

# Fittings

Brass - Compression.....	10-1 — 10-3
Brass - Compress-Align .....	10-4 — 10-8
Brass - Drain Cocks/Ground Plug Shutoff .....	10-9 — 10-11
Brass - Dubl-Barb .....	10-12 — 10-15
Brass - 45 Degree Flare.....	10-16 — 10-18
Brass - Garden Hose.....	10-19 — 10-21
Brass - Hose Barb.....	10-22 — 10-25
Brass - Poly-Tite.....	10-26 — 10-30
Brass - Prestolok.....	10-31 — 10-36
Brass - Prestomatic Air Brake Push In .....	10-37 — 10-40
Buttweld - Automatic Buttweld .....	10-41 — 10-47
Buttweld - MiniButtweld.....	10-48 — 10-52
Buttweld - Weld-Lok .....	10-53 — 10-71
Hose - Hydraulic and Pneumatic .....	10-72 — 10-93
Hose - Teflon .....	10-94 — 10-104
Pipe - Brass.....	10-105 — 10-109
Pipe - Instrument.....	10-110 — 10-123
Sanitary - Bevel Seat Fittings.....	10-124 — 10-129
Sanitary - Buttweld Fittings.....	10-130 — 10-133
Sanitary - I-Line Clamp .....	10-134
Sanitary - Clamp Fittings.....	10-135 — 10-148
Tube - CPI/A-LOK .....	10-149 — 10-204
Tube - EO and EO2 .....	10-205 — 10-213
Tube - Ferulok .....	10-214 — 10-217
Tube - MPI.....	10-218 — 10-255
Tube - Pipe Fittings & Port Adapters.....	10-256 — 10-262
Tube - Seal-Lok .....	10-263 — 10-268
Tube - Triple-Lok .....	10-269 — 10-278
Ultraseal .....	10-279 — 10-289
VacuSeal.....	10-290 — 10-310

**Application and**

**temperature range:** Use with annealed copper, aluminum and Parflex 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. Temperature range is from -65° to +250°F with soft metal tubing. For thermoplastic tubing, use manufacturer's recommendation for temperature range.

**Working Pressure Ranges:**

PSI	Tube O.D. (in.)	Tube Wall (in.)
400	1/8	0.030
400	3/16	0.030
300	1/4	0.030
300	5/16	0.032
200	3/8	0.032
2000	1/2	0.032
150	5/8	0.035
100	3/4	0.035
75	7/8	0.035

For thermoplastic tubing, use manufacturer's recommendation for pressure range.

**Features:**

- Manufactured from CA 360, CA 635 or CA 377 brass.
- No flaring, soldering or other preparation of tubing is necessary to assemble.
- Meet functional requirements of SAE J-512.

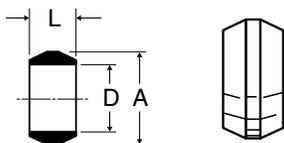
**Assembly Instructions:**

1. Slide nut, the sleeve onto tubing. The thread end of the nut must face out.
2. Insert the tube into the fitting. Be sure the tube is bottomed on the fitting shoulder.
3. Assemble nut to body, and tighten "hand tight". Then follow the number of wrench turns as indicated in the following table.

Fitting Size	Tube Size	Turns required to seal from hand-tight	
		60C with soft metal tubing	60PT with thermoplastic tubing
2	1/8	1-1/4	–
3	3/16	1-1/4	–
4	1/4	1-1/4	2
5	5/16	1-1/4	2
6	3/8	2-1/4	2
8	1/2	2-1/4	2
10	5/8	2-1/4	2
12	3/4	2-1/4	2
14	7/8	2-1/4	–

**SLEEVE**

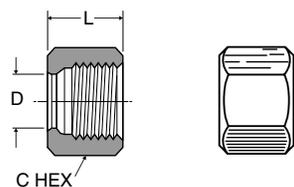
**SERIES 60C**



Part No.	Tube Size	A	D	L
60C-4	1/4	.344	.255	.25
60C-6	3/8	.469	.382	.25
60C-8	1/2	.594	.507	.38

**NUT**

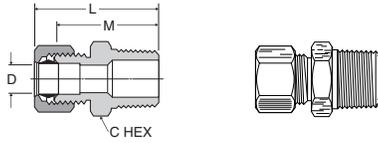
**SERIES 61C**



Part No.	Tube Size	Straight Thread	C Hex	D	L
61C-4	1/4	7/16-24	1/2	.255	.44
61C-6	3/8	9/16-24	5/8	.382	.47
61C-8	1/2	11/16-20	13/16	.507	.62

**MALE CONNECTOR**

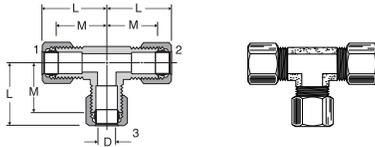
**SERIES 68C**



Part No.	Tube Size	Pipe Thread	Straight Thread	C Hex	L	M	Flow Dia. D
68C-4-2	1/4	1/8	7/16-24	7/16	1.10	.86	.188
68C-4-4	1/4	1/4	7/16-24	9/16	1.30	1.06	.188
68C-6-4	3/8	1/4	9/16-24	9/16	1.42	1.14	.312
68C-6-6	3/8	3/8	9/16-24	11/16	1.44	1.16	.312
68C-6-8	3/8	1/2	9/16-24	7/8	1.53	1.25	.312
68C-8-8	1/2	1/2	11/16-20	7/8	1.71	1.31	.406

**UNION TEE**

**SERIES 164C**

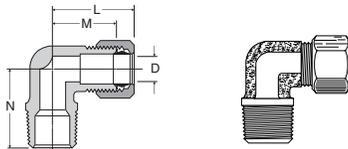


Part No.	Tube Size	Straight Thread	L	M	Flow Dia. D
164C-4	1/4	7/16-24	.86	.61	.188
164C-6	3/8	9/16-24	1.03	.74	.312
164C-8	1/2	11/16-20	1.34	.93	.406

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**MALE ELBOW**

**SERIES 169C**



Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
169C-4-2	1/4	1/8	7/16-24	.86	.61	.74	.188
169C-4-4	1/4	1/4	7/16-24	.86	.62	.94	.188
169C-6-4	3/8	1/4	9/16-24	1.03	.74	.93	.312
169C-8-6	1/2	3/8	11/16-20	1.34	.93	1.11	.406

**Application and**

**temperature range:** Use with annealed copper, aluminum and thermoplastic tubing. Manufactured for low and medium pressure tubing connections. Heavy-Duty fitting aligns to seal even out-of-round tubing. Temperature Range is from -65° to +250°F.

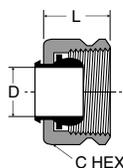
PSI	Tube O.D. (in.)	Tube Wall (in.)
2800	1/8	0.030
1900	3/16	0.030
1400	1/4	0.030
1200	5/16	0.032
1000	3/8	0.032
750	1/2	0.032
650	5/8	0.035
550	3/4	0.035
450	7/8	0.035
350	1	0.035

**Features:**

- Manufactured from CA 360, CA 345 or CA 377 brass.

**NUT AND SLEEVE ASSEMBLY**

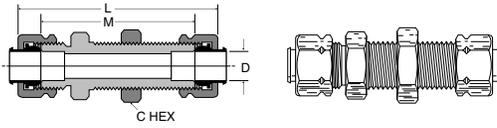
**SERIES 61CA**



Part No.	Tube Size	Straight Thread	C Hex	D	L
61CA-2	1/8	5/16-24	3/8	.130	.36
61CA-3	3/16	3/8-24	7/16	.194	.38
61CA-4	1/4	7/16-24	1/2	.255	.40
61CA-6	3/8	9/16-24	5/8	.382	.45
61CA-8	1/2	11/16-20	13/16	.507	.50

**UNION**

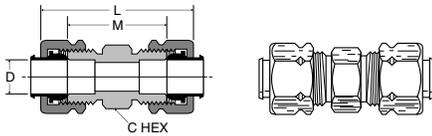
**SERIES 62CA**



Part No.	Tube Size	Straight Thread	C Hex	L	M	Flow Dia. D
62CA-4	1/4	7/16-24	7/16	1.26	.79	.188
62CA-6	3/8	9/16-24	9/16	1.42	.97	.312

**BULKHEAD UNION**

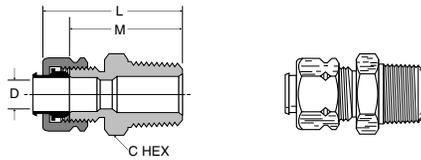
**SERIES 62CABH**



Part No.	Tube Size	Straight Thread	C Hex	L	M	Bulkhead Hole Dia.	Flow Dia. D
62CABH-4	1/4	7/16-24	9/16	2.22	1.75	7/16	.188
62CABH-6	3/8	9/16-24	11/16	2.32	1.88	9/16	.312

**MALE CONNECTOR**

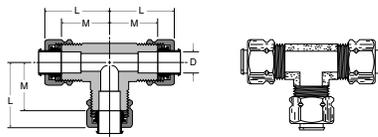
**SERIES 68CA**



Part No.	Tube Size	Pipe Thread	Straight Thread	C Hex	L	M	Flow Dia. D
68CA-3-2	3/16	1/8	3/8-24	7/16	1.07	.84	.125
68CA-4-2	1/4	1/8	7/16-24	7/16	1.10	.86	.188
68CA-4-4	1/4	1/4	7/16-24	9/16	1.31	1.06	.188
68CA-5-4	5/16	1/4	1/2-24	9/16	1.35	1.07	.250
68CA-6-4	3/8	1/4	9/16-24	9/16	1.36	1.14	.312
68CA-6-6	3/8	3/8	9/16-24	11/16	1.43	1.16	.312
68CA-6-8	3/8	1/2	9/16-24	7/8	1.52	1.25	.312
68CA-8-8	1/2	1/2	11/16-20	7/8	1.54	1.31	.406
68CA-10-8	5/8	1/2	13/16-18	7/8	1.72	1.48	.500

**UNION TEE**

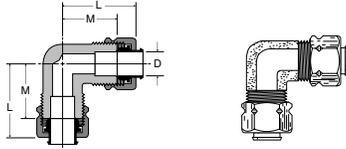
**SERIES 164CA**



Part No.	Tube Size	Straight Thread	L	M	Flow Dia. D
164CA-4	1/4	7/16-24	.84	.61	.188
164CA-6	3/8	9/16-24	.96	.74	.312

**UNION ELBOW**

**SERIES 165CA**



Part No.	Tube Size	Straight Thread	L	M	Flow Dia. D
165CA-4	1/4	7/16-24	.84	.61	.188
165CA-6	3/8	9/16-24	.96	.74	.312

**MALE ELBOW**

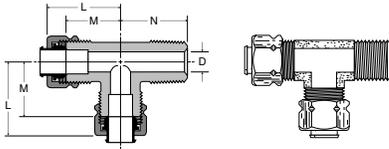
**SERIES 169CA-269CA**



Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
269CA-2-2	1/8	1/8	5/16-24	.84	.60	.67	.094
269CA-3-2	3/16	1/8	3/8-24	.83	.60	.67	.125
169CA-4-2	1/4	1/8	7/16-24	.84	.61	.74	.188
269CA-4-2	1/4	1/8	7/16-24	.84	.60	.73	.188
169CA-4-4	1/4	1/4	7/16-24	.86	.62	.94	.188
269CA-4-4	1/4	1/4	7/16-24	.84	.60	.79	.188
169CA-6-4	3/8	1/4	9/16-24	.96	.74	.93	.312
269CA-6-4	3/8	1/4	9/16-24	.95	.73	.92	.312
169CA-6-6	3/8	3/8	9/16-24	.97	.75	1.00	.312

**MALE RUN TEE**

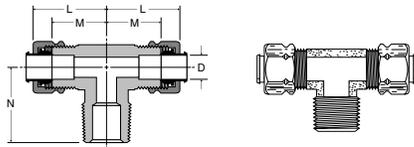
**SERIES 171CA**



Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
171CA-4-2	1/4	1/8	7/16-24	.88	.64	.75	.188
171CA-4-4	1/4	1/4	7/16-24	.93	.69	.92	.188
171CA-6-4	3/8	1/4	9/16-24	1.03	.81	1.03	.312

**MALE BRANCH TEE**

**SERIES 172CA**



Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
172CA-4-2	1/4	1/8	7/16-24	.84	.61	.74	.188
172CA-4-4	1/4	1/4	7/16-24	.93	.69	.92	.188
172CA-6-4	3/8	1/4	9/16-24	.99	.77	1.03	.312

**Applications and  
 pressure range:**

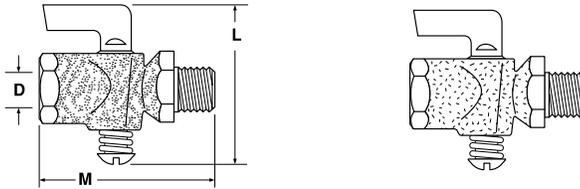
Both external and internal-seat drain cocks are manufactured to the highest quality standards. Hand-tightening provides a metal-to-metal seal. Economical ground plug shutoff valves are available in several styles. Ground plug shutoffs are designed to withstand 30 PSI working pressure. Drain cocks are designed to withstand 150 PSI working pressure, except where noted. Note: system temperature and the type of tubing used should be considered. See specific part number for temperature range.

**Features:**

- Brass castings or forged bodies provide extra strength in ground plug shutoff valves.

**GROUND PLUG SHUTOFF**

**SERIES V402P**

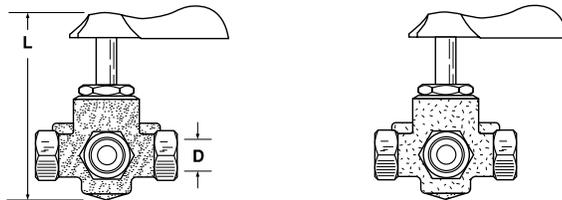


Part No.	Female Pipe Thread	Pipe Thread	L	M	Flow Dia. D
V402P-2-2	1/8	1/8	1.89	1.73	.218
V402P-4-4	1/4	1/4	1.88	2.26	.218

**THREE-WAY VALVE**

**SERIES V406P**

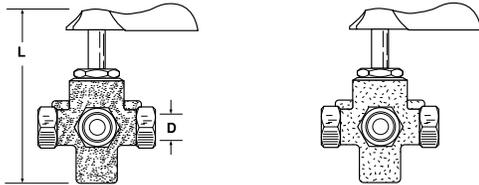
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Part No.	Pipe Thread	L	Flow Dia. D
V406P-4	1/4	3.10	.281

**FOUR-WAY VALVE**

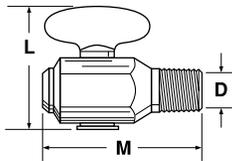
**SERIES V407P**



Part No.	Pipe Thread	L	Flow Dia. D
V407P-4	1/4	3.30	.281

**DRAIN COCK**

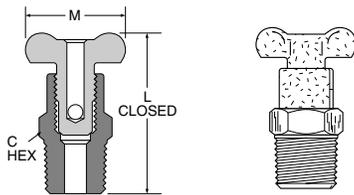
**SERIES DCR601**



Part No.	Pipe Thread	L	M	Flow Dia. D
DCR601-4	1/4	1.41	1.73	.188

**DRAIN COCK**

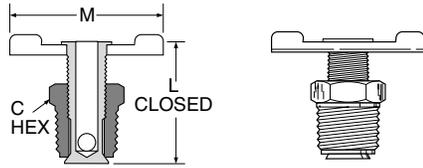
**SERIES DC603**



Part No.	Pipe Thread	C Hex	L	M
DC603-4	1/4	5/8	1.54	1.16
DC603-6	3/8	11/16	1.63	1.16

**EXTERNAL SEAL DRAIN COCK**

**SERIES DC604**

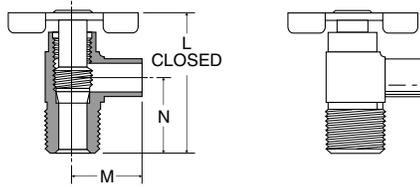


Part No.	Pipe Thread	C Hex	L	M
DC604-2*	1/8	7/16	.85	1.25
DC604-4	1/4	9/16	1.00	1.38
DC604-6*	3/8	11/16	1.22	1.68

\* When assembled handle wings are down facing.

**BIB DRAIN VALVE**

**SERIES DC607**



Part No.	Hose Size	Pipe Thread	Flow	L	M	N
DC607-4	3/8	1/4	.31	1.32	.67	.71

**Applications,  
 temperature and  
 pressure range:**

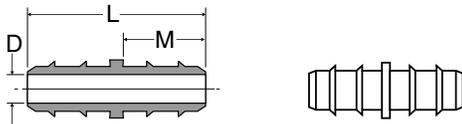
Compact, one-piece, push-on barbed fitting for a quick, economical way to connect polyethylene tubing. In tube sizes 1/4 to 3/8 working pressures up to 150 PSI are practical at temperatures ranging from -65° to +90°F, in tube size 1/2, working pressures up to 100 PSI at temperatures ranging from -65° to +75°F.

**Features:**

- Machined from CA 360 or CA 345 brass.

**UNION**

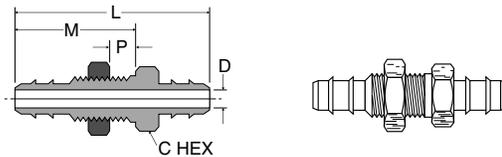
**SERIES 22**



Part No.	Tube O.D.	Tube I.D.	L	M	Flow Dia. D
22-4	1/4x1/4	.170x.170	.84	.41	.120
22-6	3/8x3/8	.250x.250	.94	.44	.187

**BULKHEAD UNION**

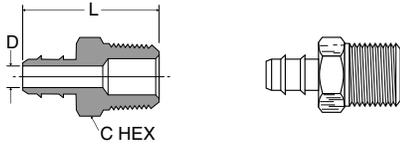
**SERIES 22BH**



Part No.	Tube O.D.	Tube I.D.	Straight Thread	C Hex	P Max.	L	M	Flow Dia. D	Bulkhead Hole Dia.
22BH-4-4	1/4	.170	5/16-24	7/16	.219	1.38	.78	.120	5/16
22BH-6-6	3/8	.250	3/8-24	7/16	.375	1.63	1.00	.187	3/8

**MALE CONNECTOR**

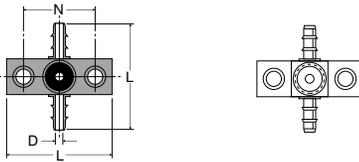
**SERIES 28**



Part No.	Tube O.D.	Tube I.D.	Pipe Thread	C Hex	L	Flow Dia. D
28-4-2	1/4	.170	1/8	7/16	.97	.120
28-4-4	1/4	.170	1/4	9/16	1.09	.120
28-6-4	3/8	.250	1/4	9/16	1.13	.187
28-8-4	1/2	.375	1/4	9/16	1.25	.312

**ADAPTER TEE**

**SERIES 220**

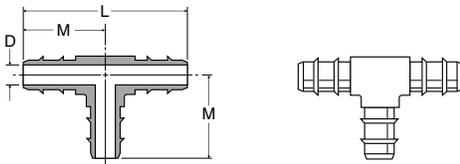


Part No.	Tube O.D.	Tube I.D.	Pipe Thread	L	N	Flow Dia. D
220-4-2	1/4	.170	1/8	1.50	1.00	.120

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**UNION TEE**

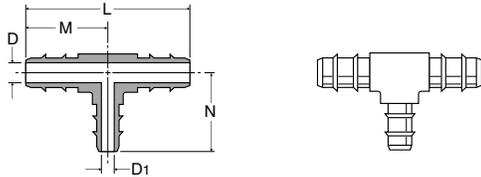
**SERIES 224**



Part No.	Tube O.D.	Tube I.D.	L	M	Flow Dia. D
224-4	1/4	.170	1.25	.63	.120
224-6	3/8	.250	1.38	.69	.187
224-8	1/2	.375	1.63	.81	.312

**UNION TEE COMBINATION SIZES**

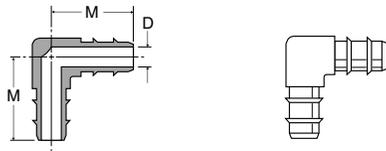
**SERIES 224**



Part No.	Tube O.D.	Tube I.D.	L	M	N	Flow Dia. D	Flow Dia. D1
224-6-6-4	3/8x1/4	.250x.170	1.38	.69	.62	.187	.120
224-8-8-4	1/2x1/4	.375x.170	1.62	.81	.65	.312	.120

**UNION ELBOW**

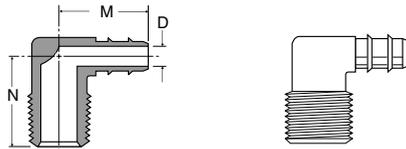
**SERIES 225**



Part No.	Tube O.D.	Tube I.D.	M	Flow Dia. D
225-4-4	1/4	.170	.63	.120
225-6-6	3/8	.250	.69	.187

**MALE ELBOW**

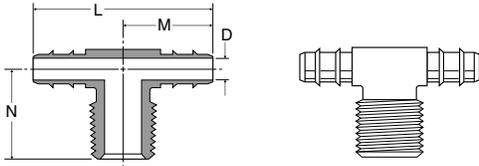
**SERIES 229**



Part No.	Tube O.D.	Tube I.D.	Pipe Thread	M	N	Flow Dia. D
229-4-2	1/4	.170	1/8	.69	.63	.120
229-4-4	1/4	.170	1/4	.72	.72	.120
229-6-2	3/8	.250	1/8	.69	.69	.187
229-6-4	3/8	.250	1/4	.75	.75	.187

**MALE BRANCH TEE**

**SERIES 232**



Part No.	Tube O.D.	Tube I.D.	Pipe Thread	L	M	N	Flow Dia. D
232-4-2	1/4	.170	1/8	1.38	.69	.66	.120
232-6-4	3/8	.250	1/4	1.50	.75	.75	.187

**Applications:** Use with copper, brass, aluminum and welded steel hydraulic tubing that can be flared. Manufactured for especially hard-to-hold liquids and gases.

**Working Pressure and Temperature Ranges:** Temperature ranges from -65° to +250°F. Pressure ranges will depend on the type of tubing. The chart below shows the pressure range at 73°F with copper tubing as a guide for proper selection.

PSI	Tube O.D. (in.)	Tube Wall (in.)
2800	1/8	0.030
1900	3/16	0.030
1400	1/4	0.030
1200	5/16	0.032
1000	3/8	0.032
750	1/2	0.032
650	5/8	0.035
550	3/4	0.035
450	7/8	0.035

**Features:**

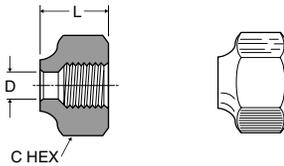
- Manufactured from CA 360, CA 345 or CA 377 brass.
- Meets functional requirements of SAE J512 and J513, ASA and MS (military standards)

**Assembly Instructions:**

1. Cut tubing squarely and clean tube end to remove burrs.
2. Place nut onto tube. The short nut may be used when vibration is minimal, the long nut offers additional vibration capacity.
3. Flare tube end with flaring tool to provide 45° flare.
4. Clamp tube flare between nut and nose of fitting body by screwing nut on finger-tight. Tighten with a wrench an additional ¼ turn for a metal-to-metal seal.

**SHORT FORGED NUT**

**SERIES 14FSX**

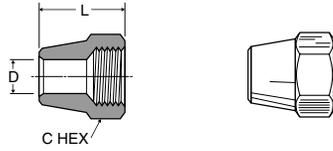


Part No.	Tube Size	Straight Thread	C Hex	D	L
14FSX-4	1/4	7/16-20	5/8	.257	.63
14FSX-6	3/8	5/8-18	13/16	.382	.74
14FSX-8	1/2	3/4-16	15/16	.507	.86
14FSX-10	5/8	7/8-14	1-1/16	.632	.97
14FSX-12*	3/4	1-1/16-14	1-5/16	.757	1.17

\* Comes standard with thread protectors

**SHORT NUT / SHORTER NUT**

**SERIES 41FS / 41FX**

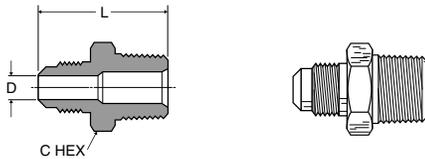


Part No.	Tube Size	Straight Thread	C Hex	D	L
41FS-4	1/4	7/16-20	9/16	.257	.75
41FS-6	3/8	5/8-18	3/4	.382	1.00
41FS-8	1/2	3/4-16	7/8	.507	1.12
41FS-10	5/8	7/8-14	1-1/16	.632	1.31
41FS-12*	3/4	1-1/16-14	1-1/4	.757	1.50

\* Comes standard with thread protectors

**MALE CONNECTOR**

**SERIES 48F**

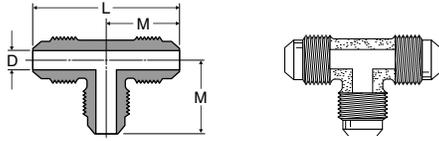


Part No.	Tube Size	Pipe Thread	Straight Thread	C Hex	L	Flow Dia. D
48F-4-2	1/4	1/8	7/16-20	7/16	1.04	.189
48F-4-4	1/4	1/4	7/16-20	9/16	1.23	.189
48F-6-2	3/8	1/8	5/8-18	5/8	1.23	.220
48F-6-4	3/8	1/4	5/8-18	5/8	1.42	.282
48F-6-6	3/8	3/8	5/8-18	11/16	1.42	.282
48F-8-4	1/2	1/4	3/4-16	3/4	1.60	.407
48F-8-6	1/2	3/8	3/4-16	3/4	1.60	.407
48F-8-8	1/2	1/2	3/4-16	7/8	1.79	.407
48F-10-6	5/8	3/8	7/8-14	7/8	1.79	.408
48F-10-8	5/8	1/2	7/8-14	7/8	1.98	.501
48F-12-12*	3/4	3/4	1-1/16-14	1-1/16	2.17	.626

\* Comes standard with thread protectors.

**UNION TEE**

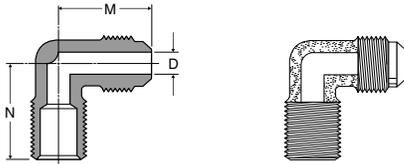
**SERIES 144F**



Part No.	Tube Size	Straight Thread	L	M	Flow Dia. D
144F-4	1/4	7/16-20	1.72	.86	.189
144F-6	3/8	5/8-18	2.08	1.04	.282

**MALE ELBOW**

**SERIES 149F**



Part No.	Tube Size	Pipe Thread	Straight Thread	M	N	Flow Dia. D
149F-4-2	1/4	1/8	7/16-20	.79	.76	.189
149F-4-4	1/4	1/4	7/16-20	.89	.92	.189
149F-6-4	3/8	1/4	5/8-18	1.01	1.05	.282
149F-6-6	3/8	3/8	5/8-18	1.04	1.07	.282
149F-8-8	1/2	1/2	3/4-16	1.28	1.38	.407
149F-10-8	5/8	1/2	7/8-14	1.40	1.39	.501
149F-12-12*	3/4	3/4	1-1/16-14	1.60	1.62	.626

\* Comes standard with thread protectors

**CAP NUT**

**SERIES 640F**



Part No.	Tube Size	Straight Thread	C Hex	L
640F-4**	1/4	7/16-20	9/16	.53
640F-6**	3/8	5/8-18	3/4	.69
640F-8**	1/2	3/4-16	7/8	.84

\*\* Should be used with 2GF copper flare gasket.

**Applications,  
 temperature and  
 pressure range:**

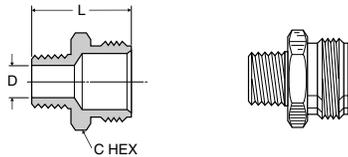
Intended for use with a 97HC hose clamp or crimped ferrule. Temperature and working pressure ranges from +35° to +100°F at 75 PSI maximum or the maximum working pressure of garden hose (not to exceed 150 PSI).

**Features:**

- All pipe fitting pipe threads are made to Dryseal standards.
- Connectors, unions, nuts and extruded elbows and tees are machined from CA 360 or CA 345 brass.

**MALE HOSE TO MALE PIPE**

**SERIES 69GH, 70GH, 71GH**

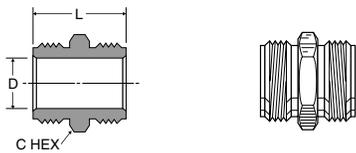


Part No.	Hose Thread	Pipe Thread	C Hex	L	Flow Dia. D
69GH-12-6	3/4	3/8	1-1/16	1.25	.406
70GH-12-8	3/4	1/2	1-1/16	1.39	.531
71GH-12-12	3/4	3/4	1-1/16	1.41	.750

**MALE HOSE TO MALE HOSE**

**SERIES 75GH**

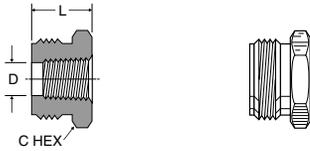
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Part No.	Hose Thread	C Hex	L	Flow Dia. D
75GH-12	3/4	1-1/16	1.25	.750

**MALE HOSE TO FEMALE PIPE**

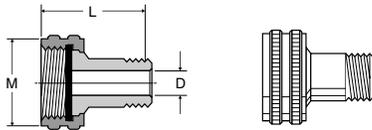
**SERIES 79GH, 80GH & 81GH**



Part No.	Hose Thread	Pipe Thread	C Hex	L	Flow Dia. D
79GH-12-6	3/4	3/8	1-1/16	.75	.562
80GH-12-8	3/4	1/2	1-1/16	.75	.687
81GH-12-12	3/4	3/4	1-3/16	1.28	.719

**SWIVEL CONNECTOR FEMALE GARDEN HOSE TO MALE PIPE**

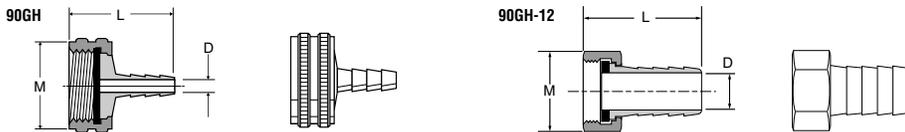
**SERIES 88GH**



Part No.	Hose Thread	Pipe Thread	L	M	Flow Dia. D
88GH-12-4	3/4	1/4	1.69	1.15	.312
88GH-12-6	3/4	3/8	1.69	1.15	.406

**SWIVEL CONNECTOR FEMALE GARDEN HOSE TO HOSE BARB**

**SERIES 90GH**

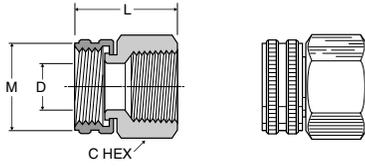


Part No.	Hose Thread	I.D. Hose Size	L	M	Flow Dia. D
90GH-12-6	3/4	3/8	1.21	1.15	.281
90GH-12-8	3/4	1/2	1.21	1.15	.375
90GH-12-10*	3/4	5/8	1.93	1.19	.500

\*Denotes hex body

**SWIVEL CONNECTOR FEMALE HOSE TO FEMALE PIPE**

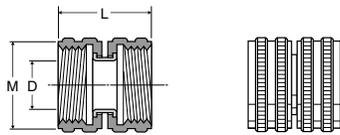
**SERIES 98GHSV & 99GHSV**



Part No.	Hose Thread	Pipe Thread	C Hex	L	M	Flow Dia. D
98GHSV-12-8	3/4	1/2	1	1.27	1.21	.687
99GHSV-12-12	3/4	3/4	1-3/16	1.34	1.21	.687

**SWIVEL NUT CONNECTOR**

**SERIES 101GHSV**



Part No.	Hose Thread	L	M	Flow Dia. D
101GHSV-12	3/4	1.25	1.15	.625

**Applications,  
 temperature and  
 pressure range:**

Intended for use with a 97C hose clamp, similar type clamp or a crimped ferrule.  
 Temperature and working pressure ranges from -40° to +160°F at 150 PSI maximum.

