



GREENVILLE INDUSTRIAL RUBBER & GASKET CATALOG



WWW.GRGASKET.COM

FIND WHAT YOU NEED

- TABLE OF CONTENTS INTRO 2-3
- PICTORIAL INTRO 16-38
- NUMERICAL INDEX PAGES 432-462

PICTORIAL INDEX PGS 4-26

BRASS PGS 1-156

LEAD FREE PGS 157-167

VALVES PGS 168-213

NIPPLES & FITTINGS PGS 214-293

PLASTIC PGS 294-304

HOSE ACCESSORIES PGS 305-315

CLAMPS PGS 316-334

TUBING PGS 335-341

PRESSURE WASHER 342-347

PNEUMATICS PGS 348-370

TRUCK & TRAILER PGS 371-392

HYDRAULICS PGS 393-431

NUMERICAL INDEX

TABLE OF CONTENTS



BRASS FITTINGS

Pipe Fittings.....	1
Hose Barb Fittings.....	15
Push-On Barb Fittings.....	31
Garden Hose Fittings.....	37
45° Flare Fittings.....	49
Inverted Flare Fittings.....	69
Compression Fittings.....	77
Flareless Fittings.....	91
Push-In Fittings.....	97
Air Brake Fittings.....	120
Grease Fittings.....	141

SPECIALTY VALVES AND COCKS..... 147-156



LEAD FREE BRASS VALVES.....	154-163
Lead Free Brass Valves.....	169
Brass Ball Valves.....	173
Brass Gate Valves.....	190
Stainless Steel Ball Valves.....	198

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.....	214-293
Brass Nipples.....	215
Bronze and Lead Free Fittings.....	223
Stainless Nipples.....	233
Stainless Steel Fittings.....	235
Steel Nipples.....	250
Merchant Couplings.....	267

API Line Couplings.....	268
Malleable Fittings.....	269
Steel Fittings.....	279
300# Malleable.....	281
Bull Plugs and Swages.....	283
Forged Steel Flanges.....	285
Copper Fittings.....	287



PLASTIC FITTINGS.....	294-304
Pipe-Nylon Poly.....	295
Hose Barb.....	297
Garden Hose.....	301

Compression.....	302
Push-In.....	303



HOSE ACCESSORIES.....	305-315
Cam & Groove.....	306
King Nipples.....	312
Universal Couplings.....	313

Ground Joint Couplings.....	314
Fire Hose Fittings.....	315



CLAMPS.....	316-334
Worm Gear Clamps.....	317
Quick Release.....	321
T-Bolt Clamps.....	322
Spring Loaded T-Bolt.....	323
Constant torque.....	324
V-Band.....	324
Muffler.....	325
Exhaust.....	326

1 Ear Clamps.....	327
Preformed.....	329
Clamp Tools/Strapping.....	331
Lined Band Clamps.....	332
Hose Ferrules.....	334



TUBING.....	335-341
Polyurethane.....	336
Polyethylene.....	337
Nylon 12 Tubing.....	339

PVC Tubing.....	340
Tube Cutters.....	340
Aluminum.....	341
Copper.....	341

TABLE OF CONTENTS



HIGH PRESSURE SPRAYERS342-347

Nozzles	343
Swivels.....	344
Sprayers	345
Quick Disconnects	346



PNEUMATICS348-370

Industrial Interchange	349
Universal Couplings.....	351
ARO 210 Interchange.....	352
Automotive Interchange	353
Lincoln Interchange	354
Straight Through.....	355
Mini/Mold.....	355
Vents, Mufflers and Filters	356

Manifolds.....	358
Safety Valves.....	359
Tank & Vent	360
Blow Guns	361
Tire Gauges	361
Foot Chucks.....	363
Air Accessory Sets	364
Gauges	367
Teflon Tape.....	370



TRUCK AND TRAILER371-392

Air Coils	371
Hose Support.....	372
Gladhands.....	375
Air Cylinder	379

Coiled Cable	383
Accessories	389
Air Brake Tubing.....	391
Hose	392



HYDRAULICS.....393-341

STEEL ADAPTERS

Technical information	394
Profile size chart.....	390
Steel Pipe Swivels	402
37° JIC Flare Straights.....	404
37° JIC Flare Shapes	406
Bulkhead Adapters	407
Steel Pipe Fittings.....	409
O-Ring Adapters Straight	413
JIC Swivels	415
O-Ring Adapters	417
O-Ring Face Seal	419
BSPT/ BSPP Adapters.....	423
Metric Adapters.....	426

QUICK DISCONNECTS



Thread to Connect - Wing	427
ISO A Interchange	427
ISO B Interchange.....	427
Flush Face ISO	428
VEP Series	428
AG Interchange	429
Hydraulic Jack Q/D.....	429

VALVES & ACCESSORIES

Flow Control Valve	430
Variable Flow Counter	431
Air Breathers.....	431




































































PICTORIAL INDEX

BRASS

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




















































BRASS

PICTORIAL INDEX

MALE SWIVEL  PG 17	GASKET  PG 18	HB 90° ELBOW  PG 18	BS 90° ELBOW  PG 19	TEE  PG 19	90° HB ELBOW  PG 19	FEMALE HB EL  PG 20	45° ELBOW  PG 20	CROSS  PG 20
BALL END  PG 21	BALLSEAT  PG 21	BALLSEAT  PG 21	45° FLARE  PG 21	DUAL FLARE  PG 22	DUAL FLARE  PG 22	FEM FLARE  PG 22	FEM FLARE  PG 22	JIC FLARE SWL  PG 22
REUSE- ABLE FITTINGS PGS 23	REUSABLE MALE  PG 23	REUSABLE STEMS  PG 23	REUSABLE SWIVELS  PG 23	REUSABLE FERRULES  PG 23	REUSABLE STEMS  PG 23	FUEL HOSE PGS 24-25	FUEL HOSE  PG 24	BUBBLE BARB  PG 24
INV FLARE CONN  PG 24	90° MALE ELBOW  PG 24	BUBBLE BARB  PG 24	SWL MALE ELBOW  PG 25	WELD CON- NECTOR  PG 25	WELD HOSE NUT  PG 25	HOSE CON- NECT  PG 25	TUBE BARB PGS 26	UNION SINGLE BARB  PG 26
MALE ADAPT- ER 1 BARB  PG 26	FEMALE ADAPTER  PG 26	BULKHEAD UNION  PG 26	UNION ELBOW  PG 26	MALE 90° ELBOW  PG 26	FEMALE 90° EL  PG 26	1 BARB TEE  PG 26	MALE BRANCH T  PG 26	FEMALE BRANCH T  PG 26
TWO BARB  PG 26	2 BARB TEE  PG 26	90° ELBOW 2 BARB  PG 26	SS. HOSE BARB PGS 27	SS ADAPTER  PG 27	SS SPLICER  PG 27	SS BARB ELBOW  PG 27	#304 SS HOSE  PG 27	#304 RED NIPPLE  PG 27
#316 SS HOSE NIPPLE  PG 27	BEVERAGE BARB PGS 28-29	PIPE ADAPTER  PG 28	HOSE SPLICER  PG 28	BRASS SPLIC- ERS  PG 28	FLARE ADAPTER  PG 28	THINWALL SPLICERS  PG 28	TAILPIECE  PG 28	SWIVEL SETS  PG 28
PLUG  PG 28	TAILPIECE  PG 28	SWIVEL BARB  PG 28	COMPRES- SION  PG 28	90° ELBOW  PG 28	SWIVEL EL- BOW  PG 29	U-BEND  PG 29	HOSE TEES  PG 29	SWIVEL EL- BOW  PG 29


PICTORIAL INDEX

BRASS

<p>U-BEND</p>  <p>PG 29</p>	<p>THINWALL</p>  <p>PG 29</p>	<p>MALE ELBOWS</p>  <p>PG 29</p>	<p>CROSS</p>  <p>PG 29</p>	<p>BARB SPLICER</p>  <p>PG 29</p>	<p>PUSH-ON BARB PGS 31-36</p>	<p>MALE</p>  <p>PG 31</p>	<p>MALE SWIVEL</p>  <p>PG 31</p>	<p>FEMALE</p>  <p>PG 31</p>
<p>HOSE SPLICER</p>  <p>PG 32</p>	<p>FEMALE</p>  <p>PG 32</p>	<p>MALE ELBOW</p>  <p>PG 32</p>	<p>TUBE</p>  <p>PG 33</p>	<p>SAE FLARE</p>  <p>PG 33</p>	<p>37° JIC FLARE</p>  <p>PG 33</p>	<p>DUAL SEAL</p>  <p>PG 33</p>	<p>45° SAE FL</p>  <p>PG 34</p>	<p>37° JIC FL SWL</p>  <p>PG 34</p>
<p>INV FLARE SWL</p>  <p>PG 34</p>	<p>FEMALE ADAPTER</p>  <p>PG 35</p>	<p>BALLSEAT SWIVEL</p>  <p>PG 35</p>	<p>FEMALE SWIVEL</p>  <p>PG 35</p>	<p>316 MALE ADPT</p>  <p>PG 36</p>	<p>FEMALE SWIVEL</p>  <p>PG 36</p>	<p>37° JIC FL SWL</p>  <p>PG 36</p>	<p>GARDEN HOSE PGS 37-47</p>	<p>SWL MGH X FGH</p>  <p>PG 38</p>
<p>SWL FGH X FGH</p>  <p>PG 38</p>	<p>FGH X FGH</p>  <p>PG 38</p>	<p>SWL FGH X FPIPE</p>  <p>PG 38</p>	<p>COOLER FITTINGS</p>  <p>PG 38</p>	<p>COOLER FITTINGS</p>  <p>PG 38</p>	<p>COOLER FITTINGS</p>  <p>PG 38</p>	<p>RGD FGH X FPIPE</p>  <p>PG 38</p>	<p>RGD FGH X FPIPE</p>  <p>PG 39</p>	<p>SWL FGH X MPIPE</p>  <p>PG 39</p>
<p>DSHWSHR ELBOW</p>  <p>PG 39</p>	<p>SWL FGH X MPIPE</p>  <p>PG 39</p>	<p>SWL FGH X MPIPE</p>  <p>PG 39</p>	<p>RGD FGH X MPIPE</p>  <p>PG 39</p>	<p>RGD FEMALE PIPE</p>  <p>PG 40</p>	<p>RGD FEMALE PIPE</p>  <p>PG 40</p>	<p>RGD MALE PIPE</p>  <p>PG 40</p>	<p>RGD MGH X MGH</p>  <p>PG 40</p>	<p>GH NUT</p>  <p>PG 40</p>
<p>GH NUT</p>  <p>PG 40</p>	<p>GH WASHER</p>  <p>PG 41</p>	<p>GH WASHER</p>  <p>PG 41</p>	<p>GH FILTER WSHR</p>  <p>PG 41</p>	<p>GH CAP</p>  <p>PG 41</p>	<p>GH CAP W/ CHAIN</p>  <p>PG 41</p>	<p>GH PLUG</p>  <p>PG 41</p>	<p>MENDER</p>  <p>PG 42</p>	<p>QCK DISCON GH</p>  <p>PG 41</p>
<p>QCK DISCON GH</p>  <p>PG 41</p>	<p>MALE FL X FGH RGD</p>  <p>PG 42</p>	<p>MALE FL SWIVEL</p>  <p>PG 42</p>	<p>COMP X FGH</p>  <p>PG 42</p>	<p>COMP X MGH</p>  <p>PG 42</p>	<p>FEMALE SWIVEL</p>  <p>PG 43</p>	<p>SS FEMALE SWL</p>  <p>PG 43</p>	<p>MALE END</p>  <p>PG 43</p>	<p>SS MALE END</p>  <p>PG 43</p>
<p>GH COUPLING</p>  <p>PG 43</p>	<p>GH COUPLING</p>  <p>PG 43</p>	<p>FEMALE END</p>  <p>PG 44</p>	<p>MALE END</p>  <p>PG 44</p>	<p>GH COUPLING</p>  <p>PG 44</p>	<p>FEMALE SWL 2"</p>  <p>PG 44</p>	<p>MALE END 2"</p>  <p>PG 44</p>	<p>GH COUPLING 2"</p>  <p>PG 44</p>	<p>FE. SHRT SHNK</p>  <p>PG 45</p>












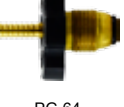












































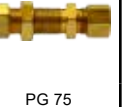












BRASS

PICTORIAL INDEX

<p>MALE SHRT</p>  <p>PG 45</p>	<p>SHRT SHNK</p>  <p>PG 45</p>	<p>FE. LONG</p>  <p>PG 45</p>	<p>M. LONG</p>  <p>PG 45</p>	<p>LONG SHNK</p>  <p>PG 45</p>	<p>FEMALE END</p>  <p>PG 46</p>	<p>BRASS BALL</p>  <p>PG 46</p>	<p>HOSE SHUT-</p>  <p>PG 46</p>	<p>PL. GH VALVE</p>  <p>PG 46</p>
<p>CAST WYE</p>  <p>PG 47</p>	<p>2-WAY SHUT-</p>  <p>PG 47</p>	<p>"Y" CONNEC-</p>  <p>PG 47</p>	<p>SWL HOSE</p>  <p>PG 47</p>	<p>"Y" CONNEC-</p>  <p>PG 47</p>	<p>BRASS</p>  <p>PG 48</p>	<p>CROSS PTRRN</p>  <p>PG 48</p>	<p>CROSS PTRRN</p>  <p>PG 48</p>	<p>SPRAY</p>  <p>PG 48</p>
<p>SPRAY NOZZLE</p>  <p>PG 48</p>	<p>SPRAY NOZZLE</p>  <p>PG 48</p>	<p>PL. SPRAY NOZZ</p>  <p>PG 48</p>	<p>FLARE PGS 49-60</p>	<p>SHORT ROD NUT</p>  <p>PG 50</p>	<p>RED. SHRT ROD</p>  <p>PG 50</p>	<p>LONG ROD NUT</p>  <p>PG 50</p>	<p>LONG FRG. NUT</p>  <p>PG 51</p>	<p>SHORT FRG. NUT</p>  <p>PG 51</p>
<p>HVY. SHRT NUT</p>  <p>PG 51</p>	<p>REDUCING NUT</p>  <p>PG 51</p>	<p>FLARED PLUG</p>  <p>PG 52</p>	<p>FLARED CAP</p>  <p>PG 52</p>	<p>FNGR TIGHT. CAP</p>  <p>PG 52</p>	<p>COPPER GASKET</p>  <p>PG 52</p>	<p>COPPER BON-NET</p>  <p>PG 53</p>	<p>M BALL CHK CON</p>  <p>PG 53</p>	<p>UNION</p>  <p>PG 53</p>
<p>REDUCING UNION</p>  <p>PG 54</p>	<p>UNION TEE</p>  <p>PG 54</p>	<p>REDUCING TEE</p>  <p>PG 54</p>	<p>M. BRANCH TEE</p>  <p>PG 55</p>	<p>FE. ADAPTER</p>  <p>PG 55</p>	<p>MALE ADAPTER</p>  <p>PG 56</p>	<p>MALE ELBOW</p>  <p>PG 57</p>	<p>MALE ELBOW</p>  <p>PG 57</p>	<p>FEMALE ELBOW</p>  <p>PG 58</p>
<p>MALE RUN TEE</p>  <p>PG 58</p>	<p>FLARE CROSS</p>  <p>PG 59</p>	<p>ADAPTER TEE</p>  <p>PG 59</p>	<p>FLARE ELBOW</p>  <p>PG 59</p>	<p>REDUCING ELBOW</p>  <p>PG 59</p>	<p>45° ELBOW</p>  <p>PG 60</p>	<p>UNION</p>  <p>PG 60</p>	<p>FE. FL ADAPTER</p>  <p>PG 60</p>	<p>FL REDUCER</p>  <p>PG 60</p>
<p>FORGED SWIVEL</p>  <p>PG 61</p>	<p>REDUCING SWL</p>  <p>PG 61</p>	<p>SWIVEL EL-BOW</p>  <p>PG 61</p>	<p>FL X SWT</p>  <p>PG 61</p>	<p>SPACE HEATER PG 61</p>	<p>SPACE NUT</p>  <p>PG 62</p>	<p>HEATER MALE</p>  <p>PG 62</p>	<p>SPACE FE-MALE</p>  <p>PG 62</p>	<p>HEATER UNION</p>  <p>PG 62</p>
<p>GAS RANGE PG 62</p>	<p>GAS MALE</p>  <p>PG 62</p>	<p>RANGE FE-MALE</p>  <p>PG 62</p>	<p>DRUM ADTR</p>  <p>PG 62</p>	<p>RANGE CAP</p>  <p>PG 62</p>	<p>POL PGS 63-65</p>	<p>POL TEE</p>  <p>PG 63</p>	<p>TAILPIECE</p>  <p>PG 63</p>	<p>TAIL AND NUT</p>  <p>PG 63</p>

PICTORIAL INDEX

BRASS

POL CAP  PG 63	PLUG AND  PG 63	ADAPTER  PG 63	MALE  PG 63	TAILPIECE  PG 64	POL ADAPTER  PG 64	TAILPIECE  PG 64	POL ADAPTER  PG 64	HEX HEAD  PG 64
POL ADAPTER  PG 64	SOFT NOSE  PG 64	POL ADAPTER  PG 64	PROPANE  PG 65	DUST PLUG  PG 65	POL X MIP  PG 65	APPLIANCE  PG 65	FPT X POL  PG 65	APPLIANCE  PG 65
APPLIANCE TEE  PG 65	O-RING  PG 65	DUAL APPLIANCE  PG 65	37 FLARE PGS 66-67	JIC UUNION  PG 66	JIC FE ADPT  PG 66	MALE ADAPTER  PG 66	JIC SWIVEL  PG 66	90° ELBOW  PG 67
FE ELBOW  PG 67	45° ELBOW  PG 67	INVERTED FLARE PGS 69-75	CHROMATE NUT  PG 69	LONG STEEL NUT  PG 69	INVERTED FL NUT  PG 69	METRIC TUBE NUT  PG 69	UNION INTERNAL  PG 70	FE. ADAPTER  PG 70
MALE ADAPTER  PG 70	ELBOW  PG 71	45° ELBOW  PG 71	UNION TEE  PG 71	STEEL PLUG  PG 72	M. BRANCH TEE  PG 72	FEMALE ELBOW  PG 72	MALE RUN TEE  PG 72	FE. BRANCH TEE  PG 73
TRAIL BRAKE TEE  PG 73	CYLINDER ADAPT  PG 73	CYLINDER ADAPT  PG 74	CARBURETOR  PG 74	RESTRICT. ADAPT.  PG 74	SAE FL X INVERT  PG 75	METRIC ADAPTER  PG 75	ADAPT STANDARD  PG 75	METRIC UNION  PG 75
COMPRESSION PG 77-85	BRASS SLEEVE  PG 77	BRASS NUT  PG 77	UNION  PG 77	REDUCING UNION  PG 78	BULKHEAD UNION  PG 75	DRILLED UNION  PG 75	CHECK VALVE  PG 76	TEE  PG 76
TEE  PG 76	REDUCING TEE  PG 76	UNION ELBOW  PG 77	REDUCING ELBOW  PG 77	TANK ADAPTER  PG 77	COMP X SWEAT  PG 77	FE. ADAPTER  PG 78	MALE ADAPTER  PG 79	MALE ELBOW  PG 80

BRASS

PICTORIAL INDEX

 MALE ELBOW PG 80	 MALE RUN TEE PG 81	 M. BRANCH PG 81	 M. BRANCH PG 81	 FE. ELBOW PG 82	 FE. ELBOW PG 82	 FORGED TEE PG 82	 ADAPTER TEE PG 83	 FE. BRANCH PG 83
 45° ELBOW PG 83	 CAP PG 84	 COMPRESS PG 84	 BULKHEAD PG 85	 CHECK VALVE PG 85	 TANK PG 85	DOUBLE COMP. PG 84	 DOUBLE COM- PG 86	 MALE PG 86
 90° ELBOW PG 86	 BREAK-AWAY NUT PG 86	SPLIT SLEEVE PG 87	 SPLIT SLEEVE PG 87	 NUT PG 87	 DBL. END UNION PG 87	 CONNECTOR TRANSMISSION PG 87	 ELBOW PG 87	COMP ASSEMBLIES PG 88
 DELRIN SLEEVE PG 88	 BRASS INSERT PG 88	 LONG NUT COMP PG 88	 SELF-ALIGN SLEEVE PG 88	CAPTIVE SLEEVE PG 89	 CAP SLEEVE NUT PG 89	 UNION PG 89	 MALE ADAPTER PG 89	 MALE ELBOW PG 89
 M. BRANCH TEE PG 89	 ANG. NEED. VALV PG 89	 SLE. NEED. VALV PG 89	FLARE-LESS PGS 91-94	 NUT PLS. SLEEVE PG 91	 UNION PG 91	 BULKHEAD UNION PG 91	 UNION TUBE PG 91	 BULKHEAD UNION PG 91
 UNION TEE PG 92	 FE. CONNecTOR PG 92	 M. CONNecTOR PG 92	 MALE ELBOW PG 92	 FEMALE ELBOW PG 93	 MALE RUN TEE PG 93	 M. BRANCH TEE PG 93	 FE. BRANCH TEE PG 93	 UNI NUT SLEEVE PG 94
 NUT PG 94	 PLASTIC SLEEVE PG 94	 PLASTIC CAP PG 94	BRASS PUSH-IN PGS 97-101	 UNION CON-NECT PG 97	 UNION TEE PG 97	 UNION ELBOW PG 97	 FE. CONNecTOR PG 97	 M. CONNecTOR PG 98
 SWVL. M. ELBOW PG 98	 FIXED M. ELBOW PG 99	 FE. SWVL ELBOW PG 99	 FEMALE ELBOW PG 99	 SWVL M. RUN T PG 100	 FIXED M. RUN T PG 100	 SWVL M. BRANCH PG 100	 FIX M. BRANCH T PG 100	 UNION "Y" PG 101

PICTORIAL INDEX

BRASS

BULKHEAD  PG 101	FE. BLKHD  PG 101	REDUCER  PG 101	PLASTIC PLUG  PG 101	N/P BRASS PUSH-IN PGS 103-106	UNION CON-  PG 103	UNION TEE  PG 103	UNION ELBOW  PG 103	FE. CONNec-  PG 103
FIXED M.  PG 104	MALE W/INT  104	M. CONNec-  PG 104	SWVL. M.  105	FE. SWVL  PG 105	SWVL. M.  PG 105	REDUCER  PG 106	UNION "Y"  PG 106	SWVL M.  PG 106
BULKHEAD UNION  PG 106	N/P VALVES PG 107	PUSH-IN VALVE  PG 107	TUBE X MIP MINI  PG 107	FIP MINI BALL  PG 107	MXF MINI BALL  PG 107	FIP ANGLE BALL  PG 107	3-WAY MINI  PG 107	3_WAY MINI  PG 107
METRIC N/P BRASS PGS 108-110	BULKHEAD UNION  PG 108	UNION TEE  PG 108	UNION ELBOW  PG 108	UNION "Y"  PG 108	PLUG  PG 108	METRIC TUBE M.  PG 109	INTERNAL HEX  PG 109	METRIC TUBE ELB  PG 109
METRIC SWVL TEE  PG 110	METRIC SWVL TEE  PG 110	BULKHEAD  PG 110	COM- POSITE PUSH-IN PGS 112-115	UNION  PG 112	UNION TEE  PG 112	FE. CONNec- TOR  PG 112	90° UNION ELB.  PG 112	UNION "Y" CONN  PG 112
SWIVEL "Y" CONM. CON- NECTOR  PG 113	SW MALE ELBOW  PG 113	LONG PTTN M. EL  PG 113	FE. SWVL ELBOW  PG 114	45 SWIVEL ELL  PG 114	SWVL M. RUN T  PG 114	SWVL M. BRANCH  PG 114	BULKHEAD FE.  PG 114	BULKHEAD UNION  PG 115
SWIVEL "Y" CON  PG 115	NEEDLE VALVE  PG 115	FLOW CON- TROL  PG 115	FLOW CON- TROL  PG 115	METRIC PUSH-IN PGS 116-118	METRIC MALE  PG 116	METRIC EL- BOW  PG 116	METRIC TEE  PG 116	METRIC UNION  PG 116
METRIC TEE  PG 117	METRIC TEE  PG 117	METRIC SW ELBOW  PG 117	METRIC WYE  PG 118	METRIC SW WYE  PG 118	DOT BRASS PUSH-IN PGS 120-125	PLUG  PG 120	UNION  PG 120	UNION TEE  PG 120


































































BRASS







PICTORIAL INDEX

UNION ELBOW  PG 120	FEMALE CONN  PG 121	MALE CON-  PG 121	MALE ELBOW  PG 122	MALE SWL  PG 122	FEMALE  PG 123	FEMALE SWL  PG 123	MALE RUN TEE  PG 123	MALE SWL  PG 124
MALE 45°  PG 124	45° SWL EL-  PG 124	MALE BRANCH  PG 124	SWL BRANCH  PG 125	FEM BRANCH T  PG 125	BULK CON-  PG 125	BULKHEAD  PG 125	FEM BULK  PG 125	DOT COMP PUSH-IN PGS 127-130
STRAIGHT UNION  PG 127	UNION TEE  PG 127	UNION 90° EL  PG 127	FEM CONNecTOR  PG 127	MALE CON-NECTOR  PG 128	90° MALE ELBOW  PG 128	90° FEMALE EL  PG 128	MALE RUN TEE  PG 129	MALE BRANCH T  PG 129
FEM BRANCH T  PG 129	45° MALE ELBOW  PG 129	UNION "Y"  PG 130	MALE BRANCH "Y"  PG 130	BULKHEAD UNION  PG 130	FEM BULK CONN  PG 130	DOT FOR NYLON TUBE PG 132-135	SLEEVE  PG 132	NUT  PG 132
UNION  PG 132	BULKHEAD UNION  PG 132	SS INSERT  PG 132	BRASS INSERT  PG 132	TEE  PG 133	RED BRANCH TEE  PG 133	ELBOW  PG 133	FEMALE ADAPTER  PG 133	MALE ADAPTER  PG 134
SWL MALE ADPT  PG 134	MALE ELBOW  PG 134	SWL MALE ELBOW  PG 134	FEMALE ELBOW  PG 134	MALE RUN TEE  PG 135	MALE BRANCH T  PG 135	FEM BRANCH T  PG 135	45° ELBOW  PG 135	SWL 45° EL-BOW  PG 135
DOT FOR COPPER PGS 136-137	SLEEVE  PG 136	NUT  PG 136	UNION  PG 136	MALE ADAPTER  PG 137	90° MALE ELBOW  PG 137	MALE BRANCH T  PG 137	DOT FOR HOSE PGS 138-140	SLEEVE  PG 138
NUT  PG 138	NUT-USE SPRING  PG 138	SPRING  PG 139	NUT/SPRING  PG 139	UNION  PG 139	CONNECTOR HOSE  PG 139	MALE CON-NECTOR  PG 139	ADAPTER FOR SWL  PG 140	MALE ADAPTER  PG 140

PICTORIAL INDEX








































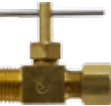























BRASS

ADAPTER  PG 140	MALE  PG 140	GREASE FITTINGS PGS 141-145		1/8 STR.  PG 141	BALL CHECK  PG 141	1/8" 30  PG 141	1/8" 45  PG 141	65° 1/8"  PG 141	90° 1/8"  PG 141
1/4 STR  PG 141	65° BALL  PG 142	SHORT 1/4-28  PG 142	LONG 1/4-28  PG 142	EXTRA LONG  PG 142	SHORT 45° BC  PG 142	SHORT 45° BC  PG 142	LONG 45° BC  PG 142	90° BALL  PG 142	
DRIVE TYPE  PG 143	DRIVE TYPE  PG 143	6MM  PG 143	6MM 45°  PG 143	6MM 90°  PG 143	8MM  PG 143	8MM 45°  PG 143	8MM 90°  PG 143	10MM  PG 144	
10MM 45°  PG 144	10MM 90°  PG 144	5/16"-24  PG 144	3/8" - 24  PG 144	BUTTON HEAD  PG 144	WHIP HOSE  PG 144	ADAPTERS  PG 145	ADAPTERS  PG 145	EXTENSIONS  PG 145	
45° ANGLE  PG 145	90° ANGLE  PG 145	COUPLING  PG 145	BULKHEAD  PG 145	DRAIN COCKS PGS 147-148		GAS SHUT OFF  PG 147	DRAIN COCK  PG 147	TRUCK DRAIN  PG 147	SHUT OFF  PG 147
LEVER HANDLE  PG 147	AIR TANK VALVE  PG 147	INTERNAL SEAT  PG 148	INTERNAL SEAT  PG 148	LG INTERNAL SEAT  PG 148	TEE HANDLE  PG 148	EXT W/ SPOUT  PG 148	BIBB NEEDLE  PG 148	RADIATOR TYPE  PG 148	
SHUT OFF COCKS PG 149		COMP X MALE  PG 149	COMP X COMP  PG 149	FEMALE X FEM  PG 149	MALE X FE-MALE  PG 149	MALE X MALE  PG 149	NEEDLE VALVES PGS 150-151		
COMP X COMP  PG 150	FLARE X MALE  PG 150	FLARE X MALE  PG 151	FLARE X FLARE  PG 151	AIR VENT  PG 151	MALE TO MALE  PG 151	F X F  PG 151	MALE X FE-MALE  PG 151	TRUCK VALVES PG 152	

TRUCK VALVE  PG 152	FEMALE TO  PG 152	FLARE TO  PG 152	SOLID BOTTOM VALVES PG 152	SOLID BOT-  PG 152	FIP X FIP  PG 152	FUEL VALVE  PG 152	MALE X MALE  PG 152	F X F  PG 152
MALE X FLARE  PG 152	MULTI PORT VALVES PGS 153	3-WAY (SIDE)  PG 153	3-WAY (BOT-)  PG 153	4-WAY  PG 153	MARINE VALVES PG 154	ANTI-SIPHON  PG 154	ANTI-SIPHON  PG 154	ALUM ANTI-  PG 154
MXF ANTI-SIPHON  PG 154	ALUM MXF  PG 154	ALUM BARB  PG 154	FL X MIP  PG 154	6-PORT  PG 154	MINI BALL VALVES PG 155	MINI BALL  PG 155	MALE X MALE  PG 155	PIPE X BARB  PG 155
F X F  PG 155	F X F  PG 155	F X F  PG 155	FNPT X FNPT  PG 155	MNPT X FNPT  PG 155	PANEL MOUNT VALVES PG 155	PANAL MOUNT  PG 155	F X F  PG 155	F X F  PG 155
CHECK VALVES PG 156	FIPXFIP BUNA-N  PG 156	FXF BUNA-N  PG 156	MXM BUNA  PG 156	M X F BUNA-N  PG 156	MNPT X MNPT  PG 156	MNPT X FNPT  PG 156	FNPT X FNPT  PG 156	NPT X NPSM  PG 156
F X F  PG 156	F X M  PG 156	M X F  PG 156	M X M CHECK  PG 156	L/F PIPE PGS 158-160	90 ELBOW  PG 158	TEE  PG 158	90° STREET EL  PG 158	COUPLING  PG 158
RED COU-PLING  PG 158	HEX BUSHING  PG 158	FACE BUSHING  PG 158	HEX CAP  PG 159	SOLID SQ PLUG  PG 159	COUNTER-SUNK  PG 159	CORED HEX PLUG  PG 159	CLOSE NIPPLE  PG 159	HEX NIPPLE  PG 159
MALE BRANCH T  PG 160	EXT ADAPTER  PG 160	STR/SERVICE TEE  PG 160	L/F BARB PGS 160-161	RIGID M ADAPTER  PG 160	MENDER/SPLICER  PG 160	FE ADAPTER  PG 161	FORGED HB 90°  PG 161	HB TEE  PG 161

PICTORIAL INDEX



























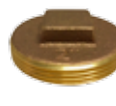














VALVES

<p>FE FL SWIVEL</p>  <p>PG 161</p>	<p>BXB BALL</p>  <p>PG 161</p>	<p>L/F PUSH-ON PG 161</p>	<p>MALE</p>  <p>PG 161</p>	<p>SAE/JIC F SWL</p>  <p>PG 161</p>	<p>L/F GARDEN PGS 162</p>	<p>FGHXFGH SWL</p>  <p>PG 162</p>	<p>MGH X F PIPE</p>  <p>PG 162</p>	<p>FGH X F</p>  <p>PG 162</p>
<p>MGH X M PIPE</p>  <p>PG 162</p>	<p>RIGID FGH</p>  <p>PG 162</p>	<p>RIGID MGH</p>  <p>PG 162</p>	<p>FGHXMIP SWL</p>  <p>PG 162</p>	<p>GARDEN HOSE</p>  <p>PG 162</p>	<p>RIGID FGH</p>  <p>PG 162</p>	<p>RIGID MGH</p>  <p>PG 162</p>	<p>L/F FLARE PGS 163-164</p>	<p>SHORT ROD</p>  <p>PG 163</p>
<p>SHORT FORGE NUT</p>  <p>PG 163</p>	<p>FLARED CAP</p>  <p>PG 163</p>	<p>UNION</p>  <p>PG 163</p>	<p>TEE</p>  <p>PG 163</p>	<p>FEMALE ADAPTER</p>  <p>PG 163</p>	<p>MALE ADAPTER</p>  <p>163</p>	<p>90° MALE ELBOW</p>  <p>PG 164</p>	<p>MALE RUN TEE</p>  <p>PG 164</p>	<p>FORGED SWIVEL</p>  <p>PG 164</p>
<p>L/F COMP PGS 164-165</p>	<p>BRASS SLEEVE</p>  <p>PG 164</p>	<p>NUT</p>  <p>PG 164</p>	<p>TEE</p>  <p>PG 164</p>	<p>BRASS INSERT</p>  <p>PG 164</p>	<p>CAP</p>  <p>PG 165</p>	<p>UNION</p>  <p>PG 165</p>	<p>RED UNION</p>  <p>PG 165</p>	<p>TEE</p>  <p>PG 165</p>
<p>FORGED RED TEE</p>  <p>PG 165</p>	<p>UNION ELBOW</p>  <p>PG 165</p>	<p>FORGED RED EL</p>  <p>PG 165</p>	<p>COMP X SWEAT</p>  <p>PG 165</p>	<p>FEMALE ADAPTER</p>  <p>PG 166</p>	<p>MALE ADAPTER</p>  <p>PG 166</p>	<p>MALE ELBOW</p>  <p>PG 166</p>	<p>FEMALE ELBOW</p>  <p>PG 166</p>	<p>NEEDLE VALVE</p>  <p>PG 167</p>
<p>M X F PIPE</p>  <p>PG 167</p>	<p>COMP X M ANGLE</p>  <p>PG 167</p>	<p>DISHWASHER TEE</p>  <p>PG 167</p>	<p>ICE MAKER KIT</p>  <p>PG 167</p>	<p>SADDLE VALVE</p>  <p>PG 167</p>	<p>VALVES PGS 168-213</p>	<p>L/F BALL VALVES PGS 169-171</p>	<p>LF BALL VALVE</p>  <p>PG 169</p>	<p>SWT X SWT</p>  <p>PG 169</p>
<p>FIP X FIP LF</p>  <p>PG 170</p>	<p>SWT X SWT LF</p>  <p>PG 170</p>	<p>LF ITALIAN</p>  <p>PG 171</p>	<p>SWT X SWT LF</p>  <p>PG 171</p>	<p>L/F VALVES PG 172</p>	<p>GATE VALVE CXC</p>  <p>PG 172</p>	<p>LF BRASS CHECK</p>  <p>PG 172</p>	<p>SWING CHECK</p>  <p>PG 172</p>	<p>CXC SWING CHK</p>  <p>172</p>
<p>Y-STRAINER</p>  <p>PG 172</p>	<p>BRASS BALL VALVES PGS 173-184</p>	<p>FORGED BRASS</p>  <p>PG 173</p>	<p>LOCKING HANDLE</p>  <p>PG 174</p>	<p>BUTTERFLY HANDLE</p>  <p>PG 175</p>	<p>FXF NICKEL PLTD</p>  <p>PG 176</p>	<p>NP/SS TRIM</p>  <p>PG 177</p>	<p>ITALIAN BALL VALVE</p>  <p>PG 178</p>	<p>M X F</p>  <p>PG 179</p>

<p>ITALIAN M X F</p>  <p>PG 180</p>	<p>MXF TEE</p>  <p>PG 181</p>	<p>FXM LOCKING</p>  <p>PG 182</p>	<p>SPRING</p>  <p>PG 183</p>	<p>RIGHT ANGLE</p>  <p>PG 183</p>	<p>3WAY NON-</p>  <p>PG 184</p>	<p>3WAY VENTED</p>  <p>PG 184</p>	<p>SAFETY EX-</p>  <p>PG 184</p>	<p>GAS BALL VALVES PG 185</p>	
<p>GAS BALL</p>  <p>PG 185</p>	<p>FLARE X</p>  <p>PG 185</p>	<p>FLARE X MIP</p>  <p>PG 185</p>	<p>FLARE X FIP</p>  <p>PG 185</p>	<p>ITALIAN GAS</p>  <p>PG 185</p>	<p>MINI BALL VALVES PGS 186-189</p>		<p>ITALIAN MINI</p>  <p>PG 186</p>		<p>M X F</p>  <p>PG 186</p>
<p>FXF FLAG HANDLE</p>  <p>PG 187</p>	<p>LEVER HANDLE</p>  <p>PG 187</p>	<p>TEE HANDLE</p>  <p>PG 187</p>	<p>TEE HANDLE</p>  <p>PG 188</p>	<p>MXF FLAG</p>  <p>PG 188</p>	<p>LEVER HANDLE</p>  <p>PG 188</p>	<p>SCREW-DRIVER</p>  <p>PG 188</p>	<p>F X F MINI</p>  <p>PG 189</p>	<p>F X M MINI</p>  <p>PG 189</p>	
<p>M X M MINI</p>  <p>PG 189</p>	<p>BARB X MALE MINI</p>  <p>PG 189</p>	<p>BARB X FE-MALE</p>  <p>PG 189</p>	<p>BARB X BARB MINI</p>  <p>PG 189</p>	<p>BRASS VALVES PGS 190-194</p>		<p>3-WAY SIDE OUT</p>  <p>PG 190</p>	<p>3-WAY BOT-TOM</p>  <p>PG 190</p>	<p>STRAINER</p>  <p>PG 191</p>	<p>VACUUM BREAK</p>  <p>PG 191</p>
<p>RADIATOR AIR</p>  <p>PG 191</p>	<p>KEY ONLY</p>  <p>PG 191</p>	<p>SILLCOCK</p>  <p>PG 191</p>	<p>HOSE BIBBS</p>  <p>PG 191</p>	<p>GARDEN VALVE</p>  <p>PG 191</p>	<p>GATE VALVE</p>  <p>PG 192</p>	<p>QUICK OPEN-ING</p>  <p>PG 193</p>	<p>Y-STRAINER</p>  <p>PG 194</p>	<p>CHECK VALVES PGS 195-197</p>	
<p>SWING CHECK</p>  <p>PG 195</p>	<p>Y-SWING CHECK</p>  <p>PG 195</p>	<p>CHECK VALVE</p>  <p>PG 196</p>	<p>IN LINE CHECK</p>  <p>PG 196</p>	<p>IN LINE CHECK</p>  <p>PG 197</p>	<p>SS BALL VALVES PGS 198-207</p>		<p>2000#</p>  <p>PG 198</p>	<p>316 SS 1-PC 1000 STD PORT</p>  <p>PG 199</p>	<p>316 SS 2-PC 1000 FP</p>  <p>PG 200</p>
<p>SS MINI</p>  <p>PG 201</p>	<p>SS M X F</p>  <p>PG 201</p>	<p>FXF BUTTER-FLY</p>  <p>PG 202</p>	<p>MXF BUT-TERFLY</p>  <p>PG 202</p>	<p>MXM BUT-TERFLY</p>  <p>PG 202</p>	<p>CHECK PGS 203-207</p>		<p>304 CHECK</p>  <p>PG 203</p>	<p>SS IN LINE</p>  <p>PG 204</p>	<p>FXF SPRING CHK</p>  <p>PG 205</p>
<p>MXF SPRING CHK</p>  <p>PG 205</p>	<p>Y-SPRING CHECK</p>  <p>PG 206</p>	<p>2PC BARREL</p>  <p>PG 206</p>	<p>SS SWING CHK</p>  <p>PG 207</p>	<p>SS GLOBE VALVE</p>  <p>PG 207</p>	<p>SS GATE VALVE</p>  <p>PG 207</p>	<p>STEEL VALVES PGS 208-211</p>		<p>STANDARD PORT</p>  <p>PG 208</p>	<p>2PC FULL PORT</p>  <p>PG 209</p>

PICTORIAL INDEX

NIPPLES & FITTINGS



































































<p>2 WAY</p>  <p>PG 210</p>	<p>3 WAY</p>  <p>PG 210</p>	<p>CHECK</p>  <p>PG 211</p>	<p>PVC PGS 212-213</p>	<p>PVC THREAD</p>  <p>PG 212</p>	<p>SLIP X SLIP</p>  <p>PG 212</p>	<p>FIP X FIP</p>  <p>PG 212</p>	<p>SLIP X SLIP</p>  <p>PG 212</p>	<p>IN LINE</p>  <p>PG 213</p>
<p>IN LINE FE-</p>  <p>PG 213</p>	<p>DRUM FAUCET</p>  <p>PG 213</p>	<p>DRUM & BAR-</p>  <p>PG 213</p>	<p>NIPPLES & FITTINGS PGS 214-293</p>	<p>BRASS NIPPLES PGS 215-222</p>	<p>SEAMLESS</p>  <p>PG 215</p>	<p>CHROME</p>  <p>PG 222</p>	<p>BRONZE FITTINGS PG 223-231</p>	<p>LEAD FREE BRONZE PG 223-231</p>
<p>90° ELBOW</p>  <p>PG 223</p>	<p>90° REDUCE ELB</p>  <p>PG 223</p>	<p>90° STREET ELLS</p>  <p>PG 223</p>	<p>45° ELBOW</p>  <p>PG 224</p>	<p>45 ST ELBOW</p>  <p>PG 224</p>	<p>CROSS</p>  <p>PG 224</p>	<p>TEE</p>  <p>PG 225</p>	<p>REDUCING TEE</p>  <p>PG 225</p>	<p>REDUCING TEE</p>  <p>PG 225</p>
<p>COUPLING</p>  <p>PG 226</p>	<p>REDUCE COUP</p>  <p>PG 226</p>	<p>CAP</p>  <p>PG 227</p>	<p>UNION</p>  <p>PG 227</p>	<p>HEX LOCKNUT</p>  <p>PG 227</p>	<p>HEX BUSHING</p>  <p>PG 228</p>	<p>HEX BUSHING</p>  <p>PG 228</p>	<p>CNTRSUNK PLUG</p>  <p>PG 229</p>	<p>CORED PLUG</p>  <p>PG 229</p>
<p>SOLID PLUG</p>  <p>PG 229</p>	<p>HEX NIPPLE</p>  <p>PG 230</p>	<p>REDUCE HEX NIP</p>  <p>PG 230</p>	<p>CLEANOUT PLUGS PG 232</p>	<p>CLEANOUT PLUG</p>  <p>PG 232</p>	<p>CS C/O PLUG</p>  <p>232</p>	<p>C/O PLUG W/ TAP</p>  <p>PG 232</p>	<p>DROP EAR ELBOWS PG 232</p>	<p>BRONZE D/E</p>  <p>PG 232</p>
<p>SWT X SWT</p>  <p>PG 232</p>	<p>PEX X FIP</p>  <p>PG 232</p>	<p>BRASS INSERTS PGS 233-234</p>	<p>BARB FOR PL PIPE</p>  <p>PG 233</p>	<p>BRONZE TEE BARB</p>  <p>PG 233</p>	<p>90 BRONZE BARB</p>  <p>PG 233</p>	<p>UNION 90</p>  <p>PG 233</p>	<p>STEEL INSERTS PG 233</p>	<p>STEEL INSERT</p>  <p>233</p>
<p>REDUCER</p>  <p>PG 233</p>	<p>UNION</p>  <p>PG 233</p>	<p>SS INSERTS PG 234</p>	<p>SS MALE ADAPTER</p>  <p>PG 234</p>	<p>SS 90 ELBOW</p>  <p>PG 234</p>	<p>L/F INSERTS PG 234</p>	<p>LF UNION</p>  <p>PG 234</p>	<p>LF MALE BRANCH</p>  <p>PG 234</p>	<p>LF UNION ELBOW</p>  <p>PG 234</p>
<p>WELL COUPLINGS PG 234</p>	<p>SS DROP WELL</p>  <p>PG 234</p>	<p>SS HEAVY CPLG</p>  <p>PG 234</p>	<p>SS MERCHANT</p>  <p>PG 234</p>	<p>SS NIPPLES PG 235-240</p>	<p>304 SCH 40 WELDED</p>  <p>PG 235</p>	<p>316 SCH 40 WELDED</p>  <p>PG 235</p>	<p>SS FITTINGS PG 241-248</p>	<p>90° ELBOW</p>  <p>PG 242</p>

<p>90° STREET</p>  <p>PG 242</p>	<p>45° STREET</p>  <p>PG 242</p>	<p>TEE</p>  <p>PG 243</p>	<p>CROSS</p>  <p>PG 243</p>	<p>HEX NIPPLE</p>  <p>PG 243</p>	<p>REDUCE HEX</p>  <p>PG 243</p>	<p>COUPLING</p>  <p>PG 244</p>	<p>REDUCE COUP</p>  <p>PG 244</p>	<p>MACHINED</p>  <p>PG 244</p>
<p>HALF COU-</p>  <p>PG 245</p>	<p>UNION</p>  <p>PG 245</p>	<p>CAP-CAST</p>  <p>PG 245</p>	<p>HEX CAP-</p>  <p>PG 245</p>	<p>HEX BUSHING</p>  <p>PG 246</p>	<p>HEX LOCKNUT</p>  <p>PG 247</p>	<p>HEX SOCKET</p>  <p>PG 248</p>	<p>CORED PLUG</p>  <p>PG 247</p>	<p>SOLID PLUG</p>  <p>PG 248</p>
<p>SOLID HEX PLUG</p>  <p>PG 248</p>	<p>CORED HEX PLUG</p>  <p>PG 247</p>	<p>HOSE NIPPLE</p>  <p>PG 247</p>	<p>REDUCING</p>  <p>PG 248</p>	<p>STEEL NIPPLES PG 250-264</p>	<p>SCH 40 GALVANIZED</p>  <p>PG 250</p>	<p>SCH 40 BLACK</p>  <p>PG 250</p>	<p>ASSORTMENTS</p>  <p>PG 257</p>	<p>TOTE TRAYS</p>  <p>PG 257</p>
<p>SCH 80 SEAMLESS</p>  <p>PG 258</p>	<p>XXS SEAMLESS</p>  <p>PG 264</p>	<p>GROOVE NIPPLES PG 265-266</p>	<p>THREAD X GROOVE</p>  <p>PG 265</p>	<p>GROOVE X GROOVE</p>  <p>PG 266</p>	<p>MERCHANT COUPLINGS PG 267-268</p>	<p>MERCHANT COUP</p>  <p>PG 267</p>	<p>MERCHANT COUP</p>  <p>PG 267</p>	<p>HALF MERCHANT C</p>  <p>PG 267</p>
<p>API LINE COUP</p>  <p>PG 268</p>	<p>MALLEABLE FITTINGS PG 269-278</p>	<p>90° ELBOW GALV</p>  <p>PG 270</p>	<p>90° ELB. BLACK</p>  <p>PG 270</p>	<p>REDUCE ELBOW</p>  <p>PG 270</p>	<p>REDUCE ELBOW</p>  <p>PG 270</p>	<p>GALV ST. ELBOW</p>  <p>PG 270</p>	<p>BLK. ST. ELBOW</p>  <p>PG 270</p>	<p>45° GALV ELBOW</p>  <p>PG 271</p>
<p>45° BLK. ELBOW</p>  <p>PG 271</p>	<p>45° GALV ST. ELB</p>  <p>PG 271</p>	<p>45° BLK. ST. ELB</p>  <p>PG 271</p>	<p>GALV CROSS</p>  <p>PG 271</p>	<p>BLACK CROSS</p>  <p>PG 271</p>	<p>GALV TEE</p>  <p>PG 272</p>	<p>BLACK TEE</p>  <p>PG 272</p>	<p>GALV REDUCE T</p>  <p>PG 272</p>	<p>BLK. REDUCE T</p>  <p>PG 272</p>
<p>BULLHEAD TEE</p>  <p>PG 273</p>	<p>BLK. BLKHD TEE</p>  <p>PG 273</p>	<p>REDUCING TEE</p>  <p>PG 273</p>	<p>MALL SERVICE T</p>  <p>PG 273</p>	<p>MALL SERVICE T</p>  <p>PG 273</p>	<p>GALV OUT TEE</p>  <p>PG 273</p>	<p>BLK. OUT TEE</p>  <p>PG 273</p>	<p>GALV COUPLING</p>  <p>PG 274</p>	<p>BLK. COUPLING</p>  <p>PG 274</p>
<p>GALV RED COUP</p>  <p>PG 274</p>	<p>BLK. RED COUP</p>  <p>PG 274</p>	<p>GALV HEX BUSH</p>  <p>PG 275</p>	<p>BLK. HEX BUSH</p>  <p>PG 275</p>	<p>GALV HEX BUSH</p>  <p>PG 275</p>	<p>GALV UNION</p>  <p>PG 276</p>	<p>BLACK UNION</p>  <p>PG 276</p>	<p>GALV SQR PLUG</p>  <p>PG 276</p>	<p>BLK SQR PLUG</p>  <p>PG 276</p>

PICTORIAL INDEX




































































PLASTIC FITTINGS

GALV CAP  PG 276	BLACK CAP  PG 276	LATERAL Y  PG 277	LOCKNUTS  PG 277	COUPLING  PG 277	OUTLET  PG 277	GALV FLR  PG 278	BLK FLR  PG 278	EXTENSION  PG 278
SHROOM CAP  PG 278	STEEL FITTINGS PG 279-280	 PG 279	BLK HEX BUSH  PG 279	GALV CAP  PG 279	BLK CAP  PG 279	GALV FACE  PG 279	BLK FACE  PG 279	GALV SQR  PG 280
BLK SQR PLUG  PG 280	GALV HEX PLUG  PG 280	BLK HEX PLUG  PG 280	GALV CS PLUG  PG 280	BLK CS PLUG  PG 280	CS HEX  PG 280	BLK CS PLUG  PG 280	300# MALLEABLE PG 281-282	90° ELBOW  PG 281
45° ELBOW  PG 281	90° ST ELBOW  PG 281	TEE  PG 281	COUPLING  PG 281	REDUCE COUP  PG 282	CAP  PG 282	UNION  PG 282	MAG DRAIN PLUG  PG 282	BULL PLUGS & SWAGES PG 283-284
BULL PLUG  PG 283	XH BULL PLUG  PG 283	SCH 40 SWAGE  PG 283	HEX SWAGE  PG 284	SCH 80 SWAGE  PG 284	XXH SWAGE  PG 284	STEEL FLANGES PG 285-286	SLIP-ON  PG 285	THREADED  PG 285
WELD NECK FLNG  PG 286	BLIND FLNG  PG 286	COPPER FITTINGS PG 287-293	 PG 288	90° ST EL FTG X C  PG 288	90° LONG TURN  PG 288	90° LONG TURN ST  PG 288	45° EL CXC  PG 289	45° ST FTG X C  PG 289
COUPLING  PG 289	COUPLING  PG 289	COUPLING  PG 290	REDUCER W/ STOP  PG 290	FITTING RE- DUCER  PG 290	MALE ADAPTER  PG 291	FTGXM ADAPTER  PG 291	FEMALE ADAPTER  PG 292	FTG X F ADAPTER  PG 292
CAP  PG 292	UNION C X C  PG 292	U-TYPE STRAP  PG 292	TEE  PG 293	PLASTIC FITTINGS PG 294-304	PIPE PG 295-297	ELBOW  PG 295	ELBOW  PG 295	TEE  PG 295

<p>TEE</p>  <p>PG 295</p>	<p>STREET</p>  <p>PG 295</p>	<p>STREET</p>  <p>PG 295</p>	<p>HEX HEAD</p>  <p>PG 295</p>	<p>HEX HEAD</p>  <p>PG 295</p>	<p>HEX BUSHING</p>  <p>PG 296</p>	<p>HEX BUSHING</p>  <p>PG 296</p>	<p>HEX NIPPLE</p>  <p>PG 296</p>	<p>HEX NIPPLE</p>  <p>PG 296</p>		
<p>RED NIPPLE</p>  <p>PG 296</p>	<p>RED NIPPLE</p>  <p>PG 296</p>	<p>COUPLING</p>  <p>PG 297</p>	<p>COUPLING</p>  <p>PG 297</p>	<p>PIPE CAP</p>  <p>PG 297</p>	<p>PLASTIC BULK-</p>  <p>PG 297</p>	<p>HOSE BARB PG 297-300</p>		<p>MALE</p>  <p>PG 297</p>	<p>MALE</p>  <p>PG 298</p>	
<p>HOSE X MALE 90°</p>  <p>PG 298</p>	<p>HOSE X MALE 90°</p>  <p>PG 298</p>	<p>UNION ELBOW</p>  <p>PG 298</p>	<p>SPLICER</p>  <p>PG 299</p>	<p>SPLICER</p>  <p>PG 299</p>	<p>RED SPLICER</p>  <p>PG 299</p>	<p>RED SPLICER</p>  <p>PG 299</p>	<p>BARBED TEE</p>  <p>PG 300</p>	<p>BARBED TEE</p>  <p>PG 300</p>		
<p>BARBED Y</p>  <p>PG 300</p>	<p>BARBED Y</p>  <p>PG 300</p>	<p>REDUCING TEE</p>  <p>PG 300</p>	<p>REDUCING TEE</p>  <p>PG 300</p>	<p>M BRANCH TEE</p>  <p>PG 300</p>	<p>GARDEN HOSE PG 301</p>		<p>GH CAP</p>  <p>PG 301</p>	<p>GH NUT</p>  <p>PG 301</p>	<p>GH ADPT INSERT</p>  <p>PG 301</p>	
<p>GH THREAD ADPT</p>  <p>PG 301</p>	<p>MGH X F</p>  <p>PG 301</p>	<p>FGH X M</p>  <p>PG 301</p>	<p>FGH X F</p>  <p>PG 301</p>	<p>MGH X M</p>  <p>PG 301</p>	<p>COMPRESSION PG 302</p>		<p>UNION CON-NECTOR</p>  <p>PG 302</p>	<p>BULKHEAD UNION</p>  <p>PG 302</p>	<p>UNION TEE</p>  <p>PG 302</p>	
<p>UNION ELBOW</p>  <p>PG 302</p>	<p>FEMALE CON-NECT</p>  <p>PG 302</p>	<p>MALE CON-NECTOR</p>  <p>PG 302</p>	<p>MALE ELBOW</p>  <p>PG 302</p>	<p>PUSH-IN PG 303-304</p>		<p>UNION CON-NECT</p>  <p>PG 303</p>	<p>REDUCING UNION</p>  <p>PG 303</p>	<p>BULKHEAD UNION</p>  <p>PG 303</p>	<p>UNION TEE</p>  <p>PG 303</p>	
<p>RED BRANCH TEE</p>  <p>PG 303</p>	<p>UNION ELBOW</p>  <p>PG 303</p>	<p>REDUCING ELBOW</p>  <p>303</p>	<p>FEMALE CON-NECT</p>  <p>PG 303</p>	<p>MALE CON-NECTOR</p>  <p>PG 304</p>	<p>STEM ADAPTER</p>  <p>PG 304</p>	<p>REDUCER</p>  <p>PG 304</p>	<p>FIXED ELBOW</p>  <p>PG 304</p>	<p>PLUG-IN ELBOW</p>  <p>PG 304</p>		
<p>2-WAY DIVIDER</p>  <p>PG 304</p>	<p>PLUG</p>  <p>PG 304</p>	<p>PLXPL</p>  <p>PG 304</p>	<p>CHECK VALVE</p>  <p>PG 304</p>	<p>HOSE ACCESSORIES PG 305-315</p>		<p>ALUMINIUM CAM & GROOVE PG 306-307</p>		<p>M ADPT X F NPT A</p>  <p>PG 306</p>	<p>FEMALE COU-PLER B</p>  <p>PG 306</p>	<p>HOSE SHANK C</p>  <p>PG 306</p>

PICTORIAL INDEX

PLASTIC/ HOSE ACCESSORIES

FEMALE COU-  PG 306	HOSE SHANK E  PG 306	MALE ADAPER  PG 306	DUST CAP DC  PG 306	DUST CAP DP  PG 306	MALE  PG 307	FEMALE COU-  PG 307	FEMALE COU-  PG 307	MALE ADAPT-  PG 307
FEMALE COU-  PG 307	FEMALE COU-  PG 307	MALE ADAPT-  PG 307	POLYPROPYLENE CAM & GROOVE PG 308	MALE ADAPT-  PG 308	FEMALE COU-  PG 308	HOSE SHANK  PG 308	FEMALE COU-  PG 308	M X HOSE  PG 308
MALE ADAPT- ER F  PG 308	DUST CAP DC  PG 308	DUST PLUG DP  PG 308	STAINLESS STEEL CAM & GROOVE PG 309	FEMALE ADAPTER A  PG 309	FEMALE COU- PLER B  PG 309	HOSE SHANK C  PG 309	FEMALE COU- PLER D  PG 309	HOSE SHANK E  PG 309
MALE ADAPT- ER F  PG 309	DUST CAP DC  PG 309	DUST PLUG DP  PG 309	BRASS CAM & GROOVE PG 310-311	MALE ADAPT- ER A  PG 310	FEMALE COU- PLER B  PG 310	HOSE SHANK C  PG 310	FEMALE COU- PLER D  PG 310	HOSE SHANK E  PG 310
MALE ADAPT- ER F  PG 310	DUST CAP DC  PG 310	DUST CAP DP  PG 310	SS ADAPTER  PG 311	SS COUPLER DD  PG 311	SS DA  PG 311	BRASS ADAPTER  PG 311	BRASS DA  PG 311	SS HANDLE  PG 311
BRASS HANDLE  PG 311	BUNA-N GAS- KET  PG 311	SAFETY CLIP  PG 311	SILICONE GASKET  PG 311	VITON GASKET  PG 311	KING NIPPLES PG 312	HOSE NIPPLE STEEL  PG 312	ZINC PLATED  PG 312	REDUCER/EX- PANDER  PG 312
316 SS  PG 312	BRASS  PG 312	ALUMINUM  PG 312	HOSE MENDER STEEL  PG 312	PLATED STEEL MENDER  PG 312	316 HOSE MEND  PG 312	UNIVERSAL GROUND JOINT PG 313-314	UNIVERSAL  PG 313	WASHER  PG 313
FEMALE NPT  PG 313	HOSE END  PG 313	TRIPLE CON- NECT  PG 313	GROUND JOINT  PG 314	HOSE STEM ONLY  PG 314	WING NUT ONLY  PG 314	F SPUT ONLY  PG 314	M NPT STEM  PG 314	BOLT CLAMP  PG 314

FIRE HOSE FITTINGS PG 315	FIRE HOSE  PG 315	FXM HEX ADPT  PG 315	DBL M HEX NIP  PG 315	M SWL  PG 315	BRASS CAP  PG 315	HOSE CLAMPS PG 316-334	300 SERIES  PG 317	600 SERIES  PG 317
325 SERIES  PG 318	611 SERIES  PG 318	350 SERIES  PG 319	620 SERIES  PG 319	350 SS SERIES  PG 320	620 SS SERIES  PG 320	QUICK RE-  PG 321	T-BOLT  PG 322	SPRING LOAD-  PG 323
CONSTANT TORQUE  PG 324	V-BAND  PG 324	MUFFLER  PG 325	FLAT BAND  PG 325	GUILLOTINE  PG 325	STEEL BUTT EXHAUST  PG 326	STEEL LAP  PG 326	SS STEEL LAP  PG 326	SS EASY-FORM  PG 326
1-EAR  PG 327	2-EAR  PG 328	GAPLESS EAR  PG 328	F-CLAMP  PG 329	K-CLAMP  PG 329	CLAMP-IT  PG 330	BUCKLES  PG 330	JAW PINCHERS  PG 331	HOSE CRIMPER  PG 331
FOLD UP ADAPTER  PG 331	LOKING TOOL  PG 331	LOKING TOOL  PG 331	LINED BAND  PG 332	MARINE  PG 332	MINI-F  PG 332	SS MINI  PG 332	RUBBER CLIP  PG 333	RUBBER CUSHION  PG 333
VINYL COATED  PG 333	HOSE FER- RULE  PG 334	SS FERRULE  PG 334	TUBING PGS 335-341	POLYURE- THANE  PG 336	BLACK  PG 336	BLUE  PG 336	RED  PG 336	POLYETHYL- ENE  PG 337
BLACK POLY  PG 338	GREEN POLY  PG 338	WHITE POLY  PG 338	BLUE POLY  PG 338	RED POLY  PG 338	YELLOW POLY  PG 338	ORANGE POLY  PG 338	NYLON 12  PG 339	PVC  PG 340
MINITUBING CUT  PG 340	TUBING CUT- TER  PG 340	PLASTIC TUBE CUT  PG 340	MOUNTING RACK  PG 340	ALUMINUM  PG 341	COPPER TUBE  PG 341	SOFT COPPER  PG 341	PRESSURE WASHER PGS 342-347	QD NOZZLE  PG 343

PICTORIAL INDEX









































































PNEUMATICS

MEG NOZZLE  PG 343	RUBBER TIP  PG 344	SS LIVE  PG 344	THERMAL  PG 344	BOOM SWIVEL  PG 344	WAND  PG 345	SPRAY GUN  PG 345	GUN W/EXT  PG 345	MALE STEEL  PG 346		
FE. STEEL  PG 346	MOLDED GRIP  PG 347	MOLDED GRIP  PG 347	PNEUMATICS PG 348		QUICK DISCONNECTS PGS 349-355		INDUSTRIAL  PG 349	BRASS M.  PG 349	STEEL FE.  PG 349	STEEL M.  PG 349
BR. HOSE COUP  PG 349	STL. HOSE COUP  PG 349	BR. PUSH-ON  PG 349	STL PUSH-ON  PG 350	STEEL M. PLUG  PG 350	STEEL FE. PLUG  PG 350	BRASS M. PLUG  PG 350	STL HOSE PLUG  PG 350	PUSH-ON PLUG  PG 350		
STL SWL M. PLUG  PG 350	UNIVERSAL QD PGS 351		UNIVERSAL SERIES  PG 351	BRASS FE. COUP  PG 351	BR. HOSE COUP  PG 351	SS M. COUPLER  PG 351	SS FE. COUPLER  PG 351	SS MALE PLUG  PG 351	SS FE. PLUG  PG 351	
ARO QD PG 352		ARO 210  PG 352	FEMALE COUPLER  PG 352	HOSE ID COUP  PG 352	MALE PLUG  PG 352	FEMALE PLUG  PG 352	HOSE ID PLUG  PG 352	AUTO QD PGS 353-354		AUTO INTER-CHANGE  PG 353
BR. FE. COUPLER  PG 353	STL. M. COUPLER  PG 353	STL. FE. COUPLER  PG 353	BR. MALE PLUG  PG 353	BR. FE. PLUG  PG 353	STEEL MALE PLUG  PG 353	STEEL FE. PLUG  PG 353	HOSE ID COUP  PG 354	PUSH-ON COUP  PG 354		
HOSE ID PLUG  PG 354	PUSH-ON PLUG  PG 354	LINCOLN QD PG 354		LINCOLN  PG 354	FEMALE COUPLER  PG 354	STEEL MALE PLUG  PG 354	STEEL FE. PLUG  PG 354	MISC QD PG 355		HIGH FLOW  PG 355
FEMALE COUPLER  PG 355	MALE PLUG  PG 355	FEMALE PLUG  PG 355	MOLD COOL-ANT  PG 355	FEMALE PLUG  PG 355	MINI QD  PG 355	FE PLUG  PG 355	MUFFLERS/ BREATHERS PG 356-357		BR. MUFFLER  PG 356	

<p>STAINLESS</p>  <p>PG 356</p>	<p>BR. BREATH</p>  <p>PG 356</p>	<p>STLS BREATH</p>  <p>PG 356</p>	<p>PSI SNUBBER</p>  <p>PG 356</p>	<p>SPEED VALVE</p>  <p>PG 356</p>	<p>SPEED VALVE</p>  <p>PG 357</p>	<p>MUFF W/ FLOW</p>  <p>PG 357</p>	<p>HI FLOW MUFF</p>  <p>PG 357</p>	<p>HI FLOW MUFF</p>  <p>PG 357</p>
<p>HI FLOW MUFF</p>  <p>PG 357</p>	<p>HI FLOW MUFF</p>  <p>PG 357</p>	<p>NIP INLINE</p>  <p>PG 357</p>	<p>RPR AIR/OIL</p>  <p>PG 357</p>	<p>CP BRASS</p>  <p>PG 358</p>	<p>AIR REGULA-</p>  <p>PG 358</p>	<p>MANIFOLD</p>  <p>PG 358</p>	<p>AIR MANIFOLD</p>  <p>PG 358</p>	<p>SAFETY VALVES PG 359</p>
<p>SAFETY VALVES</p>  <p>PG 359</p>	<p>SAFETY VALVES</p>  <p>PG 359</p>	<p>CHECK VALVE</p>  <p>PG 359</p>	<p>CHECK VALVE</p>  <p>PG 359</p>	<p>TANK VALVES PG 360</p>	<p>BIKE PUMP FITT</p>  <p>PG 360</p>	<p>INFLATOR</p>  <p>PG 360</p>	<p>SLIDE VALVE</p>  <p>PG 360</p>	<p>SPRING CORE</p>  <p>PG 360</p>
<p>SPRING CORE</p>  <p>PG 360</p>	<p>SPRING CORE</p>  <p>PG 360</p>	<p>BLK PLASTIC CAP</p>  <p>PG 360</p>	<p>DOME CAP</p>  <p>PG 360</p>	<p>BLOW GUNS PG 361</p>	<p>CPCT BLOW GUN</p>  <p>PG 361</p>	<p>SAFE BLOW GUN</p>  <p>PG 361</p>	<p>SAFE BLOW GUN</p>  <p>PG 361</p>	<p>CPCT BLOW GUN</p>  <p>PG 361</p>
<p>PISTOL BLOW GUN</p>  <p>PG 361</p>	<p>PISTOL BLO-GUN</p>  <p>PG 361</p>	<p>GAUGES & CHUCKS PG 361-363</p>	<p>RUB TIP NOZZLE</p>  <p>PG 361</p>	<p>HI FLOW NOZZLE</p>  <p>PG 361</p>	<p>M-TIRE GAUGE</p>  <p>PG 362</p>	<p>STANDARD NOZZ</p>  <p>PG 362</p>	<p>VOL REGULA-TOR</p>  <p>PG 362</p>	<p>EXTENSION</p>  <p>PG 362</p>
<p>GUN ADAPTER</p>  <p>PG 362</p>	<p>COIL AIR HOSE</p>  <p>PG 362</p>	<p>COIL AIR HOSE</p>  <p>PG 362</p>	<p>HEX BALL CHUCK</p>  <p>PG 363</p>	<p>M. BALL CHUCK</p>  <p>PG 363</p>	<p>BALL CHCK BARB</p>  <p>PG 363</p>	<p>DUAL AIR CHUCK</p>  <p>PG 363</p>	<p>DUAL STRT AIR</p>  <p>PG 363</p>	<p>INFLATOR/ GAUGE</p>  <p>PG 363</p>
<p>INFLATOR/ GAUGE</p>  <p>PG 363</p>	<p>AIR ACCESSORY KITS PG 364-366</p>	<p>GAUGES PG 367-369</p>	<p>DRY GAUGE</p>  <p>PG 367</p>	<p>CENTER BACK MOUNT</p>  <p>PG 367</p>	<p>LIQUID FILLED</p>  <p>PG 368</p>	<p>WATER TEST</p>  <p>PG 369</p>	<p>GAS TEST</p>  <p>PG 369</p>	<p>THREAD SEAL</p>  <p>PG 370</p>
<p>BLUE SEAL TAPE</p>  <p>PG 370</p>	<p>YEL GAS TAPE</p>  <p>PG 370</p>	<p>GRE OXY TAPE</p>  <p>PG 370</p>	<p>GREY SS TAPE</p>  <p>PG 370</p>	<p>TRUCK & TRAILER PG 371-392</p>	<p>AIR COIL</p>  <p>PG 371</p>	<p>SLIDER COIL</p>  <p>PG 371</p>	<p>AIRLINE CABLE</p>  <p>PG 371</p>	<p>AIRBRAKE REPAIR</p>  <p>PG 372</p>

PICTORIAL INDEX

TRUCK AND TRAILER

<p>POGO STICK</p>  <p>PG 372</p>	<p>HOSE HOLDER</p>  <p>PG 372</p>	<p>HOSE HOLDER</p>  <p>PG 372</p>	<p>HOSE HOLDER</p>  <p>PG 372</p>	<p>HOSE HOLDER</p>  <p>PG 372</p>	<p>HOSE SEPARA-</p>  <p>PG 372</p>	<p>HOSE SEPARA-</p>  <p>PG 372</p>	<p>CLIP CARA-</p>  <p>PG 373</p>	<p>HANGER</p>  <p>PG 373</p>
<p>YOKE</p>  <p>PG 373</p>	<p>FRAME CLIP</p>  <p>PG 373</p>	<p>AIRHOSE CLIP</p>  <p>PG 373</p>	<p>AXLE CLIP</p>  <p>PG 373</p>	<p>TENDER KIT</p>  <p>PG 374</p>	<p>TUBE</p>  <p>PG 374</p>	<p>SPRING</p>  <p>PG 374</p>	<p>SLIDER BAR</p>  <p>PG 374</p>	<p>GLADHANDS</p>  <p>PG 375</p>
<p>BRACKET MOUNT</p>  <p>PG 376</p>	<p>KNOB STYLE GH</p>  <p>PG 376</p>	<p>LEVER STYLE GH</p>  <p>PG 376</p>	<p>GLADHAND GRIP</p>  <p>PG 377</p>	<p>AL GLADHAND</p>  <p>PG 377</p>	<p>GLADHAND PACIFER</p>  <p>PG 377</p>	<p>GLADHAND SEAL</p>  <p>PG 377</p>	<p>GLADHAND SEAL</p>  <p>PG 377</p>	<p>GLADHAND SEAL</p>  <p>PG 377</p>
<p>GH COUPLING KIT</p>  <p>PG 378</p>	<p>NYLON GH HOLDER</p>  <p>PG 378</p>	<p>GH HOLDER KIT</p>  <p>PG 378</p>	<p>GLADHAND LOCK</p>  <p>PG 378</p>	<p>KING PIN LOCK</p>  <p>PG 378</p>	<p>AIR CYLINDER</p>  <p>PG 379</p>	<p>HIGH LIFT CYLINDER</p>  <p>PG 379</p>	<p>TAILGATE CYLINDER</p>  <p>PG 379</p>	<p>TAILGATE AIR CYLINDER</p>  <p>PG 380</p>
<p>FIFTH WHEEL CYLINDER</p>  <p>PG 380</p>	<p>AIR TANK CHECK</p>  <p>PG 381</p>	<p>D2 AIR GOVERNOR</p>  <p>PG 381</p>	<p>QCK RELEASE VALVE</p>  <p>PG 381</p>	<p>R12 RELAY VALVE</p>  <p>PG 381</p>	<p>R14 RELAY VALVE</p>  <p>PG 382</p>	<p>3 WAY SOLENOID</p>  <p>PG 382</p>	<p>UNI SOLENOID</p>  <p>PG 382</p>	<p>AIR SOLENOID</p>  <p>PG 382</p>
<p>7 WAY CABLE</p>  <p>PG 383</p>	<p>7 WAY CABLE</p>  <p>PG 383</p>	<p>6 WAY ELEC CABLE</p>  <p>PG 384</p>	<p>4 WAY ELEC CABLE</p>  <p>PG 384</p>	<p>DUEL POLE</p>  <p>PG 384</p>	<p>SINGLE POLE</p>  <p>PG 384</p>	<p>PLUG</p>  <p>PG 385</p>	<p>PLUG</p>  <p>PG 385</p>	<p>PLUG</p>  <p>PG 385</p>
<p>SOCKET</p>  <p>PG 385</p>	<p>7W DBLE GRIP</p>  <p>PG 385</p>	<p>ADAPTER</p>  <p>PG 385</p>	<p>RV 7WAY PLUG</p>  <p>PG 385</p>	<p>RV 7WAY SOCK</p>  <p>PG 385</p>	<p>6WAY PLUG</p>  <p>PG 386</p>	<p>6WAY SOCKET</p>  <p>PG 386</p>	<p>4WAY PLUG</p>  <p>PG 386</p>	<p>4WAY SOCKET</p>  <p>PG 386</p>
<p>2 POLE PLUG</p>  <p>PG 386</p>	<p>2 POLE SOCKET</p>  <p>PG 386</p>	<p>1WAY PLUG</p>  <p>PG 386</p>	<p>1WAY SOCKET</p>  <p>PG 386</p>	<p>GROUND KIT</p>  <p>PG 386</p>	<p>PROTECTOR BOOT</p>  <p>PG 386</p>	<p>7WAY SOCKET</p>  <p>PG 387</p>	<p>CIRCUIT BREAKER</p>  <p>PG 387</p>	<p>NOSE BOX-DEEP</p>  <p>PG 387</p>

BATT GRND STRAP  PG 388	SS BATTERY NUT  PG 388	RUB GROMMET  PG 388	DEER WHISTLE  PG 389	CONSP TAPE  PG 390	TARP STRAP  PG 390	DOT TUBING  PG 391	FUEL LINE  PG 392	AIR BRAKE HOSE  PG 392
HYDRAULIC ADAPTERS PG 393-431	TECHNICAL INFORMATION PG 394-401	PIPE SWIVELS PG 402-403	M. SWL ADAPTER  PG 402	FE. SWL ADAPTER  PG 402	M. ELB ADAPTER  PG 402	FE. UNION ELB.  PG 402	M. 45° ELBOW  PG 403	FE. 45° UNION  PG 403
M. SWL TEE  403	FE. SWL TEE  PG 403	FE. SWL TEE  PG 403	JIC 37 FLARE PG 404-407	JIC CAP  PG 404	JIC TUBE UNION  PG 404	JIC M. CONN  PG 405	JIC FE. CONN  PG 405	JIC RED/EXP  PG 405
PLUG  PG 406	JIC UNION ELB.  PG 406	JIC M. ELBOW  PG 406	JIC M. ELBOW  PG 406	MALE 45° ELBOW  PG 407	M. BRANCH TEE  PG 407	JIC FE. TEE  PG 407	JIC UNION TEE  PG 407	JIC BULK UNION  PG 407
BULK UNION ELB  PG 408	45° UNION ELB  PG 408	BULK BRANCH T  PG 408	BULK RUN TEE  PG 408	JIC TO FEMALE  408	JIC TO MALE  PG 408	PIPE FITTINGS PG 409-412	PIPE COUPLING  PG 409	HEX PIPE NIPPLE  PG 409
EXP/ PIPE ADAP  PG 409	HEX RED/ BUSH  PG 409	HEX HEAD PLUG  PG 410	HOLLOW HEX PLG  PG 410	FLUSH HLW PLUG  PG 410	SQR HEAD PLUG  PG 410	PIPE CAP  PG 410	MALE ELBOW  PG 410	45° M. ELBOW  PG 411
90° ST ELBOW  PG 411	45° ST ELBOW  PG 411	FE. ELBOW  PG 411	45° FE. ELBOW  PG 411	MALE PIPE TEE  PG 412	FE. PIPE TEE  PG 412	ST PIPE TEE  PG 412	FE. RUN PIPE T  PG 412	MALE PIPE TEE  PG 412
FE. PIPE TEE  PG 412	O-RING ADAPTERS PG 413-414	JIC TO O-RING  PG 413	O-RING TO PIPE  PG 413	O-RING TO 37°  PG 413	FE. O-RING  PG 413	O-RING TO FE.  PG 414	O-RING PLUG  PG 414	O-RING HLW PLG  PG 414

PICTORIAL INDEX

HYDRAULICS

O-RING PORT  PG 414	FEMALE SWIVELS PG 415-416	JIC SWL  PG 415	JIC SWL  PG 415	JIC SWL 45°  PG 415	JIC SWL TO  PG 415	JIC SWL CONN  PG 415	JIC SWL TO M  PG 415	JIC SWL TO F  PG 416
JIC SWL  PG 416	JIC SWL RUN T  PG 416	SAE O-RING ADAPTERS PG 417-419	JIC TO ORING  PG 417	JIC TO ORING  PG 417	JIC BRANCH  PG 417	JIC RUN TEE  PG 417	ORING TO  PG 417	ORING TO  PG 418
ORING JIC 90°  PG 418	F TO M ORING 90°  PG 418	M ORING SWL AD  PG 418	90° ORING SWL  PG 418	45° ORING SWL  PG 419	VITON O-RING  PG 419	NITRILE O-RING  PG 419	O-RING FACE SEAL PGS 419-423	BRAZE TUBE NUT  PG 419
BRAZETUBE SLV  PG 420	CAP  PG 420	BULKHEAD LKNUT  PG 420	FACE SEAL ADPT  PG 420	PLUG  PG 421	ORFS UNION 90°  PG 421	ORFS TO M 90°  PG 421	ORFS TO PIPE 90°  PG 421	ORFS UNION T  PG 421
M ORFS TO ORB  PG 422	M TO F 37° SWL  PG 422	SWL NUT ELBOW  PG 422	37° SWIVEL  PG 422	O-RING ELBOW  PG 422	ORFS TO 45°  PG 422	SWIVEL ELBOW  PG 423	BSPT, BSPP METRIC PGS 423-426	JIC BSPT  PG 423
BSPT ELBOW  PG 423	HEX NIPPLE  PG 423	PLUG  PG 423	HEX NIPPLE BSPP  PG 423	COUPLING  PG 424	FEMALE SWIVEL  PG 424	ELBOW  PG 424	45° ELBOW  PG 424	MALE NIPPLE  PG 424
MALE BSPP  PG 424	SWIVEL BSPP  PG 425	PLUG BSPP  PG 425	HOLLOW BSPP  PG 425	FEMALE BSPP  PG 425	MALE ELBOW  PG 426	STRAIGHT SWIVEL  PG 426	METRIC PARALLEL  PG 426	HOLLOW  PG 426
FEMALE ADAPTER  PG 426	QUICK DISCONNECTS PGS 427-429	NO SPILL  PG 427	DRYBREAK  PG 427	ISO-A COUPLER  PG 427	ISO-A PLUG  PG 427	ISO-B COUPLER  PG 427	ISO-B PLUG  PG 427	FLUSH FACE  PG 428
FEMALE ADAPTER-FLUSH FACE  PG 428	FEMALE ADAPTERLSQ SERIES  PG 428	NO SPILLLSQ SERIES  PG428	AG SERIES  PG 427429	ISO-A COUPLERKZE SERIES  PG 427429	ISO-A PLUG-FLOW VALVE  PG 427430	ISO-B COUPLERNEEDLE VALVE  PG 427430	ISO-B PLUG-PRESSURE VALVE  PG 427431	FLUSH FACEAIR BREATHER  PG 428431

PIPE



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

•**Typical Application**

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

•**Pressure**

Operating pressure up to 1200 PSI.

•**Vibration**

Fair resistance.

•**Temperature Range**

-65°F to +250°F (-53°C to +121°C).

•**Used With**

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

• **Tolerance**

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

• **Conformance**

Meets specifications and standards of ASA, ASME and SAE

• Not lead free

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

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

•**Assembly Instructions**

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



• see page 409-412 for hydraulic pipe steel fittings.



• see page 295-297 for plastic pipe fittings.



• **Lead Free Fittings**
see pages 158-160

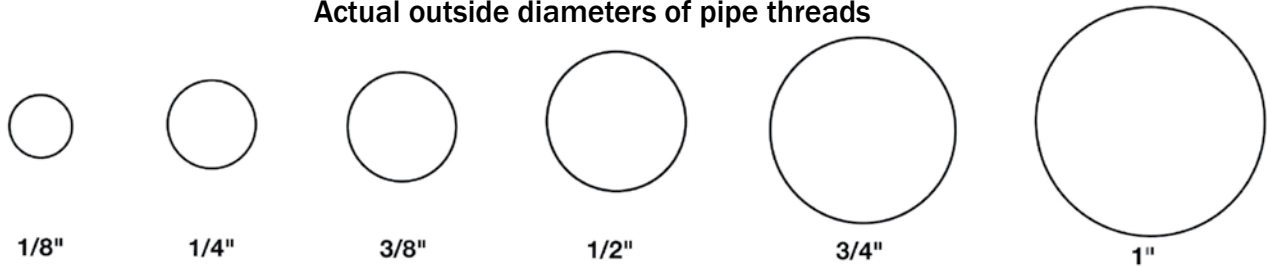


• **For Bronze & Larger Sizes**
see pages 223-231



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

Actual outside diameters of pipe threads



Actual Male Thread Profiles

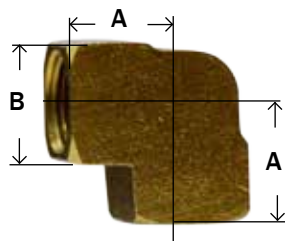


PIPE

BRASS FITTINGS

SAE# 130238

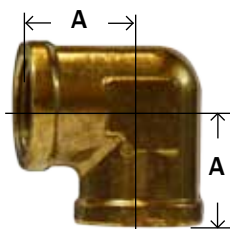
90° FEMALE ELBOW



Part #	Thread Size NPTF	A	B	Approx. Wt. Lbs.	
28-001	1/8"	0.55	0.56	0.09	----
28-002	1/4"	0.78	0.68	0.13	----
28-003	3/8"	0.84	0.81	0.16	----
28-004	1/2"	1.09	1.00	0.34	----
28-005	3/4"	1.16	1.25	0.60	----
NEW 28-015B	3/8" x 1/4"	0.84	0.81	0.18	----
NEW 28-053B	1/2" x 1/4"	1.09	1.00	0.37	----
NEW 28-016B	1/2" x 3/8"	1.09	1.00	0.36	----

100 2200P 3500 302 200

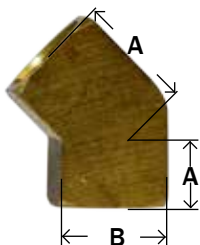
90° FORGED FEMALE ELBOW



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

1200P E7 100AF 100B

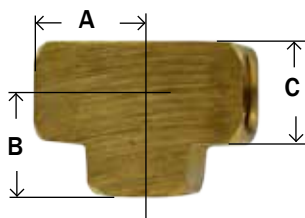
45° FEMALE ELBOW



Part #	Thread size NPTF	A	B	Approx. Wt. Lbs.	
28-018	1/8"	0.45	0.56	0.06	----
28-019	1/4"	0.66	0.68	0.12	----
28-020	3/8"	0.69	0.81	0.16	----
28-021B	1/2"	0.94	1.00	0.25	----

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

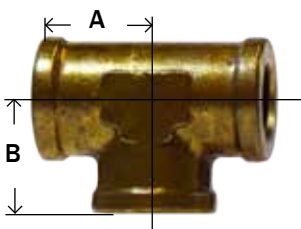
UNION TEE



Part #	Thread size NPTF	A	B	C	Approx. Wt. Lbs.	
28-022	1/16"	0.55	0.55	0.58	0.11	----
28-024	1/8"	0.55	0.55	0.56	0.08	----
28-025	1/4"	0.78	0.78	0.68	0.17	----
28-026	3/8"	0.84	0.84	0.81	0.22	----
28-027	1/2"	1.09	1.09	1.00	0.43	----
28-028	3/4"	1.16	1.16	1.25	0.64	----

311 101A 322 2203P 3700 203

UNION FORGED TEE

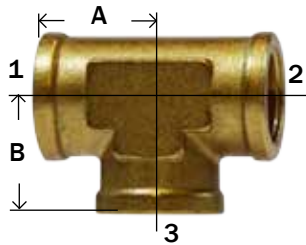


Part #	Thread size NPTF	A & B	Body Width	Approx. Wt. Lbs.	
28-032	1/8"	0.56	0.50	0.06	----
28-033	1/4"	0.71	0.68	0.13	----
28-034	3/8"	0.81	0.81	0.16	----
28-035	1/2"	1.00	1.00	0.27	----
28-036	3/4"	1.16	1.25	0.53	----
28-023	1"	1.42	1.50	.924	----

1203P LT7 101AF 101B

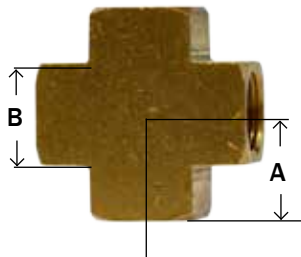
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

REDUCING FORGED TEES



Part #	1 NPT	2 NPT	3 NPT	A & B	Body Width	Approx. Wt. Lbs.	
28-029	1/8"	1/8"	1/4"	0.72	0.69	0.16	----
28-030	1/4"	1/4"	1/8"	0.72	0.69	0.14	----
28-031	1/4"	1/4"	3/8"	0.81	0.81	0.21	----
28-038	3/8"	1/4"	3/8"	0.81	0.81	0.18	----
28-039	3/8"	3/8"	1/4"	0.81	0.81	0.18	----
28-046	1/2"	1/2"	3/8"	1.00	1.00	0.30	----
28-047	3/4"	1/2"	3/4"	1.20	1.25	0.59	----
28-048	3/4"	3/4"	1/2"	1.16	1.25	0.59	----

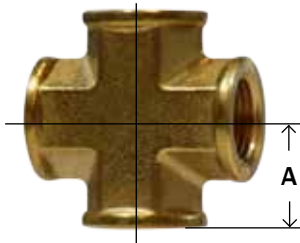
CROSS



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

2205P 3950 228 102A 102BE

FORGED CROSS

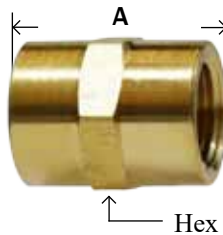


Part #	Thread size NPTF	A	Body Width	Approx. Wt. Lbs.	
28-049	1/8"	0.56	0.50	0.06	----
28-050	1/4"	0.72	0.69	0.15	----
28-051	3/8"	0.81	0.81	0.18	----
28-052	1/2"	1.00	1.00	0.34	----

C7 105 102AF 102B

COUPLING

SAE# 130138



Part #	Thread size NPTF	A	Hex	Approx. Wt. Lbs.	
28-057	1/16"	0.75	0.44	0.02	
28-058L	1/8"	0.75	0.50	0.02	----
28-058	1/8"	0.75	0.56	0.03	----
28-059L	1/4"	0.88	0.63	0.03	----
28-059	1/4"	1.12	0.75	0.09	----
28-060L	3/8"	1.00	0.81	0.06	----
28-060	3/8"	1.12	0.87	0.10	----
28-061L	1/2"	1.19	0.93	0.09	----
28-061	1/2"	1.50	1.06	0.19	----
28-062L	3/4"	1.19	1.25	0.18	----
28-062	3/4"	1.53	1.25	0.24	----
28-063	1"	1.89	1.50	.357	----

207P 371 3300 103AH 103B

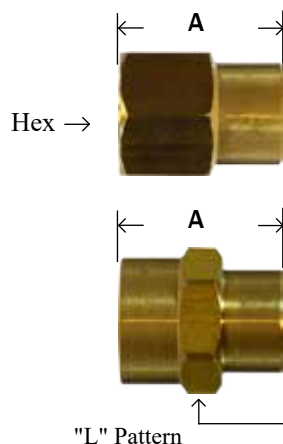
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

PIPE

BRASS FITTINGS

REDUCING COUPLING

SAE# 130138

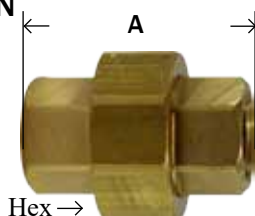


Part #	Thread size NPTF	A	Hex	Approx. Wt. Lbs.	
28-181L	1/4" x 1/8"	0.94	0.62	0.04	----
28-181	1/4" x 1/8"	0.97	0.75	0.08	----
28-182	3/8" x 1/8"	0.94	0.87	0.10	----
28-183L	3/8" x 1/4"	1.00	0.81	0.06	----
28-183	3/8" x 1/4"	1.16	0.87	0.12	----
28-180*	1/2" x 1/8"	1.19	0.93	0.15	----
28-184L	1/2" x 1/4"	1.11	1.00	0.10	----
28-184	1/2" x 1/4"	1.28	1.06	0.20	----
28-185L	1/2" x 3/8"	1.19	0.93	0.10	----
28-185	1/2" x 3/8"	1.38	1.06	0.20	----
NEW 28-186	3/4" x 1/8"	1.19	1.19	0.16	----
NEW 28-187	3/4" x 1/4"	1.19	1.19	0.17	----
28-188*	3/4" x 3/8"	1.32	1.37	0.20	----
28-189*	3/4" x 1/2"	1.19	1.18	0.14	----
NEW 28-178	1" x 1/2"	1.50	1.56	0.41	----
NEW 28-179	1" x 3/4"	1.56	1.56	0.39	----

*Not to SAE specs

377 3300 208P 108 119B 119AH

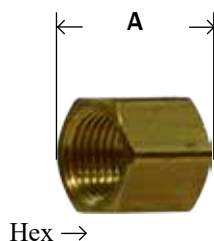
UNION



Part #	Thread size NPTF	A	Hex	Approx. Wt. Lbs.	
28-067	1/8"	1.25	0.94	0.13	----
28-068	1/4"	1.31	1.06	0.18	----
28-069	3/8"	1.75	1.25	0.33	----
28-070	1/2"	1.79	1.56	0.50	----
NEW 28-071	3/4"	1.96	1.68	0.47	----

3250 212P 104A 104B

CAP

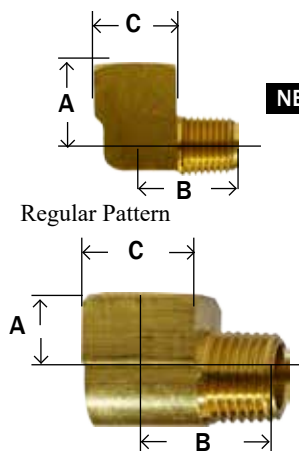


Part #	Thread size NPTF	A	Hex	Approx. Wt. Lbs.	
28-075	1/8"	0.47	0.56	0.03	----
28-076	1/4"	0.60	0.68	0.04	----
28-077	3/8"	0.69	0.81	0.06	----
28-078	1/2"	0.78	0.93	0.08	----
28-079	3/4"	0.94	1.25	0.16	----
28-080	1"	1.13	1.50	0.23	----

3129 213P 23129 108A 108B

90° STREET ELBOW

SAE# 130239



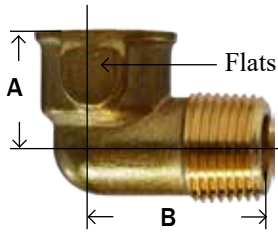
Part #	Thread size NPTF	A	B	C	Approx. Wt. Lbs.	
NEW 28-161	1/16"	0.69	0.60	0.47	0.04	----
28-156	1/8"	0.48	0.66	0.56	0.05	----
28-156S	1/8" short	0.34	0.57	0.50	0.03	----
28-157	1/4"	0.72	0.91	0.735	0.09	----
28-157S	1/4" short	0.45	0.78	0.68	0.07	----
28-158	3/8"	0.78	0.97	0.81	0.16	----
28-159	1/2"	1.03	1.25	1.00	0.33	----
28-160	3/4"	1.12	1.38	1.25	0.52	----

2202P 304 115 202 3400 116A

"S" = Short Pattern

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

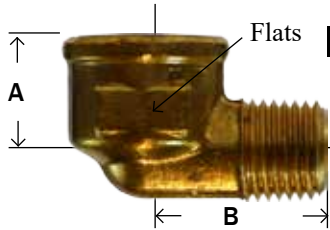
FORGED 90° STREET ELBOW



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

5E8 1202P 116AF 116B

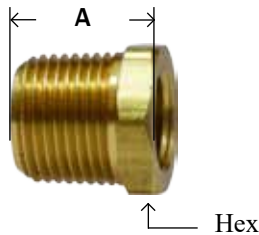
FORGED REDUCING 90° STREET ELBOW



Part #	Thread size NPTF FxM	A	B	Wrench flats	Approx. Wt. Lbs.	
NEW 28-259*	1/8" x 1/16"					----
28-260	1/8" x 1/4"	0.50	0.87	0.71	0.08	----
28-261B*	1/4" x 1/8"	0.53	0.72	0.69	0.07	----
28-261	1/4" x 1/8"	0.50	0.81	0.72	0.06	----
28-262	1/4" x 3/8"	0.93	1.06	0.59	0.12	----
28-263	3/8" x 1/4"	0.58	0.94	0.81	0.07	----
28-264	3/8" x 1/2"	0.97	1.36	1.00	0.28	----
28-265	1/2" x 3/8"	0.96	1.37	1.00	0.22	----
NEW 28-265B*	1/2" x 3/8"	1.03	1.11	1.00	0.24	----

*Barstock

HEX BUSHING



Part #	Thread size NPTF MxF	A	Hex	Approx. Wt. Lbs.	
28-102L	1/4" x 1/8"	0.62	0.56	0.02	----
28-102	1/4" x 1/8"	0.75	0.56	0.04	----
28-103	3/8" x 1/8"	0.75	0.68	0.05	----
28-104L	3/8" x 1/4"	0.69	0.68	0.03	----
28-104	3/8" x 1/4"	0.75	0.75	0.05	----
28-105L	1/2" x 1/8"	0.81	0.81	0.08	----
28-105	1/2" x 1/8"	1.00	0.87	0.10	----
28-106L	1/2" x 1/4"	0.81	0.81	0.08	----
28-106	1/2" x 1/4"	1.00	0.87	0.11	----
28-107L	1/2" x 3/8"	0.81	0.81	0.05	----
28-107	1/2" x 3/8"	1.00	0.87	0.10	----
28-108	3/4" x 1/8"	0.94	1.06	0.20	----
28-109L	3/4" x 1/4"	0.94	1.06	0.18	----
28-110L	3/4" x 3/8"	0.94	1.06	0.15	----
28-111L	3/4" x 1/2"	0.94	1.06	0.11	----
28-111	3/4" x 1/2"	1.00	1.12	0.14	----
NEW 28-091	1" x 1/8"	1.15	1.37	0.29	----
28-112	1" x 1/4"	1.15	1.37	0.32	----
28-113	1" x 3/8"	1.12	1.37	0.30	----
28-114	1" x 1/2"	1.31	1.44	0.29	----
28-115	1" x 3/4"	1.31	1.37	0.20	----

SAE# 130140

373 3220 209P 110A 110B

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

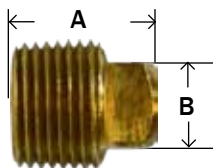
PIPE

BRASS FITTINGS

FACE BUSHING



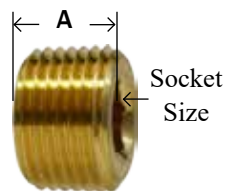
Part #	Thread size NPTF MxF	A	Approx. Wt. Lbs.	
28-121	1/4" x 1/8"	0.45	0.01	----
28-122	3/8" x 1/8"	0.50	0.03	----
28-116	3/8" x 1/4"	0.50	0.02	----
28-090	1/2" x 1/8"	0.56	0.06	----
28-128	1/2" x 1/4"	0.56	0.05	----
28-117	1/2" x 3/8"	0.56	0.03	----
28-129	3/4" x 1/4"	0.62	0.11	----
28-130	3/4" x 3/8"	0.62	0.08	----
28-118	3/4" x 1/2"	0.64	0.03	----
NEW 28-120	1" x 1/2"	0.75	0.11	----
28-119	1" x 3/4"	0.77	0.10	----

SQUARE HEAD PLUG
 1/8 - 1/2 Solid


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

** Cored

3151 211P 109A 109B

COUNTERSUNK HEX PLUG
 3/4" taper thread


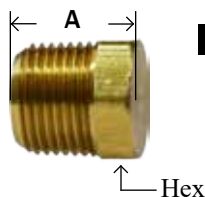
Part #	Thread size NPTF	A	Socket size	Approx. Wt. Lbs.	
28-092	1/16"	0.30	0.12	0.01	----
28-093	1/8"	0.30	0.18	0.01	----
28-094	1/4"	0.45	0.26	0.02	----
28-095	3/8"	0.45	0.31	0.03	----
28-096	1/2"	0.61	0.39	0.05	----
28-097	3/4"	0.62	0.56	0.10	----

3153 219P 109CS 118

SLOTTED-HEAD PLUG


Part #	Thread size NPTF	A	Approx. Wt. Lbs.	
28-174	1/8"	0.31	0.01	----
28-175	1/4"	0.42	0.02	----
28-176	3/8"	0.45	0.05	----
NEW 28-177	1/2"	0.56	0.10	----

220P 3150 117A 117B

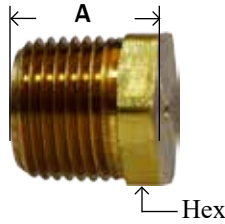
CORED HEX PLUGS


Part #	Thread size NPTF	A	Hex	Approx. Wt. Lbs.	
NEW 28-200	1/16"	0.48	0.38	0.01	----
28-201	1/8"	0.55	0.43	0.01	----
28-202	1/4"	0.62	0.56	0.02	----
28-203	3/8"	0.72	0.68	0.06	----
28-204	1/2"	0.81	0.87	0.09	----
28-205	3/4"	0.94	1.06	0.16	----
28-206	1"	1.16	1.37	0.28	----

218P 3152 121A 103 121B PPH 218P

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

SOLID HEX HEAD PLUGS

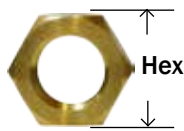


Part #	Thread size NPTF	A	Hex	Approx. Wt. Lbs.	
28-201S	1/8"	0.55	0.43	0.02	----
28-202S	1/4"	0.75	0.56	0.05	----
28-203S	3/8"	0.66	0.68	0.07	----
28-204S	1/2"	0.81	0.87	0.12	----
28-205S	3/4"	0.92	1.06	0.24	----
28-206S	1"	1.00	1.31	0.38	----

121AS

LOCKNUT

- Jam Nuts
- Straight pipe thread

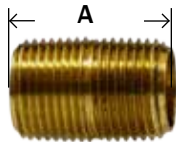


NEW

Part #	Thread size NPSL	Hex	Thickness	Approx. Wt. Lbs.	
28-123	1/8"	0.68	0.19	0.02	----
28-124	1/4"	0.87	0.25	0.04	----
28-125	3/8"	1.00	0.31	0.04	----
28-126	1/2"	1.125	0.25	0.04	----
28-127	3/4"	1.38	0.38	0.09	----

210P 21102 111A 111B

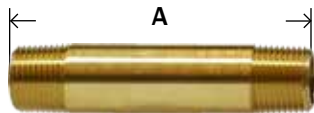
CLOSE NIPPLE



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

165 215PN 3326 112A 112B

LONG NIPPLE



• NOTE: For longer lengths and larger diameters, see our red brass nipples section, pg. 215-222



Part #	Thread size NPTF	A Length	Approx. Wt. Lbs.	
28-140	1/8"	1.50	0.03	----
28-141	1/8"	2.00	0.04	----
28-142	1/8"	2.50	0.06	----
28-143	1/8"	3.00	0.06	----
28-475	1/8"	3.50	0.07	----
28-144	1/4"	1.50	0.03	----
28-145	1/4"	2.00	0.05	----
28-146	1/4"	2.50	0.08	----
28-147	1/4"	3.00	0.10	----
28-481	1/4"	3.50	0.12	----
28-148	3/8"	1.50	0.06	----
28-149	3/8"	2.00	0.10	----
28-150	3/8"	2.50	0.10	----
28-151	3/8"	3.00	0.13	----
28-487	3/8"	3.50	0.17	----
28-152	1/2"	1.50	0.08	----
28-153	1/2"	2.00	0.12	----
28-154	1/2"	2.50	0.16	----
28-155	1/2"	3.00	0.20	----
28-493	1/2"	3.50	0.24	----
28-136	3/4"	1.50	0.12	----
28-497	3/4"	2.00	0.18	----
28-498	3/4"	2.50	0.23	----
28-499	3/4"	3.00	0.28	----

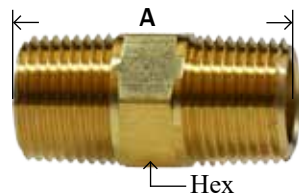
113B 113A 166 3327, 3328, 3329, 3330 3331 215PNL

PIPE

BRASS FITTINGS

HEX NIPPLE

SAE# 130137

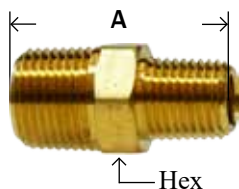


	Part #	Thread size NPTF	A	Hex	Approx. Wt. Lbs.	
NEW	28-210	1/16"	0.97	0.38	0.02	----
	28-211L	1/8"	0.91	0.43	0.02	----
	28-211	1/8"	0.97	0.43	0.03	----
	28-212L	1/4"	1.12	0.56	0.04	----
	28-212	1/4"	1.38	0.56	0.06	----
	28-213L	3/8"	1.25	0.68	0.07	----
	28-213	3/8"	1.41	0.68	0.07	----
	28-214L	1/2"	1.50	0.87	0.11	----
	28-214	1/2"	1.81	0.87	0.17	----
	28-215L	3/4"	1.55	1.07	0.17	----
	28-215	3/4"	1.96	1.13	0.23	----
	28-216L	1"	1.75	1.39	0.22	----
	28-216	1"	2.30	1.37	0.43	----

216P 3325 379 122AH 122B

REDUCING HEX NIPPLE

SAE# 130137

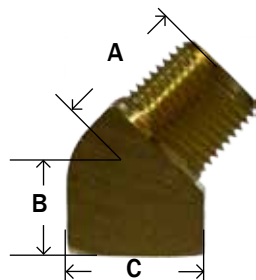


	Part #	Thread size NPTF	A	Hex	Approx. Wt. Lbs.	
NEW	28-218	1/8" x 1/16"	1.00	0.56	0.05	----
	28-220L	1/4" x 1/8"	1.00	0.56	0.04	----
	28-220	1/4" x 1/8"	1.19	0.56	0.04	----
	28-221L	3/8" x 1/8"	1.11	0.68	0.06	----
	28-221	3/8" x 1/8"	1.22	0.68	0.07	----
	28-222L	3/8" x 1/4"	1.19	0.68	0.06	----
	28-222	3/8" x 1/4"	1.41	0.68	0.07	----
	28-223L	1/2" x 1/4"	1.34	0.87	0.09	----
	28-223	1/2" x 1/4"	1.62	0.87	0.12	----
	28-224L	1/2" x 3/8"	1.41	0.87	0.11	----
	28-224	1/2" x 3/8"	1.62	0.87	0.12	----
NEW	28-225L	3/4" x 1/2"	1.81	1.06	0.19	----
	28-225	3/4" x 1/2"	1.50	1.06	0.15	----
NEW	28-227	1" x 3/4"	2.31	1.38	0.38	----

216P 3325 379 122AH 122B

45° STREET ELBOW

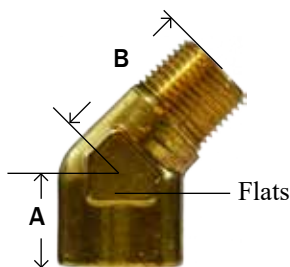
SAE# 130339



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

306 3350 2214P 224

45° FORGED STREET ELBOW



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

45E8 124B

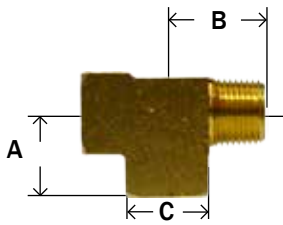
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS FITTINGS

PIPE

STREET TEE/ SERVICE TEE/ MALE RUN TEE

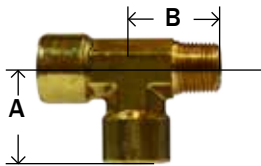
SAE# 130424



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

225 2225P 3750 326 225 127A

FORGED STREET TEE

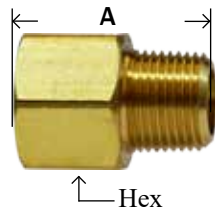


Part #	Thread size NPTF	A	B	Body Width	Approx. Wt. Lbs.	
28-253	1/8"	0.56	0.75	0.50	0.05	----
28-254	1/4"	1.03	1.00	0.46	0.13	----
28-255	3/8"	1.19	1.09	0.68	0.24	----
28-256	1/2"	1.52	1.40	0.88	0.45	----
28-257	3/4"	1.34	1.73	1.25	0.65	----

107 T8 127B

EXTENDER ADAPTER

SAE# 130139



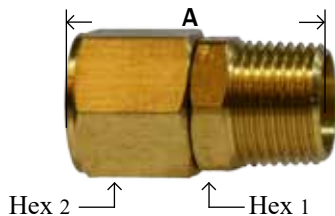
NEW

Part #	Thread size NPTF FxM	A	Hex	Approx. Wt. Lbs.	
28-190L	1/8" x 1/8"	0.83	0.50	0.03	----
28-190	1/8" x 1/8"	0.88	0.56	0.04	----
28-191L	1/4" x 1/8"	0.94	0.62	0.04	----
28-191	1/4" x 1/8"	1.06	0.75	0.07	----
28-192L	1/4" x 1/4"	1.00	0.62	0.04	----
28-192	1/4" x 1/4"	1.25	0.75	0.07	----
28-198	3/8" x 1/8"	1.00	0.81	0.06	----
28-193L	3/8" x 1/4"	1.12	0.81	0.08	----
28-193	3/8" x 1/4"	1.25	0.87	0.09	----
28-194L	3/8" x 3/8"	1.24	0.81	0.10	----
28-194	3/8" x 3/8"	1.25	0.87	0.11	----
28-197	1/2" x 1/8"	1.09	0.94	0.07	----
28-199	1/2" x 1/4"	1.46	1.06	0.08	----
28-195L	1/2" x 3/8"	1.19	0.93	0.09	----
28-195	1/2" x 3/8"	1.47	1.06	0.18	----
28-196L	1/2" x 1/2"	1.25	0.94	0.10	----
28-196	1/2" x 1/2"	1.66	1.06	0.12	----
28-207	3/4" x 3/8"	1.59	1.25	0.26	----
28-208	3/4" x 1/2"	1.69	1.37	0.14	----
28-208L	3/4" x 1/2"	1.22	1.25	0.13	----
28-209	3/4" x 3/4"	1.69	1.37	0.34	----

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.	
28-424	1/8"	1.10	0.43	0.50	0.05	----
28-425	1/4"	1.34	0.56	0.62	0.06	----
28-426	3/8"	1.36	0.68	0.75	0.08	----
28-427	1/2"	1.87	0.87	0.95	0.10	----

Male NPT x Female NPT

- 360° Turning
- Swivels



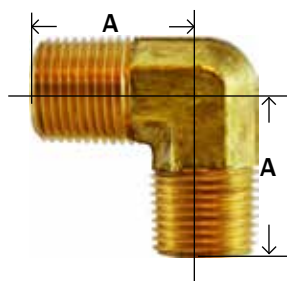
Part #	Size	
320-061	1/4	----

344R 3183

PIPE

BRASS FITTINGS

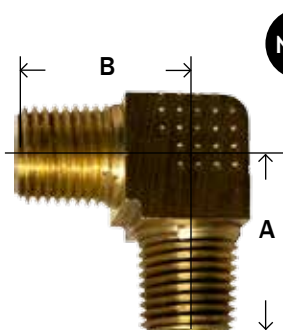
FORGED 90° MALE ELBOW



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

LE5 3455 116AMF

BARSTOCK 90° MALE ELBOW



Part #	Thread size NPTF	A	Body Width	Approx. Wt. Lbs.	
28-266B	1/8"	0.69	0.56	0.08	----
28-267B	1/4"	0.95	0.59	0.09	----
28-268B	3/8"	1.01	0.71	0.15	----
28-269B	1/2"	1.40	1.00	0.38	----
28-270B	3/4"	1.50	1.25	0.55	----
28-276B	1/2" x 3/8"	1.12	1.00	0.35	----

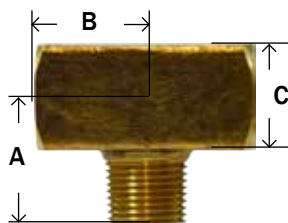
FORGED 90° MALE REDUCING ELBOW



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

MALE BRANCH TEE

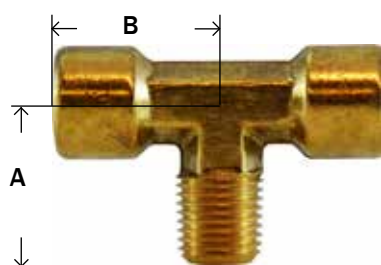
SAE# 130425



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

T9 X106 23601 3600 2224P 226 329 128

FORGED MALE BRANCH TEE

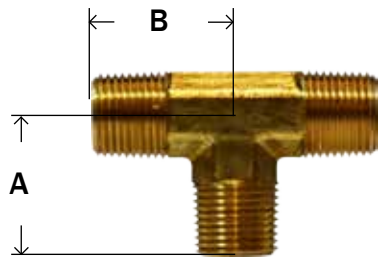


Part #	Thread size NPTF	A	B	Body Width	Approx. Wt. Lbs.	
28-281F	1/8"	0.75	0.56	0.50	0.06	----
28-282F	1/4"	1.00	1.03	0.46	0.12	----

T9

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

FORGED ALL MALE TEE

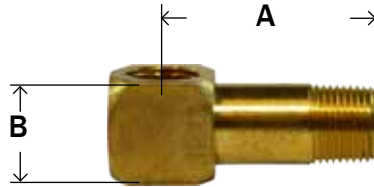


Part #	Thread size NPTF	A	B	Body Width	Approx. Wt. Lbs.	
28-290	1/8"	0.75	0.75	0.43	0.06	----
28-291	1/4"	0.86	0.86	0.43	0.08	----
28-292	3/8"	1.09	1.09	0.60	0.16	----
28-293	1/2"	1.22	1.22	0.68	0.22	----
28-294	3/4"	1.43	1.43	0.87	0.38	----

T12 M101

LONG STREET ELLS

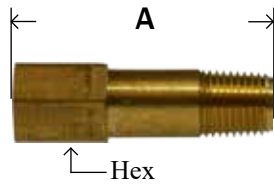
D.O.T. Approved



Part #	Thread size NPTF	A	B	Approx. Wt. Lbs.	
28-440	1/8"	1-3/16"	0.50	0.06	----
28-441	1/8"	1-7/16"	0.50	0.06	----
28-442	1/8"	1-11/16"	0.50	0.06	----
28-443	1/8"	1-7/8"	0.50	0.16	----
28-328	1/4"	1-3/16"	0.75	0.12	----
28-329	1/4"	1-7/16"	0.75	0.14	----
28-330	1/4"	1-11/16"	0.75	0.15	----
28-331	1/4"	1-7/8"	0.62	0.09	----
28-332	1/4"	2-1/4"	0.75	0.17	----
28-333	3/8"	1-3/4"	0.87	0.22	----

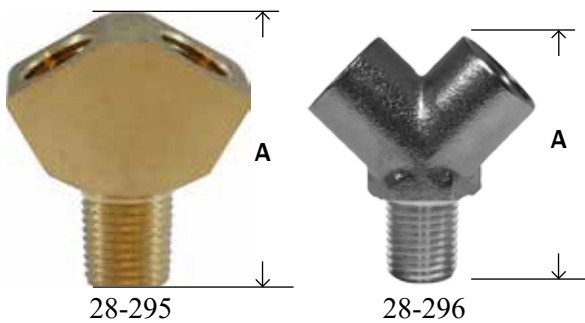
LONG EXTENSION ADAPTERS

D.O.T. Approved



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

PIPE WYE FIP x MIP



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

PIPE WYE FIP x FIP - NICKEL PLATED

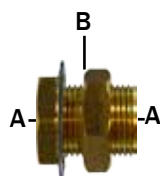


Part #	Thread Size NPT	A	Approx. Wt. Lbs.	
28-298	1/4	1.4	.12	----

BULKHEAD/ ANCHOR FRAME COUPLINGS

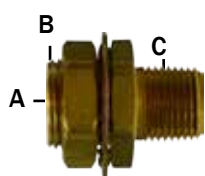
BRASS FITTINGS

BULKHEAD / ANCHOR / FRAME COUPLINGS

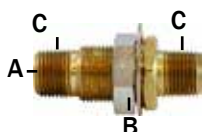
FEMALE PIPE X
FEMALE PIPE

Part #	Terminal Bolts/ Frame		Hole Size	Length (in.)	
	A	B			
28-299	1/8-27 NPTF	5/8-18 UNS	5/8	0.96	----
28-300	1/8-27 NPTF	5/8-18 UNS	5/8	1-1/2	----
28-301	1/4-18 NPTF	3/4-16 UNS	3/4	15/16	----
28-302	1/4-18 NPTF	3/4-16 UNS	3/4	1-1/2	----
28-315*	1/4-18 NPTF	3/4-16 UNS	3/4	1-1/2	----
28-303	3/8-18 NPTF	1-14 UNS	1	1-5/16	----
28-304	1/2-14 NPTF	1-1/8-14 UNS	1-1/8	1-1/2	----
28-311	3/4-14 NPTF	1-5/16-12	1-5/16	1-1/2	----
28-316**	1-11/12	1-5/8-14	1-5/8	1.68	----

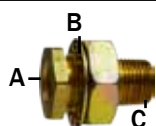
* Same as 28-302 except with a larger mounting nut. **Without washer



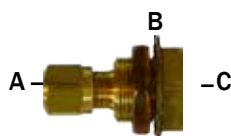
	FEMALE PIPE X		MALE PIPE		
	A	B	C		
28-317	1/4-18 NPTF	1-14 UNS	1/2-14 NPTF	2-1/8	----
28-318	3/8-18 NPTF	1-14 UNS	1/2-14 NPTF	1-11/16	----
28-319	3/8-18 NPTF	1-14 UNS	1/2-14 NPTF	1-29/32	----



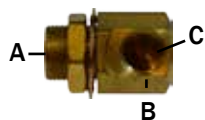
	FEMALE PIPE X	MALE PIPE		
28-313	1/4-18 NPTF	1-14 UNS	1/2-14 NPTF	2-7/8



	FEMALE PIPE X	MALE PIPE		
28-346	3/8-18 NPTF	1-14 UNS	1/2-14 NPTF	1-7/8
28-347	1/2-14 NPTF	1-14 UNS	1/2-14 NPTF	2-3/8



	TUBE X	FEMALE PIPE		
28-321	1/2-O.D. Tube	7/8-20 UNCF	3/8-18 NPTF	1-5/16
28-322	3/8-O.D. Tube	7/8-20 UNCF	3/8-18 NPTF	1-3/8



	FEMALE PIPE X CLAMPING STUD ELBOW			
28-348	3/8-18 NPTF	7/8-20 UNEF	3/8-18 NPTF	2-5/16



	BRASS MARINE BULKHEAD			
46-540	5/16 Hose ID	----	----	2.37
46-541	3/8 Hose ID	----	----	2.37

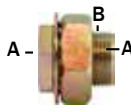
CROSSOVER NUMBERS

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													

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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

STEEL BULKHEAD FITTINGS

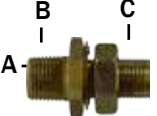


28-306	1/4-18 NPTF	3/4 - 16 UNS		0.94	----
28-307	1/4-18 NPTF	3/4 - 16 UNS		1.50	----
28-308	3/8-18 NPTF	1 - 14 UNS		1.31	----

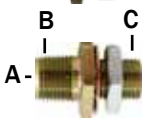
FEMALE PIPE X MALE PIPE



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

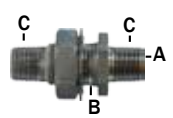


28-345	1/4-18 NPTF	3/4 - 16 UNS	1/2-14 NPTF	2-5/32	----
--------	-------------	--------------	-------------	--------	------



FEMALE PIPE X MALE PIPE

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



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

STAINLESS STEEL BULKHEAD FITTINGS

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

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



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

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



Part #	Size	Hole Size	Hex	Length	
63214	3/4"	1-5/8"	2-15/32"	1-13/16"	----
63215	1"	2-1/4"	3-1/16"	2-7/8"	----
63216	1-1/4"	2-1/4"	3-1/16"	2-3/8"	----
63217	1-1/2"	3"	4-1/4"	2-5/8"	----
63218	2"	3"	4-1/4"	2-5/8"	----

No act of kindness, no matter how small, is ever wasted. - Aesop

HOSE BARB FITTINGS



• Temperature and Working Pressure Ranges

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

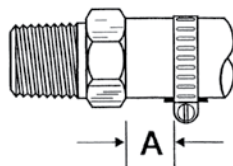
• Tolerance

+/- .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 160--161

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



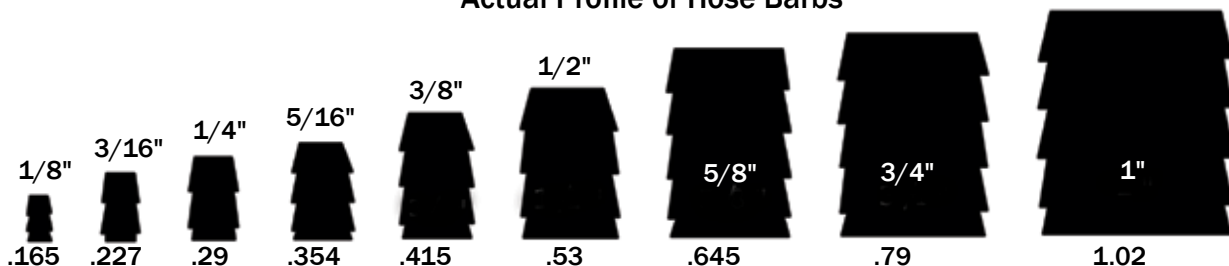
Stainless Steel hose barbs for beverage service available -



See beverage fitting section, pg. 28-29

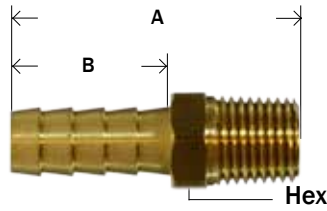
Hose Size	A
3/16"	1/4"
1/4"	1/4"
5/16"	1/4"
3/8"	1/8"
1/2"	1/8"
5/8"	1/8"
3/4"	1/8"

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.	
NEW	32-950	1/16" x 10/32"	0.90	0.45	0.38	0.01	----
NEW	32-951	1/16" x 1/16"	0.91	0.48	0.38	0.01	----
NEW	32-912	1/8" x 10/32"	0.92	0.48	0.38	0.01	----
NEW	32-300	1/8" x 1/16"	0.93	0.48	0.38	0.01	----
	32-001 *	1/8" x 1/8"	1.19	0.69	0.43	0.02	----
	32-027	1/8" x 1/4"	1.16	0.46	0.56	0.02	----
NEW	32-952	3/16" x 1/16"	1.20	0.75	0.38	0.02	----
	32-002 *	3/16" x 1/8"	1.19	0.75	0.43	0.02	----
	32-003 *	3/16" x 1/4"	1.37	0.69	0.56	0.04	----
NEW	32-953	3/16" x 3/8"	1.44	0.69	0.68	0.04	----
	32-301	1/4" x 1/16"	1.44	0.88	0.43	0.02	----
	32-004 *	1/4" x 1/8"	1.47	0.97	0.43	0.02	----
	32-005 *	1/4" x 1/4"	1.72	0.97	0.56	0.04	----
	32-006 *	1/4" x 3/8"	1.72	0.97	0.68	0.05	----
	32-007	1/4" x 1/2"	1.72	0.81	0.87	0.10	----
NEW	32-954	1/4" x 3/4"	1.86	0.96	1.06	0.15	----
	32-008 *	5/16" x 1/8"	1.47	0.97	0.43	0.02	----
	32-009 *	5/16" x 1/4"	1.72	0.97	0.56	0.04	----
	32-010 *	5/16" x 3/8"	1.76	0.97	0.68	0.06	----
	32-390	5/16" x 1/2"	1.88	0.95	0.87	0.10	----
NEW	32-955	5/16" x 3/4"	1.95	0.95	1.06	0.15	----
	32-011 *	3/8" x 1/8"	1.53	0.97	0.56	0.03	----
	32-012 *	3/8" x 1/4"	1.75	0.97	0.56	0.05	----
	32-013 *	3/8" x 3/8"	1.72	0.96	0.68	0.06	----
	32-014 *	3/8" x 1/2"	1.87	0.97	0.87	0.09	----
	32-026 *	3/8" x 3/4"	1.97	0.97	1.06	0.16	----
NEW	32-956	7/16" x 1/4"	1.75	0.97	0.56	0.05	----
NEW	32-957	7/16" x 3/8"	1.73	0.97	0.70	0.07	----
NEW	32-958	7/16" x 1/2"	1.87	0.97	0.88	0.10	----
	32-302	1/2" x 1/8"	1.57	0.95	0.56	0.06	----
	32-015 *	1/2" x 1/4"	1.72	0.97	0.56	0.04	----
	32-016 *	1/2" x 3/8"	1.76	0.97	0.68	0.07	----
	32-017 *	1/2" x 1/2"	1.87	0.96	0.87	0.11	----
	32-018 *	1/2" x 3/4"	1.94	0.97	1.06	0.16	----
	32-303	1/2" x 1"	2.31	0.99	1.37	0.33	----
	32-304	5/8" x 1/4"	1.67	0.92	0.68	0.06	----
	32-019 *	5/8" x 3/8"	1.76	0.97	0.68	0.08	----
	32-020 *	5/8" x 1/2"	1.87	0.96	0.87	0.11	----
	32-021 *	5/8" x 3/4"	1.87	0.96	1.06	0.14	----
	32-305	5/8" x 1"	2.31	0.96	1.37	0.36	----
NEW	32-915	3/4" x 1/4"	1.64	0.87	0.81	0.11	----
	32-306	3/4" x 3/8"	1.65	0.87	0.81	0.12	----
	32-022 *	3/4" x 1/2"	1.87	0.96	0.87	0.14	----
	32-023 *	3/4" x 3/4"	1.87	0.96	1.06	0.15	----
	32-316	3/4" x 1"	2.55	1.15	1.37	0.38	----
	32-307	1" x 1/2"	1.80	0.87	1.06	0.18	----
	32-024 *	1" x 3/4"	2.19	1.19	1.06	0.32	----
	32-025 *	1" x 1"	2.48	1.19	1.37	0.39	----
	32-029	1-1/4" x 3/4"	2.37	1.19	1.37	0.35	----
	32-028	1-1/4" x 1"	2.55	1.19	1.37	0.46	----

* See page 27 for stainless steel.

See page 28 for beverage #303 stainless fittings

HOSE BARB

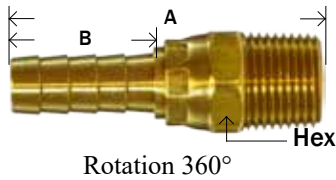
BRASS FITTINGS

BRASS RIGID MALE BSPT BARB ADAPTER



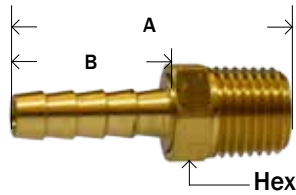
Part #	Hose I.D. x MALE BSPT	
32-450	1/4" x 1/8"	----
32-451	1/4" x 1/4"	----
32-452	3/8" x 1/4"	----
32-453	3/8" x 3/8"	----
32-454	3/8" x 1/2"	----
32-455	1/2" x 3/8"	----
32-456	1/2" x 1/2"	----
32-457	3/4" x 3/4"	----
32-458	1" x 1"	----

SWIVEL MALE ADAPTER



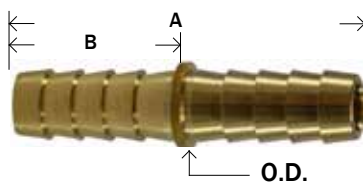
Part #	Hose I.D. x Male NPTF	A	B	Hex	Approx. Wt. Lbs.	
32-329	3/16" x 1/8"	2.00	0.78	0.56	0.06	----
32-331	3/16" x 1/4"	1.95	0.78	0.56	0.06	----
32-332	1/4" x 1/8"	2.19	0.97	0.56	0.06	----
32-349	1/4" x 1/4"	2.12	0.97	0.56	0.06	----
32-351	3/8" x 1/8"	2.12	0.97	0.56	0.07	----
32-201	3/8" x 1/4"	2.12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

SMS 103



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

MENDER/ SPLICER



Part #	Hose I.D. x Hose I.D.	A	B	O.D.	Approx. Wt. Lbs.	
32-091 *	1/8"	0.98	0.45	0.31	0.01	----
32-092	3/16"	1.62	0.77	0.36	0.02	----
32-093 *	1/4"	2.00	0.96	0.37	0.02	----
32-079 *	1/4" x 1/8"	1.50	0.97	0.37	0.02	----
32-094 *	5/16"	2.00	0.96	0.39	0.02	----
32-090 *	5/16" x 1/4"	2.00	0.97	0.50	0.03	----
32-095 *	3/8"	2.00	0.97	0.51	0.04	----
NEW 32-960	3/8 x 1/8	1.58	1.00	0.50	0.03	----
NEW 32-961	3/8 x 3/16	1.75	1.00	0.50	0.03	----
32-080 **	3/8" x 1/4"	2.06	0.97	0.56	0.03	----
32-375 *	3/8" x 5/16"	2.00	0.97	0.50	0.03	----
32-096 *	1/2"	2.00	0.96	0.62	0.06	----
32-087 *	1/2" x 3/8"	2.06	0.97	0.71	0.06	----
32-097	5/8"	2.05	0.96	0.75	0.08	----
32-088	5/8" x 3/8"	2.06	0.97	0.75	0.06	----
32-376	5/8" x 1/2"	2.06	0.97	0.75	0.07	----
32-098 *	3/4"	2.50	1.15	0.87	0.10	----
32-089	3/4" x 1/2"	2.28	1.19	0.87	0.10	----
32-379	3/4" x 5/8"	2.02	0.96	0.87	0.10	----
32-380	1" x 3/4"	2.58	1.19	1.12	0.18	----
32-099	1"	3.00	1.44	1.02	0.23	----

NEW**NEW**

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

** See hose splicers on page 27 for Stainless.

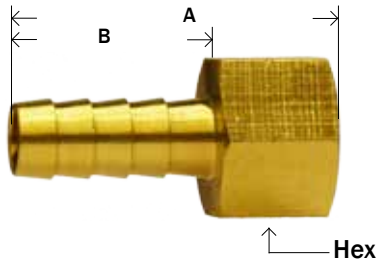
MSB 122HBL HM 129 178 73 108

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS FITTINGS

HOSE BARB

RIGID FEMALE ADAPTER



Part #	Hose I.D. x Female NPTF	A	B	Hex	Approx. Wt. Lbs.	
32-050	1/8" x 1/8"	0.96	0.46	0.50	0.02	----
32-317	1/8" x 1/4"	1.15	0.46	0.62	0.04	----
32-051	3/16" x 1/8"	1.10	0.68	0.50	0.02	----
32-062	3/16" x 1/4"	1.44	0.75	0.62	0.04	----
32-052	1/4" x 1/8"	1.35	0.93	0.50	0.02	----
32-053	1/4" x 1/4"	1.60	0.97	0.62	0.06	----
32-054	1/4" x 3/8"	1.65	1.03	0.75	0.04	----
32-441	1/4" x 1/2"	1.66	0.97	0.93	0.08	----
32-055	5/16" x 1/8"	1.47	0.97	0.56	0.04	----
32-056	5/16" x 1/4"	1.66	0.97	0.62	0.04	----
32-318	5/16" x 3/8"	1.66	0.97	0.75	0.06	----
32-320	5/16" x 1/2"	1.67	0.96	0.93	0.08	----
32-057	3/8" x 1/8"	1.47	0.97	0.56	0.04	----
32-058	3/8" x 1/4"	1.61	0.97	0.62	0.06	----
32-059	3/8" x 3/8"	1.63	1.00	0.81	0.08	----
32-063	3/8" x 1/2"	1.72	0.94	0.93	0.12	----
32-442	3/8" x 3/4"	1.97	0.97	1.18	0.20	----
NEW 32-449	1/2" x 1/8"	1.51	0.98	0.56	0.06	----
32-064	1/2" x 1/4"	1.66	0.96	0.62	0.08	----
32-060	1/2" x 3/8"	1.66	0.97	0.75	0.08	----
32-061	1/2" x 1/2"	1.76	0.96	0.93	0.12	----
32-443	1/2" x 3/4"	1.97	0.97	1.18	0.26	----
32-444	5/8" x 3/8"	1.66	0.97	0.75	0.08	----
32-445	5/8" x 1/2"	1.66	0.97	0.93	0.10	----
32-446	5/8" x 3/4"	1.97	0.97	1.18	0.21	----
32-447	3/4" x 1/2"	1.88	1.19	0.93	0.13	----
32-065	3/4" x 3/4"	2.19	1.21	1.18	0.22	----
32-049	1" x 3/4"	2.19	1.19	1.18	0.26	----
32-321	1" x 1"	2.32	1.19	1.44	0.35	----
32-448	1-1/4" x 1"	2.32	1.19	1.43	0.44	----

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

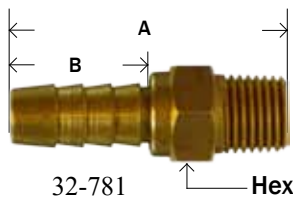
SWIVEL FEMALE ADAPTER NPTF



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

HIGH VOLUME MALE SWIVEL

• 300 PSI • Nitrile Buna (NBR) O-Ring



32-781



28-415

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

4065

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

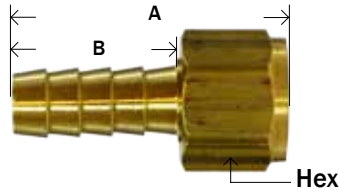
HOSE BARB

BRASS FITTINGS

SWIVEL FEMALE ADAPTER - With Gasket

- NPSM Thread

National Pipe Straight Gasket Seal Swivel

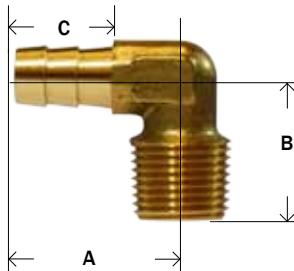


Part #	Hose I.D. x Female NPSM	A	B	Hex	Approx. Wt. Lbs.	
32-131	1/8" x 1/8"	0.90	0.46	0.50	0.02	----
32-132	3/16" x 1/8"	1.19	0.75	0.50	0.03	----
32-133	3/16" x 1/4"	1.28	0.75	0.62	0.04	----
32-120	1/4" x 1/8"	1.41	0.97	0.50	0.02	----
32-121	1/4" x 1/4"	1.50	0.97	0.62	0.02	----
32-129	1/4" x 3/8"	1.63	0.97	0.75	0.04	----
32-130	5/16" x 1/4"	1.50	0.97	0.62	0.04	----
32-122	3/8" x 1/4"	1.54	1.00	0.62	0.06	----
32-123	3/8" x 3/8"	1.60	0.97	0.75	0.06	----
32-354	3/8" x 1/2"	1.66	0.97	0.93	0.10	----
32-124	1/2" x 3/8"	1.60	0.97	0.75	0.08	----
32-125	1/2" x 1/2"	1.66	0.97	0.93	0.12	----
32-117	1/2" x 3/4"	1.82	1.19	1.18	0.16	----
32-118	5/8" x 3/4"	1.82	1.19	1.18	0.18	----
32-119	3/4" x 3/4"	1.82	1.19	1.18	0.14	----

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

130 126 29F5G 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.	
32-308	3/16" x 1/8"	0.95	0.70	0.66	0.37	0.02	----
32-391	3/16" x 1/4"	1.00	0.84	0.63	0.46	0.10	----
32-038 *	1/4" x 1/8"	1.01	0.81	0.71	0.47	0.06	----
32-039 *	1/4" x 1/4"	1.01	0.87	0.63	0.47	0.06	----
32-309 **	1/4" x 3/8"	1.08	0.97	0.73	0.69	0.12	----
32-036	5/16" x 1/8"	1.01	0.81	0.63	0.47	0.04	----
32-040	5/16" x 1/4"	1.01	0.87	0.63	0.47	0.06	----
32-310	5/16" x 3/8"	1.06	0.94	0.63	0.50	0.06	----
32-046 *	3/8" x 1/8"	1.01	0.81	0.63	0.47	0.06	----
32-041 *	3/8" x 1/4"	1.02	0.88	0.65	0.47	0.06	----
32-042 *	3/8" x 3/8"	1.09	0.93	0.68	0.50	0.08	----
32-047 *	3/8" x 1/2"	1.11	1.09	0.63	0.59	0.10	----
32-048	1/2" x 1/4"	1.06	1.00	0.68	0.59	0.10	----
32-043 *	1/2" x 3/8"	1.06	1.09	0.69	0.59	0.10	----
32-311 *	1/2" x 1/2"	1.31	1.19	0.87	0.56	0.12	----
32-044	5/8" x 3/8"	1.12	1.06	0.61	0.56	0.12	----
32-045	5/8" x 1/2"	1.12	1.12	0.68	0.63	0.14	----
32-312	5/8" x 3/4"	1.46	1.26	0.93	1.06	0.32	----
32-313	3/4" x 1/2"	1.31	1.28	0.87	0.85	0.22	----
32-314 *	3/4" x 3/4"	1.46	1.26	0.91	1.06	0.32	----
32-330 **	3/4" x 1"	1.57	1.64	0.90	1.34	0.64	----
32-315	1" x 3/4"	1.60	1.40	0.95	1.06	0.32	----
32-319	1" x 1"	1.69	1.64	0.98	1.30	0.43	----

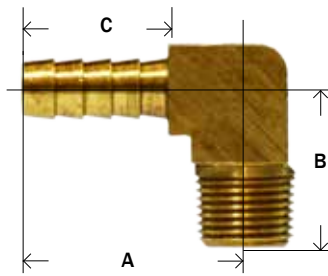
129 HBE1 KF-PS90 HE-1 29E 146



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

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

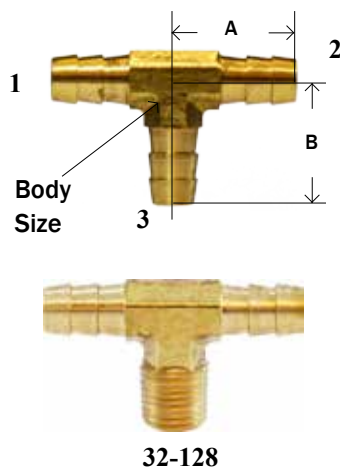
BARSTOCK HOSE BARB 90° ELBOW



Part #	Hose I.D. x Male NPTF	A	B	C	Body Size	Approx. Wt. Lbs.	
32-038B	1/4" X 1/8"	1.00	0.75	0.75	0.50	0.02	----
32-039B	1/4" X 1/4"	1.02	0.91	0.74	0.56	0.04	----
NEW 32-309B	1/4" X 3/8"	1.19	0.84	0.76	0.58	0.09	----
NEW 32-036B	5/16" X 1/8"	1.06	0.66	0.76	0.44	0.04	----
NEW 32-040B	5/16" X 1/4"	1.12	0.84	0.76	0.58	0.07	----
NEW 32310B	5/16" X 3/8"	1.19	0.84	0.76	0.72	0.09	----
NEW 32046B	3/8" X 1/8"	1.32	0.94	0.97	0.58	0.06	----
32-041B	3/8" X 1/4"	1.32	0.89	0.97	0.58	0.08	----
32-042B	3/8" X 3/8"	1.50	1.06	0.97	0.75	0.14	----
NEW 32047B	3/8" X 1/2"	1.52	1.25	0.97	0.90	0.26	----
NEW 32048B	1/2" X 1/4"	1.53	1.06	0.97	0.72	0.12	----
32-043B	1/2" X 3/8"	1.53	1.07	0.97	0.72	0.16	----
NEW 32311B	1/2" X 1/2"	1.53	1.25	0.97	0.90	0.26	----
NEW 32314B	3/4" X 3/4"	1.33	1.27	0.97	1.10	0.32	----

129HB

HOSE BARB TEES

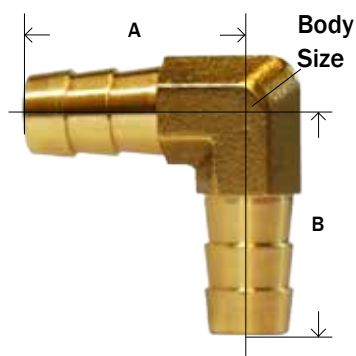


Part #	Hose Barb Size (1 & 2) x 3	A	B	Body Size	Approx. Wt. Lbs.	
32-367 *	1/8"	0.84	0.83	0.25	0.02	----
32-368	3/16"	1.02	1.02	0.37	0.03	----
32-365 **	1/4"	1.00	1.00	0.44	0.06	----
32-350 *	(1/4") x 1/8"	0.94	0.94	0.44	0.04	----
32-366	5/16"	1.00	1.00	0.44	0.06	----
32-126 **	3/8"	1.01	1.01	0.43	0.06	----
32-400 *	1/2"	1.02	1.00	0.43	0.08	----
32-352 *	(1/2") x 3/8"	1.26	1.26	0.43	0.10	----
32-361	5/8"	1.26	1.26	0.75	0.16	----
32-363	3/4"	1.45	1.45	0.90	0.18	----
32-353	(3/4") x 1/2"	1.41	1.41	0.88	0.23	----
32-128 *	3/8"HB x 1/4" MIP	1.00	0.94	0.43	0.06	----

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

** See page 29 for stainless steel.

90° HOSE BARB ELBOW



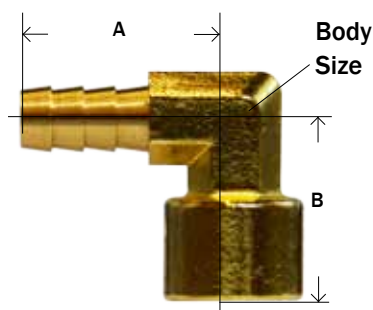
Part #	Hose I.D. x Hose I.D.	A	B	Body Size	Approx. Wt. Lbs.	
32-429	1/8" x 1/8"	0.55	0.55	0.37	0.03	----
32-433	3/16" x 3/16"	0.90	0.90	0.37	0.03	----
32-412	1/4" x 1/8"	1.02	1.02	0.44	0.04	----
32-413 *	1/4" x 1/4"	1.01	1.01	0.44	0.04	----
32-425	5/16" x 5/16"	1.15	1.15	0.48	0.05	----
32-414	3/8" x 1/8"	1.01	1.01	0.44	0.04	----
32-415	3/8" x 1/4"	1.00	1.00	0.44	0.04	----
32-416 *	3/8" x 3/8"	1.02	1.02	0.44	0.04	----
32-417	3/8" x 1/2"	1.24	1.10	0.50	0.06	----
32-418	1/2" x 1/4"	1.24	1.08	0.50	0.06	----
32-419	1/2" x 3/8"	1.22	1.09	0.50	0.06	----
32-420 *	1/2" x 1/2"	1.24	1.24	0.50	0.06	----
32-434	5/8" x 5/8"	1.20	1.20	0.75	0.16	----
32-435	3/4" x 1/2"	1.41	1.41	0.88	0.21	----
32-436	3/4" x 3/4"	1.41	1.41	0.88	0.21	----

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

HOSE BARB

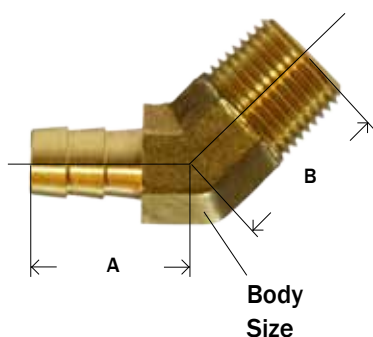
BRASS FITTINGS

90° FEMALE HOSE BARB ELBOW



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

45° ELBOW



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

* Barstock

140 HE145 139HB KF-PS45 13945

CROSSES



Part #	Hose ID	
32-608	1/4	----
32-609	5/16	----
32-610	3/8	----

HOSE WYES AVAILABLE WITH EXTENDED LEAD TIME.

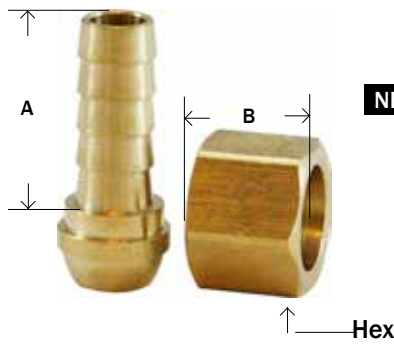
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS FITTINGS

HOSE BARB

BALL END SWIVEL

NPSM - Ball seat type



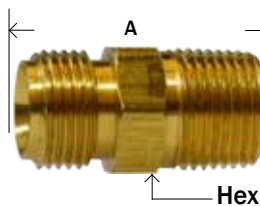
NEW

Part #	Hose I.D. x NPSM	A	B	Hex	Approx. Wt. Lbs.	
32-066	1/8" x 1/8"	0.46	0.44	0.50	0.03	----
32-067	3/16" x 1/8"	0.75	0.44	0.50	0.03	----
32-068	3/16" x 1/4"	0.75	0.52	0.62	0.04	----
32-962	3/16" x 3/8"	0.75	0.63	0.75	0.05	----
32-069	1/4" x 1/8"	0.97	0.44	0.50	0.04	----
32-070	1/4" x 1/4"	0.97	0.53	0.62	0.06	----
32-078	1/4" x 3/8"	0.97	0.63	0.75	0.06	----
32-071	5/16" x 1/4"	0.97	0.52	0.62	0.05	----
32-389	5/16" x 3/8"	0.97	0.63	0.75	0.07	----
32-072	3/8" x 1/4"	0.97	0.53	0.62	0.06	----
32-073	3/8" x 3/8"	0.97	0.59	0.75	0.08	----
32-074	3/8" x 1/2"	0.97	0.69	0.94	0.14	----
32-075	1/2" x 3/8"	0.97	0.59	0.75	0.08	----
32-076	1/2" x 1/2"	0.97	0.69	0.94	0.10	----
32-077	3/4" x 3/4"	0.97	0.70	1.12	0.14	----

128HBLSV 29FS 209AS 124 131

BALLSEAT MALE ADAPTER

Beveled seat

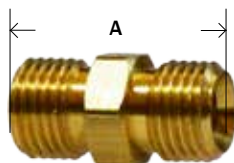


30° Seat

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

172 134 127HB 122AS

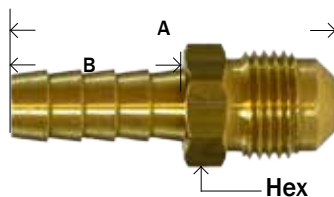
BALLSEAT UNION



30° Seat

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

45° FLARE ADAPTER



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

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

142 201BF KF-MS KDS

COMPRESSION ADAPTER - BARB X MALE COMPRESSION THREAD



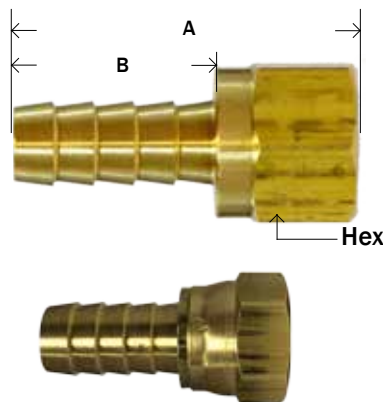
NEW

Part #	Size
18-534	1/4" x 1/4"

HOSE BARB

BRASS FITTINGS

DUAL 45° / 37° FLARE SWIVEL



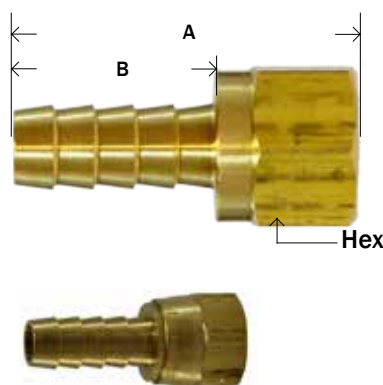
CRIMP STYLE

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

** Swivel crimp style

KDS

FEMALE 45° FLARE SWIVEL



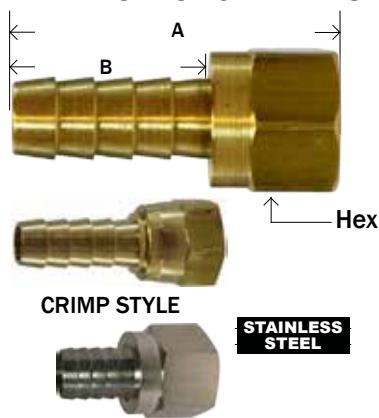
CRIMP STYLE

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

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.	
32-334	1/4" x 3/8"	9/16-18	1.60	0.97	0.68	0.06	----
32-335	5/16" x 3/8"	9/16-18	1.60	0.97	0.68	0.06	----
32-336	3/8" x 3/8"	9/16-18	1.60	0.97	0.68	0.10	----
32-336C**	3/8" X 3/8"	9/16-18	1.66	0.97	0.68	0.06	----
32-338*	3/4" x 3/4"	1-1/16-12	2.00	0.97	1.25	0.20	----
32-338SS	3/4" x 3/4"	1-1/16-12	2.00	0.97	1.25	0.24	----
32-338C	3/4" x 3/4"	1-1/16-12	2.13	1.19	1.25	0.20	----
32-397**	1" x 1"	1-5/16-12	2.31	1.19	1.50	0.33	----

KJS

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

** Swivel crimp style

Put your heart, mind, and soul into even your smallest acts. This is the secret of success.

- Swami Sivananda

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

REUSABLE MALE FITTINGS



Part #	Hose ID	Hose OD	Male NPTF	
32-727	1/4"	1/2"	1/4"	----
32-728	1/4"	9/16"	1/4"	----
32-726	1/4"	5/8"	1/4"	----
32-741	5/16"	5/8"	1/4"	----
32-742	3/8"	5/8"	1/4"	----
32-744	3/8"	11/16"	1/4"	----
32-725	3/8"	3/4"	1/4"	----
32-747	3/8"	5/8"	3/8"	----
32-750	3/8"	11/16"	3/8"	----
32-746	1/2"	7/8"	1/2"	----

REUSABLE FEMALE SWIVEL STEMS



Part #	Hose ID	Female NPSM	
32-770	1/4"	1/4"-18	----
32-771	3/8"	3/8"-18	----

REUSABLE FEMALE SWIVELS



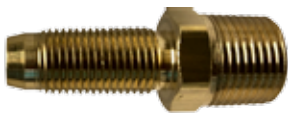
Part #	Hose ID	Hose OD	Female NPSM	
32-772	1/4"	1/2"	1/4"	----
32-773	3/8"	5/8"	3/8"	----
32-774	3/8"	11/16"	3/8"	----
32-775	1/2"	7/8"	1/2"	----

REUSABLE FERRULES



Part #	Hose ID	Hose OD	
32-749	1/4"	1/2"	----
32-751	1/4"	9/16"	----
32-752	1/4"	5/8"	----
32-753	3/8"	5/8"	----
32-754	3/8"	11/16"	----
32-755	3/8"	3/4"	----
32-756	1/2"	7/8"	----

REUSABLE MALE STEMS



Part #	Hose ID	Male NPT Thread	
32-758	1/4"	1/4"	----
32-759	3/8"	1/4"	----
32-760	3/8"	3/8"	----
32-761	1/2"	1/2"	----

Your work is going to fill a large part of your life, and the only way to be truly satisfied is to do what you believe is great work. And the only way to do great work is to love what you do. If you haven't found it yet, keep looking. Don't settle. As with all matters of the heart, you'll know when you find it.

— Steve Jobs

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



NEW

NEW

NEW

Part #	Hose ID	MIP	Ind #	
38-800	3/16	1/8	1541	----
38-802	1/4	1/8	1537	----
32-377	1/4	1/4	1581	----
38-806	5/16	1/8	1551	----
38-808	5/16	1/4	1555	----
38-810	3/8	1/8	1565	----
32-381	3/8	1/4	1564	----
32-382	3/8	3/8	1566	----
32-383	1/2	3/8		----
32-384	1/2	1/2		----
32-385	5/8	1/2	1431	----
32-387	3/4	1/2	1430	----
32-388	3/4	3/4		----

68HB

BUBBLE BARB MALE ADAPTER

BUBBLE X MIP



Part #	Bubble x MIP	
32176	3/8 x 3/8	----
32177	1/2 x 1/4	----
32178	1/2 x 3/8	----
32179	1/2 x 1/2	----
32182	5/8 x 3/8	----
32183	5/8 x 1/2	----
32184	3/4 x 1/2	----
32180	3/4 x 3/4	----
32185	1 x 3/4	----
32181	1 x 1	----

INVERTED FLARE MALE CONNECTOR

HOSE BARB X INVERTED FLARE



Part #	Hose ID	Inv. Flare	Ind #	
38-828	5/16	1/4	1598	----
38-830	5/16	5/16	1560	----
38-832	5/16	3/8	1561	----
38-834	3/8	5/16	1568	----
38-836	3/8	3/8	1570	----

269HB

90° MALE ELBOW

HOSE BARB X MALE PIPE



Part #	Hose ID	MIP	Ind #	
38-860	1/4	1/8	1582	----
38-862	5/16	1/8	1556	----
38-864	5/16	1/4	1557	----
38-866	3/8	1/8	1572	----
38-868	3/8	1/4	1571	----

BUBBLE BARB



Part #	Hose ID	MIP	
32-186	3/8	3/8	----
32-194	1/2	1/4	----
32-187	1/2	3/8	----
32-191	1/2	1/2	----
32-195	5/8	1/4	----
32-188	5/8	3/8	----
32-189	5/8	1/2	----
32-190	3/4	1/2	----
32-192	3/4	3/4	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS FITTINGS

WELDED HOSE FITTINGS

INVERTED FLARE MALE SWIVEL 90° ELBOW

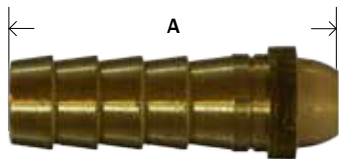
HOSE BARB X TUBE O.D.



Part #	Hose ID	Inv. Flare	Ind #	
38-873	5/16	5/16	1405	----
38-874	3/8	3/8	1407	----

WELDED HOSE FITTINGS

STEM ONLY - WELDING HOSE CONNECTOR

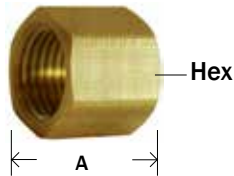


Part #	Hose I.D.	A	Approx. Wt. Lbs.	
30-410	3/16"	1.43	0.02	----
30-411	1/4"	1.43	0.02	----
30-413	3/8"	1.43	0.04	----

Assemble with nuts below.

201RWA WRS WLS

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

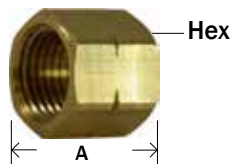


Part #	Size	A	Hex	Approx. Wt. Lbs.	
30-420	R.H. Nut only	0.63	0.68	0.04	----

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.	
30-421	L.H. Nut only	0.63	0.68	0.04	----

Assemble with stem above.

209LWA WLS 154 KF-RE

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

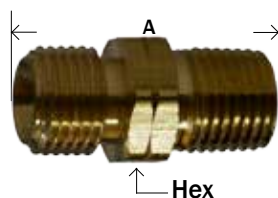


Part #	Size	A	Hex	Approx. Wt. Lbs.	
30-401	1/4"-18	1.30	0.62	0.06	----
32-437	3/8"-18	1.30	0.68	0.09	----
32-438*	9/16"-18	1.25	0.68	0.07	----

* Right UNF thread

156

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



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

* Left UNF thread

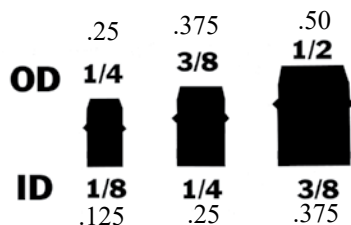
158

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	
21-003	1/4(1/8) x 1/4(1/8)	----
21-007	3/8(1/4) x 1/4(1/8)	----
21-009	3/8(1/4) x 3/8(1/4)	----

1062 962

MALE ADAPTER



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

Part #	Size	
21-021	1/4(1/8) x 1/16	----
21-023	1/4(1/8) x 1/8	----
21-025	1/4(1/8) x 1/4	----
21-027	3/8(1/4) x 1/8	----

1068 968 688

FEMALE ADAPTER



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

Part #	Size	
21-043	1/4(1/8) x 1/8	----
21-046	3/8(1/4) x 1/4	----
21-049	1/2(3/8) x 3/8	----

1066 966 26 668

BULKHEAD UNION



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

Part #	Size	
21-082	1/4(1/8)	----
21-083	3/8(1/4)	----
21-084	1/2(3/8)	----

1074

UNION ELBOW



1065
965

TUBE O.D. (I.D.)

