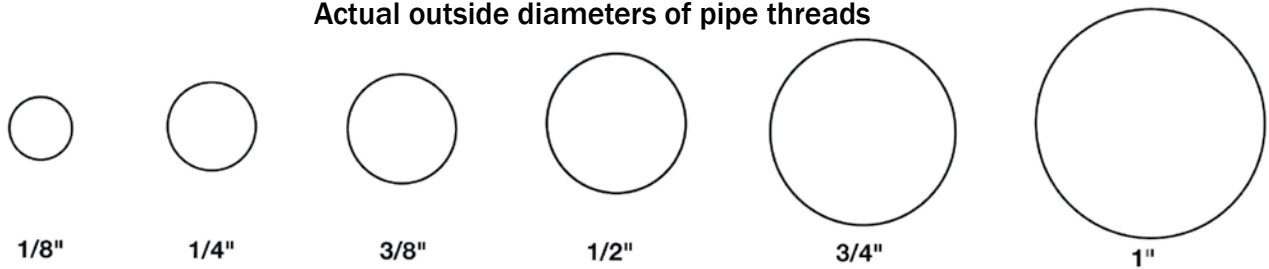


• For Bronze & Larger Sizes  
see pages 224-232



• For BSPT/ BSPP  
see pages 117-118

Actual outside diameters of pipe threads



Actual Male Thread Profiles

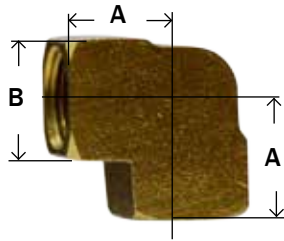


## PIPE

## BRASS FITTINGS

## 90° FEMALE ELBOW

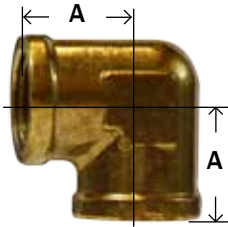
SAE# 130238



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

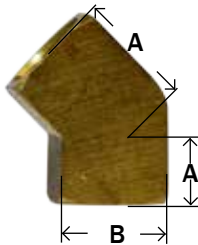
## 90° FORGED FEMALE ELBOW



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

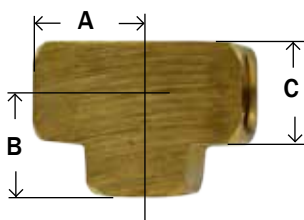


Part #	Thread size NPTF	A	B	Approx. Wt. Lbs.	List Price
28-018	1/8"	0.45	0.56	0.06	4.99
28-019	1/4"	0.66	0.68	0.12	6.13
28-020	3/8"	0.69	0.81	0.16	9.07

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

## UNION TEE

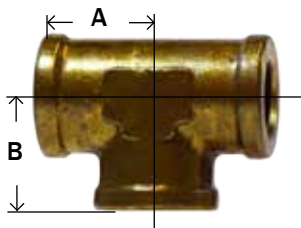
SAE# 130438



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

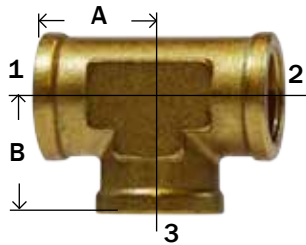


Part #	Thread size NPTF	A & B	Body Width	Approx. Wt. Lbs.	List Price
28-032	1/8"	0.56	0.50	0.06	3.34
28-033	1/4"	0.71	0.68	0.13	5.38
28-034	3/8"	0.81	0.81	0.16	6.37
28-035	1/2"	1.00	1.00	0.27	12.67
28-036	3/4"	1.16	1.25	0.53	19.39
28-023	1"	1.42	1.50	.924	39.01

1203P LT7 101AF 101B

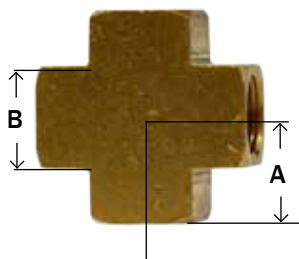


**REDUCING FORGED TEES**



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

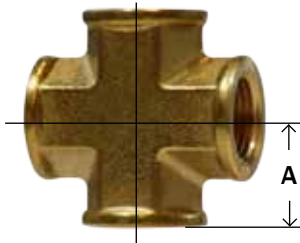
**CROSS**



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**

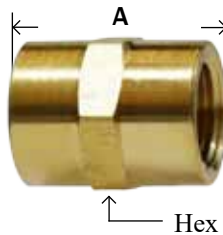


Part #	Thread size NPTF	A	Body Width	Approx. Wt. Lbs.	List Price
28-049	1/8"	0.56	0.50	0.06	6.78
28-050	1/4"	0.72	0.69	0.15	8.46
28-051	3/8"	0.81	0.81	0.18	12.12
28-052	1/2"	1.00	1.00	0.34	18.37

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



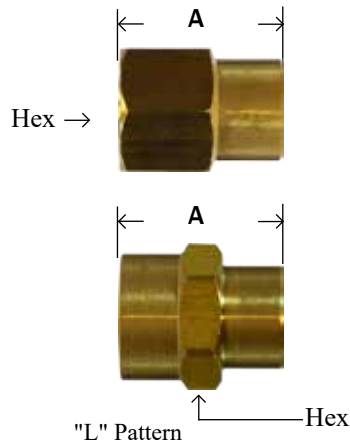
See hydraulic pipe fittings pg 410

## PIPE

## BRASS FITTINGS

## REDUCING COUPLING

SAE# 130138

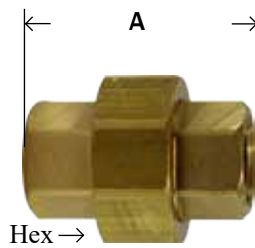


Part #	Thread size NPTF	A	Hex	Approx. Wt. Lbs.	List Price
28-181L	1/4" x 1/8"	0.94	0.62	0.04	2.03
28-181	1/4" x 1/8"	0.97	0.75	0.08	2.85
28-182	3/8" x 1/8"	0.94	0.87	0.10	5.96
28-183L	3/8" x 1/4"	1.00	0.81	0.06	2.82
28-183	3/8" x 1/4"	1.16	0.87	0.12	4.23
28-180*	1/2" x 1/8"	1.19	0.93	0.15	14.52
28-184L	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

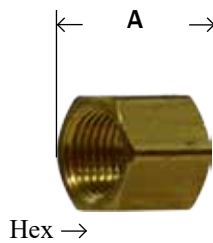
## UNION



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

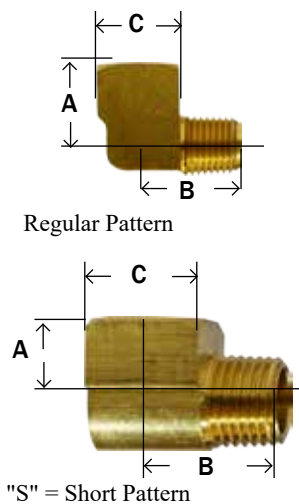


Part #	Thread size NPTF	A	Hex	Approx. Wt. Lbs.	List Price
28-075	1/8"	0.47	0.56	0.03	1.05
28-076	1/4"	0.60	0.68	0.04	1.92
28-077	3/8"	0.69	0.81	0.06	2.77
28-078	1/2"	0.78	0.93	0.08	4.20
28-079	3/4"	0.94	1.25	0.16	9.06
28-080	1"	1.13	1.50	0.23	12.83

3129 213P 23129 108A 108B

## 90° STREET ELBOW

SAE# 130239



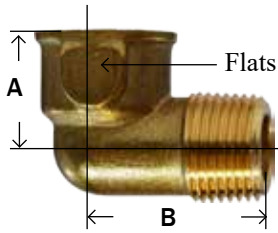
Part #	Thread size NPTF	A	B	C	Approx. Wt. Lbs.	List Price
28-156	1/8"	0.48	0.66	0.56	0.05	2.31
28-156S	1/8" short	0.34	0.57	0.50	0.03	1.53
28-157	1/4"	0.72	0.91	0.68	0.09	4.11
28-157S	1/4" short	0.45	0.78	0.68	0.07	2.70
28-158	3/8"	0.78	0.97	0.81	0.16	5.57
28-159	1/2"	1.03	1.25	1.00	0.33	9.78
28-160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

2202P 304 115 202 3400 116A



See hydraulic pipe fittings pg 410

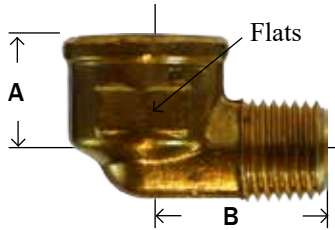
**FORGED 90° STREET ELBOW**



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**

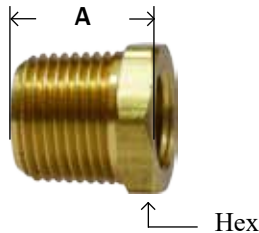


Part #	Thread size NPTF FxM	A	B	Wrench flats	Approx. Wt. Lbs.	List Price
28-260	1/8" x 1/4"	0.50	0.87	0.71	0.08	5.15
28-261B*	1/4" x 1/8"	0.53	0.72	0.69	0.07	3.61
28-261	1/4" x 1/8"	0.50	0.81	0.72	0.06	5.16
28-262	1/4" x 3/8"	0.93	1.06	0.59	0.12	6.47
28-263	3/8" x 1/4"	0.58	0.94	0.81	0.07	8.60
28-264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

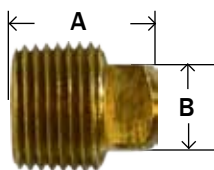
## FACE BUSHING



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



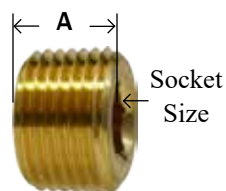
Part #	Thread size NPTF	A	B	Approx. Wt. Lbs.	List Price
28-084	1/8"	0.58	0.27	0.02	0.82
28-085	1/4"	0.80	0.37	0.03	1.21
28-086	3/8"	0.80	0.43	0.06	2.03
28-087	1/2"	1.07	0.55	0.13	3.30
28-088**	3/4"	1.09	0.61	0.20	5.19
28-089**	1"	1.24	0.81	0.35	12.10

\*\* 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

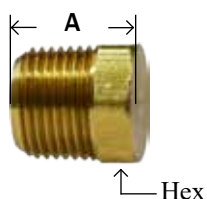
## SLOTTED-HEAD PLUG



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

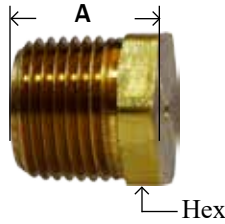


Part #	Thread size NPTF	A	Hex	Approx. Wt. Lbs.	List Price
28-201	1/8"	0.55	0.43	0.01	0.82
28-202	1/4"	0.62	0.56	0.02	1.16
28-203	3/8"	0.72	0.68	0.06	1.63
28-204	1/2"	0.81	0.87	0.09	3.04
28-205	3/4"	0.94	1.06	0.16	4.28
28-206	1"	1.16	1.37	0.28	14.36

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**

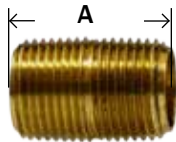
- Jam Nuts
- Straight pipe thread



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

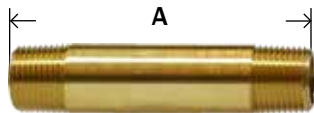
**CLOSE NIPPLE**



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



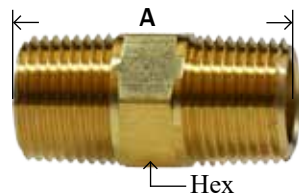
113B 113A 166 3327, 3328, 3329, 3330 3331 215PNL

## PIPE

## BRASS FITTINGS

## HEX NIPPLE

SAE# 130137

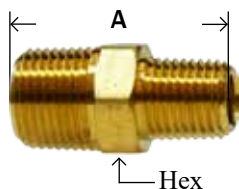


Part #	Thread size NPTF	A	Hex	Approx. Wt. Lbs.	List Price
28-211L	1/8"	0.91	0.43	0.02	1.04
28-211	1/8"	0.97	0.43	0.03	1.04
28-212L	1/4"	1.12	0.56	0.04	1.33
28-212	1/4"	1.38	0.56	0.06	1.77
28-213L	3/8"	1.25	0.68	0.07	2.05
28-213	3/8"	1.41	0.68	0.07	2.81
28-214L	1/2"	1.50	0.87	0.11	3.55
28-214	1/2"	1.81	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

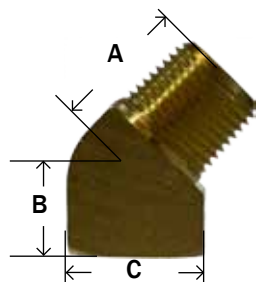
216P 3325 379 122AH 122B



See page 410 for steel hydraulic pipe adapters

## 45° STREET ELBOW

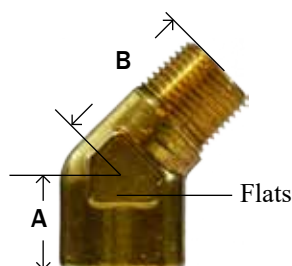
SAE# 130339



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

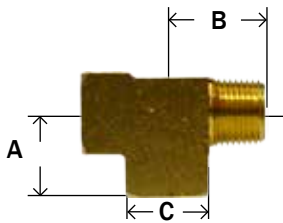


Part #	Thread size NPTF	A	B	Wrench flats	Approx. Wt. Lbs.	List Price
28-238	1/8"	0.63	0.81	0.56	0.05	5.44
28-239	1/4"	0.63	1.06	0.81	0.11	6.91
28-240	3/8"	0.72	1.06	0.93	0.17	9.85

45E8 124B

**STREET TEE/ SERVICE TEE/ MALE RUN TEE**

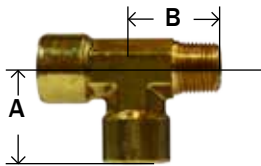
SAE# 130424



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**

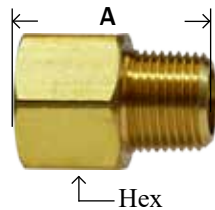


Part #	Thread size NPTF	A	B	Body Width	Approx. Wt. Lbs.	List Price
28-253	1/8"	0.56	0.75	0.50	0.05	5.21
28-254	1/4"	1.03	1.00	0.46	0.13	5.78
28-255	3/8"	1.19	1.09	0.68	0.24	7.46
28-256	1/2"	1.52	1.40	0.88	0.45	22.59
28-257	3/4"	1.34	1.73	1.25	0.65	54.76

107 T8 127B

**EXTENDER ADAPTER**

SAE# 130139

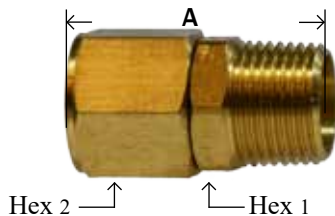


Part #	Thread size NPTF FxM	A	Hex	Approx. Wt. Lbs.	List Price
28-190L	1/8" x 1/8"	0.83	0.50	0.03	1.63
28-190	1/8" x 1/8"	0.88	0.56	0.04	1.33
28-191L	1/4" x 1/8"	0.94	0.62	0.04	1.38
28-191	1/4" x 1/8"	1.06	0.75	0.07	3.22
28-192L	1/4" x 1/4"	1.00	0.62	0.04	1.52
28-192	1/4" x 1/4"	1.25	0.75	0.07	3.14
28-198	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



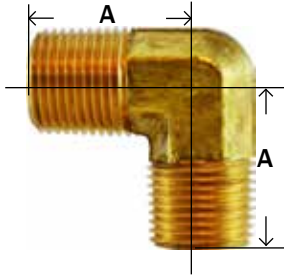
Part #	Size	List Price
320-061	1/4	12.14

344R 3183

## PIPE

## BRASS FITTINGS

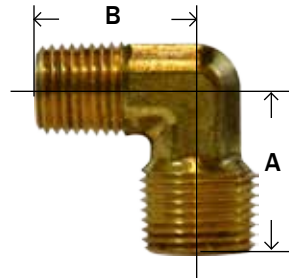
## FORGED 90° MALE ELBOW



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

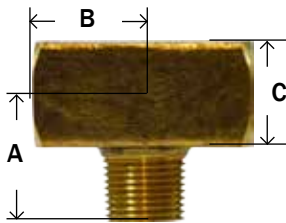
## FORGED 90° MALE REDUCING ELBOW



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

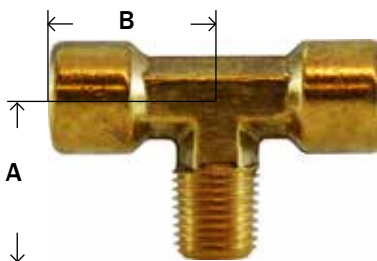
SAE# 130425



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



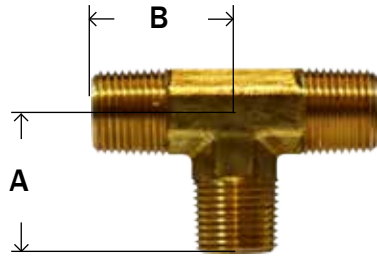
Part #	Thread size NPTF	A	B	Body Width	Approx. Wt. Lbs.	List Price
28-281F	1/8"	0.75	0.56	0.50	0.06	4.77
28-282F	1/4"	1.00	1.03	0.46	0.12	7.80

T9

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



**FORGED ALL MALE TEE**

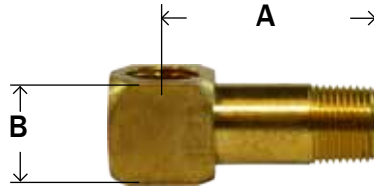


Part #	Thread size NPTF	A	B	Body Width	Approx. Wt. Lbs.	List Price
28-290	1/8"	0.75	0.75	0.43	0.06	5.24
28-291	1/4"	0.86	0.86	0.43	0.08	5.13
28-292	3/8"	1.09	1.09	0.60	0.16	8.56
28-293	1/2"	1.22	1.22	0.68	0.22	10.25
28-294	3/4"	1.43	1.43	0.87	0.38	33.05

T12 M101

**LONG STREET ELLS**

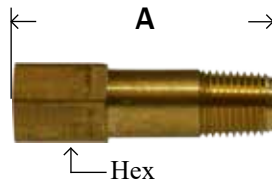
D.O.T. Approved



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

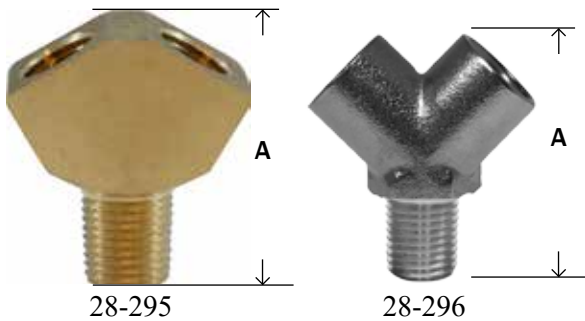
**LONG EXTENSION ADAPTERS**

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**

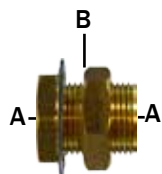


Part #	Thread Size NPT	A	Approx. Wt. Lbs.	List Price
28-298	1/4	1.4	.12	5.76

## BULKHEAD/ ANCHOR FRAME COUPLINGS

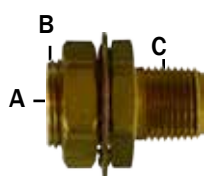
## BRASS FITTINGS

## BULKHEAD / ANCHOR / FRAME COUPLINGS

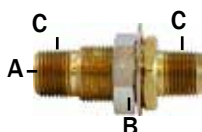
FEMALE PIPE X  
FEMALE PIPE

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

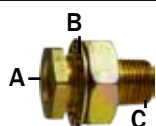
\* Same as 28-302 except with a larger mounting nut. \*\*Without washer



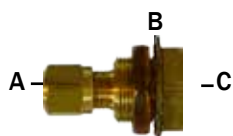
	FEMALE PIPE X		MALE PIPE		List Price
	A	B	C		
28-317	1/4-18 NPTF	1-14 UNS	1/2-14 NPTF	2-1/8	29.43
28-318	3/8-18 NPTF	1-14 UNS	1/2-14 NPTF	1-11/16	15.46
28-319	3/8-18 NPTF	1-14 UNS	1/2-14 NPTF	1-29/32	15.40



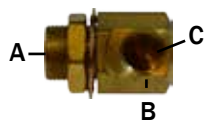
	FEMALE PIPE X	MALE PIPE		List Price	
28-313	1/4-18 NPTF	1-14 UNS	1/2-14 NPTF	2-7/8	29.14



	FEMALE PIPE X	MALE PIPE		List Price	
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		List Price	
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		List Price
28-348	3/8-18 NPTF	7/8-20 UNEF	3/8-18 NPTF	2-5/16	25.90



	BRASS MARINE BULKHEAD			List Price	
46-540	5/16 Hose ID	----	----	2.37	22.10
46-541	3/8 Hose ID	----	----	2.37	22.98

## CROSSOVER NUMBERS

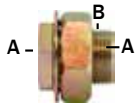
28-300	207x2	129A-A	50004	55207							1495B-A	ACBH207-2	207ACBH-2				
28-301	207X4	129AS-B		55611	S611	114-44	1345	382-44S	392C-94			ACBHS207-4					
28-302	207X4	129A-B	50005	55661		114B-44	1344	382-44L		035081		ACBH207-4	207ACBH-4		11306		90648
28-303	207X6	129A-C	50006	55607	S661/S607	114-66	1346	382-66		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**

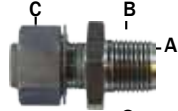
Part #	Terminal Bolts/ Frame			Length (in.)	List
	A	B	C		

**STEEL BULKHEAD FITTINGS**

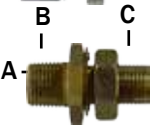


28-306	1/4-18 NPTF	3/4 - 16 UNS		0.94	10.70
28-307	1/4-18 NPTF	3/4 - 16 UNS		1.50	10.95
28-308	3/8-18 NPTF	1 - 14 UNS		1.31	12.54

**FEMALE PIPE X MALE PIPE**



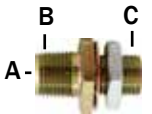
28-309	1/4-18 NPTF	3/4 - 16 UNS	1/2-14 NPTF	2.16	21.49
28-310	1/4-18 NPTF	3/4 - 16 UNS	1/2-14 NPTF	2.53	38.59



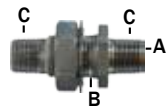
28-345*	1/4-18 NPTF	3/4 - 16 UNS	1/2-14 NPTF	2-5/32	20.78
28-324	3/8-18NPTF	1-14 UNS	1/2-14 NPTF	1-11/16	26.22

\* 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.

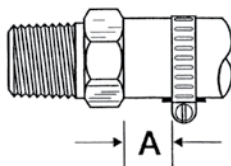
### • Tolerance

+/- .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

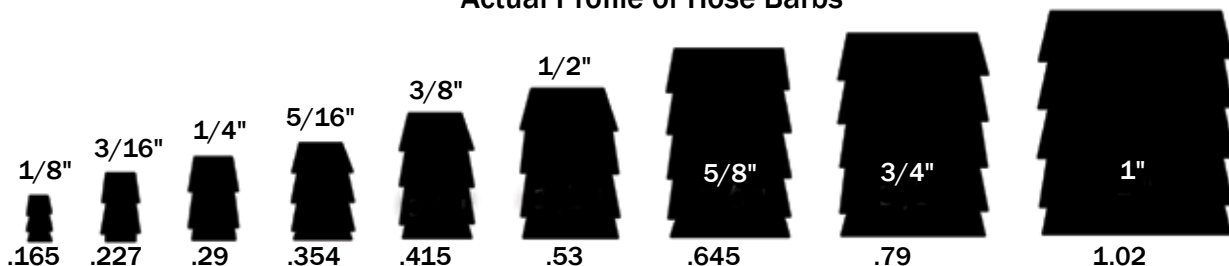


Stainless Steel hose barbs for beverage service available -

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"

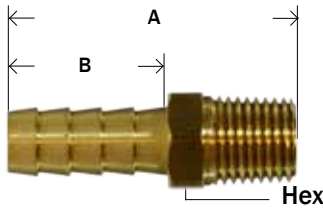
### Actual Profile of Hose Barbs





## 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

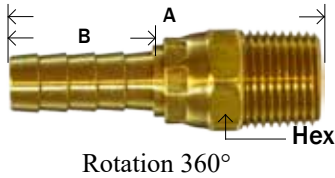
## BRASS FITTINGS

## BRASS RIGID MALE BSPT BARB ADAPTER



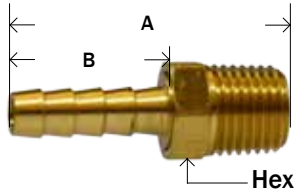
Part #	Hose I.D. x MALE BSPT	List Price
32-450	1/4" x 1/8"	1.47
32-451	1/4" x 1/4"	2.10
32-452	3/8" x 1/4"	2.43
32-453	3/8" x 3/8"	6.15
32-454	3/8" x 1/2"	4.12
32-455	1/2" x 3/8"	3.17
32-456	1/2" x 1/2"	4.57
32-457	3/4" x 3/4"	7.90
32-458	1" x 1"	14.66

## SWIVEL MALE ADAPTER



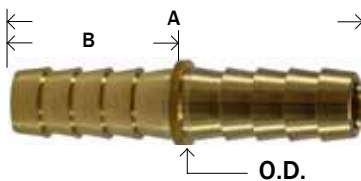
Part #	Hose I.D. x Male NPTF	A	B	Hex	Approx. Wt. Lbs.	List Price
32-329	3/16" x 1/8"	2.00	0.78	0.56	0.06	6.16
32-331	3/16" x 1/4"	1.95	0.78	0.56	0.06	6.04
32-332	1/4" x 1/8"	2.19	0.97	0.56	0.06	5.83
32-349	1/4" x 1/4"	2.12	0.97	0.56	0.06	5.26
32-351	3/8" x 1/8"	2.12	0.97	0.56	0.07	6.06
32-201	3/8" x 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

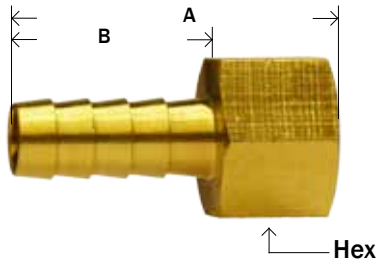
\*\* See hose splicers on page 27 for Stainless.

• 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

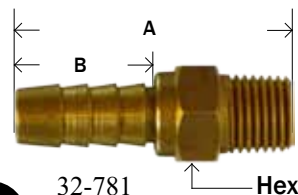
### SWIVEL FEMALE ADAPTER NPTF



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

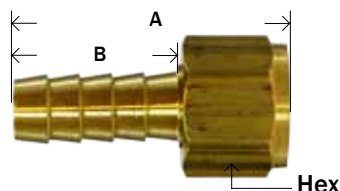
## HOSE BARB

## BRASS FITTINGS

## SWIVEL FEMALE ADAPTER - With Gasket

- NPSM Thread

National Pipe Straight Gasket Seal Swivel

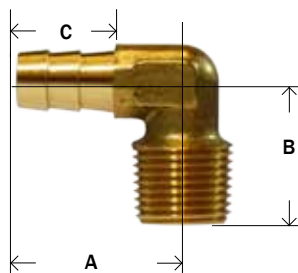


Part #	Hose I.D. x Female NPSM	A	B	Hex	Approx. Wt. Lbs.	List Price
32-131	1/8" x 1/8"	0.90	0.46	0.50	0.02	7.98
32-132	3/16" x 1/8"	1.19	0.75	0.50	0.03	7.74
32-133	3/16" x 1/4"	1.28	0.75	0.62	0.04	8.56
32-120	1/4" x 1/8"	1.41	0.97	0.50	0.02	9.55
32-121	1/4" x 1/4"	1.50	0.97	0.62	0.02	3.15
32-129	1/4" 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

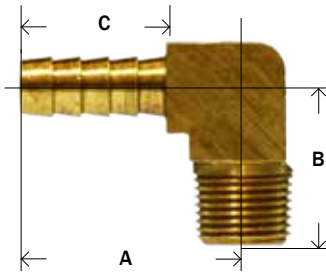
129 HBE1 KF-PS90 HE-1 29E 146



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



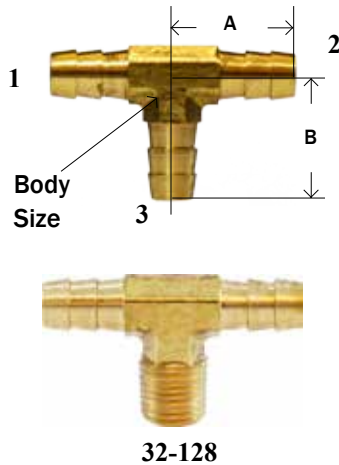
**BARSTOCK HOSE BARB 90° ELBOW**



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**



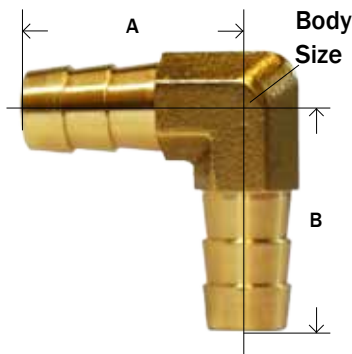
Part #	Hose Barb Size (1 & 2) x 3	A	B	Body Size	Approx. Wt. Lbs.	List Price
32-367 *	1/8"	0.84	0.83	0.25	0.02	3.99
32-368	3/16"	1.02	1.02	0.37	0.03	3.73
32-365 **	1/4"	1.00	1.00	0.44	0.06	3.37
32-350 *	(1/4") x 1/8"	0.94	0.94	0.44	0.04	8.09
32-366	5/16"	1.00	1.00	0.44	0.06	4.19
32-126 **	3/8"	1.01	1.01	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



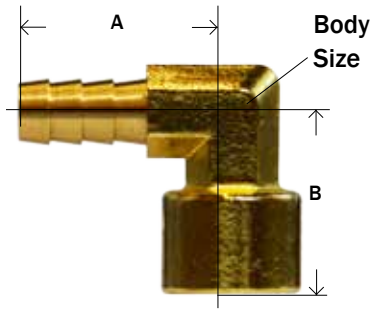
\* Add SS to the end of the part number for Stainless.

See beverage fittings on page 28

## HOSE BARB

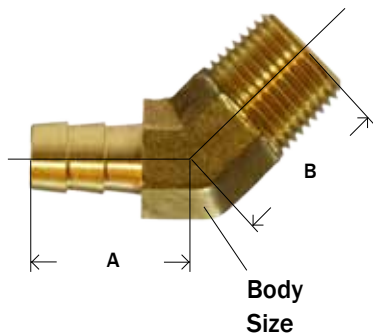
## BRASS FITTINGS

## 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

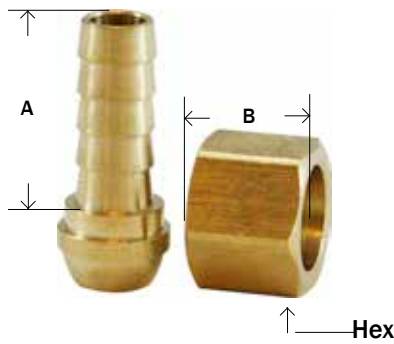
HOSE WYES AVAILABLE WITH EXTENDED LEAD TIME.

## BRASS FITTINGS

## HOSE BARB

### BALL END SWIVEL

NPSM - Ball seat type

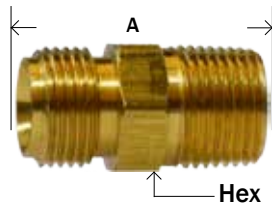


Part #	Hose I.D. x NPSM	A	B	Hex	Approx. Wt. Lbs.	List Price
32-066	1/8" x 1/8"	0.46	0.44	0.50	0.03	5.64
32-067	3/16" x 1/8"	0.75	0.44	0.50	0.03	4.45
32-068	3/16" x 1/4"	0.75	0.52	0.62	0.04	3.04
32-069	1/4" x 1/8"	0.97	0.44	0.50	0.04	2.80
32-070	1/4" x 1/4"	0.97	0.53	0.62	0.06	2.90
32-078	1/4" x 3/8"	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

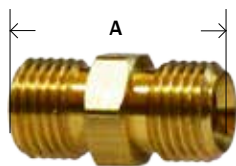


30° Seat

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

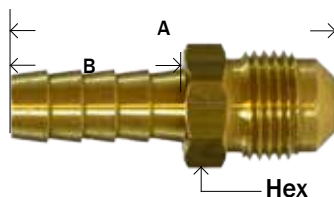
### BALLSEAT UNION



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.

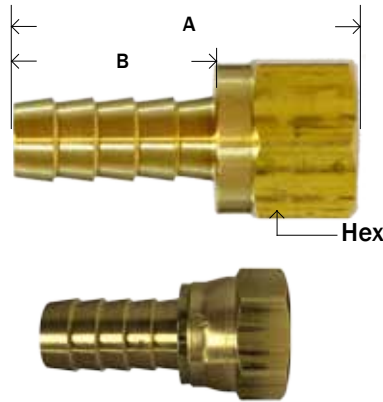
142 201BF KF-MS KDS

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

## HOSE BARB

## BRASS FITTINGS

## DUAL 45° / 37° FLARE SWIVEL



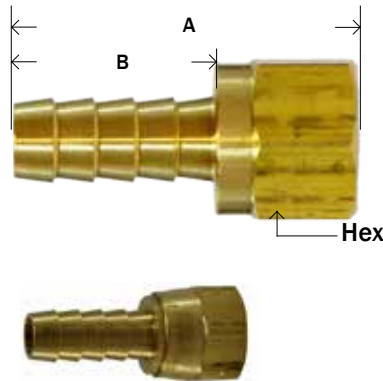
CRIMP STYLE

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



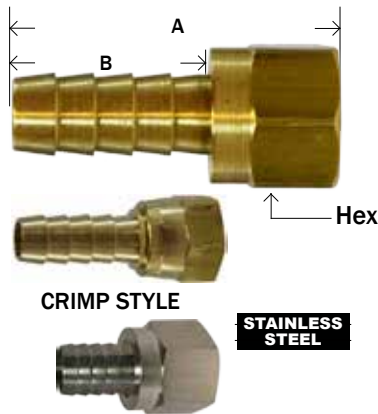
CRIMP STYLE

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

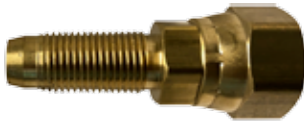
NEW



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

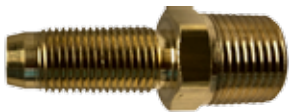
NEW



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

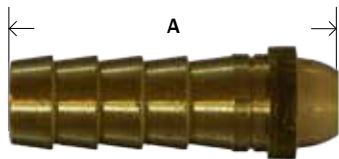
**INVERTED FLARE MALE SWIVEL 90° ELBOW**

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**

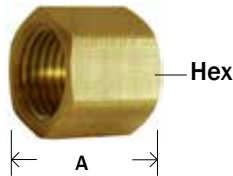


Part #	Hose I.D.	A	Approx. Wt. Lbs.	List Price
30-410	3/16"	1.43	0.02	4.25
30-411	1/4"	1.43	0.02	1.79
30-413	3/8"	1.43	0.04	2.31

Assemble with nuts below.

201RWA WRS WLS

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

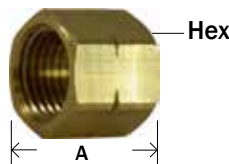


Part #	Size	A	Hex	Approx. Wt. Lbs.	List Price
30-420	R.H. Nut only	0.63	0.68	0.04	2.14

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**

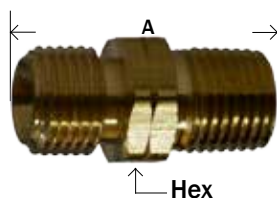


Part #	Size	A	Hex	Approx. Wt. Lbs.	List Price
30-401	1/4"-18	1.30	0.62	0.06	3.14
32-437	3/8"-18	1.30	0.68	0.09	12.34
32-438*	9/16"-18	1.25	0.68	0.07	5.94

\* 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

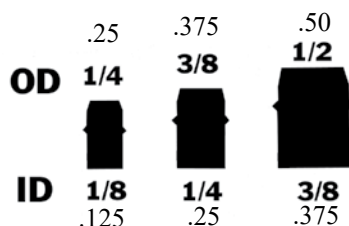
\* Left UNF thread

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



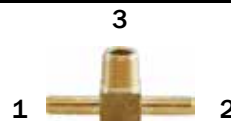
O.D. (I.D.) X O.D. (I.D.) X O.D. (I.D.)

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

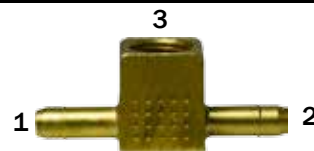


O.D. (I.D.) X O.D. (I.D.) X MALE PIPE

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



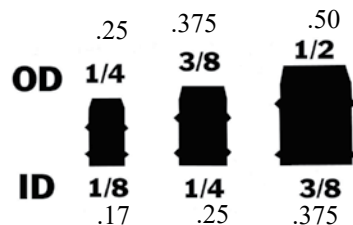
O.D. (I.D.) X O.D. (I.D.) X FEMALE PIPE

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

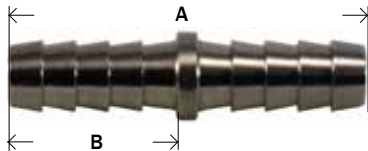
## BARSTOCK / CAST SS HOSE BARB

### 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**

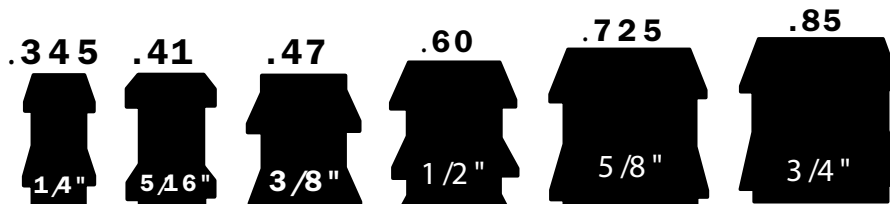
- 1- Lubricate insert.
- 2- Hold hose at angle as shown & push on and up over first barb.
- 3- Continue to push straight on until hose is seated under protective plastic cap. Keep hands back from hose end area so that hose can expand.