**Features:**

- All Parker hose barb fitting pipe threads are made to Dryseal standards.
- Machined from CA 360 or CA 345 brass.

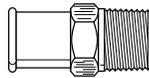
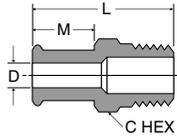
**Assembly Instructions:**

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 or hex.
4. Position hose clamp as shown and secure with a screwdriver or wrench. Maintain "A" dimension noted below for proper clamp positioning.

Hose Size (in.)	Hose Clamp	A (in.)
3/16	97 HC-3	1/4
1/4	97 HC-3	1/4
5/16	97 HC-6	1/4
3/8	97 HC-6	1/8
1/2	97 HC-8	1/8
5/8	97 HC-12	1/8
3/4	97 HC-12	1/8

**BEADED HOSE BARB TO MALE PIPE**

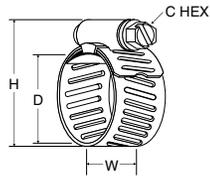
**SERIES 68HB**



Part No.	I.D. Hose Size	Pipe Thread	C Hex	L	M	Flow Dia. D
68HB-6-6	3/8	3/8	11/16	1.53	.78	.281
68HB-8-6	1/2	3/8	11/16	1.53	.78	.406
68HB-10-6	5/8	3/8	3/4	1.62	.88	.501
68HB-10-8	5/8	1/2	7/8	1.92	.88	.501
68HB-12-12	3/4	3/4	1-1/16	2.04	.97	.625
68HB-16-12	1	3/4	1-1/8	2.12	1.00	.750

**STAINLESS STEEL WORM DRIVE CLAMP**

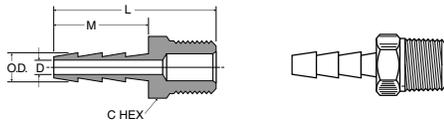
**SERIES 97HC**



Part No.	D Max.	D Min.	C Hex	H Max.	W
97HC-6	.87	.38	.31	1.40	.50
97HC-8	1.00	.44	.31	1.53	.50
97HC-12	1.25	.50	.31	1.80	.50

**HOSE BARB TO MALE PIPE**

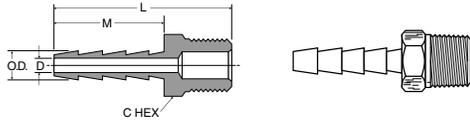
**SERIES 125HB**



Part No.	I.D. Hose Size	Pipe Thread	C Hex	L	M	O.D.	Flow Dia. D
125HB-2-2	1/8	1/8	7/16	1.07	.50	.185	.093
125HB-3-2	3/16	1/8	7/16	1.25	.69	.227	.125

**HOSE BARB TO MALE PIPE**

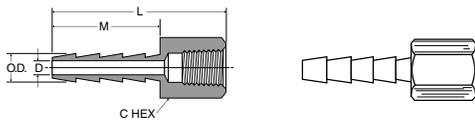
**SERIES 125HBL**



Part No.	I.D. Hose Size	Pipe Thread	C Hex	L	M	O.D.	Flow Dia. D
125HBL-4-2	1/4	1/8	7/16	1.54	.97	.290	.187
125HBL-4-4	1/4	1/4	9/16	1.72	.97	.290	.187
125HBL-6-2	3/8	1/8	7/16	1.54	.97	.415	.281
125HBL-6-4	3/8	1/4	9/16	1.72	.97	.415	.281
125HBL-6-6	3/8	3/8	11/16	1.77	.97	.415	.281
125HBL-8-4	1/2	1/4	9/16	1.72	.97	.530	.375
125HBL-8-6	1/2	3/8	11/16	1.77	.97	.530	.375
125HBL-8-8	1/2	1/2	7/8	1.97	.97	.530	.375
125HBL-10-6	5/8	3/8	11/16	1.77	.97	.645	.468
125HBL-10-8	5/8	1/2	7/8	1.97	.97	.645	.468
125HBL-12-8	3/4	1/2	7/8	1.97	.97	.790	.562
125HBL-12-12	3/4	3/4	1-1/16	1.98	.97	.790	.562
125HBL-16-12	1	3/4	1-1/16	2.18	1.17	1.02	.750
125HBL-16-16	1	1	1-3/8	2.36	1.17	1.02	.875

**HOSE BARB TO FEMALE PIPE**

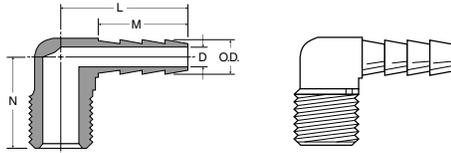
**SERIES 126HBL**



Part No.	I.D. Hose Size	Pipe Thread	C Hex	L	M	O.D.	Flow Dia. D
126HBL-4-2	1/4	1/8	1/2	1.47	.97	.290	.187
126HBL-6-4	3/8	1/4	11/16	1.58	.97	.415	.281

**HOSE BARB 90° ELBOW TO MALE PIPE**

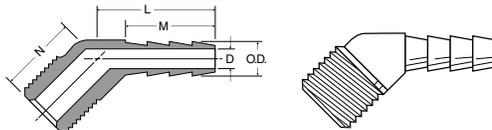
**SERIES 129HB**



Part No.	I.D. Hose Size	Pipe Thread	L	M	N	O.D.	Flow Dia. D
129HB-4-2	1/4	1/8	1.04	.76	.66	.290	.187
129HB-4-4	1/4	1/4	1.06	.76	.86	.290	.187
129HB-5-4	5/16	1/4	1.12	.76	.84	.353	.234
129HB-6-4	3/8	1/4	1.32	.97	.89	.415	.281
129HB-6-6	3/8	3/8	1.50	.97	1.06	.415	.281
129HB-6-8	3/8	1/2	1.52	.97	1.25	.415	.281

**HOSE BARB 45° ELBOW TO MALE PIPE**

**SERIES 139HB**

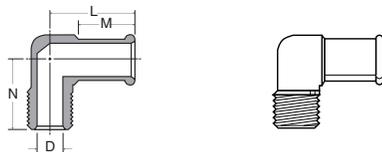


Part No.	I.D. Hose Size	Pipe Thread	L	M	N	O.D.	Flow Dia. D
139HB-4-4	1/4	1/4	1.00	.76	.68	.290	.187
139HB-6-4	3/8	1/4	1.00	.76	.68	.415	.281

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**BEADED HOSE BARB 90° ELBOW TUBE TO MALE PIPE**

**SERIES 269HB**



Part No.	I.D. Hose Size	Pipe Thread	L	M	N	Flow Dia. D
269HB-6-6	3/8	3/8	1.19	.78	.88	.281
269HB-8-6	1/2	3/8	1.16	.78	1.08	.406
269HB-10-8	5/8	1/2	1.28	.78	1.25	.501
269HB-12-8	3/4	1/2	1.28	.78	1.25	.625

**Applications:** Use with Parker Parflex or other high-quality thermoplastic tubing for pneumatic instrumentation circuits, lubricant and coolant lines, and applications with other gases and liquids. For use with soft metal tubing and nylon thermoplastic tubing, use brass sleeve and nut assembly 61PB. Poly-Tite nuts will rotate around the sleeve as it tightens to prevent twisting and weakening of the plastic tubing. Poly-Tite fittings can be assembled and disassembled repeatedly.

- Features:**
- Bodies and Nuts manufactured from CA 360, CA 345, CA 377 brass or 316 Stainless Steel.
  - Plastic Sleeves manufactured from Acetal Copolymer.
  - O-Rings manufactured from Buna N on chrome-plated couplings, Viton on steel couplings.

**Assembly Instructions:**

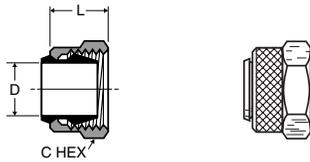
**For polyethylene, polypropylene and vinyl tubing:**

1. Cut tubing squarely—maximum of 15° angle allowable.
2. Check that port or mating part is clean and free of debris.
3. Insert tube end until it bottoms in the Poly-Tite fitting and tighten Knurl/hex nut finger-tight – plus one wrench turn.

**For copper, aluminum and nylon tubing:**  
 Brass sleeves are recommended. Insert tube until it bottoms in the Poly-Tite fitting and tighten one wrench turn past finger-tight.

**NUT AND PLASTIC SLEEVE ASSEMBLY**

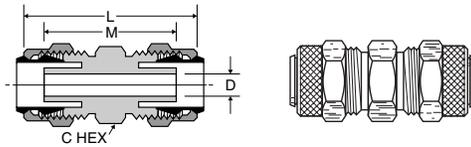
**SERIES 61P**



Part No.	Tube Size	Straight Thread	C Hex	D	L
61P-4	1/4	3/8-24	7/16	.261	.38
61P-6	3/8	1/2-24	9/16	.380	.38

**UNION**

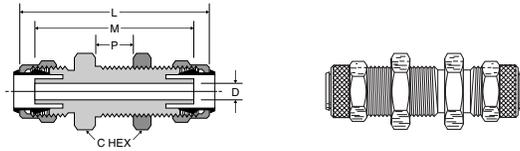
**SERIES 62P**



Part No.	Tube Size	Straight Thread	C Hex	L	M	Flow Dia. D
62P-4	1/4	3/8-24	3/8	1.17	.96	.125
62P-6	3/8	1/2-24	1/2	1.23	.99	.204

**BULKHEAD UNION**

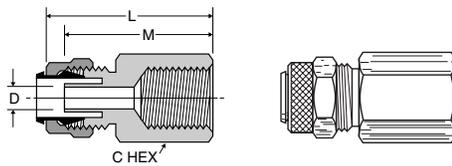
**SERIES 62PBH**



Part No.	Tube Size	Straight Thread	C Hex	P Max.	L	M	Bulkhead Hole Dia.	Flow Dia. D
62PBH-4	1/4	3/8-24	9/16	.38	1.75	1.53	3/8	.125
62PBH-6	3/8	1/2-24	11/16	.47	1.89	1.65	1/2	.204

**FEMALE CONNECTOR**

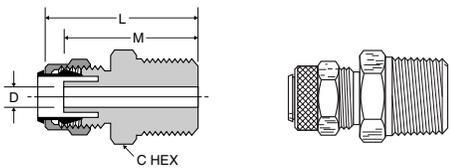
**SERIES 66P**



Part No.	Tube Size	Pipe Thread	Straight Thread	C Hex	L	M	Flow Dia. D
66P-4-2	1/4	1/8	3/8-24	1/2	.97	.86	.125
66P-6-4	3/8	1/4	1/2-24	5/8	1.18	1.07	.204

**MALE CONNECTOR**

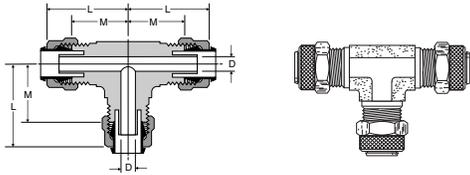
**SERIES 68P**



Part No.	Tube Size	Pipe Thread	Straight Thread	C Hex	L	M	Flow Dia. D
68P-4-2	1/4	1/8	3/8-24	7/16	1.06	.95	.125
68P-4-4	1/4	1/4	3/8-24	9/16	1.25	1.14	.125
68P-4-6	1/4	3/8	3/8-24	11/16	1.28	1.17	.125
68P-6-2	3/8	1/8	1/2-24	1/2	1.10	.98	.204
68P-6-4	3/8	1/4	1/2-24	9/16	1.29	1.17	.204
68P-6-6	3/8	3/8	1/2-24	11/16	1.29	1.17	.204
68P-8-6	1/2	3/8	11/16-20	11/16	1.37	1.29	.323

**UNION TEE**

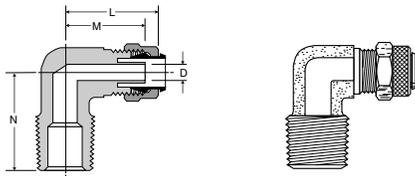
**SERIES 164P**



Part No.	Tube Size	Straight Thread	L	M	Flow Dia. D
164P-4	1/4	3/8-24	.84	.73	.125
164P-6	3/8	1/2-24	.98	.86	.203

**MALE ELBOW**

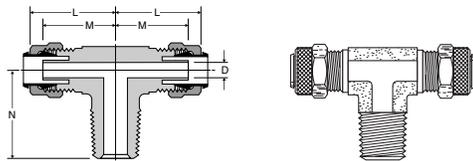
**SERIES 169P**



Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
169P-4-2	1/4	1/8	3/8-24	.84	.73	.75	.121
169P-4-4	1/4	1/4	3/8-24	.90	.79	.92	.125
169P-6-2	3/8	1/8	1/2-24	.93	.81	.73	.203
169P-6-4	3/8	1/4	1/2-24	.98	.86	1.05	.203
169P-6-6	3/8	3/8	1/2-24	.98	.86	1.08	.203

**MALE BRANCH TEE**

**SERIES 172P**

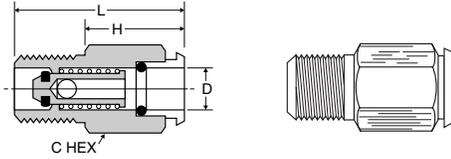


Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
172P-2-2*	1/8	1/8	5/16-24	.82	.60	.67	.094
172P-4-2	1/4	1/8	3/8-24	.84	.73	.72	.125
172P-6-4	3/8	1/4	1/2-24	.98	.86	1.03	.204

\*Brass sleeve, no tube support.

**PIPE COUPLER BODY**

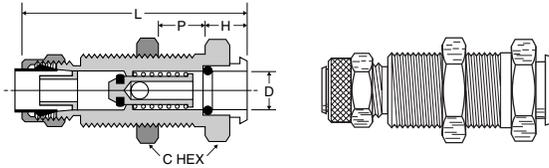
**SERIES 391P**



Part No.	D Insert Dia.	Pipe Thread	C Hex	H	L
391P-4-2	1/4	1/8	1/2	.91	1.29
391P-4-4	1/4	1/4	9/16	.73	1.29
391P-6-4	3/8	1/4	5/8	.85	1.41

**BULKHEAD COUPLER BODY**

**SERIES 392P**

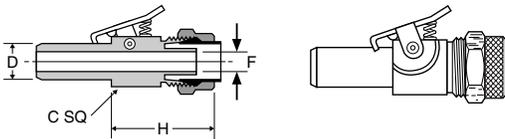


Part No.	Tube Size	D Insert Dia.	Straight Thread	C Hex	P Max	H	L	Bulkhead Hole Dia.
392P-4-4	1/4	1/4	1/2-24	5/8	.84	.39	2.13	1/2
392P-6-6	3/8	3/8	11/16-24	13/16	.93	.37	2.01	11/16

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**THROUGH TYPE INSERT**

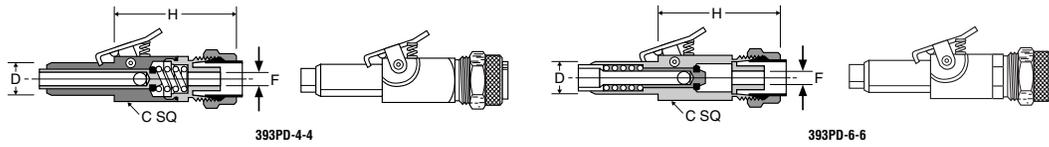
**SERIES 393P**



Part No.	Tube Size	D Insert Dia.	Straight Thread	C Square	H	Flow Dia. F
393P-4-4	1/4	1/4	3/8-24	7/16	1.12	.125
393P-6-6	3/8	3/8	1/2-24	1/2	1.34	.203

**SHUTOFF TYPE INSERT**

**SERIES 393PD**



Part No.	Tube Size	D Insert Dia.	Straight Thread	C Square	H	Flow Dia. F
393PD-4-4	1/4	1/4	3/8-24	7/16	1.61	.110
393PD-6-6	3/8	3/8	1/2-24	1/2	1.45	.187

**Application, temperature and pressure range:**

Low pressure pneumatic and hydraulic systems where fast assembly, disassembly and reassembly is important. Prestolok fittings should not be used for live swivel applications. Vacuum applications dependent upon temperature and type of tubing used. Temperature range is from 0° to 200°F. Maximum working pressure is 300 PSI.

**Features:**

- Body manufactured from CA360 or CA345 brass for straight parts and components
- Forged shapes manufactured from CA377 brass
- All bodies are nickel plated
- O-ring: Nitrile (Buna N) lubricated with Silicone lubricant
- Grab Ring: 301 Stainless Steel
- One Piece Button Collet: Acetal – Green
- Thread Sealant: White Acrylic

**Recommended Tubing:**

Prestolok is designed to be used with the following Parker Hannifin Parflex Division tubing:

Tubing Series	Tubing Material
E	Linear Low Density Polyethylene
N	Plasticized Polyamide (Nylon)
NR	Unplasticized Polyamide (Rigid Nylon)
HU	Polyurethane 95 Durometer Shore A
PP*	Polypropylene
U*	Polyurethane 90 Durometer Shore A

**Other Materials:**

Polyurethane 85 Durometer Shore A – Applications and service conditions vary and therefore the use of a tube support may be required for **any** 85A PU tubing.

The following commercially available O.D. – I.D. 85A tubing sizes **require** the use of a tube support regardless of application.

5/32" – 3/32"	3/16" – 1/8"	1/4" - .170"	1/4" – 3/16"
5/16" – 1/4"	3/8" – 5/16"	1/2" – 3/8"	

**Assembly Instructions:**

Cut tubing squarely & cleanly. Inspect the tubing to insure there are no sharp edges that may nick or cut the o-ring seal. Insert tubing into fitting until it bottoms out. A slight pull on the tube afterwards can help verify it is properly retained / inserted.

**Disassembly Instructions:**

When it is required to remove the tubing from the fitting push the release button in towards the fitting & remove the tubing.

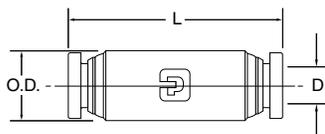
**Reassembly Instructions:**

Inspect the tubing before re-inserting it for any scoring or other damage that would affect the o-ring sealing. It is recommended that for every insertion, the tubing end be trimmed, especially if it has any scoring or damage.

\*Contact your distributor for ordering information.

**UNION**

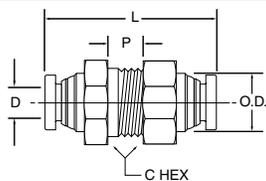
**SERIES 62PLP**



Part No.	Tube Size	O.D.	L	D
62PLP-4	1/4	.500	1.43	.188
62PLP-6	3/8	.625	1.66	.312

**BULKHEAD UNION**

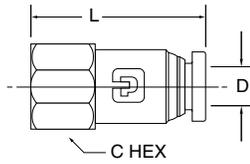
**SERIES 62PLPBH**



Part No.	Tube Size	Bulkhead Hole Dia. B	C Hex	P Max.	L	D
62PLPBH-4	1/4	9/16	11/16	.29	1.43	.188
62PLPBH-6	3/8	3/4	7/8	.54	1.66	.312

**FEMALE CONNECTOR**

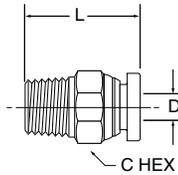
**SERIES 66PLP**



Part No.	Tube Size	Pipe Thread (NPTF)	L	D
66PLP-4-2	1/4	1/8	1.17	.188
66PLP-4-4	1/4	1/4	1.38	.188
66PLP-6-4	3/8	1/4	1.46	.312

**MALE CONNECTOR**

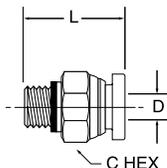
**SERIES W68PLP**



Part No.	Tube Size	Pipe Thread (NPTF)	C Hex	L	D
W68PLP-2-2	1/8	1/8	7/16	0.79	.094
W68PLP-5/32-2	5/32	1/8	7/16	0.80	.125
W68PLP-4-2	1/4	1/8	1/2	0.89	.188
W68PLP-4-4	1/4	1/4	9/16	1.00	.188
W68PLP-4-6	1/4	3/8	3/4	1.04	.188
W68PLP-5-2	5/16	1/8	9/16	1.18	.234
W68PLP-5-4	5/16	1/4	9/16	1.04	.250
W68PLP-6-2	3/8	1/8	5/8	1.21	.234
W68PLP-6-4	3/8	1/4	5/8	1.08	.312
W68PLP-6-6	3/8	3/8	11/16	1.02	.312
W68PLP-6-8	3/8	1/2	7/8	1.28	.312
W68PLP-8-6	1/2	3/8	13/16	1.24	.344
W68PLP-8-8	1/2	1/2	7/8	1.35	.375

**MALE CONNECTOR**

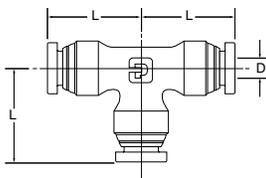
**SERIES 68PLP-X-0**



Part No.	Tube Size	Pipe Thread (NPTF)	C Hex	L	D
68PLP-5/32-0	5/32	10X32	13/32	0.93	.094
68PLP-4-0	1/4	10x32	1/2	0.96	.094

**UNION TEE**

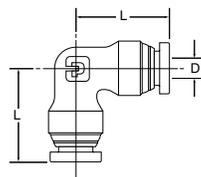
**SERIES 164PLP**



Part No.	Tube Size	L	D
164PLP-4	1/4	0.85	.188
164PLP-6	3/8	1.01	.250
164PLP-8	1/2	1.15	.375

**UNION ELBOW**

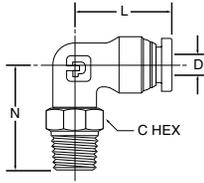
**SERIES 165PLP**



Part No.	Tube Size	L	D
165PLP-4	1/4	0.85	0.188
165PLP-6	3/8	1.01	0.312
165PLP-8	1/2	1.15	0.375

**MALE ELBOW SWIVEL 90°**

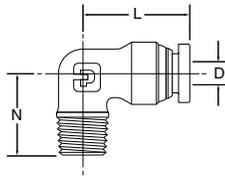
**SERIES W169PLP**



Part No.	Tube Size	Pipe Thread (NPTF)	C Hex	L	N	D
W169PLP-5/32-2	5/32	1/8	7/16	0.77	0.92	0.125
169PLP-5/32-0	5/32	10-32	3/8	0.85	0.74	0.188
W169PLP-4-2	1/4	1/8	7/16	0.85	0.92	0.188
W169PLP-4-4	1/4	1/4	9/16	0.85	1.10	0.188
W169PLP-4-6	1/4	3/8	11/16	0.85	1.19	0.188
169PLP-4-0	1/4	10-32	3/8	0.85	0.74	0.188
W169PLP-5-2	5/16	1/8	9/16	0.97	1.02	0.250
W169PLP-6-2	3/8	1/8	9/16	1.01	1.02	0.312
W169PLP-6-4	3/8	1/4	9/16	1.01	1.24	0.312
W169PLP-6-6	3/8	3/8	11/16	1.01	1.24	0.312
W169PLP-6-8	3/8	1/2	7/8	1.01	1.48	0.312
W169PLP-8-6	1/2	3/8	11/16	1.15	1.31	0.375
W169PLP-8-8	1/2	1/2	7/8	1.15	1.52	0.375

**MALE ELBOW 90°**

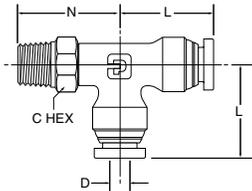
**SERIES W169PLPNS**



Part No.	Tube Size	Pipe Thread (NPTF)	L	N	D
W169PLPNS-2-2	1/8	1/8	0.74	0.67	.094
W169PLPNS-5/32-2	5/32	1/8	0.77	0.67	.125
W169PLPNS-4-2	1/4	1/8	0.85	0.67	.188
W169PLPNS-4-4	1/4	1/4	0.85	0.87	.188
W169PLPNS-6-4	3/8	1/4	1.01	0.94	.312

**MALE RUN TEE SWIVEL**

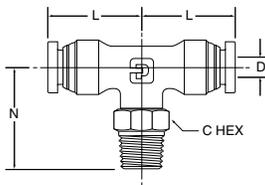
**SERIES W171PLP**



Part No.	Tube Size	Pipe Thread (NPTF)	C Hex	L	N	D
W171PLP-4-2	1/4	1/8	7/16	0.85	0.92	0.188
W171PLP-6-4	3/8	1/4	9/16	1.01	1.24	0.250

**MALE BRANCH TEE SWIVEL**

**SERIES W172PLP**



Part No.	Tube Size	Pipe Thread (NPTF)	C Hex	L	N	D
W172PLP-4-2	1/4	1/8	7/16	0.85	0.92	0.188
W172PLP-4-4	1/4	1/4	9/16	0.85	1.10	0.188
W172PLP-6-4	3/8	1/4	9/16	1.01	1.24	0.250
W172PLP-8-6	1/2	3/8	11/16	1.15	1.31	0.375

**Applications,  
 temperature and  
 pressure range:**

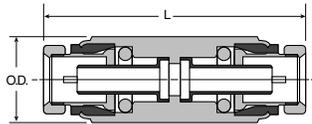
Prestomatic<sup>†</sup> is designed for use in pressure protected air accessory lines that are isolated from the air brake system. Just bottom the tubing in the fitting body for a positive seal. Temperature and working pressure ranges from -40° to +200°F at 250 PSI maximum. Note: see tubing manufacturer's recommendations for pressure and temperature limitations.

**Features:**

- Meet SAE J2494 and D.O.T. FMVSS 571 air brake performance specifications.
- All brass body.
- Stainless steel tube support assures maximum flow and performance characteristics.
- Elbows and tees are available in swivel or rigid dryseal pipe threads. Swivels are designed for alignment purposes only.
- Lubricated O-Ring Seal (Buna N) ensures a quick, easy and positive seal.
- Innovative Collet design ensures positive grip on tubing.
- Release button offers quick and easy disconnections.

**UNION**

**SERIES 62PMT**

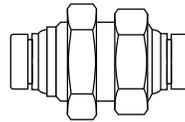
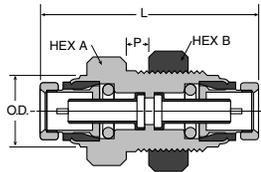


Part No.	Tube Size	L	O.D.
62PMT-4	1/4	1.48	.50
62PMT-6	3/8	1.87	.75
62PMT-8	1/2	2.03	.88

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**BULKHEAD UNION**

**SERIES 62PMTBH**

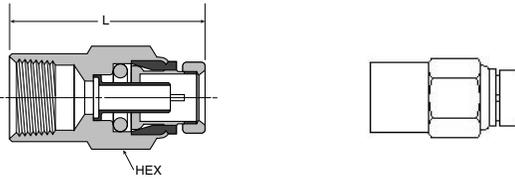


Part No.	Tube Size	O.D.	L	P Max	Hex A	Hex B	Bulkhead Hole Dia.
62PMTBH-4	1/4	.56	1.69	.25	11/16	3/4	9/16
62PMTBH-6	3/8	.88	1.93	.44	1-1/16	1-1/16	7/8

<sup>†</sup> U.S. Patent No. 5,683,120

**FEMALE CONNECTOR**

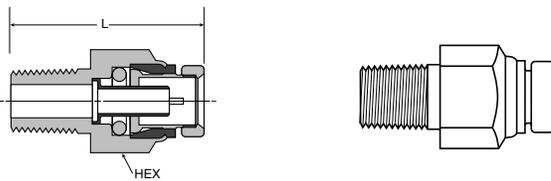
**SERIES 66PMT**



Part No.	Tube Size	Pipe Thread	L	Hex
66PMT-4-2	1/4	1/8	1.22	9/16
66PMT-6-4	3/8	1/4	1.58	3/4

**MALE CONNECTOR**

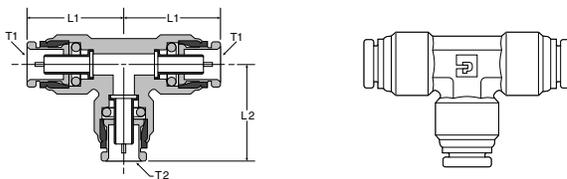
**SERIES 68PMT**



Part No.	Tube Size	Pipe Thread	L	Hex
68PMT-4-2	1/4	1/8	1.06	1/2
68PMT-4-4	1/4	1/4	1.19	9/16
68PMT-6-4	3/8	1/4	1.43	3/4
68PMT-6-6	3/8	3/8	1.33	3/4
68PMT-8-6	1/2	3/8	1.52	7/8
68PMT-8-8	1/2	1/2	1.44	7/8

**UNION TEE**

**SERIES 164PMT**

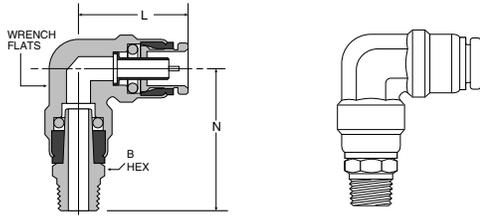


Part No.	Tube 1 Size	Tube 2 Size	L1	L2
164PMT-4	1/4	1/4	.85	.85
164PMT-6	3/8	3/8	1.21	1.21
164PMT-8	1/2	1/2	1.27	1.27

† U.S. Patent No. 5,683,120

**MALE ELBOW SWIVEL 90°**

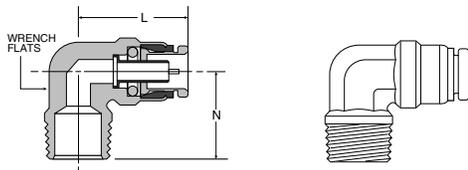
**SERIES 169PMT**



Part No.	Tube Size	Pipe Thread	L	N	Wrench Flats	B Hex
169PMT-4-2	1/4	1/8	.84	1.21	13/32	7/16
169PMT-6-4	3/8	1/4	1.11	1.58	9/16	9/16
169PMT-6-6	3/8	3/8	1.11	1.58	9/16	11/16
169PMT-8-6	1/2	3/8	1.27	1.81	11/16	3/4
169PMT-8-8	1/2	1/2	1.27	1.96	11/16	7/8

**MALE ELBOW NON-SWIVEL 90°**

**SERIES 169PMTNS**



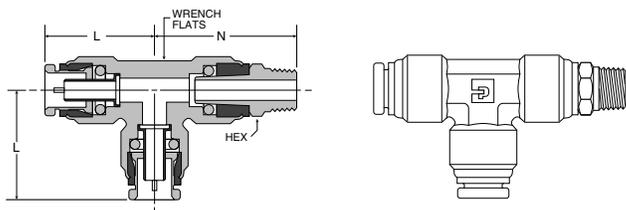
Part No.	Tube Size	Pipe Thread	L	N	Wrench Flats
169PMTNS-4-2	1/4	1/8	.84	.72	1/2
169PMTNS-6-4	3/8	1/4	1.05	.94	9/16
169PMTNS-6-6	3/8	3/8	1.05	.94	3/4
169PMTNS-8-8	1/2	1/2	1.22	1.26	11/16
169PMTNS-10-8	5/8	1/2	1.46	1.32	7/8
169PMTNS-12-8	3/4	1/2	1.81	1.44	1

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<sup>†</sup> U.S. Patent No. 5,683,120

**MALE RUN TEE SWIVEL**

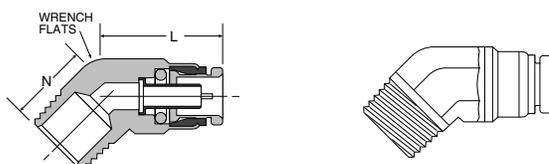
**SERIES 171PMT**



Part No.	Tube Size	Pipe Thread	L	N	Hex	Wrench Flats
171PMT-4-2	1/4	1/8	.85	1.25	7/16	1/2
171PMT-6-4	3/8	1/4	1.21	1.83	9/16	5/8

**MALE ELBOW NON-SWIVEL 45°**

**SERIES 179PMTNS**



Part No.	Tube Size	Pipe Thread	L	N	Wrench Flats
179PMTNS-4-2	1/4	1/8	.80	.56	9/16
179PMTNS-6-4	3/8	1/4	.99	.73	3/4

<sup>†</sup> U.S. Patent No. 5,683,120

**General Description:** Parker Buttweld fittings are designed for applications requiring the reliability of a welded tubing system. They were developed specifically for installation using automatic, orbital TIG (Tungsten/Inert Gas) welding equipment. These fittings offer the easiest, fastest and most reliable way to fabricate welded systems. Automatic Buttweld fittings are available in 316, and 316L stainless steel in straight unions, tees, 90° elbows, and crosses. Automatic Buttweld ends are also available with male pipe and compression tube connections.