Part #	Size	
21-095	1/4(1/8)	----
21-097	3/8(1/4)	----
21-099	1/2(3/8)	----

MALE 90° ELBOW



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

Part #	Size	
21-109	1/8" x 1/4-28"	----
21-111	1/4(1/8) x 1/16	----
21-113	1/4(1/8) x 1/8	----
21-115	1/4(1/8) x 1/4	----
21-117	3/8(1/4) x 1/8	----
21-119	3/8(1/4) x 1/4	----
21-121	1/2(3/8) x 3/8	----

1069 969 229

FEMALE 90° ELBOW



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

Part #	Size	
21-133	1/4(1/8) x 1/8	----

1070 970 230

UNION TEE



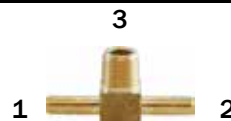
O.D. (I.D.) X O.D. (I.D.) X O.D. (I.D.)

Part #	Size	
21-151	1/4(1/8)	----
21-153	3/8(1/4)X 3/8(1/4)X1/4(1/8)	----
21-155	3/8(1/4)	----
21-159	1/2(3/8)X1/2(3/8)X3/8(1/4)	----
21-161	1/2(3/8)	----

1064 964 224

BRASS FITTINGS

MALE BRANCH TEE

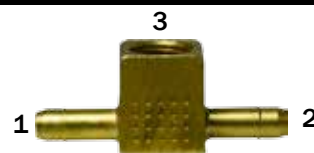


O.D. (I.D.) X O.D. (I.D.) X MALE PIPE

Part #	Size	
21-193	1/4(1/8) x 1/4(1/8) x 1/8	----
21-195	3/8(1/4) x 3/8(1/4) x 1/8	----
21-197	3/8(1/4) x 3/8(1/4) x 1/4	----

1072 972 232

FEMALE BRANCH TEE



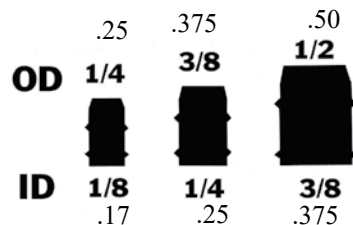
O.D. (I.D.) X O.D. (I.D.) X FEMALE PIPE

Part #	Size	
21-207	1/4(1/8) x 1/4(1/8) x 1/8	----

1077 978

TWO BARB FITTINGS

More Sizes Available - Please Ask!



MALE ADAPTER PIPE



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

Part #	Size	
32-150	1/4(1/8) x 1/8	----
32-151	1/4(1/8) x 1/4	----
32-153	3/8(1/4) x 1/4	----

28

UNION TEE



Part # Tube O.D. (I.D.)

32-159	1/4(1/8 ID)	----
32-160	3/8(1/4 ID)	----

90° ELBOW



Part # Tube O.D. (I.D.)

32-170	1/4(1/8 ID)	----
32-171	3/8(1/4 ID)	----

225

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

STAINLESS FITTINGS

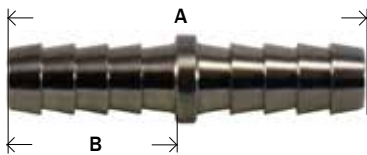
BARSTOCK / CAST SS HOSE BARB

316 STAINLESS STEEL MACHINED RIGID MALE ADAPTER



Part #	Hose I.D. x NPT	
32-001SS	1/8" x 1/8"	----
32-002SS	3/16" x 1/8"	----
32-003SS	3/16" x 1/4"	----
32-004SS	1/4" x 1/8"	----
32-005SS	1/4" x 1/4"	----
32-006SS	1/4" x 3/8"	----
32-008SS	5/16" x 1/8"	----
32-009SS	5/16" x 1/4"	----
32-010SS	5/16" x 3/8"	----
32-011SS	3/8" x 1/8"	----
32-012SS	3/8" x 1/4"	----
32-013SS	3/8" x 3/8"	----
32-014SS	3/8" x 1/2"	----
32-015SS	1/2" x 1/4"	----
32-016SS	1/2" x 3/8"	----
32-017SS	1/2" x 1/2"	----
32-018SS	1/2" x 3/4"	----
32-019SS	5/8" x 3/8"	----
32-020SS	5/8" x 1/2"	----
32-021SS	5/8" x 3/4"	----
32-022SS	3/4" x 1/2"	----
32-023SS	3/4" x 3/4"	----
32-024SS	1" x 3/4"	----

316 STAINLESS STEEL SPLICER



Part #	Hose I.D. x Hose I.D.	A	B	
32-091SS	1/8"			----
32-093SS	1/4"	2.03	0.97	----
32-094SS	5/16"			----
32-095SS	3/8"	2.06	0.97	----
32-096SS	1/2"	2.06	0.97	----
32-098SS	3/4"	2.50	1.19	----

316 STAINLESS STEEL BARB ELBOW



Part #	Hose I.D. x NPT	
32-038SS	1/4 x 1/8	----
32-039SS	1/4 x 1/4	----
32-041SS	3/8 x 1/4	----
32-042SS	3/8 x 3/8	----
32-043SS	1/2" x 3/8"	----
32-311SS	1/2 x 1/2	----
32-314SS	3/4" x 3/4"	----

304 STAINLESS STEEL HOSE NIPPLES



• Cast

Part #	Hose I.D. x Male Pipe	
73-951	1/4"	----
73-952	3/8"	----
73-953	1/2"	----
73-954	3/4"	----
73-955	1"	----
73-956	1-1/4"	----
73-957	1-1/2"	----
73-958	2"	----
73-959	2-1/2"	----
73-960	3"	----

304 STAINLESS STEEL REDUCING HOSE NIPPLES



• Cast

Part #	Hose I.D. x Male Pipe	
73-970	1/4" X 1/8"	----
73-971	3/8" X 1/4"	----
73-972	1/2" X 3/8"	----
73-973	1/2" X 1/4"	----
73-974	3/4" X 1/2"	----
73-975	1" X 3/4"	----
73-976	1" X 1/2"	----
73-977	1-1/4" X 1"	----
73-979	1-1/2" X 1-1/4"	----
73-980	1-1/2" X 1"	----
73-981	2" X 1-1/2"	----
73-982	2" X 1-1/4"	----

316 STAINLESS STEEL HOSE NIPPLES



• Cast

Part #	Hose I.D. x Male Pipe	
973-951	1/4"	----
973-952	3/8"	----
973-953	1/2"	----
973-954	3/4"	----
973-955	1"	----
973-956	1-1/4"	----
973-957	1-1/2"	----
973-958	2"	----
973-959	2-1/2"	----
973-990	3"	----
973-991	4"	----

• See King nipples on page 312

BEVERAGE FITTINGS

BARB TO MALE PIPE ADAPTER

STAINLESS
STEEL

HOSE ID x MALE NPT

Part #	Size	
34-587	1/4" x 1/8"	----
34-588	1/4" x 1/4"	----
34-589	1/4" x 3/8"	----
34-590	3/8" x 1/8"	----
34-591	3/8" x 1/4"	----
34-592	3/8" x 3/8"	----
34-595	3/8" x 1/2"	----
34-597	1/2" x 3/4"	----

BARB TO MALE FLARE ADAPTER

NEW

STAINLESS
STEEL

HOSE ID x 45° FLARE

Part #	Size	
34-579	1/4" x 1/4"	----
34-586	1/4" x 5/16"	----
34-584	1/4" x 3/8"	----
34-580	1/4" x 1/2-16"	----
34-583	3/8" x 1/4"	----
34-585	3/8" x 3/8"	----
34-581	3/8" x 1/2-16"	----

FEMALE FLARE SWIVEL SETS

NEW

STAINLESS
STEEL

Part #	Size	
34-501	1/4" x 1/4"	----
34-502	5/16" x 1/4"	----
34-504	3/8" x 3/8"	----

ONE PIECE SWIVEL BARB X FE. FL

NEW

STAINLESS
STEEL

Part #	Size	
34-510	3/8" x 1/4"	----

HOSE SPLICER (STRAIGHT)

STAINLESS
STEEL

ID HOSE

Part #	Size	
34-532	3/16"	----
34-533	1/4"	----
34-534	1/4" x 3/16"	----
34-536	5/16"	----
34-537	5/16" x 1/4"	----
34-535	3/8"	----
34-538	3/8" x 3/16"	----
34-543	3/8" x 1/4"	----
34-539	3/8" x 5/16"	----
34-540	1/2" x 3/8"	----

THINWALL SPLICERS

STAINLESS
STEEL

Part #	Size	
34-533T	1/4"	----
34-535T	3/8"	----
34-541T	1/2"	----
34-540T	1/2" x 3/8"	----
34-543T	3/8" x 1/4"	----

PLUG

STAINLESS
STEEL

Part #	Size	
34-572	1/4"	----
34-574	3/8"	----

THINWALL

Part #	Size	
34-572T	1/4"	----
34-574T	3/8"	----

BARB X COMPRESSION

STAINLESS
STEEL

Part #	Size	
34-625	1/4" x 3/8"	----
34-626	3/8" x 3/8"	----

STAINLESS STEEL

PLATED BRASS SPLICERS

NEW



Part #	Size	
34-725	3/16"	----
34-726	1/4" x 3/16"	----
34-728	5/16"	----
34-727	5/16" x 3/16"	----

TAILPIECES



NEW

SS BARB X SWIVEL SHANK

Part #	Size	
34-711	3/16"	----
34-713	1/4"	----
34-715	5/16"	----
34-716	3/8"	----
34-717	1/2"	----



NEW

N/P BRASS

Part #	Size	
34-710	3/16"	----
34-712	1/4"	----
34-714	5/16"	----
34-716	3/8"	----
34-718	1/2"	----



NEW

#304 SS 90° ELBOW

Part #	Size	
34-720	3/16"	----
34-721	1/4"	----
34-722	5/16"	----
34-723	3/8"	----
34-724	1/2"	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

STAINLESS STEEL

90° SWIVEL ELBOW

90° SWIVEL ELBOW



HOSE ID x FEMALE 45° FLARE

Part #	Size	
34-525	1/4" x 1/4"	----
34-526	3/8" x 1/4"	----
34-529	3/8" x 3/8"	----
34-531	1/2" x 1/2"	----

BARB TO SWIVEL ELBOW



HOSE ID x FEMALE 45° FLARE

Part #	Size	
34-600	1/4" x 1/4"	----
34-601	3/8" x 1/4"	----

MALE ELBOWS



HOSE ID x MALE NPTF

Part #	Size	
34-610	1/4" x 1/8"	----
34-611	3/8" x 1/4"	----
34-612	3/8" x 3/8"	----
34-613	1/2" x 1/2"	----

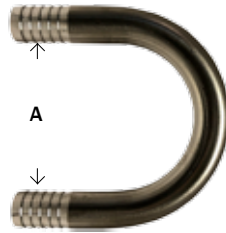
FEMALE ADAPTERS



BARB X FEMALE PIPE

Part #	Size	
34-661	1/4"	----
34-658	1/2"	----

U-BEND



Part #	Size	A	
34-633	3/8"	2	----

THINWALL U-BEND

Part #	Size	A	
34-633T	3/8"	1-1/2	----

U-BEND W/MANIFOLD



THINWALL

Part #	Size	
34-621T	1/4"	----
34622T	3/8"	----

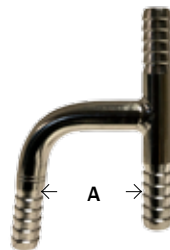
CROSS



CROSS - THINWALL

Part #	Size	
34-635T	1/4"	----
34-638T	3/8"	----

Y TEES



THINWALL

Part #	Size	A	
34-650T	1/4"	1-1/8	----
34-652T	3/8"	1-1/4	----

BEVERAGE FITTINGS

BARB HOSE TEES



ID HOSE

Part #	Size	
34-561	1/8"	----
34-562	1/4"	----
34-565	5/16"	----
34-563	3/8"	----

REDUCING TEES

Part #	1&2	3	
34-567	1/4"	3/8"	----
34-568	3/8"	1/4"	----

THINWALL TEES



Part #	Size	
34-562T	1/4"	----
34-565T	5/16"	----
34-563T	3/8"	----
34-564T	1/2"	----

REDUCING THINWALL TEES

Part #	1&2	3	
34-567T	1/4"	3/8"	----
34-568T	3/8"	1/4"	----

90° BARB SPLICER



ID HOSE

Part #	Size	
34-551	1/4"	----
34-550	5/16"	----
34-552	3/8"	----

THINWALL 90° BARB SPLICERS



Part #	Size	
34-551T	1/4"	----
34-552T	3/8"	----
34-553T	1/2"	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS

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

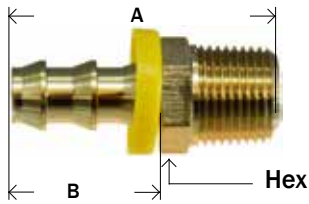
- 1- Split hose. Do not cut completely through hose. Sealing edge of barb could be damaged.
- 2- Bend hose and remove with a quick pull.

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



MALE ADAPTER



NEW

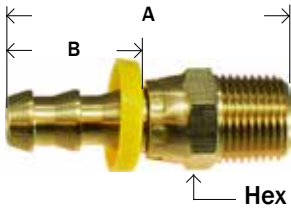
NEW

Part #	Hose I.D. x Male NPTF	A	B	Hex	Approx. Wt. Lbs.	
30-200 *	1/4" x 1/8"	1.43	0.87	0.50	0.04	----
30-201 *	1/4" x 1/4"	1.66	0.87	0.56	0.06	----
30-211	1/4" x 3/8"	1.66	0.87	0.68	0.06	----
30-208	1/4" x 1/2"	1.83	0.88	0.88	0.10	----
30-212	5/16" x 1/8"	1.42	0.77	0.43	0.04	----
30-213	5/16" x 1/4"	1.66	0.87	0.56	0.06	----
30-202	3/8" x 1/8"	1.53	0.97	0.50	0.04	----
30-203 *	3/8" x 1/4"	1.69	0.89	0.56	0.07	----
30-204 *	3/8" x 3/8"	1.76	0.97	0.68	0.08	----
30-205	3/8" x 1/2"	1.97	0.97	0.87	0.10	----
30-392	3/8" x 3/4"	1.97	0.92	1.06	0.16	----
30-216	1/2" x 1/4"	1.76	0.97	0.68	0.08	----
30-206 *	1/2" x 3/8"	1.76	0.97	0.68	0.09	----
30-207 *	1/2" x 1/2"	1.97	0.97	0.87	0.14	----
30-217	1/2" x 3/4"	1.97	0.97	1.06	0.16	----
30-218	1/2" x 1"	2.29	0.97	1.37	0.34	----
30-219	5/8" x 3/8"	2.34	1.50	0.75	0.12	----
30-209	5/8" x 1/2"	2.45	1.45	0.87	0.16	----
30-214	5/8" x 3/4"	2.45	1.45	1.06	0.18	----
30-215 *	3/4" x 1/2"	2.45	1.45	0.87	0.21	----
30-210 *	3/4" x 3/4"	2.45	1.45	1.06	0.20	----
30-238	1" x 3/4"	2.93	1.50	1.25	0.43	----

- See page 161 for lead free
- See page 36 for Stainless

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

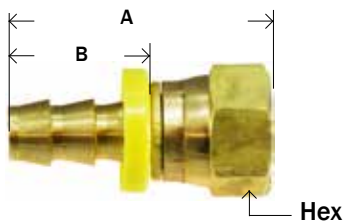
MALE SWIVEL



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

921 HMS 285 31382

FEMALE GASKET SEAL SWIVEL - NPSM



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

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

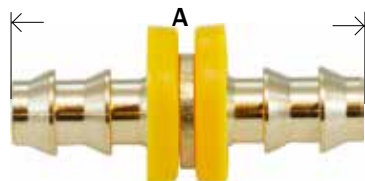
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov



PUSH ON HOSE BARB

BRASS FITTINGS

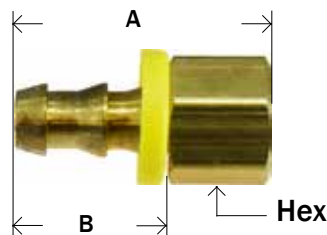
HOSE SPLICER



Part #	Hose I.D.	A	Approx. Wt. Lbs.	
30-300	1/4"	1.87	0.04	----
30-305	5/16"	1.80	0.04	----
30-301	3/8"	2.00	0.06	----
30-302	1/2"	2.01	0.08	----
30-303	5/8"	3.03	0.14	----
30-304	3/4"	3.03	0.14	----
30-306	1"	3.21	0.28	----

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

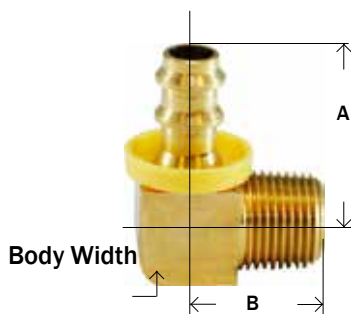
RIGID FEMALE ADAPTER



Part #	Hose I.D. x Female NPTF	A	B	Hex	Approx. Wt. Lbs.	
30-220	1/4" x 1/8"	1.35	0.87	0.50	0.02	----
30-221	1/4" x 1/4"	1.51	0.87	0.62	0.06	----
30-384	1/4" x 3/8"	1.51	0.77	0.75	0.06	----
30-391	5/16" x 1/8"	1.32	0.77	0.50	0.03	----
30-222	5/16" x 1/4"	1.51	0.87	0.62	0.06	----
30-393	3/8" x 1/8"	1.47	0.92	0.56	0.06	----
30-224	3/8" x 1/4"	1.61	0.97	0.62	0.06	----
30-225	3/8" x 3/8"	1.63	0.97	0.75	0.06	----
30-394	3/8" x 1/2"	1.66	0.92	0.93	0.12	----
30-397	3/8" x 3/4"	1.97	0.97	1.18	0.20	----
30-223	1/2" x 1/4"	1.76	1.02	0.68	0.08	----
30-226	1/2" x 3/8"	1.63	0.97	0.75	0.08	----
30-227	1/2" x 1/2"	1.77	0.97	0.93	0.14	----
30-396	1/2" x 3/4"	2.07	1.02	1.18	0.20	----
30-398	5/8" x 3/8"	2.24	1.55	0.75	0.10	----
30-229	5/8" x 1/2"	2.24	1.48	0.93	0.11	----
NEW 30-403	5/8" x 3/4"	2.26	1.44	1.19	0.20	----
30-399	3/4" x 1/2"	2.24	1.50	0.93	0.14	----
30-395	3/4" x 3/4"	2.55	1.50	1.18	0.24	----
30-400	1" x 3/4"	2.55	1.55	1.18	0.25	----
30-402	1" x 1"	2.68	1.55	1.43	0.37	----

30282 29FPO HLF 626 274 726 940

MALE ELBOW



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

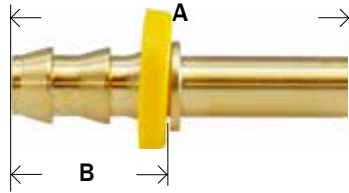
100-C 29EPO 273

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS FITTINGS

PUSH ON HOSE BARB

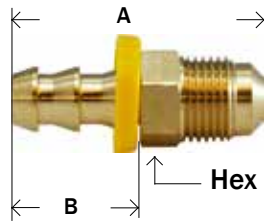
RIGID TUBE ADAPTER



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

294 100B-X KA-RL 303 732 694

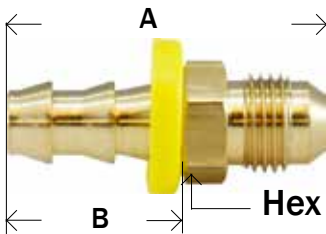
MALE SAE FLARE ADAPTER



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

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

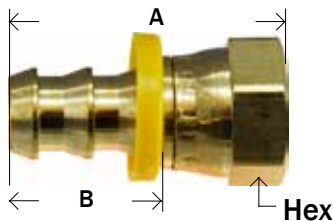
37° MALE JIC FLARE ADAPTER



• more sizes available

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

SAE/JIC DUAL 45°/37° FEMALE SWIVEL



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

* See page 36 for stainless

* See page 161 for lead free

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

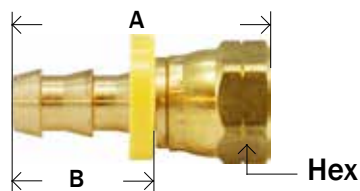
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS

PUSH ON HOSE BARB

BRASS FITTINGS

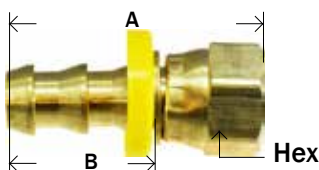
45° SAE FLARE FEMALE SWIVEL



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

30882 728 P990-H 29AEP0 307 284 100S-4 KA-NS HSF 684 934

FEMALE 37° JIC FLARE SWIVEL

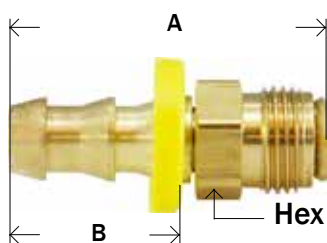


Part #	Hose I.D. x Female JIC	UNF Thread	A	B	Hex	Approx. Wt. Lbs.	
30-265	1/4" x 1/4"	7/16-20	1.54	0.87	0.56	0.04	----
30-264	1/4" x 3/8"	9/16-18	1.57	0.87	0.68	0.06	----
30-270	5/16" x 3/8"	9/16-18	1.60	0.82	0.68	0.06	----
30-266 *	3/8" x 3/8"	9/16-18	1.70	0.97	0.68	0.08	----
30-267	1/2" x 1/2"	3/4-16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

* See page 36 for stainless

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

INVERTED FLARE MALE SWIVEL



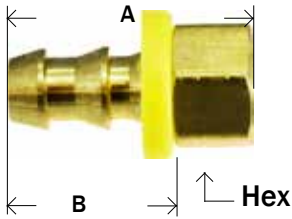
Part #	Hose I.D. x Male INV Flare	UNF Thread	A	B	Hex	Approx. Wt. Lbs.	
30-275	1/4" x 3/16"	3/8-24	1.52	0.87	0.37	0.04	----
30-276	1/4" x 1/4"	7/16-24	1.56	0.87	0.43	0.04	----
30-277	1/4" x 5/16"	1/2-20	1.62	0.87	0.50	0.04	----
30-280	5/16" x 5/16"	1/2-20	1.62	0.87	0.50	0.06	----
30-283	5/16" x 3/8"	5/8-18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

290 100B-B KA-MF 1MS 947

The best preparation for tomorrow is doing your best today. — H. Jackson Brown, Jr.

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

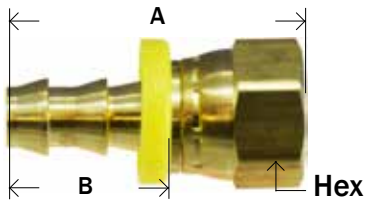
INVERTED FLARE FEMALE ADAPTER



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

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

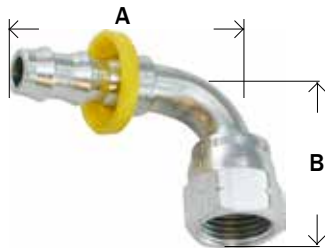
FEMALE BALLSEAT SWIVEL



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

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.	
30-480	1/4"	7/16-20	1.55	0.83	.064	----
30-482	3/8"	9/16-18	1.85	0.91	.095	----
30-483*	3/8"	5/8-18	1.98	0.85	.095	----
30-484	1/2"	3/4-16	2.33	1.09	.171	----
30-486	3/4"	1-1/16-12	3.26	1.81	.281	----

* SAE

Nearly all men can stand adversity, but if you want to test a man's character, give him power.

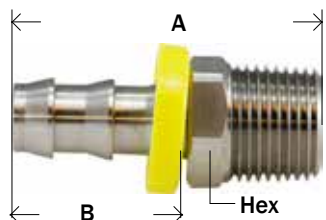
- Abraham Lincoln

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

STAINLESS STEEL PUSH ON 316 HOSE BARB

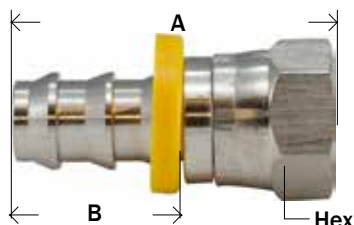
BRASS FITTINGS

316 STAINLESS STEEL MALE ADAPTERS



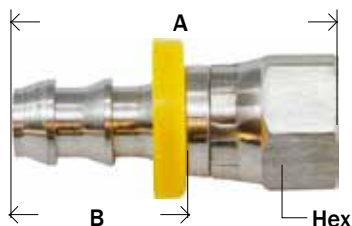
Part #	Hose I.D. x NPT	A	B	Hex	Approx. Wt. Lbs.	
30-200SS	1/4" x 1/8"	1.42	0.77	0.44	0.027	----
30-201SS	1/4" x 1/4"	1.61	0.77	0.56	0.043	----
30-203SS	3/8" x 1/4"	1.76	0.92	0.56	0.053	----
30-204SS	3/8" x 3/8"	1.76	0.92	0.69	0.067	----
30-206SS	1/2" x 3/8"	1.86	1.02	0.69	0.071	----
30-207SS	1/2" x 1/2"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

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



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

316 STAINLESS STEEL FEMALE 37° JIC FLARE SWIVEL



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

only two things are infinite, the universe and human stupidity, and I'm not sure about the former.

- Albert Einstein

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



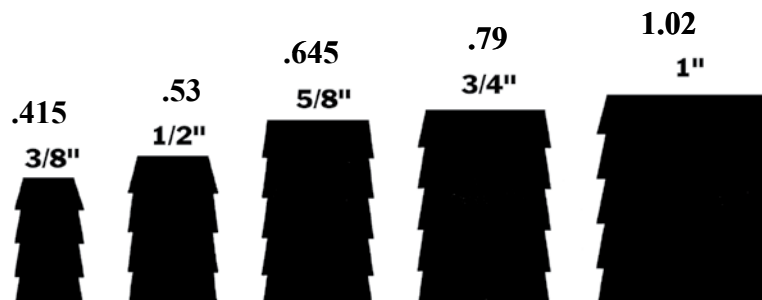
See Plastic section for Plastic Garden Hose Fittings



See page 162 for lead free Garden Hose

Washers included are #30150B black rubber washers.

Actual Profile of Garden Hose Barbs



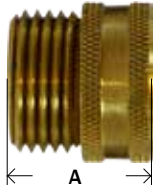
GARDEN HOSE

BRASS FITTINGS

SWIVEL - MGH X FGH

•WASHER INCLUDED

Internal Hex ↘



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

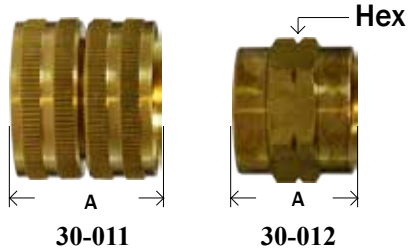
* Internal Hex

* Not a live swivel

** available in swivel crimp style

SWIVEL - FGH X FGH

•WASHER INCLUDED



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

HUS 91 203W GSU 101GH5V 22AS 506 FS66

SWIVEL - FGH X FEMALE PIPE

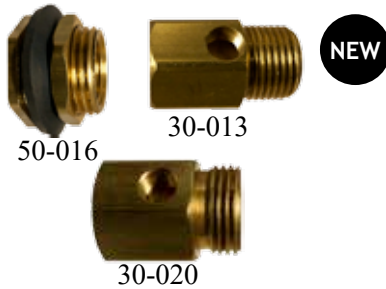
•WASHER INCLUDED



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

S1 HSU11 91Z 197S 98GH5V 5AS 21517 502 FS66

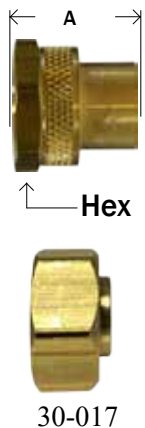
EVAPORATIVE COOLER FITTINGS



Part #	Size	
50-016	MGH x 1/2" FIP	----
30-013	1/2 MIP x 1/2 FIP x 1/8	----
30-019	3/4 MIP x 3/4 FIP x 1/8	----
30-020	MGH x FGH x 1/8	----

RIGID - FGH X FEMALE PIPE

•WASHER INCLUDED



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

95GH 501

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

RIGID - FGH X FEMALE PIPE

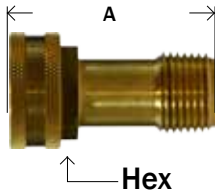


Part #	FGH x Female NPTF	A	Hex	Approx. Wt. Lbs.	
30-078	3/4" x 1/2"	1.06	1.18	0.10	----
30-083	3/4" x 3/4"	1.06	1.18	0.12	----

FS67 198 HU11 21507 501 99GH 5A H15PP

SWIVEL - FGH X MALE PIPE

• WASHER INCLUDED

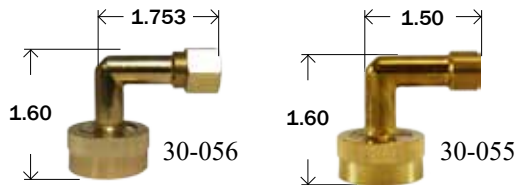


Part #	FGH x Male NPTF	A	Hex	Approx. Wt. Lbs.	
30-047	3/4" x 1/4"	2.04	0.75	0.13	----
30-048	3/4" x 3/8"	2.06	0.75	0.14	----
30-049	3/4" x 1/2"	2.06	0.87	0.18	----

504 89GH W1 62H4 88GH W1

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

• WASHER INCLUDED



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

SWIVEL - FGH X MALE PIPE

• WASHER INCLUDED

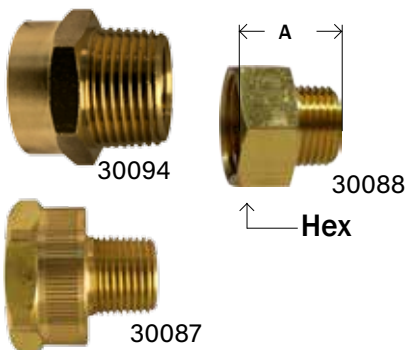


* Crimp style

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

RIGID - FGH X MALE PIPE

• WASHER INCLUDED



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

* Long pattern

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

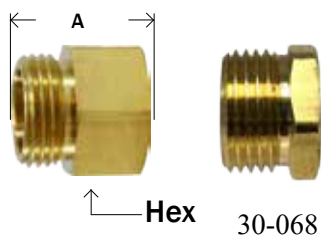
21505 503 83GH 20A HU21 199 H7

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

GARDEN HOSE

BRASS FITTINGS

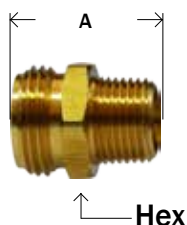
RIGID - MGH X FEMALE PIPE



Part #	MGH X Female NPTF	A	Hex	Approx. Wt. Lbs.	
30-066	3/4" x 1/4"	1.10	1.06	0.09	----
30-067	3/4" x 3/8"	1.09	1.06	0.12	----
30-068	3/4" x 1/2"	0.81	1.06	0.10	----
30-073	3/4" x 3/4"	1.12	1.18	0.10	----
NEW 30-074	3/4" x 1"	1.36	1.37	0.19	
NEW 30-075	1" x 1"	1.60	1.38	0.25	

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.	
NEW 30-054	3/4" x 1/4"	1.26	1.06	0.12	
30-053	3/4" x 3/8"	1.25	1.06	0.10	----
30-058*	3/4" x 1/2"	1.31	1.06	0.12	----
30-063**	3/4" x 3/4" x 1/2"	1.31	1.06	0.13	----
30-063BE***	3/4" x 3/4"	1.31	1.06	0.15	----
30-063S	3/4" x 3/4" Short	1.10	1.06	0.10	----
30-064	3/4" x 1"	1.88	1.37	0.35	----
NEW 30-065	1" x 1"	1.88	1.37	0.26	

No Tap

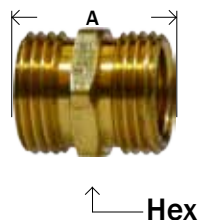
19R 196 H530 21501 508 HU22 514 71GH 19A

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

** (Tapped 1/2 FIP)

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

RIGID - MGH X MGH

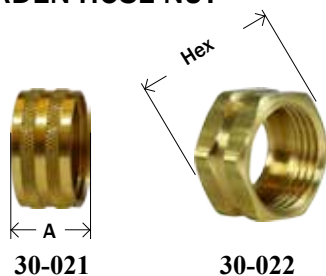


Part #	MGH X MGH	A	Hex	Approx. Wt. Lbs.	
30-098	3/4" x 3/4" (1/2" FIP)	1.22	1.06	0.13	----
30-099	3/4" x 3/4"	1.38	1.06	0.15	----
30-100*	1" x 3/4"	1.31	1.37	0.21	----
NEW 30-101	1" x 1"	1.38	1.37	0.23	

* 1-11-1/2

21500 509 75GH 23A H8 19R

GARDEN HOSE NUT

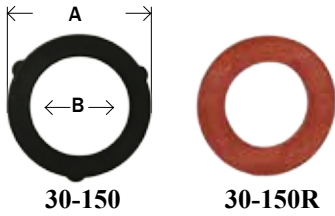


Part #	Size	A	Hex	Approx. Wt. Lbs.	
30-021	Knurled	0.61	1.37 O.D.	0.08	----
30-022	Hex Nut	0.62	1.18	0.08	----

94GH GHN1 HNR 21514

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

GARDEN HOSE WASHERS

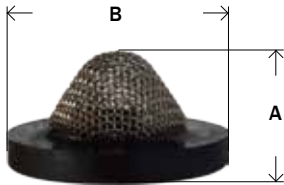


Part #	Size	A	B	Thickness	Approx. Wt. Lbs.	
30-150	black*	0.98	0.68	0.13	0.01	----
30-150R	red	1.00	0.68	0.13	0.01	----
30-150B	black rubber	1.00	0.68	0.13	0.01	----
30-151	1"	1.27	0.86	0.16	0.01	----

* plasticized rubber

GHW 901GH

GARDEN HOSE FILTER WASHER

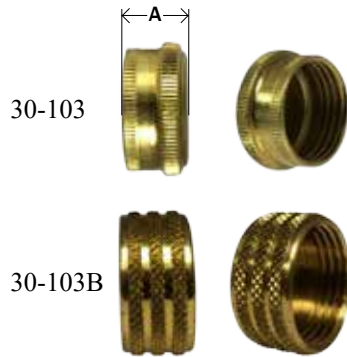


• 300 Series Stainless Steel Screen

Part #	Size	A	B	Approx. Wt. Lbs.	
30-180	30 Mesh	0.52	1.00	0.02	----
30-180F	60 Mesh	0.52	1.00	0.02	----

LA662

GARDEN HOSE CAP

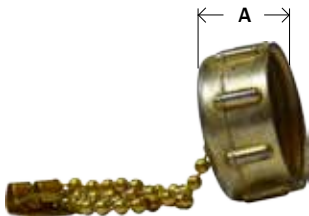


Part #	Size	A	Approx. Wt. Lbs.	
30-103	3/4" Die Cast	0.58	0.04	----
30-103B	3/4" Barstock	0.60	0.048	----

513 96GH GHN5 HC1 LA215 21518 200-W

• Garden hose washers sold seperately

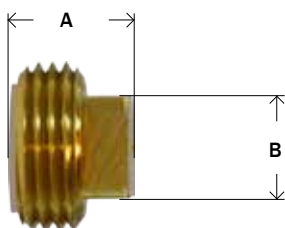
GARDEN HOSE CAP WITH CHAIN



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

* Zinc die cast

GARDEN HOSE PLUG



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

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

GARDEN HOSE

BRASS FITTINGS

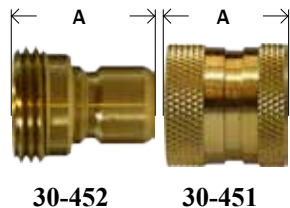
HOSE MENDERS - SOLID BARB X BARB



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

QUICK DISCONNECT GARDEN HOSE COUPLERS

•WASHER INCLUDED

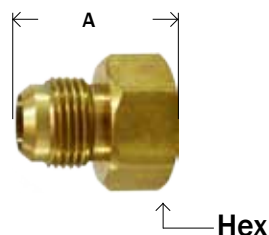


- Unvalved construction allows maximum Flow
- 150 PSI
- NBR Seals

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

LA73C

MALE FLARE X FGH RIGID

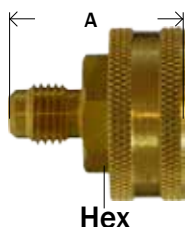


Part #	Male Flare x FGH	A	Hex	Approx. Wt. Lbs.	
30-123	3/8" x 3/4"	1.31	1.18	0.10	----
30-128	1/2" x 3/4"	1.38	1.18	0.12	----
30-133	5/8" x 3/4"	1.53	1.18	0.14	----

190 46WH HFU21

MALE FLARE x FGH SWIVEL

•WASHER INCLUDED



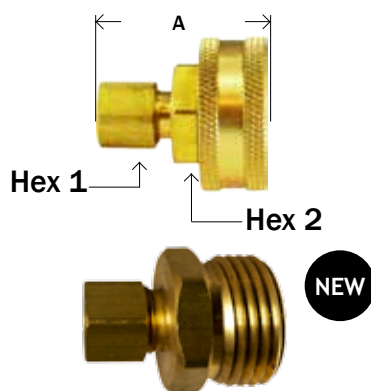
Part #	Male Flare x FGH	A	Hex	Approx. Wt. Lbs.	
30-052	1/4" x 3/4"	1.24	0.75	0.10	----
30-138	3/8" x 3/4"	1.25	0.25*	0.12	----
30-139	1/2" x 3/4"	1.49	0.81	0.14	----

* Internal Hex

50GHSV 51GHSV W1 68H 191

COMPRESSION X FGH

•WASHER INCLUDED



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

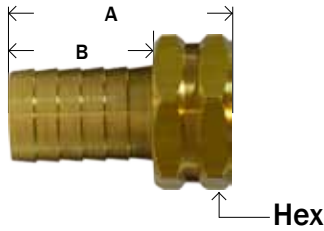
Part #	No Swivel Compression x MGH	A	Hex 1	Hex 2	Approx. Wt. Lbs.	
30-135	1/4" x 3/4"	1.45	0.50	0.625	0.14	----
30-136	3/8" x 3/4"	1.525	0.625	0.62	0.15	----
30-137	1/2" x 3/4"	1.8	0.815	0.685	0.19	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BARSTOCK BRASS GARDEN HOSE COUPLINGS

FEMALE SWIVEL ONLY

•WASHER INCLUDED



BRASS

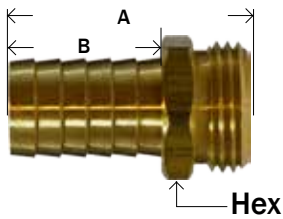
Part #	Hose Barb x FGH	A	B	Hex	Approx. Wt. Lbs.	
30-031	3/8" x 3/4"	1.82	1.19	1.18	0.11	----
30-032	1/2" x 3/4"	1.82	1.19	1.18	0.12	----
30-033	5/8" x 3/4"	1.82	1.19	1.18	0.13	----
30-034	3/4" x 3/4"	1.82	1.19	1.18	0.15	----
30-044	1" x 3/4"	2.10	1.19	1.18	0.18	----
30-035	1" x 1"	2.28	1.47	1.50	0.18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



STAINLESS STEEL 316

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

MALE END ONLY



BRASS

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



STAINLESS STEEL 316

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

GARDEN HOSE COUPLING

•WASHER INCLUDED



BRASS

Part #	Hose Barb	
30-025	3/8"	----
30-027	1/2"	----
30-028	5/8"	----
30-029	3/4"	----
30-046	1"(3/4" threads)	----
30-030	1"	----



STAINLESS STEEL 316

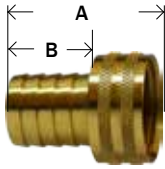
30-027SS	1/2"	----
30-028SS	5/8"	----
30-029SS	3/4"	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

GARDEN HOSE

BRASS FITTINGS

FEMALE SWIVEL ONLY - Short Shank Knurled Nut



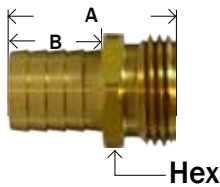
	Part #	Hose Barb x FGH	A	B	Approx. Wt. Lbs.	
NEW	30-464	1/4" x 3/4"	1.39	0.77	0.09	
	30-466	1/2" x 3/4"	1.50	0.88	0.08	----
	30-467	5/8" x 3/4"	1.50	0.88	0.09	----
	30-468	3/4" x 3/4"	1.47	0.88	0.10	----

FEMALE END ONLY - Short Shank w/ hex



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

MALE END ONLY - Short Shank



	Part #	Hose Barb x MGH	A	B	Hex	Approx. Wt. Lbs.	
NEW	30-469	1/4" x 3/4"	1.55	0.88	1.06	0.11	
	30-471	1/2" x 3/4"	1.55	0.88	1.06	0.11	----
	30-472	5/8" x 3/4"	1.56	0.88	1.06	0.12	----
	30-473	3/4" x 3/4"	1.56	0.88	1.06	0.13	----

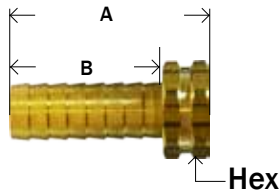
GARDEN HOSE COUPLING SETS - Short Shank w/ hex nut



Part #	Hose Barb	
30-457	1/2"	----
30-458	5/8"	----
30-459	3/4"	----

FEMALE SWIVEL ONLY - 2" SHANK

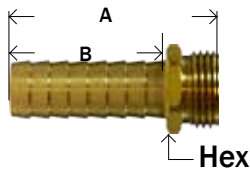
•WASHER INCLUDED



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

GHFL 594

MALE END ONLY - 2" SHANK



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

GHML 593

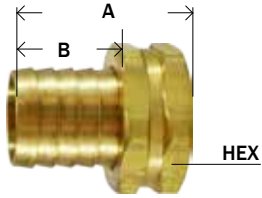
GARDEN HOSE COUPLING SETS - 2" SHANK



Part #	Hose x FGH	
30-516	1/2"	----
30-517	5/8"	----
30-518	3/4"	----

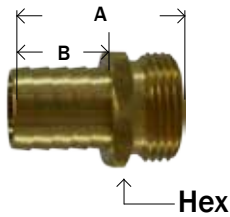
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

NPSM FEMALE SHORT SHANK



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

NPSM MALE SHORT SHANK



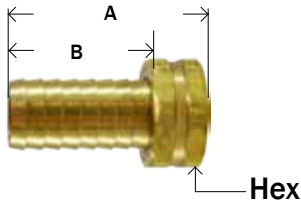
Part #	Hose ID	NPSM Thread	A	B	Hex	
30-550	1/2	3/4"	1.56	0.88	1.06	----
30-551	5/8	3/4"	1.56	0.88	1.06	----
30-552	3/4	3/4"	1.56	0.88	1.06	----
30-553	1	1"	1.77	0.98	1.30	----

NPSM SHORT SHANK SETS



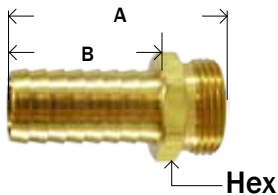
Part #	Size	
30-540	1/2"	----
30-541	5/8"	----
30-542	3/4"	----
30-543	1"	----

NPSM FEMALE LONG SHANK



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

NPSM MALE LONG SHANK



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

NPSM LONG SHANK SETS



Part #	Size	
30-560	1/2"	----
30-561	5/8"	----
30-562	3/4"	----
30-563	1"	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

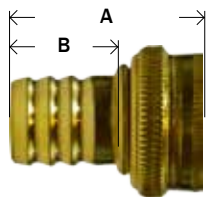
GARDEN HOSE VALVES/ FITTINGS

BRASS FITTINGS

WROUGHT BRASS

WROUGHT BRASS - Female end only

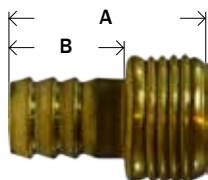
• WASHER INCLUDED



Part #	Hose Barb x FGH	A	B	Approx. Wt. Lbs.	
30-526	5/8" x 3/4"	1.58	0.91	0.05	----

85L

WROUGHT BRASS COUPLINGS - Male end only



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

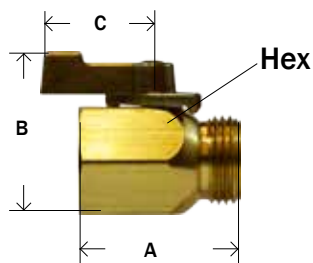
85M

GARDEN HOSE VALVES

ONE WAY BRASS BALL VALVE - FGH x MGH

• 500 PSI • 180°F

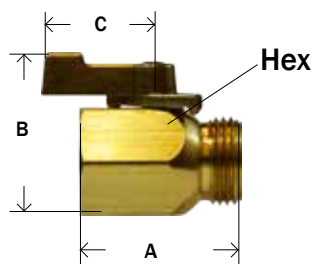
• WASHER INCLUDED



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

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.	
30-162	3/4" x 3/4"	1.55	1.89	1.31	1.06	0.42	----

ZINC ALLOY HOSE SHUT-OFF W/ ONE LEVER

• WASHER INCLUDED



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

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS FITTINGS

GARDEN HOSE VALVES

PLASTIC GARDEN HOSE VALVE

• CYCOLAC BODY & BALL

• WASHER INCLUDED

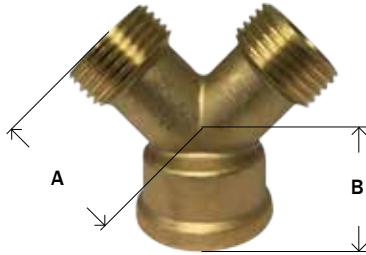


Part #	FGH x MGH	A	Hex	Approx. Wt. Lbs.	
30-163	3/4" x 3/4"	1.75	1.25	0.04	----

LA450C

CAST BRASS HOSE - "Y" CONNECTOR

• WASHER INCLUDED

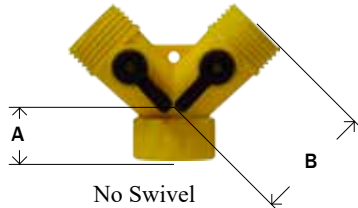


Part #	Size FGH x MGH(2)	A	B	Approx. Wt. Lbs.	
30-140	3/4"	1.40	0.67	0.22	----

86Y 21A

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

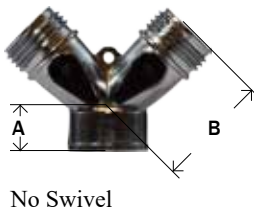
• WASHER INCLUDED



Part #	Size FGH x MGH(2)	A	B	Approx. Wt. Lbs.	
30-160	3/4"	0.74	1.87	0.08	----

"Y" SHAPE ZINC ALLOY CONNECTOR W/ TWO LEVERS

• WASHER INCLUDED



Part #	Size FGH x MGH(2)	A	B	Approx. Wt. Lbs.	
30-626	3/4"	0.60	1.66	0.10	----

No Swivel

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

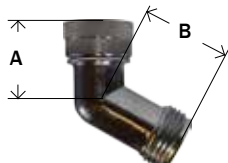
• WASHER INCLUDED



• Brass Levers

Part #	Size	Description FGH Swivel x MGH(2)	Approx. Wt. Lbs.	
30-627	3/4"	3/4 Double Y valve, swivel inlet	0.56	----

ZINC ALLOY SWIVEL HOSE CONNECTOR



Part #	Size FGH x MGH	A	B	Approx. Wt. Lbs.	
30-629	3/4"	1.31	1.50	0.08	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS

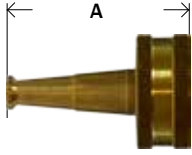


GARDEN HOSE NOZZLES

BRASS FITTINGS

2-1/2" BRASS NOZZLE

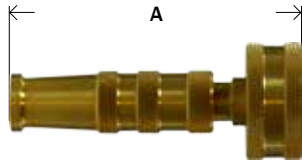
• WASHER INCLUDED



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

3" CROSSED PATTERN BRASS NOZZLE

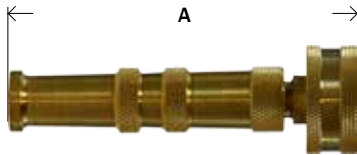
• WASHER INCLUDED



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

4" CROSSED PATTERN BRASS NOZZLE

• WASHER INCLUDED



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

• WASHER INCLUDED



5-1/2

Adjustable Spray

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

• WASHER INCLUDED



4-1/4

Lead Free

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

• WASHER INCLUDED



5-1/4

Lead Free
Adjustable Spray

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

• WASHER INCLUDED



4-1/2

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

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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 163-164

Actual O.D. of Flare Fittings



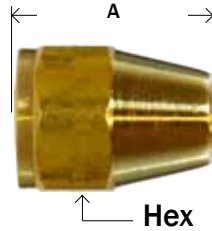
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

SAE 45° FLARE

BRASS FITTINGS

SHORT ROD NUT

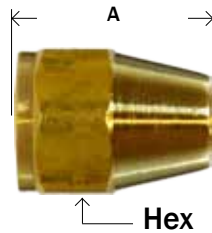
SAE# 010110



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

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

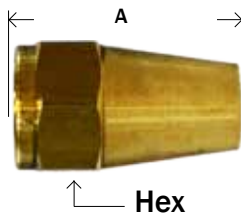
REDUCING SHORT ROD NUT



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

LONG ROD NUT

SAE# 010111



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

41FL N2 241 441 41

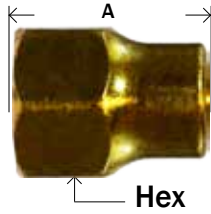
**"L" means light pattern.**

-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.

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

LONG FORGED NUT

SAE# 010167



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

41FF 39 N4 14FL 641

SHORT FORGED NUT

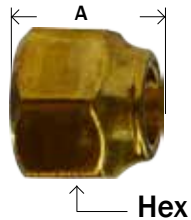
SAE# 010166



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

14FS 41FFS 40 641-S 1116 NSA

EXTRA HEAVY SHORT FORGED NUT



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

NSA

FORGED REDUCING NUT



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

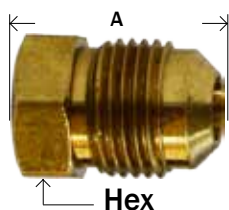
NSR4 14FS 41FRS 40R 662-S

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

SAE 45° FLARE

BRASS FITTINGS

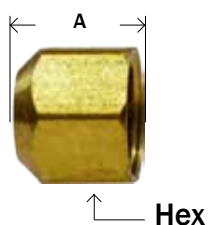
FLARED PLUG



	Part #	Thread Size UNF	A	Hex	Approx. Wt. Lbs.	
NEW	10-062	1/8"	0.53	0.34	0.01	
	10-063	3/16"	0.59	0.50	0.02	----
	10-064 *	1/4"	0.69	0.43	0.02	----
	10-065 *	5/16"	0.78	0.50	0.04	----
	10-066 *	3/8"	0.88	0.62	0.06	----
	10-067	1/2"	1.06	0.75	0.10	----
	10-068	5/8"	1.19	0.87	0.14	----
	10-069	3/4"	1.32	1.06	0.22	----

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

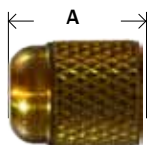
FLARED CAP



	Part #	Thread Size UNF	A	Hex	Approx. Wt. Lbs.	
NEW	10-073	1/8"	0.46	0.37	0.02	
	10-074	3/16"	0.47	0.50	0.02	----
	10-075 *	1/4"	0.48	0.50	0.02	----
NEW	10-075EH	1/4"	0.54	0.57	0.02	
	10-076	5/16"	0.62	0.62	0.04	----
	10-077 *	3/8"	0.58	0.75	0.03	----
	10-078	1/2"	0.69	0.81	0.14	----
	10-079	5/8"	0.81	0.94	0.20	----
	10-080	3/4"	1.17	1.37	0.30	----

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

FINGER TIGHTENING CAP



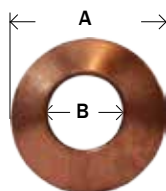
	Part #	Thread Size UNF	A	Approx. Wt. Lbs.	
	10-081	1/4"	0.62	0.02	----
NEW	10-082	3/8"	0.70	0.03	

- Neoprene
- O-Ring Included

NFT5

COPPER GASKET

SAE# 010113



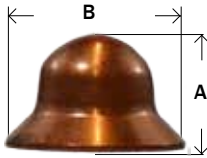
Part #	Size	A	B	Approx. Wt. Lbs.	
10-084	3/16"	0.31	0.12	0.01	----
10-085	1/4"	0.36	0.19	0.01	----
10-086	5/16"	0.42	0.22	0.01	----
10-087	3/8"	0.55	0.28	0.01	----
10-088	1/2"	0.66	0.41	0.01	----
10-089	5/8"	0.77	0.50	0.01	----
10-090	3/4"	0.95	0.62	0.01	----

B2 2GF 6251 FG 157 59 46

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

COPPER BONNET

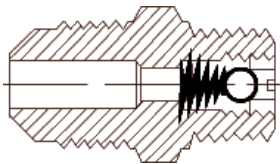
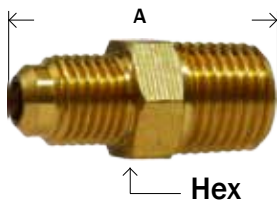
SAE# 010114



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

B1 3GF 64C 57 156 FB 695 464

MALE BALL CHECK CONNECTOR



Part #	Male Flare x Male NPTF	A	Hex	Approx. Wt. Lbs.	
10-131*	1/4" x 1/8"	1.06	0.43	0.04	----
10256WC	1/4" x 1/4"	1.24	0.6	0.04	----
10-133*	3/8" x 1/4"	1.31	0.62	0.08	----
10-132	5/16" x 1/8"	1.14	0.50	0.04	----

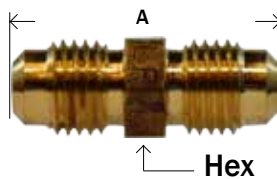
NEW

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.	
10-104	1/8"	0.91	0.31	0.02	----
10-105	3/16"	1.06	0.37	0.02	----
10-106L	1/4"	1.19	0.43	0.03	----
10-106 *	1/4"	1.19	0.43	0.03	----
10-106EH	1/4"	1.55	0.56	0.05	----
10-107	5/16"	1.34	0.50	0.05	----
10-108L	3/8"	1.50	0.62	0.09	----
10-108 *	3/8"	1.50	0.62	0.09	----
10-109L	1/2"	1.67	0.75	0.12	----
10-109	1/2"	1.81	0.75	0.14	----
10-110L	5/8"	2.00	0.87	0.20	----
10-110	5/8"	2.12	0.87	0.20	----
10-111	3/4"	2.44	1.06	0.35	----
10-112	7/8"	2.72	1.25	0.52	----

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

42F U2

**"L" means light pattern.**

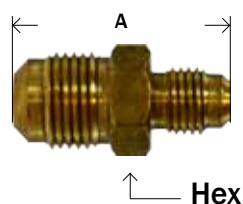
-These fittings are completely interchangeable with full pattern fittings, but have been modified in some way. This modification is usually in the length of the pipe threads. Used in plumbing and light industrial applications.

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

SAE 45° FLARE

BRASS FITTINGS

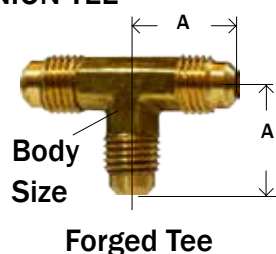
REDUCING UNION



Part #	Thread Size UNF	A	Hex	Approx. Wt. Lbs.	
10-115	1/4" x 1/8"	1.11	0.44	0.03	----
10-116	1/4" x 3/16"	1.12	0.44	0.03	----
10-117	5/16" x 1/4"	1.28	0.50	0.04	----
10-118	3/8" x 1/4"	1.38	0.62	0.06	----
10-119	3/8" x 5/16"	1.44	0.62	0.08	----
10-120	1/2" x 1/4"	1.53	0.75	0.10	----
10-121	1/2" x 3/8"	1.69	0.75	0.10	----
10-122	5/8" x 3/8"	1.88	0.87	0.17	----
10-123	5/8" x 1/2"	1.87	0.87	0.14	----
10-126	3/4" x 1/2"	2.18	1.06	0.26	----
10-127	3/4" x 5/8"	2.20	1.06	0.27	----

656F UR2 42-R

UNION TEE



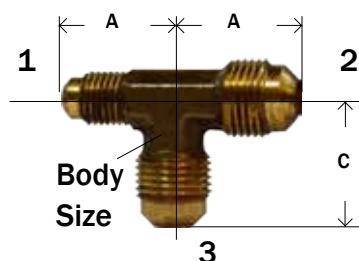
SAE# 010401

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

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

244F T2 144F

REDUCING TEE 1 x 2 x 3

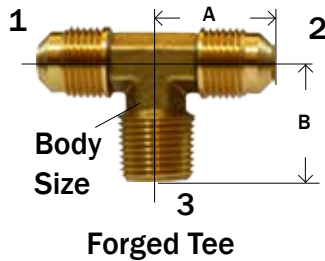


Part #	Thread Size UNF 1x2x3	A	C	Body Size	Approx. Wt. Lbs.	
10-170	1/4" x 1/4" x 3/8"	0.91	1.00	0.44	0.10	----
10-171	5/16" x 5/16" x 1/4"	0.94	0.94	0.44	0.12	----
10-172	3/8" x 1/4" x 1/4"	0.91	1.00	0.44	0.10	----
10-173	3/8" x 1/4" x 3/8"	1.00	0.91	0.44	0.12	----
10-174	3/8" x 3/8" x 1/4"	1.00	0.88	0.44	0.11	----
10-175	3/8" x 3/8" x 1/2"	1.00	1.19	0.59	0.14	----
10-176	3/8" x 3/8" x 5/8"	1.16	1.44	0.69	0.16	----
10-178	1/2" x 3/8" x 3/8"	1.16	1.12	0.59	0.18	----
10-179	1/2" x 3/8" x 1/2"	1.16	1.09	0.59	0.18	----
10-180	1/2" x 1/2" x 1/4"	1.16	0.97	0.59	0.18	----
10-181	1/2" x 1/2" x 3/8"	1.16	1.12	0.59	0.19	----
10-182	1/2" x 1/2" x 5/8"	1.28	1.41	0.69	0.28	----
10-187	5/8" x 1/2" x 5/8"	1.44	1.33	0.69	0.27	----
10-188	5/8" x 5/8" x 3/8"	1.38	1.16	0.69	0.30	----
10-189	5/8" x 5/8" x 1/2"	1.38	1.28	0.69	0.28	----
10-197	3/4" x 3/4" x 5/8"	1.66	1.50	0.88	0.36	----

144F TR2 659F 684F 44R

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

MALE BRANCH TEE
SAE# 010425

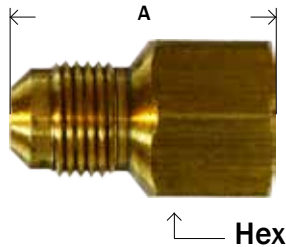


Part #	Male Flare x Male NPT (1&2)x3	A	B	Body Size	Approx. Wt. Lbs.	List Price
10-203	3/16" x 1/8"	0.75	0.75	0.36	0.10	----
10-204	1/4" x 1/8"	0.78	0.75	0.36	0.05	----
10-205	1/4" x 1/4"	0.88	0.88	0.44	0.08	----
10-206	1/4" x 3/8"	0.92	1.00	0.47	0.10	----
10-207	5/16" x 1/8"	0.89	0.78	0.44	0.08	----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

** 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	----
10-228L	1/4" x 1/8"	1.03	0.56	0.03	----
10-228	1/4" x 1/8"	1.03	0.56	0.04	----
10-229L	1/4" x 1/4"	1.06	0.68	0.06	----
10-229	1/4" x 1/4"	1.23	0.68	0.07	----
10-230	1/4" x 3/8"	1.18	0.81	0.08	----
10-231	1/4" x 1/2"	1.31	0.94	0.06	----
10-232	5/16" x 1/8"	1.06	0.56	0.05	----
10-233	5/16" x 1/4"	1.28	0.68	0.08	----
10-234	3/8" x 1/8"	1.09	0.62	0.08	----
10-235L	3/8" x 1/4"	1.25	0.68	0.08	----
10-235	3/8" x 1/4"	1.31	0.81	0.08	----
10-236L	3/8" x 3/8"	1.25	0.81	0.08	----
10-236	3/8" x 3/8"	1.25	0.81	0.10	----
10-237L	3/8" x 1/2"	1.31	0.94	0.08	----
10-237	3/8" x 1/2"	1.60	1.00	0.16	----
10-238	3/8" x 3/4"	1.41	1.18	0.11	----
10-239	1/2" x 1/4"	1.37	0.75	0.10	----
10-240L	1/2" x 3/8"	1.38	0.81	0.12	----
10-240	1/2" x 3/8"	1.50	0.81	0.14	----
10-241L	1/2" x 1/2"	1.42	0.94	0.10	----
10-241	1/2" x 1/2"	1.75	1.00	0.12	----
10-242L	1/2" x 3/4"	1.40	1.10	0.16	----
10-242	1/2" x 3/4"	1.60	1.12	0.16	----
10-243	5/8" x 3/8"	1.24	0.87	0.12	----
10-244L	5/8" x 1/2"	1.51	0.86	0.15	----
10-244	5/8" x 1/2"	1.62	0.94	0.12	----
10-245	5/8" x 3/4"	1.65	1.12	0.17	----
10-246	3/4" x 1/2"	1.74	1.18	0.32	----
10-247	3/4" x 3/4"	1.75	1.18	0.22	----
10-248	7/8" x 3/4"	1.94	1.31	0.26	----

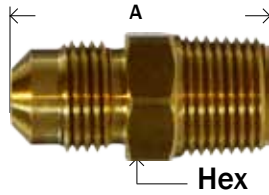
Key "L" means light pattern.
-These fittings are completely interchangeable with full pattern fittings, but have been modified in some way. This modification is usually in the length of the pipe threads. Used in plumbing and light industrial applications.

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

SAE 45° FLARE

BRASS FITTINGS

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	----
10-254	3/16" x 1/8"	1.00	0.43	0.03	----
10-255L	1/4" x 1/8"	1.06	0.43	0.03	----
10-255 *	1/4" x 1/8"	1.06	0.43	0.04	----
NEW 10-255EH	1/4" x 1/8"	1.06	0.44	0.03	----
10-256L	1/4" x 1/4"	1.15	0.56	0.03	----
10-256 *	1/4" x 1/4"	1.25	0.56	0.04	----
10-257 *	1/4" x 3/8"	1.31	0.68	0.06	----
10-258	1/4" x 1/2"	1.44	0.87	0.11	----
10-259L	5/16" x 1/8"	1.15	0.50	0.04	----
10-259	5/16" x 1/8"	1.16	0.50	0.04	----
10-260L	5/16" x 1/4"	1.31	0.56	0.06	----
10-260	5/16" x 1/4"	1.34	0.56	0.06	----
10-261 *	5/16" x 3/8"	1.38	0.68	0.08	----
10-262	3/8" x 1/8"	1.25	0.62	0.07	----
10-263L	3/8" x 1/4"	1.31	0.62	0.06	----
10-263 *	3/8" x 1/4"	1.44	0.62	0.08	----
10-264L	3/8" x 3/8"	1.37	0.68	0.09	----
10-264 *	3/8" x 3/8"	1.42	0.68	0.09	----
10-265L	3/8" x 1/2"	1.44	0.89	0.12	----
10-265 *	3/8" x 1/2"	1.69	0.87	0.14	----
10-266	3/8" x 3/4"	1.81	1.06	0.18	----
10-267	1/2" x 1/4"	1.60	0.75	0.11	----
10-268L	1/2" x 3/8"	1.46	0.75	0.10	----
10-268	1/2" x 3/8"	1.62	0.75	0.12	----
10-269L	1/2" x 1/2"	1.62	0.87	0.13	----
10-269	1/2" x 1/2"	1.79	0.87	0.15	----
10-270	1/2" x 3/4"	1.75	1.06	0.22	----
10-271	5/8" x 1/4"	1.81	0.87	0.14	----
10-272L	5/8" x 3/8"	1.67	0.87	0.14	----
10-272	5/8" x 3/8"	1.81	0.87	0.18	----
10-273L	5/8" x 1/2"	1.80	0.87	0.11	----
10-273	5/8" x 1/2"	2.00	0.87	0.20	----
10-274	5/8" x 3/4"	1.85	1.06	0.21	----
10-275	3/4" x 1/2"	2.19	1.06	0.28	----
10-276	3/4" x 3/4"	2.08	1.06	0.28	----
10-277	7/8" x 1/2"	2.22	1.25	0.52	----
10-278	7/8" x 3/4"	2.35	1.25	0.41	----
10-279	1" x 3/4"	2.44	1.43	0.53	----
10-280	1" x 1"	2.44	1.43	0.53	----

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

U1 48



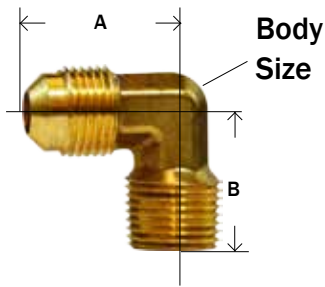
"L" means light pattern.

-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.

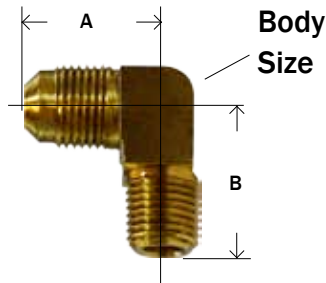
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

90° MALE ELBOW

SAE# 010202



Forged Elbow



Barstock Elbow

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	----
10-283B*	1/8" x 1/8"	0.62	0.69	0.43	0.04	----
10-284	3/16" x 1/8"	0.75	0.75	0.38	0.04	----
10-284B*	3/16" x 1/8"	0.75	0.75	0.43	0.06	----
10-285	3/16" x 1/4"	0.81	0.88	0.44	0.08	----
10-286	1/4" x 1/8"	0.84	0.78	0.38	0.04	----
10-286L	1/4" x 1/8"	0.96	0.80	0.37	0.04	----
10-286B*	1/4" x 1/8"	0.81	0.78	0.47	0.05	----
10-287 **	1/4" x 1/4"	0.81	0.88	0.44	0.05	----
10-287B*	1/4" x 1/4"	0.91	0.93	0.59	0.08	----
10-288 **	1/4" x 3/8"	0.91	0.91	0.47	0.08	----
10-289	1/4" x 1/2"	1.03	1.09	0.59	0.10	----
10-290	5/16" x 1/8"	0.91	0.88	0.44	0.06	----
10-290B*	5/16" x 1/8"	0.91	0.78	0.52	0.06	----
10-291	5/16" x 1/4"	0.98	0.96	0.44	0.08	----
10-291B*	5/16" x 1/4"	0.95	0.92	0.62	0.08	----
10-292	5/16" x 3/8"	1.06	1.09	0.59	0.08	----
10-293	3/8" x 1/8"	1.00	0.91	0.53	0.08	----
10-293B*	3/8" x 1/8"	1.03	0.91	0.65	0.08	----
10-294	3/8" x 1/4"	1.01	0.89	0.48	0.08	----
10-294B*	3/8" x 1/4"	0.97	1.04	0.68	0.11	----
10-295 **	3/8" x 3/8"	1.00	0.88	0.47	0.10	----
10-295L	3/8" x 3/8"	0.95	0.89	0.46	0.11	----
10-295B*	3/8" x 3/8"	1.06	1.09	0.69	0.12	----
10-296 **	3/8" x 1/2"	1.10	1.09	0.59	0.12	----
10-297	3/8" x 3/4"	1.25	1.31	0.81	0.12	----
10-298	1/2" x 1/4"	1.19	1.00	0.59	0.12	----
10-298B*	1/2" x 1/4"	1.22	1.19	0.81	0.12	----
10-299	1/2" x 3/8"	1.10	1.00	0.59	0.13	----
10-299B*	1/2" x 3/8"	1.22	1.12	0.77	0.18	----
10-300	1/2" x 1/2"	1.16	1.13	0.59	0.14	----
10-300B*	1/2" x 1/2"	1.26	1.26	0.94	0.26	----
10-301	1/2" x 3/4"	1.42	1.25	0.81	0.24	----
10-311	5/8" x 1/4"	1.34	1.13	0.72	0.28	----
10-302	5/8" x 3/8"	1.35	1.22	0.72	0.20	----
10-302B*	5/8" x 3/8"	1.41	1.25	0.94	0.20	----
10-303	5/8" x 1/2"	1.35	1.22	0.72	0.20	----
10-303L	5/8" x 1/2"	1.29	1.11	0.70	0.20	----
10-303B*	5/8" x 1/2"	1.41	1.38	0.94	0.20	----
10-304	5/8" x 3/4"	1.44	1.31	0.81	0.25	----
10-305	3/4" x 1/2"	1.67	1.50	0.88	0.34	----
10-306	3/4" x 3/4"	1.67	1.63	0.88	0.30	----
10-306B*	3/4" x 3/4"	1.60	1.62	0.91	0.32	----
10-307	7/8" x 3/4"	1.75	1.68	1.00	0.44	----
10-308	1" x 3/4"	1.94	1.69	1.31	0.75	----
10-309	1" x 1"	1.94	1.75	1.25	0.78	----

* Barstock

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

249F 49 E1 149F

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

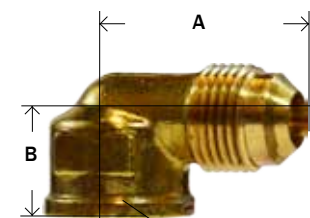


SAE 45° FLARE

BRASS FITTINGS

90° FEMALE ELBOW

SAE# 010203

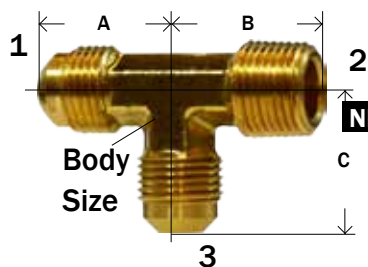


Part #	Male Flare x Female NPTF	A	B	Body Size	Approx. Wt. Lbs.	List Price
10-312	3/16" x 1/8"	0.81	0.44	0.56	0.05	----
10-313	1/4" x 1/8"	0.90	0.46	0.56	0.06	----
NEW 10-313B*	1/4" x 1/8"	0.95	0.46	0.56	0.06	----
10-314	1/4" x 1/4"	0.97	0.59	0.75	0.08	----
NEW 10-314B*	1/4" x 1/4"	0.95	0.66	0.75	0.08	----
10-315	1/4" x 3/8"	1.03	0.57	0.81	0.09	----
10-333	1/4" x 1/2"	1.08	0.66	1.00	0.12	----
10-316	5/16" x 1/8"	0.94	0.88	0.45	0.08	----
NEW 10-306B*	5/16" x 1/8"	0.94	0.87	0.56	0.07	----
10-317	5/16" x 1/4"	1.03	0.58	0.75	0.06	----
10-318	3/8" x 1/8"	1.00	0.88	0.47	0.10	----
10-319	3/8" x 1/4"	1.06	0.59	0.75	0.09	----
NEW 10-319B*	3/8" x 1/4"	1.15	0.73	0.68	0.14	----
10-320	3/8" x 3/8"	1.06	0.57	0.81	0.10	----
NEW 10-320B*	3/8" x 3/8"	1.10	0.75	0.82	0.16	----
10-321	3/8" x 1/2"	1.16	0.66	1.00	0.14	----
10-321L	3/8" x 1/2"	1.21	0.42	0.96	0.13	----
10-322	3/8" x 3/4"	1.28	0.72	1.25	0.12	----
10-323	1/2" x 1/4"	1.25	0.70	0.88	0.13	----
10-324	1/2" x 3/8"	1.25	0.70	0.88	0.12	----
NEW 10-324B*	1/2" x 3/8"	1.26	0.75	0.88	0.16	----
10-325	1/2" x 1/2"	1.29	0.72	1.00	0.18	----
10-325L	1/2" x 1/2"	1.24	0.71	0.98	0.17	----
10-326	1/2" x 3/4"	1.41	0.72	1.25	0.20	----
10-327	5/8" x 3/8"	1.35	1.22	0.72	0.22	----
10-328	5/8" x 1/2"	1.38	0.75	1.00	0.20	----
10-329	5/8" x 3/4"	1.50	0.76	1.25	0.28	----
10-330	3/4" x 1/2"	1.63	1.06	1.06	0.42	----
10-331	3/4" x 3/4"	1.88	1.06	1.31	0.40	----

* Barstock

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	----
10-343	3/16" x 1/8"	0.75	0.75	0.75	0.37	0.05	----
10-344	1/4" x 1/8"	0.78	0.75	0.78	0.37	0.06	----
NEW 10-344B*	1/4" x 1/8"	0.90	0.76	0.86	0.37	0.07	----
10-345	1/4" x 1/4"	0.88	0.88	0.88	0.44	0.08	----
10-347	5/16" x 1/8"	0.88	0.80	0.88	0.44	0.08	----
10-348	5/16" x 1/4"	0.94	0.94	0.94	0.44	0.08	----
10-350	3/8" x 1/4"	1.00	0.94	1.00	0.44	0.12	----
10-351	3/8" x 3/8"	1.00	1.00	1.00	0.47	0.10	----
10-340	3/8" x 1/2" x 3/8"	1.09	1.09	1.16	0.59	0.18	----
10-352	3/8" x 1/2"	1.12	1.22	1.12	0.69	0.12	----
10-353	1/2" x 3/8" x 1/2"	1.22	1.22	1.15	0.69	0.22	----
10-354	1/2" x 3/8"	1.16	1.09	1.16	0.59	0.18	----
10-355	1/2" x 1/2"	1.22	1.22	1.22	0.69	0.22	----
10-357	5/8" x 1/2"	1.41	1.31	1.41	0.69	0.28	----
10-359	3/4" x 1/2"	1.63	1.59	1.63	0.88	0.48	----
10-360	3/4" x 3/4"	1.62	1.44	1.62	0.88	0.48	----

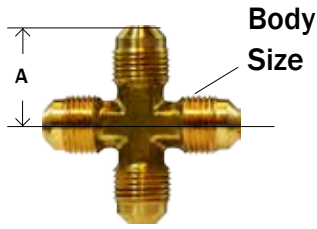
* Barstock

T3 151F 51

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

FORGED FLARE CROSS

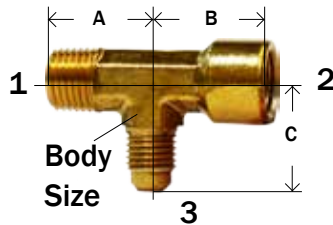
SAE# 010501



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

455 C1 147F 52

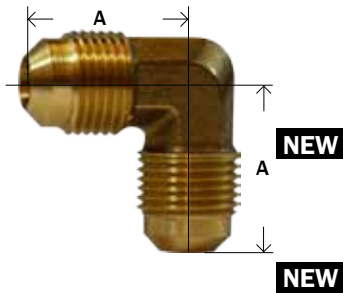
FORGED ADAPTER TEE / SERVICE TEE



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	----
10-383	1/4" x 1/4" x 1/4"	0.88	1.00	0.91	0.47	0.11	----

T17 53

FORGED 90° FLARE ELBOW

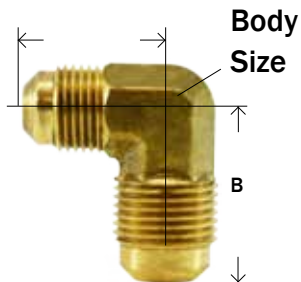


Part #	Thread Size UNF	A	Approx. Wt. Lbs.	List Price
10-404	1/8"	0.64	0.04	----
10-405	3/16"	0.75	0.06	----
10-406	1/4"	0.81	0.08	----
NEW 10-406B*	1/4"	0.89	0.04	----
10-407	5/16"	0.91	0.10	----
10-408	3/8"	1.00	0.10	----
10-409	1/2"	1.16	0.14	----
NEW 10-409B*	1/2"	1.23	0.22	----
10-410	5/8"	1.41	0.22	----
10-411	3/4"	1.66	0.68	----
10-412	7/8"	1.81	0.82	----

* Barstock

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	----
10-419	1/2" x 3/8"	1.19	1.02	0.59	0.14	----
10-421	5/8" x 1/2"	1.34	1.23	0.72	0.21	----

ER2 657F 55R

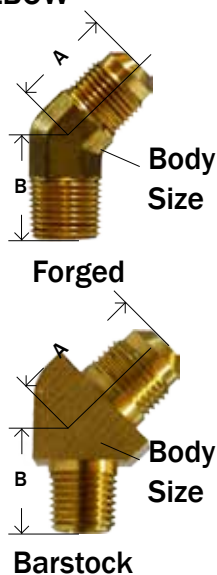
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

SAE 45° FLARE

BRASS FITTINGS

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	----
10-448B*	1/4" x 1/8"	0.67	0.64	0.44	0.04	----
10-449	1/4" x 1/4"	0.75	0.86	0.53	0.07	----
10-450	5/16" x 1/8"	0.78	0.64	0.53	0.06	----
10-451	5/16" x 1/4"	0.81	0.86	0.53	0.07	----
10-452	3/8" x 1/4"	0.91	0.86	0.53	0.09	----
10-452B*	3/8" x 1/4"	0.89	0.86	0.64	0.12	----
10-453	3/8" x 3/8"	0.93	0.94	0.59	0.11	----
10-454	3/8" x 1/2"	0.99	1.17	0.75	0.19	----
10-455	1/2" x 3/8"	1.07	0.88	0.59	0.12	----
10-455B*	1/2" x 3/8"	1.06	0.94	0.76	0.18	----
10-456	1/2" x 1/2"	1.12	1.18	0.75	0.20	----
10-460	5/8" x 3/8"	1.13	0.95	0.81	0.22	----
10-457	5/8" x 1/2"	1.12	1.17	0.78	0.18	----
10-458	3/4" x 1/2"	1.28	1.16	0.88	0.26	----
10-459	3/4" x 3/4"	1.41	1.20	0.88	0.31	----

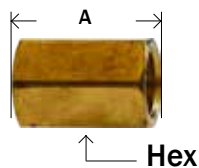
* Barstock

E145 54 159F 654F 59FF 254 47 4945

FEMALE 45° FLARE FITTINGS

UNION

• Use with Copper Gasket



SAE# 010107

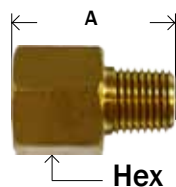
NEW
NEW

Part #	Female Flare x Female Flare	A	Hex	Approx. Wt. Lbs.	List Price
10-135	1/4"	1.00	0.62	0.06	----
10-136	3/8"	1.25	0.81	0.14	----
10-137	1/2"	1.43	0.94	0.18	----
10-138	5/8"	1.69	1.07	0.24	----
10-139	3/4"	2.00	1.31	0.42	----

2310 U4 660HD 32

FEMALE FLARE ADAPTER

SAE# 010106

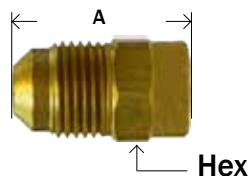


Part #	Female Flare x Male NPTF	A	Hex	Approx. Wt. Lbs.	List Price
10-440	1/4" x 1/8"	0.91	0.62	0.05	----
10-441	1/4" x 1/4"	1.01	0.62	0.06	----
10-442	3/8" x 1/4"	1.28	0.81	0.10	----
10-443	1/2" x 3/8"	1.36	0.94	0.14	----
10-444	1/2" x 1/2"	1.46	0.94	0.14	----

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	----
10-461	1/4" x 1/2"	1.36	0.94	0.14	----
10-463 *	3/8" x 1/4"	1.12	0.62	0.06	----
10-464	3/8" x 1/2"	1.44	0.94	0.14	----
10-473	3/8" x 5/8"	1.63	1.12	0.16	----
10-467	1/2" x 3/8"	1.41	0.81	0.13	----
10-468	1/2" x 5/8"	1.68	1.06	0.20	----
10-469	5/8" x 1/2"	1.63	1.00	0.17	----
10-470	5/8" x 3/4"	1.97	1.31	0.31	----
10-471	3/4" x 5/8"	1.75	1.18	0.32	----

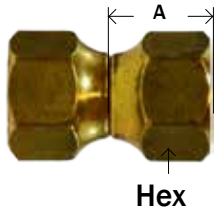
* Available in Stainless Steel. Add SS to the part#

UR3 661FHD 227 46-FF

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS FLARE SWIVEL FITTINGS

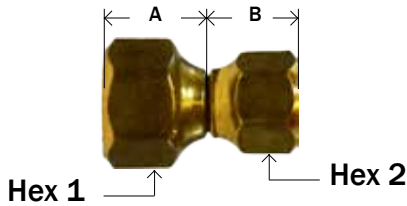
FORGED SWIVEL
SAE# 010108



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

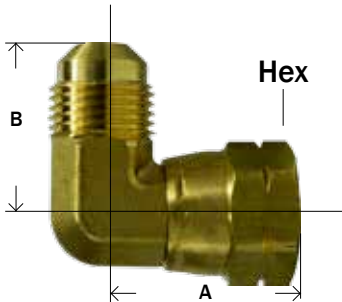
1350 US4 14FSV 34

REDUCING SWIVELS



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	----
10-488	1/2" x 3/8"	0.84	0.70	0.94	0.81	0.12	----
10-489	5/8" x 1/2"	0.98	0.82	1.03	0.94	0.22	----

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	----
10-494	3/8"	1.13	1.1	.75	0.20	----
10-495	1/2"	1.29	1.20	.88	0.25	----
10-496	5/8"	1.50	1.30	1.00	0.37	----
10-497	3/4"	1.83	1.60	1.25	0.54	----

ES4

FLARE SWEAT FITTINGS



Part #	Flare x Sweat	List Price
10-600	1/4" x 1/4"	----
10-602	1/4" x 3/8"	----
10-620	3/8" x 1/4"	----
10-612	3/8" x 3/8"	----
10-613	3/8" x 1/2"	----
10-621	1/2" x 1/2"	----
10-611	1/2" x 5/8"	----
10-614	5/8" x 5/8"	----
10-622	5/8" x 7/8"	----
10-615	3/4" x 3/4"	----
10-616	3/4" x 7/8"	----
10-617	7/8" x 7/8"	----
10-618	1" x 1-1/8"	----
10-619	1-1/8" x 1-1/8"	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

SPACE HEATER/ GAS RANGE FITTINGS

BRASS FITTINGS

SPACE HEATER FITTINGS

NUT

9/16-24 FINE THREAD FLARE

#M-82SH



Part #	Size	
14-001	3/8	----

#M-83SH

MALE ADAPTER



Part #	Size	
14-016	3/8 x 3/8	----
14-017	3/8 x 1/2	----

#M-80SH

FEMALE ADAPTER



Part #	Size	
14-018	3/8 x 3/8	----
14-025	3/8 x 1/2	----

UNION



Part #	Size	
14-011	3/8	----

BRASS GAS RANGE FITTINGS

BRASS MALE ADAPTERS

15/16-16 FLARE THREAD



Part #	Male Flare x Male NPTF	
35-130	3/8" x 3/8"(1/8 Tap)	----
35-133	3/8" x 3/8"(1/4 Tap)	----
35-131	3/8" x 1/2"(3/8 Tap)	----
35-132	1/2" x 1/2" (3/8" FIP TAP)	----
35-134	15/16" x 1/2"	----
35-135	15/16" x 3/4" (1/2" FIP TAP)	----

NEW

NEW

NEW

BRASS FEMALE ADAPTERS



Part #	Flare x FIP	
35-136	15/16" x 1/2"	----
35-142	15/16" x 3/4"	----

CAP



Part #	Size	
35-186	15/16"	----

DRUM ADAPTERS



- Straight Thread

SAE# 010165

Part #	Male Flare x FIP	
50-011	1/4" x 1/2"	----
50-001	1/4" x 3/4"	----

RD IF K1

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

TEE CONNECTION



Part #	Pipe Size	
34-001	1/4" Inverted flare x 1/4" MPT	----

41-1-390-0014 2000

TAILPIECE WITH FLATS

1/4 NPT



Part #	Description	
34-011	2.34 w/ wrench Flats	----
34-012	2.13 w/ Hex	----

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

STANDARD NUT

7/8" Hex



Part #	Pipe Size	
34-016	.880-14 LH	----

2001B

TAILPIECE & NUT ASSEMBLY



Part #	Pipe Size	
34-022	1/4	----

2002AB

POL CAP



Part #	Pipe Size	
34-031	.880-14LH	----

ME1699 POL2004 1004A M-2004

POL PLUG WITH CHAIN



Part #	Description	
34-141	POL PLUG WITH CHAIN	----

ME1691-1

SINGLE PIECE POL ADPATER



Part #	Description	
34-130	MALE POL X 1/4 FPT	----
34-131	MALE POL X 1/2 FPT	----

ME351 ME357

ADAPTERS



Part #	Pipe Size	
34-041	3/8 Flare x .880-14LH	----
34-046	1/2 Flare x .880-14LH	----
34-051	5/8 Flare x .880-14LH	----

ME3510 2906E 2007

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

POL FITTINGS

TAILPIECE ASSEMBLY W/HEX HEAD
NUT & STEM

NEW



Part #	Length	
34-080	1/4 NPT X POL 2 LONG HARD NOSE 2 OAL	----
34-082	MALE POL X 3/8 NPT	----

2906D ME352

NEW



Part #	Length	
34-088	MPOL HARD NOSE 9/16- 18 FE LH THREAD	----

ME1650

NEW



Part #	Length	
34-084	MPOL X 1/4 HOSE BARB 7/8 HEX	----

ME5930 970JR

SOFT NOSE TAILPIECE ASSEMBLY

NEW



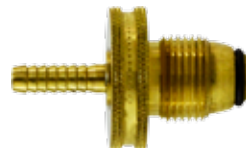
Part #	Length	
34-060	1/4 NPT X POL 2.1 LONG #60 ORIFICE	----
34-061	1/4 MPT X POL SOFT NOSE 2-1/2	----
34-062	1/4 NPT POL SOFT NOSE #60 ORIFICE 2.3 LONG	----
34-063	POL X 9/16-18 LH TAILPIECE SOFT NOSE	----
34-064	1/4 NPT X POL SOFT NOSE 2 3/8 LONG	----

ME1638 2003-T-GH-60 2002 2018-L 2003-T 9705

BRASS FITTINGS

HAND WHEEL POL ADAPTERS

NEW



Part #	Length	
34-065	MPOL SOFT NOSE X 1/4 HOSE BARB BR. WHEEL	----

ME1656AR

NEW



Part #	Length	
34-072	1/4 MPT POL SOFT NOSE W/PLASTIC WHEEL	----

ME1654

NEW



Part #	Length	
34-073	1/4 MPT POL SOFT NOSE WITH BRASS WHEEL	----

ME1654AR

NEW



Part #	Length	
34-074	MPOL SOFT NOSE X 1/4 HB W/PLASTIC WHEEL	----

ME1656

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

PROPANE MOTOR FUEL FILL ADAPTER

NEW



• Allows a standard POL fitting to be adapted to fill an engine fuel tank.

Part #	Length	
34-079	FE POL X 1 3/4 ACME FUEL FILL ADPT	----

ME458 2017

FEMALE POL X MIP ADAPTER

NEW



Part #	Length	
34-111	1/4 MPT X FE POL ADAPTER	----
34-112	3/8 MPT X FE POL ADAPTER	----
34-113	1/2 MPT X FE POL ADAPTER	----
34-114	3/4 MPT X FE POL ADAPTER	----

2011-B ME285 2011-D 2011-E

FEMALE FPT X FEMALE POL ADAPTER

NEW



Part #	Length	
34-120	1/4 FPT X FE POL	----
34-121	3/8 FPT X FE POL	----
34-122	1/2 FPT X FE POL	----
34-123	3/4 FPT X FE POL	----

2016-B ME302 2016-D ME304

POL O-RING ONLY

NEW



Part #	Length	
34-143	POL O-RING ONLY	----

C5-OR-POL 568-110-01

POL PLASTIC DUST PLUG

NEW



Part #	Length	
34-160	POL PLASTIC DUST PLUG	----

ME970P

APPLIANCE TEE

NEW



• Tap & Add

Part #	Length	
34-170	M.POLXF.POL W/1-20M CYL AND 1/4 INV FLAR	----

2090

NEW



• Add an appliance

Part #	Length	
34-172	M.POLXF. POL W/1-20 MALE CYLINDER THREAD	----

2012

NEW



• With QCC1 connection

Part #	Length	
34-174	QCC1 X F. POL W/1-20 MALE CYLINDER THD	----

2013

DUAL APPLIANCE TEE

NEW



Part #	Length	
34-176	M.POL X (2) OF 1-20 MALE CYLINDER THREAD	----

2099

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

JIC 37° FLARE STRAIGHTS

BRASS FITTINGS

STRAIGHT TUBE UNION



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

SBC 132403 HTXB

FEMALE STRAIGHT ADAPTER



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

STRAIGHT



NEW

NEW

Part #	Tube OD	A NPTF	Tube Thread	L	Hex	Working Pressure	
28-701	1/4	1/8-27	7/16-20	1.22	0.45	3250 psi	----
28-702	1/4	1/4-18	7/16-20	1.37	0.56	3250 psi	----
28-703	1/4	3/8-18	7/16-20	1.42	0.75	3250 psi	----
28-704	5/16	1/8-27	1/2-20	1.41	0.56	3250 psi	----
28-705	5/16	1/4-18	1/2-20	1.42	0.56	3250 psi	----
28-706	3/8	1/8-27	9/16-18	1.24	0.63	3250 psi	----
28-707	3/8	1/4-18	9/16-18	1.43	0.63	3250 psi	----
28-708	3/8	3/8-18	9/16-18	1.38	0.75	3250 psi	----
28-709	3/8	1/2-14	9/16-18	1.69	0.88	3250 psi	----
28-710	1/2	1/4-18	3/4-16	1.53	0.81	3250 psi	----
28-711	1/2	3/8-18	3/4-16	1.53	0.81	3250 psi	----
28-712	1/2	1/2-14	3/4-16	1.79	0.88	3250 psi	----
28-713	1/2	3/4-14	3/4-16	1.85	1.13	2600 psi	----
28-714	5/8	3/8	7/8-14	1.84	0.94	3250 psi	----
28-715	5/8	1/2-14	7/8-14	1.89	0.94	3250 psi	----
28-716	5/8	3/4-14	7/8-14	1.95	1.13	2600 psi	----
28-748	3/4	1/2-14	1 1/16-12	2.06	1.13	2925 psi	----
28-717	3/4	3/4-14	1 1/16-12	2.06	1.13	2600 psi	----
28-749	3/4	1-11 1/2	1 1/16-12	2.25	1.38	1950 psi	----
28-719	1	3/4-14	1 5/16-12	2.06	1.13	2275 psi	----
28-718	1	1-11 1/2	1 5/16-12	2.3	1.38	1950 psi	----

B2404 SB FTXB

STRAIGHT SWIVEL ADAPTER

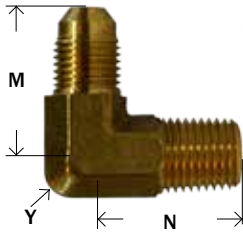


Part #	Tube OD	A NPTF	Tube Thread	L	Hex	Working Pressure	
28-752	1/4	1/4-18	7/16-20	1.389	.563	3250 psi	----
28-753	3/8	1/4-18	9/16-18	1.6	.563	3250 psi	----
28-754	3/8	3/8-18	9/16-18	1.574	.690	2925 psi	----
28-756	1/2	1/2-14	3/4-16	1.706	.875	2600 psi	----

B6505 SJS

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

90° FORGED ELBOW

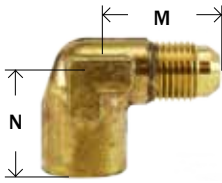


• Swivel available

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

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

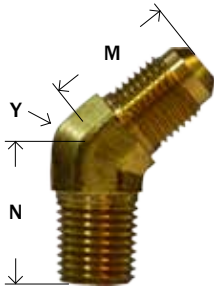
FEMALE ELBOW FORGED BODY



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

B2502 EBF DTXB

45° FORGED ELBOW



• Swivel available

Part #	Tube OD	Tube Thread	A NPTF	M	N	Y	Working Pressure	
28-722F	1/4	7/16-20	1/8-27	0.72	0.64	0.5	4367 psi	----
28-724F	1/4	7/16-20	1/4-18	0.81	0.84	0.53	3750 psi	----
28-728F	5/16	1/2-20	1/4-18	0.88	0.86	0.54		
28-729F	3/8	9/16-18	1/8-27	0.83	0.65	0.63	3128 psi	----
28-731F	3/8	9/16-18	1/4-18	0.83	0.86	0.63	3128 psi	----
28-733F	3/8	9/16-18	3/8-18	0.91	0.95	0.81	3100 psi	----
28-734F	3/8	9/16-18	1/2-14	1.03	1.17	0.94	2826 psi	----
28-736F	1/2	3/4-16	3/8-18	0.98	0.95	0.75	2938 psi	----
28-738F	1/2	3/4-16	1/2-14	1.13	1.17	0.86	2826 psi	----
28-740F	5/8	7/8-14	1/2-14	1.13	1.08	0.88		
28-742F	3/4	1 1/16-12	3/4-14	1.28	1.2	1.13	2442 psi	----

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

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

INVERTED FLARE



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

•Typical Application

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

•Working Pressure Ranges

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

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

•Vibration

Excellent resistance.

•Temperature Range

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

•Used With

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

•Advantages

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

•Tolerance

+/- .03 on all dimensions.

•Conformance

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

•Assembly Instructions

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

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

STANDARD METRIC THREADS

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

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

Actual O.D. of male inverted flare threads

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

1/8"

3/16"

1/4"

5/16"

3/8"

1/2"

5/8"

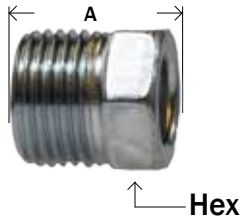
3/4"

BRASS FITTINGS

INVERTED FLARE

ZINC CHROMATE STEEL NUT

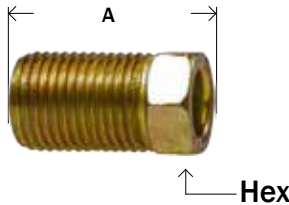
SAE# 040110



Part #	Size	Thread	A	Hex	Approx. Wt. Lbs.		
12-001	1/8"	5/16-28	0.52	0.31	0.01	----	
12-002	3/16"	3/8-24	0.56	0.37	0.02	----	
12-018	3/16"	7/16-24	0.56	0.43	0.02	----	
12-003	1/4"	7/16-24	0.56	0.43	0.02	----	
12-004	5/16"	1/2-20	0.62	0.50	0.02	----	
12-005	3/8"	5/8-18	0.66	0.62	0.03	----	
12-000	7/16"	11/16-18	0.68	0.68	0.04	----	
12-011	3/8"	11/16-18	0.66	0.68	0.05	----	
12-006	1/2"	3/4-18	0.74	0.75	0.08	----	
12-007	5/8"	7/8-18	0.80	0.87	0.10	----	
12-008	3/4"	1-1/16-16	0.88	1.06	0.10	----	
NEW	12-083	7/8"	1-3/16-16	1.07	1.19	0.14	----
NEW	12-084	1"	1-5/16-16	1.18	1.375	0.21	----

121XXX 2105 411FS 105 41W

LONG STEEL NUT



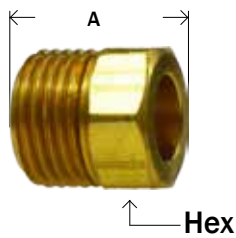
for Domestic lines

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

7896

INVERTED FLARE BRASS NUT

SAE# 040110



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

2100 411F 100 41IB

ZINC STEEL METRIC TUBE NUTS

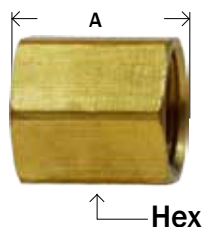


Part #	Tube size	Thread	Ref#	
12-260	3/16 British	3/8-24 Bubble	---	----
12-261	3/16 European	M10 x 1.0 Bubble	276110	----
12-262	3/16 Japanese	M10 x 1.0 Inv.	121050	----
12-263	3/16 Domestic	1/2 x 20 Inv.	---	----
12-264	3/16 Domestic	9/16 - 18 Inv.	121039	----
12-265	3/16 Imported	M11 x 1.5 Bubble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

INVERTED FLARE

BRASS FITTINGS

UNION INTERNAL



SAE# 040101

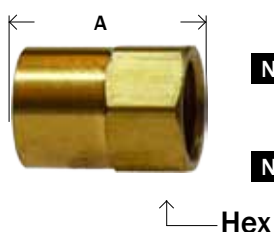
Part #	Inv. Flare X Inv. Flare	A	Hex	Approx. Wt. Lbs.	
12-022	1/8"	0.59	0.40	0.02	----
12-023	3/16"	0.62	0.43	0.02	----
12-024	1/4"	0.62	0.50	0.03	----
12-025	5/16"	0.70	0.56	0.04	----
12-026	3/8"	0.80	0.75	0.08	----
12-027	1/2"	0.91	0.90	0.10	----
NEW 12-028	5/8"	1.31	1.06	0.22	----

see page 72 for metric unions

302 2300 42IFHD

FEMALE ADAPTER

SAE# 040103

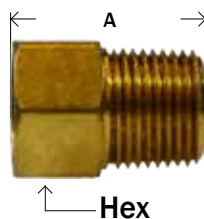


Part #	Inv. Flare X Female NPTF	A	Hex	Approx. Wt. Lbs.	
NEW 12-029	1/8" x 1/8"	0.716	0.50	0.03	----
12-032	3/16" x 1/8"	0.75	0.50	0.02	----
12-033	1/4" x 1/8"	0.75	0.53	0.02	----
NEW 12-030	1/4" x 1/4"	1.01	0.751	0.11	----
12-034	5/16" x 1/8"	0.78	0.59	0.04	----
12-035	3/8" x 1/4"	1.03	0.75	0.08	----
NEW 12-031	7/16" x 1/4"	1.06	0.81	0.11	----
NEW 12-037	1/2" x 1/4"	1.09	0.90	0.12	----
12-036	1/2" x 3/8"	1.10	0.90	0.12	----
NEW 12-039	5/8" x 1/2"	1.32	1.065	0.19	----
NEW 12-099	3/4" x 3/4"	1.50	1.25	0.36	----

46IFHD 252 46W

MALE ADAPTER

SAE# 040102



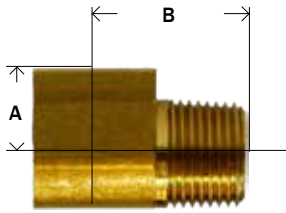
Part #	Inv. Flare X Male NPTF	A	Hex	Approx. Wt. Lbs.	
12-041	1/8" x 1/8"	0.63	0.40	0.02	----
12-042	3/16" x 1/8"	0.70	0.43	0.02	----
NEW 12-053	3/16" x 1/4"	0.72	0.56	0.04	----
12-043	1/4" x 1/8"	0.74	0.50	0.03	----
12-044	1/4" x 1/4"	0.89	0.56	0.04	----
12-045	5/16" x 1/8"	0.79	0.56	0.03	----
12-046	5/16" x 1/4"	0.98	0.56	0.05	----
NEW 12-055	5/16" x 3/8"	1.01	0.75	0.07	----
12-047	3/8" x 1/8"	0.88	0.72	0.05	----
12-048	3/8" x 1/4"	1.02	0.75	0.06	----
12-049	3/8" x 3/8"	1.02	0.75	0.08	----
NEW 12-104	7/16" x 1/4"	1.05	0.81	0.06	----
12-038	1/2" x 1/4"	0.97	0.87	0.10	----
12-050	1/2" x 3/8"	1.06	0.87	0.08	----
12-051	1/2" x 1/2"	1.06	0.87	0.11	----
12-052	5/8" x 1/2"	1.32	1.06	0.15	----
NEW 12-105	3/4" x 1/2"	1.38	1.25	0.18	----
12-040	3/4" x 3/4"	1.39	1.25	0.24	----
NEW 12-107	7/8" x 3/4"	1.375	1.375	0.21	----
NEW 12-108	1" x 1"	1.62	1.50	0.37	----

2200 48IFHD 202 48W 200

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

ELBOW

SAE# 040202



NEW

NEW

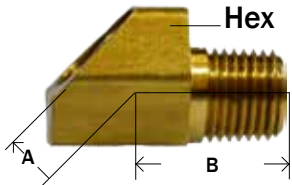
Part #	Inv. Flare X Male NPTF	A	B	Approx. Wt. Lbs.	
12-057	1/8" x 1/8"	0.26	0.59	0.03	----
12-058	3/16" x 1/8"	0.26	0.61	0.03	----
12-059	1/4" x 1/8"	0.33	0.65	0.04	----
12-054*	1/4" x 1/8"	0.33	0.65	0.04	----
12-060	1/4" x 1/4"	0.28	0.82	0.06	----
12-061	5/16" x 1/8"	0.47	0.68	0.05	----
12-062	5/16" x 1/4"	0.45	0.85	0.08	----
12-082	5/16" x 3/8"	0.47	0.86	0.12	----
12-063	3/8" x 1/8"	0.54	0.76	0.14	----
12-064	3/8" x 1/4"	0.53	0.92	0.14	----
12-065	3/8" x 3/8"	0.50	0.94	0.12	----
12-114	1/2" x 1/4"	0.72	1.08	0.14	----
12-066	1/2" x 3/8"	0.59	1.03	0.16	----
12-067	1/2" x 1/2"	0.66	1.22	0.25	----
12-056	5/8" x 3/8"	0.67	1.09	0.20	----
12-068	5/8" x 1/2"	0.67	1.29	0.18	----
12-069	3/4" x 1/2"	0.80	1.39	0.42	----
12-080	7/8" x 3/4"	0.94	1.43	0.48	----
12-081	1" x 1"	1.02	1.69	0.60	----

* Restricted pipe end .062

400 2400 249IFHD 402 249IF 49W

45° ELBOW

SAE# 040302



NEW

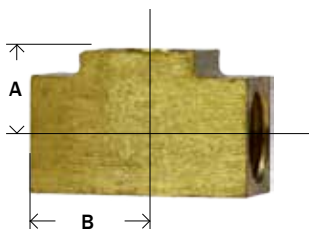
NEW

Part #	Inv. Flare X Male NPTF	A	B	Hex	Approx. Wt. Lbs.	
12-070	1/8" x 1/8"	0.22	0.48	0.50	0.03	----
12-072	3/16" x 1/8"	0.25	0.55	0.53	0.02	----
12-073	1/4" x 1/8"	0.27	0.58	0.56	0.04	----
12-074	5/16" x 1/8"	0.36	0.56	0.62	0.06	----
12-075	5/16" x 1/4"	0.23	0.83	0.62	0.06	----
12-115	3/8" x 1/8"	0.34	0.87	0.87	0.09	----
12-076	3/8" x 1/4"	0.51	0.84	0.78	0.09	----
12-077	1/2" x 3/8"	0.38	0.91	0.84	0.11	----
12-079	5/8" x 1/2"	0.44	1.00	1.06	0.21	----

154 2352 259IFHD 352 94W

UNION TEE

SAE# 040401



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

244IFHD 702 44I

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

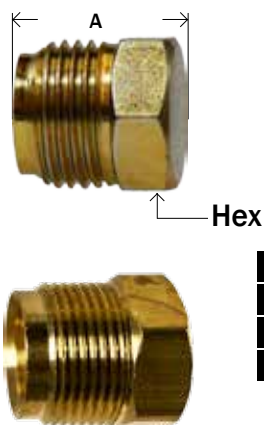
INVERTED FLARE

BRASS FITTINGS

STEEL PLUG

• cored

SAE# 040109



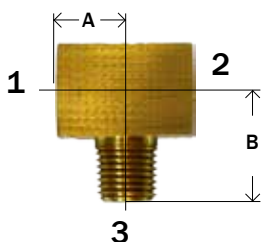
NEW
NEW
NEW
NEW

Part #	Size	A	Hex	Approx. Wt. Lbs.	
12-091	3/16"	0.53	0.37	0.01	----
12-092	1/4"	0.54	0.43	0.02	----
12-093	5/16"	0.59	0.50	0.03	----
12-094	3/8"	0.66	0.62	0.04	----
Brass					
12-095	3/8"	0.66	0.63	0.04	----
12-096	1/2"	0.82	0.75	0.07	----
12-097	5/8"	0.90	0.87	0.10	----
12-098	3/4"	0.95	1.07	0.17	----

106 41IP 131 2131

MALE BRANCH TEE

SAE# 040425

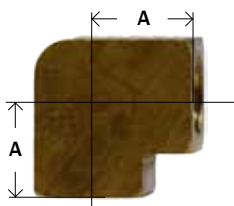


Part #	Inv. Flare x Male NPTF (1&2)x3	A	B	Approx. Wt. Lbs.	
12-100	3/16" x 1/8"	0.41	0.60	0.04	----
12-101	1/4" x 1/8"	0.42	0.64	0.06	----
12-102	5/16" x 1/8"	0.47	0.68	0.07	----
12-103	3/8" x 1/4"	0.58	0.93	0.15	----

145 245IFHD 602 2600 600

FEMALE ELBOW

SAE# 040203

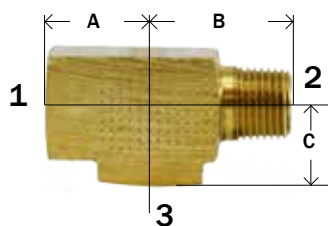


Part #	Inv. Flare x Female NPTF	A	Approx. Wt. Lbs.	
12-110	1/4" x 1/8"	0.55	0.07	----
12-111	5/16" x 1/8"	0.51	0.08	----
12-112	3/8" x 1/4"	0.68	0.10	----

450

MALE RUN TEE

SAE# 040424



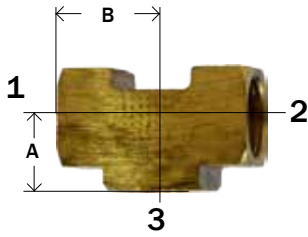
Part #	Inv. Flare x Male NPTF (1&3)x2	A	B	C	Approx. Wt. Lbs.	
12-118	3/16" x 1/8"	0.53	0.72	0.39	0.06	----
12-119	1/4" x 1/8"	0.56	0.75	0.42	0.08	----
12-120	5/16" x 1/8"	0.62	0.85	0.45	0.10	----
12-121	3/8" x 1/4"	0.75	1.08	0.56	0.14	----

251IFHD 752 550 151

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

FEMALE BRANCH TEE

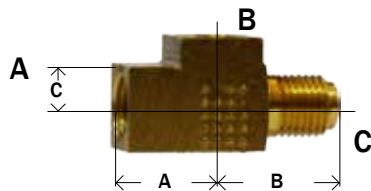
SAE# 040427



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

252IFHD 652 136

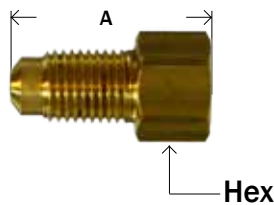
TOWED TRAILER BRAKE TEE



Part #	A	B	C	Reference #	Approx. Wt. Lbs.	
12-147	3/16" 0.57	3/16" 0.76	3/16" 0.42	7900	0.08	----
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	----
12-148	3/16" (9/16-18)	3/16" (3/8-24)	3/16" (9/16/18)	7933	0.10	----
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	----
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	----
12-150	1/4" 0.56	3/16" 0.77	1/4" 0.43	7901	0.10	----
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	----
12-151	1/4" 0.56	1/4" 0.77	1/4" 0.43	7898	0.12	----

INVERTED FLARE AUTO FITTINGS

DUAL MASTER CYLINDER ADAPTER



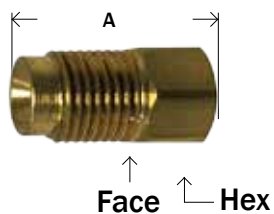
Part #	Male Flare x Female Inv.	A	Hex	Reference #	Approx. Wt. Lbs.	
12-200	3/16" x 3/16"	1.00	0.50	1441	0.03	----
12-202	5/16" x 3/16"	0.96	0.68	7897	0.07	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

INVERTED FLARE

BRASS FITTINGS

DUAL MASTER CYLINDER ADAPTER



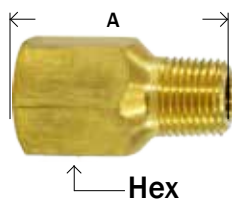
* Seals on hex face



Part #	Male Inverted Thread	Female Inverted Thread	Ref#	
12-206	3/16(9/16-18)	3/16	7911	----
12-209	3/16(9/16-18)	3/16(1/2-20)	7913	----
12-207	3/16(9/16-20)	3/16	7910	----
12-210	3/16	1/4	7828	----
12-212	1/4	3/16	7818	----
12-214*	7/16-20	1/4	7732	----
12-211	1/4(9/16-18)	1/4	7908	----
12-215	1/4	5/16	7917	----
12-213*	5/16	3/16	7817	----
12-216	5/16	3/16	7909	----
12-208	5/16	3/16(9/16-18)	7912	----
12-218*	5/16	1/4	7727	----
12-220	5/16	1/4	7829	----
12-222*	5/16	5/16	1074	----
12-221	5/16	3/8	7915	----
12-224	3/8" NPTF	5/16	7771	----
12-217	3/8	5/16	7916	----

47W

CARBURETOR TO FUEL LINE ADAPTER - FORD

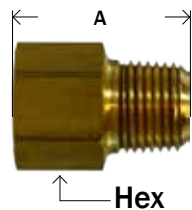


Part #	Female Tube OD x Male NPTF	A	Hex	Ref #	Approx. Wt. Lbs.	
12-230	1/4"(1/2-20) x 1/8"	1.06	0.56	1513	0.04	----

1513

RESTRICTION PIPE ADAPTER

(.0625 ORIFICE)



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

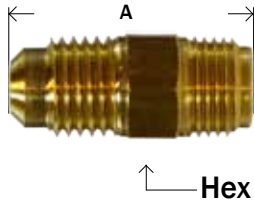
1510

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS FITTINGS

INVERTED FLARE

SAE FLARE X INVERTED FLARE

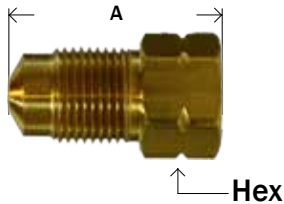


Part #	SAE Flare x Inv. Flare	A	Hex	Ref #	Approx. Wt. Lbs.	
12-250	1/4" x 3/16"	1.03	0.43	1518	0.02	----
12-252	1/4" x 1/4"	1.03	0.43	1522	0.03	----
12-254	3/8" x 5/16"	1.34	0.63	1553	0.08	----
12-256	3/8" x 3/8"	1.37	0.63	1563	0.09	----
12-257	3/8" x 7/16"	1.40	0.68	1554	0.10	----

4205

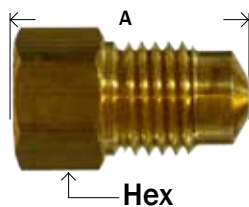
METRIC HYDRAULIC BRAKE FITTINGS

METRIC ADAPTER



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

ADAPTER STANDARD TO METRIC BUBBLE



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

FEMALE X MALE ADAPTERS



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

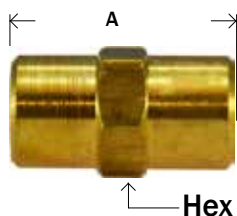


Part #	Tube OD/ Female Thread	Inverted Male Thread	Ref #	
12-205	3/16 (3/8-24)	M10 x 1.0	1443	----



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

METRIC UNION



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

COMPRESSION FITTINGS



These are NOT Lead Free

See pages 164-166 for Lead Free products

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

• Typical Application

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

• Pressure

See table above for working pressures at 73°F.

• Vibration

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

• Temperature Range

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

• Used With

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

• Tolerance

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

• Conformance

Meets specifications and standards of ASA, ASME and SAE.

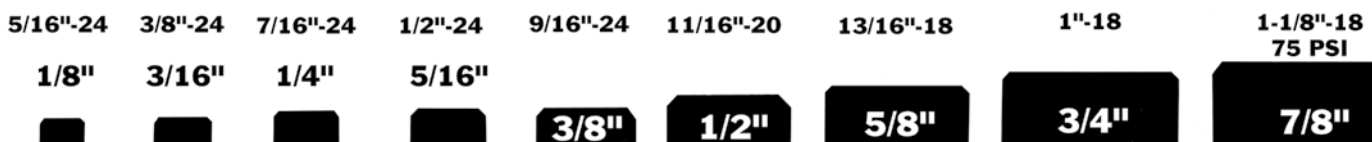
• Assembly Instructions

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

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

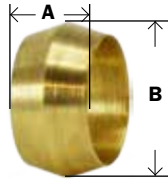
• "L" at the end of a Part# means **Light Pattern** - These fittings are completely interchangeable with full pattern fittings, but have been modified in some way. This modification is usually in the length of the pipe threads. Used in plumbing and light industrial applications.

Actual Profile of Compression Threads



BRASS SLEEVE

• FERRULES

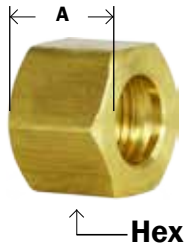


SAE# 060115

Part #	Size	A	B	Approx. Wt. Lbs.	
18-001	1/8"	0.19	0.19	0.01	----
18-002	3/16"	0.22	0.27	0.01	----
18-003	1/4"	0.25	0.34	0.01	----
18-004	5/16"	0.25	0.41	0.01	----
18-005	3/8"	0.25	0.47	0.02	----
18-006	7/16"	0.31	0.53	0.02	----
18-007	1/2"	0.38	0.59	0.02	----
18-008	5/8"	0.38	0.71	0.03	----
18-009	3/4"	0.44	0.87	0.03	----
18-010	7/8"	0.41	0.99	0.03	----
18-011	1"	0.55	1.16	0.03	----

60 260

BRASS NUT

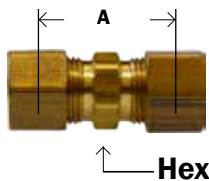


SAE# 060110

Part #	Size	Thread	A	Hex	Approx. Wt. Lbs.	
18-033	1/8"	5/16-24	0.38	0.37	0.01	----
18-034	3/16"	3/8-24	0.41	0.43	0.01	----
18-035L	1/4"	7/16-24	0.44	0.50	0.02	----
18-035	1/4"	7/16-24	0.44	0.50	0.02	----
18-036	5/16"	1/2-24	0.44	0.56	0.02	----
18-037L	3/8"	9/16-24	0.47	0.62	0.04	----
18-037	3/8"	9/16-24	0.47	0.62	0.04	----
18-038	7/16"	5/8-24	0.50	0.68	0.04	----
18-039L	1/2"	11/16-20	0.56	0.75	0.04	----
18-039	1/2"	11/16-20	0.62	0.81	0.04	----
18-040L	5/8"	13/16-18	0.56	0.87	0.06	----
18-040	5/8"	13/16-18	0.62	0.94	0.06	----
18-041	3/4"	1-18	0.68	1.12	0.08	----
18-042	7/8"	1-1/8 - 18	0.62	1.25	0.10	----
18-043	1"		0.94	1.38	0.15	----

61 261

UNION



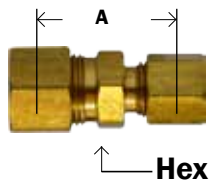
SAE# 060101BA

Part #	Size	A	Hex	Approx. Wt. Lbs.	
18-062	1/8"	0.64	0.31	0.03	----
18-063	3/16"	0.75	0.37	0.04	----
18-064L	1/4"	0.79	0.43	0.06	----
18-064	1/4"	0.81	0.43	0.06	----
18-065	5/16"	0.88	0.50	0.06	----
18-066L	3/8"	0.96	0.56	0.09	----
18-066	3/8"	0.98	0.56	0.10	----
18-067	7/16"	1.02	0.62	0.12	----
18-068L	1/2"	1.06	0.68	0.16	----
18-068	1/2"	1.25	0.68	0.16	----
18-069L	5/8"	1.43	0.81	0.24	----
18-069	5/8"	1.25	0.81	0.26	----
18-070	3/4"	1.41	1.00	0.35	----
18-071L	7/8"	1.03	1.12	0.34	----
18-071	7/8"	1.00	1.12	0.36	----
18-072	1"	1.78	1.38	0.58	----

NEW

M-62

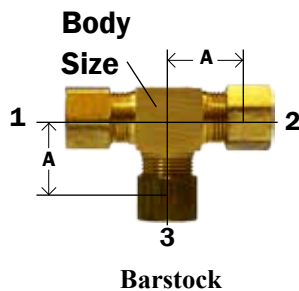
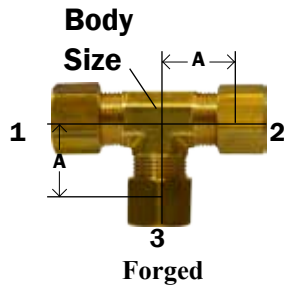
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

COMPRESSION**BRASS FITTINGS****REDUCING UNION**

NEW
NEW
NEW

Part #	Size	A	Hex	Approx. Wt. Lbs.	
18-076	1/4" x 1/8"	0.73	0.44	0.04	----
18-077	1/4" x 3/16"	0.78	0.44	0.06	----
18-078	5/16" x 1/4"	0.81	0.50	0.06	----
18-079	3/8" x 1/4"	0.90	0.56	0.10	----
18-080	3/8" x 5/16"	0.94	0.56	0.10	----
18-081	1/2" x 3/8"	1.03	0.68	0.12	----
18-082	5/8" x 3/8"	1.03	0.81	0.15	----
18-083	5/8" x 1/2"	1.16	0.81	0.18	----
18-085	7/8" x 3/8"	1.18	1.18	0.26	----
18-086	7/8" x 1/2"	1.21	1.18	0.24	----
18-084	7/8" x 5/8"	1.23	1.18	0.20	----

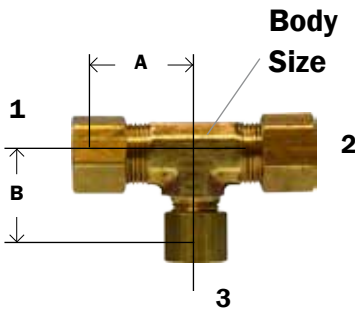
62-R

TEE**SAE# 060401**

Part #	Size	A	Body Size	Approx. Wt. Lbs.	
18-101	1/8"	0.61	0.37	0.04	----
18-101B*	1/8"	0.62	0.33	0.04	----
18-102	3/16"	0.59	0.36	0.08	----
18-102B*	3/16"	0.60	0.38	0.08	----
18-103	1/4"	0.63	0.36	0.10	----
18-103B*	1/4"	0.62	0.49	0.10	----
18-104	5/16"	0.72	0.50	0.13	----
18-104B*	5/16"	0.60	0.50	0.14	----
18-105	3/8"	0.75	0.50	0.16	----
18-105B*	3/8"	0.73	0.59	0.16	----
18-106	1/2"	0.94	0.59	0.22	----
18-106B*	1/2"	0.94	0.69	0.24	----
18-107	5/8"	1.06	0.69	0.28	----
18-108	3/4"	1.22	0.88	0.32	----
18-109	7/8"	1.25	0.94	0.34	----

* Barstock

64 264C

FORGED REDUCING TEE

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

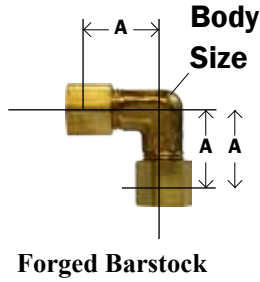
64-R

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS FITTINGS

COMPRESSION

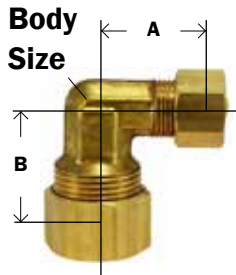
UNION ELBOW SAE# 060201



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

65 BSE2 165C 265C

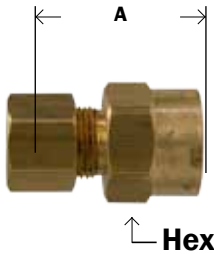
REDUCING ELBOW - Forged



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

65-R

FEMALE ADAPTER SAE# 060103



Part #	Comp. X Female NPTF	A	Hex	Approx. Wt. Lbs.	
18-142	1/8" x 1/8"	0.75	0.56	0.02	----
18-143	3/16" x 1/8"	0.78	0.56	0.04	----
18-144	3/16" x 1/4"	0.96	0.68	0.04	----
18-145L	1/4" x 1/8"	0.84	0.50	0.05	----
18-145	1/4" x 1/8"	0.78	0.56	0.05	----
18-146L	1/4" x 1/4"	0.88	0.62	0.09	----
18-146	1/4" x 1/4"	1.03	0.68	0.09	----
18-148	1/4" x 1/2"	1.02	0.87	0.12	----
18-149	5/16" x 1/8"	0.81	0.56	0.05	----
18-150	5/16" x 1/4"	0.91	0.62	0.06	----
18-152	3/8" x 1/8"	0.88	0.56	0.06	----
18-153L	3/8" x 1/4"	0.97	0.62	0.08	----
18-153	3/8" x 1/4"	1.06	0.68	0.08	----
18-154L	3/8" x 3/8"	1.03	0.75	0.08	----
18-154	3/8" x 3/8"	1.06	0.81	0.10	----
18-155	3/8" x 1/2"	1.12	1.00	0.08	----
18-156	3/8" x 3/4"	1.19	1.16	0.14	----
18-157	1/2" x 1/4"	1.09	0.68	0.10	----
18-158L	1/2" x 3/8"	0.94	0.81	0.12	----
18-158	1/2" x 3/8"	1.12	0.81	0.12	----
18-159L	1/2" x 1/2"	1.19	1.00	0.12	----
18-159	1/2" x 1/2"	1.31	1.00	0.12	----
18-160	1/2" x 3/4"	1.25	1.16	0.18	----
18-162L	5/8" x 1/2"	1.20	0.94	0.18	----
18-162	5/8" x 1/2"	1.38	1.00	0.18	----
18-163	5/8" x 3/4"	1.20	1.12	0.22	----
18-164	3/4" x 1/2"	1.25	1.06	0.26	----
18-165	3/4" x 3/4"	1.28	1.19	0.28	----
18-167	7/8" x 1/2"	1.28	1.19	0.32	----
18-166	7/8" x 3/4"	1.31	1.12	0.34	----

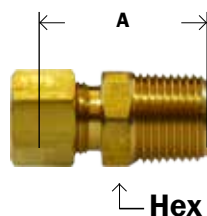
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

COMPRESSION

BRASS FITTINGS

MALE ADAPTER

SAE# 060102



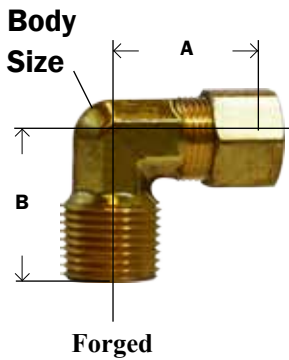
Part #	Comp. X Male NPTF	A	Hex	Approx. Wt. Lbs.	
18-175	1/8" x 1/16"	0.78	0.37	0.02	----
18-176	1/8" x 1/8"	0.78	0.43	0.04	----
18-177	3/16" x 1/8"	0.84	0.43	0.04	----
18-178	3/16" x 1/4"	0.94	0.56	0.06	----
18-179L	1/4" x 1/8"	0.88	0.56	0.04	----
18-179	1/4" x 1/8"	0.88	0.43	0.04	----
18-180L	1/4" x 1/4"	0.94	0.56	0.05	----
18-180	1/4" x 1/4"	1.06	0.56	0.06	----
18-181	1/4" x 3/8"	1.03	0.68	0.08	----
18-182	1/4" x 1/2"	1.09	0.81	0.10	----
18-183	5/16" x 1/8"	0.91	0.50	0.05	----
18-184L	5/16" x 1/4"	1.01	0.56	0.06	----
18-184	5/16" x 1/4"	1.09	0.56	0.06	----
18-185	5/16" x 3/8"	1.06	0.68	0.07	----
18-186	5/16" x 1/2"	1.14	0.87	0.10	----
18-187L	3/8" x 1/8"	0.94	0.56	0.06	----
18-187	3/8" x 1/8"	0.97	0.56	0.06	----
18-188L	3/8" x 1/4"	1.03	0.56	0.06	----
18-188	3/8" x 1/4"	1.16	0.56	0.07	----
18-189L	3/8" x 3/8"	1.09	0.68	0.08	----
18-189	3/8" x 3/8"	1.14	0.69	0.08	----
18-190L	3/8" x 1/2"	1.19	0.88	0.12	----
18-190	3/8" x 1/2"	1.34	0.87	0.13	----
18-191	3/8" x 3/4"	1.29	1.06	0.16	----
18-192	7/16" x 1/4"	1.06	0.62	0.10	----
18-204	7/16" x 3/8"	1.10	0.68	0.12	----
18-193L	1/2" x 1/4"	1.09	0.69	0.11	----
18-193	1/2" x 1/4"	1.22	0.68	0.11	----
18-194L	1/2" x 3/8"	1.16	0.68	0.12	----
18-194	1/2" x 3/8"	1.16	0.69	0.12	----
18-195L	1/2" x 1/2"	1.09	0.81	0.12	----
18-195	1/2" x 1/2"	1.41	0.87	0.19	----
18-196	1/2" x 3/4"	1.38	1.06	0.22	----
NEW 18-216	5/8" x 1/4"	1.21	0.87	0.22	----
18-197	5/8" x 3/8"	1.22	0.87	0.24	----
18-198	5/8" x 1/2"	1.12	0.81	0.24	----
18-199	5/8" x 3/4"	1.31	1.06	0.26	----
18-200	3/4" x 1/2"	1.44	1.00	0.26	----
18-201	3/4" x 3/4"	1.50	1.06	0.26	----
18-202	7/8" x 1/2"	1.18	1.12	0.26	----
18-203	7/8" x 3/4"	1.22	1.12	0.28	----
18-205	7/8" x 1"	1.67	1.37	0.32	----
NEW 18-206	1" x 3/4"	1.95	1.37	0.44	----
NEW 18-207	1" x 1"	2.00	1.38	0.48	----

68

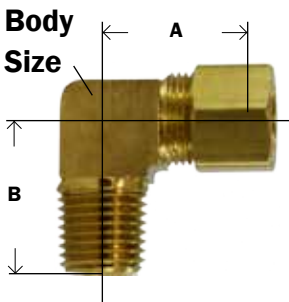
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

MALE ELBOW

SAE# 060202



Forged



Barstock

NEW

NEW

NEW

NEW

Part #	Comp. X Male NPTF	A	B	Body Size	Approx. Wt. Lbs.	
18-219	1/8" x 1/16"	0.59	0.73	0.34	0.02	----
18-220	1/8" x 1/8"	0.59	0.75	0.34	0.02	----
18-220B*	1/8" x 1/8"	0.60	0.67	0.43	0.04	----
18-221	3/16" x 1/8"	0.63	0.72	0.34	0.04	----
18-221B*	3/16" x 1/8"	0.62	0.69	0.43	0.06	----
18-223	3/16" x 1/4"	0.60	0.81	0.39	0.05	----
18-223B*	3/16" x 1/4"	0.65	0.85	0.41	0.08	----
18-224	1/4" x 1/8"	0.60	0.75	0.37	0.06	----
18-224B*	1/4" x 1/8"	0.62	0.75	0.43	0.06	----
18-225	1/4" x 1/4"	0.65	0.94	0.36	0.08	----
18-225B*	1/4" x 1/4"	0.61	0.81	0.56	0.08	----
18-226	1/4" x 3/8"	0.75	0.91	0.47	0.08	----
18-227	1/4" x 1/2"	0.81	1.13	0.56	0.12	----
18-228	5/16" x 1/8"	0.66	0.75	0.47	0.06	----
18-228B*	5/16" x 1/8"	0.62	0.75	0.42	0.06	----
18-229	5/16" x 1/4"	0.66	0.81	0.47	0.07	----
18-229B*	5/16" x 1/4"	0.69	0.84	0.57	0.08	----
18-230	5/16" x 3/8"	0.75	0.91	0.47	0.10	----
18-231	5/16" x 1/2"	0.84	1.12	0.56	0.12	----
18-232	3/8" x 1/8"	0.72	0.66	0.39	0.06	----
18-232B*	3/8" x 1/8"	0.69	0.69	0.57	0.06	----
18-233	3/8" x 1/4"	0.75	0.82	0.46	0.08	----
18-233B*	3/8" x 1/4"	0.75	0.94	0.57	0.08	----
18-234	3/8" x 3/8"	0.81	0.94	0.46	0.10	----
18-234B*	3/8" x 3/8"	0.71	0.83	0.69	0.10	----
18-235	3/8" x 1/2"	0.87	1.12	0.56	0.14	----
18-235B*	3/8" x 1/2"	0.88	1.16	0.94	0.14	----
18-248	3/8" x 3/4"	1.03	1.19	0.81	0.18	----
18-248B*	3/8" x 3/4"	1.03	1.20	0.86	0.16	----
18-247	7/16" x 1/4"	0.84	1.00	0.56	0.14	----
18-236	1/2" x 1/4"	0.88	0.97	0.56	0.14	----
18-236B*	1/2" x 1/4"	0.85	0.94	0.07	0.17	----
18-237	1/2" x 3/8"	0.88	1.03	0.56	0.19	----
18-237B*	1/2" x 3/8"	0.94	1.12	0.70	0.19	----
18-238	1/2" x 1/2"	0.94	1.13	0.59	0.17	----
18-238B*	1/2" x 1/2"	0.94	1.31	0.86	0.17	----
18-239	1/2" x 3/4"	1.16	1.25	0.81	0.18	----
18-240	5/8" x 3/8"	1.06	1.12	0.68	0.18	----
18-241	5/8" x 1/2"	1.06	1.16	0.68	0.20	----
18-241B*	5/8" x 1/2"	1.06	1.31	0.86	0.20	----
18-242	5/8" x 3/4"	1.16	1.31	0.81	0.24	----
18-243	3/4" x 1/2"	1.19	1.31	0.94	0.26	----
18-245	3/4" x 3/4"	1.19	1.38	0.94	0.30	----
18-246	7/8" x 3/4"	1.25	1.38	0.94	0.35	----

* Barstock

69 269C BSE1 169C

Dimension data can change without notice. Please see our website when dimensions are critical.

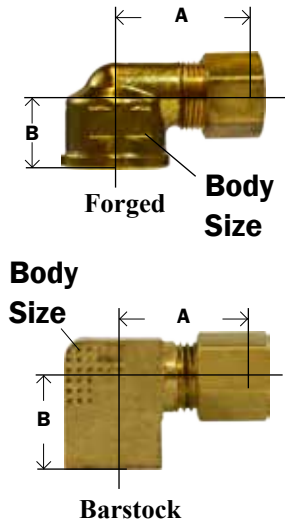
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

COMPRESSION

BRASS FITTINGS

FEMALE ELBOW

SAE# 060203

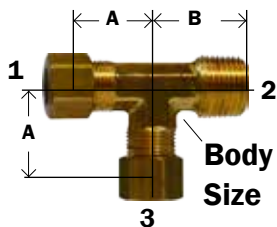


	Part #	Comp. X Female NPTF	A	B	Body Size	Approx. Wt. Lbs.	
	18-251	1/8" x 1/8"	0.69	0.56	0.56	0.04	----
NEW	18-251B*	1/8" x 1/8"	0.69	0.60	0.57	0.06	----
	18-252	3/16" x 1/8"	0.69	0.47	0.56	0.04	----
NEW	18-252B*	3/16" x 1/8"	0.60	0.60	0.58	0.07	----
	18-253	1/4" x 1/8"	0.69	0.47	0.56	0.06	----
	18-253B*	1/4" x 1/8"	0.69	0.56	0.56	0.06	----
	18-254	1/4" x 1/4"	0.75	0.50	0.72	0.08	----
NEW	18-254B*	1/4" x 1/4"	0.72	0.85	0.68	0.13	----
	18-267	1/4" x 3/8"	0.81	0.58	0.81	0.08	----
	18-268	1/4" x 1/2"	0.89	0.66	1.00	0.10	----
	18-255	5/16" x 1/8"	0.72	0.84	0.47	0.08	----
	18-256	5/16" x 1/4"	0.78	0.50	0.72	0.09	----
	18-257	3/8" x 1/8"	0.75	0.84	0.47	0.10	----
	18-258	3/8" x 1/4"	0.84	0.59	0.75	0.10	----
	18-259	3/8" x 3/8"	0.88	0.58	0.81	0.12	----
	18-260	3/8" x 1/2"	0.97	0.66	1.00	0.14	----
	18-250	3/8" x 3/4"	1.09	0.72	1.25	0.18	----
	18-261	1/2" x 1/4"	1.06	0.70	0.88	0.18	----
	18-262	1/2" x 3/8"	1.00	0.70	0.88	0.16	----
	18-263	1/2" x 1/2"	1.03	0.72	1.00	0.20	----
	18-270	1/2" x 3/4"	1.16	0.72	1.25	0.23	----
	18-269	5/8" x 3/8"	1.09	0.77	1.00	0.20	----
	18-264	5/8" x 1/2"	1.09	0.77	1.00	0.22	----
	18-265	5/8" x 3/4"	1.22	0.77	1.25	0.24	----
	18-266	3/4" x 1/2"	1.25	1.25	0.94	0.28	----

* Barstock

70 270C BSE3 170C

FORGED MALE RUN TEE



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

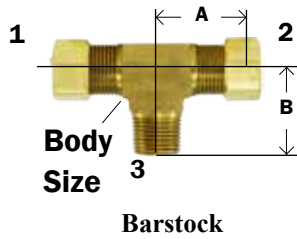
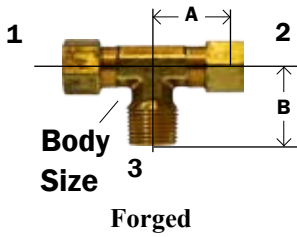
* Barstock

71 171C BST3

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

MALE BRANCH TEE

SAE# 060425

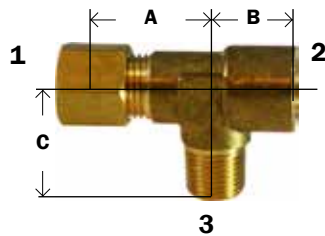


Part #	Comp. X Male NPTF (1&2) X 3	A	B	Body Size	Approx. Wt. Lbs.	
18-290	3/16" x 1/8"	0.63	0.69	0.36	0.08	----
18-291	1/4" x 1/8"	0.62	0.75	0.36	0.10	----
18-291B*	1/4" x 1/8"	0.64	0.73	0.45	0.10	----
18-292	1/4" x 1/4"	0.69	0.86	0.44	0.10	----
18-293	5/16" x 1/8"	0.72	0.75	0.50	0.11	----
18-294	5/16"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

* Barstock

72 **BST1 172C**

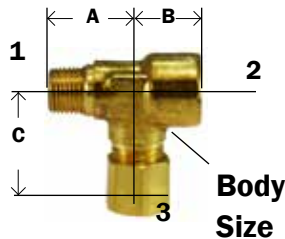
FORGED TEE



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

71 **171C BST3**

ADAPTER TEE



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

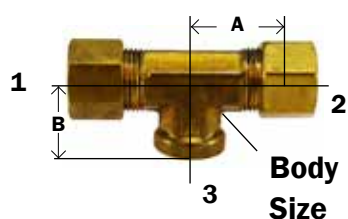
76 **176C**

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

COMPRESSION

BRASS FITTINGS

FEMALE BRANCH FORGED TEE

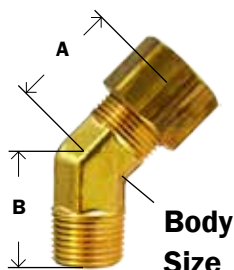


Part #	Comp. X Female NPTF (1&2)x3	A	B	Body Size	Approx. Wt. Lbs.	
18-321	1/4" x 1/8"	0.78	0.75	0.45	0.10	----
18-328	1/4" x 1/4"	0.78	0.75	0.44	0.12	----
18-325	3/8" x 1/8"	0.75	0.63	0.50	0.12	----
18-322	3/8" x 1/4"	0.81	0.97	0.47	0.14	----
18-323	3/8" x 3/8"	0.97	0.69	1.05	0.16	----
18-326	1/2" x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

78 BST4 77 177C 2908

45° ELBOW

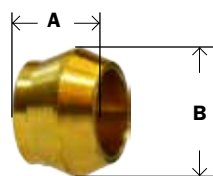
SAE# 060302



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

6945 45BSE1 74 179C 273 77

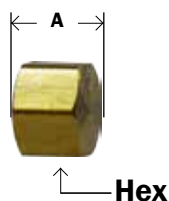
COMPRESSION PLUG



Part #	Size	A	B	Approx. Wt. Lbs.	
NEW 18-028	1/4"	0.30	0.34	0.01	----
18-029	3/8"	0.31	0.47	0.04	----
18-032	5/16"	0.40	0.40	0.01	----
18-030	1/2"	0.34	0.59	0.06	----
NEW 18-031	5/8"	0.45	0.72	0.04	----

CSP

CAP



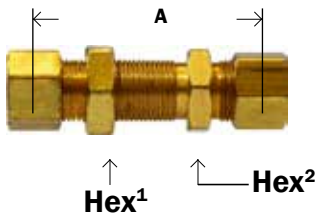
Part #	Size	A	Hex	Approx. Wt. Lbs.	
18-047	1/4"	0.44	0.50	0.02	----
18-048	3/8"	0.40	0.62	0.04	----
18-049	1/2"	0.48	0.75	0.06	----
18-050	5/8"	0.56	0.94	0.10	----

61-CC N5CT

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BULKHEAD UNIONS

SAE# 060101

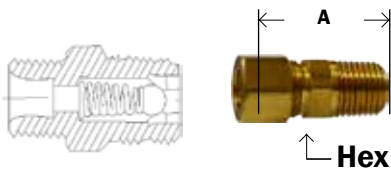


	Part #	Size	A	Hex 1	Hex 2	Approx. Wt. Lbs.	
NEW	18-087	3/16"	1.25	0.56	0.50	0.07	----
	18-088	1/4"	1.58	0.56	0.56	0.10	----
NEW	18-089	5/16	1.68	0.625	0.625	0.11	----
	18-090	3/8"	1.76	0.68	0.68	0.14	----
NEW	18-091	1/2"	1.92	0.82	0.875	0.24	----
NEW	18-093	5/8"	2.01	1.000	0.94	0.32	----

See our website for bulkhead nuts

62BH 75 274

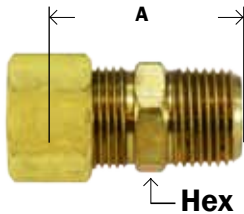
BALL CHECK VALVE - Min. Working pressure 3 psi.



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

63 263 63A

TANK ADAPTER DRILLED THRU (NO STOP)



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

68-T 682C 80F

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

COMPRESSION

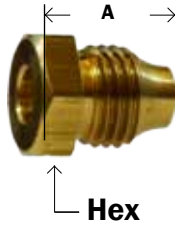
BRASS FITTINGS

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.		
	16-001	1/8"	0.50	0.37	0.02	----
	16-002	3/16"	0.53	0.43	0.02	----
	16-003	1/4"	0.56	0.50	0.04	----
	16-004	5/16"	0.61	0.56	0.04	----
	16-005	3/8"	0.61	0.62	0.04	----
NEW	16-006	1/2"	0.90	0.69	0.05	----
NEW	16-007	5/8"	1.07	0.88	0.06	----

181 6100 11

MALE ADAPTER

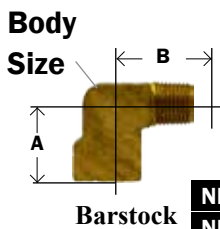


Part #	THRD Sleeve x Male NPTF	A	Hex	Approx. Wt. Lbs.		
	16-117	1/8" x *	0.62	0.43	0.02	----
	16-118	1/8" x 1/8"	0.62	0.43	0.02	----
	16-119	3/16" x 1/8"	0.69	0.43	0.02	----
	16-121	1/4" x 1/8"	0.75	0.50	0.04	----
NEW	16-120	1/4" x 1/4"	1.06	0.56	0.05	----
	16-122	5/16" x 1/8"	0.89	0.56	0.04	----
NEW	16-125	5/16" x 1/4"	1.09	0.56	0.05	----
	16-123	3/8" x 1/4"	0.84	0.62	0.06	----

* 1/4 - 28 Male Thread Tapered.

188 6200 12

90° ELBOW



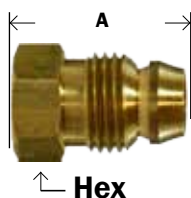
Part #	THRD Sleeve x Male NPTF	A	B	Body Size	Approx. Wt. Lbs.		
	16-127	1/8" x *	0.50	0.52	0.41	0.02	----
	16-128	1/8" x 1/8"	0.50	0.66	0.43	0.02	----
	16-129	3/16" x 1/8"	0.56	0.62	0.44	0.02	----
	16-130	1/4" x 1/8"	0.52	0.62	0.50	0.04	----
NEW	16-131	5/16" x 1/8"	0.75	0.81	0.56	0.09	----
NEW	16-133	3/8" x 1/4"	0.88	1.00	0.56	0.13	----

* 1/4 - 28 Male Thread Tapered

189 6400 15

BREAK-AWAY NUT

- 1-Piece Fitting



Part #	Size	A	Hex	Approx. Wt. Lbs.		
NEW	16-009	1/8"	0.66	0.31	0.02	----
	16-090	3/16"	0.57	0.37	0.02	----
	16-010	1/4"	0.62	0.43	0.02	----
NEW	16-011	5/16"	0.77	0.50	0.04	----
NEW	16-012	3/8"	0.84	0.56	0.04	----
NEW	16-013	1/2"	0.92	0.69	0.05	----

* Threaded sleeve fittings on page 85.

181-BA 21604 99LB 81LB

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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.	
38-711	5/32"	----
25-001	1/8"	----
NEW 25-002	3/16"	----
NEW 25-003	1/4"	----

1460 90791 280 90946

NUT



Part #	Tube O.D.	
38-732	5/32"	----
25-033	1/8"	----

1461 90790 281 90885

DOUBLE END UNION



Part #	Tube O.D.	
38-761	5/32"	----
25-062	1/8"	----
25-064	1/4"	----

1462 90792 283 90891

CONNECTOR WITH NUT AND SLEEVE



Part #	Tube O.D.	Pipe Thread	
38-769	5/32"	1/16"	----
38-770	5/32"	1/8"	----
25-175	1/8"	1/16"	----
25-176	1/8"	1/8"	----
NEW 25-177	3/16"	1/8"	----
NEW 25-179	1/4"	1/8"	----

• Shipped with nut and split sleeve, picture shows insert

1468 90794 282 90985

ELBOW



Part #	Tube O.D.	Pipe Thread	
NEW 38-715	5/32"	1/16"	----
38-718	5/32"	1/8"	----
25-220	1/8"	1/8"	----
NEW 25-219	1/8"	1/16"	----
NEW 25-221	3/16"	1/8"	----
NEW 25-224	1/4"	1/8"	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

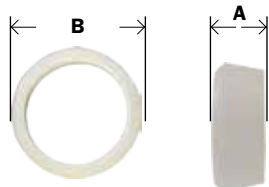
SPECIAL COMPRESSION ASSEMBLIES

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

DELTRIN SLEEVE



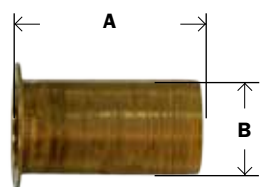
NEW

Part #	Size	A	B	Approx. Wt. Lbs.	
18-015	1/4"	0.19	0.37	0.01	----
18-016	5/16"	0.19	0.43	0.01	----
18-017	3/8"	0.19	0.50	0.02	----
18-018	1/2"	0.25	0.63	0.02	----
18-019	5/8"	0.22	0.74	0.02	----
18-020	3/4"	0.25	0.93	0.02	----

60-P

BRASS INSERT

• SLEEVE

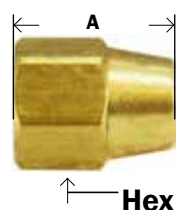


NEW

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

63-BI 60AE 2030 63PT

LONG NUT COMPRESSION - Can be assembled on any compression fitting



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

161

SELF-ALIGN SLEEVES



Part #	Size	
27-001	1/8"	----
27-002	3/16"	----
27-003	1/4"	----

Part #	Size	
27-005	3/8"	----
27-006	1/2"	----

860 601

860

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS FITTINGS

CAPTIVE SLEEVE COMPRESSION

CAPTIVE SLEEVE NUT



Part #	Size	
26-001	1/8"	----
26-002	3/16"	----
26-003	1/4"	----
26-004	5/16"	----
26-005	3/8"	----
26-007	1/2"	----
26-008	5/8"	----

CS61 61CA

UNION



Part #	Size	
26-062	1/8"	----
26-063	3/16"	----
26-064	1/4"	----
26-065	5/16"	----
26-066	3/8"	----
26-079	3/8" x 1/4"	----
26-068	1/2"	----
26-069	5/8"	----

CS62 62CA

TEE



Part #	Size	
26-102	3/16"	----
26-103	1/4"	----
26-105	3/8"	----

CS64 164CA

FEMALE ADAPTER



Part #	Comp. X Female NPTF	
26-142	1/8" x 1/8"	----
26-145	1/4" x 1/8"	----
26-146	1/4" x 1/4"	----
26-153	3/8" x 1/4"	----

CS66 66CA

MALE ADAPTER



Part #	Comp. X Male NPTF	
26-175	1/8" x 1/4"	----
26-176	1/8" x 1/8"	----
26-177	3/16" x 1/8"	----
26-179	1/4" x 1/8"	----
26-180	1/4" x 1/4"	----
26-180L	1/4" x 1/4"	----
26-181	1/4" x 3/8"	----
26-182	1/4" x 1/2"	----
26-183	5/16" x 1/8"	----
26-184	5/16" x 1/4"	----
26-188	3/8" x 1/4"	----
26-189	3/8" x 3/8"	----
26-190	3/8" x 1/2"	----
26-194	1/2" x 3/8"	----
26-195	1/2" x 1/2"	----
26-198	5/8" x 1/2"	----

CS68 68CA

MALE ELBOW



Part #	Comp. X Male NPTF	
26-220	1/8" x 1/8"	----
26-220B	1/8" x 1/8"	----
26-221	3/16" x 1/8"	----
26-224B	1/4" x 1/8"	----
26-224	1/4" x 1/8"	----
26-221B	3/16" x 1/8"	----
26-225	1/4" x 1/4"	----
26-225B	1/4" x 1/4"	----
26-228	5/16" x 1/8"	----
26-229	5/16" x 1/4"	----
26-232	3/8" x 1/8"	----
26-233	3/8" x 1/4"	----
26-233B	3/8" x 1/4"	----
26-234	3/8" x 3/8"	----
26-235	3/8" x 1/2"	----
26-237	1/2" x 3/8"	----
26-238	1/2" x 1/2"	----

CS69 169CA

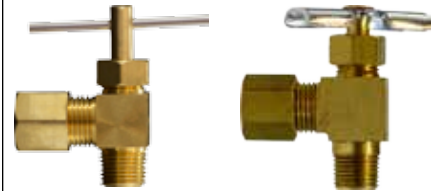
MALE BRANCH TEE



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

CS72 172CA

CAPTIVE SLEEVE x MALE PIPE ANGLE NEEDLE VALVE



Part #	Comp X Male Pipe	
26-011	1/4" x 1/8"	----
26-014	5/16" x 1/4"	----

CAPTIVE SLEEVE x CAPTIVE SLEEVE NEEDLE VALVE



Part #	Comp X Comp	
26-021	1/4"	----
26-023	3/8"	----

Interchangeable with compress-align fittings.

These are NOT Lead Free Lead Free products available upon request

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

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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	11/16-20

•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

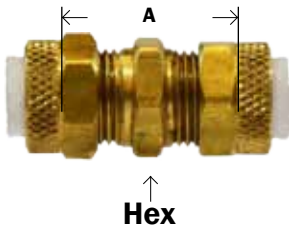
NUT AND PLASTIC SLEEVE ASSEMBLY



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

261PF 1261 61PN

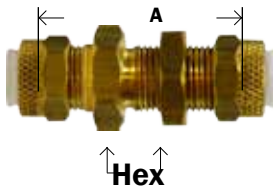
UNION



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

262PF 1262 62P 262P

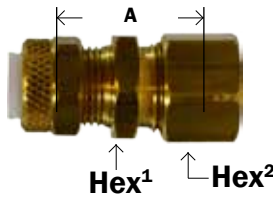
BULKHEAD UNION



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

62PBH 329P 282P

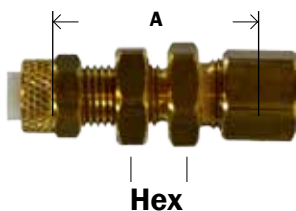
UNION TUBE #M62C - FLARELESS X STANDARD COMPRESSION



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

262S 62PCA 262PC

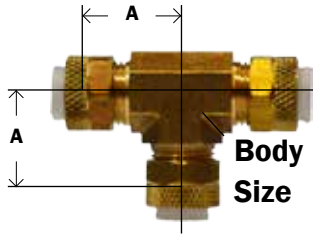
BULKHEAD UNION - FLARELESS X COMPRESSION



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

1274

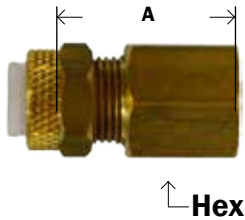
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

FLARELESS**BRASS FITTINGS****UNION TEE**

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

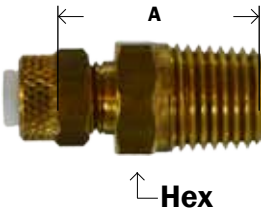
* Reducing Branch

1264 164P 264P

FEMALE CONNECTOR

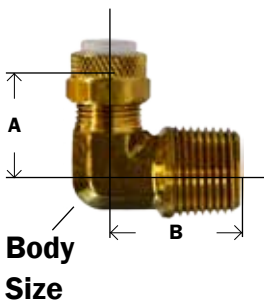
Part #	Tube O.D. x Female NPTF	A	Hex	Approx. Wt. Lbs.	
20-256	1/8" x 1/8"	0.75	0.56	0.03	----
20-257	3/16" x 1/8"	0.78	0.56	0.05	----
20-259	1/4" x 1/8"	0.76	0.50	0.04	----
20-260	1/4" x 1/4"	1.08	0.62	0.05	----
20-261	5/16" x 1/8"	0.75	0.50	0.03	----
20-265	3/8" x 1/8"	0.77	0.56	0.05	----
20-262	3/8"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

1266 66P 266P

MALE CONNECTOR

Part #	Tube O.D. x Male NPTF	A	Hex	Approx. Wt. Lbs.	
20-268	1/8" x 1/8"	0.80	0.34	0.04	----
20-269	3/16" x 1/8"	0.86	0.44	0.04	----
20-270	1/4" x 10/32"				
20-271	1/4" x 1/8"	0.82	0.44	0.03	----
20-272	1/4" x 1/4"	1.00	0.56	0.05	----
20-273	1/4" x 3/8"	1.03	0.69	0.08	----
20-274	5/16" x 1/8"	0.81	0.44	0.04	----
20-275	5/16" x 1/4"	1.00	0.56	0.05	----
20-276	3/8" x 1/8"	1.00	0.56	0.06	----
20-277	3/8" x 1/4"	1.03	0.56	0.08	----
20-278	3/8" x 3/8"	1.03	0.69	0.10	----
20-279	1/2" x 3/8"	1.09	0.69	0.16	----
20-282	1/2" x 1/2"	1.33	0.88	0.18	----

1268 68P 268P

MALE ELBOW

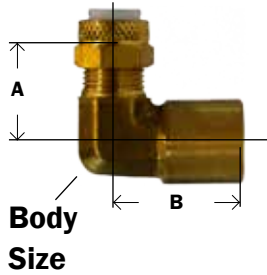
Part #	Tube O.D. x Male NPTF	A	B	Body Size	Approx. Wt. Lbs.	
20-287	1/8" x 1/8"	0.62	0.69	0.31	0.02	----
20-288	3/16" x 1/8"	0.62	0.69	0.37	0.04	----
20-289*	1/4" x 1/8"	0.53	0.73	0.50	0.04	----
20-290	1/4" x 1/4"	0.66	0.94	0.37	0.06	----
20-291	1/4" x 3/8"	0.75	1.03	0.50	0.10	----
20-292	5/16" x 1/8"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

* Barstock

1269 169P 269P

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

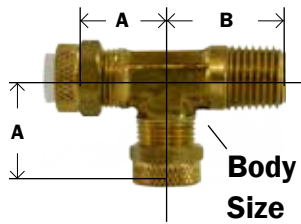
FEMALE ELBOW



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

1270 170P

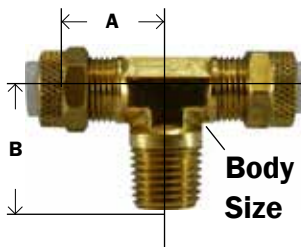
MALE RUN TEE



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

1271 171P

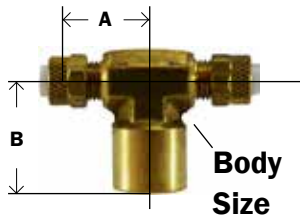
MALE BRANCH TEE



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

1272 172P 272P

FEMALE BRANCH TEE



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

1277 177P 277P

Dimension data can change without notice. Please see our website when dimensions are critical.