• **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.**

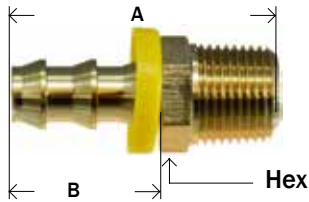
Actual Profile of Push On Barbs



## PUSH ON HOSE BARB

## BRASS FITTINGS

## MALE ADAPTER

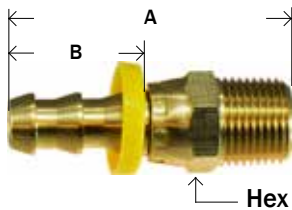


Part #	Hose I.D. x Male NPTF	A	B	Hex	Approx. Wt. Lbs.	List Price
30-200 *	1/4" x 1/8"	1.43	0.87	0.50	0.04	1.43
30-201 *	1/4" x 1/4"	1.66	0.87	0.56	0.06	2.03
30-211	1/4" x 3/8"	1.66	0.87	0.68	0.06	2.94
30-212	5/16" x 1/8"	1.42	0.77	0.43	0.04	3.14
30-213	5/16" x 1/4"	1.66	0.87	0.56	0.06	3.13
30-202	3/8" 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

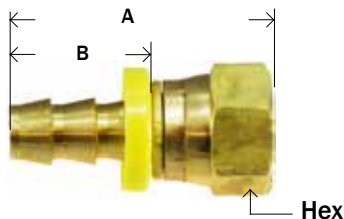
## MALE SWIVEL



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

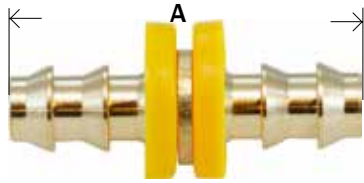


Part #	Hose I.D. x Gasket Swivel (NPSM)	A	B	Hex	Approx. Wt. Lbs.	List Price
30-359	1/4" x 1/8"	1.39	0.77	0.50	0.03	14.98
30-358	1/4" x 1/4"	1.47	0.82	0.68	0.06	6.69
30-360	3/8" x 1/4"	1.61	1.00	0.68	0.06	6.26
30-361	3/8" x 3/8"	1.77	0.97	0.81	0.08	9.99
30-362	3/8" x 1/2"	1.80	0.92	0.93	0.09	15.75
30-363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

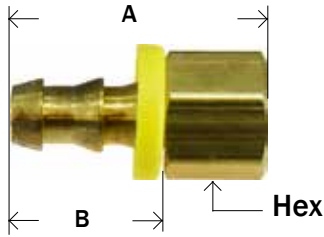
**HOSE SPLICER**



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

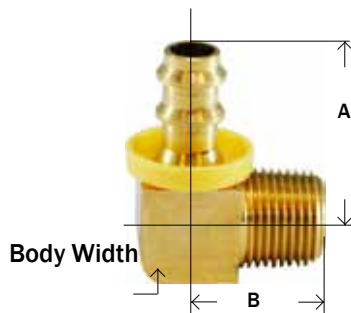
**RIGID FEMALE ADAPTER**



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

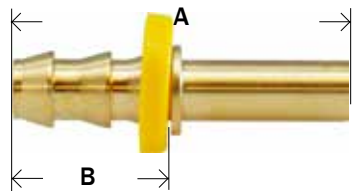
100-C 29EPO 273



## PUSH ON HOSE BARB

## BRASS FITTINGS

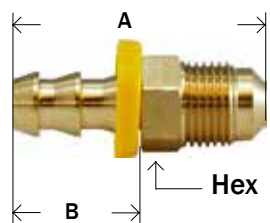
## RIGID TUBE ADAPTER



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

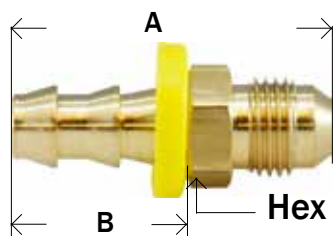
## MALE SAE FLARE ADAPTER



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

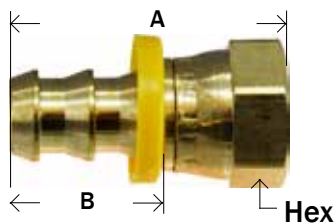
100B-3 KA-MS 727 945 682 302 282

## 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

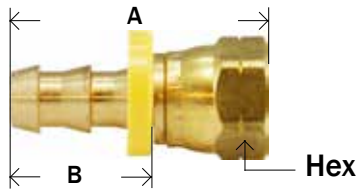


Part #	Hose I.D. x Dual Seat	UNF Thread	A	B	Hex	Approx. Wt. Lbs.	List Price
30-230 *	1/4" x 1/4"	7/16-20	1.53	0.87	0.56	0.06	2.44
30-231	1/4" x 5/16"	1/2-20	1.53	0.87	0.62	0.04	3.87
30-232	5/16" x 5/16"	1/2-20	1.56	0.87	0.62	0.04	4.02
30-427	3/8" x 5/16"	1/2-20	1.74	0.87	0.62	0.06	11.34
30-233	3/8" x 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

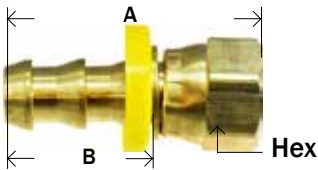
## 45° SAE FLARE FEMALE SWIVEL



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

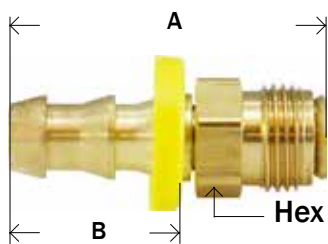


Part #	Hose I.D. x Female JIC	UNF Thread	A	B	Hex	Approx. Wt. Lbs.	List Price
30-265	1/4" x 1/4"	7/16-20	1.54	0.87	0.56	0.04	2.31
30-264	1/4" x 3/8"	9/16-18	1.57	0.87	0.68	0.06	4.48
30-270	5/16" x 3/8"	9/16-18	1.60	0.82	0.68	0.06	3.73
30-266 *	3/8" x 3/8"	9/16-18	1.70	0.97	0.68	0.08	3.64
30-267	1/2" x 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

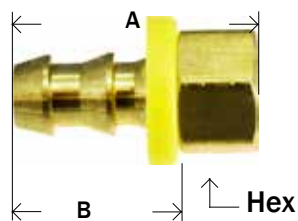
290 100B-B KA-MF 1MS 947

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

## PUSH ON HOSE BARB

## BRASS FITTINGS

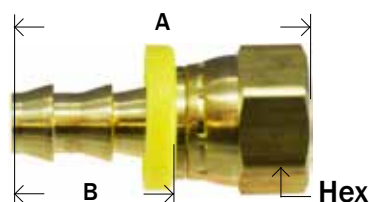
## INVERTED FLARE FEMALE ADAPTER



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

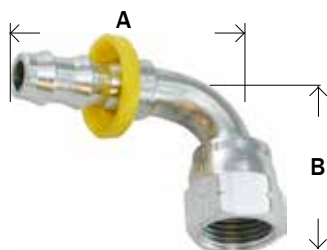
## FEMALE BALLSEAT SWIVEL



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



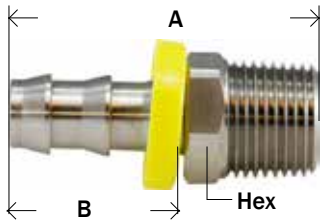
Part #	Hose I.D. x Female 37°/45°	UNF Thread	A	B	Approx. Wt. Lbs.	List Price
30-480	1/4"	7/16-20	1.55	0.83	.064	39.00
30-482	3/8"	9/16-18	1.85	0.91	.095	36.60
30-483*	3/8"	5/8-18	1.98	0.85	.095	52.68
30-484	1/2"	3/4-16	2.33	1.09	.171	43.22
30-486	3/4"	1-1/16-12	3.26	1.81	.281	115.97

\* 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.

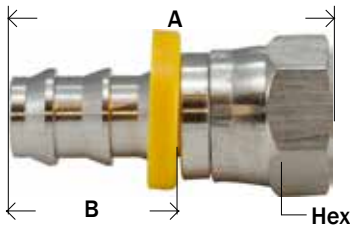
- Dale Carnegie

**316 STAINLESS STEEL MALE ADAPTERS**



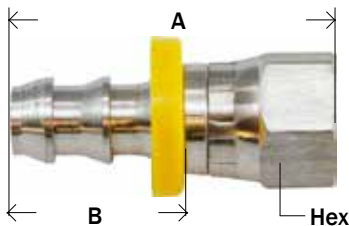
Part #	Hose I.D. x NPT	A	B	Hex	Approx. Wt. Lbs.	List Price
30-200SS	1/4" x 1/8"	1.42	0.77	0.44	0.027	9.99
30-201SS	1/4" x 1/4"	1.61	0.77	0.56	0.043	10.00
30-203SS	3/8" x 1/4"	1.76	0.92	0.56	0.053	11.20
30-204SS	3/8" x 3/8"	1.76	0.92	0.69	0.067	12.25
30-206SS	1/2" x 3/8"	1.86	1.02	0.69	0.071	12.41
30-207SS	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



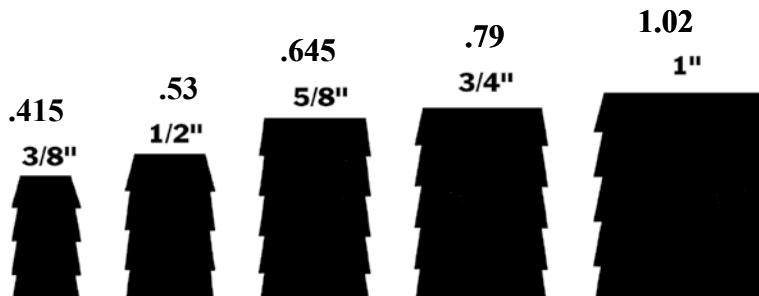
See Plastic section for Plastic Garden Hose Fittings



See page 158 for lead free Garden Hose

Washers included are #30150B black rubber washers.

## Actual Profile of Garden Hose Barbs

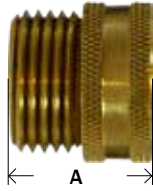




**SWIVEL - MGH X FGH**

•WASHER INCLUDED

Internal Hex ↘

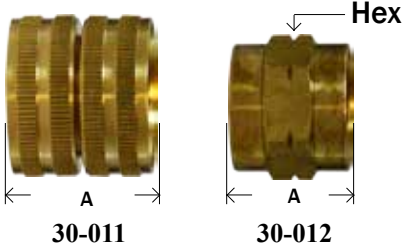


Part #	MGH X FGH	A	Hex	Approx. Wt. Lbs.	List Price
30-000**	3/4" x 3/4"	1.03	0.50*	0.26	6.06

\* 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

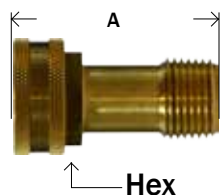


Part #	FGH x Female NPTF	A	Hex	Approx. Wt. Lbs.	List Price
30-078	3/4" x 1/2"	1.06	1.18	0.10	4.43
30-083	3/4" x 3/4"	1.06	1.18	0.12	5.52

FS67 198 HU11 21507 501 99GH 5A H15PP

## SWIVEL - FGH X MALE PIPE

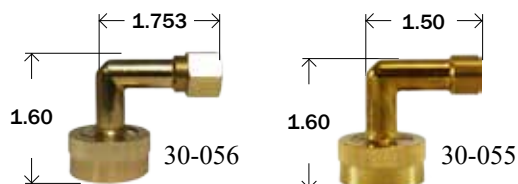
•WASHER INCLUDED



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

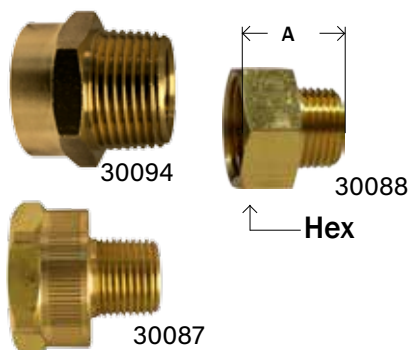
•WASHER INCLUDED



\* 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



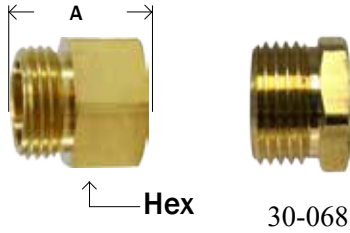
Part #	FGH x Male NPTF	A	Hex	Approx. Wt. Lbs.	List Price
30-087	3/4" x 3/8"	1.37	1.18	0.11	5.25
30-088	3/4" x 1/2" (1/2" SWT)**	1.06	1.18	0.09	6.77
30-093	3/4" x 3/4"	1.06	1.18	0.11	4.85
30-094	3/4" x 3/4" (1/2" FIP)	1.17	1.18	0.11	5.75
30-093L*	3/4" x 3/4"	1.22	1.18	0.14	14.59

\* Long pattern

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

21505 503 83GH 20A HU21 199 H7

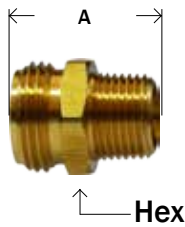
**RIGID - MGH X FEMALE PIPE**



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

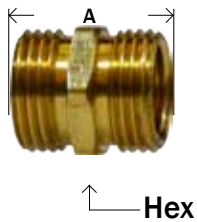
19R 196 H530 21501 508 HU22 514 71GH 19A

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

\*\* (Tapped 1/2 FIP)

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

**RIGID - MGH X MGH**

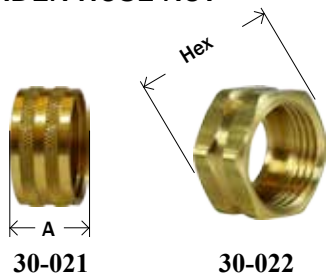


Part #	MGH X MGH	A	Hex	Approx. Wt. Lbs.	List Price
30-098	3/4" x 3/4" (1/2" FIP)	1.22	1.06	0.13	4.88
30-099	3/4" x 3/4"	1.38	1.06		5.04
30-100*	1" x 3/4"	1.31	1.37	0.21	7.66

\* 1-11-1/2

21500 509 75GH 23A H8 19R

**GARDEN HOSE NUT**



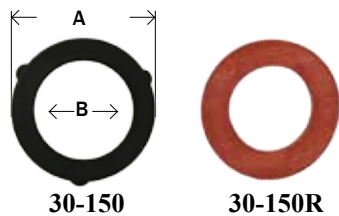
Part #	Size	A	Hex	Approx. Wt. Lbs.	List Price
30-021	Knurled	0.61	1.37 O.D.	0.08	3.24
30-022	Hex Nut	0.62	1.18	0.08	3.90

94GH GHN1 HNR 21514

## GARDEN HOSE

## BRASS FITTINGS

## GARDEN HOSE WASHERS

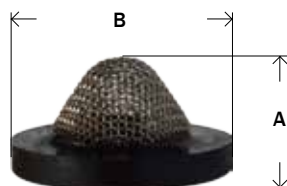


Part #	Size	A	B	Thickness	Approx. Wt. Lbs.	List Price
30-150	black*	0.98	0.68	0.13	0.01	0.22
30-150R	red	1.00	0.68	0.13	0.01	0.19
30-150B	black rubber	1.00	0.68	0.13	0.01	0.28
30-151	1"	1.27	0.86	0.16	0.01	0.53

GHW 901GH

\* plasticized rubber

## GARDEN HOSE FILTER WASHER

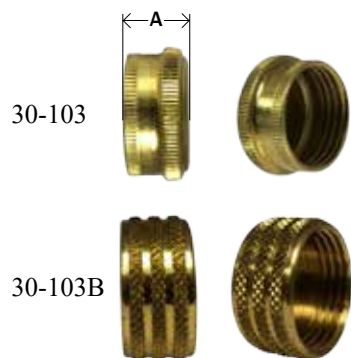


• 300 Series Stainless Steel Screen

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

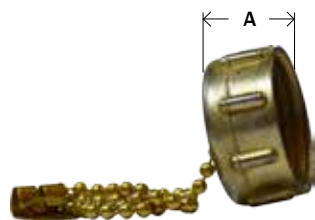


Part #	Size	A	Approx. Wt. Lbs.	List Price
30-103	3/4" Die Cast	0.58	0.04	1.79
30-103B	3/4" Barstock	0.60	0.048	5.04

513 96GH GHN5 HC1 LA215 21518 200-W

• Garden hose washers sold separately

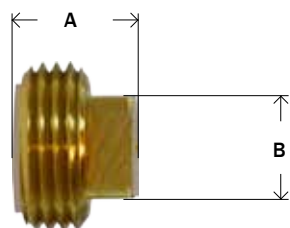
## GARDEN HOSE CAP WITH CHAIN



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**

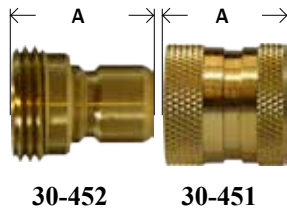


Part #	Hose I.D. x Hose I.D.	A	B	O.D.	Approx. Wt. Lbs.	List Price
32-096	1/2"	2.00	0.96	0.62	0.06	2.22
32-097	5/8"	2.05	0.96	0.75	0.08	3.00
32-098	3/4"	2.50	1.15	0.87	0.10	5.22
32-099	1"	3.00	1.44	1.02	0.23	9.94

**QUICK DISCONNECT GARDEN HOSE COUPLERS**

•WASHER INCLUDED

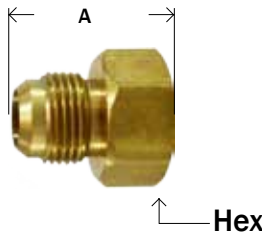
- Unvalved construction allows maximum Flow
- 150 PSI
- NBR Seals



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**

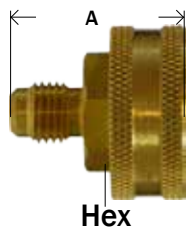


Part #	Male Flare x FGH	A	Hex	Approx. Wt. Lbs.	List Price
30-123	3/8" x 3/4"	1.31	1.18	0.10	8.65
30-128	1/2" x 3/4"	1.38	1.18	0.12	7.81
30-133	5/8" x 3/4"	1.53	1.18	0.14	12.91

190 46WH HFU21

**MALE FLARE x FGH SWIVEL**

•WASHER INCLUDED



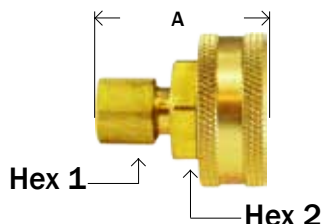
Part #	Male Flare x FGH	A	Hex	Approx. Wt. Lbs.	List Price
30-052	1/4" x 3/4"	1.24	0.75	0.10	5.48
30-138	3/8" x 3/4"	1.25	0.25*	0.12	23.43
30-139	1/2" x 3/4"	1.49	0.81	0.14	9.32

\* 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



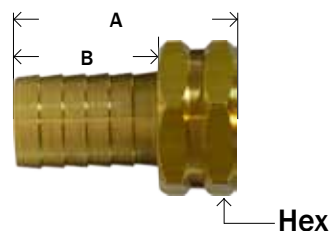
## GARDEN HOSE

## BRASS/STAINLESS FITTINGS

## BARSTOCK BRASS GARDEN HOSE COUPLINGS

## FEMALE SWIVEL ONLY

•WASHER INCLUDED



## BRASS

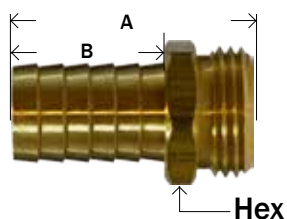
Part #	Hose Barb x FGH	A	B	Hex	Approx. Wt. Lbs.	List Price
30-031	3/8" x 3/4"	1.82	1.19	1.18	0.11	4.87
30-032	1/2" x 3/4"	1.82	1.19	1.18	0.12	4.83
30-033	5/8" x 3/4"	1.82	1.19	1.18	0.13	5.16
30-034	3/4" x 3/4"	1.82	1.19	1.18	0.15	5.60
30-044	1" x 3/4"	2.10	1.19	1.18	0.18	8.01
30-035	1" x 1"	2.28	1.47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

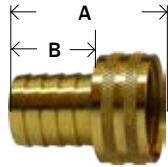
Part #	Hose Barb	List Price
30-025	3/8"	9.19
30-027	1/2"	10.16
30-028	5/8"	10.76
30-029	3/4"	9.91
30-046	1"(3/4" threads)	30.06
30-030	1"	30.49



## 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**



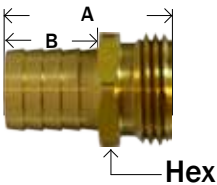
Part #	Hose Barb x FGH	A	B	Approx. Wt. Lbs.	List Price
30-466	1/2" x 3/4"	1.50	0.88	0.08	5.68
30-467	5/8" x 3/4"	1.50	0.88	0.09	4.69
30-468	3/4" x 3/4"	1.47	0.88	0.10	4.80

**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

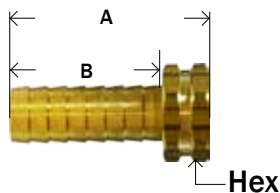
**GARDEN HOSE COUPLING SETS - Short Shank w/ hex nut**



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**

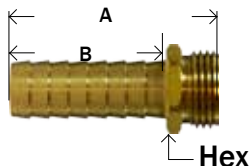
•WASHER INCLUDED



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**

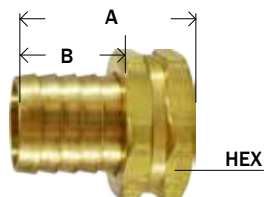


Part #	Hose x FGH	List Price
30-516	1/2"	13.64
30-517	5/8"	13.64
30-518	3/4"	17.01
30-519	1"	49.63

## NPSM GARDEN HOSE

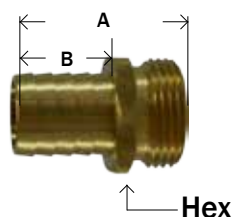
## BRASS FITTINGS

## 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



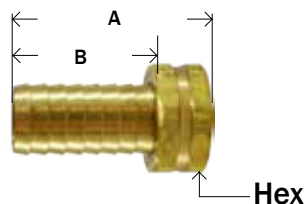
Part #	Hose ID	NPSM Thread	A	B	Hex	List Price
30-550	1/2	3/4"	1.56	0.88	1.06	4.88
30-551	5/8	3/4"	1.56	0.88	1.06	4.55
30-552	3/4	3/4"	1.56	0.88	1.06	5.22
30-553	1	1"	1.77	0.98	1.30	9.64

## NPSM SHORT SHANK SETS



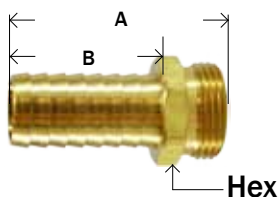
Part #	Size	List Price
30-540	1/2"	9.11
30-541	5/8"	9.31
30-542	3/4"	9.50
30-543	1"	19.60

## 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

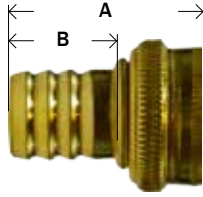


Part #	Size	List Price
30-560	1/2"	8.58
30-561	5/8"	12.61
30-562	3/4"	12.74
30-563	1"	29.04

**WROUGHT BRASS**

**WROUGHT BRASS - Female end only**

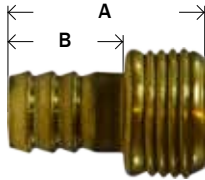
**•WASHER INCLUDED**



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**



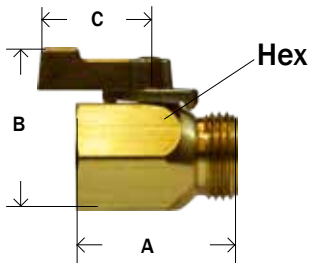
Part #	Hose Barb x MGH	A	B	Approx. Wt. Lbs.	List Price
30-530	1/2" x 3/4"	1.50	0.88	0.02	4.49

85M

**GARDEN HOSE VALVES**

**ONE WAY BRASS BALL VALVE - FGH x MGH**

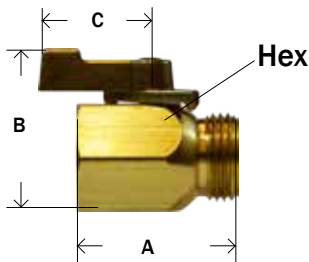
• 500 PSI • 180°F



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**

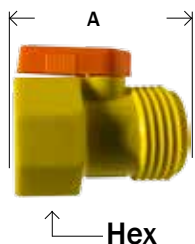


Part #	FGH x MGH	A	Approx. Wt. Lbs.	List Price
30-631	3/4" x 3/4"	1.67	0.08	4.60

## GARDEN HOSE VALVES

## BRASS FITTINGS

## PLASTIC GARDEN HOSE VALVE • CYCOLAC BODY &amp; BALL

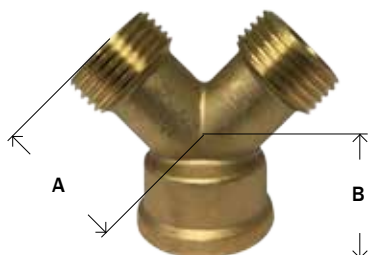


Part #	FGH x MGH	A	Hex	Approx. Wt. Lbs.	List Price
30-163	3/4" x 3/4"	1.75	1.25	0.04	6.58

LA450C

## CAST BRASS HOSE - "Y" CONNECTOR

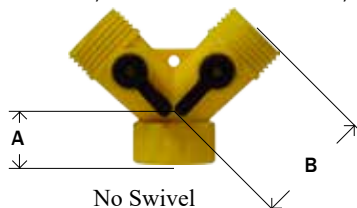
•WASHER INCLUDED



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

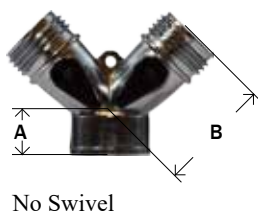
86Y 21A

## 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

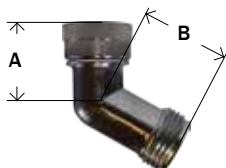
## "Y" SHAPE BRASS CONNECTOR W/ 2-WAY SHUT OFF



• 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

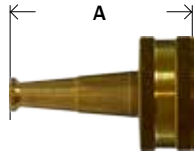
## ZINC ALLOY SWIVEL HOSE CONNECTOR



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

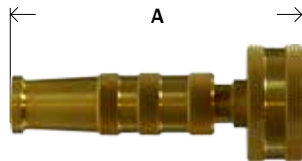


**2-1/2" BRASS NOZZLE**



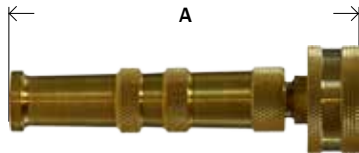
Part #	Size	A	Approx. Wt. Lbs.	List Price
30-637	3/4"	2.50	0.14	7.36

**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

Adjustable Spray

5-1/2

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

Lead Free

4-1/4

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

Lead Free Adjustable Spray

5-1/4

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

4-1/2

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



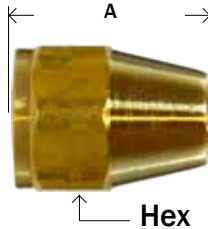
• See Lead Free Flare Fittings page 159

### Actual O.D. of Flare Fittings



## SHORT ROD NUT

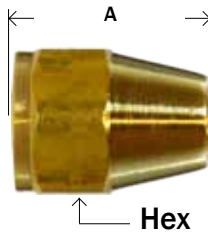
SAE# 010110



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'

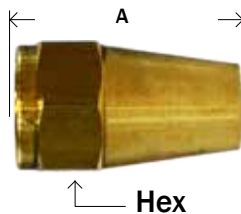
## REDUCING SHORT ROD NUT



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.**

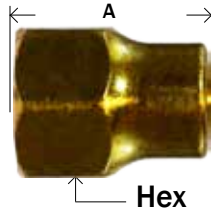
-These fittings are completely interchangeable with full pattern fittings, but have been modified in some way. This modification is usually in the length of the pipe threads. Used in plumbing and light industrial applications.

## 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

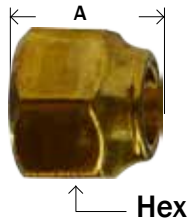
SAE# 010166



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 NS4

## 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

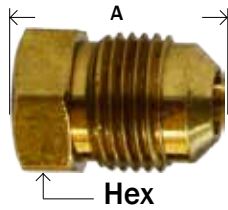
## FORGED REDUCING NUT



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

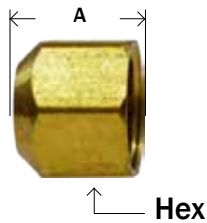
## FLARED PLUG



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

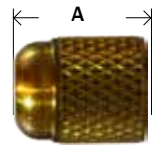
## FLARED CAP



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



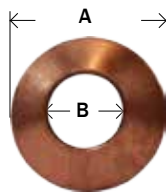
- Neoprene
- O-Ring Included

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

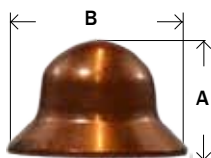


## SAE 45° FLARE

## BRASS FITTINGS

## COPPER BONNET

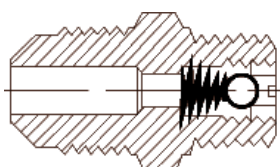
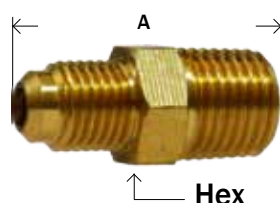
SAE# 010114



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



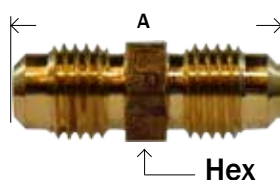
Part #	Male Flare x Male NPTF	A	Hex	Approx. Wt. Lbs.	List Price
10-131*	1/4" x 1/8"	1.06	0.43		32.58
10256WC	1/4" x 1/4"	1.24	0.6	0.04	2.94
10-133*	3/8" x 1/4"	1.31	0.62	0.08	28.79

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#

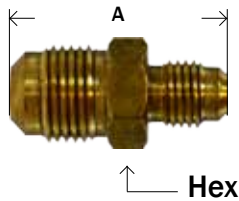
42F U2



"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.

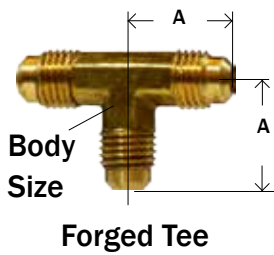
**REDUCING UNION**



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**



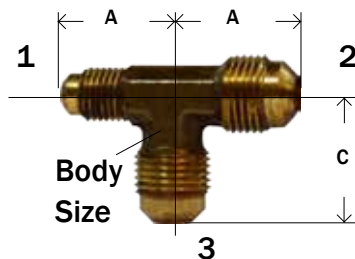
**SAE# 010401**

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**

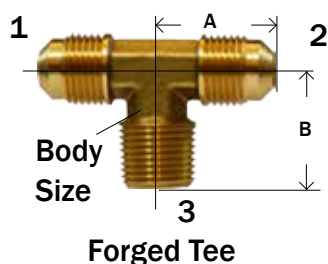


Part #	Thread Size UNF 1x2x3	A	C	Body Size	Approx. Wt. Lbs.	List Price
10-170	1/4" x 1/4" x 3/8"	0.91	1.00	0.44	0.10	7.65
10-171	5/16" x 5/16" x 1/4"	0.94	0.94	0.44	0.12	11.45
10-172	3/8" x 1/4" x 1/4"	0.91	1.00	0.44	0.10	9.15
10-173	3/8" x 1/4" x 3/8"	1.00	0.91	0.44	0.12	11.41
10-174	3/8" x 3/8" x 1/4"	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

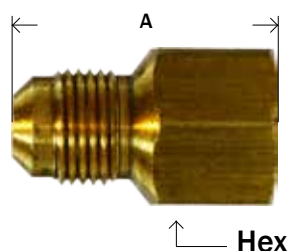
## BRASS FITTINGS

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

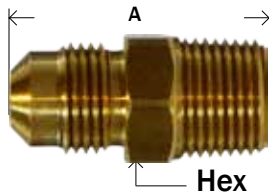
FEMALE ADAPTER  
SAE# 010103

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.**

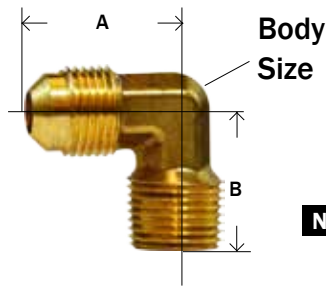
-These fittings are completely interchangeable with full pattern fittings, but have been modified in some way. This modification is usually in the length of the pipe threads. Used in plumbing and light industrial applications.

## SAE 45° FLARE

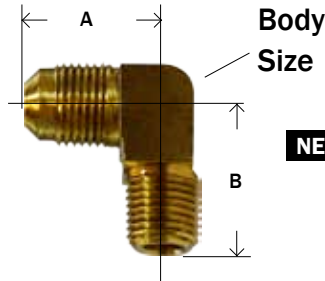
## BRASS FITTINGS

## 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

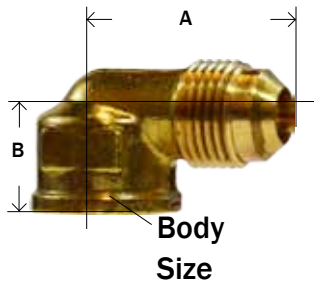
\*\* Available in Stainless Steel. Add SS to the part#

249F 49 E1 149F



## 90° FEMALE ELBOW

SAE# 010203

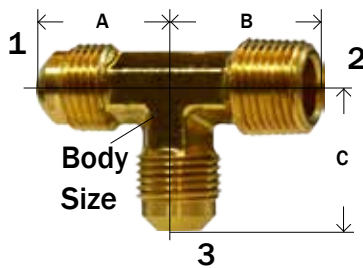


Forged Elbow

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
<b>NEW</b> 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
<b>NEW</b> 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

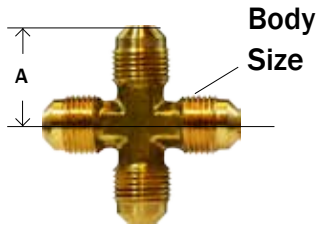
T3 151F 51

## SAE 45° FLARE

## BRASS FITTINGS

## FORGED FLARE CROSS

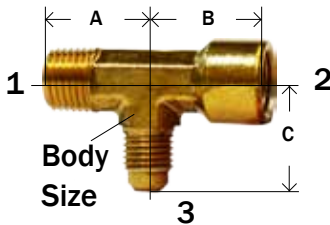
SAE# 010501



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

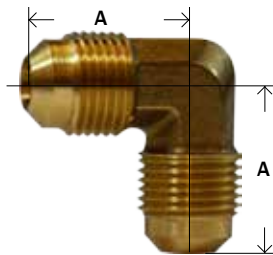
## FORGED ADAPTER TEE / SERVICE TEE



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

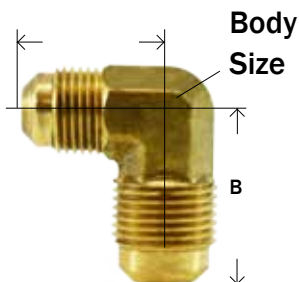
## FORGED 90° FLARE ELBOW



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

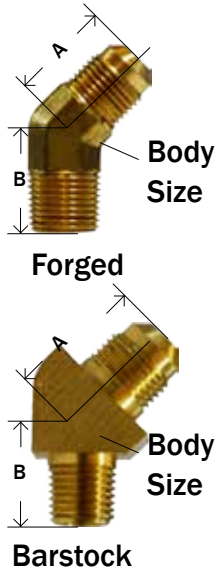


Part #	Male Flare x Male Flare	A	B	Body Size	Approx. Wt. Lbs.	List Price
10-416	3/8" x 1/4"	1.00	0.88	0.47	0.08	6.43
10-419	1/2" x 3/8"	1.19	1.02	0.59	0.14	8.17
10-421	5/8" x 1/2"	1.34	1.23	0.72	0.21	12.33

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

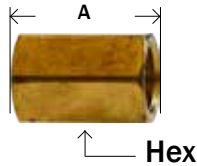
E145 54 159F 654F 59FF 254 47 4945

**FEMALE 45° FLARE FITTINGS**

**UNION**

• Use with Copper Gasket

SAE# 010107

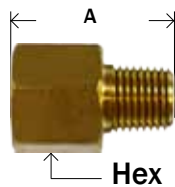


Part #	Female Flare x Female Flare	A	Hex	Approx. Wt. Lbs.	List Price
10-135	1/4"	1.00	0.62	0.06	11.52
10-136	3/8"	1.25	0.81	0.14	20.43
10-137	1/2"	1.43	0.94	0.18	26.08

2310 U4 660HD 32

**FEMALE FLARE ADAPTER**

SAE# 010106

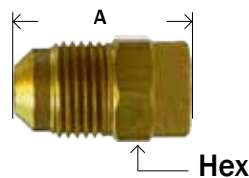


Part #	Female Flare x Male NPTF	A	Hex	Approx. Wt. Lbs.	List Price
10-440	1/4" x 1/8"	0.91	0.62	0.05	4.19
10-441	1/4" x 1/4"	1.01	0.62	0.06	6.14
10-442	3/8" x 1/4"	1.28	0.81	0.10	6.36
10-443	1/2" x 3/8"	1.36	0.94	0.14	25.92
10-444	1/2" x 1/2"	1.46	0.94	0.14	4.38

U5 664FHD 33 48-FF

**FLARE REDUCER**

SAE# 010105

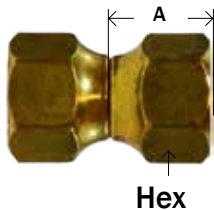


Part #	Male Flare x Female Flare	A	Hex	Approx. Wt. Lbs.	List Price
10-462	1/4" x 3/8"	1.22	0.81	0.10	2.70
10-461	1/4" x 1/2"	1.36	0.94	0.14	21.12
10-463 *	3/8" x 1/4"	1.12	0.62	0.06	5.02
10-464	3/8" x 1/2"	1.44	0.94	0.14	8.01
10-473	3/8" x 5/8"	1.63	1.12	0.16	17.97
10-467	1/2" x 3/8"	1.41	0.81	0.13	7.88
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

## BRASS FLARE SWIVEL FITTINGS

FORGED SWIVEL  
SAE# 010108

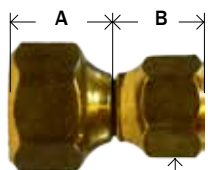
NEW

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

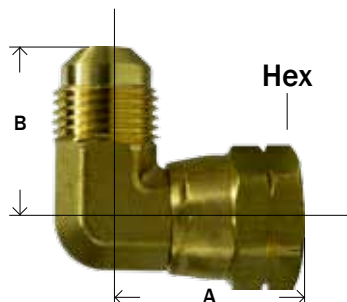


Hex 1

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 &amp; 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 HTXB

## 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



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

**•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.)
<b>2800</b>	<b>1/8</b>	<b>.030</b>
<b>1900</b>	<b>3/16</b>	<b>.030</b>
<b>1400</b>	<b>1/4</b>	<b>.030</b>
<b>1200</b>	<b>5/16</b>	<b>.032</b>
<b>1000</b>	<b>3/8</b>	<b>.032</b>
<b>750</b>	<b>1/2</b>	<b>.032</b>
<b>650</b>	<b>5/8</b>	<b>.035</b>
<b>550</b>	<b>3/4</b>	<b>.035</b>