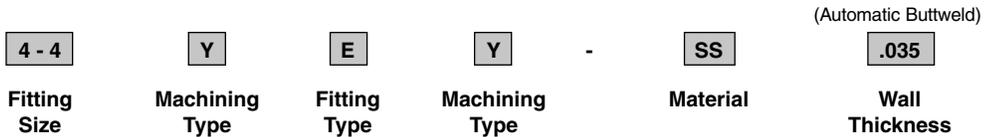
**AUTOMATIC BUTTWELD**

**HOW TO ORDER**

**Nomenclature:** Parker Automatic Buttweld Tube Fittings part numbers are constructed from symbols that identify the size and configuration of the fittings and material used.

**How to Order:** Parker Buttweld components are ordered by part number as listed in this catalog.

**Example:** If your system requires an elbow fitting going from 1/4" tubing to 1/4" tubing, .035 wall thickness, you would order the following part:



**Fitting Size:** The first two numbers denote the fitting size which matches the tubing O.D.

**Material:** Stainless Steel - SS (316L)  
 AOD/VAR - SSR (316R)  
 VIM/VAR - SSV (316V)

**Machining Type:** First end ABW only (Y).

**Wall Thickness:** Fittings must be specified to match the corresponding tube wall thickness.  
 Standard wall thicknesses:  
 Size 4 and 6 – .035 wall thickness  
 Size 8 – .049 wall thickness  
 Other wall thicknesses available upon request.

**Fitting Type:** Straight (H),  
 Union tee (J), Union elbow (E).

**Machining Type:** Second end, ABW (Y), Male pipe (F),  
 CPI™/A-LOK® end assembled (BZ/LZ).

**Size:** Tube and pipe thread sizes are designated by the number of sixteenths of an inch (1/4" tube = 4/16" = size 4), (3/8" tube = 6/16" = size 6), and (1/2" tube = 8/16" = size 8).

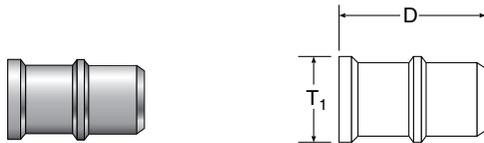
**Special fittings:** If a special fitting configuration is required, it is suggested that a sketch or drawing be submitted for review.

**Availability:** Only items listed in current price list are carried in stock. Customer Specials may be quoted through Parker ICD Division Customer Service.



**AUTOMATIC BUTTWELD PLUG**

**SERIES PNY**

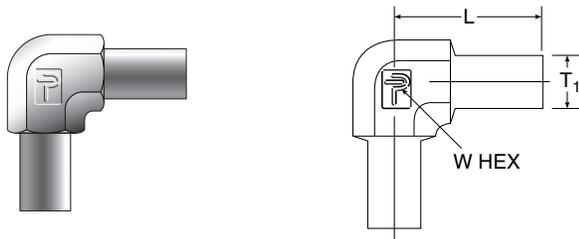


Body Part No.	D (in.)	T <sub>1</sub> (in.)	*Auto-Butt weld Wall Size
4 PNY	0.72	1/4	.035
6 PNY	0.72	3/8	.035
8 PNY	0.72	1/2	.049
12 PNY	1.02	3/4	.065
16 PNY	1.02	1	.095

\*Other fittings and wall sizes available upon request

**UNION ELBOW**

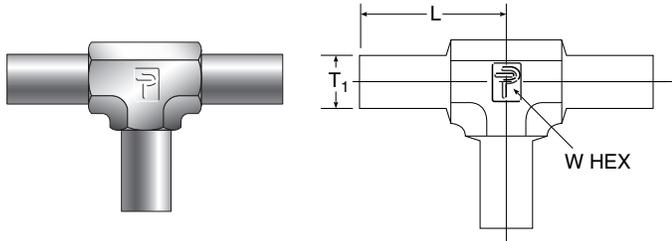
**SERIES T3ET3**



Part No.	L (in.)	T <sub>1</sub> (in.)	W Hex
4-4 T3ET3	1.03	1/4	7/16

**MANIFOLD TEE**

**SERIES T3JT3**

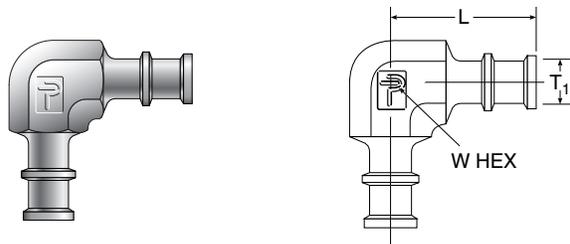


Part No.	L	T <sub>1</sub>	W Hex
4-4-4 T3JT3	1.03	1/4	7/16

Dimensions for reference only, subject to change.

**UNION ELBOW**

**SERIES YEY**



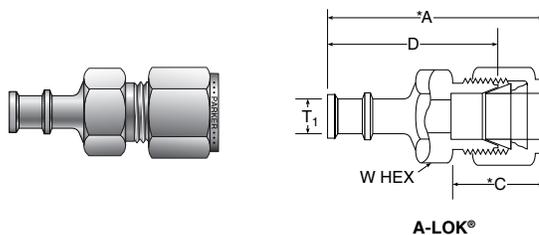
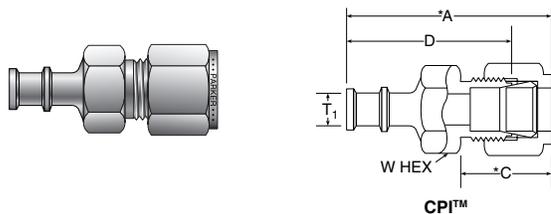
**10**

Part No.	L (in.)	T <sub>1</sub> (in.)	*Auto-Buttweld Wall Size	W Hex
4-4 YEY	1.06	1/4	.035	7/16
6-6 YEY	1.19	3/8	.035	9/16
8-8 YEY	1.44	1/2	.049	3/4
12-12 YEY	1.64	3/4	.065	1-1/16
16-16 YEY	1.81	1	.095	1-5/16

\*Other fittings and wall sizes available upon request

**AUTOMATIC BUTTWELD TO TUBE UNION**

**SERIES YHBZ - YHLZ**



Part No. (A-LOK®)	Part No. (CPI™)	D (in.)	T <sub>1</sub> (in.)	*A (in.)	*C (CPI™)	*C (A-LOK®)	*Auto-Buttweld Wall Size	W Hex
4-4 YHLZ	4-4 YHBZ	1.42	1/4	1.71	.70	.70	.035	1/2
6-6 YHLZ	6-6 YHBZ	1.51	3/8	1.80	.78	.76	.035	5/8
8-8 YHLZ	8-8 YHBZ	1.17	1/2	2.11	.91	.87	.049	3/4

Silver plated nut and single ferrule are provided as shown.

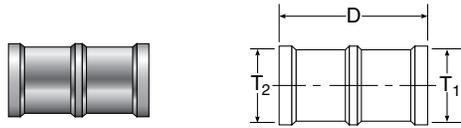
\*Dimensions shown with nut finger tight

\*\*Other fittings and wall sizes available upon request.

Dimensions for reference only, subject to change.

**AUTOMATIC BUTTWELD UNION**

**SERIES YHY**

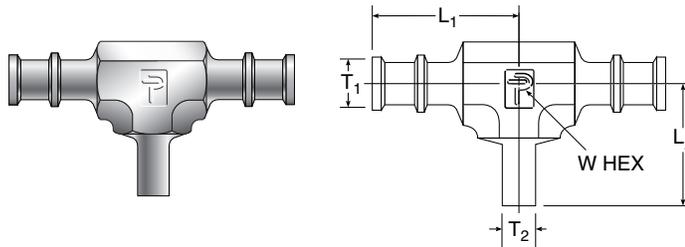


Part No.	D (in.)	T <sub>1</sub> (in.)	T <sub>2</sub> (in.)	*Auto-Butt weld Wall Size
4-4 YHY	0.77	1/4	1/4	.035-.035
6-4 YHY	1.34	3/8	1/4	.035-.035
6-6 YHY	0.77	3/8	3/8	.035-.035
8-4 YHY	1.48	1/2	1/4	.049-.035
8-6 YHY	1.48	1/2	3/8	.049-.035
8-8 YHY	0.77	1/2	1/2	.049-.049
12-12 YHY	1.07	3/4	3/4	.065-.065
16-16 YHY	1.07	1	1	.095-.095

\*Other fittings and wall sizes available upon request

**MANIFOLD BRANCH TEE**

**SERIES YJT3**



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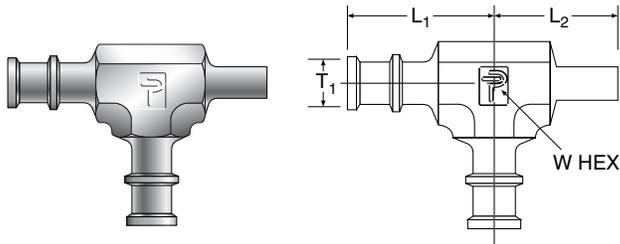
Part No.	L <sub>1</sub> (in.)	L <sub>2</sub> (in.)	T <sub>1</sub> (in.)	T <sub>2</sub> (in.)	*Auto-Butt weld Wall Size	W Hex
4-4-4 YJT3	1.06	1.03	1/4	1/4	.035	7/16
6-6-4 YJT3	1.19	1.15	3/8	1/4	.035	9/16

\*Other fittings and wall sizes available upon request

Dimensions for reference only, subject to change.

**MANIFOLD RUN TEE**

**SERIES YJT3Y**

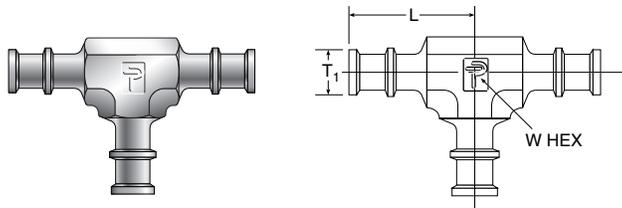


Part No.	L <sub>1</sub> (in.)	L <sub>2</sub> (in.)	T <sub>1</sub> (in.)	*Auto-Buttweld Wall Size	W Hex
4-4-4 YJT3Y	1.06	1.03	1/4	.035	7/16

\*Other fittings and wall sizes available upon request

**UNION TEE**

**SERIES YJY**



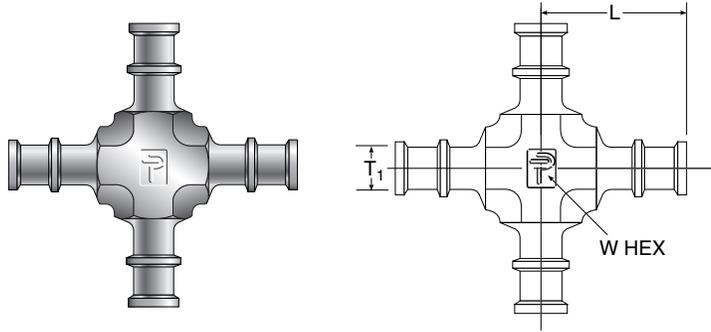
Part No.	L (in.)	T <sub>1</sub> (in.)	*Auto-Buttweld Wall Size	W Hex
4-4-4 YJY	1.06	1/4	.035	7/16
6-6-6 YJY	1.19	3/8	.035	9/16
8-8-8 YJY	1.44	1/2	.049	3/4
12-12-12 YJY	1.64	3/4	.065	1 1/16
16-16-16 YJY	1.81	1	.095	1 5/16

\*Other fittings and wall sizes available upon request

Dimensions for reference only, subject to change.

**CROSS**

**SERIES YKY**



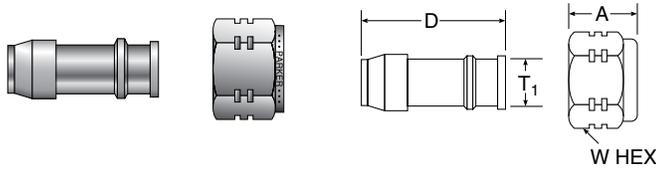
Part No.	L (in.)	T <sub>1</sub> (in.)	*Auto-Buttweld Wall Size	W Hex
4 YKY	1.06	1/4	.035	7/16
6 YKY	1.19	3/8	.035	9/16
8 YKY	1.44	1/2	.049	3/4

\*Other fittings and wall sizes available upon request

**AUTOMATIC BUTTWELD ADAPTER TO COMPRESSION PORT CONNECTOR**

**SERIES ZPY-BY**

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Body Part No.	D (in.)	T <sub>1</sub> (in.)	*Auto-Buttweld Wall Size	Nut Part No.	A (in.)	W Hex
4-4 ZPY	1.12	1/4	.035	4 BY	.50	9/16
6-6 ZPY	1.09	3/8	.035	6 BY	.56	11/16
8-8 ZPY	1.52	1/2	.049	8 BY	.69	7/8
12-12 ZPY	1.50	3/4	.049	12 BY	.69	1-1/8
16-16 ZPY	1.71	1	.083	16 BY	.81	1-1/2

\*Other fittings and wall sizes available upon request

**General Description:** Parker UHP products are designed as leak-free components for applications where ultra-high pure applications are required. MiniButtweld™ fittings provide compact ultra-high pure designs for use with orbital weld equipment. Their unique machining and surface enhancement prevent outgassing and inhibit corrosion.

- Features:**
- 316L VIM/VAR Material
  - Permanently Heat Code marked; traceable to original mill certificate of test.
  - Electropolished components permanently marked with designator on cube (PE).
  - Critical surfaces are 100% visually inspected using magnification and lighting.
  - Material composition printed on bag.

**MiniButtweld™ FITTINGS**

**SPECIFICATIONS:**

- **Pressure Ratings** will be governed by the tubing selected for a particular application. Working Pressures are calculated below for tubing using maximum allowable stress levels in accordance with ASME/ANSI B31.3, at ambient temperature.
- **Dimensions** are for reference only and are subject to change.

Tube O.D.	Pressure Rating (psig)	Normal Wall Thickness
1/8 in.	8500	.028 in.
1/4 in.	5100	.035 in.
3/8 in.	3300	.035 in.
1/2 in.	3500	.049 in.
6mm	6600	1mm

- **Internal Surface Finishes:** Standard finish MiniButtweld™ fittings have an internal Surface Roughness of 15 µinch Ra. Electropolished (PE) MiniButtweld™ fittings have an internal Surface Roughness of 5µinch Ra.
- **Cleaning and Packaging:** Ultra-High Purity 'OMEGA' cleaning and packaging in a Class 100 Clean Room environment validated per Federal Standard 209E, is standard for all electropolished components.

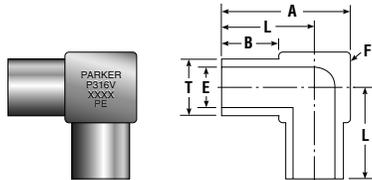
**MATERIALS:**

- 316L VIM/VAR Material complies with ASTM A276 and ASME SA479. Recommended tubing specifications include ASME SA213, ASTM A213, ASTM A249, ASTM A269, MIL T8504, and MIL T8506.



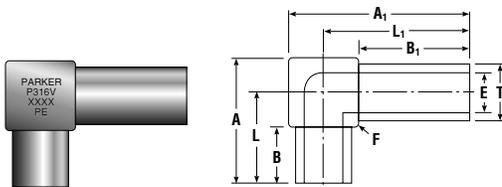
**MiniButtweld™ FITTINGS**

**90° UNION ELBOW**



T Tube O.D.	Part No.	A (in.)	B (in.)	E (in.)	F Body Cube	L (in.)
1/8	2-2 MEM-SSV .028	0.56	0.25	0.07	5/16	0.41
1/4	4-4 MEM-SSV .035	0.56	0.25	0.18	5/16	0.41
3/8	6-6 MEM-SSV .035	0.69	0.25	0.31	7/16	0.47
1/2	8-8 MEM-SSV .049	0.81	0.25	0.40	9/16	0.53
6 mm	6M-6M MEM-SSV	0.56	0.25	0.16	5/16	0.41

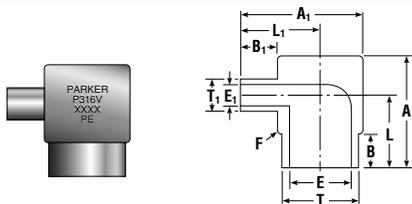
**EXTENDED LEG 90° UNION ELBOW**



T Tube O.D.	Part No.	A (in.)	A1 (in.)	B (in.)	B1 (in.)	E (in.)	F Body Cube	L (in.)	L1 (in.)
1/4	4-4 MEM1-SSV .035	0.56	0.76	0.25	.45	0.18	5/16	0.41	0.61
1/4	4-4 MEM2-SSV .035	0.56	0.81	0.25	.50	0.18	5/16	0.41	0.66
1/4	4-4 M1EM1-SSV .035	0.76	0.76	0.45	.45	0.18	5/16	0.61	0.61
1/4	4-4 M2EM2-SSV .035	0.81	0.81	0.50	.50	0.18	5/16	0.66	0.66

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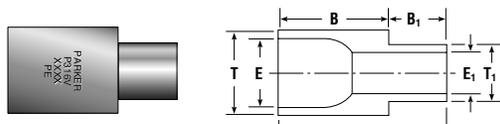
**REDUCING ELBOW**



T Tube O.D.	T1 Tube O.D.	Part No.	A (in.)	A1 (in.)	B (in.)	B1 (in.)	E (in.)	E1 (in.)	F Body Cube	L (in.)	L1 (in.)
3/8	1/4	6-4 MEM-SSV .035	0.69	0.69	0.25	0.25	0.31	0.18	7/16	0.47	0.47
1/2	1/4	8-4 MEM-SSV .049 .035	0.81	0.81	0.25	0.25	0.40	0.18	9/16	0.53	0.53
1/2	3/8	8-6 MEM-SSV .049 .035	0.81	0.81	0.25	0.25	0.40	0.31	9/16	0.53	0.53

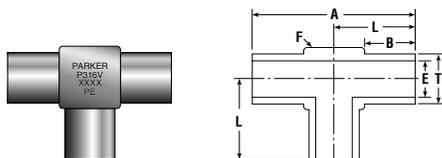
**MiniButtweld™ FITTINGS**

**REDUCING UNION**



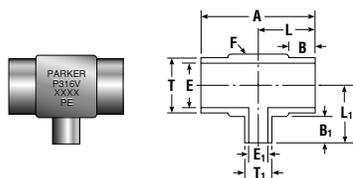
T Tube O.D.	T1 Tube O.D.	Part No.	A (in.)	B (in.)	B1 (in.)	E (in.)	E1 (in.)
1/4	1/8	4-2 MHM-SSV .035 .028	0.75	0.50	0.25	0.18	0.07
3/8	1/4	6-4 MHM-SSV .035	0.75	0.50	0.25	0.31	0.18
1/2	1/4	8-4 MHM-SSV .049 .035	0.75	0.50	0.25	0.40	0.18
1/2	3/8	8-6 MHM-SSV .049 .035	0.75	0.50	0.25	0.40	0.31

**UNION TEE**



T Tube O.D.	Part No.	A (in.)	B (in.)	E (in.)	F Body Cube	L (in.)
1/8	2-2-2 MJM-SSV .028	0.82	0.25	0.07	5/16	0.41
1/4	4-4-4 MJM-SSV .035	0.82	0.25	0.18	5/16	0.41
3/8	6-6-6 MJM-SSV .035	0.94	0.25	0.31	7/16	0.47
1/2	8-8-8 MJM-SSV .049	1.06	0.25	0.40	9/16	0.53
6 mm	6M-6M-6M MJM-SSV	0.82	0.25	0.16	5/16	0.41

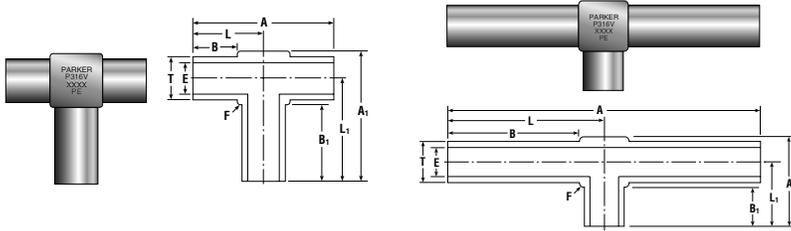
**REDUCING TEE**



T Tube O.D.	T1 Tube O.D.	Part No.	A (in.)	B (in.)	B1 (in.)	E (in.)	E1 (in.)	F Body Cube	L (in.)	L1 (in.)
3/8	1/4	6-6-4 MJM-SSV .035	0.94	0.25	0.25	0.31	0.18	7/16	0.47	0.47
1/2	1/4	8-8-4 MJM-SSV049049035	1.06	0.25	0.25	0.40	0.18	9/16	0.53	0.53
1/2	3/8	8-8-6 MJM-SSV049049035	1.06	0.25	0.25	0.40	0.31	9/16	0.53	0.53

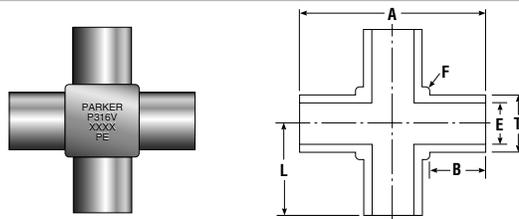
**MiniButtWeld™ FITTINGS**

**EXTENDED LEG UNION TEE**



T Tube O.D.	Part No.	A (in.)	A1 (in.)	B (in.)	B1 (in.)	E (in.)	F Body Cube	L (in.)	L1 (in.)
1/4	4-4-4 MJM1-SSV .035	0.82	0.76	0.25	0.45	0.18	5/16	0.41	0.61
1/4	4-4-4 M3JM-SSV .035	1.97	0.56	0.83	0.25	0.18	5/16	0.98	0.41

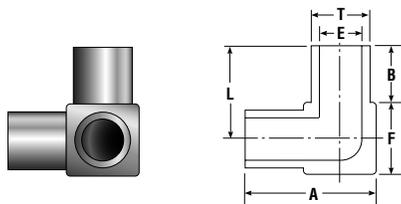
**UNION CROSS**



T Tube O.D.	Part No.	A (in.)	B (in.)	E (in.)	F Body Cube	L (in.)
1/8	2 MKM-SSV .028	0.82	0.25	0.07	5/16	0.41
1/4	4 MKM-SSV .035	0.82	0.25	0.18	5/16	0.41
3/8	6 MKM-SSV .035	0.94	0.25	0.31	7/16	0.47
1/2	8 MKM-SSV .049	1.06	0.25	0.40	9/16	0.53
6 mm	6M MKM-SSV	0.82	0.25	0.16	5/16	0.41

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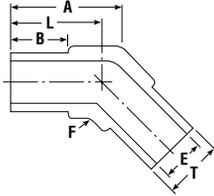
**TRIBOW**



T Tube O.D.	Part No.	A (in.)	B (in.)	E (in.)	F Body Cube	L (in.)
1/4	4-4-4 MOJM-SSV .035	0.56	0.25	0.18	5/16	0.41
3/8	6-6-6 MOJM-SSV .035	0.69	0.25	0.31	7/16	0.47
1/2	8-8-8 MOJM-SSV .049	0.81	0.25	0.40	9/16	0.53

**MiniButtweld™ FITTINGS**

**45° UNION ELBOW**



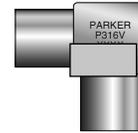
T Tube O.D.	Part No.	A (in.)	B (in.)	E (in.)	F Body Cube	L (in.)
1/4	4-4 MVM-SSV .035	0.47	0.25	0.18	5/16	0.41
3/8	6-6 MVM-SSV .035	0.56	0.25	0.31	7/16	0.47
1/2	8-8 MVM-SSV .049	0.64	0.25	0.40	9/16	0.53

**HOW TO ORDER**



**Example:** If your system requires an electropolished 90° Elbow orbital tube weld fitting connecting from 1/4" O.D. tubing to 1/4" O.D. tubing, .035" wall thickness, you would order the following part:

4 - 4 - MEM - SSV .035 - PE  
**Size**                      **Type**                      **Material**                      **Wall Thickness**                      **Electropolished 5 µinch Ra**



**Size:** Tube sizes are designated by the number of sixteenths of an inch. (i.e. 1/4" O.D. tube=4/16"=4) Metric Tube O.D. is designated in millimeters and prefixed by "M". (i.e. 6M-6M MEM-SSV)

**Type:** Designates shape of component: H=Union, E=90° Elbow, V= 45° Elbow, J=Tee, K=Cross, OJ=Tribow.

**Material:** 316L VIM/VAR Stainless Steel. High-purity Nickel and Hastelloy C-22® available upon request.

**Wall Thickness:** Fittings must be specified to match tube wall thicknesses.

Hastelloy C-22® is a registered trademark of Haynes International, Inc.

**General Description:** The weld used in joining a tube to a socket weld tube fitting is like any other type of “tee” weld. The root (i.e., the point of intersection of the outside of the tube and annular end area of the fitting) must be included in the weld zone.

Careful welding procedures are normally followed to ensure that this root area is included in the weld. If penetration is not achieved, the joint will have two built-in stress risers which may greatly reduce the strength of the weld. Upon application of an extreme load, these stress risers could result in cracks which could propagate out through the weld or tube depending upon the direction of the greatest load.

Often to achieve full root penetration in TIG welding of stainless steels, a fusion pass will be made first, followed by a final pass utilizing a filler rod to achieve the desired fillet size.

**WELD-LOK®**

**HOW TO ORDER**

Parker Weld-lok® components are ordered by part number as listed in this catalog.

**Example:** If your system requires a 90° elbow fitting going from 1/4" tubing to 1/4" tubing, you would order the following part:

4 - 4	E	W	-	SS
<b>Fitting Size</b>	<b>Welding Fitting Type</b>	<b>Machining Type</b>		<b>Material</b>

**Fitting Size:** The first two numbers denote the fitting size which matches the tubing O.D.

**Machining Type:** Weld-lok® (W)

**Welded Fitting Type:** Straight (H), Union tee (J), Union elbow (E).

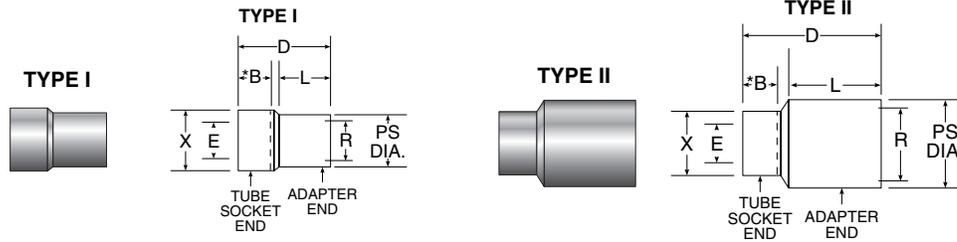
**Material:** Stainless Steel - SS (316L)

*Size:* Tube and pipe thread sizes are designated by the number of sixteenths of an inch (1/4" tube = 4/16" = size 4), (3/8" tube = 6/16" = 6), and (1/2" tube = 8/16" = size 8).

*Special Fittings:* If a special fitting configuration is required, it is suggested that a sketch or drawing be submitted for review.

**ADAPTER – TUBE SOCKET END**  
**ADAPTER END FOR WELDING INTO A FEMALE PIPE SIZE WELDING BOSS**

**SERIES AW**



Part No.	Type	Tube O.D.	Pipe Size	Pipe Size O.D.	R Bore	X Dia.	L	D	*B	E Bore	Work Pres.
2-1/8 AW	II	1/8	1/8	.41	.21	.38	.38	.73	.16	.09	8,700
2-1/4 AW	II	1/8	1/4	.54	.30	.38	.56	.95	.16	.09	8,200
3-1/8 AW	I	3/16	1/8	.41	.21	.44	.38	.76	.20	.14	8,700
3-1/2 AW	II	3/16	1/2	.84	.55	.44	.75	1.26	.20	.14	6,400
3-3/4 AW	II	3/16	3/4	1.05	.73	.44	.75	1.32	.20	.14	5,300
4-1/8 AW	I	1/4	1/8	.41	.21	.50	.38	.84	.25	.19	8,700
4-1/4 AW	II	1/4	1/4	.54	.30	.50	.56	1.01	.25	.19	8,200
4-3/8 AW	II	1/4	3/8	.68	.42	.50	.56	1.05	.25	.19	6,900
4-1/2 AW	II	1/4	1/2	.84	.55	.50	.75	1.29	.25	.19	6,400
4-3/4 AW	II	1/4	3/4	1.05	.73	.50	.75	1.35	.25	.19	5,300
4-1 AW	II	1/4	1	1.31	.95	.50	.94	1.61	.25	.19	4,900
5-1/8 AW	I	5/16	1/8	.41	.21	.59	.38	.93	.31	.21	8,700
5-1/2 AW	II	5/16	1/2	.84	.55	.59	.75	1.32	.31	.25	6,400
6-1/4 AW	I	3/8	1/4	.54	.30	.63	.56	1.12	.34	.30	8,100
6-3/8 AW	II	3/8	3/8	.68	.42	.63	.56	1.11	.34	.31	6,900
6-1/2 AW	II	3/8	1/2	.84	.55	.63	.75	1.34	.34	.31	6,400
6-3/4 AW	II	3/8	3/4	1.05	.73	.63	.75	1.40	.34	.31	5,300
6-1 AW	II	3/8	1	1.31	.95	.63	.94	1.67	.34	.31	4,900
6-1-1/2 AW	II	3/8	1-1/2	1.50	1.50	.63	1.03	1.93	.34	.31	3,700
8-1/4 AW	I	1/2	1/4	.54	.30	.78	.56	1.23	.41	.30	8,100
8-3/8 AW	I	1/2	3/8	.68	.41	.78	.56	1.19	.41	.41	6,900
8-1/2 AW	II	1/2	1/2	.84	.55	.78	.75	1.36	.41	.44	6,400
8-3/4 AW	II	1/2	3/4	1.05	.73	.78	.75	1.42	.41	.44	5,300
8-1 AW	II	1/2	1	1.31	.95	.78	.94	1.69	.41	.44	4,900
10-1/2 AW	I	5/8	1/2	.84	.55	.94	.75	1.43	.47	.50	4,900
10-3/4 AW	II	5/8	3/4	1.05	.73	.94	.75	1.44	.47	.50	5,300
10-1 AW	II	5/8	1	1.31	.95	.94	.94	1.70	.47	.50	4,900
12-1/4 AW	I	3/4	1/4	.54	.30	1.09	.56	1.41	.50	.30	6,000
12-3/8 AW	I	3/4	3/8	.68	.42	1.09	.56	1.37	.50	.42	6,000
12-1/2 AW	I	3/4	1/2	.84	.55	1.09	.75	1.51	.50	.55	6,000
12-3/4 AW	I	3/4	3/4	1.05	.73	1.09	.75	1.45	.50	.66	5,300
12-1 AW	II	3/4	1	1.31	.95	1.09	.94	1.69	.50	.66	4,900
16-1/4 AW	I	1	1/4	.54	.30	1.44	.56	1.57	.56	.30	4,900
16-3/8 AW	I	1	3/8	.68	.42	1.44	.56	1.53	.56	.42	4,900
16-1/2 AW	I	1	1/2	.84	.55	1.44	.75	1.67	.56	.55	4,900
16-3/4 AW	I	1	3/4	1.05	.73	1.44	.75	1.61	.56	.73	4,900
16-1 AW	I	1	1	1.31	.95	1.44	.94	1.72	.56	.91	4,900
16-1-1/4 AW	II	1	1-1/4	1.66	1.28	1.44	.94	1.75	.56	.91	4,100
16-1-1/2 AW	II	1	1-1/2	1.90	1.50	1.44	1.03	1.91	.56	.91	3,700
20-1-1/4 AW	II	1-1/4	1-1/4	1.66	1.28	1.75	.94	1.78	.63	1.06	4,100
20-1-1/2 AW	II	1-1/4	1-1/2	1.90	1.50	1.75	1.03	1.89	.63	1.06	3,700
24-1-1/2 AW	I	1-1/2	1-1/2	1.90	1.50	2.00	1.03	1.92	.67	1.31	3,700
32-2 AW	I	2	2	2.38	1.94	2.63	1.06	2.10	.78	1.81	3,200

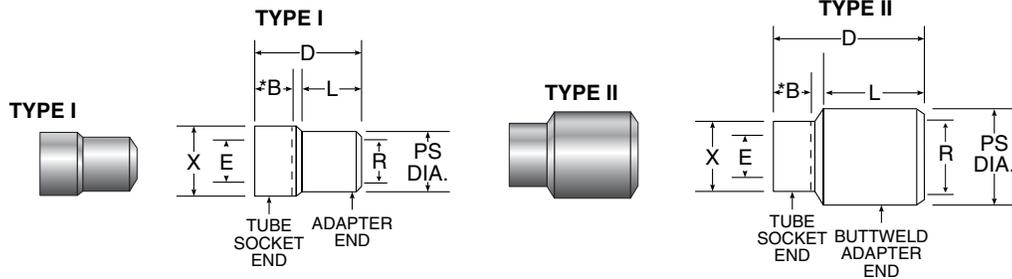
\*Socket Depth

NOTE: "R" bore diameter will conform to Schedule 80 pipe wall thickness unless otherwise noted.