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

FLARELESS**BRASS FITTINGS****UNIVERSAL NUT AND BRASS SLEEVE ASSEMBLY**

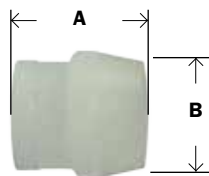
Part #	Tube O.D.	Thread	A	Hex	Approx. Wt. Lbs.	
20-227	1/8"	5/16-24	0.37	0.37	0.02	----
20-228	3/16"	3/8-24	0.41	0.44	0.02	----
20-229	1/4"	3/8-24	0.34	0.43	0.02	----
20-230	5/16"	7/16-24	0.34	0.50	0.02	----
20-231	3/8"	1/2-24	0.37	0.56	0.04	----
20-232	1/2"	11/16-20	0.42	0.81	0.04	----

261PFB 1261B 61PB 261UB

NUT

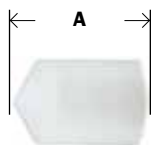
Part #	Tube O.D.	Thread	A	Hex (Dia.)	Approx. Wt. Lbs.	
20-218	1/8"	5/16-24	0.37	0.37	0.01	----
20-219	3/16"	3/8-24	0.41	0.44	0.01	----
20-220	1/4"	3/8-24	0.34	0.44	0.02	----
20-221	5/16"	7/16-24	0.34	0.50	0.02	----
20-222	3/8"	1/2-24	0.38	0.56	0.04	----
20-223	1/2"	11/16-20	0.42	0.81	0.06	----

61PN 1261 261FPN

PLASTIC SLEEVE

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

260FF 1260 60P 260P

PLASTIC CAP

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

1229 59P 259P

Dimension data can change without notice.
Please see our website when dimensions are critical.

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

PUSH-IN/ PUSH-TO-CONNECT FITTINGS

BRASS PUSH-IN

PAGE 96-101



NICKEL PLATED BRASS PUSH-IN

PAGE 102-106



BALL VALVES FOR N/P PUSH-IN

PAGE 107



METRIC N/P BRASS PUSH-IN

PAGE 108-110



COMPOSITE BODY PUSH-IN

PAGE 111-115



COMPOSITE BODY METRIC PUSH-IN

PAGE 116-118



FDA PLASTIC PUSH-IN

PAGE 303-304



DOT BRASS PUSH-IN

PAGE 119-125



DOT COMPOSITE PUSH-IN

PAGE 126-130



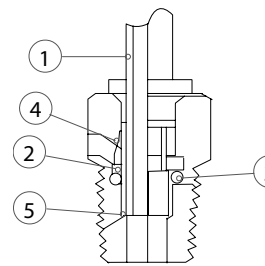
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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 of 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 TEMPERATURE**:
-10°F to 200°F (other ranges available on request).
- **PIPE THREAD**: NPTF with Teflon® based sealant pre-applied.

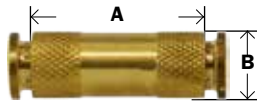


When tubing (1) is inserted into the fitting, it first passes through the gripping teeth (2). Just beyond the gripping teeth is the o-ring (3) which provides the leak proof seal against the OD of the tube. The gripping teeth grab the tube, which expands the insert. Pulling back on the tube only tightens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

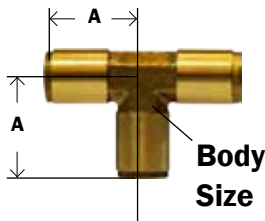
UNION CONNECTOR



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

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

UNION TEE

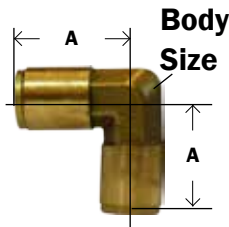


Part #	Tube O.D.	A	Body Size	Approx. Wt. Lbs.	
20-025	1/8"	0.65	0.31	0.04	----
20-026	5/32"	0.67	0.31	0.04	----
20-027	3/16"	0.75	0.37	0.06	----
20-028	1/4"	0.92	0.37	0.09	----
20-031*	5/16"	0.89	0.49	0.10	----
20-029	3/8"	0.98	0.50	0.13	----
20-030	1/2"	1.16	0.62	0.24	----

* Nickel Plated

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

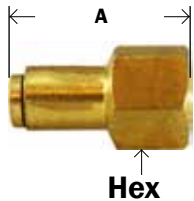
UNION ELBOW



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

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.	
20-032	1/8" x 1/8"	0.96	0.56	0.04	----
20-038	1/8" x 1/4"	1.04	0.67	0.04	----
20-012	5/32" x 1/8"	1.09	0.56	0.05	----
20-034	1/4" x 1/8"	1.23	0.56	0.06	----
20-035	1/4" x 1/4"	1.42	0.75	0.09	----
20-036	3/8" x 1/4"	1.32	0.75	0.09	----
20-037	3/8" x 3/8"	1.31	0.87	0.12	----

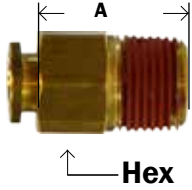
266PP AQ66 6463 3114 66PL 12-426 50-566 266-OF 1166

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS PUSH-IN FITTINGS

BRASS FITTINGS

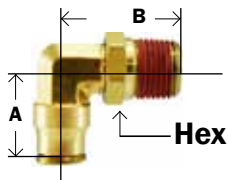
MALE CONNECTOR



Part #	Tube O.D. x Male NPTF	A	Hex	Approx. Wt. Lbs.	
20-047*	1/8" x 10-32**	0.69	0.37	0.02	----
20-045	1/8" x 1/16"	0.68	0.37	0.02	----
20-048	1/8" x 1/8"	0.61	0.43	0.02	----
20-023	1/8" x 1/4"	0.98	0.56	0.04	----
20-049*	5/32" x 10-32**	0.67	0.37	0.02	----
20-050	5/32" x 1/8"	0.67	0.43	0.03	----
20-046	5/32" x 1/4"	0.85	0.56	0.05	----
20-051*	3/16" x 10-32**	0.80	0.37	0.02	----
20-052	3/16" x 1/8"	0.93	0.43	0.03	----
20-053*	1/4" x 10-32**	0.70	0.43	0.03	----
20-039	1/4" x 1/16"	0.92	0.43	0.06	----
20-054	1/4" x 1/8"	0.93	0.43	0.06	----
20-055	1/4" x 1/4"	0.93	0.56	0.10	----
20-056	1/4" x 3/8"	0.94	0.68	0.08	----
20-530	5/16" x 1/8"	1.07	0.56	0.05	----
20-531	5/16" x 1/4"	0.98	0.56	0.10	----
20-532	5/16" x 3/8"	1.06	0.75	0.08	----
20-057	3/8" x 1/8"	1.10	0.56	0.06	----
20-058	3/8" x 1/4"	1.11	0.56	0.05	----
20-059	3/8" x 3/8"	1.02	0.68	0.08	----
20-062	3/8" x 1/2"	1.02	0.87	0.08	----
20-060	1/2" x 1/4"	1.36	0.81	0.11	----
20-061	1/2" x 3/8"	1.30	0.81	0.12	----
20-063	1/2" x 1/2"	1.23	0.87	0.14	----

* 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.	
20-079	1/8" x 1/8"	0.69	0.98	0.43	0.07	----
20-535*	1/8" x 1/4"	0.76	0.87	0.56	0.06	----
20-076**	5/32" x 10-32"	0.67	0.71	0.37	0.04	----
20-080	5/32" x 1/8"	0.68	0.89	0.43	0.05	----
20-077	5/32" x 1/4"	0.68	1.08	0.56	0.07	----
20-078**	1/4" x 10-32"	0.86	0.79	0.31	0.05	----
20-081	1/4" x 1/8"	0.90	0.93	0.37	0.08	----
20-082	1/4" x 1/4"	0.90	0.99	0.56	0.10	----
20-086	1/4" x 3/8"	0.98	1.14	0.68	0.09	----
20-538*	5/16" x 1/4"	0.91	0.85	0.56	0.07	----
20-539*	5/16" x 3/8"	0.91	0.87	0.75	0.08	----
20-087	3/8" x 1/8"	1.00	1.06	0.43	0.09	----
20-083	3/8" x 1/4"	0.99	1.15	0.56	0.10	----
20-084	3/8" x 3/8"	1.00	1.24	0.68	0.20	----
20-088	3/8" x 1/2"	1.00	1.54	0.87	0.19	----
20-085	1/2" x 3/8"	1.16	1.34	0.68	0.18	----
20-092	1/2" x 1/2"	1.16	1.51	0.87	0.24	----

* Nickel Plated

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

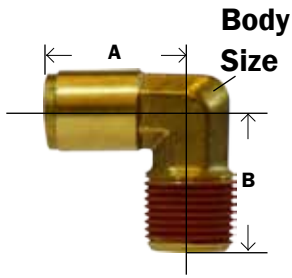
** Furnished with gaskets

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS FITTINGS

BRASS PUSH-IN FITTINGS

FIXED MALE ELBOW

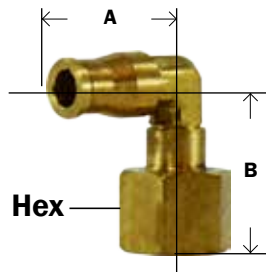


Part #	Tube O.D. x Male NPTF	A	B	Body Size	Approx. Wt. Lbs.	
20-065	1/8" x 1/8"	0.69	0.69	0.31	0.03	----
20-066	5/32" x 1/8"	0.68	0.68	0.31	0.03	----
20-067	3/16" x 1/8"	0.75	0.71	0.37	0.04	----
20-068	1/4" x 1/8"	0.89	0.75	0.37	0.06	----
20-069	1/4" x 1/4"	0.95	0.96	0.37	0.08	----
20-070	1/4" x 3/8"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

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

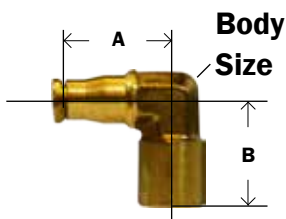
Dimension data can change without notice. Please see our website when dimensions are critical.

FEMALE SWIVEL ELBOW



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

FEMALE ELBOW



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

AQ70-P 3009

Life is really simple, but we insist on making it complicated.

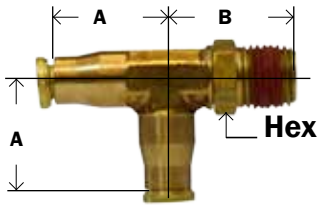
- Confucius

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS PUSH-IN FITTINGS

BRASS FITTINGS

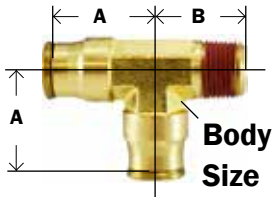
SWIVEL MALE RUN TEE



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

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

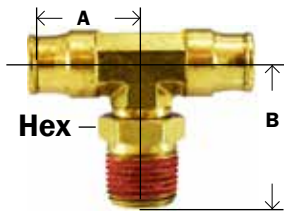
FIXED MALE RUN TEE



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

AQ71-P

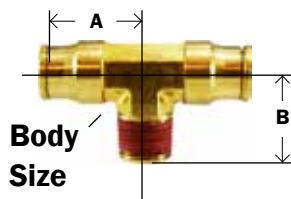
SWIVEL MALE BRANCH TEE



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

* Furnished with gaskets

FIXED MALE BRANCH TEE



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

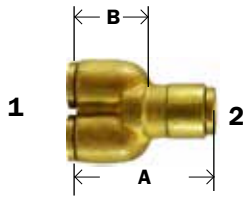
AQ72-P

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS FITTINGS

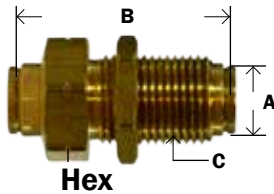
BRASS PUSH-IN FITTINGS

UNION "Y"



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

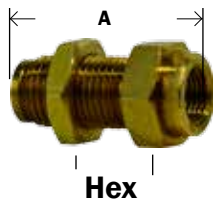
BULKHEAD UNION



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

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

FEMALE BULKHEAD UNION

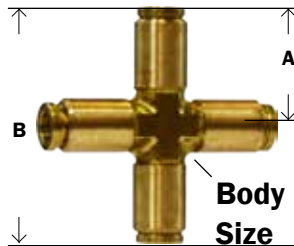


Part #	Tube O.D. x Female NPTF	A	Hex	Approx. Wt. Lbs.	
20-170	1/4" x 1/8"	1.19	0.68	0.08	----
20-171	1/4" x 1/4"	1.36	0.75	0.10	----
20-172	3/8" x 1/4"	1.71	0.75	0.14	----

AQ86-P 1166BH

Dimension data can change without notice. Please call us when dimensions are critical.

CROSS



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

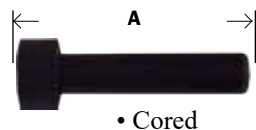
REDUCER - NICKEL PLATED - TUBE OD X STUD



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

67PPL 286PP

PLASTIC PLUG



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

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

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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: Vacuum to 290PSI.

Min Temperature: -4°F

Max Temperature: 176°F

Tubing: Nylon, Polyethylene, Polyurethane.

- For best results use 95 Durometer

Media: Compressed air, water, vacuum

• 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

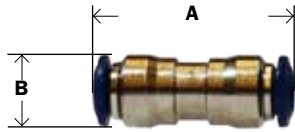
Parallel (BSPP, BSP, ISO 7)

Tapered (BSPT, PT, ISO 7, ISO 228)

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

NICKEL PLATED PUSH-IN FITTINGS

UNION CONNECTOR

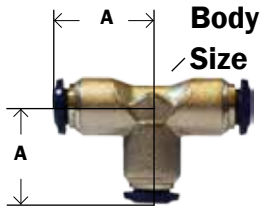


Part #	Tube O.D.	A	B	Approx. Wt. Lbs.	
20-017N	1/8"	1.06	0.34	0.03	----
20-018N*	5/32"	1.20	0.41	0.03	----
20-016N	5/32" x 1/4"	1.20	0.40	0.04	----
20-019N*	1/4"	1.38	0.49	0.05	----
20-015N*	5/16"	1.46	0.57	0.06	----
20-020N*	3/8"	1.69	0.69	0.06	----
20-022N	3/8" x 1/4"	1.69	0.68	0.06	----
20-021N*	1/2"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

* Available in SS

62PL 88040

UNION TEE

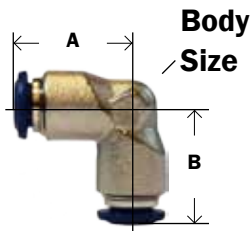


Part #	Tube O.D.	A	Body Size	Approx. Wt. Lbs.	
20-025N	1/8"	0.67	0.35	0.04	----
20-026N*	5/32"	0.67	0.35	0.04	----
20-028N*	1/4"	0.83	0.43	0.09	----
20-031N*	5/16"	0.87	0.51	0.10	----
20-029N*	3/8"	1.04	0.63	0.13	----
20-030N*	1/2"	1.20	0.74	0.24	----

* Available in SS

164PL 88230

UNION ELBOW

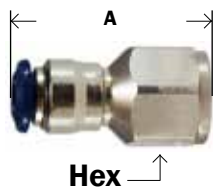


Part #	Tube O.D.	A	Body Size	Approx. Wt. Lbs.	
20-150N	1/8"	0.67	0.35	0.02	----
20-151N*	5/32"	0.67	0.35	0.04	----
20-152N*	1/4"	0.83	0.43	0.06	----
20-155N*	5/16"	0.87	0.51	0.08	----
20-153N*	3/8"	1.04	0.63	0.09	----
20-154N*	1/2"	1.20	0.75	0.18	----

* Available in SS

165PL 88130

FEMALE CONNECTOR



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

66PL 88030

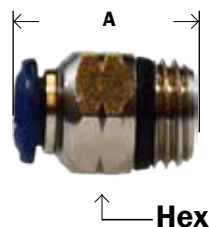
Today is a GOOD day.

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

NICKEL PLATED PUSH-IN FITTINGS

BRASS FITTINGS

MALE CONNECTOR

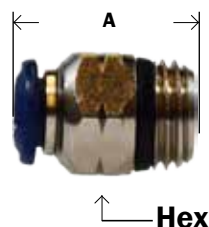


• Can be purchased with NPTF threads upon request

* Available in stainless steel

Part #	Tube O.D. x Male Global Thread	A	Hex	Approx. Wt. Lbs.	
20-047N	1/8" x 10-32"	0.75	0.31	0.02	----
20-048N	1/8" x 1/8"	0.77	0.43	0.02	----
20-023N	1/8" x 1/4"	0.97	0.55	0.04	----
20-049N*	5/32" x 10-32"	0.83	0.39	0.02	----
20-050N*	5/32" x 1/8"	0.83	0.43	0.03	----
20-046N*	5/32" x 1/4"	0.98	0.55	0.05	----
20-053N*	1/4" x 10-32"	0.97	0.51	0.03	----
20-054N*	1/4" x 1/8"	0.98	0.51	0.06	----
20-055N*	1/4" x 1/4"	0.98	0.55	0.10	----
20-056N	1/4" x 3/8"	0.98	0.71	0.08	----
20-530N*	5/16" x 1/8"	0.98	0.55	0.05	----
20-531N*	5/16" x 1/4"	1.08	0.55	0.10	----
20-532N	5/16" x 3/8"	1.08	0.71	0.08	----
20-057N	3/8" x 1/8"	1.38	0.67	0.06	----
20-058N*	3/8" x 1/4"	1.32	0.67	0.05	----
20-059N*	3/8" x 3/8"	1.32	0.71	0.08	----
20-062N	3/8" x 1/2"	1.32	0.87	0.08	----
20-841N	1/2" x 1/8"	1.03	0.79	0.12	----
20-060N	1/2" x 1/4"	1.54	0.79	0.11	----
20-061N*	1/2" x 3/8"	1.42	0.79	0.12	----
20-063N*	1/2" x 1/2"	1.58	0.87	0.14	----

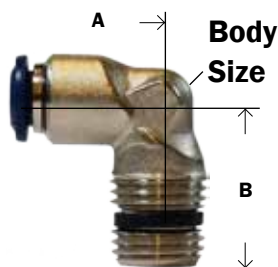
MALE CONNECTOR WITH INTERNAL HEX



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

68PL 8700

FIXED MALE ELBOW



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

W169PLNS 8100

The best and most beautiful things in the world cannot be seen or even touched - they must be felt with the heart.

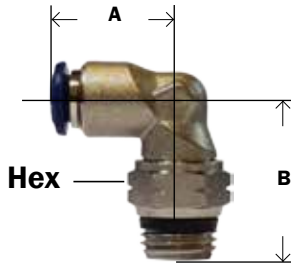
- Helen Keller

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS FITTINGS

NICKEL PLATED PUSH-IN FITTINGS

SWIVEL MALE ELBOW



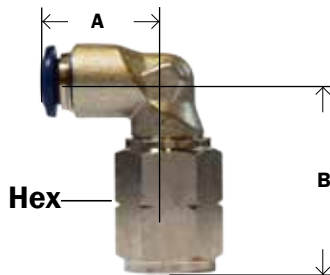
• Can be purchased with NPTF threads upon request

* Available in stainless steel

Part #	Tube O.D. x Male Global Thread	A	B	Hex	Approx. Wt. Lbs.	
20-079N	1/8" x 1/8"	0.67	0.78	0.51	0.07	----
20-535N	1/8" x 1/4"	0.67	0.95	0.59	0.06	----
20-076N*	5/32" x 10-32"	0.67	0.95	0.59	0.04	----
20-080N*	5/32" x 1/8"	0.67	0.79	0.51	0.05	----
20-848N*	5/32" x 1/4"	0.67	1.00	0.59	0.05	----
20-081N*	1/4" x 1/8"	0.83	0.87	0.51	0.08	----
20-082N*	1/4" x 1/4"	0.83	0.98	0.59	0.10	----
20-086N	1/4" x 3/8"	0.83	1.10	0.67	0.09	----
20-537N*	5/16" x 1/8"	0.91	0.98	0.51	0.06	----
20-538N*	5/16" x 1/4"	0.89	1.02	0.59	0.07	----
20-539N	5/16" x 3/8"	0.87	1.10	0.67	0.08	----
20-087N	3/8" x 1/8"	1.04	1.02	0.51	0.09	----
20-083N*	3/8" x 1/4"	1.04	1.10	0.59	0.10	----
20-084N*	3/8" x 3/8"	1.04	1.18	0.67	0.20	----
20-088N*	3/8" x 1/2"	1.04	1.30	0.83	0.19	----
20-184N	1/2" x 1/4"	1.24	1.30	0.59	0.17	----
20-085N*	1/2" x 3/8"	1.20	1.24	0.59	0.18	----
20-092N*	1/2" x 1/2"	1.20	1.42	0.83	0.24	----

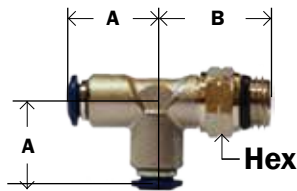
W169PL 87110

FEMALE SWIVEL ELBOW



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

SWIVEL MALE RUN TEE



• Can be purchased with NPTF threads upon request

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

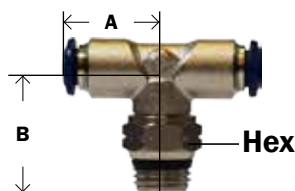
W171PL 87222

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

NICKEL PLATED PUSH-IN FITTINGS

BRASS FITTINGS

SWIVEL MALE BRANCH TEE



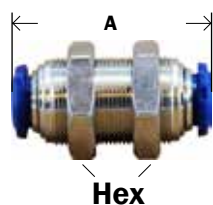
- Can be purchased with NPTF threads upon request

* Available in stainless steel

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

W172PL 87210

BULKHEAD UNION

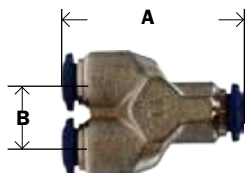


* Available in stainless steel

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

62PLBH 88050

UNION "Y"



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

662PL 88310

REDUCER



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

67PPL 88700

Also available:

- Nylon plug
- Single banjo
- Double banjo
- Push fit cartridges and tools

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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.	
28400	1/8	30/300	.07	----
28401	1/4	30/300	.10	----
28402	3/8	20/200	.21	----



PUSH-IN X MALE PIPE

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



FIP X FIP

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



MIP X FIP

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

- Optional colors of handle plate for identification

PANEL MOUNT DESIGN



FIP X FIP ANGLE

Part #	Size	Box/Case	Wgt.	
46670	1/8	20/200	.19	----
46671	1/4	20/200	.20	----
46672	3/8	25/250	.11	----



3-WAY FIP - OPEN CENTER

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



3-WAY FIP - CLOSED CENTER

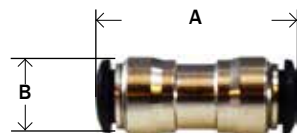
Part #	Size	Box/Case	Wgt.	
46680	1/8	25/250	.13	----
46681	1/4	20/200	.21	----
46682	3/8	20/200	.21	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

NICKEL PLATED METRIC PUSH-IN FITTINGS

BRASS FITTINGS

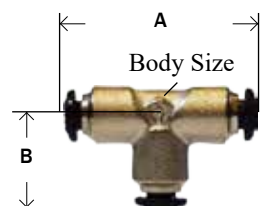
UNION



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

* Available in SS

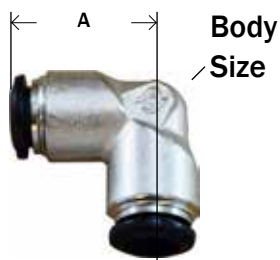
UNION TEE



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

* Available in SS

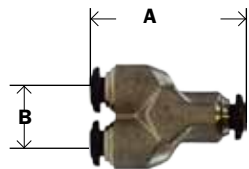
UNION ELBOW



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

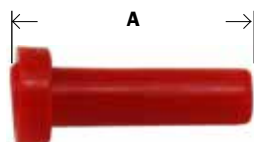
* Available in SS

UNION Y



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

PLUG

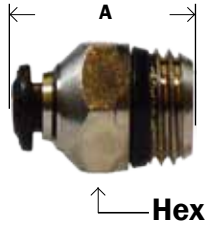


Part #	Tube O.D. (mm)	A	
20-748N	4	0.917	----
20-749N	5	0.956	----
20-750N	6	0.956	----
20-751N	8	1.014	----
20-752N	10	1.112	----
20-753N	12	1.190	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

NICKEL PLATED METRIC PUSH-IN FITTINGS

METRIC TUBE STRAIGHT MALE

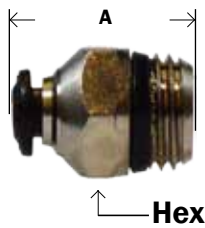


• Can be purchased with BSPP or BSPT Threads

* Available in SS

Part #	Tube O.D. (mm)	Global Thread	A	Hex	
20-630N*	4	1/8"	0.702	0.429	----
20-631N*	4	1/4"	0.760	0.546	----
20-700N	5	1/8"	0.78	0.429	----
20-701N	5	1/4"	0.78	0.546	----
20-632N*	6	1/8"	0.78	0.546	----
20-633N*	6	1/4"	0.819	0.546	----
20-628N	6	3/8"	0.90	0.546	----
20-629N	6	1/2"	0.92	0.546	----
20-702N*	8	1/8"	0.955	0.546	----
20-634N*	8	1/4"	0.858	0.546	----
20-635N	8	3/8"	0.897	0.663	----
20-703N	8	1/2"	0.897	0.663	----
20-636N*	10	1/4"	1.092	0.663	----
20-637N*	10	3/8"	1.092	0.663	----
20-704N*	10	1/2"	1.014	0.663	----
20-801N	12	1/4"	1.267	0.78	----
20-638N*	12	3/8"	1.267	0.78	----
20-705N*	12	1/2"	1.209	0.78	----
20-706N	14	3/8"	1.287	0.858	----
20-707N	14	1/2"	1.248	0.858	----

METRIC TUBE INTERNAL HEX

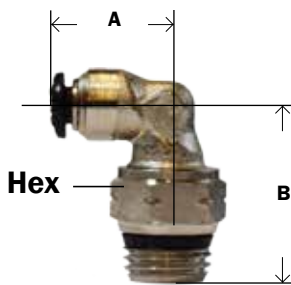


• Can be purchased with BSPP or BSPT Threads

* Available in SS w BSPP or BSPT Threads

Part #	Tube O.D. (mm)	Global Thread	A	Hex	
20-619N	3	M5	0.31	0.31	----
20-620N	4	1/8"	0.71	0.43	----
20-621N*	4	M5	0.39	0.38	----
20-622N	4	M7 x 1"	0.83	0.38	----
20-623N	6	1/4"	0.83	0.55	----
20-624N	6	1/8"	0.85	0.47	----
20-625N*	6	M5	0.47	0.47	----
20-626N	8	1/4"	0.88	0.55	----
20-627N	8	1/8"	0.98	0.55	----

METRIC TUBE SWIVEL MALE ELBOW



• Can be purchased with BSPP or BSPT Threads

* Available in SS w BSPP or BSPT Threads

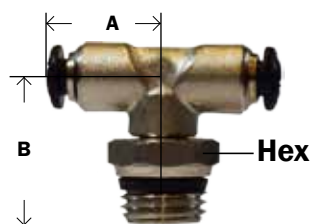
Part #	Tube O.D. (mm)	Global Thread	A	B	Hex	
20-708N*	4	1/8"	0.663	0.780	0.507	----
20-709N*	4	1/4"	0.663	0.936	0.585	----
20-710N	5	1/8"	0.780	0.858	0.507	----
20-642N*	6	1/8"	0.819	0.858	0.507	----
20-803N*	6	1/4"	0.819	0.975	0.585	----
20-711N*	8	1/8"	0.878	0.917	0.507	----
20-805N*	8	1/4"	0.878	1.014	0.585	----
20-655N	8	3/8"	0.878	1.092	0.663	----
20-712N	8	1/2"	0.878	1.404	0.819	----
20-656N*	10	1/4"	1.034	1.092	0.585	----
20-657N*	10	3/8"	1.034	1.170	0.663	----
20-713N*	10	1/2"	1.034	1.287	0.819	----
20-658N*	12	3/8"	1.190	1.287	0.663	----
20-659N*	12	1/2"	1.190	1.404	0.819	----
20-714N	14	3/8"	1.268	1.404	0.663	----
20-715N	14	1/2"	1.268	1.443	0.819	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

NICKEL PLATED METRIC PUSH-IN FITTINGS

BRASS FITTINGS

METRIC TUBE SWIVEL MALE BRANCH TEE

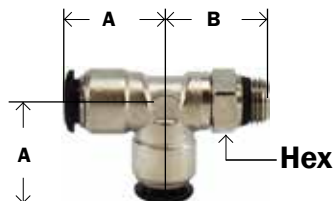


- Can be purchased with BSPP or BSPT threads

* Available in SS w/BSPP or BSPT threads

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

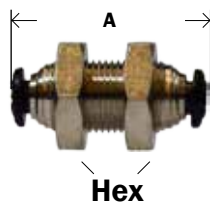
METRIC TUBE SWIVEL MALE RUN TEE



- Can be purchased with BSPP threads

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

BULKHEAD



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

* Available in SS

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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	0°F ~160°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.	
20-017C	1/8"	0.01	----
20-018C	5/32"	0.01	----
20-001C	3/16"	0.01	----
20-019C	1/4"	0.01	----
20-015C	5/16"	0.01	----
20-020C	3/8"	0.02	----
20-021C	1/2"	0.03	----
20-016C	1/4" x 5/32"	0.01	----
20-515C	5/16" x 1/4"	0.01	----
20-022C	3/8" x 1/4"	0.01	----
20-516C	3/8" x 5/16"	0.02	----
20-024C	1/2" x 3/8"	0.03	----

PQ62P

UNION TEE



Part #	Tube O.D.	Approx. Wt. Lbs.	
20-025C	1/8"	0.01	----
20-026C	5/32"	0.01	----
20-027C	3/16"	0.02	----
20-028C	1/4"	0.02	----
20-031C	5/16"	0.02	----
20-029C	3/8"	0.02	----
20-030C	1/2"	0.08	----

PQ64P

90° UNION ELBOW



Part #	Tube O.D.	Approx. Wt. Lbs.	
20-150C	1/8"	0.01	----
20-151C	5/32"	0.01	----
20-149C	3/16"	0.01	----
20-152C	1/4"	0.02	----
20-155C	5/16"	0.02	----
20-153C	3/8"	0.02	----
20-154C	1/2"	0.02	----

PQ65P

UNION "Y" CONNECTOR



Part #	Tube O.D.	Approx. Wt. Lbs.	
20-551C	5/32"	0.01	----
20-553C	1/4"	0.02	----
20-182C	5/16"	0.02	----
20-555C	3/8"	0.02	----
20-185C	1/2"	0.07	----

PQ89P

FEMALE CONNECTOR

• Brass



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

PQ66P

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS FITTINGS

COMPOSITE BODY PUSH-IN FITTINGS

MALE CONNECTOR

- Nickel Plated



- See broader range of sizes on page 104 N/P push-in fittings

Part #	Tube O.D. x Male NPT	Approx. Wt. Lbs.	
20-050C	5/32" x 1/8"	0.02	----
20-053C	1/4" x 10-32"	0.02	----
20-054C	1/4" x 1/8"	0.02	----
20-055C	1/4" x 1/4"	0.02	----
20-056C	1/4" x 3/8"	0.04	----
20-530C	5/16" x 1/8"	0.05	----
20-531C	5/16" x 1/4"	0.05	----
20-057C	3/8" x 1/8"	0.05	----
20-058C	3/8" x 1/4"	0.06	----
20-059C	3/8" x 3/8"	0.06	----
20-062C	3/8" x 1/2"	0.08	----
20-060C	1/2" x 1/4"	0.06	----
20-061C	1/2" x 3/8"	0.08	----
20-063C	1/2" x 1/2"	0.10	----

PQ68P

SWIVEL MALE ELBOW

- Swivels for installation only.
- Not a live swivel



- * Global Thread

Part #	Tube O.D. x Male NPT	Approx. Wt. Lbs.	
20-079C	1/8" x 1/8"	0.01	----
20-535C*	1/8" x 1/4"	0.01	----
20-517C*	3/16" x 1/4"	0.01	----
20-080C*	5/32" x 1/8"	0.01	----
20-077C*	5/32" x 1/4"	0.01	----
20-049C*	5/32" x 10/32"	0.01	----
20-078C	1/4" x 10-32	0.01	----
20-081C	1/4" x 1/8"	0.02	----
20-082C	1/4" x 1/4"	0.04	----
20-086C	1/4" x 3/8"	0.06	----
20-518C*	1/4" x 1/2"	0.07	----
20-537C	5/16" x 1/8"	0.04	----
20-538C	5/16" x 1/4"	0.04	----
20-539C*	5/16" x 3/8"	0.06	----
20-087C	3/8" x 1/8"	0.04	----
20-083C	3/8" x 1/4"	0.08	----
20-084C	3/8" x 3/8"	0.10	----
20-088C	3/8" x 1/2"	0.12	----
20-184C	1/2" x 1/4"	0.14	----
20-085C	1/2" x 3/8"	0.16	----
20-092C	1/2" x 1/2"	0.18	----

PQ69PS

LONG PATTERN MALE ELBOWS



Part #	Tube O.D. x Thread	Approx. Wt. Lbs.	
20-572C	1/4 X 1/8	0.03	----
20-573C	1/4 X 1/4	0.05	----
20-574C	1/4 X 3/8	0.06	----
20-579C	3/8 X 1/4	0.09	----
20-580C	3/8 X 3/8	0.12	----
20-581C	3/8 X 1/2	0.14	----
20-582C	1/2 X 1/4	0.16	----
20-583C	1/2 X 3/8	0.18	----
20-584C	1/2 X 1/2	0.20	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

COMPOSITE BODY PUSH-IN FITTINGS

BRASS FITTINGS

FEMALE SWIVEL ELBOWS



Part #	Tube O.D. x Female NPT	Approx. Wt. Lbs.	
20-089C	1/4 X 1/8	0.05	----
20-090C	1/4 X 1/4	0.06	----
20-591C	1/4 X 3/8	0.07	----
20-091C	3/8 X 1/4	0.10	----
20-595C	3/8 X 3/8	0.14	----
20-596C	3/8 X 1/2	0.15	----
20-597C	1/2 X 3/8	0.20	----
20-598C	1/2 X 1/2	0.23	----

45° SWIVELS



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

SWIVEL MALE RUN TEE

- Swivels for installation only.
- Not a live swivel



* Global Thread

Part #	Tube O.D. x Male NPT	Approx. Wt. Lbs.	
20-160C*	1/8" x 1/8"	0.03	----
20-833C*	1/8" x 1/4"	0.03	----
20-835C*	5/32" x 10-32	0.03	----
20-162C	1/4" x 1/8"	0.04	----
20-163C	1/4" x 1/4"	0.04	----
20-834C*	1/4" x 10-32	0.04	----
20-099C	3/8" x 1/8"	0.06	----
20-100C	3/8" x 1/4"	0.08	----
20-165C	3/8" x 3/8"	0.10	----
20-181C	3/8 x 1/2	0.12	----
20-174C	1/2 x 1/4	0.12	----
20-166C	1/2 x 3/8	0.14	----
20-167C	1/2 x 1/2	0.16	----

PQ71PS

SWIVEL MALE BRANCH TEE

- Swivels for installation only.
- Not a live swivel



* Global Thread

Part #	Tube O.D. x Male NPT	Approx. Wt. Lbs.	
20-103C*	1/8" x 1/8"	0.02	----
20-519C*	1/8" x 1/4"	0.03	----
20-109C*	5/32" x 1/8"	0.02	----
20-135C*	5/32" x 1/4"	0.03	----
20-104C*	5/32" x 10/32"	0.03	----
20-830C*	3/16" x 1/8"	0.03	----
20-105C	1/4" x 1/8"	0.04	----
20-106C	1/4" x 1/4"	0.06	----
20-831C*	1/4" x 10/32"	0.06	----
20-121C	1/4" x 3/8"	0.08	----
20-136C*	5/16" x 1/8"	0.04	----
20-137C*	5/16" x 1/4"	0.05	----
20-832C*	5/16" x 3/8"	0.06	----
20-107C	3/8" x 1/4"	0.10	----
20-108C	3/8" x 3/8"	0.12	----
20-158C	3/8 X 1/2	0.14	----
20-138C	1/2 X 1/4	0.14	----
20-110C	1/2 X 3/8	0.16	----
20-111C	1/2 X 1/2	0.21	----

PQ72PS

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS FITTINGS

COMPOSITE BODY PUSH-IN FITTINGS

BULKHEAD UNION



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

PQ82P

BULKHEAD FEMALES



Part #	Tube O.D. x Thread	Approx. Wt. Lbs.	
20-170C	1/4 X 1/8	0.04	----
20-171C	1/4 X 1/4	0.04	----
20-172C	3/8 X 1/4	0.06	----
20-173C	3/8 X 3/8	0.07	----
20-175C	1/2 X 1/4	0.07	----
20-176C	1/2 X 3/8	0.09	----
20-179C	1/2 X 1/2	0.10	----

SWIVEL "Y" CONNECTOR

- Swivels for installation only. • Not a live swivel



Part #	Tube O.D. x Male NPT	Approx. Wt. Lbs.	
20-187C	1/4 X 1/8	0.02	----
20-557C	1/4" x 1/4"	0.02	----
20-188C	3/8 X 1/4	0.04	----
20-189C	3/8 X 3/8	0.04	----
20-193C	3/8 X 1/2	0.07	----
20-194C	1/2 X 3/8	0.06	----
20-195C	1/2 X 1/2	0.09	----

PQ88PS

IN-LINE NEEDLE VALVE



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

PQ310C

RIGHT ANGLE FLOW CONTROL METER IN

- Free flow out



Part #	Tube O.D. x Male NPT	Approx. Wt. Lbs.	
20-727C	1/4 X 1/8	0.04	----
20-728C	1/4" x 1/4"	0.04	----
20-780C	3/8 X 1/4	0.06	----
20-781C	3/8 X 3/8	0.06	----
20-782C	1/2 X 1/2	0.10	----

JPQ

RIGHT ANGLE FLOW CONTROL METER OUT

- Free flow in



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

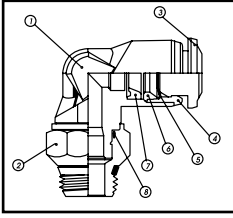
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov



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)	
20-600	4	----
20-601	6	----
20-602	8	----
20-603	10	----
20-604	12	----

UNION TEE



Part #	Tube O.D. (mm)	
20-610	4	----
20-862	5	----
20-611	6	----
20-612	8	----
20-613	10	----
20-614	12	----
20-861	14	----

3104

UNION ELBOW



Part #	Tube O.D. (mm)	
20-806	4	----
20-660	6	----
20-661	8	----
20-807	10	----
20-808	12	----
20-740	14	----

3102

MALE ADAPTER



Part #	Tube OD (mm)	BSPT Thread	
20-630	4	1/8"	----
20-631	4	1/4"	----
20-632	6	1/8"	----
20-633	6	1/4"	----
20-634	8	1/4"	----
20-635	8	3/8"	----
20-636	10	1/4"	----
20-637	10	3/8"	----
20-801	12	1/4"	----
20-638	12	3/8"	----

3175

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

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS FITTINGS

METRIC COMPOSITE BODY PUSH-IN FITTINGS

SWIVEL ELBOW



Part #	Tube OD (mm)	BSPT Thread	
20-690*	4	M5	----
20-856*	4	1/8"	----
20-855*	4	1/4"	----
20-692*	5	M5	----
20-857*	5	1/8"	----
20-859*	6	M5	----
20-642	6	1/8"	----
20-803	6	1/4"	----
20-698*	6	3/8"	----
20-699*	6	1/2"	----
20-711*	8	1/8"	----
20-805	8	1/4"	----
20-655	8	3/8"	----
20-712*	8	1/2"	----
20-656	10	1/4"	----
20-657	10	3/8"	----
20-713*	10	1/2"	----
20-801	12	1/4"	----
20-658	12	3/8"	----
20-659	12	1/2"	----
20-714*	14	3/8"	----
20-854*	14	1/2"	----

- * Global Thread
- BSPP Available

SWIVEL BRANCH TEE



Part #	Tube OD (mm)	BSPT Thread	
20-680*	4	1/8"	----
20-860*	4	1/4"	----
20-717*	5	1/8"	----
20-682	6	1/8"	----
20-683	6	1/4"	----
20-809	8	1/8"	----
20-684	8	1/4"	----
20-685	8	3/8"	----
20-686	10	1/4"	----
20-687	10	3/8"	----
20-810	10	1/2"	----
20-688	12	3/8"	----
20-689	12	1/2"	----
20-718*	14	3/8"	----
20-719*	14	1/2"	----

- * Global Thread
- BSPP Available

SWIVEL RUN TEE



Part #	Tube OD (mm)	BSPT Thread	
20-670	4	1/8"	----
20-720*	4	1/4"	----
20-721*	5	1/8"	----
20-672	6	1/8"	----
20-673	6	1/4"	----
20-811	8	1/8"	----
20-674	8	1/4"	----
20-675	8	3/8"	----
20-676	10	1/4"	----
20-677	10	3/8"	----
20-678	12	3/8"	----
20-679	12	1/2"	----

- * Global Thread
- BSPP Available

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

METRIC COMPOSITE BODY PUSH-IN FITTINGS

BRASS FITTINGS

UNION WYE



Part #	Tube OD (mm)	
20-813	4	----
20-814	6	----
20-815	8	----
20-746	10	----
20-827	12	----

SWIVEL MALE WYE



Part #	Tube OD (mm)	Global Thread	
20-816	4	1/8"	----
20-821*	4	1/4"	----
20-817*	6	1/8"	----
20-818	6	1/4"	----
20-819*	8	1/8"	----
20-820*	8	1/4"	----
20-822*	8	3/8"	----
20-823*	10	1/4"	----
20-824*	10	3/8"	----
20-825*	10	1/2"	----
20-826*	12	3/8"	----
20-827*	12	1/2"	----

- * Global Thread
- BSPP Available

Also available:

- 45° elbow swivel
- 4 position Y
- Manifolds
- Extended swivel elbows
- Bulkhead union
- Plug-in elbows and tees

Affliction comes to us, not to make us sad but sober;
not to make us sorry but wise.

- H. G. Wells

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)

Dimension data can change without notice. Please see our website when dimensions are critical.

D.O.T. PUSH-IN

BRASS FITTINGS

PLUG



Part #	Tube O.D.	Approx. Wt. Lbs.	
595320	5/32"	0.01	----
590400	1/4"	0.02	----
590600	3/8"	0.02	----
590800	1/2"	0.04	----

1829 DQ59DOT 639PMT

UNION



Part #	Tube O.D.	Approx. Wt. Lbs.	
620532	5/32"	0.06	----
620400	1/4"	0.06	----
620600	3/8"	0.13	----
620604	3/8" x 1/4"	0.15	----
620800	1/2"	0.19	----
621000	5/8"	0.30	----
621200	3/4"	0.44	----

AQ62DOT 62PMT 1862 DQ62DOT

UNION TEE



Part #	Tube O.D.	Approx. Wt. Lbs.	
640400	1/4"	0.09	----
640600	3/8"	0.16	----
640800	1/2"	0.25	----
641000	5/8"	0.32	----
641200	3/4"	0.36	----

AQ64DOT 164 PMT 1864 DQ64DOT

UNION ELBOW



Part #	Tube O.D.	Approx. Wt. Lbs.	
655320	5/32"	0.03	----
650400	1/4"	0.06	----
650600	3/8"	0.12	----
650800	1/2"	0.18	----

AQ65DOT 165 PMT 1865 DQ65DOT

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

FEMALE CONNECTOR



Part #	Tube O.D. x Female NPTF	Approx. Wt. Lbs.	
660402	1/4" x 1/8"	0.06	----
660404	1/4" x 1/4"	0.10	----
660602	3/8" x 1/8"	0.11	----
660604	3/8" x 1/4"	0.11	----
660606	3/8" x 3/8"	0.17	----
660804	1/2" x 1/4"	0.14	----
660806	1/2" x 3/8"	0.16	----
660808	1/2" x 1/2"	0.25	----

AQ66DOT 66PMT 1866 DQ66DOT

MALE CONNECTOR



Part #	Tube O.D. x Male NPTF	Approx. Wt. Lbs.	
685320	5/32" x 10/32"	0.02	----
685321	5/32" x 1/16"	0.02	----
685322	5/32" x 1/8"	0.02	----
680302	3/16" x 1/8"	0.02	----
680421	1/4" x 1/16"	0.02	----
680402	1/4" x 1/8"	0.03	----
680404	1/4" x 1/4"	0.04	----
680406	1/4" x 3/8"	0.07	----
680602	3/8" x 1/8"	0.06	----
680604	3/8" x 1/4"	0.07	----
680606	3/8" x 3/8"	0.06	----
680608	3/8" x 1/2"	0.13	----
680804	1/2" x 1/4"	0.11	----
680806	1/2" x 3/8"	0.12	----
680808	1/2" x 1/2"	0.14	----
681006	5/8" x 3/8"	0.18	----
681008	5/8" x 1/2"	0.18	----
681208	3/4" x 1/2"	0.20	----
681212	3/4" x 3/4"	0.20	----

AQ68DOT 68PM 1868 DQ68DOT 68PMT

Dimension data can change without notice. Please see our website when dimensions are critical.

D.O.T. PUSH-IN

BRASS FITTINGS

MALE ELBOW



Forged

Part #	Tube O.D. x Male NPTF	Approx. Wt. Lbs.	
695302	5/32" x 1/16"	0.03	----
695322	5/32" x 1/8"	0.03	----
690302	3/16" x 1/8"	0.03	----
690402	1/4" x 1/8"	0.08	----
690404	1/4" x 1/4"	0.06	----
690406	1/4" x 3/8"	0.11	----
690602	3/8" x 1/8"	0.08	----
690604	3/8" x 1/4"	0.09	----
690606	3/8" x 3/8"	0.11	----
690608	3/8" x 1/2"	0.20	----
690804	1/2" x 1/4"	0.22	----
690806	1/2" x 3/8"	0.22	----
690808	1/2" x 1/2"	0.24	----
691006	5/8" x 3/8"	0.30	----
691008	5/8" x 1/2"	0.32	----
691208	3/4" x 1/2"	0.32	----
691212	3/4" x 3/4"	0.34	----

AQ69DOT 169PMTNS 1869 DQ69DOT

MALE SWIVEL ELBOW



Forged

Part #	Tube O.D. x Male NPTF	Approx. Wt. Lbs.	
695322S	5/32" x 1/8"	0.07	----
690402S	1/4" x 1/8"	0.06	----
690404S	1/4" x 1/4"	0.10	----
690406S	1/4" x 3/8"	0.10	----
690602S	3/8" x 1/8"	0.10	----
690604S	3/8" x 1/4"	0.11	----
690606S	3/8" x 3/8"	0.12	----
690608S	3/8" x 1/2"	0.20	----
690804S	1/2" x 1/4"	0.16	----
690806S	1/2" x 3/8"	0.18	----
690808S	1/2" x 1/2"	0.26	----
691006S	5/8" x 3/8"	0.28	----
691008S	5/8" x 1/2"	0.30	----
691208S	3/4" x 1/2"	0.50	----
691212S	3/4" x 3/4"	0.56	----

AQ69DOTS 169PMT 1869 DQ69DOTS

Weeds are flowers too, once you get to know them. — A. A. Milne

FEMALE ELBOW



Forged

Part #	Tube O.D. x Female NPTF	Approx. Wt. Lbs.	
700402	1/4" x 1/8"	0.06	----
700404	1/4" x 1/4"	0.10	----
700406	1/4" x 3/8"	0.16	----
700602	3/8" x 1/8"	0.15	----
700604	3/8" x 1/4"	0.12	----
700606	3/8" x 3/8"	0.17	----
700806	1/2" x 3/8"	0.26	----
700808	1/2" x 1/2"	0.30	----

AQ70DOTS 1870 DQ70DOTS 170PMTNS

FEMALE SWIVEL ELBOW



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

MALE RUN TEE



Forged

Part #	Tube O.D. x Male NPTF (1 x 3) x 2	Approx. Wt. Lbs.	
710402	1/4" x 1/8"	0.06	----
71040604	(1/4" x 3/8") x 1/4"	0.20	----
710404	1/4" x 1/4"	0.08	----
710604	3/8" x 1/4"	0.20	----
71060404	(3/8" x 1/4") x 1/4"	0.20	----
710606	3/8" x 3/8"	0.17	----
71060406	(3/8" x 1/4") x 3/8"	0.20	----
710608	3/8" x 1/2"	0.14	----
710806	1/2" x 3/8"	0.28	----

AQ71DOT 171PMTNS 1871 DQ71DOT

You cannot escape the responsibility of tomorrow by evading it today. - Abraham Lincoln

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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

Part #	Tube O.D. x Male NPTF	Approx. Wt. Lbs.	
710402S	1/4" x 1/8"	0.09	----
710404S	1/4" x 1/4"	0.11	----
710604S	3/8" x 1/4"	0.15	----
710606S	3/8" x 3/8"	0.14	----
710804S	1/2" x 1/4"	0.24	----
710806S	1/2" x 3/8"	0.24	----
710808S	1/2" x 1/2"	0.30	----

AQ71DOTS 171PMT 1871 DQ71DOTS

MALE 45° ELBOW**Forged**

Part #	Tube O.D. x Male NPTF	Approx. Wt. Lbs.	
540402	1/4" x 1/8"	0.06	----
540404	1/4" x 1/4"	0.06	----
540602	3/8" x 1/8"	0.08	----
540604	3/8" x 1/4"	0.09	----
540606	3/8" x 3/8"	0.11	----
540608	3/8" x 1/2"	0.15	----
540804	1/2" x 1/4"	0.13	----
540806	1/2" x 3/8"	0.16	----
540808	1/2" x 1/2"	0.18	----
541006	5/8" x 3/8"	0.22	----
541008	5/8" x 1/2"	0.21	----
541208	3/4" x 1/2"	0.28	----
541212	3/4" x 3/4"	0.32	----

AQ54DOT 179MTNS 1880 DQ54DOT

MALE 45° SWIVEL ELBOW

Part #	Tube O.D. x Male NPTF	Approx. Wt. Lbs.	
540402S	1/4" x 1/8"	0.06	----
540404S	1/4" x 1/4"	0.09	----
540602S	3/8" x 1/8"	0.10	----
540604S	3/8" x 1/4"	0.11	----
540606S	3/8" x 3/8"	0.13	----
540804S	1/2" x 1/4"	0.14	----
540806S	1/2" x 3/8"	0.16	----
540808S	1/2" x 1/2"	0.18	----
541008S	5/8" x 1/2"	0.24	----

AQ54DOTS 179PMT 1880 DQ54DOTS

MALE BRANCH TEE**Forged**

Part #	Tube O.D. x Male NPTF (1 x 2) x 3	Approx. Wt. Lbs.	
720302	3/16" x 1/8"	0.07	----
720402	1/4" x 1/8"	0.10	----
720404	1/4" x 1/4"	0.10	----
720604	3/8" x 1/4"	0.14	----
72060404	(3/8" x 1/4") x 1/4"	0.20	----
720606	3/8" x 3/8"	0.15	----
720804	1/2" x 1/4"	0.20	----
720806	1/2" x 3/8"	0.24	----
720808	1/2" x 1/2"	0.32	----
72100808	(5/8" x 1/2") x 1/2"	0.20	----

AQ72DOT 172PMTNS 1872 DQ72DOT

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

MALE SWIVEL BRANCH TEE



Part #	Tube O.D. x Male NPTF	Approx. Wt. Lbs.	
720402S	1/4" x 1/8"	0.12	----
720404S	1/4" x 1/4"	0.14	----
720602S	3/8" x 1/8"	0.19	----
720604S	3/8" x 1/4"	0.15	----
720606S	3/8" x 3/8"	0.17	----
720804S	1/2" x 1/4"	0.30	----
720806S	1/2" x 3/8"	0.34	----
720808S	1/2" x 1/2"	0.22	----

AQ72DOTS 172PMT 1872 DQ72DOTS

FEMALE BRANCH TEE



(RUN) BRANCH

Part #	(1 & 2) x 3	
770402	1/4" x 1/8"	----
770404	1/4" x 1/4"	----
770604	3/8" x 1/4"	----

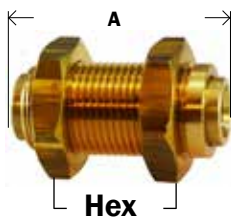
GLADHAND BULKHEAD CONNECTOR



TUBE OD x MALE NPTF

Part #	Size	
830808	1/2" x 1/2"	----

BULKHEAD UNION



Part #	Tube O.D.	Approx. Wt. Lbs.	
820400	1/4"	0.16	----
820600	3/8"	0.21	----
820800	1/2"	0.14	----
821000	5/8"	0.30	----

AQ82DOT 62PMTBH 1874 DQ82DOT

FEMALE BULKHEAD UNION



Part #	Tube O.D. x Female NPTF	Approx. Wt. Lbs.	
860402	1/4" x 1/8"	0.08	----
860404	1/4" x 1/4"	0.10	----
860604	3/8" x 1/4"	0.14	----
860606	3/8" x 3/8"	0.31	----
860808	1/2" x 1/2"	0.32	----

• Jam nuts not available separately

AQ86DOT 1873 DQ86DOT 66PMTBH

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

COMPOSITE BODY DOT AIRBRAKE FITTINGS

WARNING

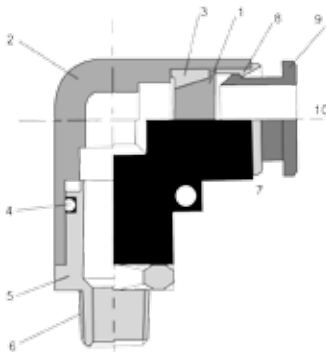
- Composite DOT push-to-connect fittings are designed only for use in applications where air is utilized as an operating fluid.
 - Fittings must be used in accordance with manufacturer and industry specifications.
 - They are not intended for use in environments exceeding 145psi or 140 degrees F.
 -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



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

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

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



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

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

STRAIGHT UNION



Part #	Tube OD (inch)	Approx. Wt. Lbs.	
620532C	5/32	0.01	----
620400C	1/4	0.01	----
620600C	3/8	0.03	----
620800C	1/2	0.05	----
621000C	5/8	0.08	----

UNION TEE



NEW

Part #	Tube OD (inch)	Approx. Wt. Lbs.	
645320C	5/32	0.02	----
640400C	1/4	0.02	----
640600C	3/8	0.05	----
640800C	1/2	0.07	----
641000C	5/8	0.13	----

UNION 90° ELBOW



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

FEMALE CONNECTOR



NEW

NEW

Part #	Tube OD (inch)	Thread NPT	Approx. Wt. Lbs.	
665302C	5/32	1/8-27	0.04	----
665304C	5/32	1/4-18	0.06	----
660402C	1/4	1/8-27	0.04	----
660404C	1/4	1/4-18	0.06	----
660406C	1/4	3/8-18	0.10	----
660602C	3/8	1/8-27	0.07	----
660604C	3/8	1/4-18	0.07	----
660606C	3/8	3/8-18	0.11	----
660608C	3/8	1/2-14	0.12	----
660802C	1/2	1/8-27	0.11	----
660804C	1/2	1/4-18	0.13	----
660806C	1/2	3/8-18	0.12	----
660808C	1/2	1/2-14	0.13	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

COMPOSITE BODY D.O.T. PUSH-IN

BRASS FITTINGS

STRAIGHT MALE CONNECTOR



	Part #	App. Tube OD (inch)	Thread NPT	Approx. Wt. Lbs.	
NEW	685301C	5/32	1/16-28	0.02	----
NEW	685302C	5/32	1/8-27	0.02	----
NEW	685304C	5/32	1/4-27	0.03	----
	680402C	1/4	1/8-27	0.02	----
	680404C	1/4	1/4-18	0.03	----
	680406C	1/4	3/8-18	0.05	----
	680602C	3/8	1/8-27	0.05	----
	680604C	3/8	1/4-18	0.06	----
	680606C	3/8	3/8-18	0.06	----
	680608C	3/8	1/2-14	0.09	----
	680804C	1/2	1/4-18	0.09	----
	680806C	1/2	3/8-18	0.09	----
	680808C	1/2	1/2-14	0.09	----
	681006C	5/8	3/8-18	0.15	----
	681008C	5/8	1/2-14	0.13	----
	681208C	3/4	1/2-14	0.38	----

90° MALE ELBOW

- Fixed



	Part #	Tube OD (inch)	Thread NPT	Approx. Wt. Lbs.	
NEW	695322SC	5/32	1/8-27	0.03	----
NEW	690402SC	1/4	1/8-27	0.03	----
	690404SC	1/4	1/4-18	0.04	----
	690406SC	1/4	3/8-18	0.07	----
	690602SC	3/8	1/8-27	0.07	----
	690604SC	3/8	1/4-18	0.06	----
	690606SC	3/8	3/8-18	0.08	----
	690608SC	3/8	1/2-14	0.14	----
	690804SC	1/2	1/4-18	0.07	----
	690806SC	1/2	3/8-18	0.09	----
	690808SC	1/2	1/2-14	0.14	----
	691006SC	5/8	3/8-18	0.14	----
	691008SC	5/8	1/2-14	0.18	----
	691208SC	3/4	1/2-14	0.26	----

90° FEMALE ELBOW



	Part #	Tube OD (inch)	Thread NPT	Approx. Wt. Lbs.	
NEW	705302C	5/32	1/8-27	0.03	----
NEW	705304C	5/32	1/4-18	0.05	----
	700402SC	1/4	1/8-27	0.03	----
	700404SC	1/4	1/4-18	0.05	----
	700406SC	1/4	3/8-18	0.08	----
NEW	700602C	3/8	1/8-27	0.05	----
	700604SC	3/8	1/4-18	0.07	----
	700606SC	3/8	3/8-18	0.09	----
	700608SC	3/8	1/2-14	0.10	----
NEW	700804C	1/2	1/4-18	0.08	----
	700806SC	1/2	3/8-18	0.10	----
	700808SC	1/2	1/2-14	0.11	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS FITTINGS

COMPOSITE BODY D.O.T. PUSH-IN

MALE RUN TEE

- Fixed



	Part #	Tube OD (inch)	Thread NPT	Approx. Wt. Lbs.	
NEW	715301C	5/32	1/16	0.05	----
NEW	715302C	5/32	1/8	0.03	----
NEW	715304C	5/32	1/4	0.04	----
	710402SC	1/4	1/8-27	0.04	----
	710404SC	1/4	1/4-18	0.05	----
	710604SC	3/8	1/4-18	0.08	----
	710606SC	3/8	3/8-18	0.10	----
	710608SC	3/8	1/2-14	0.15	----
NEW	710804C	1/2	1/4-8	0.09	----
	710806SC	1/2	3/8-18	0.11	----
	710808C	1/2	1/2-14	0.17	----

MALE BRANCH TEE

- Fixed



	Part #	Tube OD (inch)	Thread NPT	Approx. Wt. Lbs.	
NEW	725301C	5/32	1/16	0.03	----
NEW	725302C	5/32	1/8	0.03	----
NEW	725304C	5/32	1/4	0.05	----
	720402SC	1/4	1/8-27	0.04	----
	720404SC	1/4	1/4-18	0.05	----
	720406SC	1/4	3/8-18	0.08	----
	720604SC	3/8	1/4-18	0.08	----
	720606SC	3/8	3/8-18	0.10	----
NEW	720608C	3/8	1/2-14	0.15	----
NEW	720804C	1/2	1/4-18	0.09	----
	720806SC	1/2	3/8-18	0.11	----
	720808SC	1/2	1/2-14	0.17	----
NEW	721006C	5/8	3/8	0.18	----
NEW	721008C	5/8	1/2	0.21	----

FEMALE BRANCH TEE



	Part #	Tube OD (inch)	Thread NPT	Approx. Wt. Lbs.	
	770402C	1/4	1/8-27	0.06	----
	770404C	1/4	1/4-18	0.08	----
	770604C	3/8	1/4-18	0.08	----
NEW	770806C	1/2	3/8	0.13	----
NEW	771004C	5/8	1/4	0.21	----

45° MALE ELBOW

- Fixed



	Part #	Tube OD (inch)	Thread NPT	Approx. Wt. Lbs.	
NEW	545302C	5/32	1/8-27	0.03	----
	540402SC	1/4	1/8-27	0.03	----
	540404SC	1/4	1/4-18	0.04	----
	540602SC	3/8	1/8-27	0.06	----
	540604SC	3/8	1/4-18	0.06	----
	540606SC	3/8	3/8-18	0.08	----
	540608SC	3/8	1/2-14	0.13	----
NEW	540802C	1/2	1/8-27	0.08	----
	540804SC	1/2	1/4-18	0.08	----
	540806SC	1/2	3/8-18	0.10	----
	540808SC	1/2	1/2-14	0.15	----
	541006SC	5/8	3/8-18	0.14	----
	541008SC	5/8	1/2-14	0.17	----
	541208SC	3/4	1/2-14	0.26	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

COMPOSITE BODY D.O.T. PUSH-IN

BRASS FITTINGS

UNION "Y"



Part #	A&B Tube OD (inch)	C Tube OD (inch)	Approx. Wt. Lbs.	
620553C	1/4	1/4	0.03	----
620409C	1/4	3/8	0.03	----
620555C	3/8	3/8	0.05	----
620559C	3/8	1/4	0.07	----
620557C	1/2	1/2	0.08	----

MALE BRANCH "Y"



NEW
NEW
NEW

Part #	Tube OD (inch)	Thread NPT	Approx. Wt. Lbs.	
880402C	1/4	1/8	0.05	----
880404C	1/4	1/4	0.06	----
880406C	1/4	3/8	0.09	----
620604C	3/8	1/4-18	0.09	----
620606C	3/8	3/8-18	0.12	----
620806C	1/2	3/8-18	0.13	----
620808C	1/2	1/2-14	0.15	----

BULKHEAD UNION



NEW

Part #	Tube OD (inch)	Thread (UNF)	Approx. Wt. Lbs.	
825320C	5/32	1/2-20	0.07	----
820400C	1/4	9/16-18	0.07	----
820600C	3/8	7/8-14	0.19	----
820800C	1/2	1-12	0.26	----
821000C	5/8	1 1/8-12	0.42	----

FEMALE BULKHEAD CONNECTOR



NEW

Part #	App. Tube OD (inch)	Thread NPT	T (UNF)	Approx. Wt. Lbs.	
865304C	5/32	1/4-18	1/2-20	0.08	----
860402C	1/4	1/8-27	9/16-18	0.01	----
860404C	1/4	1/4-18	9/16-18	0.08	----
860604C	3/8	1/4-18	7/8-14	0.20	----
860606C	3/8	3/8-18	7/8-14	0.20	----
860806C	1/2	3/8-18	1-12	0.26	----
860808C	1/2	1/2-14	1-12	0.27	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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.	
38-000	3/16"		----
38-001	1/4"	0.01	----
38-002	3/8"	0.01	----
38-003	1/2"	0.01	----
38-004	5/8"	0.01	----
38-005	3/4"	0.01	----

60NAB 60NTA 1460

NUT

SAE# 100110



Part #	Tube O.D.	Approx. Wt. Lbs.	
38-009	3/16"		----
38-010	1/4"	0.02	----
38-011	3/8"	0.03	----
38-012	1/2"	0.05	----
38-013	5/8"	0.06	----
38-014	3/4"	0.09	----

61NAB 61NTA 1461

UNION
SAE# 100101BA

Part #	Tube O.D.	Approx. Wt. Lbs.	
38-018	3/16"		----
38-019	1/4"	0.07	----
38-020	3/8"	0.11	----
38-021	1/2"	0.20	----
38-022	5/8"	0.25	----
38-023	3/4"	0.40	----

62NAB 62NTA 1462

BULKHEAD UNION

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

62NBH 1474 475

STAINLESS STEEL INSERT

• 300 series stainless



• For SAE# J844 TUBING

Part #	Tube O.D.	Approx. Wt. Lbs.	
38-035	1/4"	0.01	----
38-036	3/8"	0.01	----
38-037	1/2"	0.01	----
38-038	5/8"	0.01	----
38-039	3/4"	0.01	----

59A 63NTA

BRASS INSERT

Part #	Tube O.D.	Approx. Wt. Lbs.	
38-040	1/4"	0.01	----
38-041	3/8"	0.01	----
38-042	1/2"	0.01	----
38-043	5/8"	0.01	----
38-048	3/4"	0.02	----

1484 463

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

TEE

SAE# 100401BA



Part #	Tube O.D.	Approx. Wt. Lbs.	
38-044	1/4"	0.12	----
38-045	3/8"	0.19	----
38-046	1/2"	0.36	----
38-047	5/8"	0.48	----

64NAB 264NTA 1464

REDUCING BRANCH TEE



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

ELBOW

SAE# 100201BA



Part #	Tube O.D.	Approx. Wt. Lbs.	
38-052	1/4"	0.09	----
38-053	3/8"	0.13	----
38-054	1/2"	0.15	----
38-055	5/8"	0.36	----

65NAB 265NTA 1465

FEMALE ADAPTER

SAE# 100103BA



NEW

Part #	Tube O.D. x Female NPT	Approx. Wt. Lbs.	
38-060	1/4" x 1/8"	0.06	----
38-061	1/4" x 1/4"	0.08	----
38-062	3/8" x 1/8"	0.07	----
38-063	3/8" x 1/4"	0.10	----
38-064	3/8" x 3/8"	0.14	----
38-065	1/2" x 3/8"	0.16	----
38-066	1/2" x 1/2"	0.20	----
38-067	5/8" x 3/8"	0.28	----
38-068	5/8" x 1/2"	0.28	----
38-059	3/4" x 1/2"	0.31	----

66NAB 66NTA 1466 66NBH

Adopt the pace of nature: her secret is patience.

- Ralph Waldo Emerson

Dimension data can change without notice. Please see our website when dimensions are critical.

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

D.O.T. AIR BRAKE - NYLON TUBING

BRASS FITTINGS

MALE ADAPTER

SAE# 100102BA



Part #	Tube O.D. x Male NPTF	Approx. Wt. Lbs.	
38-072	1/4" x 1/16"	0.05	----
38-073	1/4" x 1/8"	0.05	----
38-074	1/4" x 1/4"	0.06	----
38-075	1/4" x 3/8"	0.08	----
38-076	3/8" x 1/8"	0.07	----
38-077	3/8" x 1/4"	0.08	----
38-078	3/8" x 3/8"	0.10	----
38-079	3/8" x 1/2"	0.14	----
38-080	1/2" x 1/4"	0.13	----
38-081	1/2" x 3/8"	0.14	----
38-082	1/2" x 1/2"	0.18	----
38-087	1/2" x 3/4"	0.23	----
38-083	5/8" x 3/8"	0.17	----
38-084	5/8" x 1/2"	0.21	----
38-088	5/8" x 3/4"	0.25	----
38-085	3/4" x 1/2"	0.28	----
38-086	3/4" x 3/4"	0.30	----

SWIVEL MALE ADAPTER



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

68NAB 68NTA 1468

MALE ELBOW

SAE# 100202BA



Part #	Tube O.D. x Male NPTF	Approx. Wt. Lbs.	
38-091	1/4" x 1/8"	0.06	----
38-092	1/4" x 1/4"	0.08	----
38-093	1/4" x 3/8"	0.13	----
38-094	3/8" x 1/8"	0.09	----
38-095	3/8" x 1/4"	0.11	----
38-090	3/8" x 1/4" LONG	0.14	----
38-101	3/8" x 3/8"	0.14	----
38-102	3/8" x 1/2"	0.20	----
38-103	1/2" x 1/4"	0.16	----
38-104	1/2" x 3/8"	0.20	----
38-109	1/2" x 3/8" LONG	0.26	----
38-105	1/2" x 1/2"	0.29	----
38-106	5/8" x 3/8"	0.26	----
38-107	5/8" x 1/2"	0.32	----
38-110	5/8" x 3/4"	0.40	----
38-108	3/4" x 1/2"	0.43	----
38-111	3/4" x 3/4"	0.51	----

269NTA 1469

SWIVEL MALE ELBOW



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

FEMALE ELBOW

SAE# 100203BA



Part #	Tube O.D. x Female NPTF	Approx. Wt. Lbs.	
38-113	1/4" x 1/8"	0.08	----
38-114	1/4" x 1/4"	0.12	----
38-115	3/8" x 1/8"	0.14	----
38-116	3/8" x 1/4"	0.10	----
38-117	3/8" x 3/8"	0.12	----
38-118	1/2" x 3/8"	0.23	----
38-119	1/2" x 1/2"	0.36	----
38-120	5/8" x 1/2"	0.38	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

MALE RUN TEE

SAE# 100424BA

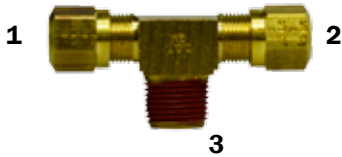


Part #	Tube O.D. x Male NPTF x Tube O.D. 1x2x3	Approx. Wt. Lbs.	
38-125	1/4" x 1/8" x 1/4"	0.10	----
38-126	1/4" x 1/4" x 1/4"	0.13	----
38-124	3/8" x 1/4" x 1/4"	0.14	----
38-127	3/8" x 1/4" x 3/8"	0.17	----
38-128	3/8" x 3/8" x 3/8"	0.20	----
38-129	1/2" x 3/8" x 1/2"	0.30	----

71NAB 271NTA 1471

MALE BRANCH TEE

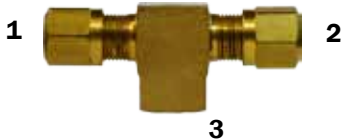
SAE# 100425BA



Part #	Tube O.D. x Tube O.D. x Male NPTF 1x2x3	Approx. Wt. Lbs.	
38-136	1/4" x 1/4" x 1/8"	0.10	----
38-137	1/4" x 1/4" x 1/4"	0.13	----
38-138	3/8" x 3/8" x 1/8"	0.14	----
38-132	3/8" x 1/4" x 1/4"	0.15	----
38-139	3/8" x 3/8" x 1/4"	0.17	----
38-133	1/2" x 1/2" x 1/4"	0.26	----
38-140	3/8" x 3/8" x 3/8"	0.21	----
38-134	1/2" x 3/8" x 3/8"	0.26	----
38-141	1/2" x 1/2" x 3/8"	0.30	----
38-142	1/2" x 1/2" x 1/2"	0.37	----
38-143	5/8" x 5/8" x 1/2"	0.44	----

72NAB 272NTA 1472

FEMALE BRANCH TEE



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

45° ELBOW

SAE# 100302BA



Part #	Tube O.D. x Male NPTF	Approx. Wt. Lbs.	
38-148	1/4" x 1/8"	0.06	----
38-149	1/4" x 1/4"	0.08	----
38-150	3/8" x 1/8"	0.09	----
38-151	3/8" x 1/4"	0.11	----
38-152	3/8" x 3/8"	0.14	----
38-153	3/8" x 1/2"	0.24	----
38-157	1/2" x 1/4"	0.18	----
38-154	1/2" x 3/8"	0.19	----
38-155	1/2" x 1/2"	0.25	----
38-156	5/8" x 1/2"	0.30	----
38-158	3/4" x 1/2"	0.38	----

6945NAB 279NTA 1480

SWIVEL 45° ELBOW



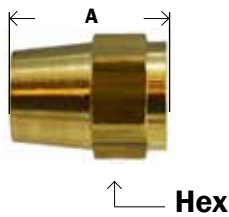
Part #	Tube O.D. x Male NPTF	Approx. Wt. Lbs.	
38-152S	3/8" x 3/8"	0.20	----
38-154S	1/2" x 3/8"	0.24	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

D.O.T. AIR BRAKE - COPPER TUBING**BRASS FITTINGS****SLEEVE****SAE# 120115BA**

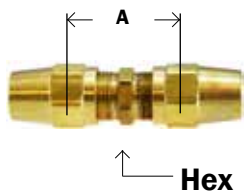
Part #	Tube O.D.	A	Approx. Wt. Lbs.	
38-161	1/4"	0.25	0.01	----
38-162	3/8"	0.31	0.02	----
38-163	1/2"	0.38	0.02	----
38-164	5/8"	0.44	0.02	----
38-165	3/4"	0.50	0.04	----

60AB 1360

NUT**SAE# 120111BA**

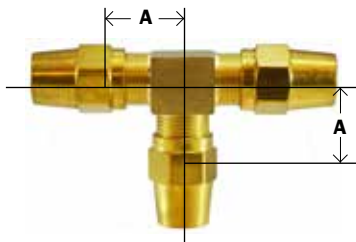
Part #	Tube O.D.	A	Hex	Approx. Wt. Lbs.	
38-170	1/4"	0.75	0.56	0.02	----
38-171	3/8"	1.13	0.62	0.04	----
38-172	1/2"	1.25	0.81	0.08	----
38-173	5/8"	1.38	0.94	0.12	----
38-174	3/4"	1.56	1.12	0.18	----

20961 61AB 1361

UNION**SAE# 120101BA**

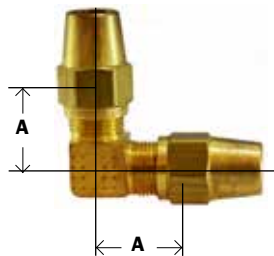
Part #	Tube O.D.	A	Hex	Approx. Wt. Lbs.	
38-179	1/4"	0.81	0.44	0.08	----
38-180	3/8"	1.10	0.56	0.14	----
38-181	1/2"	1.07	0.69	0.24	----
38-182	5/8"	1.41	0.81	0.34	----
38-183	3/4"				----

62AB 1362

TEE**SAE# 120401BA**

Part #	Tube O.D.	A	Approx. Wt. Lbs.	
38-188	1/4"	0.62	0.16	----
38-189	3/8"	0.82	0.24	----
38-190	1/2"	0.94	0.48	----
38-191	5/8"			----

264AB 1364

ELBOW**SAE# 120201BA**

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

265AB 1365

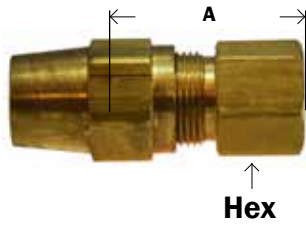
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS FITTINGS

D.O.T. AIR BRAKE - COPPER TUBING

FEMALE ADAPTER

SAE# 120103BA

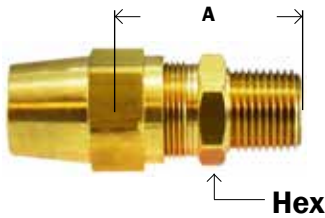


Part #	Tube O.D. x Female NPTF	A	Hex	Approx. Wt. Lbs.	
38-204	1/4" x 1/8"	0.84	0.56	0.08	----
38-205	1/4" x 1/4"	1.07	0.68	0.10	----
38-206	3/8" x 1/8"	1.00	0.56	0.10	----
38-207	3/8" x 1/4"	1.19	0.68	0.12	----
38-208	3/8" x 3/8"	1.18	0.87	0.16	----
38-209	1/2" x 3/8"	1.27	0.87	0.18	----
38-210	1/2" x 1/2"	1.44	1.06	0.20	----
38-211	5/8" x 3/8"	1.31	0.87	0.24	----
38-212	5/8" x 1/2"	0.50	1.06	0.26	----
38-213	3/4" x 1/2"				----

66AB 1366

MALE ADAPTER

SAE# 120102BA

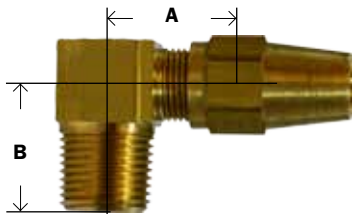


Part #	Tube O.D. x Male NPTF	A	Hex	Approx. Wt. Lbs.	
38-217	1/4" x 1/8"	0.88	0.43	0.06	----
38-218	1/4" x 1/4"	0.97	0.56	0.08	----
38-221	3/8" x 1/4"	1.09	0.56	0.10	----
38-222	3/8" x 3/8"	1.19	0.69	0.12	----
38-223	3/8" x 1/2"	1.45	0.87	0.18	----
38-224	1/2" x 1/4"	1.32	0.69	0.16	----
38-225	1/2" x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

68AB 368

90° MALE ELBOW

SAE# 120202BA

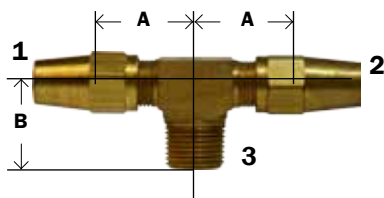


Part #	Tube O.D. x Male NPTF	A	B	Approx. Wt. Lbs.	
38-235	1/4" x 1/8"	0.64	0.76	0.08	----
38-236	1/4" x 1/4"	0.69	0.88	0.10	----
38-237	1/4" x 3/8"	0.73	0.86	0.14	----
38-239	3/8" x 1/4"	0.80	0.93	0.12	----
38-240	3/8" x 3/8"	0.83	0.90	0.16	----
38-241	3/8" x 1/2"				----
38-243	1/2" x 3/8"	0.92	0.98	0.22	----
38-244	1/2" x 1/2"	1.04	1.19	0.30	----
38-246	5/8" x 1/2"	1.10	1.25	0.36	----

269AB 1369

MALE BRANCH TEE

SAE# 120425BA



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

272AB 1372

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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.	
38-300	3/8"	0.02	----
38-301	1/2"	0.02	----

#60HC 3380-A 0903610 367 60RB

NUT



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

61RB #61HC 369 3380-B 0903624

NUT FOR USE WITH SPRING



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

#61HCS 0903613 3380-D 61RB5G

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

SPRING



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

#60SG 0901045 3380-C 377

NUT AND SPRING ASSEMBLY



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

379 67RBSG 0999999

UNION



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

#62HC 3380B-Y0 362



BODY ONLY

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

FEMALE CONNECTOR HOSE



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

#66ABS 66RBSV 3380B-Y7 386



BODY ONLY

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

MALE CONNECTOR



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

#68ABS 09155 3380B-Y8 387

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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.	
38-369	3/8" x 1/4"	3/4-20	0.05	----
38-368	3/8" x 3/8"	3/4-20	0.08	----
38-372	3/8" x 1/2"	3/4-20	0.12	----
38-370	1/2" x 3/8"	7/8-20	0.10	----
38-371	1/2" x 1/2"	7/8-20	0.12	----

#68ABS 1390 76RB 388

MALE ADAPTER

Part #	Hose I.D. x Male Pipe	Approx. Wt. Lbs.	
38-333	3/8" x 1/4"	0.22	----
38-334	3/8" x 3/8"	0.24	----
38-335	3/8" x 1/2"	0.26	----
38-336	1/2" x 3/8"	0.33	----
38-337	1/2" x 1/2"	0.36	----

#68HC 368 3380B-Y2 68RB

ADAPTER BODY

Part #	Hose I.D. x Male Pipe	Approx. Wt. Lbs.	
38-324	3/8" x 1/4"	0.12	----
38-325	3/8" x 3/8"	0.14	----
38-326	3/8" x 1/2"	0.20	----
38-327	1/2" x 3/8"	0.18	----
38-328	1/2" x 1/2"	0.20	----

#68B W1391Z

MALE ADAPTER

Part #	Hose I.D. x Male Pipe	Approx. Wt. Lbs.	
38-342	3/8" x 1/4"	0.32	----
38-343	3/8" x 3/8"	0.34	----
38-344	3/8" x 1/2"	0.38	----
38-345	1/2" x 3/8"	0.48	----
38-346	1/2" x 1/2"	0.52	----

#68HCS 3380B-Y3 68RBSG 378

America was not built on fear. America was built on courage, on imagination and an unbeatable determination to do the job at hand.

- Harry S Truman

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

STEEL FITTINGS

STEEL GREASE FITTINGS

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

Meets SAE #J-534C

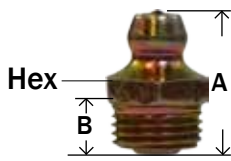
- Assortments also available

Many types available on special order.

PIPE THREAD

BALL CHECK - 1/8-27 NPTF

• See website for Grease Accessories

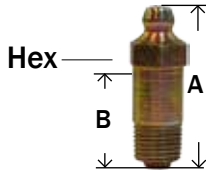


Part #	Size	A	B	Hex	Approx. Wt. Lbs.	
36-110	1/8" -27 NPTF	0.66	0.28	0.437	0.01	----
36-110SS	303 SS	0.68	0.29	0.437	0.01	----
36-111	Thread Forming	0.62	0.23	0.437	0.01	----

#610 1610 2800 1720 5000

PIPE THREAD

BALL CHECK

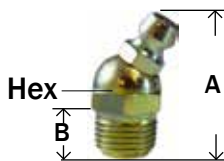


Part #	Size	A	B	Hex	Approx. Wt. Lbs.	
36-112	1/8" -27 NPTF	1.25	0.22	0.437	0.02	----
36-113	1/8" -27 NPTF	1.75	1.26	0.437	0.02	----

#607 1607 2800 1669 5003

PIPE THREAD

30° ANGLE BALL CHECK

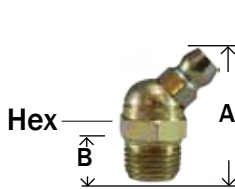


Part #	Size	A	B	Hex	Approx. Wt. Lbs.	
36-114	1/8" -27 NPTF	0.90	0.30	0.437	0.01	----

#611 1611 2830 5100

PIPE THREAD

45° ANGLE BALL CHECK

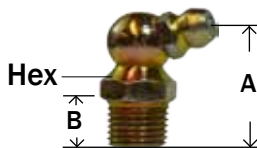


Part #	Size	A	B	Hex	Approx. Wt. Lbs.	
36-116	1/8" -27 NPTF	0.88	0.22	0.437	0.01	----
36-116SS	303 SS	0.95	0.29	0.437	0.01	----

#688 1688 2845 5200

PIPE THREAD

65° ANGLE BALL CHECK

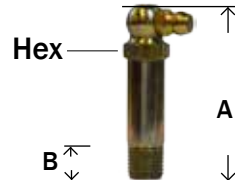


Part #	Size	A	B	Hex	Approx. Wt. Lbs.	
36-118	1/8" -27 NPTF	0.86	0.30	0.437	0.01	----

#612 1612 2865 5300

PIPE THREAD

90° ANGLE BALL CHECK

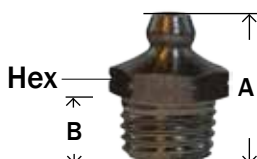


Part #	Size	A	B	Hex	Approx. Wt. Lbs.	
36-120	1/8" -27 NPTF	0.84	0.30	0.437	0.01	----
36-120SS	303 SS	0.84	0.29	0.437	0.01	----
36-121	1/8" -27 NPTF	1.81	1.25	0.437	0.01	----

#613 1613 2890 5400 5407

PIPE THREAD

BALL CHECK - 1/4-18 NPTF



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

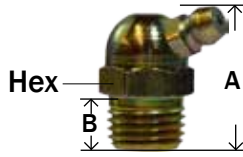
#627 1627 2900K 5050

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

STEEL GREASE FITTINGS

STEEL FITTINGS

PIPE THREAD

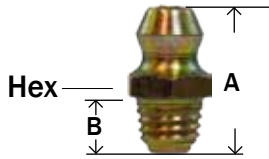


65° ANGLE BALL CHECK

Part #	Size	A	B	Hex	Approx. Wt. Lbs.	
36-132	1/4"-18 NPTF	0.97	0.34	0.56	0.02	----

#629 1629 2965 5350

1/4-28 TAPER THREAD

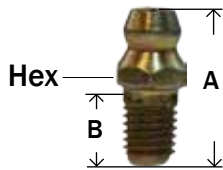


SHORT BALL CHECK - 1/4-28 NPTF

Part #	Size	A	B	Hex	Approx. Wt. Lbs.	
36-140	1/4"-28 NPTF	0.54	0.18	0.31	0.01	----
36-140SS	303 SS	0.54	0.18	0.31	0.01	----
36-141	Thread Forming	0.55	0.10	0.31	0.01	----

#641 1641 2400 3038 5010

1/4-28 TAPER THREAD

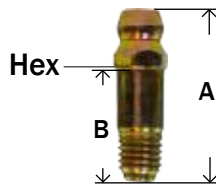


LONG BALL CHECK

Part #	Size	A	B	Hex	Approx. Wt. Lbs.	
36-142	1/4"-28 Taper Thread	0.69	0.34	0.312	0.01	----

#652 1652 2400 5013

1/4-28 TAPER THREAD

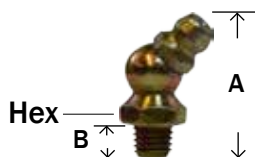


EXTRA LONG BALL CHECK

Part #	Size	A	B	Hex	Approx. Wt. Lbs.	
36-144	1/4"-28 Taper Thread	0.92	0.60	0.312	0.02	----

#680 1680 2400 5014

1/4-28 TAPER THREAD

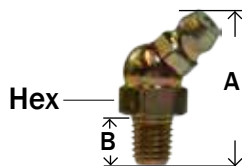


SHORT 45° BALL CHECK

Part #	Size	Angle	A	B	Hex	Approx. Wt. Lbs.	
36-146	1/4"-28 Taper Thread	45°	0.82	0.20	0.375	0.02	----
36-146SS	303 SS	45°	0.81	0.20	0.375	0.02	----
36-147	1/4"-28 Taper Thread	65°	0.78	0.20	0.375	0.02	----

#637 1637 2445 1665 2465 3010 5210

1/4-28 TAPER THREAD

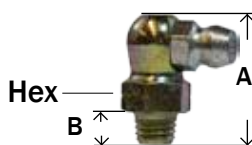


LONG 45° BALL CHECK

Part #	Size	A	B	Hex	Approx. Wt. Lbs.	
36-148	1/4"-28 Taper Thread	0.94	0.30	0.375	0.02	----

#636 1630 2445

1/4-28 TAPER THREAD



90° ANGLE BALL CHECK

SAE# A515002

Part #	Size	A	B	Hex	Approx. Wt. Lbs.	
36-150	1/4"-28 Taper Thread	0.75	0.10	0.375	0.02	----
36-150SS	303 SS	0.75	0.20	0.375	0.02	----
36-152	Thread Forming	0.75	0.16	0.375	0.02	----

#911 1911 2490 3054 5410

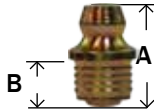
WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

STEEL FITTINGS

STEEL GREASE FITTINGS

DRIVE TYPE

BALL CHECK Drive Type

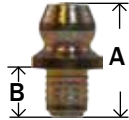


Part #	Size	A	B	Approx. Wt. Lbs.	
36-160	5/16"	0.55	0.25	0.01	----

#608 1608 5021

DRIVE TYPE

BALL CHECK



Part #	Size	A	B	Approx. Wt. Lbs.	
36-164	3/16"	0.52	0.25	0.01	----
36-164SS	303 SS	0.51	0.25	0.01	----

#728 1728 2316 5033

DRIVE TYPE

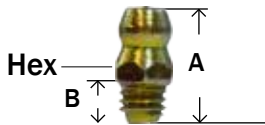
BALL CHECK



Part #	Size	A	B	Approx. Wt. Lbs.	
36-166	1/4"	0.55	0.23	0.01	----
36-166SS	303 SS	0.55	0.23	0.01	----

#743 1743 214 5029

METRIC



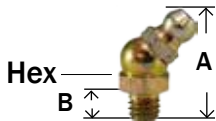
Part #	Size	A (mm)	B (mm)	Hex (mm)	Approx. Wt. Lbs.	
36-168	6MM x 1	16	3.7	7	0.01	----

(Diameter x Pitch)

#711 6000 2106 2M6 5175

METRIC

45° ANGLE

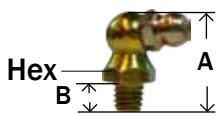


Part #	Size	A (mm)	B (mm)	Hex (mm)	Approx. Wt. Lbs.	
36-170	6MM x 1	21	3.7	9	0.02	----

#712 6045 2107 5176

METRIC

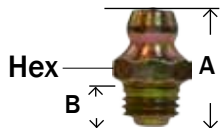
90° ANGLE



Part #	Size	A (mm)	B (mm)	Hex (mm)	Approx. Wt. Lbs.	
36-172	6MM x 1	18	3.7	9	0.02	----

#713 6090 2108 ZM906 5177

METRIC

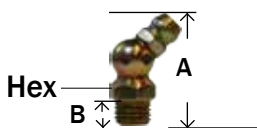


Part #	Size	A (mm)	B (mm)	Hex (mm)	Approx. Wt. Lbs.	
36-174	8MM x 1	16	3.7	9	0.02	----

#811 8000 2103 ZM58 5178

METRIC

45° ANGLE

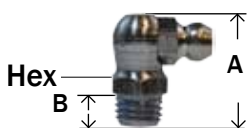


Part #	Size	A (mm)	B (mm)	Hex (mm)	Approx. Wt. Lbs.	
36-176	8MM x 1	21	3.7	9	0.02	----

#812 8045 2104 ZM458 5179

METRIC

90° ANGLE



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

#813 8090 2105 ZM908 5180

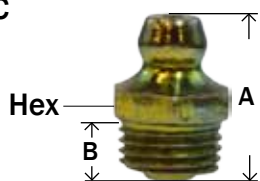
WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov



STEEL GREASE FITTINGS

STEEL FITTINGS

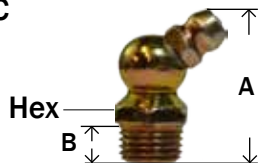
METRIC



Part #	Size	A (mm)	B (mm)	Hex (mm)	Approx. Wt. Lbs.	
36-180	10MM x 1	16	3.7	11	0.02	----

• Diameter x pitch (extra fine) #911 9000 2109 ZM510 5181

METRIC

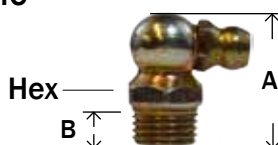


45° ANGLE

Part #	Size	A (mm)	B (mm)	Hex (mm)	Approx. Wt. Lbs.	
36-182	10MM x 1	21	3.7	11	0.02	----

#912 9045 2110 ZM4510

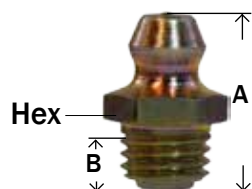
METRIC



90° ANGLE

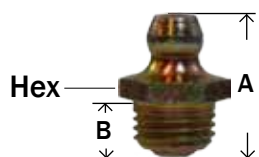
Part #	Size	A (mm)	B (mm)	Hex (mm)	Approx. Wt. Lbs.	
36-184	10MM x 1	18	3.7	11	0.02	----

#913 9090 2111 ZM9010 5183



Part #	Size	A	B	Hex	Approx. Wt. Lbs.	
36-186	5/16"-24	0.65	0.12	0.375	0.02	----

#711-B 1711 2500



Part #	Size	A	B	Hex	Approx. Wt. Lbs.	
36-188	3/8"-24	0.65	0.14	0.437	0.01	----

#710-B 1710 2600

BUTTON HEAD



Part #	Size	A	B	Hex	Approx. Wt. Lbs.	
36-200	1/8"-27 PTF	0.75	0.34	0.625	0.03	----
36-205	1/4"-18 NPT	0.83	0.44	0.625	0.03	----

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

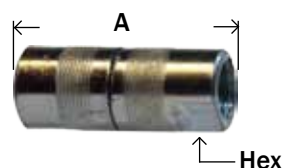
3/16" ID

3,000 PSI Working pressure

Part #	Length	
36-210	12" RUBBER	----
36-212	18" RUBBER	----
36-214	24" RUBBER	----
36-216	36" RUBBER	----

4 JAW GREASE GUN COUPLER

Provides quick, positive, leakproof connection w/ grease fittings.



1/8" NPTF

Part #	A	Hex	Approx. Wt. Lbs.	
36-220	1.50	0.56	0.05	----

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

ADAPTERS FOR GREASE FITTINGS

• CARBON STEEL, ZINC COATED

ADAPTERS

NEW



Part #	Female	Male	L	H	Weight	
36-300	1/8"-27 NPTF	1/4"-28" SAE-LT	.75	1/2	0.02	----
36301	1/8"-27 NPTF	1/4"-28" SAE-LT	.87	1/2	0.02	----

Part #	Female English to Male English	L	H	Weight		
36-304	1/4"-28 UNF	M6 x 1.0	.43	9mm	0.01	----
36-305	1/4"-28 UNF	M8 x 1.0	.45	3/8	0.01	----
36-306	1/4"-28 UNF	M10 x 1.0	.32	7/16	0.01	----

EXTENSIONS



Part #	Female English to Male English	L	H	Weight		
36-307	1/4"-28 UNF	1/4"-28 SAE-LT	1.34	-	0.01	----
36-308	1/8"-27 NPTF	1/8"-27 NPTF	.75	1/2	0.02	----
36-309*	1/8"-27 NPTF	1/8"-27 NPTF	.82	1/2	0.02	----
36-310	1/8"-27 NPTF	1/8"-27 NPTF	.94	9/16	0.04	----
36-311	1/8"-27 NPTF	1/8"-27 NPTF	1.25	1/2	0.04	----

*BRASS PLATED

45° ANGLE ELBOWS



Part #	Female	Male	L	H	Weight	
36-360	1/8"-27 NPTF	1/4"-28 SAE-LT	.81	1/2	0.02	----
36-362	1/8"-27 NPTF	1/8"-27 PTF SAE Short	1.00	1/2	0.03	----

90° ANGLE ELBOWS



Part #	Female	Male	L	H	Weight	
36-370	1/8"-27 NPTF	1/4"-28 SAE-LT	.81	1/2	0.03	----
36-371	1/8"-27 NPTF	1/4"-28 SAE-LT	1.04	1/2	0.03	----
36-372	1/8"-27 NPTF	1/4"-18 PTF SAE Short	1.19	9/16	0.06	----
36-374	1/8"-27 NPTF	1/8"-27 PTF SAE Short	1.00	1/2	0.03	----
36-375	1/8"-27 NPTF	1/8"-27 NPTF	1.13	1/2	0.03	----
36-377	1/4"-18 NPTF	1/4"-18 NPTF	1.34	11/16	0.08	----
36-376	1/8"-27 NPTF	1/8"-27 NPTF	1.50	5/8	0.07	----
36-373	1/8"-27 PTF SPL Extra Short	1/8"-27 PTF SPL Extra Short	.82	1/2	0.03	----

COUPLING



Part #	Female	Female	L	H	Weight	
36-340	1/4"-28 UNF	1/8"-27 NPTF	.65	1/2	0.02	----

BULKHEAD CONNECTOR



Part #	Female	Male (Female)	L	H	Weight	
36-350	1/8"-27 NPTF	1/8"-27 NPSM (1/4"-28 UNF)	.88	1/2	0.03	----

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

SPECIALTY VALVES AND COCKS



DRAIN COCKS
PAGE 147-148



AIR VALVES



3, 4 AND 6 WAY
PAGE 153-154



NEEDLE
PAGE 150-151



MARINE & ANTI-SIPHON
PAGE 154



PANEL MOUNT BALL VALVES
PAGE 155



TRUCK
PAGE 152



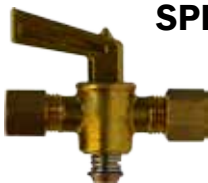
MINI BALL
PAGE 155



SOLID BOTTOM SHUT-OFF
PAGE 152



CHECK
PAGE 156



SPRING BOTTOM SHUT-OFF
PAGE 149

MORE VALVES ON OUR WEBSITE
See our valve section for much, much more!

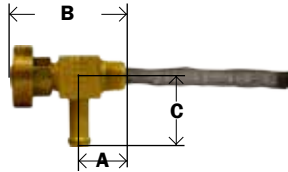
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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

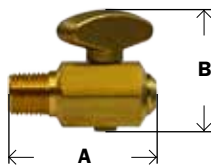
GASOLINE SHUT OFF w/ SCREEN FILTER



Part #	Barb X Male Pipe	A	B	C	Approx. Wt. Lbs.	
46-064	1/4" x 1/8"	0.55	1.34	0.66	0.06	----

827

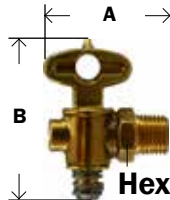
DRAIN COCK 150 PSI - Trunk Air Tank



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

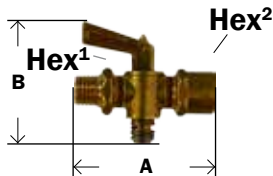
DCR601-4

TRUCK DRAIN - 125 P.S.I.G



Part #	Male Pipe	Industry Number	A	B	Hex	Approx. Wt. Lbs.	
46-067	1/8"		1.53	1.95	0.62	0.14	----
46-068	1/4"	W15310	1.53	1.95	0.62	0.18	----

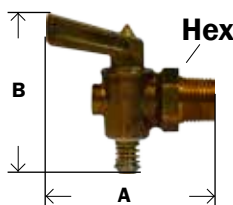
SHUT OFF - 150 P.S.I max.



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

#60HC 3380-A 0903610 367

LEVER HANDLE



Part #	Male Pipe	Industry Number	A	B	Hex	Approx. Wt. Lbs.	
46-070	1/8"	M-41-P	1.99	1.80	0.62	0.04	----
46-071	1/4"	M-42-P	2.06	1.81	0.62	0.06	----
46-072	3/8"	M-43-P	2.30	2.29	0.81	0.08	----
46-073	1/2"	M-44-P	3.00	2.50	0.87	0.16	----

840 41D DC601

• 30 psi

*Valve is closed when handle is in the position of the picture

AIR TANK DRAIN PULL VALVE



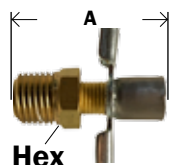
Part #	Size	Description	
39595	1/4" male	5ft nylon coated pull cable	----
39596	1/4" male	4ft nylon coated pull cable	----
39597	1/4" male	3ft nylon coated pull cable	----
39600	1/4" male	Air valve only	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

DRAIN COCKS

BRASS FITTINGS

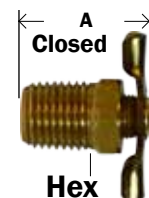
INTERNAL SEAT



Part #	Male Pipe	Industry Number	A	Hex	Approx. Wt. Lbs.	
46-079	1/8"	6783	1.45	0.55	0.02	----

DC602 808 400A 1800A

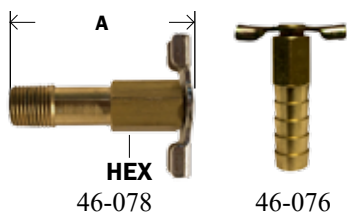
INTERNAL SEAT - Wing Nut Handle



Part #	Male Pipe	Industry Number	A	Hex	Approx. Wt. Lbs.	
46-074	1/8"	130	0.92	0.40	0.04	----
46-075	1/4"	140	0.94	0.56	0.06	----
46-077	3/8"	230	1.27	0.68	0.08	----

HB - 5/16 803 305A

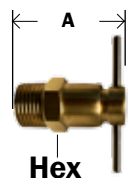
LONG INTERNAL SEAT



Part #	Size	Ind #	A	Hex	Approx. Wt. Lbs.	
46-078	1/8 MIP	1.85				----
46-076	3/8" Hose I.D.		1.65	0.43	0.02	----

809

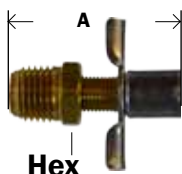
PIN HANDLE - Internal Seat



Part #	Male Pipe	Industry Number	A	Hex	Approx. Wt. Lbs.	
46-080	1/8"	M-200-P	1.22	0.50	0.04	----
46-081	1/4"	M-201-P	1.31	0.56	0.06	----
46-082	3/8"	M-202-P	1.53	0.68	0.12	----

DC603 802

EXTERNAL SEAT w/ SPOUT



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

* Replaces GM # 511771 & Chrysler #836015

200A 239 DC606 807

BIBB VALVE



Part #	Male Pipe	Industry Number	A	B*	C	Approx. Wt. Lbs.	
46-088	1/8"	150	0.82	1.60	0.55	0.04	----
46-089	1/4"	120	0.89	1.59	0.54	0.06	----
46-089A	1/4"	6660	0.55	1.34	0.66	0.06	----

* With valve closed

804 DC607 2019 201DH

RADIATOR TYPE - External Seat



Part #	Male Pipe	Industry Number	Ind #	A	Hex	Approx. Wt. Lbs.	
46-085	1/8"	M-320-P	135	0.90	0.43	0.02	----
46-086	1/4"	M-321-P	145	1.00	0.56	0.04	----
46-087	3/8"	M-322-P	270	1.25	0.68	0.08	----
46-083	1/2"	108	108	1.48	0.87	0.12	----

320D 240 DC604 801

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

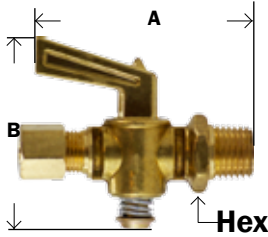
BRASS FITTINGS

SHUT-OFF COCKS

- 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

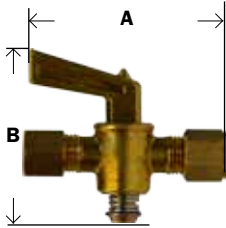


Part #	Comp X Male Pipe	Ind. #	A	B	Hex	Approx. Wt. Lbs.	
46-130	1/4" x 1/8"	27-C	1.87	1.81	0.51	0.14	----
46-131	1/4" x 1/4"	227-C	2.05	1.86	0.62	0.15	----
46-132	5/16" x 1/8"	29-C	2.05	1.90	0.50	0.16	----
46-134	3/8" x 1/4"	57-C	2.05	1.83	0.62	0.15	----

868 V304C 2068 133C VC206

COMPRESSION X COMPRESSION

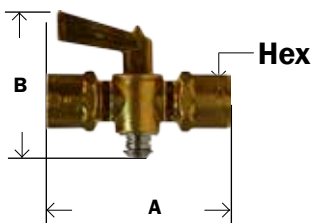
* See pg. 73-74 to order nut and sleeve separately.



Part #	Comp X Comp	Ind. #	A	B	Approx. Wt. Lbs.	
46-140	1/4"	28-C	1.82	1.84	0.12	----
46-141	5/16"	30-C	1.84	1.88	0.14	----
46-142	3/8"	58-C	1.87	1.80	0.14	----
46-143	1/2"	68-C	2.21	2.32	0.22	----

V3030F 2062 134C

FEMALE X FEMALE PIPE

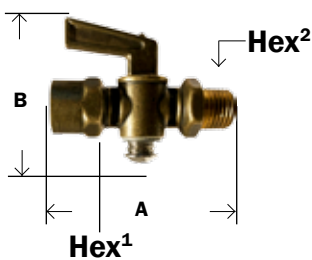


Part #	Female Pipe X Female Pipe	A	B	Hex	Approx. Wt. Lbs.	
46-151	1/8"	1.77	1.79	0.56	0.12	----
46-152	1/4"	2.28	1.82	0.69	0.20	----
46-152T*	1/4"	2.28	2.00	0.68	0.20	----
46-153	3/8"	2.44	2.28	0.81	0.30	----

* 150 PSI

V403P 132C 875

MALE PIPE X FEMALE

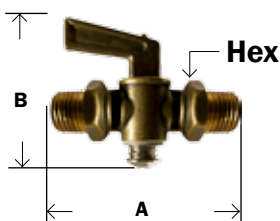


Part #	Male Pipe X Female Pipe	Ind. #	A	B	Hex 1	Hex 2	Approx. Wt. Lbs.	
46-160	1/8"	48-P	2.03	1.84	0.50	0.56	0.14	----
46-161	1/4"	49-P	2.26	1.79	0.69	0.69	0.18	----
46-161T*	1/4"		2.26	1.98	0.69	0.69	0.20	----
46-162	3/8"	50-P	2.33	2.28	0.82	0.82	0.28	----

* 150 PSI

880 V402P 130C

MALE PIPE X MALE PIPE



Part #	Male Pipe X Male Pipe	Ind. #	A	B	Hex	Approx. Wt. Lbs.	
46-165	1/8"	76-P	2.15	1.80	0.69	0.12	----
46-166	1/4"	77-P	2.22	1.84	0.70	0.17	----
46-166T*	1/4"		2.23	2.00	0.68	0.18	----
46-167	3/8"	78-P	2.43	2.24	0.82	0.22	----

* 150 PSI

1V401P 890

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

NEEDLE VALVES

BRASS FITTINGS

NEEDLE VALVES

THESE ARE NOT LEAD FREE SEE PAGES 169-182 FOR LEAD FREE PRODUCTS

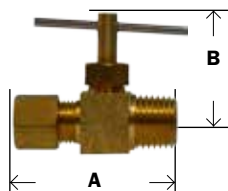
Made with either pin handle or pressed on handle.

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.

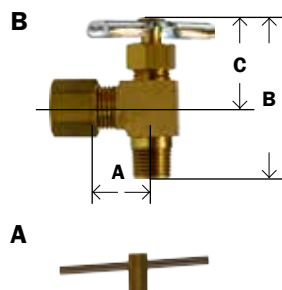
COMP X MALE PIPE



Part #	Comp X Male Pipe	Ind. #	A	B	Approx. Wt. Lbs.	
46-002	1/4" x 1/8"	M-101-C	1.29	1.12	0.07	----
46-003	1/4" x 1/4"	M-101-C	1.27	1.14	0.10	----

NV106C 2205 820 3068

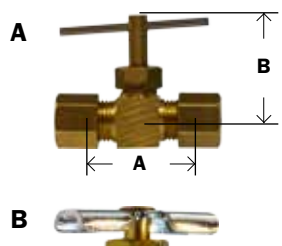
COMP X MALE PIPE-ANGLE



Part #	Comp X Male Pipe	Handle	Ind. #	A	B	C	Approx. Wt. Lbs.	
46-011	1/4" x 1/8"	A	M-103-C	0.56	1.48	0.93	0.08	----
46-011X	Heavy Pattern	B	M-103-C	0.53	1.53	0.83	0.08	----
46-012	1/4" x 1/4"	B	M-104-C	0.62	1.67	0.90	0.13	----
46-013	5/16" x 1/8"	B	M-104-C	0.63	1.63	0.95	0.10	----
46-016	3/8" x 1/4"	A	M-303-C	0.65	1.71	0.92	0.16	----

NV104C 2203 821 3069

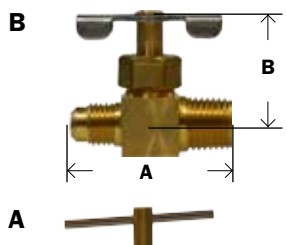
COMP X COMP



Part #	Comp X Comp	Handle	Ind. #	A	B	Approx. Wt. Lbs.	
46-020	3/16"	B	M-105-C	1.06	0.88	0.08	----
46-021	1/4"	A	M-106-C	1.17	1.12	0.10	----
46-022	5/16"	A	M-107-C	1.22	1.08	0.12	----
46-023	3/8"	B	M-113-C	1.31	1.15	0.13	----

NV105C 3062 2201 822

FLARE X MALE PIPE

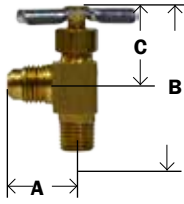


Part #	Male Flare X Male Pipe	Handle	Ind. #	A	B	Approx. Wt. Lbs.	
46-028	1/4" x 1/8"	A	M-104-SAE	1.35	1.12	0.07	----
46-029	1/4" x 1/4"	B	M-1040-SAE	1.38	0.88	0.09	----
46-031	3/8" x 1/4"	B	M-108-SAE	1.73	1.22	0.18	----

NV103F 2405 823 3048

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

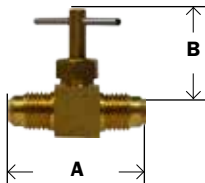
FLARE X MALE PIPE



Part #	Male Flare X Male Pipe	Ind. #	A	B	C	Approx. Wt. Lbs.	
46-036	1/4" x 1/8"	M-103-SAE	0.68	1.54	0.86	0.08	----
46-038	5/16" x 1/8"	M-203-SAE	0.88	1.59	0.94	0.11	----
46-039	5/16" x 1/4"	M-204-SAE	0.90	1.94	1.00	0.14	----
46-040	3/8" x 1/4"	M-303-SAE	0.95	1.86	0.90	0.17	----

NV101F 2403 824 3049

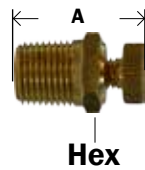
FLARE X FLARE



Part #	Male Flare X Male Flare	Ind. #	A	B	Approx. Wt. Lbs.	
46-045	1/4"	M-110-SAE	1.48	1.20	0.18	----
46-046	3/8"	M-115-SAE	1.79	1.19	0.20	----

NV102F 3042 825 2401

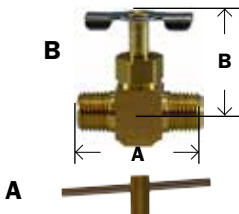
MULTI-PURPOSE AIR VENT



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

705

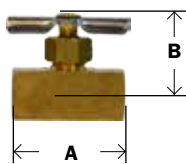
MALE PIPE TO MALE PIPE



Part #	Male Pipe X Male Pipe	Handle	Ind. #	A	B	Approx. Wt. Lbs.	
46-050	1/8"	A	M-108-P	1.25	1.09	0.08	----
46-051	1/4"	B	M-110-P	1.69	1.00	0.16	----

NV107P 2301 826 3122

FEMALE PIPE X FEMALE PIPE

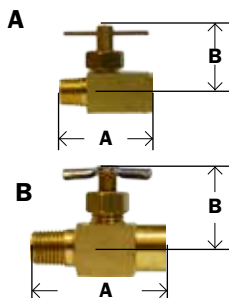


Part #	Female Pipe X Female Pipe	Ind. #	A	B	Approx. Wt. Lbs.	
46-055*	1/8"	M-304-P	1.18	0.84	0.18	----
46-056	1/4"	M-3044-P	1.60	1.24	0.21	----
46-056P*	1/4" Heavy	M-3044-P	1.62	2.53	0.20	----

* 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.	
46-060	1/8"	A	M-305-P	1.18	1.09	0.10	----
46-061	1/4"	A	M-3055-P	1.60	1.14	0.18	----
46-061L	1/4" Light Pattern	B	M-3055-P	1.88	1.09	0.21	----

NV108P 2305 818 3120

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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



BARB TO MALE PIPE

Part #	Size	
46-450	3/8 x 3/8	----
46-451	5/8 x 3/8	----
46-455	5/8 x 1/2	----
46-457	3/4 x 3/8	----
46-456	3/4 x 1/2	----

404V



FEMALE TO MALE PIPE

Part #	Size	
46-465	3/8 x 3/8	----
46-466	3/8 x 1/2	----
46-467	1/2 x 1/2	----

405V



FLARE TO MALE PIPE

Part #	Size	
46-475	1/2 x 1/2	----
46-476	5/8 x 1/2	----



409V

MIP X FLARE

Part #	Size	
46-485	1/2 x 5/8	----

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	
46-400	1/8	----
46-401	1/4	----
46-402	3/8	----

1035D M-70-SBV

- Good for Propane



#M-72-SBV

FIP x FIP

Part #	Size	
46-411	1/4	----

BRASS FITTINGS

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	
46-400M	1/8 x 1/8	----
46-401M	1/4 x 1/4	----
46-402M	3/8 x 3/8	----

8980



PIPE

MALE x MALE

Part #	Size	
46-406M	1/4 x 1/4	----

8990

- Good for Propane



FEMALE X FEMALE

Part #	Size	
46-411M	1/4 x 1/4	----

8975



MALE PIPE X FLARE

Part #	Size	
46-429M	1/4 x 3/8	----
46-430M	3/8 x 3/8	----

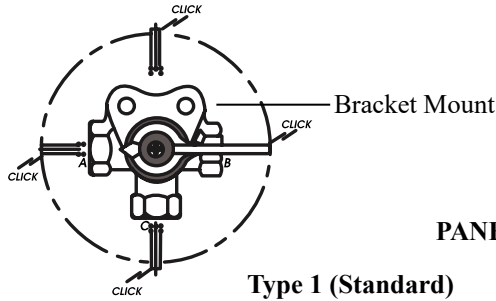
8948

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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).**

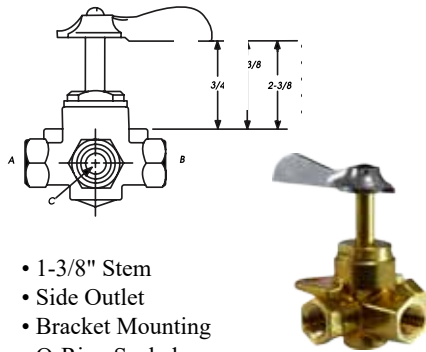


PANEL MOUNTING AVAILABLE

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	
46-247	1/4	1-3/8"	----
46-248	3/8	1-3/8"	----

M-108-MID WITH CLICK 360°

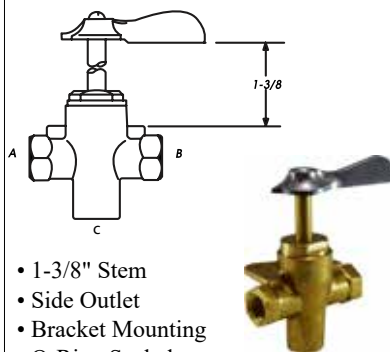
Part #	A-B-C Female Pipe Thread	Length of Stem	
46-250	1/8	1-3/8"	----
46-251	1/4	1-3/8"	----
46-252	3/8	1-3/8"	----

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	
46-241	1/4	1-3/8"	----

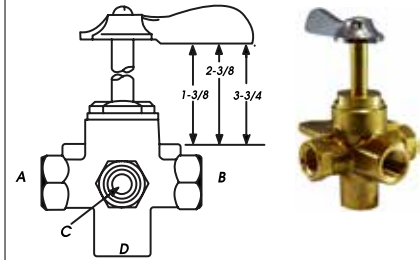
WITH CLICK 360°

Part #	A-B-C Female Pipe Thread	Length of Stem	
46-243	1/8	1-3/8"	----
46-244	1/4	1-3/8"	----

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	
46-257	1/4	1-3/8"	----

M-114-MID WITH CLICK (360°)

Part #	A-B-C-D Female Pipe Thread	Length of Stem	
46-255	1/4	1-3/8"	----
46-256	3/8	1-3/8"	----

WITH 2-3/8" LONG STEM M-115-MID

Part #	A-B-C-D Female Pipe Thread	Length of Stem	
46-260	1/4	2-3/8"	----

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"

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

MARINE FITTINGS

BRASS FITTINGS

MARINE FITTINGS

- Calibrated to support 30" column of gasoline.



BRASS ANTI-SIPHON VALVES

MALE X MALE

Part #	Size	
46-520	1/4 x 1/4	----
46-521	3/8 x 3/8	----
46-522	1/2 x 1/2	----

- Flo direction <-



BRASS ANTI-SIPHON VALVES

BARB X NPT

Part #	Size	
46-529	1/4 x 1/4	----
46-530	5/16 x 1/4	----
46-531	3/8 x 1/4	----
46-532	3/8 x 3/8	----
46-533	1/2 x 3/8	----

MINI BALL VALVE - BRASS
W/ SS HANDLE AND NUT

Part #	Barb x MIP	
46-986	5/6 x 1/4	----
46-987	3/8 x 1/4	----
46-988	3/8 x 3/8	----
46-989	1/2 x 1/2	----



ALUMINUM

Part #	Size	
46-520A	1/4 x 1/4	----
46-521A	3/8 x 3/8	----



ALUMINUM

Part #	Size	
46-530A	5/16 x 1/4	----
46-531A	3/8 x 1/4	----
46-532A	3/8 x 3/8	----
46-533A	1/2 x 3/8	----

- NBR O-Ring
- Working temp 180°F
- 3,000 PSI
- Brass or Aluminum
- #316 Ball & Spring



MALE MIP X FEMALE FIP BRASS

Part #	Size	
46-523	1/4	----
46-524	3/8	----



ALUMINUM

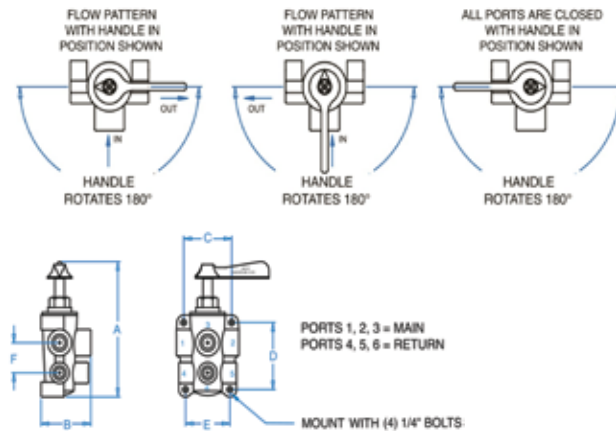
Part #	Size	
46-523A	1/4	----
46-524A	3/8	----



FLARE X MIP - BRASS

Part #	Size	
46-526	3/8 x 1/4	----

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	Stem	Length Type	
46-237	SK-1036	1-2-3 4-5-6 1/2 x 3/8	13/16	1	----



WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS FITTINGS

MINIATURE BALL VALVES

BRASS 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	
46-900	1/8 x 1/8	----
46-903	1/4 x 1/4	----



MALE X MALE

Part #	Size	
46-910	1/8 x 1/8	----
46-912	1/4 x 1/4	----



MALE PIPE X HOSE BARB

Part #	Size	
47-042	1/8 x 1/4	----
46-980	1/4 x 1/4	----
46-981	1/4 x 3/8	----

FEMALE X FEMALE



Part #	Size	
46-920	1/8 x 1/8	----
46-921	1/8 x 1/4	----
46-922	1/4 x 1/4	----



Part #	Size	
46-922A	1/4 x 1/4	----
46-923	3/8 x 3/8	----



Part #	Size	
46-924	1/2 x 1/2	----
46-925	3/4 x 3/4	----

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	
46-440	1/4 x 1/4	----



U.L. TWO WAY VALVES MNPT X FNPT

Part #	Size	
46-443	1/4 x 1/4	----

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	
46-830	1/8 x 1/8	----
46-832	1/4 x 1/4	----
46-833	3/8 x 3/8	----
46-834	1/2 x 1/2	----

FEMALE X FEMALE



Part #	Size	
46-875	1/8 x 1/8	----
46-878	1/4 x 1/4	----



Part #	Size	
46-951	1/8 FPT	----
46-956	1/4 FPT	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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	
46-560	1/8"	----
46-561	1/4"	----
46-562	3/8"	----
46-563	1/2"	----
46-564	3/4"	----

FIP X FIP VITON

Part #	Size	
46-560V	1/8"	----
46-561V	1/4"	----
46-562V	3/8"	----
46-563V	1/2"	----
46-564V	3/4"	----



FEMALE X MALE BUNA-N

Part #	Size	
46-565	1/8"	----
46-566	1/4"	----
46-567	3/8"	----
46-568	1/2"	----
46-569	3/4"	----



MALE X MALE

Part #	Size	
46-570	1/8"	----
46-571	1/4"	----
46-572	3/8"	----
46-573	1/2"	----



MALE X FEMALE

Part #	Size	
46-575	1/8"	----
46-576	1/4"	----
46-577	3/8"	----
46-578	1/2"	----

HIGH PRESSURE CHECK VALVES

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.	
46-500	1/4 x 1/4	0.187	----

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.	
46-505	1/4 x 1/4	0.187	----

MAX. 1200 PSI

- O-Ring poppet seal Bubble tight operation
- 180°F max operating temp.



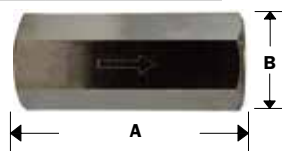
FNPT X FNPT

Part #	Size	Opening Dia.	
46-510	1/4 x 1/4	0.25	----
46-511	3/8 x 3/8	0.375	----
46-512	1/2 x 1/2	0.437	----

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.)		
		A	B	
46-200	1/4	1.97	0.67	----
46-201	3/8	1.97	0.83	----
46-202	1/2	2.48	0.98	----

BRASS FITTINGS

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
- Water G.P.M. @ 10 p.s.i. is 4.0
- Good for air



FEMALE X FEMALE

Part #	Size	
46-513	1/4	----
46-517	3/8	----



FEMALE X MALE

Part #	Size	
46-514	1/4	----
46-518	3/8	----



MALE X FEMALE

Part #	Size	
46-516	1/4	----
46-539	3/8	----

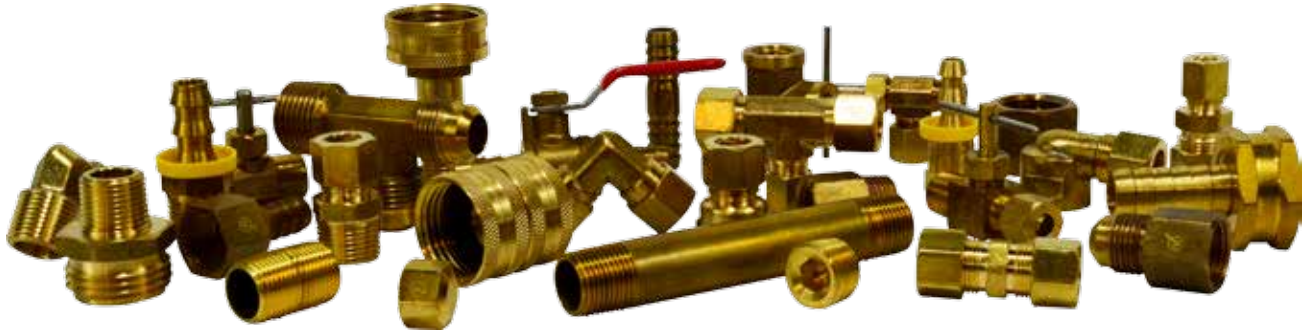


MALE X MALE

Part #	Size	
46-515	1/4	----
46-519	3/8	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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."

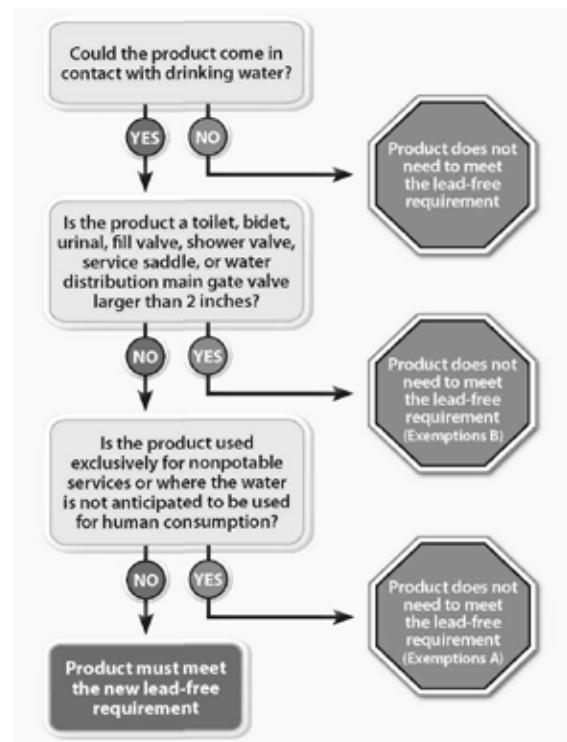
How do I know which products must meet the new lead-free requirement?

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.



PIPE

LEAD FREE BRASS FITTINGS

90° FORGED FEMALE ELBOW



Part #		Thread size NPTF	Part #	
28-009LF	----	1/8"	28-001LF	----
28-010LF	----	1/4"	28-002LF	----
28-011LF	----	3/8"	28-003LF	----
28-012LF	----	1/2"	28-004LF	----
28-013LF	----	3/4"	28-005LF	----

UNION FORGED TEE



Part #		Thread size NPTF	Part #	
28-032LF	----	1/8"	28-024LF	----
28-033LF	----	1/4"	28-025LF	----
28-034LF	----	3/8"	28-026LF	----
28-035LF	----	1/2"	28-027LF	----
28-036LF	----	3/4"	28-028LF	----

90° STREET ELBOW



Part #		Thread size NPTF	Part #	
28-165LF	----	1/8"	28-156LF	----
28-166LF	----	1/4"	28-157LF	----
28-167LF	----	3/8"	28-158LF	----
28-168LF	----	1/2"	28-159LF	----
28-169LF	----	3/4"	28-160LF	----

COUPLING



Part #	Thread size NPTF	
28-058LF	1/8"	----
28-059LF	1/4"	----
28-060LF	3/8"	----
28-061LF	1/2"	----

REDUCING COUPLING



Part #	Thread size NPTF	
28-181LF	1/4" x 1/8"	----
28-182LF	3/8" x 1/8"	----
28-183LF	3/8" x 1/4"	----
28-180LF	1/2" x 1/8"	----
28-185LF	1/2" x 3/8"	----
28-188LF	3/4" x 3/8"	----
28-189LF	3/4" x 1/2"	----

HEX BUSHING



Part #	Thread size NPTF MxF	
28-102LF	1/4" x 1/8"	----
28-103LF	3/8" x 1/8"	----
28-104LF	3/8" x 1/4"	----
28-105LF	1/2" x 1/8"	----
28-106LF	1/2" x 1/4"	----
28-107LF	1/2" x 3/8"	----
28-108LF	3/4" x 1/8"	----
28-109LF	3/4" x 1/4"	----
28-110LF	3/4" x 3/8"	----
28-111LF	3/4" x 1/2"	----
28-119LF	1 x 1/8	----
28-112LF	1 x 1/4	----
28-114LF	1 x 1/2	----
28-115LF	1" x 3/4"	----

FACE BUSHING



Part #	Thread size NPTF MxF	
28-121LF	1/4" x 1/8"	----
28-122LF	3/8" x 1/8"	----
28-116LF	3/8" x 1/4"	----
28-128LF	1/2" x 1/4"	----
28-117LF	1/2" x 3/8"	----
28-129LF	3/4" x 1/4"	----
28-130LF	3/4" x 3/8"	----
28-118LF	3/4" x 1/2"	----

HEX CAP



Part #	Thread size NPTF	
28-075LF	1/8"	----
28-076LF	1/4"	----
28-077LF	3/8"	----
28-078LF	1/2"	----
28-079LF	3/4"	----
NEW 28-080LF	1"	----

SQUARE HEAD PLUG



Part #	Thread size NPTF	
28-084LF	1/8"	----
28-085LF	1/4"	----
28-086LF	3/8"	----
28-087LF	1/2"	----
28-088LF	3/4"	----

COUNTERSUNK HEX PLUG



Part #	Thread size NPTF	
28-093LF	1/8"	----
28-094LF	1/4"	----
28-095LF	3/8"	----
28-096LF	1/2"	----
28-097LF	3/4"	----
28-098LF	1"	----

CORED HEX PLUGS



Part #	Thread size NPTF	
28-201LF	1/8"	----
28-202LF	1/4"	----
NEW 28-203LF	3/8"	----
28-204LF	1/2"	----

CLOSE NIPPLE



Part #	Thread size NPTF	
28-131LF	1/8"	----
28-132LF	1/4"	----
28-133LF	3/8"	----
28-134LF	1/2"	----
28-135LF	3/4"	----

LONG NIPPLE



Part #	Thread size NPTF	
28-141LF	1/8" x 2"	----
28-144LF	1/4" x 1-1/2"	----
28-145LF	1/4" x 2"	----
28-147LF	1/4" x 3"	----
28-148LF	3/8" x 1-1/2"	----
28-149LF	3/8" x 2"	----

HEX NIPPLE



Part #	Thread size NPTF	
28-211LF	1/8"	----
28-212LF	1/4"	----
NEW 28-220LF	1/4" x 1/8"	----
28-213LF	3/8"	----
28-222LF	3/8" x 1/4"	----
28-214LF	1/2"	----
28-224LF	1/2" x 3/8"	----
28-215LF	3/4"	----
28-225LF	3/4" x 1/2"	----

PIPE/ HOSE BARB

LEAD FREE BRASS FITTINGS

MALE BRANCH TEE



Part #	Thread size NPTF	
28-283LF	3/8"	----
NEW 28-284LF	1/2"	----

EXTENDER ADAPTER



Part #	Thread size NPTF FxM	
NEW 28-190LF	1/8" x 1/8"	----
28-191LF	1/4" x 1/8"	----
28-192LF	1/4" x 1/4"	----
28-193LF	3/8" x 1/4"	----
NEW 28-194LF	3/8" x 3/8"	----
NEW 28-199LF	1/2" x 1/4"	----
28-195LF	1/2" x 3/8"	----
28-196LF	1/2" x 1/2"	----
NEW 28-207LF	3/4" x 3/8"	----
28-208LF	3/4" x 1/2"	----

STREET TEE/ SERVICE TEE

NEW



Part #	Thread size NPTF	
28-245LF	1/8"	----
28-246LF	1/4"	----
28-247LF	3/8"	----
28-248LF	1/2"	----

HOSE BARBS

RIGID MALE ADAPTER



Part #	Hose I.D. x Male NPTF	
32-001LF	1/8" x 1/8"	----
32-027LF	1/8" x 1/4"	----
32-002LF	3/16" x 1/8"	----
32-003LF	3/16" x 1/4"	----
32-004LF	1/4" x 1/8"	----
32-005LF	1/4" x 1/4"	----
32-006LF	1/4" x 3/8"	----
32-007LF	1/4" x 1/2"	----
NEW 32-954LF	1/4" x 3/4"	----
32-008LF	5/16" x 1/8"	----
32-009LF	5/16" x 1/4"	----
32-010LF	5/16" x 3/8"	----
32-011LF	3/8" x 1/8"	----
32-012LF	3/8" x 1/4"	----
32-013LF	3/8" x 3/8"	----
32-014LF	3/8" x 1/2"	----
32-026LF	3/8" x 3/4"	----
32-015LF	1/2" x 1/4"	----
32-016LF	1/2" x 3/8"	----
32-017LF	1/2" x 1/2"	----
32-018LF	1/2" x 3/4"	----
32-019LF	5/8" x 3/8"	----
32-020LF	5/8" x 1/2"	----
32-021LF	5/8" x 3/4"	----
32-306LF	3/4" x 3/8"	----
32-022LF	3/4" x 1/2"	----
32-023LF	3/4" x 3/4"	----
32-024LF	1" x 3/4"	----
32-025LF	1" x 1"	----

MENDER/ SPLICER



Part #	Hose I.D. x Hose I.D.	
32-091LF	1/8"	----
32-092LF	3/16"	----
32-093LF	1/4"	----
32-094LF	5/16"	----
32-095LF	3/8"	----
32-096LF	1/2"	----
32-097LF	5/8"	----
32-098LF	3/4"	----

RIGID FEMALE ADAPTER



Part #	Hose I.D. x Female NPTF	
32-050LF	1/8" x 1/8"	----
32-317LF	1/8" x 1/4"	----
NEW 32-062LF	3/16" x 1/4"	----
32-052LF	1/4" x 1/8"	----
32-053LF	1/4" x 1/4"	----
32-054LF	1/4" x 3/8"	----
32-055LF	5/16" x 1/8"	----
32-056LF	5/16" x 1/4"	----
32-057LF	3/8" x 1/8"	----
32-058LF	3/8" x 1/4"	----
32-059LF	3/8" x 3/8"	----
32-063LF	3/8" x 1/2"	----
32-064LF	1/2" x 1/4"	----
32-060LF	1/2" x 3/8"	----
32-061LF	1/2" x 1/2"	----
32-065LF	3/4" x 3/4"	----

FORGED HOSE BARB 90° ELBOW



Part #	Hose I.D. x Male NPTF	
32-038LF	1/4" x 1/8"	----
32-039LF	1/4" x 1/4"	----
32-309LF	1/4" x 3/8"	----
32-036LF	5/16" x 1/8"	----
32-040LF	5/16" x 1/4"	----
32-046LF	3/8" x 1/8"	----
32-041LF	3/8" x 1/4"	----
32-042LF	3/8" x 3/8"	----
32-047LF	3/8" x 1/2"	----
32-048LF	1/2" x 1/4"	----
32-043LF	1/2" x 3/8"	----
32-311LF	1/2" x 1/2"	----
32-313LF	3/4" x 1/2"	----

HOSE BARB TEES



Part #	Hose Barb Size	
32-365LF	1/4"	----
32-126LF	3/8"	----

FEMALE 45° FLARE SWIVEL



Part #		
32-105LF	3/8" x 3/8"	----

**LEAD FREE MINI BALL VALVES
BARB x BARB**



Part #	H.B. x H.B.	
944-142LF	1/4"	----
944-134LF	3/8"	----

PUSH-ON

MALE ADAPTER



Part #	Hose I.D. x Male NPTF	
30-200LF	1/4" x 1/8"	----
30-201LF	1/4" x 1/4"	----
30-203LF	3/8" x 1/4"	----
30-204LF	3/8" x 3/8"	----
30-206LF	1/2" x 3/8"	----
30-207LF	1/2" x 1/2"	----

SAE/JIC DUAL 45°/37° FEMALE SWIVEL



Part #	Hose I.D. x Female 45°/37°	
30-230LF	1/4" x 1/4"	----

GARDEN HOSE

LEAD FREE BRASS FITTINGS

GARDEN HOSE

SWIVEL - FGH X FGH



• WASHER INCLUDED

Part #	FGH X FGH	
30-011LF	3/4" x 3/4"	----

SWIVEL - FGH X FEMALE PIPE

NEW



• WASHER INCLUDED

Part #	FGH x Female NPTF	
30-001LF	3/4" x 1/2"	----
30-006LF	3/4" x 3/4"	----

RIGID - FGH X FEMALE PIPE

NEW



• WASHER INCLUDED

Part #	FGH x Female NPTF	
30-083LF	3/4" x 3/4"	----

SWIVEL - FGH X MALE PIPE

• WASHER INCLUDED



Part #	FGH x Male NPTF	
30-047LF	3/4" x 1/4"	----
30-048LF	3/4" x 3/8"	----
30-049LF	3/4" x 1/2"	----

NEW

RIGID - FGH X MALE PIPE

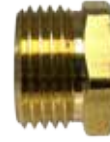
• WASHER INCLUDED

NEW



Part #	FGH x Male NPTF	
30-088LF	3/4" x 1/2" (1/2" SWT)**	----
30-094LF	3/4" x 3/4" (1/2" FIP)	----

RIGID - MGH X FEMALE PIPE



Part #	MGH X Female NPTF	
30-066LF	3/4" x 1/4"	----
30-068LF	3/4" x 1/2"	----
30-073LF	3/4" x 3/4"	----

NEW

NEW

RIGID - MGH X MALE PIPE



Part #	MGH X Male NPTF	
30-052LF	3/4" x 1/4"	----
30-053LF	3/4" x 3/8"	----
30-058LF	3/4" x 1/2"	----
30-063LF	3/4" x 3/4" x 1/2"	----

NEW

NEW

RIGID - MGH X MGH

NEW



Part #	MGH X MGH	
30-098LF	3/4" x 3/4" (1/2" FIP)	----

GARDEN HOSE CAP

NEW



Part #	Size	
30-103LF	3/4" Die Cast	----

RIGID - MGH X FEMALE PIPE



Part #	MGH x Female NPTF	
30-066LF	3/4" x 1/4"	----
30-068LF	3/4" x 1/2"	----
30-073LF	3/4" x 3/4"	----

NEW

NEW

SHORT ROD NUT



	Part #	Thread Size UNF	
NEW	10-013LF	1/8"	----
NEW	10-014LF	3/16"	----
	10-015LF	1/4"	----
NEW	10-016LF	5/16"	----
	10-017LF	3/8"	----
NEW	10-018LF	7/16"	----
	10-019LF	1/2"	----
NEW	10-020LF	5/8"	----
	10-021LF	3/4"	----

SHORT FORGED NUT



	Part #	Thread Size UNF	
NEW	10-039LF	1/4"	----
	10-041LF	3/8"	----
	10-042LF	1/2"	----

FLARED CAP



	Part #	Thread Size UNF	
	10-075LF	1/4"	----
	10-077LF	3/8"	----
	10-078LF	1/2"	----
	10-079LF	5/8"	----
NEW	10-080LF	3/4"	----

UNION



	Part #	Thread Size UNF	
NEW	10-104LF	1/8"	70404202
NEW	10-105LF	3/16"	70404203
	10-106LF	1/4"	----
NEW	10-107LF	5/16"	70404205
	10-108LF	3/8"	----
	10-118LF	3/8" x 1/4"	----
	10-109LF	1/2"	----
NEW	10-121LF	1/2" x 3/8"	----
	10-110LF	5/8"	----
NEW	10-123LF	5/8" x 1/2"	----

MALE BRANCH TEE



	Part #	Size	
	10-204LF	1/4" x 1/8"	----

FEMALE ADAPTER



	Part #	Male Flare x Female NPTF	
NEW	10-228LF	1/4" x 1/8"	----
	10-229LF	1/4" x 1/4"	----
NEW	10-230LF	1/4" x 3/8"	----
NEW	10-235LF	3/8" x 1/4"	----
	10-236LF	3/8" x 3/8"	----
	10-237LF	3/8" x 1/2"	----
	10-240LF	1/2" x 3/8"	----
	10-241LF	1/2" x 1/2"	----
	10-242LF	1/2" x 3/4"	----
NEW	10-244LF	5/8" x 1/2"	----
NEW	10-245LF	5/8" x 3/4"	----
NEW	10-247LF	3/4" x 3/4"	----

MALE ADAPTER



	Part #	Male Flare x Male NPTF	
	10-255LF	1/4" x 1/8"	----
	10-256LF	1/4" x 1/4"	----
	10-257LF	1/4" x 3/8"	----
	10-258LF	1/4" x 1/2"	----
	10-262LF	3/8" x 1/8"	----
	10-263LF	3/8" x 1/4"	----
	10-264LF	3/8" x 3/8"	----
	10-265LF	3/8" x 1/2"	----
NEW	10-266LF	3/8" x 3/4"	----
	10-267LF	1/2" x 1/4"	----
	10-268LF	1/2" x 3/8"	----
	10-269LF	1/2" x 1/2"	----
	10-270LF	1/2" x 3/4"	----
	10-272LF	5/8" x 3/8"	----
	10-273LF	5/8" x 1/2"	----
	10-274LF	5/8" x 3/4"	----
NEW	10-275LF	3/4" x 1/2"	----
	10-276LF	3/4" x 3/4"	----
NEW	10-278LF	7/8" x 3/4"	----



90° MALE ELBOW



Forged Elbow

Part #	Male Flare x Male NPTF	
10-286LF	1/4" x 1/8"	----
10-287LF	1/4" x 1/4"	----
10-288LF	1/4" x 3/8"	----
10-293LF	3/8" x 1/8"	----
10-294LF	3/8" x 1/4"	----
10-295LF	3/8" x 3/8"	----
10-296LF	3/8" x 1/2"	----
10-299LF	1/2" x 3/8"	----
10-300LF	1/2" x 1/2"	----
10-301LF	1/2" x 3/4"	----
10-305LF	3/4" x 1/2"	----
10-306LF	3/4" x 3/4"	----

FORGED MALE RUN TEE



Part #	Male Flare x Male NPTF (1&3) x 2	
10-351LF	3/8" x 3/8"	----
10-355LF	1/2" x 1/2"	----
10-359LF	3/4" x 1/2"	----

FORGED SWIVEL



Part #	Female Flare UNF	
10-481LF	1/4"	7407004
10-483LF	3/8"	----
10-484LF	1/2"	----
10-485LF	5/8"	----
10-487LF	3/8" x 1/4"	----
10-488LF	1/2" x 3/8"	----

TEE



Part #	Size	
10-159LF	1/4"	----
10-161LF	3/8"	----

BRASS SLEEVE



• FERRULES

Part #	Size	
18-002LF	3/16"	----
18-003LF	1/4"	----
18-004LF	5/16"	----
18-005LF	3/8"	----
18-007LF	1/2"	----
18-008LF	5/8"	----
18-009LF	3/4"	----
18-010LF	7/8"	----

60 260

NUT



BRASS

C/P

Part #	Size	
18-035LF	1/4"	70006104
18-037LF	3/8"	70006106
18-039LF	1/2"	70006108
18-040LF	5/8"	70006110

DELRIN SLEEVE



Part #	Size	
18-015	1/4"	----
18-016	5/16"	----
18-017	3/8"	----
18-018	1/2"	----
18-019	5/8"	----

60-P

BRASS INSERT



• SLEEVE

Part #	Size	
22-010LF	1/4"	----
22-011LF	5/16"	----
22-012LF	3/8"	----
22-013LF	1/2"	----
22-014LF	5/8"	----

63-BI 60AE 2030 63PT

CAP



Part #	Size	
18-047LF	1/4"	----
18-048LF	3/8"	----
18-049LF	1/2"	----
18-050LF	5/8"	----

61-CC N5CT

UNION



BRASS

C/P

Part #	Size	
18-062LF	1/8"	----
18-063LF	3/16"	----
18-064LF	1/4"	----
18-065LF	5/16"	----
18-066LF	3/8"	----
18-067LF	7/16"	----
18-068LF	1/2"	----
18-069LF	5/8"	----
18-070LF	3/4"	----
18-071LF	7/8"	----

M-62

REDUCING UNION



Part #	Size	
18-076LF	1/4" x 1/8"	----
18-077LF	1/4" x 3/16"	----
18-078LF	5/16" x 1/4"	----
18-079LF	3/8" x 1/4"	----
NEW 18-080LF	3/8" x 5/16"	7000820605
18-081LF	1/2" x 3/8"	----
18-082LF	5/8" x 3/8"	----
18-083LF	5/8" x 1/2"	----

62-R

TEE



Part #	Size	
18-101LF	1/8"	----
18-102LF	3/16"	----
18-103LF	1/4"	----
18-104LF	5/16"	----
18-105LF	3/8"	----
18-106LF	1/2"	----
18-107LF	5/8"	----
18-109LF	7/8"	----

FORGED REDUCING TEE



Part #	Size	
18-115LF	3/8" x 3/8" x 1/4"	----
18-117LF	1/2" x 1/2" x 3/8"	----

UNION ELBOW

64-R



Part #	Size	
18-124LF	1/4"	----
18-125LF	5/16"	----
18-126LF	3/8"	----
18-127LF	1/2"	----
18-128LF	5/8"	----
18-129LF	3/4"	----
18-130LF	7/8"	----

65 BSE2 165C 265C

REDUCING ELBOW - Forged



Part #	Size	
18-135LF	3/8" x 1/4"	----
18-136LF	1/2" x 3/8"	7000850806
18-137LF	5/8" x 3/8"	----

65-R

COMP X SWEAT ADAPTER



Part #		Comp. X Sweat Adapter	Part #
18-171LF	----	3/8" x 1/2" nom.swt.	31-171

66-S

COMPRESSION

LEAD FREE BRASS FITTINGS



FEMALE ADAPTER



Part #		Comp. X Female NPT	Part # C/P
18-142LF	----	1/8" x 1/8"	
18-143LF	----	3/16" x 1/8"	
18-145LF	----	1/4" x 1/8"	
18-146LF	----	1/4" x 1/4"	
18-147LF	----	1/4" x 3/8"	
18-148LF	----	1/4" x 1/2"	
18-150LF	----	5/16" x 1/4"	
18-151LF	----	5/16" x 3/8"	
18-152LF	----	3/8" x 1/8"	
18-153LF	----	3/8" x 1/4"	
18-154LF	----	3/8" x 3/8"	31-154
18-155LF	----	3/8" x 1/2"	31-155
18-156LF	----	3/8" x 3/4"	
18-158LF	----	1/2" x 3/8"	
18-159LF	----	1/2" x 1/2"	31-159
18-160LF	----	1/2" x 3/4"	
NEW 18-161LF	----	5/8" x 3/8"	
18-162LF	----	5/8" x 1/2"	
18-163LF	----	5/8" x 3/4"	
NEW 18-165LF	----	3/4" x 3/4"	
NEW 18-167LF	----	7/8" x 1/2"	
18-166LF	----	7/8" x 3/4"	

MALE ADAPTER



Part #		Comp. X Male NPT	Part # C/P
18-176LF	----	1/8" x 1/8"	
18-177LF	----	3/16" x 1/8"	
18-178LF	----	3/16" x 1/4"	
18-179LF	----	1/4" x 1/8"	
18-180LF	----	1/4" x 1/4"	
18-181LF	----	1/4" x 3/8"	
18-182LF	----	1/4" x 1/2"	
18-183LF	----	5/16" x 1/8"	
18-184LF	----	5/16" x 1/4"	
18-187LF	----	3/8" x 1/8"	
18-188LF	----	3/8" x 1/4"	
18-189LF	----	3/8" x 3/8"	31-189
18-190LF	----	3/8" x 1/2"	31-190
18-191LF	----	3/8" x 3/4"	31-191
18-192LF	----	7/16" x 1/4"	
18-193LF	----	1/2" x 1/4"	
18-194LF	----	1/2" x 3/8"	
18-195LF	----	1/2" x 1/2"	
18-196LF	----	1/2" x 3/4"	
18-197LF	----	5/8" x 3/8"	
18-198LF	----	5/8" x 1/2"	
18-199LF	----	5/8" x 3/4"	
NEW 18-200LF	----	3/4" x 1/2"	
18-201LF	----	3/4" x 3/4"	
18-202LF	----	7/8" x 1/2"	
18-203LF	----	7/8" x 3/4"	

MALE ELBOW



Forged

Part #	Comp. X Male NPT	
18-220LF	1/8" x 1/8"	
18-221LF	3/16" x 1/8"	----
18-224BLF	1/4" x 1/8"	----
18-225BLF	1/4" x 1/4"	----
18-226BLF	1/4" X 3/8"	----
18-227LF	1/4" x 1/2"	----
18-228LF	5/16" x 1/8"	----
18-229LF	5/16" x 1/4"	----
18-232BLF	3/8" x 1/8"	----
18-233BLF	3/8" x 1/4"	----
18-234BLF	3/8" x 3/8"	----
18-235BLF	3/8" x 1/2"	----
18-236LF	1/2" x 1/4"	----
18-237BLF	1/2" x 3/8"	----
18-238BLF	1/2" x 1/2"	----
18-239LF	1/2" x 3/4"	----
18-240LF	5/8" x 3/8"	----
18-241BLF	5/8" x 1/2"	----
18-242BLF	5/8" x 3/4"	----
18-246LF	7/8" x 3/4"	----

FEMALE ELBOW



Forged

Part #	Comp. X Female NPT	
18-253LF	1/4" x 1/8"	----
18-254LF	1/4" x 1/4"	----
18-267LF	1/4" x 3/8"	----
18-258BLF	3/8" x 1/4"	----
18-259BLF	3/8" x 3/8"	----
18-260LF	3/8" x 1/2"	----
18-262BLF	1/2" x 3/8"	----
18-263LF	1/2" x 1/2"	----
NEW 18-269BLF	5/8" x 3/8"	----
18-264BLF	5/8" x 1/2"	----

70 270C BSE3 170C

COUPLING NUT

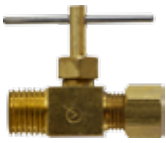


Part #		
NEW 50-032	1/2" IPS	----

69 269C BSE1 169C

NEEDLE VALVES

COMP X MALE PIPE



Part #	Comp x Male Pipe	
46-002LF	1/4" x 1/8"	----
46-003LF	1/4" x 1/4"	----
46-005LF	3/8" x 1/4"	----

COMP X MALE PIPE-ANGLE



Part #	Comp x Male Pipe	
46-011LF	1/4" x 1/8"	----
46-012LF	1/4" x 1/4"	----

COMP X COMP



Part #	Comp x Comp	
46-021LF	1/4"	----
46-023LF	3/8"	----

FEMALE PIPE X FEMALE PIPE



Part #	Female x Female	
46-055LF	1/8" x 1/8"	----
46-056LF	1/4" x 1/4"	----

MALE X FEMALE PIPE

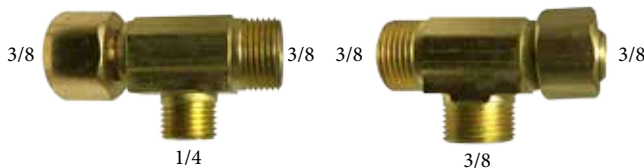


Part #	Male x Female	
46-061LF	1/4" x 1/4" MIP	----

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 #	Male & Fem. compression x Male Comp	
935044LF	3/8 x 1/4	----
935045LF	3/8 x 3/8	----

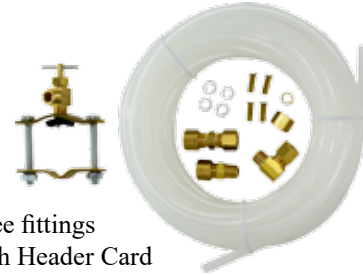
FLARE X FLARE



Part #	Comp x Comp	
46045LF	1/4"	

Ice Maker Kits

ICE MAKER WATER SUPPLY KIT with Poly Tubing

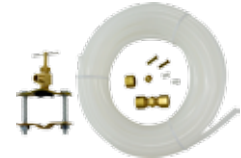


- Lead free fittings
- Bag with Header Card
- 25' 1/4" O.D. Polyethylene Tubing - 979215
- Self Piercing Saddle Valve
- 1/4" O.D. Compression x 1/8" MIP Elbow & Adapter
- 1/4" O.D. Compression Union
- 1/4" Inserts & Sleeves

Part #	Description	
43-265LF	Kit	----
979-215	1/4" OD, 25' Tube	----

ICE-MAKER WATER SUPPLY KIT

- Economy
- 25' Polyethylene Tubing
- Self Piercing Saddle Valve
- 1/4" Compression Union
- 1/4" Inserts & Sleeves



Part #	
43-266LF	----

SELF PIERCING SADDLE VALVES



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	
46-090ALF	1/4	1	----

VALVES



VALVES..... 168-213

LEAD FREE BALL VALVES 169-171

LEAD FREE VALVES 172

BRASS VALVES 173-197

Full Port Ball..... 173

Locking Handle 174

Butterfly Handle..... 175

N/P Ball Valve 176

N/P Ball w/SS Trim 177

Italian Ball Valve 178

M X F Ball Valve..... 179-180

Tee Handle M X F Ball 181

M X F Ball Locking handle 182

Spring Handle Ball Valve 183

Right Angle Ball valve 183

Wye, 3-Way Ball Valve..... 184

Safety Exhaust Ball Valve..... 184

Gas Valves..... 185

Mini Ball Valves..... 186-189

3-Way Valves..... 190

Strainer Ball Valve 191

Vacuum Breaker/Hose Bibb..... 191

Bent Nose Garden Valve..... 191

Gate Valves..... 192

Quick Opening Gate..... 193

Y Strainer 194

Check Valves..... 195-197

STAINLESS STEEL VALVES

2000# Full Port..... 198

Standard Port..... 199

1,000 PSI Full Port..... 200

SS Mini Ball Valve 201-202

Check Valves..... 203-207

Y-strainer, Globe,Gate 207

Carbon Steel valves 208-211

2,000# Standard Port 208

2,000 # FP 2-Piece..... 209

Hi Pressure 2-Way Valves 210

Hi Pressure 3-Way Balves 210

Check valves-5,000# 211

PVC Valves 212-213

**LEAD
FREE**



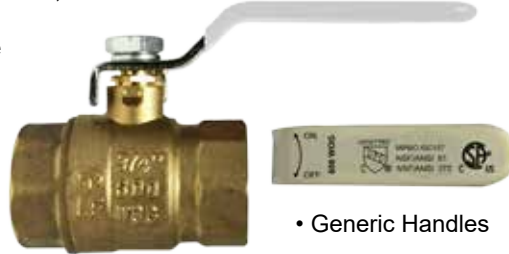
• **BRASS** • **600PSI** • **STAINLESS STEEL BALL** • **FULL PORT**



LEAD FREE BALL VALVE

IAMPO IGC 157 - 2004b

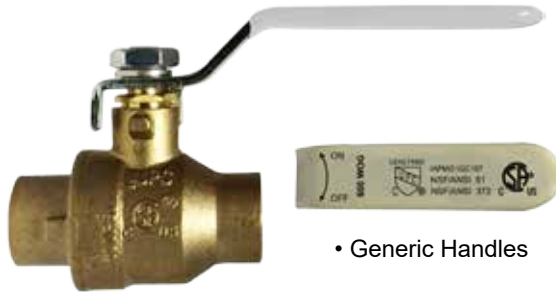
Lead Free Brass Ball Valve NPT,Female*Female
 Lead Free and dezincification resistant (DZR) material
 IAPMO listed to NSF/ANSI-61, NSF/ANSI-372 ,IGC-157
 CSA listed to NSF/ANSI-61, NSF/ANSI-372 ,IGC-157
 Vacuum Services 29.92 inches Hg
 600 psi (WOG) 150 psi (WSP) Service
 Thread conform ANSI B1.20.1
 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

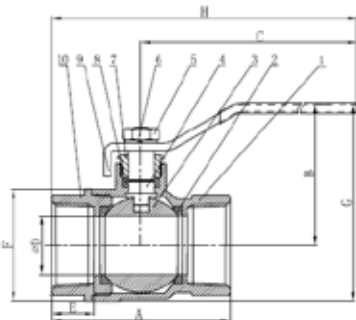
Part #	Size	OD	A	B	C	E	F	G	H	Weight	Box/Case	
941151LF	1/4"	0.394	1.73	1.69	3.35	0.453	0.945	2.154	4.331	0.32	10/120	----
941152LF	3/8"	0.394	1.73	1.69	3.35	0.473	0.945	2.154	4.331	0.32	10/120	----
941153LF	1/2"	0.524	1.89	1.73	3.35	0.472	1.083	2.276	4.291	0.36	10/100	----
941154LF	3/4"	0.748	2.28	1.89	3.35	0.563	1.378	2.579	4.488	0.57	10/80	----
941155LF	1"	0.984	2.80	2.14	4.29	0.650	1.772	3.031	5.689	0.94	8/48	----
941156LF	1-1/4"	1.240	3.15	2.32	4.29	0.669	2.165	3.398	5.866	1.30	4/36	----
941157LF	1-1/2"	1.476	3.44	2.66	5.53	0.701	2.50	3.909	7.343	1.92	2/24	----
941158LF	2"	1.949	4.06	3.01	5.53	0.708	3.244	4.638	7.638	3.12	2/12	----



• Generic Handles

SWT X SWT LEAD FREE BALL VALVE

Part #	Size	OD	A	B	C	E	G	H	Weight	WTG	Box/Case	
941163LF	1/2"	0.524	1.945	1.73	3.35	0.504	1.083	2.276	4.319	0.38	10/100	----
941164LF	3/4"	0.748	2.654	1.89	3.35	0.748	1.378	2.579	4.665	0.65	10/80	----
941165LF	1"	0.984	3.315	2.14	4.29	0.909	1.772	3.031	5.949	0.93	8/48	----
941166LF	1-1/4"	1.240	3.741	2.32	4.29	0.968	2.165	3.398	6.165	1.35	4/36	----
941167LF	1-1/2"	1.476	4.252	2.66	5.63	1.091	2.50	3.909	7.756	1.88	2/24	----
941168LF	2"	1.949	5.38	3.01	5.63	1.343	3.244	4.638	8.268	3.62	2/12	----



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

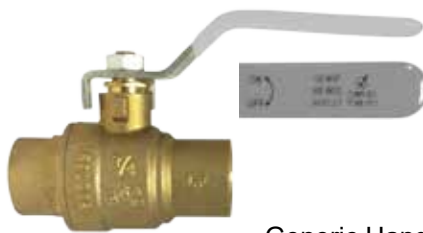
• BRASS • 600PSI • FULL PORT
CSA, UL, FM(1/4"-2"), cUPC, NSF/ ANSI 61 & 372

FEATURES

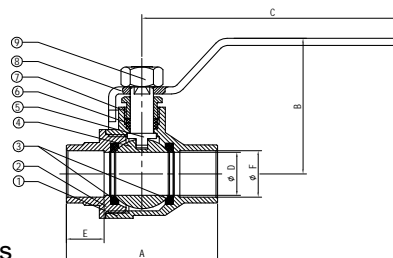
- Leadfree Brass Ball valve NPT, Female * Female
- Lead free and dezincification resistant (DZR) material
- 1/4"-1" Lead Free Brass Ball
- Size 1-1/4" thru 4" with Stainless steel ball
- IAMPO listed to cUPC, NSF/ ANSI 61 & 372, IGC 157
- CSA - 1/4" thru 2": ANSI Z21.15/ CSA 9.1 for 1/2 psig valves ASME 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	
		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	----
940-172LF	3/8"	1.756	1.732	3.543	0.394	0.457	1.012	2.238	4.421	0.34	70/140	----
940-173LF	1/2"	2.047	2.040	3.543	0.583	0.520	1.240	2.559	4.567	0.45	50/100	----
940-174LF	3/4"	2.362	2.260	3.780	0.748	0.563	1.492	2.854	4.961	0.69	30/60	----
940-175LF	1"	2.756	2.579	4.528	0.945	0.630	1.791	3.476	5.906	1.11	20/40	----
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	----
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	----
940-178LF	2"	4.181	3.701	5.42	1.969	0.748	3.425	5.413	7.602	3.62	6/12	----
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	----
940-180LF	3"	6.039	4.970	8.870	2.913	1.102	4.921	7.579	11.681	10.40	1/4	----
940-181LF	4"	7.386	6.130	10.85	3.898	1.220	6.430	9.055	13.299	20.99	1/2	----

SWT X SWT LEAD FREE BALL VALVE FM, cUPC, NSF/ ANSI 61 & 372

Part #	SWT	A	B	C	D	E	F	Weight	Box/Case	
943-612LF	1/2"	2.047	1.839	3.543	0.583	0.512	0.630	0.45	50/100	----
943-613LF	3/4"	2.748	2.14	3.780	0.748	0.748	0.878	0.68	30/60	----
943-614LF	1"	3.228	2.449	4.528	0.945	0.906	1.130	1.08	20/40	----
943-615LF	1-1/4"	3.819	3.04	4.36	1.260	0.972	1.378	1.80	12/24	----
943-616LF	1-1/2"	4.425	3.169	5.39	1.575	1.088	1.630	2.51	9/18	----
943-617LF	2"	5.377	3.488	6.307	1.989	1.346	2.130	3.57	6/12	----

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

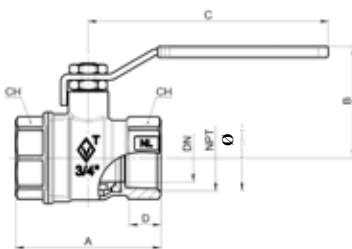
ANSI/INSP 61-8
• Generic Handles

FIP X FIP LEAD FREE FORGED BRASS BALL VALVE

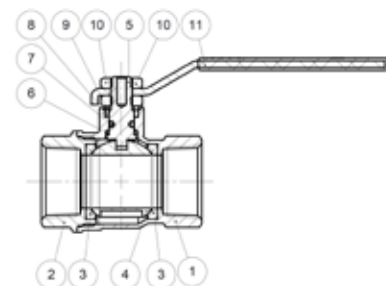
Part #	NPT	DN	A	B	C	D	CH	Weight (lbs)	Box/Case	
943-233LF	1/2"	0.57	2.09	1.57	3.35	0.46	0.98	0.39	20/80	----
943-234LF	3/4"	0.75	2.28	1.77	3.80	0.49	1.22	0.56	14/56	----
943-235LF	1"	0.94	3.04	2.03	3.80	0.59	1.50	0.89	6/24	----
943-236LF	1-1/4"	1.24	3.23	2.32	4.72	0.62	1.85	1.44	4/16	----
943-237LF	1-1/2"	1.49	3.70	2.60	4.72	0.64	2.13	2.19	2/8	----
943-238LF	2"	1.96	4.13	3.27	6.38	0.65	2.64	3.62	1/4	----

SWT X SWT LEAD FREE FORGED BRASS BALL VALVE

Part #	SWT	Ø	DN	A	B	C	D	CH	Weight (lbs)	Box/Case	
940-212LF	1/2"	0.63	0.57	2.40	1.57	3.35	0.42	0.79	0.35	20/80	----
940-213LF	3/4"	0.866	0.75	3.26	1.77	3.80	0.61	1.06	0.55	10/40	----
940-214LF	1"	1.102	0.94	3.68	2.03	3.80	0.73	1.34	0.87	6/24	----
940-215LF	1-1/4"	1.377	1.24	4.23	2.32	4.72	0.91	1.61	1.41	6/24	----
940-216LF	1-1/2"	1.61	1.49	4.96	2.60	4.72	1.06	1.89	2.08	2/8	----
940-217LF	2"	2.125	1.96	5.86	3.27	6.38	1.26	2.40	3.62	1/4	----



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	
940-130LF	1/4	74001004
940-131LF	3/8	74001006
940-132LF	1/2	74001008
940-133LF	3/4	74001012
940-134LF	1	74001016
940-135LF	1-1/4	74001020
940-136LF	1-1/2	74001024
940-137LF	2	74001032

BRASS GATE VALVE C X C

Part#	Size	
940-142LF	1/2"	----
940-143LF	3/4"	----
940-144LF	1"	----
940-145LF	1-1/4"	----
940-146LF	1-1/2"	----
940-147LF	2"	----

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	
944-430LF	1/2	74003408
944-431LF	3/4	74003412
944-432LF	1	74003416
944-433LF	1-1/4	74003420
944-434LF	1-1/2	74003424
944-435LF	2	74003432

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	
940-352LF	1/2"	----
940-353LF	3/4"	----
940-354LF	1"	----
940-355LF	1-1/4"	----
940-356LF	1-1/2"	74003024
940-357LF	2"	----

C X C SWING CHECK VALVE

Part #	Size	
940-362LF	1/2	----
940-363LF	3/4	74003212
940-364LF	1	74003216
940-365LF	1-1/4	74003220
940-366LF	1-1/2	----
940-367LF	2	74003232

CLASS 150 BRASS Y-PATTERN STRAINER**LEAD-FREE**

Part#	Size	
940-523LF	1/2"	----

LEAD FREE

FORGED BRASS BALL VALVE

• BRASS • 600WOG • FULL PORT



ISO 9002 Manufacturer
FEATURES

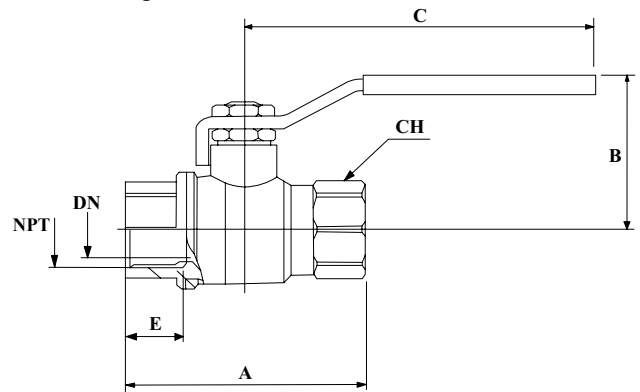
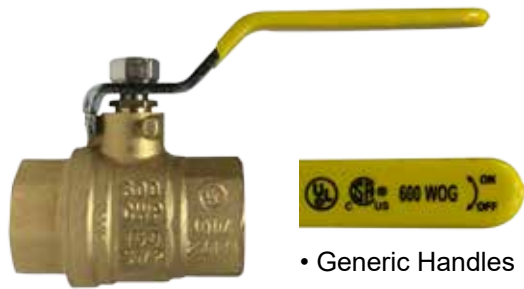
1/4-2" 600 PSI non-shock cold water, gas, oil -
150 PSI saturated steam

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

Made in China

- Suitable for full range of liquids and gases
- Minimal pressure drop due to large full size ports
- Bottom loaded, pressure retaining stem
- Pressure rated for 1/4"-2" at 600psi (42 bars) and 2-1/2"-4" at 400 psi WOG (non-shock) and 150 WSP (10.34 bars) saturated steam. Virgin PTFE stem packing seal, thrust washer and seats
- Yellow vinyl insulator on heavy duty plated carbon steel handles
- Fast 1/4 turn open or close operation
- Not Lead Free
- Good for gasoline

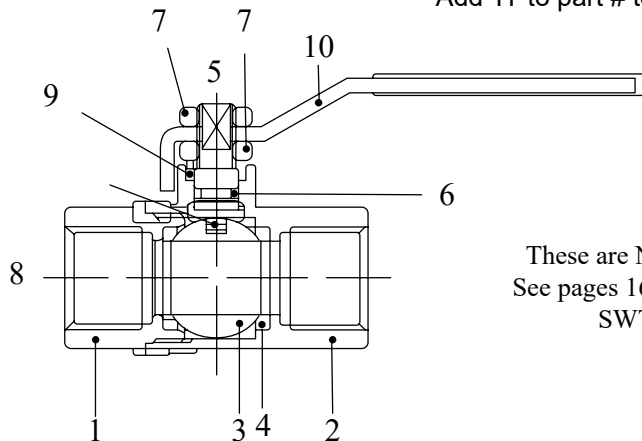
- Low operating torque
- Adjustable stem packing gland
- Maximum operating temperature: 302°F (150°C)
- Minimum operating temperature: -22°F (-30°C)
- Each valve individually tested
- Forged Brass - for more strength
- Threaded ends to ANSI B1.20.1
- Hard chromium plated solid ball
- Bottom entry, blow-out proof stem
- Deeper threads - for better connections



Part#	Size		Dimension Inches					Weight	Box/Case	
	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	4002404
940-172	3/8"	0.41	1.75	1.92	3.54	0.46	0.78	0.30	70/140	4002406
940-173	1/2"	0.58	2.05	2.08	3.54	0.52	0.98	0.44	50/100	4002406
940-174	3/4"	0.75	2.36	2.30	3.78	0.56	1.20	0.67	30/60	4002412
940-175	1"	0.94	2.75	2.68	4.52	0.66	1.50	1.05	20/40	4002416
940-176	1-1/4"	1.26	3.30	3.14	4.52	0.70	1.82	1.50	12/24	4002420
940-177	1-1/2"	1.57	3.66	3.61	5.51	0.72	2.09	2.30	9/18	4002424
940-178	2"	1.97	4.18	3.68	5.51	0.74	2.62	3.38	6/12	4002432
940-179*	2-1/2"	2.52	5.38	4.76	8.66	1.01	3.36	7.61	4/8	4002440
940-180*	3"	2.95	6.04	5.08	8.66	1.11	3.86	11.10	2/4	4002448
940-181*	4"	3.89	7.38	5.86	9.00	1.22	4.89	12.12	1/2	4002460

* 400 PSI

* Add 'H' to part # to order handles *



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

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

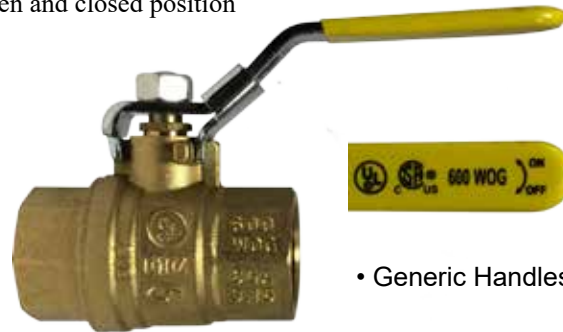
LOCKING HANDLE BALL VALVE

• BRASS • 600WOG • FULL PORT

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

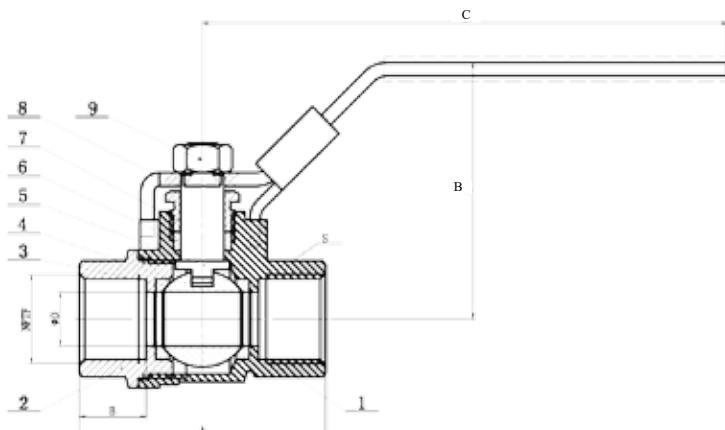
Made in China

- 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	
	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	----	
940-172L	3/8"	0.39	1.81	1.88	3.86	0.49	0.79	0.35	70/140	----	
940-173L	1/2"	0.58	2.23	2.09	3.43	0.61	0.98	0.49	50/100	----	
940-174L	3/4"	0.75	2.48	2.24	3.62	0.62	1.20	0.78	30/60	----	
940-175L	1"	0.94	2.95	2.67	4.42	0.73	1.50	1.18	20/40	----	
940-176L	1-1/4"	1.26	3.42	3.05	4.73	0.77	1.81	1.76	12/24	----	
940-177L	1-1/2"	1.57	3.78	3.51	5.18	0.78	2.09	2.53	9/18	----	
940-178L	2"	1.97	4.18	3.84	5.24	0.75	2.60	3.53	6/12	----	



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

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BUTTERFLY HANDLE BALL VALVE

• BRASS • 600WOG • FULL PORT



ISO 9002 Manufacturer
FEATURES

1/4-3/4" 600 PSI non-shock cold water, gas, oil
- 150 PSI saturated steam

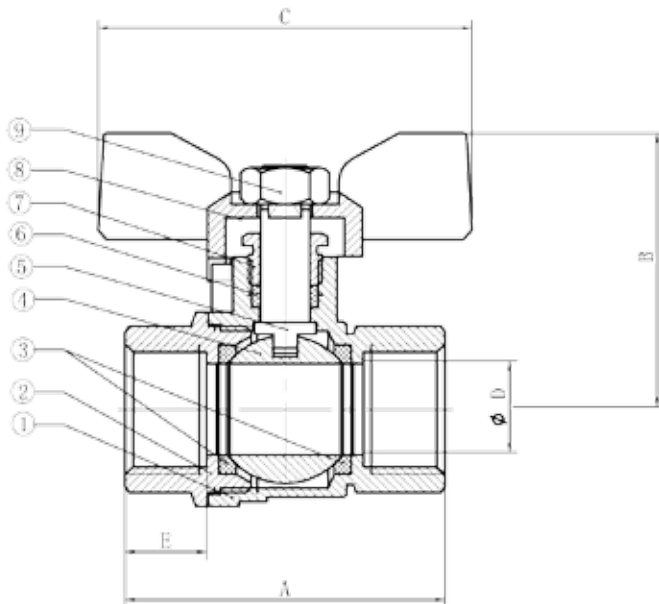
Made in China

- 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	
	NPT								
940-171T	1/4"	1.75	1.488	1.831	0.315	0.457	0.342	70/140	----
940-172T	3/8"	1.756	1.488	1.831	0.394	0.457	0.31	70/140	----
940-173T	1/2"	2.047	1.756	2.394	0.583	0.520	0.44	50/100	----
940-174T	3/4"	2.362	1.921	2.394	0.748	0.563	0.68	30/60	----



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

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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

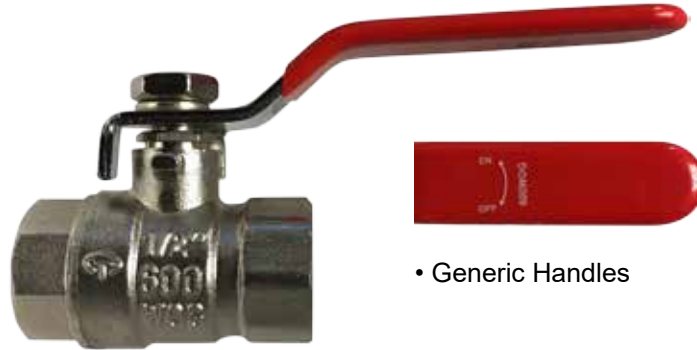
PTFE Ball Seats

Blow Out Proof Brass Stem

Steel Handle w/Vinyl Grip

Made in China

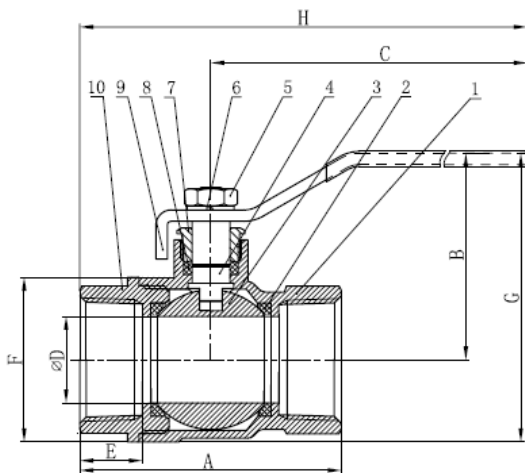
- Not Lead Free



- Generic Handles

FIP X FIP NICKEL PLATED BALL VALVE

Part #	Size	OD	A	B	C	E	F	G	H	Weight	Box/Case	
941151NP	1/4"	0.394	1.73	1.69	3.35	0.453	0.945	2.154	4.331	0.32	10/120	----
941152NP	3/8"	0.394	1.73	1.69	3.35	0.473	0.945	2.154	4.331	0.32	10/120	----
941153NP	1/2"	0.524	1.89	1.73	3.35	0.472	1.083	2.276	4.291	0.36	10/100	----
941154NP	3/4"	0.748	2.28	1.89	3.35	0.563	1.378	2.579	4.488	0.57	10/80	----
941155NP	1"	0.984	2.80	2.14	4.29	0.650	1.772	3.031	5.689	0.65	8/48	----
941156NP	1-1/4"	1.240	3.15	2.32	4.29	0.669	2.165	3.398	5.866	1.75	4/36	----
941157NP	1-1/2"	1.476	3.44	2.66	5.63	0.701	2.50	3.909	7.343	2.10	2/24	----
941158NP	2"	1.949	4.06	3.01	5.63	0.708	3.244	4.638	7.638	3.35	2/12	----



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

Gratitude is the sign of noble souls.