**•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 distance (pitch) in millimeters between threads.

**Actual O.D. of male inverted flare threads**

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

**1/8"**

**3/16"**

**1/4"**

**5/16"**

**3/8"**

**1/2"**

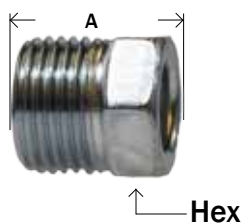
**5/8"**

**3/4"**

## INVERTED FLARE

## BRASS FITTINGS

## ZINC CHROMATE STEEL NUT

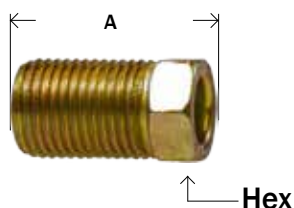


## SAE# 040110

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

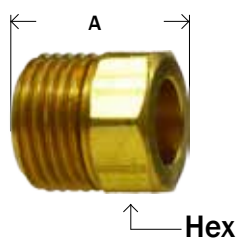


for Domestic lines

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

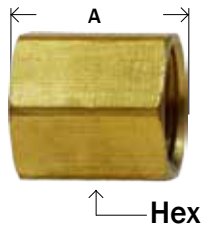


Part #	Tube size	Thread	Ref#	List Price
12-260	3/16 British	3/8-24 Bubble	---	2.04
12-261	3/16 European	M10 x 1.0 Bubble	276110	1.98
12-262	3/16 Japanese	M10 x 1.0 Inv.	121050	1.98
12-263	3/16 Domestic	1/2 x 20 Inv.	---	2.52
12-264	3/16 Domestic	9/16 - 18 Inv.	121039	2.52
12-265	3/16 Imported	M11 x 1.5 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**



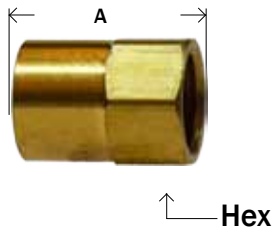
Part #	Inv. Flare X Inv. Flare	A	Hex	Approx. Wt. Lbs.	List Price
12-022	1/8"	0.59	0.40	0.02	2.40
12-023	3/16"	0.62	0.43	0.02	0.84
12-024	1/4"	0.62	0.50	0.03	1.79
12-025	5/16"	0.70	0.56	0.04	2.63
12-026	3/8"	0.80	0.75	0.08	3.17
12-027	1/2"	0.91	0.90	0.10	8.18

see page 72 for metric unions

302 2300 42IFHD

**FEMALE ADAPTER**

**SAE# 040103**

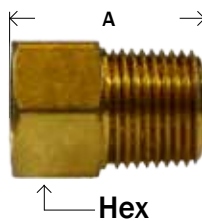


Part #	Inv. Flare X Female NPTF	A	Hex	Approx. Wt. Lbs.	List Price
12-032	3/16" x 1/8"	0.75	0.50	0.02	3.14
12-033	1/4" x 1/8"	0.75	0.53	0.02	1.98
12-034	5/16" x 1/8"	0.78	0.59	0.04	6.12
12-035	3/8" x 1/4"	1.03	0.75	0.08	6.62
12-036	1/2" x 3/8"	1.10	0.90	0.12	13.04

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

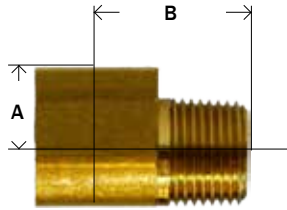
2200 48IFHD 202 48W 200

## INVERTED FLARE

## BRASS FITTINGS

## ELBOW

SAE# 040202



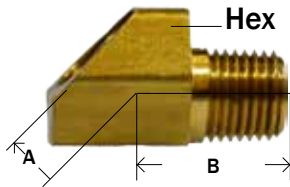
Part #	Inv. Flare X Male NPTF	A	B	Approx. Wt. Lbs.	List Price
12-057	1/8" x 1/8"	0.26	0.59	0.03	9.27
12-058	3/16" x 1/8"	0.26	0.61	0.03	2.95
12-059	1/4" x 1/8"	0.33	0.65	0.04	1.68
12-054*	1/4" x 1/8"	0.33	0.65	0.04	29.95
12-060	1/4" x 1/4"	0.28	0.82	0.06	3.36
12-061	5/16" x 1/8"	0.47	0.68	0.05	2.31
12-062	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

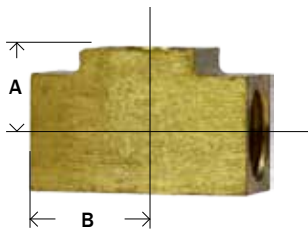


Part #	Inv. Flare X Male NPTF	A	B	Hex	Approx. Wt. Lbs.	List Price
12-072	3/16" x 1/8"	0.25	0.55	0.53	0.02	8.59
12-073	1/4" x 1/8"	0.27	0.58	0.56	0.04	4.10
12-074	5/16" x 1/8"	0.36	0.56	0.62	0.06	6.34
12-075	5/16" x 1/4"	0.23	0.83	0.62	0.06	18.19
12-076	3/8" x 1/4"	0.51	0.84	0.78	0.09	13.30
12-077	1/2"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



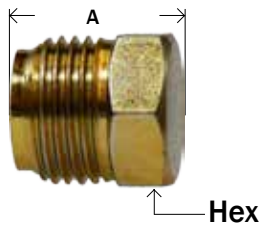
Part #	Size	A	B	Approx. Wt. Lbs.	List Price
12-085	1/8"	0.33	0.47	0.04	13.13
12-086	3/16"	0.39	0.55	0.04	4.33
12-087	1/4"	0.42	0.56	0.08	6.96
12-088	5/16"	0.45	0.63	0.09	7.77
12-089	3/8"	0.56	0.74	0.17	13.32
12-090	1/2"	0.67	0.88	0.24	31.37

244IFHD 702 44I

**STEEL PLUG**

• cored

SAE# 040109

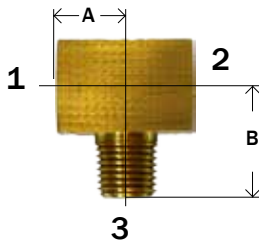


Part #	Size	A	Hex	Approx. Wt. Lbs.	List Price
12-091	3/16"	0.53	0.37	0.01	0.83
12-092	1/4"	0.54	0.43	0.02	1.04
12-093	5/16"	0.59	0.50	0.03	1.15
12-094	3/8"	0.66	0.62	0.04	2.69

106 41P 131 2131

**MALE BRANCH TEE**

SAE# 040425

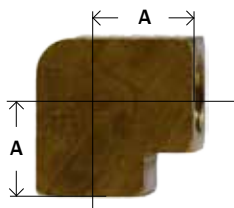


Part #	Inv. Flare x Male NPTF (1&2)x3	A	B	Approx. Wt. Lbs.	List Price
12-100	3/16" x 1/8"	0.41	0.60	0.04	4.92
12-101	1/4" x 1/8"	0.42	0.64	0.06	6.89
12-102	5/16" x 1/8"	0.47	0.68	0.07	11.34
12-103	3/8" x 1/4"	0.58	0.93	0.15	34.17

145 245IFHD 602 2600 600

**FEMALE ELBOW**

SAE# 040203

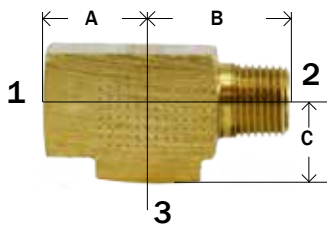


Part #	Inv. Flare x Female NPTF	A	Approx. Wt. Lbs.	List Price
12-110	1/4" x 1/8"	0.55	0.07	11.67
12-111	5/16" x 1/8"	0.51	0.08	23.53
12-112	3/8" x 1/4"	0.68	0.10	12.12

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

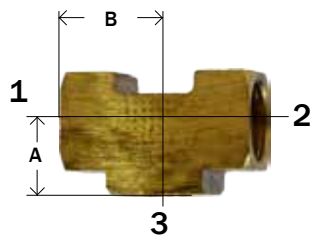
251IFHD 752 550 151

## INVERTED FLARE

## BRASS FITTINGS

## FEMALE BRANCH TEE

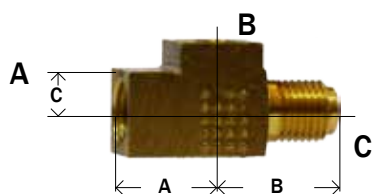
SAE# 040427



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

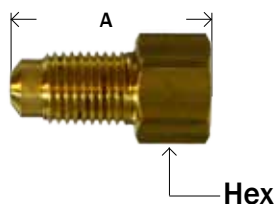
## TOWED TRAILER BRAKE TEE



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

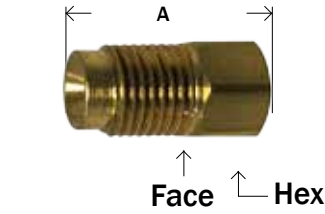
## INVERTED FLARE AUTO FITTINGS

## 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**



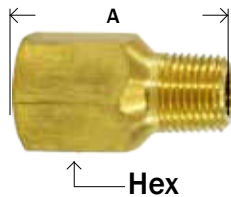
\* Seals on hex face



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**

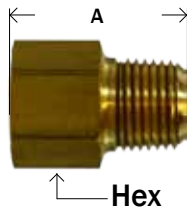


Part #	Female Tube OD x Male NPTF	A	Hex	Ref #	Approx. Wt. Lbs.	List Price
12-230	1/4"(1/2-20) x 1/8"	1.06	0.56	1513	0.04	19.33

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

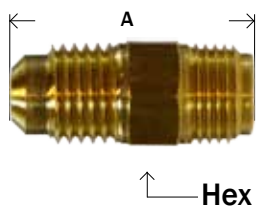
1510



## INVERTED FLARE

## BRASS FITTINGS

## SAE FLARE X INVERTED FLARE

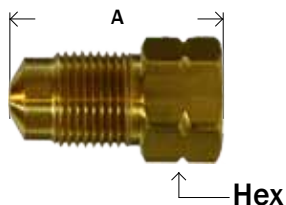


Part #	SAE Flare x Inv. Flare	A	Hex	Ref #	Approx. Wt. Lbs.	List Price
12-250	1/4" x 3/16"	1.03	0.43	1518	0.02	13.84
12-252	1/4" x 1/4"	1.03	0.43	1522	0.03	2.69
12-254	3/8" x 5/16"	1.34	0.63	1553	0.08	25.52
12-256	3/8" x 3/8"	1.37	0.63	1563	0.09	12.14
12-257	3/8" x 7/16"	1.40	0.68	1554	0.10	22.49

4205

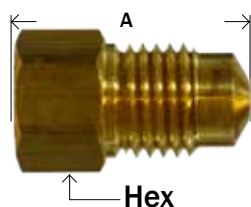
## METRIC HYDRAULIC BRAKE FITTINGS

## 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

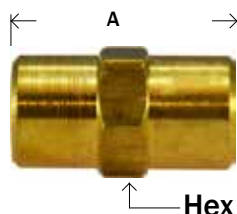


Part #	Tube OD/ Female Thread	Inverted Male Thread	Ref #	List Price
12-205	3/16 (3/8-24)	M10 x 1.0	1443	4.68



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

<b>Tube O.D.</b>	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8
<b>Thread Size-B</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
<b>Working Pressure</b>	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"

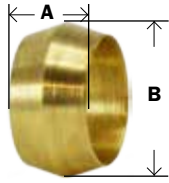
• "L" at the end of a Part# means **Light Pattern** - These fittings are completely interchangeable with full pattern fittings, but have been modified in some way. This modification is usually in the length of the pipe threads. Used in plumbing and light industrial applications.

### 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"

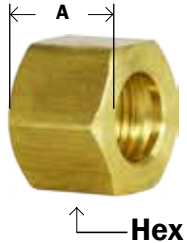
**COMPRESSION****BRASS FITTINGS****BRASS SLEEVE**

• FERRULES

**SAE# 060115**

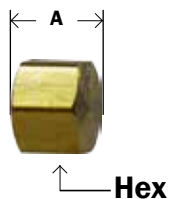
Part #	Size	A	B	Approx. Wt. Lbs.	List Price
18-001	1/8"	0.19	0.19	0.01	0.30
18-002	3/16"	0.22	0.27	0.01	0.21
18-003	1/4"	0.25	0.34	0.01	0.25
18-004	5/16"	0.25	0.41	0.01	0.20
18-005	3/8"	0.25	0.47	0.02	0.24
18-006	7/16"	0.31	0.53	0.02	0.57
18-007	1/2"	0.38	0.59	0.02	0.58
18-008	5/8"	0.38	0.71	0.03	0.62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

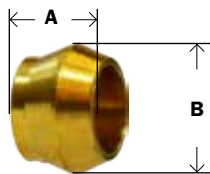
Part #	Size	Thread	A	Hex	Approx. Wt. Lbs.	List Price
18-033	1/8"	5/16-24	0.38	0.37	0.01	0.90
18-034	3/16"	3/8-24	0.41	0.43	0.01	0.53
18-035L	1/4"	7/16-24	0.44	0.50	0.02	0.57
18-035	1/4"	7/16-24	0.44	0.50	0.02	0.79
18-036	5/16"	1/2-24	0.44	0.56	0.02	0.85
18-037L	3/8"	9/16-24	0.47	0.62	0.04	0.90
18-037	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

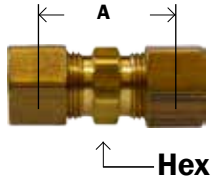
**COMPRESSION PLUG**

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**

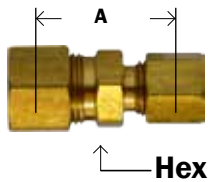
**SAE# 060101BA**



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**

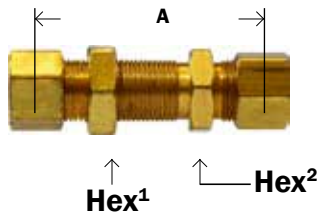


Part #	Size	A	Hex	Approx. Wt. Lbs.	List Price
18-076	1/4" x 1/8"	0.73	0.44	0.04	4.41
18-077	1/4" x 3/16"	0.78	0.44	0.06	7.99
18-078	5/16" x 1/4"	0.81	0.50	0.06	4.75
18-079	3/8" x 1/4"	0.90	0.56	0.10	7.20
18-080	3/8" x 5/16"	0.94	0.56	0.10	7.13
18-081	1/2" x 3/8"	1.03	0.68	0.12	8.12
18-082	5/8" x 3/8"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



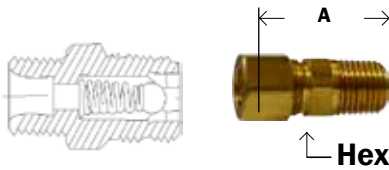
Part #	Size	A	Hex	Approx. Wt. Lbs.	List Price
18-097	1/4"	0.25	0.56	0.02	5.68
18-099	3/8"	0.25	0.68	0.04	6.28
18-100	1/2"	0.38	0.94	0.06	28.13

20102

## COMPRESSION

## BRASS FITTINGS

## BALL CHECK VALVE - Min. Working pressure 3 psi.

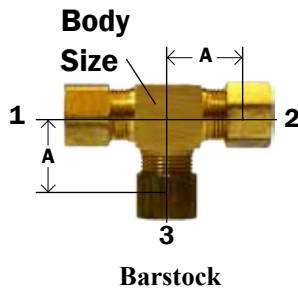
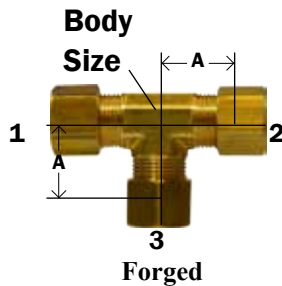


Part #	Tube OD x Male NPTF	A	Hex	Approx. Wt. Lbs.	List Price
18-092	1/8" x 1/8"	0.78	0.44	0.04	11.63
18-094	1/4" x 1/8"	0.88	0.44	0.04	12.20
18-096	3/8" x 1/4"	1.16	0.56	0.08	16.11

63 263 63A

## TEE

## SAE# 060401

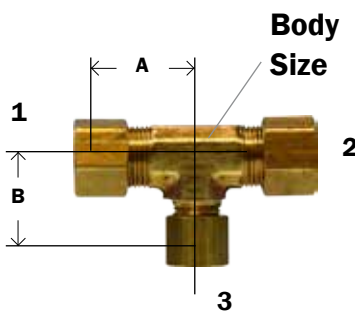


Part #	Size	A	Body Size	Approx. Wt. Lbs.	List Price
18-101	1/8"	0.61	0.37	0.04	12.96
18-101B*	1/8"	0.62	0.33	0.04	11.29
18-102	3/16"	0.59	0.36	0.08	5.80
18-102B*	3/16"	0.60	0.38	0.08	8.20
18-103	1/4"	0.63	0.36	0.10	5.35
18-103B*	1/4"	0.62	0.49	0.10	10.20
18-104	5/16"	0.72	0.50	0.13	8.49
18-104B*	5/16"	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



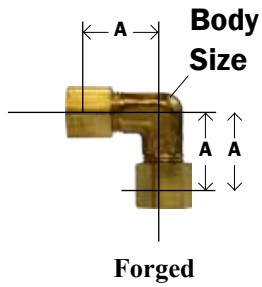
Part #	Size 1 x 2 x 3	A	B	Body Size	Approx. Wt. Lbs.	List Price
18-114	1/4" x 1/4" x 1/8"	0.62	0.59	0.38	0.09	7.68
18-110	1/4" x 1/4" x 3/8"	0.69	0.75	0.50	0.14	16.99
18-111	3/8" x 1/4" x 1/4"	0.75	0.69	0.50	0.12	10.44
18-115	3/8" x 3/8" x 1/4"	0.75	0.69	0.50	0.14	7.67
18-116	1/2" x 1/2" x 1/4"	0.94	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**

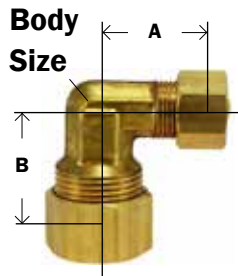


Part #	Size	A	Body Size	Approx. Wt. Lbs.	List Price
18-122B*	1/8"	0.62	0.35	0.04	8.32
18-123	3/16"	0.61	0.37	0.06	7.44
18-124	1/4"	0.66	0.38	0.08	4.80
18-125	5/16"	0.69	0.47	0.09	7.91
18-126	3/8"	0.72	0.43	0.12	6.33
18-127	1/2"	0.94	0.59	0.19	10.20
18-128	5/8"	1.06	0.72	0.26	10.71
18-129	3/4"	1.19	0.94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

Forged  
Barstock

65 BSE2 165C 265C

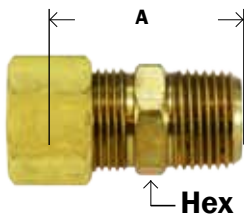
**REDUCING ELBOW - Forged**



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

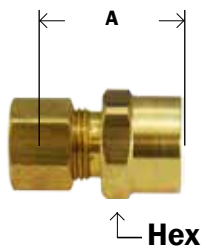
**TANK ADAPTER DRILLED THRU (NO STOP)**



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

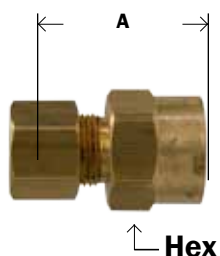


## COMPRESSION

## 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



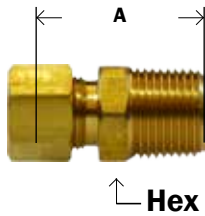
Part #	Size	List Price
18-066D	3/8"	5.72
18-069D	5/8"	13.38
18-071D	7/8"	30.66

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

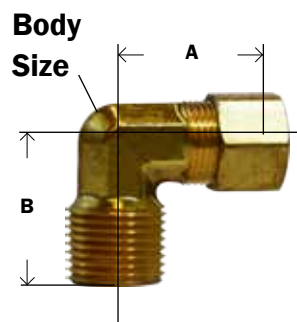
68

## COMPRESSION

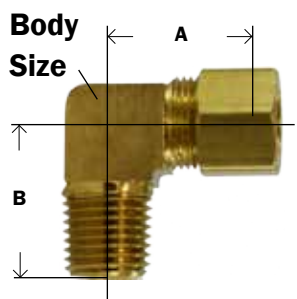
## BRASS FITTINGS

## MALE ELBOW

SAE# 060202



Forged



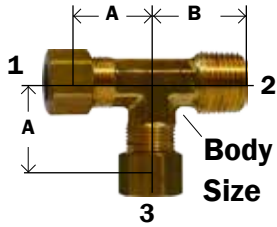
Barstock

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**

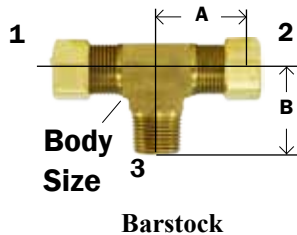
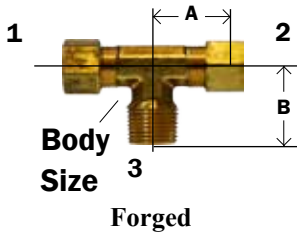


Part #	Comp. X Male NPTF (1&3) X 2	A	B	Body Size	Approx. Wt. Lbs.	List Price
18-272	1/8" x 1/8"	0.63	0.69	0.36	0.06	6.65
18-273	3/16" x 1/8"	0.63	0.69	0.36	0.07	6.65
18-274	1/4" x 1/8"	0.63	0.75	0.36	0.08	5.73
18-275	1/4" x 1/4"	0.69	0.88	0.44	0.10	6.78
18-276	5/16" x 1/8"	0.72	0.75	0.50	0.10	8.93
18-277	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**



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.

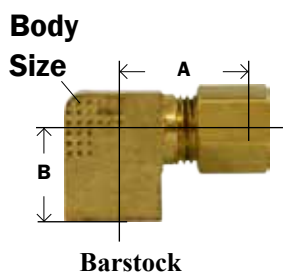
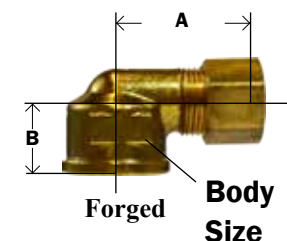
— Henry Van Dyke

## COMPRESSION

## BRASS FITTINGS

## FEMALE ELBOW

SAE# 060203

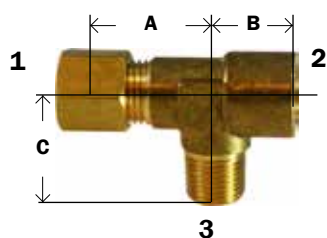


Part #	Comp. X Female NPTF	A	B	Body Size	Approx. Wt. Lbs.	List Price
18-251	1/8" x 1/8"	0.69	0.56	0.56	0.04	8.46
18-252	3/16" x 1/8"	0.69	0.47	0.56	0.04	5.01
18-253	1/4" x 1/8"	0.69	0.47	0.56	0.06	4.98
18-253B*	1/4" x 1/8"	0.69	0.56	0.56	0.06	6.00
18-254	1/4" x 1/4"	0.75	0.50	0.72	0.08	5.64
18-267	1/4" 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



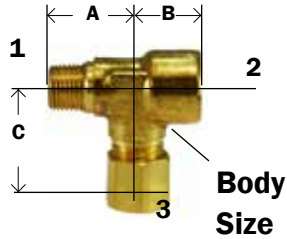
Part #	Comp. X Female NPTF x Male NPTF 1x(2&3)	A	B	C	Approx. Wt. Lbs.	List Price
18-307	1/4" x 1/8"	0.72	0.53	0.72	0.20	7.73

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

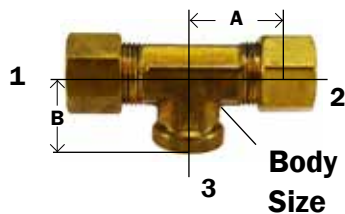
**ADAPTER TEE**



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**

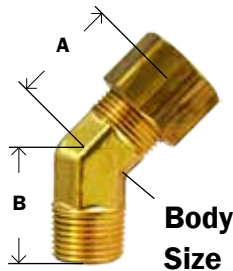


Part #	Comp. X Female NPTF (1&2)x3	A	B	Body Size	Approx. Wt. Lbs.	List Price
18-321	1/4" x 1/8"	0.78	0.75	0.45	0.10	7.37
18-328	1/4" x 1/4"	0.78	0.75	0.44	0.12	11.51
18-325	3/8" x 1/8"	0.75	0.63	0.50	0.12	9.57
18-322	3/8" x 1/4"	0.81	0.97	0.47	0.14	11.59
18-323	3/8" x 3/8"	0.97	0.69	1.05	0.16	17.32
18-326	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

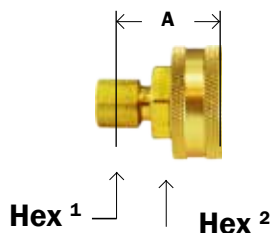


Part #	Comp. X Male NPTF	A	B	Body Size	Approx. Wt. Lbs.	List Price
18-329	3/16" x 1/8"	0.40	0.63	0.41	0.04	5.72
18-330	1/4" x 1/8"	0.40	0.61	0.41	0.04	5.26
18-336	1/4" x 1/4"	0.59	0.84	0.53	0.06	7.71
18-331	5/16" x 1/8"	0.59	0.65	0.53	0.06	8.47
18-332	5/16" x 1/4"	0.59	0.83	0.53	0.08	8.96
18-333	3/8" 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

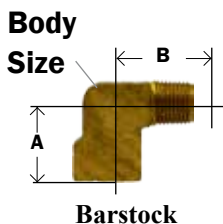


Part #	THRD Sleeve x Male NPTF	A	Hex	Approx. Wt. Lbs.	List Price
16-117	1/8" x *	0.62	0.43	0.02	13.26
16-118	1/8" x 1/8"	0.62	0.43	0.02	2.62
16-119	3/16" x 1/8"	0.69	0.43	0.02	3.30
16-121	1/4" x 1/8"	0.75	0.50	0.04	2.93
16-122	5/16" x 1/8"	0.89	0.56	0.04	5.72
16-123	3/8" x 1/4"	0.84	0.62	0.06	8.28

\* 1/4 - 28 Male Thread Tapered.

188 6200 12

## 90° ELBOW



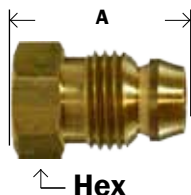
Barstock

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

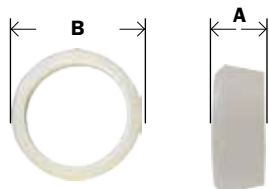


Part #	Tube O.D.	Pipe Thread	List Price
38-718	5/32"	1/8"	10.59
25-220	1/8"	1/8"	8.88

**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

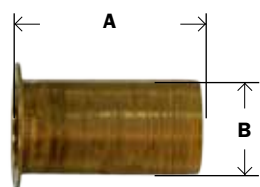
**DELRIN SLEEVE**

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**

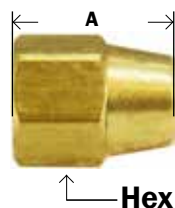
• SLEEVE



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

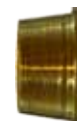
See lead free insert on page 167

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

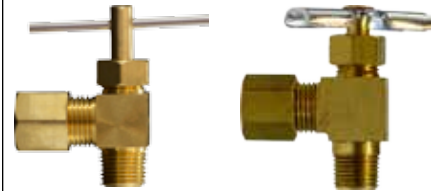
### MALE BRANCH TEE



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

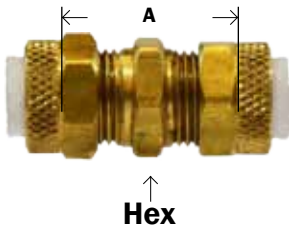
**NUT AND PLASTIC SLEEVE ASSEMBLY**



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

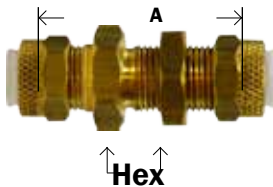
**UNION**



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

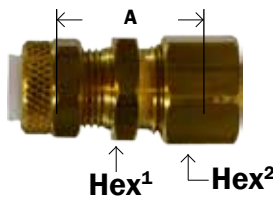
**BULKHEAD UNION**



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

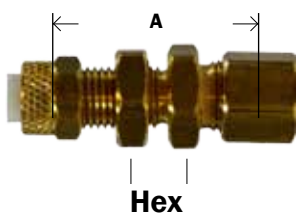
**UNION TUBE #M62C - FLARELESS X STANDARD COMPRESSION**



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

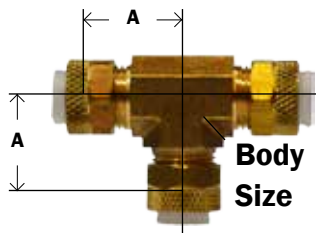
1274



## FLARELESS

## BRASS FITTINGS

## UNION TEE

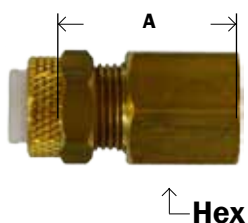


Part #	Tube O.D.	A	Body Size	Approx. Wt. Lbs.	List Price
20-248	1/8"	0.62	0.31	0.02	15.05
20-249	3/16"	0.62	0.31	0.04	13.13
20-250	1/4"	0.73	0.44	0.06	10.36
20-251	5/16"	0.62	0.37	0.08	15.00
20-252	3/8"	0.86	0.56	0.08	11.64
20-330*	3/8" x 1/4"	0.72	0.44	0.08	22.19
20-253	1/2"	0.81	0.62	0.24	32.11

\* Reducing Branch

1264 164P 264P

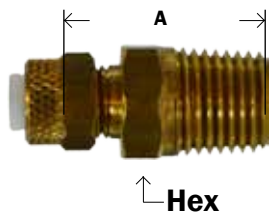
## FEMALE CONNECTOR



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

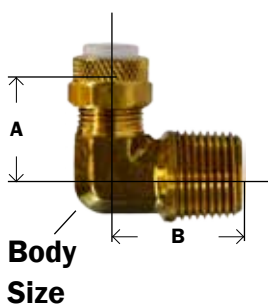


Part #	Tube O.D. x Male NPTF	A	Hex	Approx. Wt. Lbs.	List Price
20-268	1/8" x 1/8"	0.80	0.34	0.04	5.30
20-269	3/16" x 1/8"	0.86	0.44	0.04	4.65
20-271	1/4" x 1/8"	0.82	0.44	0.03	3.67
20-272	1/4" x 1/4"	1.00	0.56	0.05	4.45
20-273	1/4" x 3/8"	1.03	0.69	0.08	8.15
20-274	5/16" x 1/8"	0.81	0.44	0.04	5.03
20-275	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

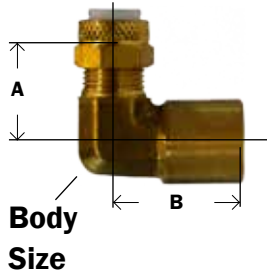


Part #	Tube O.D. x Male NPTF	A	B	Body Size	Approx. Wt. Lbs.	List Price
20-287	1/8" x 1/8"	0.62	0.69	0.31	0.02	5.46
20-288	3/16" x 1/8"	0.62	0.69	0.37	0.04	5.58
20-289*	1/4" x 1/8"	0.53	0.73	0.50	0.04	4.66
20-290	1/4" x 1/4"	0.66	0.94	0.37	0.06	7.20
20-291	1/4" x 3/8"	0.75	1.03	0.50	0.10	11.69
20-292	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

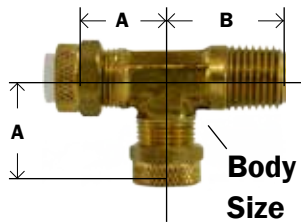
**FEMALE ELBOW**



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

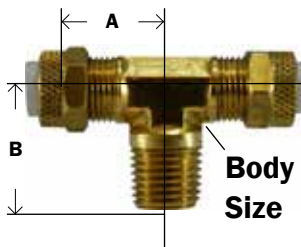
**MALE RUN TEE**



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

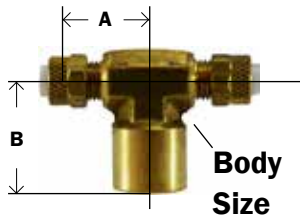
**MALE BRANCH TEE**



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**

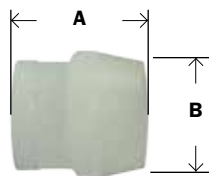
Part #	Tube O.D.	Thread	A	Hex	Approx. Wt. Lbs.	List Price
20-227	1/8"	5/16-24	0.37	0.37	0.02	1.91
20-228	3/16"	3/8-24	0.41	0.44	0.02	2.31
20-229	1/4"	3/8-24	0.34	0.43	0.02	2.50
20-230	5/16"	7/16-24	0.34	0.50	0.02	2.23
20-231	3/8"	1/2-24	0.37	0.56	0.04	3.21
20-232	1/2"	11/16-20	0.42	0.81	0.04	4.32

261PFB 1261B 61PB 261UB

**NUT**

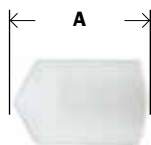
Part #	Tube O.D.	Thread	A	Hex (Dia.)	Approx. Wt. Lbs.	List Price
20-218	1/8"	5/16-24	0.37	0.37	0.01	1.40
20-219	3/16"	3/8-24	0.41	0.44	0.01	1.20
20-220	1/4"	3/8-24	0.34	0.44	0.02	1.46
20-221	5/16"	7/16-24	0.34	0.50	0.02	0.98
20-222	3/8"	1/2-24	0.38	0.56	0.04	2.08
20-223	1/2"	11/16-20	0.42	0.81	0.06	2.62

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

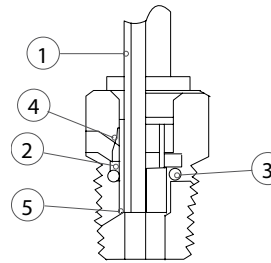


# BRASS PUSH-IN FITTINGS



## 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

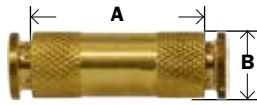
expands the insert. Pulling back on the tube only tightens the grip as the insert moves onto the camming surface (4). Pressure through the tube also serves to tighten the grip. The tube bottoms against a positive tube stop (5) in a cavity providing tube support to prevent leakage.

### • Tolerance

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



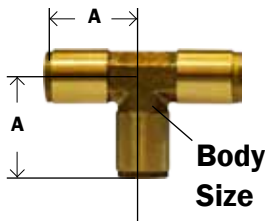
**UNION CONNECTOR**



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**

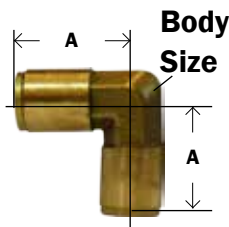


Part #	Tube O.D.	A	Body Size	Approx. Wt. Lbs.	List Price
20-025	1/8"	0.65	0.31	0.04	6.66
20-026	5/32"	0.67	0.31	0.04	8.28
20-027	3/16"	0.75	0.37	0.06	14.68
20-028	1/4"	0.92	0.37	0.09	10.04
20-031*	5/16"	0.89	0.49	0.10	28.36
20-029	3/8"	0.98	0.50	0.13	13.80
20-030	1/2"	1.16	0.62	0.24	21.20

\* Nickel Plated

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

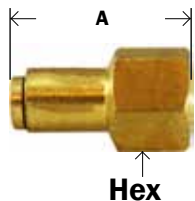
**UNION ELBOW**



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

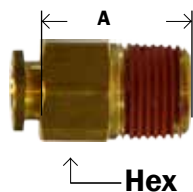
266PP AQ66 6463 3114 66PL 12-426 50-566 266-OF 1166



## BRASS PUSH-IN FITTINGS

## BRASS FITTINGS

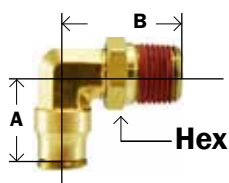
## MALE CONNECTOR



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

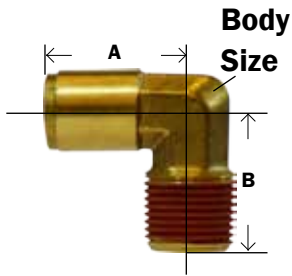
aq69-ps 56520 3109 169pl kql 12-447 50-579 269-OF5 11695

\*\* Furnished with gaskets

## BRASS FITTINGS

## BRASS PUSH-IN FITTINGS

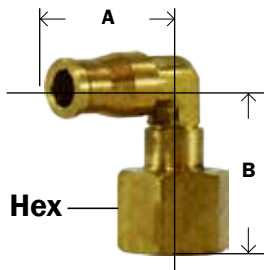
### FIXED MALE ELBOW



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

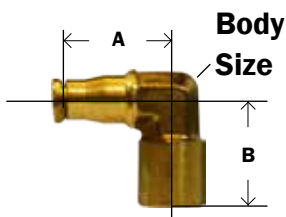
269PP AQ69-P 6500 169PLNS 12-445 1169

### 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

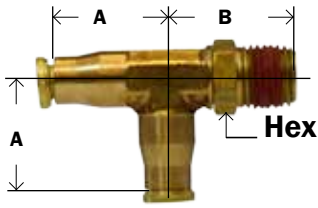
May your choices reflect your hopes, not your fears.

- Nelson Mandela

## BRASS PUSH-IN FITTINGS

## BRASS FITTINGS

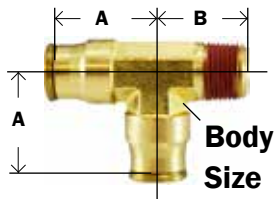
## SWIVEL MALE RUN TEE



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

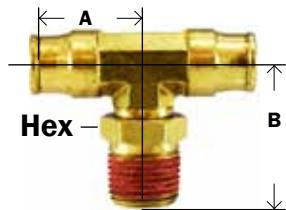
## FIXED MALE RUN TEE



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

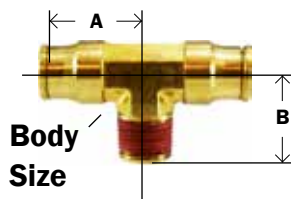
## SWIVEL MALE BRANCH TEE



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



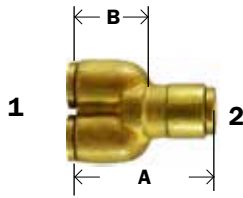
Part #	Tube O.D. x Male NPTF	A	B	Body Size	Approx. Wt. Lbs.	List Price
20-112	1/8" x 1/8"	0.69	0.72	0.31	0.04	13.08
20-113	5/32" x 1/8"	0.69	0.65	0.31	0.04	14.92
20-115	1/4" x 1/8"	0.92	0.74	0.37	0.12	13.73
20-116	1/4" x 1/4"	0.91	0.91	0.43	0.10	14.06
20-117	3/8" x 1/8"	0.98	0.80	0.50	0.08	17.30
20-118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

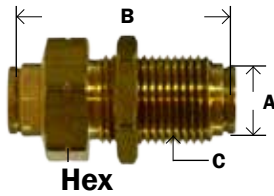
## BRASS PUSH-IN FITTINGS

### 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

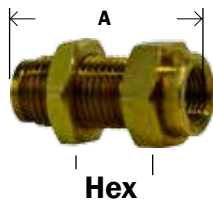
### BULKHEAD UNION



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

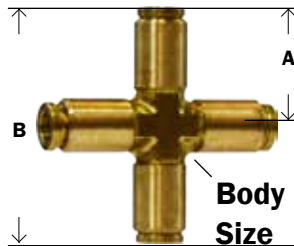
### FEMALE BULKHEAD UNION



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

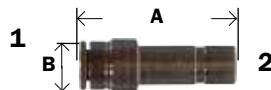
AQ86-P 1166BH

### 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

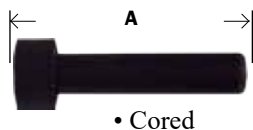
### REDUCER - NICKEL PLATED - TUBE OD X STUD



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**

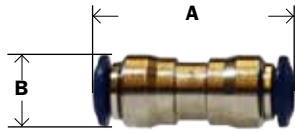


“Global Thread” fittings can be assembled with female threads produced to the following standards:

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

## NICKEL PLATED PUSH-IN FITTINGS

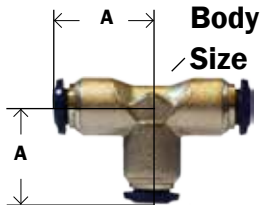
## UNION CONNECTOR



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

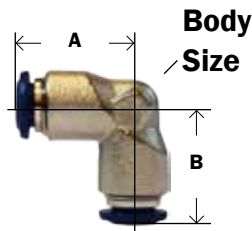
## UNION TEE



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

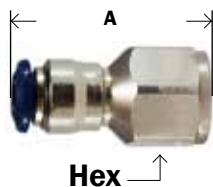
## UNION ELBOW



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

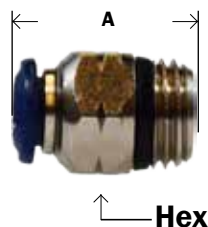
Today is a GOOD day.