NOTE: Other drop sizes available upon request. Dimensions for reference only, subject to change.

ADAPTER – TUBE SOCKET TO PIPE BUTTWELD

SERIES AW2



Part No.	Type	Tube O.D.	Pipe Size	Pipe Size O.D.	R Bore	X Dia.	L	D	*B	E Bore	Work Pres.
2-1/8 AW2	II	1/8	1/8	.41	.21	.38	.38	.73	.16	.09	8,700
2-1/4 AW2	II	1/8	1/4	.54	.30	.38	.56	.95	.16	.09	8,200
3-1/8 AW2	I	3/16	1/8	.41	.21	.44	.38	.76	.20	.14	8,700
3-1/2 AW2	II	3/16	1/2	.84	.55	.44	.75	1.26	.20	.14	6,400
3-3/4 AW2	II	3/16	3/4	1.05	.73	.44	.75	1.32	.20	.14	5,300
4-1/8 AW2	I	1/4	1/8	.41	.21	.50	.38	.84	.25	.19	8,700
4-1/4 AW2	II	1/4	1/4	.54	.30	.50	.56	1.01	.25	.19	8,200
4-3/8 AW2	II	1/4	3/8	.68	.42	.50	.56	1.05	.25	.19	6,900
4-1/2 AW2	II	1/4	1/2	.84	.55	.50	.75	1.29	.25	.19	6,400
4-3/4 AW2	II	1/4	3/4	1.05	.73	.50	.75	1.35	.25	.19	5,300
4-1 AW2	II	1/4	1	1.31	.95	.50	.94	1.61	.25	.19	4,900
5-1/8 AW2	I	5/16	1/8	.41	.21	.59	.38	.93	.31	.21	8,700
5-1/2 AW2	II	5/16	1/2	.84	.55	.59	.75	1.32	.31	.25	6,400
6-1/4 AW2	I	3/8	1/4	.54	.30	.63	.56	1.12	.34	.30	8,100
6-3/8 AW2	II	3/8	3/8	.68	.42	.63	.56	1.11	.34	.31	6,900
6-1/2 AW2	II	3/8	1/2	.84	.55	.63	.75	1.34	.34	.31	6,400
6-3/4 AW2	II	3/8	3/4	1.05	.73	.63	.75	1.40	.34	.31	5,300
6-1 AW2	II	3/8	1	1.31	.95	.63	.94	1.67	.34	.31	4,900
6-1-1/2 AW2	II	3/8	1-1/2	1.50	1.50	.63	1.03	1.93	.34	.31	3,700
8-1/4 AW2	I	1/2	1/4	.54	.30	.78	.56	1.23	.41	.30	8,100
8-3/8 AW2	I	1/2	3/8	.68	.41	.78	.56	1.19	.41	.41	6,900
8-1/2 AW2	II	1/2	1/2	.84	.55	.78	.75	1.36	.41	.44	6,400
8-3/4 AW2	II	1/2	3/4	1.05	.78	.75	1.42	.41	.44		5,300
8-1 AW2	II	1/2	1	1.31	.95	.78	.94	1.69	.41	.44	4,900
10-1/2 AW2	I	5/8	1/2	.54	.55	.94	.75	1.43	.47	.50	4,900
10-3/4 AW2	II	5/8	3/4	1.05	.73	.94	.75	1.44	.47	.50	5,300
10-1 AW2	II	5/8	1	1.31	.95	.94	.94	1.70	.47	.50	4,900
12-1/4 AW2	I	3/4	1/4	.54	.30	1.09	.56	1.41	.50	.30	6,000
12-3/8 AW2	I	3/4	3/8	.68	.42	1.09	.56	1.37	.50	.42	6,000
12-1/2 AW2	I	3/4	1/2	.84	.55	1.09	.75	1.51	.50	.55	6,000
12-3/4 AW2	I	3/4	3/4	1.05	.73	1.09	.75	1.45	.50	.66	5,300
12-1 AW2	II	3/4	1	1.31	.95	1.09	.94	1.69	.50	.66	4,900
16-1/4 AW2	I	1	1/4	.54	.30	1.44	.56	1.57	.56	.30	4,900
16-3/8 AW2	I	1	3/8	.68	.42	1.44	.56	1.53	.56	.42	4,900
16-1/2 AW2	I	1	1/2	.84	.55	1.44	.75	1.67	.56	.55	4,900
16-3/4 AW2	I	1	3/4	1.05	.73	1.44	.75	1.61	.56	.73	4,900
16-1 AW2	I	1	1	1.31	.95	1.44	.94	1.72	.56	.91	4,900
16-1-1/4 AW2	II	1	1-1/4	1.66	1.28	1.44	.94	1.75	.56	.91	4,100
16-1-1/2 AW2	II	1	1-1/2	1.90	1.50	1.44	1.03	1.91	.56	.91	3,700
20-1-1/4 AW2	II	1-1/4	1-1/4	1.66	1.28	1.75	.94	1.78	.63	1.06	4,100
20-1-1/2 AW2	II	1-1/4	1-1/2	1.90	1.50	1.75	1.03	1.89	.63	1.06	3,700
24-1-1/2 AW2	I	1-1/2	1-1/2	1.90	1.50	2.00	1.03	1.92	.67	1.31	3,700
32-2 AW2	I	2	2	2.38	1.94	2.63	1.06	2.10	.78	1.81	3,200

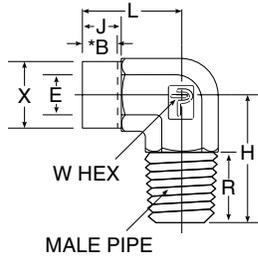
\*Socket Depth

NOTE: "R" bore diameter will conform to Schedule 80 pipe wall thickness unless otherwise noted.

NOTE: Other drop sizes available upon request. Dimensions for reference only, subject to change.

**MALE ELBOW – TUBE SOCKET END – MALE PIPE END**

**SERIES CW**



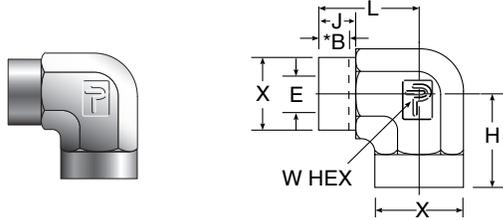
Part No.	Tube O.D. <sub>1</sub>	Male Pipe	E Small Bore	*B	H	J	L	R	W Hex	X Dia.	Work. Pres
2 CW	1/8	1/8	.09	.156	.74	.34	.70	.38	1/2	.375	9,100
2-4 CW	1/8	1/4	.09	.156	.93	.34	.70	.56	1/2	.375	7,500
3 CW	3/16	1/8	.14	.203	.74	.39	.75	.38	1/2	.438	9,100
4 CW	1/4	1/8	.19	.250	.79	.44	.84	.38	9/16	.500	9,100
4-4 CW	1/4	1/4	.19	.250	.97	.44	.84	.56	9/16	.500	7,500
5 CW	5/16	1/8	.25	.313	.79	.50	.90	.38	9/16	.594	9,100
6 CW	3/8	1/4	.31	.344	1.12	.53	1.08	.56	13/16	.625	7,500
6-6 CW	3/8	3/8	.31	.344	1.12	.53	1.08	.56	13/16	.625	7,200
6-8 CW	3/8	1/2	.31	.344	1.31	.53	1.08	.75	13/16	.625	5,800
8-4 CW	1/2	1/4	.44	.406	1.12	.59	1.14	.56	7/8	.78	7,300
8 CW	1/2	3/8	.44	.406	1.12	.59	1.14	.56	7/8	.78	7,200
8-8 CW	1/2	1/2	.44	.406	1.31	.59	1.14	.75	13/16	.78	5,800
10 CW	5/8	1/2	.50	.469	1.46	.66	1.36	.75	1-1/16	.94	5,800
12-4 CW	3/4	1/4	.66	.500	1.27	.69	1.39	.56	1-1/16	1.09	6,000
12-8 CW	3/4	1/2	.66	.500	1.46	.69	1.39	.75	1-1/16	1.09	5,800
12 CW	3/4	3/4	.66	.500	1.46	.69	1.39	.75	1-1/16	1.09	6,000
16-12 CW	1	3/4	.72	.563	1.84	.75	1.84	.75	1-5/8	1.44	4,900
16 CW	1	1	.91	.563	2.03	.75	1.84	.94	1-5/8	1.44	4,400
20 CW	1-1/4	1-1/4	1.06	.625	2.27	.81	2.10	.97	1-7/8	1.750	3,500
24 CW	1-1/2	1-1/2	1.31	.670	2.69	.86	2.54	1.00	2-1/2	2.000	2,900

\*Socket Depth

**NOTE:** Other drop sizes available upon request. Dimensions for reference only, subject to change.

**FEMALE ELBOW – TUBE SOCKET END – FEMALE PIPE END**

**SERIES DW**



Part No.	Tube O.D.	Female Pipe	E Small Bore	*B	H	J	L	W Hex	X Dia.	Work Pres.
2 DW	1/8	1/8	.09	.156	.75	.34	.70	1/2	.375	5,500
3 DW	3/16	1/8	.14	.203	.75	.39	.75	1/2	.438	5,500
4 DW	1/4	1/8	.19	.250	.75	.44	.84	9/16	.500	5,500
4-4 DW	1/4	1/4	.19	.250	.88	.44	.91	11/16	.500	5,600
5 DW	5/16	1/8	.25	.313	.75	.50	.90	9/16	.594	5,500
6 DW	3/8	1/4	.31	.344	.88	.53	1.00	11/16	.625	5,600
6-6 DW	3/8	3/8	.31	.344	.88	.53	1.08	13/16	.625	5,000
6-8 DW	3/8	1/2	.31	.344	1.12	.53	1.19	1	.625	4,500
8-4 DW	1/2	1/4	.44	.406	.88	.59	1.14	7/8	.781	5,600
8 DW	1/2	3/8	.44	.406	.88	.59	1.14	13/16	.781	5,000
8-8 DW	1/2	1/2	.44	.406	1.12	.59	1.29	1-1/16	.781	4,500
10 DW	5/8	1/2	.50	.469	1.12	.66	1.36	1-1/16	.938	4,500
12-4 DW	3/4	1/4	.66	.500	1.12	.69	1.39	1-1/16	1.094	5,600
12 DW	3/4	3/4	.66	.500	1.25	.69	1.58	1-5/16	1.094	3,500
14-12 DW	7/8	3/4	.78	.500	1.25	.69	1.58	1-3/8	1.312	3,500
16-6 DW	1	3/8	.91	.563	1.75	.75	1.84	1-5/8	1.438	4,900
16 DW	1	1	.91	.563	1.50	.75	1.84	1-5/8	1.438	3,900
20 DW	1-1/4	1-1/4	1.06	.625	1.88	.81	2.10	1-7/8	1.750	3,100
24-16 DW	1-1/2	1	1.31	.670	2.08	.86	2.54	2-1/2	2.000	3,700
24 DW	1-1/2	1-1/2	1.31	.670	2.13	.86	2.54	2-1/2	2.000	2,500

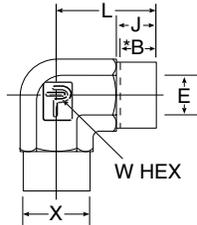
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\*Socket Depth

**NOTE:** Other drop sizes available upon request. Dimensions for reference only, subject to change.

**ELBOW – TUBE SOCKET END – BOTH PORTS**

**SERIES EW**



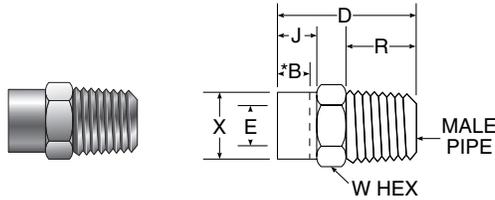
Part No.	Tube O.D. <sub>1</sub>	Tube O.D. <sub>2</sub>	E Small Bore	*B	L	J	W Hex	X Dia.	Work. Pres.
2 EW	1/8	1/8	.09	.156	.70	.34	1/2	.375	10,200
3 EW	3/16	3/16	.14	.203	.75	.39	1/2	.438	9,600
4 EW	1/4	1/4	.19	.250	.84	.44	9/16	.500	9,600
5 EW	5/16	5/16	.25	.313	.90	.50	9/16	.594	9,900
6-4 EW	3/8	1/4	.19	.344	1.08-.98	.53-.44	13/16	.63-.50	8,100
6 EW	3/8	3/8	.31	.344	1.08	.53	13/16	.625	8,100
8-4 EW	1/2	1/4	.19	.406	1.14-.98	.59-.44	7/8	.78-.50	7,300
8-6 EW	1/2	3/8	.31	.406	1.14-1.08	.59-.53	7/8	.78-.63	7,300
8 EW	1/2	1/2	.44	.406	1.14	.59	7/8	.781	7,300
10 EW	5/8	5/8	.50	.469	1.36	.66	1-1/16	.938	6,600
12 EW	3/4	3/4	.66	.500	1.39	.69	1-1/16	1.094	6,000
14 EW	7/8	7/8	.78	.500	1.58	.69	1-3/8	1.312	5,700
16 EW	1	1	.91	.563	1.84	.75	1-5/8	1.438	4,400
20 EW	1-1/4	1-1/4	1.06	.625	2.10	.81	1-7/8	1.750	4,600
24 EW	1-1/2	1-1/2	1.31	.670	2.54	.86	1-1/2	2.000	3,700
32 EW	2	2	1.81	.781	2.78	.97	2-13/16	2.625	3,300

\*Socket Depth

**NOTE:** Other drop sizes available upon request. Dimensions for reference only, subject to change.

**MALE CONNECTOR – TUBE SOCKET END – MALE PIPE END**

**SERIES FW**



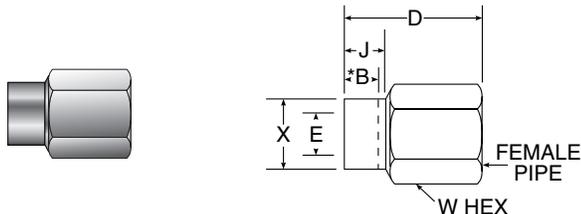
Part No.	Tube O.D.	Male Sock.	E Small Bore	*B	D	J	R	W Hex	X Dia.	Work Pres
2 FW	1/8	1/8	.09	.156	.94	.34	.38	7/16	.375	9,100
2-4 FW	1/8	1/4	.09	.156	1.14	.34	.56	9/16	.375	7,500
3 FW	3/16	1/8	.14	.203	.94	.39	.38	1/2	.438	9,100
3-4 FW	3/16	1/4	.14	.203	1.19	.39	.56	9/16	.438	7,500
4 FW	1/4	1/8	.19	.250	1.05	.44	.38	9/16	.500	9,100
4-4 FW	1/4	1/4	.19	.250	1.23	.44	.56	9/16	.500	7,500
4-8 FW	1/4	1/2	.19	.250	1.50	.44	.75	7/8	.500	6,600
5 FW	5/16	1/8	.25	.313	1.13	.50	.38	5/8	.594	9,100
6-2 FW	3/8	1/8	.19	.344	1.16	.53	.38	11/16	.625	8,100
6 FW	3/8	1/4	.28	.344	1.34	.53	.56	11/16	.625	7,500
6-6 FW	3/8	3/8	.31	.344	1.34	.53	.56	11/16	.625	7,200
6-8 FW	3/8	1/2	.31	.344	1.59	.53	.75	7/8	.625	6,600
6-12 FW	3/8	3/4	.31	.344	1.66	.53	.75	1-1/16	.625	6,400
8-2 FW	1/2	1/8	.19	.406	1.25	.59	.38	13/16	.781	7,300
8-4 FW	1/2	1/4	.28	.406	1.44	.59	.56	13/16	.781	7,300
8 FW	1/2	3/8	.41	.406	1.44	.59	.56	13/16	.781	7,200
8-8 FW	1/2	1/2	.44	.406	1.66	.59	.75	7/8	.781	6,600
8-12 FW	1/2	3/4	.44	.406	1.72	.59	.75	1-1/16	.781	6,400
10-4 FW	5/8	1/4	.28	.469	1.56	.66	.56	1	.938	6,600
10-6 FW	5/8	3/8	.41	.469	1.56	.66	.56	1	.938	6,600
10 FW	5/8	1/2	.50	.469	1.75	.66	.75	1	.938	6,600
10-12 FW	5/8	3/4	.50	.469	1.78	.66	.75	1-1/16	.938	6,400
12-8 FW	3/4	1/2	.50	.500	1.81	.69	.75	1-1/8	1.094	6,000
12 FW	3/4	3/4	.66	.500	1.81	.69	.75	1-1/8	1.094	6,000
12-16 FW	3/4	1	.66	.500	2.09	.69	.94	1-3/8	1.094	4,600
14 FW	7/8	3/4	.66	.500	1.91	.69	.75	1-3/8	1.312	5,700
16-8 FW	1	1/2	.50	.563	2.02	.75	.75	1-5/8	1.438	4,900
16-12 FW	1	3/4	.72	.563	2.02	.75	.75	1-5/8	1.438	4,900
16 FW	1	1	.91	.563	2.20	.75	.94	1-5/8	1.438	4,600
20-12 FW	1-1/4	3/4	.72	.625	2.14	.81	.75	1-7/8	1.750	4,600
20-16 FW	1-1/4	1	.94	.625	2.33	.81	.94	1-7/8	1.750	4,600
20 FW	1-1/4	1-1/4	1.06	.625	2.36	.81	.97	1-7/8	1.750	3,500
20-24 FW	1-1/4	1-1/2	1.06	.625	2.42	.81	1.00	2	1.750	2,900
24-20 FW	1-1/2	1-1/4	1.25	.670	2.49	.86	.97	2-1/8	2.000	3,500
24 FW	1-1/2	1-1/2	1.31	.670	2.52	.86	1.00	2-1/8	2.000	2,900
32 FW	2	2	1.81	.781	2.97	.97	1.03	2-3/4	2.625	2,600

\*Socket Depth

**NOTE:** Other drop sizes available upon request. Dimensions for reference only, subject to change.

**FEMALE CONNECTOR – TUBE SOCKET END – FEMALE PIPE END**

**SERIES GW**



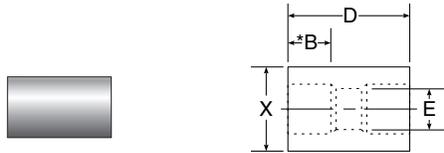
Part No.	Tube O.D.	Female Pipe	E Small Bore	*B	D	J	W Hex	X Dia.	Work Pres.
2 GW	1/8	1/8	.09	.156	.95	.34	9/16	.375	6,400
3 GW	3/16	1/8	.14	.203	.98	.39	9/16	.438	6,400
4 GW	1/4	1/8	.19	.250	1.01	.44	9/16	.500	6,400
4-4 GW	1/4	1/4	.19	.250	1.26	.44	3/4	.500	6,600
4-12 GW	1/4	3/4	.19	.250	1.80	.44	1-1/4	.500	4,300
5 GW	5/16	1/8	.25	.313	1.07	.50	5/8	.594	6,400
6-2 GW	3/8	1/8	.31	.344	1.11	.53	11/16	.625	6,400
6 GW	3/8	1/4	.31	.344	1.32	.53	3/4	.625	6,600
6-6 GW	3/8	3/8	.31	.344	1.42	.53	15/16	.625	5,300
6-8 GW	3/8	1/2	.31	.344	1.67	.53	1-1/16	.625	5,200
6-12 GW	3/8	3/4	.31	.344	1.86	.53	1-1/4	.625	4,300
6-16 GW	3/8	1	.31	.344	2.30	.53	1-5/8	.625	4,500
8-2 GW	1/2	1/8	.34	.406	1.17	.59	13/16	.781	6,400
8-4 GW	1/2	1/4	.44	.406	1.36	.59	13/16	.781	6,600
8 GW	1/2	3/8	.44	.406	1.44	.59	7/8	.781	5,300
8-8 GW	1/2	1/2	.44	.406	1.69	.59	1-1/16	.781	5,200
10-6 GW	5/8	3/8	.50	.469	1.52	.66	1-1/16	.938	5,300
10 GW	5/8	1/2	.50	.469	1.71	.66	1-1/16	.938	5,200
10-16 GW	5/8	1	.50	.469	2.33	.66	1-5/8	.938	4,500
12-8 GW	3/4	1/2	.66	.500	1.72	.69	1-1/8	1.094	5,200
12 GW	3/4	3/4	.66	.500	1.88	.69	1-1/4	1.094	4,300
14 GW	7/8	3/4	.78	.500	1.86	.69	1-3/8	1.312	4,300
16-8 GW	1	1/2	.71	.563	1.85	.75	1-5/8	1.438	4,900
16-12 GW	1	3/4	.91	.563	1.97	.75	1-5/8	1.438	4,300
16 GW	1	1	.91	.563	2.28	.75	1-5/8	1.438	4,500
20 GW	1-1/4	1-1/4	1.06	.625	2.39	.81	2	1.750	3,500

\*Socket Depth

**NOTE:** Other drop sizes available upon request. Dimensions for reference only, subject to change.

**UNION – TUBE SOCKET END – BOTH PORTS**

**SERIES HW**



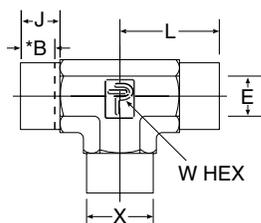
Part No.	Tube O.D.	Tube O.D.	E Small Bore	*B	D	J	X Dia.	Work Pres.
2 HW	1/8	1/8	.09	.156	.69		.375	10,200
3 HW	3/16	3/16	.14	.203	.78		.438	9,600
4-3 HW	1/4	3/16	.14	.25-.20	.85	.44-.39	.50-.44	9,600
4 HW	1/4	1/4	.19	.250	.88		.500	9,600
5 HW	5/16	5/16	.25	.31	1.00		.594	9,900
6-4 HW	3/8	1/4	.19	.34-.25	1.00	.53-.44	.63-.50	8,100
6 HW	3/8	3/8	.31	.344	1.06		.625	8,100
8-4 HW	1/2	1/4	.19	.41-.25	1.11	.59-.44	.78-.50	7,300
8-6 HW	1/2	3/8	.31	.41-.34	1.17	.59-.53	.78-.63	7,300
8 HW	1/2	1/2	.44	.406	1.19		.781	7,300
10-6 HW	5/8	3/8	.31	.47-34	1.28	.66-.53	.94-.63	6,600
10 HW	5/8	5/8	.50	.469	1.31		.938	6,600
12-4 HW	3/4	1/4	.19	.50-.25	1.30	.69-.44	1.09-.50	6,600
12-8 HW	3/4	1/2	.44	.50-.41	1.37	.69-.59	1.09-.78	6,000
12-10 HW	3/4	5/8	.50	.50-.41	1.39	.69-.66	1.09-.94	6,000
12 HW	3/4	3/4	.66	.500	1.38		1.094	6,000
14 HW	7/8	7/8	.78	.500	1.38		1.312	5,700
16-8 HW	1	1/2	.44	.56-.41	1.53	.75-.59	1.44-.78	4,900
16-12 HW	1	3/4	.66	.56-.50	1.54	.75-.69	1.44-1.09	4,900
16 HW	1	1	.91	.563	1.50		1.44	4,900
20-12 HW	1-1/4	3/4	.66	.63-.50	1.69	.81-.69	1.75-1.09	4,600
20-16 HW	1-1/4	1	.91	.63-.56	1.65	.81-.75	1.75-1.44	4,600
20 HW	1-1/4	1-1/4	1.06	.625	1.625		1.750	4,600
24-8 HW	1-1/2	1/2	.44	.67-.41	1.80	.86-.59	2.0-.78	3,700
24-16 HW	1-1/2	1	.91	.67-.56	1.77	.86-.75	2.0-1.44	3,700
24-20 HW	1-1/2	1-1/4	1.06	.67-63	1.74	.86-.81	2.0-1.75	3,700
24 HW	1-1/2	1-1/2	1.31	.670	1.84		2.0	3,700
32-16 HW	2	1	.91	.78-.56	2.06	.97-.75	2.62-1.44	3,300
32 HW	2	2	1.81	.781	2.13		2.625	3,300

\*Socket Depth

**NOTE:** Other drop sizes available upon request. Dimensions for reference only, subject to change.

**TEE – TUBE SOCKET END – ALL 3 PORTS**

**SERIES JW**



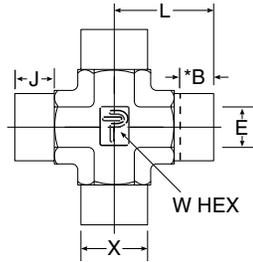
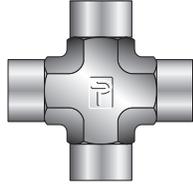
Part No.	Tube O.D. <sub>1</sub>	Tube O.D. <sub>2</sub>	O.d. <sub>3</sub>	E Small Bore	*B	J	L	W Hex	X Dia.	Work. Pres.
2 JW	1/8	1/8	1/8	.09	.156	.34	.70	1/2	.375	10,200
3 JW	3/16	3/16	3/16	.14	.203	.39	.75	1/2	.438	9,600
4 JW	1/4	1/4	1/4	.19	.250	.44	.84	9/16	.500	9,600
5 JW	5/16	5/16	5/16	.25	.313	.50	.90	9/16	.594	9,900
6-6-4 JW	3/8	3/8	1/4	.19	.34-.25	.53-.44	1.08-.99	13/16	.63-.50	8,100
6 JW	3/8	3/8	3/8	.31	.344	.53	1.08	13/16	.625	8,100
8-4-4 JW	1/2	1/4	1/4	.19	.41-.25	.59-.44	1.14-.98	7/8	.78-.50	7,300
8-6-6 JW	1/2	3/8	3/8	.31	.41-.34	.59-.53	1.14-1.08	7/8	.78-.63	7,300
8-8-4 JW	1/2	1/2	1/4	.19	.41-.25	.59-.44	1.14-.98	7/8	.78-.50	7,300
8-8-6 JW	1/2	1/2	3/8	.31	.41-.34	.59-.53	1.14-1.08	7/8	.78-.63	7,300
8 JW	1/2	1/2	1/2	.44	.406	.59	1.14	7/8	.781	7,300
10 JW	5/8	5/8	5/8	.50	.469	.66	1.36	1-1/16	.938	6,600
12-8-12 JW	3/4	1/2	3/4	.44	.50-.41	.69-.59	1.39-1.29	1-1/16	1.09-.78	6,000
12 JW	3/4	3/4	3/4	.66	.500	.69	1.39	1-1/16	1.094	6,000
14 JW	7/8	7/8	7/8	.78	.500	.69	1.58	1-3/8	1.312	5,700
16-8-16 JW	1	1/2	1	.44	.56-.41	.75-.59	1.84-1.68	1-5/8	1.44-.78	4,400
16-12-16 JW	1	3/4	1	.66	.56-.50	.75-.69	1.84-1.77	1-5/8	1.44-1.09	4,400
16 JW	1	1	1	.91	.563	.750	1.84	1-5/8	1.44	4,400
20-16-20 JW	1-1/4	1	1-1/4	.91	.63-.56	.81-.75	2.10-2.04	1-7/8	1.75-1.44	4,600
20 JW	1-1/4	1-1/4	1-1/4	1.06	.625	.812	2.102	1-7/8	1.750	4,600
24-16-24 JW	1-1/2	1	1-1/2	.91	.67-.56	.86-.75	2.54-2.44	2-1/2	2.00-1.44	3,700
24 JW	1-1/2	1-1/2	1-1/2	1.31	.670	.857	2.54	2-1/2	2.000	3,700
32 JW	2	2	2	1.81	.781	.968	2.78	2-13/16	2.625	3,300

\*Socket Depth

**NOTE:** Other drop sizes available upon request. Dimensions for reference only, subject to change.

**CROSS – TUBE SOCKET END – ALL 4 PORTS**

**SERIES KW**



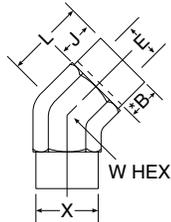
Part No.	Tube O.D.	E Small Bore	*B	J	L	W Hex	X Dia.	Work. Pres.
2 KW	1/8	.09	.156	.34	.70	1/2	.375	10,200
3 KW	3/16	.14	.203	.39	.75	1/2	.438	9,600
4 KW	1/4	.19	.250	.44	.84	9/16	.500	9,600
5 KW	5/16	.25	.313	.50	.90	9/16	.594	9,900
6 KW	3/8	.31	.344	.53	1.08	13/16	.625	8,100
8 KW	1/2	.44	.406	.59	1.14	13/16	.781	7,300
10 KW	5/8	.50	.469	.66	1.36	1-1/16	.938	6,600
12 KW	3/4	.66	.500	.69	1.39	1-1/16	1.094	6,000
16 KW	1	.91	.563	.75	1.84	1-5/8	1.438	4,400
20 KW	1-1/4	1.06	.625	.81	2.10	1-7/8	1.750	4,600
24 KW	1-1/2	1.31	.670	.86	2.54	2-9/16	2.000	3,700
32 KW	2	1.81	.781	.97	2.78	2-9/16	2.625	3,300