- Aesop

WARNING: This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

VALVES

N/P BALL VALVE W/ SS TRIM

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

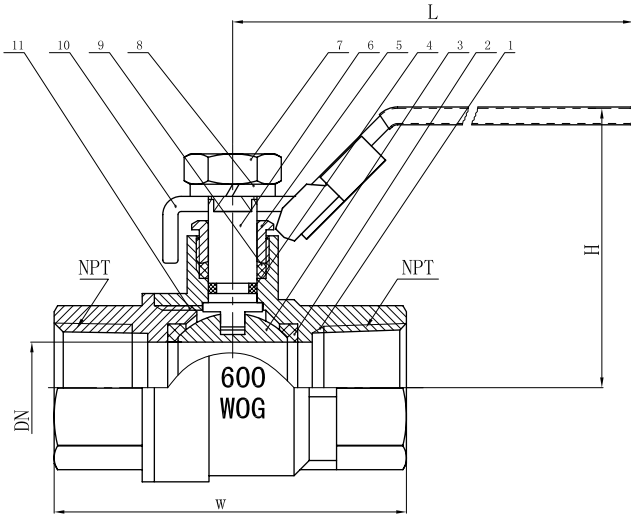
Performance rating

- 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	
941-121NP	1/4	0.394	3.22	1.84	1.73	8.23	0.326	10/120	----
941-122NP	3/8	0.394	3.22	1.84	1.73	8.23	0.320	10/120	----
941-123NP	1/2	0.591	3.22	2.02	2.24	18.55	0.474	10/100	----
941-124NP	3/4	0.748	4.04	2.40	2.52	29.76	0.785	10/80	----
941-125NP	1	0.984	4.08	2.20	2.97	51.55	1.155	8/48	----
941-126NP	1-1/4	1.259	5.20	3.05	3.44	84.42	1.797	4/36	----
941-127NP	1 1/2	1.574	5.20	3.18	3.88	131.93	2.447	2/24	----
941-128NP	2	1.941	5.20	3.48	4.33	200.35	3.477	2/12	----



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 BALL VALVES AVAILABLE WITH UL-MARINE LISTING AND SS TRIM

WARNING: This product can expose you to chemicals, including chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

ITALIAN BALL VALVE

• BRASS • 600WOG • FULL PORT



CSA AGA 3.88 5 PSIG

IAMPO IGC 157 - 2004b

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 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

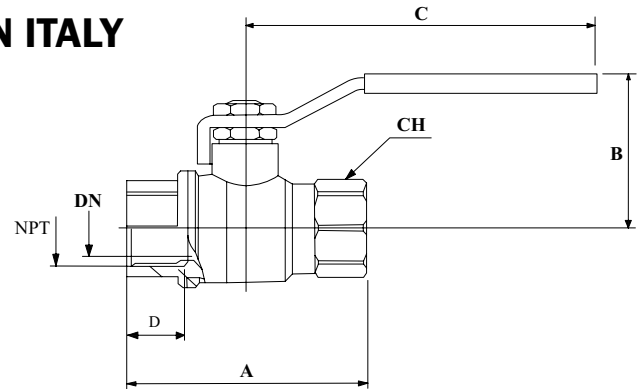
- **Adjustable stem packing gland**
- Maximum operating temperature: 248°F (120° C) at 600 PSI
- Minimum operating temperature: -20°F (-40°C)
- Each valve individually tested
- Forged Brass - for more strength
- Threaded ends to ANSI B1.20.1
- Hard chromium plated solid ball
- Bottom entry, blow-out proof stem
- Deeper threads - for better connections

• REVERSIBLE HANDLES

MADE IN ITALY



Female x Female



Part#	Size		Dimension Inches						Weight	Box/Case	
	NPT	DN	A	B	C	D	CH				
943-200	1/4"	.39	1.96	1.53	3.31	.43	.75	0.36	24/96	----	
943-201	3/8"	.39	1.96	1.53	3.31	.43	.86	0.40	24/96	----	
943-202	1/2"	.57	2.09	1.57	3.25	.46	.98	0.44	20/80	----	
943-203	3/4"	.75	2.28	1.77	3.80	.49	1.22	0.57	14/56	----	
943-204	1"	.94	2.80	2.03	3.80	.59	1.50	0.89	6/24	----	
943-205	1-1/4"	1.24	3.50	2.32	4.72	0.72	1.85	1.64	4/16	----	
943-206	1-1/2"	1.49	3.90	3.02	6.38	0.85	2.13	2.78	2/8	----	
943-207	2"	1.96	4.07	3.27	6.38	.65	2.64	3.21	2/8	----	
942-208	2-1/2"	2.48	5.80	4.98	7.54	1.06	3.31	6.97	5	----	
942-209	3"	2.99	6.85	5.63	8.86	1.14	3.89	10.34	3	----	
942-210	4"	3.54	7.67	6.04	8.86	1.22	4.80	18.77	1	----	

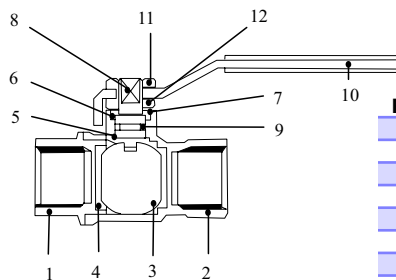
HANDLE OPTIONS

TEE HANDLES

Part #	Valve Size	
43-200T	1/4" - 3/4"	----
43-204T	1"	----

LOCKING HANDLES

Part #	Valve Size	
43-200L	1/4" - 3/4"	----
43-204L	1"	----
43-206L	1-1/4" - 1-1/2"	----
43-207L	2"	----



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

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

MALE X FEMALE BRASS BALL VALVE

• 600WOG • FULL PORT



UL842, UL258

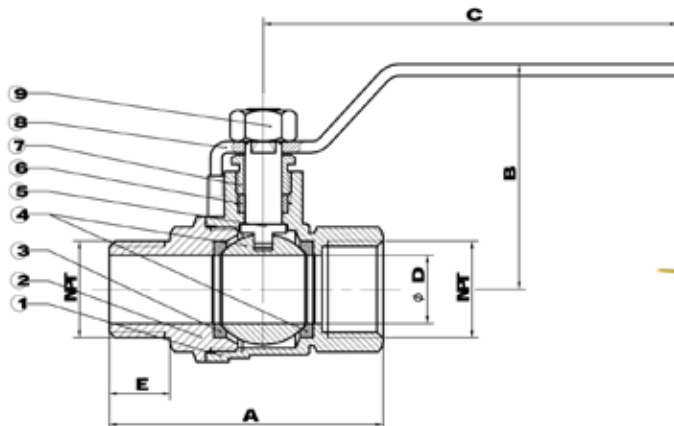
- Solid chrome plated brass ball
- Suitable for full range of liquids and gases.
- Minimal pressure drop due to large full size ports.
- Bottom loaded, pressure retaining stem.
- Pressure rated at 600psi (42 bars) WOG (non-shock) and 150psi (10.34 bars) saturated steam. Virgin TFE stem packing seal, 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	
948-170	1/4	1/4 - 18	2.016	1.689	2.756	0.315	0.457	0.29	70/140	----
948-171	3/8	3/8 - 18	2.094	1.89	3.543	0.394	0.457	0.33	70/140	----
948-172	1/2	1/2 - 14	2.343	2.05	3.543	0.583	0.520	0.47	50/100	----
948-173	3/4	3/4 - 14	2.618	2.20	3.780	0.748	0.563	0.68	30/60	----
948-174	1	1 - 11.5	3.000	2.579	4.528	0.945	0.630	1.11	20/40	----
948-175	1-1/4	1-1/4 - 11.5	3.563	2.953	4.528	1.260	0.709	1.70	12/24	----
948-176	1-1/2	1-1/2 - 11.5	3.965	3.346	5.512	1.575	0.717	2.50	9/18	----
948-177	2	2 - 11.5	4.496	3.681	5.512	1.969	0.748	3.57	6/12	----



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. 182



Tee handle option see pg. 181

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

ITALIAN MALE X FEMALE BALL VALVE

VALVES

ITALIAN MALE X FEMALE BALL VALVE

• BRASS • 600WOG • FULL PORT

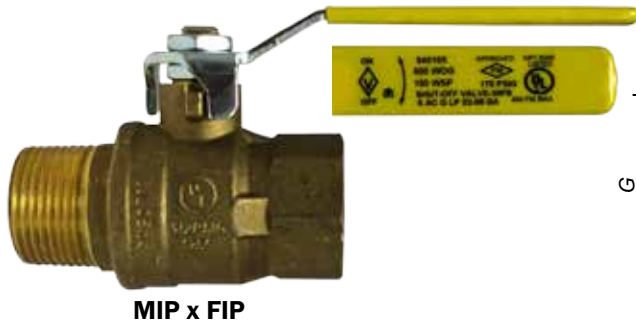
Gas Approved



CSA AGA 3.88 5 PSIG Made in Italy

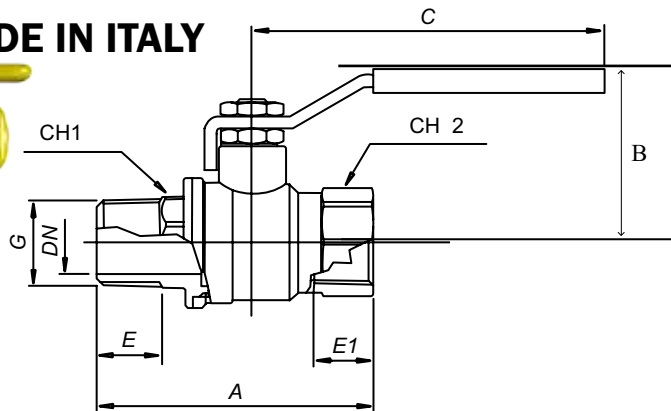
ISO 9002 Manufacturer
FEATURES

- 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.

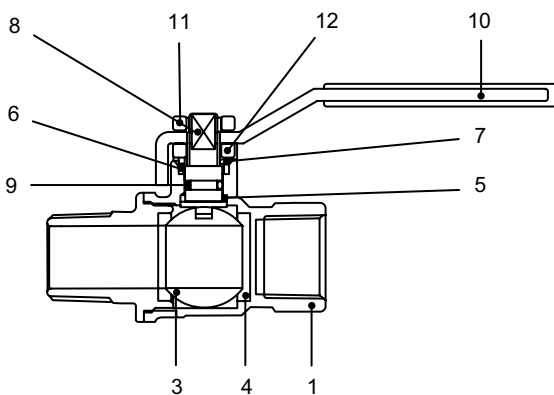


MIP x FIP

MADE IN ITALY



Part#	Size	DN	A	B	C	E	E1	CH1	CH2	Weight	Box/Case	
948-101	1/4	.39	2.18	1.53	3.28	.39	.43	.55	.75	0.35	24/96	----
948-102	3/8	.39	2.20	1.53	3.28	.43	.43	.71	.86	0.35	24/96	----
948-103	1/2	.57	2.54	1.57	3.28	.62	.46	.87	.98	0.42	14/56	----
948-104	3/4	.75	2.75	1.77	3.80	.55	.49	1.12	1.22	0.68	12/48	----
948-105	1	.94	3.23	2.03	3.80	.69	.59	1.34	1.50	0.95	6 /24	----
948-106	1-1/4	1.24	3.86	2.32	4.63	.81	.79	1.69	1.90	1.66	4/16	----
948-107	1-1/2	1.49	4.20	2.98	6.28	.85	.64	2.15	2.13	2.83	2/8	----
948-108	2	1.96	4.90	3.27	6.38	.90	.75	2.40	2.64	4.22	1/4	----



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

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

TEE HANDLE BALL VALVE - MALE X FEMALE



UL842, UL258

Features

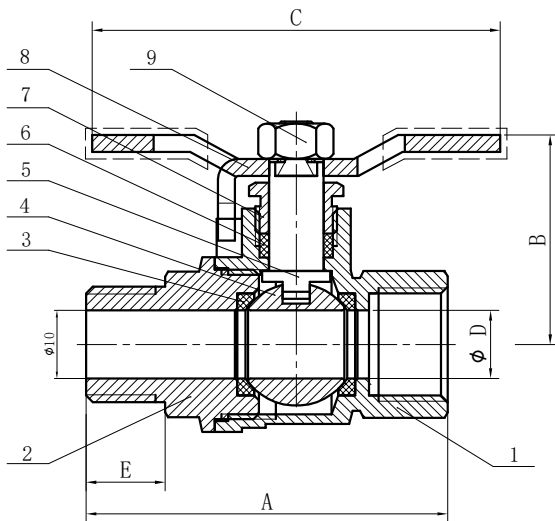
- Thread conform ANSI B1.20.1
- Forged brass body
- Blow out proof stem design
- Packing nut, O-Ring and packing on the stem seal
- Chrome Plated Brass Ball
- Handle with vinyl grip

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	
		A	B	C	D	E			
948-170T	1/4"	2.016	1.27	2.67	0.315	0.457	0.26	70/140	----
948-171T	3/8"	2.094	1.213	2.67	0.394	0.457	0.33	70/140	----
948-172T	1/2"	2.343	1.61	3.12	0.583	0.520	0.49	50/100	----
948-173T	3/4"	2.618	1.26	3.12	0.748	0.563	0.66	30/60	----
948-174T	1"	3.000	1.921	3.701	0.945	0.630	1.06	20/40	----
948-176T	1-1/2"	3.965	2.717	4.331	1.575	0.717	2.46	9/18	----



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

It is during our darkest moments that we must focus to see the light. - Aristotle

LOCKING HANDLE BALL VALVES - FEMALE X MALE



UL842, UL258

Features

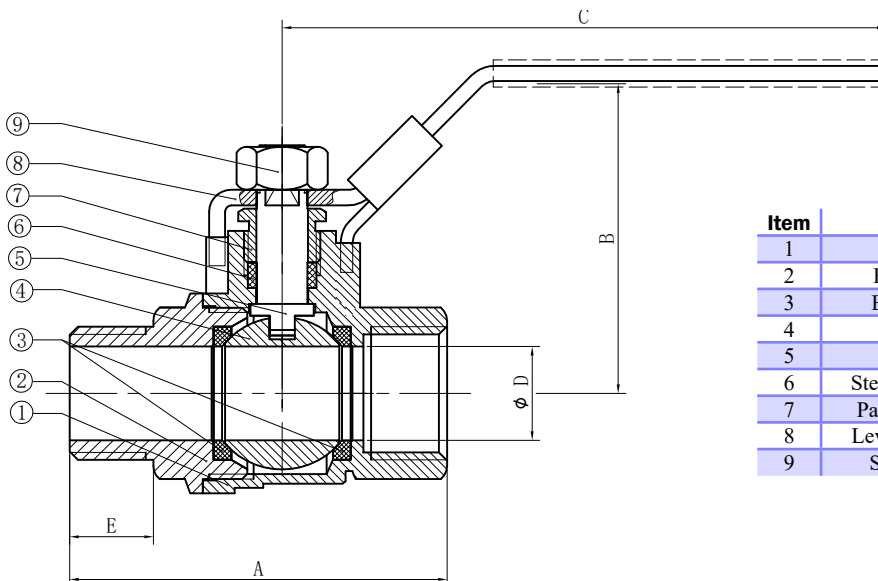
- Thread conform ANSI B1.20.1
- Forged brass body
- Blow out proof stem design
- Packing nut, O-Ring and packing on the stem seal
- Chrome Plated Brass ball
- Handle with vinyl grip

Performance rating

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



Part#	Size NPT	Dimension Inches					Weight	Box/Case	
		A	B	C	D	E			
948-170L	1/4"	2.016	1.732	3.543	0.315	0.457	0.32	70/140	----
948-171L	3/8"	2.094	1.732	3.543	0.394	0.457	0.37	70/140	----
948-172L	1/2"	2.343	1.941	3.543	0.583	0.520	0.50	50/100	----
948-173L	3/4"	2.618	2.106	3.78	0.748	0.563	0.77	30/60	----
948-174L	1"	3.000	2.579	4.528	0.945	0.630	1.21	20/40	----
948-175L	1-1/4"	3.563	2.961	4.528	1.260	0.709	1.74	12/24	----
948-176L	1-1/2"	3.965	3.366	5.36	1.575	0.717	2.58	9/18	----
948-177L	2"	4.496	3.701	5.36	1.969	0.748	3.73	6/12	----

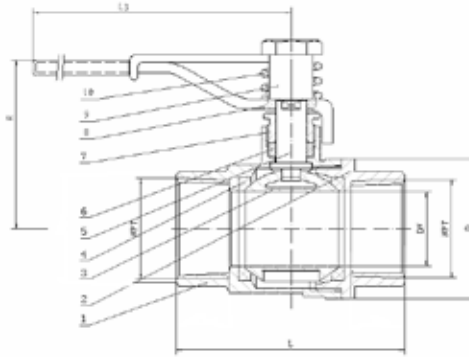


Item	Part	Materials
1	Body	Brass
2	End Cap	Brass
3	Ball Seat	PTFE
4	Ball	C/P Brass
5	Stem	Brass
6	Stem Packing	PTFE
7	Packing Nut	Brass
8	Lever Handle	Nickel plating steel
9	Stem Nut	Brass plating steel

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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

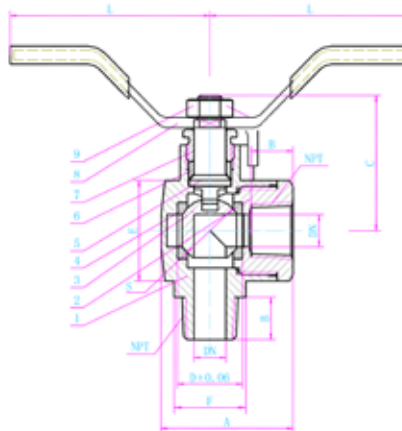


Part #	Part Name	Material
1	Body	Brass
2	Bonnet	Brass
3	Ball	Brass
4	Sealing Seat	PTFE
5	Stem	Stainless Steel
6	Packing Ring	PTFE
7	Gland	Brass
8	Handle	Stainless Steel
9	Bolt	Brass
10	Spring	Stainless Steel

Item#	Size	L	D	DN	H	L3	WTG	Box/Case	
947-103	1/2"	2.19	1.24	0.59	1.83	4.24	0.54	10/80	----
947-104	3/4"	2.38	1.5	0.75	2.19	4.24	0.72	5/40	----
947-105	1"	3.23	1.91	0.98	2.49	4.71	1.32	5/30	----

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	
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	----
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	----
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	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov



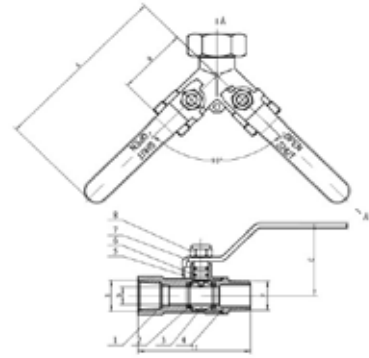
3-WAY AND SAFETY EXHAUST BALL VALVES

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

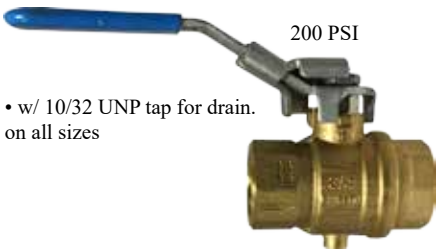
Part #	Ball	E	F	A	B	C	D	G	WTG	Box/Case	
947-125	Non-vented	1" Female	3/4" Male	5.18"	2.5"	2.05"	0.59"	90°	1.43	2/24	----
947-126	Vented								1.48	2/24	----

EXHAUST VALVES

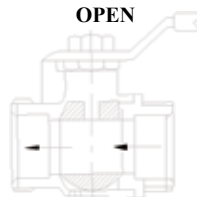
AUTOMATIC DRAIN & LATCH LOCK HANDLE

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: +15°F through +210°F.
- Made in Italy
- Not lead free

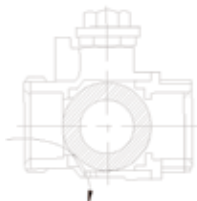


• w/ 10/32 UNP tap for drain. on all sizes



Valve - open position. Drain vent shut off.

CLOSED



Part#	Size	
948-131	1/4"	----
948-132	3/8"	----
948-133	1/2"	----
948-134	3/4"	----
948-135	1"	----

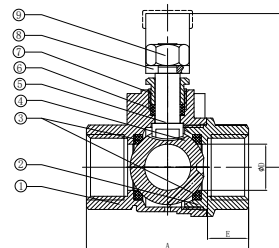
Valve - closed and draining occurs. Upstream seat prevents air flow. Downstream system is vented to atmosphere.

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	
948-141	1/4"	1.756	1.88	0.394	0.457	----
948-142	3/8"	1.756	1.88	0.394	0.457	----
948-143	1/2"	2.047	2.13	0.583	0.520	----
948-144	3/4"	2.362	2.28	0.748	0.563	----



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

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

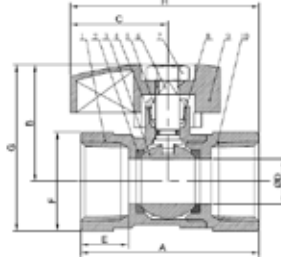
GAS BALL VALVES

 5 PSIG
CSA AGA 3.88 5 PSIG

Manual Valve
LISTED
Threaded NPT
UL 842, UL 258, UL 125

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;
- ASME B16.44/CR91; ANSI Z21.15/CSA9.1
- UL 125 For LP-Gas 125psig
- Made in China



NO.	ITEM	TOTAL	MATERIAL
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

GAS BALL VALVE (2-Piece)
FEMALE x FEMALE

Part#	Size	WTG	Box/Case	
943-311	3/8"	0.35	10/100	4004006
943-312	1/2"	0.44	10/100	4004008
943-313	3/4"	0.62	10/100	4004012

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	
943342	3/8	----
943343	1/2	----
943345	5/8	----
943344	15/16	----



FLARE X MIP

Part#	Size	
943347	3/8 x 1/2	----
943348	1/2 x 1/2	----

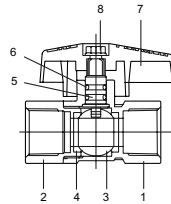


FLARE X FIP

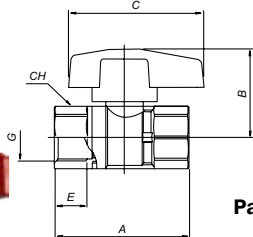
Part#	Size	
943331	3/8 x 1/2	----
943332	1/2 x 1/2	----
943351	5/8 x 3/4	----
943350	15/16 x 3/4	400461512

- 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



 5 PSIG
CSA AGA 3.88 5 PSIG

Manual Valve
LISTED
Threaded NPT
UL 842, UL 258, UL 125

GAS BALL VALVES
FEMALE x FEMALE

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

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

CHROME PLATED BRASS MINI BALL VALVE

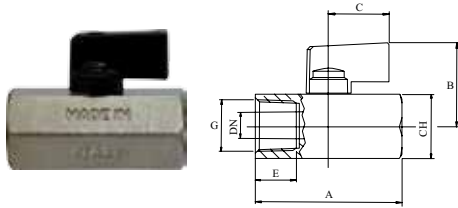
VALVES

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

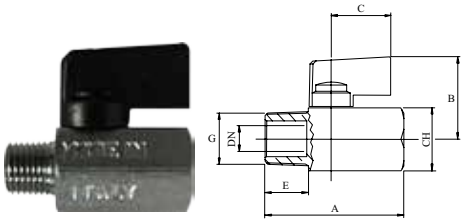


Made in Italy

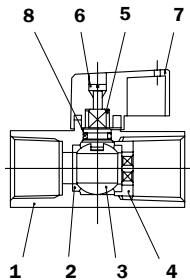
Female x Female

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

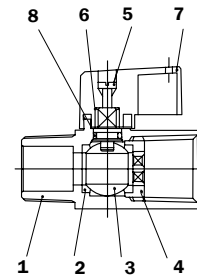
Male x Female



Part#	Size		Dimension Inches							
	G	DN	A	B	C	E	CH	WTG	Box/Case	
46-903I	1/4"	0.31	1.75	1.17	0.9	.40	0.83	0.20	50/200	
46-904I	3/8"	0.31	1.81	1.17	0.9	.41	0.83	0.20	50/200	
46-905I	1/2"	0.39	2.14	1.26	0.9	.52	0.98	0.30	40/160	



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



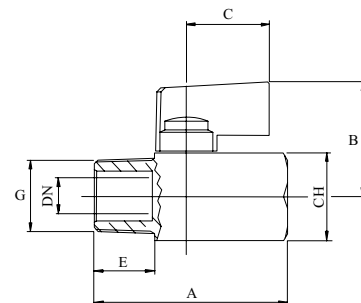
YELLOW BRASS 1/4" MINI MALE X FEMALE VALVE

- 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		
46-903ISB	1/4"	0.315	1.75	1.18	0.91	0.48	0.83	200		

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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	
		A	D(FLOW)	F	G			
46-934	1/8	1.57	0.24	0.93	1.46	0.21	20/300	----
46-935	1/4	1.57	0.31	0.93	1.46	0.20	20/300	----
46-936	3/8	1.57	0.28	0.93	1.46	0.22	20/300	----
46-937	1/2	1.77	0.35	0.93	1.56	0.24	20/200	----

MINI BALL VALVES W/VITON SEALS

FEMALE X FEMALE - LEVER HANDLE



Part #	Size	Dimensions (In)				Wt lbs	Box/Case	
		A	D(FLOW)	F	G			
46-934L	1/8	1.57	0.24	1.99	1.50	0.21	20/300	----
46-935L	1/4	1.57	0.31	1.99	1.50	0.20	20/300	----
46-936L	3/8	1.60	0.28	1.99	1.50	0.22	20/300	----
46-937L	1/2	1.77	0.35	1.99	1.59	0.24	20/200	----

FEMALE X FEMALE - TEE HANDLE



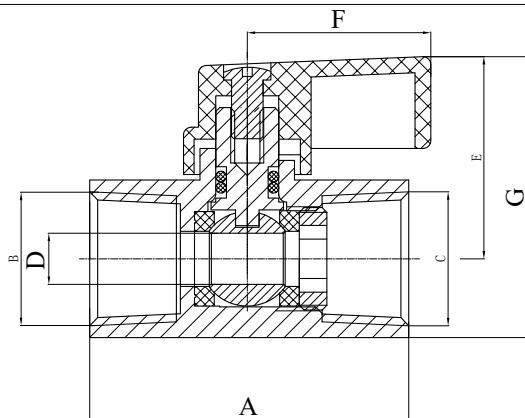
Part #	Size	Dimensions (In)				Wt lbs	Box/Case	
		A	D(FLOW)	Handle	G			
46-934LT	1/8	1.60	0.24	1.34	1.43	0.21	20/300	----
46-935LT	1/4	1.57	0.31	1.34	1.43	0.20	20/300	----
46-936LT	3/8	1.60	0.28	1.34	1.43	0.22	20/300	----
46-937LT	1/2	1.77	0.35	1.34	1.52	0.24	20/200	----

FEMALE X FEMALE - SCREWDRIVER



Part #	Size	Dimensions (In)		Wt lbs	Box/Case	
		A	D(FLOW)			
46-934LS	1/8	1.57	0.24	0.21	20/300	----
46-935LS	1/4	1.57	0.31	0.20	20/300	----
46-936LS	3/8	1.57	0.28	0.22	20/300	----
46-937LS	1/2	1.77	0.35	0.24	20/200	----

- 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

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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	
		A	D(FLOW)	F	G			
46-930	1/8	1.57	0.24	0.93	1.46	0.17	20/300	----
46-931	1/4	1.57	0.31	0.93	1.46	0.15	20/300	----
46-932	3/8	1.57	0.28	0.93	1.46	0.21	20/300	----
46-933	1/2	1.77	0.35	0.93	1.56	0.24	20/200	----

MINI BALL VALVES W/VITON SEALS

MALE X FEMALE - LEVER HANDLE



Part #	Size	Dimensions (In)				Wt lbs	Box/Case	
		A	D(FLOW)	F	G			
46-930L	1/8	1.57	0.24	1.99	1.50	0.17	20/300	----
46-931L	1/4	1.57	0.31	1.99	1.50	0.15	20/300	----
46-932L	3/8	1.57	0.28	1.99	1.50	0.21	20/300	----
46-933L	1/2	1.77	0.35	1.99	1.59	0.24	20/200	----

MALE X FEMALE - TEE HANDLE



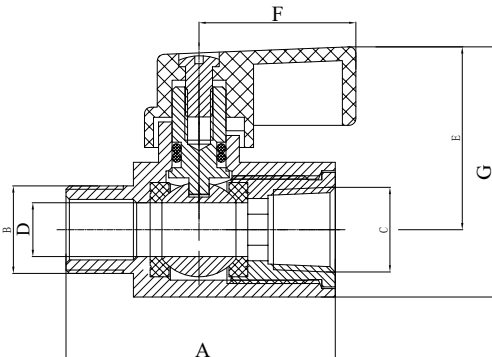
Part #	Size	Dimensions (In)				Wt lbs	Box/Case	
		A	D(FLOW)	Handle	G			
46-930T	1/8	1.57	0.24	1.34	1.46	0.17	20/300	----
46-931T	1/4	1.57	0.31	1.34	1.46	0.15	20/300	----
46-932T	3/8	1.57	0.28	1.34	1.40	0.21	20/300	----
46-933T	1/2	1.77	0.35	1.34	1.56	0.24	20/200	----

MALE X FEMALE - SCREWDRIVER



Part #	Size	Dimensions (In)		Wt lbs	Box/Case	
		A	D(FLOW)			
46-930S	1/8	1.57	0.24	0.17	20/300	----
46-931S	1/4	1.57	0.31	0.15	20/300	----
46-932S	3/8	1.57	0.28	0.21	20/300	----
46-933S	1/2	1.77	0.35	0.24	20/200	----

- 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

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

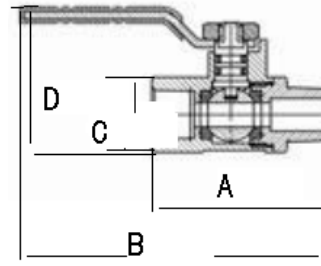
VALVES

FORGED BRASS MINI BALL VALVES

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	
944-113	1/8	1.53	2.80	0.73	1.42	----
944-116	1/4	1.53	2.80	0.73	1.42	----
944-117	3/8	1.73	2.90	0.87	1.50	----
944-140	1/2	2.20	3.08	0.98	1.45	----



FEMALE x MALE

Part #	Size	A	B	C	D	
944-106	1/8	1.69	3.02	0.73	1.46	----
944-100	1/4X1/8	1.28	2.90	0.66	1.32	----
944-101	1/4	1.70	3.00	0.73	1.46	----
944-103	3/8	1.78	3.02	0.87	1.50	----
944-102	3/8X1/4	1.78	2.50	0.89	1.50	----
944-104	1/2	2.34	3.35	0.98	1.45	----



MALE x MALE

Part #	Size	A	B	C	D	
944-107	1/8	1.70	2.94	0.65	1.42	----
944-109	1/4	1.25	2.66	0.65	1.42	----
944-110	3/8	1.90	2.98	0.73	1.42	----
944-112	1/2	2.56	4.93	1.02	2.21	----



HOSE BARB x MALE

Part #	Size	A	B	C	D	
944-132	1/4X1/8	2.05	2.91	0.73	1.51	----
944-138	1/4X1/4	2.08	2.98	0.73	1.51	----
944-128	3/8X1/4	2.08	3.04	0.73	1.51	----
944-130	3/8X3/8	2.12	3.06	0.73	1.51	----
944-139	1/2X1/2	2.15	3.19	0.73	1.51	----



HOSE BARB x FEMALE

Part #	Size	A	B	C	D	
944-135	1/8X1/8	1.78	2.44	0.62	1.38	----
944-136	1/4X1/4	1.97	2.87	0.73	1.55	----



HOSE BARB x HOSE BARB

Part #	Size	A	B	C	D	
944-142	1/4X1/4	2.47	3.19	0.73	1.55	----
944-134	3/8X3/8	2.47	3.18	0.73	1.55	----

LEAD FREE

Part #	Size	A	B	C	D	
944-142LF	1/4	2.49	3.19	0.73	1.55	----
944-134LF	3/8	2.47	3.18	0.73	1.55	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

3-WAY BALL VALVE

VALVES

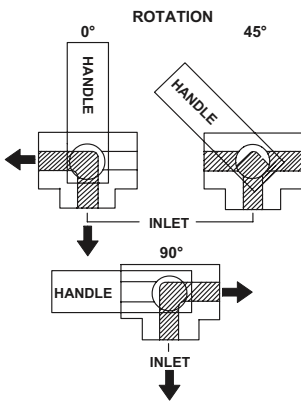
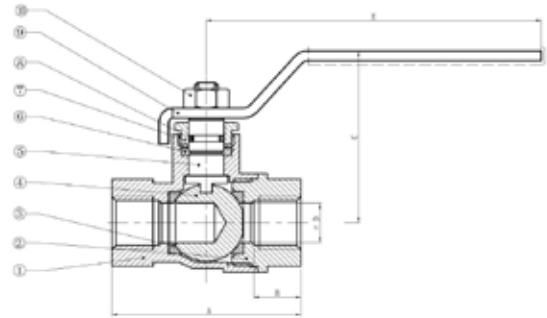
SIDE OUTLET 3-WAY BALL VALVE

- 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

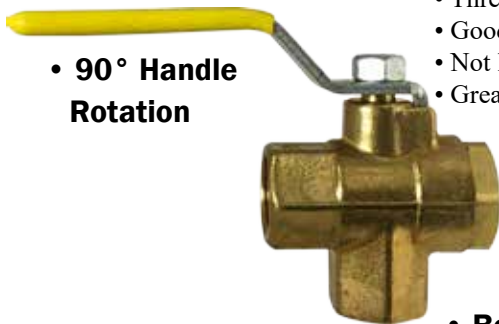
Part#	Size	I	H	D	L	A	WTG	Box/Case	
940-464	1/4"	1.89	1.73	0.39	3.58	0.47	0.51	50/100	----
940-465	3/8"	1.89	1.73	0.39	3.35	0.47	0.57	50/100	----
940-461	1/2"	2.11	1.80	0.50	3.58	0.51	0.65	30/60	----
940-462	3/4"	2.56	2.16	0.74	4.31	0.55	0.99	20/40	----

BOTTOM OUTLET 3 WAY BALL VALVE

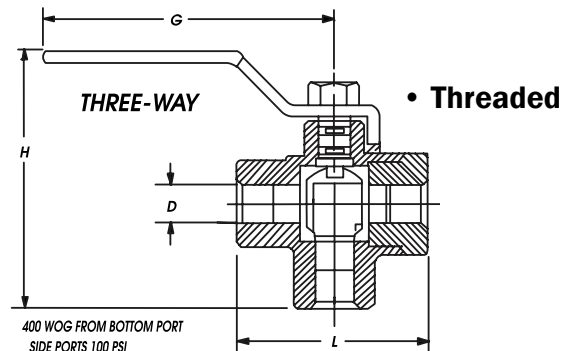
- Forged Brass
- Bottom Port is inlet 400 psi
- Side Ports are inlet 100 psi

- 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		
940-121	1/4"	.44	3.50	3.12	2.25	5.2	0.76		----
940-122	3/8"	.50	3.50	3.12	2.25	5.5	0.69		----
940-123	1/2"	.50	3.50	3.12	2.25	5.5	1.00		----

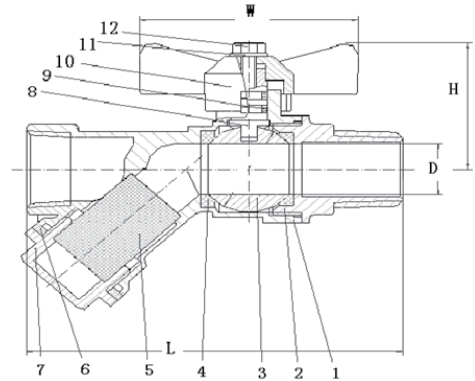
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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	
947-133	1/2"x1/2"(MxF)	3.77"	0.59"	2.00"	1.50"	0.60	8/64	----
947-134	3/4"x3/4"(MxF)	4.32"	0.75"	2.40"	1.85"	1.00	8/64	----

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
- CSA



Part #	Size	
947-055	3/4" x 3/4"	4009612
947-055LF	3/4" x 3/4"	

HOSE BIBBS
3/4" Hose Thread Outlet



Part #	Size	WTG	Box/Case
942-170	1/2 (1/2"C)	0.33	10/100
942-171	3/4	0.35	10/100

RADIATOR AIR VALVE
COIN SLOT OR LOSSE KEY



Part #	Size	
943-284	1/8" MIP	----
943-287	Key only	----

ANGLE SILLCOCKS
3/4" Hose Thread Outlet

- Notched flange for convenient installation.
- Heavy brass construction.
- Cast Iron handle.
- Not lead free



Part #	Size	Box	Case	
942-142	1/2	12	72	4009008

BENT NOSE GARDEN VALVES

- Heavy brass construction
- Cast iron handle
- Stuffing box
- Neoprene seal disc

Part #	Size	Box	Case	
942-100	1/2"	12	72	----
942-101	3/4"	12	72	----
942-102	1"	12	72	----



WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BRASS GATE VALVE

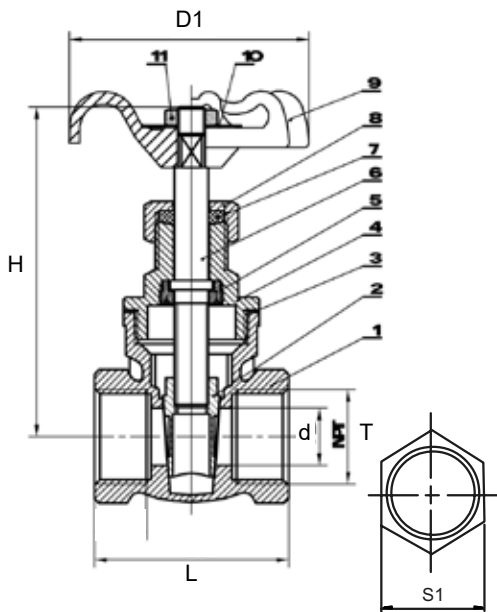
• **BRASS** • **200WOG** • **FULL PORT**

- 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	
940-130	1/4	1.64	2.91	2.09	0.44	1/4-18 NPT	.85	0.60	10/120	4001004
940-131	3/8	1.71	2.91	2.09	0.48	3/8-18 NPT	.85	0.59	10/120	4001006
940-132	1/2	1.71	2.91	2.09	0.50	1/2-14 NPT	1.03	0.75	10/120	4001008
940-133	3/4	1.71	3.06	2.13	0.74	3/4-14 NPT	1.26	0.83	10/80	4001012
940-134	1	2.13	3.60	2.48	0.97	1-11.5 NPT	1.51	1.24	5/60	4001016
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	4001020
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	4001024
940-137	2	2.70	5.94	3.52	1.85	2-11.5 NPT	2.60	3.33	2/24	4001032
940-138	2-1/2	3.70	7.87	3.98	2.48	2-1/2-8 NPT	3.27	6.26	1/10	4001040
940-139	3	4.02	8.82	4.37	2.80	3-8 NPT	3.86	8.34	1/6	4001048
940-140	4	4.53	9.88	4.74	3.60	4-8 NPT	4.88	13.09	1/4	4001064



See Lead Free section page 172 for lead free Gate Valves.

See page 207 for SS Gate Valve

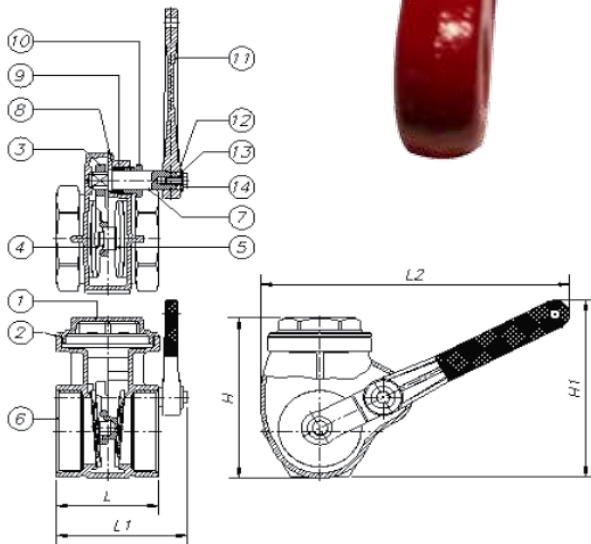
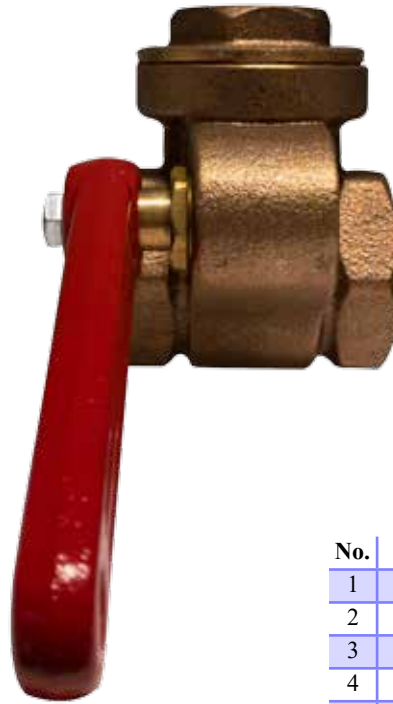


NO	Description	Material
1	Body	C85700
2	Disk	C85700
3	Seat	PTFE
4	Cap	C85700
5	Packing	C85700
6	Stem	C85700
7	Rubber Seat	NBR
8	Packing Nut	C85700
9	Handle	Cast Iron
10	Nameplate	AL
11	Stem Nut	SAE 1010R

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

GATE VALVE QUICK OPENING

Features: Bronze Material, Threaded Ends



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	
941-133	1/2"	45.6	60.6	119	56.8	52.8	10	50	----
941-134	3/4"	51	62	126.3	68	87.5	10	50	----
941-135	1"	58.3	72.3	155	78.7	90.2	10	30	----
941-136	1-1/4"	30.1	78	180.2	89.5	104	5	25	----
941-137	1-1/2"	66.7	85.3	196.6	99.2	131	6	18	----
941-138	2"	76.4	90.3	250.6	119.3	143.7	2	10	----
941-140	3"	101	129.2	305.6	172.2	191.3	2	6	----
941-141	4"	114.5	150.7	378.2	213.5	248.6	1	2	----

Ignorance, the root and stem of all evil. - Plato

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

Y-PATTERN STRAINER

VALVES

CLASS 150 BRASS Y-PATTERN STRAINER

- Forged Brass body, size 1/4"-3".
- Pressure rating: 150 WOG (water, oil, gas)/PN25
150 WSP (Saturated Stem)
- NPT Threaded ends to ANSI B1.20.1
- Protects regulators, pumps, meters and other controls from damage due to sediment scale, metal chips or other foreign materials.
- Screwed cap is threaded & gasketed.
- Tapped drain plug opening in cap.
- 304 stainless steel screen #20 mesh.
- Self cleaning.
- Self cleaning can be accomplished by opening the valve or plug connected to the blow-off outlet.
- Made in Indonesia
- NOT LEAD FREE
- w/20 Mesh Screen
- Temp 180°F



Part#	Size	L	H	C (Plug)	Weight	Box/Case	
940-521	1/4"	2.57	1.95	NPT 3/8	.53	10/100	----
940-522	3/8"	3.23	2.44	NPT 3/8	.71	12/48	----
940-523	1/2"	3.23	2.44	NPT 3/8	.66	12/48	----
940-524	3/4"	3.94	2.78	NPT 3/8	1.10	8/48	----
940-525	1"	4.53	3.19	NPT 1/2	1.71	8/32	----
940-526	1-1/4"	5.33	3.66	NPT 1/2	2.49	6/24	----
940-527	1-1/2"	6.20	3.82	NPT 1/2	3.24	2/16	----
940-528	2"	7.44	4.65	NPT 1/2	5.39	2/8	----
940-529	2-1/2"	9.50	5.39	NPT 3/4	9.56	1/6	----
940-530	3"	9.4	5.67	NPT 3/4	13.49	1/4	----

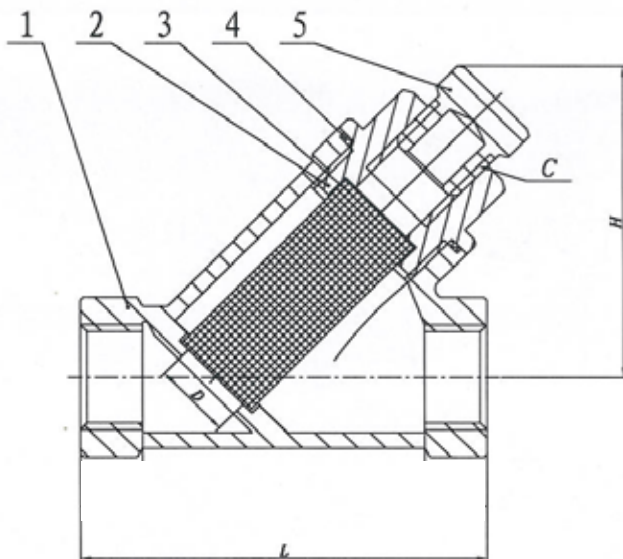
Add 'S' to part # for replacement screens



See page 172 for 1/2" Lead Free



See page 207 for SS Y Strainer

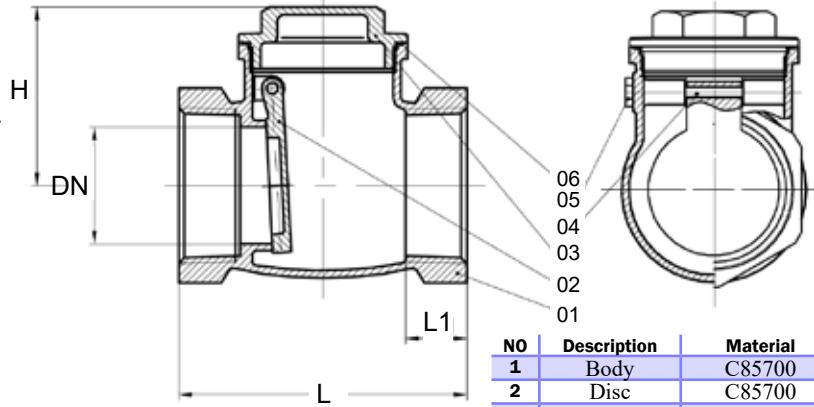


NO	Name	Material
1	BODY	C85700
2	BONNET	C85700
3	STRAINER	304 S.S.
4	SPRING SEAL	PTFE
5	END CAP	C85700

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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	
940-352	1/2	2.09	1.42	0.531	0.512	.41	10/100	4003008
940-353	3/4	2.36	1.56	0.579	0.728	.56	10/80	4003012
940-354	1	2.62	1.77	0.748	0.925	.73	5/60	4003016
940-355	1-1/4	3.19	2.07	0.748	1.201	1.36	5/40	4003020
940-356	1-1/2	3.54	2.16	0.846	1.417	1.56	5/30	4003024
940-357	2	4.21	2.74	0.886	1.772	2.58	2/20	4003032
940-358	2-1/2	5.14	3.09	1.063	2.224	4.55	1/15	4003040
940-359	3	5.77	3.80	1.102	2.579	6.53	1/6	4003048
940-360	4	6.84	4.25	1.102	3.602	10.18	1/4	4003064



• See page 172 for Lead Free Brass Swing Check Valves



• See page 207 for SS Swing Check Valves

Y PATTERN BRASS SWING CHECK VALVE SCREWED ENDS



Part #	Size	
940-352B	1/2"	----
940-353B	3/4"	----
940-354B	1"	----
940-355B	1-1/4"	----
940-356B	1-1/2"	----
940-357B	2"	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

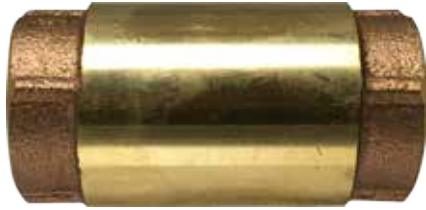
BRASS CHECK VALVES

VALVES

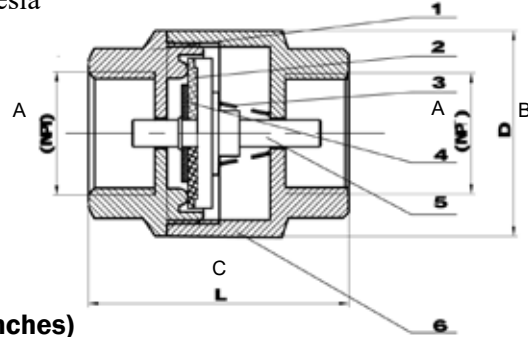
BRASS CHECK VALVES

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	
944-428	1/4"	-	1/4"	1.00	2.29	.24	24/192	----
944-429	3/8"	-	3/8"	1.00	2.07	.23	10/100	----
944-430	1/2"	1-1/4"	1/2"	1.26	2.40	.42	10/100	4003408
944-431	3/4"	1-1/4"	3/4"	1.45	2.74	.53	10/80	4003412
944-432	1"	2"	1"	1.77	3.23	.80	6/60	4003416
944-433	1-1/4"	2-1/2"	1-1/4"	2.13	3.62	1.18	4/40	4003420
944-434	1-1/2"	3"	1-1/2"	2.29	4.04	1.40	5/30	4003424
944-435	2"	3-1/2"	2"	2.48	5.04	2.70	5/20	4003432



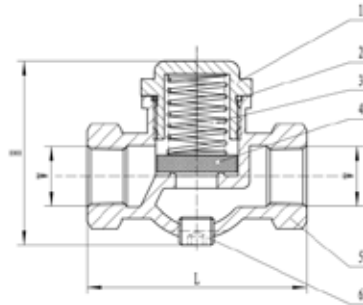
• See page 172 for Lead Free Brass Check Valves



• See page 203-207 for SS Check Valves

IN LINE CHECK VALVES VERTICAL OR HORIZONTAL

- 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	
947-140	1/8"	1/8	1.75	1.34	0.28	20/100	----
947-141	1/4"	1/4	1.75	1.37	0.29	20/100	----
947-142	3/8"	3/8	2.50	2.18	0.62	10/50	----
947-143	1/2"	1/2	2.50	2.13	0.54	10/50	----
947-144	3/4"	3/4	2.88	2.64	1.17	8/40	----
947-145	1"	1	3.61	3.30	1.98	2/20	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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.

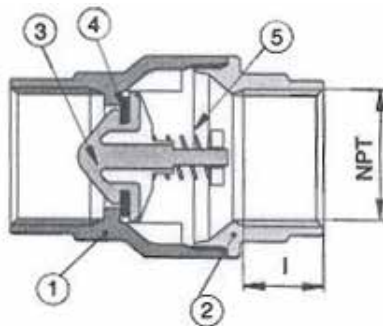
With VITON® Seal for fuels and hydrocarbons. Max working TEMPERATURE 325°F/125 psi steam

Add V to part# for Viton®



Brass In-Line Check

Part#		Size	l	psi	Lbs	Case	Viton Part#	
944-401	----	1/4"	0.39	400	0.22	144		
944-402	----	3/8"	0.40	400	0.18	144	944-402V	----
944-403	----	1/2"	0.60	400	0.32	144	944-403V	----
944-404	----	3/4"	0.65	400	0.49	90	944-404V	----
944-405	----	1"	0.66	400	0.71	90	944-405V	----
944-406	----	1-1/4"	0.68	400	1.13	30	944-406V	----
944-407	----	1-1/2"	0.68	400	1.53	30	944-407V	----
944-408	----	2"	0.69	400	2.28	12	944-408V	----
944-409	----	2-1/2"	0.93	175	4.83	4	944-409V	
944-410	----	3"	1.01	175	6.70	4	944-410V	
944-411	----	4"	1.09	175	12.43	2	944-411V	



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

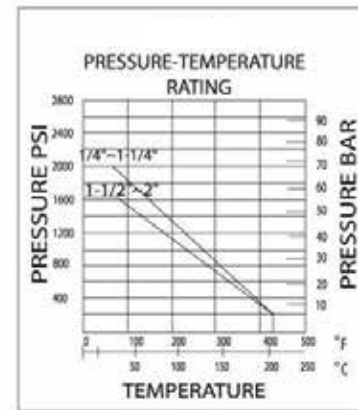
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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

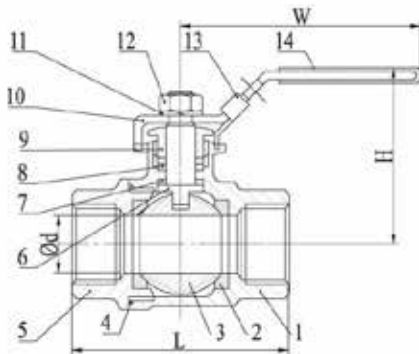
- Investment Castings for body and cap.
- Internal Entry blow-out proof stem.
- Pressure rating: 2000PSI.
- Threaded Ends: ANSI B2,1
- Material: CF8M (316SS)
- Pressure test: API 598
- Generic Handles



LOCKING HANDLE



Part#	Size	D	L	H	W	N.M	lbs/ pc	Case	
949-171	1/4"	0.36	2.13	2.13	4.33	.157	0.64	80	----
949-172	3/8"	0.50	2.13	2.16	4.33	.157	0.58	80	----
949-173	1/2"	0.59	2.24	2.28	4.53	.197	0.71	70	----
949-174	3/4"	0.79	2.76	2.40	4.53	.315	1.18	50	----
949-175	1"	0.98	3.50	3.03	6.04	.394	2.33	30	----
949-176	1-1/4"	1.25	4.12	3.19	6.04	.551	3.48	20	----
949-177	1-1/2"	1.50	4.05	3.54	6.10	.709	4.03	14	----
949-178	2"	1.96	4.90	4.25	6.10	.984	7.50	7	----



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

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov



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



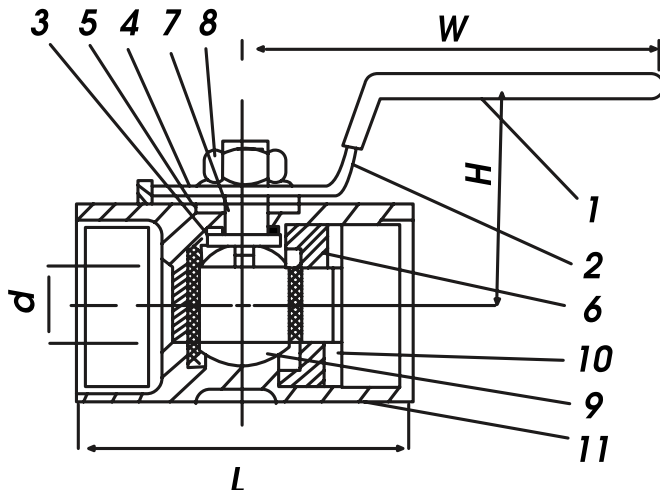
LOCKING HANDLE

Valves will accept a pad-lock on the handle.

dimensions (inches)

Part#	Size	D	L	H	W	Weight	Case	
949-101	1/4"	0.20	1.53	1.53	3.03	0.19	150	----
949-102	3/8"	0.27	1.74	1.53	3.03	0.23	150	----
949-103	1/2"	0.36	2.24	1.73	3.46	0.41	100	----
949-104	3/4"	0.50	2.32	1.89	3.46	0.63	70	----
949-105	1"	0.59	2.80	2.24	4.29	0.86	50	----
949-106	1-1/4"	0.79	3.07	2.32	4.29	1.34	30	----
949-107	1-1/2"	0.98	3.26	2.76	5.14	2.00	25	----
949-108	2"	1.25	3.94	2.24	6.50	2.88	15	----

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

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

316 SS TWO PIECE FULL PORT VALVES

VALVES

TWO PIECE FULL PORT BALL VALVE

316 Stainless Steel

1000 PSI

Materials: CFM8M (SS316)

Features:

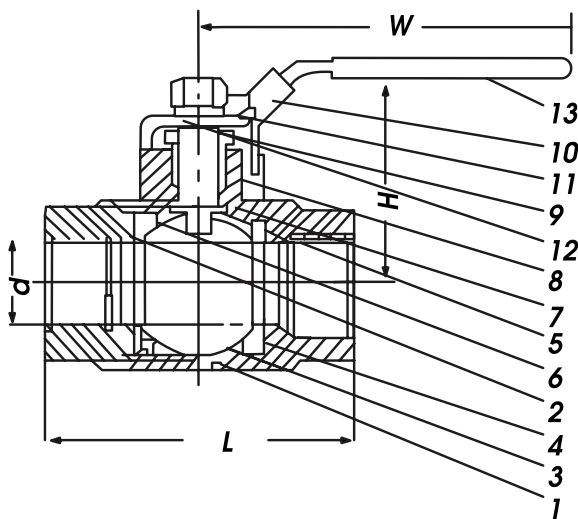
- Quality manufactured for harsh environments.
- Corrosion resistant.
- Investment Casting body
- Working pressure 1000 psi for W.O.G.
- Adjustable stem packing
- Pure teflon seals and seats
- Temperature range: -60 to 450°F
- Blow-out proof stem and safe pressure-reducing hole
- 100% leakage tested 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	
949-161	1/4"	0.36	2.13	2.13	4.33	0.51	80	----
949-162	3/8"	0.50	2.13	2.16	4.33	0.49	80	----
949-163	1/2"	0.59	2.24	2.28	4.17	0.69	70	----
949-164	3/4"	0.79	2.68	2.40	4.17	1.03	50	----
949-165	1"	0.98	3.15	2.50	4.88	1.40	30	----
949-166	1-1/4"	1.26	3.58	3.19	5.04	2.17	20	----
949-167	1-1/2"	1.49	4.05	3.54	6.10	3.33	12	----
949-168	2"	1.97	4.88	4.25	6.13	6.02	7	----
949-170	3"	3.15	7.28	5.71	9.06	21.01	2	----
949-180	4"	3.94	8.84	7.28	11.10	36.18	1	----



Dimensions may change without notice. Please see our website if they are critical.

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

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

STAINLESS STEEL MIN BALL VALVES

- 316 Stainless Steel
- Working pressure 400PSI
- Working Temperature -10°C to 150°C



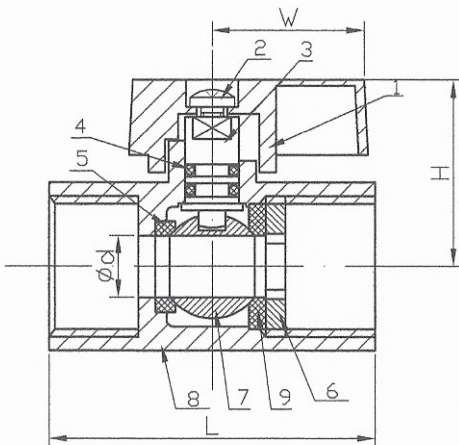
FEMALE PIPE x FEMALE PIPE

Part#	Size	W	D	H	L	Weight	Case	
46934SS	1/8"	.898	.197	.985	1.693	.18	150	----
46935SS	1/4"	.898	.276	.984	1.693	.21	150	----
46936SS	3/8"	.898	.276	.984	1.693	.19	150	----
46937SS	1/2"	.898	.362	1.114	1.811	.26	100	----



MALE PIPE x FEMALE PIPE

Part#	Size	W	D	H	L	Weight	Case	
46930SS	1/8"	.898	.197	.985	1.693	.18	150	----
46931SS	1/4"	.898	.276	.984	1.693	.18	150	----
46932SS	3/8"	.898	.276	.984	1.693	.19	150	----
46933SS	1/2"	.898	.362	1.114	1.811	.26	100	----



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

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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**

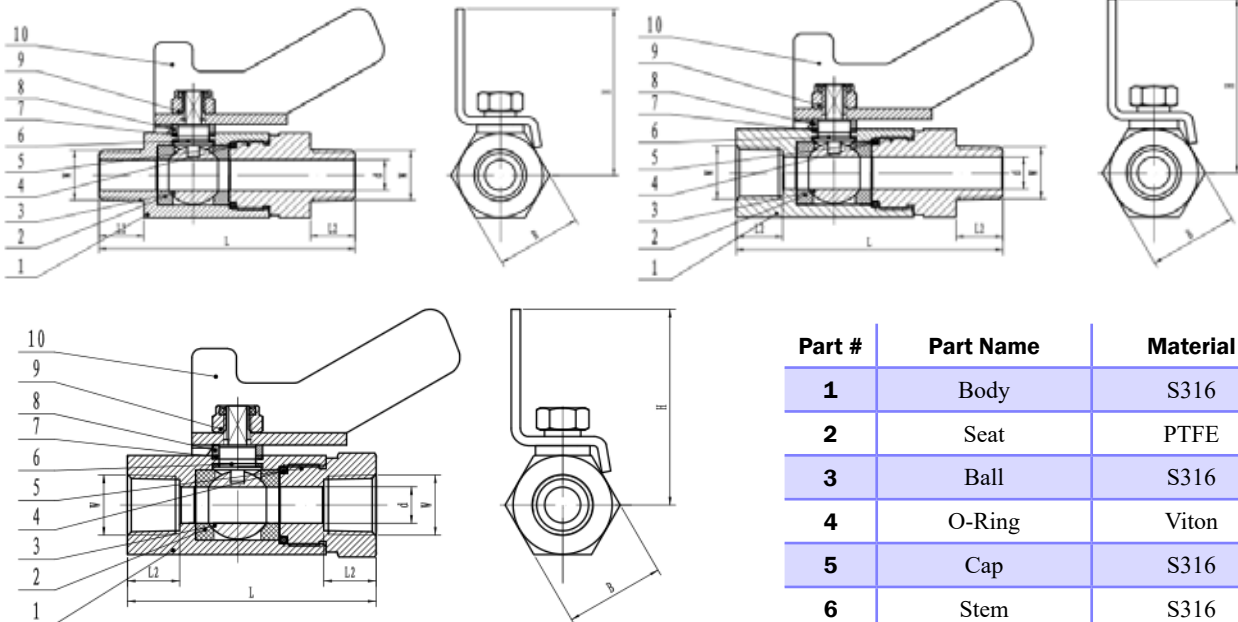
Part #	Size FIP x FIP	Dimensions in				WTG	Box	
		d	L	B (Hex)	H			
46-922SS	1/4"×1/4"	0.314"	2.34"	22.1/0.87"	1.5"	0.33	36	----
46-923SS	3/8"×3/8"	0.314"	2.39"	22.1/0.87"	1.5"	0.39	36	----
46-924SS	1/2"×1/2"	0.314"	2.81"	24.9/0.98"	1.5"	0.43	36	----

**MALE PIPE X FEMALE PIPE**

Part #	Size MIP x FIP	Dimensions in				WTG	Box	
		d	L	B (Hex)	H			
46-903SS	1/4"×1/4"	0.314"	2.45"	0.87"	1.5"	0.39	36	----
46-904SS	3/8"×3/8"	0.314"	2.45"	0.87"	1.5"	0.36	36	----
46-905SS	1/2"×1/2"	0.314"	2.81"	0.98"	1.5"	0.41	36	----

**MALE PIPE X MALE PIPE**

Part #	Size MIP x MIP	Dimensions in				WTG	Box	
		d	L	B (Hex)	H			
46-912SS	1/4"×1/4"	0.314"	2.59"	0.87"	1.5"	0.33	36	----
46-913SS	3/8"×3/8"	0.314"	2.65"	0.87"	1.5"	0.34	36	----
46-914SS	1/2"×1/2"	0.314"	2.47"	0.98"	1.5"	0.63	36	----



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

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

**#304 STAINLESS STEEL
CHECK VALVE**

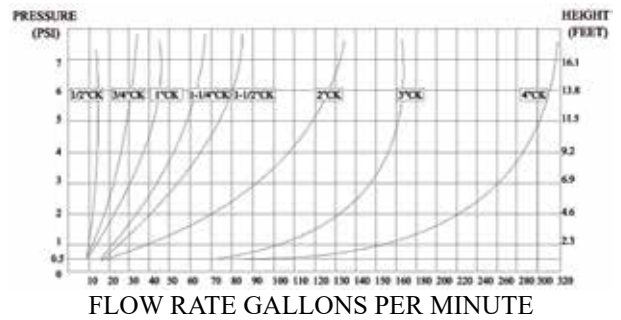
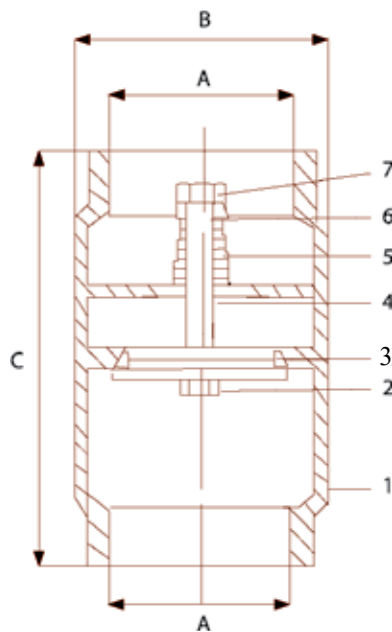
- No Lead.
- Water wells need a check valve installed above the pumps between lengths of drop pipes.
- Opens & Closes with flow of media.
- No cracking pressure.
- Working pressure unavailable.
- Made in Taiwan



Dimensions (Inches)

Part#	Size	A NPT	B	C	Box/Case	
949-430	1/2"	1/2"	1.26	2.43	10/100	----
949-431	3/4"	3/4"	1.50	2.72	10/80	----
949-432	1"	1"	1.77	3.23	10/60	----

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

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

STAINLESS STEEL IN-LINE CHECK VALVE

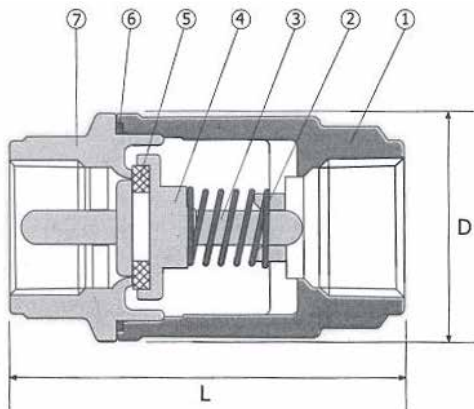
High Capacity, Size 1/4"-2" 800 WOG

- 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	
949-401	1/4"	1.15	2.25	800	0.36	----
949-402	3/8"	1.16	2.25	800	0.34	----
949-403	1/2"	1.35	2.31	800	0.40	----
949-404	3/4"	1.81	2.87	800	0.85	----
949-405	1"	2.13	3.50	800	1.30	----
949-406	1-1/4"	2.46	4.18	800	2.50	----
949-407	1-1/2"	2.88	4.93	800	3.40	----
949-408	2"	3.56	6.00	800	6.0	----



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

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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



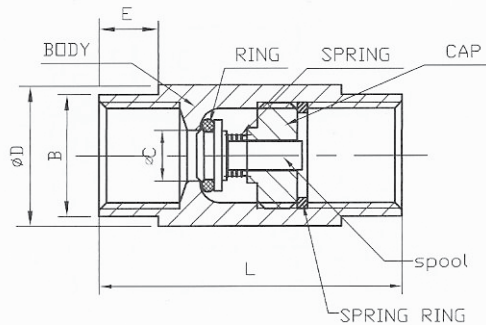
Part#	Size	L	C	D	B	E	lbs/ pc	Case	
949-451	1/4"	2.165	.217	.748	.699	.394	.19	200	----
949-452	3/8"	2.165	.295	.866	.787	.394	.21	160	----
949-453	1/2"	2.165	.413	1.063	.945	.472	.31	100	----
949-454	3/4"	2.677	.591	1.417	1.26	.472	.71	60	----
949-455	1"	3.268	.787	1.693	1.496	.591	1.14	36	----

MALE PIPE x FEMALE PIPE



Part#	Size	L	C	D	B	E	lbs/ pc	Case	
949-471	1/4"	2.165	.217	.748	.699	.394	.176	200	----
949-472	3/8"	2.165	.295	.866	.787	.394	.22	160	----
949-473	1/2"	2.165	.413	1.063	.945	.472	.27	100	----
949-474	3/4"	2.677	.591	1.417	1.26	.472	.62	65	----
949-475	1"	3.268	.787	1.693	1.496	.591	1.05	40	----

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

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

SS Y-SPRING/ BARREL CHECK VALVES

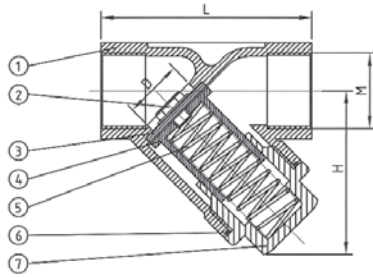
VALVES

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	
949-481	1/4"	2.559	1.661	.472	.44	70	----
949-482	3/8"	2.559	1.661	.472	.51	70	----
949-483	1/2"	2.559	1.634	.591	.51	100	----
949-484	3/4"	3.15	2.067	.787	.93	80	----
949-485	1"	3.543	2.657	.984	1.25	40	----
949-486	1-1/4"	4.134	2.795	1.26	2.20	30	----
949-487	1-1/2"	4.724	3.169	1.575	3.24	24	----
949-488	2"	5.512	3.74	1.969	5.21	10	----



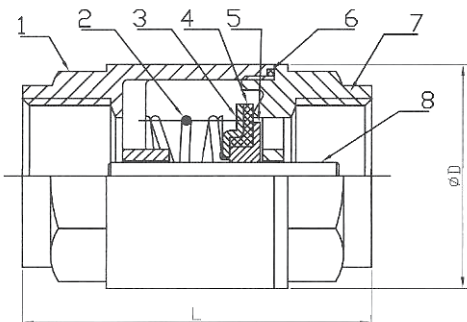
NO	Part	Material	QTY
1	BODY	CF8M/ CF8	1
2	BOLT	304	1
3	SEAT	Teflon	1
4	DISC	304	1
5	SPRING	304	1
6	GASKET	Teflon	1
7	CAP	CF8M/ CF8	1

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	
949-441	1/4"	2.00	1.142	.27	100	----
949-442	3/8"	2.00	1.142	.24	100	----
949-443	1/2"	2.24	1.28	.36	100	----
949-444	3/4"	2.44	1.594	.54	60	----
949-445	1"	2.95	1.89	.88	30	----
949-446	1-1/4"	3.23	2.362	1.39	18	----
949-447	1-1/2"	3.46	2.756	1.81	25	----
949-448	2"	3.94	3.425	2.86	14	----

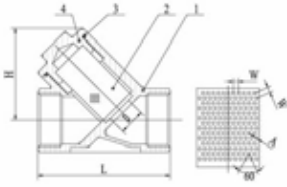


NO	Part	Material	QTY
1	BODY	CF8M/ CF8	1
2	BOLT	304	1
3	SEAT	PTFE	1
4	DISC	304	1
5	SPRING	316/ 304	1
6	GASKET	PTFE	1
7	CAP	CF8M/ CF8	1

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

#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

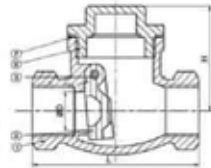
Part #	Size	d	L	H	W	ØA	Lbs
949-521	1/4"	.38"	2.53	51	1.69	1	0.44
949-522	3/8"	.48"	2.53	51	1.69	1	0.38
949-523	1/2"	.59"	2.53	51	1.76	1	0.46
949-524	3/4"	.79"	3.12	60	2.07	1	0.69
949-525	1"	.98"	3.57	72	2.67	1	1.27
949-526	1-1/4"	1.26"	4.17	77	2.9	1	1.74
949-527	1-1/2"	1.57"	4.71	87	3.23	1	2.38
949-528	2"	1.96"	5.49	102	3.88	1	3.57

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
949-353	1/2"	.59"	2.45	1.66	0.53
949-354	3/4"	.79"	2.92	1.82	0.73
949-355	1"	.98"	3.41	2.06	1.2
949-356	1-1/4"	1.26"	3.93	2.32	1.79
949-357	1-1/2"	1.57"	4.54	2.54	2.18
949-358	2"	1.96"	5.3	2.78	3.03

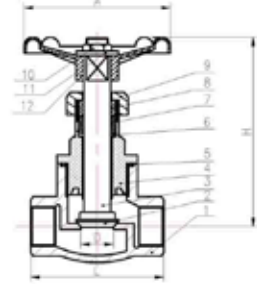
CF8 = 304SS
CF8M = 316SS

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



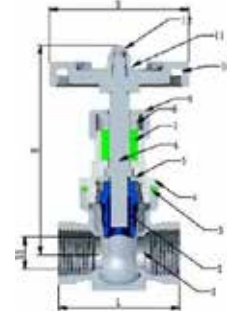
Part #	Size	L	Lbs
949-303	1/2	2.64	0.89
949-304	3/4	3.19	1.3
949-305	1	3.46	1.72
949-306	1-1/4	3.81	2.33
949-307	1-1/2	4.25	3.11
949-308	2	5.1	4.38

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
949-253	1/2	2.07	2.54	0.55	3.37	0.78
949-254	3/4	2.28	2.89	0.74	4.03	0.99
949-255	1	2.42	2.89	0.95	4.46	1.25
949-256	1-1/4	2.79	3.06	1.18	4.86	1.76
949-257	1-1/2	2.92	3.79	1.49	5.53	2.59
949-258	2	3.3	4.17	1.85	6.12	3.54

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

CARBON STEEL BALL VALVES

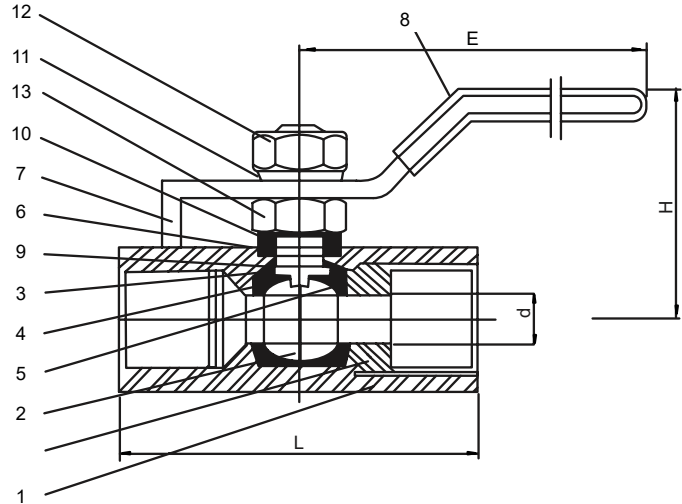
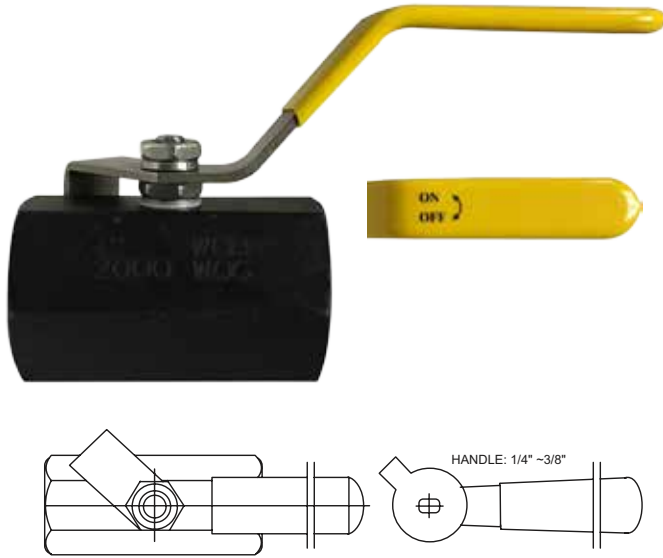
VALVES

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

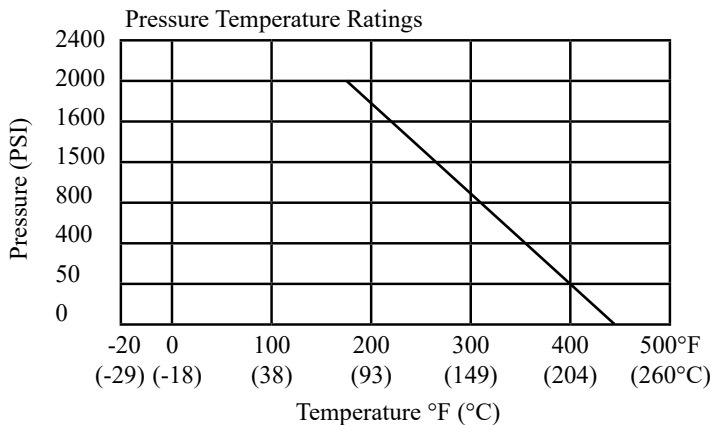
SPECIFICATIONS

- 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	
949-121	1/4	.20	1.38	2.95	1.71	0.25	24/96	----
949-122	3/8	.28	1.30	3.27	1.87	0.32	100/200	----
949-123	1/2	.36	2.36	4.53	2.20	0.67	50/100	----
949-124	3/4	.49	2.72	4.53	2.58	1.06	50/100	----
949-125	1	.59	2.95	5.00	3.19	1.17	25/50	----
949-126	1-1/4	.78	3.07	5.29	3.94	3.15	15/30	----
949-127	1-1/2	0.98	3.39	5.29	3.94	2.15	15/30	----
949-128	2	1.26	3.86	5.29	4.49	6.21	10/20	----



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

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

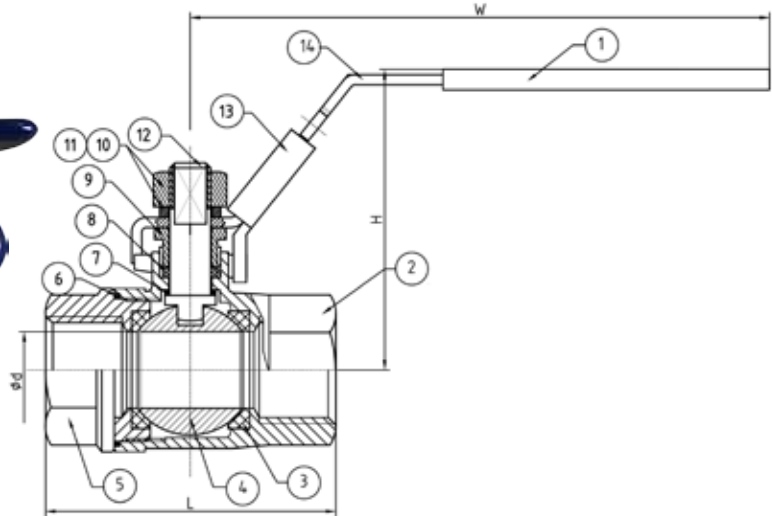


2000 PSI CARBON STEEL 2PC FULL PORT BALL VALVE

• 2 PIECE

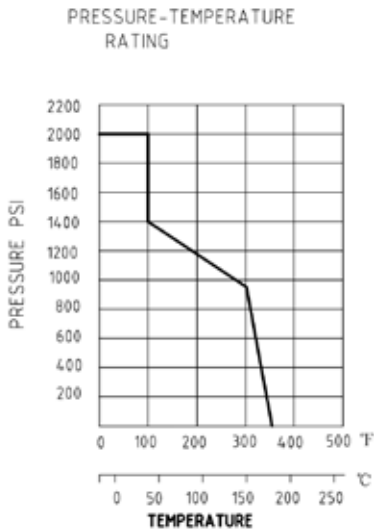
SPECIFICATIONS

- 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	
949-111	1/4	0.36	2.13	2.13	4.33	0.59	70	----
949-112	3/8	0.50	2.13	2.17	4.33	0.59	70	----
949-113	1/2	0.59	2.24	2.28	4.33	0.75	60	----
949-114	3/4	0.79	2.76	2.40	4.33	1.17	50	----
949-115	1	0.98	3.25	3.03	5.04	1.88	30	----
949-116	1-1/4	1.26	3.58	3.19	5.04	2.45	20	----
949-117	1-1/2	1.50	4.06	3.54	6.10	4.06	20	----
949-118	2	1.97	4.90	4.25	6.10	2.43	7	----



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

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

HIGH PRESSURE FULL PORT 2-WAY VALVES

VALVES

FULL PORT
Two-Way

BKH

Part Number	Thread	Working Pressure	
GE2-14-NPT	1/4" NPT	7250 PSI	----
GE2-38-NPT	3/8" NPT	7250 PSI	----
GE2-12-NPT	1/2" NPT	7250 PSI	----
GE2-34-NPT	3/4" NPT	5800 PSI	----
GE2-1-NPT	1" NPT	5075 PSI	----
GE2-114T-NPT*	1-1/4" NPT	5000 PSI	----
GE2-112T-NPT*	1-1/2" NPT	5000 PSI	----
GE2-2T-NPT	2" NPT	5000 PSI	----

Part Number	Thread	Working Pressure	
GE2-04-SAE	7/16-20 UNF	7250 PSI	----
GE2-06-SAE	9/16-18 UNF	7250 PSI	----
GE2-08-SAE	3/4-16 UNF	7250 PSI	----
GE2-12-SAE	1-1/16-12 UNF	5800 PSI	----
GE2-16-SAE	1-5/16-12 UNF	5000 PSI	----
GB2-20T-SAE+	1-5/8-12 UNF	5000 PSI	----
GB2-24T-SAE+	1-7/8-12 UNF	5000 PSI	----
GB2-32T-SAE+	2-1/2-12 UNF	5000 PSI	----

* 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	
GE3L-14-NPT	1/4" NPT	5880 PSI	----
GE3L-38-NPT	3/8" NPT	5880 PSI	----
GE3L-12-NPT	1/2" NPT	5145 PSI	----
GE3L-34-NPT	3/4" NPT	5145 PSI	----
GE3L-1-NPT	1" NPT	5145 PSI	----
GE3L-114T-NPT	1 1/4" NPT	4500 PSI	----
GE3L-112T-NPT	1 1/2" NPT	4500 PSI	----
GE3L-2T-NPT	2" NPT	4500 PSI	----

Part Number	Thread	Working Pressure	
GE3L-04-SAE	7/16-20 UNF	5880 PSI	----
GE3L-06-SAE	9/16-18 UNF	5880 PSI	----
GE3L-08-SAE	3/4-16 UNF	5145 PSI	----
GE3L-12-SAE	1-1/16-12 UNF	5145 PSI	----
GE3L-16-SAE	1-5/16-12 UNF	5145 PSI	----
GB3L-20T-SAE+	1-5/8-12 UNF	4500 PSI	----
GB3L-24T-SAE+	1-7/8-12 UNF	4500 PSI	----
GB3L-32T-SAE+	2-1/2-12 UNF	4500 PSI	----

+ '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

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

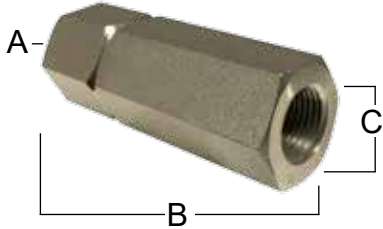


VALVES

HIGH PRESSURE CHECK VALVES

CHECK VALVES - HARD SEAT CARBON STEEL CONSTRUCTION - 5lb Cracking Pressure

- w/ NPT threads



Part #	A Size	B Inches	C Inches	Rated Flow gpm	PSI	
100025	1/4 NPT	2.44	.87	6	5,000	----
100035	3/8 NPT	2.87	.95	10	5,000	----
100045	1/2 NPT	3.76	1.26	18	5,000	----
100065	3/4 NPT	4.30	1.50	30	5,000	----
100085	1 NPT	4.74	1.83	36	5,000	----
1000105	1-1/4 NPT	5.56	2.40	50	3,000	----
1000125	1-1/2 NPT	5.56	2.56	60	3,000	----

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	
1000265	1/4NPT	2.45	.87	6	5,000	----
1000365	3/8NPT	2.91	.94	10	5,000	----
1000465	1/2NPT	3.74	1.18	18	5,000	----
1000665	3/4NPT	4.29	1.26	30	5,000	----
1000865	1NPT	5.00	1.81	36	5,000	----
10001065	1-1/4NPT	5.20	2.41	50	3,000	----
10001265	1-1/2NPT	5.20	2.56	60	3,000	----

CHECK VALVES - 5lb Cracking Pressure

- w/ SAE threads



Part #	A Size	B Inches	C Inches	Rated Flow gpm	PSI	
100145	7/16-20 SAE	2.56	.87	6	5,000	----
100165	9/16-18 SAE	2.91	.94	10	5,000	----
100185	3/4-16 SAE	3.74	1.18	18	5,000	----
1001125	1-1/6-12 SAE	4.29	1.50	30	3,000	----
1001165	1-5/16-12 SAE	5.00	1.81	36	3,000	----
1001205	1-5/8-12 SAE	5.20	2.41	50	3,000	----
1001245	1-7/8-12 SAE	5.20	2.56	60	3,000	----

CHECK VALVES - 65lb Cracking Pressure

- w/ SAE threads



Part #	A Size	B Inches	C Inches	Rated Flow gpm	PSI	
1001465	7/16-20 SAE	2.56	.87	6	5,000	----
1001665	9/16-18 SAE	2.91	.94	10	5,000	----
1001865	3/4-16 SAE	3.74	1.18	18	5,000	----
10011265	1-1/6-12 SAE	4.29	1.50	30	3,000	----
10011665	1-5/16-12 SAE	5.00	1.81	36	3,000	----
10012065	1-5/8-12 SAE	5.20	2.41	50	3,000	----
10012465	1-7/8-12 SAE	5.20	2.56	60	3,000	----

Rated Pressure: Sizes 2 thru 8 - 5000 psi / Sizes 10 thru 24 - 3000 psi

- Soft Seat available by special quote

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

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
- Rated for 150 PSI at 73°F • Threaded ends comply with ANSI B1.20.1

**MOLDED IN PLACE - WHITE PIPE THREADS**

Part#	Size	Case	
940-284	1/2"	100	4202008
940-285	3/4"	100	4202012
940-286	1"	100	4202016
940-287	1-1/4"	100	4202020
940-288	1-1/2"	48	4202024
940-289	2"	24	4202032
940-291	3"	12	4202048
940-292	4"	6	4202064

**WHITE SOCKET - SLIP X SLIP**

Part #	Size	Case	
940-294	1/2"	100	4202208
940-295	3/4"	100	4202212
940-296	1"	100	4202216
940-297	1-1/4"	100	4202220
940-298	1-1/2"	48	4202224
940-299	2"	24	4202232
940-300	2-1/2"	12	4202240
940-301	3"	12	4202248
940-302	4"	6	4202264

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	
899000	1/2"	100	4202008
899001	3/4"	100	4202012
899002	1"	100	4202016
899003	1-1/4"	100	4202020
899004	1-1/2"	48	4202024
899005	2"	24	4202032

**SLIP X SLIP BALL VALVE**

Part #	Size	Case	
899050	1/2"	100	4202208
899051	3/4"	100	4202212
899052	1"	100	4202216
899053	1-1/4"	100	4202220
899054	1-1/2"	48	4202224
899055	2"	24	4202232

**CPVC BALL VALVE**

Part #	Size	
940-281	1/2"	4202808
940-282	3/4"	4202812

WARNING: This product can expose you to chemicals, including Chloroethane, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

VALVES

PLASTIC VALVES

INLINE PLASTIC SPRING CHECK VALVE

Socket x Socket

- 200 PSI working pressure @ 77°F .5 PSI to open.



Part#	Size	
940-325	1/2"	4203608
940-326	3/4"	4203612
940-327	1"	4203616
940-328	1-1/4"	4203620
940-329	1-1/2"	4203624
940-330	2"	4203632

INLINE PLASTIC SPRING CHECK VALVE FEMALE THREADED ENDS

- 200 PSI working pressure @ 77°F .5 PSI to open.



Part#	Size	
940-331	1/2"	4203408
940-332	3/4"	4203412
940-333	1"	4203416
940-334	1-1/4"	4203420
940-335	1-1/2"	4203424
940-336	2"	4203432

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	
46-277	3/4"	----

DRUM & BARREL FAUCET VALVE

- Die cast body w/ nylon seat and steel spring.
- For use with all petroleum products except trichlorethylene.

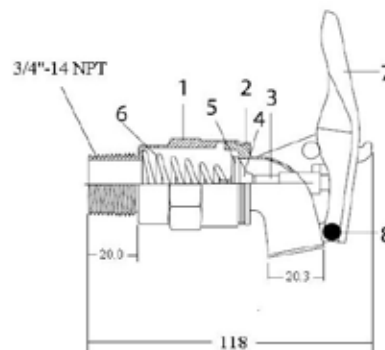


G261N

Not suitable for potable water

SELF-CLOSING DRUM & BARREL FAUCET

Part #	Size	
46-270	3/4"	4030012



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

WARNING: This product can expose you to chemicals, including Chloroethane, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

NIPPLES & FITTINGS



BRASS & BRONZE..... 215-234

Brass Nipples - Sch 40..... 215-221
 EH Sch 80.....
 C/P Brass Nipples..... 222
 Bronze Fittings..... 223-231
 EH Bronze Fittings.....
 Lead Free Bronze Fittings 223-230
 C/P Fittings..... 231
 Bronze Cleanout Plugs 232
 Bronze Drop Ear Elbows..... 232
 Bronze Barbs for PL. Pipe 233
 Steel Barbs for PL. Pipe 233
 Lead Free Bronze Barbs for PL. Pipe..... 234
 Stainless Steel Barbs for PL. Pipe..... 234
 Stainless Steel Well Couplings 234
 Stainless Steel Merchant Couplings 234

STAINLESS STEEL..... 235

Stainless Nipples..... 235-240
 Sch 80 SS Nipples
 150# Cast SS Fittings 241-248
 1,000# Barstock SS fittings NEW
 3000# SS Fittings

BLACK & GALVANIZED 249-286

Sch. 40 Welded Steel Nipples..... 250-257
 Sch. 80 Seamless Steel nipple 258-263
 Sch. XXS Seamless Steel Nipple 264
 Groove Nipples..... 265-266
 Merchant Couplings..... 267
 API Line Couplings..... 268
 Malleable Fittings..... 269-278
 Steel Fittings..... 279-280
 300# Malleable 281-282
 Forged Steel Fittings
 Bull Plugs and Swages 283-284
 Forged Steel Fanges 285-286

 Copper Fittings..... 287-293



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.	
40-001	Close (3/4")	25/400	0.02	----
40-002	x 1-1/2"	25/400	0.03	----
40-003	x 2"	25/400	0.04	----
40-004	x 2-1/2"	25/400	0.05	----
40-005	x 3"	25/400	0.06	----
40-006	x 3-1/2"	25/400	0.07	----
40-007	x 4"	25/400	0.08	----
40-008	x 4-1/2"	25/400	0.10	----
40-009	x 5"	25/400	0.11	----
40-010	x 5-1/2"	25/400	0.12	----
40-011	x 6"	25/400	0.13	----
40-012	x 7"	25/400	0.15	----
40-013	x 8"	25/400	0.17	----
40-014	x 9"	25/400	0.19	----
40-015	x 10"	25/400	0.21	----
40-017	x 12"	25/400	0.25	----
40-018	x 14"	1/1	0.29	----
40-019	x 16"	1/1	0.34	----



1/4"-18

1/4" DIAMETER SCH 40 SEAMLESS

Part #	Size	Box/Case	Approx. Wt. Lbs.	
40-020	Close (7/8")	25/400	0.03	----
40-021	x 1-1/2"	25/400	0.05	----
40-022	x 2"	25/400	0.07	----
40-023	x 2-1/2"	25/400	0.09	----
40-024	x 3"	25/400	0.11	----
40-025	x 3-1/2"	25/400	0.13	----
40-026	x 4"	25/400	0.14	----
40-027	x 4-1/2"	25/400	0.16	----
40-028	x 5"	25/400	0.18	----
40-029	x 5-1/2"	25/400	0.20	----
40-030	x 6"	25/400	0.22	----
40-031	x 7"	25/200	0.25	----
40-032	x 8"	25/200	0.29	----
40-033	x 9"	25/200	0.33	----
40-034	x 10"	25/200	0.36	----
40-035	x 11"	25/200	0.40	----
40-036	x 12"	25/200	0.43	----

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.	
40-040	Close (1")	25/400	0.05	----
40-041	x 1-1/2"	25/400	0.08	----
40-042	x 2"	25/400	0.10	----
40-043	x 2-1/2"	25/400	0.13	----
40-044	x 3"	25/400	0.16	----
40-045	x 3-1/2"	25/400	0.18	----
40-046	x 4"	25/400	0.21	----
40-047	x 4-1/2"	25/300	0.23	----
40-048	x 5"	25/300	0.26	----
40-049	x 5-1/2"	25/300	0.29	----
40-050	x 6"	25/300	0.31	----
40-051	x 7"	25/200	0.36	----
40-052	x 8"	25/150	0.42	----
40-053	x 9"	25/150	0.47	----
40-054	x 10"	25/100	0.52	----
40-055	x 11"	25/100	0.57	----
40-056	x 12"	25/100	0.62	----



**LEAD
FREE**

1/2" - 14

1/2" DIAMETER SCH 40 SEAMLESS

Part #	Size	Box/Case	Approx. Wt. Lbs.	
40-060	Close (1-1/8")	25/400	0.09	----
40-061	x 1-1/2"	25/400	0.12	----
40-062	x 2"	25/400	0.16	----
40-063	x 2-1/2"	25/300	0.20	----
40-064	x 3"	25/300	0.23	----
40-065	x 3-1/2"	25/300	0.27	----
40-066	x 4"	25/200	0.31	----
40-067	x 4-1/2"	25/200	0.35	----
40-068	x 5"	25/200	0.39	----
40-069	x 5-1/2"	25/200	0.43	----
40-070	x 6"	25/200	0.47	----
40-071	x 7"	25/100	0.55	----
40-072	x 8"	25/100	0.62	----
40-073	x 9"	25/100	0.70	----
40-074	x 10"	25/75	0.78	----
40-075	x 11"	25/75	0.86	----
40-076	x 12"	25/75	0.94	----

SCH 40 SEAMLESS

BRASS NIPPLES



3/4" - 14

3/4" DIAMETER SCH 40 SEAMLESS

Part #	Length	Box/Case	Approx. Wt. Lbs.	
40-080	Close (1- 3/8")	25/400	0.15	----
40-081	x 1-1/2"	25/400	0.16	----
40-082	x 2"	25/300	0.21	----
40-083	x 2-1/2"	25/300	0.27	----
40-084	x 3"	25/200	0.32	----
40-085	x 3-1/2"	25/200	0.37	----
40-086	x 4"	25/150	0.43	----
40-087	x 4-1/2"	25/150	0.48	----
40-088	x 5"	25/100	0.53	----
40-089	x 5-1/2"	25/100	0.59	----
40-090	x 6"	25/100	0.64	----
40-091	x 7"	25/75	0.75	----
40-092	x 8"	25/75	0.85	----
40-093	x 9"	25/75	0.96	----
40-094	x 10"	25/50	1.06	----
40-095	x 11"	25/50	1.17	----
40-096	x 12"	25/50	1.28	----
40-097	x 18"	1/1	1.92	----
40-098	x 24"	1/1	2.56	----
40-099	x 36"	1/1	3.84	----



1" - 11 1/2

1" DIAMETER SCH 40 SEAMLESS

Part #	Length	Box/Case	Approx. Wt. Lbs.	
40-100	Close (1-1/2")	25/200	0.23	----
40-101	x 2"	25/200	0.30	----
40-102	x 2-1/2"	25/150	0.38	----
40-103	x 3"	25/150	0.45	----
40-104	x 3-1/2"	25/100	0.53	----
40-105	x 4"	25/100	0.60	----
40-106	x 4-1/2"	25/100	0.68	----
40-107	x 5"	25/75	0.75	----
40-108	x 5-1/2"	25/75	0.83	----
40-109	x 6"	25/50	0.94	----
40-110	x 7"	25/50	1.05	----
40-111	x 8"	25/50	1.20	----
40-112	x 9"	25/50	1.35	----
40-113	x 10"	25/50	1.50	----
40-114	x 11"	25/50	1.65	----
40-115	x 12"	20/40	1.80	----



**LEAD
FREE**

1 1/4" - 11 1/2"

1-1/4" DIAMETER SCH 40 SEAMLESS

Part #	Length	Box/Case	Approx. Wt. Lbs.	
40-120	Close (1-5/8")	25/100	0.36	----
40-121	x 2"	25/100	0.44	----
40-122	x 2-1/2"	25/100	0.56	----
40-123	x 3"	25/100	0.67	----
40-124	x 3-1/2"	25/100	0.78	----
40-125	x 4"	25/50	0.89	----
40-126	x 4-1/2"	25/50	1.00	----
40-127	x 5"	25/50	1.11	----
40-128	x 5-1/2"	25/50	1.22	----
40-129	x 6"	25/50	1.33	----
40-130	x 7"	25/50	1.56	----
40-131	x 8"	25/50	1.78	----
40-132	x 9"	25/50	2.00	----
40-133	x 10"	25/50	2.22	----
40-134	x 11"	25/50	2.45	----
40-135	x 12"	25/50	2.67	----
40-136	x 18"	1/1	4.00	----



**LEAD
FREE**

1-1/2" - 11 1/2"

1-1/2" DIAMETER SCH 40 SEAMLESS

Part #	Length	Box/Case	Approx. Wt. Lbs.	
40-140	Close (1-3/4")	25/100	0.46	----
40-141	x 2"	25/100	0.53	----
40-142	x 2-1/2"	25/50	0.66	----
40-143	x 3"	25/50	0.79	----
40-144	x 3-1/2"	25/50	0.93	----
40-145	x 4"	25/50	1.06	----
40-146	x 4-1/2"	25/50	1.19	----
40-147	x 5"	20/40	1.32	----
40-148	x 5-1/2"	20/40	1.46	----
40-149	x 6"	20/40	1.59	----
40-150	x 7"	20/40	1.85	----
40-151	x 8"	20/40	2.12	----
40-152	x 9"	20/40	2.38	----
40-153	x 10"	20/40	2.65	----
40-154	x 11"	1/40	2.91	----
40-155	x 12"	1/15	3.18	----
40-156	x 18"	1/1	4.77	----

SCH 40 SEAMLESS

BRASS NIPPLES



LEAD FREE

2" - 11 1/2

2" DIAMETER SCH 40 SEAMLESS

Part #	Length	Box/Case	Approx. Wt. Lbs.	
40-160	Close (2")	25/50	0.69	----
40-161	x 2-1/2"	25/50	0.86	----
40-162	x 3"	25/50	1.03	----
40-163	x 3-1/2"	25/50	1.20	----
40-164	x 4"	1/25	1.37	----
40-165	x 4-1/2"	1/25	1.54	----
40-166	x 5"	1/25	1.72	----
40-167	x 5-1/2"	1/25	1.89	----
40-168	x 6"	1/25	2.06	----
40-169	x 7"	1/20	2.40	----
40-170	x 8"	1/18	2.74	----
40-171	x 9"	1/18	3.09	----
40-172	x 10"	1/18	3.43	----
40-173	x 11"	1/18	3.77	----
40-174	x 12"	1/14	4.12	----
40-175	x 18"	1/1	6.18	----
40-176	x 24"	1/1	8.24	----
40-178	x 36"	1/1	12.36	----
40-179	x 48"	1/1	16.48	----



LEAD FREE

2 1/2" - 8

2-1/2" DIAMETER SCH 40 SEAMLESS

Part #	Length	Box/Case	Approx. Wt. Lbs.	
40-180	Close (2-1/2")	1/36	1.26	----
40-181	x 3"	1/36	1.51	----
40-182	x 3-1/2"	1/30	1.76	----
40-183	x 4"	1/30	2.02	----
40-184	x 4-1/2"	1/30	2.27	----
40-185	x 5"	1/20	2.52	----
40-186	x 5-1/2"	1/20	2.77	----
40-187	x 6"	1/20	3.03	----

The best way to find yourself is to lose yourself in the service of others.
 - Mahatma Gandhi

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.	
40-200	Close (2-5/8")	1/24	1.89	----
40-201	x 3"	1/20	2.16	----
40-202	x 3-1/2"	1/18	2.52	----
40-203	x 4"	1/18	2.88	----
40-204	x 4-1/2"	1/18	3.24	----
40-205	x 5"	1/18	3.60	----
40-206	x 5-1/2"	1/18	3.96	----
40-207	x 6"	1/12	4.32	----
40-209	x 8"	1/1	5.76	----
40-213	x 12"	1/1		



**LEAD
FREE**

4" DIAMETER SCH 40 SEAMLESS

Part #	Size	Box/Case	Approx. WT. Lbs.	
40-220	Close (2-7/8)	1/20	2.40	----
40-221	x 3"	1/10	2.72	----
40-222	x 3-1/2"	1/10	3.18	----
40-223	x 4"	1/10	3.71	----
40-224	x 4-1/2"	1/5	4.24	----
40-225	x 5"	1/5	4.77	----
40-226	x 5-1/2"	1/5	5.30	----
40-234	x 6"	1/5	6.36	----



**LEAD
FREE**

6" DIAMETER SCH 40 SEAMLESS

Part #	Size	Box/Case	Approx. WT. Lbs.	
40-254	Close	1/1	4.94	----
40-256	x 4"	1/1	6.54	----
40-259	x 4-1/2"	1/1	7.12	----
40-260	x 5"	1/1	7.91	----
40-261	x 6"	1/1	9.49	----

CHROME PLATED

BRASS NIPPLES



3/8" DIAMETER CHROME PLATED

Part #	Size	Box/Case	Approx. Wt. Lbs.	
41-040	X Close	5/25	0.05	----
41-041	x 1-1/2"	5/25	0.08	----
41-042	x 2"	5/25	0.10	----
41-043	x 2-1/2"	5/25	0.13	----
41-044	x 3"	5/25	0.16	----
41-045	x 3-1/2"	5/25	0.18	----
41-046	x 4"	5/25	0.21	----
41-047	x 4-1/2"	5/25	0.23	----
41-048	x 5"	5/25	0.26	----
41-049	x 5-1/2"	5/25	0.29	----
41-050	x 6"	5/25	0.31	----



1/2" DIAMETER CHROME PLATED

Part #	Size	Box/Case	Approx. Wt. Lbs.	
41-060	X Close	5/25	0.09	----
41-061	x 1-1/2"	5/25	0.12	----
41-062	x 2"	5/25	0.16	----
41-063	x 2-1/2"	5/25	0.20	----
41-064	x 3"	5/25	0.23	----
41-065	x 3-1/2"	5/25	0.27	----
41-066	x 4"	5/25	0.31	----
41-067	x 4-1/2"	5/25	0.35	----
41-068	x 5"	5/25	0.39	----
41-069	x 5-1/2"	5/25	0.43	----
41-070	x 6"	5/25	0.47	----
41-074	x 10"	1/1	0.78	----



New Nickel Plated Brass Ball Valve with SS trim see page 177

See page 310 for Brass Cam & Groove Fittings

WARNING: This product can expose you to chemicals, including chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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

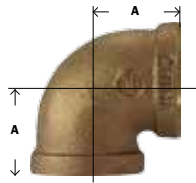


- Approved to ANSI/NSF 61-4 California AB 1953
- Meets Federal State Drinking Water Act, Lead Free Requirement
- Brass fittings conform to AWWA C800
- Brass castings conform to ASTM B584, UNS Alloy C8933
- Brass fittings dimensions conform to ASME B16.15
- NPT threads on all fittings conform to ASME B1.20.1
- Brass unions conform to specification A-A-59617
- Manufacturing facilities are ISO 9001:2008

WARNING: This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

BRONZE/ LEAD FREE BRONZE

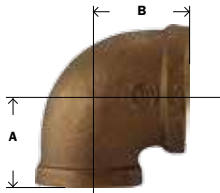
BRONZE FITTINGS



90° ELBOWS



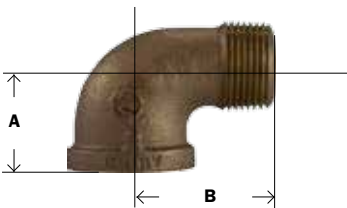
Part #		Approx. Wt. Lbs.	Box/Case	Size	A	Approx. Wt. Lbs.	Part #	
44-100	----	0.08	50/600	1/8"	0.55	0.06	44-100LF	----
44-101	----	0.12	35/420	1/4"	0.72	0.10	44-101LF	----
44-102	----	0.17	90/360	3/8"	0.83	0.15	44-102LF	----
44-103	----	0.24	50/200	1/2"	1.03	0.25	44-103LF	----
44-104	----	0.34	35/105	3/4"	1.19	0.41	44-104LF	----
44-105	----	0.61	20/60	1"	1.43	0.69	44-105LF	----
44-106	----	0.95	20/40	1-1/4"	1.71	1.02	44-106LF	----
44-107	----	1.30	15/30	1-1/2"	1.87	1.36	44-107LF	----
44-108	----	2.07	8/16	2"	2.14	2.14	44-108LF	----
44-109	----	3.80	1/12	2-1/2"	2.74	3.79	44-109LF	----
44-110	----	4.76	1/4	3"	3.10	5.21	44-110LF	----
44-112	----	9.71	1/2	4"	3.80	8.59		



90° REDUCING ELBOWS



Part #		Approx. Wt. Lbs.	Box/Case	Size	A	B	Approx. Wt. Lbs.	Part #	
44-120				1/4" x 1/8"					
44-123	----	0.44	60/240	1/2" x 1/4"	0.93	0.90	0.19		
44-124	----	0.58	60/240	1/2" x 3/8"	0.93	0.90	0.22	44-124LF	----
44-127	----	0.80	40/160	3/4" x 1/2"	1.08	1.11	0.31	44-127LF	----
44-131	----	1.07	50/100	1" x 3/4"	1.30	1.31	0.56	44-131LF	----
44-134	----	0.80	25/50	1-1/4" x 1"	1.52	1.60	0.81	44-134LF	----
44-137	----	1.07	10/40	1-1/2" x 1"	1.56	1.72	1.02	44-137LF	----
				2" x 1"				44-140LF	----

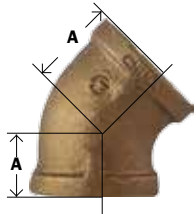


90° STREET ELLS



Part #		Approx. Wt. Lbs.	Box/Case	Size	A	B	Approx. Wt. Lbs.	Part #	
44-160	----	0.07	60/720	1/8"	0.55	0.92	0.06	44-160LF	----
44-161	----	0.11	35/420	1/4"	0.72	1.11	0.11	44-161LF	----
44-162	----	0.18	60/240	3/8"	0.83	1.24	0.16	44-162LF	----
44-163	----	0.24	60/180	1/2"	1.03	1.51	0.24	44-163LF	----
44-164	----	0.37	35/105	3/4"	1.19	1.66	0.38	44-164LF	----
44-165	----	0.67	45/90	1"	1.43	1.98	0.66	44-165LF	----
44-166	----	1.00	25/50	1-1/4"	1.71	2.26	0.99	44-166LF	----
44-167	----	1.37	9/27	1-1/2"	1.87	2.46	1.15	44-167LF	----
44-168	----	1.93	8/16	2"	2.14	2.98	2.07	44-168LF	----
44-169	----	4.05	5/10	2-1/2"	2.74	3.92	3.79	44-169LF	----
44-170	----	6.16	1/8	3"	3.10	4.45	6.38		

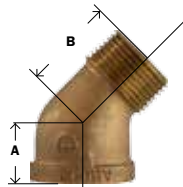
WARNING: This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov



45° ELBOWS



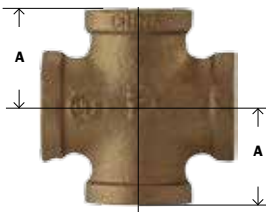
Part #		Approx. Wt. Lbs.	Box/Case	Size	A	Approx. Wt. Lbs.	Part #	
44-180	----	0.08	50/600	1/8"	0.43	0.05	44-180LF	----
44-181	----	0.13	30/360	1/4"	0.55	0.09	44-181LF	----
44-182	----	0.17	75/300	3/8"	0.63	0.14	44-182LF	----
44-183	----	0.21	50/200	1/2"	0.79	0.19	44-183LF	----
44-184	----	0.32	40/120	3/4"	0.91	0.36	44-184LF	----
44-185	----	0.52	20/60	1"	1.07	0.59	44-185LF	----
44-186	----	0.86	20/40	1-1/4"	1.23	0.87	44-186LF	----
44-187	----	1.10	10/30	1-1/2"	1.31	1.13	44-187LF	----
44-188	----	1.71	12/24	2"	1.47	1.65	44-188LF	----
44-189	----	3.24	1/12	2-1/2"	1.95	2.69		
44-190	----	4.12	1/10	3"	2.17	3.68		



45° STREET ELBOWS



Part #		Approx. Wt. Lbs.	Box/Case	Size	A	B	Approx. Wt. Lbs.	Part #	
44-200	----	0.06	70/840	1/8"	0.26	0.43	0.06		
44-201	----	0.11	100/400	1/4"	0.35	0.56	0.09	44-201LF	----
44-202	----	0.13	100/400	3/8"	0.37	0.63	0.12	44-202LF	----
44-203	----	0.18	75/225	1/2"	0.45	0.79	0.22	44-203LF	----
44-204	----	0.28	40/120	3/4"	0.52	0.91	0.31	44-204LF	----
44-205	----	0.52	25/75	1"	0.60	1.07	0.52	44-205LF	----
44-206	----	0.77	10/40	1-1/4"	0.67	1.23	0.72	44-206LF	----
44-207	----	0.97	10/30	1-1/2"	0.70	1.31	1.05	44-207LF	----
44-208	----	2.04	12/24	2"	0.76	1.47	2.04	44-208LF	----



CROSSES



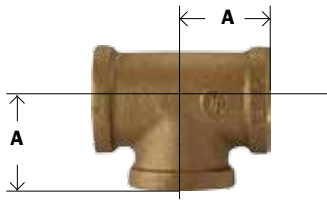
Part #		Approx. Wt. Lbs.	Box/Case	Size	A	Approx. Wt. Lbs.	Part #	
44-391	----	0.20	60/240	1/4"	0.72	0.15	44-391LF	----
44-392	----	0.15	50/150	3/8"	0.83	0.25	44-392LF	----
44-393	----	0.45	30/90	1/2"	1.03	0.38	44-393LF	----
44-394	----	0.76	20/60	3/4"	1.19	0.59	44-394LF	----
44-395	----	1.04	15/30	1"	1.19	0.94	44-395LF	----
44-396	----	1.63	10/20	1-1/4"	1.71	1.43	44-396LF	----
44-397	----	2.10	8/16	1-1/2"	1.87	1.89	44-397LF	----
44-398	----	3.28	5/10	2"	2.14	2.95	44-398LF	----

WARNING: This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov



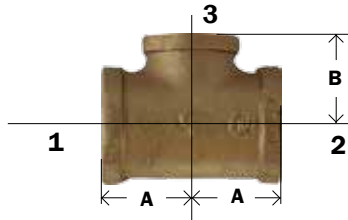
BRONZE/ LEAD FREE BRONZE

BRONZE FITTINGS



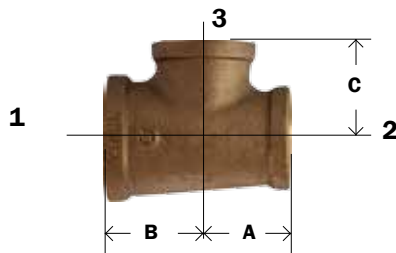
TEES

Part #		Approx. Wt. Lbs.	Box/Case	Size	A	Approx. Wt. Lbs.	Part #	
44-250	----	0.11	120/480	1/8"	0.55	0.09	44-250LF	----
44-251	----	0.17	75/300	1/4"	0.72	0.13	44-251LF	----
44-252	----	0.25	45/180	3/8"	0.83	0.21	44-252LF	----
44-253	----	0.31	40/120	1/2"	1.03	0.35	44-253LF	----
44-254	----	0.50	35/70	3/4"	1.19	0.55	44-254LF	----
44-255	----	0.85	20/40	1"	1.43	0.92	44-255LF	----
44-256	----	1.29	14/28	1-1/4"	1.71	1.34	44-256LF	----
44-257	----	1.68	12/24	1-1/2"	1.87	1.82	44-257LF	----
44-258	----	2.70	8/16	2"	2.14	2.80	44-258LF	----
44-259	----	5.14	1/6	2-1/2"	2.74	4.70		
44-260	----	7.59	1/6	3"	3.10	6.69		
				4"			44-261LF	



**REDUCING TEES
REDUCING ON THE BRANCH**

Part #		Approx. Wt. Lbs.	Box/Case	Size (1 & 2) x 3	A	B	Approx. Wt. Lbs.	Part #	
44-276	----	0.24	40/160	1/2" x 1/4"	0.87	0.87	0.28	44-276LF	----
44-280	----	0.46	40/160	1/2" x 3/4"	2.42	1.155	0.48	44-280LF	----
44-282	----	0.43	25/100	3/4" x 1/4"	1.05	1.08	0.38	44-282LF	----
44-283	----	0.45	25/100	3/4" x 3/8"	1.00	1.00	0.46		
44-286	----	0.53	20/80	3/4" x 1/2"	1.08	1.11	0.40	44-286LF	----
44-291	----	0.60	15/60	1" x 1/2"	1.20	1.24	0.73	44-291LF	----
44-298	----	0.80	12/48	1" x 3/4"	1.30	1.31	0.71	44-298LF	----
44-301	----	0.85	20/40	1-1/4" x 1/2"	1.34	1.53	1.18	44-301LF	----
44-303	----	0.90	20/40	1-1/4" x 3/4"	1.30	1.31	1.08	44-303LF	----
44-306	----	1.21	20/40	1-1/4" x 1"	1.58	1.67	1.23	44-306LF	----
				2" x 1"			1.88	44-330LF	----
				2" x 1-1/4"			2.03	44-334LF	----



**REDUCING TEES
REDUCING ON THE RUN**

Part #		Size 1x2x3	A	B	C	Box/Case	Approx. Wt. Lbs.	Part #	
44-287	----	3/4" x 1/2" x 1/2"	25/100	1.20	1.22	25/100	0.37	44-287LF	----
		3/4" x 1/2" x 3/4"					0.49	44-288LF	----
44-296	----	1" x 3/4" x 3/4"	15/60	1.37	1.45	10/40	0.71		

WARNING: This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov



COUPLINGS

Part #		Approx. Wt. Lbs.	Box/Case	Size	A	Approx. Wt. Lbs.	Part #	
44-410	----	0.12	70/840	1/8"	0.80	0.06	44-410LF	----
44-411	----	0.11	40/480	1/4"	0.80	0.09	44-411LF	----
44-412	----	0.15	40/480	3/8"	1.05	0.13	44-412LF	----
44-413	----	0.18	60/240	1/2"	1.29	0.21	44-413LF	----
44-414	----	0.28	50/150	3/4"	1.43	0.32	44-414LF	----
44-415	----	0.45	25/100	1"	1.68	0.53	44-415LF	----
44-416	----	0.63	16/64	1-1/4"	1.86	0.73	44-416LF	----
44-417	----	0.82	18/36	1-1/2"	1.92	0.97	44-417LF	----
44-418	----	1.38	12/24	2"	2.20	1.51	44-418LF	----
44-419	----	2.63	1	2-1/2"	2.88	2.20		
44-420	----	3.80	1	3"	3.18	3.63	44-420LF	----



REDUCING COUPLINGS

Part #		Approx. Wt. Lbs.	Box/Case	Size	A	Approx. Wt. Lbs.	Part #	
44-430	----	0.08	70/840	1/4" x 1/8"	0.88	0.08	44-430LF	----
44-431	----	0.11	35/420	3/8" x 1/8"	0.92	0.10	44-431LF	----
44-432	----	0.13	30/360	3/8" x 1/4"	0.92	0.11	44-432LF	----
44-433	----	0.16	75/300	1/2" x 1/8"	1.17	0.14		
44-434	----	0.16	75/300	1/2" x 1/4"	1.17	0.16	44-434LF	----
44-435	----	0.18	60/240	1/2" x 3/8"	1.17	0.17	44-435LF	----
44-436	----	0.23	45/180	3/4" x 1/4"	1.35	0.20	44-436LF	----
44-437	----	0.24	45/180	3/4" x 3/8"	1.35	0.23	44-437LF	----
44-438	----	0.23	60/180	3/4" x 1/2"	1.35	0.26	44-438LF	----
44-440	----	0.40	30/120	1" x 3/8"	1.56	0.40		
44-441	----	0.33	30/120	1" x 1/2"	1.56	0.38	44-441LF	----
44-442	----	0.44	25/100	1" x 3/4"	1.56	0.43	44-442LF	----
44-444	----	0.62	25/75	1-1/4" x 1/2"	1.77	0.60	44-444LF	----
44-445	----	0.64	25/75	1-1/4" x 3/4"	1.77	0.57	44-445LF	----
44-446	----	0.54	15/60	1-1/4" x 1"	1.77	0.65	44-446LF	----
44-447	----	0.80	20/60	1-1/2" x 1/2"	1.80	0.77	44-447LF	----
44-448	----	0.83	15/60	1-1/2" x 3/4"	1.80	0.74	44-448LF	----
44-449	----	0.68	25/50	1-1/2" x 1"	1.80	0.83	44-449LF	----
44-450	----	0.99	12/48	1-1/2" x 1-1/4"	1.80	0.87	44-450LF	----
44-458	----	1.28	12/36	2" x 1/2"	2.03	1.07		
44-451	----	0.97	12/36	2" x 3/4"	2.03	1.25	44-451LF	----
44-452	----	1.40	12/36	2" x 1"	2.03	1.19	44-452LF	----
44-453	----	1.09	9/27	2" x 1-1/4"	2.03	1.22	44-453LF	----
44-454	----	3.60	9/27	2" x 1-1/2"	2.03	1.28	44-454LF	----
44-461	----	1.26	1	2-1/2" x 1-1/2"	3.15	1.94		
44-462	----	2.29	1	2-1/2" x 2"	3.15	2.37	44-462LF	----
44-456	----	2.49	1	3" x 2"	3.69	2.46		
44-463	----	3.92	1	3" x 2-1/2"	3.69	3.82		

WARNING: This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov



BRONZE/ LEAD FREE BRONZE

BRONZE FITTINGS



CAPS

Part #		Approx. Wt. Lbs.	Box/Case	Size	A	Approx. Wt. Lbs.	Part #	
44-470	----	0.04	80/160	1/8"	0.53	0.03	44-470LF	----
44-471	----	0.06	80/960	1/4"	0.58	0.06	44-471LF	----
44-472	----	0.10	60/720	3/8"	0.66	0.09	44-472LF	----
44-473	----	0.13	75/300	1/2"	0.75	0.13	44-473LF	----
44-474	----	0.19	40/160	3/4"	0.87	0.21	44-474LF	----
44-475	----	0.30	25/100	1"	1.03	0.35	44-475LF	----
44-476	----	0.51	20/80	1-1/4"	1.10	0.52	44-476LF	----
44-477	----	0.66	18/54	1-1/2"	1.12	0.65	44-477LF	----
44-478	----	1.00	12/36	2"	1.35	1.14	44-478LF	----
44-480	----	2.74	1	3"	1.83	2.64		



UNIONS

Part #		Approx. Wt. Lbs.	Box/Case	Size	A	Approx. Wt. Lbs.	Part #	
44-600	----	0.17	40/160	1/8"	1.18	0.13	44-600LF	----
44-601	----	0.25	40/160	1/4"	1.26	0.27	44-601LF	----
44-602	----	0.37	40/160	3/8"	1.50	0.39	44-602LF	----
44-603	----	0.52	50/100	1/2"	1.57	0.44	44-603LF	----
44-604	----	0.78	35/70	3/4"	1.89	0.59	44-604LF	----
44-605	----	1.18	20/40	1"	2.13	0.90	44-605LF	----
44-606	----	1.64	15/30	1-1/4"	2.36	1.33	44-606LF	----
44-607	----	2.08	10/20	1-1/2"	2.68	1.80	44-607LF	----
44-608	----	3.24	6/12	2"	2.99	2.66	44-608LF	----
44-609	----	5.31	4/8	2-1/2"	3.35	4.80		
44-610	----	6.94	4/8	3"	3.74	6.49		



• Straight Thread

HEX LOCKNUTS

Part #	Box/Case	Size	A	Thickness	Approx. Wt. Lbs.	
44-700	180/720	1/8"	0.50	0.19	0.01	----
44-701	90/540	1/4"	0.66	0.25	0.03	----
44-702	90/540	3/8"	0.77	0.28	0.04	----
44-703	90/360	1/2"	0.97	0.31	0.09	----
44-704	90/360	3/4"	1.23	0.34	0.10	----
44-705	50/150	1"	1.50	0.38	0.17	----
44-706	45/180	1-1/4"	1.86	0.42	0.22	----
44-707	45/135	1-1/2"	2.12	0.47	0.29	----
44-708	25/75	2"	2.63	0.53	0.45	----

WARNING: This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov



Hex



HEX BUSHINGS

Part #		Approx. Wt. Lbs.	Box/Case	Size	A	Hex	Approx. Wt. Lbs.	Part #	
44-500	----	0.02	120/1440	1/4" x 1/8"	0.58	0.66	0.03	44-500LF	----
44-501	----	0.06	75/900	3/8" x 1/8"	0.64	0.72	0.06	44-501LF	----
44-502	----	0.04	75/900	3/8" x 1/4"	0.64	0.75	0.04	44-502LF	----
44-503	----	0.10	150/600	1/2" x 1/8"	0.75	0.92	0.09	44-503LF	----
44-504	----	0.09	150/600	1/2" x 1/4"	0.75	0.93	0.10	44-504LF	----
44-505	----	0.08	150/600	1/2" x 3/8"	0.75	0.92	0.08	44-505LF	----
44-506	----	0.17	75/300	3/4" x 1/8"	0.87	1.15	0.17	44-506LF	----
44-507	----	0.15	75/300	3/4" x 1/4"	0.85	1.14	0.18	44-507LF	----
44-508	----	0.14	75/300	3/4" x 3/8"	0.85	1.14	0.17	44-508LF	----
44-509	----	0.14	75/300	3/4" x 1/2"	0.85	1.15	0.14	44-509LF	----
44-510*	----	0.23	50/200	1" x 1/4"	1.05	1.43	0.28	44-510LF*	----
44-511*	----	0.22	50/200	1" x 3/8"	1.05	1.50	0.26	44-511LF	----
44-512	----	0.25	50/200	1" x 1/2"	1.00	1.40	0.30	44-512LF	----
44-513	----	0.21	50/200	1" x 3/4"	1.00	1.43	0.21	44-513LF	----
44-514	----	0.34	30/120	1-1/4" x 1/4"	1.22	1.10	0.34		
44-515	----	0.35	30/120	1-1/4" x 3/8"	1.19	1.84	0.29		
44-516*	----	0.34	30/120	1-1/4" x 1/2"	1.14	1.33	0.39	44-516LF*	----
44-517	----	0.40	30/120	1-1/4" x 3/4"	1.08	1.75	0.43	44-517LF	----
44-518	----	0.33	30/120	1-1/4" x 1"	1.08	1.76	0.42	44-518LF	----
44-519*	----	0.47	25/75	1-1/2" x 1/4"	1.09	2.12	0.29	44-519LF	----
44-520*	----	0.45	25/75	1-1/2" x 3/8"	1.35	2.16	0.44	44-520LF	----
44-521*	----	0.44	25/75	1-1/2" x 1/2"	1.20	2.10	0.51	44-521LF*	----
44-522*	----	0.48	25/75	1-1/2" x 3/4"	1.20	2.12	0.54	44-522LF*	----
44-523	----	0.53	25/75	1-1/2" x 1"	1.14	2.08	0.57	44-523LF	----
44-524	----	0.45	25/75	1-1/2" x 1-1/4"	1.14	2.12	0.46	44-524LF	----
44-527*	----	0.67	20/60	2" x 1/2"	1.27	1.32	1.10	44-527LF	----
44-528*	----	0.74	20/60	2" x 3/4"	1.27	1.62	0.77	44-528LF	----
44-529*	----	0.76	20/60	2" x 1"	1.29	1.95	0.77	44-529LF*	----
44-530	----	0.86	20/60	2" x 1-1/4"	1.22	2.47	0.88	44-530LF	----
44-531	----	0.83	20/60	2" x 1-1/2"	1.22	2.50	0.71	44-531LF	----
44-532	----	1.16	15/30	2-1/2" x 1"	1.53	1.94	1.19		
44-534	----	1.36	15/30	2-1/2" x 1-1/2"	1.50	2.38	1.15	44-534LF	----
44-535	----	1.13	15/30	2-1/2" x 2"	1.43	2.97	1.12	44-535LF	----
44-537	----	1.82	12/24	3" x 1-1/2"	1.61	2.68	2.44		
44-538	----	2.33	12/24	3" x 2"	1.61	3.70	1.82	44-538LF	----
44-539	----	2.19	12/24	3" x 2-1/2"	1.53	3.70	2.11		
44-541	----	3.51	12/24	4" x 2"			3.86		
44-543	----	4.22	12/24	4" x 3"	2.01	4.62	3.56	44-543LF	----

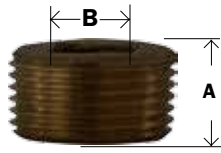


* INSIDE HEX

WARNING: This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

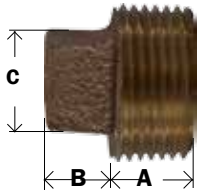
BRONZE/ LEAD FREE BRONZE

BRONZE FITTINGS



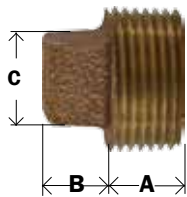
BRONZE COUNTERSUNK PLUGS

Part #	Size	A	Socket Size	Box/Case	Approx. Wt. Lbs.	
44-633	1/2"	0.57	0.43	120/1440	0.06	----
44-634	3/4"	0.58	0.47	70/840	0.11	----
44-635	1"	0.75	0.59	20/240	0.22	----
44-636	1-1/4"	0.74	0.72	40/120	0.33	----
44-637	1-1/2"	0.79	0.72	30/90	0.50	----
44-638	2"	0.80	0.85	20/60	0.88	----
44-639	2-1/2"	1.08	1.25	1/1	1.56	----
44-640	3"	1.13	1.38	1/1	2.47	----
44-641	4"	1.22	2.12	1/1	3.21	----



CORED SQUARE HEAD PLUGS

Part #		Approx. Wt. Lbs.	Box/Case	Size	A	B	C	Approx. Wt. Lbs.	Part #	
44-650	----	0.02	300/3600	1/8"	0.27	0.24	0.28	0.02		
44-651	----	0.04	150/1800	1/4"	0.41	0.28	0.37	0.04	44-651LF	----
44-652	----	0.06	100/1200	3/8"	0.41	0.31	0.43	0.06		
44-653	----	0.10	50/600	1/2"	0.54	0.38	0.56	0.10	44-653LF	----
44-654	----	0.13	30/360	3/4"	0.55	0.44	0.62	0.13	44-654LF	----
44-655	----	0.25	20/240	1"	0.69	0.50	0.81	0.22	44-655LF	----
44-656	----	0.39	40/120	1-1/4"	0.71	0.56	0.93	0.32	44-656LF	----
44-657	----	0.57	30/90	1-1/2"	0.73	0.62	1.12	0.47	44-657LF	----
44-658	----	0.77	20/60	2"	0.76	0.68	1.31	0.68	44-658LF	----
44-659	----	1.25	16/32	2-1/2"	1.07	0.74	1.50	1.26		
44-660	----	2.02	16/32	3"	1.13	0.80	1.68	1.49		
44-662	----	3.20	6/12	4"	1.22	0.92	2.25	3.20		



SOLID SQUARE HEAD PLUGS

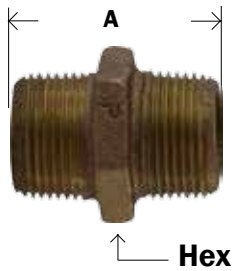
Part #		Size	A	B	C	Box/Case	Approx. Wt. Lbs.	Part #	
44-670	----	1/8"	0.27	0.24	0.28	400/4800	0.02	44-670LF	----
44-671	----	1/4"	0.41	0.28	0.37	150/1800	0.04	44-671LF	----
44-672	----	3/8"	0.41	0.31	0.43	120/1440	0.06	44-672LF	----
44-673	----	1/2"	0.54	0.38	0.56	50/600	0.12	44-673LF	----
44-674	----	3/4"	0.55	0.44	0.62	35/420	0.18	44-674LF	----
44-675	----	1"	0.69	0.50	0.81	20/240	0.36	44-675LF	----
44-676	----	1-1/4"	0.71	0.56	0.93	30/120	0.63	44-676LF	----
44-677	----	1-1/2"	0.73	0.62	1.12	30/90	0.84	44-677LF	----
44-678	----	2"	0.76	0.68	1.31	10/60	1.27	44-678LF	----

WARNING: This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

BRONZE FITTINGS

LEAD FREE CHROME PLATED FITTINGS

HEX NIPPLES



Part #	Size	A	Hex	Box/Case	Approx. Wt. Lbs.	
44-720	1/8"	1.25	0.50	400/4800	0.05	----
44-721	1/4"	1.25	0.61	150/1800	0.06	----
44-722	3/8"	1.55	0.68	120/1440	0.11	----
44-723	1/2"	1.65	1.03	240/480	0.18	----
44-724	3/4"	1.77	1.21	80/320	0.24	----
44-725	1"	2.06	1.46	50/150	0.36	----
44-726	1-1/4"	2.12	1.81	50/100	0.47	----
44-727	1-1/2"	2.25	2.07	35/70	0.76	----
44-728	2"	2.50	2.41	20/40	1.50	----
44-729	2-1/2"	2.80	3.10	1	2.10	----

REDUCING HEX NIPPLES



Part #	Size	Box/Case	Approx. Wt. Lbs.	
44-740	1/4" x 1/8"	1/1	0.06	----
44-742	1/2" x 3/8"	1/1	0.16	----
44-750	1-1/2" x 1"	1/1	0.64	----
44-753	1-1/2" x 1-1/4"	1/1	0.68	----

See page 239 for Stainless Steel Reducing Hex Nipples

CHROME PLATED 90° ELBOW



LEAD FREE

Part #	Size	
45-102LF	3/8"	----
45-103LF	1/2"	----
45-104LF		

CHROME PLATED 90° ELBOW



LEAD FREE

Part #	Size	
45-163LF	1/2"	----

CHROME PLATED TEE



LEAD FREE

Part #	Size	
45-252LF	3/8"	----
45-253LF	1/2"	----

CHROME PLATED COUPLING



LEAD FREE

Part #	Size	
45-412LF	3/8"	----
45-413LF	1/2"	----

WARNING: This product can expose you to chemicals, including chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

CLEANOUT PLUGS/ DROP EAR ELBOWS

BRONZE FITTINGS



• Southern Code

CAST BRASS SQUARE HEAD CLEANOUT PLUG

Part #	Size	Box/Case	
970-300	1-1/2"	100/200	----
970-301	2"	100/200	----
970-302	2-1/2"	50/200	----
970-303	3"	20/160	----
970-304	3-1/2"	20/120	----
970-305	4"	10/80	----
970-330	5"	10/60	----
970-331	6"	10/40	----
970-332	8"	5/20	----
970-333	10"	1/1	----



• Southern Code

CAST BRASS COUNTERSUNK HEAD CLEANOUT PLUG

Part #	Size	Box/Case	
970-306	1-1/2"	100/200	----
970-307	2"	100/200	----
970-308	2-1/2"	100/200	----
970-309	3"	50/200	----
970-310	3-1/2"	20/160	----
970-311	4"	20/120	----
970-312	5"	10/60	----
970-313	6"	10/40	----
970-314	8"	5/20	----



CAST BRASS COUNTERSUNK CLEANOUT W 1/4-20 TAP

Part #	Size	Box/Case	
970-700	1-1/2"	1/1	----
970-701	2"	1/1	----
970-702	2-1/2"	1/1	----
970-703	3"	1/1	----
970-704	3-1/2"	1/1	----
970-705	4"	1/1	----
970-706	5"	1/1	----
970-707	6"	1/1	----

DROP EAR ELBOWS

• Lead Free Brass

• Lead Free Bronze



Part #	Swt x FIP	
44840LF	1/2 x 1/2 Bronze	----
44841LF	1/2 x 1/2 Brass	----
44842LF	3/4 x 1/2 Brass	----
44843LF	3/4 x 3/4 Brass	----



• Lead Free Brass

Part #	Swt x Swt	
44844LF	1/2 x 1/2	----



• Lead Free Bronze

Part #	Pex x FIP	
44845LF	1/2 x 1/2	----

WARNING: This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

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	
973-925	3/4" x 3/4"	----
973-927	1" x 1"	----
973-930	1" x 1-1/4"	----
973-929	1-1/4" x 1"	----
973-928	1-1/4" x 1-1/4"	----
973-948	1-1/2" x 1-1/2"	----
973-949	2" x 2"	----