## NICKEL PLATED PUSH-IN FITTINGS

## BRASS FITTINGS

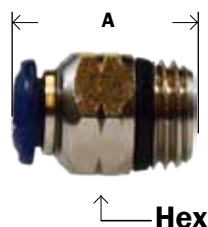
## MALE CONNECTOR



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

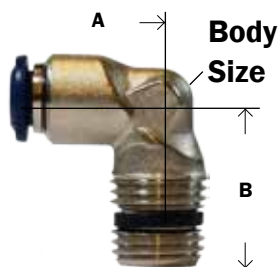


NEW

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

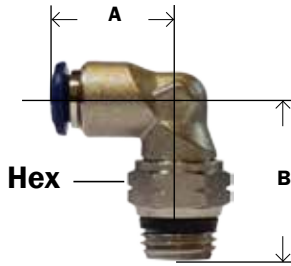
The more I want to get something done, the less I call it work.

- Richard Bach

## BRASS FITTINGS

## NICKEL PLATED PUSH-IN FITTINGS

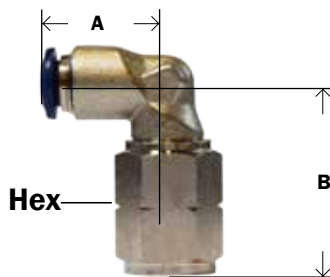
### SWIVEL MALE ELBOW



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
<b>NEW</b> 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
<b>NEW</b> 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
<b>NEW</b> 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

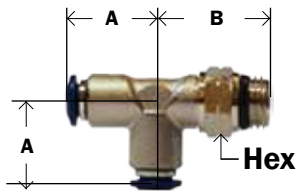
W169PL 87110

### 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



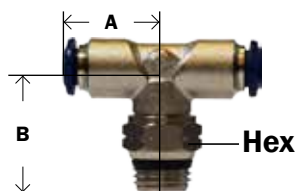
Part #	Tube O.D. x Male Global Thread	A	B	Hex	Approx. Wt. Lbs.	List Price
<b>NEW</b> 20-095N	1/8" x 1/8"	0.67	0.81	0.51	0.05	12.14
<b>NEW</b> 20-851N	1/8" x 1/4"	0.67	0.95	0.59	0.06	14.14
<b>NEW</b> 20-852N	5/32" x 1/8"	0.67	0.79	0.51	0.07	20.72
<b>NEW</b> 20-853N	5/32" x 1/4"	0.67	0.95	0.59	0.07	13.86
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
<b>NEW</b> 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
<b>NEW</b> 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
<b>NEW</b> 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

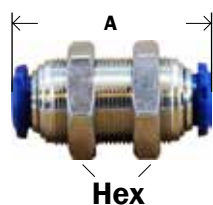
## SWIVEL MALE BRANCH TEE



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
<b>NEW</b> <b>NEW</b> 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
<b>NEW</b> 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
<b>NEW</b> 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

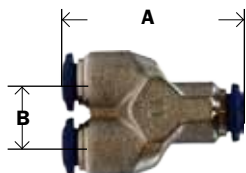
## BULKHEAD UNION



Part #	Tube O.D.	A	Hex	Approx. Wt. Lbs.	List Price
<b>NEW</b> <b>NEW</b> 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
<b>NEW</b> 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

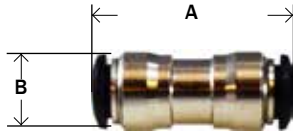
**3-WAY FIP - CLOSED CENTER**

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

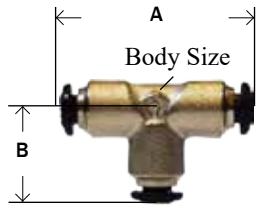
## BRASS FITTINGS

## BULKHEAD UNION



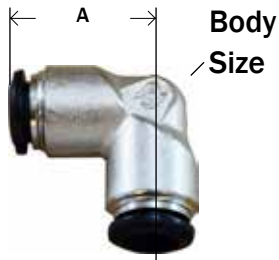
Part #	Tube O.D. (mm)	Tube O.D. (mm)	A	B	List Price
20-723N	3		1.014	0.332	11.87
20-600N	4		1.190	0.410	8.32
20-724N	5		1.287	0.449	8.64
20-725N	6	4	1.248	0.488	8.64
20-601N	6		1.326	0.488	8.64
20-726N	8	6	1.365	0.566	9.46
20-727N	8		1.404	0.566	9.65
20-728N	10	8	1.638	0.683	11.87
20-603N	10		1.638	0.683	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



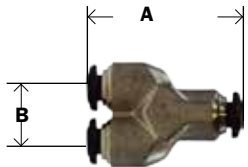
Part #	Tube O.D. (mm)	A	B	Body Size	List Price
20-741N	3	1.326	0.663	0.351	16.50
20-610N	4	1.326	0.663	0.351	12.69
20-742N	5	1.560	0.780	0.429	13.39
20-611N	6	1.638	0.819	0.429	13.39
20-612N	8	1.755	0.878	0.507	15.49
20-613N	10	2.067	1.034	0.624	20.12
20-614N	12	2.379	1.190	0.741	24.95
20-743N	14	2.379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

## UNION ELBOW



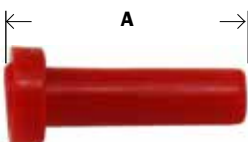
Part #	Tube O.D. (mm)	A	Body Size	List Price
20-738N	3	0.663	0.51	11.87
20-206N	4	0.663	0.351	9.21
20-739N	5	0.780	0.429	9.33
20-660N	6	0.780	0.429	9.33
20-661N	8	0.878	0.507	10.98
20-807N	10	1.034	0.624	13.52
20-808N	12	1.190	0.741	17.78
20-740N	14	1.268	0.741	21.90

## 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

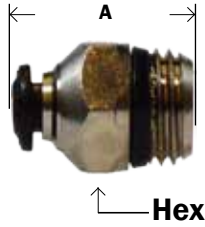
## PLUG



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**

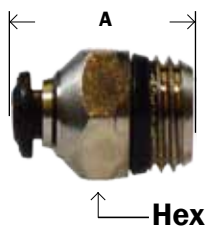


**NEW**  
**NEW**



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**

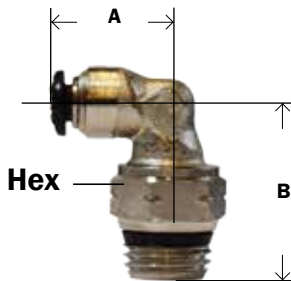


**NEW**



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**



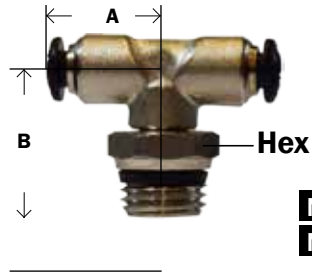
Part #	Tube O.D. (mm)	Global Thread	A	B	Hex	List Price
20-708N	4	1/8"	0.663	0.780	0.507	9.14
20-709N	4	1/4"	0.663	0.936	0.585	9.97
20-710N	5	1/8"	0.780	0.858	0.507	9.21
20-642N	6	1/8"	0.819	0.858	0.507	8.73
20-803N	6	1/4"	0.819	0.975	0.585	9.97
20-711N	8	1/8"	0.878	0.917	0.507	10.17
20-805N	8	1/4"	0.878	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

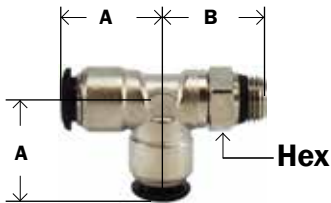
## METRIC TUBE SWIVEL MALE BRANCH TEE



**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

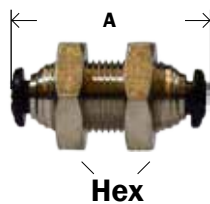
## METRIC TUBE SWIVEL MALE RUN TEE



**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
<b>NEW</b> 20-016C	1/4" x 5/32"	0.01	5.14
<b>NEW</b> 20-515C	5/16" x 1/4"	0.01	6.39
20-022C	3/8" x 1/4"	0.01	8.16
<b>NEW</b> 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
<b>NEW</b> 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
<b>NEW</b> 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
<b>NEW</b> 20-535C*	1/8" x 1/4"	0.01	5.02
<b>NEW</b> 20-517C*	3/16" x 1/4"	0.01	6.69
<b>NEW</b> 20-080C*	5/32" x 1/8"	0.01	6.69
<b>NEW</b> 20-077C*	5/32" x 1/4"	0.01	5.10
<b>NEW</b> 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
<b>NEW</b> 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
<b>NEW</b> 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
<b>NEW</b> 20-160C*	1/8" x 1/8"	0.03	8.44
<b>NEW</b> 20-833C*	1/8" x 1/4"	0.03	8.95
<b>NEW</b> 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
<b>NEW</b> 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
<b>NEW</b> 20-103C*	1/8" x 1/8"	0.02	10.94
<b>NEW</b> 20-519C*	1/8" x 1/4"	0.03	11.22
<b>NEW</b> 20-109C*	5/32" x 1/8"	0.02	10.37
<b>NEW</b> 20-135C*	5/32" x 1/4"	0.03	10.26
<b>NEW</b> 20-104C*	5/32" x 10/32"	0.03	7.10
<b>NEW</b> 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
<b>NEW</b> 20-831C*	1/4" x 10/32"	0.06	7.61
20-121C	1/4" x 3/8"	0.08	6.11
<b>NEW</b> 20-136C*	5/16" x 1/8"	0.04	11.28
<b>NEW</b> 20-137C*	5/16" x 1/4"	0.05	11.00
<b>NEW</b> 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



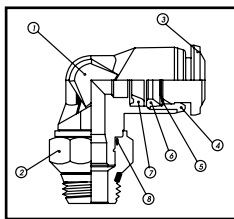
Part #	Tube O.D. x Male NPT	Approx. Wt. Lbs.	List Price
20-785C	1/4 x 1/8	0.04	31.69
20-786C	1/4 x 1/4	0.04	35.28
20-787C	3/8 x 1/4	0.06	31.80
20-788C	3/8 x 3/8	0.06	41.89
20-789C	1/2 x 1/2	0.10	74.44



## 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
<b>NEW</b>	20-690*	4	M5	5.14
<b>NEW</b>	20-856*	4	1/8"	5.55
<b>NEW</b>	20-855*	4	1/4"	5.97
<b>NEW</b>	20-692*	5	M5	5.76
<b>NEW</b>	20-857*	5	1/8"	6.69
<b>NEW</b>	20-859*	5	M5	4.94
	20-642	6	1/8"	6.45
	20-803	6	1/4"	9.69
<b>NEW</b>	20-698*	6	3/8"	7.00
<b>NEW</b>	20-699*	6	1/2"	9.16
<b>NEW</b>	20-711*	8	1/8"	5.76
	20-805	8	1/4"	14.35
	20-655	8	3/8"	18.78
<b>NEW</b>	20-712*	8	1/2"	9.47
	20-656	10	1/4"	13.27
	20-657	10	3/8"	19.30
<b>NEW</b>	20-713*	10	1/2"	9.47
	20-658	12	3/8"	22.23
	20-659	12	1/2"	24.64
<b>NEW</b>	20-714*	14	3/8"	10.19
<b>NEW</b>	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
<b>NEW</b>	20-860*	4	1/4"	8.44
<b>NEW</b>	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
<b>NEW</b>	20-718*	14	3/8"	14.10
<b>NEW</b>	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
<b>NEW</b>	20-720*	4	1/4"	8.44
<b>NEW</b>	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

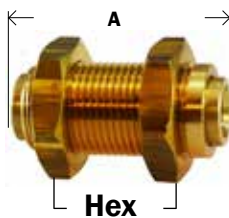
## GLADHAND BULKHEAD CONNECTOR



## 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**

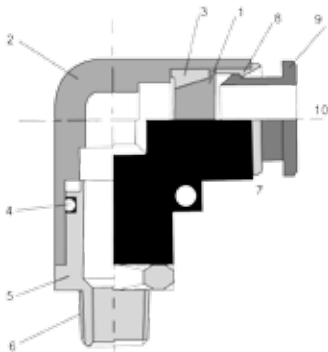
- Composite DOT push-to-connect fittings are designed only for use in applications where air is utilized as an operating fluid.
  - Fittings must be used in accordance with manufacturer and industry specifications.
  - They are not intended for use in environments exceeding 145psi or 140 degrees F.
  - 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](mailto: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 <sup>3</sup> /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

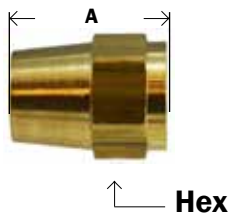


Part #	Tube O.D.	A	Approx. Wt. Lbs.	List Price
38-161	1/4"	0.25	0.01	0.55
38-162	3/8"	0.31	0.02	0.87
38-163	1/2"	0.38	0.02	0.88
38-164	5/8"	0.44	0.02	1.43
38-165	3/4"	0.50	0.04	3.72

60AB 1360

## NUT

SAE# 120111BA

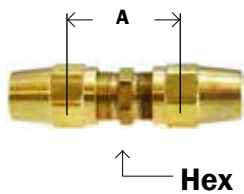


Part #	Tube O.D.	A	Hex	Approx. Wt. Lbs.	List Price
38-170	1/4"	0.75	0.56	0.02	1.79
38-171	3/8"	1.13	0.62	0.04	2.10
38-172	1/2"	1.25	0.81	0.08	4.51
38-173	5/8"	1.38	0.94	0.12	4.70
38-174	3/4"	1.56	1.12	0.18	10.06

20961 61AB 1361

## UNION

SAE# 120101BA

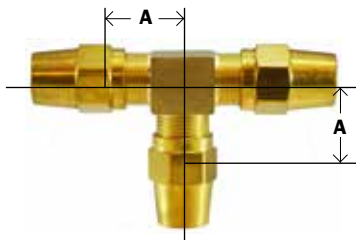


Part #	Tube O.D.	A	Hex	Approx. Wt. Lbs.	List Price
38-179	1/4"	0.81	0.44	0.08	6.18
38-180	3/8"	1.10	0.56	0.14	7.79
38-181	1/2"	1.07	0.69	0.24	15.73
38-182	5/8"	1.41	0.81	0.34	21.81
38-183	3/4"				42.57

62AB 1362

## TEE

SAE# 120401BA

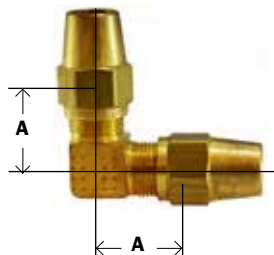


Part #	Tube O.D.	A	Approx. Wt. Lbs.	List Price
38-188	1/4"	0.62	0.16	14.40
38-189	3/8"	0.82	0.24	15.19
38-190	1/2"	0.94	0.48	28.41

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

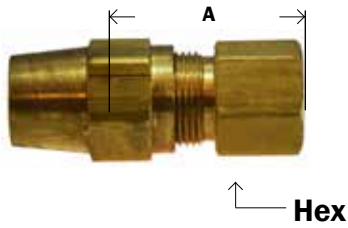
\* Forged

265AB 1365

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

**FEMALE ADAPTER**

**SAE# 120103BA**

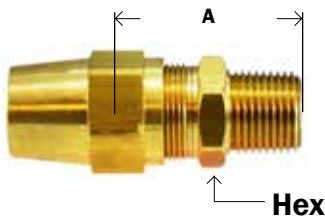


Part #	Tube O.D. x Female NPTF	A	Hex	Approx. Wt. Lbs.	List Price
38-207	3/8" x 1/4"	1.19	0.68	0.12	7.31
38-208	3/8" x 3/8"	1.18	0.87	0.16	8.28
38-209	1/2" x 3/8"	1.27	0.87	0.18	42.42

66AB 1366

**MALE ADAPTER**

**SAE# 120102BA**

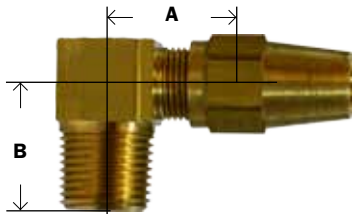


Part #	Tube O.D. x Male NPTF	A	Hex	Approx. Wt. Lbs.	List Price
38-217	1/4" x 1/8"	0.88	0.43	0.06	3.68
38-218	1/4" x 1/4"	0.97	0.56	0.08	5.19
38-221	3/8" x 1/4"	1.09	0.56	0.10	5.84
38-222	3/8" x 3/8"	1.19	0.69	0.12	6.25
38-223	3/8" x 1/2"	1.45	0.87	0.18	6.67
38-224	1/2" x 1/4"	1.32	0.69	0.16	13.48
38-225	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**

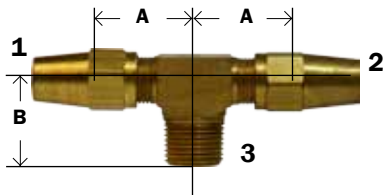


Part #	Tube O.D. x Male NPTF	A	B	Approx. Wt. Lbs.	List Price
38-235	1/4" x 1/8"	0.64	0.76	0.08	5.96
38-236	1/4" x 1/4"	0.69	0.88	0.10	10.20
38-237	1/4" x 3/8"	0.73	0.86	0.14	12.35
38-239	3/8" x 1/4"	0.80	0.93	0.12	8.92
38-240	3/8" x 3/8"	0.83	0.90	0.16	9.55
38-243	1/2" x 3/8"	0.92	0.98	0.22	12.47
38-244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

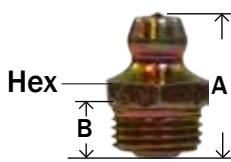
Meets SAE #J-534C

- Assortments also available

Many types available on special order.

### PIPE THREAD

### BALL CHECK

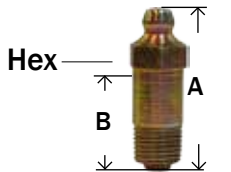


Part #	Size	A	B	Hex	Approx. Wt. Lbs.	List Price
36-110	1/8" -27 NPTF	0.66	0.28	0.437	0.01	0.95
36-110SS	303 SS	0.68	0.29	0.437	0.01	4.26
36-111	Thread Forming	0.62	0.23	0.437	0.01	1.18

#610 1610 2800 1720 5000

### PIPE THREAD

### BALL CHECK

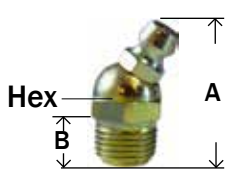


Part #	Size	A	B	Hex	Approx. Wt. Lbs.	List Price
36-112	1/8" -27 NPTF	1.25	0.22	0.437	0.02	3.71
36-113	1/8" -27 NPTF	1.75	1.26	0.437	0.02	2.70

#607 1607 2800 1669 5003

### PIPE THREAD

### 30° ANGLE BALL CHECK

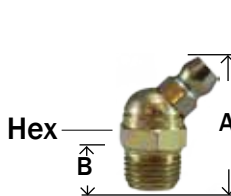


Part #	Size	A	B	Hex	Approx. Wt. Lbs.	List Price
36-114	1/8" -27 NPTF	0.90	0.30	0.437	0.01	1.49

#611 1611 2830 5100

### PIPE THREAD

### 45° ANGLE BALL CHECK

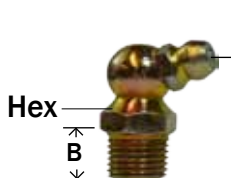


Part #	Size	A	B	Hex	Approx. Wt. Lbs.	List Price
36-116	1/8" -27 NPTF	0.88	0.22	0.437	0.01	1.59
36-116SS	303 SS	0.95	0.29	0.437	0.01	7.36

#688 1688 2845 5200

### PIPE THREAD

### 65° ANGLE BALL CHECK

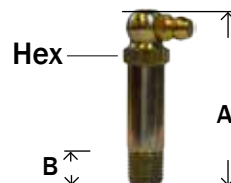


Part #	Size	A	B	Hex	Approx. Wt. Lbs.	List Price
36-118	1/8" -27 NPTF	0.86	0.30	0.437	0.01	1.42

#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



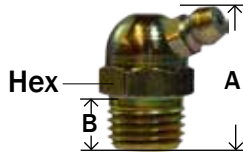
Part #	Size	A	B	Hex	Approx. Wt. Lbs.	List Price
36-130	1/4" -18 NPTF	0.84	0.30	0.437	0.02	1.58
36-130SS	303 SS	0.87	0.42	0.437	0.02	11.31

#627 1627 2900K 5050

## STEEL GREASE FITTINGS

## STEEL FITTINGS

## PIPE THREAD

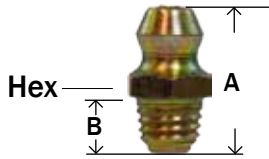


## 65° ANGLE BALL CHECK

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

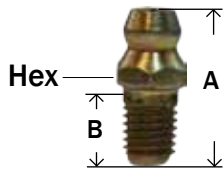


## SHORT BALL CHECK

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

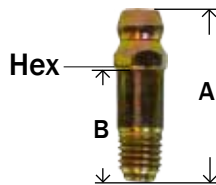


## LONG BALL CHECK

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

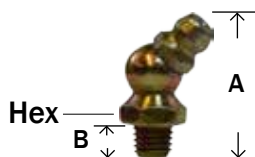


## EXTRA LONG BALL CHECK

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

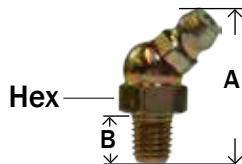


## SHORT 45° BALL CHECK

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

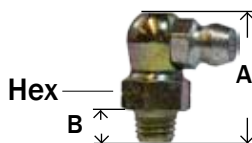


## LONG 45° BALL CHECK

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

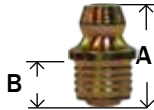
#911 1911 2490 3054 5410

## STEEL FITTINGS

## STEEL GREASE FITTINGS

### DRIVE TYPE

### BALL CHECK

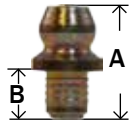


Part #	Size	A	B	Approx. Wt. Lbs.	List Price
36-160	5/16"	0.55	0.25	0.01	0.80

#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

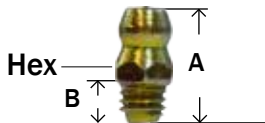
### BALL CHECK



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



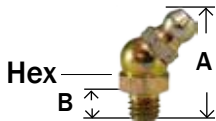
Part #	Size	A (mm)	B (mm)	Hex (mm)	Approx. Wt. Lbs.	List Price
36-168	6MM x 1	16	3.7	7	0.01	0.92

( Diameter x Pitch )

#711 6000 2106 2M6 5175

### METRIC

### 45° ANGLE

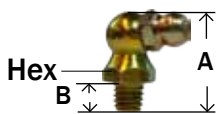


Part #	Size	A (mm)	B (mm)	Hex (mm)	Approx. Wt. Lbs.	List Price
36-170	6MM x 1	21	3.7	9	0.02	1.24

#712 6045 2107 5176

### METRIC

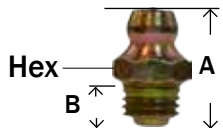
### 90° ANGLE



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

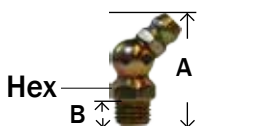


Part #	Size	A (mm)	B (mm)	Hex (mm)	Approx. Wt. Lbs.	List Price
36-174	8MM x 1	16	3.7	9	0.02	0.78

#811 8000 2103 ZM58 5178

### METRIC

### 45° ANGLE

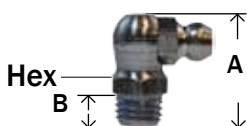


Part #	Size	A (mm)	B (mm)	Hex (mm)	Approx. Wt. Lbs.	List Price
36-176	8MM x 1	21	3.7	9	0.02	1.35

#812 8045 2104 ZM458 5179

### METRIC

### 90° ANGLE



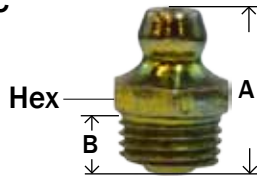
Part #	Size	A (mm)	B (mm)	Hex (mm)	Approx. Wt. Lbs.	List Price
36-178	8MM x 1	18	3.7	9	0.02	1.52

#813 8090 2105 ZM908 5180

## STEEL GREASE FITTINGS

## BRASS FITTINGS

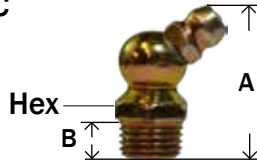
## METRIC



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

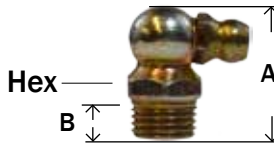


## 45° ANGLE

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

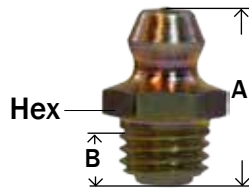
## METRIC



## 90° ANGLE

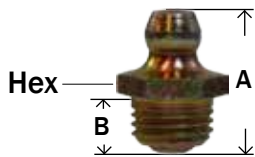
Part #	Size	A (mm)	B (mm)	Hex (mm)	Approx. Wt. Lbs.	List Price
36-184	10MM x 1	18	3.7	11	0.02	1.52

#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

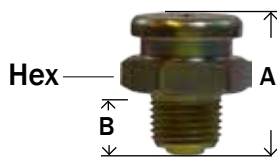
#711-B 1711 2500



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

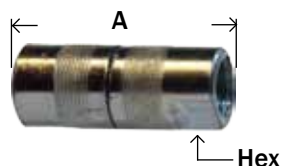
3/16" ID

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

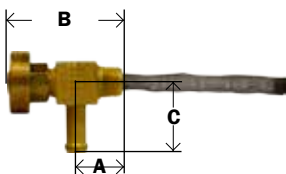
## BRASS FITTINGS

## 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

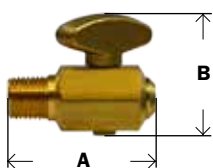
## GASOLINE SHUT OFF w/ SCREEN FILTER



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

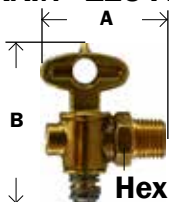
## DRAIN COCK 150 PSI - Trunk Air Tank



Part #	Male Pipe	A	B	Approx. Wt. Lbs.	List Price
46-066	1/4"	1.73	1.41	0.22	26.18

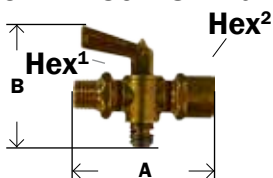
DCR601-4

## 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.

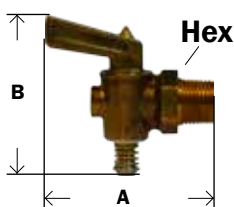


Part #	Male Pipe x Female Pipe	Industry Number	A	B	Hex 1	Hex 2	Approx. Wt. Lbs.	List Price
46-069	1/4"	W20332	1.96	1.96	0.75	0.62	0.20	14.58

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

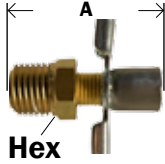


Part #	Size	Description	List Price
39595	1/4" male	5ft nylon coated pull cable	12.77
39596	1/4" male	4ft nylon coated pull cable	11.94
39597	1/4" male	3ft nylon coated pull cable	11.77
39600	1/4" male	Air valve only	11.54

# BRASS FITTINGS

# DRAIN COCKS

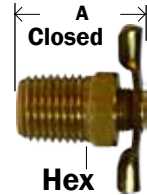
## INTERNAL SEAT



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

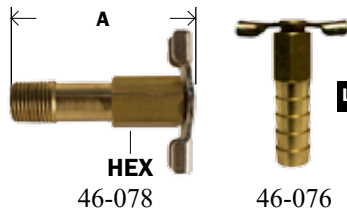
## INTERNAL SEAT



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

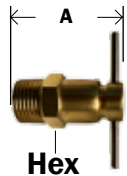
## LONG INTERNAL SEAT



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

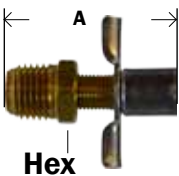
## TEE HANDLE - Internal Seat



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

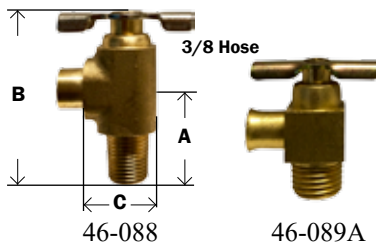


Part #	Male Pipe	Industry Number	A	Hex	Approx. Wt. Lbs.	List Price
46-084*	1/4"	6788	1.56	0.56	0.02	10.49

\* Replaces GM # 511771 & Chrysler #836015

200A 239 DC606 807

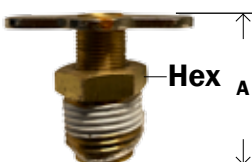
## BIBB VALVE



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

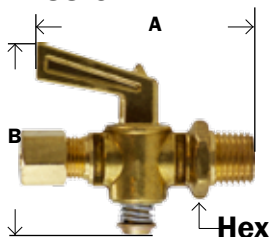
## SHUT-OFF COCKS

## 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

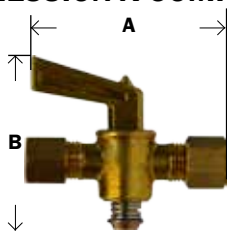


Part #	Comp X Male Pipe	Ind. #	A	B	Hex	Approx. Wt. Lbs.	List Price
46-130	1/4" x 1/8"	27-C	1.87	1.81	0.51	0.14	17.08
46-131	1/4" x 1/4"	227-C	2.05	1.86	0.62	0.15	21.52
46-132	5/16" x 1/8"	29-C	2.05	1.90	0.50	0.16	17.08
46-134	3/8" x 1/4"	57-C	2.05	1.83	0.62	0.15	18.06

868 V304C 2068 133C VC206

## COMPRESSION X COMPRESSION

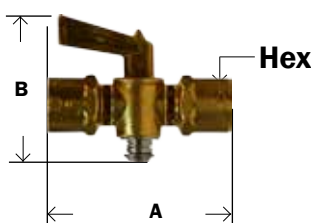
\* See pg. 73-74 to order nut and sleeve separately.



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

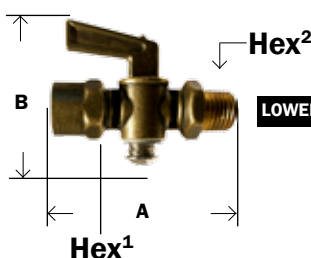


Part #	Female Pipe X Female Pipe	A	B	Hex	Approx. Wt. Lbs.	List Price
46-151	1/8"	1.77	1.79	0.56	0.12	15.18
46-152	1/4"	2.28	1.82	0.69	0.20	16.04
46-152T*	1/4"	2.28	2.00	0.68	0.20	23.92
46-153	3/8"	2.44	2.28	0.81	0.30	25.89

\* 150 PSI

V403P 132C 875

## MALE PIPE X FEMALE

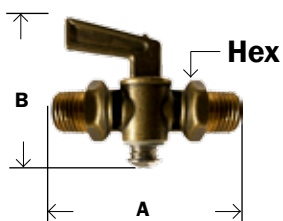


Part #	Male Pipe X Female Pipe	Ind. #	A	B	Hex 1	Hex 2	Approx. Wt. Lbs.	List Price
46-160	1/8"	48-P	2.03	1.84	0.50	0.56	0.14	15.34
46-161	1/4"	49-P	2.26	1.79	0.69	0.69	0.18	12.14
46-161T*	1/4"		2.26	1.98	0.69	0.69	0.20	21.75
46-162	3/8"	50-P	2.33	2.28	0.82	0.82	0.28	25.89

\* 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
<b>L</b> 46-165	1/8"	76-P	2.15	1.80	0.69	0.12	12.14
<b>L</b> 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

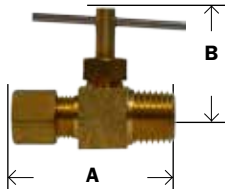
Made with either pin handle or pressed on handle.

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.

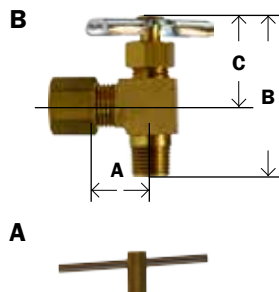
**COMP X MALE PIPE**



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

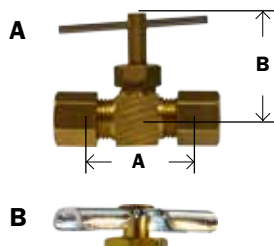
**COMP X MALE PIPE-ANGLE**



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

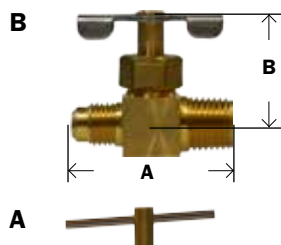
**COMP X COMP**



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

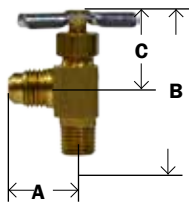
NV103F 2405 823 3048

Those who say it can not be done, should not interrupt those doing it. - Chinese Proverb

## NEEDLE VALVES

## BRASS FITTINGS

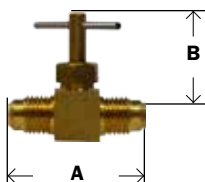
## FLARE X MALE PIPE



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

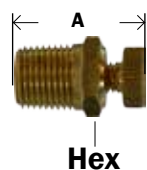
## FLARE X FLARE



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

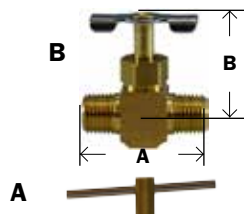
## MULTI-PURPOSE AIR VENT



Part #	Male Pipe	A	Hex	Approx. Wt. Lbs.	List Price
46-048	1/8"	0.78	0.43	0.02	3.74

705

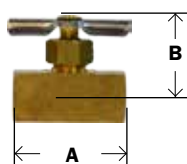
## MALE PIPE TO MALE PIPE



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

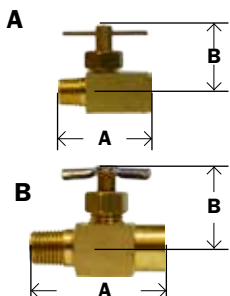


Part #	Female Pipe X Female Pipe	Ind. #	A	B	Approx. Wt. Lbs.	List Price
46-055*	1/8"	M-304-P	1.18	0.84	0.18	10.13
46-056	1/4"	M-3044-P	1.60	1.24	0.21	10.36
46-056P*	1/4" Heavy	M-3044-P	1.62	2.53	0.20	15.51

\* 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



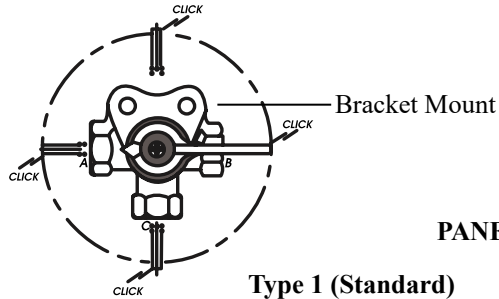
## SPECIALTY VALVES

## 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.

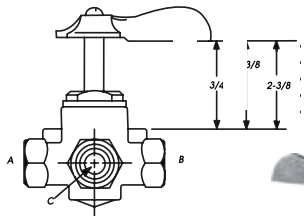
Designed for PANEL or BRACKET MOUNTING. They are generally recommended for operation in GASOLINE, OIL, AIR, WATER and DETERGENT systems from minus 40° to 180°F, at a maximum operating pressure of 30 p.s.i.g. The fluid port size is 9/32 (.281) diameter for 1/8 and 1/4 sizes, 5/16 (.312) diameter for the 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

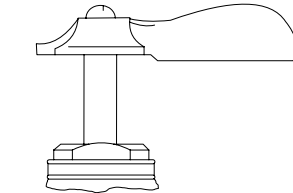
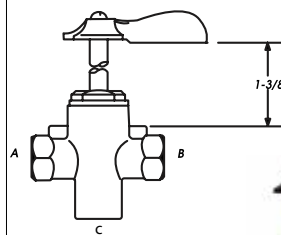
## M-108-MID WITH CLICK 360°

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

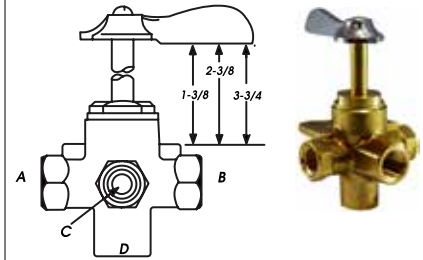
## WITH CLICK 360°

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.