\*Socket Depth

**NOTE:** Other drop sizes available upon request. Dimensions for reference only, subject to change.

**45° ELBOW – TUBE SOCKET – BOTH ENDS**

**SERIES NW**



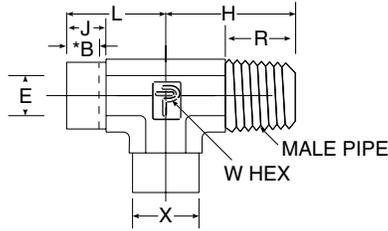
Part No.	Tube O.D.	Tube O.D.	E Small Bore	L	X Dia.	W Hex	*B	J	Work. Pres.
2 NW	1/8	1/8	.09	.53	.375	7/16	.156	.34	10,200
3 NW	3/16	3/16	.14	.73	.438	9/16	.203	.39	9,600
4 NW	1/4	1/4	.19	.84	.500	9/16	.250	.44	9,600
5 NW	5/16	5/16	.25	.86	.594	9/16	.313	.50	9,900
6 NW	3/8	3/8	.31	1.078	.625	7/8	.344	.53	8,100
8 NW	1/2	1/2	.44	1.14	.781	7/8	.406	.59	7,300
10 NW	5/8	5/8	.50	1.36	.938	1-1/16	.469	.66	6,600
12 NW	3/4	3/4	.66	1.34	1.094	1-1/16	.500	.69	6,000
16 NW	1	1	.91	1.63	1.438	1-5/8	.563	.75	4,400
20 NW	1-1/4	1-1/4	1.06	1.63	1.75	1-7/8	.625	.81	4,600
24 NW	1-1/2	1-1/2	1.31	1.67	2.00	2-1/2	.670	.86	3,700
32 NW	2	2	1.81	1.67	2.63	2-1/2	.781	.97	3,300

\*Socket Depth

**NOTE:** Other drop sizes available upon request. Dimensions for reference only, subject to change.

**MALE RUN TEE – SOCKET WELD – MALE RUN TEE**

**SERIES RW**



Part No.	Tube O.D.	Male Pipe	E Small Bore	L	H	X Dia.	W Hex	*B	J	R	Work Pres.
2 RW	1/8	1/8	.09	.70	.74	.375	1/2	.156	.34	.38	9,100
3 RW	3/16	1/8	.14	.75	.75	.438	1/2	.203	.39	.38	9,100
4 RW	1/4	1/8	.19	.84	.79	.500	9/16	.250	.44	.38	9,100
5 RW	5/16	1/8	.19	.90	.79	.594	9/16	.313	.50	.38	9,100
6 RW	3/8	1/4	.28	1.08	1.12	.625	13/16	.344	.53	.56	7,500
8 RW	1/2	3/8	.41	1.14	1.12	.781	13/16	.406	.59	.56	7,200
10 RW	5/8	1/2	.50	1.36	1.46	.938	1-1/16	.469	.66	.75	5,800
12 RW	3/4	3/4	.656	1.39	1.46	1.094	1-1/16	.500	.69	.75	6,000
14 RW	7/8	3/4	.719	1.58	1.65	1.312	1-3/8	.500	.69	.75	5,700
16 RW	1	1	.906	1.84	2.03	1.438	1-5/16	.563	.75	.94	4,400
20 RW	1-1/4	1-1/4	1.063	2.10	2.27	1.750	1-7/8	.625	.81	.97	3,500
24 RW	1-1/2	1-1/2	1.313	2.54	2.70	2.000	2-1/2	.670	.86	1.00	2,900
32 RW	2	2	1.813	2.78	2.85	2.625	2-13/16	.781	.97	1.03	2,600

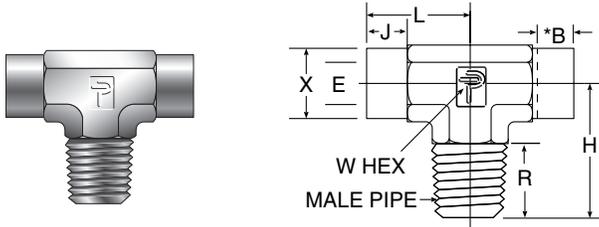
**10**

\*Socket Depth

**NOTE:** Other drop sizes available upon request. Dimensions for reference only, subject to change.

**MALE BRANCH TEE – SOCKET WELD – MALE OUTLET TEE**

**SERIES SW**



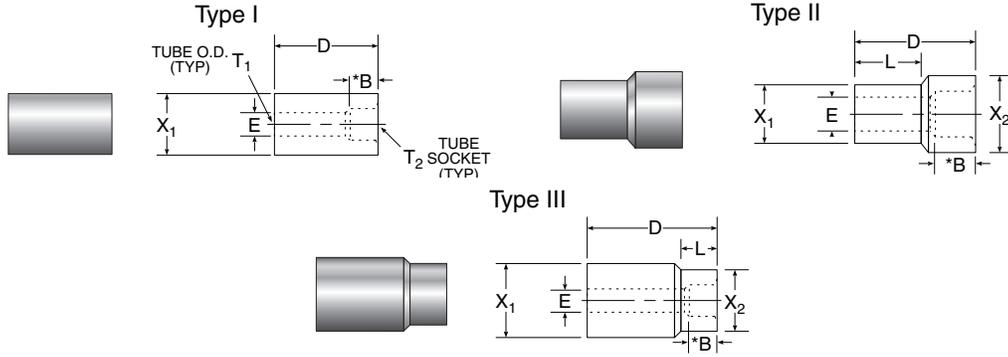
Part No.	Tube O.D.	Male Pipe	E Small Bore	L	H	X Dia.	W Hex	*B	J	R	Work Pres.
2 SW	1/8	1/8	.09	.70	.74	.375	1/2	1.56	.34	.38	9,100
3 SW	3/16	1/8	.14	.75	.75	.438	1/2	.203	.39	.38	9,100
4 SW	1/4	1/8	.19	.84	.79	.500	9/16	.250	.44	.38	9,100
5 SW	5/16	1/8	.19	.90	.79	.594	9/16	.313	.50	.38	9,100
6 SW	3/8	1/4	.28	1.08	1.12	.625	13/16	.344	.53	.56	7,500
8 SW	1/2	3/8	.41	1.14	1.12	.781	13/16	.406	.59	.56	7,200
10 SW	5/8	1/2	.50	1.36	1.47	.938	1-1/16	.469	.66	.75	5,800
12 SW	3/4	3/4	.66	1.39	1.46	1.094	1-1/16	.500	.69	.75	6,000
14 SW	7/8	3/4	.72	1.58	1.65	1.312	1-3/8	.500	.69	.75	5,700
16 SW	1	1	.91	1.84	2.03	1.438	1-5/16	.563	.75	.94	4,400
20 SW	1-1/4	1-1/4	1.06	2.10	2.27	1.750	1-7/8	.625	.81	.97	3,500
24 SW	1-1/2	1-1/2	1.31	2.54	2.70	2.000	2-1/2	.670	.86	1.00	2,900
32 SW	2	2	1.81	2.78	2.85	2.625	2-13/16	.781	.97	1.03	2,600

\*Socket Depth

**NOTE:** Other drop sizes available upon request. Dimensions for reference only, subject to change.

**TUBE REDUCER – TUBE SOCKET REDUCER**

**SERIES TRW**



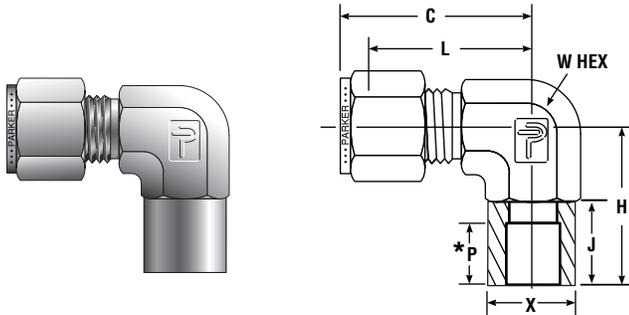
Part No.	T <sub>1</sub> Size	T <sub>2</sub> Tube Sock	Type	D	X1 Dia.	X2 Dia.	L	E Small Bore	*B	Work Pres.
6-4 TRW	3/8	1/4	II	.94	.375	.50	.47	.19	.250	9,600
8-4 TRW	1/2	1/4	I	.88	.500	.50	-	.19	.250	9,600
8-6 TRW	1/2	3/8	II	1.13	.500	.63	.56	.31	.344	7,800
10-4 TRW	5/8	1/4	III	1.22	.623	.50	.44	.19	.250	9,600
10-6 TRW	5/8	3/8	I	1.03	.623	.62	-	.31	.344	8,100
10-8 TRW	5/8	1/2	II	1.26	.623	.78	.63	.41	.406	6,100
12-4 TRW	3/4	1/4	III	1.32	.750	.50	.44	.19	.250	9,600
12-6 TRW	3/4	3/8	III	1.38	.750	.63	.53	.31	.344	8,100
12-8 TRW	3/4	1/2	II	1.29	.750	.78	.69	.44	.406	7,300
12-10 TRW	3/4	5/8	II	1.40	.750	.94	.69	.50	.469	6,600
16-4 TRW	1	1/4	III	1.44	1.000	.50	.44	.19	.250	9,600
16-6 TRW	1	3/8	III	1.50	1.000	.63	.53	.31	.344	8,100
16-8 TRW	1	1/2	III	1.51	1.000	.78	.59	.44	.406	7,300
16-10 TRW	1	5/8	III	1.52	1.000	.94	.66	.50	.469	6,600
16-12 TRW	1	3/4	II	1.47	1.000	1.09	.75	.66	.500	6,600
20-4 TRW	1-1/4	1/4	III	1.65	1.250	.50	.44	.19	.250	9,600
20-6 TRW	1-1/4	3/8	III	1.68	1.250	.63	.53	.31	.344	8,100
20-8 TRW	1-1/4	1/2	III	1.73	1.250	.78	.59	.44	.406	7,300
20-12 TRW	1-1/4	3/4	III	1.73	1.250	1.09	.69	.66	.500	6,000
20-16 TRW	1-1/4	1	II	1.68	1.250	1.44	.88	.91	.563	4,900
24-12 TRW	1-1/2	3/4	III	1.85	1.500	1.09	.69	.66	.500	6,000
24-16 TRW	1-1/2	1	III	1.81	1.500	1.34	.75	.91	.563	4,900
24-20 TRW	1-1/2	1-1/4	II	1.70	1.500	1.75	.81	1.06	.625	4,600

\*Socket Depth

**NOTE:** Other drop sizes available upon request. Dimensions for reference only, subject to change.

**SOCKET WELD CONNECTION – FOR CPI™ TO TUBING FOR FRACTIONAL TUBE**

**SERIES ZEBW**



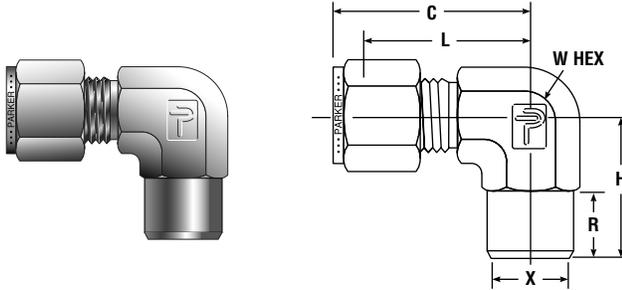
Part No.	Inter-Changes With	Tube O.D.	C	L	H	J	*P	X Dia.	W Hex
2-2 ZEBW	200-9-2W	1/8	.93	.70	.70	.34	.16	.38	1/2
3-3 ZEBW	300-9-3W	3/16	1.01	.74	.75	.39	.20	.44	1/2
4-4 ZEBW	400-9-4W	1/4	1.07	.78	.78	.44	.25	.50	9/16
6-6 ZEBW	600-9-6W	3/8	1.31	1.02	1.08	.53	.34	.63	3/4
6-12 ZEBW	600-9-12W	3/8	1.46	1.17	1.39	.69	.50	1.09	1 1/16
6-16 ZEBW	600-9-16W	3/8	1.84	1.55	1.84	.75	.56	1.44	1-5/8
8-4 ZEBW	800-9-4W	1/2	1.42	1.02	.99	.44	.25	.50	13/16
8-8 ZEBW	800-9-8W	1/2	1.42	1.02	1.14	.59	.41	.78	13/16
8-10 ZEBW	800-9-10W	1/2	1.57	1.17	1.36	.66	.47	.94	1 1/16
8-12 ZEBW	800-9-12W	1/2	1.57	1.17	1.34	.69	.50	1.09	1 1/16
8-16 ZEBW	800-9-16W	1/2	1.95	1.55	1.84	.75	.56	1.44	1 5/8
10-6 ZEBW	1010-9-6W	5/8	1.50	1.10	1.16	.53	.34	.63	15/16
10-8 ZEBW	1010-9-8W	5/8	1.50	1.10	1.22	.59	.41	.78	15/16
10-10 ZEBW	1010-9-10W	5/8	1.57	1.17	1.36	.66	.47	.94	1 1/16
10-16 ZEBW	1010-9-16W	5/8	1.95	1.55	1.84	.75	.56	1.44	1 5/8
12-12 ZEBW	1210-9-12W	3/4	1.57	1.17	1.39	.69	.50	1.09	1 1/16
14-12 ZEBW	1410-9-12W	7/8	1.76	1.36	1.58	.69	.50	1.09	1 3/8
16-14 ZEBW	1610-9-14W	1	1.94	1.45	1.58	.69	.50	1.31	1 3/8
16-16 ZEBW	1610-9-16W	1	2.14	1.65	1.84	.75	.56	1.44	1 5/8

\*Socket Depth

**NOTE:** C dimension is typical finger-tight. Dimensions for reference only, subject to change.  
 For A-LOK® tube fitting double ferrule system replace "B" (ZEBW) with a "L" (ZELW)

**BUTTWELD ELBOW – FOR CPI™ TO PIPE CONNECTION FOR FRACTIONAL PIPE**

**SERIES ZEBW2**



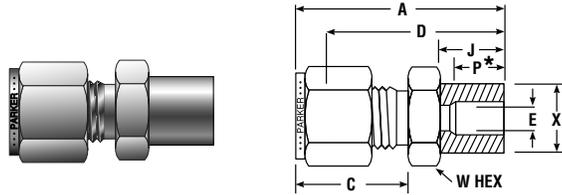
Part No.	Inter-Changes With	Tube O.D.	Butt-Weld Pipe Size	C	H	L	R	X Butt-Weld O.D.	W Hex
2-1/8 ZEBW2	200-2-2W	1/8	1/8	.93	.70	.67	.38	.41	7/16
3-1/8 ZEBW2	300-2-2W	3/16	1/8	1.01	.74	.74	.38	.41	1/2
4-1/8 ZEBW2	400-2-2W	1/4	1/8	1.06	.74	.77	.38	.41	1/2
4-1/4 ZEBW2	400-2-4W	1/4	1/4	1.10	.97	.81	.56	.54	9/16
4-3/4 ZEBW2	400-2-12W	1/4	3/4	1.40	1.45	1.11	.75	1.05	1-1/16
6-1/4 ZEBW2	600-2-4W	3/8	1/4	1.20	1.00	.91	.56	.54	5/8
6-3/8 ZEBW2	600-2-6W	3/8	3/8	1.31	1.11	1.02	.56	.68	13/16
6-1/2 ZEBW2	600-2-8W	3/8	1/2	1.31	1.30	1.02	.75	.84	7/8
6-3/4 ZEBW2	600-2-12W	3/8	3/4	1.46	1.45	1.17	.75	1.05	1-1/16
6-1 ZEBW2	600-2-16W	3/8	1	1.65	1.83	1.36	.94	1.32	1-3/8
8-1/4 ZEBW2	810-2-4W	1/2	1/4	1.42	1.11	1.02	.56	.54	13/16
8-3/8 ZEBW2	810-2-6W	1/2	3/8	1.42	1.11	1.02	.56	.68	13/16
8-1/2 ZEBW2	810-2-8W	1/2	1/2	1.42	1.30	1.02	.75	.84	7/8
8-3/4 ZEBW2	810-2-12W	1/2	3/4	1.57	1.45	1.17	.75	1.05	1-1/16
8-1 ZEBW2	810-W-16W	1/2	1	1.76	1.86	1.36	.94	1.32	1-3/8
10-1/2 ZEBW2	1010-2-8W	5/8	1/2	1.50	1.39	1.10	.75	.84	15/16
12-1/2 ZEBW2	1210-2-8W	3/4	1/2	1.66	1.45	1.26	.75	.84	1-1/16
12-3/4 ZEBW2	1210-2-12W	3/4	3/4	1.57	1.45	1.17	.75	1.05	1-1/16
14-3/4 ZEBW2	1410-2-12W	7/8	3/4	1.78	1.64	1.36	.75	1.05	1-3/8
14-1 ZEBW2	1410-W-16W	7/8	1	1.78	1.83	1.36	.94	1.32	1-3/8
16-1/2 ZEBW2	1610-2-8W	1	1/2	1.94	1.64	1.45	.75	.84	1-3/8
16-3/4 ZEBW2	1610-2-12W	1	3/4	1.94	1.64	1.45	.75	1.05	1-3/8
16-1 ZEBW2	1610-2-16W	1	1	1.94	1.83	1.45	.94	1.32	1-3/8
16-1-1/4 ZEBW2	1610-2-20W	1	1-1/4	2.14	1.88	1.65	.94	1.66	1-5/8
20-1-1/4 ZEBW2	2000-2-20W	1-1/4	1-1/4	2.61	2.02	1.75	.94	1.66	1-5/8
24-1-1/2 ZEBW2	2400-2-24W	1-1/2	1-1/2	3.06	2.38	2.00	1.03	1.90	1-7/8

10

**NOTE:** C dimension is typical finger-tight. Dimensions for reference only, subject to change. Pipe buttweld end will conform to Schedule 80 unless otherwise noted. For A-LOK® tube fitting double ferrule system replace "B" (ZEBW2) with a "L" (ZELW2)

**SOCKET WELD CONNECTOR – FRACTIONAL TUBE FOR CPI™ TO TUBING SOCKET WELD CONNECTION**

**SERIES ZHBW**



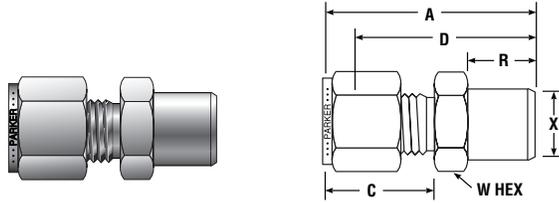
Part No.	Inter-Changes With	Tube O.D.	A	C	D	J	*P	X	E Bore	W Hex
1-2 ZHBW	100-6-2W	1/16	.99	.43	.84	.34	.16	.38	.09	7/16
1-4 ZHBW	100-6-4W	1/16	1.10	.43	.95	.44	.25	.50	.19	9/16
2-2 ZHBW	200-6-2W	1/8	1.16	.60	.90	.34	.16	.38	.09	7/16
3-3 ZHBW	300-6-3W	3/16	1.25	.64	.98	.39	.20	.44	.13	1/2
4-4 ZHBW	400-6-4W	1/4	1.37	.70	1.08	.44	.25	.50	.19	9/16
4-6 ZHBW	400-6-6W	1/4	1.47	.70	1.18	.53	.34	.63	.31	11/16
4-8 ZHBW	400-6-8W	1/4	1.56	.70	1.27	.59	.41	.78	.44	13/16
4-10 ZHBW	400-6-10W	1/4	1.60	.70	1.31	.66	.47	.94	.50	1
4-12 ZHBW	400-6-12W	1/4	1.75	.70	1.46	.69	.50	1.09	.66	1-1/8
4-16 ZHBW	400-6-16W	1/4	1.88	.70	1.59	.75	.56	1.38	.91	1-1/2
6-2 ZHBW	600-6-2W	3/8	1.35	.76	1.06	.34	.16	.38	.09	5/8
6-6 ZHBW	600-6-6W	3/8	1.53	.76	1.24	.53	.34	.63	.28	11/16
6-8 ZHBW	600-6-8W	3/8	1.63	.76	1.34	.59	.41	.78	.44	13/16
6-12 ZHBW	600-6-12W	3/8	1.81	.76	1.52	.69	.50	1.09	.66	1-1/8
6-16 ZHBW	600-6-16W	3/8	2.02	.76	1.73	.75	.56	1.44	.91	1-5/8
8-2 ZHBW	800-6-2W	1/2	1.49	.87	1.09	.34	.16	.38	.09	13/16
8-4 ZHBW	800-6-4W	1/2	1.58	.87	1.18	.44	.25	.50	.19	13/16
8-6 ZHBW	800-6-6W	1/2	1.67	.87	1.27	.53	.34	.63	.31	13/16
8-8 ZHBW	800-6-8W	1/2	1.74	.87	1.34	.59	.41	.78	.41	13/16
8-12 ZHBW	800-6-12W	1/2	1.92	.87	1.52	.69	.50	1.09	.66	1-1/8
8-16 ZHBW	800-6-16W	1/2	2.53	.87	1.73	.75	.56	1.44	.91	1-5/8
10-10 ZHBW	1010-6-10W	5/8	1.86	.87	1.46	.66	.47	.94	.50	1
10-12 ZHBW	1010-6-12W	5/8	1.92	.87	1.52	.69	.50	1.09	.66	1-1/8
12-4 ZHBW	1210-6-4W	3/4	1.68	.87	1.28	.44	.25	.50	.19	1-1/16
12-8 ZHBW	1210-6-8W	3/4	1.84	.87	1.44	.59	.41	.78	.44	1-1/16
12-12 ZHBW	1210-6-12W	3/4	1.92	.87	1.52	.69	.50	1.09	.63	1-1/8
12-16 ZHBW	1210-6-16W	3/4	2.13	.87	1.73	.75	.56	1.44	.91	1-5/8
16-4 ZHBW	1610-6-4W	1	1.95	1.05	1.46	.44	.25	.50	.19	1-3/8
16-6 ZHBW	1610-6-6W	1	2.05	1.05	1.56	.53	.34	.63	.31	1-3/8
16-12 ZHBW	1610-6-12W	1	2.20	1.05	1.71	.69	.50	1.09	.66	1-3/8
16-16 ZHBW	1610-6-16W	1	2.31	1.05	1.82	.75	.56	1.44	.88	1-5/8
16-20 ZHBW	1610-6-20W	1	2.43	1.05	1.94	.81	.63	1.75	.88	1-7/8
20-16 ZHBW	2000-6-16W	1-1/4	2.81	1.52	1.95	.75	.56	1.44	.91	1-3/4
20-20 ZHBW	2000-6-20W	1-1/4	2.90	1.52	2.04	.81	.63	1.75	1.09	1-7/8
24-12 ZHBW	2400-6-12W	1-1/2	3.15	1.77	2.09	.69	.50	1.09	.66	2-1/8
24-20 ZHBW	2400-6-20W	1-1/2	3.27	1.77	2.21	.81	.63	1.75	1.06	2-1/8
24-24 ZHBW	2400-6-24W	1-1/2	3.32	1.77	2.26	.86	.67	2.00	1.31	2-1/8
32-32 ZHBW	3200-6-32W	2	4.40	2.47	2.93	.97	.78	2.63	1.81	2-3/4

\*Socket Depth

**NOTE:** A and C dimensions are typical finger-tight. Dimensions for reference only, subject to change. For A-LOK® tube fitting double ferrule system replace "B" (ZHBW) with a "L" (ZHLW)

**BUTTWELD CONNECTOR – FRACTIONAL PIPE FOR CPI™ TO PIPE BUTTWELD CONNECTION**

**SERIES ZHBW2**

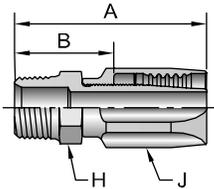


Part No.	Inter-Changes With	Tube O.D.	Buttweld Pipe Size	A	C	D	R	X Buttweld O.D.	W Hex
1-1/8 ZHBW2	200-1-2W	1/16	1/8	1.03	.43	.88	.38	.41	7/16
2-1/8 ZHBW2	200-1-2W	1/8	1/8	1.20	.60	.94	.38	.41	7/16
2-1/4 ZHBW2	200-1-4W	1/8	1/4	1.40	.60	1.14	.56	.54	9/16
2-1/2 ZHBW2	200-1-8W	1/8	1/2	1.67	.60	1.41	.75	.84	7/8
3-1/8 ZHBW2	300-1-2W	3/16	1/8	1.24	.64	.97	.38	.41	7/16
4-1/8 ZHBW2	400-1-2W	1/4	1/8	1.29	.70	1.00	.38	.41	1/2
4-1/4 ZHBW2	400-1-4W	1/4	1/4	1.50	.70	1.20	.56	.54	5/8
4-3/8 ZHBW2	400-1-6W	1/4	3/8	1.54	.70	1.25	.56	.68	3/4
4-1/2 ZHBW2	400-1-8W	1/4	1/2	1.76	.70	1.47	.75	.84	7/8
4-3/4 ZHBW2	400-1-12W	1/4	3/4	1.82	.70	1.53	.75	1.05	1-1/8
4-1 ZHBW2	400-1-16W	1/4	1	2.10	.70	1.81	.94	1.32	1-3/8
5-1/8 ZHBW2	500-1-2W	5/16	1/8	1.34	.73	1.05	.38	.41	9/16
5-1/4 ZHBW2	500-1-4W	5/16	1/4	1.52	.73	1.23	.56	.54	9/16
5-1/2 ZHBW2	500-1-8W	5/16	1/2	1.79	.73	1.50	.75	.84	7/8
6-1/4 ZHBW2	600-1-4W	3/8	1/4	1.57	.76	1.28	.56	.54	5/8
6-3/8 ZHBW2	600-1-6W	3/8	3/8	1.57	.76	1.28	.56	.68	3/4
6-1/2 ZHBW2	600-1-8W	3/8	1/2	1.82	.76	1.53	.75	.84	7/8
6-3/4 ZHBW2	600-1-12W	3/8	3/4	1.88	.76	1.59	.75	1.05	1-1/8
6-1 ZHBW2	600-1-16W	3/8	1	2.17	.76	1.88	.94	1.32	1-3/8
6-1-1/2 ZHBW2	600-1-24W	3/8	1-1/2	2.39	.76	2.10	1.03	1.90	2
6-2 ZHBW2	600-1-32W	3/8	2	2.58	.76	2.29	1.06	2.38	2-1/2
8-1/8 ZHBW2	810-1-2W	1/2	1/8	1.53	.87	1.13	.38	.41	13/16
8-1/4 ZHBW2	810-1-4W	1/2	1/4	1.71	.87	1.31	.56	.54	13/16
8-3/8 ZHBW2	810-1-6W	1/2	3/8	1.71	.87	1.31	.56	.68	13/16
8-1/2 ZHBW2	810-1-8W	1/2	1/2	1.93	.87	1.53	.75	.84	7/8
8-3/4 ZHBW2	810-1-12W	1/2	3/4	1.99	.87	1.59	.75	1.05	1-1/8
8-1 ZHBW2	810-1-16W	1/2	1	2.28	.87	1.88	.94	1.32	1-3/8
8-1-1/2 ZHBW2	810-1-24W	1/2	1-1/2	2.50	.87	2.10	1.03	1.90	2
10-1/4 ZHBW2	1010-1-4W	5/8	1/4	1.74	.87	1.34	.56	.54	15/16
10-3/8 ZHBW2	1010-1-6W	5/8	3/8	1.74	.87	1.34	.56	.67	15/16
10-1/2 ZHBW2	1010-1-8W	5/8	1/2	1.93	.87	1.53	.75	.84	15/16
10-3/4 ZHBW2	1010-1-12W	5/8	3/4	1.99	.87	1.59	.75	1.05	1-1/8
12-3/8 ZHBW2	1210-1-6W	3/4	3/8	1.81	.87	1.41	.56	.67	1-1/8
12-1/2 ZHBW2	1210-1-8W	3/4	1/2	1.99	.87	1.59	.75	.84	1-1/8
12-3/4 ZHBW2	1210-1-12W	3/4	3/4	1.99	.87	1.59	.75	1.05	1-1/8
12-1 ZHBW2	1210-1-16W	3/4	1	2.28	.87	1.88	.94	1.32	1-3/8
16-1/2 ZHBW2	1610-1-8W	1	1/2	2.18	1.05	1.78	.75	.84	1-3/8
16-3/4 ZHBW2	1610-1-12W	1	3/4	2.27	1.05	1.78	.75	1.05	1-3/8
16-1 ZHBW2	1610-1-16W	1	1	2.46	1.05	1.97	.94	1.32	1-3/8
16-1-1/4 ZHBW2	1610-1-20W	1	1-1/4	2.56	1.05	2.07	.94	1.66	1-3/4
16-1-1/2 ZHBW2	1610-1-24W	1	1-1/2	2.68	1.05	2.19	1.03	1.90	2
20-1 ZHBW2	2000-1-16W	1-1/4	1	3.06	1.52	2.20	.94	1.32	1-3/4
20-1-1/4 ZHBW2	2000-1-20W	1-1/4	1-1/4	3.03	1.52	2.17	.94	1.66	1-3/4
20-1-1/2 ZHBW2	2000-1-24W	1-1/4	1-1/2	3.16	1.52	2.30	1.03	1.90	2
24-1 ZHBW2	2400-1-16W	1-1/2	1	3.50	1.77	2.44	.94	1.32	2-1/8
24-1-1/4 ZHBW2	2400-1-20W	1-1/2	1-1/4	3.36	1.77	2.30	.94	1.66	2-1/8
24-1-1/2 ZHBW2	2400-1-24W	1-1/2	1-1/2	3.50	1.77	2.44	1.03	1.90	2-1/8
32-2 ZHBW2	3200-1-32W	2	2	4.47	2.47	3.00	1.06	2.38	2-3/4

**NOTE:** A and C dimensions are typical finger-tight. Dimensions for reference only, subject to change. Pipe Buttweld end will conform to Schedule 80 unless otherwise noted. For A-LOK® tube fitting double ferrule system replace "B" (ZHBW2) with a "L" (ZHLW2)

**MALE NPTF PIPE - RIGID**

**SERIES 20120**

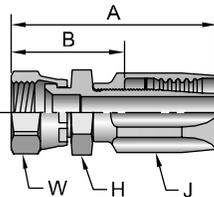


Use with 206 and SS25UL hoses.

Part No.	Thread (in.)	Hose I.D. (in.)	A (in.)	H (in.)	J (in.)	B (in.)
20120-2-4	1/8x27	3/16	1.72	7/16	5/8	0.94
20120-4-4	1/4x18	3/16	1.93	9/16	5/8	1.15
20120-4-5	1/4x18	1/4	2.01	9/16	11/16	1.18
20120-4-6	1/4x18	5/16	2.11	9/16	13/16	1.19
20120-6-6	3/8x18	5/16	2.20	3/4	13/16	1.28
20120-6-8	3/8x18	13/32	2.48	3/4	15/16	1.39
20120-8-8	1/2x14	13/32	2.73	7/8	15/16	1.64
20120-8-10	1/2x14	1/2	2.88	7/8	1-1/8	1.66

**FEMALE JIC 37° - SWIVEL**

**SERIES 20620**

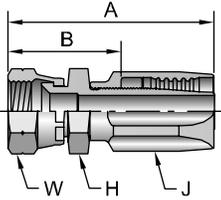


Use with 206 and SS25UL hoses.

Part No.	Thread (in.)		Hose I.D. (in.)	A (in.)	H (in.)	J (in.)	W (in.)	B (in.)	Additional Material Stainless Steel (C)
20620-4-4	1/4	7/16x20	3/16	1.94	9/16	5/8	9/16	1.16	+
20620-4-5	1/4	7/16x20	1/4	2.04	9/16	11/16	9/16	1.21	
20620-6-6	3/8	9/16x18	5/16	2.32	11/16	13/16	11/16	1.40	+
20620-8-8	1/2	3/4x16	13/32	2.79	7/8	15/16	7/8	1.70	+
20620-8-10	1/2	3/4x16	1/2	2.99	7/8	1-1/8	7/8	1.77	
20620-10-10	5/8	7/8x14	1/2	3.10	1	1-1/8	1	1.88	+
20620-16-16	1	1-5/16x12	7/8	3.20	1-1/2	1-7/16	1-1/2	2.01	+

**FEMALE SAE 45° - SWIVEL**

**SERIES 20820**

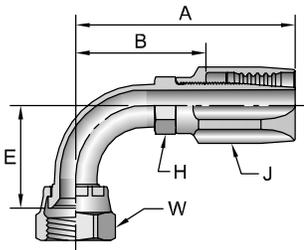


Use with 206 and SS25UL hoses.