BRONZE TEES ALL BARB



Part #	Size	
973-965	3/4"	----
973-966	1"	----
973-967	1-1/4"	----

ELBOWS



(Barb x Male Pipe)

Part #	Size	
973-980	3/4" x 3/4"	----
973-981	1" x 3/4"	----
973-982	1" x 1"	----

ELBOWS



(Barb x Barb)

Part #	Hose Size	
973-975	3/4"	----
973-976	1"	----
973-977	1-1/4" x 1"	----
973-978	1-1/4"	----
973-979	1-1/2"	----

STEEL INSERT FITTINGS FOR PLASTIC PIPE

MALE ADAPTER

- Galvanized



(Barb x Male Pipe)

Part #	Size	Box/Case	
973-906	1/2"	25/100	----
973-907	3/4"	25/10	----
973-908	1"	16/48	----
973-909	1-1/4"	12/36	----
973-910	1-1/2"	6/36	----
973-911	2"	5/25	----
973-912	2-1/2"	1/3	----
973-913	3"	1/3	----
973-914	4"	1/3	----

REDUCING ADAPTER



(Insert x NPT)

Part #	Size	
974-264	3/4 x 1/2	----
974-265	1 x 3/4	----
974-266	1-1/4 x 1	----
974-267	1-1/2 x 1-1/4	---

COUPLINGS



Part #	Size	Box/Case	
973-900	1/2	30/120	----
973-901	3/4	20/100	----
973-902	1	20/100	----
973-903	1-1/4	16/64	----
973-904	1-1/2	12/48	----
973-905	2	5/25	----

WARNING: This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

SS & LEAD FREE BRONZE INSERT

STAINLESS STEEL #304



#304 INSERT X MALE PIPE

• For coiled plastic pipe to submersible pump

Part #	Size	
973947SS	1/2 x 1/2	----
973925SS	3/4 x 3/4	----
973926SS	1 x 3/4	----
973927SS	1 x 1	----
973930SS	1 x 1-1/4	----
973928SS	1-1/4 x 1-1/4	----
973948SS	1-1/2 x 1-1/2	----
973949SS	2 x 2	----



#304 INSERT X MIP ELBOW

• Hydrant elbow

Part #	Size	
973980SS	3/4 x 3/4	----
973982SS	1 x 1	----
973985SS	1-1/4 x 1-1/4	----

LEAD FREE BRONZE INSERT FITTINGS



INSERT X INSERT

Part #	Size	
973960LF	1/2	----
973961LF	3/4	----
973962LF	1	----
973963LF	1-1/4	----



INSERT TEE

Part #	Size	
973965LF	3/4	----
973966LF	1	----
973967LF	1-1/4	----

BRONZE FITTINGS



INSERT X MALE BRANCH TEE

Part #	Size	
973969LF	3/4	----
973970LF	1 x 3/4	----
973971LF	1	----



INSERT X INSERT ELBOW

Part #	Size	
973975LF	3/4	----
973976LF	1	----

WELL COUPLINGS



304 SS DROP WELL COUPLINGS STANDARD

Part #	Size	
62415DC	1	----
62416DC	1-1/4	----
62417DC	1-1/2	----
62418DC	2	----



HEAVY WALLED SS 304 DROP WELL COUPLINGS

Part #	Size	
62415HDDC	1	----
62416HDDC	1-1/4	----
62417HDDC	1-1/2	----
62418HDDC	2	----



#304 STAINLESS STEEL MERCHANT COUPLINGS

Part #	Size	
61775	1	----
61776	1-1/4	----
61777	1-1/2	----
61778	2	----

WARNING: This product can expose you to chemicals, including chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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.	Length	Box	Approx. Wt. Lbs.	Part # 316 S.S.
48-001	X Close (3/4")	25	0.01	49-001
48-002	x 1-1/2"	25	0.03	49-002
48-003	x 2"	25	0.04	49-003
48-004	x 2-1/2"	25	0.05	49-004
48-005	x 3"	25	0.06	49-005
48-006	x 3-1/2"	25	0.07	49-006
48-007	x 4"	25	0.07	49-007
48-008	x 4-1/2"	25	0.09	49-008
48-009	x 5"	25	0.10	49-009
48-010	x 5-1/2"	25	0.11	49-010
48-011	x 6"	25	0.12	49-011
48-015	x 10"	1	0.19	
	x 12"	1	0.24	49-017

1/4" - 18



**1/4" DIAMETER
SCH 40 WELDED**



Part # 304 S.S.	Length	Box	Approx. Wt. Lbs.	Part # 316 S.S.
48-020	X Close (7/8")	25	0.02	49-020
48-021	x 1-1/2"	25	0.04	49-021
48-022	x 2"	25	0.06	49-022
48-023	x 2-1/2"	25	0.07	49-023
48-024	x 3"	25	0.09	49-024
48-025	x 3-1/2"	25	0.11	49-025
48-026	x 4"	25	0.13	49-026
48-027	x 4-1/2"	25	0.14	49-027
48-028	x 5"	25	0.16	49-028
48-029	x 5-1/2"	25	0.18	49-029
48-030	x 6"	25	0.19	49-030
48-031	x 7"	1	0.22	49-031
48-032	x 8"	1	0.25	49-032
	x 9"	1	0.31	49-033
48-034	x 10"	1	0.35	49-034
	x 11"	1	0.40	49-035
48-036	x 12"	1	0.44	49-036
	x 14"	1	0.46	49-037
	x 16"	1	0.47	49-038

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

STAINLESS STEEL

SCH 40 STAINLESS STEEL NIPPLES

#304

3/8"-18

#316



**3/8" DIAMETER
SCH 40 WELDED**



Part # 304 S.S.	Length	Box	Approx. Wt. Lbs.	Part # 316 S.S.
48-040	X Close (1")	25	0.03	49-040
48-041	x 1-1/2"	25	0.06	49-041
48-042	x 2"	25	0.07	49-042
48-043	x 2-1/2"	25	0.10	49-043
48-044	x 3"	25	0.12	49-044
48-045	x 3-1/2"	25	0.15	49-045
48-046	x 4"	25	0.17	49-046
48-047	x 4-1/2"	25	0.19	49-047
48-048	x 5"	25	0.22	49-048
48-049	x 5-1/2"	25	0.23	49-049
48-050	x 6"	25	0.26	49-050
48-052	x 8"	1	0.34	49-052
48-053	x 9"	1		
48-054	x 10"	1	0.43	49-054
48-056	x 12"	1		



1/2" - 14

**1/2" DIAMETER
SCH 40 WELDED**



Part # 304 S.S.	Length	Box	Approx. Wt. Lbs.	Part # 316 S.S.
48-060	X Close 1-1/8"	25	0.05	49-060
48-061	x 1-1/2"	25	0.07	49-061
48-062	x 2"	25	0.10	49-062
48-063	x 2-1/2"	25	0.14	49-063
48-064	x 3"	25	0.18	49-064
48-065	x 3-1/2"	25	0.20	49-065
48-066	x 4"	25	0.25	49-066
48-067	x 4-1/2"	25	0.28	49-067
48-068	x 5"	25	0.31	49-068
48-069	x 5-1/2"	25	0.34	49-069
48-070	x 6"	25	0.39	49-070
48-071	x 7"	1	0.41	
48-072	x 8"	1	0.52	49-072
48-073	x 9"	1	0.54	
48-074	10"	1	0.58	49-074
48-075	x 11"	1	0.64	
48-076	x 12"	1	0.69	

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

SCH 40 STAINLESS STEEL NIPPLES

STAINLESS STEEL

#304



3/4" - 14

**3/4" DIAMETER
SCH 40 WELDED**

#316



Part # 304 S.S.	Length	Box	Approx. Wt. Lbs.	Part # 316 S.S.
48-080	X Close (1-3/8")	25	0.08	49-080
48-081	x 1-1/2"	25	0.13	49-081
48-082	x 2"	25	0.14	49-082
48-083	x 2-1/2"	25	0.17	49-083
48-084	x 3"	25	0.22	49-084
48-085	x 3-1/2"	25	0.27	49-085
48-086	x 4"	25	0.32	49-086
48-087	x 4-1/2"	25	0.38	49-087
48-088	x 5"	25	0.40	49-088
48-089	x 5-1/2"	25	0.42	49-089
48-090	x 6"	25	0.48	49-090
48-091	x 7"	1	0.45	
48-092	x 8"	1	0.67	49-092
48-094	x 10"	1	0.94	49-094
48-096	x 12"	1	1.03	



1" - 11 1/2

**1" DIAMETER
SCH 40 WELDED**



Part # 304 S.S.	Length	Box	Approx. Wt. Lbs.	Part # 316 S.S.
48-100	X Close (1-1/2")	25	0.13	49-100
48-101	x 2"	25	0.20	49-101
48-102	x 2-1/2"	25	0.25	49-102
48-103	x 3"	25	0.33	49-103
48-104	x 3-1/2"	25	0.40	49-104
48-105	x 4"	25	0.47	49-105
48-106	x 4-1/2"	25	0.53	49-106
48-107	x 5"	25	0.55	49-107
48-108	x 5-1/2"	25	0.60	49-108
48-109	x 6"	25	0.71	49-109
48-110	x 7"	1	0.57	49-110
48-111	x 8"	1	1.02	49-111
48-113	x 10"	1	1.16	49-113
48-115	x 12"	1	1.31	



1,000# 2 Piece FP #316 Stainless Steel Ball Valve on page 200

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm.
 For more information, visit www.P65Warnings.ca.gov

STAINLESS STEEL

SCH 40 STAINLESS STEEL NIPPLES



1 1/4" - 11 1/2



**1-1/4" DIAMETER
SCH 40 WELDED**

Part # 304 S.S.	Length	Box	Approx. Wt. Lbs.	Part # 316 S.S.
48-120	X Close (1-5/8")	10	0.17	49-120
48-121	x 2"	10	0.23	49-121
48-122	x 2-1/2"	10	0.35	49-122
48-123	x 3"	10	0.46	49-123
48-124	x 3-1/2"	10	0.52	49-124
48-125	x 4"	10	0.65	49-125
48-126	x 4-1/2"	10	0.53	49-126
48-127	x 5"	10	0.60	49-127
48-128	x 5-1/2"	10	0.61	49-128
48-129	x 6"	10	0.71	49-129
48-131	x 8"	1	1.34	
48-135	x 12"	1	1.54	




1-1/2" - 11 1/2



**1-1/2" DIAMETER
SCH 40 WELDED**

Part # 304 S.S.	Length	Box	Approx. Wt. Lbs.	Part # 316 S.S.
48-140	X Close x 1-3/4"	10	0.25	49-140
48-141	x 2"	10	0.32	49-141
48-142	x 2-1/2"	10	0.41	49-142
48-143	x 3"	10	0.52	49-143
48-144	x 3-1/2"	10	0.62	49-144
48-145	x 4"	10	0.73	49-145
48-146	x 4-1/2"	10	0.86	49-146
48-147	x 5"	10	0.95	49-147
48-148	x 5-1/2"	10	1.01	49-148
48-149	x 6"	10	1.19	49-149
48-151	x 8"	1	1.63	49-151
48-152	x 9"	1	1.88	
48-153	x 10"	1	2.28	49-153
48-155	x 12"	1	2.43	

 New SS Mini Ball Valves w/Viton O-Ring on page 202

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

SCH 40 STAINLESS STEEL NIPPLES

STAINLESS STEEL



**2" DIAMETER
SCH 40 WELDED**



Part # 304 S.S.	Length	Box	Approx. Wt. Lbs.	Part # 316 S.S.
48-160	X Close (2")	10	0.37	49-160
48-161	x 2-1/2"	10	0.54	49-161
48-162	x 3"	10	0.65	49-162
48-163	x 3-1/2"	10	0.88	49-163
48-164	x 4"	10	1.02	49-164
48-165	x 4-1/2"	10	1.16	49-165
48-166	x 5"	10	1.29	49-166
48-167	x 5-1/2"	10	1.46	49-167
48-168	x 6"	10	1.57	49-168
48-169	x 7"	1	1.92	49-169
48-170	x 8"	1	2.01	49-170
48-171	x 9"	1	2.55	
48-172	x 10"	1	2.69	
48-174	x 12"	1	2.89	

**2-1/2" DIAMETER
SCH 40 WELDED**

Part # 304 S.S.	Length	Box	Approx. Wt. Lbs.
48-180	X Close (2-1/2")	10	0.64
48-181	x 3"		
48-187	x 6"	1	2.37
48-193	x 12"	1	4.85



**3" DIAMETER
SCH 40 WELDED**

Part # 304 S.S.	Length	Box	Approx. Wt. Lbs.	Part # 316 S.S.
48-200	X Close (2-5/8")	10	0.95	49-200
48-201	x 3"	10	1.32	49-201
48-203	x 4"	10	1.66	49-203
48-205	x 5"	5	1.72	49-205
48-207	x 6"	5	1.88	49-207
48-209	x 8"	1	1.91	49-209
48-213	x 12"	1	2.12	49-213



**4" DIAMETER
SCH 40 WELDED**

Part # 304 S.S.	List Price	Length	Box	Approx. Wt. Lbs.	Part # 316 S.S.	List Price
48-220	----	X Close (2-7/8")	8	1.15	49-220	----
		x 4"	1	2.98	49-223	----
48-227	----	x 6"	1	4.10	49-234	----
		x 8"	1	5.95	49-236	----
		x 12"	1	9.25	49-240	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov



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

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

304 & 316 150# SS FITTINGS

STAINLESS STEEL

**90° ELBOW
304 & 316 150#**



Part # 304 S.S		Size	Box	Approx. Wt. Lbs.	Part # 316 S.S.	
62-100	----	1/8"	25	0.06	63-100	----
62-101	----	1/4"	25	0.06	63-101	----
62-102	----	3/8"	25	0.11	63-102	----
62-103	----	1/2"	25	0.13	63-103	----
62-104	----	3/4"	25	0.20	63-104	----
62-105	----	1"	10	0.33	63-105	----
62-106	----	1-1/4"	10	0.55	63-106	----
62-107	----	1-1/2"	5	0.77	63-107	----
62-108	----	2"	5	1.10	63-108	----
62-109	----	2-1/2"	1	2.09	63-109	----
62-110	----	3"	1	2.84	63-110	----
62-112	----	4"	1	5.00	63-112	----

**90° STREET ELBOW
304 & 316 150#**



Part # 304 S.S		Size	Box	Approx. Wt. Lbs.	Part # 316 S.S.	
62-160	----	1/8"	25	0.04	63-160	----
62-161	----	1/4"	25	0.07	63-161	----
62-162	----	3/8"	25	0.09	63-162	----
62-163	----	1/2"	25	0.15	63-163	----
62-164	----	3/4"	25	0.24	63-164	----
62-165	----	1"	10	0.31	63-165	----
62-166	----	1-1/4"	10	0.51	63-166	----
62-167	----	1-1/2"	5	0.84	63-167	----
62-168	----	2"	5	1.26	63-168	----
62-169	----	3"	1	4.16	63-170	----
		4"	1	7.61	63-171	----

**45° ELBOW
304 & 316 150#**



Part # 304 S.S	List Price	Size	Box	Approx. Wt. Lbs.	Part # 316 S.S.	
62-180	----	1/8"	25	0.04	63-180	----
62-181	----	1/4"	25	0.07	63-181	----
62-182	----	3/8"	25	0.09	63-182	----
62-183	----	1/2"	25	0.13	63-183	----
62-184	----	3/4"	25	0.20	63-184	----
62-185	----	1"	10	0.33	63-185	----
62-186	----	1-1/4"	10	0.49	63-186	----
62-187	----	1-1/2"	5	0.66	63-187	----
62-188	----	2"	5	1.14	63-188	----
62-189	----	2-1/2"	1	2.82		
62-190	----	3"	1	2.91	63-190	----
62-191	----	4"	1	5.05	63-192	----


WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

STAINLESS STEEL

304 & 316 150# SS FITTINGS

**TEE
304 & 316 150#**



Part # 304 S.S.		Size	Box	Approx. Wt. Lbs.	Part # 316 S.S.	
62-250	----	1/8"	25	0.07	63-250	----
62-251	----	1/4"	25	0.07	63-251	----
62-252	----	3/8"	25	0.11	63-252	----
62-253	----	1/2"	25	0.20	63-253	----
62-254	----	3/4"	25	0.29	63-254	----
62-255	----	1"	10	0.42	63-255	----
62-256	----	1-1/4"	5	0.66	63-256	----
62-257	----	1-1/2"	5	0.99	63-257	----
62-258	----	2"	3	1.43	63-258	----
62-259	----	2-1/2"	1	1.43		
62-260	----	3"	1	3.66	63-260	----
		4"	1	7.19	63-261	----

**CROSS
304 & 316 150#**



Part # 304 S.S.		Size	Box	Approx. Wt. Lbs.	Part # 316 S.S.	
		1/8"	25	0.06	63-390	----
62-391	----	1/4"	25	0.09	63-391	----
62-392	----	3/8"	25	0.13	63-392	----
62-393	----	1/2"	25	0.29	63-393	----
62-394	----	3/4"	10	0.44	63-394	----
62-395	----	1"	10	0.74	63-395	----
62-396	----	1-1/4"	5	1.25	63-396	----
62-397	----	1-1/2"	5	1.53	63-397	----
62-398	----	2"	1	2.28	63-398	----
		3"	1	5.46	63-400	----
		4"	1	9.41	63-401	----

**HEX NIPPLE
304 & 316 150#**



Part # 304 S.S.	List Price	Size	Box	Approx. Wt. Lbs.	Part # 316 S.S.	List Price
62-720	----	1/8"	1	0.02	63-720	----
62-721	----	1/4"	1	0.04	63-721	----
62-722	----	3/8"	1	0.07	63-722	----
62-723	----	1/2"	1	0.11	63-723	----
62-724	----	3/4"	1	0.18	63-724	----
62-725	----	1"	1	0.22	63-725	----
62-726	----	1-1/4"	1	0.37	63-726	----
62-727	----	1-1/2"	1	0.46	63-727	----
62-728	----	2"	1	0.61	63-728	----

**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	----	1/4" x 1/8"	1	0.04	63-740	----
62-741	----	3/8" x 1/8"	1	0.07	63-741	----
62-742	----	3/8" x 1/4"	1	0.07	63-742	----
62-744	----	1/2" x 1/4"	1	0.09	63-744	----
62-745	----	1/2" x 3/8"	1	0.11	63-745	----
62-747	----	3/4" x 1/4"	1	0.15	63-747	----
62-748	----	3/4" x 3/8"	1	0.15	63-748	----
62-749	----	3/4" x 1/2"	1	0.15	63-749	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

304 & 316 150# SS FITTINGS

STAINLESS STEEL

COUPLING 304 & 316 150#



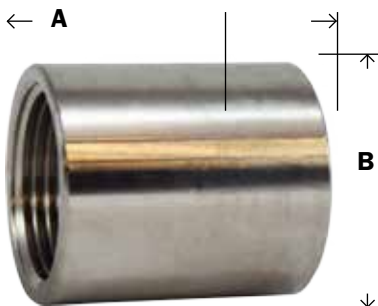
Part # 304 S.S.		Size*	Box	Approx. Wt. Lbs.	Part # 316 S.S.	
62-410	----	1/8"	25	0.03	63-410	----
62-411	----	1/4"	25	0.06	63-411	----
62-412	----	3/8"	25	0.07	63-412	----
62-413	----	1/2"	25	0.13	63-413	----
62-414	----	3/4"	25	0.18	63-414	----
62-415	----	1"	25	0.24	63-415	----
62-416	----	1-1/4"	10	0.44	63-416	----
62-417	----	1-1/2"	10	0.51	63-417	----
62-418	----	2"	5	0.79	63-418	----
62-419	----	2-1/2"	1	1.28	63-419	----
62-420	----	3"	1	1.87	63-420	----
62-421	----	4"	1	2.80	63-421	----

REDUCING COUPLING 304 & 316 150#



Part # 304 S.S.		Size	Box	Approx. Wt. Lbs.	Part # 316 S.S.	
62-430	----	1/4" x 1/8"	25	0.04	63-430	----
62-431	----	3/8" x 1/8"	25	0.04	63-431	----
62-432	----	3/8" x 1/4"	25	0.04	63-432	----
62-433	----	1/2" x 1/8"	25	0.09	63-433	----
62-434	----	1/2" x 1/4"	25	0.09	63-434	----
62-435	----	1/2" x 3/8"	25	0.09	63-435	----
62-436	----	3/4" x 1/8"	25	0.11	63-436	----
62-437	----	3/4" x 3/8"	25	0.13	63-437	----
62-438	----	3/4" x 1/2"	25	0.15	63-438	----
		1" x 1/4"	25	0.25	63-459	----
62-440	----	1" x 3/8"	25	0.22	63-440	----
62-441	----	1" x 1/2"	25	0.24	63-441	----
62-442	----	1" x 3/4"	25	0.24	63-442	----
62-445	----	1-1/4" x 3/4"	10	0.33	63-445	----
62-446	----	1-1/4" x 1"	10	0.35	63-446	----
62-447	----	1-1/2" x 1/2"	10	0.40	63-447	----
62-448	----	1-1/2" x 3/4"	10	0.42	63-448	----
62-449	----	1-1/2" x 1"	10	0.44	63-449	----
62-450	----	1-1/2" x 1-1/4"	10	0.46	63-450	----
62-451		2" x 3/4"				
62-452	----	2" x 1"	5	0.57	63-452	----
62-453	----	2" x 1-1/4"	5	0.62	63-453	----
62-454	----	2" x 1-1/2"	5	0.62	63-454	----
62-428	----	3" x 1"	1	1.82		
62-456	----	3" x 2"	1	2.25		

OD MACHINED COUPLING 304 & 316 150#



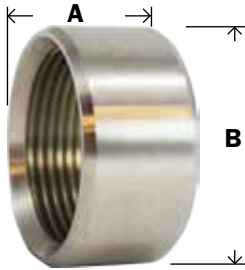
Part # 304 S.S.	List Price	Size	A	B	Box	Approx. Wt. Lbs.	Part # 316 S.S.	
62-410B	----	1/8"	0.76	0.56	25	0.04	63-410B	----
62-411B	----	1/4"	0.94	0.71	25	0.04	63-411B	----
62-412B	----	3/8"	0.98	0.84	25	0.07	63-412B	----
62-413B	----	1/2"	1.33	1.01	25	0.09	63-413B	----
62-414B	----	3/4"	1.41	1.27	25	0.16	63-414B	----
62-415B	----	1"	1.69	1.54	10	0.21	63-415B	----
62-416B	----	1-1/4"	1.93	1.90	10	0.31	63-416B	----
62-417B	----	1-1/2"	1.93	2.16	5	0.41	63-417B	----
62-418B	----	2"	1.96	2.66	5	0.68	63-418B	----
62-420B	----	3"	3.23	3.76	1			

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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.
62-770		1/8"					
62-771	----	1/4"	0.39	0.70	25	0.02	63-771
62-772	----	3/8"	0.45	0.82	25	0.02	63-772
62-773	----	1/2"	0.57	1.02	25	0.09	63-773
62-774	----	3/4"	0.67	1.22	25	0.11	63-774
62-775	----	1"	0.79	1.47	25	0.13	63-775
62-776	----	1-1/4"	0.86	1.88	10	0.24	63-776
62-777	----	1-1/2"	0.94	2.10	10	0.26	63-777
62-778	----	2"	1.06	2.60	5	0.44	63-778

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	----	1/8"	25	0.09	63-600	----
62-601	----	1/4"	25	0.13	63-601	----
62-602	----	3/8"	25	0.22	63-602	----
62-603	----	1/2"	25	0.26	63-603	----
62-604	----	3/4"	25	0.46	63-604	----
62-605	----	1"	10	0.60	63-605	----
62-606	----	1-1/4"	5	0.90	63-606	----
62-607	----	1-1/2"	5	1.10	63-607	----
62-608	----	2"	1	1.81	63-608	----
62-610	----	3"	1	3.40	63-610	----

CAP - CAST 304 & 316 150#



Part # 304 S.S.	List Price	Size	Box	Approx. Wt. Lbs.	Part # 316 S.S.	List Price
62-470	----	1/8"	25	0.02	63-470	----
62-471	----	1/4"	25	0.02	63-471	----
62-472	----	3/8"	25	0.04	63-472	----
62-473	----	1/2"	25	0.07	63-473	----
62-474	----	3/4"	25	0.11	63-474	----
62-475	----	1"	10	0.18	63-475	----
62-476	----	1-1/4"	10	0.29	63-476	----
62-477	----	1-1/2"	10	0.40	63-477	----
62-478	----	2"	10	0.60	63-478	----
62-480	----	3"	1	1.28	63-480	----
62-481	----	4"	1	1.54		

HEX CAP - BARSTOCK 304 & 316 150#



Part # 304 S.S.	List Price	Size	Box	Approx. Wt. Lbs.	Part # 316 S.S.	List Price
62-075	----	1/8"	25	0.04	63-075	----
62-076	----	1/4"	25	0.09	63-076	----
62-077	----	3/8"	25	0.11	63-077	----
62-078	----	1/2"	25	0.13	63-078	----
62-079	----	3/4"	25	0.22	63-079	----
62-080	----	1"	10	0.22	63-080	----
62-081	----	1-1/4"	10	0.29	63-081	----
62-082	----	1-1/2"	5	0.40	63-082	----
62-083	----	2"	5	0.49	63-083	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

304 & 316 150# SS FITTINGS **STAINLESS STEEL**

HEX BUSHING
304 & 316 150#



Part # 304 S.S.		Size M x F	Box	Approx. Wt. Lbs.	Part # 316 S.S.	
62-500	----	1/4" x 1/8"	25	0.04	63-500	----
62-501	----	3/8" x 1/8"	25	0.04	63-501	----
62-502	----	3/8" x 1/4"	25	0.04	63-502	----
62-503	----	1/2" x 1/8"	25	0.09		
62-504	----	1/2" x 1/4"	25	0.09	63-504	----
62-505	----	1/2" x 3/8"	25	0.11	63-505	----
62-506	----	3/4" x 1/8"	25	0.13	63-506	----
62-507	----	3/4" x 1/4"	25	0.15	63-507	----
62-508	----	3/4" x 3/8"	25	0.15	63-508	----
62-509	----	3/4" x 1/2"	25	0.15	63-509	----
62-557	----	1" x 1/8"	25	0.27		
62-510	----	1" x 1/4"	25	0.22	63-510	----
62-511	----	1" x 3/8"	25	0.24	63-511	----
62-512	----	1" x 1/2"	25	0.24	63-512	----
62-513	----	1" x 3/4"	25	0.24	63-513	----
62-515	----	1-1/4" x 3/8"	25	0.37		
62-516	----	1-1/4" x 1/2"	25	0.37	63-516	----
62-517	----	1-1/4" x 3/4"	25	0.37	63-517	----
62-518	----	1-1/4" x 1"	25	0.37	63-518	----
62-521	----	1-1/2" x 1/2"	25	0.44	63-521	----
62-522	----	1-1/2" x 3/4"	25	0.46	63-522	----
62-532	----	1-1/2" x 1"	25	0.49	63-523	----
62-524	----	1-1/2" x 1-1/4"	25	0.46	63-524	----
62-559	----	2" x 1/4"	10	0.95		
62-527	----	2" x 1/2"	10	0.66	63-527	----
62-528	----	2" x 3/4"	10	0.66	63-528	----
62-529	----	2" x 1"	10	0.66	63-529	----
62-530	----	2" x 1-1/4"	10	0.68	63-530	----
62-531	----	2" x 1-1/2"	10	0.68	63-531	----
62-536	----	2-1/2" x 1"	5	1.70		
62-534	----	2-1/2" x 1-1/2"	5	1.23	63-534	----
62-535	----	2-1/2" x 2"	5	1.21	63-535	----
		3" x 1"	5	2.20	63-550	----
62-537		3" x 1-1/2"	5	1.97	63-537	----
62-538	----	3" x 2"	5	1.72	63-538	----
62-539	----	3" x 2-1/2"	5	1.81		
		4" x 1-1/2"	5	3.92	63-540	----
		4" x 2"	1	3.72	63-541	----
62-543	----	4" x 3"	1	2.43	63-543	----

- SEE PAGE 13 FOR STAINLESS STEEL BULKHEAD FITTINGS
- SEE PAGE 230 FOR STAINLESS STEEL:
 - BARBED FOR PLASTIC PIPE
 - WELL COUPLINGS
 - MERCHANT COUPLINGS

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

STAINLESS STEEL

304 & 316 150# SS FITTINGS

HEX LOCKNUT 304 & 316 150#

- Straight Thread



Part # 304 S.S.		Size	Box	Approx. Wt. Lbs.	Part # 316 S.S.	
62-700	----	1/8"	25	0.02		
62-701	----	1/4"	25	0.05	63-701	----
62-702	----	3/8"	25	0.06	63-702	----
62-703	----	1/2"	25	0.07	63-703	----
62-704	----	3/4"	25	0.11	63-704	----
62-705	----	1"	25	0.15	63-705	----
62-706	----	1-1/4"	25	0.22	63-706	----
62-707	----	1-1/2"	25	0.29	63-707	----
62-708	----	2"	10	0.35	63-708	----

CORED SQUARE HEAD PLUG 304 & 316 150#



Part # 304 S.S.		Size	Box	Approx. Wt. Lbs.	Part # 316 S.S.	
62-670	----	1/8"	25	0.02	63-670	----
62-671	----	1/4"	25	0.03	63-671	----
62-672	----	3/8"	25	0.04	63-672	----
62-653	----	1/2"	25	0.06	63-653	----
62-654	----	3/4"	25	0.13	63-654	----
62-655	----	1"	25	0.20	63-655	----
62-656	----	1-1/4"	25	0.32	63-656	----
62-657	----	1-1/2"	10	0.41	63-657	----
62-658	----	2"	10	0.65	63-658	----
62-659	----	2-1/2"	1	1.04		
62-660	----	3"	1	0.88		

CORED HEX HEAD PLUG 304 & 316 150#



Part # 304 S.S.		Size	Box	Approx. Wt. Lbs.	Part # 316 S.S.	
62-630	----	1/8"	25	0.02	63-630	----
62-631	----	1/4"	25	0.02	63-631	----
62-632	----	3/8"	25	0.04	63-632	----
62-633	----	1/2"	25	0.07	63-633	----
62-634	----	3/4"	25	0.11	63-634	----
62-635	----	1"	25	0.20	63-635	----
62-636	----	1-1/4"	25	0.31	63-636	----
62-637	----	1-1/2"	10	0.44	63-637	----
62-638	----	2"	10	0.65	63-638	----
		4"	1	2.77	63-641	----

HOSE NIPPLE 304 & 316 150#



HOSE BARB X MALE PIPE

Part # 304 S.S.		Hose I.D. x Male Pipe	Box	Approx. Wt. Lbs.	Part # 316 S.S.	
73-951	----	1/4"	1	0.04	973-951	----
73-952	----	3/8"	1	0.07	973-952	----
73-953	----	1/2"	1	0.13	973-953	----
73-954	----	3/4"	1	0.20	973-954	----
73-955	----	1"	1	0.33	973-955	----
73-956	----	1-1/4"	1	0.47	973-956	----
73-957	----	1-1/2"	1	0.67	973-957	----
73-958	----	2"	1	0.88	973-958	----
73-959	----	2-1/2"	1	1.45	973-959	----
73-960	----	3"	1	1.94	973-990	----
73-961	----	4"	1	3.57	973-991	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov



304 & 316 150# SS FITTINGS

STAINLESS STEEL

REDUCING HOSE NIPPLE

304 150#



HOSE BARB X MALE PIPE

Part #	Hose I.D. x Male Pipe	Box	Approx. Wt. Lbs.	
73-970	1/4" x 1/8"	1	0.04	----
73-971	3/8" x 1/4"	1	0.07	----
73-972	1/2" x 3/8"	1	0.13	----
73-973	1/2" x 1/4"	1	0.13	----
73-974	3/4" x 1/2"	1	0.20	----
73-975	1" x 3/4"	1	0.33	----
73-976	1" x 1/2"	1	0.33	----
73-977	1-1/4" x 1"	1	0.46	----
73-979	1-1/2" x 1-1/4"	1	0.66	----
73-980	1-1/2" x 1"	1	0.66	----
73-981	2" x 1-1/2"	1	0.88	----
73-982	2" x 1-1/4"	1	0.88	----

SOLID HEX HEAD PLUG

316 150#



Part #	Size	Box	Approx. Wt. Lbs.	
63-660	1/8"	25	0.04	----
63-661	1/4"	25	0.06	----
63-662	3/8"	25	0.08	----
63-663	1/2"	25	0.12	----
63-664	3/4"	25	0.15	----
63-665	1"	25	0.24	----

HEX SOCKET PLUG - BARSTOCK

316 150#



Part #	Size	Box	Approx. Wt. Lbs.	
63-759	1/16"	1	0.03	----
63-760	1/8 "	1	0.05	----
63-761	1/4 "	1	0.07	----
63-762	3/8 "	1	0.10	----
63-763	1/2 "	1	0.14	----
63-764	3/4 "	1	0.21	----
63-765	1"	1	0.24	----

SOLID SQUARE HEAD PLUG

316 150#



Part #	Size	Box	Approx. Wt. Lbs.	
63-680	1/8"	25	0.04	----
63-681	1/4"	25	0.04	----
63-682	3/8"	25	0.05	----
63-683	1/2"	25	0.06	----
63-684	3/4"	25	0.12	----


WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov



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 XXS SEAMLESS



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

XXS SEAMLESS



WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

BLACK & GALVANIZED SCH 40

STEEL NIPPLES

1/8" - 27

Wall Thickness 0.068 - GradeB - Test Pressure 700 PSI - Thread Length 0.39



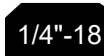
**1/8" DIAMETER
SCH 40 WELDED**



Part # Galv	Length	Box/Case	Approx. Wt. Lbs.	Part # Black
56-001	X Close (3/4")	50/600	0.02	57-001
56-002	x 1-1/2"	50/600	0.03	57-002
56-003	x 2"	50/500	0.04	57-003
56-004	x 2-1/2"	100/400	0.06	57-004
56-005	x 3"	50/300	0.07	57-005
56-006	x 3-1/2"	50/300	0.08	57-006
56-007	x 4"	50/300	0.09	57-007
56-008	x 4-1/2"	50/300	0.10	57-008
56-009	x 5"	50/300	0.11	57-009
56-010	x 5-1/2"	50/300	0.12	57-010
56-011	x 6"	50/300	0.13	57-011
56-012	x 7"	50/300	0.15	57-012
56-013	x 8"	50/300	0.18	57-013
56-014	x 9"	50/300	0.21	57-014
56-015	x 10"	50/300	0.25	57-015
56-017	x 12"	50/300	0.29	57-017

1/4"-18

Wall Thickness 0.068 - GradeB - Test Pressure 700 PSI - Thread Length 0.39



**1/4" DIAMETER
SCH 40 WELDED**



Part # Galv	Length	Box/Case	Approx. Wt. Lbs.	Part # Black
56-020	X Close (7/8")	50/600	0.04	57-020
56-021	x 1-1/2"	125/500	0.06	57-021
56-022	x 2"	125/500	0.06	57-022
56-023	x 2-1/2"	100/400	0.08	57-023
56-024	x 3"	50/300	0.10	57-024
56-025	x 3-1/2"	50/300	0.12	57-025
56-026	x 4"	50/300	0.14	57-026
56-027	x 4-1/2"	50/300	0.17	57-027
56-028	x 5"	50/300	0.19	57-028
56-029	x 5-1/2"	50/300	0.21	57-029
56-030	x 6"	50/300	0.23	57-030
56-031	x 7"	50/100	0.27	57-031
56-032	x 8"	50/100	0.31	57-032
56-033	x 9"	50/100	0.35	57-033
56-034	x 10"	50/100	0.40	57-034
56-035	x 11"	50/100	0.44	57-035
56-036	x 12"	50/100	0.48	57-036
56-038	x 18"	50/100	0.54	



See page 208 for Standard port 2,000 Carbon Steel Ball Valve

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

STEEL NIPPLES

BLACK & GALVANIZED SCH 40



**3/8" DIAMETER
SCH 40 WELDED**
Wall Thickness 0.091 - Grade B
- Test Pressure 700 PSI - Thread



Part # Galv	Length	Box/Case	Approx. Wt. Lbs.	Part # Black
56-040	X Close (1")	50/600	0.05	57-040
56-041	x 1-1/2"	125/500	0.07	57-041
56-042	x 2"	125/500	0.08	57-042
56-043	x 2-1/2"	100/400	0.11	57-043
56-044	x 3"	50/300	0.13	57-044
56-045	x 3-1/2"	50/300	0.16	57-045
56-046	x 4"	50/300	0.19	57-046
56-047	x 4-1/2"	50/200	0.21	57-047
56-048	x 5"	50/150	0.24	57-048
56-049	x 5-1/2"	50/150	0.27	57-049
56-050	x 6"	50/100	0.29	57-050
56-051	x 7"	50/100	0.35	57-051
56-052	x 8"	50/100	0.40	57-052
56-053	x 9"	50/100	0.45	57-053
56-054	x 10"	50/100	0.51	57-054
56-055	x 11"	50/100	0.56	57-055
56-056	x 12"	50/100	0.62	57-056
56-430	x 18"	5/10	0.71	57-430
	x 24"	1/1	1.02	57-431
	x 36"	1/1	1.54	57-433



**1/2" DIAMETER
SCH 40 WELDED**
Wall Thickness 0.109 -
Grade B - Test Pressure 700
PSI - Thread Length 0.78



Part # Galv	Length	Box/Case	Approx. Wt. Lbs.	Part # Black
56-060	X Close (1-1/8")	50/600	0.08	57-060
56-061	x 1-1/2"	125/500	0.08	57-061
56-062	x 2"	125/500	0.12	57-062
56-063	x 2-1/2"	100/400	0.15	57-063
56-064	x 3"	50/300	0.19	57-064
56-065	x 3-1/2"	50/300	0.23	57-065
56-066	x 4"	50/300	0.27	57-066
56-067	x 4-1/2"	50/200	0.30	57-067
56-068	x 5"	50/150	0.34	57-068
56-069	x 5-1/2"	50/150	0.38	57-069
56-070	x 6"	50/100	0.42	57-070
56-071	x 7"	50/100	0.49	57-071
56-072	x 8"	50/100	0.57	57-072
56-073	x 9"	50/100	0.65	57-073
56-074	x 10"	50/100	0.72	57-074
56-075	x 11"	50/100	0.80	57-075
56-076	x 12"	40/80	0.87	57-076
56-240	x 18"	1/3	1.29	57-240
56-241	x 24"	1/3	1.74	57-241
56-242	x 30"	1/3	2.16	57-242
56-243	x 36"	1/3	2.61	57-243
56-244	x 42"	1/3	3.03	57-244
56-245	x 48"	1/3	3.48	57-245
56-246	x 60"	1/3	4.35	57-246
56-247	x 72"	1/3	5.22	57-247

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer.
 For more information, visit www.P65Warnings.ca.gov



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		Length	Box/Case	Approx. Wt. Lbs.	Part # Black	
56-080	----	X Close (1-3/8")	50/300	0.13	57-080	----
56-081	----	x 1-1/2"	125/250	0.10	57-081	----
56-082	----	x 2"	125/250	0.15	57-082	----
56-083	----	x 2-1/2"	50/250	0.20	57-083	----
56-084	----	x 3"	50/200	0.24	57-084	----
56-085	----	x 3-1/2"	50/150	0.29	57-085	----
56-086	----	x 4"	50/150	0.34	57-086	----
56-087	----	x 4-1/2"	50/150	0.39	57-087	----
56-088	----	x 5"	50/150	0.43	57-088	----
56-089	----	x 5-1/2"	60/120	0.48	57-089	----
56-090	----	x 6"	50/100	0.53	57-090	----
56-091	----	x 7"	50/100	0.63	57-091	----
56-092	----	x 8"	50/100	0.72	57-092	----
56-093	----	x 9"	40/80	0.82	57-093	----
56-094	----	x 10"	40/80	0.91	57-094	----
56-095	----	x 11"	30/60	1.01	57-095	----
56-096	----	x 12"	30/60	1.10	57-096	----
56-250	----	x 18"	1/3	1.63	57-250	----
56-251	----	x 24"	1/3	2.20	57-251	----
56-252	----	x 30"	1/3	2.73	57-252	----
56-253	----	x 36"	1/3	3.30	57-253	----
56-254	----	x 42"	1/3	3.83	57-254	----
56-255	----	x 48"	1/3	4.40	57-255	----
56-256	----	x 60"	1/3	5.50	57-256	----
56-257	----	x 72"	1/3	6.60	57-257	----



See page 209 for Full port 2,000# Carbon Steel Ball Valve

Success consists of going from failure to failure with-
out loss of enthusiasm.

- Winston Churchill


WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer.
For more information, visit www.P65Warnings.ca.gov

STEEL NIPPLES

BLACK & GALVANIZED SCH 40



1" DIAMETER SCH 40 WELDED

Wall Thickness 0.133 - Grade
B - Test Pressure 700 PSI -
Thread Length 0.98



Part # Galv		Length	Box/Case	Approx. Wt. Lbs.	Part # Black	
56-100	----	X Close (1-1/2")	50/200	0.16	57-100	----
56-101	----	x 2"	50/150	0.23	57-101	----
56-102	----	x 2-1/2"	50/150	0.29	57-102	----
56-103	----	x 3"	50/100	0.36	57-103	----
56-104	----	x 3-1/2"	50/100	0.43	57-104	----
56-105	----	x 4"	50/100	0.50	57-105	----
56-106	----	x 4-1/2"	50/100	0.56	57-106	----
56-107	----	x 5"	50/100	0.63	57-107	----
56-108	----	x 5-1/2"	50/100	0.70	57-108	----
56-109	----	x 6"	40/80	0.77	57-109	----
56-110	----	x 7"	25/50	0.90	57-110	----
56-111	----	x 8"	25/50	1.03	57-111	----
56-112	----	x 9"	15/30	1.17	57-112	----
56-113	----	x 10"	15/30	1.30	57-113	----
56-114	----	x 11"	15/30	1.44	57-114	----
56-115	----	x 12"	15/30	1.57	57-115	----
56-260	----	x 18"	1/3	2.34	57-260	----
56-261	----	x 24"	1/3	3.14	57-261	----
56-262	----	x 30"	1/3	3.91	57-262	----
56-263	----	x 36"	1/3	4.71	57-263	----
56-264	----	x 42"	1/3	5.48	57-264	----
56-265	----	x 48"	1/3	6.28	57-265	----
56-266	----	x 60"	1/3	7.85	57-266	----
56-267	----	x 72"	1/3	9.42	57-267	----



High Pressure 7,250 psi Full Port Ball Valves - see page 210

An early-morning walk is a blessing for
the whole day.

- Henry David Thoreau

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

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		Length	Box/Case	Approx. Wt. Lbs.	Part # Black	
56-120	----	X Close (1-5/8")	50/100	0.25	57-120	----
56-121	----	x 2"	50/100	0.32	57-121	----
56-122	----	x 2-1/2"	50/100	0.41	57-122	----
56-123	----	x 3"	50/100	0.50	57-123	----
56-124	----	x 3-1/2"	30/60	0.60	57-124	----
56-125	----	x 4"	30/60	0.69	57-125	----
56-126	----	x 4-1/2"	30/60	0.78	57-126	----
56-127	----	x 5"	25/50	0.87	57-127	----
56-128	----	x 5-1/2"	25/50	0.96	57-128	----
56-129	----	x 6"	25/50	1.06	57-129	----
56-130	----	x 7"	15/30	1.24	57-130	----
56-131	----	x 8"	15/30	1.42	57-131	----
56-132	----	x 9"	15/30	1.61	57-132	----
56-133	----	x 10"	15/30	1.79	57-133	----
56-134	----	x 11"	10/20	1.97	57-134	----
56-135	----	x 12"	10/20	2.16	57-135	----
56-270	----	x 18"	1/3	3.22	57-270	----
56-271	----	x 24"	1/3	4.32	57-271	----
56-272	----	x 30"	1/3	3.22	57-272	----
56-273	----	x 36"	1/3	6.48	57-273	----
56-275	----	x 48"			57-275	----



**1-1/2" DIAMETER
SCH 40 WELDED**

Wall Thickness 0.145 - Grade
B - Test Pressure 1300 PSI -
Thread Length 1.03



Part # Galv		Length	Box/Case	Approx. Wt. Lbs.	Part # Black	
56-140	----	X Close (1-3/4")	50/100	0.31	57-140	----
56-141	----	x 2"	40/80	0.37	57-141	----
56-142	----	x 2-1/2"	40/80	0.47	57-142	----
56-143	----	x 3"	40/80	0.58	57-143	----
56-144	----	x 3-1/2"	25/50	0.68	57-144	----
56-145	----	x 4"	25/50	0.78	57-145	----
56-146	----	x 4-1/2"	25/50	0.89	57-146	----
56-147	----	x 5"	25/50	1.10	57-147	----
56-148	----	x 5-1/2"	20/40	1.10	57-148	----
56-149	----	x 6"	15/30	1.20	57-149	----
56-150	----	x 7"	15/30	1.41	57-150	----
56-151	----	x 8"	15/30	1.62	57-151	----
56-152	----	x 9"	15/30	1.83	57-152	----
56-153	----	x 10"	1/20	2.04	57-153	----
56-154	----	x 11"	1/20	2.25	57-154	----
56-155	----	x 12"	1/20	2.46	57-155	----
56-280	----	x 18"	1/3	3.66	57-280	----
56-281	----	x 24"	1/3	4.92	57-281	----
56-282	----	x 30"	1/3	6.12	57-282	----
56-283	----	x 36"	1/3	7.38	57-283	----
56-285	----	x 48"	1/3	9.84	57-285	----
		x 60"			57-286	----

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer.
 For more information, visit www.P65Warnings.ca.gov

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		Length	Box/Case	Approx. Wt. Lbs.	Part # Black	
56-160	----	X Close (2")	40/80	0.55	57-160	----
56-161	----	x 2-1/2"	25/50	0.70	57-161	----
56-162	----	x 3"	25/50	0.86	57-162	----
56-163	----	x 3-1/2"	1/30	1.01	57-163	----
56-164	----	x 4"	1/30	1.16	57-164	----
56-165	----	x 4-1/2"	1/25	1.31	57-165	----
56-166	----	x 5"	1/30	1.47	57-166	----
56-167	----	x 5-1/2"	1/30	1.62	57-167	----
56-168	----	x 6"	1/20	1.77	57-168	----
56-169	----	x 7"	1/20	2.08	57-169	----
56-170	----	x 8"	1/20	2.39	57-170	----
56-171	----	x 9"	1/10	2.70	57-171	----
56-172	----	x 10"	1/10	3.00	57-172	----
56-173	----	x 11"	1/10	3.31	57-173	----
56-174	----	x 12"	1/10	3.62	57-174	----
56-290	----	x 18"	1/3	5.39	57-290	----
56-291	----	x 24"	1/3	5.26	57-291	----
56-292	----	x 30"	1/3	7.03	57-292	----
56-293	----	x 36"	1/3	10.86	57-293	----
56-294	----	x 42"	1/3	12.63	57-294	----
56-295	----	x 48"	1/3	14.48	57-295	----
56-296	----	x 60"	1/3	18.10	57-296	----
56-297	----	x 72"	1/3	18.10	57-297	----



2-1/2" DIAMETER SCH 40 WELDED

Wall Thickness 0.203 - Grade
B - Test Pressure 2500 PSI -
Thread Length 1.57



Part # Galv		Length	Box/Case	Approx. Wt. Lbs.	Part # Black	
56-180	----	X Close (2-1/2")	1/20	1.09	57-180	----
56-181	----	x 3"	1/20	1.33	57-181	----
56-182	----	x 3-1/2"	1/20	1.57	57-182	----
56-183	----	x 4"	1/20	1.82	57-183	----
56-184	----	x 4-1/2"	1/20	2.06	57-184	----
56-185	----	x 5"	1/20	2.30	57-185	----
56-186	----	x 5-1/2"	1/10	2.54	57-186	----
56-187	----	x 6"	1/10	2.78	57-187	----
56-188	----	x 7"	1/10	3.27	57-188	----
56-189	----	x 8"	1/10	3.75	57-189	----
56-190	----	x 9"	1/10	4.24	57-190	----
56-191	----	x 10"	1/8	4.72	57-191	----
56-192	----	x 11"	1/8	5.21	57-192	----
56-193	----	x 12"	1/8	5.69	57-193	----

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov



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		Length	Box/Case	Approx. Wt. Lbs.	Part # Black	
56-200	----	X Close (2-5/8")	1/20	1.52	57-200	----
56-201	----	x 3"	1/20	1.76	57-201	----
56-202	----	x 3-1/2"	1/10	2.08	57-202	----
56-203	----	x 4"	1/10	2.39	57-203	----
56-204	----	x 4-1/2"	1/10	2.71	57-204	----
56-205	----	x 5"	1/10	3.03	57-205	----
56-206	----	x 5-1/2"	1/10	3.35	57-206	----
56-207	----	x 6"	1/10	3.66	57-207	----
56-208	----	x 7"	1/8	4.30	57-208	----
56-209	----	x 8"	1/8	4.93	57-209	----
56-210	----	x 9"	1/8	5.57	57-210	----
56-211	----	x 10"	1/5	6.20	57-211	----
56-212	----	x 11"	1/5	7.20	57-212	----
56-213	----	x 12"	1/5	7.47	57-213	----
		x 24"	1	14.94	57-311	----



**4" DIAMETER
SCH 40 WELDED**

Wall Thickness 0.237 - Grade
B - Test Pressure 2210 PSI -
Thread Length 1.74



Part # Galv		Length	Box/Case	Approx. Wt. Lbs.	Part # Black	
56-220	----	X Close (2-7/8")	1/10	2.00	57-220	----
56-221	----	3-1/2"	1/8	2.21		
56-223	----	x 4"	1/8	3.41	57-223	----
56-224	----	x 4-1/2"	1/6	3.86	57-224	----
56-225	----	x 5"	1/6	4.31	57-225	----
56-226	----	x 5-1/2"	1/6	4.76	57-226	----
56-227	----	x 6"	1/6	5.21	57-227	----
56-330	----	x 7"	1/5	6.48	57-330	----
56-229	----	x 8"	1/5	7.01	57-229	----
56-331	----	x 9"	1/5	7.54	57-331	----
56-332	----	x 10"	1/5	8.14	57-332	----
56-228	----	x 12"	1/4	8.54	57-228	----

The secret of getting ahead is getting started. - Mark Twain

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

STEEL NIPPLES

NIPPLES & ASSORTMENTS



6" DIAMETER SCH 40 WELDED

Wall Thickness 0.154 - Grade
B - Test Pressure 2500 PSI -
Thread Length 1.06



Part # Galv	Length	Box/Case	Approx. Wt. Lbs.	Part # Black
56-300	X Close (3-1/8")	1/1	3.80	57-300
	x 4"	1/1	5.30	57-304
	x 6"	1/1	8.30	57-301
	x 8"	1/1	11.30	57-305
	x 10"			57-306
	x 12"	1/1	17.20	57-308



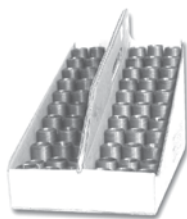
8" DIAMETER SCH 40 WELDED

Wall Thickness 0.154 - Grade
B - Test Pressure 2500 PSI -
Thread Length 1.06

Part #	Length	Box/Case	Approx. Wt. Lbs.
57-320	X Close (3-1/8")	1/1	5.80
57-322	x 6"	1/1	6.50
57-324	x 8"	1/1	11.30
57-326	x 10"	1/1	19.00
57-328	x 12"	1/1	28.55

STEEL NIPPLE ASSORTMENTS

B "6" ASSORTMENTS



	Black	LENGTH											Wt. Lbs.	Total Pieces	
		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	6	20	66
973-568	3/4"	6	6	6	6	6	6	6	6	6	6	6	6	27	66
973-569	1"	6		6	6	6	6	6	6	6	6	6	6	34	60

	Galv.	LENGTH											Wt. Lbs.	Total Pieces	
		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	6	20	66
973-668	3/4"	6	6	6	6	6	6	6	6	6	6	6	6	27	66
973-669	1"	6		6	6	6	6	6	6	6	6	6	6	34	60

STEEL TOTE TRAYS



Part #	Size	Capacity
990-781	1/2"	77pcs
990-782	3/4"	66pcs
990-783	1"	50pcs
990-786	1-1/4"	40pcs
990-784	1-1/2"	30pcs
990-785	2"	27pcs

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

BLACK SCH 80 SEAMLESS

STEEL NIPPLES

EXTRA HEAVY SEAMLESS STEEL PIPE NIPPLES

1/8" - 27



1/8" DIAMETER SCHEDULE 80 SEAMLESS

Wall Thickness 0.094 - Grade B - Test Pressure 850 PSI - Thread Length 0.39

Part #	Length	Box/Case	Approx. Wt. Lbs.	
59-001SMLS	x Close	40/480	0.02	----
59-002SMLS	x 1-1/2"	40/480	0.03	----
59-003SMLS	x 2"	100/400	0.05	----
59-004SMLS	2-1/2"	100/400	0.06	----
59-005SMLS	x 3"	40/240	0.08	----
59-006SMLS	x 3-1/2"	40/240	0.09	----
59-007SMLS	x 4"	40/240	0.11	----
59-009SMLS	x 5"	40/120	0.12	----
59-010SMLS	x 5-1/2"	40/120	0.13	----
59-011SMLS	x 6"	40/80	0.16	----

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.	
59-020SMLS	x Close (7/8")	40 / 480	0.03	----
59-021SMLS	x 1-1/2"	100 / 400	0.06	----
59-022SMLS	x 2"	100 / 400	0.08	----
59-023SMLS	x 2-1/2"	80 / 320	0.10	----
59-024SMLS	x 3"	40 / 240	0.12	----
59-025SMLS	x 3-1/2"	40 / 240	0.15	----
59-026SMLS	x 4"	40 / 240	0.17	----
59-027SMLS	x 4-1/2"	40 / 120	0.19	----
59-028SMLS	x 5"	40 / 120	0.21	----
59-029SMLS	x 5-1/2"	40 / 80	0.24	----
59-030SMLS	x 6"	40 / 80	0.26	----
59-031SMLS	x 7"	40 / 80	0.30	----
59-032SMLS	x 8"	40 / 80	0.35	----
59-033SMLS	x 9"	40 / 80	0.39	----
59-034SMLS	x 10"	40 / 80	0.44	----
59-036SMLS	x 12"	40 / 80	0.53	----



5,000# Carbon Steel Check Valves on page 211

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer.
 For more information, visit www.P65Warnings.ca.gov



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.	
59-040SMLS	X Close (3/8")	40 / 480	0.05	----
59-041SMLS	x 1-1/2"	100 / 400	0.08	----
59-042SMLS	x 2"	100 / 400	0.11	----
59-043SMLS	x 2-1/2"	80 / 320	0.14	----
59-044SMLS	x 3"	40 / 240	0.17	----
59-045SMLS	x 3-1/2"	40 / 240	0.20	----
59-046SMLS	x 4"	40 / 240	0.23	----
59-047SMLS	x 4-1/2"	40 / 160	0.26	----
59-048SMLS	x 5"	40 / 120	0.29	----
59-049SMLS	x 5-1/2"	40 / 120	0.32	----
59-050SMLS	x 6"	40 / 80	0.35	----
59-052SMLS	x 8"	40/80	0.47	----
59-054SMLS	x 10"	40/80	0.53	----
59-056SMLS	x 12"	40/80	0.65	----

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.	
59-060SMLS	X Close (1-1/8")	40 / 480	0.07	----
59-061SMLS	x 1-1/2"	100 / 400	0.11	----
59-062SMLS	x 2"	100 / 400	0.15	----
59-063SMLS	x 2-1/2"	80 / 320	0.20	----
59-064SMLS	x 3"	40 / 240	0.24	----
59-065SMLS	x 3-1/2"	40 / 240	0.29	----
59-066SMLS	x 4"	40 / 240	0.33	----
59-067SMLS	x 4-1/2"	40 / 160	0.38	----
59-068SMLS	x 5"	40 / 120	0.42	----
59-069SMLS	x 5-1/2"	40 / 120	0.47	----
59-070SMLS	x 6"	40 / 80	0.51	----
59-071SMLS	x 7"	40 / 80	0.60	----
59-072SMLS	x 8"	40 / 80	0.69	----
59-073SMLS	x 9"	40/80	0.73	----
59-074SMLS	x 10"	40 / 80	0.88	----
59-075SMLS	x 11"	32/64	0.96	----
59-076SMLS	x 12"	32 / 64	1.06	----

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov



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.	
59-080SMLS	X Close (1-3/8")	40/240	0.13	----
59-081SMLS	x 1-1/2"	100/200	0.15	----
59-082SMLS	x 2"	100/200	0.21	----
59-083SMLS	x 2-1/2"	40/160	0.27	----
59-084SMLS	x 3"	40/160	0.33	----
59-085SMLS	x 3-1/2"	40/120	0.39	----
59-086SMLS	x 4"	40/120	0.45	----
59-087SMLS	x 4-1/2"	40/120	0.51	----
59-088SMLS	x 5"	40/120	0.57	----
59-089SMLS	x 5-1/2"	48/96	0.64	----
59-090SMLS	x 6"	40/80	0.69	----
59-091SMLS	x 7"	40/80	0.82	----
59-092SMLS	x 8"	40/80	0.94	----
59-094SMLS	x 10"	32/64	1.19	----
59-096SMLS	x 12"	24/48	1.44	----



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.	
59-100SMLS	X Close (1-1/2")	40 / 160	0.21	----
59-101SMLS	x 2"	40 / 120	0.30	----
59-102SMLS	x 2-1/2"	40 / 120	0.37	----
59-103SMLS	x 3"	40 / 80	0.47	----
59-104SMLS	x 3-1/2"	40 / 80	0.56	----
59-105SMLS	x 4"	40 / 80	0.65	----
59-106SMLS	x 4-1/2"	40 / 80	0.74	----
59-107SMLS	x 5"	40 / 80	0.83	----
59-108SMLS	x 5-1/2"	40 / 80	0.92	----
59-109SMLS	x 6"	32 / 64	1.01	----
59-110SMLS	x 7"	20 / 40	1.19	----
59-111SMLS	x 8"	20 / 40	1.37	----
59-112SMLS	x 9"	20 / 40	1.55	----
59-113SMLS	x 10"	12 / 24	1.74	----
59-114SMLS	x 11"	12 / 24	1.92	----
59-115SMLS	x 12"	12 / 24	2.10	----

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov



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.	
59-120SMLS	X Close (1-5/8")	40 / 80	0.31	----
59-121SMLS	x 2"	40 / 80	0.42	----
59-122SMLS	x 2-1/2"	40 / 80	0.52	----
59-123SMLS	x 3"	40 / 80	0.64	----
59-124SMLS	x 3-1/2"	24 / 48	0.77	----
59-125SMLS	x 4"	24 / 48	0.90	----
59-126SMLS	x 4-1/2"	24 / 48	1.02	----
59-127SMLS	x 5"	20 / 40	1.15	----
59-128SMLS	x 5-1/2"	20 / 40	1.27	----
59-129SMLS	x 6"	20 / 40	1.40	----
59-130SMLS	x 7"	20 / 40	1.65	----
59-131SMLS	x 8"	12 / 24	1.90	----
59-132SMLS	x 9"	12 / 24	2.15	----
59-133SMLS	x 10"	12 / 24	2.40	----
59-134SMLS	x 11"	8 / 16	2.65	----
59-135SMLS	x 12"	8 / 16	2.90	----



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.	
59-140SMLS	X Close (1-3/4")	40 / 80	0.41	----
59-141SMLS	x 2"	32 / 64	0.51	----
59-142SMLS	x 2-1/2"	32 / 64	0.64	----
59-143SMLS	x 3"	32 / 64	0.78	----
59-144SMLS	x 3-1/2"	20 / 40	0.94	----
59-145SMLS	x 4"	20 / 40	1.09	----
59-146SMLS	x 4-1/2"	20 / 40	1.23	----
59-147SMLS	x 5"	20 / 40	1.39	----
59-148SMLS	x 5-1/2"	16 / 32	1.54	----
59-149SMLS	x 6"	12 / 24	1.69	----
59-150SMLS	x 7"	12 / 24	2.00	----
59-151SMLS	x 8"	12 / 24	2.30	----
59-152SMLS	x 9"	12 / 24	2.61	----
59-153SMLS	x 10"	8 / 16	2.90	----
59-154SMLS	x 11"	8 / 16	3.20	----
59-155SMLS	x 12"	8 / 16	3.51	----

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov



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.	
59-160SMLS	X Close (2")	32/64	0.30	----
59-161SMLS	x 2-1/2"	20 / 40	0.80	----
59-162SMLS	x 3"	20 / 40	1.10	----
59-163SMLS	x 3-1/2"	12 / 24	1.31	----
59-164SMLS	x 4"	12 / 24	1.52	----
59-165SMLS	x 4-1/2"	12 / 24	1.72	----
59-166SMLS	x 5"	12 / 24	1.94	----
59-167SMLS	x 5-1/2"	12 / 24	2.15	----
59-168SMLS	x 6"	8 / 16	2.35	----
59-169SMLS	x 7"	8 / 16	2.78	----
59-170SMLS	x 8"	8 / 16	3.19	----
59-171SMLS	x 9"	1 / 8	3.62	----
59-172SMLS	x 10"	1 / 8	4.03	----
59-173SMLS	x 11"	1 / 8	4.44	----
59-174SMLS	x 12"	1 / 8	4.87	----
59-196SMLS	x 18"	1/1	7.22	----
59-197SMLS	x 24"	1/1	9.74	----
59-198SMLS	x 36"	1/1	14.61	----
59-199SMLS	x 48"	1/1	19.48	----



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.	
59-180SMLS	x Close (2-1/2")	1 / 16	1.25	----
59-181SMLS	x 3"	1 / 16	1.57	----
59-182SMLS	x 3-1/2"	1 / 16	1.82	----
59-183SMLS	x 4"	1 / 16	2.15	----
59-184SMLS	x 4-1/2"	1 / 16	1.75	----
59-185SMLS	x 5"	1 / 16	2.78	----
59-186SMLS	x 5-1/2"	1 / 8	2.25	----
59-187SMLS	x 6"	1 / 8	3.41	----
59-188SMLS	x 7"	1 / 8	3.89	----
59-189SMLS	x 8"	1 / 8	4.69	----
59-190SMLS	x 9"	1 / 8	5.34	----
59-191SMLS	x 10"	1 / 6	5.97	----
59-192SMLS	x 11"	1 / 6	4.89	----
59-193SMLS	x 12"	1 / 5	7.26	----

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer.
 For more information, visit www.P65Warnings.ca.gov



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.	
59-200SMLS	X Close (2-5/8")	1 / 16	1.79	----
59-201SMLS	x 3"	1 / 16	2.11	----
59-202SMLS	x 3-1/2"	1 / 16	2.55	----
59-203SMLS	x 4"	1 / 8	2.89	----
59-204SMLS	x 4-1/2"	1 / 8	3.30	----
59-205SMLS	x 5"	1 / 8	3.73	----
59-206SMLS	x 5-1/2"	1 / 8	4.17	----
59-207SMLS	x 6"	1 / 8	4.57	----
59-208SMLS	x 7"	1 / 6	5.45	----
59-209SMLS	x 8"	1 / 6	6.29	----
59-210SMLS	x 9"	1 / 6	7.17	----
59-211SMLS	x 10"	1 / 4	8.01	----
59-212SMLS	x 11"	1 / 4	8.85	----
59-213SMLS	x 12"	1 / 4	9.72	----



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.	
59-220SMLS	X Close (2-7/8")	1 / 8	2.91	----
59-221SMLS	x 4"	1 / 6	4.26	----
59-223SMLS	x 5"	1 / 5	5.49	----
59-224SMLS	x 5-1/2"			
59-225SMLS	x 6"	1 / 5	6.72	----
59-226SMLS	x 7"	1/3	7.33	----
59-227SMLS	x 8"	1 / 3	9.23	----
59-228SMLS	9"			
59-229SMLS	x 10"	1 / 3	11.73	----
59-231SMLS	x 12"	1 / 3	14.24	----

SCHEDULE 80 SEAMLESS



6" DIAMETER



8" DIAMETER

Part #		Length	Box/Case	Approx. Wt. Lbs.		Part #	
				6"	8"		
59-300SMLS	----	X Close	2	3.57	4.62	59-320SMLS	----
59-301SMLS	----	x 6"	2	14.29	16.91	59-322SMLS	----
59-305SMLS	----	x 8"	2	19.05	22.54	59-324SMLS	----
59-306SMLS	----	x 10"	2	23.81	27.47	59-326SMLS	----
59-308SMLS	----	x 12"	2	28.57	34.18	59-328SMLS	----

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

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.	
59-060SMLSXX	x Close	100 / 200	0.31	----
59-062SMLSXX	x 2"	100 / 200	0.58	----
59-064SMLSXX	x 3"	50 / 100	0.62	----
59-066SMLSXX	x 4"	50 / 100	0.66	----
59-070SMLSXX	x 6"	25 / 50	0.75	----



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.	
59-080SMLSXX	x Close	40/240	0.55	----
59-082SMLSXX	x 2"	50 / 100	0.62	----
59-086SMLSXX	x 4"	25 / 50	0.68	----
59-090SMLSXX	x 6"	25 / 50	0.71	----



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.	
59-100SMLSXX	x close	50 / 100	0.88	----
59-101SMLSXX	x 2"	50 / 100	1.07	----
59-103SMLSXX	x 3"	20/40	1.10	----
59-105SMLSXX	x 4"	20 / 40	1.14	----
59-109SMLSXX	x 6"	20 / 40	1.75	----
59-111SMLSXX	x 8"	1 / 25	1.88	----
59-115SMLSXX	x 12"	1 / 15	2.15	----



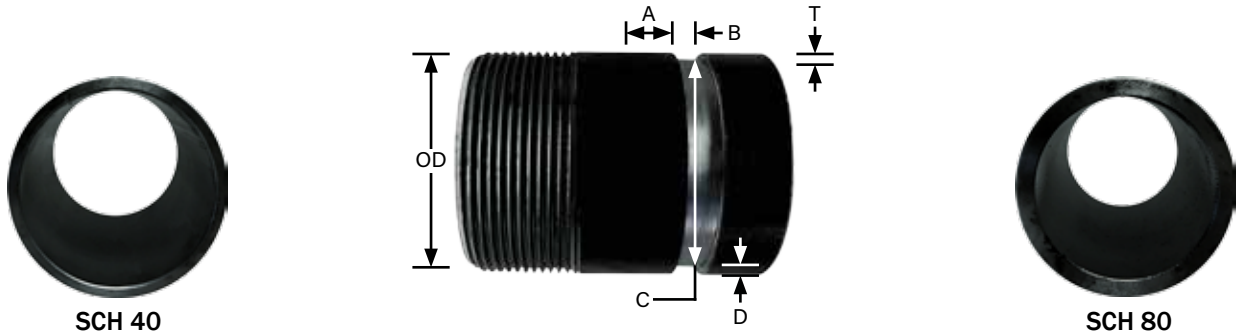
2" DIAMETER DIAMETER BLACK EXTRA HEAVY XXS SEAMLESS

Wall Thickness 0.436 - Grade B - Test Pressure 2500 PSI - Thread Length 1.06

Part #	Length	Box/Case	Approx. Wt. Lbs.	
59-160SMLSXX	x close	1 / 25	1.36	----
59-161SMLSXX	x 2-1/2"	1 / 20	1.67	----
59-162SMLSXX	x 3"	1 / 20	2.09	----
59-163SMLSXX	x 3-1/2"	1 / 12	2.51	----
59-164SMLSXX	x 4"	1 / 12	2.86	----
59-166SMLSXX	x 5"	1/12	3.04	----
59-168SMLSXX	x 6"	1 / 11	3.20	----
59-169SMLSXX	x 7"	1 / 8	4.35	----
59-170SMLSXX	x 8"	1 / 8	5.86	----
59-171SMLSXX	x 9"	1 / 8	6.58	----
59-172SMLSXX	x 10"	1 / 8	7.31	----
59-174SMLSXX	x 12"	1 / 8	9.34	----
59-179SMLSXX	x 24"	1 / 1	14.77	----


WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

THREAD X GROOVE



2" DIAMETER							
Part #	List Price	Box	Wtg	Length	Wtg	Box	Part #
57162TV	----	50	0.70	x 3	1.03	40	59162TV
57164TV	----	30	0.97	x 4	1.40	24	59164TV
57168TV	----	20	1.64	x 6	2.41	16	59168TV
57170TV	----	20	2.15	x 8	3.20	16	59170TV
57172TV	----	10	2.80	x 10	3.65	8	59172TV
57174TV	----	10	3.45	x 12	4.01	8	59174TV

3" DIAMETER							
Part #	List Price	Box	Wtg	Length	Wtg	Box	Part #
57201TV	----	20	1.26	x 3	2.01	16	59201TV
57203TV	----	10	1.80	x 4	3.01	8	59203TV
57207TV	----	10	3.17	x 6	4.87	8	59207TV
57209TV	----	8	4.13	x 8	5.86	6	59209TV
57211TV	----	5	5.48	x 10	6.19	4	59211TV
57213TV	----	5	6.24	x 12	6.37	4	59213TV

4" DIAMETER							
Part #	List Price	Box	Wtg	Length	Wtg	Box	Part #
57222TV	----	8	2.40	x 3	4.11	6	59222TV
57223TV	----	8	2.52	x 4	4.15	6	59221TV
57227TV	----	6	4.30	x 6	6.52	5	59225TV
57229TV	----	4	5.63	x 8	7.18	3	59229TV
57332TV	----	4	7.90	x 10	11.74	3	59231TV
57228TV	----	4	8.25	x 12	14.24	3	59227TV

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

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

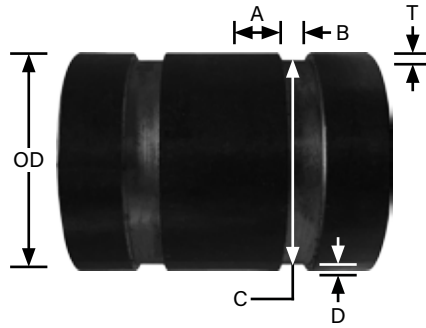
BLACK SCH 40 AND SCH 80 SEAMLESS

GROOVE NIPPLES

GROOVE X GROOVE



SCH 40



SCH 80

2" DIAMETER

Part #	Box	Wtg	Length	Wtg	Box	Part #
57162V	50	0.70	x 3	1.03	40	59162V
57164V	30	0.97	x 4	1.40	24	59164V
57168V	20	1.64	x 6	2.41	16	59168V
57170V	20	2.15	x 8	3.20	16	59170V
57172V	10	2.80	x 10	3.65	8	59172V
57174V	10	3.45	x 12	4.01	8	59174V

3" DIAMETER

Part #	Box	Wtg	Length	Wtg	Box	Part #
57201V	20	1.26	x 3	2.01	16	59201V
57203V	10	1.80	x 4	3.01	8	59203V
57207V	10	3.17	x 6	4.87	8	59207V
57209V	8	4.13	x 8	5.86	6	59209V
57211V	5	5.48	x 10	6.19	4	59211V
57213V	5	6.24	x 12	6.37	4	59213V

4" DIAMETER

Part #	Box	Wtg	Length	Wtg	Box	Part #
57223V	8	2.52	x 4	4.15	6	59221V
57227V	6	4.35	x 6	6.52	5	59225V
57229V	4	5.63	x 8	7.18	3	59227V
57332V	4	7.90	x 10	11.74	3	59229V
57228V	4	8.25	x 12	14.24	3	59231V

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

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer.
 For more information, visit www.P65Warnings.ca.gov

STEEL NIPPLES

Product Specifications

Welded steel couplings both galvanized and black in diameters from 1/8" up to 4".

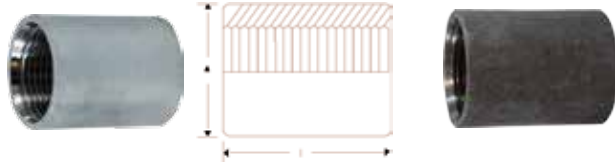
Technical Specifications

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	Size	Part # Black
64-770	1/8"	65-770
64-771	1/4"	65-771
64-772	3/8"	65-772
64-773	1/2"	65-773
64-774	3/4"	65-774
64-775	1"	65-775
64-776	1-1/4"	65-776
64-777	1-1/2"	65-777
64-778	2"	65-778
64-779	2-1/2"	65-779
64-780	3"	65-780
64-781	4"	65-781
	5"	65-782
	6"	65-783

MERCHANT COUPLINGS

HALF MERCHANT COUPLINGS



- Straight threads thru 2"

Part # Galv	Size	Part # Black
	1/8"	65-770H
	1/4"	65-771H
	3/8"	65-772H
64-773H	1/2"	65-773H
64-774H	3/4"	65-774H
64-775H	1"	65-775H
64-776H	1-1/4"	65-776H
64-777H	1-1/2"	65-777H
64-778H	2"	65-778H
	2-1/2"	65-779H
64-780H	3"	65-780H
64-781H	4"	65-781H



#304 STAINLESS STEEL MERCHANT COUPLINGS

Part #	Size
61775	1
61776	1-1/4
61777	1-1/2
61778	2

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

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

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	
65770API	1/8"	27	0.563	1-1/16	0.04	----
65771API	1/4"	18	0.719	1-5/8	0.10	----
65772API	3/8"	18	0.875	1-5/8	0.13	----
65773API	1/2"	14	1.063	2-1/8	0.24	----
65774API	3/4"	14	1.313	2-1/8	0.35	----
65775API	1"	11.5	1.576	2-5/8	0.52	----
65776API	1-1/4"	11.5	2.054	2-3/4	1.00	----
65777API	1-1/2"	11.5	2.200	2-3/4	0.88	----
65778API	2"	11.5	2.875	2-7/8	1.83	----
65779API	2-1/2"	8	3.375	4-1/8	3.28	----
65780API	3"	8	4.000	4-1/4	4.09	----
65781API	4"	8	5.200	4-1/2	7.59	----
65783API	6"	8	7.390	4-5/8	12.92	----
65784API	8"	8	9.625	5-3/4	23.18	----

I'm sorry, if you were right, I'd agree with you.
- Robin Williams

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

MALLEABLE FITTINGS



- Saturated steam pressure 150 PSI @ 350°F
- Max pressure 300 PSI @ 150°F
- Temp range -20°F to 350°F

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
- Pressure - Saturated steam 150 PSI @350°F: Max pressure 300 PSI - 150°F
- Temperature range -20 - 350°F

MALLEABLE IRON - ANSI B 16.3

F°	Class	Sizes	Sizes	Sizes
	150	1/4-1	1 1/4-2	2 1/4-3
	PSIG	300#	300#	300#
-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

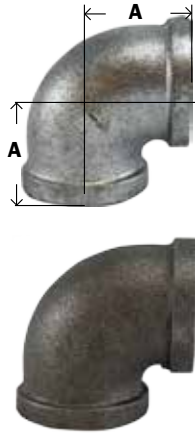


WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BLACK & GALVANIZED IRON #150

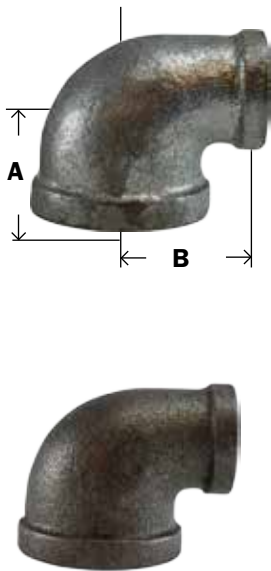
MALLEABLE FITTINGS

ELBOWS 90°



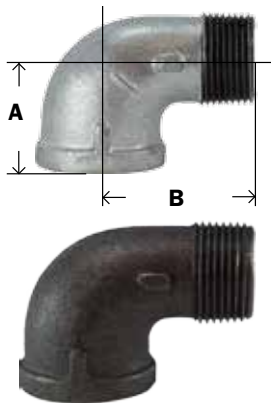
Part # Galvanized		Size	A	Box/Case	Approx. Wt. Lbs.	Part # Black	
64-100	----	1/8"	0.69	50/600	0.07	65-100	----
64-101	----	1/4"	0.81	35/420	0.10	65-101	----
64-102	----	3/8"	0.95	90/360	0.16	65-102	----
64-103	----	1/2"	1.12	50/200	0.23	65-103	----
64-104	----	3/4"	1.31	35/105	0.35	65-104	----
64-105	----	1"	1.50	20/60	0.57	65-105	----
64-106	----	1-1/4"	1.75	20/40	0.86	65-106	----
64-107	----	1-1/2"	1.94	15/30	1.31	65-107	----
64-108	----	2"	2.25	8/16	1.79	65-108	----
64-109	----	2-1/2"	2.70	6/12	3.35	65-109	----
64-110	----	3"	3.08	4/8	5	65-110	----
64-112	----	4"	3.79	1/2	9.02	65-112	----
64-114	----	6"	5.13	1/1	23.68	65-114	----
		8"			41.1	65-115	----

REDUCING ELBOWS 90°



Part # Galvanized		Size	A	B	Box/Case	Approx. Wt. Lbs.	Part # Black	
64-122	----	3/8" x 1/4"	0.88	0.90	90/360	0.16	65-122	----
64-123	----	1/2" x 1/4"	0.97	0.98	60/240	0.21	65-123	----
64-124	----	1/2" x 3/8"	1.04	1.03	60/240	0.24	65-124	----
64-126	----	3/4" x 3/8"	1.12	1.13	40/160	0.31	65-126	----
64-127	----	3/4" x 1/2"	1.20	1.22	40/160	0.44	65-127	----
64-130	----	1" x 1/2"	1.26	1.40	25/100	0.52	65-130	----
64-131	----	1" x 3/4"	1.37	1.45	50/100	0.58	65-131	----
64-133	----	1-1/4" x 3/4"	1.45	1.62	15/120	0.79	65-133	----
64-134	----	1-1/4" x 1"	1.58	1.67	10/40	0.80	65-134	----
64-136	----	1-1/2" x 3/4"	1.52	1.75	10/40	0.88	65-136	----
64-137	----	1-1/2" x 1"	1.65	1.80	10/40	1.07	65-137	----
64-138	----	1-1/2" x 1-1/4"	1.82	1.88	15/30	1.12	65-138	----
64-140	----	2" x 1"	1.73	2.02	14/28	1.41	65-140	----
64-141	----	2" x 1-1/4"	1.90	2.10	10/20	1.53	65-141	----
64-142	----	2" x 1-1/2"	2.02	2.16	10/20	1.65	65-142	----
64-145	----	2-1/2" x 1-1/2"	2.16	2.51	6/12	2.97	65-145	----
64-146	----	2-1/2" x 2"	2.39	2.60	6/12	3.18	65-146	----
64-148	----	3" x 1-1/2"	2.28	2.83	6/18	4.54	65-148	----
		3" x 2-1/2"	2.83	2.99	4/8	4.39	65-151	----
		3" x 2"	2.52	3.60	4/8	4.22	65-150	----

90° STREET ELBOWS



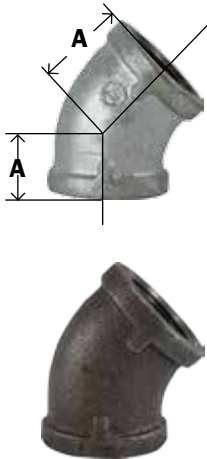
Part # Galvanized		Size	A	B	Box/Case	Approx. Wt. Lbs.	Part # Black	
64-160	----	1/8"	0.69	1.00	60/720	.06	65-160	----
64-161	----	1/4"	0.80	1.17	35/420	.10	65-161	----
64-162	----	3/8"	0.95	1.48	40/240	.15	65-162	----
64-163	----	1/2"	1.10	1.59	60/180	.22	65-163	----
64-164	----	3/4"	1.28	1.85	35/105	.39	65-164	----
64-165	----	1"	1.47	2.10	35/105	.60	65-165	----
64-166	----	1-1/4"	1.75	2.57	25/50	.95	65-166	----
64-167	----	1-1/2"	1.90	2.63	9/27	1.37	65-167	----
64-168	----	2"	2.21	3.19	8/16	2.25	65-168	----
64-169	----	2-1/2"	2.65	3.78	5/10	3.32	65-169	----
64-170	----	3"	3.02	4.42	4/8	5.27	65-170	----
64-171	----	4"	3.72	5.57	2/4	8.94	65-171	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

MALLEABLE FITTINGS

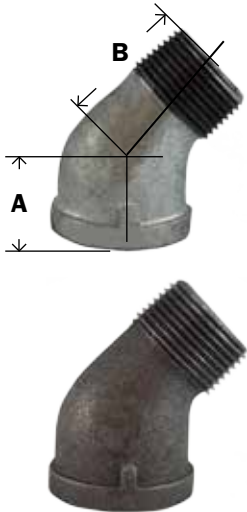
BLACK & GALVANIZED IRON #150

ELBOWS 45°



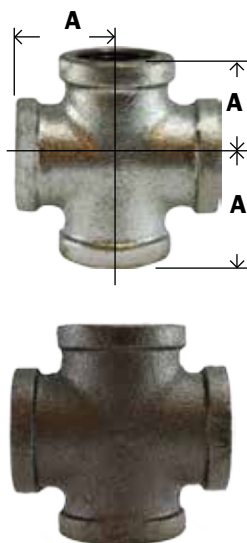
Part # Galvanized		Size	A	Box/ Case	Approx. Wt. Lbs.	Part # Black	
64-180	----	1/8"	0.63	50/600	.07	65-180	----
64-181	----	1/4"	0.73	30/360	.10	65-181	----
64-182	----	3/8"	0.80	75/300	.14	65-182	----
64-183	----	1/2"	0.88	50/200	.21	65-183	----
64-184	----	3/4"	0.98	40/120	.33	65-184	----
64-185	----	1"	1.12	20/60	.50	65-185	----
64-186	----	1-1/4"	1.29	20/40	.74	65-186	----
64-187	----	1-1/2"	1.43	10/30	1.01	65-187	----
64-188	----	2"	1.68	12/24	1.53	65-188	----
64-189	----	2-1/2"	1.95	9/18	2.78	65-189	----
64-190	----	3"	2.17	1/10	4.49	65-190	----
64-191	----	4"	2.61	2/4	7.44	65-191	----
64-192	----	6"	3.46	1/1	18.63	65-192	----
		8"			26.40	65-194	----

45° STREET ELBOWS



Part # Galvanized		Size	A	B	Box/ Case	Approx. Wt. Lbs.	Part # Black	
64-200	----	1/8"	0.63	0.83	70/840	.05	65-200	----
64-201	----	1/4"	0.73	0.94	40/480	.09	65-201	----
64-202	----	3/8"	0.80	1.03	100/400	.14	65-202	----
64-203	----	1/2"	0.86	1.30	75/225	.19	65-203	----
64-204	----	3/4"	0.96	1.48	40/120	.28	65-204	----
64-205	----	1"	1.10	1.69	25/75	.48	65-205	----
64-206	----	1-1/4"	1.26	1.87	10/40	.71	65-206	----
64-207	----	1-1/2"	1.40	2.05	10/30	1.02	65-207	----
64-208	----	2"	1.65	2.38	12/24	1.68	65-208	----
64-209	----	2-1/2"	1.95	2.72	6/12	2.69	65-209	----
64-210	----	3"	2.17	3.16	3/6	4.61	65-210	----
64-211	----	4"	2.61	3.90	2/4	7.74	65-211	----

CROSSES



Part # Galvanized		Size	A	Box/ Case	Approx. Wt. Lbs.	Part # Black	
64-390	----	1/8"	0.65	50/600	.14	65-390	----
64-391	----	1/4"	0.80	60/240	.17	65-391	----
64-392	----	3/8"	0.95	50/150	.26	65-392	----
64-393	----	1/2"	1.12	30/90	.42	65-393	----
64-394	----	3/4"	1.31	20/60	.64	65-394	----
64-395	----	1"	1.50	15/30	.98	65-395	----
64-396	----	1-1/4"	1.75	10/20	1.45	65-396	----
64-397	----	1-1/2"	1.94	8/16	1.90	65-397	----
64-398	----	2"	2.25	5/10	2.96	65-398	----
64-399	----	2-1/2"	2.71	4/8	5.49	65-399	----
64-400	----	3"	3.06	2/4	7.71	65-400	----
		4"		1/1	14.77	65-401	----

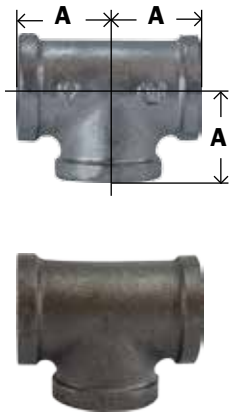
WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov



BLACK & GALVANIZED IRON #150

MALLEABLE FITTINGS

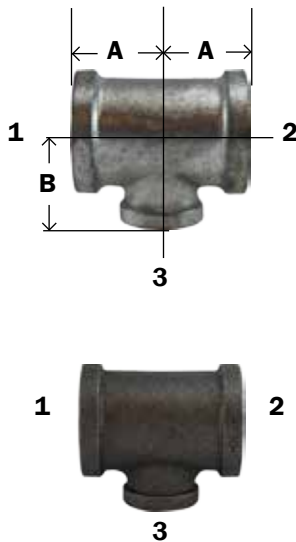
TEES



Part # Galvanized		Size	A	Box/Case	Approx. Wt. Lbs.	Part # Black	
64-250	----	1/8"	0.69	120/480	.11	65-250	----
64-251	----	1/4"	0.81	75/300	.15	65-251	----
64-252	----	3/8"	0.95	45/180	.22	65-252	----
64-253	----	1/2"	1.12	40/120	.36	65-253	----
64-254	----	3/4"	1.31	35/70	.48	65-254	----
64-255	----	1"	1.50	20/40	.83	65-255	----
64-256	----	1-1/4"	1.75	14/28	1.29	65-256	----
64-257	----	1-1/2"	1.94	12/24	1.66	65-257	----
64-258	----	2"	2.26	8/16	2.50	65-258	----
64-259	----	2-1/2"	2.70	4/8	4.45	65-259	----
64-260	----	3"	3.08	1/6	6.72	65-260	----
64-261	----	4"	3.79	1/2	11.31	65-261	----
64-262	----	6"	5.13	1/1	30.75	65-262	----
		8"			37.85	65-264	----

REDUCING TEES

(SAME SIZE ON RUN, REDUCING ON BRANCH)



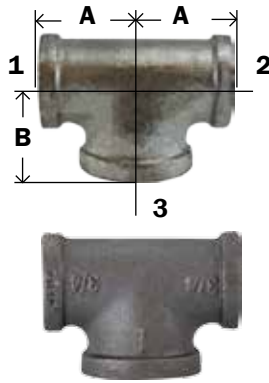
Part # Galvanized		Size (1&2) x 3	A	B	Box/ Case	Approx. Wt. Lbs.	Part # Black	
64-273	----	3/8" x 1/4"	0.81	0.90	25/300	.18	65-273	----
64-276	----	1/2" x 1/4"	0.97	0.98	40/160	.24	65-276	----
64-279	----	1/2" x 3/8"	1.04	1.03	40/160	.35	65-279	----
64-282	----	3/4" x 1/4"	1.05	1.08	25/100	.43	65-282	----
64-283	----	3/4" x 3/8"	1.12	1.13	25/100	.39	65-283	----
64-286	----	3/4" x 1/2"	1.20	1.18	20/80	.49	65-286	----
64-268	----	1" x 1/4"	1.11	1.22	20/80	.51	65-268	----
64-269	----	1" x 3/8"	1.18	1.27	15/60	.55	65-269	----
64-291	----	1" x 1/2"	1.26	1.40	15/60	.63	65-291	----
64-298	----	1" x 3/4"	1.37	1.45	12/48	.71	65-298	----
64-301	----	1-1/4" x 1/2"	1.34	1.45	20/40	.91	65-301	----
64-303	----	1-1/4" x 3/4"	1.45	1.62	20/40	.99	65-303	----
64-306	----	1-1/4" x 1"	1.58	1.66	20/40	1.07	65-306	----
64-721		1-1/2" x 1/2"				1.12	65-721	----
64-316	----	1-1/2" x 3/4"	1.41	1.75	15/30	1.23	65-316	----
64-318	----	1-1/2" x 1"	1.65	1.88	10/30	1.33	65-318	----
64-322	----	1-1/2" x 1-1/4"	1.65	1.88	12/24	1.52	65-322	----
64-327	----	2" x 1/2"	1.49	1.88	10/20	1.64	65-327	----
64-328	----	2" x 3/4"	1.60	1.97	10/20	1.71	65-328	----
64-330	----	2" x 1"	1.73	2.02	10/20	1.88	65-330	----
64-334	----	2" x 1-1/4"	1.86	2.06	8/16	2.03	65-334	----
64-336	----	2" x 1-1/2"	1.98	2.12	8/16	2.22	65-336	----
		2-1/2" x 1"				2.85	65-342	----
64-343	----	2-1/2" x 1-1/2"	2.16	2.51	5/10	2.97	65-343	----
64-729	----	3" x 1"	2.00	2.00	3/6	4.15		
		3" x 1-1/2"				5.19	65-359	----
64-351	----	3" x 2"	2.52	2.89	3/6	5.35	65-351	----



Quick Disconnects - see pages 348-355

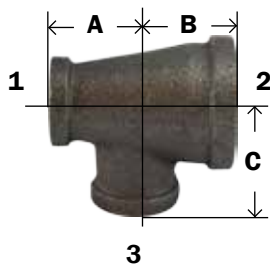
WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BULLHEAD TEES



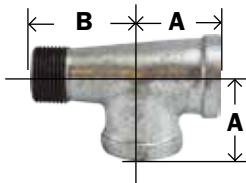
Part #		Size (1&2) x 3	A	B	Box/ Case	Approx. Wt. Lbs.	Part # Black
64-280	----	1/2" x 3/4"	1.22	1.20	30/120	.4	65-280
64-733	----	1/2" x 1"	1.36	1.26	25/100	.50	65-733
64-289	----	3/4" x 1"	1.45	1.37	20/120	.60	65-289
64-299	----	1" x 1-1/4"	1.67	1.58	15/30	.96	65-299
64-300	----	1" x 1-1/2"	1.80	1.65	9/36	1.11	65-300
64-317	----	1-1/4" x 1-1/2"	1.88	1.82	12/24	1.07	65-317
64-319	----	1-1/2" x 2"	2.12	1.98	8/32	2.10	65-319

**REDUCING TEES
REDUCING ON RUN**



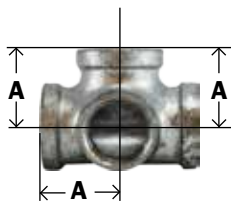
Part # Black	Size 1 x 2 x 3	A	B	C	Box/Case	Approx. Wt. Lbs.
65-287	3/4" x 1/2" x 1/2"	1.18	1.18	1.20	25/100	0.39
65-288	3/4" x 1/2" x 3/4"	1.28	1.20	1.28	20/80	0.49
65-292	1" x 1/2" x 1/2"	1.31	1.22	1.31	20/80	0.51
65-293	1" x 1/2" x 3/4"	1.22	1.37	1.45	20/80	0.53
65-294	1" x 1/2" x 1"	1.40	1.50	1.50	15/60	0.54
65-295	1" x 3/4" x 1/2"	1.20	1.26	1.40	20/80	0.58
65-296	1" x 3/4" x 3/4"	1.34	1.28	1.42	15/60	0.63
65-297	1" x 3/4" x 1"	1.45	1.50	1.50	15/60	0.62
65-347	1-1/4" x 3/4" x 3/4"	1.31	1.45	1.64	10/40	0.66
65-305	1-1/4" x 3/4" x 1-1/4"	1.62	1.75	1.75	10/40	1.14
65-309	1-1/4" x 1" x 1"	1.55	1.47	1.63	20/40	1.00
65-346	1-1/4" x 3/4" x 1/2"	1.31	1.45	1.64	20/40	1.05
65-349	1-1/4" x 1" x 1/2"	1.26	1.34	1.53	20/40	1.10
65-350	1-1/4" x 1" x 3/4"					
65-310	1-1/4" x 1" x 1-1/4"	1.30	1.36	1.44	15/30	1.21
65-372	1-1/2" x 1" x 1"	1.50	1.65	1.78	15/30	1.28
65-375	1-1/2" x 1-1/4" x 3/4"	1.43	1.52	1.25	15/30	1.30
65-377	1-1/2" x 1-1/4" x 1-1/4"	1.75	1.82	1.88	15/30	1.35
65-267	2" x 3/4" x 2"					
65-312	2" x 1-1/2" x 1-1/4"	1.82	1.90	2.10	10/30	1.21
65-313	2" x 1-1/2" x 1-1/2"	1.94	2.02	2.16	10/30	1.79

MALLEABLE SERVICE TEE (STREET TEE)



Part # Galvanized	Size	A	B	Box/ Case	Approx. Wt. Lbs.	Part # Black
64-363	1/2"	1.12	1.62	40/12	0.31	65-363
64-364	3/4"	1.31	1.89	25/75	0.49	65-364

SIDE OUTLET TEES



Part # Galvanized	Size	A	Box/ Case	Approx. Wt. Lbs.	Part # Black
64-383	1/2"	1.12	25/100	.39	65-383
64-384	3/4"	1.31	15/60	.58	65-384
64-385	1"	1.50	20/40	.88	65-385
64-386	1-1/4"	1.75	12/24	1.32	65-386
	1-1/2"	1.97	1/1	1.56	65-387
	2"	2.29	1/1	1.81	65-388

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov



BLACK & GALVANIZED IRON #150

MALLEABLE FITTINGS

COUPLINGS



Part # Galvanized		Size	A	Box/ Case	Approx. Wt. Lbs.	Part # Black	
64-410	----	1/8"	0.96	70/840	.07	65-410	----
64-411	----	1/4"	1.06	40/480	.09	65-411	----
64-412	----	3/8"	1.16	40/480	.13	65-412	----
64-413	----	1/2"	1.34	60/240	.19	65-413	----
64-414	----	3/4"	1.52	50/150	.28	65-414	----
64-415	----	1"	1.67	25/100	.45	65-415	----
64-416	----	1-1/4"	1.93	16/64	.66	65-416	----
64-417	----	1-1/2"	2.15	18/36	.84	65-417	----
64-418	----	2"	2.54	12/24	1.39	65-418	----
64-419	----	2-1/2"	2.88	8/16	2.42	65-419	----
64-420	----	3"	3.18	1/12	3.49	65-420	----
64-421	----	4"	3.69	3/6	5.81	65-421	----
64-422	----	6"	4.23	1/2	28.62	65-422	----

REDUCING COUPLINGS



Part # Galvanized		Size	A	Box/ Case	Approx. Wt. Lbs.	Part # Black	
64-430	----	1/4" x 1/8"	1.00	50/600	.07	65-430	----
64-431	----	3/8" x 1/8"	1.13	35/420	.09	65-431	----
64-432	----	3/8" x 1/4"	1.13	30/360	.11	65-432	----
64-433	----	1/2" x 1/8"	1.25	75/300	.13	65-433	----
64-434	----	1/2" x 1/4"	1.25	75/300	.11	65-434	----
64-435	----	1/2" x 3/8"	1.25	60/240	.15	65-435	----
64-439	----	3/4" x 1/8"	1.44	60/240	.18	65-439	----
64-436	----	3/4" x 1/4"	1.44	45/18	.19	65-436	----
64-437	----	3/4" x 3/8"	1.44	45/18	.21	65-437	----
64-438	----	3/4" x 1/2"	1.44	60/180	.25	65-438	----
64-459	----	1" x 1/4"	1.69	45/135	.34	65-459	----
64-440	----	1" x 3/8"	1.69	30/120	.35	65-440	----
64-441	----	1" x 1/2"	1.69	30/120	.36	65-441	----
64-442	----	1" x 3/4"	1.69	25/100	.39	65-442	----
64-460	----	1-1/4" x 3/8"	2.06	25/75	.55	65-460	----
64-444	----	1-1/4" x 1/2"	2.06	25/75	.53	65-444	----
64-445	----	1-1/4" x 3/4"	2.06	25/75	.57	65-445	----
64-446	----	1-1/4" x 1"	2.06	15/60	.61	65-446	----
64-443	----	1-1/2" x 3/8"	2.31	20/60	.71	65-443	----
64-447	----	1-1/2" x 1/2"	2.31	20/60	.69	65-447	----
64-448	----	1-1/2" x 3/4"	2.31	15/60	.71	65-448	----
64-449	----	1-1/2" x 1"	2.31	25/50	.78	65-449	----
64-450	----	1-1/2" x 1-1/4"	2.31	12/48	.87	65-450	----
64-458	----	2" x 1/2"	2.81	12/36	1.14	65-458	----
64-451	----	2" x 3/4"	2.81	12/36	1.14	65-451	----
64-452	----	2" x 1"	2.81	12/36	1.21	65-452	----
64-453	----	2" x 1-1/4"	2.81	9/27	1.19	65-453	----
64-454	----	2" x 1-1/2"	2.81	9/27	1.38	65-454	----
64-461	----	2-1/2" x 1-1/2"	3.25	20/40	2.07	65-461	----
64-462	----	2-1/2" x 2"	3.25	7/14	2.23	65-462	----
64-486	----	3" x 1-1/2"	3.69	6/12	3.23	65-486	----
64-456	----	3" x 2"	3.69	6/12	3.30	65-456	----
64-463	----	3" x 2-1/2"	3.69	5/10	3.55	65-463	----
64-464	----	4" x 2"	4.38	3/6	5.55	65-464	----
64-465	----	4" x 2-1/2"	4.38	3/6	5.90	65-465	----
64-457	----	4" x 3"	4.38	3/6	6.05	65-457	----
		6" x 4"	4.24	1/2	10.86	65-491	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

MALLEABLE FITTINGS

BLACK & GALVANIZED IRON #150

HEX BUSHING



* INSIDE HEX

Part # Galvanized		Size M x F	A	Hex	Box/ Case	Approx. Wt. Lbs.	Part # Black	
64-500	----	*1/4" x 1/8"	0.79	0.67	1/25	.03	65-500	----
64-501	----	*3/8" x 1/8"	0.79	0.75	1/25	.06	65-501	----
64-502	----	*3/8" x 1/4"	0.79	0.75	1/25	.05	65-502	----
64-503	----	1/2" x 1/8"	0.84	1.03	150/600	.09	65-503	----
64-504	----	1/2" x 1/4"				.08	65-504	----
64-505	----	1/2" x 3/8"	0.75	1.03	150/600	.07	65-505	----
64-506	----	3/4" x 1/8"	0.85	1.15	75/300	.14	65-506	----
64-507	----	3/4" x 1/4"	0.85	1.15	75/300	.13	65-507	----
64-508	----	3/4" x 3/8"	0.85	1.15	75/300	.12	65-508	----
64-509	----	3/4" x 1/2"	0.93	1.15	75/300	.10	65-509	----
64-510*	----	1" x 1/4"	1.13	1.12	50/200	.20	65-510*	----
64-511*	----	1" x 3/8"	1.13	1.12	50/200	.18	65-511*	----
64-512	----	1" x 1/2"	1.10	1.42	50/200	.21	65-512	----
64-513	----	1" x 3/4"	1.10	1.42	50/200	.17	65-513	----
64-514*	----	1-1/4" x 1/4"	1.24	1.12	30/120	.29	65-514*	----
64-515*	----	1-1/4" x 3/8"	1.24	1.12	30/120	.29	65-515*	----
64-516*	----	1-1/4" x 1/2"	1.24	1.24	30/120	.31	65-516*	----
64-517	----	1-1/4" x 3/4"	1.08	1.76	30/120	.35	65-517	----
64-518	----	1-1/4" x 1"	1.08	1.76	30/120	.29	65-518	----
64-519*	----	1-1/2" x 1/4"	1.30	1.12	25/75	.40	65-519*	----
64-520*	----	1-1/2" x 3/8"	1.30	1.12	25/75	.38	65-520*	----
64-521*	----	1-1/2" x 1/2"	1.30	1.34	25/75	.38	65-521*	----
64-522*	----	1-1/2" x 3/4"	1.30	1.44	25/75	.40	65-522*	----
64-523	----	1-1/2" x 1"	1.23	2.00	25/75	.45	65-523	----
64-524	----	1-1/2" x 1-1/4"	1.23	2.00	25/75	.34	65-524	----
64-526	----	2" x 1/4"	1.29	1.12	20/60	.57	65-526	----
64-525*	----	2" x 3/8"	1.28	1.12	20/60	.57	65-525*	----
64-527*	----	2" x 1/2"	1.39	1.34	20/60	.57	65-527*	----
64-528*	----	2" x 3/4"	1.39	1.63	20/60	.63	65-528*	----
64-529*	----	2" x 1"	1.39	1.77	20/60	.66	65-529*	----
64-530	----	2" x 1-1/4"	1.50	2.48	20/60	.74	65-530	----
64-531	----	2" x 1-1/2"	1.50	2.48	20/60	.61	65-531	----
64-546*	----	2-1/2" x 1/2"	1.51	1.34	15/30	.97	65-546*	----
64-547*	----	2-1/2" x 3/4"	1.51	1.63	15/30	.91	65-547*	----
64-532*	----	2-1/2" x 1"	1.51	1.95	15/30	.97	65-532*	----
64-533*	----	2-1/2" x 1-1/4"	1.51	2.39	15/30	1.03	65-533*	----
64-534	----	2-1/2" x 1-1/2"	1.51	2.98	15/30	1.16	65-534	----
64-535	----	2-1/2" x 2"	1.54	2.98	15/30	1.01	65-535	----
64-550	----	3" x 1"	1.61	1.95	12/24	1.41	65-550	----
64-549*	----	3" x 1-1/4"	1.61	2.39	12/24	1.42	65-549*	----
64-537*	----	3" x 1-1/2"	1.61	2.68	12/24	1.51	65-537*	----
64-538	----	3" x 2"	1.61	3.86	12/24	1.71	65-538	----
64-539	----	3" x 2-1/2"	1.61	3.86	12/24	1.68	65-539	----
		3-1/2" x 3"	1.86	4.20	5/10	2.17	65-555	----
64-551	----	4" x 3/4"	2.15	4.90	5/10	3.88	65-551	----
64-553*	----	4" x 1"	2.00	4.75	5/10	3.79	65-553*	----
64-552	----	4" x 1-1/4"	1.82	2.39	5/10	2.39	65-552	----
64-540	----	4" x 1-1/2"	1.82	2.68	5/10	2.39	65-540	----
64-541*	----	4" x 2"	1.82	3.31	5/10	2.52	65-541*	----
64-542*	----	4" x 2-1/2"	2.06	3.87	5/10	2.87	65-542*	----
64-543	----	4" x 3"	2.17	4.96	5/10	2.95	65-543	----
		5" x 4"	2.16	5.34	2/4	6.80	65-544	----
64-545*	----	6" x 4"	2.33	5.79	2/4	7.11	65-545*	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov



BLACK & GALVANIZED IRON #150

MALLEABLE FITTINGS

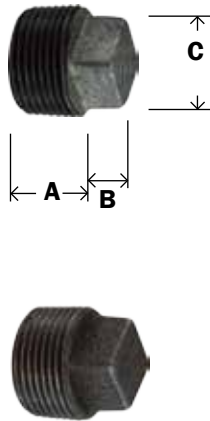
UNIONS



• Brass Seat

Part # Galvanized		Size	A	Box/ Case	Approx. Wt. Lbs.	Part # Black	
64-600	----	1/8"	1.26	60/240	.17	65-600	----
64-601	----	1/4"	1.44	20/240	.25	65-601	----
64-602	----	3/8"	1.61	40/160	.37	65-602	----
64-603	----	1/2"	1.72	50/100	.52	65-603	----
64-604	----	3/4"	1.94	35/70	.78	65-604	----
64-605	----	1"	2.06	20/40	1.18	65-605	----
64-606	----	1-1/4"	2.26	15/30	1.64	65-606	----
64-607	----	1-1/2"	2.41	10/20	2.08	65-607	----
64-608	----	2"	2.75	6/12	3.24	65-608	----
64-609	----	2-1/2"	3.22	4/8	5.31	65-609	----
64-610	----	3"	3.50	4/8	6.94	65-610	----
64-611	----	4"	3.85	2/4	12.02	65-611	----

SQUARE HEAD PLUGS • Cored



Part # Galvanized		Size	A	B	C	Box/ Case	Approx. Wt. Lbs.	Part # Black	
		*1/8"	0.41	0.23	0.30	1/25	.02	65-650	----
64-651	----	*1/4"	0.48	0.28	0.38	1/25	.03	65-651	----
64-652	----	*3/8"	0.53	0.31	0.43	1/25	.04	65-652	----
64-653	----	1/2"	0.58	0.38	0.56	50/600	.08	65-653	----
64-654	----	3/4"	0.65	0.44	0.63	30/360	.13	65-654	----
64-655	----	1"	0.75	0.50	0.82	20/240	.22	65-655	----
64-656	----	1-1/4"	0.82	0.56	0.94	40/120	.33	65-656	----
64-657	----	1-1/2"	0.85	0.62	1.13	30/90	.41	65-657	----
64-658	----	2"	0.91	0.68	1.31	20/60	.68	65-658	----
64-659	----	2-1/2"	1.26	0.74	1.50	16/64	.89	65-659	----
64-660	----	3"	1.16	0.80	1.69	16/32	1.68	65-660	----
64-661	----	4"	1.22	1.00	2.28	6/12	3.02	65-661	----
		6"	1.85	1.13	5.97	5/10	11.41	65-662	----
		8"				1/1		65-664	----

CAPS

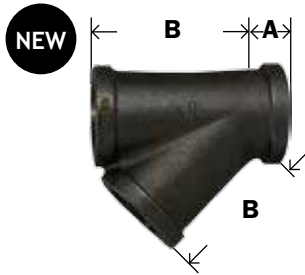


Part # Galvanized		Size	A	Box/ Case	Approx. Wt. Lbs.	Part # Black	
64-470	----	1/8"	0.55	1/25	.03	65-470	----
64-471	----	1/4"	0.62	80/960	.07	65-471	----
64-472	----	3/8"	0.74	60/720	.08	65-472	----
64-473	----	1/2"	0.87	75/300	.13	65-473	----
64-474	----	3/4"	0.97	40/160	.18	65-474	----
64-475	----	1"	1.16	25/100	.30	65-475	----
64-476	----	1-1/4"	1.28	20/80	.47	65-476	----
64-477	----	1-1/2"	1.33	18/54	.66	65-477	----
64-478	----	2"	1.45	12/36	.99	65-478	----
64-479	----	2-1/2"	1.70	20/40	1.58	65-479	----
64-480	----	3"	1.80	12/24	2.51	65-480	----
64-481	----	4"	2.08	6/12	4.09	65-481	----
64-482	----	6"	2.55	2/4	5.18	65-482	----

* Use steel fittings for smaller sizes. See page 279-280 for Galvanized and Black Steel Fittings.

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

LATERAL Ys



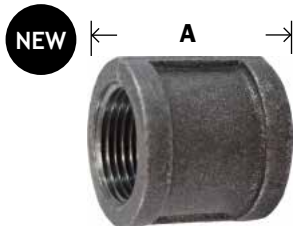
Part #	Size	A	B	Case	Weight	
65-963	1/2	2.32	1.71	120	.35	----
65-964	3/4	2.77	2.05	60	.58	----
65-965	1	3.28	2.42	40	.97	----
65-966	1-1/4	3.94	2.92	24	1.44	----
65-967	1-1/2	4.38	3.28	16	1.93	----
65-968	2	5.41	3.98	8	3.12	----
65-969	2-1/2	6.25	4.73	4	5.61	----
65-970	3	7.26	5.55	2	8.36	----
65-971	4	8.98	6.97	2	14.88	----

LOCKNUTS



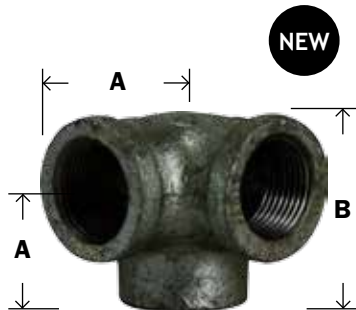
Part # Galv	Size	A Hex	Thickness	Box/Case	Weight	Part # Black	
64-703	1/2		0.31	150/600	0.08	65-703	----
64-704	3/4		0.34	90/360	0.13	65-704	----
64-705	1		0.38	60/240	0.19	65-705	----
64-706	1-1/4		0.42	45/180	0.27	65-706	----
64-707	1-1/2		0.47	45/135	0.47	65-707	----
64-708	2		0.53	25/75	0.56	65-708	----

RIGHT & LEFT COUPLINGS



Part # Galv	Size	A	Case	Weight	Part # Black	
64-573	1/2	1.34	240	0.19	65-573	----
64-574	3/4	1.52	150	0.28	65-574	----
64-575	1	1.67	100	0.45	65-575	----
64-576	1-1/4	1.93	64	0.66	65-576	----
64-577	1-1/2	2.15	36	0.84	65-577	----
64-578	2	2.53	24	1.39	65-578	----

SIDE OUTLET ELBOW



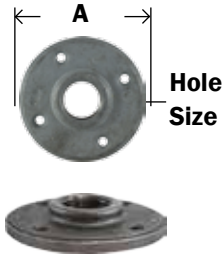
Part # Galv	Size	A	B	Case	Part # Black	
64-583	1/2	1.10		135	65-583	----
64-584	3/4	1.30		80	65-584	----
64-585	1	1.50		40	65-585	----
64-586	1-1/4	1.77		30	65-586	----
64-587	1-1/2	1.97		24	65-587	----
64-588	2	2.29		10	65-588	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BLACK & GALVANIZED IRON #150

MALLEABLE FITTINGS

FLOOR FLANGES



Part # Galvanized	Size	A	Thickness	Hole Size	Box/ Case	Approx. Wt. Lbs.	Part # Black
64-692	1/2"	3.50	0.50	0.25	25/100	.63	65-692
64-693	3/4"	3.50	0.63	0.25	15/45	.73	65-693
64-694	1"	4.00	0.69	0.25	15/45	1.02	65-694
64-695	1-1/4"	4.00	0.75	0.25	15/30	1.00	65-695
64-696	1-1/2"	4.50	0.87	0.31	8/24	1.37	65-696
64-697	2"	5.50	1.00	0.31	8/16	2.11	65-697

EXTENSION FIP X MIP



Part #	Size	Approx. WT. Lbs.	Box/Case
65-621	1/2"	0.12	75 / 300
65-622	3/4"	0.23	40 / 160
65-623	1"	0.32	30 / 90

MUSHROOM VENT CAP

Cast Iron Galvanized Threaded Cap. 30 Mesh screen. Protects against driving rain, snow, sleet and insects.



Part #	Size
21-174	3/4"
21-175	1"
21-176	1-1/2"
21-177	1-1/2"
21-178	2"
21-179	3"
21-180	4"


WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

STEEL FITTINGS

BLACK & GALVANIZED

This will certify that the material was manufactured in accordance with ASME B16.14 - 1991 Standards. All Threads are Dryseal (NPTF) - 3/4 inch taper per foot and are made of Carbon Steel 12L14. Pressure rating: 150/300 PSI

- Clear Zinc plating specifications ASTM B633-07
- Federal Specification QQ-Z-325 (Zinc Plate)
- Type III with supplemental clear Trivalent chromate
- .00015" Zinc (Minimum)
- ROHS Compliant
- Lead Free

HEX BUSHINGS



Part # Zinc		Size M x F	A	Hex	Approx. Wt. Lbs.	Part # Black	
66-500	----	1/4" x 1/8"	0.63	0.62	0.02	67-500	----
66-501	----	3/8" x 1/8"	0.66	0.68	0.04	67-501	----
66-502	----	3/8" x 1/4"	0.66	0.68	0.02	67-502	----
66-503	----	1/2" x 1/8"	0.80	0.87	0.10	67-503	----
66-504	----	1/2" x 1/4"	0.80	0.87	0.08	67-504	----
66-505	----	1/2" x 3/8"	0.80	0.87	0.06	67-505	----
66-506	----	3/4" x 1/8"	0.94	1.06	0.18	67-506	----
66-507	----	3/4" x 1/4"	0.94	1.06	0.14	67-507	----
66-508	----	3/4" x 3/8"	0.94	1.06	0.14	67-508	----
66-509	----	3/4" x 1/2"	0.94	1.06	0.10	67-509	----
66-510	----	1" x 1/4"	1.00	1.31	0.16	67-510	----
66-511	----	1" x 3/8"	1.00	1.31	0.26	67-511	----
66-512	----	1" x 1/2"	1.00	1.31	0.22	67-512	----
66-513	----	1" x 3/4"	1.00	1.31	0.14	67-513	----
		1-1/4" x 1/8"	1.08	1.31	0.16	67-514	----

FACE BUSHING



Part # Zinc		Size M x F	A	Approx. Wt. Lbs.	Part # Black	
66-700	----	1/4" x 1/8"	0.44	0.01	67-700	----
66-701	----	3/8" x 1/8"	0.48	0.02	67-701	----
66-702	----	3/8" x 1/4"	0.48	0.02	67-702	----
		1/2" x 1/8"	0.56	0.04	67-703	----
66-704	----	1/2" x 1/4"	0.56	0.04	67-704	----
66-705	----	1/2" x 3/8"	0.56	0.04	67-705	----
		3/4" x 1/4"	0.62	0.12	67-707	----
66-708	----	3/4" x 3/8"	0.62	0.10	67-708	----
66-709	----	3/4" x 1/2"	0.62	0.10	67-709	----
		1" x 3/8"	0.75	0.18	67-711	----
66-712	----	1" x 1/2"	0.75	0.16	67-712	----
66-713	----	1" x 3/4"	0.75	0.16	67-713	----

CAPS



Part # Zinc		Size NPTF	A	Hex	Approx. Wt. Lbs.	Part # Black	
66-470	----	1/8"	0.53	0.56	0.02	67-470	----
66-471	----	1/4"	0.63	0.62	0.04	67-471	----
66-472	----	3/8"	0.69	0.81	0.06	67-472	----
66-473	----	1/2"	0.87	1.00	0.12	67-473	----
66-474	----	3/4"	0.97	1.18	0.16	67-474	----
66-475	----	1"	1.16	1.50	0.30	67-475	----
66-476	----	1-1/4"	1.28	2.00	0.68	67-476	----
66-477	----	1-1/2"	1.35	2.25	0.83	67-477	----
66-478	----	2"	1.45	2.625	1.36		

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

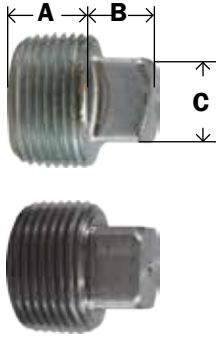
BLACK & GALVANIZED

STEEL FITTINGS

This will certify that the plugs are dimensional per SAE J531 MAY 95 Standards. All threads are Dryseal (NPTF) - 3/4" Taper per foot and are made of SAE J403 Low Carbon Steel 1010 Cold headed.

SQUARE HEAD PLUGS

• Solid



Part # Zinc		Size NPTF	A	B	C	Approx. Wt. Lbs.	Part # Black	
		1/16"	0.33	0.18	0.22	0.01	67-669	----
66-670	----	1/8"	0.33	0.24	0.28	0.01	67-670	----
66-671	----	1/4"	0.45	0.28	0.37	0.02	67-671	----
66-672	----	3/8"	0.50	0.31	0.43	0.04	67-672	----
66-653	----	1/2"	0.59	0.38	0.55	0.12	67-653	----
66-654	----	3/4"	0.63	0.44	0.62	0.18	67-654	----
66-655	----	1"	0.75	0.5	0.81	0.34	67-655	----
66-656	----	1-1/4"	0.80	0.56	0.93	0.62	67-656	----
66-657	----	1-1/2"	0.83	0.62	1.12	0.82	67-657	----
66-658	----	2"	0.88	0.68	1.31	1.36	67-658	----

HEX HEAD PLUGS

• Solid



Part # Zinc		Size NPTF	A	Hex	Approx. Wt. Lbs.	Part # Black	
66-770	----	1/8"	0.55	0.43	0.01	67-770	----
66-771	----	1/4"	0.74	0.56	0.04	67-771	----
66-772	----	3/8"	0.67	0.68	0.06	67-772	----
66-773	----	1/2"	0.80	0.70	0.12	67-773	----
66-774	----	3/4"	0.94	1.06	0.18	67-774	----
66-775	----	1"	1.00	1.31	0.22	67-775	----
66-776	----	1-1/4"	1.17	1.75	0.7	67-776	----
66-777	----	1-1/2"	1.51	2.00	1.2	67-777	----
66-778	----	2"	1.65	2.50	2.06	67-778	----

COUNTERSUNK PLUG - Square Socket



Part # Zinc		Size NPTF	A	Socket Size	Approx. Wt. Lbs.	Part # Black	
66-630	----	1/8"	0.29	0.19	0.01	67-630	----
66-631	----	1/4"	0.45	0.25	0.02	67-631	----
66-632	----	3/8"	0.45	0.31	0.04	67-632	----
66-633	----	1/2"	0.59	0.38	0.08	67-633	----
66-634	----	3/4"	0.60	0.50	0.12	67-634	----
66-635	----	1"	0.75	0.50	0.16	67-635	----
66-636	----	1-1/4"	0.80	0.75	0.32	67-636	----
66-637	----	1-1/2"	0.83	0.75	0.45	67-637	----
66-638	----	2"	0.88	0.875	2.06	67-638	----

COUNTERSUNK PLUG - Hex Socket



Part # Zinc		Size NPTF	A	Socket Size	Approx. Wt. Lbs.	Part # Black	
66-760	----	1/16"	0.29	0.15	0.01	67-760	----
66-761	----	1/8"	0.29	0.18	0.01	67-761	----
66-762	----	1/4"	0.44	0.25	0.02	67-762	----
66-763	----	3/8"	0.44	0.31	0.04	67-763	----
66-764	----	1/2"	0.59	0.37	0.08	67-764	----
66-765	----	3/4"	0.60	0.56	0.14	67-765	----
66-766	----	1"	0.75	0.625	0.22	67-766	----
66-767	----	1-1/4"	0.80	0.75	0.37	67-767	----
66-768	----	1-1/2"	0.83	1.0	0.45	67-768	----
66-769	----	2"	0.88	1.0	0.86	67-769	----

• Slotted and Flush plugs available upon request

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

MALLEABLE FITTINGS**BLACK EXTRA HEAVY 300# IRON****90° ELBOW**

Part #	Size	
69-101	1/4"	----
69-102	3/8"	----
69-103	1/2"	----
69-104	3/4"	----
69-105	1"	----
69-106	1-1/4"	----
69-107	1-1/2"	----
69-108	2"	----

45° ELBOW

Part #	Size	
69-181	1/4"	----
69-182	3/8"	----
69-183	1/2"	----
69-184	3/4"	----
69-185	1"	----
69-186	1-1/4"	----
69-187	1-1/2"	----
69-188	2"	----

90° STREET ELBOW

Part #	Size	
69-161	1/4"	----
69-162	3/8"	----
69-163	1/2"	----
69-164	3/4"	----
69-165	1"	----
69-166	1-1/4"	----
69-167	1-1/2"	----
69-168	2"	----

TEE

Part #	Size	
69-252	3/8"	----
69-253	1/2"	----
69-254	3/4"	----
69-255	1"	----
69-256	1-1/4"	----
69-257	1-1/2"	----
69-258	2"	----

COUPLING

Part #	Size	
69-411	1/4"	----
69-412	3/8"	----
69-413	1/2"	----
69-414	3/4"	----
69-415	1"	----
69-416	1-1/4"	----
69-417	1-1/2"	----
69-418	2"	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov



BLACK EXTRA 300# IRON

MALLEABLE FITTINGS

REDUCING COUPLING



Part #	Size	
69-432	3/8 x 1/4"	----
69-434	1/2 x 1/4"	----
69-435	1/2 x 3/8"	----
69-438	3/4 x 1/2"	----
69-441	1 x 1/2"	----
69-442	1 x 3/4"	----

CAP



Part #	Size	
69-471	1/4"	----
69-472	3/8"	----
69-473	1/2"	----
69-474	3/4"	----
69-475	1"	----
69-476	1-1/4"	----
69-477	1-1/2"	----
69-478	2"	----

UNION

• Brass Seat



Part #	Size	
69-600	1/8"	----
69-601	1/4"	----
69-602	3/8"	----
69-603	1/2"	----
69-604	3/4"	----
69-605	1"	----
69-606	1-1/4"	----
69-607	1-1/2"	----
69-608	2"	----

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:

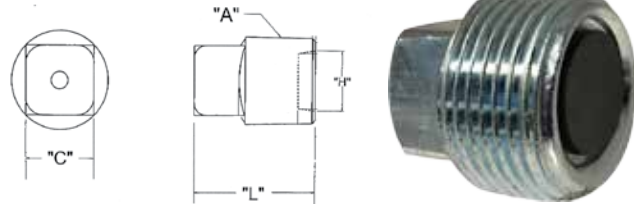
- The constant flaking effect of normal wear of moving parts.
- Particles not removed by flushing operations after boring or machining.
- Chipping due to sub-surface casting flaws.
- Minute component breakdown caused by stress usage.

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:

- Outboard 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"	
28-996	3/8 - 18	.428 - .440	.435 - .445	.805 - .860	----
28-997	1/2 - 14	.553 - .565	.560 - .570	.970 - 1.04	----
28-998	3/4 - 14	.615 - .627	.725 - .735	1.120 - 1.170	----
28-999	1-11 1/2	.803 - 815	.895 - .905	1.25 - 1.33	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

BULL PLUGS

BULL PLUGS & SWAGES

STANDARD BULL PLUG

- Sch 40 150#
- Zinc plated



Part #	Description	
91-008	2"	----
91-007	2" w/ 1/2" TAP	----
91-009	2-1/2"	----
91-010	3"	----
91-011	4"	----

XH BULL PLUG

- Made from sch. 80 pipe.
- Zinc plated
- Hollow



Part #	Description	
90-001	1/4"	----
90-002	3/8"	----
90-003	1/2"	----
90-004	3/4"	----
90-005	1"	----
90-006	1-1/4"	----
90-007	1-1/2"	----
90-008	2"	----
93-001*	2"	----
90-213	2" w/ 1/4" TAP	----
90-212	2" w/ 1/2" TAP	----
93-212*	2"XXH w/1/2" TAP	----
90-009	2-1/2"	----
90-010	3"	----
90-215	3" w/ 1/2" TAP	----
90-011	4"	----

* XXH

STANDARD SCH. 40 SWAGE

MIP X MIP

- Zinc plated



Part #	Description	
93-113	1-1/4" x 1"	----
93-121	2" x 1"	----
93-122	2" x 1-1/4"	----
93-123	2" x 1-1/2"	----
93-124	2-1/2" x 2"	----
93-125	3" x 1"	----
93-127	3" x 1-1/2"	----
93-128	3" x 2"	----
93-129	3" x 2-1/2"	----
93-130	4" x 2"	----
93-131	4" x 3"	----
93-139	6" x 3"	----

Pressure Ratings: Due to the wide variation in service conditions, temperature, vibrations, etc...We can make no recommendations as to allowable working pressure of swage nipples and bull plugs. There are a number of working pressure formulas from which the end user may choose to determine the required wall thickness of the piping system. It is our responsibility only to furnish a fitting with end dimensions equal to those of the pipe size and schedule ordered.

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

SWAGES

SWAGES

**SCH 80 XH SWAGES
MIP X MIP**



* Hex Style



XXH SWAGE



Part #	Description	
90-100*	1/4" x 1/8"	----
90-102*	1/2" x 1/4"	----
90-103*	1/2" x 3/8"	----
90-104*	3/8" x 1/4"	----
90-105*	3/4" x 1/4"	----
90-106*	3/4" x 3/8"	----
90-107*	3/4" x 1/2"	----
90-108*	1" x 1/4"	----
90-109*	1" x 3/8"	----
90-110*	1" x 1/2"	----
90-111*	1" x 3/4"	----
90-140	1-1/4" x 3/4"	----
90-141	1-1/4" x 1"	----
90-114	1-1/2" x 1/2"	----
90-115	1-1/2" x 3/4"	----
90-116	1-1/2" x 1"	----
90-117	1-1/2" x 1-1/4"	----
90-118	2" x 1/4"	----
90-119	2" x 1/2"	----
90-120	2" x 3/4"	----
90-121	2" x 1"	----
90-122	2" x 1-1/4"	----
90-123	2" x 1-1/2"	----
90-124	2-1/2" x 2"	----
90-125	3" x 1"	----
90-126	3" x 1-1/4"	----
90-127	3" x 1-1/2"	----
90-128	3" x 2"	----
90-129	3" x 2-1/2"	----
90-133	4" x 1"	----
90-130	4" x 2"	----
90-131	4" x 3"	----
90-132	6" x 4"	----
90-150	6" x 2"	----
90-152	6" x 3"	----

Part #	Description	
92-102*	1/2" x 1/4"	----
92-107*	3/4" x 1/2"	----
92-108*	1" x 1/4"	----
92-109*	1" x 3/8"	----
92-110*	1" x 1/2"	----
92-111*	1" x 3/4"	----
92-114	1-1/2" x 1/2"	----
92-115	1-1/2" x 3/4"	----
92-116	1-1/2" x 1"	----
92-119	2" x 1/2"	----
92-120	2" x 3/4"	----
92-121	2" x 1"	----
92-122	2" x 1-1/4"	----
92-123	2" x 1-1/2"	----
92-128	3" x 2"	----

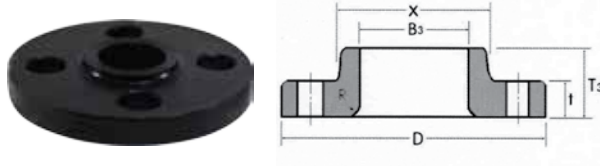
WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov



ASTMA105
ASME SA105
ANSI B16.5

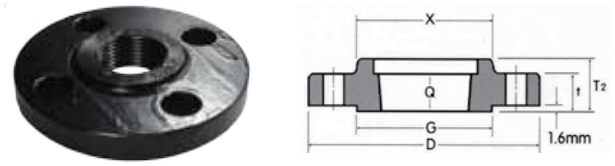
Forged Steel Flanges

• 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	
107-020	1/2"	----
107-021	3/4"	----
107-022	1"	----
107-023	1-1/4"	----
107-024	1-1/2"	----
107-025	2"	----
107-026	2-1/2"	----
107-027	3"	----
107-029	4"	----
107-031	6"	----
107-032	8"	----
107-033	10"	----
107-034	12"	----



THREADED 1/16" RAISED FACE FORGED STEEL FLANGE

Part #	Size	
107-060	1/2"	----
107-061	3/4"	----
107-062	1"	----
107-063	1-1/4"	----
107-064	1-1/2"	----
107-065	2"	----
107-066	2-1/2"	----
107-067	3"	----
107-069	4"	----
107-071	6"	----
107-072	8"	----
107-073	10"	----
107-074	12"	----

Nominal Pipe Size	Depth of Socket in.	DRILLING			Diameter of Bolts (inch)	BOLTING			APPROXIMATE WEIGHT		
		Bolt Circle Diameter	Number of Holes	Diameter of Holes		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

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

CLASS 150

FORGED STEEL FLANGES

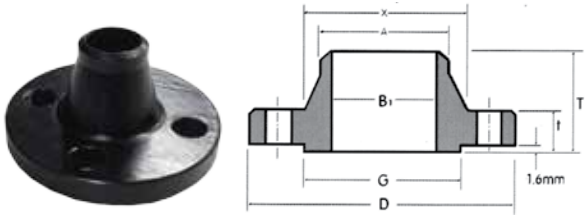
ASTMA105
ASME SA105
ANSI B16.5

Forged Steel Flanges

• A105 Forged Steel

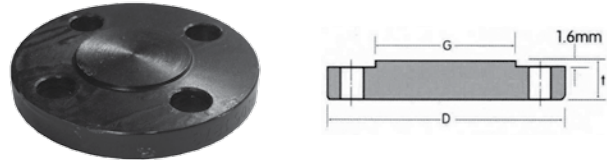
• CLASS 150

(1-1/2 thru 6" available in #316 Stainless Steel add SS to part#)



WELD NECK FORGED STEEL FLANGE

Part #	Size	
107-000	1/2"	----
107-001	3/4"	----
107-002	1"	----
107-003	1-1/4"	----
107-004	1-1/2"	----
107-005	2"	----
107-006	2-1/2"	----
107-007	3"	----
107-009	4"	----
107-011	6"	----
107-012	8"	----
107-013	10"	----
107-014	12"	----



BLIND 1/16" RAISED FACE FORGED STEEL FLANGE

Part #	Size	
107-040	1/2"	----
107-041	3/4"	----
107-042	1"	----
107-043	1-1/4"	----
107-044	1-1/2"	----
107-045	2"	----
107-046	2-1/2"	----
107-047	3"	----
107-049	4"	----
107-051	6"	----
107-052	8"	----
107-053	10"	----
107-054	12"	----

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	

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov



COPPER FITTINGS



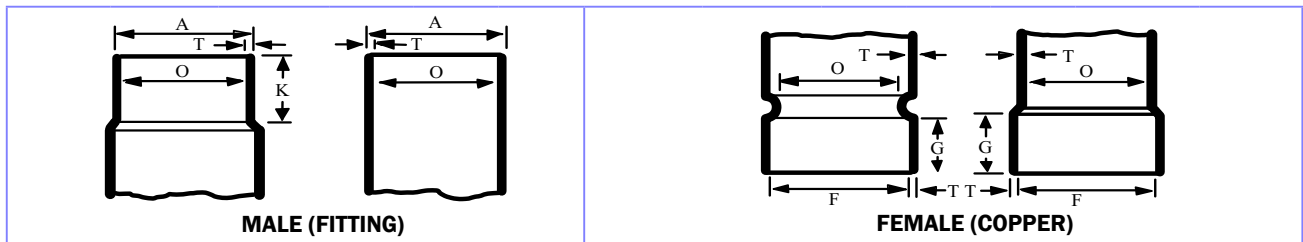
SYMBOL OF JOINT ENDS

- C** Solder joint fitting end made to receive copper tube diameter
- Ftg.** Solder joint fitting end made to copper tube diameter
- F** Internal ANSI Standard Taper Pipe Thread-Female
- M** External ANSI Standard Taper Pipe Thread-Male
Threaded ends ANSI/ ASME B1. Solder ends ASTM B88

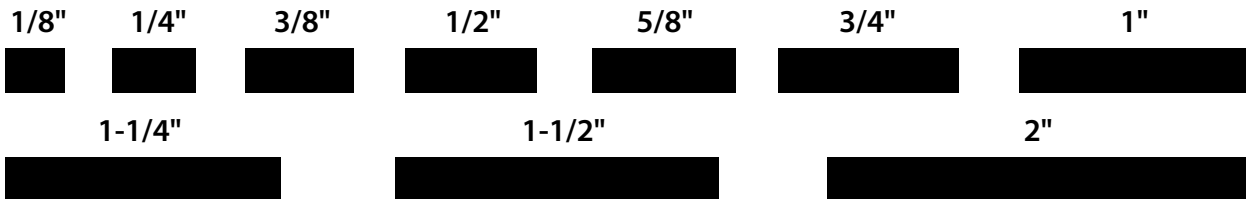
- Temp range 32° to 200°F
- Pressure @100° - 1/8-1 : 500 PSI
- 1-1/4-2 : 400 PSI
- 2-1/2 - 3: 300 PSI

**NSF - 61 CERTIFIED
ALLOY C12200**

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



Nominal Size	Joint Ends										Metal Thickness T (in)	Inside Diameter O (in)	
	Male End					Female End							
	Outside Diameter (A) in	Average Tolerance (mm)	Actual MIN in	O.D. MAX in	Length (Min) H (in)	Inside Diameter F (in)	Average Tolerance (mm)	Actual MIN in	O.D. MAX in	Length (Min) G (in)			
1/8	2/8	0.03	2/8	2/8	3/8	2/8	0.03	2/8	2/8	3/8	0	2/8	
1/4	3/8		3/8	3/8	3/8	3/8		3/8	3/8	3/8	3/8	0	2/8
3/8	4/8		4/8	4/8	3/8	4/8		4/8	4/8	4/8	3/8	0	3/8
1/2	5/8		5/8	5/8	4/8	5/8		5/8	5/8	5/8	3/8	0	4/8
5/8	6/8		6/8	6/8	5/8	6/8		6/8	6/8	6/8	5/8	0	4/8
3/4	7/8		7/8	7/8	6/8	7/8		7/8	7/8	7/8	5/8	0	5/8
1	1-1/8	0.04	1-1/8	1-1/8	7/8	1-1/8	0.04	1-1/8	1-1/8	7/8	0	7/8	
1-1/4	1-3/8		1-3/8	1-3/8	1	1-3/8		1-3/8	1-3/8	1	0	1-1/8	
1-1/2	1-5/8	0.05	1-5/8	1-5/8	1-1/8	1-5/8	0.05	1-5/8	1-5/8	1-1/8	0	1-3/8	
2	2-1/8		2-1/8	2-1/8	1-3/8	2-1/8		2-1/8	2-1/8	1-2/8	0	1-6/8	
2-1/2	2-5/8		2-5/8	2-5/8	1-4/8	2-5/8		2-5/8	2-5/8	1-4/8	1/8	2-1/8	
3	3-1/8		3-1/8	2-1/8	1-6/8	3-1/8		3-1/8	3-1/8	1-5/8	1/8	2-5/8	
4	4-1/8		4-1/8	4-1/8	2-1/8	4-1/8		4-1/8	4-1/8	2-1/8	1/8	3-4/8	



WROT SOLDER JOINT

COPPER FITTINGS

90° ELL C X C



Part#	Nominal (ID)	OD	Approx Net Wt.	Ind #	
77-100	1/8"	1/4"	0.01	W 02003	----
77-101	1/4"	3/8"	0.01	W 02009	----
77-102	3/8"	1/2"	0.03	W 02017	----
77-104	1/2"	5/8"	0.04	W 02022	----
77-107	5/8"	3/4"	0.07	W 02028	----
77-108	3/4"	7/8"	0.09	W 02034	----
77-110	1"	1-1/8"	0.17	W 02047	----
77-113	1-1/4"	1-3/8"	0.27	W 02077	----
77-114	1-1/2"	1-5/8"	0.41	W 02085	----
77-116	2"	2-1/8"	0.73	W 02086	----

WE-500-R 607-R 107-C

**90° STREET ELL
FTG. X C**



77-124	1/4"	3/8"	0.01	W 02312	----
77-125	3/8"	1/2"	0.03	W 02321	----
77-126	1/2"	5/8"	0.05	W 01652	----
77-127	5/8"	3/4"	0.07	W 02330	----
77-128	3/4"	7/8"	0.12	W 01654	----
77-129	1"	1-1/8"	0.22	W 02344	----
77-130	1-1/4"	1-3/8"	0.33	W 02384	----
77-131	1-1/2"	1-5/8"	0.45	W 02385	----
77-132	2"	2-1/8"	0.87	W 02386	----

**90° LONG TURN ELL
C X C**



77-139	1/8"	1/4"	0.01	W 02715	----
77-140	1/4"	3/8"	0.02	W 02716	----
77-141	5/16"		0.03		----
77-142	3/8"	1/2"	0.04	W 02717	----
77-143	1/2"	5/8"	0.06	W 02722	----
77-144	5/8"	3/4"	0.10	W 02728	----
77-145	3/4"	7/8"	0.15	W 02734	----

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	----
77-155	1/2"	5/8"	0.06	W 02822	----
77-156	5/8"	3/4"	0.11		----
77-157	3/4"	7/8"	0.15		----
77-158	1"	1-1/8"	0.33		----
77-159	1-1/4"	1-3/8"	0.46	W 02828	----
77-160	1-1/2"	1-5/8"	0.64	W 02834	----

WE-503-L 607-2LT

COPPER FITTINGS

WROT SOLDER JOINT

**45° ELL
C X C**



Part#	Nominal	Approx Net Wt.	Ind #	
77-161	1/8"	0.01	W 03005	----
77-162	1/4"	0.01	W 03012	----
77-163	3/8"	0.02	W 03021	----
77-164	1/2"	0.04	W 03026	----
77-165	5/8"	0.06	W 03030	----
77-166	3/4"	0.10	W 03034	----
77-167	1"	0.19	W 03044	----
77-168	1-1/4"	0.27	W 03050	----
77-169	1-1/2"	0.39	W 03055	----
77-170	2"	0.75	W 03059	----

WE-504 606 106

**STREET 45°
FTG. X C**



77-177	1/4"	0.01	W 03312	----
77-178	3/8"	0.02	W 03321	----
77-179	1/2"	0.06	W 03326	----
77-180	5/8"	0.06	W 03330	----
77-181	3/4"	0.10	W 03334	----
77-182	1"	0.18	W 03344	----
77-183	1-1/4"	0.27	W 03350	----
77-184	1-1/2"	0.38	W 03355	----
77-185	2"	0.75	W 03359	----

WE-505 606-2

**COUPLING (SOCKET)
W/ ROLLED UP TUBE
STOP C X C**



77-201	1/8"	0.01	W 01003	----
77-202	1/4"	0.01	W 01009	----
77-203	3/8"	0.02	W 01017	----
77-204	1/2"	0.03	W 01022	----
77-205	5/8"	0.04	W 01028	----
77-206	3/4"	0.06	W 01034	----
77-207	1"	0.10	W 01047	----
77-208	1-1/4"	0.15	W 01055	----
77-209	1-1/2"	0.22	W 01063	----
77-210	2"	0.39	W 01072	----

WC-400 100

**COUPLING (SOCKET)
LESS TUBE STOP
C X C**



77-219	1/8"	0.01	W 01900	----
77-220	1/4"	0.01	W 01901	----
77-222	1/2"	0.03	W 01903	----
77-223	3/4"	0.06	W 01905	----
77-224	1"	0.10	W 01906	----
77-225	1-1/4"	0.15	W 01907	----
77-226	1-1/2"	0.22	W 01908	----
77-227	2"	0.39	W 01909	----

WC-400NS 601



See page 169-171 for SWT x SWT LF Ball Valves

WROT SOLDER JOINT

COPPER FITTINGS

**COUPLING (SOCKET)
W/ DIMPLED TUBE
STOP C X C**



Part#	Nominal	Approx Net Wt.	Ind #	
77-238	1/2"	0.03		----
77-240	3/4"	0.06		----
77-241	1"	0.10		----
77-242	1-1/4"	0.15		----
77-244	2"	0.39		----

WC-400S

**REDUCER COUPLING
W/ STOP C X C**



77-252	1/4" x 1/8"	0.01	W 01011	----
77-254	3/8" x 1/8"			----
77-253	3/8" x 1/4"	0.02	W 01019	----
77-256	1/2" x 1/4"	0.03	W 01023	----
77-255	1/2" x 3/8"	0.03	W 01021	----
77-258	5/8" x 1/2"	0.04	W 01025	----
77-263	3/4" x 3/8"	0.06	W 01036	----
77-262	3/4" x 1/2"	0.06	W 01029	----
77-267	1"x1/2"	0.10	W 01049	----
77-265	1"x3/4"	0.12	W 01038	----
77-270	1 -1/4" x 1/2"	0.14	W 01058	----
77-269	1 -1/4" x 3/4"	0.17	W 01056	----
77-268	1-1/4" x 1"	0.17	W 01051	----
77-273	1 -1/2" x 3/4"	0.25	W 01065	----
77-272	1-1/2" x 1"	0.24	W 01064	----
77-271	1-1/2" x 1-1/4"	0.24	W 01060	----
77-277	2" x 1"	0.48	W 01074	----
77-276	2 x 1-1/4"	0.46	W 01073	----
77-275	2" x 1-1/2"	0.42	W 01069	----
77-280	2-1/2"x2"	0.79	W 01075	----

WC-400R 600-R

**FITTING REDUCER
FTG. C X C**



77-292	3/8" x 1/8"	0.01	W 01314	----
77-291	3/8" x 1/4"	0.02	W 01312	----
77-294	1/2" x 1/4"	0.03	W 01317	----
77-293	1/2" x 3/8"	0.03	W01315	----
77-295	5/8" X 1/2"	0.03	W 01320	----
77-298	3/4" x 3/8"	0.05	W 01327	----
77-297	3/4" x 1/2"	0.06	W 01326	----
77-296	3/4" x 5/8"	0.08	W 01325	----
77-352	1" x 1/2"	0.10	W 01265	----
77-300	1"x3/4"	0.11	W 01337	----
77-355	1 -1/4" x 3/4"	0.15	W 01345	----
77-354	1-1/4" x 1"	0.17	W 01343	----
77-360	1 -1/2" x 1/2"	0.21	W 01355	----
77-359	1 -1/2" x 3/4"	0.21	W 01353	----
77-358	1-1/2"x1"	0.22	W 01351	----
77-357	1 -1/2" X 1-1/4"	0.21	W 01350	----
77-365	2" x 1/2"	0.44	W 01364	----
77-363	2" x 1"	0.40	W 01360	----
77-361	2" x 1-1/2"	0.39	W 01358	----

WC-403 600-2

**MALE ADAPTER
C X M**



Part#	Nominal	Approx Net Wt.	Ind #	
77-393	1/8"	0.02		----
77-394	1/4"	0.04		----
77-398	3/8"	0.06	W 01125	----
77-401	1/2"	0.08	WB01131	----
77-306	3/4"	0.14	WB01146	----
77-309	1"	0.24	WB01163	----
77-314	1-1/4"	0.41	W 01171	----
77-318	1-1/2"	0.50	W 01179	----
77-322	2"	0.87	W 01187	----
77-395	1/4" x 1/2"	0.09	W 01113	----
77-311	1/2" x 3/8"	0.18		----
77-303	1/2" x 3/4"	0.16	W 01130	----
77-308	3/4" x 1/2"	0.31		----
77-307	3/4" x 1"	0.29	W 01145	----
77-312	1" x 3/4"	0.18	W 01164	----

• 14 more reducing sizes available

WC-401 604

**FTG. MALE ADAPTER
FTG. X M**



77-331	1/2"	0.09	W 01431	----
77-333	3/4"	0.15	W 01446	----
77-334	1"	0.15	W 01463	----
77-335	1-1/4"	0.41	W 01471	----
77-336	1-1/2"	0.41	W 0147X9	----
77-337	2"	0.86	W 01487	----

WC-404 604-2

COPPER TUBING

SEE COPPER TUBING FOR REFRIGERATION AND DRINKING WATER ON PAGE 341



Well done is better than well said. - Benjamin Franklin

WROT SOLDER JOINT

COPPER FITTINGS

**FEMALE ADAPTERS
C X F**



Part#	Nominal	Approx Net Wt.	Ind #	
77-343	1/2"	0.10	WB01231	----
77-349	3/4"	0.14	WB01246	----
77-402	1"	0.24	WB01263	----
77-406	1-1/4"	0.43	W 01271	----
77-410	1-1/2"	0.58	W 01279	----
77-413	2"	0.74	W 01287	----
77-341	3/8" x 1/2"	0.10	W 01224	----
77-347	1/2" x 1/4"	0.05	W 01233	----
77-346	1/2"x3/8"	0.70	W 01232	----
77-345	1/2" x 3/4"	0.15	WB01230	----

**FEMALE FTG.
ADAPT. FTG. X F**



77-419	3/8"	0.05	W 01525	----
77-420	1/2"	0.11	W 01531	----
77-423	3/4"	0.19	W 01546	----
77-424	1			----

• More sizes available

WC402 603 WC402R 603R

CAP



77-429	1/4"	0.01	W 07004	----
77-430	3/8"	0.01	W 07006	----
77-431	1/2"	0.02	WB07007	----
77-432	5/8"	0.03	W 07008	----
77-433	3/4"	0.04	WB07009	----
77-434	1"	0.08	WB07011	----
77-435	1-1/4"	0.11	W 07012	----
77-436	1-1/2"	0.18	W 07013	----
77-437	2"	0.30	W 07014	----

WC405 603-2 WC405R 603R

UNIONS C X C



• LF = Lead Free

77-453	1/4"	0.11	W 08001	----
77-454	3/8"	0.11	W 08002	----
77-455LF	1/2"	0.17	W 08003	----
77-456LF	3/4"	0.37	W 08004	----
77-457LF	1"	0.51	W 08005	----
77-606LF	1-1/4"	0.98	W08006	----
77-607LF	1-1/2"	1.21	W08007	----
77-608LF	2"		W08008	----

WC-415 617

U-TYPE STRAP



77-461	1/2"	0.03	A 02529	----
77-462	3/4"	0.03	A 02574	----
77-463	1"	0.04	A 02614	----
77-464	1-1/4"	0.04	A 02650	----

WC-407

WS-1100

COPPER FITTINGS

WROT SOLDER JOINT

TEE C X C X C



Part#	Nominal 1 x 2 x 3	Approx Net Wt.	Ind #	
77-467	1/8"	0.02	W 40306	----
77-468	1/4"	0.03	W 04000	----
77-470	3/8"	0.05	W 04001	----
77-473	1/2"	0.08	WB04006	----
77-481	5/8"	0.12	W 04017	----
77-483	3/4"	0.18	WB04031	----
77-490	1"	0.35	WB04048	----
77-504	1-1/4"	0.58	W 04068	----
77-519	1-1/2"	0.72	W 04084	----
77-543	2"	1.35	W 40102	----
77-489	3/4"x1/2"x1/2"	0.15	WB04043	----
77-488	3/4" x 1/2" x 3/4"	0.19	WB04041	----
77-486	3/4" x 3/4" x 1/2"	0.15	WB04033	----
77-485	3/4"x3/4"x1"	0.25	W 04065	----
77-501	1"x1/2"x1"	0.34	W 04061	----
77-499	1"x3/4"x3/4"	0.31	W 04056	----
77-498	1"x3/4"x1"	0.38	W 04055	----
77-496	1"x1"x1/2"	0.24	WB04051	----
77-493	1"x1"x3/4"	0.29	WB04049	----
77-518	1 -1/4"x 1/2" x 1-1/4"	0.58	W 04083	----
77-514	1 -1/4" x 3/4" x 1-1/4"	0.63	W 04078	----
77-508	1-1/4" x 1-1/4" x 3/4"	0.39	W 04070	----
77-507	1-1/4"x1-1/4"x1"	0.47	W 04069	----
77-506	1 -1/4" x1 -1/4" x 1-1/2"	0.79	W 40100	----
77-523	1 -1/2" x 1-1/2" x 3/4"	0.51	W 04087	----
77-522	1-1/2" x 1-1/2" x1"	0.60	W 04086	----
77-549	2"x2"x1/2"	0.77	W 40107	----
77-548	2" x 2" x 3/4"	0.90	W 40106	----
77-547	2"x2"x1"	0.99	W 40105	----

WT-600 61

DROP EAR ELBOWS



• Lead Free Bronze • Lead Free Brass

• Lead Free Brass

• Lead Free Bronze

Part #	SWT x FIP	
44840LF	1/2 x 1/2 Bronze	----
44841LF	1/2 x 1/2 Brass	----
44842LF	3/4 x 1/2 Brass	----
44843LF	3/4 x 3/4 Brass	----

Part #	SWT x SWT	
44844LF	1/2 x 1/2	----

Part #	Pex x FIP	
44845LF	1/2 x 1/2	----

Sometimes the road less traveled is less traveled for a reason. - Jerry Seinfeld

WARNING: This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

PLASTIC FITTINGS



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

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.

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	
28-702P	3/8"	----
28-704P	3/4"	----



W

NYLON ELBOWS

Part #	Size	
28-701W	1/4"	----
28-703W	1/2"	----
28-704W	3/4"	----
28-705W	1"	----
28-706W	1-1/4"	----
28-707W	1-1/2"	----
28-708W	2"	----

TEE



P

POLYPROPYLENE TEES

Part #	Size	
28-741P	1/4"	----
28-742P	3/8"	----
28-743P	1/2"	----
28-744P	3/4"	----

(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	
28-741W	1/4"	----
28-743W	1/2"	----
28-744W	3/4"	----
28-745W	1"	----
28-746W	1-1/4"	----
28-747W	1-1/2"	----
28-748W	2"	----

STREET ELBOW



P

POLYPROPYLENE STREET ELBOW

Part #	Size	
28-819P	1/8"	----
28-723P	1/2"	----
28-820P	2"	----
28-821P	3"	----



W

NYLON STREET ELBOW

Part #	Size	
28-819W	1/8"	----
28-720W	1/4"	----
28-721W	3/8"	----
28-723W	1/2"	----
28-724W	3/4"	----
28-725W	1"	----
28-726W	1-1/4"	----
28-727W	1-1/2"	----
28-820W	2"	----

(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	
28-601B	1/8"	----
28-602B	1/4"	----
28-603B	3/8"	----
28-604B	1/2"	----
28-605B	3/4"	----



W

NYLON PLUGS

Part #	Size	
28-601W	1/8"	----
28-602W	1/4"	----
28-603W	3/8"	----
28-604W	1/2"	----
28-605W	3/4"	----
28-606W	1"	----
28-607W	1-1/4"	----
28-608W	1-1/2"	----
28-609W	2"	----

PLASTIC PIPE

PLASTIC FITTINGS

HEX BUSHING



POLYPROPYLENE BUSHINGS

Part #	Size	
28-659P	1/4 x 1/8"	----
28-660P	3/8 x 1/8"	----
28-661P	3/8 x 1/4"	----
28-811P	1/2 x 1/8"	----
28-663P	1/2 x 1/4"	----
28-664P	1/2 x 3/8"	----
28-666P	3/4 x 1/4"	----
28-668P	3/4 x 1/2"	----
28-812P	1 x 3/8"	----
28-671P	1 x 1/2"	----
28-672P	1 x 3/4"	----
28-675P	1-1/4" x 1"	----
28-814P	1-1/2" x 1/2"	----
28-678P	1-1/2 x 3/4"	----
28-680P	1-1/2 x 1-1/4"	----
28-816P	2 x 1-1/4"	----
28-818P	3 x 2"	----

W



NYLON BUSHINGS

Part #	Size	
28-659W	1/4 x 1/8"	----
28-660W	3/8 x 1/8"	----
28-661W	3/8 x 1/4"	----
28-811W	1/2 x 1/8"	----
28-663W	1/2 x 1/4"	----
28-664W	1/2 x 3/8"	----
28-665W	3/4 x 1/8"	----
28-666W	3/4 x 1/4"	----
28-667W	3/4 x 3/8"	----
28-668W	3/4 x 1/2"	----
28-671W	1 x 1/2"	----
28-672W	1 x 3/4"	----
28-674W	1-1/4 x 3/4"	----
28-675W	1-1/4 x 1"	----
28-678W	1-1/2 x 3/4"	----
28-679W	1-1/2 x 1"	----
28-680W	1-1/2 x 1-1/4"	----
28-815W	2" x 1/2"	----
28-682W	2 x 3/4"	----
28-683W	2 x 1"	----
28-685W	2 x 1-1/2"	----
28-818W	3" x 2"	----

HEX NIPPLES



POLYETHYLENE HEX NIPPLES

Part #	Size	
28-611B	1/8"	----
28-612B	1/4"	----
28-613B	3/8"	----
28-614B	1/2"	----

P



POLYPROPYLENE HEX NIPPLES

Part #	Size	
28-612P	1/4"	----
28-613P	3/8"	----
28-614P	1/2"	----
28-615P	3/4"	----
28-619P	2"	----

W



NYLON HEX NIPPLES

Part #	Size	
28-611W	1/8"	----
28-612W	1/4"	----
28-613W	3/8"	----
28-614W	1/2"	----
28-615W	3/4"	----
28-616W	1"	----
28-617W	1 1/4"	----
28-618W	1 1/2"	----
28-619W	2"	----

REDUCER NIPPLES



POLYETHYLENE HEX NIPPLES

Part #	Size	
28-623B	1/2 x 1/4"	----
28-624B	1/2 x 3/8"	----
28-628B	3/4 x 3/8"	----
28-625B	3/4 x 1/2"	----

W



NYLON REDUCING HEX NIPPLES

Part #	Size	
28-620W	1/4 x 1/8"	----
28-621W	3/8 x 1/8"	----
28-622W	3/8 x 1/4"	----
28-623W	1/2 x 1/4"	----
28-624W	1/2 x 3/8"	----
28-628W	3/4 x 3/8"	----
28-625W	3/4 x 1/2"	----
28-663W	1-1/4 x 1"	36100804

P = Polypropylene
W = White Nylon
B = Black Polyethylene

PLASTIC FITTINGS

PLASTIC PIPE/ HOSE BARB

COUPLING

P



POLYETHYLENE COUPLINGS

Part #	Size	
28-761P	1/4"	----
28-762P	3/8"	----
28-763P	1/2"	----
28-764P	3/4"	----

W



NYLON COUPLINGS

Part #	Size	
28-761W	1/4"	----
28-762W	3/8"	----
28-763W	1/2"	----
28-764W	3/4"	----
28-765W	1"	----
28-803W	1-1/4"	----
28-767W	1-1/2"	----
28-768W	2"	----

PIPE CAP

W



NYLON CAPS

Part #	Size	
28-640W	1/4"	----
28-641W	3/8"	----
28-642W	1/2"	----
28-643W	3/4"	----

PLASTIC BULKHEAD FITTINGS

P



20% Glass Filled Polypropylene
w/ Santoprene Gasket

Part #	Fpt	Hole	
28-693P	1/2"	1-3/8"	----
28-694P	3/4"	1-3/8"	----
28-695P	1"	1-3/4"	----
28-696P	1-1/4"	2"	----
28-697P	1-1/2"	3"	----
28-698P	2"	3"	----
28-699P	3"	4-1/2"	----

- P** = Polypropylene
- W** = White Nylon
- B** = Black Polyethylene

MALE ADAPTERS

B



POLYETHYLENE BARB X MALE PIPE

Part #	Size	
33-002B	3/16 x 1/8"	----
33-003B	3/16 x 1/4"	----
33-004B	1/4 x 1/8"	----
33-005B	1/4 x 1/4"	----
33-006B	1/4 x 3/8"	----
33-007B	1/4 x 1/2"	----
33-008B	5/16 x 1/8"	----
33-009B	5/16 x 1/4"	----
33-012B	3/8 x 1/4"	----
33-013B	3/8 x 3/8"	----
33-014B	3/8 x 1/2"	----
33-026B	3/8 x 3/4"	----
33-015B	1/2 x 1/4"	----
33-016B	1/2 x 3/8"	----
33-017B	1/2 x 1/2"	----
33-018B	1/2 x 3/4"	----
33-019B	5/8 x 3/8"	----
33-020B	5/8 x 1/2"	----
33-021B	5/8 x 3/4"	----
33-022B	3/4 x 1/2"	----
33-023B	3/4 x 3/4"	----
33-024B	1 x 3/4"	----
33-025B	1 x 1"	----

P



POLYPROPYLENE HOSE BARB
Hose ID x MIP

Part #	Size	
33-012P	3/8 x 1/4"	----
33-013P	3/8 x 3/8"	----
33-014P	3/8 x 1/2"	----
33-015P	1/2 x 1/4"	----
33-016P	1/2 x 3/8"	----
33-017P	1/2 x 1/2"	----
33-018P	1/2 x 3/4"	----
33-303P	1/2" x 1"	----
33-020P	5/8 x 1/2"	----
33-022P	3/4 x 1/2"	----
33-023P	3/4 x 3/4"	----
33-000P	3/4 x 1"	----
33-024P	1 x 3/4"	----
33-025P	1 x 1"	----
33-323P	3" x 3"	----

Thank you... motion sensor hand towel machine. You never work, so I just end up looking like I'm waving hello to a wall robot.