• Flo direction <-



**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
<b>NEW</b> 46-522	1/2 x 1/2	30.21



**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



**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



**ALUMINUM**

Part #	Size	List Price
46-520A	1/4 x 1/4	18.56
46-521A	3/8 x 3/8	30.97



**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



**MALE MIP X FEMALE FIP BRASS**

Part #	Size	List Price
46-523	1/4	21.17
46-524	3/8	29.33



**ALUMINUM**

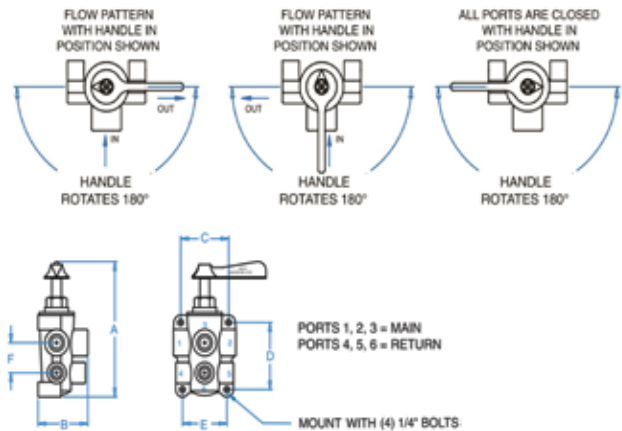
Part #	Size	List Price
46-523A	1/4	18.90
46-524A	3/8	26.10



**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.



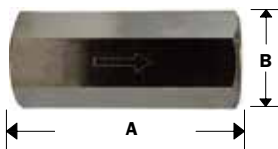
**FNPT X FNPT**

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

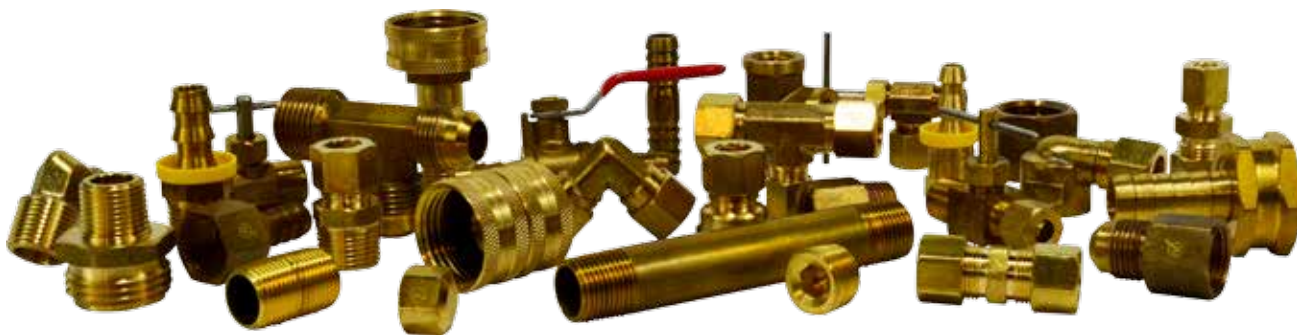
NEW

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."*

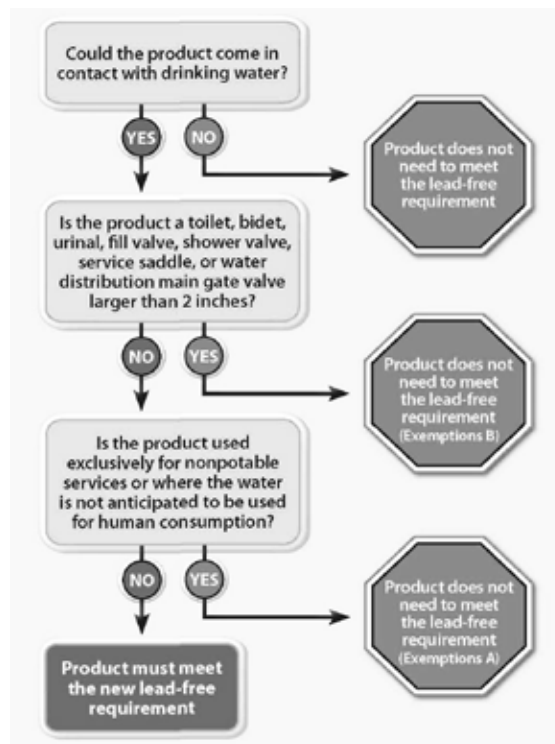
## How do I know which products must meet the new lead-free requirement?

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



**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

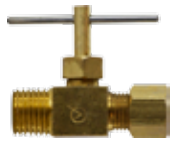


Part #	Comp. X Female NPTF	List Price
18-253LF	1/4" x 1/8"	8.19
18-254LF	1/4" x 1/4"	12.02
18-267LF	1/4" x 3/8"	9.33
18-259LF	3/8" x 3/8"	5.94
18-260LF	3/8" x 1/2"	6.55
18-262LF	1/2" x 3/8"	11.80
18-263LF	1/2" x 1/2"	14.49
18-264LF	5/8" x 1/2"	9.57

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

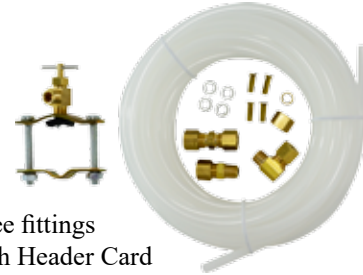
**COMP X COMP**



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**

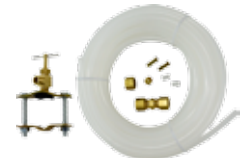


- Lead free fittings
- Bag with Header Card
- 25' 1/4" O.D. Polyethylene Tubing - 979215
- Self Piercing Saddle Valve
- 1/4" O.D. Compression x 1/8" MIP Elbow & Adapter
- 1/4" O.D. Compression Union
- 1/4" Inserts & Sleeves

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 - <b>NEW</b> .....	187
Gate Valves.....	188
Quick Opening Gate - <b>NEW</b> .....	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 .....

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
---------

LEAD  
FREE



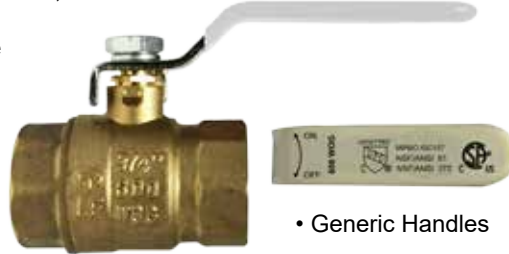
• **BRASS** • **600PSI** • **STAINLESS STEEL BALL** • **FULL PORT**



**LEAD FREE BALL VALVE**

IAMPO IGC 157 - 2004b

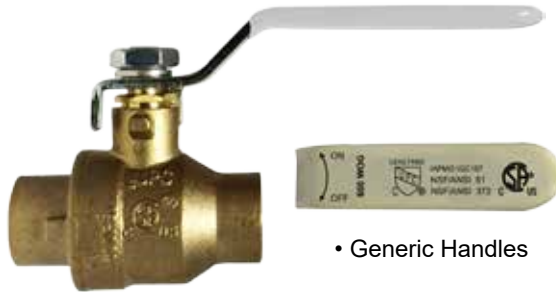
Lead Free Brass Ball Valve NPT,Female\*Female  
 Lead Free and dezincification resistant (DZR) material  
 IAPMO listed to NSF/ANSI-61, NSF/ANSI-372 ,IGC-157  
 CSA listed to NSF/ANSI-61, NSF/ANSI-372 ,IGC-157  
 Vacuum Services 29.92 inches Hg  
 600 psi (WOG) 150 psi (WSP) Service  
 Thread conform 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**

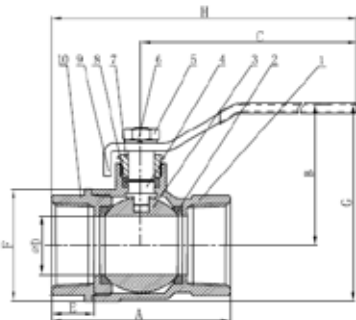
Part #	Size	OD	A	B	C	E	F	G	H	Weight	Box/Case	List Price
941151LF	1/4"	0.394	1.73	1.69	3.35	0.453	0.945	2.154	4.331	0.32	10/120	9.75
941152LF	3/8"	0.394	1.73	1.69	3.35	0.473	0.945	2.154	4.331	0.32	10/120	9.75
941153LF	1/2"	0.524	1.89	1.73	3.35	0.472	1.083	2.276	4.291	0.36	10/100	10.99
941154LF	3/4"	0.748	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

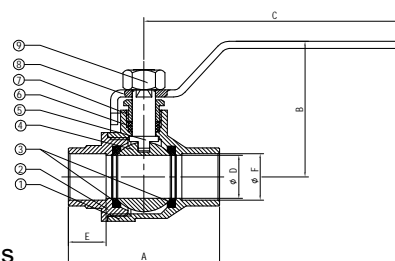
- Leadfree Brass Ball valve NPT, Female \* Female
- Lead free and dezincification resistant (DZR) material
- 1/4"-1" Lead Free Brass Ball
- Size 1-1/4" thru 4" with Stainless steel ball
- IAMPO listed to cUPC, NSF/ ANSI 61 & 372, IGC 157
- CSA - 1/4" thru 2": ANSI Z21.15/ CSA 9.1 for 1/2 psig valves 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 &amp; 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**

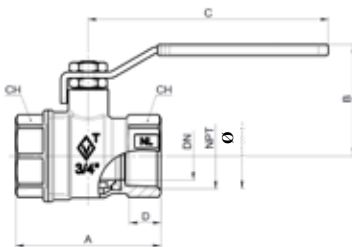
ANSI/INSP 61-8  
• Generic Handles

**FIP X FIP LEAD FREE FORGED BRASS BALL VALVE**

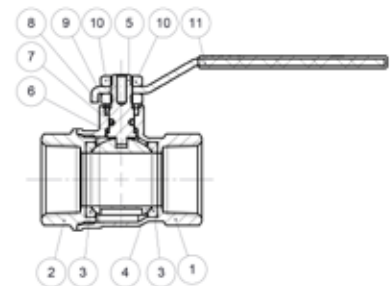
Part #	NPT	DN	A	B	C	D	CH	Weight (lbs)	Box/Case	List Price
943-233LF	1/2"	0.57	2.09	1.57	3.35	0.46	0.98	0.39	20/80	18.74
943-234LF	3/4"	0.75	2.28	1.77	3.80	0.49	1.22	0.56	14/56	28.09
943-235LF	1"	0.94	3.04	2.03	3.80	0.59	1.50	0.89	6/24	46.68
943-236LF	1-1/4"	1.24	3.23	2.32	4.72	0.62	1.85	1.44	4/16	74.64
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**

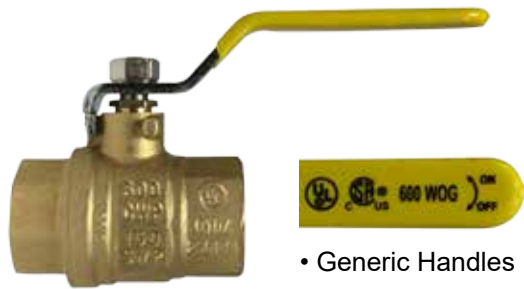
1/4"-2" 600 PSI non-shock cold water, gas, oil - 150 PSI saturated steam

2-1/2" - 4" 400 PSI non-shock cold water, gas, oil

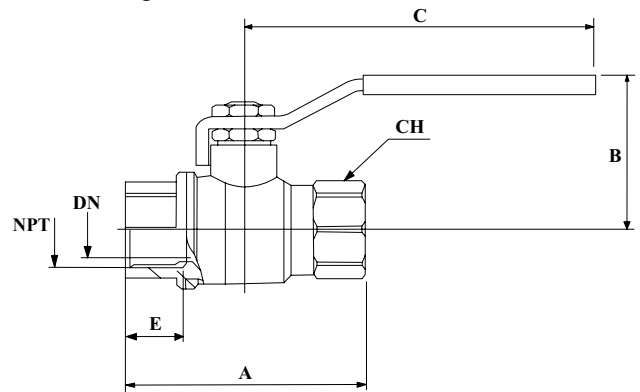
Made in China

- 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

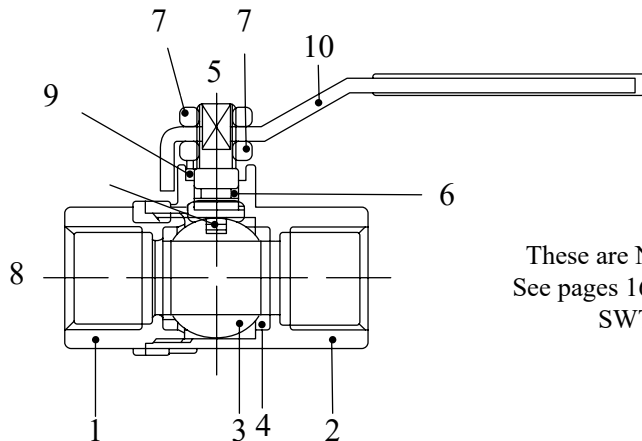


• Generic Handles



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

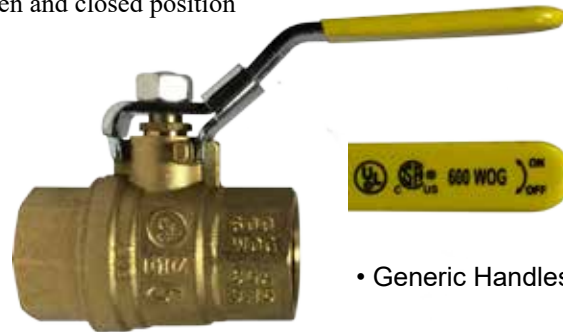
• BRASS • 600WOG • FULL PORT

1/2" - 2" Sizes Gas Approved

ISO 9002 Manufacturer  
FEATURES1/4-2" 600 PSI non-shock cold water, gas, oil -  
150 PSI saturated steam

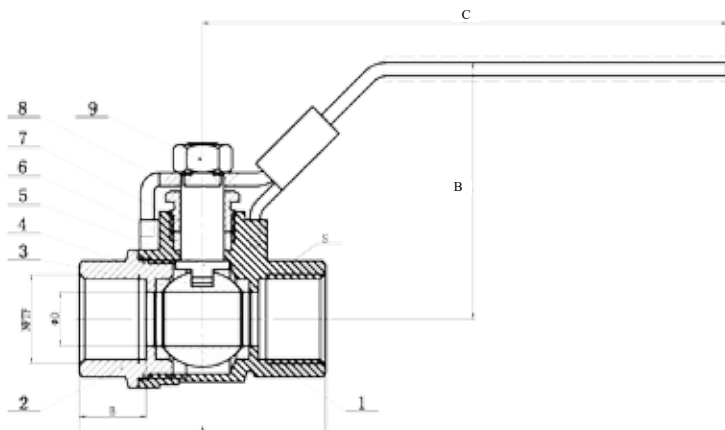
Made in China

- 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

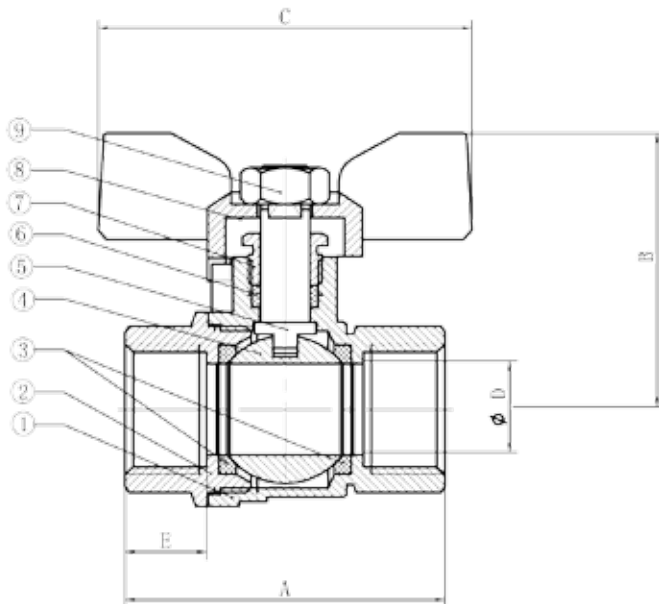
Made in China

- 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

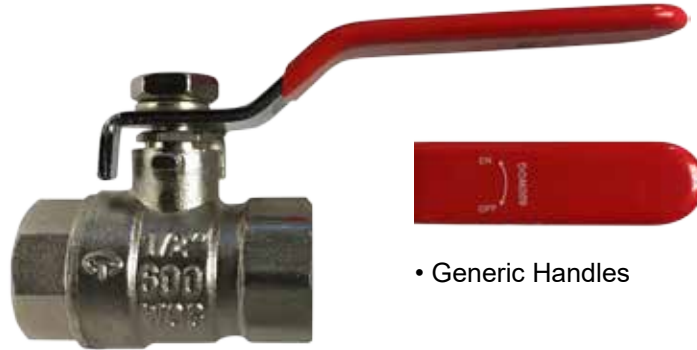
PTFE Ball Seats

Blow Out Proof Brass Stem

Steel Handle w/Vinyl Grip

Made in China

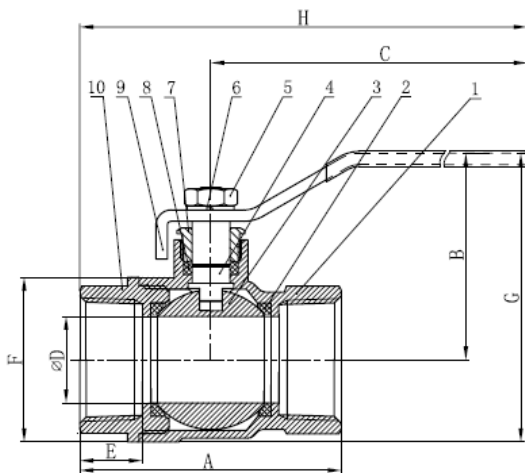
- Not Lead Free



- 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

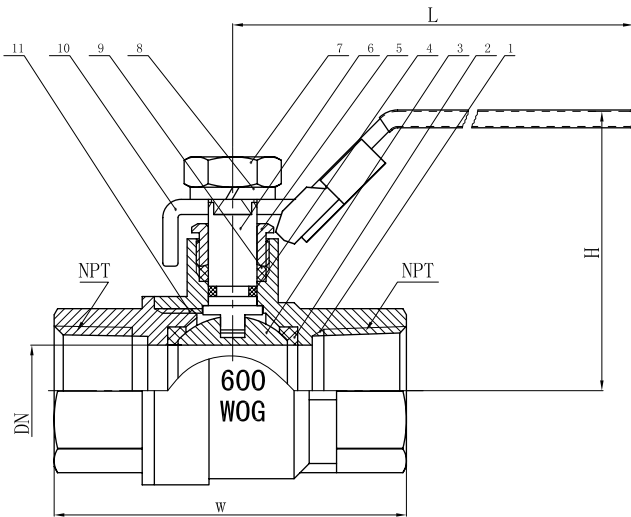
**Performance rating**

- 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

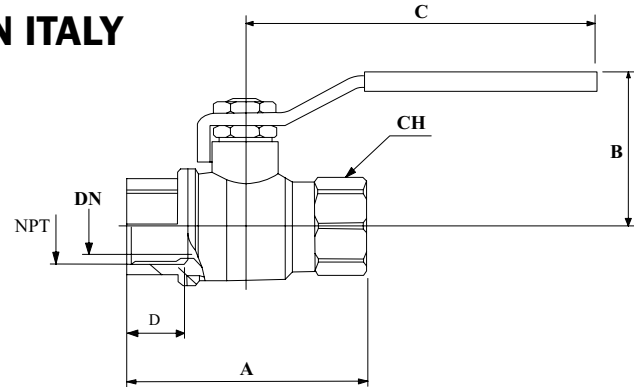
CSA AGA 3.88 5 PSIG IAMPO IGC 157 - 2004b

- **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	

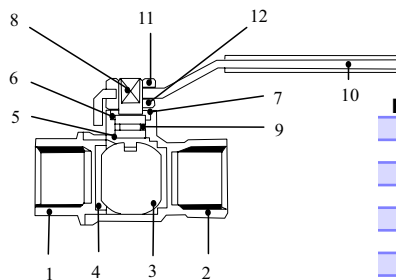
## HANDLE OPTIONS

## 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

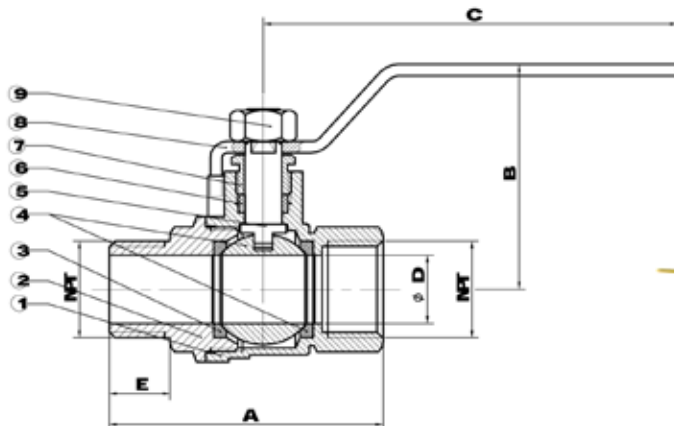
- Solid chrome plated brass ball
- Suitable for full range of liquids and gases.
- Minimal pressure drop due to large full size ports.
- Bottom loaded, pressure retaining stem.
- Pressure rated at 600psi (42 bars) WOG ( non-shock) and 150psi (10.34 bars) saturated steam. Virgin TFE stem packing seal, 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

## VALVES

## ITALIAN MALE X FEMALE BALL VALVE

• BRASS • 600WOG • FULL PORT

Gas Approved

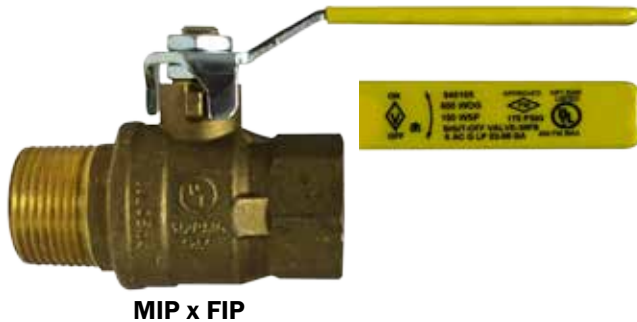


CSA AGA 3.88 5 PSIG Made in Italy

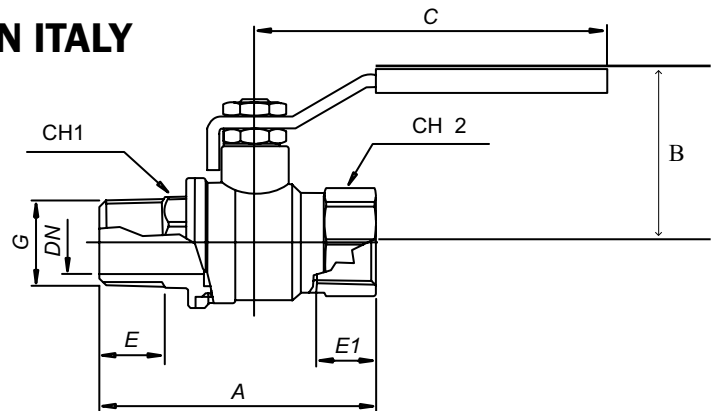
ISO 9002 Manufacturer  
FEATURES

- 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.

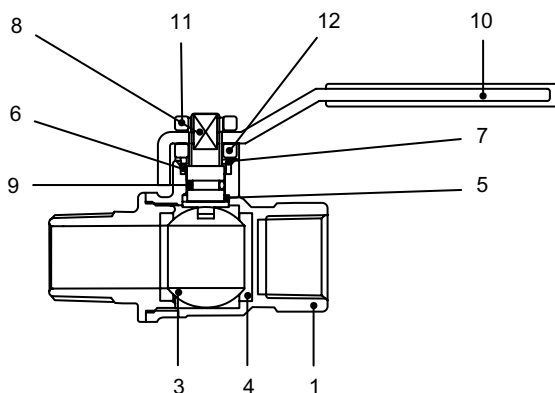
## MADE IN ITALY



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**

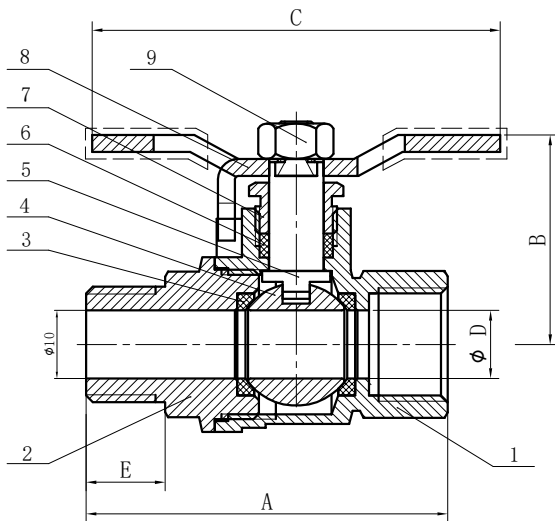
- Thread conform ANSI B1.20.1
- Forged brass body
- Blow out proof stem design
- Packing nut, O-Ring and packing on the stem seal
- Chrome Plated Brass Ball
- Handle with vinyl grip

**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**

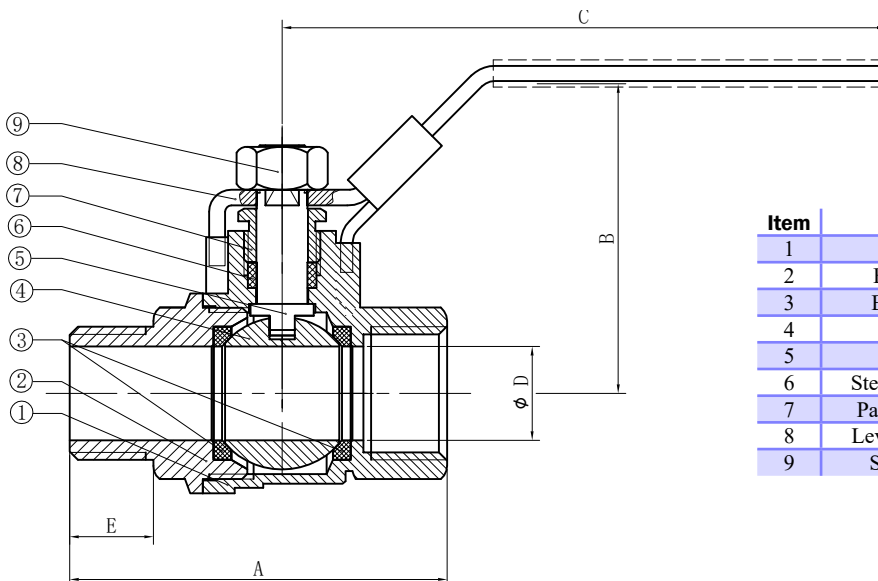
- Thread conform ANSI B1.20.1
- Forged brass body
- Blow out proof stem design
- Packing nut, O-Ring and packing on the stem seal
- Chrome Plated Brass ball
- Handle with vinyl grip

**Performance rating**

- 600 PSI (WOG) 150 PSI (WSP) Service
- Temperature range: -20° F to 300° F
- Made in China
- Not lead free



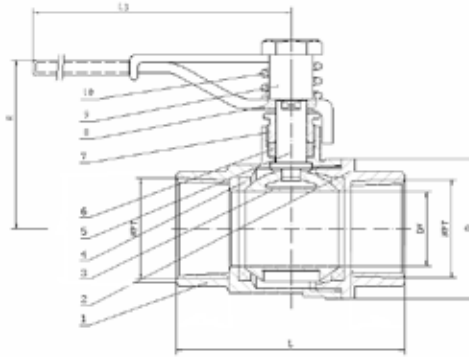
Part#	Size	Dimension Inches					Weight	Box/Case	List Price
	NPT	A	B	C	D	E			
948-170L	1/4"	2.016	1.732	3.543	0.315	0.457	0.32	70/140	10.29
948-171L	3/8"	2.094	1.732	3.543	0.394	0.457	0.37	70/140	10.49
948-172L	1/2"	2.343	1.941	3.543	0.583	0.520	0.50	50/100	13.20
948-173L	3/4"	2.618	2.106	3.78	0.748	0.563	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

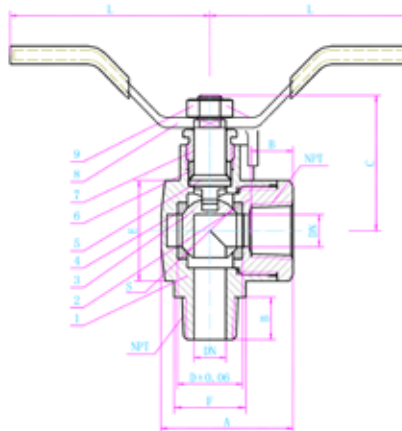


Part #	Part Name	Material
1	Body	Brass
2	Bonnet	Brass
3	Ball	Brass
4	Sealing Seat	PTFE
5	Stem	Stainless Steel
6	Packing Ring	PTFE
7	Gland	Brass
8	Handle	Stainless Steel
9	Bolt	Brass
10	Spring	Stainless Steel

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



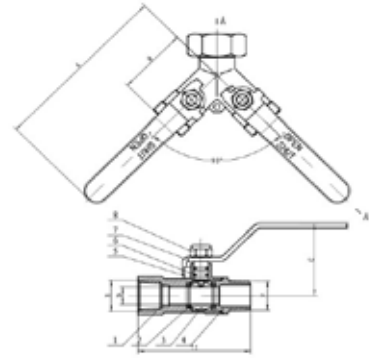
### 3-WAY AND SAFETY EXHAUST BALL VALVES

### 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

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



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



**NON-VENTED**



**VENTED**

NOW WITH STAINLESS STEEL HANDLES

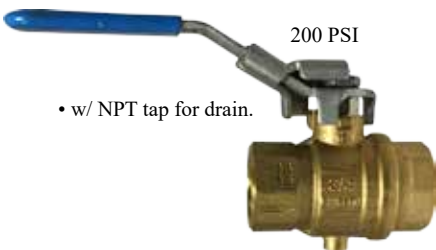
Part #	Ball	E	F	A	B	C	D	G	WTG	Box/Case	List Price
947-125	Non-vented	1" Female	3/4" Male	5.18"	2.5"	2.05"	0.59"	90°	1.43	2/24	55.63
947-126	Vented								1.48	2/24	57.32

#### EXHAUST VALVES

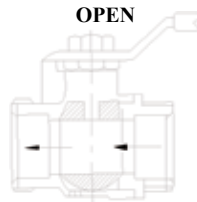
##### AUTOMATIC DRAIN & LATCH LOCK HANDLE

Full port hot forged brass ball valve, blow-out proof stem, downstream automatic vent with lockable handle in compliance with OSHA requirements.

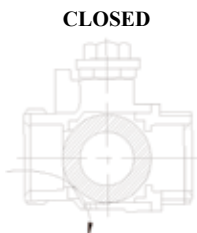
- Maximum working pressure: 200 PSI (CWP).
- Temperature rating: -4°F through +350°F.
- Made in Italy
- Not lead free



• 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

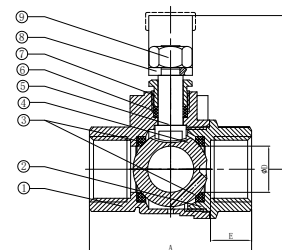
Valve - closed and draining occurs. Upstream seat prevents air flow. Downstream system is vented to atmosphere.

#### 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

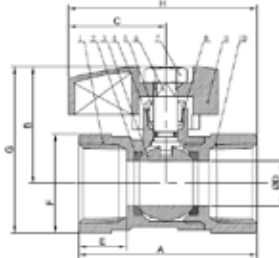


UL 842, UL 258, UL 125

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

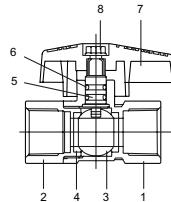


**FLARE X FIP**

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



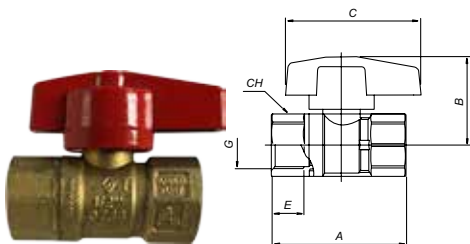
CSA AGA 3.88 5 PSIG



UL 842, UL 258, UL 125

Manual Valve LISTED Threaded NPT

**GAS BALL VALVES FEMALE x FEMALE**



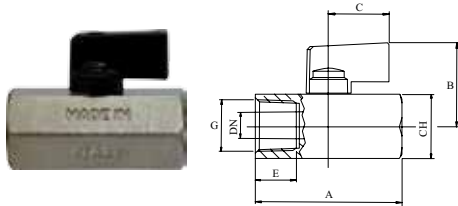
Part#	Size	Dimension Inches							WTG	Box/Case	List Price
		G	DN	A	B	C	E	CH			
943-212	1/2"	.47	2.26	1.45	2.28	.55	.98	600	0.33	20/80	14.88
943-213	3/4"	.59	2.48	1.57	2.28	.57	1.22	600	0.45	14/56	21.58

**CHROME PLATED BRASS MINI BALL VALVE****VALVES****ITALIAN CHROME PLATED BRASS MINI BALL VALVE**

ISO 9002 Manufacturer

**FEATURES**

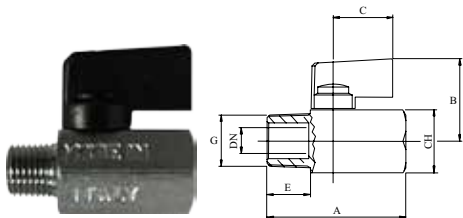
- Solid chrome plated brass ball
- Max working pressure 235 psi will handle 300psi@75° F
- Longer body style for longer, deeper thread connections
- One piece drawn sand blasted chrome plated body.
- Each valve is seal tested for maximum safety.
- Double seal system allows valve to be operated in both 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



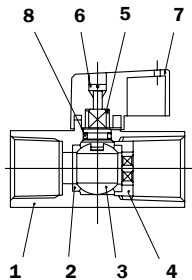
Made in Italy

**Female x Female**

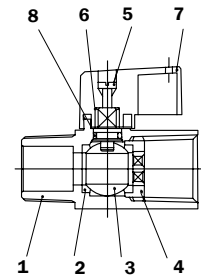
Part#	Size		Dimension Inches							
	G	DN	A	B	C	E	CH	WTG	Box/Case	List Price
46-922I	1/4"	0.31	1.81	1.17	0.9	0.51	0.83	0.24	50/200	15.98
46-923I	3/8"	0.31	1.85	1.17	0.9	0.51	0.83	0.22	50/200	15.98
46-924I	1/2"	0.39	2.18	1.26	0.9	0.61	0.98	0.32	30/120	18.43

**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



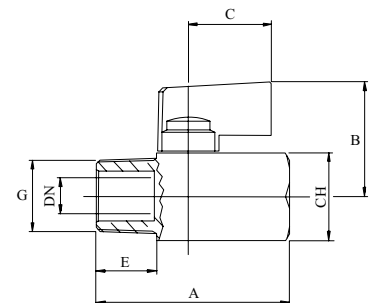
POS	Components	Materials	N
1	Body	CW517N Forged Brass	1
2	Ball Seats	P.T.F.E	2
3	Ball	CW517N CP Brass	1
4	Ring Unit	CW614N Brass	1
5	Stem	CW614N Brass	1
6	Screw	UNI 5771 Steel	1
7	Handle	Aluminum	1
8	O-Ring	NBR 80	1

**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**



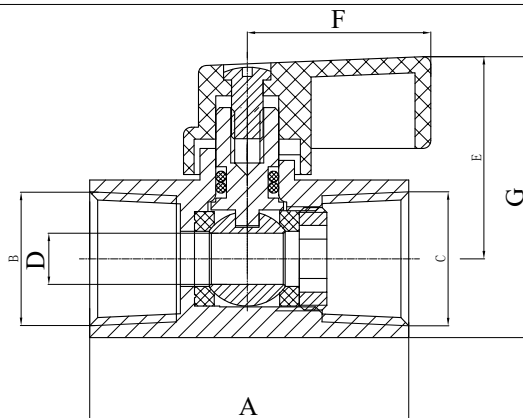
Part #	Size	Dimensions (In)				Wt lbs	Box/Case	List Price
		A	D(FLOW)	Handle	G			
46-934LT	1/8	1.60	0.24	1.34	1.43	0.21	20/300	8.13
46-935LT	1/4	1.57	0.31	1.34	1.43	0.20	20/300	7.23
46-936LT	3/8	1.60	0.28	1.34	1.43	0.22	20/300	6.70
46-937LT	1/2	1.77	0.35	1.34	1.52	0.24	20/200	8.51

**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

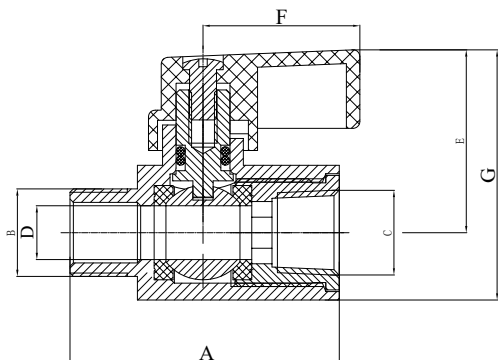
## MALE X FEMALE - SCREWDRIVER



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

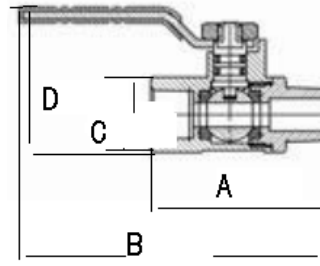


Pos	Components	Materials	N
1	Body	CP Forged Brass	1
2	Ball Seats	P.T.F.E.	2
3	Ball	CP Brass	1
4	Ring Unit	Brass	1
5	Stern	Brass	1
6	O-Ring - flag handle	NBR 80	1
6	O-Ring - all others	Viton	1
7	Handle	Alumzinc	1
8	Screw	Steel	1

**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



**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



**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 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



**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



**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**

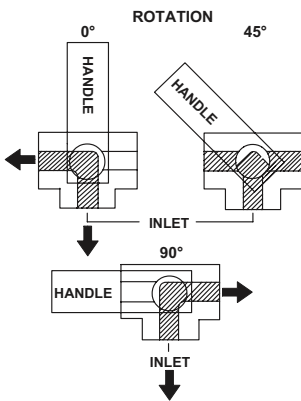
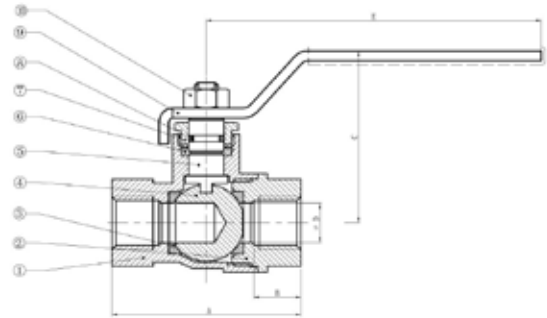
**SIDE OUTLET 3-WAY BALL VALVE**

- 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

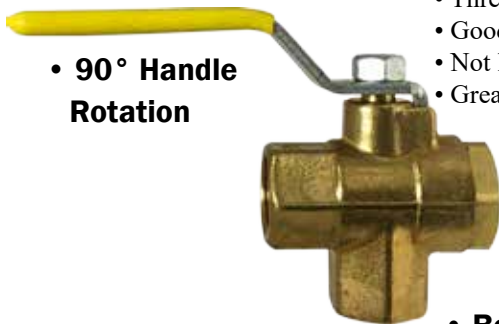
Part#	Size	I	H	D	L	A	WTG	Box/Case	List Price
940-464	1/4"	1.89	1.73	0.39	3.58	0.47	0.51	50/100	45.28
940-465	3/8"	1.89	1.73	0.39	3.35	0.47	0.57	50/100	47.11
940-461	1/2"	2.11	1.80	0.50	3.58	0.51	0.65	30/60	36.99
940-462	3/4"	2.56	2.16	0.74	4.31	0.55	0.99	20/40	61.10

**BOTTOM OUTLET 3 WAY BALL VALVE**

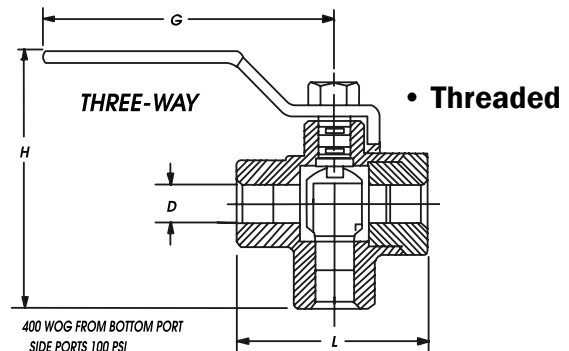
- Forged Brass
- Bottom Port is inlet 400 psi
- Side Ports are inlet 100 psi