Part No.	Thread (in.)		Hose I.D. (in.)	A (in.)	H (in.)	J (in.)	W (in.)	B (in.)
20820-4-4	1/4	7/16x20	3/16	1.94	9/16	5/8	9/16	1.16
20820-6-6	3/8	5/8x18	5/16	2.36	3/4	13/16	3/4	1.44
20820-8-8	1/2	3/4x16	3/8	2.79	7/8	15/16	7/8	1.70

**FEMALE JIC 37° - SWIVEL - 90° ELBOW - SHORT DROP**

**SERIES 23920**

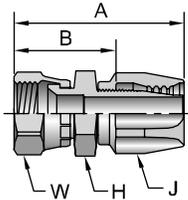


Use with 206 and SS25UL hoses.

Part No.	Thread (in.)		Hose I.D. (in.)	A (in.)	E (in.)	H (in.)	J (in.)	W (in.)	B (in.)
23920-4-4	1/4	7/16x20	3/16	1.91	0.83	3/8	5/8	9/16	1.13
23920-6-6	3/8	9/16x18	5/16	2.35	0.90	1/2	13/16	11/16	1.43
23920-8-8	1/2	3/4x16	13/32	2.88	1.09	5/8	15/16	7/8	1.79
23920-10-10	5/8	7/8x14	1/2	3.20	1.24	3/4	1-1/8	1	1.98

**FEMALE JIC 37° - SWIVEL**

**SERIES 20621**

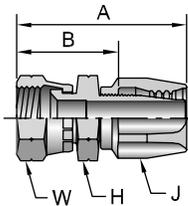


Use with 213 hoses.

Part No.	Thread (in.)	Hose I.D. (in.)	A (in.)	H (in.)	J (in.)	W (in.)	B (in.)
20621-8-8	1/2	3/4x16	13/32	2.46	7/8	7/8	1.54

**FEMALE SAE 45° - SWIVEL**

**SERIES 20821**



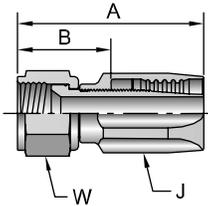
Use with 213 hoses.

Part No.	Thread (in.)	Hose I.D. (in.)	A (in.)	H (in.)	J (in.)	W (in.)	B (in.)
20821-4-4	1/4	7/16x20	3/16	1.83	9/16	9/16	1.16
20821-6-6	3/8	5/8x18	5/16	2.12	3/4	3/4	1.34
20821-8-8	1/2	3/4x16	13/32	2.46	7/8	7/8	1.54

Note: 20821 is used with 45° male flare adapters.

**FEMALE JIC 37° - SWIVEL**

**SERIES 20622**



Use with 206 and SS25UL hoses.

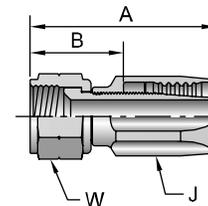
Part No.	Thread (in.)		Hose I.D. (in.)	A (in.)	J (in.)	W (in.)	B (in.)	Additional Material Brass (B)
20622-4-4*	1/4	7/16x20	3/16	1.74	5/8	9/16	0.96	+
20622-5-5*	5/16	1/2x20	1/4	1.91	11/16	5/8	1.08	+
20622-6-6	3/8	9/16x18	5/16	2.05	13/16	11/16	1.13	+
20622-8-8*	1/2	3/4x16	13/32	2.55	15/16	7/8	1.46	+
20622-10-10*	5/8	7/8x14	1/2	2.80	1-1/8	1	1.58	+
20622-12-12	3/4	1-1/16x12	5/8	3.15	1-1/4	1-1/8	1.65	+
20622-16-16	1	1-5/16x12	7/8	2.84	1-7/16	1-1/2	1.65	+
20622-20-20	1-1/4	1-5/8x12	1-1/8	3.00	1-3/4	2	1.72	+
20622-24-24	1-1/2	1-7/8x12	1-3/8	3.30	2	2-1/4	1.93	+
20622-32-32	2	2-1/2x12	1-13/16	4.05	2-1/2	2-7/8	2.31	+
20622-40-40	2-1/2	3x12	2-3/8	4.17	3-1/8	3-3/8	2.36	

\*This fitting contains a dual seat that accepts both the JIC (37°) and SAE (45°) male configurations.

**FEMALE SAE 45° - SWIVEL**

**SERIES 20822**

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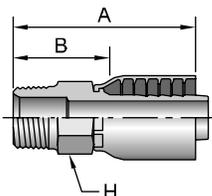
Use with 206 and SS25UL hoses.

Part No.	Thread (in.)		Hose I.D. (in.)	A (in.)	J (in.)	W (in.)	B (in.)	Additional Material Brass (B)
20822-8-8	1/2	3/4x16	13/32	2.45	15/16	7/8	1.36	+

Note: Notch in nut for SAE 45° flare.

**MALE NPTF PIPE - RIGID**

**SERIES 10143**



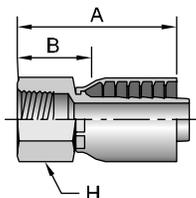
Use with 302, 351ST, 351TC, 422, 431, 436, 451TC, 451ST, 471TC, 471ST, 482TC, 482ST and 881 hoses.

Part No.	Thread (in.)	Hose I.D. (in.)	A (in.)	H (in.)	B (in.)	Additional Material Stainless Steel (C)
10143-2-4	1/8x27	1/4	1.80	9/16	1.05	
10143-4-4	1/4x18	1/4	2.01	9/16	1.26	+
10143-4-6	1/4x18	3/8	2.28	3/4	1.25	
10143-6-4	3/8x18	1/4	1.86	11/16	1.11	
10143-6-6	3/8x18	3/8	2.37	3/4	1.34	+
10143-6-8	3/8x18	1/2	2.59	7/8	1.33	
10143-8-4	1/2x14	1/4	2.13	7/8	1.38	
10143-8-6	1/2x14	3/8	2.39	7/8	1.36	
10143-8-8	1/2x14	1/2	2.84	7/8	1.58	+
10143-8-10	1/2x14	5/8	3.04	15/16	1.59	
10143-12-8	3/4x14	1/2	2.68	1-1/16	1.42	
10143-16-16	1x11-1/2	1	2.59	1-3/8	1.97	+
10143-20-20	1-1/4x11-1/2	1-1/4	4.08	1-3/4	2.39	+

Note: Stainless Steel Fittings must be assembled with Karrykrimp 2, PHastkrimp, Superkrimp, or Parkrimp 2.

**FEMALE NPTF PIPE - RIGID**

**SERIES 10243**

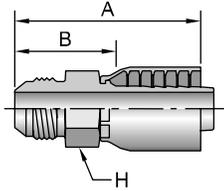


Use with 302, 351ST, 351TC, 422, 431, 436, 451TC, 451ST, 471TC, 471ST, 482TC, 482ST and 881 hoses.

Part No.	Thread (in.)	Hose Size (in.)	A (in.)	H (in.)	B (in.)
10243-4-4	1/4x18	1/4	1.78	11/16	1.03
10243-4-6	1/4x18	3/8	2.05	3/4	1.02
10243-6-4	3/8x18	1/4	2.05	7/8	1.30
10243-6-6	3/8x18	3/8	2.32	7/8	1.29
10243-8-6	1/2x14	3/8	2.40	1-1/8	1.37
10243-8-8	1/2x14	1/2	2.62	1-1/8	1.36
10243-12-12	3/4x14	3/4	2.72	1-1/4	1.28

**MALE JIC 37° - RIGID**

**SERIES 10343**



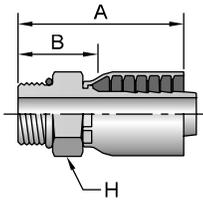
Use with 302, 351ST, 351TC, 422, 431, 436, 451TC, 451ST, 471TC, 471ST, 482TC, 482ST and 881 hoses.

Part No.	Thread (in.)	Hose I.D. (in.)	A (in.)	H (in.)	B (in.)	Part No.	Thread (in.)	Hose I.D. (in.)	A (in.)	H (in.)	B (in.)		
10343-4-4	1/4	7/16x20	1/4	1.99	9/16	1.24	10343-12-8	3/4	1-1/16x12	1/2	2.76	1-1/8	1.50
10343-6-4	3/8	9/16x18	1/4	1.84	11/16	1.09	10343-12-10	3/4	1-1/16x12	5/8	3.07	1-1/8	1.63
10343-6-6	3/8	9/16x18	3/8	2.36	3/4	1.33	10343-12-12	3/4	1-1/16x12	3/4	3.19	1-1/8	1.75
10343-8-6	1/2	3/4x16	3/8	2.30	7/8	1.27	10343-16-12	1	1-5/16x12	3/4	3.04	1-3/8	1.60
10343-8-8	1/2	3/4x16	1/2	2.68	7/8	1.42	10343-16-16	1	1-5/16x12	1	3.63	1-3/8	2.01
10343-10-8	5/8	7/8x14	1/2	2.62	15/16	1.36	10343-20-20	1-1/4	1-5/8x12	1-1/4	3.96	1-7/8	2.27
10343-10-10	5/8	7/8x14	5/8	3.03	15/16	1.59	10343-24-20*	1-1/2	1-7/8x12	1-1/4	3.71	2	2.02

\*Must be assembled with Die Part No. 83C-A20H in a Superkrimp or Parkrimp 2.

**MALE SAE STRAIGHT THREAD WITH O-RING - RIGID**

**SERIES 10543**



Use with 302, 351ST, 351TC, 422, 431, 436, 451TC, 451ST, 471TC, 471ST, 482TC, 482ST and 881 hoses.

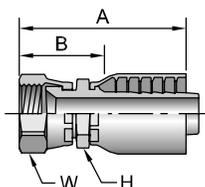
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Part No.	Thread (in.)	Hose I.D. (in.)	A (in.)	H (in.)	B (in.)	Part No.	Thread (in.)	Hose I.D. (in.)	A (in.)	H (in.)	B (in.)		
10543-4-4	1/4	7/16x20	1/4	1.64	9/16	0.89	10543-12-8	3/4	1-1/16x12	1/2	2.61	1-1/4	1.35
10543-6-4	3/8	9/16x18	1/4	1.67	11/16	.92	10543-12-10	3/4	1-1/16x12	5/8	2.80	1-1/4	1.36
10543-6-6	3/8	9/16x18	3/8	2.10	11/16	1.07	10543-12-12	3/4	1-1/16x12	3/4	2.81	1-1/4	1.37
10543-6-8	3/8	9/16x18	1/2	2.32	13/16	1.06	10543-16-12	1	1-5/16x12	3/4	2.81	1-1/2	1.37
10543-8-6	1/2	3/4x16	3/8	2.11	7/8	1.08	10543-16-16	1	1-5/16x12	1	3.37	1-1/2	1.75
10543-8-8	1/2	3/4x16	1/2	2.46	7/8	1.20	10543-20-20	1-1/4	1-5/8x12	1-1/4	3.69	1-7/8	2.00
10543-10-8	5/8	7/8x14	1/2	2.35	1	1.09							
10543-10-10	5/8	7/8x14	5/8	2.77	1	1.33							

Note: O-Ring not compatible with Phosphate Ester Fluids.

**FEMALE JIC 37° - SWIVEL**

**SERIES 10643**



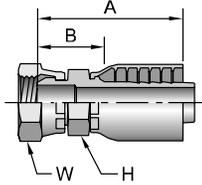
Use with 302, 351ST, 351TC, 422, 431, 436, 451TC, 451ST, 471TC, 471ST, 482TC, 482ST and 881 hoses.

Part No.	Thread (in.)		Hose I.D. (in.)	A (in.)	H (in.)	W (in.)	B (in.)	Additional Material Stainless Steel (C)
10643-4-4	1/4	7/16x20	1/4	1.94	9/16	9/16	1.19	+
10643-4-6	1/4	7/16x20	3/8	2.20	11/16	9/16	1.17	
10643-5-4	5/16	1/2x20	1/4	2.03	9/16	5/8	1.28	
10643-6-4	3/8	9/16x18	1/4	2.05	9/16	11/16	1.30	
10643-6-6	3/8	9/16x18	3/8	2.29	11/16	11/16	1.26	+
10643-6-8	3/8	9/16x18	1/2	2.51	13/16	11/16	1.25	
10643-8-6	1/2	3/4x16	3/8	2.49	11/16	7/8	1.46	+
10643-8-8	1/2	3/4x16	1/2	2.63	13/16	7/8	1.37	+
10643-10-6	5/8	7/8x14	3/8	2.51	7/8	1	1.48	
10643-10-8	5/8	7/8x14	1/2	2.85	7/8	1	1.59	
10643-10-10	5/8	7/8x14	5/8	2.93	15/16	1	1.49	+
10643-10-12	5/8	7/8x14	3/4	2.93	1-1/16	1	1.49	
10643-12-8	3/4	1-1/16x12	1/2	2.78	1-1/16	1-1/4	1.52	
10643-12-10	3/4	1-1/16x12	5/8	3.10	1-1/16	1-1/4	1.66	
10643-12-12	3/4	1-1/16x12	3/4	3.17	1-1/16	1-1/4	1.73	+
10643-16-12	1	1-5/16x12	3/4	3.31	1-1/4	1-1/2	1.87	
10643-16-16	1	1-5/16x12	1	3.62	1-3/8	1-1/2	2.00	+
10643-20-20	1-1/4	1-5/8x12	1-1/4	3.94	1-7/8	2	2.25	+

Note: Stainless steel fittings must be assembled with Karrykrimp 2, PHastkrimp, Superkrimp or Parkrimp 2.

**FEMALE NPSM PIPE - SWIVEL (60° CONE)**

**SERIES 10743**

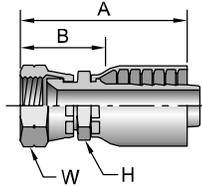


Use with 302, 351ST, 351TC, 422, 431, 436, 451TC, 451ST, 471TC, 471ST, 482TC, 482ST and 881 hoses.

Part No.	Thread (in.)	Hose Size (in.)	A (in.)	H (in.)	W (in.)	B (in.)
10743-4-4	1/4x18	1/4	1.74	9/16	11/16	0.99
10743-6-6	3/8x18	3/8	2.09	11/16	7/8	1.06
10743-8-8	1/2x14	1/2	2.32	15/16	1	1.06
10743-12-12	3/4x14	3/4	2.70	1-1/16	1-1/4	1.47
10743-16-16	1x11-1/2	1	3.09	1-3/8	1-1/2	1.47
10743-20-20	1-1/4x11-1/2	1-1/4	3.28	1-7/8	1-7/8	1.59

**FEMALE SAE 45° - SWIVEL**

**SERIES 10843**

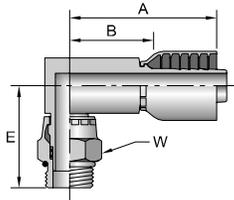


Use with 302, 351ST, 351TC, 422, 431, 436, 451TC, 451ST, 471TC, 471ST, 482TC, 482ST and 881 hoses.

Part No.	Thread (in.)		Hose I.D. (in.)	A (in.)	H (in.)	W (in.)	B (in.)
10843-6-6	3/8	5/8x18	3/8	2.38	3/4	3/4	1.35

**MALE SAE STRAIGHT THREAD WITH O-RING - SWIVEL - 90° ELBOW**

**SERIES 10L43**



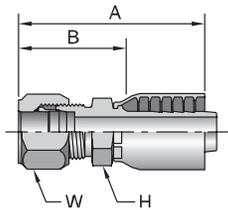
Use with 302, 351ST, 351TC, 422, 431, 436, 451TC, 451ST, 471TC, 471ST, 482TC, 482ST and 881 hoses.

Part No.	Thread (in.)		Hose I.D. (in.)	A (in.)	E (in.)	W (in.)	B (in.)
10L43-8-6	1/2	3/4x16	3/8	2.66	1.86	7/8	1.63

Note: O-Ring not compatible with Phosphate Ester Fluids.  
 Note: Fitting allows minor movement under pressure to relieve stress on hose but is not to be used on continuous or extensive swiveling.

**MALE FERULOK FLARELESS - RIGID (24° CONE w/NUT & FERRULE)**

**SERIES 11143**



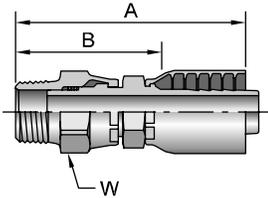
Use with 302, 351ST, 351TC, 422, 431, 436, 451TC, 451ST, 471TC, 471ST, 482TC, 482ST and 881 hoses.

Part No.	Thread (in.)		Hose I.D. (in.)	A (in.)	H (in.)	W (in.)	B (in.)
11143-6-6	3/8	9/16x18	3/8	2.50	3/4	11/16	1.50

Note: The Parker Ferrul-Fix fitting makes it possible to salvage the bent tube section from a hose assembly for quick, easy on-the-job repairs.

**MALE NPTF PIPE - SWIVEL**

**SERIES 11343**



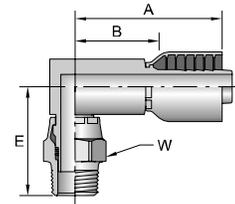
Use with 302, 351ST, 351TC, 422, 431, 436, 451TC, 451ST, 471TC, 471ST, 482TC, 482ST and 881 hoses.

Part No.	Thread (in.)	Hose I.D. (in.)	A (in.)	W (in.)	B (in.)
11343-4-4	1/4x18	1/4	2.68	5/8	1.93
11343-4-6	1/4x18	3/8	3.01	5/8	1.98
11343-6-6	3/8x18	3/8	3.08	3/4	2.05
11343-8-6	1/2x14	3/8	3.30	7/8	2.27
11343-8-8	1/2x14	1/2	3.52	7/8	2.26
11343-12-12	3/4x14	3/4	3.93	1-1/4	2.49
11343-16-16	1x11-1/2	1	4.52	1-1/2	2.90

Note: O-Ring not compatible with Phosphate Ester Fluids.  
 Note: Fitting allows minor movement under pressure to relieve stress on hose but is not to be used on continuous or extensive swiveling.

**MALE NPTF PIPE - SWIVEL - 90° ELBOW**

**SERIES 11L43**



Use with 302, 351ST, 351TC, 422, 431, 436, 451TC, 451ST, 471TC, 471ST, 482TC, 482ST and 881 hoses.

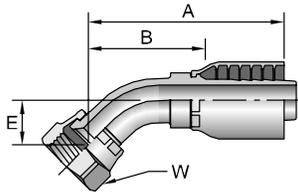
**10**

Part No.	Thread (in.)	Hose I.D. (in.)	A (in.)	E (in.)	W (in.)	B (in.)
11L43-4-4	1/4x18	1/4	2.23	1.79	5/8	1.48
11L43-4-6	1/4x18	3/8	2.53	1.85	5/8	1.50
11L43-6-6	3/8x18	3/8	2.53	1.94	3/4	1.50
11L43-8-6	1/2x14	3/8	2.66	2.17	7/8	1.63
11L43-8-8	1/2x14	1/2	2.96	2.17	7/8	1.70
11L43-12-12	3/4x14	3/4	3.32	2.46	1-1/4	1.88

Note: O-Ring not compatible with Phosphate Ester Fluids.  
 Note: Fitting allows minor movement under pressure to relieve stress on hose but is not to be used on continuous or extensive swiveling.

**FEMALE JIC 37° - SWIVEL - 45° ELBOW - SHORT DROP**

**SERIES 13743**

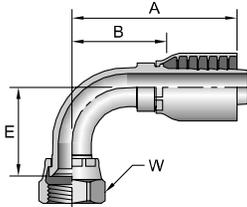


Use with 302, 351ST, 351TC, 422, 431, 436, 451TC, 451ST, 471TC, 471ST, 482TC, 482ST and 881 hoses.

Part No.	Thread (in.)	Hose I.D. (in.)	A (in.)	E (in.)	W (in.)	B (in.)	
13743-4-4	1/4	7/16x20	1/4	1.96	0.39	9/16	1.21
13743-6-6	3/8	9/16x18	3/8	2.39	0.39	11/16	1.39
13743-8-6	1/2	3/4x16	3/8	2.74	0.55	7/8	1.74
13743-8-8	1/2	3/4x16	1/2	2.83	0.55	7/8	1.57
13743-12-12	3/4	1-1/16x12	3/4	3.63	0.78	1-1/4	2.19
13743-16-16	1	1-5/16x12	1	4.34	0.95	1-1/2	2.72
13743-20-20	1-1/4	1-5/8x12	1-1/4	4.59	1.19	2	2.82

**FEMALE JIC 37° - SWIVEL - 90° ELBOW - SHORT DROP**

**SERIES 13943**

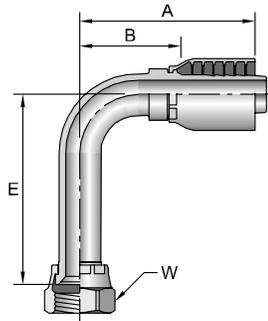


Use with 302, 351ST, 351TC, 422, 431, 436, 451TC, 451ST, 471TC, 471ST, 482TC, 482ST and 881 hoses.

Part No.	Thread (in.)	Hose I.D. (in.)	A (in.)	E (in.)	W (in.)	B (in.)	
13943-4-4	1/4	7/16x20	1/4	1.78	0.83	9/16	1.03
13943-6-4	3/8	9/16x18	1/4	2.12	0.85	11/16	1.37
13943-6-6	3/8	9/16x18	3/8	2.21	0.91	11/16	1.18
13943-8-6	1/2	3/4x16	3/8	2.52	1.09	7/8	1.49
13943-8-8	1/2	3/4x16	1/2	2.62	1.14	7/8	1.36
13943-10-8	5/8	7/8x14	1/2	2.74	1.26	1	1.48
13943-10-10	5/8	7/8x14	5/8	2.97	1.26	1	1.69
13943-12-12	3/4	1-1/16x12	3/4	3.49	1.89	1-1/4	2.05
13943-16-16	1	1-5/16x12	1	4.28	2.20	1-1/2	2.66
13943-20-20	1-1/4	1-5/8x12	1-1/4	4.43	2.59	2	2.74

**FEMALE JIC 37° - SWIVEL - 90° ELBOW - LONG DROP**

**SERIES 14143**



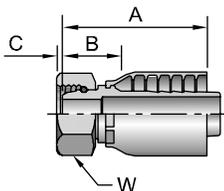
Use with 302, 351ST, 351TC, 422, 431, 436, 451TC, 451ST, 471TC, 471ST, 482TC, 482ST and 881 hoses.

Part No.	Thread (in.)		Hose I.D. (in.)	A (in.)	E (in.)	W (in.)	B (in.)
14143-6-6	3/8	9/16x18	3/8	2.27	2.18	11/16	1.27
14143-8-8	1/2	3/4x16	1/2	2.62	2.52	7/8	1.36
14143-10-10	5/8	7/8x14	5/8	3.16	2.58	1	1.75
14143-12-12	3/4	1-1/16x12	3/4	3.49	3.74	1-1/4	2.05
14143-16-16	1	1-5/16x12	1	3.90	4.32	1-1/2	2.31
14143-20-20	1-1/4	1-5/8x12	1-1/4	4.39	5.28	2	2.73

**FEMALE BSP PARALLEL PIPE - SWIVEL - (60° CONE) (ISO 228-1)**

**SERIES 19243**

10



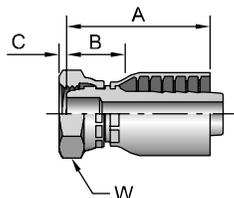
Use with 302, 351ST, 351TC, 422, 431, 436, 451TC, 451ST, 471TC, 471ST, 482TC, 482ST and 881 hoses.

Part No.	Thread (in.)	Hose I.D. (in.)	A (in.)	C (in.)	W (mm)	B (in.)
19243-4-4	1/4x19	1/4	1.95	0.22	19	1.20
19243-6-6	3/8x19	3/8	2.35	0.26	22	1.32

Note: When measuring overall length to the end of the nut, B & C dimensions must be used to calculate cut-off allowance.

**FEMALE METRIC L - SWIVEL (BALL NOSE) (ISO 8434-1)**

**SERIES 1C343**



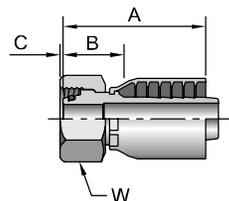
Use with 302, 351ST, 351TC, 422, 431, 436, 451TC, 451ST, 471TC, 471ST, 482TC, 482ST and 881 hoses.

Part No.	Thread (mm)		Hose I.D. (in.)	A (in.)	C (in.)	W (mm)	B (in.)
1C343-10-6	10	M16x1,5	3/8	2.06	0.06	19	1.10
1C343-12-6	12	M18x1,5	3/8	2.23	0.10	22	1.18
1C343-15-8	15	M22x1,5	1/2	2.42	0.17	27	1.29

Note: When measuring overall length to the end of the nut, B & C dimensions must be used to calculate cut-off allowance.

**FEMALE METRIC L - SWIVEL - (24° CONE w/ O-RING) (ISO 12151-2 - SWS)**

**SERIES 1CA43**



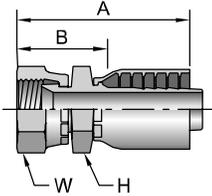
Use with 302, 351ST, 351TC, 422, 431, 436, 451TC, 451ST, 471TC, 471ST, 482TC, 482ST and 881 hoses.

Part No.	Thread (mm)		Hose I.D. (in.)	A (in.)	C (in.)	W (mm)	B (in.)
1CA43-12-6	12	M18x1,5	3/8	2.17	0.03	22	1.02

Note: When measuring overall length to the end of the nut, B & C dimensions must be used to calculate cut-off allowance.

**FEMALE BSP PARALLEL PIPE - SWIVEL - (30° FLARE) (ISO 228-1)**

**SERIES 1FU43**

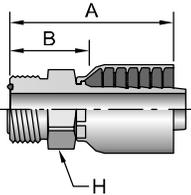


Use with 302, 351ST, 351TC, 422, 431, 436, 451TC, 451ST, 471TC, 471ST, 482TC, 482ST and 881 hoses.

Part No.	Thread (in.)	Hose I.D. (in.)	A (in.)	H (mm)	W (mm)	B (in.)
1FU43-4-4	1/4x19	1/4	1.90	19	19	1.15
1FU43-6-6	3/8x19	3/8	2.32	22	22	1.29
1FU43-8-8	1/2x14	1/2	2.66	27	27	1.40

**MALE Seal-Lok® - RIGID - (w/ O-RING) (ISO 12151-1-S)**

**SERIES 1J043**

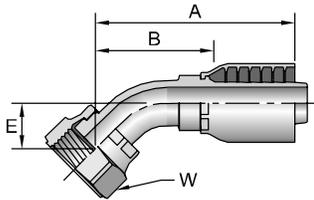


Use with 302, 351ST, 351TC, 422, 431, 436, 451TC, 451ST, 471TC, 471ST, 482TC, 482ST and 881 hoses.

Part No.	Thread (in.)		Hose I.D. (in.)	A (in.)	H (in.)	B (in.)
1J043-6-6	3/8	11/16x16	3/8	2.08	3/4	1.05
1J043-8-8	1/2	13/16x16	1/2	2.42	7/8	1.17
1J043-10-8	5/8	1x14	1/2	2.61	1-1/16	1.35
1J043-12-10	3/4	1-3/16x12	5/8	2.89	1-1/4	1.45

**FEMALE Seal-Lok® - SWIVEL - 45° ELBOW (ISO 12151-1 - SWE45)**

**SERIES 1J743**

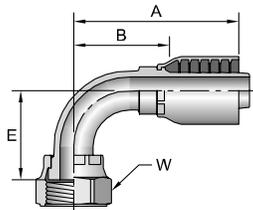


Use with 302, 351ST, 351TC, 422, 431, 436, 451TC, 451ST, 471TC, 471ST, 482TC, 482ST and 881 hoses.

Part No.	Thread (in.)		Hose I.D. (in.)	A (in.)	E (in.)	W (in.)	B (in.)
1J743-4-4	1/4	9/16x18	1/4	1.97	0.39	11/16	1.22
1J743-6-4	3/8	11/16x16	1/4	2.08	0.43	13/16	1.33
1J743-6-6	3/8	11/16x16	3/8	2.34	0.43	13/16	1.31
1J743-8-6	1/2	13/16x16	3/8	2.53	0.59	15/16	1.50
1J743-8-8	1/2	13/16x16	1/2	2.83	0.59	15/16	1.57
1J743-10-8	5/8	1x14	1/2	2.93	0.63	1-1/8	1.67
1J743-10-10	5/8	1x14	5/8	3.17	0.63	1-1/8	1.73
1J743-12-8	3/4	1-3/16x12	1/2	3.57	0.82	1-3/8	2.31
1J743-12-12	3/4	1-3/16x12	3/4	3.63	0.83	1-3/8	2.19
1J743-16-12	1	1-7/16x12	3/4	4.02	0.94	1-5/8	2.59
1J743-16-16	1	1-7/16x12	1	4.38	0.94	1-5/8	2.76
1J743-20-16	1-1/4	1-11/16x12	1	4.52	1.00	1-7/8	2.93
1J743-20-20	1-1/4	1-11/16x12	1-1/4	4.78	1.00	1-7/8	3.09
1J743-24-20	1-1/2	2x12	1-1/4	4.99	1.11	2-1/4	3.30

**FEMALE Seal-Lok® - SWIVEL - 90° ELBOW - SHORT DROP (ISO 12151-1 - SWES90)**

**SERIES 1J943**

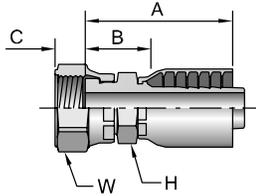


Use with 302, 351ST, 351TC, 422, 431, 436, 451TC, 451ST, 471TC, 471ST, 482TC, 482ST and 881 hoses.

Part No.	Thread (in.)		Hose I.D. (in.)	A (in.)	E (in.)	W (in.)	B (in.)
1J943-4-4	1/4	9/16x18	1/4	1.78	0.83	11/16	1.03
1J943-6-4	3/8	11/16x16	1/4	1.93	0.91	13/16	1.18
1J943-6-6	3/8	11/16x16	3/8	2.21	0.91	13/16	1.18
1J943-8-6	1/2	13/16x16	3/8	2.28	1.14	15/16	1.25
1J943-8-8	1/2	13/16x16	1/2	2.59	1.14	15/16	1.33
1J943-10-10	5/8	1x14	5/8	2.97	1.26	1-1/8	1.53
1J943-12-12	3/4	1-3/16x12	3/4	3.06	1.89	1-3/8	2.05

**FEMALE Seal-Lok® - SWIVEL - SHORT (ISO 12151-1 - SWSA)**

**SERIES 1JC43**



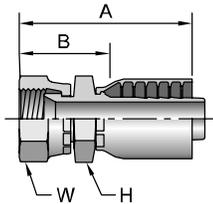
Use with 302, 351ST, 351TC, 422, 431, 436, 451TC, 451ST, 471TC, 471ST, 482TC, 482ST and 881 hoses.