-Jimmy Fallon

PLASTIC BARBS

W



NYLON BARB MALE ADAPTERS
Hose ID x MIP

Part #	Size	
33-002W	3/16 x 1/8"	----
33-003W	3/16 x 1/4"	----
33-004W	1/4 x 1/8"	----
33-005W	1/4 x 1/4"	----
33-006W	1/4 x 3/8"	----
33-007W	1/4 x 1/2"	----
33-380W	1/4 x 3/4"	----
33-008W	5/16 x 1/8"	----
33-009W	5/16 x 1/4"	----
33-010W	5/16 x 3/8"	----
33-011W	3/8 X 1/8"	----
33-012W	3/8 x 1/4"	----
33-013W	3/8 x 3/8"	----
33-014W	3/8 x 1/2"	----
33-026W	3/8 x 3/4"	----
33-015W	1/2 x 1/4"	----
33-016W	1/2 x 3/8"	----
33-017W	1/2 x 1/2"	----
33-018W	1/2 x 3/4"	----
33-303W	1/2" x 1"	----
33-019W	5/8 x 3/8"	----
33-020W	5/8 x 1/2"	----
33-021W	5/8 x 3/4"	----
33-306W	3/4" x 3/8"	----
33-022W	3/4 x 1/2"	----
33-023W	3/4 x 3/4"	----
33-000W	3/4 x 1"	----
33-318W	3/4" x 1-1/4"	----
33-319W	3/4" x 1-1/2"	----
33-307W	1" x 1/2"	----
33-024W	1 x 3/4"	----
33-025W	1 x 1"	----
33-029W	1 x 1-1/4"	----
33-320W	1" x 1-1/2"	----
33-349W	1-1/4" x 3/4"	----
33-028W	1-1/4 x 1"	----
33-030W	1-1/4 x 1-1/4"	----
33-032W	1-1/4 x 1-1/2"	----
33-321W	1-1/2" x 1-1/4"	----
33-033W	1-1/2 x 1-1/2"	----
33-322W	2" x 1-1/2"	----
33-035W	2 x 2"	----

ELBOWS

B



POLYETHYLENE ELBOWS
Hose ID x MALE PIPE

Part #	Size	
33-308B	3/16 x 1/8	----
33-038B	1/4 x 1/8	----
33-039B	1/4 x 1/4	----
33-309B	1/4 x 3/8	----
33-046B	3/8 x 1/8	----
33-041B	3/8 x 1/4	----
33-042B	3/8 x 3/8	----
33-047B	3/8 x 1/2	----
33-043B	1/2 x 3/8	----
33-311B	1/2 x 1/2	----
33-385B	1/2 x 3/4	----
33-044B	5/8 x 3/8	----
33-045B	5/8 x 1/2	----
33-312B	5/8 x 3/4	----
33-313B	3/4 x 1/2	----
33-314B	3/4 x 3/4	----
33-316B	1 x 1	----

P



POLYPROPYLENE BARB ELBOW

Part #	Size	
33-048P	1/2 x 1/4	----
33-311P	1/2 x 1/2	----
33-385P	1/2 x 3/4	----
33-313P	3/4 x 1/2	----
33-314P	3/4 x 3/4	----
33-316P	1 x 1	----
33-334P	1-1/4 x 1	----
33-461P	1-1/4 x 1-1/4	----
33-463P	1-1/2 x 1-1/2	----

PLASTIC FITTINGS

W



NYLON BARB X MIP ELBOWS

Part #	Size	
33-381W	3/16 x 1/4	----
33-038W	1/4 x 1/8	----
33-039W	1/4 x 1/4	----
33-309W	1/4 x 3/8	----
33-351W	1/4 x 1/2	----
33-040W	5/16 x 1/4	----
33-310W	5/16 x 3/8	----
33-046W	3/8 x 1/8	----
33-041W	3/8 x 1/4	----
33-042W	3/8 x 3/8	----
33-047W	3/8 x 1/2	----
33-384W	3/8 x 3/4	----
33-048W	1/2 x 1/4	----
33-043W	1/2 x 3/8	----
33-311W	1/2 x 1/2	----
33-385W	1/2 x 3/4	----
33-044W	5/8 x 3/8	----
33-045W	5/8 x 1/2	----
33-312W	5/8 x 3/4	----
33-329W	5/8" x 1"	----
33-313W	3/4 x 1/2	----
33-314W	3/4 x 3/4	----
33-315W	3/4 x 1	----
33-386W	1x3/4	----
33-316W	1 x 1	----
33-460W	1 x 1-1/4	----
33-461W	1-1/4 x 1-1/4	----
33-462W	1-1/2 x 1-1/4	----
33-463W	1-1/2 x 1-1/2	----
33-464W	2 x 2	----

P = Polypropylene
W = White Nylon
B = Black Polyethylene

PLASTIC FITTINGS

PLASTIC BARBS

HOSE BARB X FE ADAPTERS



POLYETHYLENE ADAPTER

Hose ID x FIP

Part #	Size	
33-053B	1/4 x 1/4"	----



NYLON ADAPTER Barb x FIP

Part #	Size	
33-052W	1/4 x 1/8"	----
33-053W	1/4 x 1/4"	----
33-058W	3/8 x 1/4"	----
33-059W	3/8 x 3/8"	----
33-060W	3/8 x 1/2"	----
33-442W	3/8 x 3/4"	----
33-066W	1/2 x 1/4"	----
33-062P	1/2 x 3/8"	----
33-061W	1/2 x 1/2"	----
33-067W	1/2 x 3/4"	----
33-068W	5/8 x 1/2"	----
33-063W	5/8 x 3/4"	----
33-064W	3/4 x 1/2"	----
33-065W	3/4 x 3/4"	----

HOSE BARB X FE ELBOW



NYLON ELBOW Hose ID x Female Pipe

Part #	Size	
33-342W	3/8 x 1/2"	----
33-402W	1/2 x 3/8"	----
33-403W	1/2 x 3/4"	----
33-343P	1/2 x 1/2"	----
33-343W	1/2 x 1/2"	----
33-344P	5/8 x 3/4"	----
33-344W	5/8 x 3/4"	----
33-470W	5/8 x 1/2"	----
33-345W	3/4 x 1/2"	----
33-471W	3/4 x 3/4"	----
33-471P	3/4 x 3/4"	----

UNION ELBOWS



POLYETHYLENE ELBOW

Part #	Size	
33-390B	1/4	----
33-391B	3/8	----
33-394B	1/2	----
33-395B	5/8	----
33-396B	3/4	----



NYLON ELBOW

Part #	Size	
33-390W	1/4	----
33-391W	3/8	----
33-394W	1/2	----
33-395W	5/8	----
33-396W	3/4	----
33-397W	1	----
33-398W	1-1/4	----
33-399W	1-1/2	----
33-389W	2	----

SPLICERS



POLYETHYLENE SPLICER

Part #	Size	
33-091B	1/8	----
33-092B	3/16	----
33-093B	1/4	----
33-095B	3/8	----
33-096B	1/2	----
33-097B	5/8	----
33-098B	3/4	----



POLYPROPYLENE SPLICER

Part #	Size	
33-095P	3/8	----
33-096P	1/2	----
33-098P	3/4	----
33-099P	1	----

SPLICERS



NYLON SPLICES

Part #	Size	
33-091W	1/8	----
33-092W	3/16	----
33-093W	1/4	----
33-094W	5/16	----
33-095W	3/8	----
33-096W	1/2	----
33-097W	5/8	----
33-098W	3/4	----
33-099W	1	----
33-480W	1-1/4	----
33-481W	1-1/2	----
33-482W	2	----

REDUCING SPLICERS



POLYETHYLENE SPLICES

Part #	Size	
33-406B	3/8 x 1/4	----
33-407B	1/2 x 1/4	----
33-408B	1/2 x 3/8	----
33-410B	5/8 x 1/2	----



NYLON SPLICES

Part #	Size	
33-079W	1/4 x 1/8	----
33-347W	1/4 x 3/16	----
33-406W	3/8 x 1/4	----
33-348W	3/8 x 5/16	----
33-407W	1/2 x 1/4	----
33-408W	1/2 x 3/8	----
33-409W	5/8 x 3/8	----
33-410W	5/8 x 1/2	----
33-089W	3/4 x 1/2	----

PLASTIC BARBS

PLASTIC FITTINGS

TEES BARBED ON ALL SIDES

MALE BRANCH TEE

B



POLYETHYLENE TEE

Part #	Size	
33-415B	1/8	----
33-418B*	3/16	----
33-420B	3/16	----
33-422B	1/4	----
33-426B	5/16	----
33-429B	3/8	----
33-433B	1/2	----
33-436B	5/8	----
33-437B	3/4	----
33-438B	1	----

P



POLYPROPYLENE TEE

Part #	Size	
33-429P	3/8	----
33-440P	1-1/2	----

ALL HOSE BARB "Y"

P



POLYPROPYLENE WYE

Part #	Size	
33-300P*	1/4"	----
33-301P*	3/8"	----
33-302P*	1/2"	----

**Natural Polypro*

W



NYLON WYE

Part #	Size	
33-301W	3/8"	----

W



NYLON TEE

Part #	Size	
33-415W	1/8	----
33-417W	5/32	----
33-420W	3/16	----
33-422W	1/4	----
33-426W	5/16	----
33-429W	3/8	----
33-433W	1/2	----
33-436W	5/8	----
33-437W	3/4	----
33-438W	1	----
33-439W	1-1/4	----
33-440W	1-1/2	----
33-441W	2	----

REDUCING TEES

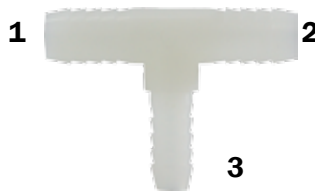
B



POLYETHYLENE TEE

Part #	Size	
33-423B	3/8 x 3/8 x 1/4	----
33-430B	1/2 x 1/2 x 3/8	----
33-432B	3/8 x 3/8 x 1/2	----
33-434B	1/2 x 1/2 x 5/8	----
33-435B	3/4 x 3/4 x 1/2	----

W



NYLON TEE

Part #	Size	
33-430W	1/2 x 1/2 x 3/8	----
33-431W	5/8 x 5/8 x 3/8	----
33-432W	3/8 x 3/8 x 1/2	----
33-435W	3/4 x 3/4 x 1/2	----

W



NYLON BRANCH TEE

Part #	Size	
33-448W	1/4 x 1/4	----
33-450W	3/8 x 1/4	----
33-451W	3/8 x 3/8	----
33-453W	1/2 x 1/4	----
33-454W	1/2 x 3/8	----
33-455W	1/2 x 1/2	----
33-458W	5/8" x 3/4"	----
33-456W	3/4 x 3/4	----

Thank you, hard taco shells, for surviving the long journey from factory, to supermar- ket, to my plate and then breaking the moment I put some- thing inside you. Thank you.

- Jimmy Fallon

PLASTIC FITTINGS

PLASTIC GARDEN HOSE

PLASTIC GARDEN HOSE FITTINGS

FITTINGS WITH GARDEN HOSE THREAD

GARDEN HOSE CAP

• Washer not included



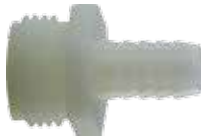
• White Nylon

P

Part #	Size	----
30-103P	3/4"	----

GARDEN HOSE THREAD ADAPTERS

BARB X MALE GARDEN HOSE



• White Nylon

Part #	Size	----
31-038	1/4"	----
31-039	3/8"	----
31-040	1/2"	----
31-041	5/8"	----
31-042	3/4"	----

GARDEN HOSE ADAPTER INSERTS

• for assembly with 31-022



• White Nylon

Part #	Size	----
31-030	1/4"	----
31-031	3/8"	----
31-032	1/2"	----
31-033	5/8"	----
31-034	3/4"	----
31-035	1/2" MPT	----

GARDEN HOSE NUT



• White Nylon

Part #	Size	----
31-022	3/4"	----
31-023	3/4" FIP	----

MALE GARDEN HOSE X FEMALE PIPE



• White Nylon

Part #	Size	----
31-067	MGH X 1/4	----
31-068	MGH X 1/2 FIP	----
31-069	MGH X 3/4	----

FEMALE GARDEN HOSE X MALE PIPE



• White Nylon

Part #	Size	----
31-093	FGH X 3/4 MPT	----
31-095	FGH X 3/4 MGH	----

FEMALE GARDEN HOSE X FEMALE PIPE



• White Nylon

Part #	Size	----
31-096	FGH X 1/2 FIP	----
31-097	FGH X 3/4 FIP	----

MALE GARDEN HOSE X MALE PIPE



• White Nylon

Part #	Size	----
31-055	GHT X 3/8 MPT	----
31-058	GHT X 1/2 MPT	----
31-063	GHT X 3/4 MPT	----
31-064	GHT X 1 MPT	----

Victorious warriors win first and then go to war, while defeated warriors go to war first and then seek to win.

- Sun Tzu

PLASTIC COMPRESSION

PLASTIC COMPRESSION FITTINGS

Corrosion resistant thermoresins designed to resist vibration, provide good electrical insulation, low flow resistance, and resistance to scale buildup.

The letter on the end of part no. denotes the type.

N = Nylon
P = Polypropylene

Standard nut and sleeves will be provided (sleeve is integral part of nut). Other sizes available upon request.

FDA and NSF Listed

UNION & REDUCING UNION CONNECTORS



Part #	Size	
17-064P	1/4"	----
17-066P	3/8"	----
17-079P	3/8" x 1/4"	----
17-068P	1/2"	----
17-081P	1/2" x 3/8"	----



• Nylon

Part #	Size	
17-064N	1/4"	----
17-065N	5/16"	----
17-078N	5/16" x 1/4"	----
17-066N	3/8"	----
17-079N	3/8" x 1/4"	----
17-068N	1/2"	----

BULKHEAD UNIONS



• Nylon

Part #	Size	
17-088N	1/4"	----
17-090N	3/8"	----
17-091N	1/2"	----

UNION TEES



• Nylon

Part #	Size	
17-103N	1/4"	----
17-105N	3/8"	----
17-106N	1/2"	----

UNION ELBOWS



• P

Part #	Size	
17-124P	1/4"	----
17-126P	3/8"	----
17-127P	1/2"	----



• Nylon

Part #	Size	
17-124N	1/4"	----
17-126N	3/8"	----

FEMALE CONNECTORS



• P

Part #	Size	
17-145P	1/4 x 1/8	----
17-153P	3/8 x 1/4	----
17-154P	3/8 x 3/8	----
17-158P	1/2 x 3/8	----
17-159P	1/2 x 1/2	----



• Nylon

Part #	Size	
17-146N	1/4 x 1/4	----
17-153N	3/8 x 1/4	----
17-154N	3/8 x 3/8	----

PLASTIC FITTINGS

MALE CONNECTORS



• P

Part #	Size	
17-179P	1/4 x 1/8	----
17-180P	1/4 x 1/4	----
17-188P	3/8 x 1/4	----
17-189P	3/8 x 3/8	----
17-190P	3/8 x 1/2	----
17-193P	1/2 x 1/4	----
17-194P	1/2 x 3/8	----
17-195P	1/2 x 1/2	----



• Nylon

Part #	Size	
17-176N	1/8 x 1/8"	
17-179N	1/4 x 1/8	----
17-180N	1/4 x 1/4	----
17-188N	3/8 x 1/4	----
17-189N	3/8 x 3/8	----
17-190N	3/8 x 1/2	----
17-193N	1/2 x 1/4	----
17-194N	1/2 x 3/8	----
17-195N	1/2 x 1/2	----

MALE ELBOWS



• P

Part #	Size	
17-225P	1/4 x 1/4	----
17-233P	3/8 x 1/4	----
17-234P	3/8 x 3/8	----
17-237P	1/2 x 3/8	----
17-238P	1/2 x 1/2	----



• Nylon

Part #	Size	
17-224N	1/4 x 1/8	----
17-225N	1/4 x 1/4	----
17-233N	3/8 x 1/4	----
17-234N	3/8 x 3/8	----
17-237N	1/2 x 3/8	----
17-238N	1/2 x 1/2	----

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 1/8"	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)					
20°C (68°F)	16bar (230PSI)						11bar (170PSI)					
65°C (150°F)	10bar (150PSI)						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	
20-018P	5/32"	----
20-702P	3/16"	----
20-019P	1/4"	----
20-020P	3/8"	----
20-021P	1/2"	----

UNION TEE



Part #	Tube OD	
20-028P	1/4"	----
20-029P	3/8"	----
20-030P	1/2"	----

REDUCING ELBOW



Part #	Tube OD	Tube OD	
20-733P	3/8"	3/16"	----
20-734P	3/8"	1/4"	----
20-736P	1/2"	3/8"	----

REDUCING UNION



Part #	Tube OD	Tube OD	
20-750P	1/4"	3/16"	----
20-754P	3/8"	3/16"	----
20-755P	3/8"	1/4"	----
20-756P	3/8"	5/16"	----
20-758P	1/2"	3/8"	----

REDUCING BRANCH TEE



Part #	Tube OD	Tube OD	
20-725P	3/8"	1/4"	----
20-724P	1/2"	3/8"	----

FEMALE CONNECTOR



Part #	Tube OD	Thread NPTF	
20-993P	1/4"	1/8"	----
20-035P	1/4"	1/4"	----
20-944P	3/8"	1/8"	----
20-036P	3/8"	1/4"	----

BULKHEAD UNION



Part #	Tube OD	
20-127P	1/4"	----
20-128P	3/8"	----
20-129P	1/2"	----

UNION ELBOW



Part #	Tube OD	
20-152P	1/4"	----
20-153P	3/8"	----
20-154P	1/2"	----

PLASTIC PUSH-IN

MALE CONNECTOR



Part #	Tube OD	Thread NPTF	
20-050P	5/32"	1/8"	----
20-054P	1/4"	1/8"	----
20-055P	1/4"	1/4"	----
20-056P	1/4"	3/8"	----
20-057P	3/8"	1/8"	----
20-058P	3/8"	1/4"	----
20-059P	3/8"	3/8"	----
20-062P	3/8"	1/2"	----
20-061P	1/2"	3/8"	----
20-063P	1/2"	1/2"	----

STEM ADAPTER



Part #	Tube OD	Thread NPTF	
20-524P	1/4"	1/8"	----
20-525P	1/4"	1/4"	----
20-528P	3/8"	1/4"	----
20-529P	3/8"	3/8"	----

REDUCER



Part #	Tube OD	Tube OD	
20-512P	3/8"	1/4"	----
20-763P	3/8"	5/16"	----
20-514P	1/2"	3/8"	----

FIXED ELBOW



Part #	Tube OD	Thread NPTF	
20-068P	1/4"	1/8"	----
20-069P	1/4"	1/4"	----
20-070P	1/4"	3/8"	----
20-072P	3/8"	1/4"	----
20-073P	3/8"	3/8"	----

PLUG-IN ELBOW



Part #	Tube OD	Tube OD	
20-740P	5/32"	5/32"	----
20-742P	1/4"	1/4"	----
20-745P	3/8"	1/4"	----
20-747P	3/8"	3/8"	----
20-748P	1/2"	1/2"	----

2-WAY DIVIDER



Part #	Tube OD	List Price
20-776P	5/16"	----
20-777P	3/8"	----

PLUG



Part #	Tube OD	
20-876P	5/32"	----
20-878P	1/4"	----
20-880P	3/8"	----
20-881P	1/2"	----

PLASTIC FITTINGS

TUBE END STOP



Part #	Tube OD	
20-925P	1/4"	----
20-927P	3/8"	----

PL X PL



Part #	Tube OD	
20-900P	1/4"	----
20-901P	3/8"	----

PL X MALE NPTF



Part #	Tube OD	Thread NPTF	
20-904P	1/4"	1/4"	----
20-905P	3/8"	3/8"	----

CHECK VALVE



Part #	Tube OD	
20-779P	3/8"	----



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



WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

CAM & GROOVE

HOSE ACCESSORIES

ALUMINUM

SEE PAGES 332 FOR JUMP SIZES IN ALUMINUM

MALE ADAPTER X FEMALE NPT

TYPE A



Part#	Size	
61-911	3/4"	----
61-912	1"	----
61-913	1-1/4"	----
61-914	1-1/2"	----
61-915	2"	----
61-916	2-1/2"	----
61-917	3"	----
61-918	4"	----
61-919	5"	----
61-920	6"	----
61-910	8"	----

FEMALE COUPLER X MALE NPT

TYPE B



Part#	Size	
61-921	3/4"	----
61-922	1"	----
61-923	1-1/4"	----
61-924	1-1/2"	----
61-925	2"	----
61-926	2-1/2"	----
61-927	3"	----
61-928	4"	----
61-929	5"	----
61-930	6"	----

FEMALE COUPLER X HOSE SHANK

TYPE C



Part#	Size	
61-931	3/4"	----
61-932	1"	----
61-933	1-1/4"	----
61-934	1-1/2"	----
61-935	2"	----
61-936	2-1/2"	----
61-937	3"	----
61-938	4"	----
61-939	5"	----
61-940	6"	----
61-907	8"	----

FEMALE COUPLER X FEMALE NPT

TYPE D



Part#	Size	
61-941	3/4"	----
61-942	1"	----
61-943	1-1/4"	----
61-944	1-1/2"	----
61-945	2"	----
61-946	2-1/2"	----
61-947	3"	----
61-948	4"	----
61-950	5"	----
61-949	6"	----
61-904	8"	----

MALE ADAPTER X HOSE SHANK

TYPE E



Part#	Size	
61-951	3/4"	----
61-952	1"	----
61-953	1-1/4"	----
61-954	1-1/2"	----
61-955	2"	----
61-956	2-1/2"	----
61-957	3"	----
61-958	4"	----
61-959	5"	----
61-905	6"	----
61-906	8"	----

MALE ADAPTER X MALE NPT

TYPE F



Part#	Size	
61-961	3/4"	----
61-962	1"	----
61-963	1-1/4"	----
61-964	1-1/2"	----
61-965	2"	----
61-966	2-1/2"	----
61-967	3"	----
61-968	4"	----
61-970	5"	----
61-969	6"	----
61-999	8"	----

DUST CAP
TYPE DC

Part#	Size	
61-971	3/4"	----
61-972	1"	----
61-973	1-1/4"	----
61-974	1-1/2"	----
61-975	2"	----
61-976	2-1/2"	----
61-977	3"	----
61-978	4"	----
61-980	5"	----
61-979	6"	----
61-998	8"	----

DUST PLUG
TYPE DP

Part#	Size	
61-981	3/4"	----
61-982	1"	----
61-983	1-1/4"	----
61-984	1-1/2"	----
61-985	2"	----
61-986	2-1/2"	----
61-987	3"	----
61-988	4"	----
61-909	5"	----
61-908	6"	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

ALUMINUM JUMP SIZES

MALE ADAPTER X MALE ADAPTER

ALUMINUM SPOOL ADAPTER



Part#	Size	
61-872	1"	----
61-873	1-1/2"	----
61-874	2"	----
61-875	2" x 3"	----
61-876	2-1/2"	----
61-877	3"	----
61-878	3" x 4"	----
61-879	4"	----

FEMALE COUPLER X FEMALE COUPLER

ALUMINUM TYPE DD



Part#	Size	
619-440	1-1/2"	----
619-450	2"	----
619-470	3"	----
619-480	4"	----

FEMALE COUPLER X MALE ADAPTER

ALUMINUM TYPE DA



Part#	Size	
619-001	1-1/2" x 1"	----
619-002	1-1/2" x 2"	----
619-003	2" x 1-1/2"	----
619-004	2" x 3"	----
619-005	2" x 4"	----
619-006	3" x 1-1/2"	----
619-007	3" x 2"	----
619-008	3" x 4"	----
619-009	4" x 2"	----
619-010	4" x 3"	----
619-011	4" x 6"	----
619-012	6" x 4"	----

MALE ADAPTER X FEMALE NPT

ALUMINUM JUMP SIZE A



Part#	Size	
61-851	2" x 3"	----
61-853	3" x 4"	----
61-854	4" x 3"	----

FEMALE COUPLER X MALE NPT

ALUMINUM JUMP SIZE B



Part#	Size	
61-859	3" x 2"	----
61-860	3" x 4"	----
61-861	4" x 3"	----

FEMALE COUPLER X FEMALE NPT

ALUMINUM JUMP SIZE D



Part#	Size	
61-867	3" x 2"	----
61-868	4" x 3"	----

MALE ADAPTER X MALE NPT

ALUMINUM JUMP SIZE F



Part#	Size	
61-870	3" x 2"	----
61-871	3" x 4"	----

- 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

Gasket Material	TEMPERATURE RATINGS							
	Temperature Range in °F							
	500	400	300	275	250	200	150	0
Buna N				x				-40
Neoprene					x			-65
*Vitron A		x						-40
Silicone	x							-30
*Teflon	x							-40
Nat. Rubber						x		-60
Butyl			x					-40
Hypalon					x			-65
EPDM							x	

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

POLYPROPYLENE

MALE ADAPTER X FEMALE NPT

TYPE A



Part#	Size	
35-910	1/2"	----
35-911	3/4"	----
35-912	1"	----
35-913	1-1/4"	----
35-914	1-1/2"	----
35-915	2"	----
35-917	3"	8.47

FEMALE COUPLER X MALE NPT

TYPE B



Part#	Size	
35-920	1/2"	----
35-921	3/4"	----
35-922	1"	----
35-923	1-1/4"	----
35-924	1-1/2"	----
35-925	2"	----
35-927	3"	----

FEMALE COUPLER X HOSE SHANK

TYPE C



Part#	Size	
35-930	1/2"	----
35-931	3/4"	----
35-932	1"	----
35-933	1-1/4"	----
35-934	1-1/2"	----
35-935	2"	----
35-937	3"	----

FEMALE COUPLER X FEMALE NPT

TYPE D



Part#	Size	
35-940	1/2"	----
35-941	3/4"	----
35-942	1"	----
35-943	1-1/4"	----
35-944	1-1/2"	----
35-945	2"	----
35-947	3"	----

MALE ADAPTER X HOSE SHANK

TYPE E



Part#	Size	
35-950	1/2"	----
35-951	3/4"	----
35-952	1"	----
35-953	1-1/4"	----
35-954	1-1/2"	----
35-955	2"	----
35-957	3"	----

MALE ADAPTER X MALE NPT

TYPE F



Part#	Size	
35-960	1/2"	----
35-961	3/4"	----
35-962	1"	----
35-963	1-1/4"	----
35-964	1-1/2"	----
35-965	2"	----
35-967	3"	----

DUST CAP
TYPE DC

Part#	Size	
35-970	1/2"	----
35-971	3/4"	----
35-972	1"	----
35-973	1-1/4"	----
35-974	1-1/2"	----
35-975	2"	----
35-977	3"	----

DUST PLUG
TYPE DP

Part#	Size	
35-980	1/2"	----
35-981	3/4"	----
35-982	1"	----
35-983	1-1/4"	----
35-984	1-1/2"	----
35-985	2"	----
35-987	3"	----

316 STAINLESS STEEL

MALE ADAPTER X FEMALE NPT

TYPE A



Part#	Size	
63-911	3/4"	----
63-912	1"	----
63-913	1-1/4"	----
63-914	1-1/2"	----
63-915	2"	----
63-916	2-1/2"	----
63-917	3"	----
63-918	4"	----
63-919	5"	----

FEMALE COUPLER X MALE NPT

TYPE B



Part#	Size	
63-921	3/4"	----
63-922	1"	----
63-923	1-1/4"	----
63-924	1-1/2"	----
63-925	2"	----
63-926	2-1/2"	----
63-927	3"	----
63-928	4"	----
63-929	5"	----

FEMALE COUPLER X HOSE SHANK

TYPE C



Part#	Size	
63-931	3/4"	----
63-932	1"	----
63-933	1-1/4"	----
63-934	1-1/2"	----
63-935	2"	----
63-936	2-1/2"	----
63-937	3"	----
63-938	4"	----
63-939	5"	----

FEMALE COUPLER X FEMALE NPT

TYPE D



Part#	Size	
63-941	3/4"	----
63-942	1"	----
63-943	1-1/4"	----
63-944	1-1/2"	----
63-945	2"	----
63-946	2-1/2"	----
63-947	3"	----
63-948	4"	----
63-949	5"	----
63-950	6"	----

MALE ADAPTER X HOSE SHANK

TYPE E



Part#	Size	
63-951	3/4"	----
63-952	1"	----
63-953	1-1/4"	----
63-954	1-1/2"	----
63-955	2"	----
63-956	2-1/2"	----
63-957	3"	----
63-958	4"	----
63-959	5"	----
63-960	6"	----

MALE ADAPTER X MALE NPT

TYPE F



Part#	Size	
63-961	3/4"	----
63-962	1"	----
63-963	1-1/4"	----
63-964	1-1/2"	----
63-965	2"	----
63-966	2-1/2"	----
63-967	3"	----
63-968	4"	----
63-969	5"	----
63-999	6"	----

DUST CAP

TYPE DC



Part#	Size	
63-971	3/4"	----
63-972	1"	----
63-973	1-1/4"	----
63-974	1-1/2"	----
63-975	2"	----
63-976	2-1/2"	----
63-977	3"	----
63-978	4"	----
63-979	5"	----
63-980	6"	----

**DUST PLUG
TYPE DP**



Part#	Size	
63-981	3/4"	----
63-982	1"	----
63-983	1-1/4"	----
63-984	1-1/2"	----
63-985	2"	----
63-986	2-1/2"	----
63-987	3"	----
63-988	4"	----
63-989	6"	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

CAM & GROOVE

HOSE ACCESSORIES

BRASS

MALE ADAPTER X FEMALE NPT

TYPE A



Part#	Size	
44-911	3/4"	----
44-912	1"	----
44-913	1-1/4"	----
44-914	1-1/2"	----
44-915	2"	----
44-916	2-1/2"	----
44-917	3"	----
44-918	4"	----
44-919	5"	----
44-920	6"	----

FEMALE COUPLER X MALE NPT

TYPE B



Part#	Size	
44-921	3/4"	----
44-922	1"	----
44-923	1-1/4"	----
44-924	1-1/2"	----
44-925	2"	----
44-926	2-1/2"	----
44-927	3"	----
44-928	4"	----
44-929	5"	----
44-930	6"	----

FEMALE COUPLER X HOSE SHANK

TYPE C



Part#	Size	
44-931	3/4"	----
44-932	1"	----
44-933	1-1/4"	----
44-934	1-1/2"	----
44-935	2"	----
44-936	2-1/2"	----
44-937	3"	----
44-938	4"	----
44-939	5"	----
44-940	6"	----

FEMALE COUPLER X FEMALE NPT

TYPE D



Part#	Size	
44-941	3/4"	----
44-942	1"	----
44-943	1-1/4"	----
44-944	1-1/2"	----
44-945	2"	----
44-946	2-1/2"	----
44-947	3"	----
44-948	4"	----
44-949	5"	----
44-950	6"	----

MALE ADAPTER X HOSE SHANK

TYPE E



Part#	Size	
44-951	3/4"	----
44-952	1"	----
44-953	1-1/4"	----
44-954	1-1/2"	----
44-955	2"	----
44-956	2-1/2"	----
44-957	3"	----
44-958	4"	----
44-959	5"	----
44-960	6"	----

MALE ADAPTER X MALE NPT

TYPE F



Part#	Size	
44-961	3/4"	----
44-962	1"	----
44-963	1-1/4"	----
44-964	1-1/2"	----
44-965	2"	----
44-966	2-1/2"	----
44-967	3"	----
44-968	4"	----
44-969	5"	----
44-970	6"	----

DUST CAP

TYPE DC



Part#	Size	
44-971	3/4"	----
44-972	1"	----
44-973	1-1/4"	----
44-974	1-1/2"	----
44-975	2"	----
44-976	2-1/2"	----
44-977	3"	----
44-978	4"	----
44-979	5"	----
44-980	6"	----

DUST PLUG

TYPE DP



Part#	Size	
44-981	3/4"	----
44-982	1"	----
44-983	1-1/4"	----
44-984	1-1/2"	----
44-985	2"	----
44-986	2-1/2"	----
44-987	3"	----
44-988	4"	----
44-989	5"	----
44-990	6"	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

STAINLESS STEEL AND BRASS JUMP SIZES

MALE ADAPTER X MALE ADAPTER

**316 SS
SPOOL ADAPTER**



Part#	Size	
63-850	1"	----
63-851	1-1/2"	----
63-852	1-1/2" x 2"	----
63-853	2"	----
63-854	2" x 3"	----
63-855	3"	----
63-856	3" x 4"	----
63-857	4"	----

FEMALE COUPLER X FEMALE COUPLER

**316 SS
TYPE DD**



Part#	Size	
639-440	1-1/2"	----
639-450	2"	----
639-470	3"	----
639-480	4"	----

FEMALE COUPLER X MALE ADAPTER

**316 SS
TYPE DA**



Part#	Size	
639-001	2" x 1-1/2"	----
639-002	3" x 2"	----
639-003	4" x 3"	----
639-004	6" x 4"	----

MALE ADAPTER X MALE ADAPTER

**BRASS
SPOOL ADAPTER**



Part#	Size	
44-212	1-1/2"	----
44-213	2"	----
44-214	2-1/2"	----
44-215	3"	----
44-216	4"	----

FEMALE COUPLER X MALE ADAPTER

**BRASS
TYPE DA**



Part#	Size	
449-450	2" x 3"	----
449-470	3" x 2"	----
449-480	4" x 2"	----
449-481	4" x 3"	----
449-482	6" x 4"	----

**INVESTMENT CAST STAINLESS STEEL
HANDLE, RING & PIN**



Part#	Size	
61-447	3/4"	----
61-448	1"	----
61-449	1-1/4" - 2-1/2"	----
61-452	3" & 4"	----
61-454	6"	----

FORGED BRASS HANDLE - RING & PIN STEEL



Part#	Size	
61-455	3/4"	----
61-450	1"	----
61-451	1-1/4" - 2-1/2"	----
61-453	3" & 4"	----
61-457	6"	----

SAFETY CLIP



Part #	Size	
66-015	1-1/4" - 2-1/2"	----

BUNA-N GASKET



Part#	Size	
BG-50	1/2"	----
BG-75	3/4"	----
BG-100	1"	----
BG-125	1-1/4"	----
BG-150	1-1/2"	----
BG-200	2"	----
BG-250	2-1/2"	----
BG-300	3"	----
BG-400	4"	----
BG-500	5"	----
BG-600	6"	----
BG-800	8"	----

**SILICONE
GASKET**



Part#	Size	
SG300	3"	----
SG400	4"	----

VITON GASKET



Part#	Size	
VG100	1"	----
VG150	1-1/2"	----
VG200	2"	----
VG250	2-1/2"	----
VG300	3"	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

KING NIPPLES

STEEL HOSE NIPPLES



• Black

(Barb x Male Pipe)

Part #	Hose Size	
973-850	1/2"	----
973-851	3/4"	----
973-852	1"	----
973-853	1-1/4"	----
973-854	1-1/2"	----
973-855	2"	----
973-856	2-1/2"	----
973-857	3"	----
973-858	4"	----
973-861	8"	----

ZINC PLATED STEEL



Part #	Size	
973-870	1/2"	----
973-871	3/4"	----
973-872	1"	----
973-873	1-1/4"	----
973-874	1-1/2"	----
973-875	2"	----
973-876	2-1/2"	----
973-877	3"	----
973-878	4"	----
973-879	5"	----
973-880	6"	----
973-881	8"	----

ZINC PLATED STEEL EXPANDER & REDUCER



Part #	Hose x MIP Size	
973-862	3/4 x 1	----
973-884	1 x 3/4	----
973-863	1 x 1-1/4	----
973-885	1-1/4 x 1	----
973-886	1-1/4 x 1-1/2	----
973-887	1-1/2 x 1-1/4	----
973-864	1-1/2 x 2	----
973-888	2 x 1-1/2	----
973-859	2 x 2-1/2	----
973-869	2-1/2 x 2	----
973-865	2-1/2 x 3	----
973-867	3 x 2-1/2	----
973-866	3 x 4	----
973-868	4 x 3	----

316 STAINLESS STEEL



Part #	Size	
973-700	1/2"	----
973-701	3/4"	----
973-702	1"	----
973-703	1-1/4"	----
973-704	1-1/2"	----
973-705	2"	----
973-706	2-1/2"	----
973-707	3"	----
973-708	4"	----

BRASS



• Lead Free

Part #	Size	
973-600	1/2"	----
973-601	3/4"	----
973-602	1"	----
973-603	1-1/4"	----
973-604	1-1/2"	----
973-605	2"	----
973-606	2-1/2"	----
973-607	3"	----

ALUMINUM



Part #	Size	
973-620	1/2"	----
973-621	3/4"	----
973-622	1"	----
973-623	1-1/4"	----
973-624	1-1/2"	----
973-625	2"	----
973-626	2-1/2"	----
973-627	3"	----
973-628	4"	----

HOSE ACCESSORIES

MENDERS

STEEL HOSE MENDERS



Part #	Hose Size	
973-890	1/2"	----
973-891	3/4"	----
973-892	1"	----
973-893	1-1/4"	----
973-894	1-1/2"	----
973-895	2"	----

PLATED STEEL MENDER

• Zinc



Part #	Size	
973-650	3/8"	----
973-651	1/2"	----
973-652	3/4"	----
973-653	1"	----
973-654	1-1/4"	----
973-655	1-1/2"	----
973-656	2"	----
973-657	2-1/2"	----
973-658	3"	----
973-659	4"	----

316 STAINLESS STEEL HOSE MENDER



Part #	Size	
73-670	3/4"	----
73-671	1"	----
73-672	1-1/4"	----
73-673	1-1/2"	----
73-674	2"	----

• Lead Free

BRASS HOSE MENDER



Part #	Size	
73-983	3/4"	----
73-984	1"	----
73-985	1-1/4"	----
73-986	1-1/2"	----
73-987	2"	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

MALE NPT ENDS

• Twist claw/ universal/ chicago



- Malleable iron
- ISO PSI

* Safety clip included

Part #	Size	
66005	3/8"	----
66006	1/2"	----
66007	3/4"	----
66008	1"	----

WASHER



Part #	
66000	----

FEMALE NPT ENDS



* Safety clip included

Part #	Size	
66009	3/8"	----
66010	1/2"	----
66011	3/4"	----
66012	1"	----

HOSE END



* Safety clip included

Part #	Size	
66001	3/8"	----
66002	1/2"	----
66003	3/4"	----
66004	1"	----

SAFETY CLIP



Part #	Size	
66-015	1-1/4" - 2-1/2"	----

TRIPLE CONNECTIONS



Part #	
66013	----

**FOR SHOP USE ONLY,
NOT FOR STEAM OR
HYDRAULIC APPLICATIONS**

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

GROUND JOINT COUPLINGS

HOSE ACCESSORIES

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	
73-003	1/2"	----
73-004	3/4"	----
73-005	1"	----
73-006	1-1/4"	----
73-007	1-1/2"	----
73-008	2"	----
73-009	2-1/2"	----
73-010	3"	----
73-011	4"	----

HOSE STEM ONLY



Part #	Size	
73-023	1/2"	----
73-024	3/4"	----
73-025	1"	----
73-026	1-1/4"	----
73-027	1-1/2"	----
73-028	2"	----
73-029	2-1/2"	----
73-030	3"	----
73-031	4"	----

WING NUT ONLY



Part #	Size	
73-033	1/2"	----
73-035	1"	----
73-036	1-1/4"	----
73-037	1-1/2"	----
73-038	2"	----
73-039	2-1/2"	----
73-040	3"	----
73-041	4"	----

FEMALE SPUD ONLY



Part #	Size	
73-063	1/2"	----
73-064	3/4"	----
73-065	1"	----
73-066	1-1/4"	----
73-067	1-1/2"	----
73-068	2"	----
73-069	2-1/2"	----
73-070	3"	----
73-071	4"	----

MALE PIPE STEM ONLY (NPT)



Part #	Size	
73-043	1/2"	----
73-044	3/4"	----
73-045	1"	----
73-046	1-1/4"	----
73-047	1-1/2"	----
73-048	2"	----
73-049	2-1/2"	----
73-050	3"	----
73-051	4"	----

2, 4, 6 BOLT CLAMPS



Part #	Size	# Bolts	
73-056	3/4"	2	----
73-057	1"	4	----
73-058	1-1/2"	4	----
73-059	2"	4	----
73-060	3"	4	----

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.

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

HYDRANT ADAPTERS - BRASS



FEMALE X MALE		
Part #	Description	
444-011	1-1/2" NST x 3/4" GHT	----
444-000	2-1/2" NST x 3/4" GHT	----
444-001	2-1/2" NST x 3/4" NPT	----
444-002	2-1/2" NST x 1" NPT	----
444-005	2-1/2" NST x 1-1/2" NPT	----
444-007	2-1/2" NST x 2" NPSH	----
444-008	2-1/2" NST x 2" NPT	----
444-006	2-1/2" NST x 1-1/2" NST	----

FEMALE TO MALE HEX ADAPTER - BRASS



FEMALE X MALE		
Part #	Description	
444-021	1-1/2" NST x 1-1/2" NPSH	----
444-023	1-1/2" NPT x 1-1/2" NPSH	----
444-020	1-1/2" NST x 1-1/2" NPT	----
444-318	2 NPT x 2-1/2" NST	----

DOUBLE MALE HEX NIPPLE - BRASS



Part #	Description	
444-042	1-1/2" NPT x 1-1/2" NPSH	----
444-040	1-1/2" NPT x 1-1/2" NST	----
444-048	2" NPT x 2-1/2" NST	----
444-095	2-1/2" NST x 1-1/2" NST	----
444-045	2-1/2" NPT x 2-1/2" NST	----
444-049	3" NPT x 2-1/2" NST	----

CAP - BRASS



Part #	Description	
444-062	2-1/2" NST	----
444-313	4-1/2" NST	----
444-320	2-1/2" NST PLUG	----
444-060	1-1/2" NST	----

MALE SWIVEL ADAPTER - BRASS W/LUGS



Part #	Description Female x Male	
444-111	2-1/2" NST x 2" NPT	----
444-112	2-1/2" NST x 2-1/2" NPT	----
444-113	2-1/2" NST x 3" NPT	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

HOSE CLAMPS



 <p>WORM GEAR PAGE 317-320</p>	 <p>QUICK RELEASE PAGE 321</p>
 <p>T-BOLT PAGE 322</p>	 <p>SPRING LOADED T-BOLT PAGE 323</p>
 <p>CONSTANT TORQUE PAGE 324</p>	 <p>V-BAND PAGE 324</p>
 <p>MUFFLER PAGE 325</p>	 <p>EXHAUST PAGE 326</p>
 <p>1 EAR, 2 EAR, GAPLESS PAGE 327-328</p>	 <p>PRE-FORMED PAGE 329-330</p>
 <p>TOOLS PAGE 331</p>	 <p>NON-PERFORATED OR LINED BAND PAGE 332</p>
 <p>RUBBER LINED PAGE 333</p>	 <p>HOSE FERRULES PAGE 334</p>

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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	
	Min.	Max.		
300-0004	7/32"	5/8"	200/2400	----
300-005	7/16"	11/16"	200/2400	----
300-0006	5/16"	7/8"	200/2400	----
300-0008	7/16"	1"	200/1200	----
300-010	1/2"	1-1/16"	200/1200	----
300-012	9/16"	1-1/4"	200/1200	----
300-016	11/16"	1-1/2"	200/1200	----
300-0020	7/8"	1-3/4"	200/1200	----

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	
		Min.	Max.		
600-006	6	3/8"	7/8"	100/600	----
600-008	8	7/16"	1"	100/600	----
600-010	10	9/16"	1-1/16"	100/600	----
600-012	12	9/16"	1-1/4"	100/600	----
600-016	16	11/16"	1-1/2"	100/600	----
600-020	20	3/4"	1-3/4"	100/300	----
600-024	24	1-1/16"	2"	100/300	----
600-028	28	1-5/16"	2-1/4"	100/300	----
600-032	32	1-9/16"	2-1/2"	100/300	----
600-036	36	1-13/16"	2-3/4"	50/200	----
600-040	40	2-1/16"	3"	50/200	----
600-044	44	2-5/16"	3-1/4"	50/200	----
600-048	48	2-9/16"	3-1/2"	50/200	----
600-052	52	2-13/16"	3-3/4"	25/100	----
600-056	56	3-1/16"	4"	25/100	----
600-060	60	3-5/16"	4-1/4"	25/100	----
600-064	64	2-1/2"	4-1/2"	25/100	----
600-072	72	3"	5"	25/100	----
600-080	80	3-1/2"	5-1/2"	10/100	----
600-088	88	4"	6"	10/100	----
600-096	96	4-1/2"	6-1/2"	10/100	----
600-104	104	5"	7"	10/100	----

only I can change my life. No one can do it for me.- Carol Burnett

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

325 & 611 WORM GEAR CLAMPS**HOSE CLAMPS****MINIATURE CLAMPS - 5/16" BAND****325 Series**

- 1/4" Hex Slotted Carbon Steel Screw
- 5/16" Wide 301 Stainless Steel Band
- 301 Stainless Steel 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

5/16" band, 1/4" screw

Part #	Dia. Range		Box/Case	
	Min.	Max.		
325-004	7/32"	5/8"	200/2400	----
325-005	7/16"	11/16"	200/2400	----
325-006	5/16"	7/8"	200/2400	----
325-008	7/16"	1"	200/1200	----
325-010	1/2"	1-1/16"	200/1200	----
325-012	9/16"	1-1/4"	200/1200	----
325-016	11/16"	1-1/2"	200/1200	----
325-020	7/8"	1-3/4"	200/1200	----

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

Stainless Steel band and housing with Carbon Steel Screw

1/2" band, 5/16" screw

1/2" BAND CLAMPS**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

Part #	#	Dia. Range		Bag/Case	
		Min.	Max.		
611-006	6	3/8"	7/8"	100/600	----
611-008	8	7/16"	1"	100/600	----
611-010	10	9/16"	1-1/16"	100/600	----
611-012	12	9/16"	1-1/4"	100/600	----
611-016	16	11/16"	1-1/2"	100/600	----
611-020	20	3/4"	1-3/4"	100/300	----
611-024	24	1-1/16"	2"	100/300	----
611-028	28	1-5/16"	2-1/4"	100/300	----
611-032	32	1-9/16"	2-1/2"	100/300	----
611-036	36	1-13/16"	2-3/4"	50/200	----
611-040	40	2-1/16"	3"	50/200	----
611-044	44	2-5/16"	3-1/4"	50/200	----
611-048	48	2-9/16"	3-1/2"	50/200	----
611-052	52	2-13/16"	3-3/4"	25/100	----
611-056	56	3-1/16"	4"	25/100	----
611-060	60	3-5/16"	4-1/4"	25/100	----
611-064	64	2-1/2"	4-1/2"	25/100	----
611-072	72	3"	5"	25/100	----
611-080	80	3-1/2"	5-1/2"	10/100	----
611-088	88	4"	6"	10/100	----
611-096	96	4-1/2"	6-1/2"	10/100	----
611-104	104	5"	7"	10/100	----
611-116	116	5-3/4"	7-3/4"	100/100	----
611-128	128	6-1/2"	8-1/2"	100/100	----
611-152	152	2"	10"	100/100	----
611-164	164	1-3/4"	10-3/4"	100/100	----
611-176	176	9-1/4"	11-1/4"	100/100	----
611-188	188	2-1/16"	12-1/4"	100/100	----
611-200	200	11"	13"	100/100	----
611-212	212	11-3/4"	13-3/4"	100/100	----
611-224	224	12-1/2"	14-1/2"	100/100	----
611-248	248	10-3/4"	16"	100/100	----
611-270	270	15-3/8"	17-3/8"	100/100	----
611-312	312	18"	20"	100/100	----
611-332	332	19-1/8"	21-1/4"	100/100	----
611-390	390	22-7/8"	24-7/8"	100/100	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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	
	Min.	Max.		
350-004	7/32"	5/8"	200/2400	----
350-005	7/16"	11/16"	200/2400	----
350-006	5/16"	7/8"	200/2400	----
350-008	7/16"	1"	200/1200	----
350-010	1/2"	1-1/16"	200/1200	----
350-012	9/16"	1-1/4"	200/1200	----
350-016	11/16"	1-1/2"	200/1200	----
350-020	7/8"	1-3/4"	200/1200	----

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	
		Min.	Max.		
620-006	6	3/8"	7/8"	100/600	----
620-008	8	7/16"	1"	100/600	----
620-010	10	9/16"	1-1/16"	100/600	----
620-012	12	9/16"	1-1/4"	100/600	----
620-016	16	11/16"	1-1/2"	100/600	----
620-020	20	3/4"	1-3/4"	100/300	----
620-024	24	1-1/16"	2"	100/300	----
620-028	28	1-5/16"	2-1/4"	100/300	----
620-032	32	1-9/16"	2-1/2"	100/300	----
620-036	36	1-13/16"	2-3/4"	50/200	----
620-040	40	2-1/16"	3"	50/200	----
620-044	44	2-5/16"	3-1/4"	50/200	----
620-048	48	2-9/16"	3-1/2"	50/200	----
620-052	52	2-13/16"	3-3/4"	25/100	----
620-056	56	3-1/16"	4"	25/100	----
620-060	60	3-5/16"	4-1/4"	25/100	----
620-064	64	2-1/2"	4-1/2"	25/100	----
620-072	72	3"	5"	25/100	----
620-080	80	3-1/2"	5-1/2"	10/100	----
620-088	88	4"	6"	10/100	----
620-096	96	4-1/2"	6-1/2"	10/100	----
620-104	104	5"	7"	10/100	----
620-116	116	5-3/4"	7-3/4"	100/100	----
620-128	128	6-1/2"	8-1/2"	100/100	----
620-152	152	2"	10"	100/100	----
620-164	164	1-3/4"	10-3/4"	100/100	----
620-176	176	9-1/4"	11-1/4"	100/100	----
620-188	188	9.9"	12-1/4"	100/100	----
620-200	200	11"	13"	100/100	----
620-212	212	11-3/4"	13-3/4"	100/100	----
620-224	224	12-1/2"	14-1/2"	100/100	----
620-248	248	10-3/4"	16"	100/100	----
620-270	270	15-3/8"	17-3/8"	100/100	----
620-312	312	18"	20"	100/100	----
620-332	332	19-1/8"	21-1/4"	100/100	----
620-390	390	22-7/8"	24-7/8"	100/100	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

#316 MARINE WORM GEAR CLAMPS**HOSE CLAMPS****MINIATURE CLAMPS - 5/16" BAND****All #316 SS for Marine Environments**

5/16" band, 1/4" screw

Part #	Dia. Range		Box/Case	
	Min.	Max.		
350-004SS	7/32"	5/8"	200/2400	----
350-005SS	7/16"	11/16"	200/2400	----
350-006SS	5/16"	7/8"	200/2400	----
350-008SS	7/16"	1"	200/1200	----
350-010SS	1/2"	1-1/16"	200/1200	----
350-012SS	9/16"	1-1/4"	200/1200	----
350-016SS	11/16"	1-1/2"	200/1200	----
350-020SS	7/8"	1-3/4"	200/1200	----

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		Dia. Range		Box/Case	
Part #	#	Min.	Max.		
620-006SS	6	3/8"	7/8"	100/600	----
620-008SS	8	7/16"	1"	100/600	----
620-010SS	10	9/16"	1-1/16"	100/600	----
620-012SS	12	9/16"	1-1/4"	100/600	----
620-016SS	16	11/16"	1-1/2"	100/600	----
620-020SS	20	3/4"	1-3/4"	100/300	----
620-024SS	24	1-1/16"	2"	100/300	----
620-028SS	28	1-5/16"	2-1/4"	100/300	----
620-032SS	32	1-9/16"	2-1/2"	100/300	----
620-036SS	36	1-13/16"	2-3/4"	50/200	----
620-040SS	40	2-1/16"	3"	50/200	----
620-044SS	44	2-5/16"	3-1/4"	50/200	----
620-048SS	48	2-9/16"	3-1/2"	50/200	----
620-052SS	52	2-13/16"	3-3/4"	25/100	----
620-056SS	56	3-1/16"	4"	25/100	----
620-060SS	60	3-5/16"	4-1/4"	25/100	----
620-064SS	64	2-1/2"	4-1/2"	25/100	----
620-072SS	72	3"	5"	25/100	----

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.

Yesterday is not ours to recover, but tomorrow is ours to win or lose. - Lyndon B. Johnson

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 #		#	Dia. Range		Part #	
			Min.	Max.		
500-012	----	12	1/2"	1-1/4"	550-012	----
500-020	----	20	3/4"	1-3/4"	550-020	----
500-028	----	28	1"	2-1/4"	550-028	----
500-036	----	36	1"	2-3/4"	550-036	----
500-048	----	48	1-1/2"	3-1/2"	550-048	----
500-056	----	56	1"	4"	550-056	----
500-072	----	72	2"	5"	550-072	----
500-088	----	88	2-1/16"	6"	550-088	----
500-104	----	104	1-3/4"	7"	550-104	----
500-128	----	128	1-3/4"	8-9/16"	550-128	----
500-152	----	152	2"	10"	550-152	----
500-188	----	188	2-1/16"	12-5/16"	550-188	----
500-216	----	216	10-3/16"	14"	550-216	----
500-248	----	248	10-3/4"	16"	550-248	----
500-280	----	280	14-1/4"	18"	550-280	----
		312	14"	20"	550-312	----

I believe if you keep your faith, you keep your trust, you keep the right attitude, if you're grateful, you'll see God open up new doors.

-Joel Osteen

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

T-BOLT CLAMPS

HOSE CLAMPS

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#	
	From:	To:		
1-1/4	1-5/32"	1-15/32"	840-131	----
1-1/2	1-3/8"	1-9/16"	840-150	----
1-3/4	1-5/8"	1-13/16"	840-175	----
1-7/8	1-3/4"	1-15/16"	840-188	----
2	1-7/8"	2-1/16"	840-200	----
2-1/4	2-1/8"	2-5/16"	840-225	----
2-3/8	2-1/4"	2-7/16"	840-238	----
2-1/2	2-3/8"	2-9/16"	840-250	----
2-9/16	2-11/32"	2-5/8"	840-256	----
2-5/8	2-13/32"	2-11/16"	840-263	----
2-3/4	2-17/32"	2-13/16"	840-275	----
2-7/8	2-21/32"	2-15/16"	840-288	----
3	2-25/32"	3-1/16"	840-300	----
3-1/8	2-29/32"	3-3/16"	840-312	----
3-1/4	3-1/32"	3-5/16"	840-325	----
3-1/2	3-9/32"	3-9/16"	840-350	----
3-3/4	3-17/32"	3-13/16"	840-375	----
3-53/64	3-19/32"	3-7/8"	840-382	----
4	3-25/32"	4-1/16"	840-400	----
4-1/4	4-1/32"	4-5/16"	840-425	----
4-1/2	4-9/32"	4-9/16"	840-450	----
4-3/4	4-17/32"	4-13/16"	840-475	----
5	4-25/32"	5-1/16"	840-500	----
5-1/4	5-1/32"	5-5/16"	840-525	----
5-1/2	5-9/32"	5-9/16"	840-550	----
5-3/4	5-17/32"	5-13/16"	840-575	----
6	5-25/32"	6-1/16"	840-600	----
6-1/4	6-1/32"	6-5/16"	840-625	----
6-1/2	6-9/32"	6-9/16"	840-650	----
6-3/4	6-17/32"	6-13/16"	840-675	----
7	6-25/32"	7-1/16"	840-700	----
7-1/2	7-9/32"	7-9/16"	840-750	----
8	7-25/32"	8-1/16"	840-800	----
8-1/4	8-9/32"	8-9/16"	840-850	----
8-7/8	8-21/32"	8-15/16"	840-888	----
10-7/8	10-21/32"	10-15/16"	840-1088	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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	
844-213	40	2.13 - 2.44	0.170	100	----
844-225	44	2.25 - 2.56	0.174	100	----
844-238	48	2.38 - 2.69	0.179	100	----
844-250	52	2.50 - 2.81	0.181	100	----
844-263	56	2.63 - 2.94	0.183	100	----
844-275	60	2.75 - 3.06	0.185	100	----
844-300	68	3 - 3.31	0.187	100	----
844-306	70	3.06 - 3.38	0.190	100	----
844-313	72	3.13 - 3.44	0.192	100	----
844-325	76	3.25 - 3.56	0.194	100	----
844-338	80	3.38 - 3.69	0.196	100	----
844-350	84	3.50 - 3.81	0.196	100	----
844-356	86	3.56 - 3.88	0.196	100	----
844-363	88	3.63 - 3.94	0.198	100	----
844-375	92	3.75 - 4.06	0.198	100	----
844-406	102	4.06 - 4.38	0.203	100	----
844-413	104	4.13 - 4.44	0.209	100	----
844-425	108	4.25 - 4.56	0.214	100	----
844-456	118	4.56 - 4.88	0.216	100	----
844-500	132	5 - 5.31	0.218	100	----
844-525	140	5.25 - 5.56	0.220	100	----
844-600	164	6 - 6.31	0.223	100	----
844-625	172	6.25 - 6.56	0.225	100	----

Automatically adjust diameter for hose expansion and contraction due to temperature changes.

Always turn a negative situation into a positive situation.

— Michael Jordan

CONSTANT TORQUE/ V-BAND

HOSE CLAMPS

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



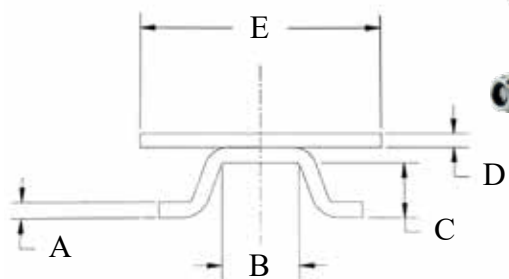
Purpose: To eliminate leaks by automatically increasing or decreasing the clamps diameter, decreasing the need for retightening. Constant torque clamps have an extended tail on the band to protect soft hose or tube from being cut.

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	
842-010	9/16" - 1 1/16"	9/16"	72 in-lb	5/16"	0.106	100	----
842-012	11/16" - 1 1/4"	9/16"	72 in-lb	5/16"	0.108	100	----
842-016	13/16" - 1 1/2"	9/16"	72 in-lb	5/16"	0.112	100	----
842-020	13/16" - 1 3/4"	9/16"	72 in-lb	5/16"	0.119	100	----
842-024	1 1/16" - 2"	9/16"	72 in-lb	5/16"	0.121	100	----
842-200	1 1/4" - 2 1/8"	5/8"	130 in-lb High	3/8"	0.207	100	----
842-250	1 3/4" - 2 5/8"	5/8"	130 in-lb High	3/8"	0.216	100	----
842-300	2 1/4" - 3 1/8"	5/8"	130 in-lb High	3/8"	0.220	100	----
842-350	2 3/4" - 3 5/8"	5/8"	130 in-lb High	3/8"	0.225	100	----
842-400	3 1/4" - 4 1/8"	5/8"	130 in-lb High	3/8"	0.231	100	----
842-450	3 3/4" - 4 5/8"	5/8"	130 in-lb High	3/8"	0.238	100	----
842-500	4 1/4" - 5 1/8"	5/8"	130 in-lb High	3/8"	0.256	100	----

V-Band Hose Clamps

- Band thickness: see chart
- Band width: see chart
- Band material: 300 stainless
- Trunnion: 300 stainless
- 1/4" T-bolt: 300 stainless
- 7/16" 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	
		A	B	C	D	E			
843-321	3.21	0.050	0.262	0.141	0.035	0.750	0.525	100	----
843-382	3.82	0.077	0.207	0.281	0.040	0.875	0.531	100	----
843-388	3.88	0.050	0.400	0.281	0.040	0.875	0.536	100	----
843-450	4.50	0.077	0.207	0.281	0.040	0.875	0.547	100	----
843-461	4.61	0.050	0.156	0.281	0.035	0.750	0.549	100	----
843-475	4.75	0.050	0.400	0.281	0.040	0.875	0.553	100	----
843-525	5.25	0.050	0.262	0.141	0.035	0.750	0.567	100	----
843-588	5.88	0.050	0.400	0.281	0.040	0.875	0.575	100	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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	
841-175	1-3/4"	0.335	50	----
841-200	2"	0.410	50	----
841-250	2-1/2"	0.448	50	----
841-300	3"	0.582	50	----
841-350	3-1/2"	0.741	50	----
841-400	4"	0.847	25	----
841-450	4-1/2"	1.023	25	----
841-500	5"	1.067	25	----

FLAT BAND



Part #	Size	WGT	Box Qty	
841-004	4"	0.847	25	----
841-005	5"	1.093	25	----

GUILLOTINE - provides a complete 360° heavy duty seal



Part #	Size	WGT	Box Qty	
841-040	4"	0.820	25	----
841-045	4-1/2"	0.847	25	----
841-050	5"	0.988	25	----

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

EXHAUST

HOSE CLAMPS

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	
845-200	2"	0.970	50	----
845-300	3"	1.058	50	----
845-350	3.50"	1.102	50	----
845-400	4"	1.146	50	----
845-500	5"	1.235	50	----
845-600	6"	1.323	50	----
845-500SS*	5"	1.190	50	----

*Light pattern .5mm band thickness

ALUMINIZED STEEL LAP CLAMPS

- .7mm band thickness
- 76mm band width



Part #	Size	WGT	Box Qty	
846-200	2"	0.970	50	----
846-250	2.50"	1.014	50	----
846-275	2.75"	1.036	50	----
846-300	3"	1.058	50	----
846-350	3.50"	1.102	50	----
846-400	4"	1.146	50	----
846-500	5"	1.235	50	----

STAINLESS STEEL LAP CLAMPS

- .5mm band thickness
- 76mm band width



Part #	Size	WGT	Box Qty	
847-200	2"	0.926	50	----
847-250	2.50"	0.970	50	----
847-275	2.75"	0.992	50	----
847-300	3"	1.014	50	----
847-350	3.50"	1.058	50	----
847-400	4"	1.102	50	----
847-500	5"	1.190	50	----
847-600	6"	1.279	50	----

STAINLESS STEEL EASY-FORM CLAMPS

- .5mm band thickness
- 76mm band width



Part #	Size	WGT	Box Qty	
848-200	2"	0.926	50	----
848-225	2.25"	0.948	50	----
848-250	2.50"	0.970	50	----
848-275	2.75"	0.992	50	----
848-300	3"	1.014	50	----
848-350	3.50"	1.058	50	----
848-400	4"	1.102	50	----
848-500	5"	1.190	50	----
848-600	6"	1.279	50	----
848-700	7"	1.367	50	----

WARNING: This product can expose you to chemicals, including chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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		
			Close	Open	
1050000	105	3/8"	0.350	0.414	----
1050001	113	7/16"	0.381	0.444	----
1050002	123	15/32"	0.394	0.486	----
1050003	133	1/2"	0.453	0.524	----
1050006	140	35/64"	0.472	0.551	----
1050007	145	9/16"	0.496	0.571	----
1050008	157	5/8"	0.543	0.618	----
1050009	170	11/16"	0.594	0.669	----
1050010	185	23/32"	0.618	0.728	----
1050011	198	3/4"	0.669	0.779	----
1050012	210	13/16"	0.716	0.827	----
1050013	226	7/8"	0.779	0.890	----
1050014	241	15/16"	0.839	0.949	----
1050015	256	1"	0.898	1.008	----
1050016	271	1-1/16"	0.945	1.067	----
1050017	286	1-1/8"	1.004	1.126	----
1050018	301	1-3/16"	1.063	1.185	----
1050020	331	1-5/16"	1.181	1.303	----
1050021	346	1-3/8"	1.240	1.362	----
1050023	376	1-15/32"	1.358	1.480	----
1050025	396	1-9/16"	1.437	1.559	----
1050026	410	1-5/8"	1.492	1.614	----
1050029	455	1-3/4"	1.669	1.791	----
1050030	470	1-16/16"	1.728	1.850	----
1050032	500	1-15/16"	1.846	1.968	----
1050033	515	2"	1.905	2.028	----

The art of communication is the language of leadership. - James Humes

2 EAR AND GAPLESS**HOSE CLAMPS****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		
		Close	Open	
1010002	3/16"	0.134	0.197	----
1010008	5/16"	0.276	0.354	----
1010011	3/8"	0.319	0.433	----
1010016	1/2"	0.425	0.512	----
1010019	9/16"	0.492	0.591	----
1010022	19/32"	0.551	0.669	----
1010024	5/8"	0.591	0.709	----
1010027	3/4"	0.638	0.787	----

STAINLESS STEEL

Part #	Nominal Size	Inches		
		Close	Open	
1510003	1/4"	0.197	0.276	----
1510004	5/16"	0.276	0.354	----
1510023	3/8"	0.319	0.433	----
1510006	1/2"	0.425	0.512	----
1510007	9/16"	0.492	0.591	----
1510008	19/32"	0.551	0.669	----
1510009	5/8"	0.591	0.709	----
1510010	3/4"	0.638	0.787	----
1510011	13/16"	0.709	0.866	----
1510012	7/8"	0.748	0.906	----
1510013	15/16"	0.827	0.984	----
1510014	1"	0.886	1.063	----
1510016	1-1/8"	1.035	1.221	----
1510019	1-9/16"	1.260	1.457	----
1510020	1-1/2"	1.378	1.575	----

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		
			Close	Open	
16700001	9/32"	5mm	0.228	0.276	----
16700004	3/8"	5mm	0.307	0.374	----
16700007	7/16"	5mm	0.378	0.445	----
16700010	1/2"	7mm	0.425	0.524	----
16700012	35/64"	7mm	0.453	0.551	----
16700013	9/16"	7mm	0.472	0.571	----
16700016	5/8"	7mm	0.520	0.618	----
16700017	11/16"	7mm	0.571	0.669	----
16700022	3/4"	7mm	0.654	0.780	----
16700024	13/16"	7mm	0.701	0.827	----

obstacles are things a person sees when he takes his eyes off his goal.

- E. Joseph Cossman

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

HOSE CLAMPS

PERFORMED

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	Clamp I.D. Inches	Catalog Number SS	Band Width & Thickness
F-3	3/8 x .025	----	13/16	----
F-311	3/8 x .025	----	1 3/8	----
F-4	5/8 x .025	----	1	FS-4 5/8 x .022
F-5	5/8 x .025	----	1 1/4	FS-5 5/8 x .022
F-6	5/8 x .031	----	1 1/2	FS-6 5/8 x .022
F-7	5/8 x .031	----	1 3/4	FS-7 5/8 x .022
F-8	5/8 x .031	----	2	FS-8 5/8 x .022
F-9	5/8 x .031	----	2 1/4	FS-9 5/8 x .022

WITH STAINLESS STEEL LOK - 50/BOX

F-10	5/8 x .031	----	2 1/2	FS-10	5/8 x .022	----
F-11	5/8 x .031	----	2 3/4	FS-11	5/8 x .022	----
F-12	5/8 x .031	----	3	FS-12	5/8 x .022	----
F-14	5/8 x .031	----	3 1/2	FS-14	5/8 x .022	----

25/ BOX

F-16	5/8 x .031	----	4	FS-16	5/8 x .022	----
F-18	5/8 x .031	----	4 1/2	FS-18	5/8 x .022	----
F-20	5/8 x .031	----	5	FS-20	5/8 x .022	----
	5/8 x .031	----	6	FS-24	5/8 x .022	----
	5/8 x .031	----	7	FS-28	5/8 x .022	----

Double-wrapped, Triple Punched, Holds Permanently



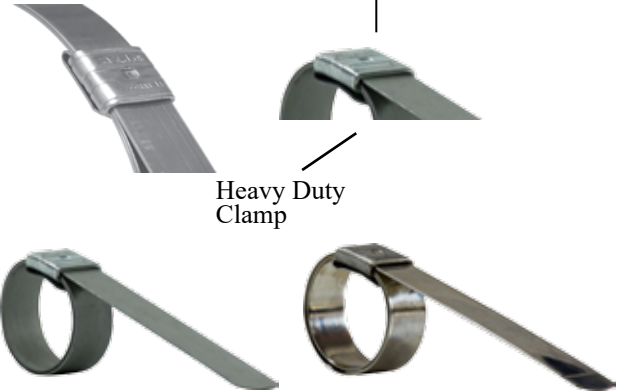
Galvanized Preformed Clamps 2 1/2 inch I.D. and above, and 5/8" wide open end clamps have a stainless steel lock for greater strength and rigidity.

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 STEEL

STAINLESS STEEL TYPE 301

Catalog Number	Clamp I.D. Inches	Band Width & Thickness	Catalog Number
K-3	13/16"	3/8" x .025	KS-3
K-311	1-3/8"	3/8" x .025	KS-311
K-4	1"	5/8" x .030	KS-4
K-5	1-1/4"	5/8" x .030	KS-5
K-6	1-1/2"	5/8" x .030	KS-6
K-7	1-3/4"	5/8" x .030	KS-7
K-8	2"	5/8" x .030	KS-8
K-9	2-1/4"	5/8" x .030	KS-9

50/BOX

K-10	2-1/2"	5/8" x .030	KS-10
K-11	2-3/4"	5/8" x .030	KS-11
K-12	3"	5/8" x .030	KS-12
K-14	3-1/2"	5/8" x .030	KS-14

25/BOX

K-16	4"	5/8" x .030	KS-16
K-18	4-1/2"	5/8" x .030	KS-18
K-20	5"	5/8" x .030	KS-20
K-24	6"	5/8" x .030	
K-28	7"	5/8" x .030	

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

FLS/ CLAMP-IT

HOSE CLAMPS

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.



STAINLESS STEEL

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.

5/8" (NOMINAL WIDTH) - 100/BOX

Catalog #	Clamp I.D. Inches	Band Width & Thickness	
FLJS-203	1"	5/8" x .030	----
FLJS-204	1-1/4"	5/8" x .030	----
FLJS-205	1-1/2"	5/8" x .030	----
FLJS-207	2"	5/8" x .030	----
FLJS-208	2-1/4"	5/8" x .030	----
FLJS-209	2-1/2"	5/8" x .030	----

100' CLAMP-IT STRAPPING



Catalog #	Width	Thickness	Material 100'/CTN.	
SS-3751	3/8"	.025	301 Stainless	----
SS-5001	1/2"	.030	301 Stainless	----
SS-6251	5/8"	.030	301 Stainless	----
SS-7501	3/4"	.030	301 Stainless	----
SG-5000	1/2"	.030	Galvanized	----

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	
CS-3751	3/8"	301 Stainless	100	----
CS-5001	1/2"	301 Stainless	100	----
CS-6251	5/8"	301 Stainless	100	----
CS-7501	3/4"	301 Stainless	50	----

Be the attitude you want to be around. -Tim DeTellis

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

HOSE CLAMPS

Model 1098 I Standard Jaw Pincers



Part #
1410118

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

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 #

308-070

Hose Crimper

CLAMPING TOOLS

LOKING TOOL



Part # Portable hand tool used to apply punch
F-38 Type 3/8 & 5/8 Clamps

LOKING TOOL



Part #
F-40

Used to apply Punch Type 3/8 & 5/8
clamps. Order mallet separately

LOKING TOOL



Part # Used to apply Punch Type 3/8 & 5/8
F-100 clamps. Order mallet separately

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

LINED BAND 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 # Aluzinc	SAE Size	Clamping Range		Bag	Part# 304 SS
		Inches	mm		
88-024	8	5/8-1	15-24	1000	89-024
88-028	10	3/4-1-1/8	19-28	500	89-028
88-032	12	7/8-1-1/4	22-32	500	89-032
88-038	16	1-1/16-1-1/2	26-38	500	89-038
	20	1-1/4-1-3/4	32-44	500	89-044
88-050	24	1-1/2-2	38-50	500	89-050
88-056	28	1-3/4-2-1/4	44-56	500	89-056
88-065	32	2-2-9/16	50-65	200	89-065
88-075	40	2-5/16-3	58-75	200	89-075
88-085	44	2-11/16-3-3/8	68-85	200	89-085
88-095	52	3-3-3/4	77-95	200	89-095
88-112	64	3-7/16-4-7/16	87-112	200	89-112

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 # Aluzinc	Clamping Range		Qty per Bag
	Inches	mm	
92-010	.36-.41	9-10.5	1000
92-011	.37-.45	9.5-11.5	900
92-012	.41-.49	10.5-12.5	800
92-013	.45-.53	11.5-13.5	800
92-014	.49-.57	12.5-14.5	700
92-015	.53-.61	13.5-15.5	600
92-016	.55-.65	14-16.5	500
92-017	.59-.69	15-17.5	500

HOSE CLAMPS



MARINE - EMBOSSED NON-PERFORATED WORM GEAR CLAMPS

- Meets the DIN 3017 Standard
- Replaces the Ultra Clamps 316 stainless steel
- 12mm band widths
- Installation torque 60lbs
- General purpose non perforated band especially suited for most hoses and soft silicone hoses.
- Band edges rolled to protect soft hoses from shearing and fraying
- Common applications include: vehicular, industrial, mechanical engineering, plumbing and marine.
- ROLLED EDGES
- BAND WILL NOT DAMAGE SOFT HOSES

ALL #316 SS MATERIAL

12MM WIDE EMBOSSED ALL 316 BAND CLAMPS

Part #	Range of Adjust (in mm)	Range of Adjust (inches)
96022	12-22	.469-.859
96027	16-27	.625-1.06
96032	20-32	.787-1.26
96040	25-40	.984-1.575
96050	35-50	1.26-1.969
96060	40-60	1.575-2.362
96070	50-70	1.969-2.756
96080	60-80	2.362-3.15
96090	70-90	2.756-3.543
96100	80-100	3.15-3.937
96110	90-110	3.543-4.33
96120	100-120	3.937-4.724
96130	110-130	4.33-5.118
96140	120-140	4.72-5.512
96150	130-150	5.118-5.906
96160	140-160	5.512-6.299

MINI CLAMPS

304 SS MINI CLAMPS



Part # 304 SS	Clamping Range		Qty per Bag
	Inches	mm	
93-008	.30-.34	7.5-8.5	1000
93-009	.34-.37	8.5-9.5	1000
93-011	.41-.47	10.5-12	900
93-013	.49-.55	12.5-14	800
93-014	.53-.59	13.5-15	700
93-016	.59-.67	15-17	1000
93-017	.63-.71	16-18	500

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

HOSE CLAMPS

LINED, MINI/ RUBBER LINED



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		Clamping Range		Part# 304 SS	Qty per Bag	
			Inches	mm			
95-300	100	----	1/8	3			
95-301	100	----	3/16	5	96-301	1000	----
95-302	100	----	1/4	6	96-302	200	----
95-303	100	----	5/16	8	96-303	1000	----
95-304	100	----	3/8	10	96-304	100	----
95-305	100	----	7/16	11	96-305	1000	----
95-306	100	----	1/2	13	96-306	100	----
95-307	100	----	9/16	14	96-307	100	----
95-308	100	----	5/8	16	96-308	100	----
95-309	50	----	11/16	18			
95-310	50	----	3/4	19	96-310	500	----
95-311	50	----	13/16	21			
95-312	50	----	7/8	22	96-312	500	----
95-313	50	----	15/16	24			
95-314	50	----	1	25	96-314	500	----
95-315	50	----	1-1/16	27			
95-316	50	----	1-1/8	29	96-316	500	----
95-317	50	----	1-3/16	30			
95-318	50	----	1-1/4	32	96-318	500	----
95-319	50	----	1-5/16	33			
95-320	50	----	1-3/8	35	96-320	500	----
95-321	50	----	1-7/16	36			
95-322	500	----	1-1/2	38	96-322	100	----
95-326	50	----	1-5/8	41			
95-323	25	----	1-3/4	45	96-323	500	----
95-328	25	----	1-7/8	47			
95-324	25	----	2	51			
95-325	25	----	2-1/8	54			
95-329	25	----	2-3/8	60			
95-327	25	----	2-1/2	65			
95-330	15	----	2-15/16	74			
95-331	10	----	4-5/16	110			



RUBBER CUSHIONED CLAMP, ZINC PLATED STEEL

Part #	Mounting Dia	Clamp Dia	
95402	3/8"	1/4"	----
95404	3/8"	3/8"	----
95406	3/8"	1/2"	----
95408	3/8"	5/8"	----
95410	3/8"	3/4"	----
95414	3/8"	1"	----
95418	3/8"	1 1/4"	----
95422	3/8"	1 1/2"	----
95424	3/8"	2"	----
95427	3/8"	2 1/2"	----
95432	3/8"	3"	----
95433	3/8"	4"	----
95434	3/8"	5"	----



GALVANIZED STEEL VINYL COATED CLAMP

Part #	Mounting Dia	Clamp Dia	
95504	1/4"	3/8"	----
95506	1/4"	1/2"	----
95508	1/4"	5/8"	----
95510	1/4"	3/4"	----
95512	1/4"	7/8"	----
95514	1/4"	1"	----
95516	1/4"	1 1/8"	----
95518	1/4"	1 1/4"	----
95522	1/4"	1 1/2"	----
95523	1/4"	1 3/4"	----
95524	1/4"	2"	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

HOSE FERRULES

HOSE CLAMPS

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 • ASTMB36 Alloy 268

Part #	Ferrule #	I.D.	Length	Pierce	Gauge	
32-500	6231	0.330	0.49	0.250	0.020	----
32-501	833	0.358	0.500	0.265	0.020	----
32-503	833B	0.375	0.718	0.265	0.025	----
32-502	622	0.380	0.500	0.265	0.020	----
32-550	619	0.400	0.47	0.27	0.020	----
32-504	620	0.410	0.500	0.265	0.020	----
32-551	769R	0.450	0.562	0.343	0.020	----
32-552	4750	0.478	0.687	0.328	0.025	----
32-553	624R	0.500	0.500	0.343	0.020	----
32-506	7322A	0.500	1.000	0.343	0.025	----
32-554	7322	0.500	1.000	0.328	0.025	----
32-555	625	0.525	0.47	0.36	0.020	----
32-517	625A	0.525	0.56	0.360	0.020	----
32-556	7323	0.525	1.000	0.375	0.025	----
32-521	9974	0.525	1.000	0.437	0.025	----
32-557	7324	0.531	1.000	0.375	0.025	----
32-558	626	0.550	0.484	0.375	0.020	----
32-507	3588	0.56	0.75	0.375	0.020	----
32-559	7325	0.56	1.000	0.437	0.025	----
32-561	7326	0.593	1.000	0.437	0.025	----
32-563	JJ	0.600	0.500	0.500	0.020	----
32-526	II	0.625	0.500	0.500	0.020	----
32-564	7327	0.625	1.000	0.437	0.025	----
32-565	HH	0.650	0.500	0.500	0.020	----
32-566	7328	0.656	1.000	0.437	0.025	----
32-567	GG	0.675	0.515	0.500	0.020	----
32-568	7329	0.69	1.000	0.500	0.025	----

Part #	Ferrule #	I.D.	Length	Pierce	Gauge	
32-570	7330	0.718	1.000	0.500	0.025	----
32-508	7330A	0.718	1.000	0.625	0.025	----
32-571	EE	0.725	0.530	0.500	0.020	----
32-572	DD	0.750	0.531	0.500	0.020	----
32-510	7331B	0.75	1.00	0.500	0.025	----
32-573	7331	0.750	1.000	0.625	0.025	----
32-574	CC	0.775	0.531	0.500	0.020	----
32-533	7332B	0.781	1.000	0.500	0.025	----
32-575	7332	0.781	1.000	0.625	0.025	----
32-576	BB	0.800	0.546	0.562	0.020	----
32-577	7333	0.812	1.000	0.625	0.025	----
32-578	AA	0.825	0.546	0.562	0.020	----
32-535		0.85	0.968	0.687	0.025	----
32-579	7244	0.875	0.843	0.687	0.025	----
32-539	5029A	0.900	0.875	0.687	0.025	----
32-580	7113	0.925	0.968	0.750	0.025	----
32-543	5028A	0.975	0.843	0.687	0.025	----
32-545	5235A	1.000	0.843	0.687	0.025	----
32-549	7145A	1.050	0.843	0.687	0.025	----
32-584	5027	1.100	0.843	0.812	0.025	----
32-586	7104A	1.15	0.843	0.875	0.025	----
32-588	7088A	1.175	0.875	0.875	0.025	----
32-590	875L	1.200	0.843	0.875	0.025	----
32-591	7291	1.225	0.968	0.875	0.025	----
32-592	7255	1.25	0.968	1.000	0.04	----
32-596	8000	1.425	0.875	1.062	0.025	----
32-597	1500	1.50	0.875	1.125	0.025	----



STAINLESS STEEL FERRULES

Part #	Cross #	I.D.	Length	Hole	Metal Thickness	
32552SS	x4750	.478	.687	.328	.020	----
32557SS	7324	.531	1.00	.438	.020	----
32559SS	7325	.56	1.00	.437	.020	----
32561SS	7326	.593	1.00	.437	.020	----
32564SS	7327	.625	1.00	.437	.020	----
32566SS	7328	.656	1.00	.437	.020	----
32568SS	7329	.69	1.00	.50	.020	----
32570SS	7330	.718	1.00	.625	.020	----
32575SS	7332	.781	1.00	.625	.020	----
32577SS	7333	.812	1.00	.625	.020	----
32588SS	7088A	1.175	.844	.875	.020	----

MORE SIZES AVAILABLE

AVAILABLE IN ALUMINUM
AND STEEL ALSO

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

TUBING

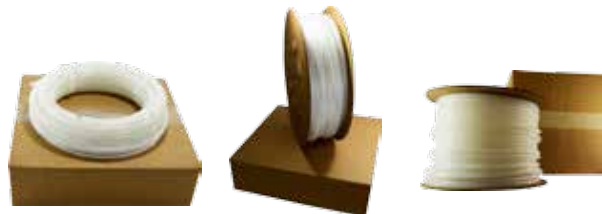


POLYURETHANE



POLYETHYLENE

Sold individually boxed



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

NYLON

Sold individually boxed



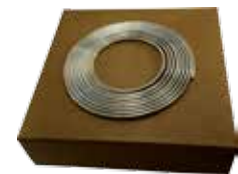
PVC

• Clear

Sold individually boxed



COPPER AND ALUMINUM



TYPE L AND REFRIGERATION

ALUMINUM



POLYURETHANE

TUBING

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)
973-341	4mm, 5/32	.093	.031	.250	200	85	600	.70
973-343	.250	.156	.047	.476	180	70	540	1.50
973-345	.375	.250	.063	1.000	150	70	450	3.40
973-346	.500	.328	.086	1.102	150	70	450	5.60

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)
73-341B	4mm, 5/32	.093	.031	.250	200	85	600	.70
73-343B	.250	.156	.047	.476	180	70	540	1.50
73-345B	.375	.250	.063	1.000	150	70	450	3.40
73-346B	.500	.328	.086	1.102	150	70	450	5.60

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)
73-341U	4mm, 5/32	.093	.031	.250	200	85	600	.70
73-343U	.250	.156	.047	.476	180	70	540	1.50
73-345U	.375	.250	.063	1.000	150	70	450	3.40
73-346U	.500	.328	.086	1.102	150	70	450	5.60

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)
73-341R	4mm, 5/32	.093	.031	.250	200	85	600	.70
73-343R	.250	.156	.047	.476	180	70	540	1.50
73-345R	.375	.250	.063	1.000	150	70	450	3.40
73-346R	.562	.375	.093	1.142	140	60	420	5.60

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	
973-200	1/8"	0.08	0.022	250	----
973-201	4mm/5/32"	0.106	0.025	180	----
973-203	1/4"	0.17	0.040	150	----
973-204	1/4"	0.125	0.0625	350	----
973-205	8mm/5/16"	0.236	0.038	150	----
973-206	3/8"	0.25	0.0625	150	----
973-207	1/2"	0.375	0.0625	125	----
973-208	5/8"	0.50	0.0625	100	----
973-211	3/4"	0.625	0.0625	100	----
973-210	1"	0.75	0.125	150	----

500' LENGTH

Part #	Tube O.D.	Tube ID	Tube Wall	Working Pressure	
73-200N5	1/8"	0.085	0.020	250	----
73-203N5	1/4"	0.17	0.040	150	----
73-204N5	1/4"	0.125	0.0625	350	----
73-206N5	3/8"	0.25	0.0625	150	----
73-207N5	1/2"	0.375	0.0625	125	----

1000' LENGTH

Part #	Tube O.D.	Tube ID	Tube Wall	Working Pressure	
73-203N1	1/4"	0.17	0.040	150	----
73-206N1	3/8"	0.25	0.0625	150	----

LLDPE POLYETHYLENE TUBING - COLORS



BLACK

- 100'
- 500'
- 1000'

Part #	Color	Length	Nominal O.D.	
73-200B	Black	100'	1/8"	----
73-201B	Black	100'	5/32"	----
73-203B	Black	100'	1/4"	----
73-204B	Black	100'	1/4"	----
73-205B	Black	100'	5/16"	----
73-206B	Black	100'	3/8"	----
73-207B	Black	100'	1/2"	----
73-208B	Black	100'	5/8"	----
73-203B5	Black	500'	1/4"	----
73-205B5	Black	500'	5/16"	----
73-206B5	Black	500'	3/8"	----
73-207B5	Black	500'	1/2"	----
73-203B1	Black	1000'	1/4"	----
73-206B1	Black	1000'	3/8"	----

GREEN



- 100'
- 500'
- 1000'

Part #	Color	Length	Nominal O.D.	
73-201G	Green	100'	5/32"	----
73-203G	Green	100'	1/4"	----
73-204G	Green	100'	1/4"	----
73-205G	Green	100'	5/16"	----
73-206G	Green	100'	3/8"	----
73-207G	Green	100'	1/2"	----
73-203G5	Green	500'	1/4"	----
73-203G1	Green	1000'	1/4"	----

WHITE



- 100'
- 500'

Part #	Color	Length	Nominal O.D.	
73-203W	White	100'	1/4"	----
73-206W	White	100'	3/8"	----
73-207W	White	100'	1/2"	----
73-207W5	White	500'	1/2"	----



BLUE

- 100'
- 500'
- 1000'

Part #	Color	Length	Nominal O.D.	
73-200U	Blue	100'	1/8"	----
73-201U	Blue	100'	5/32"	----
73-203U	Blue	100'	1/4"	----
73-204U	Blue	100'	1/4"	----
73-205U	Blue	100'	5/16"	----
73-206U	Blue	100'	3/8"	----
73-207U	Blue	100'	1/2"	----
73-203U5	Blue	500'	1/4"	----
73-206U5	Blue	500'	3/8"	----
73-203U1	Blue	1000'	1/4"	----

RED



- 100'
- 500'
- 1000'

Part #	Color	Length	Nominal O.D.	
73-203R	Red	100'	1/4"	----
73-205R	Red	100'	5/16"	----
73-206R	Red	100'	3/8"	----
73-207R	Red	100'	1/2"	----
73-203R5	Red	500'	1/4"	----
73-206R5	Red	500'	3/8"	----
73-203R1	Red	1000'	1/4"	----

YELLOW



- 100'

Part #	Color	Length	Nominal O.D.	
73-203Y	Yellow	100'	1/4"	----
73-204Y	Yellow	100'	1/4"	----
73-205Y	Yellow	100'	5/16"	----
73-206Y	Yellow	100'	3/8"	----
73-207Y	Yellow	100'	1/2"	----

ORANGE



Part #	Color	Length	Nominal O.D.	
73-203O	Orange	100'	1/4"	----

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 it's service life. Nylon 12 tubing can be used with standard push-to-connect fittings and compression fittings for simple installation.

Because of it's 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	
973-230	1/8"	0.08	.022	420	----
973-231	5/32"	0.106	.025	350	----
973-232	1/4"	0.18	.035	290	----
973-238	1/4"	0.15	.05	800	----
973-226	5/16"				
973-233	3/8"	0.275	.050	250	----
973-234	1/2"	0.375	.062	240	----

BLACK TUBING & MISC.

Part #	O.D.	Tube ID	Wall	Working Pressure	
73-230B	1/8	0.08	0.022	420	----
73-231B	5/32	0.106	0.025	350	----
73-232B	1/4	0.18	0.035	290	----
73-238B	1/4	0.15	0.05	800	----
73-233B	3/8	0.275	0.05	250	----
73-232N5*	1/4	0.18	0.035	290	----
73-238U**	1/4	0.15	0.075	800	----

• 500' Natural **Blue

*METRIC LENGTH - 100 ft. coils • available in natural color only

Part #	MM O.D.	MM I.D.	MM Wall	Working Pressure	
973-323	4	2.7	0.65	350	----
973-326	6	3.5	1.25	350	----
973-325	6	4	1	340	----
973-327	8	6	1	250	----
973-329	10	8	1	225	----
973-332	12	10	1	200	----
973-334	14	11	1.5	175	----

PVC TUBING AND TUBING CUTTERS

TUBING



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	
973-224	1/8 (.125)	1/4 (.25)	1/16 (.032)	50	----
973-223	3/16 (.187)	5/16 (.313)	1/16 (.062)	55	----
973-215	1/4 (.25)	3/8 (.375)	1/16 (.062)	55	----
973-252	5/16 (.312)	7/16 (.438)	1/16 (.062)	50	----
973-253	5/16 (.312)	1/2 (.500)	3/32 (.094)	55	----
973-216	3/8 (.375)	1/2 (.500)	1/16 (.062)	45	----
973-255	3/8 (.375)	5/8 (.625)	1/8 (.125)	55	----
973-262	3/8 (.375)	9/16 (.563)	3/32 (.094)	50	----
973-217	1/2 (.500)	5/8 (.625)	1/16 (.062)	30	----
973-219	3/4 (.750)	1 (1.00)	1/8 (.125)	35	----
973-221	1 (1.00)	1-1/4 (1.25)	1/8 (.125)	25	----

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		Part #	Size		Part #	Description	
990-571	3mm-22mm (1/8"-7/8")	----	990-570	1/8"-1-1/8"	----	91-707	Cutter w/Blade	----

MOUNTING RACKS



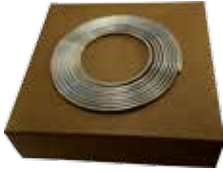
- Route and secure multiple tubing lines
- Mounting versatility
 - Racks can be easily hand separated down to single holders.
 - Thru holes provided (all sizes)
- Standard color is BLACK.
 Other colors available on special request.

Part #	Tubing OD	Description	Channels	
28-988	1/4	non-adhesive	10	----
28-989	1/4	adhesive	10	----
28-990	3/8	non-adhesive	7	----
28-991	1/2	non-adhesive	5	----

NOTE: MOUNTING SCREWS NOT PROVIDED

ALUMINUM TUBING - EASY BEND

Alloy
3003-0
ASTM
B-483



Material
to ASTM
B-483

900 PSI max
3700 Burst PSI

Bend this tubing into the shape you need without special tools or elbow fittings. It is also known as Alloy 3003. Tubing has seamless construction, which provides a smooth interior and allows it to be flared without splitting. Use with water, air, alcohol and oil. Tubing meets ASTM B483 and has a soft (annealed) temper. OD tolerance is ±0.004"

ALUMINUM VERSATUBE 50' COILS

Part #	O.D.	Wall Thick	ID	Max PSI @ 100°F	Case	50' Coils
972-190	1/8	.025	.075"	2,300	10 coils	----
972-191	3/16	.028	.132"	1,600	10 coils	----
972-192	1/4	.032	.186"	1,400	10 coils	----
972-193	5/16	.035	.243"	1,200	10 coils	----
972-194	3/8	.035	.305"	1,000	10 coils	----
972-195	1/2	.035	.43"	740	10 coils	----

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	----
972-181	-	3/16	.030	.128"	1,900	2.88	----
972-182	1/8	1/4	.030	.19"	1,400	4.02	----
972-183	-	5/16	.032	.248"	1,100	5.45	----
972-184	1/4	3/8	.032	.311"	980	6.70	----
972-185	3/8	1/2	.032	.436"	720	9.10	----
972-186	1/2	5/8	.035	.555"	610	12.55	----
972-187	5/8	3/4	.035	.68'	510	15.25	----

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	----
972-172	3/8	1/2	.035"	.43"	770	11.88	----
972-173	1/2	5/8"	.04"	.545"	720	17.10	----

WARNING: This product can expose you to chemicals, including Lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov



HIGH PRESSURE SPRAYERS



STRAIGHT THROUGH QDS



FITTINGS AND SWIVELS



NOZZLES



SPRAY GUNS AND WANDS



WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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. All Nozzles are rated for temperatures up to 300°F. Nozzles attach with ¼” quick disconnect plug.



Part #	Degree of Spray	GPM @ 4000PSI	
DX250030	0	3.0	----
DX251530	15	3.0	----
DX252530	25	3.0	----
DX254030	40	3.0	----
DX250040	0	4.0	----
DX251540	15	4.0	----
DX252540	25	4.0	----
DX254040	40	4.0	----
DX250050	0	5.0	----
DX251550	15	5.0	----
DX252550	25	5.0	----
DX254050	40	5.0	----
DX250060	0	6.0	----
DX251560	15	6.0	----
DX252560	25	6.0	----
DX254060	40	6.0	----
DX256500	65		----

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 300°F, stainless steel and ¼” male pipe thread.



Part #	Degree of Spray	GPM @ 4000PSI	
DX140030MG	0	3.0	----
DX141530MG	15	3.0	----
DX142530MG	25	3.0	----
DX144030MG	40	3.0	----
DX140040MG	0	4.0	----
DX141540MG	15	4.0	----
DX142540MG	25	4.0	----
DX144040MG	40	4.0	----
DX140050MG	0	5.0	----
DX141550MG	15	5.0	----
DX142550MG	25	5.0	----
DX144050MG	40	5.0	----
DX140060MG	0	6.0	----
DX141560MG	15	6.0	----
DX142560MG	25	6.0	----
DX144060MG	40	6.0	----
DX140070MG	0	7.0	----
DX141570MG	15	7.0	----
DX142570MG	25	7.0	----
DX144070MG	40	7.0	----

QUICK DISCONNECT NOZZLE 5-PIECE KIT

Part #	GPM @ 4000PSI	
DX259520	2.0	----
DX259530	3.0	----
DX259540	4.0	----
DX259550	5.0	----
DX259560	6.0	----
DX259570	7.0	----



WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

SWIVELS

HIGH PRESSURE SPRAYER



OFFERED EXCLUSIVELY THROUGH



RUBBER-TIP TURBO NOZZLE

Rubber tip, rotating turbo nozzle, 1/4" NPT with steel male quick disconnect plug adaptor, rated for temperatures up to 300°F.



Part #	PSI	GPM @ 4000PSI	
DX722530	2500	3.0	----
DX722540	2500	4.0	----
DX722550	2500	5.0	----
DX722560	2500	6.0	----
DX723230	3200	3.0	----
DX723240	3200	4.0	----
DX723250	3200	5.0	----
DX723260	3200	6.0	----
DX724030	4000	3.0	----
DX724040	4000	4.0	----
DX724050	4000	5.0	----
DX724060	4000	6.0	----
DX725030	5000	3.0	----
DX725040	5000	4.0	----
DX725050	5000	5.0	----
DX725060	5000	6.0	----

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	
DX60021	NBR	1/4"	----
DX60022	NBR	3/8"	----
DX60023	NBR	1/2"	----
DX60021V	Viton	1/4"	----
DX60022V	Viton	3/8"	----
DX60023V	Viton	1/2"	----

THERMAL RELIEF VALVE

140F Thermal Relief Valve, Brass, 300 PSI



Part #	Size	
DX35TR25	1/4"	----
DX35TR38	3/8"	----

90° BOOM SWIVEL

Male x Female 90° Boom swivel, Stainless Steel, 5000 PSI, 7GPM, 300°F



Part #	Size	
DX60092	3/8"	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

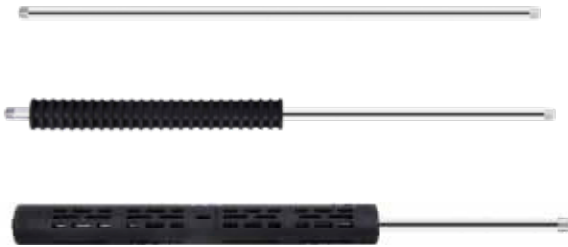


OFFERED EXCLUSIVELY THROUGH



CHROMED STEEL WAND

1/4" MNPT x 1/4" Extension Wands, 10.5 GPM, 300F



Part #	Size	Grip	
DX4324	24"	No Grip	----
DX4336	36"	No Grip	----
DX4424	24"	Molded Grip	----
DX4436	36"	Molded Grip	----
DX4524VG	24"	Vented Grip	----
DX4536VG	36"	Vented Grip	----

SPRAY GUN

Rear entry spray gun, 4000 PSI, 7 GPM, 212F max



Part #	Pressure	Flow	Temperature	
DX5090	4000	7	212	----
DX5022	4000	6.6	300	----
DX5005	5075	10.5	300	----

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 #	
DX5006	----

SPRAY GUN WITH EXTENSION

Rear entry spray gun with 12" extension, 4000psi, 7gpm, 300F max



Part #	
DX5190	----

SPRAY GUN WITH EXTENSION

Rrear entry spray gun with 12" extension, 5075psi, 10.5gpm, 300F max



Part #	
DX5197	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

COUPLERS/ PLUGS

HIGH PRESSURE SPRAYER

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	
86-030	1/4	1/4	4000	----
86-031	3/8	3/8	4000	----
86-032	1/2	1/2	4000	----

FEMALE BRASS COUPLERS



Part #	Body Size	Thread Size	PSI	
86-035	1/4	1/4	4000	----
86-036	3/8	3/8	4000	----
86-037	1/2	1/2	4000	----

MALE STAINLESS STEEL COUPLERS



Part #	Body Size	Thread Size	PSI	
86-030SS	1/4	1/4	6000	----
86-031SS	3/8	3/8	6000	----

FEMALE STAINLESS STEEL COUPLERS



Part #	Body Size	Thread Size	PSI	
86-035SS	1/4	1/4	6000	----
86-036SS	3/8	3/8	6000	----

MALE STEEL PLUGS



Part #	Body Size	Thread Size	PSI	
86-040	1/4	1/4	4000	----
86-041	3/8	3/8	4000	----
86-042	1/2	1/2	4000	----

FEMALE STEEL PLUGS



Part #	Body Size	Thread Size	PSI	
86-045	1/4	1/4	4000	----
86-046	3/8	3/8	4000	----
86-047	1/2	1/2	4000	----

MALE STAINLESS STEEL PLUGS



Part #	Body Size	Thread Size	PSI	
86-040SS	1/4	1/4	6000	----
86-041SS	3/8	3/8	6000	----

FEMALE STAINLESS STEEL PLUGS



Part #	Body Size	Thread Size	PSI	
86-045SS	1/4	1/4	6000	----
86-046SS	3/8	3/8	6000	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov



MOLDED GRIP MALE BRASS COUPLER



Part #	Thread Size	Thread Size	PSI	
86-030RG	1/4	1/4	4000	----
86-031RG	3/8	3/8	4000	----

MOLDED GRIP FEMALE BRASS COUPLER



Part #	Thread Size	Plug	PSI	
86-035RG	1/4	1/4	4000	----
86-036RG	3/8	3/8	4000	----

M22 SCREW TYPE X MNPT



Part #	Thread Size	Male	PSI	
86-001	M22	1/4	4000	----
86-002	M22	3/8	4000	----

M22 SCREW TYPE X FNPT



Part #	Thread Size	Female	PSI	
86-005	M22	1/4	4000	----
86-006	M22	3/8	4000	----

INSULATED KNOB

M22 INSULATED KNOB X MNPT



Part #	Thread Size	Male	PSI	
86-012	M22	1/4	4000	----
86-013	M22	3/8	4000	----

M22 INSULATED KNOB X FNPT



Part #	Thread Size	Female	PSI	
86-017	M22	1/4	4000	----
86-018	M22	3/8	4000	----

M22 X M22 FNPT



Part #	Thread Size	Thread Size	PSI	
86-022	M22	M22	4000	----

M22 INSULATED KNOB X QC PLUG



Part #	Thread Size	Plug	PSI	
86-020	M22	3/8	4000	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

PNEUMATICS

PNEUMATICS

PNEUMATICS



1/4" 3/8" 1/2" 1/4" 1/4" 3/8" 1/4" 1/4" 3/8"
 INDUSTRIAL INTERCHANGE ARO AUTO AUTO LINCOLN STRAIGHT THRU STRAIGHT THRU

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

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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	
28-540	1/4"	1/4"	----
28-541	1/4"	3/8"	----

BRASS MALE COUPLER



Part#	Body Size	Thread Size	
28-552	1/4"	1/4"	----
28-553	1/4"	3/8"	----

STEEL FEMALE COUPLER



Part#	Body Size	Thread Size	
28-540S	1/4"	1/4"	----
28-541S	1/4"	3/8"	----
98-810	3/8"	1/4"	----
98-811	3/8"	3/8"	----
98-812	3/8"	1/2"	----
99-812	1/2"	1/2"	----
99-813	1/2"	3/4"	----

STEEL MALE COUPLER



Part#	Body Size	Thread Size	
28-552S	1/4"	1/4"	----
28-553S	1/4"	3/8"	----
98-823	3/8"	1/4"	----
98-824	3/8"	3/8"	----
98-825	3/8"	1/2"	----
99-825	1/2"	1/2"	----
99-826	1/2"	3/4"	----

BRASS HOSE ID COUPLER



Part#	Body Size	Barb Size	
28-562	1/4"	1/4"	----
28-564	1/4"	3/8"	----

STEEL HOSE ID COUPLER



Part#	Body Size	Barb Size	
28-562S	1/4"	1/4"	----
28-564S	1/4"	3/8"	----
98-840	3/8"	1/4"	----
98-841	3/8"	3/8"	----
99-841	1/2"	3/8"	----
99-843	1/2"	1/2"	----

BRASS PUSH-ON HOSE COUPLER



Part#	Body Size	Barb Size	
28-565	1/4"	1/4"	----
28-566	1/4"	3/8"	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

INDUSTRIAL

QUICK DISCONNECTS

STEEL PUSH-ON HOSE COUPLER



Part#	Body Size	Barb Size	
28-565S	1/4"	1/4"	----
28-566S	1/4"	3/8"	----
98-842	3/8"	3/8"	----

STEEL MALE PLUG



Part#	Body Size	Thread Size	
28-545	1/4"	1/8"	----
28-546	1/4"	1/4"	----
28-547	1/4"	3/8"	----
98-814	3/8"	1/4"	----
98-815	3/8"	3/8"	----
99-816	1/2"	1/2"	----
99-817	1/2"	3/4"	----

STEEL FEMALE PLUG



Part#	Body Size	Thread Size	
28-533	1/4"	1/8"	----
28-534	1/4"	1/4"	----
28-535	1/4"	3/8"	----
98-801	3/8"	1/4"	----
98-802	3/8"	3/8"	----
99-803	1/2"	1/2"	----
99-804	1/2"	3/4"	----

BRASS MALE PLUG



Part#	Body Size	Thread Size	
28-546B	1/4"	1/4"	----

BRASS FEMALE PLUG



Part#	Body Size	Thread Size	
28-534B	1/4"	1/4"	----

STEEL HOSE ID PLUG



Part#	Body Size	Barb Size	
28-557	1/4"	1/4"	----
28-559	1/4"	3/8"	----
98-828	3/8"	3/8"	----
99-828	1/2"	3/8"	----
99-830	1/2"	1/2"	----

STEEL PUSH-ON HOSE PLUG



Part#	Body Size	Barb Size	
28-558	1/4"	1/4"	----
28-561	1/4"	3/8"	----
98-830	3/8"	3/8"	----

STEEL SWIVEL MALE PLUG



Part#	Body Size	Thread Size	
320-065	1/4"	1/4"	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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 ARO 210, Parker Interchange and Industrial Interchange plugs
- Maximum working pressure is 250 PSI

BRASS MALE COUPLER



Part#	Body Size	Thread Size	
28-579	1/4"	1/4"	----
28-589	1/4"	3/8"	----

BRASS FEMALE COUPLER



Part#	Body Size	Thread Size	
28-560	1/4"	1/4"	----

BRASS HOSE ID COUPLER



Part#	Body Size	Barb Size	
28-690	1/4"	1/4"	----
28-691	1/4"	3/8"	----

STAINLESS STEEL MALE COUPLER



Part#	Body Size	Thread Size	
28-579SS	1/4"	1/4"	----

STAINLESS STEEL FEMALE COUPLER



Part#	Body Size	Thread Size	
28-560SS	1/4"	1/4"	----

STAINLESS STEEL INDUSTRIAL MALE PLUG



Part#	Body Size	Thread Size	
28-546SS	1/4"	1/4"	----

STAINLESS STEEL INDUSTRIAL FEMALE PLUG



Part#	Body Size	Thread Size	
28-534SS	1/4"	1/4"	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

ARO 210 INTERCHANGE

QUICK DISCONNECTS

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	
28-592	1/4"	1/8"	----
28-593	1/4"	1/4"	----
28-594	1/4"	3/8"	----

FEMALE COUPLER



Part#	Body Size	Thread Size	
28-583	1/4"	1/8"	----
28-584	1/4"	1/4"	----
28-585	1/4"	3/8"	----

HOSE ID COUPLER



Part#	Body Size	Barb Size	
28-601	1/4"	1/4"	----
28-603	1/4"	3/8"	----

MALE PLUG



Part#	Body Size	Thread Size	
28-586	1/4"	1/8"	----
28-587	1/4"	1/4"	----

FEMALE PLUG



Part#	Body Size	Thread Size	
28-578	1/4"	1/4"	----

HOSE ID PLUG



Part#	Body Size	Barb Size	
28-595	1/4"	1/4"	----
28-597	1/4"	3/8"	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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	
28-515	1/4"	1/8"	----
28-516	1/4"	1/4"	----
28-517	1/4"	3/8"	----

BRASS FEMALE COUPLER



Part#	Body Size	Thread Size	
28-507	1/4"	1/4"	----
28-508	1/4"	3/8"	----

STEEL MALE COUPLER



Part#	Body Size	Thread Size	
28-516S	1/4"	1/4"	----
28-514S	3/8"	1/4"	----
28-519S	3/8"	3/8"	----

STEEL FEMALE COUPLER



Part#	Body Size	Thread Size	
28-507S	1/4"	1/4"	----
28-525S	3/8"	1/4"	----
28-526S	3/8"	3/8"	----

BRASS MALE PLUG



Part#	Body Size	Thread Size	
28-510B	1/4"	1/4"	----

BRASS FEMALE PLUG



Part#	Body Size	Thread Size	
28-501B	1/4"	1/4"	----

STEEL MALE PLUG



Part#	Body Size	Thread Size	
28-509	1/4"	1/8"	----
28-510	1/4"	1/4"	----
28-511	1/4"	3/8"	----
28-512	3/8"	1/4"	----
28-513	3/8"	3/8"	----

STEEL FEMALE PLUG



Part#	Body Size	Thread Size	
28-500	1/4"	1/8"	----
28-501	1/4"	1/4"	----
28-502	1/4"	3/8"	----
28-503	3/8"	1/4"	----
28-504	3/8"	3/8"	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

AUTOMOTIVE/ PARKER INTERCHANGE

QUICK DISCONNECTS

HOSE ID COUPLER



Part#	Body Size	Barb Size	
28-528	1/4"	1/4"	----
28-530	1/4"	3/8"	----
28-536	3/8"	1/4"	----
28-538	3/8"	3/8"	----

HOSE ID PLUG



Part#	Body Size	Barb Size	
28-518	1/4"	1/4"	----
28-520	1/4"	3/8"	----
28-523	3/8"	1/4"	----
28-524	3/8"	3/8"	----

PUSH-ON HOSE COUPLER



Part#	Body Size	Barb Size	
28-531	1/4"	1/4"	----
28-532	1/4"	3/8"	----

PUSH-ON HOSE PLUG



Part#	Body Size	Barb Size	
28-521	1/4"	1/4"	----
28-522	1/4"	3/8"	----

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	
28-683	1/4"	1/4"	----

STEEL MALE PLUG



Part#	Body Size	Thread Size	
28-685	1/4"	1/8"	----
28-686	1/4"	1/4"	----

FEMALE COUPLER



Part#	Body Size	Thread Size	
28-684	1/4"	1/4"	----

STEEL FEMALE PLUG



Part#	Body Size	Thread Size	
28-687	1/4"	1/4"	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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	
28-667	1/8"	----
28-665	1/4"	----
28-666	3/8"	----
28-668	1/2"	----
28-669	3/4"	----
28-670	1"	----

FEMALE PIPE COUPLER

BRASS



Part #	Body & Thread Size	
28-671	1/8"	----
28-651	1/4"	----
28-652	3/8"	----
28-672	1/2"	----
28-673	3/4"	----

MALE PLUG

STEEL



Part #	Size	
28-675	1/8"	----
28-639	1/4"	----
28-640	3/8"	----
28-676	1/2"	----
28-677	3/4"	----

FEMALE PLUG

STEEL



Part #	Size	
28-688	1/8"	----
28-619	1/4"	----
28-620	3/8"	----
28-679	1/2"	----
28-680	3/4"	----
28-681	1"	----

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

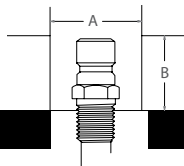
Part #	Size	A	B	
29-900	1/8"	0.69	0.69	----
29-901	1/4"	0.84	0.94	----
29-902	3/8"	1.00	0.97	----

3/8" BASIC SIZE

Part #	Size	A	B	
29-906	1/4"	1.00	0.94	----
29-907	3/8"	1.00	1.13	----
29-908	1/2"	1.81	1.25	----

1/2" BASIC SIZE

Part #	Size	A	B	
29-911	1/2"	1.25	1.50	----
29-912	3/4"	1.50	1.56	----



FEMALE PLUG (STEEL)

1/4" BASIC SIZE

Part #	Size	
29-903	1/8"	----
29-904	1/4"	----
29-905	3/8"	----

3/8" BASIC SIZE

Part #	Size	
29-909	1/4"	----
29-910	3/8"	----

1/2" BASIC SIZE

Part #	Size	
29-913	1/2"	----
29-914	3/4"	----

MINI TYPE QUICK DISCONNECTS

MALE COUPLER



Part #	Size	
28-605	1/8"	----

FEMALE PLUG



Part #	Size	
28-608	1/8"	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

MUFFLERS/ VENTS

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	
300-020	10/32"	----
300-021	1/8"	----
300-022	1/4"	----
300-023	3/8"	----
300-024	1/2"	----
300-026	3/4"	----
300-028	1"	----

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	
300-031	10/32"	----
300-032	1/8"	----
300-033	1/4"	----
300-034	3/8"	----
300-035	1/2"	----
300-036	3/4"	----
300-037	1"	----

BRASS BREATHER VENT



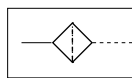
Materials:
 Body: Brass
 Element: Sintered Bronze
 Max Operating Pressure: 150PSI
 Temperature: 35° to 300°F

- 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	
300-000	10-32"	----
300-001	1/8"	----
300-002	1/4"	----
300-003	3/8"	----
300-004	1/2"	----
300-006	3/4"	----
300-008	1"	----

40 Micron element

STAINLESS BREATHER VENT

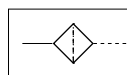


Materials:
 Body: 303 Grade Stainless Steel
 Element: 316 Grade Stainless Steel
 Max Operating Pressure: 150PSI
 Temperature: 35° to 390°F

Part #	Size	
300-014	1/8"	----
300-015	1/4"	----
300-017	3/8"	----
300-018	1/2"	----
300-019	3/4"	----
300-007	1"	----

PNEUMATIC ACCESSORIES

PRESSURE SNUBBER



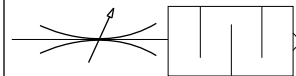
Materials:
 Body: Brass
 Element: Sintered Bronze
 Max Operating Pressure: 9000PSI
 Temperature: 35° to 300°F

- 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	
28-354	1/4"	40 um	----
28-353	1/4"	30 um	----
28-352	1/4"	25 um	----
28-351	1/4"	20 um	----
28-350	1/4"	10 um	----

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	
5 um	Purple	Air and Other Gases

SPEED CONTROL VALVE



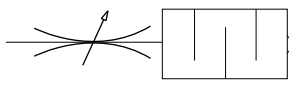
Materials:
 Body: Brass
 Element: 40 Micron Sintered Bronze
 Max Operating Pressure: 300PSI
 Temperature: 35° to 300°F

- 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	
940-800	1/8"	----
940-801	1/4"	----
940-803	3/8"	----
940-804	1/2"	----
940-805	3/4"	----
940-806	1"	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

STAINLESS SPEED CONTROL VALVE

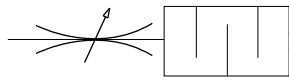


70 Micron filter element

Materials:
Body: 303 Grade Stainless Steel
Element: 316 Grade Stainless Steel
Max Operating Pressure: 300PSI
Temperature: 35° to 392°F

Part #	Size	
940-810	1/8"	----
940-811	1/4"	----
940-812	3/8"	----
940-813	1/2"	----
940-814	3/4"	----
940-815	1"	----

MUFFLER W/ FLOW ADJUSTMENT



Materials:
Body: Brass
Element: Sintered Bronze
Max Operating Pressure: 300PSI
Temperature: 35° to 300°F

Part #	Size	
28-379	1/8"	----
28-380	1/4"	----
28-381	3/8"	----
28-382	1/2"	----

HIGH FLOW ALUMINUM MUFFLER

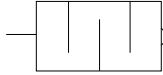
• hole pattern



Materials:
Body: Aluminum
Element: 50 Mesh Stainless Steel
Max Operating Pressure: 300PSI
Temperature: 35° to 160°F

Part #	Size	
940-822	1/8"	----
940-823	1/4"	----
940-824	3/8"	----
940-825	1/2"	----
940-826	3/4"	----
940-827	1"	----

HIGH FLOW STEEL MUFFLER



Materials:
Body: Steel
Element: 50 Mesh Stainless Steel
Max Operating Pressure: 300PSI
Temperature: 35° to 160°F

Part #	Size	
28-373	1/8"	----
28-374	1/4"	----
28-375	3/8"	----
28-376	1/2"	----
28-377	3/4"	----
28-378	1"	----

ALUMINUM HIGH FLOW MUFFLER

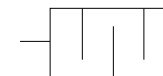


Materials:
Body: Aluminum
Element: 50 Mesh Stainless Steel
Max Operating Pressure: 300PSI
Temperature: 35° to 160°F

- 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	
28-367	1/8"	----
28-368	1/4"	----
28-369	3/8"	----
28-370	1/2"	----
28-371	3/4"	----
28-372	1"	----

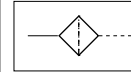
PLASTIC HIGH FLOW MUFFLER



Materials:
Body: Black Nylon
Element: 50 Mesh Stainless Steel
Max Operating Pressure: 150PSI
Temperature: 35° to 120°F

Part #	Size	
28-363	1/8"	----
28-364	1/4"	----
28-365	3/8"	----
28-366	1/2"	----

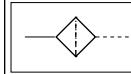
NIPPLE INLINE FILTER



Materials:
Body: Brass
Element: 40 Micron Sintered Bronze
Max Operating Pressure: 300PSI
Temperature: 35° to 300°F

Part #	Size	
940-845	1/8"	----
940-846	1/4"	----
940-847	3/8"	----
940-848	1/2"	----

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	
940-840	1/8"	----
940-841	1/4"	----
940-842	3/8"	----
940-843	1/2"	----
940-844	3/4"	----

I have never let my schooling interfere with my education.

- Mark Twain

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

MANIFOLDS & AIR REGULATORS

PNEUMATIC ACCESSORIES

CHROME PLATED BRASS MANIFOLDS

- 1/4" inlet and outlets



Part #	Description	
28-444	2 Port	----
28-445	3 Port	----
28-446	4 Port	----

- 1/4" Inlet on each end



MANIFOLDS - Aluminum with Black Anodizing

Materials:

Aluminum with black anodizing for corrosion resistance.

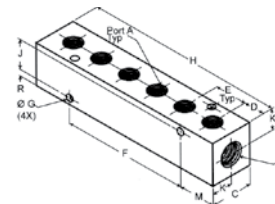
Specifications:

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		A - out NPT	B - in NPT	C	D	E	F	G	H	J	K	M	R
28-450	4	----	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	----						3.00		4.75				
28-456	10	----						6.00		7.75				
28-457	2	----	1/4"	3/8"	1.25	0.63	0.88	0.88	0.20	3.00	0.89	0.63	1.06	0.18
28-458	3	----						2.63		4.75				
28-460	5	----						6.13		8.25				
28-464	9	----	3/8"	3/8"	1.25	1.00	1.13	1.13	0.20	4.25	0.89	0.63	1.56	0.18
28-465	10	----						2.25		5.38				
28-467	3	----						3.38		6.50				
28-468	4	----	3/8"	3/8"	1.25	1.00	1.13	4.50	0.20	7.63	0.89	0.63	1.56	0.18
28-469	5	----						6.50		7.63				
28-470	6	----												

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	
320-120	1/4" Inlet	----
320-121	3/8" Inlet	----
320-122	1/2" Inlet	----

three 1/4" Outlets

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	
AR2	1/4"	1/8	0.05~0.85Mpa(0.5~8.5kgf/cm2)(7.25psi~123psi)	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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. Marked ASME, NB
- 1/ Blister card.



Part #	Male NPT	Pop-off Pressure	Air Flow	
87001	1/4"	70 PSI	70 CFM	----
87002	1/4"	125 PSI	120 CFM	----
87003	1/4"	150 PSI	140 CFM	----
87004	1/4"	200 PSI	170 CFM	----

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.
- Marked ASME, UV, NB



Part #	Male NPT	Pop-off Pressure	
87008	1/4"	125 PSI	---
87009	1/4"	150 PSI	---

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	
87020	1/2" NPT Male	3/8" Tube Compression male	20	----
87021	1/2" NPT Male	1/2" Tube Compression male	20	----



87023	1/2" NPT Male	1/2" NPT Female	20	----
-------	---------------	-----------------	----	------

The memories we make with our family is everything.— Candace Cameron Bure

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

PNEUMATICS

MULTI-PURPOSE AIR VENT



Part #	Size	
46-048	1/8"	----
46-048S*	1/8" SS	----

#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	
32-782	3/16"	----

INFLATOR



INT x 3/16

Part #	Size	
32-783	3/16"	----

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	
20-780	1/8"	2.15	9/16"	----

INT = Inflation needle thread .305 in. OD x 32 threads per inch (see page 371)

PNEUMATIC ACCESSORIES

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	
46-620	1/8	----

1/8" NPT 1.207" LONG SPRING CORE

7/16" Hex

1/8 x INT



Part #	Size	
46-621	1/8	----

1/4" NPT 1.46" LONG SPRING CORE

9/16" Hex

w/ Black cap

1/4 x INT



Part #	Size	
46-622	1/4	----

TANK VALVE ACCESSORIES

BLACK PLASTIC CAP

No gasket

Inflation needle threads



Part #		
46-630		----

SHORT NICKEL PLATED DOME CAP

Dome skirted type

Inflation needle thread



Part #		
46-631		----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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	
320-053	1/4"	----

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	
320-054	1/4"	----

SAFETY BLOW GUN

- N/P steel handle with plastic sleeve
- Brass Valve
- Zinc body
- Aluminum nozzle



90 PSI

1/8" Outlet

Part #	Size	
320-050	1/4" Inlet	----

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	
320-055	1/4"	----

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	
320-036	1/4"	----

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	
320-035	1/4"	----

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	
320-070	1/8 - 27	----

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	
320-075	1/8 MIP x Female Needle Thread	----

51-338 SST10 411BT 2056

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

TIRE GAUGES

PNEUMATIC ACCESSORIES

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)	
320-021	20-120psi	2 psi	Metal	Metal	4 sided plastic	----
320-022	10-120psi	2 psi	Plastic	Metal	4 sided plastic	----
320-023	20-120psi	2 psi	Metal	Metal	4 sided plastic	----

INFLATION NEEDLE



• See thread note below

Part #	
320-095	----

1 PIECE BLOW GUN TAPERED NOZZLE



Part #	Size	
320-076	NT	----

1 PIECE BLOW GUN STANDARD NOZZLE



Part #	Size	
320-077		----

VOLUME REGULATOR



Part #	FIP X MIP	
46-615	1/4	----

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 #	
320-410	----

1 PIECE EXTENSION



Part #	Size	
320-080	NT	----

1 PIECE BLOW GUN ADAPTER



Part #	Size	
320-078	Female NT x 1/8 MPT	----

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	
307-030	25'	1/4" NPT	----
307-031	50'	1/4" NPT	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

HEX BALL FOOT CHUCK



Part #		
46-600	1/4 FPT Live Air	----

MALE BALL FOOT CHUCK



Part #		
46-605	1/4 MIP Live Air	----

BALL FOOT CHUCK W/ 1/4 ID HOSE BARB



Part #		
46-607	1/4 ID Live Air	----

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 #		
320-000	1/4	----

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 #		
320-005	1/4	----

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	
320-010	10-120 psi	2 psi	1/4 FPT	12"	----
320-011	10-120 psi	2 psi	1/4 FPT	12"	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

AIR ACCESSORY SET

PNEUMATIC ACCESSORIES

**16PCS-AIR ACCESSORY SET
PART# 87-400**

Contents of blister card package



LIST PRICE: —

Components and part#'s		Page #
1pc-1/4"FNPT industrial coupler	28-540	349
2pcs-1/4"FNPT industrial plugs	28-534	350
2pcs-1/4"MNPT industrial plugs	28-546	350
1pc-1/4" male connector	28-212	8
1pc-1/4" double female connector	28-059	3
1pc-ball foot chuck	46-600	363
1pc-blow gun	320-050	361
1pc-dial tire gauge	320-410	362
1pc-tapered rubber tip	320-070	361
1pc-blow gun safety nozzle	320-075	361
1pc-blow gun tapered nozzle	320-076	362
2pcs-inflation needles	320-095	362
1pc-25ft. nylon recoil hose	307-030	362

**10PCS-AIR ACCESSORY SET
PART# 87-402**

Contents of blister card package



LIST PRICE: —

Components and part#'s		Page #
1pc-1/4"female connector	28-059	3
1pc-blow gun safety nozzle	320-075	361
1pc-blow gun tapered nozzle	320-076	362
1pc-ball foot chuck	46-605	363
1pc-blow gun	320-050	361
1pc-1/4"FNPT industrial coupler	28-540	349
1pc-1/4" FNPT industrial plug	28-534	350
1pc-1/4"MNPT industrial plug	28-546	350
2pcs-inflation needles	320-095	362

**7PCS-AIR ACCESSORY SET
PART# 87-404**

Contents of blister card package



LIST PRICE: —

Components and part#'s		Page #
1pc-blow gun rubber tip	320-070	361
1pc-blow gun safety nozzle	320-075	361
1pc-blow gun tapered nozzle	320-076	362
1pc-extension	320-080	362
1pc-blow gun	320-050	361
2pcs-inflation needles	320-095	362

**11PCS-AIR ACCESSORY SET
PART# 87-406**

Contents of blister card package



LIST PRICE: —

Components and part#'s		Page #
1pc-blow gun rubber tip	320-070	361
1pc-blow gun safety nozzle	320-075	361
1pc-blow gun tapered nozzle	320-076	362
1pc-blow gun standard nozzle	320-077	362
1pc-blow gun adapter	320-078	362
1pc-hose&chuck assembly	320-414	362
1pc-blow gun	320-050	362
1pc-inflation needle	320-095	362
1pc-1/4"FNPT industrial coupler	28-540	349
1pc-1/4" FNPT industrial plug	28-534	350
1pc-1/4"MNPT industrial plug	28-546	350

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

17PCS-AIR ACCESSORY SET

PART# 87-408



LIST PRICE: —

Contents of blister card package

Components and part#'s		Page #
1pc-1/4" double female connector	50004	409
2pcs-1/4" double male connectors	54044	409
1pc-blow gun safety nozzle	320-075	361
1pc-blow gun tapered nozzle	320-076	362
1pc-dual-foot tire chuck	320-005	363
1pc-tire gauge	320-021	362
1pc-blow gun	320-050	361
1pc-1/4" FNPT industrial coupler	28-540S	349
2pcs-1/4" FNPT industrial plug	28-534	350
4pcs-1/4" MNPT industrial plug	28-546	350
2pcs-inflation needles	320-095	362

12PCS-AIR ACCESSORY SET

PART# 87-410



LIST PRICE: —

Contents of blister card package

Components and part#'s		Page #
1pc-blow gun safety nozzle	320-075	361
1pc-blow gun tapered nozzle	320-076	362
1pc-blow gun rubber nozzle	320-070	361
1pc-ball foot tire chuck	46-600	363
1pc-blow gun	320-050	361
1pc-1/4"FNPT industrial coupler	28-540	349
1pc-1/4" MNPT industrial coupler	28-552	349
2pcs-1/4"FNPT industrial plug	28-534B	350
2pcs-1/4"MNPT industrail plug	28-546B	350
1pc-inflation needle	320-095	362

20PCS-AIR ACCESSORY SET

PART# 87-412



LIST PRICE: —

Contents of blister card package

Components and part#'s		Page #
1pc-dual-foot tire chuck	320-005	363
1pc-tire gauge	320-021	362
1pc-blow gun rubber nozzle	320-070	361
1pc-blow gun adapter	320-078	362
1pc-1/4" double male connector	54044	409
1pc-1/4" double female connector	50004	409
1pc-blow gun safety nozzle	320-075	361
1pc-blow gun tapered nozzle	320-076	362
1pc-thread seal tape	982-107	370
1pc-blow gun	320-050	361
2pcs-1/4"FNPT industrial coupler	28-540S	349
2pcs-1/4"FNPT industrial plug	28-534	350
3pcs-1/4"MNPT industrial plug	28-546	350
2pcs-inflation needles	320-095	362
1pc-1/4"x 25Ft coil Nylon hose	307-030	362

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

QUICK DISCONNECT KITS

PNEUMATIC ACCESSORIES

**1/4" X 1/4" NPT INDUSTRIAL 7PCS
PART# 87-414**

Contents of blister card package



LIST PRICE: —

Components and part#'s		Page #
2pc-1/4"x1/4" FNPT T I/M coupler	28-540S	345
2pcs-1/4"x1/4" FNPT I/M plugs	28-534	350
2pcs-1/4"x1/4" MNPT I/M plugs	28-546	350
1pc-double 1/4" MNPT fitting	54044	409

**1/4" X 1/4" NPT INDUSTRIAL 5PCS
PART# 87-416**

Contents of blister card package



LIST PRICE: —

Components and part#'s		Page #
1pc-1/4"x1/4"FNPT I/M coupler	28-540S	349
4pc-1/4"X1/4" MNPT I/M plug	28-546	350

**1/4" X 1/4" NPT INDUSTRIAL 5PCS
PART# 87-418**

Contents of blister card package



LIST PRICE: —

Components and part#'s		Page #
1pc-1/4"x1/4"FNPT I/M coupler	28-540S	349
1pc-1/4"x1/4"FNPT I/M plug	28-534	350
1pc-1/4"X1/4" MNPT I/M plug	28-546	350
1pc-double 1/4" MNPT fitting	54-044	409

**1/4" X 1/4" NPT INDUSTRIAL 3PCS
PART# 87-420**

Contents of blister card package



LIST PRICE: —

Components and part#'s		Page #
1pc-1/4"x1/4" FNPT I/M coupler	28-540S	349
1pc-1/4"x1/4" FNPT I/M plug	28-534	350
1pc-1/4"x1/4" MNPT I/M plug	28-546	350

**3/8" X 1/4" NPT AUTOMOTIVE 5PCS KIT
PART# 87-422**

Contents of blister card package



LIST PRICE: —

Components and part#'s		Page #
1pc-3/8"x1/4" FNPT Automotive coupler	28-525S	353
2pcs-3/8"x1/4"MNPT Automotive plugs	28-512	353
1pc-double 1/4"MNPT fitting	28-212	8
1pc-double 1/4"FNPT fitting	28-059	3

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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.



**1-1/2" FACE
1/8" NPT LOWER MOUNT**

Part #	PSI	
80-501	0-15	----
80-502	0-30	----
80-503	0-60	----
80-504	0-100	----
80-505	0-160	----
80-506	0-200	----

LOWER MOUNT

- Plastic lens (window)



**2" FACE
1/4" LOWER MOUNT**

Part #	PSI	
80-001	0-15	----
80-002	0-30	----
80-003	0-60	----
80-004	0-100	----
80-005	0-160	----
80-006	0-200	----
80-007	0-300	----
80-020	30-0 Vacuum	----



**2-1/2" FACE
1/4" LOWER MOUNT**

Part #	PSI	
80-031	0-15	----
80-032	0-30	----
80-033	0-60	----
80-034	0-100	----
80-035	0-160	----
80-036	0-200	----



**1-1/2" FACE
1/8" NPT CENTER BACK MOUNT**

Part #	PSI	
80-511	0-15	----
80-512	0-30	----
80-513	0-60	----
80-514	0-100	----
80-515	0-160	----
80-516	0-200	----

CENTER BACK MOUNT



**2" FACE
1/4" CENTER BACK MOUNT**

Part #	PSI	
80-301	0-15	----
80-302	0-30	----
80-303	0-60	----
80-304	0-100	----
80-305	0-160	----
80-306	0-200	----
80-307	0-300	----



**2-1/2" FACE
1/4" CENTER BACK MOUNT**

Part #	PSI	
80-331	0-15	----
80-332	0-30	----
80-333	0-60	----
80-334	0-100	----
80-335	0-160	----
80-336	0-200	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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	
80-601	0-15	----
80-602	0-30	----
80-603	0-60	----
80-604	0-100	----
80-605	0-160	----
80-606	0-200	----



**2-1/2" FACE
1/4" LOWER MOUNT**

Part #	PSI	
80-061	0-15	----
80-062	0-30	----
80-063	0-60	----
80-064	0-100	----
80-065	0-160	----
80-066	0-200	----
80-067	0-300	----
80-068	0-400	----
80-069	0-600	----
80-100	0-1000	----
80-101	0-1500	----
80-102	0-2000	----
80-103	0-3000	----
80-104	0-5000	----
80-105	0-10000	----
80-080	30-0 Vacuum	----
80-081	-30 to +30	----

- 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	
80-463	0-100	----

CENTER BACK MOUNT



**1-1/2" FACE
1/8" CENTER BACK MOUNT**

Part #	PSI	
80-611	0-15	----
80-612	0-30	----
80-613	0-60	----
80-614	0-100	----
80-615	0-160	----
80-616	0-200	----



**2-1/2" FACE
1/4" CENTER BACK MOUNT**

Part #	PSI	
80-201	0-15	----
80-202	0-30	----
80-204	0-60	----
80-203	0-160	----
80-205	0-100	----
80-206	0-200	----
80-207	0-300	----
80-208	0-400	----
80-209	0-600	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

Water Test Gauge

**0-300 PSI DIAL
3/4" FEMALE HOSE
CONNECTION**



Part #	Face Size	
991-249	2"	----
991-250	2-1/2"	----

**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 #	
991-251	----

GAS TEST GAUGE

Pressure test residential and commercial pipe systems



Part #	Face Size	
GT15	0-15	----
GT30	0-30	----
GT60	0-60	----

BODY ONLY



Part #	Face Size	
991-259	3/4" FIP x 1/4" TAP	----

SYPHON

BRASS

Syphons protect instruments from effects of hot pressure media commonly used in steam applications



Part #	Size	
995-210	1/4" 90°	----
995-211	1/4" 180°	----
995-212	1/4" 270°	----
995-213	1/4" 360°	----

STEEL

Syphons protect instruments from effects of hot pressure media commonly used in steam applications



Part #	Size	
995-214	1/4" 90°	----
995-215	1/4" 180°	----
995-216	1/4" 270°	----
995-217	1/4" 360°	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

TAPES/ SEALANT

PTFE THREAD SEAL TAPE

- Density 0.4
- Thickness 3.5 MIL
- Meets MIL specs



Part #	Size	Case Qty	
982-107	1/2" x 260"	500	----
982-108	1/2" x 520"	500	----
982-109	3/4" x 260"	350	----
982-110	3/4" x 520"	350	----

POP OUT COVERED SPOOL

GREY STAINLESS STEEL

- Density 1.2
- Thickness 4MIL
- Meets MIL specs



Part #	Size	Case Qty	
982-135	1/2" x 260"	250	----
982-136	1/2" x 520"	150	----
982-137	3/4" x 260"	150	----
982-138	3/4" x 520"	150	----

GREEN OXYGEN TAPE

- Density 1.2
- Thickness 3.5MIL
- Meets MIL specs



Part #	Size	Case Qty	
982-130	1/2" x 260"	250	----
982-131	1/2" x 520"	150	----
982-132	3/4" x 520"	150	----

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



Part #	Size	Case Qty	
982-120	1/2" x 1368"	250	----
982-121	3/4" x 1368"	150	----
982-122	1" x 1296"	150	----

YELLOW GAS LINE TAPE

- Density 0.9
- Thickness 4MIL
- Meets MIL specs



Part #	Size	Case Qty	
982-125	1/2" x 260"	250	----
982-126	1/2" x 520"	150	----
982-127	3/4" x 520"	150	----

PVC ELECTRICAL TAPE

- Rated to 176 degrees fahrenheit
- Suitable for use up to 600V
- UL Listed
- Individually wrapped in cellophane



Part #	Size	
982140	3/4" X 60' Black	----

THREAD SEALANT

GASOILA SOFT-SET THREAD SEALANT WITH PTFE



Part#	Size	Units per case	
983100	1/4 pt. Brush	24	----
983101	1/2 pt. Brush	24	----
983102	1 pt. Brush	12	----

PLS 2 PREMIUM THREAD AND GASKET SEALER



Part#	Size	Units per case	
983110	1/4 pt. Brush	12	----
983111	1 pt. Brush	6	----

GASOILA NT NON-PTFE THREAD SEALANT



Part#	Size	Units per case	
983120	1/2 pt. Brush	12	----
983121	1 pt. Brush	6	----

JC-30 GASOILA HIGH-FILL



Part#	Size	Units per case	
983115	1/4 pt. Brush	12	----
983116	1 pt. Brush	6	----

FREE ALL DEEP PENETRATING OIL



Part#	Size	Units per case	
983125	6 oz. Aerosol	12	----
983126	11 oz. Aerosol	12	----

LUBE-IT ALL DEEP LUBRICATING OIL



Part#	Size	Units per case	
983130	6 oz. Aerosol	12	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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	
39404	12'	6"	6"	----
39400	15'	12"	12"	----
39402	15'	40"	12"	----
39406	20'	12"	12"	----



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	
39839	5th Wheel slider coil	up to 54"	(2) 1/4" MPT	----
39838	5th Wheel slider coil	up to 72"	(2) 1/4" MPT	----

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	
39825	Combo 3 in 1 assembly 15 ft.	----
39962	Combo 4 in 1 assembly 15 ft.	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

HOSE SUPPORT

TRUCK AND TRAILER



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	
39855	3/8" Quick fix hose fitting	----
*39856	3/8" Quick fix hose kit- clam pack	----
39857	1/2" Quick fix hose fitting	----

*Supplied with hex tool



39425

39426

POGO STICKS CANNISTER STYLE

- 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	
39425	40"	Chrome finish	----
39426	40"	Zinc Plated Steel	----

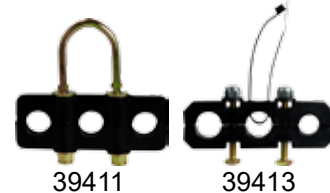


39409

39410

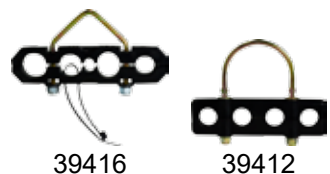
HOSE HOLDERS

- ABS Plastic
- 2, 3 and 4 Hold



39411

39413



39416

39412

Part #	Size	Description	
39409	1/2"	2-Hose Holder Hex Head	----
39410	1/2"	2-Hose Holder	----
39411	1/2"	3-Hose Holder	----
39413	1/2"	3-Hose Hex Head w Cable tie	----
39416	1/2"	4-Hose V Bolt w Cable Tie	----
39412	1/2"	4-Hose Holder	----

HOSE SEPARATORS

- ABS Plastic



39415

39418

Part #	Size	Description	
39414	3/8"	2-Hose Separator	----
39415	3/8"	4-Hose Separator	----
39418	1/2"	2-Hose Separator	----
39419	1/2"	4-Hose Separator	----

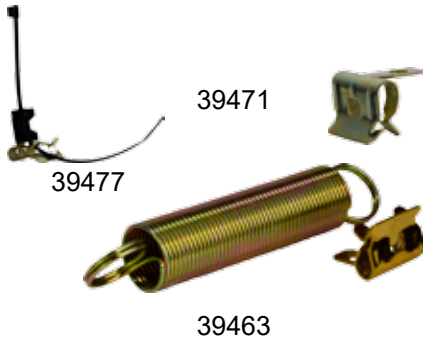
WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov



TENDER KIT COMPONENTS

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

• Sold individually



SPRING WITH TANDEM FRAME CLIP

- Steel spring and clip - yellow dichromate finish
- 3/4" OD
- Beam clip

Part #	Description	
39477	Frame Clip with Cable Tie	----

Part #	Length	Description	
39463	6" Spring	Tandem frame clip	----
39464	3" Spring	Tandem frame clip	----
39471		Frame clip only	----



CLIPS

Part #	Description	
95631	ABS Clip for 1/2" Air Hose	----
95640	5" Axle Clip	----
95641	5-3/4" Axle Clip	----

Success is no accident. It is hard work, perseverance, learning, studying, sacrifice and most of all, love of what you are doing or learning to do.

- Pele

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

HOSE SUPPORT

TRUCK AND TRAILER



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	
39442	16" / 1pc	1pc	1pc		----
39444	16" / 2 pcs	1pc	1pc	2pcs	----
39446	20" / 1pc	1pc	1pc		----
39448	20" / 2pcs	1pc	1pc	2pcs	----
39452	25" / 1pc	1pc	1pc		----
39453	25" / 2pcs	1pc	1pc	2pcs	----

HYDRAULIC TENDER KIT

Part #	Spring & Tube Length/ #pcs	Large Clip	Hanger Bracket	Yoke	
39457	25" / 2pcs	1pcs	1pc	2pcs	----



SLIDER BAR KITS

Part #	Spring & Tube Length/ #pcs	Large Clip	3 Hole Clamp	Slider Bar Length	Yoke	
39437	16" / 1pc	1pc	1pc	43"		----
39438	16" / 2pcs	1pc	1pc	43"	2pcs	----
39459	20" / 2pcs	1pc	1pc	43"	2pcs	----
39460	25" / 1pc	1pc	1pc	43"		----
39461	25" / 2pcs	1pc	1pc	43"	2pcs	----
39470	16" / 1pc	1pc	1pc	38"		----
39462	16" / 2pcs	1pc	1pc	38"	2pcs	----
39451	25" / 1pc	1pc	1pc	38"		----
39454	25" / 2pcs	1pc	1pc	38"	2pcs	----

BARS, SPRINGS, TUBES

Part #	Spring & Tube Length/ #pcs	
39443	16" Tube only	----
39447	20" Tube only	----
39436	25" Tube only	----
39466	16" Spring only	----
39467	20" Spring only	----
39468	25" Spring only	----
39474	38" Slider Bar	----
39475	43" Slider Bar	----



WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

ALUMINUM GLADHANDS

- 1/2 " FPT port
- Aluminum Casting
- Permanent Clamp Screw
- Black rubber seals
- Stainless Steel filter
- Meet SAE J318 requirements



Part #	Description	Material	Seal	Filter	Port A	
39870	Universal	Aluminum	Blk Rubber	No	1/2"	----
39871	Universal with filter	Aluminum	Blk Rubber	Yes	1/2"	----
39877	Emergency Red	Aluminum	Blk Rubber	No	1/2"	----
39878	Emergency with filter	Aluminum	Blk Rubber	Yes	1/2"	----
39874	Service Blue	Aluminum	Blk Rubber	No	1/2"	----
39875	Service with filter	Aluminum	Blk Rubber	Yes	1/2"	----

PLATED ALUMINUM GLADHANDS



Part #	Description	Material	Seal	Filter	Port A	
39832	Universal Standard	Plated Aluminum	Blk Rubber	No	1/2"	----
39833	Service - Blue	Plated Aluminum	Blk Rubber	No	1/2"	----
39834	Emergency - Red	Plated Aluminum	Blk Rubber	No	1/2"	----
39828	Service 38 degree	Plated Aluminum	Blk Rubber	No	1/2"	----
39829	Emergency 38 dgree	Plated Aluminum	Blk Rubber	No	1/2"	----
39830	Service 38 degree	Plated Aluminum	Blk Rubber	No	3/8"	----
39831	Emergency 38 dgree	Plated Aluminum	Blk Rubber	No	3/8"	----

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.



Part #	Description	Material	Seal	Filter	Port A	
39506	Universal	Cast Iron	Black Polyurethane	No	1/2"	----
39507	Emergency	Cast Iron	Red Polyurethane	No	1/2"	----
39508	Service	Cast Iron	Blue Polyurethane	No	1/2"	----

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



Part #	Type	Material	Seal	Filter	Port A	Port B	
39511	Emergency	Aluminum	Blk Rubber	No	Unplugged	Plugged	----
39512	Service	Aluminum	Blk Rubber	No	Unplugged	Plugged	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov



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	
39509	Service with blue poly seal	Yes	1/2"	----
39510	Emergency with red poly seal	Yes	1/2"	----

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	
39515	Service (Blue)	Aluminum	Blk Rubber	yes	----
39516	Emergency (Red)	Aluminum	Blk Rubber	yes	----

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

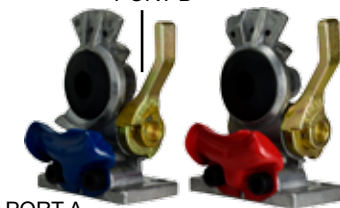


Part #	Description	Material	Seal	Filter	
39520	1/2" Service (Blue)	Aluminum	Blk Rubber	No	----
39521	3/8" Service (Blue)	Aluminum	Blk Rubber	No	----
39522	1/2" Emergency (Red)	Aluminum	Blk Rubber	No	----
39524	3/8" Emergency (Red)	Aluminum	Blk Rubber	No	----

PORT B

LEVER STYLE SHUTOFF GLADHAND

- Flange mount
- Metal handle shutoff
- Full face rubber seal
- Tough metal Ball valve
- Color coded
- Meets SAE J318



PORT A

Part #	Description	Material	Seal	Filter	Port A NPT	Port B NPT	
39531	Emergency (Red)	Aluminum	Blk Rubber	No	3/8"	1/4"	----
39530	Service (Blue)	Aluminum	Blk Rubber	No	3/8"	1/4"	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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	
39535	Poly grip hardware	----

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	
39537	Sure grip	----

GLADHAND PACIFIER SEAL



- Seals Gladhand from moisture, dirt and debris

Part #	Description	
39566	Gladhand pacifier	----

GLADHAND SEALS

Seal Options:

- Rubber
- Polyurethane
- With screen filter
- Double lip
- Filter screen only



Part #	Description	
39541	Blue, Polyurethane	----
39542	Red, Polyurethane	----
39543	Black, Polyurethane	----
39556	Blue with a screen filter Polyurethane	----
39557	Red with a screen filter Polyurethane	----
39558	Black with a screen filter Polyurethane	----
39550	Blue Double lip, Polyurethane	----
39551	Red Double Lips, Polyurethane	----
39552	Double Lip, Polyurethane	----
39544	Grey, Closed Style, Polyurethane	----
39560	Filter, Screen, Gladhand	----
39559	Filter, Screen, Gladhand	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov



39565

DUMMY GLADHAND COUPLING KIT

- 6 1/2" coupling length

Part #	Connection	Vent	Material	
39563	Chain	Yes	Steel Yellow Zinc plated	----
39564	Chain	No	Steel Yellow Zinc plated	----
39565	Cable	N/A	Aluminum	----



39574

39575

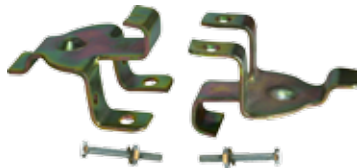
NYLON GLADHAND AND PLUG HOLDER

- Stores Gladhand and electrical hook ups at a 45° angle.
- Can accept heavy ABS plug
- Standard mounting holes to install on back of cab.
- Glass-filled nylon, non-corrosive construction.

Part #	Description	
39574	1 plug slot	----
39575	2 plug slot	----

GLADHAND HOLDER KIT

- Steel - Zinc Yellow Dichromate
- Holds gladhands when disconnected



Part #	Description	
39573	Holder Kit	----
39572	Bracket only	----

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	
39570	Gladhand Lock w/ 2 keys	----

* *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	
39860	King Pin Lock w/ 2 keys	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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	
39672	2 1/2"	4.0"	9.89"	13.89"	push/pull	----
39673	2 1/2"	6.0"	11.89"	17.89"	push/pull	----
39674	2 1/2"	8.0"	13.89"	21.89"	push/pull	----
39675	2 1/2"	6.0"	13.75"	19.75"	Spring return	----
39676	3 1/2"	8.0"	15.60"	24.28"	push/pull	----
39677	3 1/2"	10.0"	16.92"	26.95"	push/pull	----



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	
39654	4"	24"	34.5"	58.5"	push/pull	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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



39657



39660

Part #	Dia.	Stroke	Length	Type	
39655	2-1/2"	4.0"	13.37	Push/Pull	----
39656	2-1/2"	6.0"	17.37	Push/Pull	----
39657	2-1/2"	8.0"	21.37	Push/Pull	----
39658	2-1/2"	4.0"	14.71	Spring Ret	----
39659	2-1/2"	6.0"	19.75	Spring Ret	----
39660	3-1/2"	6.0"	20.23	Push/Pull	----
39661	3-1/2"	8.0"	24.23	Push/Pull	----
39662	3-1/2"	8.0"	26.98	Push/Pull	----
39663	3-1/2"	10.0"	28.98	Push/Pull	----



39665



39667

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	
39665	6"	3"	Yes	Spring Ret	----
39667	6"	4.38"	No	Spring Ret	----

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	
39669	Fifth Wheel Air Cylinder	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

AIR TANK DRAIN PULL VALVE



Part #	Size	Description	
39595	1/4" male	5ft nylon coated pull cable	----
39596	1/4" male	4ft nylon coated pull cable	----
39597	1/4" male	3ft nylon coated pull cable	----
39600	1/4" male	Air valve only	----

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	
39604	1/4"	----
39605	3/8"	----
39606	1/2"	----

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	
39592	6-1/8" NPT	Air Brake Governors D-2 style	----

IN-LINE QUICK RELEASE VALVE

- Quick release for the air break system
- 3/8" female exhaust port
- 2-3/8" female delivery port
- Cracking pressure: 1 PSI
- Helps meet the FMVSS -121 requirement for timing



Part #	Description	
39610*	3/8" NPT In-Line quick release valve	----
39611**	1/2" NPT In-Line quick release valve	----

* 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	
39613	1/2" NPT	4, 1/2"NPT	4 psi no Bracket	----
39614	1/2" NPT	4, 1/2"NPT	4 psi Relay Valve	----
39615	3/4" NPT	2, 1/2" NPT	4 psi Relay Valve	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov



R-14 RELAY VALVE

- 1/4" Relay Valve with two delivery and supply ports
- Replaces Bendix 103010

Part #	Supply Port	Delivery Port	Description	
39616	2-3/4"NPT	2-1/2"NPT	4 psi Relay Valve	----



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	
39684	2, 1/4" FPT	Three way Solenoid	----



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	
39687	4 stud Solenoid	---
39688	3 stud Solenoid	---



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	
39689	12V Closed	---
39690	12V Open	---

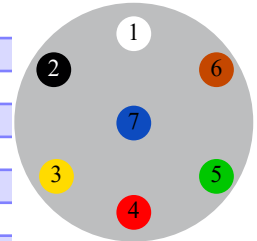
WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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

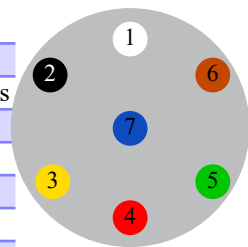
Part #	Length	Description	
39736	12'	Coiled Electrical Cord, ABS w/12 in lead, w/plugs, Green	----
39737	15'	Coiled Electrical Cord, ABS w/12 in lead, w/plugs, Green	----

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	
39738	12'	Coiled Electrical Cord, w/12 in lead, w/plugs, Black	----
39739	15'	Coiled Electrical Cord, w/15 in lead, w/plugs, Black	----

STANDARD - ECONOMY

Part #	Length	Description	
39740	12'	Coiled Electrical Cord, w/12 in lead, w/plugs, Black	----
39741	15'	Coiled Electrical Cord, w/12 in lead, w/plugs, Black	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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	
39752	6ft, 14awg w/12" Lead at 2 ends	----
39753	8 ft, 14awg w/12" Lead at 2 ends	----
39754	12ft, 14awg w/12" Lead at 2 ends	----

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	
39748	12' with 12" Lead, both ends 4/14awg	----
39749	15' with 12" Lead, both ends 4/14awg	----

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	
39744	12' Coil With 12" Lead at 2 ends 4awg	----
39745	15' Coil With 12" Lead at 2 ends 4awg	----

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	
39742	12' Coil With 12" Lead both ends 4awg	----
39743	15' Coil With 12" Lead both ends 4awg	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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	
39757	7-Way Single Grip Plug w/Spring Guard	----
39758	7-Way Single Grip Plug NO Spring.	----
39772	7-Way Double Grip Plug w/Spring.	----
39773	7-Way Double Grip Plug NO Spring Guard	----
39788	7-way ISO plug	----

SOCKETS

Part #	Description	
39774	Solid Pin 7-Way Metal Socket	----
39775	Split Pin 7-Way Metal Socket	----
39789	7-way, ISO socket	----

7 WAY DOUBLE GRIP PLUG

- T-Grip weather guard
- Plastic grip

Part #	Description	
39818	7-Way Double Grip Plug, Plastic	----

6 AND 7 WAY ADAPTER

Part #	Description	
39786	Seven way plug to Six Way Socket Adapter	----
39787	Six way plug to Seven Way socket Adapter	----

RV 7-WAY PLUG

- Primarily used in RV applications.
- Constructed of molded PVC for impact resistance
- Blade Style Pin

Part #	Description	
39819	7-way Plastic plug	----

RV 7-WAY SOCKET

- RV Screw-type socket
- 6-24 VDC.
- Mounting 2-1/4" inch on center .
- Constructed of molded PVC

Part #	Description	
39820	7-way socket	----

WARNING: This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

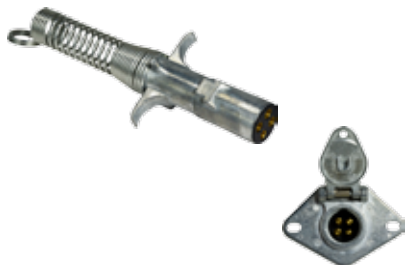


**6 - WAY PLUGS AND SOCKETS**

Part #	Description	
39782	6-Way Double Grip Metal Plug w/Spring Guard.	----
39783	6-Way Metal Socket.	----

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	
39778	4-Way Double Grip Metal Plug w/Spring Guard.	----
39779	4-Way Metal Socket.	----

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	
39768	2 Pole Double Grip Metal Plug w/Spring Guard.	----
39769	2 Pole Metal Socket	----

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	
39764	1-Way Double Grip Plug w/Spring Guard.	----
39765	1-Way Double Grip Plug w/Spring Guard and Ground Kit	----
39766	1-Way Metal Socket	----
39767	1-Way Metal Socket and Ground Kit	----

GROUND KIT

Part #	Description	
39809	Ground Kit (Bolt, Nut and Wire Lug) for 1-Way Plug or Socket	----

PROTECTOR BOOT FOR PLUG

- Protective rubber boot seals out moisture and contaminants



Part #	Description	
39807	Protector Boot	----

WARNING: This product can expose you to chemicals, including Nickel, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov



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	
39792	No circuit breakers	----
39793	15amp Plastic with circuit breakers	----
39794	20amp Plastic with circuit breakers	----
39795	30amp Plastic with circuit breakers	----

7 WAY CIRCUIT CHASER

- Instantly finds short or faulty circuits
- Portable



Part #	Description	
39805	7 way circuit	----

CIRCUIT BREAKERS - PLASTIC

- Colored Battery molded Stud
- 12 Volt
- Meets SAE j553 requirements
- Nuts included



Part #	Description	
39800	15 AMP	----
39801	20 AMP	----
39802	25 AMP	----
39803	30 AMP	----

NOSE BOX - DEEP

- Zinc - extra deep



Part #	Description	
39814	Deep Nose Box	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov



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	
39712	12", 4 Gauge ground strap	----

STAINLESS STEEL BATTERY NUT

Part #	Type	
39713	3/8"	----

RUBBER GROMMET

- Black Rubber



Part #	ID	OD	
95450	5/16"	9/16"	----
95451	5/8"	1 1/4"	----
95452	3/4"	1 3/4"	----

Put your heart, mind, and soul into even your smallest acts. This is the secret of success.