- 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



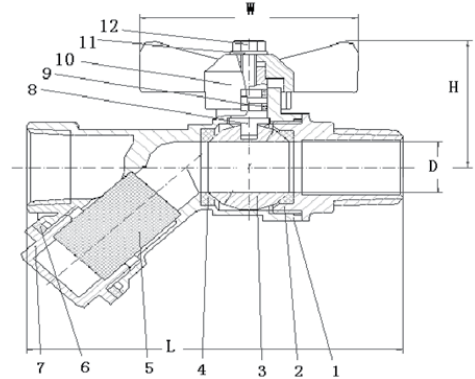
Part#	Size	D	G	H	L	Cv	WTG	List Price
940-121	1/4"	.44	3.50	3.12	2.25	5.2	0.76	58.45
940-122	3/8"	.50	3.50	3.12	2.25	5.5	0.69	54.10
940-123	1/2"	.50	3.50	3.12	2.25	5.5	1.00	61.36

**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

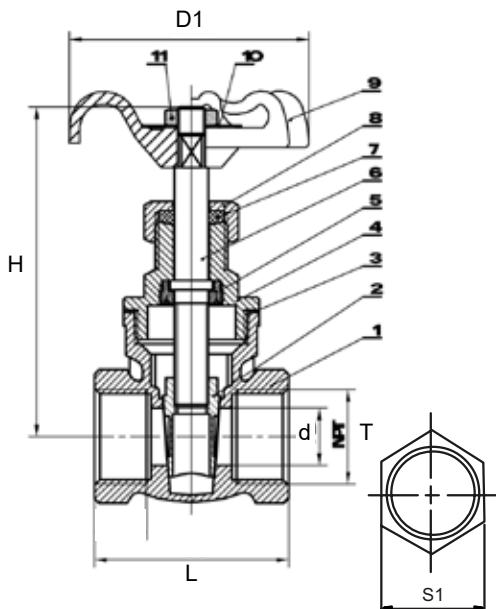
• BRASS • 200WOG • FULL PORT

- 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

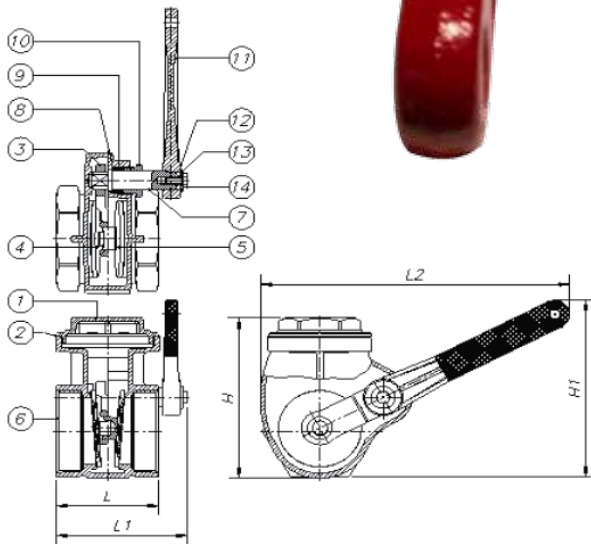
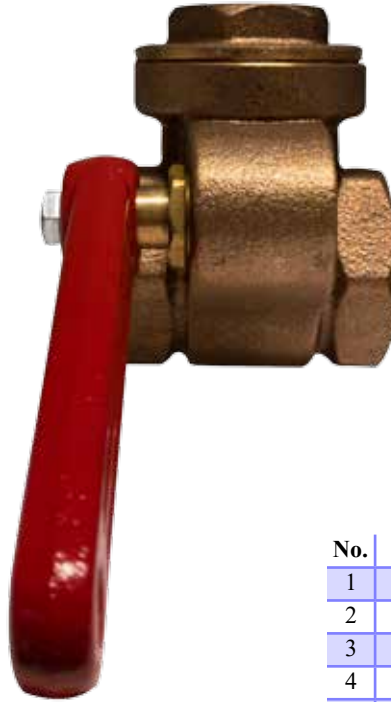


NO	Description	Material
1	Body	C85700
2	Disk	C85700
3	Seat	PTFE
4	Cap	C85700
5	Packing	C85700
6	Stem	C85700
7	Rubber Seat	NBR
8	Packing Nut	C85700
9	Handle	Cast Iron
10	Nameplate	AL
11	Stem Nut	SAE 1010R

**GATE VALVE QUICK OPENING**

Features: Bronze Material, Threaded Ends

**NEW**



**MATERIAL SPECIFICATION**

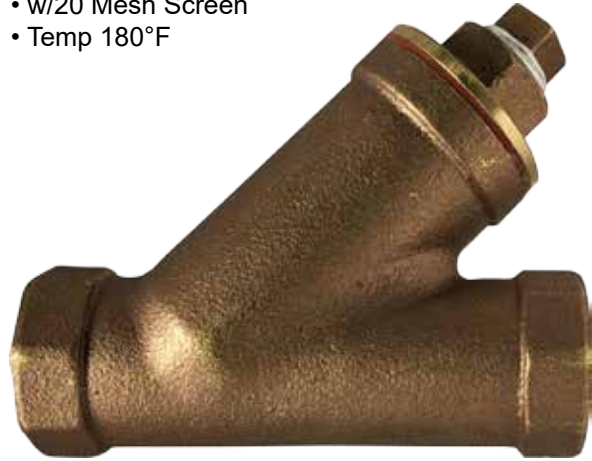
No.	Part	Bronze
1	BONNET	BRASS ( C85700 )
2	PACKING	FIBRE
3	ARM	BRASS ( C85700 )
4	DISC MALE	BRASS ( C85700 )
5	DISC FEMALE	BRASS ( C85700 )
6	BODY	BRASS ( C85700 )
7	STEM	BRASS ( C37700 )
8	WASHER	BRASS ( C37700 )
9	PACKING	TEFLON POLYFLON ( PTFE M-392 )
10	PACKING NUT	BRASS ( C37700 )
11	HANDLE	CAST 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 Steam)
- 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



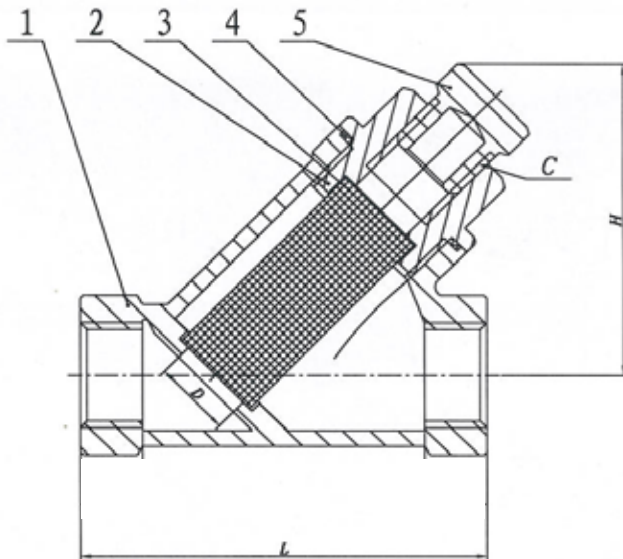
Part#	Size	L	H	C (Plug)	Weight	Box/Case	List Price
940-521	1/4"	2.57	1.95	NPT 3/8	.53	10/100	40.32
940-522	3/8"	3.23	2.44	NPT 3/8	.71	12/48	42.51
940-523	1/2"	3.23	2.44	NPT 3/8	.66	12/48	31.75
940-524	3/4"	3.94	2.78	NPT 3/8	1.10	8/48	46.02
940-525	1"	4.53	3.19	NPT 1/2	1.71	8/32	79.88
940-526	1-1/4"	5.33	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

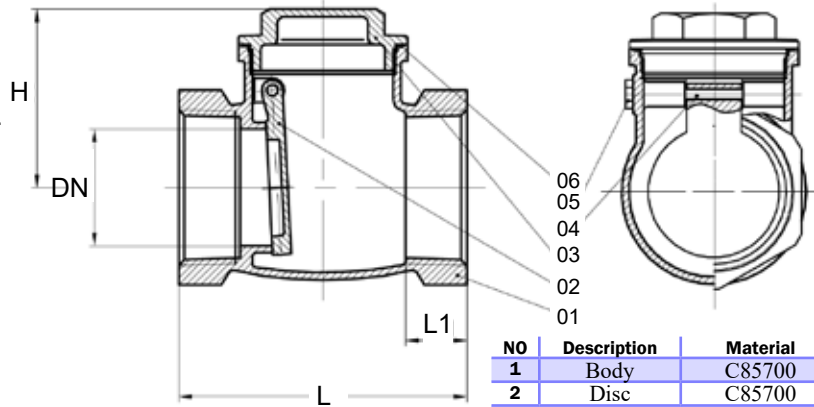


NO	Name	Material
1	BODY	C85700
2	BONNET	C85700
3	STRAINER	304 S.S.
4	SPRING SEAL	PTFE
5	END CAP	C85700



**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



NO	Description	Material
1	Body	C85700
2	Disc	C85700
3	Cap	C85700
4	Brass Bar	C85700
5	Screw	C85700
6	Gasket	Fibre H

**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**



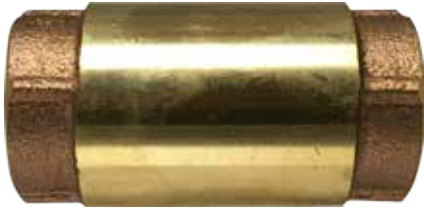
Part #	Size	List Price
940-352B	1/2"	65.19
940-353B	3/4"	86.87
940-354B	1"	111.31
940-355B	1-1/4"	166.80
940-356B	1-1/2"	200.24
940-357B	2"	277.28



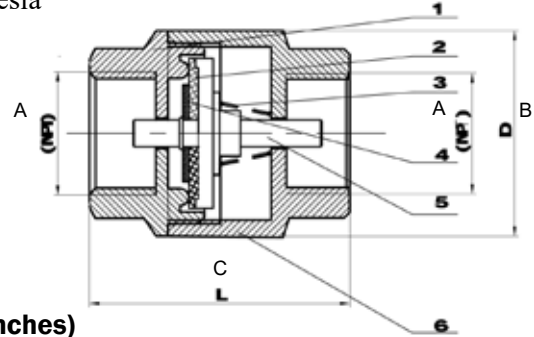
**BRASS CHECK VALVES****VALVES****BRASS CHECK VALVES**

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



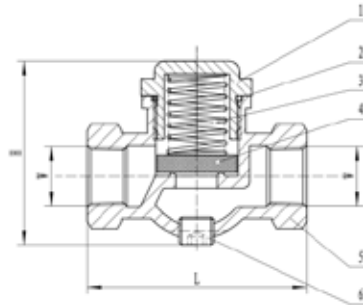
• See page 168 for Lead Free Brass Check Valves



• 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.

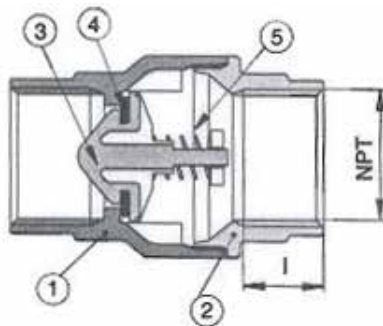
With VITON® Seal for fuels and hydrocarbons. Max working TEMPERATURE 325°F/125 psi steam

**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		



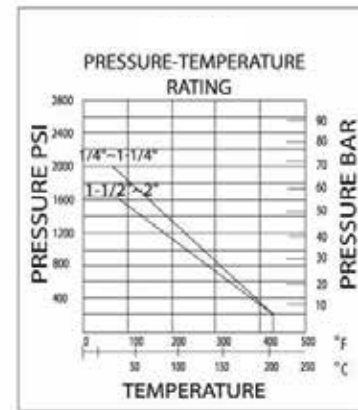
NO	Part	Material	PCS
1	BODY	BRASS	1
2	END CONNECTION	BRASS	1
3	DISC	POLYETHERIMIDE	1
4	SEAT	100002 NBR	1
		100003 Viton	1
5	SPRING	STAINLESS STEEL	1

### 316 SS 2-PC BALL VALVE, FULL PORT, THREADED END, 2000 PSI

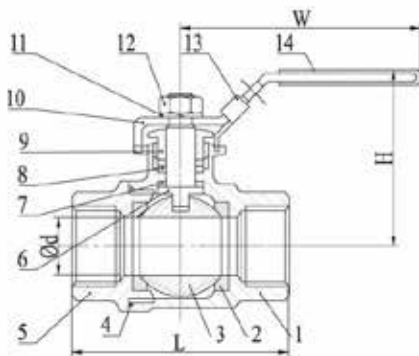
- Investment Castings for body and cap.
- Internal Entry blow-out proof stem.
- Pressure rating: 2000PSI.
- Threaded Ends: ANSI B2,1
- Material: CF8M (316SS)
- Pressure test: API 598
- Generic Handles



#### 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

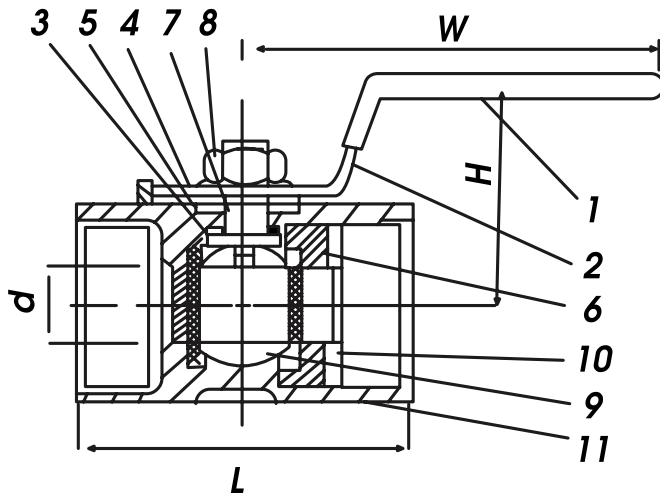


**LOCKING HANDLE**

Valves will accept a pad-lock on the handle.

Part#	Size	D	L	H	W	dimensions (inches)		
						Weight	Case	List Price
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:

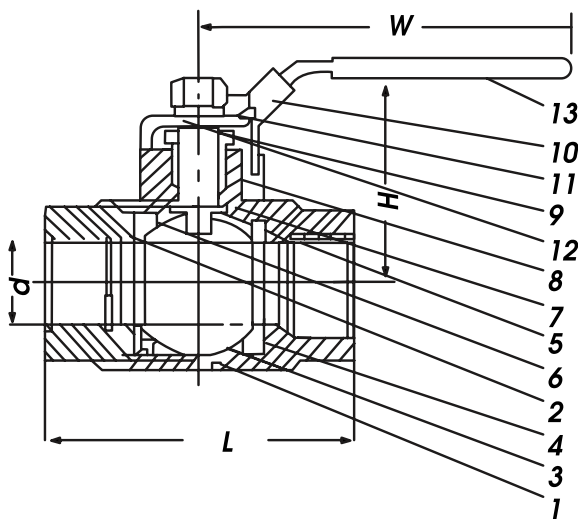
- Quality manufactured for harsh environments.
- Corrosion resistant.
- Investment Casting body
- Working pressure 1000 psi for W.O.G.
- Adjustable stem packing
- Pure teflon seals and seats
- Temperature range: -60 to 450°F
- Blow-out proof stem and safe pressure-reducing hole
- 100% leakage tested 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



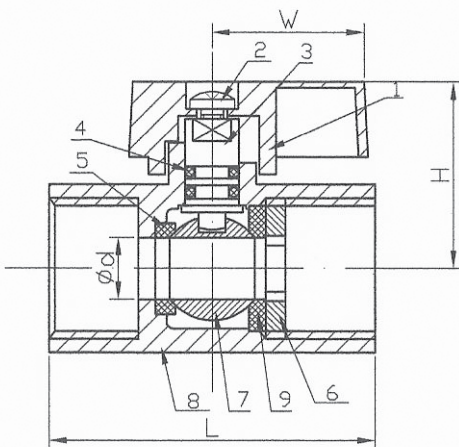
**FEMALE PIPE x FEMALE PIPE**

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**

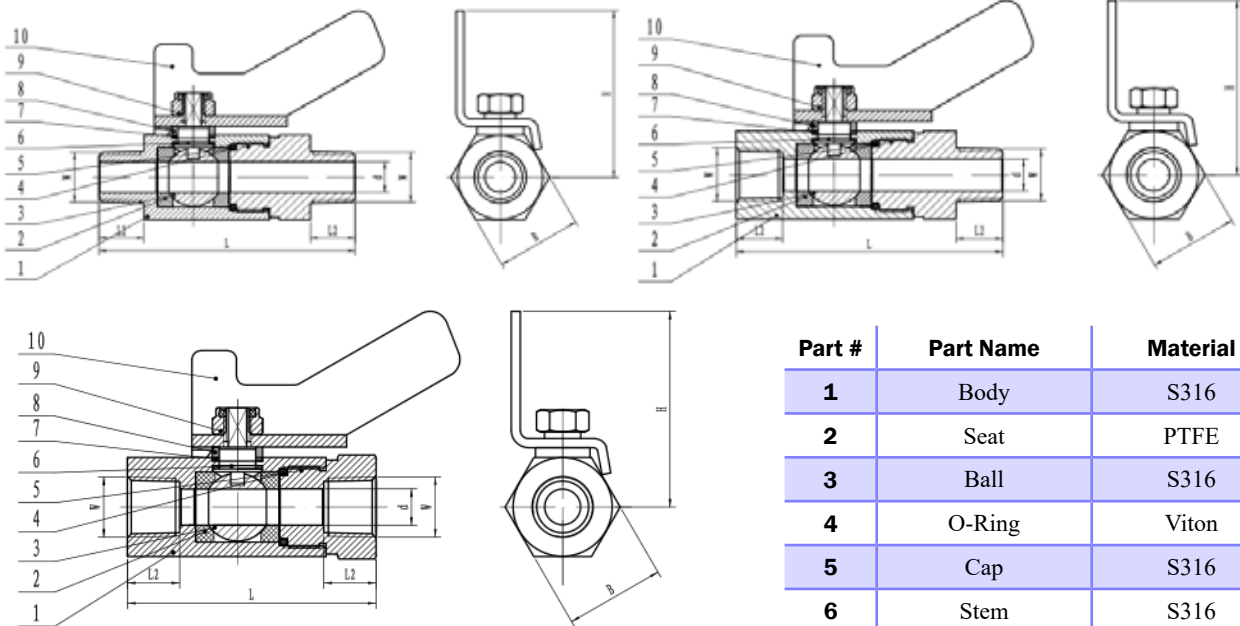
Part #	Size FIP x FIP	Dimensions in				WTG	Box	List Price
		d	L	B (Hex)	H			
46-922SS	1/4"×1/4"	0.314"	2.34"	22.1/0.87"	1.5"	0.33	36	44.20
46-923SS	3/8"×3/8"	0.314"	2.39"	22.1/0.87"	1.5"	0.39	36	44.20
46-924SS	1/2"×1/2"	0.314"	2.81"	24.9/0.98"	1.5"	0.43	36	57.85

**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**

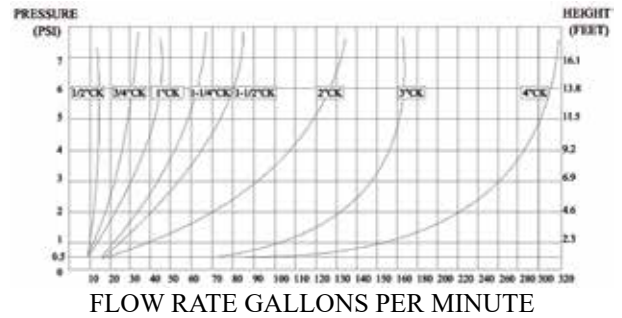
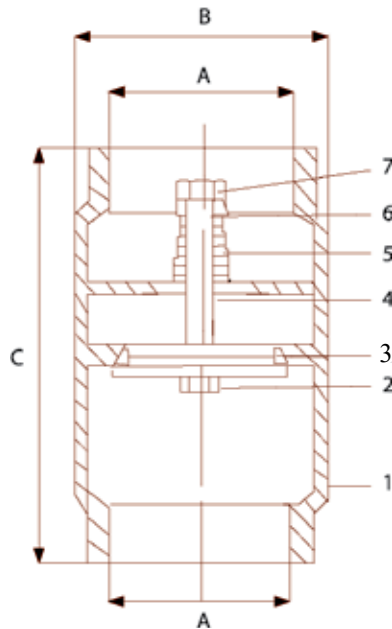
- No Lead.
- Water wells need a check valve installed above the pumps between lengths of drop pipes.
- Opens & Closes with flow of media.
- No cracking pressure.
- Working pressure unavailable.
- Made in Taiwan



**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

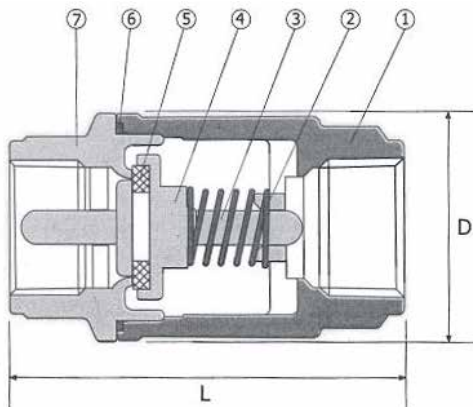
## High Capacity, Size 1/4"-2" 800 WOG

- 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**



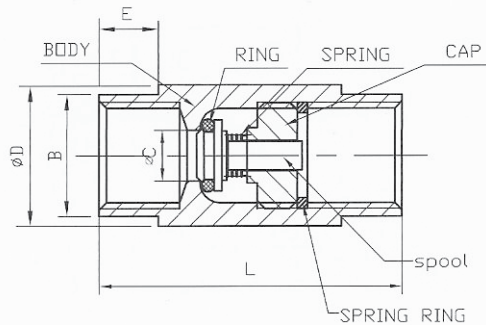
Part#	Size	L	C	D	B	E	lbs/ pc	Case	List Price
949-451	1/4"	2.165	.217	.748	.699	.394	.19	200	30.24
949-452	3/8"	2.165	.295	.866	.787	.394	.21	160	30.24
949-453	1/2"	2.165	.413	1.063	.945	.472	.31	100	34.92
949-454	3/4"	2.677	.591	1.417	1.26	.472	.71	60	50.70
949-455	1"	3.268	.787	1.693	1.496	.591	1.14	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

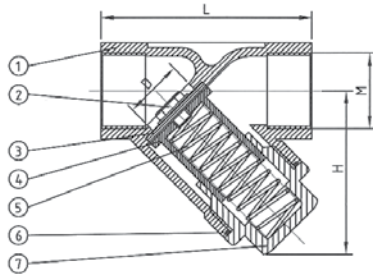
## VALVES

## 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



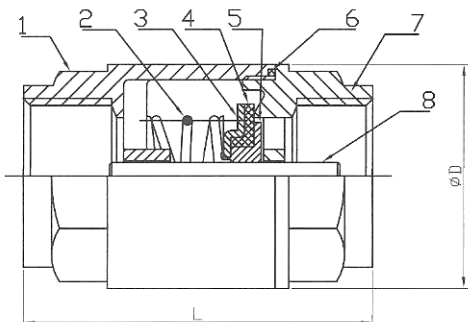
NO	Part	Material	QTY
1	BODY	CF8M/ CF8	1
2	BOLT	304	1
3	SEAT	Teflon	1
4	DISC	304	1
5	SPRING	304	1
6	GASKET	Teflon	1
7	CAP	CF8M/ CF8	1

## 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



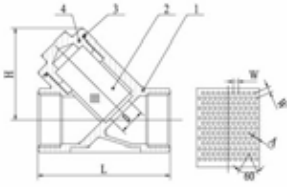
Part#	Size	L	D	lbs/pc	Case	List Price
949-441	1/4"	2.00	1.142	.27	100	30.24
949-442	3/8"	2.00	1.142	.24	100	30.24
949-443	1/2"	2.24	1.28	.36	100	34.92
949-444	3/4"	2.44	1.594	.54	60	45.84
949-445	1"	2.95	1.89	.88	30	66.30
949-446	1-1/4"	3.23	2.362	1.39	18	81.90
949-447	1-1/2"	3.46	2.756	1.81	25	113.16
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

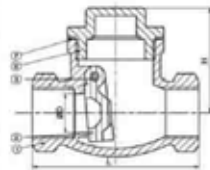
Part #	Size	d	L	H	W	ØA	Lbs	List Price
949-521	1/4"	.38"	2.53	51	1.69	1	0.44	27.41
949-522	3/8"	.48"	2.53	51	1.69	1	0.38	27.41
949-523	1/2"	.59"	2.53	51	1.76	1	0.46	28.50
949-524	3/4"	.79"	3.12	60	2.07	1	0.69	37.85
949-525	1"	.98"	3.57	72	2.67	1	1.27	57.06
949-526	1-1/4"	1.26"	4.17	77	2.9	1	1.74	68.09
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

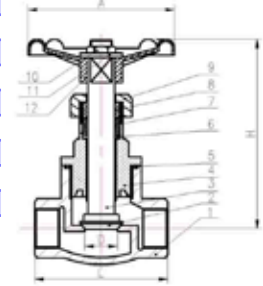
CF8 = 304SS  
CF8M = 316SS

**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



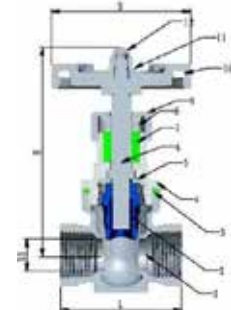
Part #	Size	L	Lbs	List Price
949-303	1/2	2.64	0.89	34.33
949-304	3/4	3.19	1.3	44.72
949-305	1	3.46	1.72	62.43
949-306	1-1/4	3.81	2.33	88.45
949-307	1-1/2	4.25	3.11	98.76
949-308	2	5.1	4.38	156.08

**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**

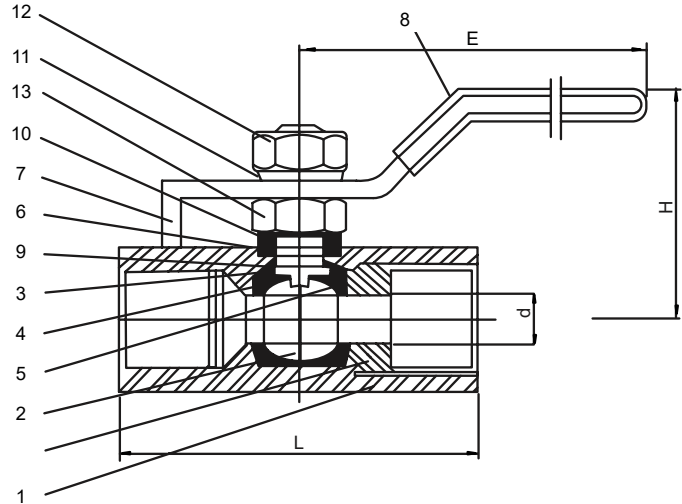
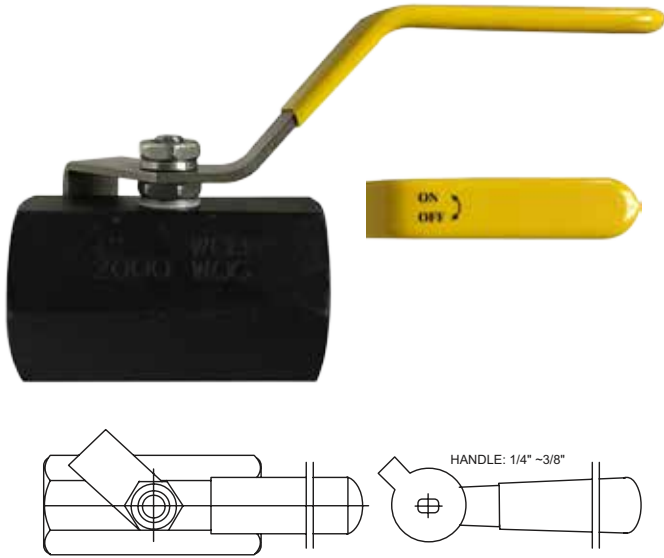
**VALVES**

**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

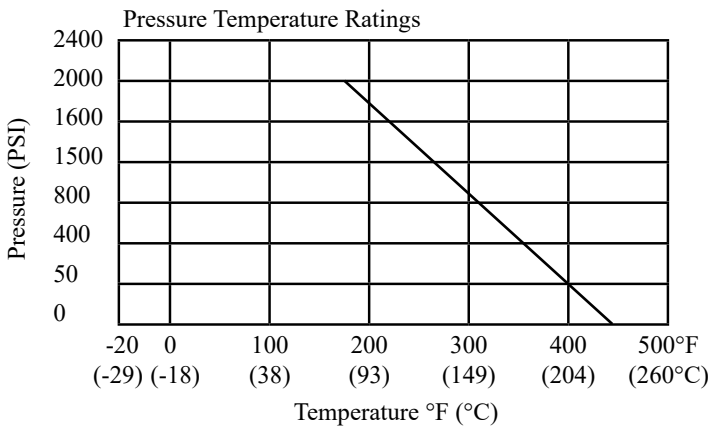
**SPECIFICATIONS**

- 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



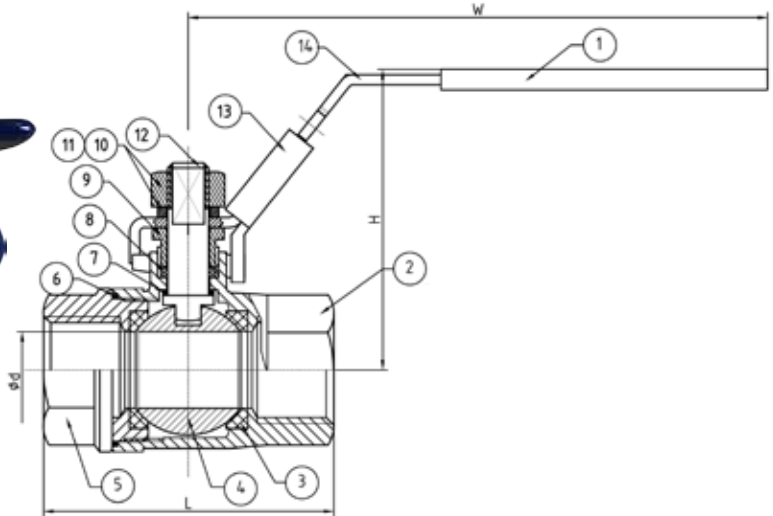
Item	Parts	Material
1	Body	ASTM A216 WCB
2	Ball	ASTM A351 CF8
3	Stem	304
4	Ball Seat	PTFE
5	Cap Seal	PTFE
6	Packing	PTFE
7	Handle	SS304
8	Handle Sleeve	Vinyl Grip
9	Thrust Washer	PTFE
10	Gland	SS304
11	Washer	SS304
12	Handle Nut	SS304
13	Stem Nut	SS304

**2000 PSI CARBON STEEL 2PC FULL PORT BALL VALVE**

• 2 PIECE

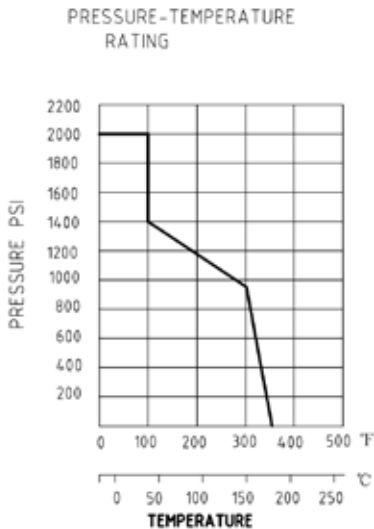
**SPECIFICATIONS**

- 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+

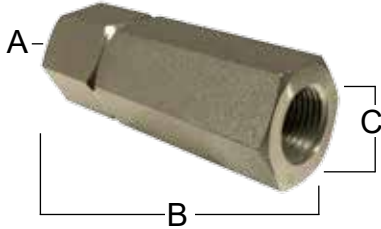
+ 'L' flow pattern

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



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

A ( NPT Female both ends )

**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.

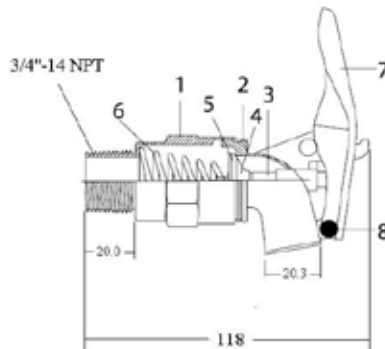


G261N

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	Stainless Nipples.....	231-236
Brass Nipples - Sch 40.....	211-217	150# Cast SS Fittings .....	237-244
C/P Brass Nipples.....	218	BLACK & GALVANIZED .....	245-281
Bronze Fittings.....	219-227	Sch. 40 Welded Steel Nipples.....	245-253
Lead Free Bronze Fittings .....	219-227	Sch. 80 Seamless Steel nipple.....	254-259
C/P Fittings.....	227	Sch. XXS Seamless Steel Nipple .....	260
Bronze Cleanout Plugs .....	228	Groove Nipples.....	261-262
Bronze Drop Ear Elbows.....	228	Merchant Couplings.....	263
Bronze Barbs for PL. Pipe .....	229	API Line Couplings.....	264
Steel Barbs for PL. Pipe .....	229	Malleable Fittings.....	265-273
Lead Free Bronze Barbs for PL. Pipe.....	230	Steel Fittings.....	274-275
Stainless Steel Barbs for PL. Pipe.....	230	300# Malleable .....	276-277
Stainless Steel Well Couplings .....	230	Bull Plugs and Swages.....	278-279
Stainless Steel Merchant Couplings .....	230	Forged Steel Fanges .....	280-281
STAINLESS STEEL.....	231-244	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


**LEAD  
FREE**
**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


**LEAD  
FREE**
**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**

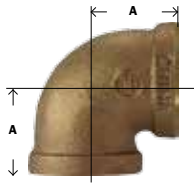


- Approved to ANSI/NSF 61-4 California AB 1953
- Meets Federal State Drinking Water Act, Lead Free Requirement
- Brass fittings conform to AWWA C800
- Brass castings conform to ASTM B584, UNS Alloy C8933

- 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**

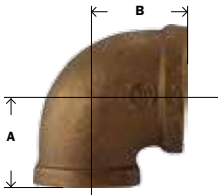
**BRONZE FITTINGS**



**90° ELBOWS**



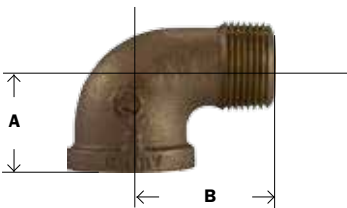
Part #	List Price	Approx. Wt. Lbs.	Box/Case	Size	A	Approx. Wt. Lbs.	Part #	List Price
44-100	7.27	0.08	50/600	1/8"	0.55	0.06	44-100LF	9.02
44-101	7.27	0.12	35/420	1/4"	0.72	0.10	44-101LF	5.88
44-102	7.27	0.17	90/360	3/8"	0.83	0.15	44-102LF	5.88
44-103	11.06	0.24	50/200	1/2"	1.03	0.25	44-103LF	8.94
44-104	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**



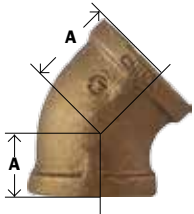
Part #	List Price	Approx. Wt. Lbs.	Box/Case	Size	A	B	Approx. Wt. Lbs.	Part #	List Price
44-123	11.94	0.44	60/240	1/2" x 1/4"	0.93	0.90	0.19		
44-124	11.94	0.58	60/240	1/2" x 3/8"	0.93	0.90	0.22	44-124LF	14.86
44-127	16.29	0.80	40/160	3/4" x 1/2"	1.08	1.11	0.31	44-127LF	20.21
44-131	28.60	1.07	50/100	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**

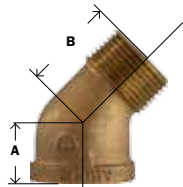


Part #	List Price	Approx. Wt. Lbs.	Box/Case	Size	A	B	Approx. Wt. Lbs.	Part #	List Price
44-160	11.06	0.07	60/720	1/8"	0.55	0.92	0.06	44-160LF	13.29
44-161	11.06	0.11	35/420	1/4"	0.72	1.11	0.11	44-161LF	8.94
44-162	11.06	0.18	60/240	3/8"	0.83	1.24	0.16	44-162LF	8.94
44-163	13.74	0.24	60/180	1/2"	1.03	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		



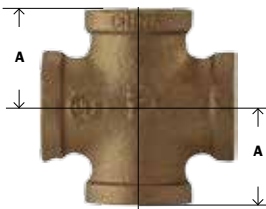
**45° ELBOWS**

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



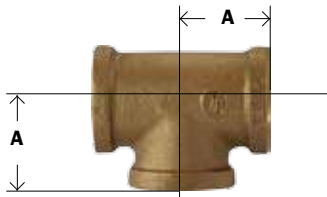
**CROSSES**

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



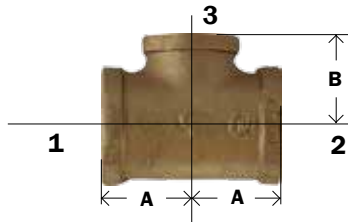
**BRONZE/ LEAD FREE BRONZE**

**BRONZE FITTINGS**



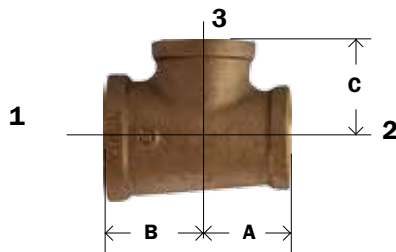
**TEES**

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

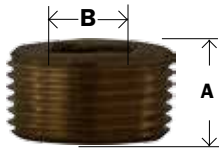


**HEX BUSHINGS**

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

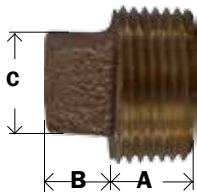


\* INSIDE HEX



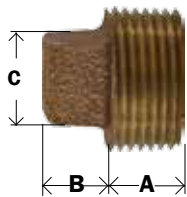
**BRONZE COUNTERSUNK PLUGS**

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		



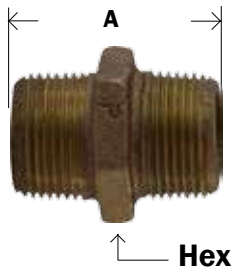
**SOLID SQUARE HEAD PLUGS**

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#



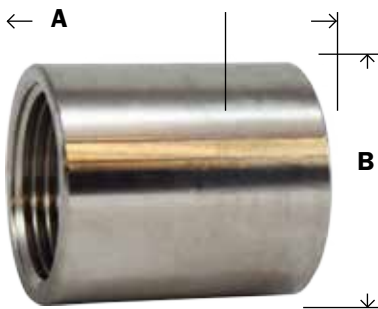
Part # 304 S.S.	List Price	Size*	Box	Approx. Wt. Lbs.	Part # 316 S.S.	List Price
62-410	5.47	1/8"	25	0.03	63-410	6.96
62-411	6.50	1/4"	25	0.06	63-411	6.96
62-412	7.57	3/8"	25	0.07	63-412	8.16
62-413	6.97	1/2"	25	0.13	63-413	8.07
62-414	10.07	3/4"	25	0.18	63-414	11.66
62-415	15.30	1"	25	0.24	63-415	17.38
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#