Part No.	Thread (in.)		Hose I.D. (in.)	A (in.)	C (in.)	H (in.)	W (in.)	B (in.)	Additional Material Stainless Steel (C)
1JC43-4-4	1/4	9/16x18	1/4	1.63	0.32	9/16	11/16	0.88	+
1JC43-6-4	3/8	11/16x16	1/4	1.67	0.32	11/16	13/16	0.92	
1JC43-6-6	3/8	11/16x16	3/8	1.94	0.32	11/16	13/16	0.91	+
1JC43-8-6	1/2	13/16x16	3/8	2.00	0.43	13/16	15/16	0.97	
1JC43-8-8	1/2	13/16x16	1/2	2.22	0.43	13/16	15/16	0.96	+
1JC43-10-8	5/8	1x14	1/2	2.30	0.53	15/16	1-1/8	1.04	
1JC43-10-10	5/8	1x14	5/8	2.49	0.53	15/16	1-1/8	1.05	+
1JC43-12-8	3/4	1-3/16x12	1/2	2.48	0.57	1-1/8	1-3/8	1.22	
1JC43-12-12	3/4	1-3/16x12	3/4	2.68	0.57	1-1/8	1-3/8	1.24	+
1JC43-16-12	1	1-7/16x12	3/4	2.83	0.58	1-3/8	1-5/8	1.39	
1JC43-16-16	1	1-7/16x12	1	3.14	0.58	1-3/8	1-5/8	1.52	+
1JC43-20-20	1-1/4	1-11/16x12	1-1/4	3.27	0.59	1-7/8	1-7/8	1.58	+

Note: When measuring overall length to the end of the nut, B & C dimensions must be used to calculate cut-off allowance.  
 Note: Stainless steel fittings must be assembled with Karrykrimp 2, PHastkrimp, Superkrimp or Parkrimp 2.

**FEMALE METRIC - SWIVEL - (30° FLARE)**

**SERIES 1MU43**



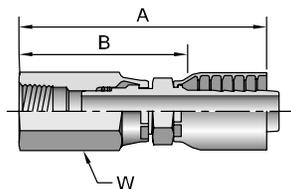
Use with 302, 351ST, 351TC, 422, 431, 436, 451TC, 451ST, 471TC, 471ST, 482TC, 482ST and 881 hoses.

Part No.	Thread (mm)	Hose I.D. (in.)	A (in.)	H (mm)	W (mm)	B (in.)
1MU43-6-6	M18x1,5	3/8	2.45	24	24	1.42

Note: Japanese Fittings - Female Swivel 30° Flare with Metric Threads. All 30° flared fitting sizes are available by combining the 1MU43 fittings in sizes up to -8 with the 1XU43 fittings in sizes -10 and larger.

**FEMALE NPTF PIPE - SWIVEL**

**SERIES 1S243**

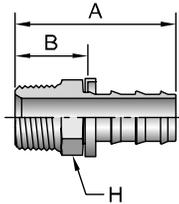


Use with 302, 351ST, 351TC, 422, 431, 436, 451TC, 451ST, 471TC, 471ST, 482TC, 482ST and 881 hoses.

Part No.	Thread (in.)	Hose I.D. (in.)	A (in.)	W (in.)	B (in.)
1S243-4-4	1/4x18	1/4	3.33	3/4	2.58

**MALE NPTF PIPE - RIGID**

**SERIES 30182**

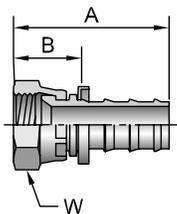


Use with 801, 821, 821FR, 831, 836 hoses.

Part No.	Thread (in.)	Hose I.D. (in.)	A (in.)	H (in.)	B (in.)	Additional Material	
						Brass (B)	Stainless Steel (C)
30182-2-4	1/8x27	1/4	1.39	7/16	0.64	+	+
30182-4-4	1/4x18	1/4	1.57	9/16	0.82	+	+
30182-4-6	1/4x18	3/8	1.78	9/16	0.88	+	+
30182-6-6	3/8x18	3/8	1.78	11/16	0.88	+	+
30182-6-8	3/8x18	1/2	1.93	11/16	0.88	+	
30182-8-6	1/2x14	3/8	2.03	7/8	1.13	+	+
30182-8-8	1/2x14	1/2	2.18	7/8	1.13	+	+
30182-8-10	1/2x14	5/8	2.58	7/8	1.13	+	
30182-12-10	3/4x14	5/8	2.61	1-1/16	1.16	+	
30182-12-12	3/4x14	3/4	2.61	1-1/16	1.16	+	+
30182-16-16	1x11-1/2	1	3.06	1-3/8	1.61	+	+

**FEMALE JIC 37° - SWIVEL**

**SERIES 30682**

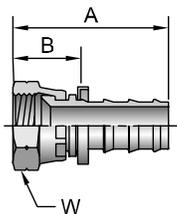


Use with 801, 821, 821FR, 831, 836 hoses.

Part No.	Thread (in.)		Hose I.D. (in.)	A (in.)	W (in.)	B (in.)	Additional Material	
							Brass (B)	Stainless Steel (C)
30682-4-4	1/4	7/16x20	1/4	1.52	9/16	0.77	+	+
30682-5-4	5/16	1/2x20	1/4	1.58	5/8	0.83	+	
30682-6-6	3/8	9/16x18	3/8	1.75	11/16	0.85	+	+
30682-6-8	3/8	9/16x18	1/2	1.90	11/16	0.85	+	
30682-8-6	1/2	3/4x16	3/8	1.87	7/8	0.97	+	
30682-8-8	1/2	3/4x16	1/2	2.02	7/8	0.97	+	+
30682-10-8	5/8	7/8x14	1/2	2.14	1	1.09	+	
30682-10-10	5/8	7/8x14	5/8	2.54	1	1.09	+	+
30682-12-12	3/4	1-1/16x12	3/4	2.65	1-1/4	1.20	+	+
30682-16-16	1	1-5/16x12	1	2.77	1-3/8	1.32	+	

**FEMALE SAE 45° - SWIVEL**

**SERIES 30882**

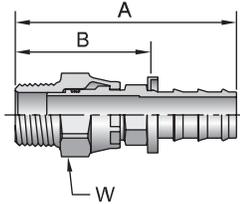


Use with 801, 821, 821FR, 831, 836 hoses.

Part No.	Thread (in.)		Hose I.D. (in.)	A (in.)	W (in.)	B (in.)	Additional Material
							Brass (B)
30882-6-6	3/8	5/8x18	3/8	1.81	3/4	0.91	+
30882-12-12	3/4	1-1/16x14	3/4	2.65	1-1/4	1.20	+

**MALE NPTF PIPE - SWIVEL**

**SERIES 31382**



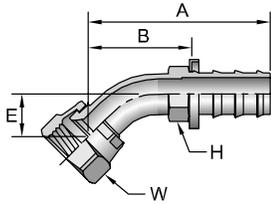
Use with 801, 821, 821FR, 831, 836 hoses.

Part No.	Thread (in.)	Hose I.D. (in.)	A (in.)	W (in.)	B (in.)
31382-4-4	1/4x18	1/4	1.60	9/16	0.85
31382-6-6	3/8x18	3/8	1.79	11/16	0.89
31382-8-8	1/2x14	1/2	2.20	7/8	1.15
31382-12-12	3/4x14	3/4	3.70	1-1/4	2.25

Note: O-Ring not compatible with Phosphate Ester fluids.

**FEMALE JIC 37° - SWIVEL - 45° ELBOW - SHORT DROP**

**SERIES 33782**



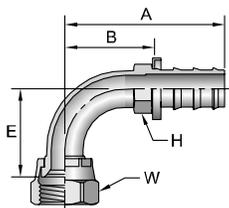
Use with 801, 821, 821FR, 831, 836 hoses.

Part No.	Thread (in.)		Hose I.D. (in.)	A (in.)	E (in.)	H (in.)	W (in.)	B (in.)
33782-6-6	3/8	9/16x18	3/8	1.99	0.43	1/2	11/16	1.09
33782-8-8	1/2	3/4x16	1/2	2.58	0.55	5/8	7/8	1.53

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**FEMALE JIC 37° - SWIVEL - 90° ELBOW - SHORT DROP**

**SERIES 33982**

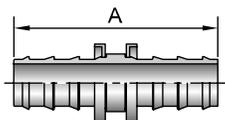


Use with 801, 821, 821FR, 831, 836 hoses.

Part No.	Thread (in.)	Hose I.D. (in.)	A (in.)	E (in.)	H (in.)	W (in.)	B (in.)
33982-4-4	1/4	7/16x20	1/4	1.55	0.83	---	9/16
33982-6-6	3/8	9/16x18	3/8	1.85	0.91	---	11/16
33982-8-8	1/2	3/4x16	1/2	2.33	1.09	5/8	7/8

**PUSH-LOK UNION**

**SERIES 38282**

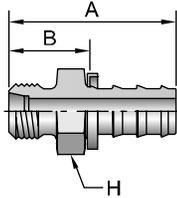


Use with 801, 821, 821FR, 831, 836 hoses.

Part No.	Hose I.D. (in.)	A (in.)	Additional Material Brass (B)
38282-4-4	1/4	1.80	+
38282-6-6	3/8	2.15	+

**MALE METRIC L - RIGID (24° CONE)**

**SERIES 3D082**

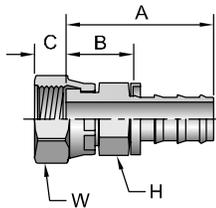


Use with 801, 821, 821FR, 831, 836 hoses.

Part No.	Thread (mm)	Hose I.D. (in.)	A (in.)	H (mm)	B (in.)
3D082-6-4	6 M12x1,5	1/4	1.34	12	0.55

**FEMALE Seal-lok® - SWIVEL - SHORT (ISO 12151-1 - SWSA)**

**SERIES 3JC82**



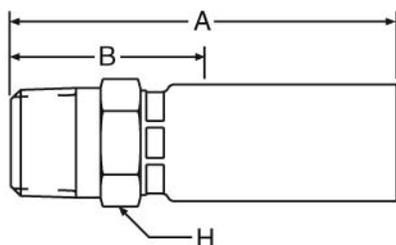
Use with 801, 821, 821FR, 831, 836 hoses.

Part No.	Thread (in.)	Thread (mm)	Hose I.D. (in.)	A (in.)	C (in.)	H (in.)	W (in.)	B (in.)	Additional Material Stainless Steel (C)
3JC82-6-6	3/8	11/16x16	3/8	1.59	0.38	11/16	13/16	0.69	+

Note: When measuring overall length to end of nut, B + C dimensions must be used to calculate cut-off allowance.

**MALE TAPER PIPE RIGID – PARFLEX**

**SERIES 10155 PERMANENT**

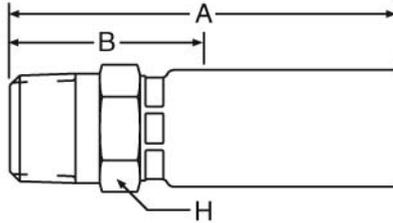


Steel Part No.	B	C	NPTF Pipe thread	Hose I.D. (in.)	A (in.)	Cutoff Allow. B (in.)	H Hex (in.)	Pusher No.
10155-2-3			1/8-27	3/16	1.94	1	9/16	PUM 001
10155-2-4			1/8-27	1/4	2.13	1	5/8	PUM 002
10155-4-3			1/4-18	3/16	2.12	1.19	11/16	PUM 004
10155-4-4	+	+	1/4-18	1/4	2.31	1.19	11/16	PUM 004
10155-4-5			1/4-18	5/16	2.37	1.19	11/16	PUM 004
10155-4-6			1/4-18	3/8	2.66	1.31	3/4	PUM 005
10155-6-3			3/8-18	3/16	2.21	1.19	3/4	PUM 005
10155-6-4			3/8-18	1/4	2.41	1.31	3/4	PUM 005
10155-6-5			3/8-18	5/16	2.47	1.31	3/4	PUM 005
10155-6-6		+	3/8-18	3/8	2.66	1.31	3/4	PUM 005
10155-6-8			3/8-18	1/2	2.85	1.31	7/8	PUM 008
10155-8-6			1/2-14	3/8	2.91	1.56	15/16	PUM 009
10155-8-8		+	1/2-14	1/2	3.09	1.56	15/16	PUM 009
10155-8-10			1/2-14	5/8	3.20	1.50	1	PUM 025
10155-12-10			3/4-14	5/8	3.20	1.50	1-1/8	PUM 011
10155-12-12			3/4-14	3/4	3.28	1.56	1-1/8	PUM 011
10155-16-16			1-11-1/2	1	3.96	1.75	1-3/8	PUM 013

B = Brass  
 C = 316 Stainless Steel

**MALE TAPER PIPE RIGID – PARFLEX**

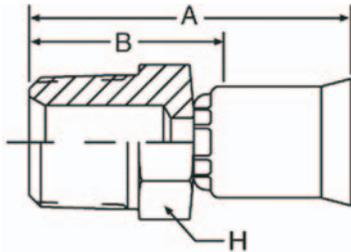
**SERIES 10158/10158H PERMANENT**



Steel Part No.	NPTF Thread Size	Hose I.D. (in.)	A (in.)	Cutoff Allow. B (in.)	H Hex (in.)	Pusher No.
10158-2-2	1/8-27	1/8	1.35	11/16	1/2	PUM 001
10158-2-4	1/8-27	1/8	2.13	1	5/8	PUM 001
10158-4-2	1/4-18	1/4	1.56	15/16	9/16	Crimp Only
10158-4-4	1/4-18	1/4	2.31	1-3/16	11/16	PUM 004
10158-4-6	1/4-18	3/8	2.66	1-5/16	3/4	PUM 005
10158-6-4	3/8-18	1/4	2.41	1-5/16	3/4	PUM 005
10158-6-6	3/8-18	3/8	2.66	1-5/16	3/4	PUM 005
10158-6-8	3/8-18	1/2	2.85	1-5/16	7/8	PUM 008
10158-8-6	1/2-14	3/8	2.91	1-9/16	15/16	PUM 009
10158-8-8	1/2-14	1/2	3.09	1-9/16	15/16	PUM 009
10158-8-10	1/2-14	5/8	3.20	1-1/2	1	PUM 009
10158-12-10	3/4-14	5/8	3.20	1-9/16	1-1/8	PUM 011
10158-12-12	3/4-14	3/4	3.28	1-9/16	1-1/8	PUM 011
15158-16-16	1-11-1/2	1	3.96	1-3/4	1-3/8	PUM 013
10158H-12-12	3/4-14	3/4	3.91	1-11/16	1-1/4	Crimp Only
10158H-16-16	1-11-1/2	1	4.76	1-13/16	1-3/4	Crimp Only

**MALE TAPER PIPE RIGID – PARFLEX**

**SERIES 10191N PERMANENT**

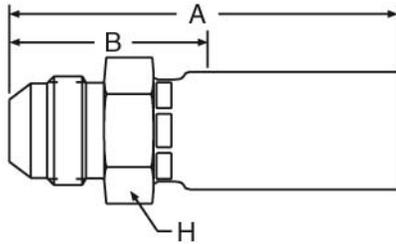


Steel Part No.	B	C	NPTF Thread Size	Hose Size	A (in.)	Cutoff Allow. B (in.)	H Hex (in.)
10191N-2-4	+	+	1/8-27	-4	1.27	3/4	7/16
10191N-4-4		+	1/4-18	-4	1.50	15/16	9/16
10191N-4-5		+	1/4-18	-5	1.55	1	9/16
10191N-4-6		+	1/4-18	-6	1.60	15/16	9/16
19191N-6-6		+	3/8-18	-6	1.65	1	11/16
10191N-6-8		+	3/8-18	-8	1.71	1	11/16
10191N-8-8		+	1/2-14	-8	1.94	1-1/4	7/8
10191N-8-10		+	1/2-14	-10	1.96	1-1/4	7/8
10191N-12-12		+	3/4-14	-12	2.19	1-3/8	1-1/8
10191N-16-16		+	1-11-1/2	-16	2.46	1-1/2	1-3/8
10191N-20-20		+	1-1/4-11-1/2	-20	3.05	2-1/16	1-3/4

B = Brass  
 C = 316 Stainless Steel

**MALE (JIC) 37° – PARFLEX**

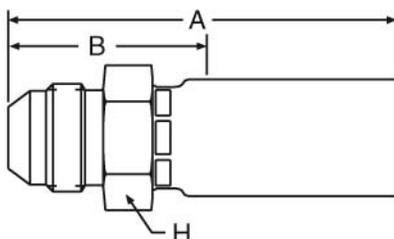
**SERIES 10355 PERMANENT**



Steel Part No.	Thread Size	Tube O.D. (in.)	Hose I.D. (in.)	A (in.)	Cutoff Allow. B (in.)	H Hex (in.)	Pusher No.
10355-4-3	7/16-20	1/4	3/16	2.17	1.19	9/16	PUM 001
10355-4-4	7/16-20	1/4	1/4	2.30	1.19	5/8	PUM 002
10355-5-4	1/2-20	5/16	1/4	2.30	1.19	5/8	PUM 002
10355-5-5	1/2-20	5/16	5/16	2.30	1.19	5/8	PUM 002
10355-6-4	9/16-18	3/8	1/4	2.30	1.19	11/16	PUM 004
10355-6-5	9/16-18	3/8	5/16	2.30	1.19	11/16	PUM 004
10355-6-6	9/16-18	3/8	3/8	2.58	1.28	3/4	PUM 005
10355-8-6	3/4-16	1/2	3/8	2.68	1.38	13/16	PUM 007
10355-8-8	3/4-16	1/2	1/2	2.87	1.38	7/8	PUM 008
10355-8-10	3/4-16	1/2	5/8	3.10	1.44	1	PUM 025
10355-10-8	7/8-14	5/8	1/2	3.03	1.56	15/16	PUM 009
10355-12-10	1-1/16-12	3/4	5/8	3.30	1.63	1-1/8	PUM 011
10355-12-12	1-1/16-12	3/4	3/4	3.32	1.66	1-1/8	PUM 011
10355-16-16	1-5/16-12	1	1	3.93	1.72	1-3/8	PUM 013

**MALE (JIC) 37° – PARFLEX**

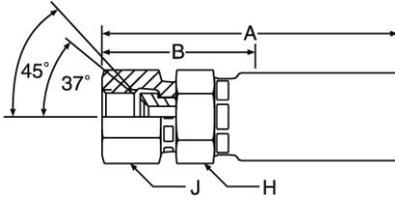
**SERIES 10358 PERMANENT**



Steel Part No.	Thread Size	Tube O.D. (in.)	Hose I.D. (in.)	A (in.)	Cutoff Allow. B (in.)	H Hex (in.)	Pusher No.
10358-4-2	1/2 - 18	1/4	1/8	1.55	1.81	1/2	PUM001
10358-4-4	7/16-20	1/4	1/4	2.30	1.19	5/8	PUM 002
10358-6-6	9/16-18	3/8	3/8	2.58	1.28	3/4	PUM 005
10358-8-6	3/4-16	1/2	3/8	2.68	1.38	13/16	PUM 007
10358-8-8	3/4-16	1/2	1/2	2.87	1.38	7/8	PUM 008
10358-8-10	3/4-16	1/2	5/8	3.05	1.38	7/8	PUM 008
10358-10-8	7/8-14	5/8	1/2	3.03	1.56	15/16	PUM 009
10358-10-10	7/8-14	5/8	5/8	3.20	1.56	1	PUM 014
10358-12-10	1-1/16-12	3/4	5/8	3.30	1.63	1-1/8	PUM 011
10358-12-12	1-1/16-12	3/4	3/4	3.32	1.66	1-1/8	PUM 011
10358-16-16	1-5/16-12	1	1	3.93	1.72	1-3/8	PUM 013

**SAE (JIC) 37° SWIVEL – PARFLEX**

**SERIES 10655 PERMANENT**

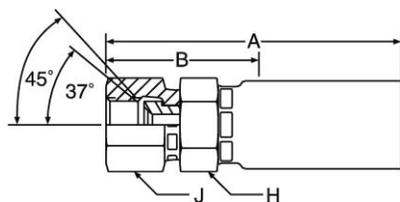


Steel Part No.	B	C	Thread Size	Tube O.D (in.)	Hose I.D. (in.)	A (in.)	B (in.)	H Hex (in.)	J Hex (in.)	Pusher No.
10655-2-2			5/16-24	1/8	1/8	1.66	1	1/2	1/2	PUF 017
10655-4-3		+	7/16-20	1/4	3/16	2.20	1.13	5/8	5/8	PUF 011
10655-4-4	+	+	7/16-20	1/4	1/4	2.50	1.38	5/8	5/8	PUF 010
10655-5-3			1/2-20	5/16	3/16	2.25	1.25	9/16	3/4	PUF 002
10655-5-4			1/2-20	5/16	1/4	2.50	1.38	5/8	3/4	PUF 013
10655-5-5			1/2-20	5/16	5/16	2.50	1.38	5/8	3/4	PUF 013
10655-6-4			9/16-18	3/8	1/4	2.50	1.38	5/8	3/4	PUF 013
10655-6-5		+	9/16-18	3/8	5/16	2.50	1.38	5/8	3/4	PUF 013
10655-6-6	+	+	9/16-18	3/8	3/8	2.78	1.50	3/4	3/4	PUF 015
10655-6-8			9/16-18	3/8	1/2	2.96	1.47	7/8	3/4	PUF 015
10655-8-6		+	3/4-16	1/2	3/8	2.77	1.47	3/4	15/16	PUF 005
10655-8-8		+	3/4-16	1/2	1/2	3.12	1.63	7/8	15/16	PUF 016
10655-8-10			3/4-16	1/2	5/8	3.30	1.63	1	15/16	PUF 016
10655-10-8		+	7/8-14	5/8	1/2	3.12	1.63	7/8	1-1/16	PUF 006
10655-10-10			7/8-14	5/8	5/8	3.30	1.63	1	1-1/16	PUF 006
10655-10-12			7/8-14	5/8	3/4	3.36	1.69	1-1/8	1-1/16	PUF 006
10655-12-8			1-1/16-12	3/4	1/2	3.21	1.72	1	1-1/4	PUF 008
10655-12-10			1-1/16-12	3/4	5/8	3.40	1.75	1-1/8	1-5/16	PUF 008
10655-12-12		+	1-1/16-12	3/4	3/4	3.40	1.72	1-1/8	1-1/4	PUF 008
10655-16-16		+	1-5/16-12	1	1	4.02	1.78	1-3/8	1-1/12	PUF 009

B = Brass  
 C = 316 Stainless Steel

**SAE (JIC) 37° SWIVEL – PARFLEX**

**SERIES 10658/10658H PERMANENT**

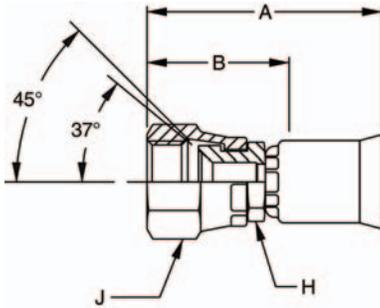


Part No.	C	Thread Size	Tube O.D.	Hose I.D.	A	B	H Hex	J Hex	Pusher No.
10658-2-2	+	5/16-24	1/8	1/8	1.66	1	1/2	1/2	PUF 017
10658-3-2		3/8-24	3/16	1/8	1.66	1	1/2	9/16	PUF 017
10658-4-2		7/16-20	1/4	1/8	1.66	1	1/2	5/8	PUF 012
10658-4-4		7/16-20	1/4	1/4	2.50	1-3/8	5/8	5/8	PUF 010
10658-5-4		1/2-20	5/16	1/4	2.50	1-3/8	5/8	3/4	PUF 013
10658-5-5*		1/2-20	5/16	5/16	2.50	1-3/8	5/8	3/4	PUF 013
10658-6-4		9/16-18	3/8	1/4	2.50	1-3/8	5/8	3/4	PUF 013
10658-6-5		9/16-18	3/8	5/16	2.50	1-3/8	5/8	3/4	PUF 013
10658-6-6	+	9/16-18	3/8	3/8	2.78	1-1/2	3/4	3/4	PUF 015
10658-6-8		9/16-18	3/8	1/2	2.96	1-7/16	7/8	3/4	PUF 015
10658-8-6		3/4-16	1/2	3/8	2.78	1-7/16	3/4	15/16	PUF 005
10658-8-8	+	3/4-16	1/2	1/2	3.12	1-5/8	15/16	15/16	PUF 016
10658-8-10		3/4-16	1/2	5/8	3.30	1-5/8	1	15/16	PUF 005
10658-10-8		7/8-14	5/8	1/2	3.12	1-5/8	15/16	1-1/16	PUF 006
10658-10-10		7/8-14	5/8	5/8	3.28	1-1/2	1	1-1/16	PUF 006
10658-12-8		1-1/16-12	3/4	1/2	3.21	1-3/4	1-1/4	1-1/4	PUF 008
10658-12-10		1-1/16-12	3/4	5/8	3.40	1-3/4	1-1/8	1-1/4	PUF 006
10658-12-12	+	1-1/16-12	3/4	3/4	3.40	1-3/4	1-1/8	1-1/4	PUF 008
10658-16-16		1-5/16-12	1	1	4.02	1-3/4	1-3/8	1-1/2	PUF 009
10658H-12-12		1-1/16-12	3/4	3/4	4.14	1-13/16	1-1/4	1-5/16	Crimp Only
10658H-16-16		1-5/16-12	1	1	4.89	1-15/16	1-3/4	1-5/8	Crimp Only

\* 316 Stainless nipple, nut, shell  
 C= 316 Stainless Steel

**SAE (JIC) 37° SWIVEL – PARFLEX**

**SERIES 10691N PERMANENT**

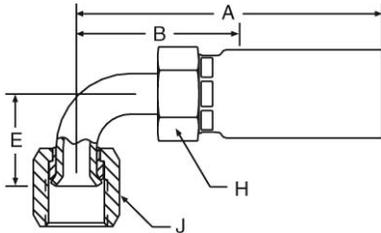


Part No.*	S	B	C	Thread Size (in.)	Hose Size (in.)	Tube Size (in.)	A (in.)	B (in.)	H Hex (in.)	J Hex (in.)
10691N-4-4~	+	+	+	7/16-20	-4	1/4	1.43	7/8	3/8	9/16
10691N-5-5~	+		+	1/2-20	-5	5/16	1.56	15/16	7/16	5/8
10691N-6-6		+	+	9/16-18	-6	3/8	1.63	1	1/2	11/16
10691N-6-8				9/16-18	-8	1/2	1.69	1	9/16	11/16
10691N-8-8~			+	3/4-16	-8	1/2	1.89	1-3/16	11/16	7/8
10691N-8-10~			+	3/4-16	-10	5/8	1.86	1-1/8	3/4	7/8
10691N-10-10~			+	7/8-14	-10	5/8	2.03	1-5/16	13/16	1
10691N-12-12			+	1-1/16-12	-12	3/4	2.12	1-5/16	1	1-1/4
10691N-16-16			+	1-5/16-12	-16	1	2.45	1-9/16	1-1/4	1-1/2
10691N-20-20			+	1-5/8-12	-20	1-1/4	2.98	1-13/16	1-11/16	2

\* Brass nipple, steel nut, shell.  
 ~ These fittings contain a dual seat that accepts both the JIC (37 deg.) and SAE (45 deg.) male configurations.  
 The size -6 and -12 swivel fittings are shown under part number 10891N.  
 S – Steel nipple, steel nut, shell.  
 B – Brass nipple, brass nut, shell.  
 C – all components 303 stainless steel.

**FEMALE SAE (JIC) 37° SWIVEL 90° ELBOW – PARFLEX**

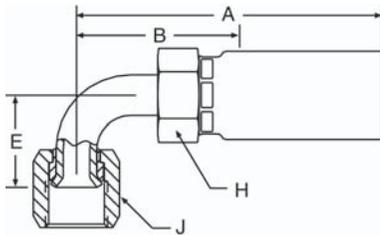
**SERIES 13955 PERMANENT (SAE DROP DIMENSIONS)**



Part No.	Thread Size	Tube O.D. (in.)	Hose I.D. (in.)	A (in.)	Cutoff Allow. B (in.)	E (in.)	H Hex (in.)	J Hex (in.)	Pusher No.
13955-4-2	7/16-20	1/4	1/8	1.88	1.75	0.68	1/2	9/16	PUT 002
13955-4-3	7/16-20	1/4	3/16	2.49	1.38	0.68	9/16	9/16	PUT 001
13955-4-4	7/16-20	1/4	1/4	2.49	1.38	0.68	5/8	9/16	PUT 002
13955-5-4	1/2-20	5/16	1/4	2.49	1.56	0.77	5/8	5/8	PUT 002
13955-6-4	9/16-18	3/8	1/4	2.57	1.44	0.85	5/8	11/16	PUT 002
13955-6-5	9/16-18	3/8	5/16	2.73	1.50	0.85	5/8	11/16	PUT 002
13955-6-6	9/16-18	3/8	3/8	2.91	1.50	0.85	3/4	11/16	PUT 003
13955-8-6	3/4-16	1/2	3/8	3.18	1.63	1.09	3/4	7/8	PUT 003
13955-8-8	3/4-16	1/2	1/2	3.37	1.63	1.09	7/8	7/8	PUT 004
13955-10-8	7/8-14	5/8	1/2	3.42	1.75	1.23	7/8	1	PUT 004
13955-12-12	1-1/16-12	3/4	3/4	4.05	2.25	1.81	1-1/8	1-1/4	PUT 005
13955-16-16	1-5/16-12	1	1	4.57	2.56	2.14	1-3/8	1-1/2	PUT 007

**FEMALE SAE (JIC) 37° SWIVEL 90° ELBOW – PARFLEX**

**SERIES 13958/13958H PERMANENT (SAE DROP DIMENSIONS)**

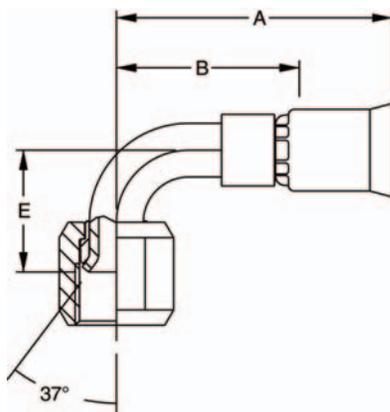


Steel Part No.	B	C	Thread Size	Tube O.D. (in.)	Hose I.D. (in.)	A (in.)	Cutoff Allow. B (in.)	E (in.)	H Hex (in.)	J Hex (in.)	Pusher No.
13958-6-6	+	+	9/16-18	3/8	3/8	2.81	1-1/2	0.85	3/4	11/16	PUT 003
13958-8-8	+	+	3/4-16	1/2	1/2	3.13	1-5/8	1.09	7/8	7/8	PUT 004
13958-10-10	+	+	7/8-14	5/8	5/8	3.28	1-5/8	1.23	1-1/16	1	PUT 004
13958-12-12	+	+	1-1/16-12	3/4	3/4	3.97	2-1/4	1.81	1-1/8	1-1/4	PUT 005
13958-16-16	+	+	1-5/16+12	1	1	4.77	2-9/16	2.14	1-3/8	1-1/2	PUT 007
13958H-12-12	+	+	1-1/16-12	3/4	3/4	4.57	2-3/8	1.81	1-1/4	1-1/4	Crimp Only
13958H-16-16	+	+	1-5/16-12	1	1	5.42	2-1/2	2.14	1-3/4	1-1/2	Crimp Only

B = Brass  
 C = 316 Stainless Steel

**JIC 37° SWIVEL 90° ELBOW – PARFLEX**

**SERIES 13991N PERMANENT**



*Part No.	Thread Size	Hose Size	Tube Size (in.)	Cutoff Allow. A (in.)	B (in.)	E (in.)	J Hex (in.)
13991N-4-4	7/16-20	-4	1/4	1.62	1-1/16	0.68	9/16
13991N-5-5	1/2-20	-5	5/16	1.71	1-1/8	0.77	5/8
13991N-6-6	9/16-18	-6	3/8	1.91	1-1/4	0.85	11/16
13991N-8-8	3/8-16	-8	1/2	2.04	1-5/16	1.09	7/8
13991N-10-10	7/8-14	-10	5/8	2.27	1-9/16	1.23	1
13991N-12-12	1-1/16-12	-12	3/4	2.75	1-15/16	1.82	1-1/2
13991N-16-16	1-5/16-12	-16	1	3.15	2-3/16	2.14	1-1/2
13991N-20-20	1-5/8-12	-20	1-1/4	3.53	2-7/16	1.18	2

\* 316 Stainless nipple, nut, shell

**Applications,  
 temperature and  
 pressure range:**

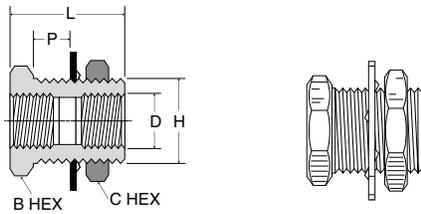
Use with brass, copper or iron pipe. Manufactured for low and medium pressure line connection work. Temperature and working pressure ranges from -65° to +250°F at 1000 PSI.