—Swami Sivananda



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	
39465	2 pack whistle	----

CABLE TIE STRAPS - NYLON

- Used to secure and bundle
- CSA Certified
- RoHs Compliant
- UV or Standard

STANDARD

Part #	Length	Strength	Package Qty	
95601	7 1/2"	50lb	100	----
95602	11"	50 lb	100	----
95603	14.5"	50 lb	100	----
95604	24"	175 lb	50	----
95605	36"	175lb	50	----
95606	48"	175 lb	50	----

UV BLACK

Part #	Length	Strength	Package Qty	
95610	7 1/2"	50lb	100	----
95611	14"	50 lb	100	----
95612	24"	175lb	50	----
95613	36"	175lb	50	----



WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

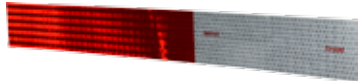


ACCESSORIES

TRUCK AND TRAILER



95620



95625

95627



95628

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.	
95620	2" x 150' Roll of 11" Red / 7" White	0.32	----
95621	2" x 150' Roll of 6" Red / 6" White	0.32	----
95622	2" x 150' Roll of solid white	0.32	----
95623	2" x 18", kiss cut strip, white	0.03	----
95624	2" x 18" kiss cut strip of 11" Red / 7" White	0.03	----

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

Part #	Description	App. Wt.	
95625	1" X 150' Roll of solid yellow	0.17	----
95626	2" X 150' Roll of solid yellow	0.32	----
95627	3" round all plastic reflector, Red	0.06	----
95628	3 3/4" x 6 1/2" American flag, type IV HIP	0.02	----

TARP STRAPS

- Heavy Duty EPDM tarp straps
- Longer lasting than rubber
- Greater stretch length
- Ozone and weather resilient
- Made in the USA



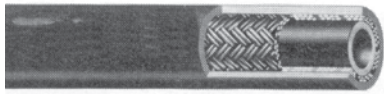
Part #	Strap Length	Material	Description	Qty	
990790	10"	EPDM	Tarp strap with S hook	50	----
990791	15"	EPDM	Tarp strap with S hook	50	----
990792	21"	EPDM	Tarp strap with S hook	50	----
990793	31"	EPDM	Tarp strap with S hook	50	----
990794	41"	EPDM	Tarp strap with S hook	50	----



- 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	
38-950B2	Black	2000'	1/8"	0.023"	----
38-950	Black	100'	1/8"	0.023"	----
38-95BA	Black	50'	1/8"	0.023"	----
38-951B1	Black	1000'	5/32"	0.032"	----
38-951	Black	100'	5/32"	0.032"	----
38-951BA	Black	50'	5/32"	0.032"	----
38-953B1	Black	1000'	3/16"	0.035"	----
38-953	Black	100'	3/16"	0.035"	----
38-953BA	Black	50'	3/16"	0.035"	----
38-9523	Black	1000'	1/4"	0.040"	----
38-9522	Black	500'	1/4"	0.040"	----
38-952	Black	100'	1/4"	0.040"	----
38-952BA	Black	50'	1/4"	0.040"	----
38-952U1	Blue	1000'	1/4"	0.040"	----
38-952U	Blue	100'	1/4"	0.040"	----
38-952UA	Blue	50'	1/4"	0.040"	----
38-952O	Orange	100'	1/4"	0.040"	----
38-952OA	Orange	50'	1/4"	0.040"	----
38-952G1	Green	1000'	1/4"	0.040"	----
38-952G	Green	100'	1/4"	0.040"	----
38-952GA	Green	50'	1/4"	0.040"	----
38-952R1	Red	1000'	1/4"	0.040"	----
38-952R	Red	100'	1/4"	0.040"	----
38-952RA	Red	50'	1/4"	0.040"	----
38-952Y1	Yellow	1000'	1/4"	0.040"	----
38-952Y	Yellow	100'	1/4"	0.040"	----
38-952YA	Yellow	50'	1/4"	0.040"	----
38-954B5	Black	500'	5/16"	0.040"	----
38-954	Black	100'	5/16"	0.040"	----
38-954BA	Black	50'	5/16"	0.040"	----
38-960B5	Black	500'	3/8"	0.062"	----
38-960	Black	100'	3/8"	0.062"	----
38-960BA	Black	50'	3/8"	0.062"	----
38-960U5	Blue	500'	3/8"	0.062"	----
38-960U	Blue	100'	3/8"	0.062"	----
38-960UA	Blue	50'	3/8"	0.062"	----
38-960O5	Orange	500'	3/8"	0.062"	----
38-960O	Orange	100'	3/8"	0.062"	----
38-960OA	Orange	50'	3/8"	0.062"	----
38-960G5	Green	500'	3/8"	0.062"	----
38-960G	Green	100'	3/8"	0.062"	----
38-960GA	Green	50'	3/8"	0.062"	----
38-960R5	Red	500'	3/8"	0.062"	----
38-960R	Red	100'	3/8"	0.062"	----
38-960RA	Red	50'	3/8"	0.062"	----

Part Number	Color	Length	Nominal O.D.	Nominal Wall	
38-960Y5	Yellow	500'	3/8"	0.062"	----
38-960Y	Yellow	100'	3/8"	0.062"	----
38-960YA	Yellow	50'	3/8"	0.062"	----
38-965B5	Black	500'	1/2"	0.062"	----
38-965	Black	100'	1/2"	0.062"	----
38-965BA	Black	50'	1/2"	0.062"	----
38-965U5	Blue	500'	1/2"	0.062"	----
38-965U	Blue	100'	1/2"	0.062"	----
38-965UA	Blue	50'	1/2"	0.062"	----
38-965O5	Orange	500'	1/2"	0.062"	----
38-965O	Orange	100'	1/2"	0.062"	----
38-965OA	Orange	50'	1/2"	0.062"	----
38-965G5	Green	500'	1/2"	0.062"	----
38-965G	Green	100'	1/2"	0.062"	----
38-965GA	Green	50'	1/2"	0.062"	----
38-965R5	Red	500'	1/2"	0.062"	----
38-965R	Red	100'	1/2"	0.062"	----
38-965RA	Red	50'	1/2"	0.062"	----
38-965Y5	Yellow	500'	1/2"	0.062"	----
38-965Y	Yellow	100'	1/2"	0.062"	----
38-965YA	Yellow	50'	1/2"	0.062"	----
38-970BC	Black	250'	5/8"	0.092"	----
38-970	Black	100'	5/8"	0.092"	----
38-970BA	Black	50'	5/8"	0.092"	----
38-970GC	Green	250'	5/8"	0.092"	----
38-970G	Green	100'	5/8"	0.092"	----
38-970GA	Green	50'	5/8"	0.092"	----
38-970RC	Red	250'	5/8"	0.092"	----
38-970R	Red	100'	5/8"	0.092"	----
38-970RA	Red	50'	5/8"	0.092"	----
38-975BC	Black	250'	3/4"	0.092"	----
38-975	Black	100'	3/4"	0.092"	----
38-975BA	Black	50'	3/4"	0.092"	----
38-975GC	Green	250'	3/4"	0.092"	----
38-975G	Green	100'	3/4"	0.092"	----
38-975GA	Green	50'	3/4"	0.092"	----

FUEL LINE AND AIR BRAKE HOSE**TRUCK AND TRAILER****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	
38-920	3/16	13/32	25'	----
38-926	5/16	9/16	25'	----
38-923	1/4	1/2	25'	----
38-927	3/8	5/8	50'	----

AIR BRAKE HOSE

- Black

- Spiral synthetic cord reinforcement with neoprene cover.
- 40° F to +200° F temperature range.
- Max operating pressure 255 psi
- Max burst pressure 900 psi
- Meets SAE J1402

Part #	ID	OD	Length	
38-910	3/8	3/4	50'	----
38-915	1/2	7/8	50'	----

Work hard, stay positive, and get up early. It's the best part of the day.

- George Allen, Sr.



STEEL ADAPTERS

Technical information ... 394
Profile size chart 400
 Steel Pipe Swivels 402
 37° JIC Flare Straights 404
 37° JIC Flare Shapes 406
 Bulkhead Adapters 407
 Steel Pipe Fittings 409
 O-Ring Adapters Straight . 413
 JIC Swivels 415
 O-Ring Adapters 417
 O-Ring Face Seal 420
 BSPT/ BSPP Adapters 423
 Metric Adapters 425

HYDRAULIC QUICK DISCONNECTS

Thread to Connect - Wing 427
 ISO A Interchange 427
 ISO B Interchange 427
 Flush Face ISO 428
 VEP Series 428
 AG Interchange 429
 Hydraulic Jack Q/D 429

HYDRAULIC VALVES & ACCESSORIES

Flow Control Valve 430
 Variable Flow Control 431
 Air Breathers 431

PLATING SPECIFICATION

Our standard Trivalent, Cr⁺³ plating performs at nearly double the S.A.E. corrosion resistance requirement. The plating meets ASTM B633, Fe/Zn 5. The thickness is 5um-13um. This plating is silver in appearance and has been testing at 96 hours to white rust and 120 hours to red rust.

WORKING PRESSURE

The tables on the following pages list the recommended working pressure for a variety of hydraulic fittings made in accordance with certain industry standards. Many factors such as impulse, vibration, mechanical shock, and improper assembly may affect the integrity of the fitting connection.

We recommends 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, recommends 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 recommends 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.

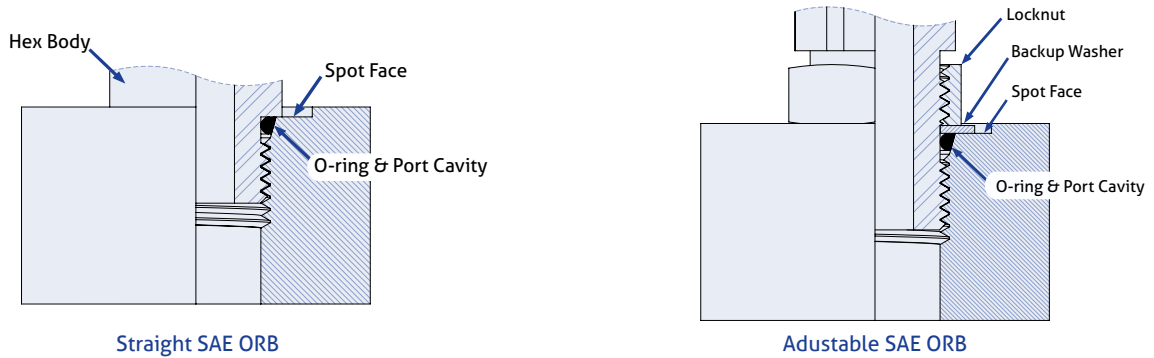
If more than one value or range is given, use the lower value first and increase only if required. Over-torquing can damage a fitting or mating component.

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	-	-	-

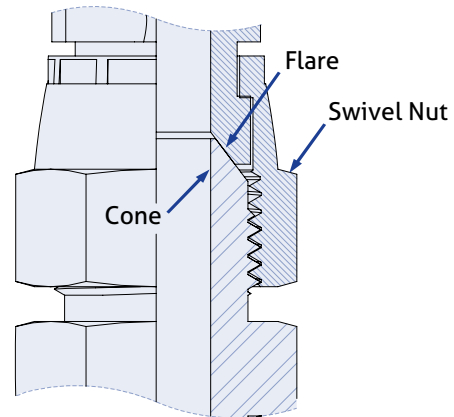
* = Light duty studs included on JIC, NPTF and NPSM fittings per SAE J1926/3 & J514
 ** = Heavy duty studs included on ORFS fittings per SAE J1926/2 & J1453

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 (psi)	Female Swivel Nut (psi)	JIC Rigid (FFWR)	JIC Swivel (FFWR)	Bulkhead Locknut (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.

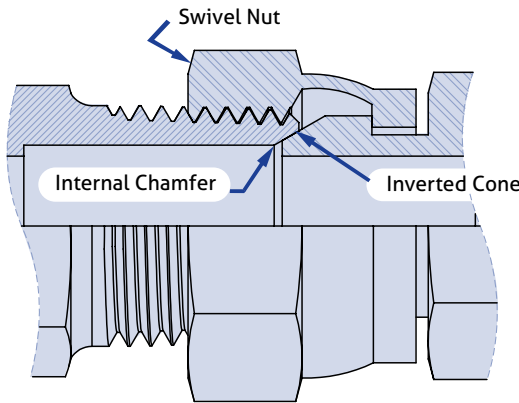


Fig 1 F & NPSM Union

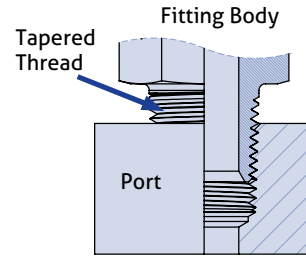


Fig 2 NPTF Assembly

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

Table 1 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.

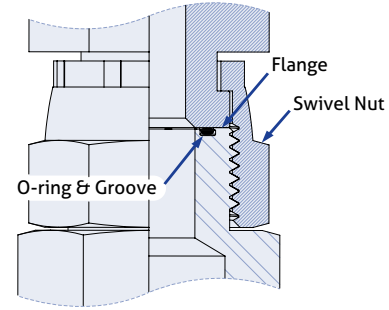
-Elebert Hubbard

O-ring Face Seal Adapter Specifications

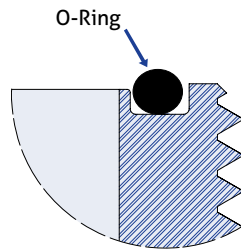
O-ring face seal fittings include a precision groove in the face of the male fitting. Sealing occurs when an O-ring is trapped in the groove by a smooth flat flange that is clamped against the face with a nut or nut and sleeve. The flat flange may be formed or brazed onto the end of a tube, or is machined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

There are two SAE groove types:

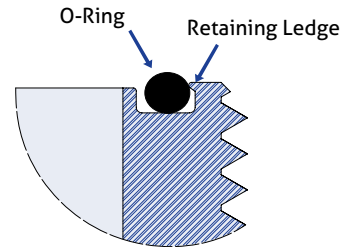
- Type A: The original style A O-ring has no retaining ledge.
- Type B: The Type B groove has a retaining ledge (half dovetail) that improves O-ring retention. The Type B style is more commonly found and is a design improvement over the Type A.



e 9 : ORFS Fitting Assembly



10 : Detail View of Cross Section of Groove Type A



11 : 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%	WR	FWR
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.

e 4 : 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 ^ø (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**

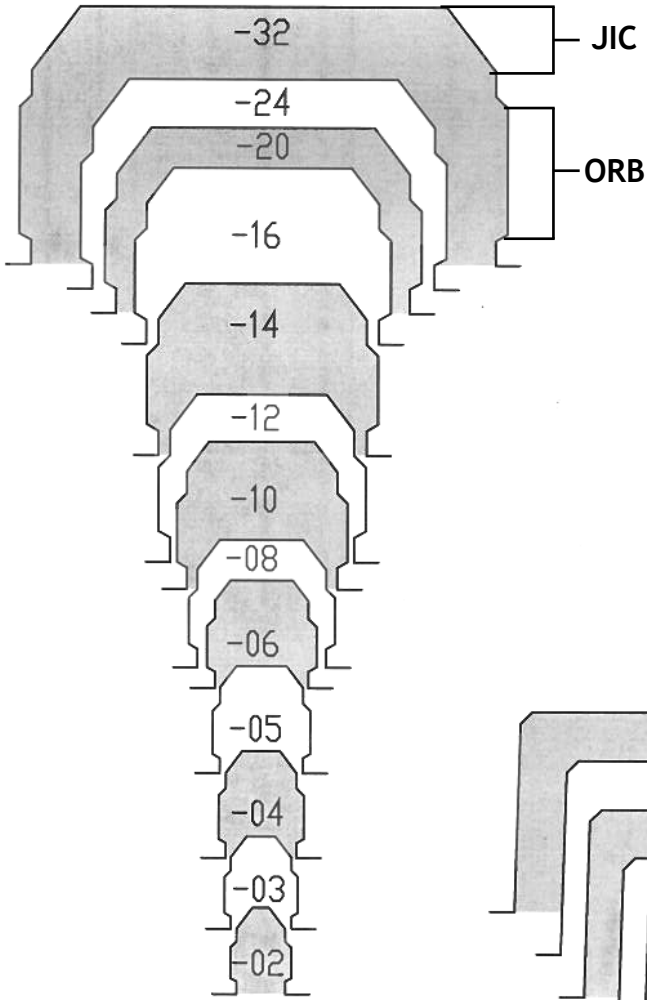
Metric DIN 3852-1 Threads	
Dash Size	THREAD SIZE (mm)
08	8 x 1.0
10	10 x 1.0
12	12 x 1.5
14	14 x 1.5
16	16 x 1.5
18	18 x 1.5
20	20 x 1.5
22	22 x 1.5
24	24 x 1.5
26	26 x 1.5
27	27 x 2.0
30	30 x 2.0
33	33 x 2.0
39	39 x 2.0
42	42 x 2.0
48	48 x 2.0
60	60 X 2.0

Values are from DIN 3852-1

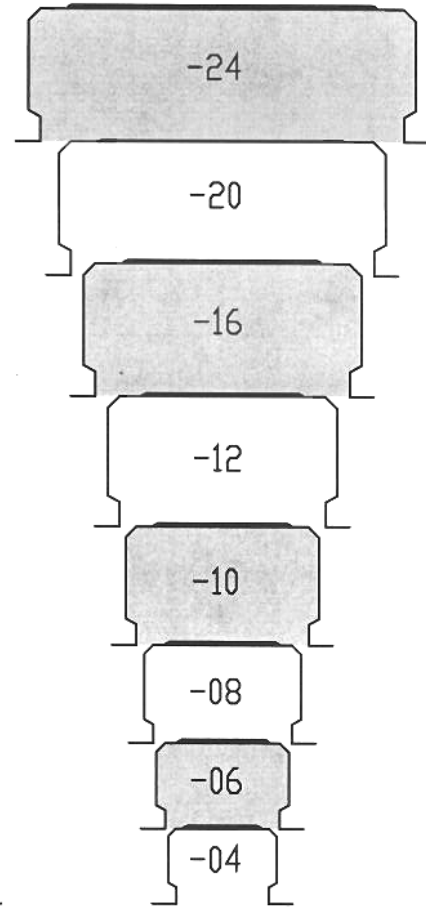
PROFILE SIZE CHART

HYDRAULIC ADAPTERS

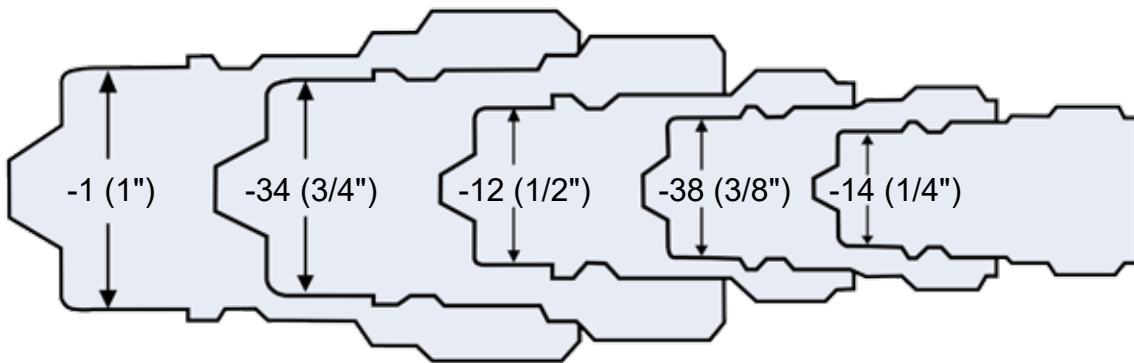
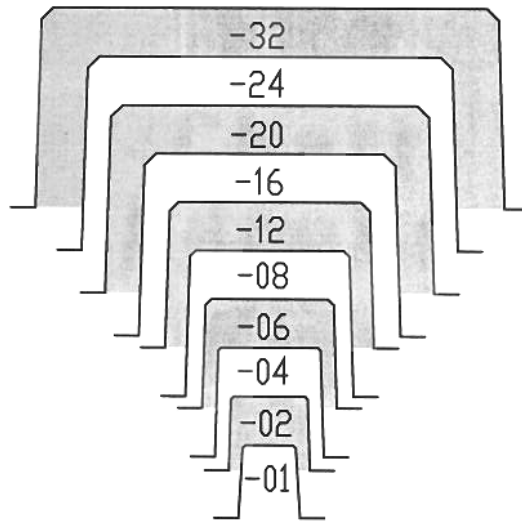
MALE JIC/ MALE O-RING BOSS



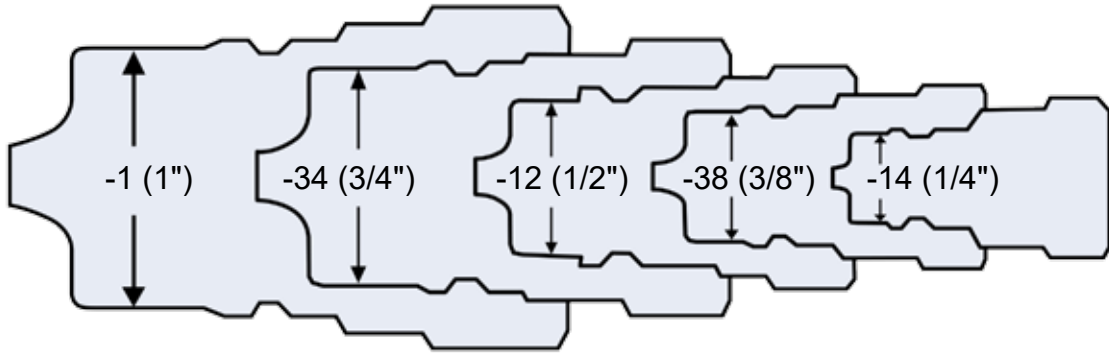
O-RING FACE SEAL



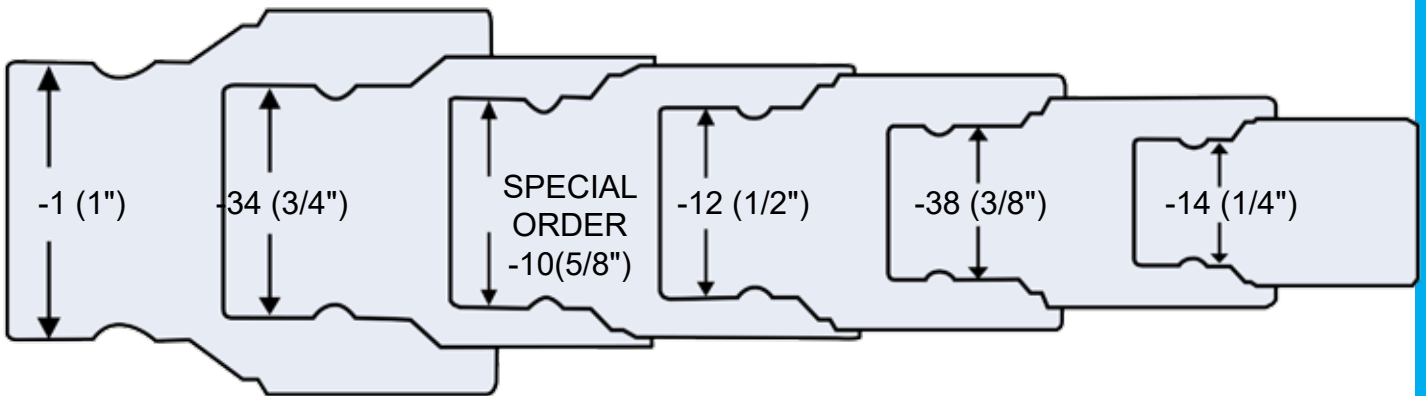
MALE PIPE



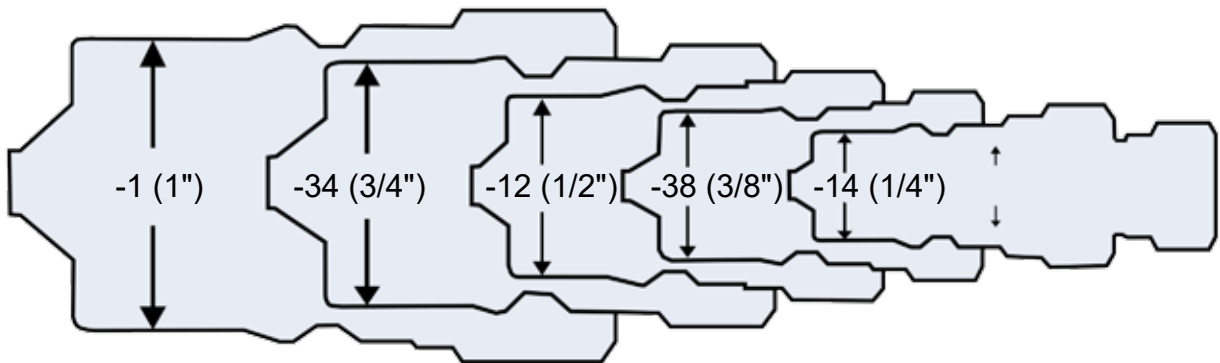
AG INTERCHANGE - NV SERIES



ISO 7241 - 1 - ISO A - ANV SERIES



ISO 16028 - FF SERIES



ISO 7241 - 1 ISO B - HNV SERIES

FEMALE PIPE SWIVELS

HYDRAULIC ADAPTERS

STEEL PIPE SWIVEL ADAPTERS

MALE PIPE SWIVEL ADAPTER

SAE 140130



Part #	Male Pipe 1	Female NPSM 2	
1404-2-2	1/8	1/8	----
1404-4-2	1/4	1/8	----
1404-4-4	1/4	1/4	----
1404-6-6	3/8	3/8	----
1404-6-8	3/8	1/2	----
1404-8-4	1/2	1/4	----
1404-8-6	1/2	3/8	----
1404-8-8	1/2	1/2	----
1404-12-8	3/4	1/2	----
1404-12-12	3/4	3/4	----
1404-12-16	3/4	1	----
1404-16-12	1	3/4	----
1404-16-16	1	1	----
1404-20-16	1-1/4	1	----
1404-20-20	1-1/4	1-1/4	----
1404-24-24	1-1/2	1-1/2	----
1404-32-32	2	2	----

1404 2045R 1210 9205R 0107

FEMALE PIPE SWIVEL ADAPTER

SAE 140131



Part #	Female Pipe 1	Female NPSM 2	
1405-2-2	1/8	1/8	----
1405-4-4	1/4	1/4	----
1405-6-4	3/8	1/4	----
1405-6-6	3/8	3/8	----
1405-6-8	3/8	1/2	----
1405-8-4	1/2	1/4	----
1405-8-8	1/2	1/2	----
1405-12-12	3/4	3/4	----
1405-16-12	1	3/4	----
1405-16-16	1	1	----
1405-20-20	1-1/4	1-1/4	----
1405-24-24	1-1/2	1-1/2	----
1405-32-32	2	2	----

1405 2046R 1212 9255 C207

MALE PIPE ELBOW SWIVEL ADAPTER

SAE 140230



Part #	Male Pipe 1	Female NPSM 2	
1501-2-2	1/8	1/8	----
1501-4-2	1/4	1/8	----
1501-4-4	1/4	1/4	----
1501-6-4	3/8	1/4	----
1501-6-6	3/8	3/8	----
1501-8-6	1/2	3/8	----
1501-8-8	1/2	1/2	----
1501-12-8	3/4	1/2	----
1501-12-12	3/4	3/4	----
1501-16-12	1	3/4	----
1501-16-16	1	1	----
1501-20-20	1-1/4	1-1/4	----
1501-32-32	2	2	----

1501 2047R 1218 9405 2107

FEMALE UNION ELBOW SWIVEL ADAPTER

SAE 140231



Part #	Female Pipe 1	Female NPSM 2	
1502-2-2	1/8	1/8	----
1502-4-4	1/4	1/4	----
1502-6-4	3/8	1/4	----
1502-6-6	3/8	3/8	----
1502-6-8	3/8	1/2	----
1502-8-6	1/2	3/8	----
1502-8-8	1/2	1/2	----
1502-12-12	3/4	3/4	----
1502-16-16	1	1	----
1502-20-20	1-1/4	1-1/4	----
1502-24-24	1-1/2	1-1/2	----

1502 2207 1216 9455R

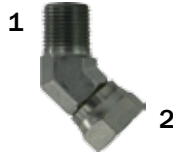
WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

HYDRAULIC ADAPTERS

FEMALE PIPE SWIVELS

MALE 45° PIPE ELBOW SWIVEL ADAPTER

SAE 140330



Part #	Male Pipe 1	Female NPSM 2	
1503-2-2	1/8	1/8	----
1503-4-4	1/4	1/4	----
1503-6-4	3/8	1/4	----
1503-6-6	3/8	3/8	----
1503-8-6	1/2	3/8	----
1503-8-8	1/2	1/2	----
1503-12-8	3/4	1/2	----
1503-12-12	3/4	3/4	----
1503-16-12	1	3/4	----
1503-16-16	1	1	----

1503 2049R 3107 1214 9355R

FEMALE 45° UNION ELBOW SWIVEL ADAPTER

SAE 140331



Part #	Female Pipe 1	Female NPSM 2	
1504-2-2	1/8	1/8	----
1504-4-4	1/4	1/4	----
1504-6-6	3/8	3/8	----
1504-8-8	1/2	1/2	----
1504-12-12	3/4	3/4	----
1504-16-16	1	1	----

1504 2050R 1249 9385R

MALE SWIVEL BRANCH TEE



Part #	Female NPSM 1 & 2	Male Pipe 3	
1601-2-2	1/8	1/8	----
1601-4-4	1/4	1/4	----
1601-6-6	3/8	3/8	----
1601-8-8	1/2	1/2	----
1601-12-12	3/4	3/4	----
1601-16-16	1	1	----

1601 2254R 1258 9406R

FEMALE SWIVEL TEE



Part #	Female NPSM 1 & 2	Female Pipe 3	
1602-4-4	1/4	1/4	----
1602-6-6	3/8	3/8	----
1602-8-8	1/2	1/2	----
1602-12-12	3/4	3/4	----
1602-16-16	1	1	----

1602 2253R 1259 9456R

FEMALE SWIVEL UNION TEE



Part #	Female NPSM 1,2 & 3	
1603-4-4	1/4	----
1603-6-6	3/8	----
1603-8-8	1/2	----
1603-12-12	3/4	----
1603-16-16	1	----

1603 2255 1223 9705R

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

STRAIGHTS STEEL JIC FLARE 37°

HYDRAULIC ADAPTERS

LONG JIC TUBE NUT

SAE 070111



Part #	Tube O.D	JIC Thread Size	
0304-4	1/4	7/16-20	----
0304-6	3/8	9/16-18	----
0304-8	1/2	3/4-16	----
0304-10	5/8	7/8-14	----
0304-12	3/4	1-1/16-12	----
0304-16	1	1-5/16-12	----

304 221000 0304 C5115

JIC CAP

SAE 070112
MS 51532



Part #	Tube O.D.	JIC Thread Size	
0304-C-2	1/8	5/16-24	----
0304-C-3	3/16	3/8-24	----
0304-C-4	1/4	7/16-20	----
0304-C-5	5/16	1/2-20	----
0304-C-6	3/8	9/16-18	----
0304-C-8	1/2	3/4-16	----
0304-C-10	5/8	7/8-14	----
0304-C-12	3/4	1-1/16-12	----
0304-C-14	7/8	1-3/16-12	----
0304-C-16	1	1-5/16-12	----
0304-C-20	1-1/4	1-5/8-12	----
0304-C-24	1-1/2	1-7/8-12	----
0304-C-32	2	2-1/2-12	----

820 304 210292 FNTX 1329 C5129

**JIC TUBE NUT
(SLEEVE REQUIRED)**

SAE 070110
MS 51531



Part #	Tube O.D	JIC Thread Size	
0318-2	1/8	5/16-24	----
0318-3	3/16	3/8-24	----
0318-4	1/4	7/16-20	----
0318-5	5/16	1/2-20	----
0318-6	3/8	9/16-18	----
0318-8	1/2	3/4-16	----
0318-10	5/8	7/8-14	----
0318-12	3/4	1-1/16-12	----
0318-14	7/8	1-3/16-12	----
0318-16	1	1-5/16-12	----
0318-20	1-1/4	1-5/8-12	----
0318-24	1-1/2	1-7/8-12	----
0318-32	2	2-1/2-12	----

318 1290 BTX 1311 C5105

JIC TUBE SLEEVE

SAE 070115
MS 51533



Part #	Tube O.D	
0319-2	1/8	----
0319-3	3/16	----
0319-4	1/4	----
0319-5	5/16	----
0319-6	3/8	----
0319-8	1/2	----
0319-10	5/8	----
0319-12	3/4	----
0319-14	7/8	----
0319-16	1	----
0319-20	1-1/4	----
0319-24	1-1/2	----
0319-32	2	----

319 900605 TX 1253 C5165

JIC TUBE UNION

SAE 070101
MS 51501



Part #	JIC Thread Size 1	JIC Thread Size 2	
2403-2-2	5/16-24	5/16-24	----
2403-3-3	3/8-24	3/8-24	----
2403-4-4	7/16-20	7/16-20	----
2403-5-5	1/2-20	1/2-20	----
2403-6-6	9/16-18	9/16-18	----
2403-6-4	9/16-18	7/16-20	----
2403-8-8	3/4-16	3/4-16	----
2403-8-6	3/4-16	9/16-18	----
2403-10-10	7/8-14	7/8-14	----
2403-10-8	7/8-14	3/4-16	----
2403-12-12	1-1/16-12	1-1/16-12	----
2403-12-8	1-1/16-12	3/4-16	----
2403-12-10	1-1/16-12	7/8-14	----
2403-14-14	1-3/16-12	1-3/16-12	----
2403-16-16	1-5/16-12	1-5/16-12	----
2403-16-12	1-5/16-12	1-1/16-12	----
2403-20-20	1-5/8-12	1-5/8-12	----
2403-24	1-7/8-12	1-7/8-12	----
2403-32	2-1/2-12	2-1/2-12	----

2403 2027 HTX 1204 C5305

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

HYDRAULIC ADAPTERS

STRAIGHTS STEEL JIC FLARE 37°

JIC MALE CONNECTOR

SAE 070102
MS 51500



Part #	JIC Thread Size 1	Male Pipe Thread 2	
2404-2-2	5/16-24	1/8	----
2404-4-2	7/16-20	1/8	----
2404-4-4	7/16-20	1/4	----
2404-4-6	7/16-20	3/8	----
2404-4-8	7/16-20	1/2	----
2404-6-2	9/16-18	1/8	----
2404-6-4	9/16-18	1/4	----
2404-6-6	9/16-18	3/8	----
2404-6-8	9/16-18	1/2	----
2404-8-4	3/4-16	1/4	----
2404-8-6	3/4-16	3/8	----
2404-8-8	3/4-16	1/2	----
2404-8-12	3/4-16	3/4	----
2404-8-16	3/4-16	1	----
2404-10-8	7/8-14	1/2	----
2404-10-12	7/8-14	3/4	----
2404-12-6	1-1/16-12	3/8	----
2404-12-8	1-1/16-12	1/2	----
2404-12-12	1-1/16-12	3/4	----
2404-12-16	1-1/16-12	1	----
2404-16-12	1-5/16-12	3/4	----
2404-16-16	1-5/16-12	1	----
2404-20-16	1-5/8-12	1	----
2404-20-20	1-5/8-12	1-1/4	----
2404-24-16	1-7/8-12	1	----
2404-24-20	1-7/8-12	1-1/4	----
2404-24-24	1-7/8-12	1-1/2	----
2404-32-24	2-1/2-12	1-1/2	----
2404-32-32	2-1/2-12	2	----

2404 2021R FTX 1202R C5205 816

JIC FEMALE CONNECTOR

SAE 070103
MS 51503



Part #	JIC Thread Size 1	Female Pipe Size 2	
2405-2-2	5/16-24	1/8	----
2405-3-2	3/8-24	1/8	----
2405-4-2	7/16-20	1/8	----
2405-4-4	7/16-20	1/4	----
2405-6-4	9/16-18	1/4	----
2405-6-6	9/16-18	3/8	----
2405-8-4	3/4-16	1/4	----
2405-8-6	3/4-16	3/8	----
2405-8-8	3/4-16	1/2	----
2405-10-6	7/8-14	3/8	----
2405-10-8	7/8-14	1/2	----
2405-12-8	1-1/16-12	1/2	----
2405-12-12	1-1/16-12	3/4	----
2405-16-12	1-5/16-12	3/4	----
2405-16-16	1-5/16-12	1	----
2405-20-20	1-5/8-12	1-1/4	----
2405-24-24	1-7/8-12	1-1/2	----
2405-32-32	2-1/2-12	2	----

2405 2022R GTX 1230R C5255

JIC REDUCER/ EXPANDER

SAE 070123



Part #	Female JIC Thread Size 1	Male JIC Thread Size 2	
2406-6-4	9/16-18	7/16-20	----
2406-6-8	9/16-18	3/4-16	----
2406-8-4	3/4-16	7/16-20	----
2406-8-6	3/4-16	9/16-18	----
2406-8-12	3/4-16	1-1/16-12	----
2406-10-4	7/8-14	7/16-20	----
2406-10-6	7/8-14	9/16-18	----
2406-10-8	7/8-14	3/4-16	----
2406-12-4	1-1/16-12	7/16-20	----
2406-12-6	1-1/16-12	9/16-18	----
2406-12-8	1-1/16-12	3/4-16	----
2406-12-10	1-1/16-12	7/8-14	----
2406-16-4	1-5/16-12	7/16-20	----
2406-16-12	1-5/16-12	1-1/16-12	----
2406-16-20	1-5/16-12	1-5/8-12	----
2406-20-12	1-5/8-12	1-1/16-12	----
2406-20-16	1-5/8-12	1-5/16-12	----
2406-24-16	1-7/8-12	1-5/16-12	----
2406-32-24	2-1/2-12	1-7/8-12	----

2406 C5015 2215 TRTX 1246

My dream is of a place and a time where America will once again be seen as the last best hope of earth.

- Abraham Lincoln

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov



STRAIGHTS STEEL JIC FLARE 37°

HYDRAULIC ADAPTERS

SAE 070109
MS 51518

PLUG



Part #	Tube O.D.	JIC Thread Size	
2408-2	1/8	5/16-24	----
2408-3	3/16	3/8-24	----
2408-4	1/4	7/16-20	----
2408-5	5/16	1/2-20	----
2408-6	3/8	9/16-18	----
2408-8	1/2	3/4-16	----
2408-10	5/8	7/8-14	----
2408-12	3/4	1-1/16-12	----
2408-14	7/8	1-3/16-12	----
2408-16	1	1-5/16-12	----
2408-20	1-1/4	1-5/8-12	----
2408-24	1-1/2	1-7/8-12	----
2408-32	2	2-1/2-12	----

2408 430549 PNTX 1254 C5229

SAE 070201
MS 51505

JIC UNION ELBOW



Part #	JIC Thread Size 1	JIC Thread Size 2	
2500-2-2	5/16-24	5/16-24	----
2500-4-4	7/16-20	7/16-20	----
2500-5-5	1/2-20	1/2-20	----
2500-6-6	9/16-18	9/16-18	----
2500-6-4	9/16-18	7/16-20	----
2500-8-8	3/4-16	3/4-16	----
2500-8-6	3/4-16	9/16-18	----
2500-10-10	7/8-14	7/8-14	----
2500-12-12	1-1/16-12	1-1/16-12	----
2500-16-16	1-5/16-12	1-5/16-12	----
2500-20-20	1-5/8-12	1-5/8-12	----
2500-24-24	1-7/8-12	1-7/8-12	----
2500-32-32	2-1/2-12	2-1/2-12	----

2500 2039 1234 C5505 821

STEEL 37° JIC FLARE SHAPES

SAE 070202
MS 51504

JIC MALE ELBOW



Part #	JIC Thread Size 1	Male Pipe Size 2	
2501-4-2	7/16-20	1/8	----
2501-4-4	7/16-20	1/4	----
2501-4-8	7/16-20	1/2	----
2501-6-2	9/16-18	1/8	----
2501-6-4	9/16-18	1/4	----
2501-6-6	9/16-18	3/8	----
2501-6-8	9/16-18	1/2	----
2501-8-4	3/4-16	1/4	----
2501-8-6	3/4-16	3/8	----
2501-8-8	3/4-16	1/2	----
2501-8-12	3/4-16	3/4	----
2501-10-6	7/8-14	3/8	----
2501-10-8	7/8-14	1/2	----
2501-12-8	1-1/16-12	1/2	----
2501-12-12	1-1/16-12	3/4	----
2501-12-16	1-1/16-12	1	----
2501-16-12	1-5/16-12	3/4	----
2501-16-16	1-5/16-12	1	----
2501-16-20	1-5/16-12	1-1/4	----
2501-20-20	1-5/8-12	1-1/4	----
2501-24-24	1-7/8-12	1-1/2	----
2501-32-32	2-1/2-12	2	----

1208R C5405 2501 2024R CTX 822

SAE 070203
MS 51506

JIC FEMALE ELBOW



Part #	JIC Thread Size 1	Female Pipe Size 2	
2502-4-2	7/16-20	1/8	----
2502-4-4	7/16-20	1/4	----
2502-6-4	9/16-18	1/4	----
2502-6-6	9/16-18	3/8	----
2502-8-6	3/4-16	3/8	----
2502-8-8	3/4-16	1/2	----
2502-12-12	1-1/16-12	3/4	----
2502-16-16	1-5/16-12	1	----
2502-20-20	1-5/8-12	1-1/4	----

2502 2025R DTX 1240R C5455

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov



HYDRAULIC ADAPTERS

SHAPES STEEL JIC FLARE 37°

SAE 070302
MS 51508

JIC MALE 45° ELBOW



Part #	JIC Thread Size 1	Male Pipe Size 2	
2503-2-2	5/16-24	1/8	----
2503-4-4	7/16-20	1/4	----
2503-6-4	9/16-18	1/4	----
2503-6-6	9/16-18	3/8	----
2503-6-8	9/16-18	1/2	----
2503-8-6	3/4-16	3/8	----
2503-8-8	3/4-16	1/2	----
2503-10-8	7/8-14	1/2	----
2503-12-12	1-1/16-12	3/4	----
2503-12-16	1-1/16-12	1	----
2503-16-16	1-5/16-12	1	----
2503-16-20	1-5/16-12	1-1/4	----
2503-20-16	1-5/8-12	1	----
2503-20-20	1-5/8-12	1-1/4	----

2503 2023R VTX 1206R C5355 823

JIC MALE BRANCH TEE



Part #	JIC Thread Size 1 & 2	Pipe Thread Size 3	
2601-4-4	7/16-20	1/4	----
2601-6-6	9/16-18	3/8	----
2601-8-8	3/4-16	1/2	----
2601-12-12	1-1/16-12	3/4	----

2601 2030R STX 1221R C5605

JIC FEMALE BRANCH TEE

SAE 070427
MS 51513



Part #	JIC Thread Size 1 & 2	Female Pipe Size 3	
2602-4-4	7/16-20	1/4	----
2602-6-6	9/16-18	3/8	----
2602-8-8	3/4-16	1/2	----

2602 2031R OTX 1228R C6566

JIC UNION TEE

SAE 070401
MS 51510



Part #	JIC Thread Size 1 & 2	JIC Thread Size 3	
2603-2-2	5/16-24	5/16-24	----
2603-3-3	3/8-24	3/8-24	----
2603-4-4	7/16-20	7/16-20	----
2603-6-6	9/16-18	9/16-18	----
2603-8-8	3/4-16	3/4-16	----
2603-10-10	7/8-14	7/8-14	----
2603-12-12	1-1/16-12	1-1/16-12	----
2603-16-16	1-5/16-12	1-5/16-12	----

2603 2033 JTX 1220 C5705

STEEL BULKHEAD FITTINGS

LOCK NUT

SAE 070118
MS 51860



* Lock Nut no longer included on fittings

Part #	Thread Size	
0306-2	5/16-24	----
0306-4	7/16-20	----
0306-5	1/2-20	----
0306-6	9/16-18	----
0306-8	3/4-16	----
0306-10	7/8-14	----
0306-12	1-1/16-12	----
0306-14	1-3/16-12	----
0306-16	1-5/16-12	----
0306-20	1-5/8-12	----

1306 894 210212 WLN 1332 C5624

JIC BULKHEAD UNION

SAE 070601
MS 51520



Part #	JIC Thread Size 1	JIC Thread Size 2	
2700-2-2	5/16-24	5/16-24	----
2700-4-4	7/16-20	7/16-20	----
2700-5-5	1/2-20	1/2-20	----
2700-6-6	9/16-18	9/16-18	----
2700-8	3/4-16	3/4-16	----
2700-10	7/8-14	7/8-14	----
2700-12	1-1/16-12	1-1/16-12	----
2700-14	1-3/16-12	1-3/16-12	----
2700-16	1-5/16-12	1-5/16-12	----

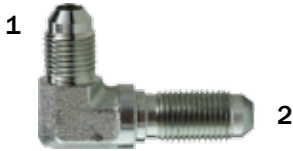
2700 2041R WTX 1260 C5325

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

STEEL BULKHEAD FITTINGS

JIC BULKHEAD UNION ELBOW

SAE 070701
MS 51507



Part #	JIC Thread Size 1	JIC Bulkhead Thread 2	
2701-4	7/16-20	7/16-20	----
2701-5	1/2-20	1/2-20	----
2701-6	9/16-18	9/16-18	----
2701-8	3/4-16	3/4-16	----
2701-10	7/8-14	7/8-14	----
2701-12	1-1/16-12	1-1/16-12	----
2701-16	1-5/16-12	1-5/16-12	----
2701-20	1-5/8-12	1-5/8-12	----

2701 2043R WETX 1262 C5525

JIC BULKHEAD UNION 45° ELBOW

SAE 070801
MS 51509



Part #	JIC Thread Size 1	JIC Thread Size 2	
2702-4	7/16-20	7/16-20	----
2702-6	9/16-18	9/16-18	----
2702-8	3/4-16	3/4-16	----
2702-10	7/8-14	7/8-14	----
2702-12	1-1/16-12	1-1/16-12	----
2702-16	1-5/16-12	1-5/16-12	----

2702 2042 WNTX 1261 C5375

JIC BULKHEAD BRANCH TEE

SAE 070959
MS 51515



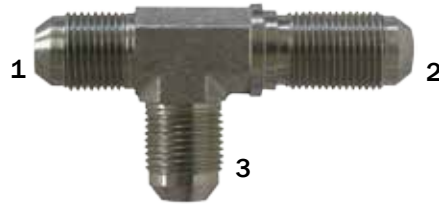
Part #	JIC Thread Size 1&2	JIC Thread Size 3	
2703-4	7/16-20	7/16-20	----
2703-6	9/16-18	9/16-18	----
2703-8	3/4-16	3/4-16	----
2703-10	7/8-14	7/8-14	----
2703-12	1-1/16-12	1-1/16-12	----
2703-16	1-5/16-12	1-5/16-12	----

2703 203002 WJT 1283 C5725

HYDRAULIC ADAPTERS

JIC BULKHEAD RUN TEE

SAE 070958
MS 51516



Part #	JIC Thread Size 1&3	JIC Thread Size 2	
2704-4	7/16-20	7/16-20	----
2704-6	9/16-18	9/16-18	----
2704-8	3/4-16	3/4-16	----
2704-10	7/8-14	7/8-14	----
2704-12	1-1/16-12	1-1/16-12	----
2704-16	1-5/16-12	1-5/16-12	----

2704 203008 WJJT 1284 C5726

JIC TO FEMALE PIPE BULKHEAD



Part #	JIC Thread Size 1	Female Pipe Size 2	
2705-4-4	7/16-20	3/4	----
2705-6-6	9/16-18	3/8	----
2705-8-8	3/4-16	1/2	----
2705-12-12	1-1/16-12	3/4	----
2705-16-16	1-5/16-12	1	----
2705-20-20	1-5/8-12	1-1/4	28.45

2705 2239 WGTX C5275

JIC TO MALE PIPE BULKHEAD



Part #	JIC Thread Size 1	Pipe Thread Size 2	
2706-4-4	7/16-20	1/4	----
2706-6-6	9/16-18	3/8	----
2706-8-8	3/4-16	1/2	----
2706-12-12	1-1/16-12	3/4	----
2706-16-16	1-5/16-12	1	----

2706 2240

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

* Lock Nuts sold separately - pg. 403

HYDRAULIC ADAPTERS

STEEL PIPE FITTINGS

SAE 140138 PIPE COUPLING 910



Part #	Female Pipe 1	Female Pipe 2	
5000-2	1/8	1/8	----
5000-4-2	1/4	1/8	----
5000-4	1/4	1/4	----
5000-6-4	3/8	1/4	----
5000-6-6	3/8	3/8	----
5000-8-4	1/2	1/4	----
5000-8-6	1/2	3/8	----
5000-8	1/2	1/2	----
5000-12-12	3/4	3/4	----
5000-16-12	1	3/4	----
5000-16	1	1	----
5000-20-20	1-1/4	1-1/4	----
5000-24	1-1/2	1-1/2	----
5000-32	2	2	----

5000 2096 GG 1273 C3309



Part #	Male Pipe 1	Male Pipe 2	
5404-2	1/8	1/8	----
5404-4-2	1/4	1/8	----
5404-4	1/4	1/4	----
5404-6-2	3/8	1/8	----
5404-6-4	3/8	1/4	----
5404-6	3/8	3/8	----
5404-8-4	1/2	1/4	----
5404-8-6	1/2	3/8	----
5404-8	1/2	1/2	----
5404-12-6	3/4	3/8	----
5404-12-8	3/4	1/2	----
5404-12	3/4	3/4	----
5404-16-12	1	3/4	----
5404-16	1	1	----
5404-20-16	1-1/4	1	----
5404-20	1-1/4	1-1/4	----
5404-24-20	1-1/2	1-1/4	----
5404-24	1-1/2	1-1/2	----
5404-32-24	2	1-1/2	----
5404-32	2	2	----

5404 2083 FF 1252 C3069 911

EXPANDING PIPE ADAPTER



Part #	Male Pipe 1	Female Pipe 2	
5405-2-2	1/8	1/8	----
5405-2-4	1/8	1/4	----
5405-4-2	1/4	1/8	----
5405-4-4	1/4	1/4	----
5405-6-4	3/8	1/4	----
5405-6-6	3/8	3/8	----
5405-6-8	3/8	1/2	----
5405-8-8	1/2	1/2	----
5405-8-12	1/2	3/4	----
5405-12-12	3/4	3/4	----
5405-16-16	1	1	----
5405-16-20	1	1-1/4	----
5405-20-20	1-1/4	1-1/4	----
5405-20-24	1-1/4	1-1/2	----
5405-24-24	1-1/2	1-1/2	----

920 5405 2040 FG-(R) 1274 C3209(R)

HEX REDUCER BUSHING



Part #	Male Pipe	Female Pipe	
5406-4-2	1/4	1/8	----
5406-6-2	3/8	1/8	----
5406-6-4	3/8	1/4	----
5406-8-2	1/2	1/8	----
5406-8-4	1/2	1/4	----
5406-8-6	1/2	3/8	----
5406-12-4	3/4	1/4	----
5406-12-6	3/4	3/8	----
5406-12-8	3/4	1/2	----
5406-16-4	1	1/4	----
5406-16-6	1	3/8	----
5406-16-8	1	1/2	----
5406-16-12	1	3/4	----
5406-20-16	1-1/4	1	----
5406-24-20	1-1/2	1-1/4	----
5406-32-20	2	1-1/4	----
5406-32-24	2	1-1/2	----

5406 2081 PTR 1250 C3109 912

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

STEEL PIPE FITTINGS

HEX HEAD PLUG

SAE 130109E



Part #	Male Pipe	
5406-P-2	1/8	----
5406-P-4	1/4	----
5406-P-6	3/8	----
5406-P-8	1/2	----
5406-P-12	3/4	----
5406-P-16	1	----
5406-P-20	1-1/4	----
5406-P-24	1-1/2	----
5406-P-32	2	----

933 5406P 2082 HP 1251 C3159

HOLLOW HEX PLUG

SAE 130109



Part #	Male Pipe	
5406-HHP-2	1/8	----
5406-HHP-4	1/4	----
5406-HHP-6	3/8	----
5406-HHP-8	1/2	----
5406-HHP-12	3/4	----
5406-HHP-16	1	----
5406-HHP-20	1-1/4	----
5406-HHP-24	1-1/2	----

C3169 2222

FLUSH HOLLOW HEX PLUG W/ 7/8 TAPER



Part #	Male Pipe	
5406-FLP-2	1/8	----
5406-FLP-4	1/4	----
5406-FLP-6	3/8	----
5406-FLP-8	1/2	----
5406-FLP-12	3/4	----

HYDRAULIC ADAPTERS

SQUARE HEAD PLUG

SAE 130109A



Part #	Male Pipe	
5406-SHP-2	1/8	----
5406-SHP-4	1/4	----
5406-SHP-6	3/8	----
5406-SHP-8	1/2	----
5406-SHP-12	3/4	----
5406-SHP-16	1	----
5406-SHP-20	1-1/4	----
5406-SHP-24	1-1/2	----
5406-SHP-32	2	----

C3179

PIPE CAP



Part #	Female Pipe	
5406-C-2	1/8	----
5406-C-4	1/4	----
5406-C-6	3/8	----
5406-C-8	1/2	----
5406-C-12	3/4	----
5406-C-16	1	----

HPC

MALE ELBOW

SAE 140237



Part #	Male Pipe 1	Male Pipe 2	
5500-2	1/8	1/8	----
5500-4	1/4	1/4	----
5500-6	3/8	3/8	----
5500-8-4	1/2	1/4	----
5500-8	1/2	1/2	----
5500-12-8	3/4	1/2	----
5500-12-12	3/4	3/4	----
5500-16	1	1	----
5500-16-12	1	3/4	----
5500-20-20	1-1/4	1-1/4	----

919 5500 2085 CR 1275 C3529

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

HYDRAULIC ADAPTERS

STEEL PIPE FITTINGS

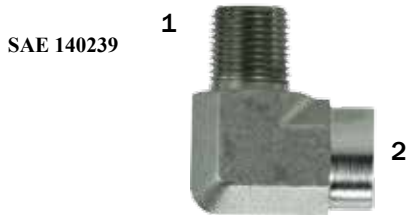
45° MALE ELBOW



Part #	Male Pipe 1	Male Pipe 2	
5501-2-2	1/8	1/8	----
5501-4-4	1/4	1/4	----
5501-6-6	3/8	3/8	----
5501-8	1/2	1/2	----
5501-12-12	3/4	3/4	----
5501-16-16	1	1	----

5501 2247

90° STREET ELBOW



Part #	Male Pipe 1	Female Pipe 2	
5502-2	1/8	1/8	----
5502-4	1/4	1/4	----
5502-6-4	3/8	1/4	----
5502-6	3/8	3/8	----
5502-8-4	1/2	1/4	----
5502-8-6	1/2	3/8	----
5502-8-8	1/2	1/2	----
5502-12	3/4	3/4	----
5502-16-16	1	1	----
5502-20	1-1/4	1-1/4	----
5502-24	1-1/2	1-1/2	----

5502 2089 CD 1234R C3409 914

45° STREET ELBOW

SAE 140339



Part #	Male Pipe 1	Female Pipe 2	
5503-2	1/8	1/8	----
5503-4	1/4	1/4	----
5503-6	3/8	3/8	----
5503-8	1/2	1/2	----
5503-12-12	3/4	3/4	----
5503-16	1	1	----

5503 CD45 1244

FEMALE ELBOW

SAE 140238



Part #	Female Pipe 1	Female Pipe 2	
5504-2	1/8	1/8	----
5504-4	1/4	1/4	----
5504-6	3/8	3/8	----
5504-8-6	1/2	3/8	----
5504-8	1/2	1/2	----
5504-12	3/4	3/4	----
5504-16	1	1	----
5504-20	1-1/4	1-1/4	----
5504-24	1-1/2	1-1/2	----

5504 2087 DD 1245 C3509 916

45° FEMALE ELBOW

SAE 140338



Part #	Female Pipe 1	Female Pipe 2	
5505-4	1/4	1/4	----
5505-6	3/8	3/8	----
5505-8	1/2	1/2	----
5505-12	3/4	3/4	----
5505-16	1	1	----
5505-20	1-1/4	1-1/4	----

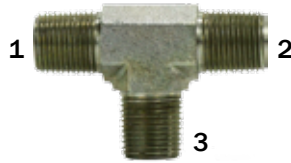
5505 DD45 1241 C3559

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

STEEL PIPE FITTINGS

MALE PIPE TEE

SAE 140437



Part #	Male Pipe 1 & 2	Male Pipe 3	
5600-2-2	1/8	1/8	----
5600-4-4	1/4	1/4	----
5600-6-6	3/8	3/8	----
5600-8-8	1/2	1/2	----
5600-12	3/4	3/4	----
5600-16	1	1	----

5600 2257 RRS

FEMALE BRANCH PIPE TEE

SAE 140427



Part #	Male Pipe 1 & 2	Female Pipe 3	
5601-2-2	1/8	1/8	----
5601-4-4	1/4	1/4	----
5601-6-6	3/8	3/8	----
5601-12	3/4	3/4	----
5601-16	1	1	----

901 5601 2256

STREET PIPE TEE

SAE 140424



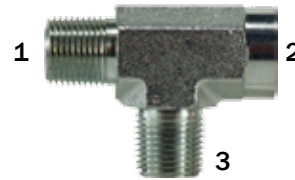
Part #	Male Pipe 1	Female Pipe 2 & 3	
5602-2-2	1/8	1/8	----
5602-4-4	1/4	1/4	----
5602-6-6	3/8	3/8	----
5602-8-8	1/2	1/2	----
5602-12	3/4	3/4	----
5602-16	1	1	----

902 5602 2092 MRO 1276 C3759

HYDRAULIC ADAPTERS

FEMALE RUN PIPE TEE

SAE 1404276



Part #	Male Pipe 1 & 3	Female Pipe 2	
5603-2-2	1/8	1/8	----
5603-4-4	1/4	1/4	----
5603-6-6	3/8	3/8	----
5603-8-8	1/2	1/2	----
5603-12	3/4	3/4	----
5603-16	1	1	----

5603 2093 MMO 1277

MALE BRANCH PIPE TEE



Part #	Female Pipe 1 & 2	Male Pipe 3	
5604-2-2	1/8	1/8	----
5604-4-4	1/4	1/4	----
5604-6-6	3/8	3/8	----
5604-8-8	1/2	1/2	----
5604-12	3/4	3/4	----
5604-16	1	1	----

904 5604 2091 MMS 1278 C3609

FEMALE PIPE TEE

SAE 140438



Part #	Female Pipe	
5605-2-2	1/8	----
5605-4-4	1/4	----
5605-6-6	3/8	----
5605-8	1/2	----
5605-12	3/4	----
5605-16	1	----
5605-20	1-1/4	----

917 5605 2090 1225 C3709

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

HYDRAULIC ADAPTERS

STEEL O-RING ADAPTERS

JIC TO O-RING CONNECTOR

SAE 070120
MS 51525



Part #	JIC Thread Size 1	O-Ring Thread 2	
6400-2	5/16-24	5/16-24	----
6400-4	7/16-20	7/16-20	----
6400-4-2	7/16-20	5/16-24	----
6400-4-6	7/16-20	9/16-18	----
6400-4-8	7/16-20	3/4-16	----
6400-5	1/2-20	1/2-20	----
6400-6	9/16-18	9/16-18	----
6400-6-4	9/16-18	7/16-20	----
6400-6-8	9/16-18	3/4-16	----
6400-6-10	9/16-18	7/8-14	----
6400-6-12	9/16-18	1-1/16-12	----
6400-8	3/4-16	3/4-16	----
6400-8-4	3/4-16	7/16-20	----
6400-8-6	3/4-16	9/16-18	----
6400-8-10	3/4-16	7/8-14	----
6400-8-12	3/4-16	1-1/16-12	----
6400-10	7/8-14	7/8-14	----
6400-10-8	7/8-14	3/4-16	----
6400-10-12	7/8-14	1-1/16-12	----
6400-12	1-1/16-12	1-1/16-12	----
6400-12-8	1-1/16-12	3/4-16	----
6400-12-10	1-1/16-12	7/8-14	----
6400-12-14	1-1/16-12	1-3/16-12	----
6400-12-16	1-1/16-12	1-5/16-12	----
6400-16	1-5/16-12	1-5/16-12	----
6400-16-12	1-5/16-12	1-1/16-12	----
6400-16-20	1-5/16-12	1-5/8-12	----
6400-20	1-5/8-12	1-5/8-12	----
6400-20-24	1-5/8-12	1-7/8-12	----
6400-24-32	1-7/8-12	2-1/2-12	----

6400 202702R F50X 1231 C5315

O-RING HEX NIPPLE UNION



Part #	O-Ring Thread 1	O-Ring Thread 2	
6403-O-6	9/16-18	9/16-18	----
6403-O-8	3/4-16	3/4-16	----
6403-O-12	1-1/16-12	1-1/16-12	----

O-RING TO PIPE ADAPTER



Part #	O-Ring Thread 1	Male Pipe Thread 2	
6401-4-4	7/16-20	1/4	----
6401-6-4	9/16-18	1/4	----
6401-6-6	9/16-18	3/8	----
6401-8-6	3/4-16	3/8	----
6401-8-8	3/4-16	1/2	----
6401-10-8	7/8-14	1/2	----
6401-12-8	1-1/16-12	1/2	----
6401-12-12	1-1/16-12	3/4	----
6401-16-16	1-5/16-12	1	----
6401-20-20	1-5/8-12	1-1/4	----

6401 F5X 1264R C3249

O-RING TO 37° JIC - SWIVEL ADAPTER



Part #	O-Ring Thread 1	JIC Thread Size 2	
6402-O-4-4	7/16-20	7/16-20	----
6402-O-6-6	9/16-18	9/16-18	----
6402-O-8-8	3/4-16	3/4-16	----
6402-O-10-10	7/8-14	7/8-14	----
6402-O-12-12	1-1/16-12	1-1/16-12	----

6402 2266 F65X 1213 9316

FEMALE O-RING TO MALE PIPE ADAPTER



Part #	O-Ring Thread 1	Male Pipe Thread 2	
6404-4-4	7/16-20	1/4	----
6404-6-4	9/16-18	1/4	----
6404-6-6	9/16-18	3/8	----
6404-6-8	9/16-18	1/2	----
6404-8-8	3/4-16	1/2	----
6404-10-8	7/8-14	1/2	----
6404-12-12	1-1/16-12	3/4	----

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov



6404 2246R 1267R C3239 FHG5

STEEL O-RING ADAPTERS

O-RING TO FEMALE PIPE ADAPTER



Part #	O-Ring Thread 1	Female Pipe Thread 2	
6405-O-4-2	7/16-20	1/8	----
6405-O-4-4	7/16-20	1/4	----
6405-O-6-4	9/16-18	1/4	----
6405-O-6-6	9/16-18	3/8	----
6405-O-8-6	3/4-16	3/8	----
6405-O-8-8	3/4-16	1/2	----
6405-O-10-6	7/8-14	3/8	----
6405-O-10-8	7/8-14	1/2	----
6405-O-12-8	1-1/16-12	1/2	----
6405-O-12-12	1-1/16-12	3/4	----
6405-O-16-12	1-5/16-12	3/4	----
6405-O-16-16	1-5/16-12	1	----
6405-O-20-20	1-5/8-12	1-1/4	----
6405-O-24-24	1-7/8-12	1-1/2	----
6405-O-32-32	2-1/2-12	2	----

6405 2216R F50G 1268R C3269

O-RING HEX HEAD PLUG

SAE 090109A



* Not all sizes are solid

Part #	O-Ring Thread	
6408-O-2	5/16-24	----
6408-O-4	7/16-20	----
6408-O-5	1/2-20	----
6408-O-6	9/16-18	----
6408-O-8	3/4-16	----
6408-O-10	7/8-14	----
6408-O-12	1-1/16-12	----
6408-O-14	1-3/16-12	----
6408-O-16	1-5/16-12	----
6408-O-20	1-5/8-12	----
6408-O-24	1-7/8-12	----

6408 900598 P50N 1265 7237

HYDRAULIC ADAPTERS

O-RING HOLLOW - HEX HEAD PLUG

SAE 090109B



Part #	O-Ring Thread	
6408-H-O-2	5/16-24	----
6408-H-O-4	7/16-20	----
6408-H-O-5	1/2-20	----
6408-H-O-6	9/16-18	----
6408-H-O-8	3/4-16	----
6408-H-O-10	7/8-14	----
6408-H-O-12	1-1/16-12	----
6408-H-O-14	1-3/16-12	----
6408-H-O-16	1-5/16-12	----
6408-H-O-20	1-5/8-12	----
6408-H-O-24	1-7/8-12	----
6408-H-O-32	2-1/2-12	----

6408HHP FF2138 HP50N 1256 7238 6409

O-RING PORT REDUCER/EXPANDER



Part #	O-Ring Thread 1	O-Ring Thread 2	
6410-O-8-4	3/4-16	7/16-20	----
6410-O-8-6	3/4-16	9/16-18	----
6410-O-8-8	3/4-16	3/4-16	----
6410-O-12-8	1-1/16-12	3/4-16	----

6410 FF1010 F50G5 1270 7033

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov



HYDRAULIC ADAPTERS

FEMALE SWIVELS JIC

JIC SWIVEL NUT ELBOW

SAE 070221
MS 51521



Part #	JIC Thread Size 1	JIC Thread Size 2	
6500-4	7/16-20	7/16-20	----
6500-6	9/16-18	9/16-18	----
6500-8	3/4-16	3/4-16	----
6500-10	7/8-14	7/8-14	----
6500-12	1-1/16-12	1-1/16-12	----
6500-16	1-5/16-12	1-5/16-12	----
6500-24	1-7/8-12	1-7/8-12	----

6500 2071R C6X 1236 G5506

JIC SWIVEL TO MALE PIPE ELBOW



Part #	JIC Thread Size 1	Male Pipe Thread 2	
6501-4-4	7/16-20	1/4	----
6501-6-6	9/16-18	3/8	----
6501-8-8	3/4-16	1/2	----
6501-10-8	7/8-14	1/2	----
6501-12-12	1-1/16-12	3/4	----
6501-16-16	1-5/16-12	1	----

6501 2250 1247R TF5406

JIC SWIVEL 45° ELBOW

SAE 070321
MS 51522



Part #	JIC Thread Size 1	JIC Thread Size 2	
6502-4	7/16-20	7/16-20	----
6502-6	9/16-18	9/16-18	----
6502-8	3/4-16	3/4-16	----
6502-10	7/8-14	7/8-14	----
6502-12	1-1/16-12	1-1/16-12	----
6502-16	1-5/16-12	1-5/16-12	----

6502 2070R V6X 1237 C5356

JIC SWIVEL TO FEMALE - PIPE ELBOW



Part #	JIC Thread Size 1	Female Pipe Thread 2	
6503-4-4	7/16-20	1/4	----
6503-6-6	9/16-18	3/8	----
6503-8-8	3/4-16	1/2	----
6503-12-12	1-1/16-12	3/4	----

JIC SWIVEL CONNECTOR



Part #	JIC Thread Size 1	JIC Thread Size 2	
6504-4-4	7/16-20	7/16-20	----
6504-6-6	9/16-18	9/16-18	----
6504-8-8	3/4-16	3/4-16	----
6504-10-10	7/8-14	7/8-14	----
6504-12-12	1-1/16-12	1-1/16-12	----
6504-16-16	1-5/16-12	1-5/16-12	----
6504-20-20	1-5/8-12	1-5/8-12	----

6504 1205

JIC SWIVEL TO MALE - PIPE ADAPTER



Part #	JIC Thread Size 1	Male Pipe Thread 2	
6505-4-2	7/16-20	1/8	----
6505-4-4	7/16-20	1/4	----
6505-4-6	7/16-20	3/8	----
6505-6-4	9/16-18	1/4	----
6505-6-6	9/16-18	3/8	----
6505-8-6	3/4-16	3/8	----
6505-8-8	3/4-16	1/2	----
6505-12-12	1-1/16-12	3/4	----
6505-16-16	1-5/16-12	1	----
6505-24-24	1-7/8-12	1-1/2	----

6505 2018 F6X 1211 9100R

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

FEMALE SWIVELS

JIC SWIVEL TO FEMALE PIPE ADAPTER



Part #	JIC Thread Size 1	Female Pipe Thread 2	
6506-4-2	7/16-20	1/8	----
6506-4-4	7/16-20	1/4	----
6506-6-4	9/16-18	1/4	----
6506-6-6	9/16-18	3/8	----
6506-6-8	9/16-18	1/2	----
6506-8-6	3/4-16	3/8	----
6506-8-8	3/4-16	1/2	----
6506-10-6	7/8-14	3/8	----
6506-12-12	1-1/16-12	3/4	----
6506-16-16	1-5/16-12	1	----
6506-20-20	1-5/8-12	1-1/4	----

6506 2242 1215

JIC SWIVEL BRANCH TEE

SAE 070433
MS 51524



Part #	JIC Thread Size 1 & 2	JIC Female Thread 3	
6600-4-4	7/16-20	7/16-20	----
6600-6-6	9/16-18	9/16-18	----
6600-8-8	3/4-16	3/4-16	----
6600-10	7/8-14	7/8-14	----
6600-12	1-1/16-12	1-1/16-12	----
6600-16	1-5/16-12	1-5/16-12	----
6600-20	1-5/8-12	1-5/8-12	----

6600 203101R 55X 1227 C5707

NWO = Nut, Washer & O-Ring

HYDRAULIC ADAPTERS

JIC SWIVEL RUN TEE

SAE 070432
MS 51523



Part #	JIC Thread Size 1 & 3	JIC Female Thread 2	
6602-4	7/16-20	7/16-20	----
6602-5	1/2-20	1/2-20	----
6602-6	9/16-18	9/16-18	----
6602-8	3/4-16	3/4-16	----
6602-12	1-1/16-12	1-1/16-12	----
6602-16	1-5/16-12	1-5/16-12	----
6602-24	1-7/8-12	1-7/8-12	----

6602 203102R R6X 1248 C5706

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

HYDRAULIC ADAPTERS

STEEL O-RING ADAPTERS

JIC TO O-RING ELBOW CONNECTOR

SAE 070220
MS 51527



Part #	JIC Thread	O-Ring Thread	
	Size 1	Size 2	
6801-NWO-4	7/16-20	7/16-20	----
6801-NWO-4-6	7/16-20	9/16-18	----
6801-NWO-6	9/16-18	9/16-18	----
6801-NWO-6-4	9/16-18	7/16-20	----
6801-NWO-6-8	9/16-18	3/4-16	----
6801-NWO-8	3/4-16	3/4-16	----
6801-NWO-8-6	3/4-16	9/16-18	----
6801-NWO-8-10	3/4-16	7/8-14	----
6801-NWO-8-12	3/4-16	1-1/16-12	----
6801-NWO-10	7/8-14	7/8-14	----
6801-NWO-10-8	7/8-14	3/4-16	----
6801-NWO-12	1-1/16-12	1-1/16-12	----
6801-NWO-12-10	1-1/16-12	7/8-14	----
6801-NWO-12-16	1-1/16-12	1-5/16-12	----
6801-NWO-16	1-5/16-12	1-5/16-12	----
6801-NWO-20	1-5/8-12	1-5/8-12	----

6801 2062R C50X 1238L C5515

JIC TO O-RING 45° ELBOW

SAE 070320
MS 51528

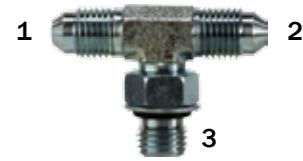


Part #	JIC	O-Ring	
	Thread Size 1	Thread Size 2	
6802-NWO-2	5/16-24	5/16-24	----
6802-NWO-4	7/16-20	7/16-20	----
6802-NWO-6	9/16-18	9/16-18	----
6802-NWO-8	3/4-16	3/4-16	----
6802-NWO-8-6	3/4-16	9/16-18	----
6802-NWO-8-10	3/4-16	7/8-14	----
6802-NWO-10	7/8-14	7/8-14	----
6802-NWO-10-8	7/8-14	3/4-16	----
6802-NWO-12	1-1/16-12	1-1/16-12	----
6802-NWO-16	1-5/16-12	1-5/16-12	----
6802-NWO-20	1-5/8-12	1-5/8-12	----

6802 2061 V50X 1240R C5365

JIC TO O-RING - BRANCH TEE

SAE 070429
MS 51529



Part #	JIC Thread	O-Ring	
	Size 1 & 2	Thread Size 3	
6803-NWO-4	7/16-20	7/16-20	----
6803-NWO-6	9/16-18	9/16-18	----
6803-NWO-8	3/4-16	3/4-16	----
6803-NWO-10	7/8-14	7/8-14	----
6803-NWO-12	1-1/16-12	1-1/16-12	----
6803-NWO-16	1-5/16-12	1-5/16-12	----

6803 203003X S50X 1265R C5715

JIC TO O-RING RUN TEE

SAE 070428
MS 51530



Part #	JIC Thread	O-Ring	
	Size 1 & 3	Thread Size 2	
6804-NWO-4	7/16-20	7/16-20	----
6804-NWO-6	9/16-18	9/16-18	----
6804-NWO-8	3/4-16	3/4-16	----
6804-NWO-10	7/8-14	7/8-14	----
6804-NWO-12	1-1/16-12	1-1/16-12	----
6804-NWO-16	1-5/16-12	1-5/16-12	----

6804 203005R R50X 1266R C5716

O-RING TO - FEMALE PIPE ELBOW



Part #	O-Ring	Pipe Thread	
	Thread Size 1	Size 2	
6805-NWO-4-4	7/16-20	1/4	----
6805-NWO-6-6	9/16-18	3/8	----
6805-NWO-8-8	3/4-16	1/2	----
6805-NWO-10-8	7/8-14	1/2	----
6805-NWO-12-8	1-1/16-12	1/2	----
6805-NWO-12-12	1-1/16-12	3/4	----
6805-NWO-16-16	1-5/16-12	1	----

6805 206801R AE0G 1264 C3459

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov



STEEL O-RINGS

HYDRAULIC ADAPTERS

O-RING TO MALE PIPE ELBOW



Part #	O-Ring	Pipe Thread	
	Thread Size 1	Size 2	
6806-NWO-4-4	7/16-20	1/4	----
6806-NWO-6-6	9/16-18	3/8	----
6806-NWO-8-8	3/4-16	1/2	----
6806-NWO-12-12	1-1/16-12	3/4	----
6806-NWO-16-16	1-5/16-12	1	----

6806 1263 TF3569

O-RING TO 37° JIC SWIVEL NUT TO O-RING ELBOW



Part #	O-Ring	JIC	
	Thread Size 1	Thread Size 2	
6809-NWO-4-4	7/16-20	7/16-20	----
6809-NWO-6-6	9/16-18	9/16-18	----
6809-NWO-8-8	3/4-16	3/4-16	----
6809-NWO-12-12	1-1/16-12	1-1/16-12	----

FEMALE O-RING TO MALE O-RING ELBOW



Part #	O-Ring	O-Ring	
	Thread Size 1	Thread Size 2	
6815-NWO-4-4	7/16-20	7/16-20	----
6815-NWO-6-6	9/16-18	9/16-18	----
6815-NWO-8-8	3/4-16	3/4-16	----
6815-NWO-10-10	7/8-14	7/8-14	----
6815-NWO-12-12	1-1/16-12	1-1/16-12	----

MALE O-RING SWIVEL ADAPTER



SAE 140157

Part #	O-Ring	Female	
	Thread Size 1	NPSM Size 2	
6900-O-4-2	7/16-20	1/8	----
6900-O-4-4	7/16-20	1/4	----
6900-O-6-4	9/16-18	1/4	----
6900-O-6-6	9/16-18	3/8	----
6900-O-6-8	9/16-18	1/2	----
6900-O-8-6	3/4-16	3/8	----
6900-O-8-8	3/4-16	1/2	----
6900-O-8-12	3/4-16	3/4	----
6900-O-10-8	7/8-14	1/2	----
6900-O-10-12	7/8-14	3/4	----
6900-O-12-8	1-1/16-12	1/2	----
6900-O-12-12	1-1/16-12	3/4	----
6900-O-16-16	1-5/16-12	1	----

6900 2066R 1235 9315

90° O-RING SWIVEL ADAPTER



SAE 140257

Part #	O-Ring	Female	
	Thread Size 1	NPSM Size 2	
6901-NWO-4-4	7/16-20	1/4	----
6901-NWO-6-4	9/16-18	1/4	----
6901-NWO-6-6	9/16-18	3/8	----
6901-NWO-6-8	9/16-18	1/2	----
6901-NWO-8-4	3/4-16	1/4	----
6901-NWO-8-6	3/4-16	3/8	----
6901-NWO-8-8	3/4-16	1/2	----
6901-NWO-8-12	3/4-16	3/4	----
6901-NWO-10-6	7/8-14	3/8	----
6901-NWO-10-8	7/8-14	1/2	----
6901-NWO-12-6	1-1/16-12	3/8	----
6901-NWO-12-8	1-1/16-12	1/2	----
6901-NWO-12-12	1-1/16-12	3/4	----
6901-NWO-16-12	1-5/16-12	3/4	----
6901-NWO-16-16	1-5/16-12	1	----
6901-NWO-20-20	1-5/8-12	1-1/4	----

6401 2068R 1271 9515

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

HYDRAULIC ADAPTERS

STEEL SAE O-RING

45° O-RING SWIVEL ADAPTER

SAE 140357



Part #	O-Ring Thread Size 1	Female NPSM Size 2	
6902-NWO-4-4	7/16-20	1/4	----
6902-NWO-6-4	9/16-18	1/4	----
6902-NWO-6-6	9/16-18	3/8	----
6902-NWO-8-8	3/4-16	1/2	----
6902-NWO-10-8	7/8-14	1/2	----
6902-NWO-12-8	1-1/16-12	1/2	----
6902-NWO-12-12	1-1/16-12	3/4	----
6902-NWO-16-16	1-5/16-12	1	----

6902 2067R 1272 9365

O-RINGS

VITON 75 SAE BOSS O-RING

Fluorocarbon



Part #	O-Ring Thread	
4001-2-2	5/16-24	----
4001-4-4	7/16-20	----
4001-6-6	9/16-18	----
4001-8-8	3/4-16	----
4001-10	7/8-14	----
4001-12	1-1/16-12	----
4001-16	1-5/16-12	----
4001-20	1-5/8-12	----
4001-24	1-7/8-12	----
4001-32	2-1/2-12	----

NITRILE 90 SAE BOSS O-RING



Part #	O-Ring Thread	
4000-2-2	5/16-24	----
4000-4-4	7/16-20	----
4000-6-6	9/16-18	----
4000-8-8	3/4-16	----
4000-10	7/8-14	----
4000-12	1-1/16-12	----
4000-14	1-3/16-12	----
4000-16	1-5/16-12	----
4000-20	1-5/8-12	----
4000-24	1-7/8-12	----
4000-32	2-1/2-12	----

BRAZE TUBE NUT (SLEEVE REQUIRED)

SAE 520110



Part #	Tube O.D.	Braze Tube O.D.	
FSO318-4	1/4	.25	----
FSO318-6	3/8	.38	----
FSO318-8	1/2	.50	----
FSO318-10	5/8	.62	----
FSO318-12	3/4	.72	----
FSO318-16	1	1.00	----
FSO318-20	1 1/4	1.25	----
FSO318-24	1 1/2	1.50	----

FF318 FF1311

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

O-RING FACE SEAL ADAPTERS

BRAZE TUBE SLEEVE

SAE 520115



Part #	Tube O.D.	
FSO319-4	1/4	----
FSO319-6	3/8	----
FSO319-8	1/2	----
FSO319-10	5/8	----
FSO319-12	3/4	----
FSO319-16	1	----
FSO319-20	1-1/4	----
FSO319-24	1-1/2	----

FF319 FF3019

See Page 414 for JIC Nut and Sleeve

CAP

SAE 520112



• Two Piece Nut/ Insert

Part #	Tube O.D.	Face Seal Thread	
FSO304-C-4	1/4	9/16-18	----
FSO304-C-6	3/8	11/16-16	----
FSO304-C-8	1/2	13/16-16	----
FSO304-C-10	5/8	1-14	----
FSO304-C-12	3/4	1-3/16-12	----
FSO304-C-16	1	1-7/16-12	----
FSO304-C-20	1-1/4	1-11/16-12	----
FSO304-C-24	1-1/2	2-12	----

FF304C

BULKHEAD LOCKNUT

SAE 520118



Part #	Thread Size	
FSO306-4	9/16-18	----
FSO306-6	11/16-16	----
FSO306-8	13/16-16	----
FSO306-12	1-3/16-12	----
FSO306-16	1-7/16-12	----

FF403

HYDRAULIC ADAPTERS

MALE UNION CONNECTOR

SAE 520102



Part #	Tube O.D.	Face Seal Thread 1&2	
FSO2403-4-4	1/4	9/16-18	----
FSO2403-6-6	3/8	11/16-16	----
FSO2403-8-8	1/2	13/16-16	----
FSO2403-12-12	3/4	1-3/16-12	----
FSO2403-16-16	1	1-7/16-12	----

FF2403 FF1203

MALE O-RING FACE SEAL ADAPTER



Part #	Face Seal Thread 1	Male Pipe Size 2	
FSO2404-4-4	9/16-18	1/4-18	----
FSO2404-6-4	11/16-16	1/4-18	----
FSO2404-6-6	11/16-16	3/8-18	----
FSO2404-8-4	13/16-16	1/4-18	----
FSO2404-8-8	13/16-16	1/2-14	----
FSO2404-12-12	1-3/16-12	3/4-14	----
FSO2404-16-16	1-7/16-12	1-11-1/2	----

FF2404 4205 FLO

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

HYDRAULIC ADAPTERS

O-RING FACE SEAL ADAPTERS

FEMALE ORFS TO MALE ORFS REDUCER



Part #	Female Face Seal Size 1	Male Face Seal Thread 2	
FSO2406-6-4	11/16-16	9/16-18	----
FSO2406-8-4	13/16-16	9/16-18	----
FSO2406-10-6	1-14	11/16-16	----
FSO2406-10-8	1-14	13/16-16	----
FSO2406-12-6	1-3/16-12	11/16-16	----

FF2406 TRLON

SAE 520109

PLUG



Part #	Tube O.D.	Face Seal Thread	
FSO2408-4	1/4	9/16-18	----
FSO2408-6	3/8	11/16-16	----
FSO2408-8	1/2	13/16-16	----
FSO2408-10	5/8	1-14	----
FSO2408-12	3/4	1-3/8-12	----
FSO2408-16	1	1-7/16-12	----
FSO2408-20	1-1/4	1-11/16-12	----
FSO2408-24	1-1/2	2-12	----

FF2408 FF1254 4229 PNLO

ORFS UNION ELBOW 90°



Part #	Face Seal Thread 1	Face Seal Thread 2	
FS2500-4-4	9/16-18	9/16-18	----
FS2500-6-6	11/16-16	11/16-16	----
FS2500-10-10	1-14	1-14	----
FS2500-12-12	1-3/16-12	1-3/16-12	----
FS2500-16-16	1-7/16-12	1-7/16-12	----

FF2500 4505 ELO

ORFS TO MALE ELBOW

SAE 520202



Part #	Face Seal Thread 1	Male Pipe Thread 2	
FS2501-4-4	9/16-18	1/4	----
FS2501-6-4	11/16-16	1/4	----
FS2501-6-6	11/16-16	3/8	----
FS2501-8-6	13/16-16	3/8	----
FS2501-8-8	13/16-16	1/2	----
FS2501-12-12	1-3/8-12	3/4	----
FS2501-16-16	1-7/16-12	1	----
FS2501-20-20	1-11/16-12	1-1/4	----

FF2501 FF1208 4405 CLO

ORFS TO PIPE ELBOW 45°



Part #	Face Seal Thread 1	Male Pipe Thread 2	
FS2503-4-4	9/16-18	1/4	----
FS2503-6-6	11/16-16	3/8	----
FS2503-8-8	13/16-16	1/2	----
FS2503-12-12	1-3/16-12	3/4	----
FS2503-16-16	1-7/16-12	1	----

FF2503 4355 VLO

ORFS UNION TEE



Part #	Face Seal Thread 1+2+3	
FS2603-4-4	9/16-18	----
FS2603-6-6	11/16-16	----
FS2603-8-8	13/16-16	----
FS2603-12-12	1-3/16-12	----

FF2603 4705 JLO

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

O-RING FACE SEAL ADAPTERS

MALE ORFS TO ORB CONNECTOR

SAE 520120



Part #	Face Seal Thread 1	O-Ring Thread 2	
FS6400-O-4-4	9/16-18	7/16-20	----
FS6400-O-4-6	9/16-18	9/16-18	----
FS6400-O-6-4	11/16-16	7/16-20	----
FS6400-O-6-6	11/16-16	9/16-18	----
FS6400-O-6-8	11/16-16	3/4-16	----
FS6400-O-8-6	13/16-16	9/16-18	----
FS6400-O-10-8	1-14	3/4-16	----
FS6400-O-10-10	1-14	7/8-14	----
FS6400-O-12-8	1-3/16-12	3/4-16	----
FS6400-O-12-10	1-3/16-12	7/8-14	----
FS6400-O-12-12	1-3/16-12	1-1/16-12	----
FS6400-O-12-16	1-3/16-12	1-5/16-12	----
FS6400-O-16-12	1-7/16-12	1-1/16-12	----
FS6400-O-16-16	1-7/16-12	1-5/16-12	----
FS6400-O-20-20	1-11/16-12	1-5/8-12	----
FS6400-O-24-24	2-12	1-7/8-12	----

4315 FF6400 FF1231

MALE FLAT FACE TO FEMALE 37 ° SWIVEL



Part #	Face Seal Thread 1	JIC Thread 2	
FS6402-4-4	9/16-18	7/16-20	----
FS6402-6-6	11/16-16	9/16-18	----
FS6402-8-8	13/16-16	3/4-16	----
FS6402-10-10	1-14	7/8-14	----
FS6402-12-12	1-3/16-12	1-1/16-12	----

FF6402 FF1294

SWIVEL NUT ELBOW



Part #	Face Seal Thread 1	Face Seal Thread 2	
FS6500-4-4	9/16-18	9/16-18	----
FS6500-6-6	11/16-16	11/16-16	----
FS6500-8-8	13/16-16	13/16-16	----
FS6500-12-12	1-3/16-12	1-3/16-12	----

FF6500 FF1236

HYDRAULIC ADAPTERS

MALE JIC 37° FLARE TO FEMALE FLAT FACE SWIVEL



Part #	JIC Thread Size 1	Face Seal Thread 2	
FS6504-4-4	7/16-20	9/16-18	----
FS6504-6-6	9/16-18	11/16-16	----
FS6504-8-8	3/4-16	13/16-16	----
FS6504-10-10	7/8-14	1-14	----
FS6504-16-16	1-5/16-12	1-7/16-12	----

FF6504 FF1296

O-RING ELBOW CONNECTOR



Part #	Face Seal Thread 1	O-Ring Thread 2	
FS6801-4-4	9/16-18	7/16-20	----
FS6801-6-6	11/16-16	9/16-18	----
FS6801-8-6	13/16-16	9/16-18	----
FS6801-8-8	13/16-16	3/4-16	----
FS6801-12-12	1-3/16-12	1-1/16-12	----
FS6801-16-16	1-7/16-12	1-5/16-12	----
FS6801-20-20	1-11/16-12	1-5/8-12	----

FF6801 FF1238 4515

ORFS TO O-RING ELBOW 45°



Part #	Face Seal Thread 1	O-Ring Size 2	
FS6802-4-4	9/16-18	7/16-20	----
FS6802-6-6	11/16-16	9/16-18	----
FS6802-8-8	13/16-16	3/4-16	----
FS6802-10-10	1-14	7/8-14	----
FS6802-12-12	1-3/16-12	1-1/16-12	----
FS6802-16-16	1-7/16-12	1-5/16-12	----
FS6802-20-20	1-11/16-12	1-5/8-12	----

FF6802 4365 V5OLO

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

HYDRAULIC ADAPTERS

STRAIGHT THREAD SWIVEL NUT ELBOW



Part #	O-Ring Thread 1	Face Seal Thread 2	
FS6809-4-4	7/16-20	9/16-18	----
FS6809-6-6	9/16-18	11/16-16	----
FS6809-8-8	3/4-16	13/16-16	----
FS6809-12-12	1-1/16-12	1-3/16-12	----

FF6809 FF1239 4535 AOELC

STEEL BSPT ADAPTERS

JIC MALE CONNECTOR BSPT



Part #	JIC Thread Size 1	Male BSPT 2	
7000-4-2	7/16-20	1/8-28	----
7000-4-4	7/16-20	1/4-19	----
7000-6-4	9/16-18	1/4-19	----
7000-6-6	9/16-18	3/8-19	----
7000-6-8	9/16-18	1/2-14	----
7000-8-6	3/4-16	3/8-19	----
7000-8-8	3/4-16	1/2-14	----
7000-8-12	3/4-16	3/4-14	----
7000-10-8	7/8-14	1/2-14	----
7000-10-12	7/8-14	3/4-14	----
7000-12-8	1-1/16-12	1/2-14	----
7000-12-12	1-1/16-12	3/4-14	----
7000-16-16	1-5/16-12	1-11	----
7000-20-20	1-5/8-12	1-1/4-11	----

3404 305

JIC MALE ELBOW BSPT



Part #	JIC Thread Size 1	Male BSPT 2	
7200-4-2	7/16-20	1/8-28	----
7200-4-4	7/16-20	1/4-19	----
7200-6-4	9/16-18	1/4-19	----
7200-6-6	9/16-18	3/8-19	----
7200-6-8	9/16-18	1/2-14	----
7200-8-6	3/4-16	3/8-19	----
7200-8-8	3/4-16	1/2-14	----
7200-12-12	1-1/16-12	3/4-14	----
7200-16-16	1-5/16-12	1-11	----

3501 315

STEEL BSPT ADAPTERS

BSPT HEX NIPPLE



Part #	Male BSPT 1	Male BSPT 2	
7520-2-2	1/8-28	1/8-28	----
7520-4-4	1/4-19	1/4-19	----
7520-6-6	3/8-19	3/8-19	----
7520-8-8	1/2-14	1/2-14	----
7520-10-10	5/8-14	5/8-14	----
7520-12-12	3/4-14	3/4-14	----

3520 MBT

BSPT PLUG



Part #	BSPT	
9508-2	1/8-28	----
9508-4	1/4-19	----
9508-6	3/8-19	----
9508-8	1/2-14	----
9508-12	3/4-14	----
9508-16	1-11	----

100B-Y KA-RM MHL 296

STEEL BSPP ADAPTERS

BSPP HEX NIPPLE



Part #	Male BSPP 1	Male BSPP 2	
7420-2-2	1/8-28	1/8-28	----
7420-4-2	1/4-19	1/8-28	----
7420-6-4	3/8-19	1/4-19	----
7420-6-6	3/8-19	3/8-19	----
7420-8-6	1/2-14	3/8-19	----
7420-8-8	1/2-14	1/2-14	----
7420-10-8	5/8-14	1/2-14	----
7420-12-8	3/4-14	1/2-14	----
7420-12-12	3/4-14	3/4-14	----
7420-16-12	1-11	3/4-14	----
7420-16-16	1-11	1-11	----

3420 MB 9022

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

STEEL BSPP ADAPTERS

BSPP COUPLING



Part #	BSPP	
7425-2	1/8-28	----
7425-4	1/4-19	----
7425-8	1/2-14	----
7425-10	5/8-14	----
7425-12	3/4-14	----
7425-16	1-11	----

3425 FB

JIC TO FEMALE BSPP STRAIGHT SWIVEL



Part #	JIC Thread Size 1	Female BSPP Swivel 2	
7240-4	7/16-20	1/4-19	----
7240-6	9/16-18	3/8-19	----
7240-8	3/4-16	1/2-14	----
7240-10	7/8-14	5/8-14	----
7240-12	1-1/16-12	3/4-14	----
7240-16	1-5/16-12	1-11	----

3240 MJFBS

JIC TO BSPP MALE ELBOW



Part #	JIC Thread Size 1	Male BSPP 2	
7202-NWO-4-2	7/16-20	1/8-28	----
7202-NWO-4-4	7/16-20	1/4-19	----
7202-NWO-6-4	9/16-18	1/4-19	----
7202-NWO-6-6	9/16-18	3/8-19	----
7202-NWO-6-8	9/16-18	1/2-14	----
7202-NWO-8-6	3/4-16	3/8-19	----
7202-NWO-8-8	3/4-16	1/2-14	----
7202-NWO-8-12	3/4-16	3/4-14	----
7202-NWO-10-8	7/8-14	1/2-14	----
7202-NWO-12-12	1-1/16-12	3/4-14	----
7202-NWO-12-16	1-1/16-12	1-11	----
7202-NWO-16-16	1-5/16-12	1-11	----

3801 315

HYDRAULIC ADAPTERS

JIC TO BSPP 45° ELBOW



Part #	JIC Thread Size 1	Male BSPP 2	
7802-4	7/16-20	1/4-19	----
7802-6	9/16-18	3/8-19	----
7802-8	3/4-16	1/2-14	----
7802-12	1-1/16-12	3/4-14	----
7802-16	1-5/16-12	1-11	----

3802 35J

BSPP TO MALE PIPE NIPPLE



Part #	Male BSPP Size 1	Male Pipe Thread Size 2	
7825-2	1/8-28	1/8	----
7825-4	1/4-19	1/4	----
7825-6	3/8-19	3/8	----
7825-8	1/2-14	1/2	----
7825-12	3/4-14	3/4	----
7825-16	1-11	1	----

MBMP 3825

JIC TO BSPP MALE CONNECTOR



Part #	JIC Thread Size 1	Male BSPP 2	
7002-4-2	7/16-20	1/8-28	----
7002-4-4	7/16-20	1/4-19	----
7002-4-6	7/16-20	3/8-19	----
7002-4-8	7/16-20	1/2-14	----
7002-6-4	9/16-18	1/4-19	----
7002-6-6	9/16-18	3/8-19	----
7002-6-8	9/16-18	1/2-14	----
7002-8-6	3/4-16	3/8-19	----
7002-8-8	3/4-16	1/2-14	----
7002-8-12	3/4-16	3/4-14	----
7002-10-8	7/8-14	1/2-14	----
7002-12-12	1-1/16-12	3/4-14	----
7002-12-16	1-1/16-12	1-11	----
7002-16-16	1-5/16-12	1-11	----

30J 3800

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov



HYDRAULIC ADAPTERS

JIC TO BSPP STRAIGHT SWIVEL



Part #	JIC Thread Size 1	Male BSPP 2	
7022-4-2	7/16-20	1/8-28	----
7022-4-4	7/16-20	1/4-19	----
7022-6-6	9/16-18	3/8-19	----
7022-8-8	3/4-16	1/2-14	----
7022-10-8	7/8-14	1/2-14	----
7022-12-12	1-1/16-12	3/4-14	----
7022-16-16	1-5/16-12	1-11	----

3402 3055

HEX HEAD PLUG BSPP



Part #	Male BSPP	
9522-P-2	1/8-28	----
9522-P-4	1/4-19	----
9522-P-6	3/8-19	----
9522-P-8	1/2-14	----
9522-P-12	3/4-14	----
9522-P-16	1-11	----

3408

HOLLOW HEX PLUG BSPP



Part #	Male BSPP	
9522-H-2	1/8-28	----
9522-H-4	1/4-19	----
9522-H-6	3/8-19	----
9522-H-8	1/2-14	----
9522-H-12	3/4-14	----
9522-H-16	1-11	----

3408 HHP

STEEL BSPP ADAPTERS

FEMALE ADAPTER BSPP



Part #	Female Pipe 1	Male BSPP 2	
7042-2-2	1/8	1/8-28	----
7042-4-2	1/4	1/8-28	----
7042-4-4	1/4	1/4-19	----
7042-6-6	3/8	3/8-19	----
7042-8-8	1/2	1/2-14	----
7042-12-12	3/4	3/4-14	----
7042-16-16	1	1-11	----

3455 MMFP

STEEL METRIC ADAPTERS

MALE CONNECTOR



Part #	JIC Thread Size 1	Metric Thread 2	
7005-4-10	7/16-20	10x1.0	----
7005-4-12	7/16-20	12x1.5	----
7005-4-14	7/16-20	14x1.5	----
7005-4-18	7/16-20	18x1.5	----
7005-5-12	1/2-20	12x1.5	----
7005-5-14	1/2-20	14x1.5	----
7005-6-14	9/16-18	14x1.5	----
7005-6-16	9/16-18	16x1.5	----
7005-6-18	9/16-18	18x1.5	----
7005-8-16	3/4-16	16x1.5	----
7005-8-18	3/4-16	18x1.5	----
7005-8-22	3/4-16	22x1.5	----
7005-10-18	7/8-14	18x1.5	----
7005-10-20	7/8-14	20x1.5	----
7005-10-22	7/8-14	22x1.5	----
7005-12-22	1-1/16-12	22x1.5	----
7005-12-27	1-1/16-12	27x1.5	----

Port-seal crush washer and O-ring included

7400 30J (R) 7011

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov



STEEL METRIC ADAPTERS

MALE ELBOW



Part #	JIC Thread Size 1	Metric Thread 2	
7205-NWO-4-10	7/16-20	10x1.0	----
7205-NWO-4-12	7/16-20	12x1.5	----
7205-NWO-4-14	7/16-20	14x1.5	----
7205NWO-5-12	1/2-20	12x1.5	----
7205-NWO-6-14	9/16-18	14x1.5	----
7205-NWO-6-16	9/16-18	16x1.5	----
7205-NWO-8-16	3/4-16	16x1.5	----
7205-NWO-8-18	3/4-16	18x1.5	----
7205-NWO-8-22	3/4-16	22x1.5	----
7205-NWO-10-18	7/8-14	18x1.5	----

Port-seal crush washer and O-ring included 7801 315 (R)

STRAIGHT SWIVEL



Part #	JIC Thread Size 1	Metric Thread 2	
7025-4-10	7/16-20	10x1.0	----
7025-4-12	7/16-20	12x1.5	----
7025-5-12	1/2-20	12x1.5	----
7025-6-14	9/16-18	14x1.5	----
7025-6-16	9/16-18	16x1.5	----
7025-8-16	3/4-16	16x1.5	----
7025-10-22	7/8-14	22x1.5	----
7025-12-27	1-1/16-12	27x2.0	----
7025-16-33	1-5/16-12	33x2.0	----

7402 30JS (R)

HEX HEAD PLUG METRIC PARALLEL



Part #	Metric Thread	
8555-P-10	10x1.0	----
8555-P-12	12x1.5	----
8555-P-14	14x1.5	----
8555-P-16	16x1.5	----
8555-P-18	18x1.5	----
8555-P-20	20x1.5	----
8555-P-22	22x1.5	----
8555-P-26	26x1.5	----
8555-P-30	30x1.5	----

7408

HYDRAULIC ADAPTERS

HOLLOW HEX HEAD PLUG METRIC PARALLEL



Part #	Metric Thread	
8555-H-10	10x1.0	----
8555-H-12	12x1.5	----
8555-H-14	14x1.5	----
8555-H-16	16x1.5	----
8555-H-18	18x1.5	----
8555-H-20	20x1.5	----
8555-H-22	22x1.5	----
8555-H-26	26x1.5	----
8555-H-30	30x1.5	----

7408 HHP

FEMALE ADAPTER



Part #	Female Pipe Thread 1	Metric Thread 2	
7045-2-10	1/8	10x1.0	----
7045-4-12	1/4	12x1.5	----
7045-4-14	1/4	14x1.5	----
7045-6-12	3/8	12x1.5	----
7045-6-16	3/8	16x1.5	----
7045-6-18	3/8	18x1.5	----
7045-8-16	1/2	16x1.5	----
7045-8-18	1/2	18x1.5	----
7045-8-22	1/2	22x1.5	----
7045-12-27	3/4	27x2.0	----
7045-16-33	1	33x2.0	----

MMFP (R)

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

HYDRAULIC ADAPTERS

QUICK DISCONNECT



- 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	
61-150	3/4	1/2	3000	----
61-152	3/4	3/4	3000	----
61-153	1	1	3000	----
61-154	1-1/4	1-1/4	2750	----
61-155	1-1/2	1-1/2	2500	----

Part #	Body Size	Female NPT	Max PSI	
61-050	3/4	1/2	3000	----
61-052	3/4	3/4	3000	----
61-053	1	1	3000	----
61-054	1-1/4	1-1/4	2750	----
61-055	1-1/2	1-1/2	2500	----

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

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

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

B=BRASS



BRASS - HNV SERIES PLUG



BRASS - HNV SERIES COUPLER

ISO-A FEMALE PIPE COUPLER

Part #	Body Size	NPT	
ANV-14-F	1/4"	1/4"	----
ANV-38-F	3/8"	3/8"	----
ANV-12-F	1/2"	1/2"	----
ANV-34-F	3/4"	3/4"	----
ANV-1-F	1"	1"	----

ISO-A FEMALE PIPE PLUG

Part #	Body Size	NPT	
ANV-14-M	1/4"	1/4"	----
ANV-38-M	3/8"	3/8"	----
ANV-12-M	1/2"	1/2"	----
ANV-34-M	3/4"	3/4"	----
ANV-1-M	1"	1"	----

ISO-B FEMALE PIPE COUPLER

Part #	Body Size	NPT	
HNV-14-F	1/4"	1/4"	----
HNV-14-F-B	1/4"	1/4"	----
HNV-38-F	3/8"	3/8"	----
HNV-38-F-B	3/8"	3/8"	----
HNV-12-F	1/2"	1/2"	----
HNV-12-F-B	1/2"	1/2"	----
HNV-34-F	3/4"	3/4"	----
HNV-34-F-B	3/4"	3/4"	----
HNV-1-F	1"	1"	----
HNV-1-F-B	1"	1"	----

ISO-B FEMALE PIPE PLUG

Part #	Body Size	NPT	
HNV-14-M	1/4"	1/4"	----
HNV-14-M-B	1/4"	1/4"	----
HNV-38-M	3/8"	3/8"	----
HNV-38-M-B	3/8"	3/8"	----
HNV-12-M	1/2"	1/2"	----
HNV-12-M-B	1/2"	1/2"	----
HNV-34-M	3/4"	3/4"	----
HNV-34-M-B	3/4"	3/4"	----
HNV-1-M	1"	1"	----
HNV-1-M-B	1"	1"	----

WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

QUICK DISCONNECT

HYDRAULIC ADAPTERS

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	
FF-14-F	1/4"	1/4"	----
FF-38-F	3/8"	3/8"	----
FF-12-F	1/2"	1/2"	----
FF-3812-F	3/8"	1/2"	----
FF-1234-F	1/2"	3/4"	----
FF-1012F	5/8"	3/4"	----
FF-3416-F	3/4"	1"	----
FF-34-F	3/4"	3/4"	----
FF-1-F	1"	1"	----

FF Series
HTMN
74N



FEMALE PIPE PLUG

Part #	Body Size	NPT	
FF-14-M	1/4"	1/4"	----
FF-38-M	3/8"	3/8"	----
FF-12-M	1/2"	1/2"	----
FF-3812-M	3/8"	1/2"	----
FF-1234-M	1/2"	3/4"	----
FF-3416-M	3/4"	1"	----
FF-34-M	3/4"	3/4"	----
FF-1-M	1"	1"	----

FLAT FACE THREAD LOCK - VEP QUICK COUPLING

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**

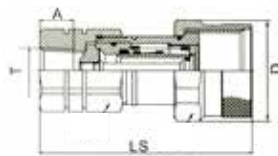
Test Fluid-Oil = 200 SUS

APPLICATIONS

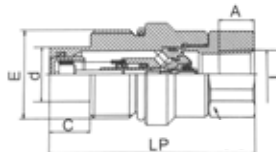
- Widely used in public equipment
- Portable construction equipment.
- Hydraulic tools
- Vehicles

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)**



FEMALE COUPLER					
Part #	LS	D	A	NPT	
LSQ-VEP-12-SF	4.09	1.13	0.67	1/2	----
LSQ-VEP-34-SF	4.49	2.13	0.79	3/4	----
LSQ-VEP-1-SF	5.28	2.33	0.83	1	----
LSQ-VEP-20-SF	5.71	2.72	0.83	1-1/4	----
LSQ-VEP-24-SF	7.41	3.63	0.83	1-1/2	----



FEMALE PLUG					
Part #	LS	D	A	NPT	
LSQ-VEP-12-PF	4.09	1.13	0.67	1/2	----
LSQ-VEP-34-PF	4.49	2.13	0.79	3/4	----
LSQ-VEP-1-PF	5.28	2.33	0.83	1	----
LSQ-VEP-20-PF	5.71	2.72	0.83	1-1/4	----
LSQ-VEP-24-PF	7.41	3.63	0.83	1-1/2	----

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

HYDRAULIC ADAPTERS

QUICK DISCONNECT

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	
NV-14-F	1/4"	1/4"	----
NV-38-F	3/8"	3/8"	----
NV-12-F	1/2"	1/2"	----
NV-34-F	3/4"	3/4"	----
NV-1-F	1"	1"	----

FEMALE PIPE PLUG

Part #	Body Size	NPT	
NV-14-M	1/4"	1/4"	----
NV-38-M	3/8"	3/8"	----
NV-12-M	1/2"	1/2"	----
NV-34-M	3/4"	3/4"	----
NV-1-M	1"	1"	----

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

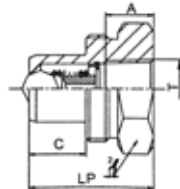
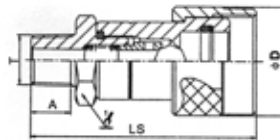
SPECIFICATIONS

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	
KZE-B-14-SM	2.40	1.14	0.87	0.55	1/4	----
KZE-B-38-SM	2.91	1.38	0.98	0.57	3/8	----

FEMALE COUPLER

Part #	LS	D	Hex	A	NPT	
KZE-B-14-PF	1.30	0.44	0.75	0.51	1/4	----
KZE-B-38-PF	1.38	0.63	1.26	0.55	3/8	----

WARNING: This product can expose you to chemicals, including Cobalt, which are known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

HYDRAULIC FLOW CONTROL/NEEDLE VALVES

HYDRAULIC ADAPTERS

MM-FC SERIES FLOW CONTROL VALVES

FEATURES:

- Micrometer adjustment knob for accurate valve setting.
- Rugged construction.

TECHNICAL DATA:

• Materials

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

Maximum Pressure: 5000PSI

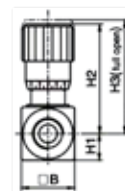
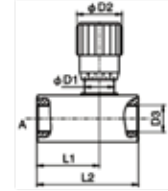
Temperature Ratings: -4°F to 176°F (-20°C to 80°C)

Flow Rate: 0-42 GPM



INLET

<< FREE FLOW



Part#	B	D1	D2	D3	H1	H2	H3	L1	L2	WEIGHT (lbs)	
MMFC4NPT	1.10	0.76	1.18	1/4 NPT	0.55	2.41	2.67	1.54	2.52	0.90	----
MMFC6NPT	1.10	0.76	1.18	3/8 NPT	0.55	2.41	2.67	1.69	2.75	0.90	----
MMFC8NPT	1.50	0.95	1.46	1/2 NPT	0.75	3.07	3.41	2.05	3.27	2.00	----
MMFC12NPT	1.50	0.95	1.46	3/4 NPT	0.75	3.08	3.41	2.19	3.50	2.00	----
MMFC16NPT	1.89	1.38	1.89	1 NPT	0.94	4.03	4.50	2.79	4.60	4.20	----
MMFC20NPT	2.38	1.96	2.28	1-1/4 NPT	1.18	5.25	5.88	3.39	6.07	9.55	----

MM-NV SERIES NEEDLE VALVES

FEATURES:

- Micrometer adjustment knob for accurate valve setting.
- Rugged construction.

TECHNICAL DATA:

• Materials

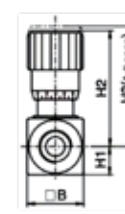
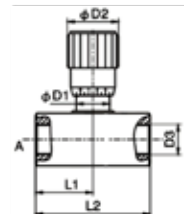
Body:	Carbon steel w/ black oxide plating
Handle:	Zinc Alloy
Set Screw:	Steel
Packing:	Buna O-Ring/ PTFE stem packing

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)	
MMNV4NPT	1.10	0.76	1.18	1/4 NPT	0.55	2.41	2.67	1.07	2.13	0.90	----
MMNV6NPT	1.10	0.76	1.18	3/8 NPT	0.55	2.41	2.67	1.07	2.13	0.90	----
MMNV8NPT	1.50	0.95	1.46	1/2 NPT	0.75	3.07	3.41	1.34	2.38	2.00	----
MMNV12NPT	1.50	0.95	1.46	3/4 NPT	0.75	3.08	3.41	1.54	3.09	2.00	----
MMNV16NPT	1.89	1.38	1.89	1 NPT	0.94	4.03	4.50	1.81	3.62	4.20	----

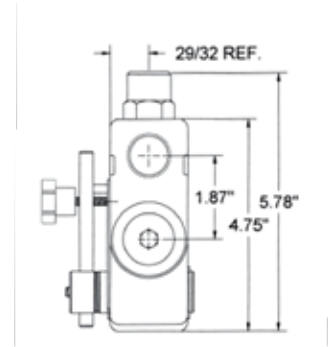
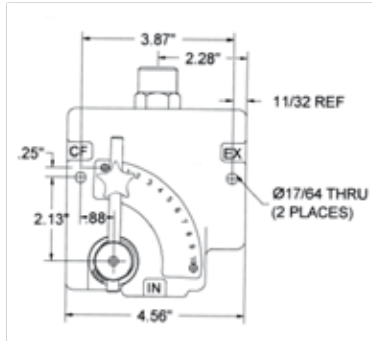
WARNING: This product can expose you to chemicals, including cobalt, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

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	
MFC-38-N	3/8" - NPT	0-8 gpm	----
MFC-12-N	1/2" - NPT	0-16 gpm	----
MFC-34-N	3/4" - NPT	0-30 gpm	----

SCREW-ON TYPE AIR BREATHERS



- **Chrome Plated Steel**
- **1/4 To 1 Inch NPT**
- **40 Micron Breather**

Part Number	Flow cfm	NPT	
MB40-04	10	1/4	----
MB40-06	10	3/8	----
MB40-08	10	1/2	----
MB40-12	25	3/4	----
MB40-16	25	1	----

WARNING: This product can expose you to chemicals, including Chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, visit www.P65Warnings.ca.gov

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
0304-10	404	100045	211	10-046	51	10-108LF	163	10-212	55	10-259L	56
0304-12	404	1000465	211	10-047	51	10-109	53	10-213	55	10-260	56
0304-16	404	10-005	50	10-048	51	10-109L	53	10-214	55	10-260L	56
0304-4	404	10-006	50	10-049	51	10-109LF	163	10-215	55	10-261	56
0304-6	404	100065	211	10-051	51	10-110	53	10-216	55	10-262	56
0304-8	404	1000665	211	10-052	51	10-110L	53	10-217	55	10-262LF	163
0304-C-10	404	10-007	50	10-053	51	10-110LF	163	10-218	55	10-263	56
0304-C-12	404	10-008	50	10-054	51	10-111	53	10-219	55	10-263L	56
0304-C-14	404	100085	211	10-055	51	10-112	53	10-220	55	10-263LF	163
0304-C-16	404	1000865	211	10-056	51	10-115	54	10-221	55	10-264	56
0304-C-2	404	1001125	211	10-058	51	10-116	54	10-227	55	10-264L	56
0304-C-20	404	10011265	211	10-062	52	10-117	54	10-228	55	10-264LF	163
0304-C-24	404	1001165	211	10-063	52	10-118	54	10-228L	55	10-265	56
0304-C-3	404	10011665	211	10-064	52	10-118LF	163	10-228LF	163	10-265L	56
0304-C-32	404	1001205	211	10-065	52	10-119	54	10-229	55	10-265LF	163
0304-C-4	404	10012065	211	10-066	52	10-120	54	10-229L	55	10-266	56
0304-C-5	404	1001245	211	10-067	52	10-121	54	10-229LF	163	10-266LF	163
0304-C-6	404	10012465	211	10-068	52	10-121LF	163	10-230	55	10-267	56
0304-C-8	404	10-013	50	10-069	52	10-122	54	10-230LF	163	10-267LF	163
0306-10	407	10-013	88	10-073	52	10-123	54	10-231	55	10-268	56
0306-12	407	10-013LF	163	10-074	52	10-123LF	163	10-232	55	10-268L	56
0306-14	407	10-014	50	10-075	52	10-126	54	10-233	55	10-268LF	163
0306-16	407	100145	211	10-075EH	52	10-127	54	10-234	55	10-269	56
0306-2	407	1001465	211	10-075LF	163	10-131	53	10-235	55	10-269L	56
0306-20	407	10-014LF	163	10-076	52	10-132	53	10-235L	55	10-269LF	163
0306-4	407	10-015	50	10-077	52	10-133	53	10-235LF	163	10-270	56
0306-5	407	10-015L	50	10-077LF	163	10-135	55	10-236	55	10-270LF	163
0306-6	407	10-015LF	163	10-078	52	10-136	60	10-236L	55	10-271	56
0306-8	407	10-016	50	10-078LF	163	10-137	60	10-236LF	163	10-272	56
0318-10	404	100165	211	10-079	52	10-138	60	10-237	55	10-272L	56
0318-12	404	1001665	211	10-079LF	163	10-139	60	10-237L	55	10-272LF	163
0318-14	404	10-016LF	163	10-080	52	10-157	54	10-237LF	163	10-273	56
0318-16	404	10-017	50	10-080LF	163	10-158	54	10-238	55	10-273L	56
0318-2	404	10-017L	50	10-081	52	10-159	54	10-239	55	10-273LF	163
0318-20	404	10-017LF	163	10-082	52	10-159LF	164	10-240	55	10-274	56
0318-24	404	10-018	50	10-084	52	10-160	54	10-240L	55	10-274LF	163
0318-3	404	100185	211	10-085	52	10-161	54	10-240LF	163	10-275	56
0318-32	404	1001865	211	10-086	52	10-161LF	164	10-241	55	10-275LF	163
0318-4	404	10-018LF	163	10-087	52	10-162	54	10-241L	55	10-276	56
0318-5	404	10-019	50	10-088	52	10-163	54	10-241LF	163	10-276LF	163
0318-6	404	10-019L	50	10-089	52	10-164	54	10-242	55	10-277	56
0318-8	404	10-019LF	163	10-090	52	10-165	54	10-242L	55	10-278	56
0319-10	404	10-020	50	10-094	53	10-170	54	10-242LF	163	10-278LF	163
0319-12	404	10-020L	50	10-095	53	10-171	54	10-243	55	10-279	56
0319-14	404	10-020LF	163	10-097	53	10-172	54	10-244	55	10-280	56
0319-16	404	10-021	50	10-098	53	10-173	54	10-244L	55	10-283	57
0319-2	404	10-021LF	163	10-099	53	10-174	54	10-244LF	163	10-283B	57
0319-20	404	10-022	50	10-100	53	10-175	54	10-245	55	10-284	57
0319-24	404	10-023	50	1010002	328	10-176	54	10-245LF	163	10-284B	57
0319-3	404	10-024	50	1010008	328	10-178	54	10-246	55	10-285	57
0319-32	404	10-025	50	1010011	328	10-179	54	10-247	55	10-286	57
0319-4	404	10-026	50	1010016	328	10-180	54	10-247LF	163	10-286B	57
0319-5	404	10-028	51	1010019	328	10-181	54	10-248	55	10-286L	57
0319-6	404	10-030	51	1010022	328	10-182	54	10-253	56	10-286LF	164
0319-8	404	10-031	51	1010024	328	10-187	54	10-254	56	10-287	57
10-001	50	10-032	51	1010027	328	10-188	54	10-255	56	10-287B	57
1000105	211	10-033	51	10-104	53	10-189	54	10-255EH	56	10-287LF	164
10001065	211	10-038	51	10-104LF	163	10-197	54	10-255L	56	10-288	57
1000125	211	10-039	51	10-105	53	10-203	55	10-255LF	163	10-288LF	164
10001265	211	10-039LF	163	10-105LF	163	10-204	55	10-256	56	10-289	57
10-002	50	10-040	51	10-106	53	10-204LF	163	10-256L	56	10-290	57
100025	211	10-041	51	10-106EH	53	10-205	55	10-256LF	163	10-290B	57
1000265	211	10-041LF	163	10-106L	53	10-206	55	10256WC	53	10-291	57
10-003	50	10-042	51	10-106LF	163	10-207	55	10-257	56	10-291B	57
100035	211	10-042LF	163	10-107	53	10-208	55	10-257LF	163	10-292	57
1000365	211	10-043	51	10-107LF	163	10-209	55	10-258	56	10-293	57
10-003L	50	10-044	51	10-108	53	10-210	55	10-258LF	163	10-293B	57
10-004	50	10-045	51	10-108L	53	10-211	55	10-259	56	10-293LF	164

12-121

NUMERICAL INDEX

18-090

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
12-270	69	1501-6-4	402	1602-8-8	403	17-189N	302	18-039LF	164	18-096	85
12-271	69	1501-6-6	402	1603-12-12	403	17-189P	302	18-040	77	18-101	78
12-272	69	1501-8-6	402	1603-16-16	403	17-190N	302	18-040L	77	18-101B	78
12-273	69	1501-8-8	402	1603-4-4	403	17-190P	302	18-040LF	164	18-101LF	165
12-274	69	1502-12-12	402	1603-6-6	403	17-193N	302	18-041	77	18-102	78
12-275	69	1502-16-16	402	1603-8-8	403	17-193P	302	18-042	77	18-102B	78
12-310	74	1502-20-20	402	16-090	86	17-194N	302	18-043	77	18-102LF	165
12-326	75	1502-2-2	402	16-117	86	17-194P	302	18-047	84	18-103	78
12-327	75	1502-24-24	402	16-118	86	17-195N	302	18-047LF	165	18-103B	78
12-328	75	1502-4-4	402	16-119	86	17-195P	302	18-048	84	18-103LF	165
12-329	75	1502-6-4	402	16-120	86	17-224N	302	18-048LF	165	18-104	78
12-330	75	1502-6-6	402	16-121	86	17-225N	302	18-049	84	18-104B	78
12-335	75	1502-6-8	402	16-122	86	17-225P	302	18-049LF	165	18-104LF	165
12-336	75	1502-8-6	402	16-123	86	17-233N	302	18-050	84	18-105	78
12-337	75	1502-8-8	402	16-125	86	17-233P	302	18-050LF	165	18-105B	78
12-339	75	1503-12-12	403	16-127	86	17-234N	302	18-062	77	18-105LF	165
12-341	75	1503-12-8	403	16-128	86	17-234P	302	18-062LF	165	18-106	78
12-342	75	1503-16-12	403	16-129	86	17-237N	302	18-063	77	18-106B	78
12-343	75	1503-16-16	403	16-130	86	17-237P	302	18-063LF	165	18-106LF	165
12-344	75	1503-2-2	403	16-131	86	17-238N	302	18-064	77	18-107	78
12-345	75	1503-4-4	403	16-133	86	17-238P	302	18-064L	77	18-107LF	165
14-001	62	1503-6-4	403	16700001	328	18-001	77	18-064LF	165	18-108	78
14-011	62	1503-6-6	403	16700004	328	18-002	77	18-065	77	18-109	78
14-016	62	1503-8-6	403	16700007	328	18-002LF	164	18-065LF	165	18-109LF	165
14-017	62	1503-8-8	403	16700010	328	18-003	77	18-066	77	18-110	78
14-018	62	1504-12-12	403	16700012	328	18-003LF	164	18-066L	77	18-111	78
14-025	62	1504-16-16	403	16700013	328	18-004	77	18-066LF	165	18-114	78
1404-12-12	402	1504-2-2	403	16700016	328	18-004LF	164	18-067	77	18-115	78
1404-12-16	402	1504-4-4	403	16700017	328	18-005	77	18-067LF	165	18-115LF	165
1404-12-8	402	1504-6-6	403	16700022	328	18-005LF	164	18-068	77	18-116	78
1404-16-12	402	1504-8-8	403	16700024	328	18-006	77	18-068L	77	18-117	78
1404-16-16	402	1510003	328	17-064N	302	18-007	77	18-068LF	165	18-117LF	165
1404-20-16	402	1510004	328	17-064P	302	18-007LF	164	18-069	77	18-118	78
1404-20-20	402	1510006	328	17-065N	302	18-008	77	18-069L	77	18-119	78
1404-2-2	402	1510007	328	17-066N	302	18-008LF	164	18-069LF	165	18-122B	79
1404-24-24	402	1510008	328	17-066P	302	18-009	77	18-070	77	18-123	79
1404-32-32	402	1510009	328	17-068N	302	18-009LF	164	18-070LF	165	18-124	79
1404-4-2	402	1510010	328	17-068P	302	18-010	77	18-071	77	18-124LF	165
1404-4-4	402	1510011	328	17-078N	302	18-010LF	164	18-071L	77	18-125	79
1404-6-6	402	1510012	328	17-079N	302	18-011	77	18-071LF	165	18-125LF	165
1404-6-8	402	1510013	328	17-079P	302	18-015	88	18-072	77	18-126	79
1404-8-4	402	1510014	328	17-081P	302	18-015	164	18-076	78	18-126LF	165
1404-8-6	402	1510016	328	17-088N	302	18-016	88	18-076LF	165	18-127	79
1404-8-8	402	1510019	328	17-090N	302	18-016	164	18-077	78	18-127LF	165
1405-12-12	402	1510020	328	17-091N	302	18-017	88	18-077LF	165	18-128	79
1405-16-12	402	1510023	328	17-103N	302	18-017	164	18-078	78	18-128LF	165
1405-16-16	402	16-001	86	17-105N	302	18-018	88	18-078LF	165	18-129	79
1405-20-20	402	16-002	86	17-106N	302	18-018	164	18-079	78	18-129LF	165
1405-2-2	402	16-003	86	17-124N	302	18-019	88	18-079LF	165	18-130	79
1405-24-24	402	16-004	86	17-124P	302	18-019	164	18-080	78	18-130LF	165
1405-32-32	402	16-005	86	17-126N	302	18-020	88	18-080LF	165	18-135	79
1405-4-4	402	16-006	86	17-126P	302	18-028	84	18-081	78	18-135LF	165
1405-6-4	402	16-007	86	17-127P	302	18-029	84	18-081LF	165	18-136	79
1405-6-6	402	16-009	86	17-145P	302	18-030	84	18-082	78	18-136LF	165
1405-6-8	402	16-010	86	17-146N	302	18-031	84	18-082LF	165	18-137	79
1405-8-4	402	16-011	86	17-153N	302	18-032	84	18-083	78	18-137LF	165
1405-8-8	402	1601-12-12	403	17-153P	302	18-033	77	18-083LF	165	18-142	79
1410083	331	1601-16-16	403	17-154N	302	18-034	77	18-084	78	18-142LF	166
1410118	331	16-012	86	17-154P	302	18-035	77	18-085	78	18-143	79
1501-12-12	402	1601-2-2	403	17-158P	302	18-035L	77	18-086	78	18-143LF	166
1501-12-8	402	16-013	86	17-159P	302	18-035LF	164	18-087	85	18-144	79
1501-16-12	402	1601-4-4	403	17-176N	302	18-036	77	18-088	85	18-145	79
1501-16-16	402	1601-6-6	403	17-179N	302	18-037	77	18-089	85	18-145L	79
1501-20-20	402	1601-8-8	403	17-179P	302	18-037L	77	18-090	85	18-145LF	166
1501-2-2	402	1602-12-12	403	17-180N	302	18-037LF	164	18-091	85	18-146	79
1501-32-32	402	1602-16-16	403	17-180P	302	18-038	77	18-092	85	18-146L	79
1501-4-2	402	1602-4-4	403	17-188N	302	18-039	77	18-093	85	18-146LF	166
1501-4-4	402	1602-6-6	403	17-188P	302	18-039L	77	18-094	85	18-147LF	166

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
18-148	79	18-188	80	18-227	81	18-262	82	20-001C	112
18-148LF	166	18-188L	80	18-227LF	166	18-262BLF	166	20-009	101
18-149	79	18-188LF	166	18-228	81	18-263	82	20-010	101
18-150	79	18-189	80	18-228B	81	18-263LF	166	20-011	101
18-150LF	166	18-189L	80	18-228LF	166	18-264	82	20-012	97
18-151LF	166	18-189LF	166	18-229	81	18-264BLF	166	20-013	101
18-152	79	18-190	80	18-229B	81	18-265	82	20-015C	112
18-152LF	166	18-190L	80	18-229LF	166	18-266	82	20-015N	103
18-153	79	18-190LF	166	18-230	81	18-267	82	20-016C	112
18-153L	79	18-191	80	18-231	81	18-267LF	166	20-016N	103
18-153LF	166	18-191LF	166	18-232	81	18-268	82	20-017	97
18-154	79	18-192	80	18-232B	81	18-269	82	20-017C	112
18-154L	79	18-192LF	166	18-232BLF	166	18-269BLF	166	20-017N	103
18-154LF	166	18-193	80	18-233	81	18-270	82	20-018	97
18-155	79	18-193L	80	18-233B	81	18-272	82	20-018C	112
18-155LF	166	18-193LF	166	18-233BLF	166	18-273	82	20-018N	103
18-156	79	18-194	80	18-234	81	18-273B	82	20-018P	303
18-156LF	166	18-194L	80	18-234B	81	18-274	82	20-019	97
18-157	79	18-194LF	166	18-234BLF	166	18-274B	82	20-019C	112
18-158	79	18-195	80	18-235	81	18-275	82	20-019N	103
18-158L	79	18-195L	80	18-235B	81	18-276	82	20-019P	303
18-158LF	166	18-195LF	166	18-235BLF	166	18-277	82	20-020	97
18-159	79	18-196	80	18-236	81	18-278	82	20-020C	112
18-159L	79	18-196LF	166	18-236B	81	18-279	82	20-020N	103
18-159LF	166	18-197	80	18-236LF	166	18-280	82	20-020P	303
18-160	79	18-197LF	166	18-237	81	18-281	82	20-021	97
18-160LF	166	18-198	80	18-237B	81	18-282	82	20-021C	112
18-161LF	166	18-198LF	166	18-237BLF	166	18-283	82	20-021N	103
18-162	79	18-199	80	18-238	81	18-284	82	20-021P	303
18-162L	79	18-199LF	166	18-238B	81	18-290	83	20-022	97
18-162LF	166	18-200	80	18-238BLF	166	18-291	83	20-022C	112
18-163	79	18-200LF	166	18-239	81	18-291B	83	20-022N	103
18-163LF	166	18-201	80	18-239LF	166	18-292	83	20-023	98
18-164	79	18-201LF	166	18-240	81	18-293	83	20-023N	104
18-165	79	18-202	80	18-240LF	166	18-294	83	20-024C	112
18-165LF	166	18-202LF	166	18-241	81	18-295	83	20-024N	103
18-166	79	18-203	80	18-241B	81	18-296	83	20-025	97
18-166LF	166	18-203LF	166	18-241BLF	166	18-297	83	20-025C	112
18-167	79	18-204	80	18-242	81	18-298	83	20-025N	103
18-167LF	166	18-205	80	18-242BLF	166	18-299	83	20-026	97
18-171LF	165	18-206	80	18-243	81	18-299B	83	20-026C	112
18-175	80	18-207	80	18-245	81	18-300	83	20-026N	103
18-176	80	18-208	85	18-246	81	18-301	83	20-027	97
18-176LF	166	18-209	85	18-246LF	166	18-302	83	20-027C	112
18-177	80	18-210	85	18-247	81	18-303	83	20-028	97
18-177LF	166	18-211	85	18-248	81	18-304	83	20-028C	112
18-178	80	18-212	85	18-248B	81	18-307	83	20-028N	103
18-178LF	166	18-213	85	18-250	82	18-314	83	20-028P	303
18-179	80	18-214	85	18-251	82	18-316	83	20-029	97
18-179L	80	18-215	85	18-251B	82	18-321	84	20-029C	112
18-179LF	166	18-216	80	18-252	82	18-322	84	20-029N	103
18-180	80	18-219	81	18-252B	82	18-323	84	20-029P	303
18-180L	80	18-220	81	18-253	82	18-324	84	20-030	97
18-180LF	166	18-220B	81	18-253B	82	18-325	84	20-030C	112
18-181	80	18-220LF	166	18-253LF	166	18-326	84	20-030N	103
18-181LF	166	18-221	81	18-254	82	18-327	84	20-030P	303
18-182	80	18-221B	81	18-254B	82	18-328	84	20-031	97
18-182LF	166	18-221LF	166	18-254LF	166	18-329	84	20-031C	112
18-183	80	18-223	81	18-255	82	18-330	84	20-031N	103
18-183LF	166	18-223B	81	18-256	82	18-331	84	20-032	97
18-184	80	18-224	81	18-257	82	18-332	84	20-032N	103
18-184L	80	18-224B	81	18-258	82	18-333	84	20-034	97
18-184LF	166	18-224BLF	166	18-258BLF	166	18-334	84	20-034C	112
18-185	80	18-225	81	18-259	82	18-335	84	20-034N	103
18-186	80	18-225B	81	18-259BLF	166	18-336	84	20-035	97
18-187	80	18-225BLF	166	18-260	82	18-338	84	20-035C	112
18-187L	80	18-226	81	18-260LF	166	18-339	84	20-035N	103
18-187LF	166	18-226BLF	166	18-261	82	18-534	21	20-035P	303
								20-036	97
								20-036C	112
								20-036N	103
								20-036P	303
								20-037	97
								20-037C	112
								20-037N	103
								20-038	97
								20-038N	103
								20-039	98
								20-045	98
								20-046	98
								20-046N	104
								20-047	98
								20-047N	104
								20-048	98
								20-048N	104
								20-049	98
								20-049C	113
								20-049N	104
								20-050	98
								20-050C	113
								20-050N	104
								20-050P	304
								20-051	98
								20-052	98
								20-053	98
								20-053C	113
								20-053N	104
								20-054	98
								20-054C	113
								20-054N	104
								20-054P	304
								20-055	98
								20-055C	113
								20-055N	104
								20-055P	304
								20-056	98
								20-056C	113
								20-056N	104
								20-056P	304
								20-057	98
								20-057C	113
								20-057N	104
								20-057P	304
								20-058	98
								20-058C	113
								20-058N	104
								20-058P	304
								20-059	98
								20-059C	113
								20-059N	104
								20-059P	304
								20-060	98
								20-060C	113
								20-060N	104
								20-061	98
								20-061C	113
								20-061N	104
								20-061P	304
								20-062	98
								20-062C	113
								20-062N	104
								20-062P	304
								20-063	98
								20-063C	113
								20-063N	104
								20-063P	304

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
20-064	99	20-091S	99	20-128P	303	20-174	100	20-270	92	20-524P	304
20-065	99	20-092	98	20-129	101	20-174C	114	20-271	92	20-525P	304
20-066	99	20-092C	113	20-129C	115	20-174N	105	20-272	92	20-528P	304
20-067	99	20-092N	105	20-129N	106	20-175C	115	20-273	92	20-529P	304
20-068	99	20-093	100	20-129P	303	20-176C	115	20-274	92	20-530	98
20-068N	104	20-094	99	20-135C	114	20-179C	115	20-275	92	20-530C	113
20-068P	304	20-094N	105	20-136C	114	20-181C	114	20-276	92	20-530N	104
20-069	99	20-094S	99	20-137C	114	20-181N	105	20-277	92	20-531	98
20-069N	104	20-095	100	20-138C	114	20-182C	112	20-278	92	20-531C	113
20-069P	304	20-095N	105	20-139C	114	20-184C	113	20-279	92	20-531N	104
20-070	99	20-097	100	20-140C	114	20-184N	105	20-282	92	20-532	98
20-070P	304	20-098	100	20-142	101	20-185C	112	20-287	92	20-532N	104
20-071	99	20-099	100	20-143	101	20-187C	115	20-288	92	20-535	98
20-072	99	20-099C	114	20-149C	112	20-188C	115	20-289	92	20-535C	113
20-072N	104	20-100	100	20-150	97	20-189C	115	20-290	92	20-535N	105
20-072P	304	20-100C	114	20-150C	112	20-192	99	20-291	92	20-537C	113
20-073	99	20-101	100	20-150N	103	20-193C	115	20-292	92	20-537N	105
20-073N	104	20-102	100	20-151	97	20-194C	115	20-293	92	20-538	98
20-073P	304	20-103	100	20-151C	112	20-195C	115	20-294	92	20-538C	113
20-074	99	20-103C	114	20-151N	103	20-200	91	20-295	92	20-538N	105
20-075	99	20-103N	106	20-152	97	20-201	94	20-296	92	20-539	98
20-076	98	20-104	100	20-152C	112	20-203	94	20-300	93	20-539C	113
20-076N	105	20-104C	114	20-152N	103	20-204	94	20-301	93	20-539N	105
20-077	98	20-104N	106	20-152P	303	20-205	94	20-302	93	20-551	101
20-077C	113	20-105	100	20-153	97	20-206	94	20-303	93	20-551C	112
20-078	98	20-105C	114	20-153C	112	20-206N	108	20-304	93	20-552	101
20-078C	113	20-105N	106	20-153N	103	20-207	94	20-305	93	20-553	101
20-079	98	20-106	100	20-153P	303	20-208	94	20-308	93	20-553C	112
20-079C	113	20-106C	114	20-154	97	20-211	91	20-309	93	20-553N	106
20-079N	105	20-106N	106	20-154C	112	20-212	91	20-310	93	20-555C	112
20-080	98	20-107	100	20-154N	103	20-213	91	20-311	93	20-557C	115
20-080C	113	20-107C	114	20-154P	303	20-214	91	20-312	93	20-572C	113
20-080N	105	20-107N	106	20-155	97	20-218	94	20-313	93	20-573C	113
20-081	98	20-108	100	20-155C	112	20-219	94	20-314	93	20-574C	113
20-081C	113	20-108C	114	20-155N	103	20-220	94	20-317	93	20-579C	113
20-081N	105	20-108N	106	20-156N	106	20-221	94	20-318	93	20-580C	113
20-082	98	20-109	100	20-157N	106	20-222	94	20-319	93	20-581C	113
20-082C	113	20-109C	114	20-158C	114	20-223	94	20-320	93	20-582C	113
20-082N	105	20-109N	106	20-158N	106	20-227	94	20-321	93	20-583C	113
20-083	98	20-110	100	20-159N	105	20-228	94	20-322	93	20-584C	113
20-083C	113	20-110C	114	20-160	100	20-229	94	20-323	93	20-591C	114
20-083N	105	20-110N	106	20-160C	114	20-230	94	20-324	93	20-595C	114
20-084	98	20-111	100	20-161	100	20-231	94	20-327	93	20-596C	114
20-084C	113	20-111C	114	20-162	100	20-232	94	20-328	93	20-597C	114
20-084N	105	20-111N	106	20-162C	114	20-235	91	20-330	92	20-598C	114
20-085	98	20-112	100	20-162N	105	20-237	91	20-333	91	20-600	116
20-085C	113	20-112N	106	20-163	100	20-240	91	20-334	91	20-600N	108
20-085N	105	20-113	100	20-163C	114	20-241	91	20-337	91	20-601	116
20-086	98	20-115	100	20-163N	105	20-242	91	20-338	91	20-601N	108
20-086C	113	20-116	100	20-164	100	20-243	91	20-339	91	20-602	116
20-086N	105	20-117	100	20-164N	105	20-244	91	20-487C	115	20-603	116
20-087	98	20-118	100	20-165	100	20-245	91	20-488C	115	20-603N	108
20-087C	113	20-119	100	20-165C	114	20-248	92	20-489C	115	20-604	116
20-087N	105	20-120	100	20-165N	105	20-249	92	20-510	101	20-604N	108
20-088	98	20-121C	114	20-166	100	20-250	92	20-510N	106	20-610	116
20-088C	113	20-123N	106	20-166C	114	20-251	92	20-511	101	20-610N	108
20-088N	105	20-124	101	20-166N	105	20-252	92	20-511N	106	20-611	116
20-089	99	20-124N	106	20-167	100	20-253	92	20-512	101	20-611N	108
20-089C	114	20-125	101	20-167C	114	20-256	92	20-512N	106	20-612	116
20-089N	105	20-125N	106	20-167N	105	20-257	92	20-512P	304	20-612N	108
20-089S	99	20-126	101	20-168N	105	20-259	92	20-513N	106	20-613	116
20-090	99	20-127	101	20-170	101	20-260	92	20-514N	106	20-613N	108
20-090C	114	20-127C	115	20-170C	115	20-261	92	20-514P	304	20-614	116
20-090N	105	20-127N	106	20-171	101	20-262	92	20-515C	112	20-614N	108
20-090S	99	20-127P	303	20-171C	115	20-263	92	20-516C	112	20-619N	109
20-091	99	20-128	101	20-172	101	20-265	92	20-517C	113	20-620N	109
20-091C	114	20-128C	115	20-172C	115	20-268	92	20-518C	113	20-621N	109
20-091N	105	20-128N	106	20-173C	115	20-269	92	20-519C	114	20-622N	109

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
20-623N	109	20-685	117	20-736P	303	20-817	118	21-113	26
20-624N	109	20-686	117	20-737N	110	20-818	118	21-115	26
20-625N	109	20-686N	110	20-738N	108	20-819	118	21-117	26
20-626N	109	20-687	117	20-739N	108	20-820	118	21-119	26
20-627N	109	20-687N	110	20-740	116	20-821	118	21-121	26
20-628N	109	20-688	117	20-740N	108	20-822	118	21-133	26
20-629N	109	20-688N	110	20-740P	304	20-823	118	21-151	26
20-630	116	20-689	117	20-741N	108	20-824	118	21-153	26
20-630N	109	20-689N	110	20-742N	108	20-825	118	21-155	26
20-631	116	20-690	117	20-742P	304	20-826	118	21-159	26
20-631N	109	20-690N	110	20-743N	108	20-827	118	21-161	26
20-632	116	20-691N	110	20-744N	108	20-827	118	21-174	278
20-632N	109	20-692	117	20-745N	108	20-830C	114	21-175	278
20-633	116	20-698	117	20-745P	304	20-831C	114	21-176	278
20-633N	109	20-699	117	20-746	118	20-832C	114	21-177	278
20-634	116	20-700N	109	20-746N	108	20-833C	114	21-178	278
20-634N	109	20-701N	109	20-747P	304	20-834C	114	21-179	278
20-635	116	20-702N	109	20-748N	108	20-835C	114	21-180	278
20-635N	109	20-702P	303	20-748P	304	20-841N	104	21-193	26
20-636	116	20-703N	109	20-749N	108	20-842N	104	21-195	26
20-636N	109	20-704N	109	20-750N	108	20-843N	104	21-197	26
20-637	116	20-705N	109	20-750P	303	20-844N	104	21-207	26
20-637N	109	20-706N	109	20-751N	108	20-845N	104	22-008	88
20-638	116	20-707N	109	20-752N	108	20-846N	104	22-008A	88
20-638N	109	20-708N	109	20-753N	108	20-847N	104	22-009	88
20-642	117	20-709N	109	20-754P	303	20-848N	105	22-009A	88
20-642N	109	20-710N	109	20-755P	303	20-850N	106	22-010	88
20-655	117	20-711	117	20-756P	303	20-851N	105	22-010A	88
20-655N	109	20-711N	109	20-758P	303	20-852N	105	22-010B	88
20-656	117	20-712	117	20-762N	105	20-853N	105	22-010LF	164
20-656N	109	20-712N	109	20-763P	304	20-854	117	22-011	88
20-657	117	20-713	117	20-766P	304	20-855	117	22-011A	88
20-657N	109	20-713N	109	20-777P	304	20-856	117	22-011LF	164
20-658	117	20-714	117	20-779P	304	20-857	117	22-012	88
20-658N	109	20-714N	109	20-780	360	20-859	117	22-012LF	164
20-659	117	20-715N	109	20-780C	115	20-860	117	22-013	88
20-659N	109	20-716N	110	20-781C	115	20-861	116	22-013LF	164
20-660	116	20-717	117	20-782C	115	20-862	116	22-014	88
20-660N	108	20-717N	110	20-785C	115	20-876P	304	22-014LF	164
20-661	116	20-718	117	20-786C	115	20-878P	304	22-015	88
20-661N	108	20-718N	110	20-787C	115	20-880P	304	24-002	88
20-668N	110	20-719	117	20-788C	115	20-881P	304	24-003	88
20-669N	110	20-719N	110	20-789C	115	20-900P	304	24-004	88
20-670	117	20-720	117	20-801	116	20-901P	304	24-005	88
20-670N	110	20-720N	110	20-801	117	20-904P	304	24-006	88
20-672	117	20-721	117	20-801N	109	20-905P	304	24-007	88
20-672N	110	20-721N	110	20-803	117	20-925P	304	24-008	88
20-673	117	20-722N	110	20-803N	109	20-927P	304	2403-10-10	404
20-673N	110	20-723N	108	20-805	117	20-944P	303	2403-10-8	404
20-674	117	20-724N	108	20-805N	109	20-993P	303	2403-12-10	404
20-674N	110	20-724P	303	20-806	116	21-003	26	2403-12-12	404
20-675	117	20-725N	108	20-807	116	21-007	26	2403-12-8	404
20-676	117	20-725P	303	20-807N	108	21-009	26	2403-14-14	404
20-676N	110	20-726N	108	20-808	116	21-021	26	2403-16-12	404
20-677	117	20-727C	115	20-808N	108	21-023	26	2403-16-16	404
20-677N	110	20-727N	108	20-809	117	21-025	26	2403-20-20	404
20-678	117	20-728C	115	20-809N	110	21-027	26	2403-2-2	404
20-678N	110	20-728N	108	20-810	117	21-043	26	2403-24	404
20-679	117	20-729N	108	20-810N	110	21-046	26	2403-32	404
20-679N	110	20-730N	108	20-811	117	21-049	26	2403-3-3	404
20-680	117	20-731N	110	20-811N	110	21-082	26	2403-4-4	404
20-680N	110	20-732N	110	20-813	118	21-083	26	2403-5-5	404
20-682	117	20-733N	110	20-813N	108	21-084	26	2403-6-4	404
20-682N	110	20-733P	303	20-814	118	21-095	26	2403-6-6	404
20-683	117	20-734N	110	20-814N	108	21-097	26	2403-8-6	404
20-683N	110	20-734P	303	20-815	118	21-099	26	2403-8-8	404
20-684	117	20-735N	110	20-815N	108	21-109	26	2404-10-12	405
20-684N	110	20-736N	110	20-816	118	21-111	26	2404-10-8	405
								2404-12-12	405
								2404-12-16	405
								2404-12-6	405
								2404-12-8	405
								2404-16-12	405
								2404-16-16	405
								2404-20-16	405
								2404-20-20	405
								2404-2-2	405
								2404-24-16	405
								2404-24-20	405
								2404-24-24	405
								2404-32-24	405
								2404-32-32	405
								2404-4-2	405
								2404-4-4	405
								2404-4-6	405
								2404-4-8	405
								2404-6-2	405
								2404-6-4	405
								2404-6-6	405
								2404-6-8	405
								2404-8-12	405
								2404-8-16	405
								2404-8-4	405
								2404-8-6	405
								2404-8-8	405
								2405-10-6	405
								2405-10-8	405
								2405-12-12	405
								2405-12-8	405
								2405-16-12	405
								2405-16-16	405
								2405-20-20	405
								2405-2-2	405
								2405-24-24	405
								2405-3-2	405
								2405-32-32	405
								2405-4-2	405
								2405-4-4	405
								2405-6-4	405
								2405-6-6	405
								2405-8-4	405
								2405-8-6	405
								2405-8-8	405
								2406-10-4	405
								2406-10-6	405
								2406-10-8	405
								2406-12-10	405
								2406-12-4	405
								2406-12-6	405
								2406-12-8	405
								2406-16-12	405
								2406-16-20	405
								2406-16-4	405
								2406-20-12	405
								2406-20-16	405
								2406-24-16	405
								2406-32-24	405
								2406-6-4	405
								2406-6-8	405
								2406-8-12	405
								2406-8-4	405
								2406-8-6	405
								2408-10	406
								2408-12	406
								2408-14	406
								2408-16	406

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
2408-2	406	2503-6-8	407	26-195	89	2706-12-12	408	28-058LF	158	28-106LF	158
2408-20	406	2503-8-6	407	26-198	89	2706-16-16	408	28-059	3	28-107	5
2408-24	406	2503-8-8	407	26-220	89	2706-4-4	408	28-059L	3	28-107L	5
2408-3	406	25-062	87	26-220B	89	2706-6-6	408	28-059LF	158	28-107LF	158
2408-32	406	25-064	87	26-221	89	2706-8-8	408	28-060	3	28-108	5
2408-4	406	25-175	87	26-221B	89	28-001	2	28-060L	3	28-108LF	158
2408-5	406	25-176	87	26-224	89	28-002	2	28-060LF	158	28-109L	5
2408-6	406	25-177	87	26-224B	89	28-003	2	28-061	3	28-109LF	158
2408-8	406	25-179	87	26-225	89	28-004	2	28-061L	3	28-110L	5
25-001	87	25-219	87	26-225B	89	28-005	2	28-061LF	158	28-110LF	158
2500-10-10	406	25-220	87	26-228	89	28-009	2	28-062	3	28-111	5
2500-12-12	406	25-221	87	26-229	89	28-009LF	158	28-062L	3	28-111L	5
2500-16-16	406	25-224	87	26-232	89	28-010	2	28-063	3	28-111LF	158
25-002	87	26-001	89	26-233	89	28-010LF	158	28-067	4	28-112	5
2500-20-20	406	26-002	89	26-233B	89	28-011	2	28-068	4	28-112LF	158
2500-2-2	406	26-003	89	26-234	89	28-011LF	158	28-069	4	28-113	5
2500-24-24	406	26-004	89	26-235	89	28-012	2	28-070	4	28-114	5
25-003	87	26-005	89	26-237	89	28-012LF	158	28-071	4	28-114LF	158
2500-32-32	406	26-007	89	26-238	89	28-013	2	28-075	4	28-115	5
2500-4-4	406	26-008	89	26-291	89	28-013LF	158	28-075LF	159	28-115LF	158
2500-5-5	406	26-011	89	26-292	89	28-014	2	28-076	4	28-116	6
2500-6-4	406	2601-12-12	407	26-293	89	28-015	2	28-076LF	159	28-116LF	158
2500-6-6	406	26-014	89	26-296	89	28-015B	2	28-077	4	28-117	6
2500-8-6	406	2601-4-4	407	27-001	88	28-016	2	28-077LF	159	28-117LF	158
2500-8-8	406	2601-6-6	407	2700-10	407	28-016B	2	28-078	4	28-118	6
2501-10-6	406	2601-8-8	407	2700-12	407	28-017	2	28-078LF	159	28-118LF	158
2501-10-8	406	26-021	89	2700-14	407	28-018	2	28-079	4	28-119	6
2501-12-12	406	26-023	89	2700-16	407	28-019	2	28-079LF	159	28-119LF	158
2501-12-16	406	2602-4-4	407	27-002	88	28-020	2	28-080	4	28-120	6
2501-12-8	406	2602-6-6	407	2700-2-2	407	28-021B	2	28-080LF	159	28-121	6
2501-16-12	406	2602-8-8	407	27-003	88	28-022	2	28-084	6	28-121LF	158
2501-16-16	406	2603-10-10	407	2700-4-4	407	28-023	2	28-084LF	159	28-122	6
2501-16-20	406	2603-12-12	407	27-005	88	28-024	2	28-085	6	28-122LF	158
2501-20-20	406	2603-16-16	407	2700-5-5	407	28-025	2	28-085LF	159	28-123	7
2501-24-24	406	2603-2-2	407	27-006	88	28-026	2	28-086	6	28-124	7
2501-32-32	406	2603-3-3	407	2700-6-6	407	28-027	2	28-086LF	159	28-125	7
2501-4-2	406	2603-4-4	407	2700-8	407	28-028	2	28-087	6	28-126	7
2501-4-4	406	2603-6-6	407	2701-10	408	28-029	3	28-087LF	159	28-127	7
2501-4-8	406	2603-8-8	407	2701-12	408	28-030	3	28-088	6	28-128	6
2501-6-2	406	26-062	89	2701-16	408	28-031	3	28-088LF	159	28-128LF	158
2501-6-4	406	26-063	89	2701-20	408	28-032	2	28-089	6	28-129	6
2501-6-6	406	26-064	89	2701-4	408	28-032LF	158	28-090	6	28-129LF	158
2501-6-8	406	26-065	89	2701-5	408	28-033	2	28-091	5	28-130	6
2501-8-12	406	26-066	89	2701-6	408	28-033LF	158	28-092	6	28-130LF	158
2501-8-4	406	26-068	89	2701-8	408	28-034	2	28-093	6	28-131	7
2501-8-6	406	26-069	89	2702-10	408	28-034LF	158	28-093LF	159	28-131LF	159
2501-8-8	406	26-079	89	2702-12	408	28-035	2	28-094	6	28-132	7
2502-12-12	406	26-102	89	2702-16	408	28-035LF	158	28-094LF	159	28-132LF	159
2502-16-16	406	26-103	89	2702-4	408	28-036	2	28-095	6	28-133	7
2502-20-20	406	26-105	89	2702-6	408	28-036LF	158	28-095LF	159	28-133LF	159
2502-4-2	406	26-142	89	2702-8	408	28-038	3	28-096	6	28-134	7
2502-4-4	406	26-145	89	2703-10	408	28-039	3	28-096LF	159	28-134LF	159
2502-6-4	406	26-146	89	2703-12	408	28-041	3	28-097	6	28-135	7
2502-6-6	406	26-153	89	2703-16	408	28-042	3	28-097LF	159	28-135LF	159
2502-8-6	406	26-175	89	2703-4	408	28-043	3	28-098LF	159	28-136	7
2502-8-8	406	26-176	89	2703-6	408	28-044	3	28-102	5	28-140	7
2503-10-8	407	26-177	89	2703-8	408	28-045	3	28-102L	5	28-141	7
2503-12-12	407	26-179	89	2704-10	408	28-046	3	28-102LF	158	28-141LF	159
2503-12-16	407	26-180	89	2704-12	408	28-047	3	28-103	5	28-142	7
2503-16-16	407	26-180L	89	2704-16	408	28-048	3	28-103LF	158	28-143	7
2503-16-20	407	26-181	89	2704-4	408	28-049	3	28-104	5	28-144	7
2503-20-16	407	26-182	89	2704-6	408	28-050	3	28-104L	5	28-144LF	159
2503-20-20	407	26-183	89	2704-8	408	28-051	3	28-104LF	158	28-145	7
2503-2-2	407	26-184	89	2705-12-12	408	28-052	3	28-105	5	28-145LF	159
25-033	87	26-188	89	2705-16-16	408	28-053B	2	28-105L	5	28-146	7
2503-4-4	407	26-189	89	2705-4-4	408	28-057	3	28-105LF	158	28-147	7
2503-6-4	407	26-190	89	2705-6-6	408	28-058	3	28-106	5	28-147LF	159
2503-6-6	407	26-194	89	2705-8-8	408	28-058L	3	28-106L	5	28-148	7