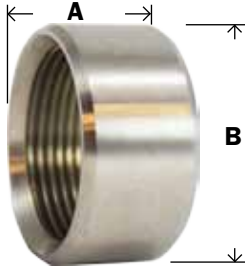


Part # 304 S.S.	List Price	Size	A	B	Box	Approx. Wt. Lbs.	Part # 316 S.S.	List Price
62-410B	5.46	1/8"	0.67	0.56	25	0.04	63-410B	6.35
62-411B	5.31	1/4"	0.94	0.71	25	0.04	63-411B	6.35
62-412B	6.80	3/8"	1.01	0.84	25	0.07	63-412B	6.93
62-413B	7.33	1/2"	1.33	1.01	25	0.09	63-413B	9.71
62-414B	10.15	3/4"	1.41	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



- ASTM A106 Grade B Seamless Pipe
- ASTM A 53
- WVN 351
- Standard NPT Tapered Pipe Threads as per ANSI B 1.20.1 Specification

#### XXS SEAMLESS





**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**



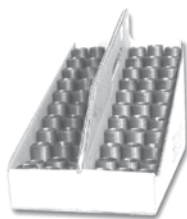
### 8" DIAMETER SCH 40 WELDED

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

**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

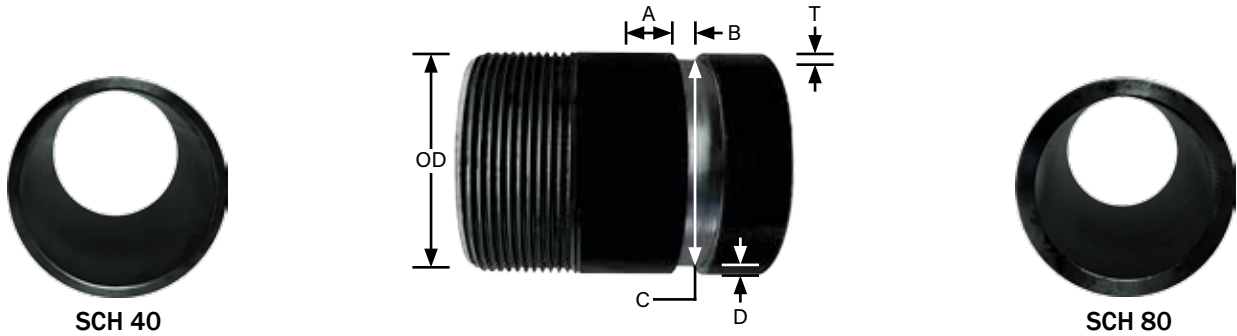


**2" DIAMETER DIAMETER BLACK EXTRA HEAVY XXS SEAMLESS**

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

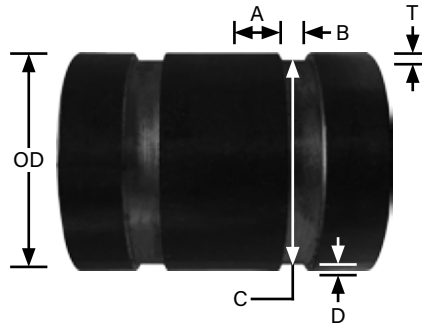
**BLACK SCH 40 AND SCH 80 SEAMLESS**

**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".

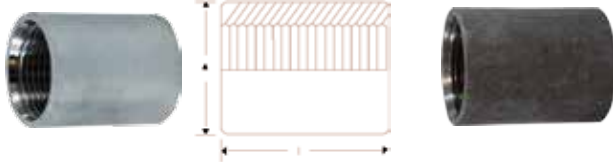
### Technical Specifications

**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. Pounds	Quantity per box	Threads per Inch	Threads
						Type
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



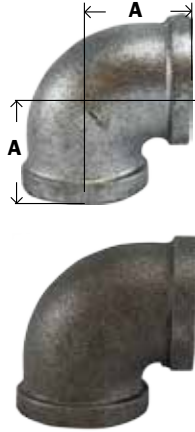
## FLANGES



## ELBOWS

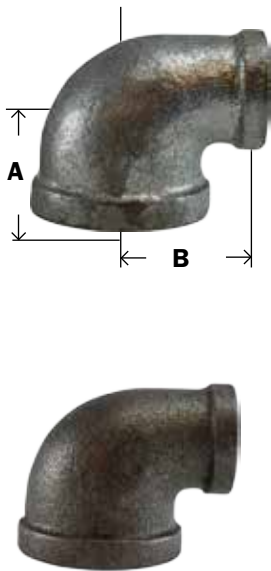
## MALLEABLE FITTINGS

### ELBOWS 90°



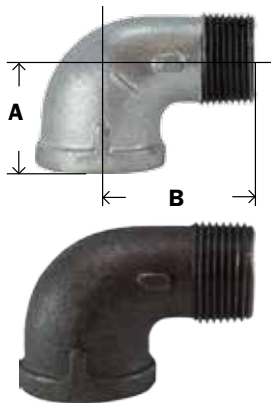
Part # Galvanized	List Price	Size	A	Box/ Case	Approx. Wt. Lbs.	Part # Black	List Price
64-100	4.83	1/8"	0.69	50/600	0.07	65-100	3.25
64-101	4.59	1/4"	0.81	35/420	0.10	65-101	2.95
64-102	4.35	3/8"	0.95	90/360	0.16	65-102	2.95
64-103	2.79	1/2"	1.12	50/200	0.23	65-103	2.34
64-104	3.73	3/4"	1.31	35/105	0.35	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°



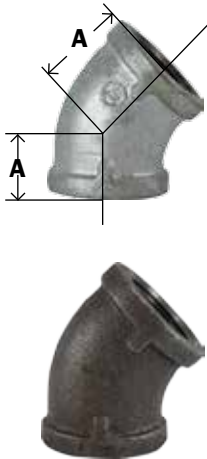
Part # Galvanized	List Price	Size	A	B	Box/ Case	Approx. Wt. Lbs.	Part # Black	List Price
64-122	6.84	3/8" x 1/4"	0.88	0.90	90/360	0.16	65-122	4.70
64-123	5.67	1/2" x 1/4"	0.97	0.98	60/240	0.21	65-123	4.86
64-124	5.32	1/2" x 3/8"	1.04	1.03	60/240	0.24	65-124	4.28
64-126	8.22	3/4" x 3/8"	1.12	1.13	40/160	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



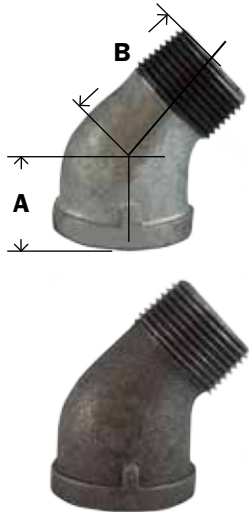
Part # Galvanized	List Price	Size	A	B	Box/ Case	Approx. Wt. Lbs.	Part # Black	List Price
64-160	5.92	1/8"	0.69	1.00	60/720	.06	65-160	4.70
64-161	6.02	1/4"	0.80	1.17	35/420	.10	65-161	4.48
64-162	6.24	3/8"	0.95	1.48	40/240	.15	65-162	4.48
64-163	6.12	1/2"	1.10	1.59	60/180	.22	65-163	4.60
64-164	5.90	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

**ELBOWS 45°**



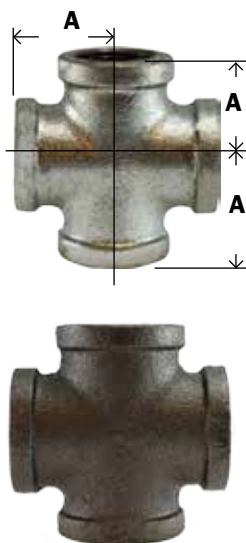
Part # Galvanized	List Price	Size	A	Box/ Case	Approx. Wt. Lbs.	Part # Black	List Price
64-180	6.89	1/8"	0.63	50/600	.07	65-180	4.96
64-181	6.14	1/4"	0.73	30/360	.10	65-181	5.03
64-182	6.14	3/8"	0.80	75/300	.14	65-182	4.58
64-183	4.70	1/2"	0.88	50/200	.21	65-183	3.95
64-184	6.55	3/4"	0.98	40/120	.33	65-184	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**

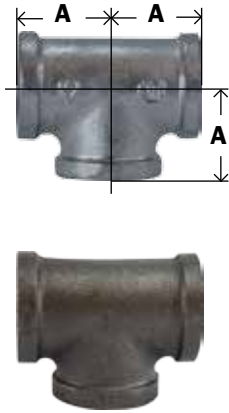


Part # Galvanized	List Price	Size	A	Box/ Case	Approx. Wt. Lbs.	Part # Black	List Price
64-390	26.36	1/8"	0.65	50/600	.14	65-390	19.36
64-391	20.39	1/4"	0.80	60/240	.17	65-391	13.74
64-392	20.39	3/8"	0.95	50/150	.26	65-392	13.74
64-393	20.39	1/2"	1.12	30/90	.42	65-393	13.74
64-394	22.69	3/4"	1.31	20/60	.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**

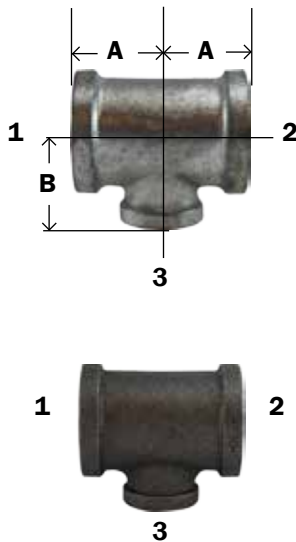
**TEES**



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)



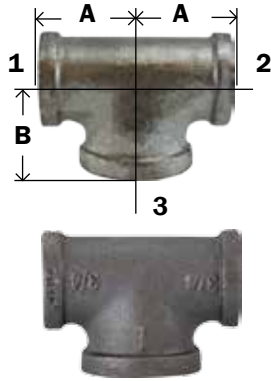
Part # Galvanized	List Price	Size (1&2) x 3	A	B	Box/ Case	Approx. Wt. Lbs.	Part # Black	List Price
64-273	9.36	3/8" x 1/4"	0.81	0.90	25/300	.18	65-273	8.97
64-276	7.13	1/2" x 1/4"	0.97	0.98	40/160	.24	65-276	5.40
64-279	8.31	1/2" x 3/8"	1.04	1.03	40/160	.35	65-279	6.75
64-282	8.82	3/4" x 1/4"	1.05	1.08	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

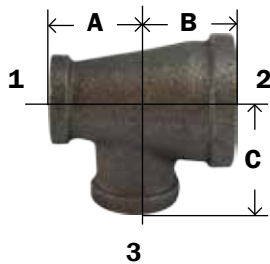


**BULLHEAD TEES**



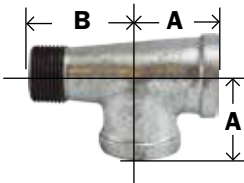
Part #	List Price	Size (1&2) x 3	A	B	Box/Case	Approx. Wt. Lbs.	Part # Black	List Price
64-280	9.75	1/2" x 3/4"	1.22	1.20	30/120	.4	65-280	7.95
64-733	14.67	1/2" x 1"	1.36	1.26	25/100	.50	65-733	18.17
64-289	14.39	3/4" x 1"	1.45	1.37	20/120	.60	65-289	10.08
64-299	22.88	1" x 1-1/4"	1.67	1.58	15/30	.96	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**



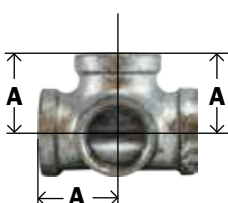
Part # Black	Size 1 x 2 x 3	A	B	C	Box/Case	Approx. Wt. Lbs.	List Price
65-287	3/4" x 1/2" x 1/2"	1.18	1.18	1.20	25/100	0.39	7.22
65-288	3/4" x 1/2" x 3/4"	1.28	1.20	1.28	20/80	0.49	7.95
65-292	1" x 1/2" x 1/2"	1.31	1.22	1.31	20/80	0.51	11.99
65-293	1" x 1/2" x 3/4"	1.22	1.37	1.45	20/80	0.53	10.41
65-294	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**

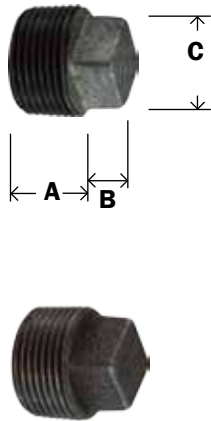
**UNIONS**



• 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**



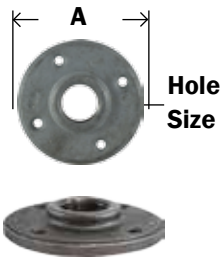
Part # Galvanized	List Price	Size	A	Box/ Case	Approx. Wt. Lbs.	Part # Black	List Price
64-470	5.50	1/8"	0.55	1/25	.03	65-470	4.29
64-471	5.50	1/4"	0.62	80/960	.07	65-471	1.89
64-472	4.30	3/8"	0.74	60/720	.08	65-472	2.33
64-473	3.29	1/2"	0.87	75/300	.13	65-473	2.42
64-474	4.72	3/4"	0.97	40/160	.18	65-474	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

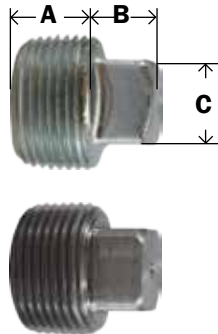
**CAPS**



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:

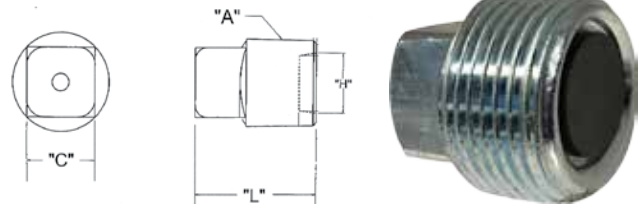
- The constant flaking effect of normal wear of moving parts.
- Particles not removed by flushing operations after boring or machining.
- Chipping due to sub-surface casting flaws.
- Minute component breakdown caused by stress usage.

**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

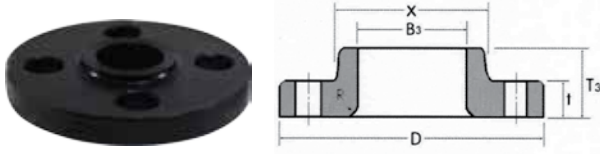
**CLASS 150**

**FORGED STEEL FLANGES**

ASTMA105  
ASME SA105  
ANSI B16.5

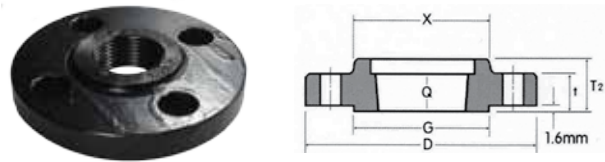
# Forged Steel Flanges

• 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
							Y	Y			
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

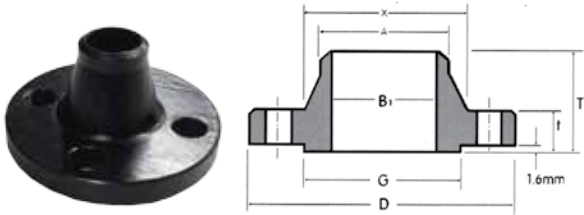
ASTMA105  
ASME SA105  
ANSI B16.5

# Forged Steel Flanges

• A105 Forged Steel

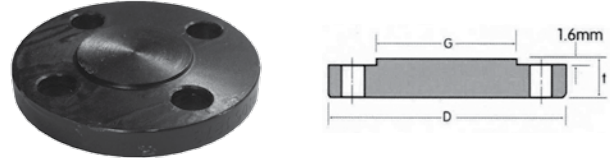
• CLASS 150

( 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



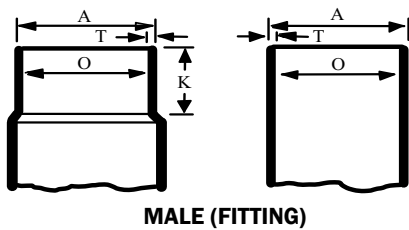
### SYMBOL OF JOINT ENDS

- 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

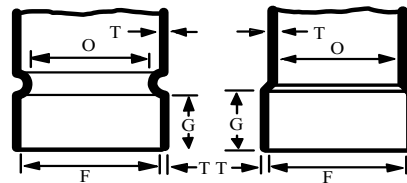
- Temp range 32° to 200°F
- Pressure @100° - 1/8-1 : 500 PSI  
- 1-1/4-2 : 400 PSI  
- 2-1/2 - 3: 300 PSI

**NSF - 61 CERTIFIED  
ALLOY C12200**

**THE ABOVE CONFORMS TO ASTM B 88 & ASTM B 306, A 306**

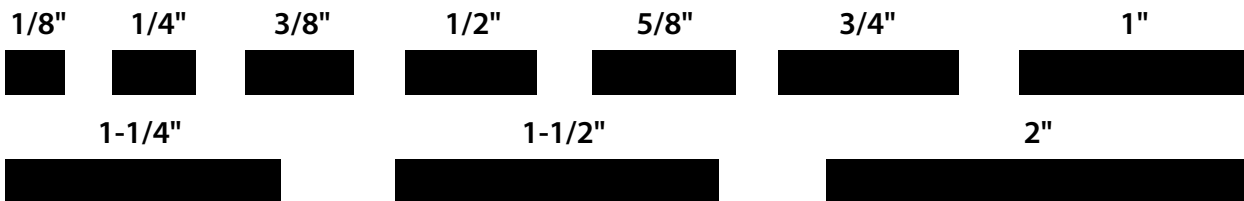


**MALE (FITTING)**



**FEMALE (COPPER)**

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	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	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	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



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



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

<b>WROT SOLDER JOINT</b>	<b>COPPER FITTINGS</b>
--------------------------	------------------------

**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" x 1 - 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" x 1"	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	Part #	SWT x SWT	List Price	Part #	Pex x FIP	List Price
44840LF	1/2 x 1/2 Bronze	5.67	44844LF	1/2 x 1/2	3.57	44845LF	1/2 x 1/2	5.88
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						

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**

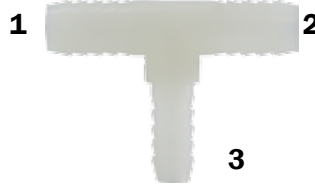
**B**



**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 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



• Nylon

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



• Nylon

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

## PLASTIC COMPRESSION

### MALE CONNECTORS



• Nylon

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



• Nylon

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"	3/4"	1"	1 1/4"	1 1/2"	
Temperature	4mm	5mm	6mm	8mm	10mm	12mm	15mm	16mm	18mm	22mm	28mm	
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 &amp; 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	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	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**

**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 ACCESSORIES**

**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><b>WORM GEAR</b> PAGE 312-315</p>		<p><b>QUICK RELEASE</b> PAGE 316</p>
	<p><b>T-BOLT</b> PAGE 317</p>		<p><b>SPRING LOADED T-BOLT</b> PAGE 318</p>
	<p><b>CONSTANT TORQUE</b> PAGE 319</p>		<p><b>V-BAND</b> PAGE 319</p>
	<p><b>MUFFLER</b> PAGE 320</p>		<p><b>EXHAUST</b> PAGE 321</p>
	<p><b>1 EAR, 2 EAR, GAPLESS</b> PAGE 322-323</p>		<p><b>PRE-FORMED</b> PAGE 324-325</p>
	<p><b>TOOLS &amp; STRAPPING</b> PAGE 325-326</p>		<p><b>NON-PERFORATED OR LINED BAND</b> PAGE 327</p>
	<p><b>RUBBER LINED</b> PAGE 328</p>		<p><b>HOSE FERRULES</b> 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

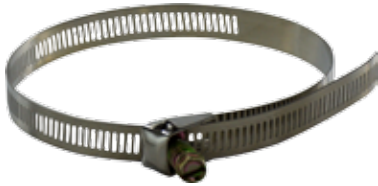
## QUICK RELEASE

## 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

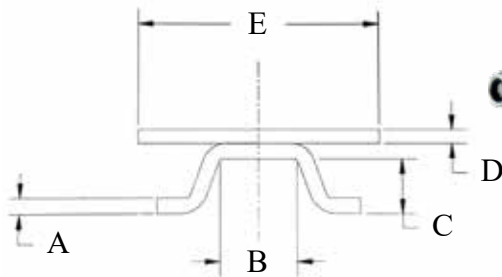
**V-Band Hose Clamps**

- 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.

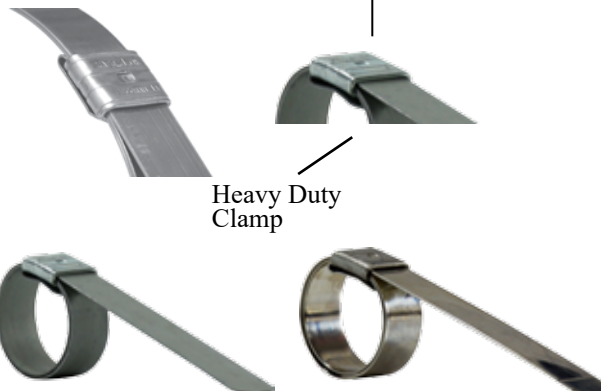
**HOSE CLAMPS**

**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**

**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

**HOSE CLAMPS**

**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	Range of	List Price
	Adjust (in mm)	Adjust (inches)	
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**



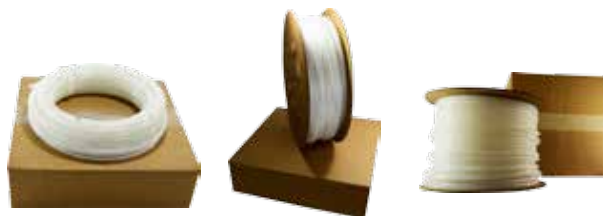
**POLYURETHANE**

**POLYETHYLENE**

Sold individually boxed

**NYLON**

Sold individually boxed



Natural, Black, Blue, Green, Red, Yellow, Orange



**PVC**

• Clear

Sold individually boxed

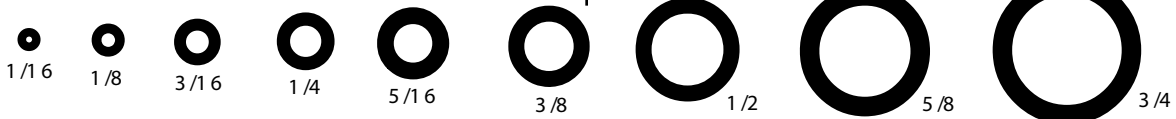


**COPPER AND ALUMINUM**



**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
- Pneumatic Piping
- Vacuum
- Laboratories
- Robotics
- Motion Control
- Instrumentation
- Agriculture
- Lube Lines
- Painting Systems
- Food & Beverages

**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	66.66
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  
Pneumatic Tools  
Pneumatic Piping  
Electrical Jacketing  
Drain Lines  
Instrumentation  
Chemical Transfer

Process Control  
Laboratories



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



**TUBING CUTTER**



**PLASTIC TUBE CUTTER**

Range: 1/8" - 3/8" I.D. (3mm-10mm)



Part #	Size	List Price	Part #	Size	List Price	Part #	Description	List Price
990-571	3mm-22mm (1/8"-7/8")	6.38	990-570	1/8"-1-1/8"	12.04	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 &amp; 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  $\pm 0.004$ "

## 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 1/4" 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 1/4" 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**

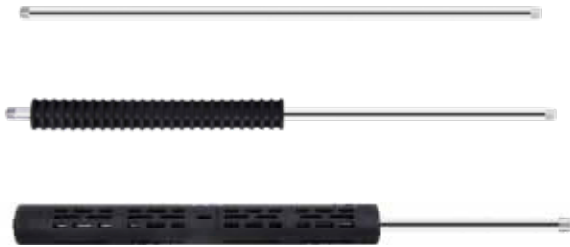


Part #	Size	List Price
DX60092	3/8"	61.90

**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 Size	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 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**



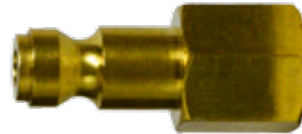
Part#	Body Size	Thread Size	List Price
28-507S	1/4"	1/4"	5.11
28-525S	3/8"	1/4"	7.70
28-526S	3/8"	3/8"	8.12

**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

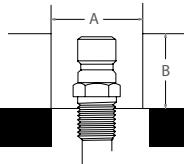
#### OPERATING PRESSURE:

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**

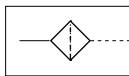


Materials:  
 Body: Brass  
 Element: Sintered Bronze  
 Max Operating Pressure: 150PSI  
 Temperature: 35° to 300°F  
 • Application: Prevents Dirt and Foreign Particles from Entering Ports Open to Atmosphere. Typically used on Acting Cylinders  
 • Additional Use is Vacuum Relief or Pressure Equalization 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

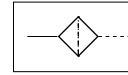
**STAINLESS BREATHER VENT**



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**

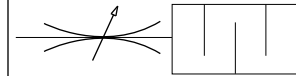


Materials:  
 Body: Brass  
 Element: Sintered Bronze  
 Max Operating Pressure: 9000PSI  
 Temperature: 35° to 300°F  
 • Applications: Protect pressure instruments from sudden pressure surges and fluctuations providing more accurate gauge readings  
 • Construction: Solid brass housing with porous 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**



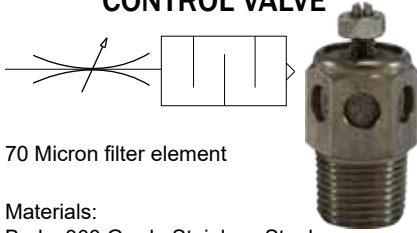
Materials:  
 Body: Brass  
 Element: 40 Micron Sintered Bronze  
 Max Operating Pressure: 300PSI  
 Temperature: 35° to 300°F  
 • Application: Provide infinite variation of metering air flow at acceptable sound levels on air valve exhaust ports with complete safety  
 • The speed of an operating cylinder 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**

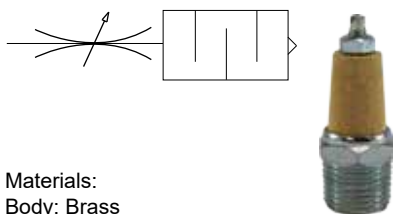


70 Micron filter element

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**

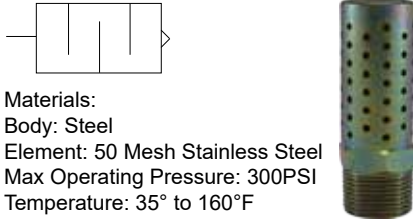
• hole pattern



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

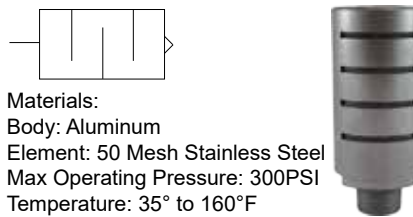
**HIGH FLOW STEEL MUFFLER**



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

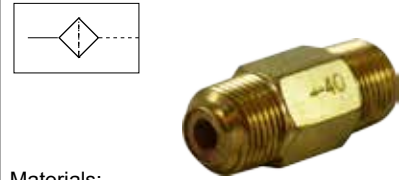
**PLASTIC HIGH FLOW MUFFLER**



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

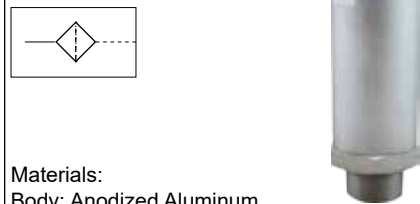
**NIPPLE INLINE FILTER**



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**

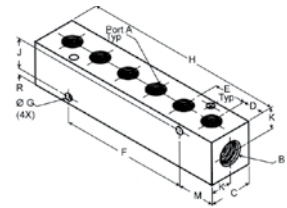
- Rated for Inlet Pressure up to 140PSI(10bar).
- Ambient and Fluid Temperature:5~60°C(41~140°F)
- Port Threads:NPT
- Flow Capacity:See Below,at 0.7Mpa Inlet Pressure and set at 0.5Mpa.
- Assembly Bracket is included.



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						1.13		4.25				
28-468	4	30.48	3/8"	3/8"	1.25	1.00	1.13	2.25	0.20	5.38	0.89	0.63	1.56	0.18
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 commercial 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

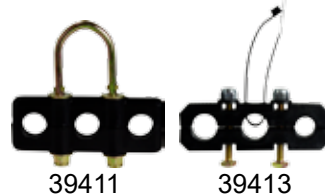


39409

39410

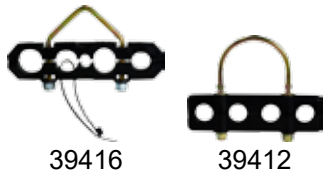
**HOSE HOLDERS**

- ABS Plastic
- 2, 3 and 4 Hold



39411

39413



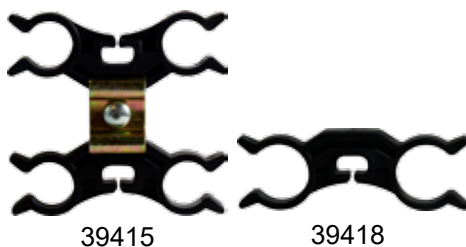
39416

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**

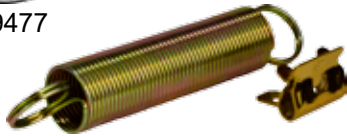
Part #	Description	List Price
39411	3 hole holder	4.26
39469	Clip Carabiner	4.26
39472	1-1/2" ID Hanger Bracket	5.33
39473	Yoke	2.03

• 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	1pcs	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

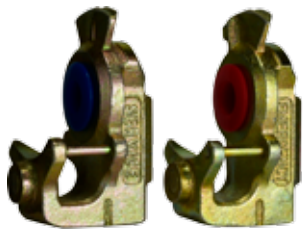
**PLATED ALUMINUM GLADHANDS**



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



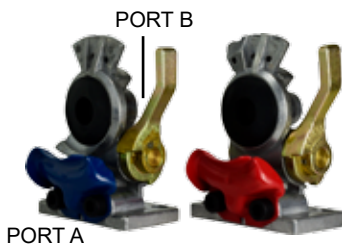
Part #	Description	Material	Seal	Filter	List Price
39515	Service (Blue)	Aluminum	Blk Rubber	yes	48.11
39516	Emergency (Red)	Aluminum	Blk Rubber	yes	48.11

**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



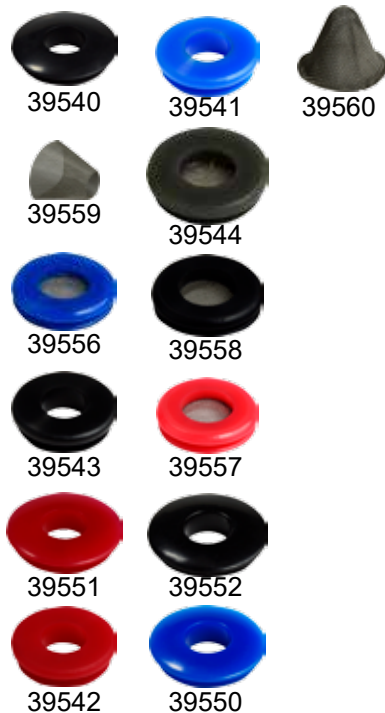
- Seals Gladhand from moisture, dirt and debris

Part #	Description	List Price
39566	Gladhand pacifier	3.00

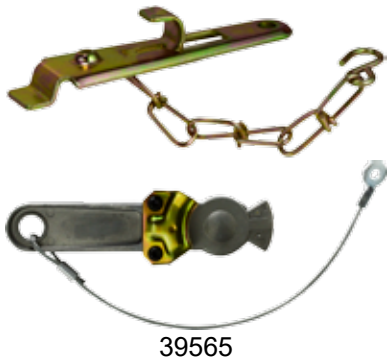
## GLADHAND SEALS

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

**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.



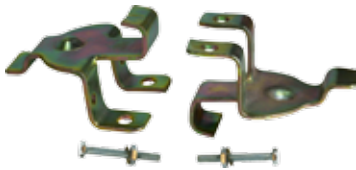
39574

39575

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 brake 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

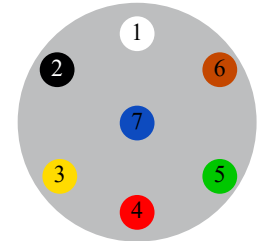


**SEVEN-WAY COILED CABLE ASSEMBLIES**

- 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**

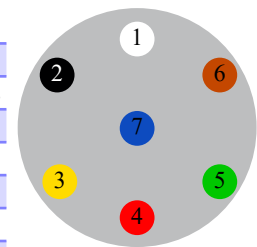
Part #	Length	Description	List Price
39736	12'	Coiled Electrical Cord, ABS w/12 in lead, w/plugs, Green	126.39
39737	15'	Coiled Electrical Cord, ABS w/12 in lead, w/plugs, Green	141.09

**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

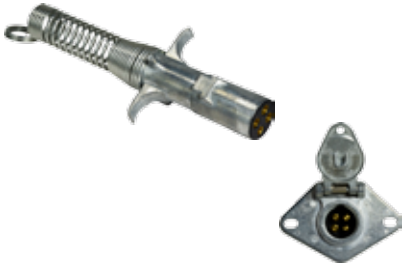
Part #	Description	List Price
39820	7-way socket	13.80

**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**

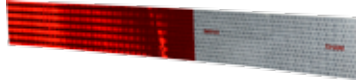
Part #	Length	Strength	Package Qty	List Price
95601	7 1/2"	50lb	100	11.40
95602	11"	50 lb	100	13.68
95603	14.5"	50 lb	100	22.23
95604	24"	175 lb	50	48.45
95605	36"	175lb	50	57.00
95606	48"	175 lb	50	88.35

**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**

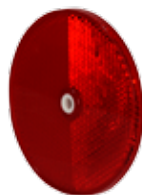
Tape is designed for trucks, trailers, and other vehicles for easy nighttime vehicle recognition and increased road safety. It is a high quality, durable microprismatic retroreflective material with a pressure sensitive adhesive. The solid construction does not require edge sealing. Conspicuity tape 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



95628

- Meets or exceeds ANSI/SAE S279, ANSI/SAE S276 & ASTM D-4956
- 7 year durability

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

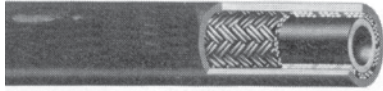


- Air Brake Tubing available from inventory in a large variety of colors and sizes
- Superior cold weather flexibility and abrasion resistance
- UV and ozone resistant nylon
- Meets or exceeds SAEJ844 (Type A - non-reinforced & Type B - reinforced)
- Meets or exceeds DOT requirements for use with compression 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<sup>+3</sup> 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.

---

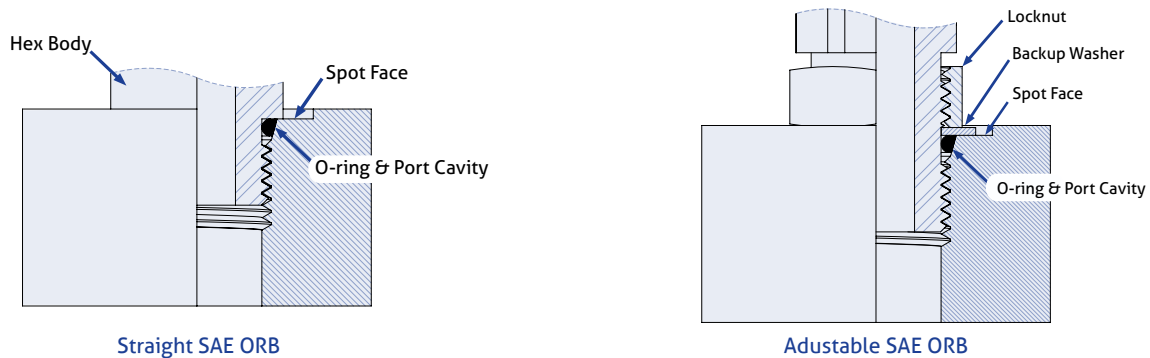


## SAE O-Ring Boss Port Specifications

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	-	-	-

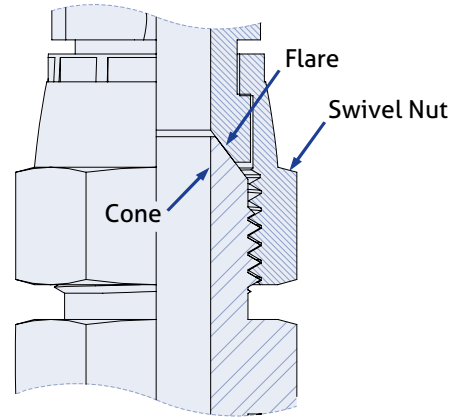
\* = Light duty studs included on JIC, NPTF and NPSM fittings per SAE J1926/3 & J514  
 \*\* = Heavy duty studs included on ORFS fittings per SAE J1926/2 & J1453

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

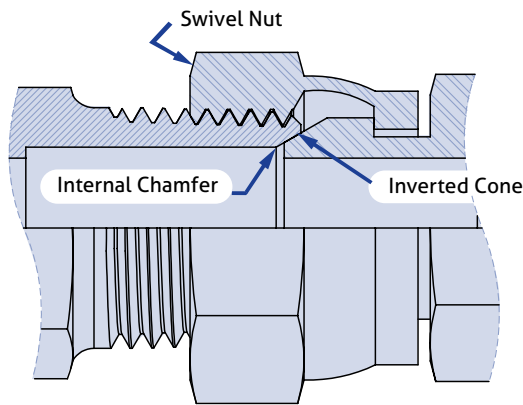
Values are per SAE J514

It has been my observation that most people get ahead during the time that others waste. -Henry Ford

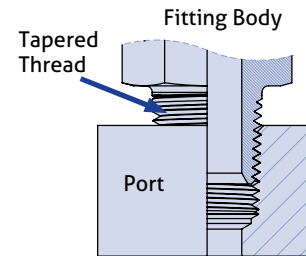
## Pipe & Pipe Swivel Adapter Specifications

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.

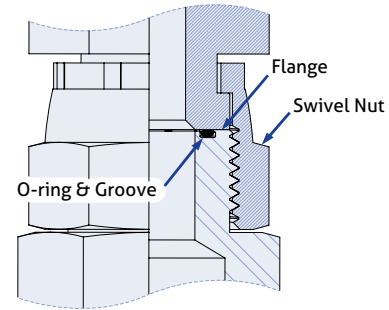
-Elebert Hubbard

**O-ring Face Seal Adapter Specifications**

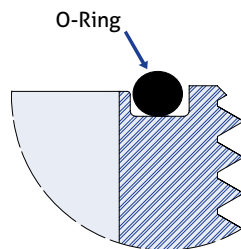
O-ring face seal fittings include a precision groove in the face of the male fitting. Sealing occurs when an O-ring is trapped in the groove by a smooth flat flange that is clamped against the face with a nut or nut and sleeve. The flat flange may be formed or brazed onto the end of a tube, or is machined on a fitting.

There are two SAE groove types:

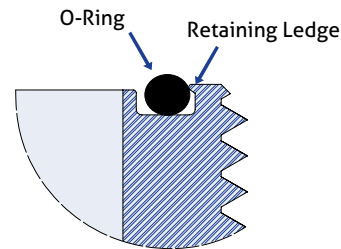
- Type A: The original style A O-ring has no retaining ledge.
- Type B: The Type B groove has a retaining ledge (half dovetail) that improves O-ring retention. The Type B style is more commonly found and is a design improvement over the Type A.



**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**

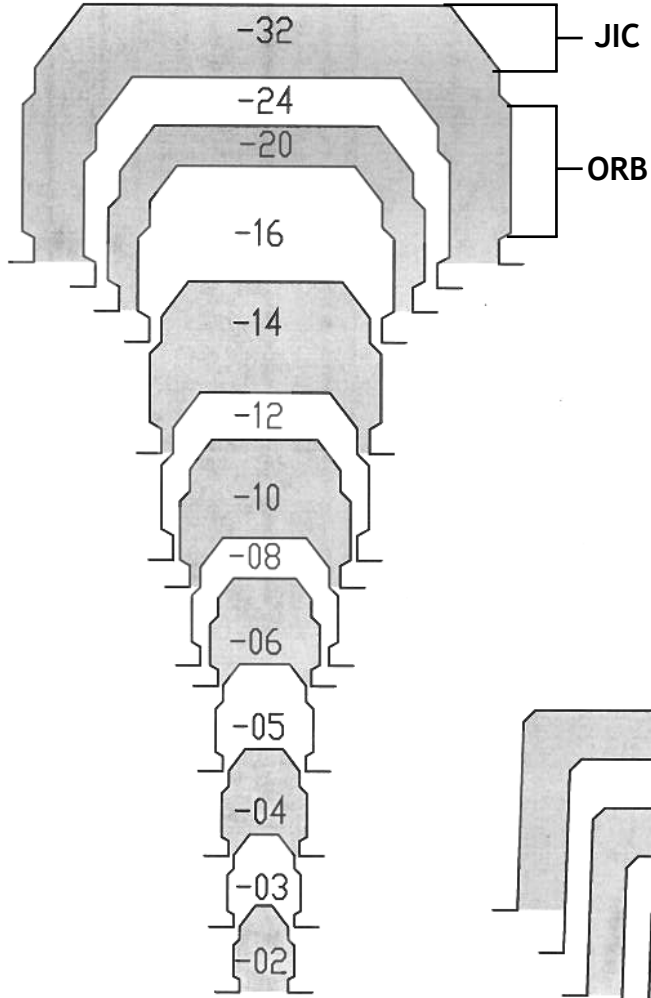
Metric DIN 3852-1 Threads	
Dash Size	THREAD SIZE (mm)
08	8 x 1.0
10	10 x 1.0
12	12 x 1.5
14	14 x 1.5
16	16 x 1.5
18	18 x 1.5
20	20 x 1.5
22	22 x 1.5
24	24 x 1.5
26	26 x 1.5
27	27 x 2.0
30	30 x 2.0
33	33 x 2.0
39	39 x 2.0
42	42 x 2.0
48	48 x 2.0
60	60 x 2.0

Values are from DIN 3852-1

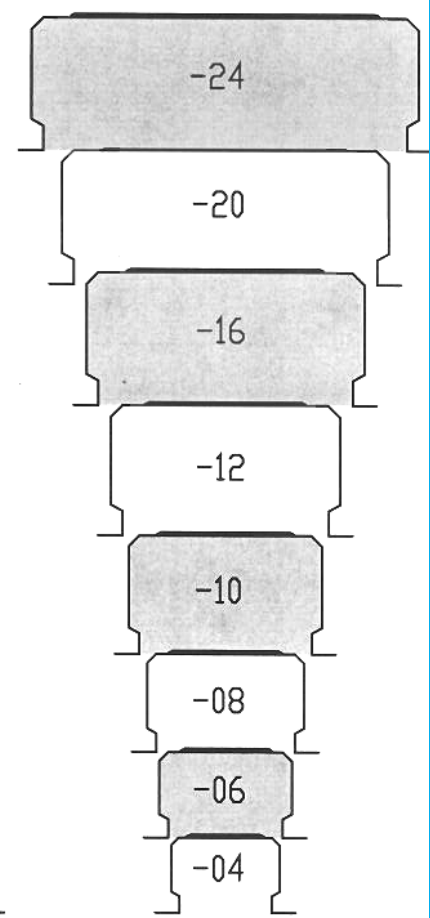
# HYDRAULIC ADAPTERS

# PROFILE SIZE CHART

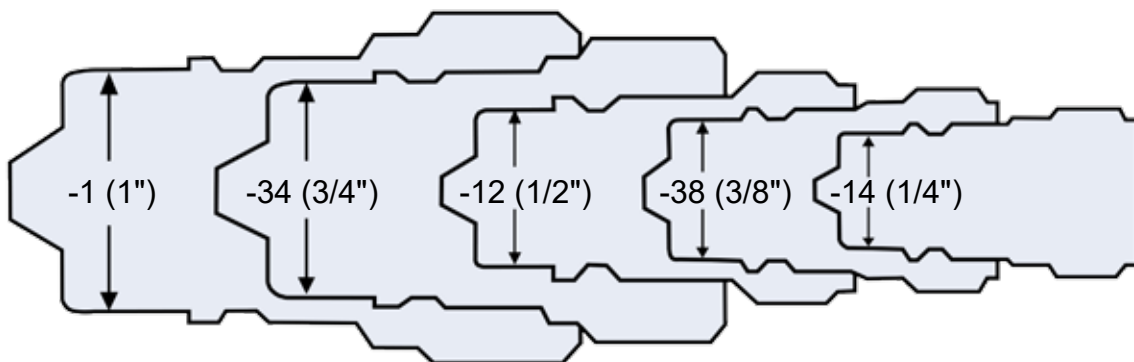
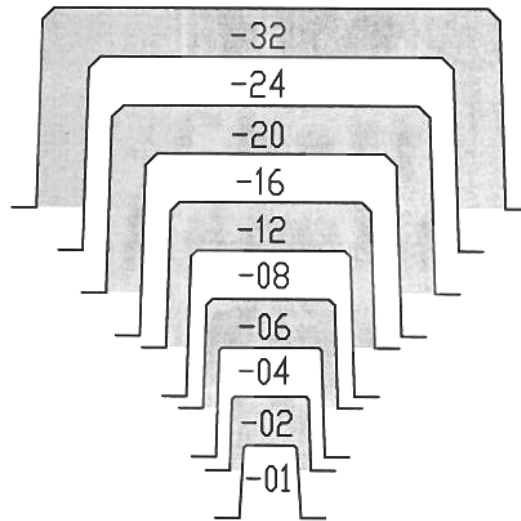
## MALE JIC/ MALE O-RING BOSS



## O-RING FACE SEAL



## MALE PIPE

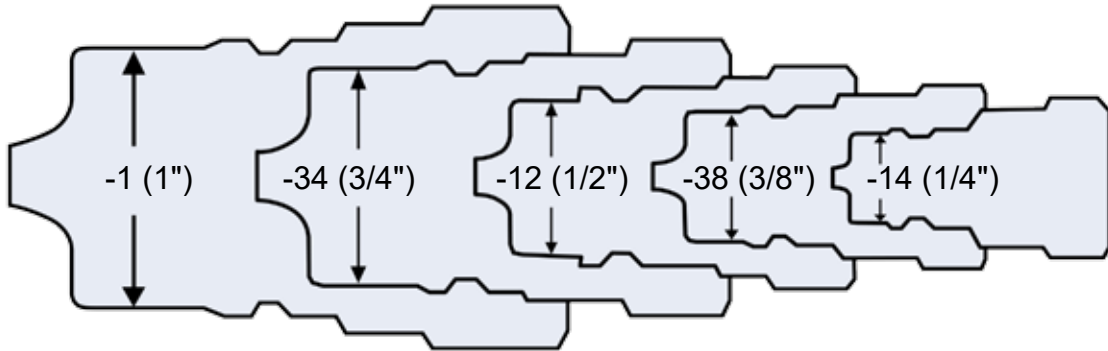


AG INTERCHANGE - NV SERIES

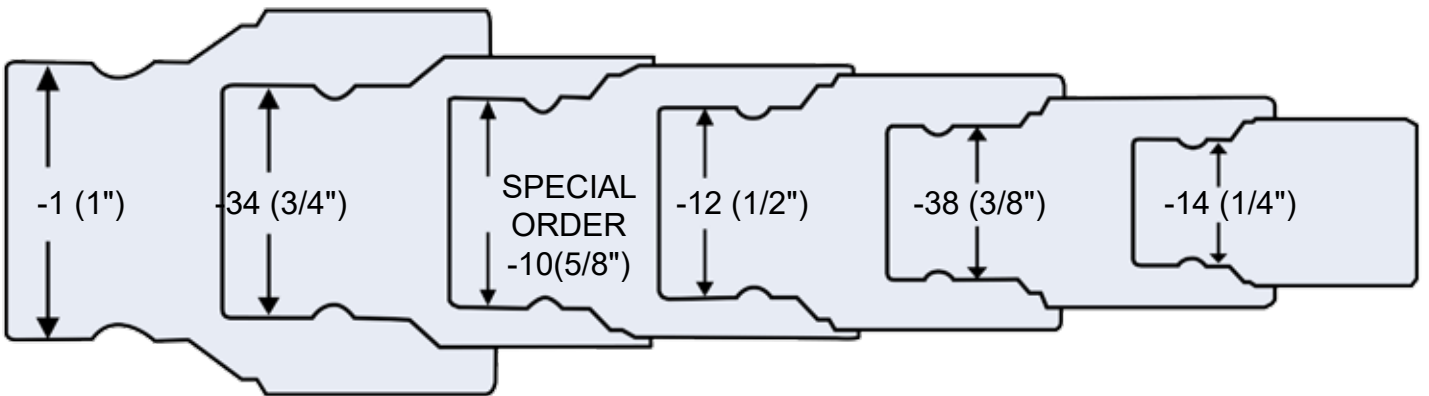


**PROFILE SIZE CHART**

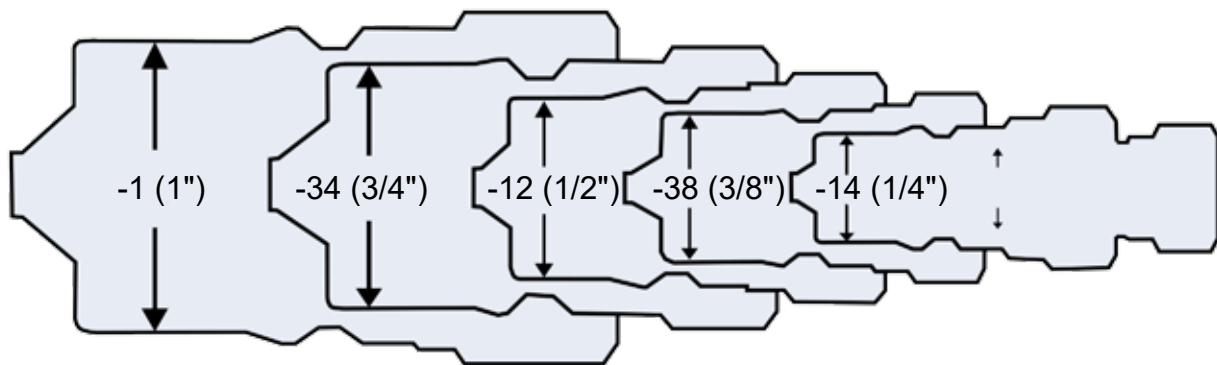
**HYDRAULIC ADAPTERS**



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



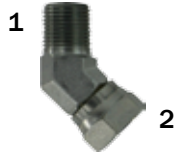
Part #	Female Pipe 1	Female NPSM 2	List Price
1502-2-2	1/8	1/8	4.38
1502-4-4	1/4	1/4	3.80
1502-6-4	3/8	1/4	6.45
1502-6-6	3/8	3/8	4.02
1502-6-8	3/8	1/2	13.15
1502-8-6	1/2	3/8	5.47
1502-8-8	1/2	1/2	6.48
1502-12-12	3/4	3/4	10.44
1502-16-16	1	1	31.33
1502-20-20	1-1/4	1-1/4	28.66
1502-24-24	1-1/2	1-1/2	57.61

1502 2207 1216 945SR

## FEMALE PIPE SWIVELS

### MALE 45° PIPE ELBOW SWIVEL ADAPTER

SAE 140330

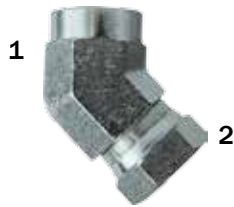


Part #	Male Pipe 1	Female NPSM 2	List Price
1503-2-2	1/8	1/8	4.10
1503-4-4	1/4	1/4	3.47
1503-6-4	3/8	1/4	4.08
1503-6-6	3/8	3/8	3.76
1503-8-6	1/2	3/8	6.11
1503-8-8	1/2	1/2	4.82
1503-12-8	3/4	1/2	10.42
1503-12-12	3/4	3/4	7.16
1503-16-12	1	3/4	13.11
1503-16-16	1	1	14.04

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

## 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

Work keeps at bay three great evils: boredom, vice and need.

- Voltaire

# 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

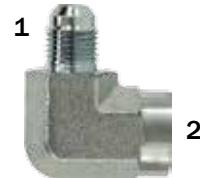


Part #	JIC Thread Size 1	Male Pipe Size 2	List Price
2501-4-2	7/16-20	1/8	1.96
2501-4-4	7/16-20	1/4	2.10
2501-4-8	7/16-20	1/2	5.05
2501-6-2	9/16-18	1/8	2.77
2501-6-4	9/16-18	1/4	2.83
2501-6-6	9/16-18	3/8	2.90
2501-6-8	9/16-18	1/2	3.84
2501-8-4	3/4-16	1/4	3.53
2501-8-6	3/4-16	3/8	3.95
2501-8-8	3/4-16	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



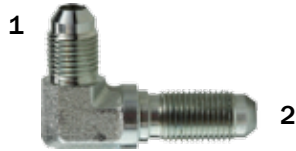
Part #	JIC Thread Size 1	JIC Thread Size 2	List Price
2700-2-2	5/16-24	5/16-24	2.95
2700-4-4	7/16-20	7/16-20	2.54
2700-5-5	1/2-20	1/2-20	3.32
2700-6-6	9/16-18	9/16-18	2.67
2700-8	3/4-16	3/4-16	4.28
2700-10	7/8-14	7/8-14	4.70
2700-12	1-1/16-12	1-1/16-12	5.29
2700-14	1-3/16-12	1-3/16-12	38.42
2700-16	1-5/16-12	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



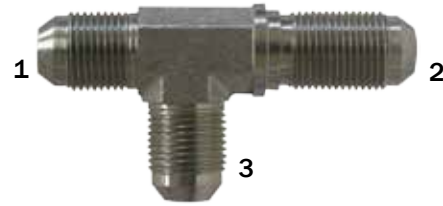
Part #	JIC Thread Size 1&2	JIC Thread Size 3	List Price
2703-4	7/16-20	7/16-20	6.43
2703-6	9/16-18	9/16-18	6.52
2703-8	3/4-16	3/4-16	11.46
2703-10	7/8-14	7/8-14	13.78
2703-12	1-1/16-12	1-1/16-12	20.62
2703-16	1-5/16-12	1-5/16-12	33.05

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 WJIT 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

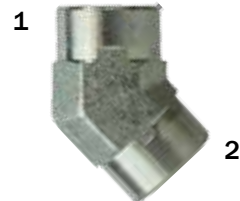


Part #	Female Pipe 1	Female Pipe 2	List Price
5504-2	1/8	1/8	2.59
5504-4	1/4	1/4	3.18
5504-6	3/8	3/8	3.93
5504-8-6	1/2	3/8	5.97
5504-8	1/2	1/2	6.41
5504-12	3/4	3/4	8.17
5504-16	1	1	13.14
5504-20	1-1/4	1-1/4	30.59
5504-24	1-1/2	1-1/2	69.76

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

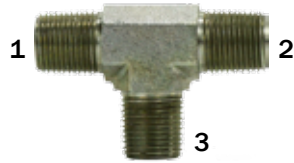
5505 DD45 1241 C3559

## 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

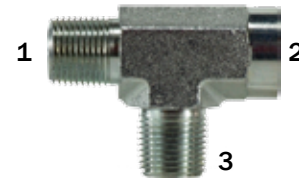


Part #	Male Pipe 1	Female Pipe 2 & 3	List Price
5602-2-2	1/8	1/8	3.61
5602-4-4	1/4	1/4	5.44
5602-6-6	3/8	3/8	6.85
5602-8-8	1/2	1/2	10.08
5602-12	3/4	3/4	12.30
5602-16	1	1	22.55

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



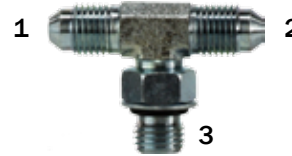
Part #	JIC	O-Ring	List Price
	Thread Size 1	Thread Size 2	
6802-NWO-2	5/16-24	5/16-24	5.45
6802-NWO-4	7/16-20	7/16-20	3.33
6802-NWO-6	9/16-18	9/16-18	3.41
6802-NWO-8	3/4-16	3/4-16	4.74
6802-NWO-8-6	3/4-16	9/16-18	5.94
6802-NWO-8-10	3/4-16	7/8-14	9.62
6802-NWO-10	7/8-14	7/8-14	7.07
6802-NWO-10-8	7/8-14	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

## HYDRAULIC ADAPTERS

## STEEL O-RING

### 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

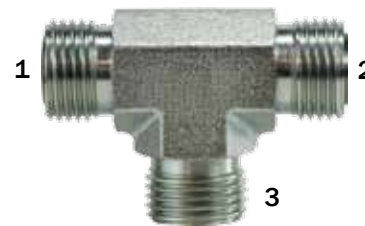
### ORFS TO PIPE ELBOW 45°



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

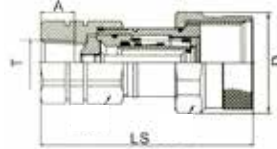
- New valve design provides better resistance from high flow and the pressure of impulse, thus providing advanced performance.
- Special nipple design for connecting under pressure, allows connection and disconnection with high residual pressures.
- The LSQ-VEP series employs a threaded sleeve locking 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			

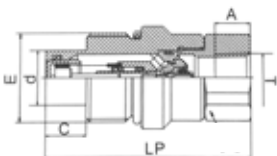
Standard seal material is **NBR**

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

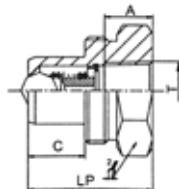
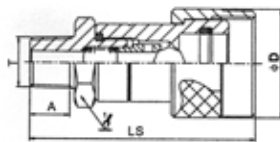
Body Size	1/4(14)	3/8(38)
Rated Pressure	10,000	
Rated Flow (GPM)	3	6
Temperature Range	-20°C +120°C	

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
<b>List Price</b>		448.39	450.48	462.99	476.55	486.98	495.33	505.76	515.15	559.57
<b>Displacement cm3/rev(cu.in/rev)</b>		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)
<b>Max Speed rpm</b>	Cont.	880	740	590	475	370	295	240	190	150
	Int.	975	825	675	595	465	370	295	235	185
<b>Max Torque NW (in.lbs)</b>	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)
<b>Max performance KW/ (HP)</b>	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)
<b>Max Differential Mpa/ (PSI)</b>	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)
<b>Max flow L/min. / (gpm)</b>	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)
<b>Weight</b>	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	DRIVE SHAFT	PORT SIZE
MMPH (GEROTOR)	(cu.in/rev)	FLANGE TYPE	K - 1 Inch Woodruff Key	P - 1/2 NPTF
MMRS (GEROTOR)	MMPH	MMRS	S - SAE - 6B Spline	S - 7/8-14 SAE "O" Ring
	50 (3.15)	50 (3.13)	H - 1 Inch parallel	F - Manifold
	80 (4.74)	80 (4.92)	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
<b>List Price</b>		538.10	555.83	560.00	576.69	592.34	599.64	624.67	628.84	659.09
<b>Displacement cm3/rev(cu.in/rev)</b>		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)
<b>Max Speed rpm</b>	Rated	755	750	600	475	375	300	240	190	160
	Cont.	970	940	750	600	470	375	300	240	200
<b>Max Torque NW (in.lbs)</b>	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)
<b>Max performance KW/ (HP)</b>	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)
<b>Max Differential Mpa/ (PSI)</b>	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)
<b>Max flow L/min. / (gpm)</b>	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)
<b>Weight</b>	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:

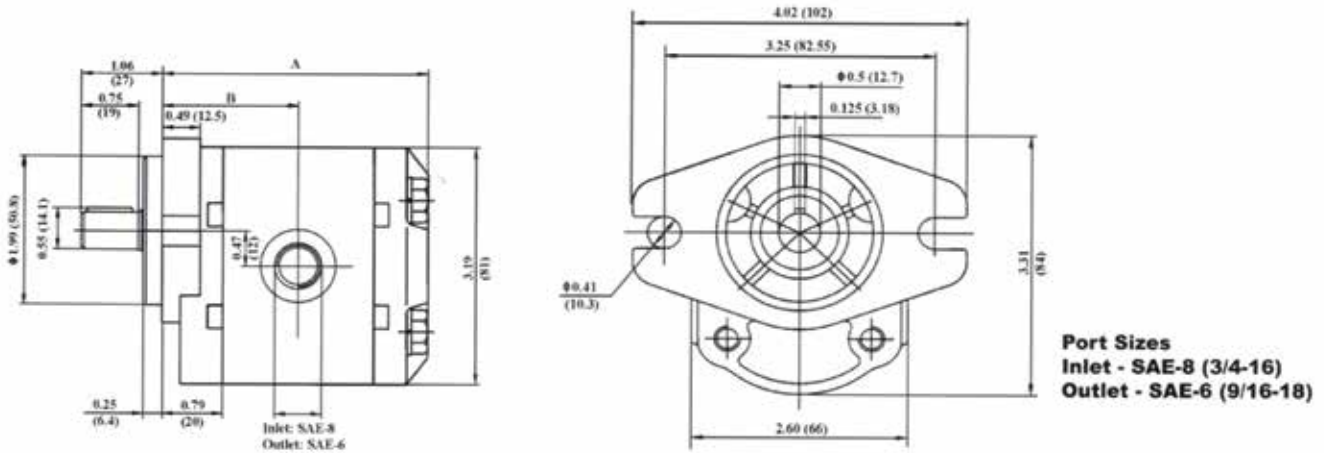
- Filtration 25 micron or better.
- Oil Viscosity 6 to 200 cSt.
- Inlet pressure 12 to 32 psi abs.
- Oil Temperature -25 to 55 degrees C (-12 to 175 F°).
- Ambient -22 to 55 C° (-8 to 130 F°).



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 %<sub>>93</sub>
- 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

Aluminum  
Gear Pump

### F10

High  
Pressure  
Series

### 16

Displacement  
cm<sup>3</sup>/rev  
(see chart)  
13/20/27/34  
41/51/61

### P

Drive  
Shaft  
P-1/2 Dia

### C

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.

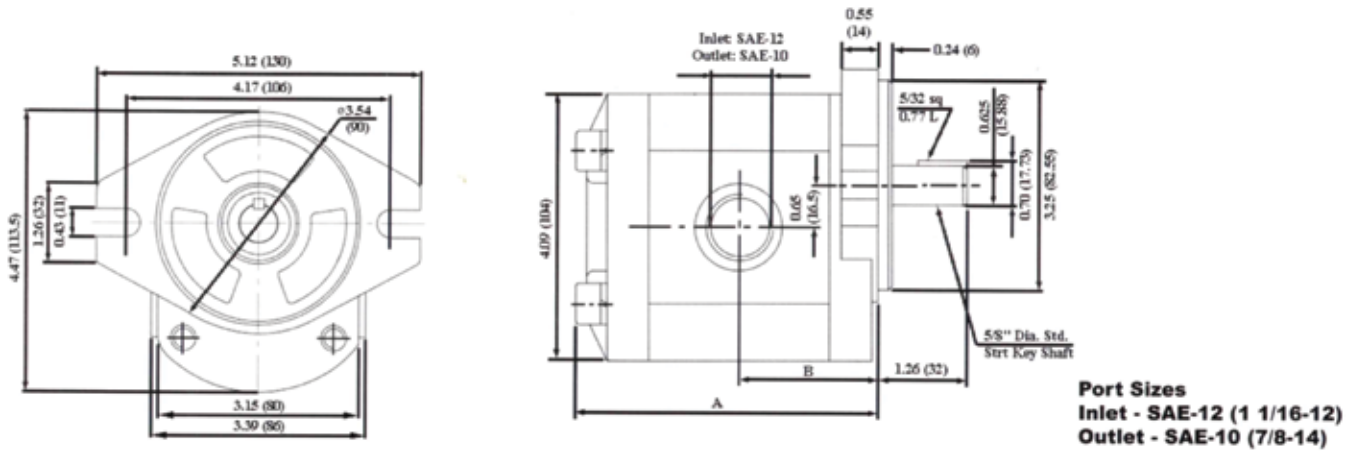
**Recommended working conditions:**

- 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**

<u><b>MGP</b></u> Aluminum Gear Pump	<u><b>F20</b></u> High Pressure Series	<u><b>16</b></u> Displacement cm3/rev (see chart) 06/08/10/12/14/16 20/25	<u><b>P</b></u> Drive Shaft P-5/8 Dia Straight P1-3/4 Dia Straight S9-Spline 9 tooth	<u><b>C</b></u> 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

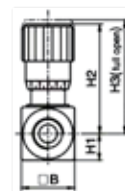
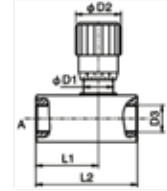
Temperature Ratings: -4°F to 176°F (-20°C to 80°C)

Flow Rate: 0-42 GPM



INLET

&lt;&lt; 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

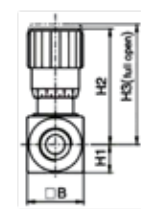
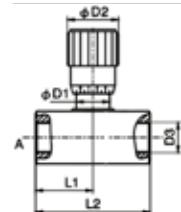
Body:	Carbon steel w/ black oxide plating
Handle:	Zinc Alloy
Set Screw:	Steel
Packing:	Buna O-Ring/ PTFE stem packing

Maximum Pressure: 5000PSI

Temperature Ratings: -4°F to 176°F (-20°C to 80°C)

Flow Rate: 0-42 GPM

• FULL SHUT-OFF



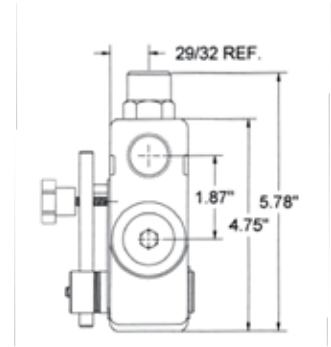
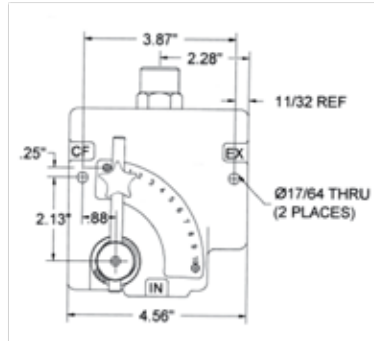
Part#	B	D1	D2	D3	H1	H2	H3	L1	L2	WEIGHT (lbs)	List Price
MMNV4NPT	1.10	0.76	1.18	1/4 NPT	0.55	2.41	2.67	1.07	2.13	0.90	54.88
MMNV6NPT	1.10	0.76	1.18	3/8 NPT	0.55	2.41	2.67	1.07	2.13	0.90	72.22
MMNV8NPT	1.50	0.95	1.46	1/2 NPT	0.75	3.07	3.41	1.34	2.38	2.00	83.06
MMNV12NPT	1.50	0.95	1.46	3/4 NPT	0.75	3.08	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
								28-348	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

**30-562****NUMERICAL INDEX****32-319**

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	56-076	247	56-152	250
540608	122	540806S	122	5503-8	406	56-031	246	56-080	248	56-153	250
540608SC	127	540806SC	127	5504-12	406	5603-12	407	56-081	248	56-154	250
5406-12-2	404	540808	122	5504-16	406	5603-16	407	56-082	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
61-928	301	61-987	301	620532	118	62-259	239	62-454	240
61-929	301	61-988	301	620532C	125	62-260	239	62-455	240
61-931	301	61-998	301	620553C	128	62-391	239	62-456	240
61-932	301	61-999	301	620555C	128	62-392	239	62-470	241
61-933	301	620-006	314	620557C	128	62-393	239	62-471	241
61-934	301	620-006SS	315	620559C	128	62-394	239	62-472	241
61-935	301	620-008	314	620600	118	62-395	239	62-473	241
61-936	301	620-008SS	315	620600C	125	62-396	239	62-474	241
61-937	301	620-010	314	620604	118	62-397	239	62-475	241
61-938	301	620-010SS	315	620604C	128	62-398	239	62-476	241
61-939	301	620-012	314	620606C	128	62-410	240	62-477	241
61-940	301	620-012SS	315	620800	118	62-410B	240	62-478	241
61-941	301	620-016	314	620800C	125	62-411	240	62-480	241
61-942	301	620-016SS	315	620806C	128	62-411B	240	62-481	241
61-943	301	620-020	314	620808C	128	62-412	240	62-500	242
61-944	301	620-020SS	315	62-100	238	62-412B	240	62-501	242
619-440	302	620-024	314	621000	118	62-413	240	62-502	242
61-945	301	620-024SS	315	621000C	125	62-413B	240	62-503	242
619-450	302	620-028	314	62-101	238	62-414	240	62-504	242
61-946	301	620-028SS	315	62-102	238	62-414B	240	62-505	242
61-947	301	620-032	314	62-103	238	62-415	240	62-506	242
619-470	302	620-032SS	315	62-104	238	62-415B	240	62-507	242
61-948	301	620-036	314	62-105	238	62415DC	230	62-508	242
619-480	302	620-036SS	315	62-106	238	62415HDDC	230	62-509	242
61-949	301	620-040	314	62-107	238	62-416	240	62-510	242
61-950	301	620-040SS	315	62-108	238	62-416B	240	62-511	242
61-951	301	620-044	314	62-109	238	62416DC	230	62-512	242
61-952	301	620-044SS	315	62-110	238	62416HDDC	230	62-513	242
61-953	301	620-048	314	62-112	238	62-417	240	62-515	242
61-954	301	620-048SS	315	621200	118	62-417B	240	62-516	242
61-955	301	620-052	314	62-160	238	62417DC	230	62-517	242
61-956	301	620-052SS	315	62-161	238	62417HDDC	230	62-518	242
61-957	301	620-056	314	62-162	238	62-418	240	62-521	242
61-958	301	620-056SS	315	62-163	238	62-418B	240	62-522	242
61-959	301	620-060	314	62-164	238	62418DC	230	62-524	242
61-961	301	620-060SS	315	62-165	238	62418HDDC	230	62-527	242
61-962	301	620-064	314	62-166	238	62-419	240	62-528	242
61-963	301	620-064SS	315	62-167	238	62-420	240	62-529	242
61-964	301	620-072	314	62-168	238	62-420B	240	62-530	242
61-965	301	620-072SS	315	62-169	238	62-421	240	62-531	242
61-966	301	620-080	314	62-180	238	62-428	240	62-532	242
61-967	301	620-088	314	62-181	238	62-430	240	62-534	242
61-968	301	620-096	314	62-182	238	62-431	240	62-535	242
61-969	301	620-104	314	62-183	238	62-432	240	62-536	242
61-970	301	620-116	314	62-184	238	62-433	240	62-538	242
61-971	301	620-128	314	62-185	238	62-434	240	62-539	242
61-972	301	620-152	314	62-186	238	62-435	240	62-543	242
61-973	301	620-164	314	62-187	238	62-436	240	62-557	242
61-974	301	620-176	314	62-188	238	62-437	240	62-559	242
61-975	301	620-188	314	62-189	238	62-438	240	62-600	241
61-976	301	620-200	314	62-190	238	62-440	240	62-601	241
61-977	301	620-212	314	62-191	238	62-441	240	62-602	241
61-978	301	620-224	314	62-250	239	62-442	240	62-603	241
61-979	301	620-248	314	62-251	239	62-445	240	62-604	241
61-980	301	620-270	314	62-252	239	62-446	240	62-605	241
61-981	301	620-312	314	62-253	239	62-447	240	62-606	241
61-982	301	620-332	314	62-254	239	62-448	240	62-607	241
61-983	301	620-390	314	62-255	239	62-449	240	62-608	241
61-984	301	620400	118	62-256	239	62-450	240	62-610	241
61-985	301	620400C	125	62-257	239	62-452	240	62-630	244
								62-631	244
								62-632	244
								62-633	244
								62-634	244
								62-635	244
								62-636	244
								62-637	244
								62-638	244
								62-653	243
								62-654	243
								62-655	243
								62-656	243
								62-657	243
								62-658	243
								62-659	243
								62-660	243
								62-670	243
								62-671	243
								62-672	243
								62-700	243
								62-701	243
								62-702	243
								62-703	243
								62-704	243
								62-705	243
								62-706	243
								62-707	243
								62-708	243
								62-720	239
								62-721	239
								62-722	239
								62-723	239
								62-724	239
								62-725	239
								62-726	239
								62-727	239
								62-728	239
								62-740	239
								62-741	239
								62-742	239
								62-744	239
								62-745	239
								62-747	239
								62-748	239
								62-749	239
								62-771	241
								62-772	241
								62-773	241
								62-774	241
								62-775	241
								62-776	241
								62-777	241
								62-778	241
								63-100	238
								63-101	238
								63-102	238
								63-103	238
								63-104	238
								63-105	238
								63-106	238
								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	63-944A	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	63-945A	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	63-947A	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	63-948A	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	63-9001	306	63-968	304	6401-8-8	408
63-394	239	63-500	242	63-662	244	63-9002	306	63-969	304	6402-O-10-10	408
63-395	239	63-501	242	63-663	244	63-9003	306	63-971	304	6402-O-12-12	408
63-396	239	63-502	242	63-664	244	63-9004	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-12-8.....	409	64-122.....	266	64-256.....	268	64-418.....	270	64-507.....	271	64-656.....	272
6405-O-12-12.....	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
73-207Y	333	73-977	27	77-131	283	77-255	285	77-398	286
73-208B	333	73-977	244	77-132	283	77-256	285	77-401	286
73-230B	334	73-979	27	77-139	283	77-258	285	77-402	287
73-231B	334	73-979	244	77-140	283	77-262	285	77-406	287
73-232B	334	73-980	27	77-141	283	77-263	285	77-410	287
73-232N5	334	73-980	244	77-142	283	77-265	285	77-413	287
73-233B	334	73-981	27	77-143	283	77-267	285	77-419	287
73-238B	334	73-981	244	77-144	283	77-268	285	77-420	287
73-238U	334	73-982	27	77-145	283	77-269	285	77-423	287
73-341B	331	73-982	244	77-154	283	77-270	285	77-424	287
73-341R	331	73-983	307	77-155	283	77-271	285	77-429	287
73-341U	331	73-984	307	77-156	283	77-272	285	77-430	287
73-343B	331	73-985	307	77-157	283	77-273	285	77-431	287
73-343R	331	73-986	307	77-158	283	77-275	285	77-432	287
73-343U	331	73-987	307	77-159	283	77-276	285	77-433	287
73-345B	331	7420-10-8	418	77-160	283	77-277	285	77-434	287
73-345R	331	7420-12-12	418	77-161	284	77-280	285	77-435	287
73-345U	331	7420-12-8	418	77-162	284	77-291	285	77-436	287
73-346B	331	7420-16-12	418	77-163	284	77-292	285	77-437	287
73-346R	331	7420-16-16	418	77-164	284	77-293	285	77-453	287
73-346U	331	7420-2-2	418	77-165	284	77-294	285	77-454	287
73-670	307	7420-4-2	418	77-166	284	77-295	285	77-455LF	287
73-671	307	7420-6-4	418	77-167	284	77-296	285	77-456LF	287
73-672	307	7420-6-6	418	77-168	284	77-297	285	77-457LF	287
73-673	307	7420-8-6	418	77-169	284	77-298	285	77-461	287
73-674	307	7420-8-8	418	77-170	284	77-300	285	77-462	287
73-951	27	7425-10	419	77-177	284	77-303	286	77-463	287
73-951	244	7425-12	419	77-178	284	77-306	286	77-464	287
73-952	27	7425-16	419	77-179	284	77-307	286	77-467	288
73-952	244	7425-2	419	77-180	284	77-308	286	77-468	288
73-953	27	7425-4	419	77-181	284	77-309	286	77-470	288
73-953	244	7425-8	419	77-182	284	77-311	286	77-473	288
73-954	27	7520-10-10	418	77-183	284	77-312	286	77-481	288
73-954	244	7520-12-12	418	77-184	284	77-314	286	77-483	288
73-955	27	7520-2-2	418	77-185	284	77-318	286	77-485	288
73-955	244	7520-4-4	418	77-201	284	77-322	286	77-486	288
73-956	27	7520-6-6	418	77-202	284	77-331	286	77-488	288
73-956	244	7520-8-8	418	77-203	284	77-333	286	77-489	288
73-957	27	770402	123	77-204	284	77-334	286	77-490	288
73-957	244	770402C	127	77-205	284	77-335	286	77-493	288
73-958	27	770404	123	77-206	284	77-336	286	77-496	288
73-958	244	770404C	127	77-207	284	77-337	286	77-498	288
73-959	27	770604	123	77-208	284	77-341	287	77-499	288
73-959	244	770604C	127	77-209	284	77-343	287	77-501	288
73-960	27	77-100	283	77-210	284	77-345	287	77-504	288
73-960	244	77-101	283	77-219	284	77-346	287	77-506	288
73-961	244	77-102	283	77-220	284	77-347	287	77-507	288
73-970	27	77-104	283	77-222	284	77-349	287	77-508	288
73-970	244	77-107	283	77-223	284	77-352	285	77-514	288
73-971	27	77-108	283	77-224	284	77-354	285	77-518	288
73-971	244	77-110	283	77-225	284	77-355	285	77-519	288
73-972	27	77-113	283	77-226	284	77-357	285	77-522	288
73-972	244	77-114	283	77-227	284	77-358	285	77-523	288
73-973	27	77-116	283	77-238	285	77-359	285	77-543	288
73-973	244	77-124	283	77-240	285	77-360	285	77-547	288
73-974	27	77-125	283	77-241	285	77-361	285	77-548	288
73-974	244	77-126	283	77-242	285	77-363	285	77-549	288
73-975	27	77-127	283	77-244	285	77-365	285	77-606LF	287
73-975	244	77-128	283	77-252	285	77-393	286	77-607LF	287
73-976	27	77-129	283	77-253	285	77-394	286	77-608LF	287
73-976	244	77-130	283	77-254	285	77-395	286	7802-12	419
								7802-16	419
								7802-4	419
								7802-6	419
								7802-8	419
								7825-12	419
								7825-16	419
								7825-2	419
								7825-4	419
								7825-6	419
								7825-8	419
								80-001	362
								80-002	362
								80-003	362
								80-004	362
								80-005	362
								80-006	362
								80-007	362
								80-020	362
								80-031	362
								80-032	362
								80-033	362
								80-034	362
								80-035	362
								80-036	362
								80-061	363
								80-062	363
								80-063	363
								80-064	363
								80-065	363
								80-066	363
								80-067	363
								80-068	363
								80-069	363
								80-080	363
								80-081	363
								80-100	363
								80-101	363
								80-102	363
								80-103	363
								80-104	363
								80-105	363
								80-201	363
								80-202	363
								80-203	363
								80-204	363
								80-205	363
								80-206	363
								80-207	363
								80-208	363
								80-209	363
								80-301	362
								80-302	362
								80-303	362
								80-304	362
								80-305	362
								80-306	362
								80-307	362
								80-331	362
								80-332	362
								80-333	362
								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



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





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		