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
28-148LF	159	28-194LF	160	28-225	8	28300SS	13	28-372	357
28-149	7	28-195	9	28-225L	8	28-301	12	28-373	357
28-149LF	159	28-195L	9	28-225LF	159	28-301	12	28-374	357
28-150	7	28-195LF	160	28-227	8	28301SS	13	28-375	357
28-151	7	28-196	9	28-230	8	28-302	12	28-376	357
28-152	7	28-196L	9	28-231	8	28-302	12	28-377	357
28-153	7	28-196LF	160	28-232	8	28-303	12	28-378	357
28-154	7	28-197	9	28-233	8	28-303	12	28-379	357
28-155	7	28-198	9	28-234	8	28303SS	13	28-380	357
28-156	4	28-199	9	28-238	8	28-304	12	28-381	357
28-156S	4	28-199LF	160	28-239	8	28-304	12	28-382	357
28-157	4	28-200	6	28-240	8	28304SS	13	28400	107
28-157S	4	28-201	6	28-245	9	28-306	13	28401	107
28-158	4	28-201LF	159	28-245LF	160	28-307	13	28402	107
28-159	4	28-201S	7	28-246	9	28-308	13	28403	107
28-160	4	28-202	6	28-246LF	160	28-309	13	28404	107
28-161	4	28-202LF	159	28-247	9	28-310	13	28405	107
28-165	5	28-202S	7	28-247LF	160	28-311	12	28407	107
28-165LF	158	28-203	6	28-248	9	28-312	13	28-415	17
28-166	5	28-203LF	159	28-248LF	160	28-313	12	28-424	9
28-166LF	158	28-203S	7	28-249	9	28-313	12	28-425	9
28-167	5	28-204	6	28-253	9	28-315	12	28-426	9
28-167LF	158	28-204LF	159	28-254	9	28-316	12	28-427	9
28-168	5	28-204S	7	28-255	9	28-317	12	28-440	11
28-168LF	158	28-205	6	28-256	9	28-317	12	28-441	11
28-169	5	28-205LF	159	28-257	9	28-318	12	28-442	11
28-169LF	158	28-205S	7	28-259	5	28-318	12	28-443	11
28-174	6	28-206	6	28-260	5	28-319	12	28-444	358
28-175	6	28-206LF	159	28-261	5	28-319	12	28-445	358
28-176	6	28-206S	7	28-261B	5	28-320	13	28-446	358
28-177	6	28-207	9	28-262	5	28-321	12	28-450	358
28-178	4	28-207LF	160	28-263	5	28-321	12	28-452	358
28-179	4	28-208	9	28-264	5	28-322	12	28-456	358
28-180	4	28-208L	9	28-265	5	28-322	12	28-457	358
28-180LF	158	28-208LF	160	28-265B	5	28-325	13	28-458	358
28-181	4	28-209	9	28-266	10	28-328	11	28-460	358
28-181L	4	28-210	8	28-266B	10	28-329	11	28-464	358
28-181LF	158	28-211	8	28-267	10	28-330	11	28-465	358
28-182	4	28-211L	8	28-267B	10	28-331	11	28-467	358
28-182LF	158	28-211LF	159	28-268	10	28-332	11	28-468	358
28-183	4	28-212	8	28-268B	10	28-333	11	28-469	358
28-183L	4	28-212L	8	28-269	10	28-335	11	28-470	358
28-183LF	158	28-212LF	159	28-269B	10	28-336	11	28-475	7
28-184	4	28-213	8	28-270B	10	28-337	11	28-481	7
28-184L	4	28-213L	8	28-274	10	28-338	11	28-487	7
28-185	4	28-213LF	159	28-275	10	28-339	11	28-493	7
28-185L	4	28-214	8	28-276	10	28-340	11	28-497	7
28-185LF	158	28-214L	8	28-276B	10	28-345	13	28-498	7
28-186	4	28-214LF	159	28-281	10	28-346	12	28-499	7
28-187	4	28-215	8	28-281F	10	28-346	12	28-500	353
28-188	4	28-215L	8	28-282	10	28-347	12	28-501	353
28-188LF	158	28-215LF	159	28-282F	10	28-347	12	28-501B	353
28-189	4	28-216	8	28-283	10	28-348	12	28-502	353
28-189LF	158	28-216L	8	28-283LF	160	28-348	12	28-503	353
28-190	9	28-218	8	28-284	10	28-350	356	28-504	353
28-190L	9	28-220	8	28-284LF	160	28-351	356	28-507	353
28-190LF	160	28-220L	8	28-285	10	28-352	356	28-507S	353
28-191	9	28-220LF	159	28-290	11	28-353	356	28-508	353
28-191L	9	28-221	8	28-291	11	28-354	356	28-509	353
28-191LF	160	28-221L	8	28-292	11	28-363	357	28-510	353
28-192	9	28-222	8	28-293	11	28-364	357	28-510B	353
28-192L	9	28-222L	8	28-294	11	28-365	357	28-511	353
28-192LF	160	28-222LF	159	28-295	11	28-366	357	28-512	353
28-193	9	28-223	8	28-296	11	28-367	357	28-513	353
28-193L	9	28-223L	8	28-298	11	28-368	357	28-514S	353
28-193LF	160	28-224	8	28-299	12	28-369	357	28-515	353
28-194	9	28-224L	8	28-300	12	28-370	357	28-516	353
28-194L	9	28-224LF	159	28-300	12	28-371	357	28-516S	353
								28-517	353
								28-518	354
								28-519S	353
								28-520	354
								28-521	354
								28-522	354
								28-523	354
								28-524	354
								28-525S	353
								28-526S	353
								28-528	354
								28-530	354
								28-531	354
								28-532	354
								28-533	350
								28-534	350
								28-534B	350
								28-534SS	351
								28-535	350
								28-536	354
								28-538	354
								28-540	349
								28-540S	349
								28-541	349
								28-541S	349
								28-545	350
								28-546	350
								28-546B	350
								28-546SS	351
								28-547	350
								28-552	349
								28-552S	349
								28-553	349
								28-553S	349
								28-557	350
								28-558	350
								28-559	350
								28-560	351
								28-560SS	351
								28-561	350
								28-562	349
								28-562S	349
								28-564	349
								28-564S	349
								28-565	349
								28-565S	350
								28-566	349
								28-566S	350
								28-578	352
								28-579	351
								28-579SS	351
								28-583	352
								28-584	352
								28-585	352
								28-586	352
								28-587	352
								28-589	351
								28-592	352
								28-593	352
								28-594	352
								28-595	352
								28-597	352
								28-601	352
								28-601B	295
								28-601W	295
								28-602B	295
								28-602W	295
								28-603	352

28-306

NUMERICAL INDEX

28-768W

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
28-603B.....	295	28-667W.....	296	28-715.....	66	28-811P.....	296	300-012.....	317	30-055.....	39
28-603W.....	295	28-668.....	355	28-716.....	66	28-811W.....	296	300-014.....	356	30-056.....	39
28-604B.....	295	28-668P.....	296	28-717.....	66	28-812P.....	296	300-015.....	356	30-058.....	40
28-604W.....	295	28-668W.....	296	28-718.....	66	28-814P.....	296	300-016.....	317	30-063.....	40
28-605.....	355	28-669.....	355	28-719.....	66	28-815W.....	296	300-017.....	356	30-063BE.....	40
28-605B.....	295	28-670.....	355	28-720W.....	295	28-816P.....	296	300-018.....	356	30-063S.....	40
28-605W.....	295	28-671.....	355	28-721W.....	295	28-818P.....	296	300-019.....	356	30-064.....	40
28-606W.....	295	28-671P.....	296	28-722F.....	67	28-818W.....	296	300-020.....	356	30-065.....	40
28-607W.....	295	28-671W.....	296	28-723P.....	295	28-819P.....	295	300-021.....	356	30-066.....	40
28-608.....	355	28-672.....	355	28-723W.....	295	28-819W.....	295	300-022.....	356	30-066LF.....	162
28-608W.....	295	28-672P.....	296	28-724F.....	67	28-820P.....	295	300-023.....	356	30-067.....	40
28-609W.....	295	28-672W.....	296	28-724W.....	295	28-820W.....	295	300-024.....	356	30-068.....	40
28-611B.....	296	28-673.....	355	28-725W.....	295	28-821P.....	295	300-026.....	356	30-068LF.....	162
28-611W.....	296	28-674W.....	296	28-726W.....	295	28-957.....	66	300-028.....	356	30-073.....	40
28-612B.....	296	28-675.....	355	28-727W.....	295	28-958.....	66	300-031.....	356	30-073LF.....	162
28-612P.....	296	28-675P.....	296	28-728F.....	67	28-959.....	66	300-032.....	356	30-074.....	40
28-612W.....	296	28-675W.....	296	28-729F.....	67	28-960.....	66	300-033.....	356	30-075.....	40
28-613B.....	296	28-676.....	355	28-731F.....	67	28-961.....	66	300-034.....	356	30-078.....	39
28-613P.....	296	28-677.....	355	28-733F.....	67	28-962.....	66	300-035.....	356	30-083.....	39
28-613W.....	296	28-678P.....	296	28-734F.....	67	28-963.....	66	300-036.....	356	30-087.....	39
28-614B.....	296	28-678W.....	296	28-736F.....	67	28-964.....	66	300-037.....	356	30-088.....	39
28-614P.....	296	28-679.....	355	28-738F.....	67	28-966.....	66	30-006.....	38	30-093.....	39
28-614W.....	296	28-679W.....	296	28-740F.....	67	28-969.....	66	30-011.....	38	30-093L.....	39
28-615P.....	296	28-680.....	355	28-741P.....	295	28-970.....	66	30-012.....	38	30-094.....	39
28-615W.....	296	28-680P.....	296	28-741W.....	295	28-971.....	66	30-013.....	38	30-098.....	40
28-616W.....	296	28-680W.....	296	28-742F.....	67	28-972.....	66	30-016.....	38	30-099.....	40
28-617W.....	296	28-681.....	355	28-742P.....	295	28-973.....	67	30-017.....	38	30-100.....	40
28-618W.....	296	28-682W.....	296	28-743P.....	295	28-974.....	67	30-018.....	38	30-101.....	40
28-619.....	355	28-683.....	354	28-743W.....	295	28-975.....	67	30-019.....	38	30-103.....	41
28-619P.....	296	28-683W.....	296	28-744P.....	295	28-988.....	340	30-020.....	38	30-103B.....	41
28-619W.....	296	28-684.....	354	28-744W.....	295	28-989.....	340	30-021.....	40	30-103P.....	301
28-620.....	355	28-685.....	354	28-745W.....	295	28-990.....	340	30-022.....	40	30-123.....	42
28-620W.....	296	28-685W.....	296	28-746W.....	295	28-991.....	340	30-025.....	43	30-128.....	42
28-621W.....	296	28-686.....	354	28-747W.....	295	28-996.....	282	30-026.....	41	30-133.....	42
28-622W.....	296	28-687.....	354	28-748.....	66	28-997.....	282	30-027.....	43	30-135.....	42
28-623B.....	296	28-688.....	355	28-748W.....	295	28-998.....	282	30-027SS.....	43	30-136.....	42
28-623W.....	296	28-690.....	351	28-749.....	66	28-999.....	282	30-028.....	43	30-137.....	42
28-624B.....	296	28-691.....	351	28-752.....	66	29-900.....	355	30-028SS.....	43	30-138.....	42
28-624W.....	296	28-693P.....	297	28-753.....	66	29-901.....	355	30-029.....	43	30-139.....	42
28-625B.....	296	28-694P.....	297	28-754.....	66	29-902.....	355	30-029SS.....	43	30-140.....	47
28-625W.....	296	28-695P.....	297	28-756.....	66	29-903.....	355	30-030.....	43	30-142.....	41
28-628B.....	296	28-696P.....	297	28-760F.....	67	29-904.....	355	30-031.....	43	30-149.....	42
28-628W.....	296	28-697P.....	297	28-761P.....	297	29-905.....	355	30-032.....	43	30-150.....	41
28-639.....	355	28-698P.....	297	28-761W.....	297	29-906.....	355	30-032SS.....	43	30-150B.....	41
28-640.....	355	28-699P.....	297	28-762F.....	67	29-907.....	355	30-033.....	43	30-150R.....	41
28-640W.....	297	28-701.....	66	28-762P.....	297	29-908.....	355	30-033SS.....	43	30-151.....	41
28-641W.....	297	28-701W.....	295	28-762W.....	297	29-909.....	355	30-034.....	43	30-160.....	47
28-642W.....	297	28-702.....	66	28-763P.....	297	29-910.....	355	30-034SS.....	43	30-161.....	46
28-643W.....	297	28-702P.....	295	28-763W.....	297	29-911.....	355	30-035.....	43	30-162.....	46
28-651.....	355	28-703.....	66	28-764P.....	297	29-912.....	355	30-039.....	43	30-163.....	47
28-652.....	355	28-703W.....	295	28-764W.....	297	29-913.....	355	30-040.....	43	30-180.....	41
28-659P.....	296	28-704.....	66	28-765W.....	297	29-914.....	355	30-040SS.....	43	30-180F.....	41
28-659W.....	296	28-704P.....	295	28-766F.....	67	30-000.....	38	30-041.....	43	30-181.....	39
28-660P.....	296	28-704W.....	295	28-767W.....	297	300-000.....	356	30-041SS.....	43	30-182.....	39
28-660W.....	296	28-705.....	66	28-768F.....	67	300-0004.....	317	30-042.....	43	30-183.....	39
28-661P.....	296	28-705W.....	295	28-768W.....	297	300-0006.....	317	30-042SS.....	43	30-184.....	39
28-661W.....	296	28-706.....	66	28-770F.....	67	300-0008.....	317	30-043.....	43	30-200.....	31
28-663P.....	296	28-706W.....	295	28-772F.....	67	300-001.....	356	30-044.....	43	30-200LF.....	161
28-663W.....	296	28-707.....	66	28-773F.....	67	300-002.....	356	30-045.....	43	30-200SS.....	36
28-663W.....	296	28-707W.....	295	28-774F.....	67	300-0020.....	317	30-046.....	43	30-201.....	31
28-664P.....	296	28-708.....	66	28-777F.....	67	300-003.....	356	30-047.....	39	30-201LF.....	161
28-664W.....	296	28-708W.....	295	28-778F.....	67	300-004.....	356	30-048.....	39	30-201SS.....	36
28-665.....	355	28-709.....	66	28-780F.....	67	300-005.....	317	30-049.....	39	30-202.....	31
28-665W.....	296	28-710.....	66	28-781F.....	67	300-006.....	356	30-050.....	42	30-203.....	31
28-666.....	355	28-711.....	66	28-783F.....	67	300-007.....	356	30-051.....	42	30-203LF.....	161
28-666P.....	296	28-712.....	66	28-784F.....	67	300-008.....	356	30-052.....	42	30-203SS.....	36
28-666W.....	296	28-713.....	66	28-786F.....	67	30-001.....	38	30-053.....	40	30-204.....	31
28-667.....	355	28-714.....	66	28-803W.....	297	300-010.....	317	30-054.....	40	30-204LF.....	161

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
30-204SS	36	30-269SS	36	30-389	31	30-543	45	320-005	363
30-205	31	30-270	34	30-390	31	30-545	45	32-001	15
30-206	31	30-271	33	30-391	32	30-546	45	320-010	363
30-206LF	161	30-275	34	30-392	31	30-547	45	320-011	363
30-206SS	36	30-276	34	30-393	32	30-548	45	32-001LF	160
30-207	31	30-277	34	30-394	32	30-550	45	32-001SS	27
30-207LF	161	30-279	34	30-395	32	30-551	45	32-002	15
30-207SS	36	30-280	34	30-396	32	30-552	45	320-021	362
30-208	31	30-282	34	30-397	32	30-553	45	320-022	362
30-209	31	30-283	34	30-398	32	30-560	45	320-023	362
30-210	31	30-284	34	30-399	32	30-561	45	32-002LF	160
30-210SS	36	30-286	34	30-400	32	30-562	45	32-002SS	27
30-211	31	30-290	33	30-401	25	30-563	45	32-003	15
30-212	31	30-291	33	30-402	32	30-565	45	320-035	361
30-213	31	30-292	33	30-403	32	30-566	45	320-036	361
30-214	31	30-293	33	30-406	25	30-567	45	32-003LF	160
30-215	31	30-294	33	30-410	25	30-568	45	32-003SS	27
30-215SS	36	30-295	22	30-411	25	30-570	45	32-004	15
30-216	31	30-297	33	30-413	25	30-571	45	32-004LF	160
30-217	31	30-298	33	30-420	25	30-572	45	32-004SS	27
30-218	31	30-299	33	30-421	25	30-573	45	32-005	15
30-219	31	30-300	32	30-422	31	30-600	48	320-050	361
30-220	32	30-301	32	30-423	31	30-609	48	320-053	361
30-221	32	30-302	32	30-424	31	30-620	48	320-054	361
30-222	32	30-303	32	30-426	33	30-626	47	320-055	361
30-223	32	30-304	32	30-427	33	30-627	47	32-005LF	160
30-224	32	30-305	32	30-428	33	30-629	47	32-005SS	27
30-225	32	30-306	32	30-429	34	30-630	48	32-006	15
30-226	32	30-310	35	30-430	35	30-631	46	320-061	9
30-227	32	30-311	35	30-450	42	30-637	48	320-065	350
30-229	32	30-312	35	30-451	42	30-638	48	32-006LF	160
30-230	33	30-313	35	30-452	42	30-640	48	32-006SS	27
30-230LF	161	30-314	35	30-453	44	307-030	362	32-007	15
30-230SS	36	30-315	35	30-454	44	307-031	362	320-070	361
30-231	33	30-316	35	30-455	44	308-070	331	320-075	361
30-232	33	30-340	35	30-457	44	31-022	301	320-076	362
30-233	33	30-341	35	30-458	44	31-023	301	320-077	362
30-234	33	30-342	35	30-459	44	31-030	301	320-078	362
30-234SS	36	30-343	35	30-464	44	31-031	301	32-007LF	160
30-235	33	30-344	35	30-466	44	31-032	301	32-008	15
30-236	33	30-345	35	30-467	44	31-033	301	320-080	362
30-237	33	30-346	35	30-468	44	31-034	301	32-008LF	160
30-238	31	30-349	35	30-469	44	31-035	301	32-008SS	27
30-240	33	30-358	31	30-471	44	31-038	301	32-009	15
30-241	33	30-359	31	30-472	44	31-039	301	320-095	362
30-243	33	30-360	31	30-473	44	31-040	301	32-009LF	160
30-245	33	30-361	31	30-480	35	31-041	301	32-009SS	27
30-246	33	30-362	31	30-482	35	31-042	301	32-010	15
30-247	33	30-363	31	30-483	35	31-055	301	32-010LF	160
30-249	33	30-366	31	30-484	35	31-058	301	32-010SS	27
30-250	34	30-370	32	30-486	35	31-063	301	32-011	15
30-251	34	30-371	32	30-505	44	31-064	301	32-011LF	160
30-252	34	30-372	32	30-506	44	31-067	301	32-011SS	27
30-253	34	30-373	32	30-507	44	31-068	301	32-012	15
30-254	34	30-374	32	30-508	44	31-069	301	320-120	358
30-255	34	30-375	32	30-510	44	31-093	301	320-121	358
30-257	34	30-376	32	30-511	44	31-095	301	320-122	358
30-258	34	30-377	32	30-512	44	31-096	301	32-012LF	160
30-259	34	30-378	32	30-513	44	31-097	301	32-012SS	27
30-260	34	30-379	32	30-516	44	31-137	79	32-013	15
30-261	34	30-381	32	30-517	44	31-154	166	32-013LF	160
30-264	34	30-382	32	30-518	44	31-155	166	32-013SS	27
30-265	34	30-383	32	30-526	46	31-159	166	32-014	15
30-266	34	30-384	32	30-527	46	31-171	165	32-014LF	160
30-266SS	36	30-385	31	30-530	46	31-189	166	32-014SS	27
30-267	34	30-386	31	30-540	45	31-190	166	32-015	15
30-268	34	30-387	31	30-541	45	31-191	166	32-015LF	160
30-269	34	30-388	31	30-542	45	320-000	363	32-015SS	27
								32-016	15
								32-016LF	160
								32-016SS	27
								32-017	15
								32-017LF	160
								32-017SS	27
								32-018	15
								32-018LF	160
								32-018SS	27
								32-019	15
								32-019LF	160
								32-019SS	27
								32-020	15
								32-020LF	160
								32-020SS	27
								32-021	15
								32-021LF	160
								32-021SS	27
								32-022	15
								32-022LF	160
								32-022SS	27
								32-023	15
								32-023LF	160
								32-023SS	27
								32-024	15
								32-024LF	160
								32-024SS	27
								32-025	15
								32-025LF	160
								32-026	15
								32-026LF	160
								32-027	15
								32-027LF	160
								32-028	15
								32-029	15
								32-030	21
								32-031	21
								32-032	21
								32-033	21
								32-034	21
								32-036	18
								32-036B	19
								32-036LF	161
								32-038	18
								32-038B	19
								32-038LF	161
								32-038SS	27
								32-039	18
								32-039B	19
								32-039LF	161
								32-039SS	27
								32-040	18
								32-040B	19
								32-040LF	161
								32-041	18
								320-410	362
								32-041B	19
								32-041LF	161
								32-041SS	27
								32-042	18
								32-042B	19
								32-042LF	161
								32-042SS	27
								32-043	18
								32-043B	19
								32-043LF	161
								32-043SS	27
								32-044	18

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
32-045	18	32-091LF	160	32-171	26	32-337	22	32-418	19	32-552	334
32-046	18	32-091SS	27	32176	24	32-337C	22	32-419	19	32552SS	334
32046B	19	32-092	16	32177	24	32-338	22	32-420	19	32-553	334
32-046LF	161	32-092LF	160	32178	24	32-338C	22	32-425	19	32-554	334
32-047	18	32-093	16	32179	24	32-338SS	22	32-429	19	32-555	334
32047B	19	32-093LF	160	32180	24	32-339	22	32-433	19	32-556	334
32-047LF	161	32-093SS	27	32181	24	32-340	22	32-434	19	32-557	334
32-048	18	32-094	16	32182	24	32-341	22	32-435	19	32557SS	334
32048B	19	32-094LF	160	32183	24	32-341C	22	32-436	19	32-558	334
32-048LF	161	32-094SS	27	32184	24	32-342	22	32-437	25	32-559	334
32-049	17	32-095	16	32185	24	32-345	20	32-438	25	32559SS	334
32-050	17	32-095LF	160	32-186	24	32-346	20	32-439	25	32-561	334
32-050LF	161	32-095SS	27	32-187	24	32-349	16	32-440	25	32561SS	334
32-051	17	32-096	16	32-188	24	32-350	19	32-441	17	32-563	334
32-052	17	32-096	42	32-189	24	32-351	16	32-442	17	32-564	334
32-052LF	161	32-096LF	160	32-190	24	32-352	19	32-443	17	32564SS	334
32-053	17	32-096SS	27	32-191	24	32-353	19	32-444	17	32-565	334
32-053LF	161	32-097	16	32-192	24	32-354	18	32-445	17	32-566	334
32-054	17	32-097	42	32-194	24	32-355	16	32-446	17	32566SS	334
32-054LF	161	32-097LF	160	32-195	24	32-356	16	32-447	17	32-567	334
32-055	17	32-098	16	32-200	16	32-357	16	32-448	17	32-568	334
32-055LF	161	32-098	42	32-201	16	32-359	21	32-449	17	32568SS	334
32-056	17	32-098LF	160	32-202	16	32-360	16	32-450	16	32-570	334
32-056LF	161	32-098SS	27	32-300	15	32-361	19	32-451	16	32570SS	334
32-057	17	32-099	16	32-301	15	32-362	21	32-452	16	32-571	334
32-057LF	161	32-099	42	32-302	15	32-363	19	32-453	16	32-572	334
32-058	17	32-100	22	32-303	15	32-364	21	32-454	16	32-573	334
32-058LF	161	32-101	22	32-304	15	32-365	19	32-455	16	32-574	334
32-059	17	32-102	22	32-305	15	32-365LF	161	32-456	16	32-575	334
32-059LF	161	32-103	22	32-306	15	32-366	19	32-457	16	32575SS	334
32-060	17	32-104	22	32-306LF	160	32-367	19	32-458	16	32-576	334
32-060LF	161	32-105	22	32-307	15	32-368	19	32-460	21	32-577	334
32-061	17	32-105C	22	32-308	18	32-375	16	32-461	21	32577SS	334
32-061LF	161	32-105LF	161	32-309	18	32-376	16	32-462	21	32-578	334
32-062	17	32-106	22	32-309B	19	32-377	24	32-463	21	32-579	334
32-062LF	161	32-107	22	32-309LF	161	32-379	16	32-470	17	32-580	334
32-063	17	32-107C	22	32-310	18	32-380	16	32-472	17	32-584	334
32-063LF	161	32-109	20	32310B	19	32-381	24	32-473	17	32-586	334
32-064	17	32-110	20	32-311	18	32-382	24	32-475	17	32-588	334
32-064LF	161	32-111	20	32311B	19	32-383	24	32-476	17	32588SS	334
32-065	17	32-112	20	32-311LF	161	32-384	24	32-500	334	32-590	334
32-065LF	161	32-113	20	32-311SS	27	32-385	24	325-004	318	32-591	334
32-066	21	32-114	20	32-312	18	32-386	16	325-005	318	32-592	334
32-067	21	32-115	20	32-313	18	32-387	24	325-006	318	32-596	334
32-068	21	32-116	20	32-313LF	161	32-388	24	325-008	318	32-597	334
32-069	21	32-117	18	32-314	18	32-389	21	32-501	334	32-608	20
32-070	21	32-118	18	32314B	19	32-390	15	325-010	318	32-609	20
32-071	21	32-119	18	32-314SS	27	32-391	18	325-012	318	32-610	20
32-072	21	32-120	18	32-315	18	32-392	21	325-016	318	32-725	23
32-073	21	32-121	18	32-316	15	32-394	22	32-502	334	32-726	23
32-074	21	32-122	18	32-317	17	32-397	22	325-020	318	32-727	23
32-075	21	32-123	18	32-317LF	161	32-400	19	32-503	334	32-728	23
32-076	21	32-124	18	32-318	17	32-401	20	32-504	334	32-741	23
32-077	21	32-125	18	32-319	18	32-402	20	32-506	334	32-742	23
32-078	21	32-126	19	32-320	17	32-403	20	32-507	334	32-744	23
32-079	16	32-126LF	161	32-321	17	32-404	20	32-508	334	32-746	23
32-080	16	32-128	19	32-322	21	32-405	20	32-510	334	32-747	23
32-081	21	32-129	18	32-326	22	32-406	20	32-517	334	32-749	23
32-082	21	32-130	18	32-327	22	32-407	20	32-521	334	32-750	23
32-083	21	32-131	18	32-328	22	32-409	20	32-526	334	32-751	23
32-084	21	32-132	18	32-329	16	32-410	20	32-533	334	32-752	23
32-085	21	32-133	18	32-330	18	32-411	20	32-535	334	32-753	23
32-086	21	32-150	26	32-331	16	32-412	19	32-539	334	32-754	23
32-087	16	32-151	26	32-332	16	32-413	19	32-543	334	32-755	23
32-088	16	32-153	26	32-334	22	32-414	19	32-545	334	32-756	23
32-089	16	32-159	26	32-335	22	32-415	19	32-549	334	32-758	23
32-090	16	32-160	26	32-336	22	32-416	19	32-550	334	32-759	23
32-091	16	32-170	26	32-336C	22	32-417	19	32-551	334	32-760	23

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
32-761	23	33-017P	297	33-089W	299	33-384W	298	33-453W	300
32-770	23	33-017W	298	33-091B	299	33-385B	298	33-454W	300
32-771	23	33-018B	297	33-091W	299	33-385P	298	33-455W	300
32-772	23	33-018P	297	33-092B	299	33-385W	298	33-456W	300
32-773	23	33-018W	298	33-092W	299	33-386W	298	33-458W	300
32-774	23	33-019B	297	33-093B	299	33-389W	299	33-460W	298
32-775	23	33-019W	298	33-093W	299	33-390B	299	33-461P	298
32-781	17	33-020B	297	33-094W	299	33-390W	299	33-461W	298
32-782	360	33-020P	297	33-095B	299	33-391B	299	33-462W	298
32-783	360	33-020W	298	33-095P	299	33-391W	299	33-463P	298
32-900	33	33-021B	297	33-095W	299	33-394B	299	33-463W	298
32-901	33	33-021W	298	33-096B	299	33-394W	299	33-464W	298
32-902	33	33-022B	297	33-096P	299	33-395B	299	33-470W	299
32-903	33	33-022P	297	33-096W	299	33-395W	299	33-471P	299
32-905	33	33-022W	298	33-097B	299	33-396B	299	33-471W	299
32-906	33	33-023B	297	33-097W	299	33-396W	299	33-480W	299
32-907	33	33-023P	297	33-098B	299	33-397W	299	33-481W	299
32-912	15	33-023W	298	33-098P	299	33-398W	299	33-482W	299
32-915	15	33-024B	297	33-098W	299	33-399W	299	34-001	63
32-950	15	33-024P	297	33-099P	299	33-402W	299	34-011	63
32-951	15	33-024W	298	33-099W	299	33-403W	299	34-012	63
32-952	15	33-025B	297	33-300P	300	33-406B	299	34-016	63
32-953	15	33-025P	297	33-301P	300	33-406W	299	34-022	63
32-954	15	33-025W	298	33-301W	300	33-407B	299	34-031	63
32-954LF	160	33-026B	297	33-302P	300	33-407W	299	34-041	63
32-955	15	33-026W	298	33-303P	297	33-408B	299	34-046	63
32-956	15	33-028W	298	33-303W	298	33-408W	299	34-051	63
32-957	15	33-029W	298	33-306W	298	33-409W	299	34-130	63
32-958	15	33-030W	298	33-307W	298	33-410B	299	34-131	63
32-960	16	33-032W	298	33-308B	298	33-410W	299	34-141	63
32-961	16	33-033W	298	33-309B	298	33-415B	300	34-501	28
32-962	21	33-035W	298	33-309W	298	33-415W	300	34-502	28
33-000P	297	33-038B	298	33-310W	298	33-417W	300	34-504	28
33-000W	298	33-038W	298	33-311B	298	33-418B	300	34-510	28
33-002B	297	33-039B	298	33-311P	298	33-420B	300	34-525	29
33-002W	298	33-039W	298	33-311W	298	33-420W	300	34-526	29
33-003B	297	33-040W	298	33-312B	298	33-422B	300	34-529	29
33-003W	298	33-041B	298	33-312W	298	33-422W	300	34-531	29
33-004B	297	33-041W	298	33-313B	298	33-423B	300	34-532	28
33-004W	298	33-042B	298	33-313P	298	33-426B	300	34-533	28
33-005B	297	33-042W	298	33-313W	298	33-426W	300	34-533T	28
33-005W	298	33-043B	298	33-314B	298	33-429B	300	34-534	28
33-006B	297	33-043W	298	33-314P	298	33-429P	300	34-535	28
33-006W	298	33-044B	298	33-314W	298	33-429W	300	34-535T	28
33-007B	297	33-044W	298	33-315W	298	33-430B	300	34-536	28
33-007W	298	33-045B	298	33-316B	298	33-430W	300	34-537	28
33-008B	297	33-045W	298	33-316P	298	33-431W	300	34-538	28
33-008W	298	33-046B	298	33-316W	298	33-432B	300	34-539	28
33-009B	297	33-046W	298	33-318W	298	33-432W	300	34-540	28
33-009W	298	33-047B	298	33-319W	298	33-433B	300	34-540T	28
33-010W	298	33-047W	298	33-320W	298	33-433W	300	34-541T	28
33-011W	298	33-048P	298	33-321W	298	33-434B	300	34-543	28
33-012B	297	33-048W	298	33-322W	298	33-435B	300	34-543T	28
33-012P	297	33-052W	299	33-323P	297	33-435W	300	34-550	29
33-012W	298	33-053B	299	33-329W	298	33-436B	300	34-551	29
33-013B	297	33-053W	299	33-334P	298	33-436W	300	34-551T	29
33-013P	297	33-058W	299	33-342W	299	33-437B	300	34-552	29
33-013W	298	33-059W	299	33-343P	299	33-437W	300	34-552T	29
33-014B	297	33-060W	299	33-343W	299	33-438B	300	34-553T	29
33-014P	297	33-061W	299	33-344P	299	33-438W	300	34-561	29
33-014W	298	33-062W	299	33-344W	299	33-439W	300	34-562	29
33-015B	297	33-063W	299	33-345W	299	33-440P	300	34-562T	29
33-015P	297	33-064W	299	33-347W	299	33-440W	300	34-563	29
33-015W	298	33-065W	299	33-348W	299	33-441W	300	34-563T	29
33-016B	297	33-066W	299	33-349W	298	33-442W	299	34-564T	29
33-016P	297	33-067W	299	33-351W	298	33-448W	300	34-565	29
33-016W	298	33-068W	299	33-380W	298	33-450W	300	34-565T	29
33-017B	297	33-079W	299	33-381W	298	33-451W	300	34-567	29
								34-567T	29
								34-568	29
								34-568T	29
								34-572	28
								34-572T	28
								34-574	28
								34-574T	28
								34-579	28
								34-580	28
								34-581	28
								34-583	28
								34-584	28
								34-585	28
								34-586	28
								34-587	28
								34-588	28
								34-589	28
								34-590	28
								34-591	28
								34-592	28
								34-595	28
								34-597	28
								34-600	29
								34-601	29
								34-610	29
								34-611	29
								34-612	29
								34-613	29
								34-621T	29
								34622T	29
								34-625	28
								34-626	28
								34-633	29
								34-633T	29
								34-635T	29
								34-638T	29
								34-650T	29
								34-652T	29
								34-658	29
								34-661	29
								34-71?	28
								34-710	28
								34-711	28
								34-712	28
								34-713	28
								34-714	28
								34-715	28
								34-716	28
								34-717	28
								34-718	28
								34-720	28
								34-721	28
								34-722	28
								34-723	28
								34-724	28
								34-725	28
								34-726	28
								34-727	28
								34-728	28
								350-004	319
								350-004SS	320
								350-005	319
								350-005SS	320
								350-006	319
								350-006SS	320
								350-008	319
								350-008SS	320
								350-010	319

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
350-010SS.....	320	35-983.....	308	36-370.....	145	38-078S.....	134	38-156.....	135	38-333.....	140
350-012.....	319	35-984.....	308	36-371.....	145	38-079.....	134	38-157.....	135	38-334.....	140
350-012SS.....	320	35-985.....	308	36-372.....	145	38-080.....	134	38-158.....	135	38-335.....	140
350-016.....	319	35-987.....	308	36-373.....	145	38-081.....	134	38-161.....	136	38-336.....	140
350-016SS.....	320	36-110.....	141	36-374.....	145	38-081S.....	134	38-162.....	136	38-337.....	140
350-020.....	319	36-110SS.....	141	36-375.....	145	38-082.....	134	38-163.....	136	38-342.....	140
350-020SS.....	320	36-111.....	141	36-376.....	145	38-082.....	134	38-164.....	136	38-343.....	140
35-130.....	62	36-112.....	141	36-377.....	145	38-084.....	134	38-165.....	136	38-344.....	140
35-131.....	62	36-113.....	141	38-000.....	132	38-085.....	134	38-170.....	136	38-345.....	140
35-132.....	62	36-114.....	141	38-001.....	132	38-086.....	134	38-171.....	136	38-346.....	140
35-133.....	62	36-116.....	141	38-002.....	132	38-087.....	134	38-172.....	136	38-351.....	139
35-134.....	62	36-116SS.....	141	38-003.....	132	38-088.....	134	38-173.....	136	38-352.....	139
35-135.....	62	36-118.....	141	38-004.....	132	38-090.....	134	38-174.....	136	38-357.....	139
35-136.....	62	36-120.....	141	38-005.....	132	38-091.....	134	38-179.....	136	38-358.....	139
35-142.....	62	36-120SS.....	141	38-009.....	132	38-092.....	134	38-180.....	136	38-363.....	139
35-186.....	62	36-121.....	141	38-010.....	132	38-093.....	134	38-181.....	136	38-364.....	139
35-910.....	308	36-130.....	141	38-011.....	132	38-094.....	134	38-182.....	136	38-368.....	140
35-911.....	308	36-130SS.....	141	38-012.....	132	38-095.....	134	38-183.....	136	38-369.....	140
35-912.....	308	36-132.....	142	38-013.....	132	38-101.....	134	38-188.....	136	38-370.....	140
35-913.....	308	36-140.....	142	38-014.....	132	38-101S.....	134	38-189.....	136	38-371.....	140
35-914.....	308	36-140SS.....	142	38-015.....	139	38-102.....	134	38-190.....	136	38-372.....	140
35-915.....	308	36-141.....	142	38-016.....	139	38-103.....	134	38-191.....	136	38-711.....	87
35-917.....	308	36-142.....	142	38-018.....	132	38-104.....	134	38-196.....	136	38-715.....	87
35-920.....	308	36-144.....	142	38-019.....	132	38-104S.....	134	38-204.....	137	38-718.....	87
35-921.....	308	36-146.....	142	38-020.....	132	38-105.....	134	38-205.....	137	38-732.....	87
35-922.....	308	36-146SS.....	142	38-021.....	132	38-106.....	134	38-206.....	137	38-761.....	87
35-923.....	308	36-147.....	142	38-022.....	132	38-107.....	134	38-207.....	137	38-769.....	87
35-924.....	308	36-148.....	142	38-023.....	132	38-108.....	134	38-208.....	137	38-770.....	87
35-925.....	308	36-150.....	142	38-028.....	132	38-109.....	134	38-209.....	137	38-800.....	24
35-927.....	308	36-150SS.....	142	38-029.....	132	38-110.....	134	38-210.....	137	38-802.....	24
35-930.....	308	36-152.....	142	38-030.....	132	38-111.....	134	38-211.....	137	38-806.....	24
35-931.....	308	36-160.....	143	38-035.....	132	38-113.....	134	38-212.....	137	38-808.....	24
35-932.....	308	36-164.....	143	38-036.....	132	38-114.....	134	38-213.....	137	38-810.....	24
35-933.....	308	36-164SS.....	143	38-037.....	132	38-115.....	134	38-217.....	137	38-828.....	24
35-934.....	308	36-166.....	143	38-038.....	132	38-116.....	134	38-218.....	137	38-830.....	24
35-935.....	308	36-166SS.....	143	38-039.....	132	38-117.....	134	38-221.....	137	38-832.....	24
35-937.....	308	36-168.....	143	38-040.....	132	38-118.....	134	38-222.....	137	38-834.....	24
35-940.....	308	36-170.....	143	38-041.....	132	38-119.....	134	38-223.....	137	38-836.....	24
35-941.....	308	36-172.....	143	38-042.....	132	38-120.....	134	38-224.....	137	38-860.....	24
35-942.....	308	36-174.....	143	38-043.....	132	38-124.....	135	38-225.....	137	38-862.....	24
35-943.....	308	36-176.....	143	38-044.....	133	38-125.....	135	38-226.....	137	38-864.....	24
35-944.....	308	36-178.....	143	38-045.....	133	38-126.....	135	38-227.....	137	38-866.....	24
35-945.....	308	36-180.....	144	38-046.....	133	38-127.....	135	38-228.....	137	38-868.....	24
35-947.....	308	36-182.....	144	38-047.....	133	38-128.....	135	38-229.....	137	38-873.....	25
35-950.....	308	36-184.....	144	38-048.....	132	38-129.....	135	38-235.....	137	38-874.....	25
35-951.....	308	36-186.....	144	38-049.....	133	38-132.....	135	38-236.....	137	38-910.....	392
35-952.....	308	36-188.....	144	38-052.....	133	38-133.....	135	38-237.....	137	38-915.....	392
35-953.....	308	36-200.....	144	38-053.....	133	38-134.....	135	38-239.....	137	38-920.....	392
35-954.....	308	36-205.....	144	38-054.....	133	38-136.....	135	38-240.....	137	38-923.....	392
35-955.....	308	36-210.....	144	38-055.....	133	38-137.....	135	38-241.....	137	38-926.....	392
35-957.....	308	36-212.....	144	38-057.....	133	38-138.....	135	38-243.....	137	38-927.....	392
35-960.....	308	36-214.....	144	38-059.....	133	38-139.....	135	38-244.....	137	38-950.....	391
35-961.....	308	36-216.....	144	38-060.....	133	38-140.....	135	38-246.....	137	38-950B2.....	391
35-962.....	308	36-220.....	144	38-061.....	133	38-141.....	135	38-278.....	137	38-951.....	391
35-963.....	308	36-300.....	145	38-062.....	133	38-142.....	135	38-279.....	137	38-951B1.....	391
35-964.....	308	36301.....	145	38-063.....	133	38-143.....	135	38-300.....	138	38-951BA.....	391
35-965.....	308	36-304.....	145	38-064.....	133	38-144.....	135	38-301.....	138	38-952.....	391
35-967.....	308	36-305.....	145	38-065.....	133	38-146.....	135	38-306.....	138	38-9522.....	391
35-970.....	308	36-306.....	145	38-066.....	133	38-148.....	135	38-307.....	138	38-9523.....	391
35-971.....	308	36-307.....	145	38-067.....	133	38-149.....	135	38-312.....	138	38-952BA.....	391
35-972.....	308	36-308.....	145	38-068.....	133	38-150.....	135	38-313.....	138	38-952G.....	391
35-973.....	308	36-309.....	145	38-072.....	134	38-151.....	135	38-318.....	139	38-952G1.....	391
35-974.....	308	36-310.....	145	38-073.....	134	38-152.....	135	38-319.....	139	38-952GA.....	391
35-975.....	308	36-311.....	145	38-074.....	134	38-152S.....	135	38-324.....	140	38-952O.....	391
35-977.....	308	36-340.....	145	38-075.....	134	38-153.....	135	38-325.....	140	38-952OA.....	391
35-980.....	308	36-350.....	145	38-076.....	134	38-154.....	135	38-326.....	140	38-952R.....	391
35-981.....	308	36-360.....	145	38-077.....	134	38-154S.....	135	38-327.....	140	38-952R1.....	391
35-982.....	308	36-362.....	145	38-078.....	134	38-155.....	135	38-328.....	140	38-952RA.....	391

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
38-952U	391	39400	371	39543	377	39741	383	4000-12	419
38-952U1	391	39402	371	39544	377	39742	384	4000-14	419
38-952UA	391	39404	371	39550	377	39743	384	4000-16	419
38-952Y	391	39406	371	39551	377	39744	384	40-002	216
38-952Y1	391	39409	372	39552	377	39745	384	4000-20	419
38-952YA	391	39410	372	39556	377	39748	384	4000-2-2	419
38-953	391	39411	372	39557	377	39749	384	4000-24	419
38-953B1	391	39411	373	39558	377	39752	384	40-003	216
38-953BA	391	39412	372	39559	377	39753	384	4000-32	419
38-954	391	39413	372	39560	377	39754	384	40-004	216
38-954B5	391	39414	372	39563	378	39757	385	4000-4-4	419
38-954BA	391	39415	372	39564	378	39758	385	40-005	216
38-95BA	391	39416	372	39565	378	39764	386	40-006	216
38-960	391	39418	372	39566	377	39765	386	4000-6-6	419
38-960B5	391	39419	372	39570	378	39766	386	40-007	216
38-960BA	391	39425	372	39572	378	39767	386	40-008	216
38-960G	391	39426	372	39573	378	39768	386	4000-8-8	419
38-960G5	391	39436	374	39574	378	39769	386	40-009	216
38-960GA	391	39437	374	39575	378	39772	385	40-010	216
38-960O	391	39438	374	39592	381	39773	385	40-011	216
38-960O5	391	39442	374	39595	147	39774	385	4001-10	419
38-960OA	391	39443	374	39595	381	39775	385	4001-12	419
38-960R	391	39444	374	39596	147	39778	386	4001-16	419
38-960R5	391	39446	374	39596	381	39779	386	40-012	216
38-960RA	391	39447	374	39597	147	39782	386	4001-20	419
38-960U	391	39448	374	39597	381	39783	386	4001-2-2	419
38-960U5	391	39451	374	39600	147	39786	385	4001-24	419
38-960UA	391	39452	374	39600	381	39787	385	40-013	216
38-960Y	391	39453	374	39604	381	39788	385	4001-32	419
38-960Y5	391	39454	374	39605	381	39789	385	40-014	216
38-960YA	391	39457	374	39606	381	39792	387	4001-4-4	419
38-965	391	39459	374	39610	381	39793	387	40-015	216
38-965B5	391	39460	374	39611	381	39794	387	4001-6-6	419
38-965BA	391	39461	374	39613	381	39795	387	40-017	216
38-965G	391	39462	374	39614	381	39800	387	40-018	216
38-965G5	391	39463	373	39615	381	39801	387	4001-8-8	419
38-965GA	391	39464	373	39616	382	39802	387	40-019	216
38-965O	391	39465	389	39654	379	39803	387	40-020	216
38-965O5	391	39466	374	39655	380	39805	387	40-021	216
38-965OA	391	39467	374	39656	380	39807	386	40-022	216
38-965R	391	39468	374	39657	380	39809	386	40-023	216
38-965R5	391	39469	373	39658	380	39814	387	40-024	216
38-965RA	391	39470	374	39659	380	39818	385	40-025	216
38-965U	391	39471	373	39660	380	39819	385	40-026	216
38-965U5	391	39472	373	39661	380	39820	385	40-027	216
38-965UA	391	39473	373	39662	380	39825	371	40-028	216
38-965Y	391	39474	374	39663	380	39828	375	40-029	216
38-965Y5	391	39475	374	39665	380	39829	375	40-030	216
38-965YA	391	39477	373	39667	380	39830	375	40-031	216
38-970	391	39506	375	39669	380	39831	375	40-032	216
38-970BA	391	39507	375	39672	379	39832	375	40-033	216
38-970BC	391	39508	375	39673	379	39833	375	40-034	216
38-970G	391	39509	376	39674	379	39834	375	40-035	216
38-970GA	391	39510	376	39675	379	39838	371	40-036	216
38-970GC	391	39511	375	39676	379	39839	371	40-040	217
38-970R	391	39512	375	39677	379	39855	372	40-041	217
38-970RA	391	39515	376	39684	382	39856	372	40-042	217
38-970RC	391	39516	376	39687	382	39857	372	40-043	217
38-975	391	39520	376	39688	382	39860	378	40-044	217
38-975BA	391	39521	376	39689	382	39870	375	40-045	217
38-975BC	391	39522	376	39690	382	39871	375	40-046	217
38-975G	391	39524	376	39712	388	39874	375	40-047	217
38-975GA	391	39530	376	39713	388	39875	375	40-048	217
38-975GC	391	39531	376	39736	383	39877	375	40-049	217
39-318	139	39535	377	39737	383	39878	375	40-050	217
39-319	139	39537	377	39738	383	39962	371	40-051	217
39-357	139	39541	377	39739	383	40-001	216	40-052	217
39-358	139	39542	377	39740	383	4000-10	419	40-053	217

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
40-132	219	40-256	221	44-137LF	224	44-252	226	444-040	315	44-449LF	227
40-133	219	40-259	221	44-140LF	224	44-252LF	226	444-042	315	44-450	227
40-134	219	40-260	221	44-160	224	44-253	226	444-045	315	44-450LF	227
40-135	219	40-261	221	44-160LF	224	44-253LF	226	444-048	315	44-451	227
40-136	219	41-040	222	44-161	224	44-254	226	444-049	315	44-451LF	227
40-140	219	41-041	222	44-161LF	224	44-254LF	226	444-060	315	44-452	227
40-141	219	41-042	222	44-162	224	44-255	226	444-062	315	44-452LF	227
40-142	219	41-043	222	44-162LF	224	44-255LF	226	444-095	315	44-453	227
40-143	219	41-044	222	44-163	224	44-256	226	44-410	227	44-453LF	227
40-144	219	41-045	222	44-163LF	224	44-256LF	226	44-410LF	227	44-454	227
40-145	219	41-046	222	44-164	224	44-257	226	44-411	227	44-454LF	227
40-146	219	41-047	222	44-164LF	224	44-257LF	226	444-111	315	44-456	227
40-147	219	41-048	222	44-165	224	44-258	226	444-112	315	44-458	227
40-148	219	41-049	222	44-165LF	224	44-258LF	226	444-113	315	44-461	227
40-149	219	41-050	222	44-166	224	44-259	226	44-411LF	227	44-462	227
40-150	219	41-060	222	44-166LF	224	44-260	226	44-412	227	44-462LF	227
40-151	219	41-061	222	44-167	224	44-276	226	44-412LF	227	44-463	227
40-152	219	41-062	222	44-167LF	224	44-276LF	226	44-413	227	44-470	228
40-153	219	41-063	222	44-168	224	44-280	226	44-413LF	227	44-470LF	228
40-154	219	41-064	222	44-168LF	224	44-280LF	226	44-414	227	44-471	228
40-155	219	41-065	222	44-169	224	44-282	226	44-414LF	227	44-471LF	228
40-156	219	41-066	222	44-170	224	44-282LF	226	44-415	227	44-472	228
40-160	220	41-067	222	44-180	225	44-283	226	44-415LF	227	44-472LF	228
40-161	220	41-068	222	44-180LF	225	44-286	226	44-416	227	44-473	228
40-162	220	41-069	222	44-181	225	44-286LF	226	44-416LF	227	44-473LF	228
40-163	220	41-070	222	44-181LF	225	44-287	226	44-417	227	44-474	228
40-164	220	41-074	222	44-182	225	44-287LF	226	44-417LF	227	44-474LF	228
40-165	220	43-200L	178	44-182LF	225	44-288LF	226	44-418	227	44-475	228
40-166	220	43-200T	178	44-183	225	44-291	226	44-418LF	227	44-475LF	228
40-167	220	43-204L	178	44-183LF	225	44-291LF	226	44-419	227	44-476	228
40-168	220	43-204T	178	44-184	225	44-296	226	44-420	227	44-476LF	228
40-169	220	43-206L	178	44-184LF	225	44-298	226	44-420LF	227	44-477	228
40-170	220	43-207L	178	44-185	225	44-298LF	226	44-430	227	44-477LF	228
40-171	220	43-265LF	167	44-185LF	225	44-301	226	44-430LF	227	44-478	228
40-172	220	43-266LF	167	44-186	225	44-301LF	226	44-431	227	44-478LF	228
40-173	220	44-100	224	44-186LF	225	44-303	226	444-313	315	44-480	228
40-174	220	44-100LF	224	44-187	225	44-303LF	226	444-318	315	44-500	229
40-175	220	44-101	224	44-187LF	225	44-306	226	44-431LF	227	44-500LF	229
40-176	220	44-101LF	224	44-188	225	44-306LF	226	44-432	227	44-501	229
40-178	220	44-102	224	44-188LF	225	44-330LF	226	444-320	315	44-501LF	229
40-179	220	44-102LF	224	44-189	225	44-334LF	226	44-432LF	227	44-502	229
40-180	220	44-103	224	44-190	225	44-391	225	44-433	227	44-502LF	229
40-181	220	44-103LF	224	44-200	225	44-391LF	225	44-434	227	44-503	229
40-182	220	44-104	224	44-201	225	44-392	225	44-434LF	227	44-503LF	229
40-183	220	44-104LF	224	44-201LF	225	44-392LF	225	44-435	227	44-504	229
40-184	220	44-105	224	44-202	225	44-393	225	44-435LF	227	44-504LF	229
40-185	220	44-105LF	224	44-202LF	225	44-393LF	225	44-436	227	44-505	229
40-186	220	44-106	224	44-203	225	44-394	225	44-436LF	227	44-505LF	229
40-187	220	44-106LF	224	44-203LF	225	44-394LF	225	44-437	227	44-506	229
40-200	221	44-107	224	44-204	225	44-395	225	44-437LF	227	44-506LF	229
40-201	221	44-107LF	224	44-204LF	225	44-395LF	225	44-438	227	44-507	229
40-202	221	44-108	224	44-205	225	44-396	225	44-438LF	227	44-507LF	229
40-203	221	44-108LF	224	44-205LF	225	44-396LF	225	44-440	227	44-508	229
40-204	221	44-109	224	44-206	225	44-397	225	44-441	227	44-508LF	229
40-205	221	44-110	224	44-206LF	225	44-397LF	225	44-441LF	227	44-509	229
40-206	221	44-110LF	224	44-207	225	44-398	225	44-442	227	44-509LF	229
40-207	221	44-112	224	44-207LF	225	44-398LF	225	44-442LF	227	44-510	229
40-209	221	44-120	224	44-208	225	444-000	315	44-444	227	44-510LF	229
40-213	221	44-123	224	44-208LF	225	444-001	315	44-444LF	227	44-511	229
40-220	221	44-124	224	44-212	311	444-002	315	44-445	227	44-511LF	229
40-221	221	44-124LF	224	44-213	311	444-005	315	44-445LF	227	44-512	229
40-222	221	44-127	224	44-214	311	444-006	315	44-446	227	44-512LF	229
40-223	221	44-127LF	224	44-215	311	444-007	315	44-446LF	227	44-513	229
40-224	221	44-131	224	44-216	311	444-008	315	44-447	227	44-513LF	229
40-225	221	44-131LF	224	44-250	226	444-011	315	44-447LF	227	44-514	229
40-226	221	44-134	224	44-250LF	226	444-020	315	44-448	227	44-515	229
40-234	221	44-134LF	224	44-251	226	444-021	315	44-448LF	227	44-516	229
40-254	221	44-137	224	44-251LF	226	444-023	315	44-449	227	44-516LF	229

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
44-517	229	44-651	230	44844LF	293	44-971	310	46-061L	151
44-517LF	229	44-651LF	230	44845LF	232	44-972	310	46-061LF	167
44-518	229	44-652	230	44845LF	293	44-973	310	46-064	147
44-518LF	229	44-653	230	44-911	310	44-974	310	46-066	147
44-519	229	44-653LF	230	44-912	310	44-975	310	46-067	147
44-519LF	229	44-654	230	44-913	310	44-976	310	46-068	147
44-520	229	44-654LF	230	44-914	310	44-977	310	46-069	147
44-520LF	229	44-655	230	44-915	310	44-978	310	46-070	147
44-521	229	44-655LF	230	44-916	310	44-979	310	46-071	147
44-521LF	229	44-656	230	44-917	310	44-980	310	46-072	147
44-522	229	44-656LF	230	44-918	310	44-981	310	46-073	147
44-522LF	229	44-657	230	44-919	310	44-982	310	46-074	148
44-523	229	44-657LF	230	44-920	310	44-983	310	46-075	148
44-523LF	229	44-658	230	44-921	310	44-984	310	46-076	148
44-524	229	44-658LF	230	44-922	310	44-985	310	46-077	148
44-524LF	229	44-659	230	44-923	310	44-986	310	46-078	148
44-527	229	44-660	230	44-924	310	44-987	310	46-079	148
44-527LF	229	44-662	230	44-925	310	44-988	310	46-080	148
44-528	229	44-670	230	44-926	310	44-989	310	46-081	148
44-528LF	229	44-670LF	230	44-927	310	44-990	310	46-082	148
44-529	229	44-671	230	44-928	310	45-102LF	231	46-083	148
44-529LF	229	44-671LF	230	44-929	310	45-103LF	231	46-084	148
44-530	229	44-672	230	44-930	310	45-104FF	231	46-085	148
44-530LF	229	44-672LF	230	44-931	310	45-163LF	231	46-086	148
44-531	229	44-673	230	44-932	310	45-252LF	231	46-087	148
44-531LF	229	44-673LF	230	44-933	310	45-253LF	231	46-088	148
44-532	229	44-674	230	44-934	310	45-412LF	231	46-089	148
44-534	229	44-674LF	230	44-935	310	45-413LF	231	46-089A	148
44-534LF	229	44-675	230	44-936	310	46-002	150	46-090ALF	167
44-535	229	44-675LF	230	44-937	310	46-002LF	167	46-130	149
44-535LF	229	44-676	230	44-938	310	46-003	150	46-131	149
44-537	229	44-676LF	230	44-939	310	46-003LF	167	46-132	149
44-538	229	44-677	230	44-940	310	46-005LF	167	46-134	149
44-538LF	229	44-677LF	230	44-941	310	46-011	150	46-140	149
44-539	229	44-678	230	44-942	310	46-011LF	167	46-141	149
44-541	229	44-678LF	230	44-943	310	46-011X	150	46-142	149
44-543	229	44-700	228	44-944	310	46-012	150	46-143	149
44-543LF	229	44-701	228	44-945	310	46-012LF	167	46-151	149
44-600	228	44-702	228	449-450	311	46-013	150	46-152	149
44-600LF	228	44-703	228	44-946	310	46-016	150	46-152T	149
44-601	228	44-704	228	44-947	310	46-020	150	46-153	149
44-601LF	228	44-705	228	449-470	311	46-021	150	46-160	149
44-602	228	44-706	228	44-948	310	46-021LF	167	46-161	149
44-602LF	228	44-707	228	449-480	311	46-022	150	46-161T	149
44-603	228	44-708	228	449-481	311	46-023	150	46-162	149
44-603LF	228	44-720	231	449-482	311	46-023LF	167	46-165	149
44-604	228	44-721	231	44-949	310	46-028	150	46-166	149
44-604LF	228	44-722	231	44-950	310	46-029	150	46-166T	149
44-605	228	44-723	231	44-951	310	46-031	150	46-167	149
44-605LF	228	44-724	231	44-952	310	46-036	151	46-200	156
44-606	228	44-725	231	44-953	310	46-038	151	46-201	156
44-606LF	228	44-726	231	44-954	310	46-039	151	46-202	156
44-607	228	44-727	231	44-955	310	46-040	151	46-237	154
44-607LF	228	44-728	231	44-956	310	46-045	151	46-241	153
44-608	228	44-729	231	44-957	310	46-045	151	46-243	153
44-608LF	228	44-740	231	44-958	310	46045LF	167	46-244	153
44-609	228	44-742	231	44-959	310	46-046	151	46-247	153
44-610	228	44-750	231	44-960	310	46-048	151	46-248	153
44-633	230	44-753	231	44-961	310	46-048	360	46-250	153
44-634	230	44840LF	232	44-962	310	46-048S	360	46-251	153
44-635	230	44840LF	293	44-963	310	46-050	151	46-251	153
44-636	230	44841LF	232	44-964	310	46-051	151	46-252	153
44-637	230	44841LF	293	44-965	310	46-055	151	46-255	153
44-638	230	44842LF	232	44-966	310	46-055LF	167	46-256	153
44-639	230	44842LF	293	44-967	310	46-056	151	46-257	153
44-640	230	44843LF	232	44-968	310	46-056LF	167	46-260	153
44-641	230	44843LF	293	44-969	310	46-056P	151	46-270	213
44-650	230	44844LF	232	44-970	310	46-060	151	46-277	213
						46-061	151	46-400	152
								46-400M	152
								46-401	152
								46-401M	152
								46-402	152
								46-402M	152
								46-406M	152
								46-411	152
								46-411M	152
								46-429M	152
								46-430M	152
								46-440	155
								46-443	155
								46-450	152
								46-451	152
								46-455	152
								46-456	152
								46-457	152
								46-465	152
								46-466	152
								46-467	152
								46-475	152
								46-476	152
								46-485	152
								46-500	156
								46-505	156
								46-510	156
								46-511	156
								46-512	156
								46-513	156
								46-514	156
								46-515	156
								46-516	156
								46-517	156
								46-518	156
								46-519	156
								46-520	154
								46-520A	154
								46-521	154
								46-521A	154
								46-522	154
								46-523	154
								46-523A	154
								46-524	154
								46-524A	154
								46-526	154
								46-529	154
								46-530	154
								46-530A	154
								46-531	154
								46-531A	154
								46-532	154
								46-532A	154
								46-533	154
								46-533A	154
								46-539	156
								46-540	12
								46-541	12
								46-560	156
								46-560V	156
								46-561	156
								46-561V	156
								46-562	156
								46-562V	156
								46-563	156
								46-563V	156
								46-564	156
								46-564V	156
								46-565	156

44-531

NUMERICAL INDEX

46-565

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
46-566	156	46-924I	186	48-024	236	48-110	238	49-017	236	49-109	238
46-567	156	46-924SS	202	48-025	236	48-111	238	49-020	236	49-110	238
46-568	156	46-925	155	48-026	236	48-113	238	49-021	236	49-111	238
46-569	156	46-930	188	48-027	236	48-115	238	49-022	236	49-113	238
46-570	156	46-930L	188	48-028	236	48-120	239	49-023	236	49-120	239
46-571	156	46-930S	188	48-029	236	48-121	239	49-024	236	49-121	239
46-572	156	46930SS	201	48-030	236	48-122	239	49-025	236	49-122	239
46-573	156	46-930T	188	48-031	236	48-123	239	49-026	236	49-123	239
46-575	156	46-931	188	48-032	236	48-124	239	49-027	236	49-124	239
46-576	156	46-931L	188	48-034	236	48-125	239	49-028	236	49-125	239
46-577	156	46-931S	188	48-036	236	48-126	239	49-029	236	49-126	239
46-578	156	46931SS	201	48-040	237	48-127	239	49-030	236	49-127	239
46-600	363	46-931T	188	48-041	237	48-128	239	49-031	236	49-128	239
46-605	363	46-932	188	48-042	237	48-129	239	49-032	236	49-129	239
46-607	363	46-932L	188	48-043	237	48-131	239	49-033	236	49-140	239
46-615	362	46-932S	188	48-044	237	48-135	239	49-034	236	49-141	239
46-620	360	46932SS	201	48-045	237	48-140	239	49-035	236	49-142	239
46-621	360	46-932T	188	48-046	237	48-141	239	49-036	236	49-143	239
46-622	360	46-933	188	48-047	237	48-142	239	49-037	236	49-144	239
46-630	360	46-933L	188	48-048	237	48-143	239	49-038	236	49-145	239
46-631	360	46-933S	188	48-049	237	48-144	239	49-040	237	49-146	239
46650	107	46933SS	201	48-050	237	48-145	239	49-041	237	49-147	239
46651	107	46-933T	188	48-052	237	48-146	239	49-042	237	49-148	239
46652	107	46-934	187	48-053	237	48-147	239	49-043	237	49-149	239
46653	107	46-934L	187	48-054	237	48-148	239	49-044	237	49-151	239
46660	107	46-934LS	187	48-056	237	48-149	239	49-045	237	49-153	239
46661	107	46-934LT	187	48-060	237	48-151	239	49-046	237	49-160	240
46662	107	46934SS	201	48-061	237	48-152	239	49-047	237	49-161	240
46663	107	46-935	187	48-062	237	48-153	239	49-048	237	49-162	240
46670	107	46-935L	187	48-063	237	48-155	239	49-049	237	49-163	240
46671	107	46-935LS	187	48-064	237	48-160	240	49-050	237	49-164	240
46672	107	46-935LT	187	48-065	237	48-161	240	49-052	237	49-165	240
46680	107	46935SS	201	48-066	237	48-162	240	49-054	237	49-166	240
46681	107	46-936	187	48-067	237	48-163	240	49-060	237	49-167	240
46682	107	46-936L	187	48-068	237	48-164	240	49-061	237	49-168	240
466900	107	46-936LS	187	48-069	237	48-165	240	49-062	237	49-169	240
466901	107	46-936LT	187	48-070	237	48-166	240	49-063	237	49-170	240
466902	107	46936SS	201	48-071	237	48-167	240	49-064	237	49-200	240
46-830	155	46-937	187	48-072	237	48-168	240	49-065	237	49-201	240
46-832	155	46-937L	187	48-073	237	48-169	240	49-066	237	49-203	240
46-833	155	46-937LS	187	48-074	237	48-170	240	49-067	237	49-205	240
46-834	155	46-937LT	187	48-075	237	48-171	240	49-068	237	49-207	240
46-875	155	46937SS	201	48-076	237	48-172	240	49-069	237	49-209	240
46-878	155	46-951	155	48-080	238	48-174	240	49-070	237	49-213	240
46-900	155	46-956	155	48-081	238	48-180	240	49-072	237	49-220	240
46-903	155	46-980	155	48-082	238	48-181	240	49-074	237	49-223	240
46-903I	186	46-981	155	48-083	238	48-187	240	49-080	238	49-234	240
46-903ISB	186	46-986	154	48-084	238	48-193	240	49-081	238	49-236	240
46-903SS	202	46-987	154	48-085	238	48-200	240	49-082	238	49-240	240
46-904I	186	46-988	154	48-086	238	48-201	240	49-083	238	50-001	62
46-904SS	202	46-989	154	48-087	238	48-203	240	49-084	238	500-012	321
46-905I	186	47-042	155	48-088	238	48-205	240	49-085	238	5000-12-12	409
46-905SS	202	48-001	236	48-089	238	48-207	240	49-086	238	5000-16	409
46-910	155	48-002	236	48-090	238	48-209	240	49-087	238	5000-16-12	409
46-912	155	48-003	236	48-091	238	48-213	240	49-088	238	5000-2	409
46-912SS	202	48-004	236	48-092	238	48-220	240	49-089	238	500-020	321
46-913SS	202	48-005	236	48-094	238	48-227	240	49-090	238	5000-20-20	409
46-914SS	202	48-006	236	48-096	238	49-001	236	49-092	238	5000-24	409
46-920	155	48-007	236	48-100	238	49-002	236	49-094	238	500-028	321
46-921	155	48-008	236	48-101	238	49-003	236	49-100	238	5000-32	409
46-922	155	48-009	236	48-102	238	49-004	236	49-101	238	500-036	321
46-922A	155	48-010	236	48-103	238	49-005	236	49-102	238	5000-4	409
46-922I	186	48-011	236	48-104	238	49-006	236	49-103	238	5000-4-2	409
46-922SS	202	48-015	236	48-105	238	49-007	236	49-104	238	500-048	321
46-923	155	48-020	236	48-106	238	49-008	236	49-105	238	500-056	321
46-923I	186	48-021	236	48-107	238	49-009	236	49-106	238	5000-6-4	409
46-923SS	202	48-022	236	48-108	238	49-010	236	49-107	238	5000-6-6	409
46-924	155	48-023	236	48-109	238	49-011	236	49-108	238	500-072	321

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
5000-8	409	5406-12-8	409	541208SC	129	5600-12	412	56-047	251
5000-8-4	409	5406-16-12	409	541212	124	5600-16	412	56-048	251
5000-8-6	409	5406-16-4	409	545302C	129	56-002	250	5604-8-8	412
500-088	321	5406-16-6	409	550-012	321	5600-2-2	412	56-049	251
500-104	321	5406-16-8	409	5500-12-12	410	56-003	250	56-050	251
50-011	62	5406-20-16	409	5500-12-8	410	56-004	250	56-051	251
500-128	321	5406-24-20	409	5500-16	410	5600-4-4	412	5605-12	412
500-152	321	5406-32-20	409	5500-16-12	410	56-005	250	5605-16	412
50-016	38	5406-32-24	409	5500-2	410	56-006	250	56-052	251
500-188	321	5406-4-2	409	550-020	321	5600-6-6	412	5605-20	412
500-216	321	5406-6-2	409	5500-20-20	410	56-007	250	5605-2-2	412
500-248	321	5406-6-4	409	550-028	321	56-008	250	56-053	251
500-280	321	5406-8-2	409	550-036	321	5600-8-8	412	56-054	251
50-032	166	5406-8-4	409	5500-4	410	56-009	250	5605-4-4	412
540402	124	5406-8-6	409	550-048	321	56-010	250	56-055	251
540402S	124	5406-C-12	410	550-056	321	56-011	250	56-056	251
540402SC	129	5406-C-16	410	5500-6	410	5601-12	412	5605-6-6	412
540404	124	5406-C-2	410	550-072	321	5601-16	412	5605-8	412
540404S	124	5406-C-4	410	5500-8	410	56-012	250	56-060	251
540404SC	129	5406-C-6	410	5500-8-4	410	5601-2-2	412	56-061	251
5404-12	409	5406-C-8	410	550-088	321	56-013	250	56-062	251
5404-12-6	409	5406-FLP-12	410	550-104	321	56-014	250	56-063	251
5404-12-8	409	5406-FLP-2	410	5501-12-12	411	5601-4-4	412	56-064	251
5404-16	409	5406-FLP-4	410	5501-16-16	411	56-015	250	56-065	251
5404-16-12	409	5406-FLP-6	410	5501-2-2	411	5601-6-6	412	56-066	251
5404-2	409	5406-FLP-8	410	550-128	321	56-017	250	56-067	251
5404-20	409	5406-HHP-12	410	5501-4-4	411	56-020	250	56-068	251
5404-20-16	409	5406-HHP-16	410	550-152	321	56-021	250	56-069	251
5404-24	409	5406-HHP-2	410	5501-6-6	411	5602-12	412	56-070	251
5404-24-20	409	5406-HHP-20	410	5501-8	411	5602-16	412	56-071	251
5404-32	409	5406-HHP-24	410	550-188	321	56-022	250	56-072	251
5404-32-24	409	5406-HHP-4	410	5502-12	411	5602-2-2	412	56-073	251
5404-4	409	5406-HHP-6	410	550-216	321	56-023	250	56-074	251
5404-4-2	409	5406-HHP-8	410	5502-16-16	411	56-024	250	56-075	251
5404-6	409	5406-P-12	410	5502-2	411	5602-4-4	412	56-076	251
5404-6-2	409	5406-P-16	410	5502-20	411	56-025	250	56-080	252
5404-6-4	409	5406-P-2	410	5502-24	411	56-026	250	56-081	252
5404-8	409	5406-P-20	410	5502-4	411	5602-6-6	412	56-082	252
5404-8-4	409	5406-P-24	410	550-248	321	56-027	250	56-083	252
5404-8-6	409	5406-P-32	410	5502-6	411	56-028	250	56-084	252
5405-12-12	409	5406-P-4	410	5502-6-4	411	5602-8-8	412	56-085	252
5405-16-16	409	5406-P-6	410	550-280	321	56-029	250	56-086	252
5405-16-20	409	5406-P-8	410	5502-8-4	411	56-030	250	56-087	252
5405-20-20	409	5406-SHP-12	410	5502-8-6	411	56-031	250	56-088	252
5405-20-24	409	5406-SHP-16	410	5502-8-8	411	5603-12	412	56-089	252
5405-2-2	409	5406-SHP-2	410	550-312	321	5603-16	412	56-090	252
5405-2-4	409	5406-SHP-20	410	5503-12-12	411	56-032	250	56-091	252
5405-24-24	409	5406-SHP-24	410	5503-16	411	5603-2-2	412	56-092	252
5405-4-2	409	5406-SHP-32	410	5503-2	411	56-033	250	56-093	252
5405-4-4	409	5406-SHP-4	410	5503-4	411	56-034	250	56-094	252
5405-6-4	409	5406-SHP-6	410	5503-6	411	5603-4-4	412	56-095	252
5405-6-6	409	5406-SHP-8	410	5503-8	411	56-035	250	56-096	252
5405-6-8	409	540802C	129	5504-12	411	56-036	250	56-100	253
5405-8-12	409	540804	124	5504-16	411	5603-6-6	412	56-101	253
5405-8-8	409	540804S	124	5504-2	411	56-038	250	56-102	253
540602	124	540804SC	129	5504-20	411	5603-8-8	412	56-103	253
540602S	124	540806	124	5504-24	411	56-040	251	56-104	253
540602SC	129	540806S	124	5504-4	411	56-041	251	56-105	253
540604	124	540806SC	129	5504-6	411	5604-12	412	56-106	253
540604S	124	540808	124	5504-8	411	5604-16	412	56-107	253
540604SC	129	540808S	124	5504-8-6	411	56-042	251	56-108	253
540606	124	540808SC	129	5505-12	411	5604-2-2	412	56-109	253
540606S	124	541006	124	5505-16	411	56-043	251	56-110	253
540606SC	129	541006SC	129	5505-20	411	56-044	251	56-111	253
540608	124	541008	124	5505-4	411	5604-4-4	412	56-112	253
540608SC	129	541008S	124	5505-6	411	56-045	251	56-113	253
5406-12-4	409	541008SC	129	5505-8	411	56-046	251	56-114	253
5406-12-6	409	541208	124	56-001	250	5604-6-6	412	56-115	253

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
56-207	256	57-006	250	57-086	252	57-165	255	57227V	266	57-431	251
56-208	256	57-007	250	57-087	252	57-166	255	57-228	256	57-433	251
56-209	256	57-008	250	57-088	252	57-167	255	57228TV	265	59-001SMLS	258
56-210	256	57-009	250	57-089	252	57-168	255	57228V	266	59-002SMLS	258
56-211	256	57-010	250	57-090	252	57168TV	265	57-229	256	59-003SMLS	258
56-212	256	57-011	250	57-091	252	57168V	266	57229TV	265	59-004SMLS	258
56-213	256	57-012	250	57-092	252	57-169	255	57229V	266	59-005SMLS	258
56-220	256	57-013	250	57-093	252	57-170	255	57-240	251	59-006SMLS	258
56-221	256	57-014	250	57-094	252	57170TV	265	57-241	251	59-007SMLS	258
56-223	256	57-015	250	57-095	252	57170V	266	57-242	251	59-009SMLS	258
56-224	256	57-017	250	57-096	252	57-171	255	57-243	251	59-010SMLS	258
56-225	256	57-020	250	57-100	253	57-172	255	57-244	251	59-011SMLS	258
56-226	256	57-021	250	57-101	253	57172TV	265	57-245	251	59-020SMLS	258
56-227	256	57-022	250	57-102	253	57172V	266	57-246	251	59-021SMLS	258
56-228	256	57-023	250	57-103	253	57-173	255	57-247	251	59-022SMLS	258
56-229	256	57-024	250	57-104	253	57-174	255	57-250	252	59-023SMLS	258
56-240	251	57-025	250	57-105	253	57174TV	265	57-251	252	59-024SMLS	258
56-241	251	57-026	250	57-106	253	57174V	266	57-252	252	59-025SMLS	258
56-242	251	57-027	250	57-107	253	57-180	255	57-253	252	59-026SMLS	258
56-243	251	57-028	250	57-108	253	57-181	255	57-254	252	59-027SMLS	258
56-244	251	57-029	250	57-109	253	57-182	255	57-255	252	59-028SMLS	258
56-245	251	57-030	250	57-110	253	57-183	255	57-256	252	59-029SMLS	258
56-246	251	57-031	250	57-111	253	57-184	255	57-257	252	59-030SMLS	258
56-247	251	57-032	250	57-112	253	57-185	255	57-260	253	59-031SMLS	258
56-250	252	57-033	250	57-113	253	57-186	255	57-261	253	59-032SMLS	258
56-251	252	57-034	250	57-114	253	57-187	255	57-262	253	59-033SMLS	258
56-252	252	57-035	250	57-115	253	57-188	255	57-263	253	59-034SMLS	258
56-253	252	57-036	250	57-120	254	57-189	255	57-264	253	59-036SMLS	258
56-254	252	57-040	251	57-121	254	57-190	255	57-265	253	590400	120
56-255	252	57-041	251	57-122	254	57-191	255	57-266	253	59-040SMLS	259
56-256	252	57-042	251	57-123	254	57-192	255	57-267	253	59-041SMLS	259
56-257	252	57-043	251	57-124	254	57-193	255	57-270	254	59-042SMLS	259
56-260	253	57-044	251	57-125	254	57-200	256	57-271	254	59-043SMLS	259
56-261	253	57-045	251	57-126	254	57-201	256	57-272	254	59-044SMLS	259
56-262	253	57-046	251	57-127	254	57201TV	265	57-273	254	59-045SMLS	259
56-263	253	57-047	251	57-128	254	57201V	266	57-275	254	59-046SMLS	259
56-264	253	57-048	251	57-129	254	57-202	256	57-280	254	59-047SMLS	259
56-265	253	57-049	251	57-130	254	57-203	256	57-281	254	59-048SMLS	259
56-266	253	57-050	251	57-131	254	57203TV	265	57-282	254	59-049SMLS	259
56-267	253	57-051	251	57-132	254	57203V	266	57-283	254	59-050SMLS	259
56-270	254	57-052	251	57-133	254	57-204	256	57-285	254	59-052SMLS	259
56-271	254	57-053	251	57-134	254	57-205	256	57-286	254	59-054SMLS	259
56-272	254	57-054	251	57-135	254	57-206	256	57-290	255	59-056SMLS	259
56-273	254	57-055	251	57-140	254	57-207	256	57-291	255	590600	120
56-275	254	57-056	251	57-141	254	57207TV	265	57-292	255	59-060SMLS	259
56-280	254	57-060	251	57-142	254	57207V	266	57-293	255	59-060SMLSXX	264
56-281	254	57-061	251	57-143	254	57-208	256	57-294	255	59-061SMLS	259
56-282	254	57-062	251	57-144	254	57-209	256	57-295	255	59-062SMLS	259
56-283	254	57-063	251	57-145	254	57209TV	265	57-296	255	59-062SMLSXX	264
56-285	254	57-064	251	57-146	254	57209V	266	57-297	255	59-063SMLS	259
56-290	255	57-065	251	57-147	254	57-210	256	57-300	257	59-064SMLS	259
56-291	255	57-066	251	57-148	254	57-211	256	57-301	257	59-064SMLSXX	264
56-292	255	57-067	251	57-149	254	57211TV	265	57-304	257	59-065SMLS	259
56-293	255	57-068	251	57-150	254	57211V	266	57-305	257	59-066SMLS	259
56-294	255	57-069	251	57-151	254	57-212	256	57-306	257	59-066SMLSXX	264
56-295	255	57-070	251	57-152	254	57-213	256	57-308	257	59-067SMLS	259
56-296	255	57-071	251	57-153	254	57213TV	265	57-311	256	59-068SMLS	259
56-297	255	57-072	251	57-154	254	57213V	266	57-320	257	59-069SMLS	259
56-300	257	57-073	251	57-155	254	57-220	256	57-322	257	59-070SMLS	259
56-330	256	57-074	251	57-160	255	57222TV	265	57-324	257	59-070SMLSXX	264
56-331	256	57-075	251	57-161	255	57-223	256	57-326	257	59-071SMLS	259
56-332	256	57-076	251	57-162	255	57223TV	265	57-328	257	59-072SMLS	259
56-430	251	57-080	252	57162TV	265	57223V	266	57-330	256	59-073SMLS	259
57-001	250	57-081	252	57162V	266	57-224	256	57-331	256	59-074SMLS	259
57-002	250	57-082	252	57-163	255	57-225	256	57-332	256	59-075SMLS	259
57-003	250	57-083	252	57-164	255	57-226	256	57332TV	265	59-076SMLS	259
57-004	250	57-084	252	57164TV	265	57-227	256	57332V	266	590800	120
57-005	250	57-085	252	57164V	266	57227TV	265	57-430	251	59-080SMLS	260

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
59-080SMLSXX	264	59-151SMLS	261	59-203SMLS	263	600-060	317	61777	267
59-081SMLS	260	59-152SMLS	261	59203TV	265	600-064	317	61778	234
59-082SMLS	260	59-153SMLS	261	59203V	266	600-072	317	61778	267
59-082SMLSXX	264	59-154SMLS	261	59-204SMLS	263	600-080	317	61-851	307
59-083SMLS	260	59-155SMLS	261	59-205SMLS	263	600-088	317	61-853	307
59-084SMLS	260	59-160SMLS	262	59-206SMLS	263	600-096	317	61-854	307
59-085SMLS	260	59-160SMLSXX	264	59-207SMLS	263	600-104	317	61-859	307
59-086SMLS	260	59-161SMLS	262	59207TV	265	61-050	427	61-860	307
59-086SMLSXX	264	59-161SMLSXX	264	59207V	266	61-052	427	61-861	307
59-087SMLS	260	59-162SMLS	262	59-208SMLS	263	61-053	427	61-867	307
59-088SMLS	260	59-162SMLSXX	264	59-209SMLS	263	61-054	427	61-868	307
59-089SMLS	260	59162TV	265	59209TV	265	61-055	427	61-870	307
59-090SMLS	260	59162V	266	59209V	266	611-006	318	61-871	307
59-090SMLSXX	264	59-163SMLS	262	59-210SMLS	263	611-008	318	61-872	307
59-091SMLS	260	59-163SMLSXX	264	59-211SMLS	263	611-010	318	61-873	307
59-092SMLS	260	59-164SMLS	262	59211TV	265	611-012	318	61-874	307
59-094SMLS	260	59-164SMLSXX	264	59211V	266	611-016	318	61-875	307
59-096SMLS	260	59164TV	265	59-212SMLS	263	611-020	318	61-876	307
59-100SMLS	260	59164V	266	59-213SMLS	263	611-024	318	61-877	307
59-100SMLSXX	264	59-165SMLS	262	59213TV	265	611-028	318	61-878	307
59-101SMLS	260	59-166SMLS	262	59213V	266	611-032	318	61-879	307
59-101SMLSXX	264	59-166SMLSXX	264	59-220SMLS	263	611-036	318	619-001	307
59-102SMLS	260	59-167SMLS	262	59-221SMLS	263	611-040	318	619-002	307
59-103SMLS	260	59-168SMLS	262	59221TV	265	611-044	318	619-003	307
59-103SMLSXX	264	59-168SMLSXX	264	59221V	266	611-048	318	619-004	307
59-104SMLS	260	59168TV	265	59222TV	265	611-052	318	619-005	307
59-105SMLS	260	59168V	266	59-223SMLS	263	611-056	318	619-006	307
59-105SMLSXX	264	59-169SMLS	262	59-224SMLS	263	611-060	318	619-007	307
59-106SMLS	260	59-169SMLSXX	264	59-225SMLS	263	611-064	318	619-008	307
59-107SMLS	260	59-170SMLS	262	59225TV	265	611-072	318	619-009	307
59-108SMLS	260	59-170SMLSXX	264	59225V	266	611-080	318	619-010	307
59-109SMLS	260	59170TV	265	59-226SMLS	263	611-088	318	619-011	307
59-109SMLSXX	264	59170V	266	59-227SMLS	263	611-096	318	619-012	307
59-110SMLS	260	59-171SMLS	262	59227TV	265	611-104	318	61-904	306
59-111SMLS	260	59-171SMLSXX	264	59227V	266	611-116	318	61-905	306
59-111SMLSXX	264	59-172SMLS	262	59-228SMLS	263	611-128	318	61-906	306
59-112SMLS	260	59-172SMLSXX	264	59-229SMLS	263	611-152	318	61-907	306
59-113SMLS	260	59172TV	265	59229TV	265	611-164	318	61-908	306
59-114SMLS	260	59172V	266	59229V	266	611-176	318	61-909	306
59-115SMLS	260	59-173SMLS	262	59-231SMLS	263	611-188	318	61-910	306
59-115SMLSXX	264	59-174SMLS	262	59231TV	265	611-200	318	61-911	306
59-120SMLS	261	59-174SMLSXX	264	59231V	266	611-212	318	61-912	306
59-121SMLS	261	59174TV	265	59-300SMLS	263	611-224	318	61-913	306
59-122SMLS	261	59174V	266	59-301SMLS	263	611-248	318	61-914	306
59-123SMLS	261	59-179SMLSXX	264	59-305SMLS	263	611-270	318	61-915	306
59-124SMLS	261	59-180SMLS	262	59-306SMLS	263	611-312	318	61-916	306
59-125SMLS	261	59-181SMLS	262	59-308SMLS	263	611-332	318	61-917	306
59-126SMLS	261	59-182SMLS	262	59-320SMLS	263	611-390	318	61-918	306
59-127SMLS	261	59-183SMLS	262	59-322SMLS	263	61-150	427	61-919	306
59-128SMLS	261	59-184SMLS	262	59-324SMLS	263	61-152	427	61-920	306
59-129SMLS	261	59-185SMLS	262	59-326SMLS	263	61-153	427	61-921	306
59-130SMLS	261	59-186SMLS	262	59-328SMLS	263	61-154	427	61-922	306
59-131SMLS	261	59-187SMLS	262	595320	120	61-155	427	61-923	306
59-132SMLS	261	59-188SMLS	262	600-006	317	61-447	311	61-924	306
59-133SMLS	261	59-189SMLS	262	600-008	317	61-448	311	61-925	306
59-134SMLS	261	59-190SMLS	262	600-010	317	61-449	311	61-926	306
59-135SMLS	261	59-191SMLS	262	600-012	317	61-450	311	61-927	306
59-140SMLS	261	59-192SMLS	262	600-016	317	61-451	311	61-928	306
59-141SMLS	261	59-193SMLS	262	600-020	317	61-452	311	61-929	306
59-142SMLS	261	59-196SMLS	262	600-024	317	61-453	311	61-930	306
59-143SMLS	261	59-197SMLS	262	600-028	317	61-454	311	61-931	306
59-144SMLS	261	59-198SMLS	262	600-032	317	61-455	311	61-932	306
59-145SMLS	261	59-199SMLS	262	600-036	317	61-457	311	61-933	306
59-146SMLS	261	59-200SMLS	263	600-040	317	61775	234	61-934	306
59-147SMLS	261	59-201SMLS	263	600-044	317	61775	267	61-935	306
59-148SMLS	261	59201TV	265	600-048	317	61776	234	61-936	306
59-149SMLS	261	59201V	266	600-052	317	61776	267	61-937	306
59-150SMLS	261	59-202SMLS	263	600-056	317	61777	234	61-938	306

57-332

NUMERICAL INDEX

61-910

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
620-024SS.....	320	62-100.....	242	62415DC.....	234	62-515.....	246	62-727.....	243	63-251.....	243
620-028.....	319	621000.....	120	62415HDDC.....	234	62-516.....	246	62-728.....	243	63-252.....	243
620-028SS.....	320	621000C.....	127	62-416.....	244	62-517.....	246	62-740.....	243	63-253.....	243
620-032.....	319	62-101.....	242	62-416B.....	244	62-518.....	246	62-741.....	243	63-254.....	243
620-032SS.....	320	62-102.....	242	62416DC.....	234	62-521.....	246	62-742.....	243	63-255.....	243
620-036.....	319	62-103.....	242	62416HDDC.....	234	62-522.....	246	62-744.....	243	63-256.....	243
620-036SS.....	320	62-104.....	242	62-417.....	244	62-524.....	246	62-745.....	243	63-257.....	243
620-040.....	319	62-105.....	242	62-417B.....	244	62-527.....	246	62-747.....	243	63-258.....	243
620-040SS.....	320	62-106.....	242	62417DC.....	234	62-528.....	246	62-748.....	243	63-260.....	243
620-044.....	319	62-107.....	242	62417HDDC.....	234	62-529.....	246	62-749.....	243	63-261.....	243
620-044SS.....	320	62-108.....	242	62-418.....	244	62-530.....	246	62-770.....	245	63-390.....	243
620-048.....	319	62-109.....	242	62-418B.....	244	62-531.....	246	62-771.....	245	63-391.....	243
620-048SS.....	320	62-110.....	242	62418DC.....	234	62-532.....	246	62-772.....	245	63-392.....	243
620-052.....	319	62-112.....	242	62418HDDC.....	234	62-534.....	246	62-773.....	245	63-393.....	243
620-052SS.....	320	621200.....	120	62-419.....	244	62-535.....	246	62-774.....	245	63-394.....	243
620-056.....	319	62-160.....	242	62-420.....	244	62-536.....	246	62-775.....	245	63-395.....	243
620-056SS.....	320	62-161.....	242	62-420B.....	244	62-537.....	246	62-776.....	245	63-396.....	243
620-060.....	319	62-162.....	242	62-421.....	244	62-538.....	246	62-777.....	245	63-397.....	243
620-060SS.....	320	62-163.....	242	62-428.....	244	62-539.....	246	62-778.....	245	63-398.....	243
620-064.....	319	62-164.....	242	62-430.....	244	62-543.....	246	63-075.....	245	63-400.....	243
620-064SS.....	320	62-165.....	242	62-431.....	244	62-557.....	246	63-076.....	245	63-401.....	243
620-072.....	319	62-166.....	242	62-432.....	244	62-559.....	246	63-077.....	245	63-410.....	244
620-072SS.....	320	62-167.....	242	62-433.....	244	62-600.....	245	63-078.....	245	63-410B.....	244
620-080.....	319	62-168.....	242	62-434.....	244	62-601.....	245	63-079.....	245	63-411.....	244
620-088.....	319	62-169.....	242	62-435.....	244	62-602.....	245	63-080.....	245	63-411B.....	244
620-096.....	319	62-180.....	242	62-436.....	244	62-603.....	245	63-081.....	245	63-412.....	244
620-104.....	319	62-181.....	242	62-437.....	244	62-604.....	245	63-082.....	245	63-412B.....	244
620-116.....	319	62-182.....	242	62-438.....	244	62-605.....	245	63-083.....	245	63-413.....	244
620-128.....	319	62-183.....	242	62-440.....	244	62-606.....	245	63-100.....	242	63-413B.....	244
620-152.....	319	62-184.....	242	62-441.....	244	62-607.....	245	63-101.....	242	63-414.....	244
620-164.....	319	62-185.....	242	62-442.....	244	62-608.....	245	63-102.....	242	63-414B.....	244
620-176.....	319	62-186.....	242	62-445.....	244	62-610.....	245	63-103.....	242	63-415.....	244
620-188.....	319	62-187.....	242	62-446.....	244	62-630.....	247	63-104.....	242	63-415B.....	244
620-200.....	319	62-188.....	242	62-447.....	244	62-631.....	247	63-105.....	242	63-416.....	244
620-212.....	319	62-189.....	242	62-448.....	244	62-632.....	247	63-106.....	242	63-416B.....	244
620-224.....	319	62-190.....	242	62-449.....	244	62-633.....	247	63-107.....	242	63-417.....	244
620-248.....	319	62-191.....	242	62-450.....	244	62-634.....	247	63-108.....	242	63-417B.....	244
620-270.....	319	62-250.....	243	62-451.....	244	62-635.....	247	63-109.....	242	63-418.....	244
620-312.....	319	62-251.....	243	62-452.....	244	62-636.....	247	63-110.....	242	63-418B.....	244
620-332.....	319	62-252.....	243	62-453.....	244	62-637.....	247	63-112.....	242	63-419.....	244
620-390.....	319	62-253.....	243	62-454.....	244	62-638.....	247	63-160.....	242	63-420.....	244
620400.....	120	62-254.....	243	62-455.....	244	62-653.....	247	63-161.....	242	63-421.....	244
620400C.....	127	62-255.....	243	62-456.....	244	62-654.....	247	63-162.....	242	63-430.....	244
620409C.....	130	62-256.....	243	62-470.....	245	62-655.....	247	63-163.....	242	63-431.....	244
620532.....	120	62-257.....	243	62-471.....	245	62-656.....	247	63-164.....	242	63-432.....	244
620532C.....	127	62-258.....	243	62-472.....	245	62-657.....	247	63-165.....	242	63-433.....	244
620553C.....	130	62-259.....	243	62-473.....	245	62-658.....	247	63-166.....	242	63-434.....	244
620555C.....	130	62-260.....	243	62-474.....	245	62-659.....	247	63-167.....	242	63-435.....	244
620557C.....	130	62-391.....	243	62-475.....	245	62-660.....	247	63-168.....	242	63-436.....	244
620559C.....	130	62-392.....	243	62-476.....	245	62-670.....	247	63-170.....	242	63-437.....	244
620600.....	120	62-393.....	243	62-477.....	245	62-671.....	247	63-171.....	242	63-438.....	244
620600C.....	127	62-394.....	243	62-478.....	245	62-672.....	247	63-180.....	242	63-440.....	244
620604.....	120	62-395.....	243	62-480.....	245	62-700.....	247	63-181.....	242	63-441.....	244
620604C.....	130	62-396.....	243	62-481.....	245	62-701.....	247	63-182.....	242	63-442.....	244
620606C.....	130	62-397.....	243	62-500.....	246	62-702.....	247	63-183.....	242	63-445.....	244
62-075.....	245	62-398.....	243	62-501.....	246	62-703.....	247	63-184.....	242	63-446.....	244
62-076.....	245	62-410.....	244	62-502.....	246	62-704.....	247	63-185.....	242	63-447.....	244
62-077.....	245	62-410B.....	244	62-503.....	246	62-705.....	247	63-186.....	242	63-448.....	244
62-078.....	245	62-411.....	244	62-504.....	246	62-706.....	247	63-187.....	242	63-449.....	244
62-079.....	245	62-411B.....	244	62-505.....	246	62-707.....	247	63-188.....	242	63-450.....	244
62-080.....	245	62-412.....	244	62-506.....	246	62-708.....	247	63-190.....	242	63-452.....	244
620800.....	120	62-412B.....	244	62-507.....	246	62-720.....	243	63-192.....	242	63-453.....	244
620800C.....	127	62-413.....	244	62-508.....	246	62-721.....	243	63214.....	13	63-454.....	244
620806C.....	130	62-413B.....	244	62-509.....	246	62-722.....	243	63215.....	13	63-455.....	244
620808C.....	130	62-414.....	244	62-510.....	246	62-723.....	243	63216.....	13	63-459.....	244
62-081.....	245	62-414B.....	244	62-511.....	246	62-724.....	243	63217.....	13	63-470.....	245
62-082.....	245	62-415.....	244	62-512.....	246	62-725.....	243	63218.....	13	63-471.....	245
62-083.....	245	62-415B.....	244	62-513.....	246	62-726.....	243	63-250.....	243	63-472.....	245

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
63-473	245	63-662	248	63-915	309	63-984	309	6405-O-16-12	414	64-137	270
63-474	245	63-663	248	63-916	309	63-985	309	6405-O-16-16	414	64-138	270
63-475	245	63-664	248	63-917	309	63-986	309	6405-O-20-20	414	64-140	270
63-476	245	63-665	248	63-918	309	63-987	309	6405-O-24-24	414	64-141	270
63-477	245	63-670	247	63-919	309	63-988	309	6405-O-32-32	414	64-142	270
63-478	245	63-671	247	63-921	309	63-989	309	6405-O-4-2	414	64-145	270
63-480	245	63-672	247	63-922	309	63-999	309	6405-O-4-4	414	64-146	270
63-500	246	63-680	248	63-923	309	6400-10	413	6405-O-6-4	414	64-148	270
63-501	246	63-681	248	63-924	309	6400-10-12	413	6405-O-6-6	414	64-160	270
63-502	246	63-682	248	63-925	309	6400-10-8	413	6405-O-8-6	414	64-161	270
63-504	246	63-683	248	63-926	309	6400-12	413	6405-O-8-8	414	64-162	270
63-505	246	63-684	248	63-927	309	6400-12-10	413	640600	120	64-163	270
63-506	246	63-701	247	63-928	309	6400-12-14	413	640600C	127	64-164	270
63-507	246	63-702	247	63-929	309	6400-12-16	413	640800	120	64-165	270
63-508	246	63-703	247	63-931	309	6400-12-8	413	640800C	127	64-166	270
63-509	246	63-704	247	63-932	309	6400-16	413	6408-H-O-10	414	64-167	270
63-510	246	63-705	247	63-933	309	6400-16-12	413	6408-H-O-12	414	64-168	270
63-511	246	63-706	247	63-934	309	6400-16-20	413	6408-H-O-14	414	64-169	270
63-512	246	63-707	247	63-935	309	6400-2	413	6408-H-O-16	414	64-170	270
63-513	246	63-708	247	63-936	309	6400-20	413	6408-H-O-2	414	64-171	270
63-516	246	63-720	243	63-937	309	6400-20-24	413	6408-H-O-20	414	64-180	271
63-517	246	63-721	243	63-938	309	6400-24-32	413	6408-H-O-24	414	64-181	271
63-518	246	63-722	243	63-939	309	6400-4	413	6408-H-O-32	414	64-182	271
63-521	246	63-723	243	63-941	309	6400-4-2	413	6408-H-O-4	414	64-183	271
63-522	246	63-724	243	63-942	309	6400-4-6	413	6408-H-O-5	414	64-184	271
63-523	246	63-725	243	63-943	309	6400-4-8	413	6408-H-O-6	414	64-185	271
63-524	246	63-726	243	63-944	309	6400-5	413	6408-H-O-8	414	64-186	271
63-527	246	63-727	243	639-440	311	6400-6	413	6408-O-10	414	64-187	271
63-528	246	63-728	243	63-945	309	6400-6-10	413	6408-O-12	414	64-188	271
63-529	246	63-740	243	639-450	311	6400-6-12	413	6408-O-14	414	64-189	271
63-530	246	63-741	243	63-946	309	6400-6-4	413	6408-O-16	414	64-190	271
63-531	246	63-742	243	63-947	309	6400-6-8	413	6408-O-2	414	64-191	271
63-534	246	63-744	243	639-470	311	6400-8	413	6408-O-20	414	64-192	271
63-535	246	63-745	243	63-948	309	6400-8-10	413	6408-O-24	414	64-200	271
63-537	246	63-747	243	639-480	311	6400-8-12	413	6408-O-4	414	64-201	271
63-538	246	63-748	243	63-949	309	6400-8-4	413	6408-O-5	414	64-202	271
63-540	246	63-749	243	63-950	309	6400-8-6	413	6408-O-6	414	64-203	271
63-541	246	63-759	248	63-951	309	6401-10-8	413	6408-O-8	414	64-204	271
63-543	246	63-760	248	63-952	309	6401-12-12	413	64-100	270	64-205	271
63-550	246	63-761	248	63-953	309	6401-12-8	413	641000	120	64-206	271
63-600	245	63-762	248	63-954	309	6401-16-16	413	641000C	127	64-207	271
63-601	245	63-763	248	63-955	309	6401-20-20	413	64-101	270	64-208	271
63-602	245	63-764	248	63-956	309	6401-4-4	413	64-102	270	64-209	271
63-603	245	63-765	248	63-957	309	6401-6-4	413	64-103	270	64-210	271
63-604	245	63-771	245	63-958	309	6401-6-6	413	64-104	270	64-211	271
63-605	245	63-772	245	63-959	309	6401-8-6	413	64-105	270	64-250	272
63-606	245	63-773	245	63-961	309	6401-8-8	413	64-106	270	64-251	272
63-607	245	63-774	245	63-962	309	6402-O-10-10	413	64-107	270	64-252	272
63-608	245	63-775	245	63-963	309	6402-O-12-12	413	64-108	270	64-253	272
63-610	245	63-776	245	63-964	309	6402-O-4-4	413	64-109	270	64-254	272
63-630	247	63-777	245	63-965	309	6402-O-6-6	413	6410-O-12-8	414	64-255	272
63-631	247	63-778	245	63-966	309	6402-O-8-8	413	6410-O-8-4	414	64-256	272
63-632	247	63-850	311	63-967	309	6403-O-12	413	6410-O-8-6	414	64-257	272
63-633	247	63-851	311	63-968	309	6403-O-6	413	6410-O-8-8	414	64-258	272
63-634	247	63-852	311	63-969	309	6403-O-8	413	64-110	270	64-259	272
63-635	247	63-853	311	63-971	309	640400	120	64-112	270	64-260	272
63-636	247	63-854	311	63-972	309	640400C	127	64-114	270	64-261	272
63-637	247	63-855	311	63-973	309	6404-10-8	413	641200	120	64-262	272
63-638	247	63-856	311	63-974	309	6404-12-12	413	64-122	270	64-268	272
63-641	247	63-857	311	63-975	309	6404-4-4	413	64-123	270	64-269	272
63-653	247	639-001	311	63-976	309	6404-6-4	413	64-124	270	64-273	272
63-654	247	639-002	311	63-977	309	6404-6-6	413	64-126	270	64-276	272
63-655	247	639-003	311	63-978	309	6404-6-8	413	64-127	270	64-279	272
63-656	247	639-004	311	63-979	309	6404-8-8	413	64-130	270	64-280	273
63-657	247	63-911	309	63-980	309	6405-O-10-6	414	64-131	270	64-282	272
63-658	247	63-912	309	63-981	309	6405-O-10-8	414	64-133	270	64-283	272
63-660	248	63-913	309	63-982	309	6405-O-12-12	414	64-134	270	64-286	272
63-661	248	63-914	309	63-983	309	6405-O-12-8	414	64-136	270	64-289	273

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
64-291	272	64-449	274	64-538	275	64-773H	267	6506-6-8	416	65-203	271
64-298	272	64-450	274	64-539	275	64-774	267	6506-8-6	416	65-204	271
64-299	273	64-451	274	64-540	275	64-774H	267	6506-8-8	416	65-205	271
64-300	273	64-452	274	64-541	275	64-775	267	650800	120	65-206	271
64-301	272	64-453	274	64-542	275	64-775H	267	650800C	127	65-207	271
64-303	272	64-454	274	64-543	275	64-776	267	65-100	270	65-208	271
64-306	272	64-456	274	64-545	275	64-776H	267	65-101	270	65-209	271
64-316	272	64-457	274	64-546	275	64-777	267	65-102	270	65-210	271
64-317	273	64-458	274	64-547	275	64-777H	267	65-103	270	65-211	271
64-318	272	64-459	274	64-549	275	64-778	267	65-104	270	65-250	272
64-319	273	64-460	274	64-550	275	64-778H	267	65-105	270	65-251	272
64-322	272	64-461	274	64-551	275	64-779	267	65-106	270	65-252	272
64-327	272	64-462	274	64-552	275	64-780	267	65-107	270	65-253	272
64-328	272	64-463	274	64-553	275	64-780H	267	65-108	270	65-254	272
64-330	272	64-464	274	64-573	277	64-781	267	65-109	270	65-255	272
64-334	272	64-465	274	64-574	277	64-781H	267	65-110	270	65-256	272
64-336	272	64-470	276	64-575	277	6500-10	415	65-112	270	65-257	272
64-343	272	64-471	276	64-576	277	6500-12	415	65-114	270	65-258	272
64-351	272	64-472	276	64-577	277	6500-16	415	65-115	270	65-259	272
64-363	273	64-473	276	64-578	277	6500-24	415	65-122	270	65-260	272
64-364	273	64-474	276	64-583	277	6500-4	415	65-123	270	65-261	272
64-383	273	64-475	276	64-584	277	6500-6	415	65-124	270	65-262	272
64-384	273	64-476	276	64-585	277	6500-8	415	65-126	270	65-264	272
64-385	273	64-477	276	64-586	277	6501-10-8	415	65-127	270	65-267	273
64-386	273	64-478	276	64-587	277	6501-12-12	415	65-130	270	65-268	272
64-390	271	64-479	276	64-588	277	6501-16-16	415	65-131	270	65-269	272
64-391	271	64-480	276	64-600	276	6501-4-4	415	65-133	270	65-273	272
64-392	271	64-481	276	64-601	276	6501-6-6	415	65-134	270	65-276	272
64-393	271	64-482	276	64-602	276	6501-8-8	415	65-136	270	65-279	272
64-394	271	64-486	274	64-603	276	6502-10	415	65-137	270	65-280	273
64-395	271	64-500	275	64-604	276	6502-12	415	65-138	270	65-282	272
64-396	271	64-501	275	64-605	276	6502-16	415	65-140	270	65-283	272
64-397	271	64-502	275	64-606	276	6502-4	415	65-141	270	65-286	272
64-398	271	64-503	275	64-607	276	6502-6	415	65-142	270	65-287	273
64-399	271	64-504	275	64-608	276	6502-8	415	65-145	270	65-288	273
64-400	271	64-505	275	64-609	276	6503-12-12	415	65-146	270	65-289	273
64-410	274	64-506	275	64-610	276	6503-4-4	415	65-148	270	65-291	272
64-411	274	64-507	275	64-611	276	6503-6-6	415	65-150	270	65-292	273
64-412	274	64-508	275	64-651	276	6503-8-8	415	65-151	270	65-293	273
64-413	274	64-509	275	64-652	276	650400	120	65-160	270	65-294	273
64-414	274	64-510	275	64-653	276	650400C	127	65-161	270	65-295	273
64-415	274	64-511	275	64-654	276	6504-10-10	415	65-162	270	65-296	273
64-416	274	64-512	275	64-655	276	6504-12-12	415	65-163	270	65-297	273
64-417	274	64-513	275	64-656	276	6504-16-16	415	65-164	270	65-298	272
64-418	274	64-514	275	64-657	276	6504-20-20	415	65-165	270	65-299	273
64-419	274	64-515	275	64-658	276	6504-4-4	415	65-166	270	65-300	273
64-420	274	64-516	275	64-659	276	6504-6-6	415	65-167	270	65-301	272
64-421	274	64-517	275	64-660	276	6504-8-8	415	65-168	270	65-303	272
64-422	274	64-518	275	64-661	276	6505-12-12	415	65-169	270	65-305	273
64-430	274	64-519	275	64-692	278	6505-16-16	415	65-170	270	65-306	272
64-431	274	64-520	275	64-693	278	6505-24-24	415	65-171	270	65-309	273
64-432	274	64-521	275	64-694	278	6505-4-2	415	65-180	271	65-310	273
64-433	274	64-522	275	64-695	278	6505-4-4	415	65-181	271	65-312	273
64-434	274	64-523	275	64-696	278	6505-4-6	415	65-182	271	65-313	273
64-435	274	64-524	275	64-697	278	6505-6-4	415	65-183	271	65-316	272
64-436	274	64-525	275	64-703	277	6505-6-6	415	65-184	271	65-317	273
64-437	274	64-526	275	64-704	277	6505-8-6	415	65-185	271	65-318	272
64-438	274	64-527	275	64-705	277	6505-8-8	415	65-186	271	65-319	273
64-439	274	64-528	275	64-706	277	650600	120	65-187	271	65-322	272
64-440	274	64-529	275	64-707	277	650600C	127	65-188	271	65-327	272
64-441	274	64-530	275	64-708	277	6506-10-6	416	65-189	271	65-328	272
64-442	274	64-531	275	64-721	272	6506-12-12	416	65-190	271	65-330	272
64-443	274	64-532	275	64-729	272	6506-16-16	416	65-191	271	65-334	272
64-444	274	645320C	127	64-733	273	6506-20-20	416	65-192	271	65-336	272
64-445	274	64-533	275	64-770	267	6506-4-2	416	65-194	271	65-342	272
64-446	274	64-534	275	64-771	267	6506-4-4	416	65-200	271	65-343	272
64-447	274	64-535	275	64-772	267	6506-6-4	416	65-201	271	65-346	273
64-448	274	64-537	275	64-773	267	6506-6-6	416	65-202	271	65-347	273

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
65-349	273	65-459	274	65-545	275	65771API	268	6602-12	416	66-672	280
65-350	273	65-460	274	65-546	275	65-771H	267	6602-16	416	66-700	279
65-351	272	65-461	274	65-547	275	65-772	267	6602-24	416	66-701	279
65-359	272	65-462	274	65-549	275	65772API	268	6602-4	416	66-702	279
65-363	273	65-463	274	65-550	275	65-772H	267	6602-5	416	66-704	279
65-364	273	65-464	274	65-551	275	65-773	267	6602-6	416	66-705	279
65-372	273	65-465	274	65-552	275	65773API	268	6602-8	416	66-708	279
65-375	273	65-470	276	65-553	275	65-773H	267	660402	121	66-709	279
65-377	273	65-471	276	65-555	275	65-774	267	660402C	127	66-712	279
65-383	273	65-472	276	65-573	277	65774API	268	660404	121	66-713	279
65-384	273	65-473	276	65-574	277	65-774H	267	660404C	127	66-760	280
65-385	273	65-474	276	65-575	277	65-775	267	660406C	127	66-761	280
65-386	273	65-475	276	65-576	277	65775API	268	660602	121	66-762	280
65-387	273	65-476	276	65-577	277	65-775H	267	660602C	127	66-763	280
65-388	273	65-477	276	65-578	277	65-776	267	660604	121	66-764	280
65-390	271	65-478	276	65-583	277	65776API	268	660604C	127	66-765	280
65-391	271	65-479	276	65-584	277	65-776H	267	660606	121	66-766	280
65-392	271	65-480	276	65-585	277	65-777	267	660606C	127	66-767	280
65-393	271	65-481	276	65-586	277	65777API	268	660608C	127	66-768	280
65-394	271	65-482	276	65-587	277	65-777H	267	660802C	127	66-769	280
65-395	271	65-486	274	65-588	277	65-778	267	660804	121	66-770	280
65-396	271	65-491	274	65-600	276	65778API	268	660804C	127	66-771	280
65-397	271	65-500	275	65-601	276	65-778H	267	660806	121	66-772	280
65-398	271	65-501	275	65-602	276	65-779	267	660806C	127	66-773	280
65-399	271	65-502	275	65-603	276	65779API	268	660808	121	66-774	280
65-400	271	65-503	275	65-604	276	65-779H	267	660808C	127	66-775	280
65-401	271	65-504	275	65-605	276	65-780	267	66-470	279	66-776	280
65-410	274	65-505	275	65-606	276	65780API	268	66-471	279	66-777	280
65-411	274	65-506	275	65-607	276	65-780H	267	66-472	279	66-778	280
65-412	274	65-507	275	65-608	276	65-781	267	66-473	279	67-470	279
65-413	274	65-508	275	65-609	276	65781API	268	66-474	279	67-471	279
65-414	274	65-509	275	65-610	276	65-781H	267	66-475	279	67-472	279
65-415	274	65-510	275	65-611	276	65-782	267	66-476	279	67-473	279
65-416	274	65-511	275	65-621	278	65-783	267	66-477	279	67-474	279
65-417	274	65-512	275	65-622	278	65783API	268	66-478	279	67-475	279
65-418	274	65-513	275	65-623	278	65784API	268	66-500	279	67-476	279
65-419	274	65-514	275	65-650	276	65-963	277	66-501	279	67-477	279
65-420	274	65-515	275	65-651	276	65-964	277	66-502	279	67-500	279
65-421	274	65-516	275	65-652	276	65-965	277	66-503	279	67-501	279
65-422	274	65-517	275	65-653	276	65-966	277	66-504	279	67-502	279
65-430	274	65-518	275	65-654	276	65-967	277	66-505	279	67-503	279
65-431	274	65-519	275	65-655	276	65-968	277	66-506	279	67-504	279
65-432	274	65-520	275	65-656	276	65-969	277	66-507	279	67-505	279
65-433	274	65-521	275	65-657	276	65-970	277	66-508	279	67-506	279
65-434	274	65-522	275	65-658	276	65-971	277	66-509	279	67-507	279
65-435	274	65-523	275	65-659	276	66000	313	66-510	279	67-508	279
65-436	274	65-524	275	65-660	276	66001	313	66-511	279	67-509	279
65-437	274	65-525	275	65-661	276	6600-10	416	66-512	279	67-510	279
65-438	274	65-526	275	65-662	276	6600-12	416	66-513	279	67-511	279
65-439	274	65-527	275	65-664	276	6600-16	416	665302C	127	67-512	279
65-440	274	65-528	275	65-692	278	66002	313	665304C	127	67-513	279
65-441	274	65-529	275	65-693	278	6600-20	416	66-630	280	67-514	279
65-442	274	65-530	275	65-694	278	66003	313	66-631	280	67-630	280
65-443	274	65-531	275	65-695	278	66004	313	66-632	280	67-631	280
65-444	274	65-532	275	65-696	278	6600-4-4	416	66-633	280	67-632	280
65-445	274	655320	120	65-697	278	66005	313	66-634	280	67-633	280
65-446	274	655320C	127	65-703	277	66006	313	66-635	280	67-634	280
65-447	274	65-533	275	65-704	277	6600-6-6	416	66-636	280	67-635	280
65-448	274	65-534	275	65-705	277	66007	313	66-637	280	67-636	280
65-449	274	65-535	275	65-706	277	66008	313	66-638	280	67-637	280
65-450	274	65-537	275	65-707	277	6600-8-8	416	66-653	280	67-638	280
65-451	274	65-538	275	65-708	277	66009	313	66-654	280	67-653	280
65-452	274	65-539	275	65-721	272	66010	313	66-655	280	67-654	280
65-453	274	65-540	275	65-733	273	66011	313	66-656	280	67-655	280
65-454	274	65-541	275	65-770	267	66012	313	66-657	280	67-656	280
65-456	274	65-542	275	65770API	268	66013	313	66-658	280	67-657	280
65-457	274	65-543	275	65-770H	267	66-015	311	66-670	280	67-658	280
65-458	274	65-544	275	65-771	267	66-015	313	66-671	280	67-669	280

6503-4-4

NUMERICAL INDEX

65-775

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
67-670	280	680402	121	6900-O-4-2	418	691008SC	128	69-605	282	7022-10-8	425
67-671	280	680402C	128	6900-O-4-4	418	69-101	281	69-606	282	7022-12-12	425
67-672	280	680404	121	6900-O-6-4	418	69-102	281	69-607	282	7022-16-16	425
67-700	279	680404C	128	6900-O-6-6	418	69-103	281	69-608	282	7022-4-2	425
67-701	279	680406	121	6900-O-6-8	418	69-104	281	7000-10-12	423	7022-4-4	425
67-702	279	680406C	128	6900-O-8-12	418	69-105	281	7000-10-8	423	7022-6-6	425
67-703	279	680421	121	6900-O-8-6	418	69-106	281	7000-12-12	423	7022-8-8	425
67-704	279	6804-NWO-10	417	6900-O-8-8	418	69-107	281	7000-12-8	423	7025-10-22	426
67-705	279	6804-NWO-12	417	6901-NWO-10-6	418	69-108	281	7000-16-16	423	7025-12-27	426
67-707	279	6804-NWO-16	417	6901-NWO-10-8	418	691208	122	7000-20-20	423	7025-16-33	426
67-708	279	6804-NWO-4	417	6901-NWO-12-12	418	691208S	122	7000-4-2	423	7025-4-10	426
67-709	279	6804-NWO-6	417	6901-NWO-12-6	418	691208SC	128	7000-4-4	423	7025-4-12	426
67-711	279	6804-NWO-8	417	6901-NWO-12-8	418	691212	122	7000-6-4	423	7025-5-12	426
67-712	279	6805-NWO-10-8	417	6901-NWO-16-12	418	691212S	122	7000-6-6	423	7025-6-14	426
67-713	279	6805-NWO-12-		6901-NWO-16-16	418	69-161	281	7000-6-8	423	7025-6-16	426
67-760	280	12	417	6901-NWO-20-20	418	69-162	281	7000-8-12	423	7025-8-16	426
67-761	280	6805-NWO-12-8	417	6901-NWO-4-4	418	69-163	281	7000-8-6	423	7042-12-12	425
67-762	280	6805-NWO-16-		6901-NWO-6-4	418	69-164	281	7000-8-8	423	7042-16-16	425
67-763	280	16	417	6901-NWO-6-6	418	69-165	281	7002-10-8	424	7042-2-2	425
67-764	280	6805-NWO-4-4	417	6901-NWO-6-8	418	69-166	281	7002-12-12	424	7042-4-2	425
67-765	280	6805-NWO-6-6	417	6901-NWO-8-12	418	69-167	281	7002-12-16	424	7042-4-4	425
67-766	280	6805-NWO-8-8	417	6901-NWO-8-4	418	69-168	281	7002-16-16	424	7042-6-6	425
67-767	280	680602	121	6901-NWO-8-6	418	69-181	281	7002-4-2	424	7042-8-8	425
67-768	280	680602C	128	6901-NWO-8-8	418	69-182	281	7002-4-4	424	7045-12-27	426
67-769	280	680604	121	6902-NWO-10-8	419	69-183	281	7002-4-6	424	7045-16-33	426
67-770	280	680604C	128	6902-NWO-12-12	419	69-184	281	7002-4-8	424	7045-2-10	426
67-771	280	680606	121	6902-NWO-12-8	419	69-185	281	7002-6-4	424	7045-4-12	426
67-772	280	680606C	128	6902-NWO-16-16	419	69-186	281	7002-6-6	424	7045-4-14	426
67-773	280	680608	121	6902-NWO-4-4	419	69-187	281	7002-6-8	424	7045-6-12	426
67-774	280	680608C	128	6902-NWO-6-4	419	69-188	281	7002-8-12	424	7045-6-16	426
67-775	280	6806-NWO-12-12	418	6902-NWO-6-6	419	69-252	281	7002-8-6	424	7045-6-18	426
67-776	280	6806-NWO-16-16	418	6902-NWO-8-8	419	69-253	281	7002-8-8	424	7045-8-16	426
67-777	280	6806-NWO-4-4	418	690302	122	69-254	281	700402	123	7045-8-18	426
67-778	280	6806-NWO-6-6	418	690402	122	69-255	281	700402SC	128	7045-8-22	426
6801-NWO-6-8	417	6806-NWO-8-8	418	690402S	122	69-256	281	700404	123	705302C	128
6801-NWO-10	417	680804	121	690402SC	128	69-257	281	700404S	123	705304C	128
6801-NWO-10-8	417	680804C	128	690404	122	69-258	281	700404SC	128	710402	123
6801-NWO-12	417	680806	121	690404S	122	69-411	281	700406	123	710402S	124
6801-NWO-12-10	417	680806C	128	690404SC	128	69-412	281	700406SC	128	710402SC	129
6801-NWO-12-16	417	680808	121	690406	122	69-413	281	7005-10-18	425	710404	123
6801-NWO-16	417	680808C	128	690406S	122	69-414	281	7005-10-20	425	710404S	124
6801-NWO-20	417	6809-NWO-12-12	418	690406SC	128	69-415	281	7005-10-22	425	710404SC	129
6801-NWO-4	417	6809-NWO-4-4	418	690602	122	69-416	281	7005-12-22	425	71040604	123
6801-NWO-4-6	417	6809-NWO-6-6	418	690602S	122	69-417	281	7005-12-27	425	710604	123
6801-NWO-6	417	6809-NWO-8-8	418	690602SC	128	69-418	281	7005-4-10	425	71060404	123
6801-NWO-6-4	417	681006	121	690604	122	69-432	282	7005-4-12	425	71060406	123
6801-NWO-8	417	681006C	128	690604S	122	69-434	282	7005-4-14	425	710604S	124
6801-NWO-8-10	417	681008	121	690604SC	128	69-435	282	7005-4-18	425	710604SC	129
6801-NWO-8-12	417	681008C	128	690606	122	69-438	282	7005-5-12	425	710606	123
6801-NWO-8-6	417	681208	121	690606S	122	69-441	282	7005-5-14	425	710606S	124
6802-NWO-10	417	681208C	128	690606SC	128	69-442	282	7005-6-14	425	710606SC	129
6802-NWO-10-8	417	681212	121	690608	122	69-471	282	7005-6-16	425	710608	123
6802-NWO-12	417	6815-NWO-10-10	418	690608S	122	69-472	282	7005-6-18	425	710608SC	129
6802-NWO-16	417	6815-NWO-12-12	418	690608SC	128	69-473	282	7005-8-16	425	710804C	129
6802-NWO-2	417	6815-NWO-4-4	418	690804	122	69-474	282	7005-8-18	425	710804S	124
6802-NWO-20	417	6815-NWO-6-6	418	690804S	122	69-475	282	7005-8-22	425	710806	123
6802-NWO-4	417	6815-NWO-8-8	418	690804SC	128	69-476	282	700602	123	710806S	124
6802-NWO-6	417	685301C	128	690806	122	69-477	282	700602C	128	710806SC	129
6802-NWO-8	417	685302C	128	690806S	122	69-478	282	700604	123	710808C	129
6802-NWO-8-10	417	685304C	128	690806SC	128	695302	122	700604SC	128	710808S	124
6802-NWO-8-6	417	685320	121	690808	122	695322	122	700606	123	715301C	129
680302	121	685321	121	690808S	122	695322S	122	700606SC	128	715302C	129
6803-NWO-10	417	685322	121	690808SC	128	695322SC	128	700608SC	128	715304C	129
6803-NWO-12	417	6900-O-10-12	418	691006	122	69-600	282	700804C	128	7200-12-12	423
6803-NWO-16	417	6900-O-10-8	418	691006S	122	69-601	282	700806	123	7200-16-16	423
6803-NWO-4	417	6900-O-12-12	418	691006SC	128	69-602	282	700806SC	128	7200-4-2	423
6803-NWO-6	417	6900-O-12-8	418	691008	122	69-603	282	700808	123	7200-4-4	423
6803-NWO-8	417	6900-O-16-16	418	691008S	122	69-604	282	700808SC	128	7200-6-4	423

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
7200-6-6.....	423	73-007.....	314	73-204B.....	338	73-956.....	247	770806C.....	129
7200-6-8.....	423	73-008.....	314	73-204G.....	338	73-957.....	27	77-100.....	288
7200-8-6.....	423	73-009.....	314	73-204N5.....	337	73-957.....	247	771004C.....	129
7200-8-8.....	423	73-010.....	314	73-204U.....	338	73-958.....	27	77-101.....	288
7202-NWO-10-8.....	424	73-011.....	314	73-204Y.....	338	73-958.....	247	77-102.....	288
7202-NWO-12-12.....	424	73-023.....	314	73-205B.....	338	73-959.....	27	77-104.....	288
7202-NWO-12-16.....	424	73-024.....	314	73-205B5.....	338	73-959.....	247	77-107.....	288
7202-NWO-16-16.....	424	73-025.....	314	73-205G.....	338	73-960.....	27	77-108.....	288
7202-NWO-4-2.....	424	73-026.....	314	73-205R.....	338	73-960.....	247	77-110.....	288
7202-NWO-4-4.....	424	73-027.....	314	73-205U.....	338	73-961.....	247	77-113.....	288
7202-NWO-6-4.....	424	73-028.....	314	73-205Y.....	338	73-970.....	27	77-114.....	288
7202-NWO-6-6.....	424	73-029.....	314	73-206B.....	338	73-970.....	248	77-116.....	288
7202-NWO-6-8.....	424	73-030.....	314	73-206B1.....	338	73-971.....	27	77-124.....	288
7202-NWO-8-12.....	424	73-031.....	314	73-206B5.....	338	73-971.....	248	77-125.....	288
7202-NWO-8-6.....	424	73-033.....	314	73-206G.....	338	73-972.....	27	77-126.....	288
7202-NWO-8-8.....	424	73-035.....	314	73-206N1.....	337	73-972.....	248	77-127.....	288
720302.....	124	73-036.....	314	73-206N5.....	337	73-973.....	27	77-128.....	288
720402.....	124	73-037.....	314	73-206R.....	338	73-973.....	248	77-129.....	288
720402S.....	125	73-038.....	314	73-206R5.....	338	73-974.....	27	77-130.....	288
720402SC.....	129	73-039.....	314	73-206U.....	338	73-974.....	248	77-131.....	288
720404.....	124	73-040.....	314	73-206U5.....	338	73-975.....	27	77-132.....	288
720404S.....	125	73-041.....	314	73-206W.....	338	73-975.....	248	77-139.....	288
720404SC.....	129	73-043.....	314	73-206Y.....	338	73-976.....	27	77-140.....	288
720406SC.....	129	73-044.....	314	73-207B.....	338	73-976.....	248	77-141.....	288
7205-NWO-10-18.....	426	73-045.....	314	73-207B5.....	338	73-977.....	27	77-142.....	288
7205-NWO-4-10.....	426	73-046.....	314	73-207G.....	338	73-977.....	248	77-143.....	288
7205-NWO-4-12.....	426	73-047.....	314	73-207N5.....	337	73-979.....	27	77-144.....	288
7205-NWO-4-14.....	426	73-048.....	314	73-207R.....	338	73-979.....	248	77-145.....	288
7205NWO-5-12.....	426	73-049.....	314	73-207U.....	338	73-980.....	27	77-154.....	288
7205-NWO-6-14.....	426	73-050.....	314	73-207W.....	338	73-980.....	248	77-155.....	288
7205-NWO-6-16.....	426	73-051.....	314	73-207W5.....	338	73-981.....	27	77-156.....	288
7205-NWO-8-16.....	426	73-056.....	314	73-207Y.....	338	73-981.....	248	77-157.....	288
7205-NWO-8-18.....	426	73-057.....	314	73-208B.....	338	73-982.....	27	77-158.....	288
7205-NWO-8-22.....	426	73-058.....	314	73-230B.....	339	73-982.....	248	77-159.....	288
720602S.....	125	73-059.....	314	73-231B.....	339	73-983.....	312	77-160.....	288
720604.....	124	73-060.....	314	73-232B.....	339	73-984.....	312	77-161.....	289
72060404.....	124	73-063.....	314	73-232N5.....	339	73-985.....	312	77-162.....	289
720604S.....	125	73-064.....	314	73-233B.....	339	73-986.....	312	77-163.....	289
720604SC.....	129	73-065.....	314	73-238B.....	339	73-987.....	312	77-164.....	289
720606.....	124	73-066.....	314	73-238U.....	339	7420-10-8.....	423	77-165.....	289
720606S.....	125	73-067.....	314	73-341B.....	336	7420-12-12.....	423	77-166.....	289
720606SC.....	129	73-068.....	314	73-341R.....	336	7420-12-8.....	423	77-167.....	289
720608C.....	129	73-069.....	314	73-341U.....	336	7420-16-12.....	423	77-168.....	289
720804.....	124	73-070.....	314	73-343B.....	336	7420-16-16.....	423	77-169.....	289
720804C.....	129	73-071.....	314	73-343R.....	336	7420-2-2.....	423	77-170.....	289
720804S.....	125	73-200B.....	338	73-343U.....	336	7420-4-2.....	423	77-177.....	289
720806.....	124	73-200N5.....	337	73-345B.....	336	7420-6-4.....	423	77-178.....	289
720806S.....	125	73-200U.....	338	73-345R.....	336	7420-6-6.....	423	77-179.....	289
720806SC.....	129	73-201B.....	338	73-345U.....	336	7420-8-6.....	423	77-180.....	289
720808.....	124	73-201G.....	338	73-346B.....	336	7420-8-8.....	423	77-181.....	289
720808S.....	125	73-201U.....	338	73-346R.....	336	7425-10.....	424	77-182.....	289
720808SC.....	129	73-203B.....	338	73-346U.....	336	7425-12.....	424	77-183.....	289
721006C.....	129	73-203B1.....	338	73-670.....	312	7425-16.....	424	77-184.....	289
72100808.....	124	73-203B5.....	338	73-671.....	312	7425-2.....	424	77-185.....	289
721008C.....	129	73-203G.....	338	73-672.....	312	7425-4.....	424	77-201.....	289
7240-10.....	424	73-203G1.....	338	73-673.....	312	7425-8.....	424	77-202.....	289
7240-12.....	424	73-203G5.....	338	73-674.....	312	7520-10-10.....	423	77-203.....	289
7240-16.....	424	73-203N1.....	337	73-951.....	27	7520-12-12.....	423	77-204.....	289
7240-4.....	424	73-203N5.....	337	73-951.....	247	7520-2-2.....	423	77-205.....	289
7240-6.....	424	73-203O.....	338	73-952.....	27	7520-4-4.....	423	77-206.....	289
7240-8.....	424	73-203R.....	338	73-952.....	247	7520-6-6.....	423	77-207.....	289
725301C.....	129	73-203R1.....	338	73-953.....	27	7520-8-8.....	423	77-208.....	289
725302C.....	129	73-203R5.....	338	73-953.....	247	770402.....	125	77-209.....	289
725304C.....	129	73-203U.....	338	73-954.....	27	770402C.....	129	77-210.....	289
73-003.....	314	73-203U1.....	338	73-954.....	247	770404.....	125	77-219.....	289
73-004.....	314	73-203U5.....	338	73-955.....	27	770404C.....	129	77-220.....	289
73-005.....	314	73-203W.....	338	73-955.....	247	770604.....	125	77-222.....	289
73-006.....	314	73-203Y.....	338	73-956.....	27	770604C.....	129	77-223.....	289

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
77-363	290	7802-6	424	80-511	367	841-050	325	847-275	326	86-045SS	346
77-365	290	7802-8	424	80-512	367	841-175	325	847-300	326	86-046	346
77-393	291	7825-12	424	80-513	367	841-200	325	847-350	326	86-046SS	346
77-394	291	7825-16	424	80-514	367	841-250	325	847-400	326	86-047	346
77-395	291	7825-2	424	80-515	367	841-300	325	847-500	326	860604	125
77-398	291	7825-4	424	80-516	367	841-350	325	847-600	326	860604C	130
77-401	291	7825-6	424	80-601	368	841-400	325	848-200	326	860606	125
77-402	292	7825-8	424	80-602	368	841-450	325	848-225	326	860606C	130
77-406	292	80-001	367	80-603	368	841-500	325	848-250	326	860806C	130
77-410	292	80-002	367	80-604	368	842-010	324	848-275	326	860808	125
77-413	292	80-003	367	80-605	368	842-012	324	848-300	326	860808C	130
77-419	292	80-004	367	80-606	368	842-016	324	848-350	326	865304C	130
77-420	292	80-005	367	80-611	368	842-020	324	848-400	326	87001	359
77-423	292	80-006	367	80-612	368	842-024	324	848-500	326	87002	359
77-424	292	80-007	367	80-613	368	842-200	324	848-600	326	87003	359
77-429	292	80-020	367	80-614	368	842-250	324	848-700	326	87004	359
77-430	292	80-031	367	80-615	368	842-300	324	8555-H-10	426	87008	359
77-431	292	80-032	367	80-616	368	842-350	324	8555-H-12	426	87009	359
77-432	292	80-033	367	820400	125	842-400	324	8555-H-14	426	87020	359
77-433	292	80-034	367	820400C	130	842-450	324	8555-H-16	426	87021	359
77-434	292	80-035	367	820600	125	842-500	324	8555-H-18	426	87023	359
77-435	292	80-036	367	820600C	130	843-321	324	8555-H-20	426	87-400	364
77-436	292	80-061	368	820800	125	843-382	324	8555-H-22	426	87-402	364
77-437	292	80-062	368	820800C	130	843-388	324	8555-H-26	426	87-404	364
77-453	292	80-063	368	821000	125	843-450	324	8555-H-30	426	87-406	364
77-454	292	80-064	368	821000C	130	843-461	324	8555-P-10	426	87-408	365
77-455LF	292	80-065	368	825320C	130	843-475	324	8555-P-12	426	87-410	365
77-456LF	292	80-066	368	830808	125	843-525	324	8555-P-14	426	87-412	365
77-457LF	292	80-067	368	840-1088	322	843-588	324	8555-P-16	426	87-414	366
77-461	292	80-068	368	840-131	322	844-213	323	8555-P-18	426	87-416	366
77-462	292	80-069	368	840-150	322	844-225	323	8555-P-20	426	87-418	366
77-463	292	80-080	368	840-175	322	844-238	323	8555-P-22	426	87-420	366
77-464	292	80-081	368	840-188	322	844-250	323	8555-P-26	426	87-422	366
77-467	293	80-100	368	840-200	322	844-263	323	8555-P-30	426	88-024	332
77-468	293	80-101	368	840-225	322	844-275	323	86-001	347	88-028	332
77-470	293	80-102	368	840-238	322	844-300	323	86-002	347	88-032	332
77-473	293	80-103	368	840-250	322	844-306	323	86-005	347	88-038	332
77-481	293	80-104	368	840-256	322	844-313	323	86-006	347	880402C	130
77-483	293	80-105	368	840-263	322	844-325	323	86-012	347	880406C	130
77-485	293	80-201	368	840-275	322	844-338	323	86-013	347	880408C	130
77-486	293	80-202	368	840-288	322	844-350	323	86-017	347	88-050	332
77-488	293	80-203	368	840-300	322	844-356	323	86-018	347	88-056	332
77-489	293	80-204	368	840-312	322	844-363	323	86-020	347	88-065	332
77-490	293	80-205	368	840-325	322	844-375	323	86-022	347	88-075	332
77-493	293	80-206	368	840-350	322	844-406	323	86-030	346	88-085	332
77-496	293	80-207	368	840-375	322	844-413	323	86-030RG	347	88-095	332
77-498	293	80-208	368	840-382	322	844-425	323	86-030SS	346	88-112	332
77-499	293	80-209	368	840-400	322	844-456	323	86-031	346	89-024	332
77-501	293	80-301	367	840-425	322	844-500	323	86-031RG	347	89-028	332
77-504	293	80-302	367	840-450	322	844-525	323	86-031SS	346	89-032	332
77-506	293	80-303	367	840-475	322	844-600	323	86-032	346	89-038	332
77-507	293	80-304	367	840-500	322	844-625	323	86-035	346	89-044	332
77-508	293	80-305	367	840-525	322	845-200	326	86-035RG	347	89-050	332
77-514	293	80-306	367	840-550	322	845-300	326	86-035SS	346	89-056	332
77-518	293	80-307	367	840-575	322	845-350	326	86-036	346	89-065	332
77-519	293	80-331	367	840-600	322	845-400	326	86-036RG	347	89-075	332
77-522	293	80-332	367	840-625	322	845-500	326	86-036SS	346	89-085	332
77-523	293	80-333	367	840-650	322	845-500SS	326	86-037	346	89-095	332
77-543	293	80-334	367	840-675	322	845-600	326	86-040	346	89-112	332
77-547	293	80-335	367	840-700	322	846-200	326	860402	125	899000	212
77-548	293	80-336	367	840-750	322	846-250	326	860402C	130	899001	212
77-549	293	80-463	368	840-800	322	846-275	326	860404	125	899002	212
77-606LF	292	80-501	367	840-850	322	846-300	326	860404C	130	899003	212
77-607LF	292	80-502	367	840-888	322	846-350	326	86-040SS	346	899004	212
77-608LF	292	80-503	367	841-004	325	846-400	326	86-041	346	899005	212
7802-12	424	80-504	367	841-005	325	846-500	326	86-041SS	346	899050	212
7802-16	424	80-505	367	841-040	325	847-200	326	86-042	346	899051	212
7802-4	424	80-506	367	841-045	325	847-250	326	86-045	346	899052	212

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
944-431	196	949-102	199	949-431	203	95-314	333	96027	332	972-187	341
944-431LF	172	949-103	199	949-432	203	95-315	333	96032	332	972-190	341
944-432	196	949-104	199	949-441	206	95-316	333	96040	332	972-191	341
944-432LF	172	949-105	199	949-442	206	95-317	333	96050	332	972-192	341
944-433	196	949-106	199	949-443	206	95-318	333	96060	332	972-193	341
944-433LF	172	949-107	199	949-444	206	95-319	333	96070	332	972-194	341
944-434	196	949-108	199	949-445	206	95-320	333	96080	332	972-195	341
944-434LF	172	949-111	209	949-446	206	95-321	333	96090	332	973-200	337
944-435	196	949-112	209	949-447	206	95-322	333	96100	332	973-201	337
944-435LF	172	949-113	209	949-448	206	95-323	333	96110	332	973-203	337
947-055	191	949-114	209	949-451	205	95-324	333	96120	332	973-204	337
947-055LF	191	949-115	209	949-452	205	95-325	333	96130	332	973-205	337
947-103	183	949-116	209	949-453	205	95-326	333	96140	332	973-206	337
947-104	183	949-117	209	949-454	205	95-327	333	96150	332	973-207	337
947-105	183	949-118	209	949-455	205	95-328	333	96160	332	973-208	337
947-111	183	949-121	208	949-471	205	95-329	333	96-301	333	973-210	337
947-112	183	949-122	208	949-472	205	95-330	333	96-302	333	973-211	337
947-113	183	949-123	208	949-473	205	95-331	333	96-303	333	973-215	340
947-125	184	949-124	208	949-474	205	95402	333	96-304	333	973-216	340
947-126	184	949-125	208	949-475	205	95404	333	96-305	333	973-217	340
947-133	191	949-126	208	949-481	206	95406	333	96-306	333	973-219	340
947-134	191	949-127	208	949-482	206	95408	333	96-307	333	973-221	340
947-140	196	949-128	208	949-483	206	95410	333	96-308	333	973-223	340
947-141	196	949-161	200	949-484	206	95414	333	96-310	333	973-224	340
947-142	196	949-162	200	949-485	206	95418	333	96-312	333	973-226	339
947-143	196	949-163	200	949-486	206	95422	333	96-314	333	973-230	339
947-144	196	949-164	200	949-487	206	95424	333	96-316	333	973-231	339
947-145	196	949-165	200	949-488	206	95427	333	96-318	333	973-232	339
948-101	180	949-166	200	949-521	207	95432	333	96-320	333	973-233	339
948-102	180	949-167	200	949-522	207	95433	333	96-322	333	973-234	339
948-103	180	949-168	200	949-523	207	95434	333	96-323	333	973-238	339
948-104	180	949-170	200	949-524	207	95450	388	970-300	232	973-252	340
948-105	180	949-171	198	949-525	207	95451	388	970-301	232	973-253	340
948-106	180	949-172	198	949-526	207	95452	388	970-302	232	973-255	340
948-107	180	949-173	198	949-527	207	95504	333	970-303	232	973-262	340
948-108	180	949-174	198	949-528	207	95506	333	970-304	232	973-323	339
948-131	184	949-175	198	9508-12	423	95508	333	970-305	232	973-325	339
948-132	184	949-176	198	9508-16	423	95510	333	970-306	232	973-326	339
948-133	184	949-177	198	9508-2	423	95512	333	970-307	232	973-327	339
948-134	184	949-178	198	9508-4	423	95514	333	970-308	232	973-329	339
948-135	184	949-180	200	9508-6	423	95516	333	970-309	232	973-332	339
948-141	184	949-253	207	9508-8	423	95518	333	970-310	232	973-334	339
948-142	184	949-254	207	9522-H-12	425	95522	333	970-311	232	973-341	336
948-143	184	949-255	207	9522-H-16	425	95523	333	970-312	232	973-343	336
948-144	184	949-256	207	9522-H-2	425	95524	333	970-313	232	973-345	336
948-170	179	949-257	207	9522-H-4	425	95601	389	970-314	232	973-346	336
948-170L	182	949-258	207	9522-H-6	425	95602	389	970-330	232	973-567	257
948-170T	181	949-303	207	9522-H-8	425	95603	389	970-331	232	973-568	257
948-171	179	949-304	207	9522-P-12	425	95604	389	970-332	232	973-569	257
948-171L	182	949-305	207	9522-P-16	425	95605	389	970-333	232	973-600	312
948-171T	181	949-306	207	9522-P-2	425	95606	389	970-700	232	973-601	312
948-172	179	949-307	207	9522-P-4	425	95610	389	970-701	232	973-602	312
948-172L	182	949-308	207	9522-P-6	425	95611	389	970-702	232	973-603	312
948-172T	181	949-353	207	9522-P-8	425	95612	389	970-703	232	973-604	312
948-173	179	949-354	207	95-300	333	95613	389	970-704	232	973-605	312
948-173L	182	949-355	207	95-301	333	95620	390	970-705	232	973-606	312
948-173T	181	949-356	207	95-302	333	95621	390	970-706	232	973-607	312
948-174	179	949-357	207	95-303	333	95622	390	970-707	232	973-620	312
948-174L	182	949-358	207	95-304	333	95623	390	972-171	341	973-621	312
948-174T	181	949-401	204	95-305	333	95624	390	972-172	341	973-622	312
948-175	179	949-402	204	95-306	333	95625	390	972-173	341	973-623	312
948-175L	182	949-403	204	95-307	333	95626	390	972-180	341	973-624	312
948-176	179	949-404	204	95-308	333	95627	390	972-181	341	973-625	312
948-176L	182	949-405	204	95-309	333	95628	390	972-182	341	973-626	312
948-176T	181	949-406	204	95-310	333	95631	373	972-183	341	973-627	312
948-177	179	949-407	204	95-311	333	95640	373	972-184	341	973-628	312
948-177L	182	949-408	204	95-312	333	95641	373	972-185	341	973-650	312
949-101	199	949-430	203	95-313	333	96022	332	972-186	341	973-651	312

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
973-652	312	973-906	233	973-990	27	991-250	369	DX144060MG	343	F-18	329
973-653	312	973-907	233	973-990	247	991-251	369	DX144070MG	343	F-20	329
973-654	312	973-908	233	973-991	27	991-259	369	DX250030	343	F-3	329
973-655	312	973-909	233	973-991	247	995-210	369	DX250040	343	F-311	329
973-656	312	973-910	233	974-264	233	995-211	369	DX250050	343	F-38	331
973-657	312	973-911	233	974-265	233	995-212	369	DX250060	343	F-4	329
973-658	312	973-912	233	974-266	233	995-213	369	DX251530	343	F-40	331
973-659	312	973-913	233	974-267	233	995-214	369	DX251540	343	F-5	329
973-667	257	973-914	233	979-215	167	995-215	369	DX251550	343	F-6	329
973-668	257	973-925	233	982-107	370	995-216	369	DX251560	343	F-7	329
973-669	257	973925SS	234	982-108	370	995-217	369	DX252530	343	F-8	329
973-700	312	973926SS	234	982-109	370	99-803	350	DX252540	343	F-9	329
973-701	312	973-927	233	982-110	370	99-804	350	DX252550	343	FF-1012F	428
973-702	312	973927SS	234	982-120	370	99-812	349	DX252560	343	FF-1234-F	428
973-703	312	973-928	233	982-121	370	99-813	349	DX254030	343	FF-1234-M	428
973-704	312	973928SS	234	982-122	370	99-816	350	DX254040	343	FF-12-F	428
973-705	312	973-929	233	982-125	370	99-817	350	DX254050	343	FF-12-M	428
973-706	312	973-930	233	982-126	370	99-825	349	DX254060	343	FF-14-F	428
973-707	312	973930SS	234	982-127	370	99-826	349	DX256500	343	FF-14-M	428
973-708	312	973947SS	234	982-130	370	99-828	350	DX259520	343	FF-1-F	428
973-850	312	973-948	233	982-131	370	99-830	350	DX259530	343	FF-1-M	428
973-851	312	973948SS	234	982-132	370	99-841	349	DX259540	343	FF-3416-F	428
973-852	312	973-949	233	982-135	370	99-843	349	DX259550	343	FF-3416-M	428
973-853	312	973949SS	234	982-136	370	ANV-12-F	427	DX259560	343	FF-34-F	428
973-854	312	973-951	27	982-137	370	ANV-12-M	427	DX259570	343	FF-34-M	428
973-855	312	973-951	247	982-138	370	ANV-14-F	427	DX35TR25	344	FF-3812-F	428
973-856	312	973-952	27	982140	370	ANV-14-M	427	DX35TR38	344	FF-3812-M	428
973-857	312	973-952	247	983100	370	ANV-1-F	427	DX4324	345	FF-38-F	428
973-858	312	973-953	27	983101	370	ANV-1-M	427	DX4336	345	FF-38-M	428
973-859	312	973-953	247	983102	370	ANV-34-F	427	DX4424	345	FLJS-203	330
973-861	312	973-954	27	983110	370	ANV-34-M	427	DX4436	345	FLJS-204	330
973-862	312	973-954	247	983111	370	ANV-38-F	427	DX4524VG	345	FLJS-205	330
973-863	312	973-955	27	983115	370	ANV-38-M	427	DX4536VG	345	FLJS-207	330
973-864	312	973-955	247	983116	370	AR2	358	DX5005	345	FLJS-208	330
973-865	312	973-956	27	983120	370	BG-100	311	DX5006	345	FLJS-209	330
973-866	312	973-956	247	983121	370	BG-125	311	DX5022	345	FS-10	329
973-867	312	973-957	27	983125	370	BG-150	311	DX5090	345	FS-11	329
973-868	312	973-957	247	983126	370	BG-200	311	DX5190	345	FS-12	329
973-869	312	973-958	27	983130	370	BG-250	311	DX5197	345	FS-14	329
973-870	312	973-958	247	98-801	350	BG-300	311	DX60021	344	FS-16	329
973-871	312	973-959	27	98-802	350	BG-400	311	DX60021V	344	FS-18	329
973-872	312	973-959	247	98-810	349	BG-50	311	DX60022	344	FS-20	329
973-873	312	973960LF	234	98-811	349	BG-500	311	DX60022V	344	FS-24	329
973-874	312	973961LF	234	98-812	349	BG-600	311	DX60023	344	FS2500-10-10	421
973-875	312	973962LF	234	98-814	350	BG-75	311	DX60023V	344	FS2500-12-12	421
973-876	312	973963LF	234	98-815	350	BG-800	311	DX60092	344	FS2500-16-16	421
973-877	312	973-965	233	98-823	349	CS-3751	330	DX722530	344	FS2500-4-4	421
973-878	312	973965LF	234	98-824	349	CS-5001	330	DX722540	344	FS2500-6-6	421
973-879	312	973-966	233	98-825	349	CS-6251	330	DX722550	344	FS2501-12-12	421
973-880	312	973966LF	234	98-828	350	CS-7501	330	DX722560	344	FS2501-16-16	421
973-881	312	973-967	233	98-830	350	DX140030MG	343	DX723230	344	FS2501-20-20	421
973-884	312	973967LF	234	98-840	349	DX140040MG	343	DX723240	344	FS2501-4-4	421
973-885	312	973969LF	234	98-841	349	DX140050MG	343	DX723250	344	FS2501-6-4	421
973-886	312	973970LF	234	98-842	350	DX140060MG	343	DX723260	344	FS2501-6-6	421
973-887	312	973971LF	234	990-570	340	DX140070MG	343	DX724030	344	FS2501-8-6	421
973-888	312	973-975	233	990-571	340	DX141530MG	343	DX724040	344	FS2501-8-8	421
973-890	312	973975LF	234	990-781	257	DX141540MG	343	DX724050	344	FS2503-12-12	421
973-891	312	973-976	233	990-782	257	DX141550MG	343	DX724060	344	FS2503-16-16	421
973-892	312	973976LF	234	990-783	257	DX141560MG	343	DX725030	344	FS2503-4-4	421
973-893	312	973-977	233	990-784	257	DX141570MG	343	DX725040	344	FS2503-6-6	421
973-894	312	973-978	233	990-785	257	DX142530MG	343	DX725050	344	FS2503-8-8	421
973-895	312	973-979	233	990-786	257	DX142540MG	343	DX725060	344	FS2603-12-12	421
973-900	233	973-980	233	990790	390	DX142550MG	343	F-10	329	FS2603-4-4	421
973-901	233	973980SS	234	990791	390	DX142560MG	343	F-100	331	FS2603-6-6	421
973-902	233	973-981	233	990792	390	DX142570MG	343	F-11	329	FS2603-8-8	421
973-903	233	973-982	233	990793	390	DX144030MG	343	F-12	329	FS-28	329
973-904	233	973982SS	234	990794	390	DX144040MG	343	F-14	329	FS-4	329
973-905	233	973985SS	234	991-249	369	DX144050MG	343	F-16	329	FS-5	329

Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page	Part#	Page
FS-6.....	329	FSO2406-8-4.....	421	GE3L-34-NPT.....	210	LSQ-VEP-24-SF.....	428				
FS6400-O-10-10.....	422	FSO2408-10.....	421	GE3L-38-NPT.....	210	LSQ-VEP-34-PF.....	428				
FS6400-O-10-8.....	422	FSO2408-12.....	421	GT15.....	369	LSQ-VEP-34-SF.....	428				
FS6400-O-12-10.....	422	FSO2408-16.....	421	GT30.....	369	MB40-04.....	431				
FS6400-O-12-12.....	422	FSO2408-20.....	421	GT60.....	369	MB40-06.....	431				
FS6400-O-12-16.....	422	FSO2408-24.....	421	HNV-12-F.....	427	MB40-08.....	431				
FS6400-O-12-8.....	422	FSO2408-4.....	421	HNV-12-F-B.....	427	MB40-12.....	431				
FS6400-O-16-12.....	422	FSO2408-6.....	421	HNV-12-M.....	427	MB40-16.....	431				
FS6400-O-16-16.....	422	FSO2408-8.....	421	HNV-12-M-B.....	427	MFC-12-N.....	431				
FS6400-O-20-20.....	422	FSO304-C-10.....	420	HNV-14-F.....	427	MFC-34-N.....	431				
FS6400-O-24-24.....	422	FSO304-C-12.....	420	HNV-14-F-B.....	427	MFC-38-N.....	431				
FS6400-O-4-4.....	422	FSO304-C-16.....	420	HNV-14-M.....	427	MMFC12NPT.....	430				
FS6400-O-4-6.....	422	FSO304-C-20.....	420	HNV-14-M-B.....	427	MMFC16NPT.....	430				
FS6400-O-6-4.....	422	FSO304-C-24.....	420	HNV-1-F.....	427	MMFC20NPT.....	430				
FS6400-O-6-6.....	422	FSO304-C-4.....	420	HNV-1-F-B.....	427	MMFC4NPT.....	430				
FS6400-O-6-8.....	422	FSO304-C-6.....	420	HNV-1-M.....	427	MMFC6NPT.....	430				
FS6400-O-8-6.....	422	FSO304-C-8.....	420	HNV-1-M-B.....	427	MMFC8NPT.....	430				
FS6402-10-10.....	422	FSO306-12.....	420	HNV-34-F.....	427	MMNV12NPT.....	430				
FS6402-12-12.....	422	FSO306-16.....	420	HNV-34-F-B.....	427	MMNV16NPT.....	430				
FS6402-4-4.....	422	FSO306-4.....	420	HNV-34-M.....	427	MMNV4NPT.....	430				
FS6402-6-6.....	422	FSO306-6.....	420	HNV-34-M-B.....	427	MMNV6NPT.....	430				
FS6402-8-8.....	422	FSO306-8.....	420	HNV-38-F.....	427	MMNV8NPT.....	430				
FS6500-12-12.....	422	FSO318-10.....	419	HNV-38-F-B.....	427	NV-12-F.....	429				
FS6500-4-4.....	422	FSO318-12.....	419	HNV-38-M.....	427	NV-12-M.....	429				
FS6500-6-6.....	422	FSO318-16.....	419	HNV-38-M-B.....	427	NV-14-F.....	429				
FS6500-8-8.....	422	FSO318-20.....	419	K-10.....	329	NV-14-M.....	429				
FS6504-10-10.....	422	FSO318-24.....	419	K-11.....	329	NV-1-F.....	429				
FS6504-16-16.....	422	FSO318-4.....	419	K-12.....	329	NV-1-M.....	429				
FS6504-4-4.....	422	FSO318-6.....	419	K-14.....	329	NV-34-F.....	429				
FS6504-6-6.....	422	FSO318-8.....	419	K-16.....	329	NV-34-M.....	429				
FS6504-8-8.....	422	FSO319-10.....	420	K-18.....	329	NV-38-F.....	429				
FS6801-12-12.....	422	FSO319-12.....	420	K-20.....	329	NV-38-M.....	429				
FS6801-16-16.....	422	FSO319-16.....	420	K-24.....	329	SG300.....	311				
FS6801-20-20.....	422	FSO319-20.....	420	K-28.....	329	SG400.....	311				
FS6801-4-4.....	422	FSO319-24.....	420	K-3.....	329	SG-5000.....	330				
FS6801-6-6.....	422	FSO319-4.....	420	K-311.....	329	SS-3751.....	330				
FS6801-8-6.....	422	FSO319-6.....	420	K-4.....	329	SS-5001.....	330				
FS6801-8-8.....	422	FSO319-8.....	420	K-5.....	329	SS-6251.....	330				
FS6802-10-10.....	422	GB2-20T-SAE+.....	210	K-6.....	329	SS-7501.....	330				
FS6802-12-12.....	422	GB2-24T-SAE+.....	210	K-7.....	329	VG100.....	311				
FS6802-16-16.....	422	GB2-32T-SAE+.....	210	K-8.....	329	VG150.....	311				
FS6802-20-20.....	422	GB3L-20T-SAE+.....	210	K-9.....	329	VG200.....	311				
FS6802-4-4.....	422	GB3L-24T-SAE+.....	210	KS-10.....	329	VG250.....	311				
FS6802-6-6.....	422	GB3L-32T-SAE+.....	210	KS-11.....	329	VG300.....	311				
FS6802-8-8.....	422	GE2-04-SAE.....	210	KS-12.....	329	VG400.....	311				
FS6809-12-12.....	423	GE2-06-SAE.....	210	KS-14.....	329						
FS6809-4-4.....	423	GE2-08-SAE.....	210	KS-16.....	329						
FS6809-6-6.....	423	GE2-112T-NPT.....	210	KS-18.....	329						
FS6809-8-8.....	423	GE2-114T-NPT.....	210	KS-20.....	329						
FS-7.....	329	GE2-12-NPT.....	210	KS-3.....	329						
FS-8.....	329	GE2-12-SAE.....	210	KS-311.....	329						
FS-9.....	329	GE2-14-NPT.....	210	KS-4.....	329						
FSO2403-12-12.....	420	GE2-14-SAE.....	210	KS-5.....	329						
FSO2403-16-16.....	420	GE2-16-SAE.....	210	KS-6.....	329						
FSO2403-4-4.....	420	GE2-1-NPT.....	210	KS-7.....	329						
FSO2403-6-6.....	420	GE2-2T-NPT.....	210	KS-8.....	329						
FSO2403-8-8.....	420	GE2-34-NPT.....	210	KS-9.....	329						
FSO2404-12-12.....	420	GE2-38-NPT.....	210	KZE-B-14-PF.....	429						
FSO2404-16-16.....	420	GE3L-04-SAE.....	210	KZE-B-14-SM.....	429						
FSO2404-4-4.....	420	GE3L-06-SAE.....	210	KZE-B-38-PF.....	429						
FSO2404-6-4.....	420	GE3L-08-SAE.....	210	KZE-B-38-SM.....	429						
FSO2404-6-6.....	420	GE3L-112T-NPT.....	210	LSQ-VEP-12-PF.....	428						
FSO2404-8-4.....	420	GE3L-114T-NPT.....	210	LSQ-VEP-12-SF.....	428						
FSO2404-8-8.....	420	GE3L-12-NPT.....	210	LSQ-VEP-1-PF.....	428						
FSO2406-10-6.....	421	GE3L-12-SAE.....	210	LSQ-VEP-1-SF.....	428						
FSO2406-10-8.....	421	GE3L-14-NPT.....	210	LSQ-VEP-20-PF.....	428						
FSO2406-12-6.....	421	GE3L-16-SAE.....	210	LSQ-VEP-20-SF.....	428						
FSO2406-6-4.....	421	GE3L-1-NPT.....	210	LSQ-VEP-24-PF.....	428						
		GE3L-2T-NPT.....	210								