**Features:**

- All Parker hose barb fitting pipe threads are made to Dryseal standards.
- Connectors, unions, nuts and extruded elbows and tees are machined from CA 360 or CA 345 brass.
- Forged elbows and tees are machined from CA 377 brass.
- Meet functional requirements of SAE J530, SAE J531 and ASA.

**ANCHOR COUPLING**

**SERIES 207ACBH**

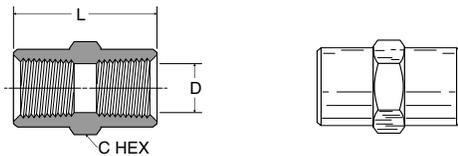


Part No.	Female Pipe Thread	Straight Thread	Max. Bulkhead P	B Hex	C Hex	L	Bulkhead Hole Dia. H	Flow Dia. D
207ACBH-2	1/8	5/8-18	.89	7/8	15/16	1.50	5/8	.339
207ACBH-4	1/4	3/4-16	.81	1	1-1/8	1.50	3/4	.441
207ACBHS-4	1/4	3/4-16	.26	1	1	.94	3/4	.441
207ACBH-6	3/8	1-14	.62	1-1/8	1-1/4	1.31	1	.571
207ACBH-8	1/2	1-1/8-14	.75	1-1/4	1-3/8	1.50	1-1/8	.703

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**COUPLING**

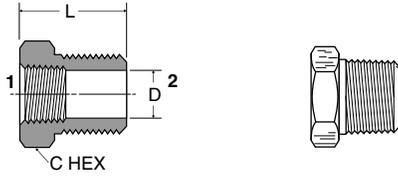
**SERIES 207P**



Part No.	Pipe Thread	C Hex	L	Flow Dia. D
207P-2	1/8	9/16	.75	.339
207P-4	1/4	3/4	1.12	.441
207P-6	3/8	7/8	1.12	.571
207P-8	1/2	1-1/16	1.50	.703

**BUSHING**

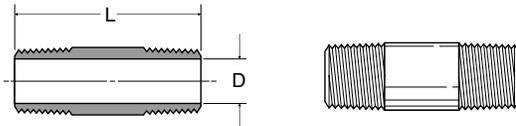
**SERIES 209P**



Part No.	1 Pipe Thread	2 Pipe Thread	C Hex	L	Flow Dia. D
209P-4-2	1/8	1/4	9/16	.75	.339
209P-6-4	1/4	3/8	3/4	.75	.441
209P-8-4	1/4	1/2	7/8	1.00	.441
209P-8-6	3/8	1/2	7/8	1.00	.571

**LONG NIPPLE**

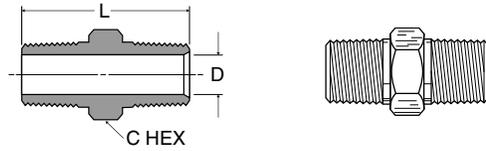
**SERIES 215PNL**



Part No.	Pipe Thread	L	Flow Dia. D
215PNL-4-15	1/4	1-1/2	.375
215PNL-2-20	1/8	2	.250
215PNL-4-20	1/4	2	.375
215PNL-6-20	3/8	2	.500
215PNL-8-25	1/2	2-1/2	.625
215PNL-2-30	1/8	3	.250
215PNL-4-30	1/4	3	.375
215PNL-6-30	3/8	3	.500
215PNL-8-30	1/2	3	.625

**HEX NIPPLE**

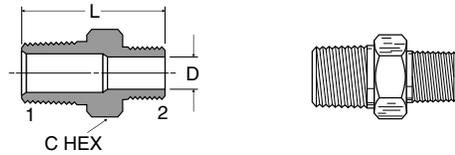
**SERIES 216P**



Part No.	Pipe Thread	C Hex	L	Flow Dia. D
216P-2	1/8	7/16	.97	.220
216P-4	1/4	9/16	1.38	.314
216P-6	3/8	11/16	1.41	.440
216P-8	1/2	7/8	1.81	.564

**HEX NIPPLE REDUCERS**

**SERIES 216P**

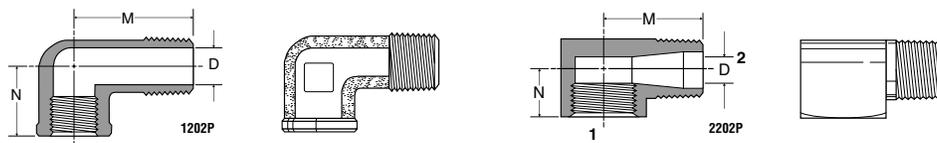


Part No.	1 Pipe Thread	2 Pipe Thread	C Hex	L	Flow Dia. D
216P-4-2	1/4	1/8	9/16	1.19	.220

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**90° STREET ELBOW**

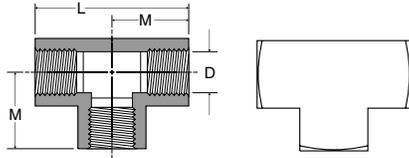
**SERIES 1202P-2202P**



Part No.	1 Pipe Thread	2 Pipe Thread	M	N	Flow Dia. D
1202P-2-2	1/8	1/8	.81	.56	.22
2202P-2-2	1/8	1/8	.62	.48	.22
1202P-4-4	1/4	1/4	1.08	.69	.31
2202P-4-4	1/4	1/4	.91	.45	.34
1202P-6-6	3/8	3/8	1.25	.78	.42
2202P-6-6	3/8	3/8	.98	.54	.41
2202P-8-8	1/2	1/2	1.25	1.03	.56

**UNION TEE**

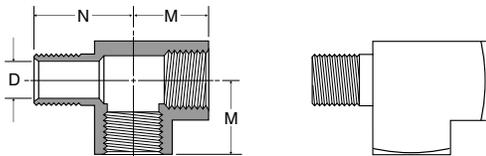
**SERIES 2203P**



Part No.	Pipe Thread	L	M	Flow Dia. D
2203P-4	1/4	1.52	.76	.441
2203P-6	3/8	1.68	.84	.571
2203P-8	1/2	2.14	1.07	.703

**STREET TEE**

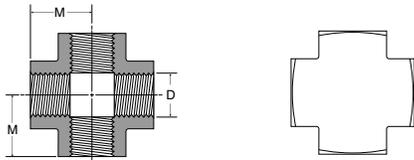
**SERIES 2225P**



Part No.	Pipe Thread	M	N	Flow Dia. D
2225P-2	1/8	.53	.66	.220
2225P-4	1/4	.76	.91	.314
2225P-6	3/8	.84	.98	.440
2225P-8	1/2	1.07	1.26	.564

**CROSS**

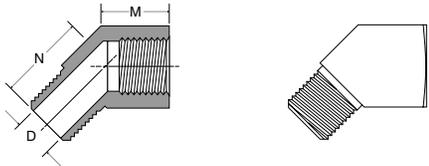
**SERIES 2205P**



Part No.	Pipe Thread	M	Flow DIA. D
2205P-4	1/4	.75	.441
2205P-6	3/8	.81	.571

**45° STREET ELBOW**

**SERIES 2214P**



Part No.	Pipe Thread	M	N	Flow Dia. D
2214P-2-2	1/8	.38	.50	.220
2214P-4-4	1/4	.54	.70	.314
2214P-6-6	3/8	.54	.78	.440

**General Description:** Parker Instrumentation Pipe Fittings are designed as leak-free connections for process, power, instrumentation and general plumbing applications. They are manufactured to the highest quality standards and are available in broad ranges of sizes, materials and configurations.

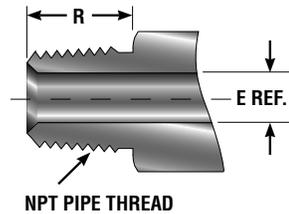
**Features:**

- Quality engineered for instrumentation applications
- Packaged in sealed, clear plastic shrink wrapped boxes for cleanliness
- Working pressures calculated in accordance with Power Piping Code ANSI B31.1 and Refiner Piping Code ANSI B31.3.
- All pipe threads are National Pipe Taper (NPT) and exceed the requirements of ANSI B1.20.1.
- Rolled male threads for extra strength
- Straight bodies machined from applicable ASTM bar stock specifications
- Shapes machined from close grain forgings
- Size ranges from 1/16" through 2" NPT
- Materials – 316 Stainless Steel, Brass and Steel. (Other materials by special order)
- All exposed threads protected to prevent damage

**INSTRUMENT PIPE FITTINGS**

**PIPE DIMENSIONS**

Pipe Size	NPT Pipe Thread	R (in.)	E Ref. (in.)
1/16	1/16 – 27	.38	.11
1/8	1/8 – 27	.38	.19
1/4	1/4 – 18	.56	.28
3/8	3/8 – 18	.56	.41
1/2	1/2 – 14	.75	.50
3/4	3/4 – 14	.75	.62
1	1 – 11-1/2	.94	.94
1-1/4	1-1/4 – 11-1/2	.97	1.25
1-1/2	1-1/2 – 11-1/2	1.00	1.50
2	2 – 11-1/2	1.03	1.94



**HOW TO ORDER**

**NOMENCLATURE**

Parker Instrument Pipe Fittings part numbers are constructed from symbols that identify the size and style of the fitting and material used.

**Example:** The part number shown below is for a male hex nipple for 3/8" NPT male pipe and 1/4" NPT male pipe in 316 stainless steel.

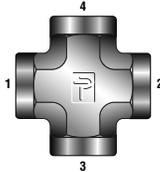
<b>6</b>	<b>4</b>	<b>MHN</b>	<b>SS</b>
<b>1st End</b> (3/8" NPT Male Pipe)	<b>2nd End</b> (1/4" NPT Male Pipe)	<b>Fitting Type</b> (Male Hex Nipple)	<b>Material</b> (316 SS)

Parker Instrument Pipe Fittings are ordered by part number as listed in this catalog.

**Size:** Pipe thread sizes are designated by the number of sixteenths of an inch. (3/8 NPT pipe=6/16=6)

**Thread Type:** All pipe threads are National Pipe Taper (NPT) unless otherwise designated.

**Straights and Elbows:** Call out the largest pipe end first followed by the smaller pipe size.



**Tees and Crosses:** For tees that are the same pipe sizes on all ends the size designation is as follows: 6-6-6 FT-B would be a 3/8" NPT Female Tee in brass. A 1/4" NPT Female Cross in 316 SS would be a 4 FX-SS. If a reducing tee or cross were specified, each size must be in sequence. First size the largest run (1 to 2) and then the branch (3 to 4).

**Example:** 6-6-6-4 FX-SS

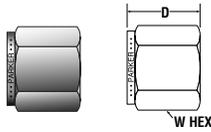
**Material:** Basic Material Type (B=Brass, SS=316 Stainless Steel, S=Steel)

**Special Fittings:** If there is any question as to the fitting desired, particularly for special fitting configurations, it is suggested that a customer print be submitted with the fitting request for quote.

**Availability:** Items priced in current price list 4260 are carried in stock. Price and delivery for non-standard items quoted on request through the quick response department.

**PIPE CAP**

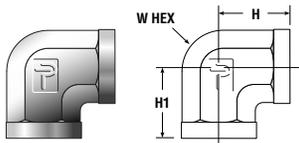
**SERIES CP**



Part No.	NPT Thread Female	W Hex	D (in.)	Working Pressures (psig)		
				Brass	Stainless Steel	Steel
1 CP	1/16	7/16	.50	4500	7500	8000
2 CP	1/8	9/16	.75	4000	6400	6800
4 CP	1/4	3/4	.91	4300	6600	7000
6 CP	3/8	7/8	1.03	3500	5300	5600
8 CP	1/2	1-1/16	1.34	3600	5200	5500
12 CP	3/4	1-1/4	1.44	3000	4300	4600
16 CP	1	1-5/8	1.63	3100	4500	4800

**FEMALE ELBOW**

**SERIES FE**

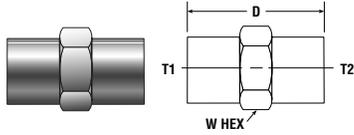


Part No.	NPT Thread Female	W Hex	H (in.)	H1 (in.)	Working Pressures (PSIG)		
					Brass	Stainless Steel	Steel
1-1 FE	1/16	7/16	.50	.50	3800	7000	7500
2-1 FE	1/8 - 1/16	9/16	.66	.66	2900	5500	5900
2-2 FE	1/8	9/16	.66	.66	2900	5500	5900
4-2 FE	1/4 - 1/8	3/4	.88	.88	2900	5500	5900
4-4 FE	1/4	3/4	.88	.88	3000	5600	6000
6-6 FE	3/8	7/8	1.02	1.02	2700	5000	5300
8-8 FE	1/2	1-1/16	1.23	1.23	2500	4500	4800
12-12 FE	3/4	1-5/16	1.36	1.36	2000	3500	3700
16-16 FE	1	1-5/8	1.63	1.63	2300	3900	4200
20-20 FE	1-1/4	1-7/8	1.70	1.70	1900	3100	3300
24-24 FE	1-1/2	2-1/2	2.08	2.08	1700	2500	2600

Dimensions for reference only, subject to change.

**FEMALE HEX COUPLING**

**SERIES FHC**

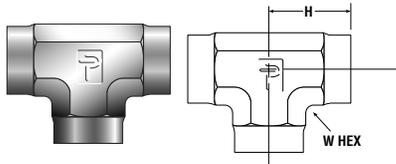


Part No.	NPT Thread Female		W Hex	D (in.)	Working Pressures (psig)		
	T <sub>1</sub>	T <sub>2</sub>			Brass	Stainless Steel	Steel
1-1 FHC	1/16	1/16	1/2	.75	4500	7500	8000
2-1 FHC	1/8	1/16	5/8	.75	4000	6400	6800
2-2 FHC	1/8	1/8	5/8	.75	4000	6400	6800
4-1 FHC	1/4	1/16	3/4	.92	4300	6600	7000
4-2 FHC	1/4	1/8	3/4	.94	4300	6600	7000
4-4 FHC	1/4	1/4	3/4	1.13	4300	6600	7000
6-1 FHC	3/8	1/16	7/8	.95	3500	5300	5600
6-2 FHC	3/8	1/8	7/8	1.03	3500	5300	5600
6-4 FHC	3/8	1/4	7/8	1.13	3500	5300	5600
6-6 FHC	3/8	3/8	7/8	1.13	3500	5300	5600
8-2 FHC	1/2	1/8	1-1/8	1.22	3600	5200	5500
8-4 FHC	1/2	1/4	1-1/8	1.38	3600	5200	5500
8-6 FHC	1/2	3/8	1-1/8	1.50	3600	5200	5500
8-8 FHC	1/2	1/2	1-1/8	1.50	3600	5200	5500
12-2 FHC	3/4	1/8	1-3/8	1.39	3000	4300	4600
12-4 FHC	3/4	1/4	1-3/8	1.55	3000	4300	4600
12-6 FHC	3/4	3/8	1-3/8	1.69	3000	4300	4600
12-8 FHC	3/4	1/2	1-3/8	1.88	3000	4300	4600
12-12 FHC	3/4	3/4	1-3/8	1.53	3000	4300	4600
16-2 FHC	1	1/8	1-5/8	1.44	3100	4500	4800
16-4 FHC	1	1/4	1-5/8	1.63	3100	4500	4800
16-6 FHC	1	3/8	1-5/8	1.63	3100	4500	4800
16-8 FHC	1	1/2	1-5/8	1.77	3100	4500	4800
16-12 FHC	1	3/4	1-5/8	1.72	3100	4500	4800
16-16 FHC	1	1	1-5/8	1.89	3100	4500	4800
20-16 FHC	1-1/4	1	2	1.94	2300	3500	3700
20-20 FHC	1-1/4	1-1/4	2	1.94	2300	3500	3700
24-24 FHC	1-1/2	1-1/2	2-3/8	1.94	2100	3200	3400

Dimensions for reference only, subject to change.

**FEMALE TEE**

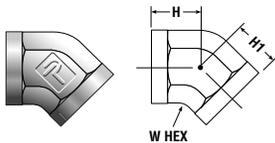
**SERIES FT**



Part No.	NPT Thread Female	W Hex	H (in.)	Working Pressures (psig)		
				Brass	Stainless Steel	Steel
1-1-1 FT	1/16	7/16	.50	3800	7000	7500
2-2-2 FT	1/8	9/16	.66	2900	5500	5900
4-4-4 FT	1/4	3/4	.88	3000	5600	6000
6-6-6 FT	3/8	7/8	1.02	2700	5000	5300
8-8-8 FT	1/2	1-1/16	1.23	2500	4500	4800
12-12-12 FT	3/4	1-5/16	1.36	2000	3500	3700
16-16-16 FT	1	1-5/8	1.63	2300	3900	4200
20-20-20 FT	1-1/4	1-7/8	1.70	1900	3100	3300
24-24-24 FT	1-1/2	2-1/2	2.08	1700	2500	3600

**FEMALE ELBOW 45°**

**SERIES FVE**

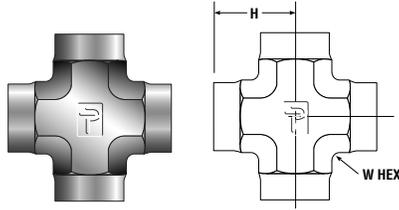


Part No.	NPT Thread Female	W Hex	H (in.)	H1 (in.)	Working Pressures (psig)		
					Brass	Stainless Steel	Steel
1-1 FVE	1/16	7/16	.47	.47	3800	7000	7500
2-2 FVE	1/8	9/16	.47	.47	2900	5500	5900
4-4 FVE	1/4	3/4	.69	.69	3000	5600	6000
6-6 FVE	3/8	7/8	.75	.75	2700	5000	5300
8-8 FVE	1/2	1-1/16	.94	.94	2500	4500	4800
12-12 FVE	3/4	1-5/16	1.00	1.00	2000	3500	3700
16-16 FVE	1	1-5/8	1.19	1.19	2300	3900	4200

Dimensions for reference only, subject to change.

**FEMALE CROSS**

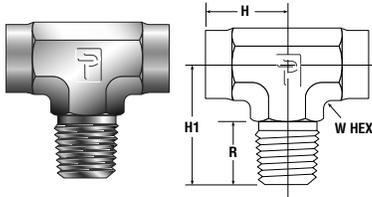
**SERIES FX**



Part No.	NPT Thread Female	W Hex	H (in.)	Working Pressures (psig)		
				Brass	Stainless Steel	Steel
1 FX	1/16	7/16	.50	3800	7000	7500
2 FX	1/8	9/16	.66	2900	5500	5900
4 FX	1/4	3/4	.88	3000	5600	6000
6 FX	3/8	7/8	1.06	2700	5000	5300
8 FX	1/2	1-1/16	1.23	2500	4500	4800
12 FX	3/4	1-5/16	1.36	2000	3500	3700
16 FX	1	1-5/8	1.63	2300	3900	4200

**MALE BRANCH TEE**

**SERIES MBT**



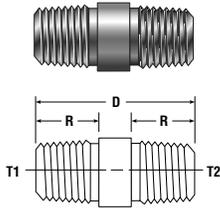
Part No.	NPT Thread		W Hex	H (in.)	H1 (in.)	R (in.)	Working Pressures (psig)		
	Male	Female					Brass	Stainless Steel	Steel
1-1-1 MBT	1/16	1/16	7/16	.50	.72	.38	3800	7000	7500
2-2-2 MBT	1/8	1/8	9/16	.66	.78	.38	2900	5500	5900
4-4-4 MBT	1/4	1/4	3/4	.88	1.09	.56	3000	5600	6000
6-6-6 MBT	3/8	3/8	7/8	1.02	1.22	.56	2700	5000	5300
8-8-8 MBT	1/2	1/2	1-1/16	1.23	1.47	.75	2500	4500	4800
12-12-12 MBT	3/4	3/4	1-5/16	1.36	1.59	.75	2000	3500	3700
16-16-16 MBT	1	1	1-5/8	1.63	1.97	.94	2300	3900	4200

Dimensions for reference only, subject to change.



**MALE CLOSE NIPPLE**

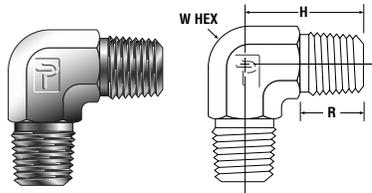
**SERIES MCN**



Part No.	NPT Thread Male	D	R	Working Pressures (psig)		
				Brass	Stainless Steel	Steel
1-1 MCN	1/16	.75	.34	6000	10000	10500
2-2 MCN	1/8	.75	.34	5600	9100	9700
4-4 MCN	1/4	1.13	.49	4100	7500	8000
6-6 MCN	3/8	1.13	.48	4000	7200	7600
8-8 MCN	1/2	1.50	.66	3900	6600	7000
12-12 MCN	3/4	1.50	.66	3800	6400	6800
16-16 MCN	1	1.88	.84	2700	4600	4900

**MALE ELBOW**

**SERIES ME**

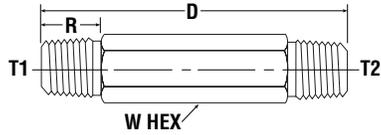


Part No.	NPT Thread Male	W Hex	H (in.)	R (in.)	Working Pressures (psig)		
					Brass	Stainless Steel	Steel
1-1 ME	1/16	3/8	.66	.38	5500	9500	10100
2-2 ME	1/8	7/16	.76	.38	5000	9100	9700
4-4 ME	1/4	9/16	1.09	.56	4100	7500	8000
6-6 ME	3/8	3/4	1.22	.56	4000	7200	7600
8-8 ME	1/2	7/8	1.47	.75	3100	5800	6200
12-12 ME	3/4	1-1/16	1.59	.75	3400	6400	6800
16-16 ME	1	1-5/16	1.97	.94	2700	4600	4900

Dimensions for reference only, subject to change.

**MALE HEX LONG NIPPLE**

**SERIES MHLN**



Part No.	NPT Thread Male		Working Pressures (psig)			Brass	Stainless Steel	Steel
	T <sub>1</sub>	T <sub>2</sub>	W Hex	D (in.)	R (in.)			
1-1 MHLN-(*)	1/16	1/16	7/16	*	.38	6000	10000	10500
2-2 MHLN-(*)	1/8	1/8	7/16	*	.38	5600	9100	9700
2-2 MHLN-1½	1/8	1/8	7/16	1.50	.38	5600	9100	9700
2-2 MHLN-2	1/8	1/8	7/16	2.00	.38	5600	9100	9700
2-2 MHLN-2½	1/8	1/8	7/16	2.50	.38	5600	9100	9700
4-4 MHLN-(*)	1/4	1/4	5/8	*	.56	4100	7500	8000
4-4 MHLN-2	1/4	1/4	5/8	2.00	.56	4100	7500	8000
4-4 MHLN-2½	1/4	1/4	5/8	2.50	.56	4100	7500	8000
4-4 MHLN-3	1/4	1/4	5/8	3.00	.56	4100	7500	8000
4-4 MHLN-4	1/4	1/4	5/8	4.00	.56	4100	7500	8000
6-6 MHLN-(*)	3/8	3/8	3/4	*	.56	4000	7200	7600
8-8 MHLN-(*)	1/2	1/2	7/8	*	.75	3900	6600	7000
8-8 MHLN-2	1/2	1/2	7/8	2.00	.75	3900	6600	7000
8-8 MHLN-3	1/2	1/2	7/8	3.00	.75	3900	6600	7000

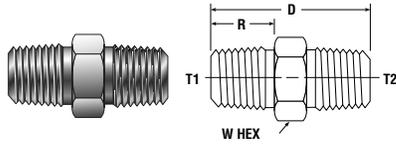
\*Specify Length

Dimensions for reference only, subject to change.



**MALE HEX NIPPLE**

**SERIES MHN**

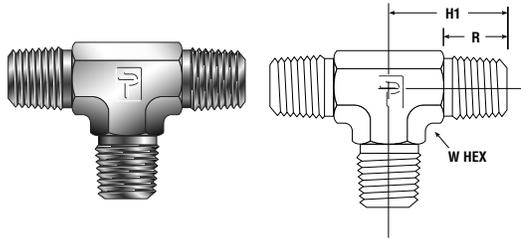


Part No.	NPT Thread Male		W Hex	D (in.)	R (in.)	Working Pressures (psig)		
	T <sub>1</sub>	T <sub>2</sub>				Brass	Stainless Steel	Steel
1-1 MHN	1/16	1/16	7/16	1.06	.38	6000	10000	10500
2-1 MHN	1/8	1/16	7/16	1.06	.38	5600	9100	9700
2-2 MHN	1/8	1/8	7/16	1.06	.38	5600	9100	9700
4-1 MHN	1/4	1/16	5/8	1.25	.56/38	4100	7500	8000
4-2 MHN	1/4	1/8	5/8	1.25	.56/38	4100	7500	8000
4-4 MHN	1/4	1/4	5/8	1.45	.56	4100	7500	8000
6-1 MHN	3/8	1/16	3/4	1.27	.56/38	4000	7200	7600
6-2 MHN	3/8	1/8	3/4	1.27	.56/38	4000	7200	7600
6-4 MHN	3/8	1/4	3/4	1.45	.56	4000	7200	7600
6-6 MHN	3/8	3/8	3/4	1.45	.56	4000	7200	7600
8-2 MHN	1/2	1/8	7/8	1.52	.75/38	3900	6600	7000
8-4 MHN	1/2	1/4	7/8	1.70	.75/56	3900	6600	7000
8-6 MHN	1/2	3/8	7/8	1.70	.75/56	3900	6600	7000
8-8 MHN	1/2	1/2	7/8	1.89	.75	3900	6600	7000
12-2 MHN	3/4	1/8	1-1/8	1.59	.75/38	3800	6400	6800
12-4 MHN	3/4	1/4	1-1/8	1.78	.75/56	3800	6400	6800
12-6 MHN	3/4	3/8	1-1/8	1.78	.75/56	3800	6400	6800
12-8 MHN	3/4	1/2	1-1/8	1.97	.75	3800	6400	6800
12-12 MHN	3/4	3/4	1-1/8	1.97	.75	3800	6400	6800
16-2 MHN	1	1/8	1-3/8	1.78	.94/38	2700	4600	4900
16-4 MHN	1	1/4	1-3/8	1.97	.94/56	2700	4600	4900
16-6 MHN	1	3/8	1-3/8	1.97	.94/56	2700	4600	4900
16-8 MHN	1	1/2	1-3/8	2.16	.94/75	2700	4600	4900
16-12 MHN	1	3/4	1-3/8	2.09	.94/75	2700	4600	4900
16-16 MHN	1	1	1-3/8	2.34	.94	2700	4600	4900
20-16 MHN	1-1/4	1	1-3/4	2.45	.97/94	2000	3500	3700
20-20 MHN	1-1/4	1-1/4	1-3/4	2.48	.97	2000	3500	3700
24-24 MHN	1-1/2	1-1/2	2	2.61	1.00	1800	2900	3100

Dimensions for reference only, subject to change.

**MALE TEE**

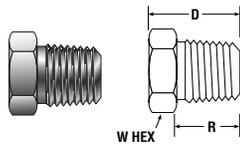
**SERIES MT**



Part No.	NPT Thread Male	W Hex	H1 (in.)	R (in.)	Working Pressures (psig)		
					Brass	Steel	Stainless Steel
1-1-1 MT	1/16	5/16	.72	.38	5500	9500	10100
2-2-2 MT	1/8	7/16	.76	.38	5000	9100	9700
4-4-4 MT	1/4	9/16	1.09	.56	4100	7500	8000
6-6-6 MT	3/8	3/4	1.22	.56	4000	7200	7600
8-8-8 MT	1/2	7/8	1.47	.75	3100	5800	6200
12-12-12 MT	3/4	1-1/16	1.59	.75	3400	6400	6800
16-16-16 MT	1	1-5/16	1.97	.94	2700	4600	4900
20-20-20 MT	1-1/4	1-5/8	2.22	.97	2000	3500	3700
24-24-24 MT	1-1/2	1-7/8	2.64	1.00	1800	2900	3100

**HEX HEAD PLUG**

**SERIES PH**



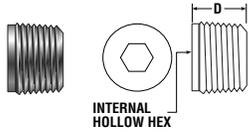
10

Part No.	NPT Thread Male	W Hex	D (in.)	R (in.)	Working Pressures (psig)		
					Brass	Steel	Stainless Steel
1 PH	1/16	3/8	.54	.38	6000	10000	10500
2 PH	1/8	7/16	.56	.38	5600	9100	9700
4 PH	1/4	9/16	.75	.56	4100	7500	8000
6 PH	3/8	11/16	.78	.56	4000	7200	7600
8 PH	1/2	7/8	.97	.75	3900	6600	7000
12 PH	3/4	1-1/16	1.06	.75	3800	6400	6800
16 PH	1	1-5/16	1.25	.94	2700	4600	4900

Dimensions for reference only, subject to change.

**HOLLOW HEX PLUG**

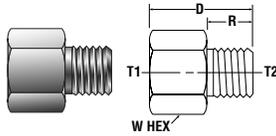
**SERIES PHH**



Part No.	NPT Thread Female	W Internal Hex	D (in.)	Working Pressures (psig)		
				Brass	Stainless Steel	Steel
1 PHH	1/16	5/32	.30	6000	10000	10500
2 PHH	1/8	3/16	.30	5600	9100	9700
4 PHH	1/4	1/4	.47	4100	7500	8000
6 PHH	3/8	5/16	.47	4000	7200	7600

**ADAPTER**

**SERIES RA**

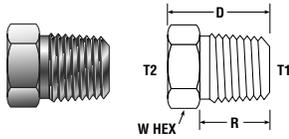


Part No.	NPT Thread		W Hex	D (in.)	R (in.)	Working Pressures (psig)		
	Female T <sub>1</sub>	Male T <sub>2</sub>				Brass	Stainless Steel	Steel
2-1 RA	1/8	1/16	5/8	1.03	.38	4000	6400	6800
2-2 RA	1/8	1/8	5/8	1.03	.38	4000	6400	6800
4-1 RA	1/4	1/16	3/4	1.20	.38	4300	6600	7000
4-2 RA	1/4	1/8	3/4	1.20	.38	4300	6600	7000
4-4 RA	1/4	1/4	3/4	1.39	.56	4300	6600	7000
6-1 RA	3/8	1/16	7/8	1.25	.38	3500	5300	5600
6-2 RA	3/8	1/8	7/8	1.25	.38	3500	5300	5600
6-4 RA	3/8	1/4	7/8	1.44	.56	3500	5300	5600
6-6 RA	3/8	3/8	7/8	1.44	.56	3500	5300	5600
8-2 RA	1/2	1/8	1-1/8	1.50	.38	3600	5200	5500
8-4 RA	1/2	1/4	1-1/8	1.69	.56	3600	5200	5500
8-6 RA	1/2	3/8	1-1/8	1.69	.56	3600	5200	5500
8-8 RA	1/2	1/2	1-1/8	1.88	.75	3600	5200	5500
12-2 RA	3/4	1/8	1-3/8	1.56	.38	3000	4300	4600
12-4 RA	3/4	1/4	1-3/8	1.75	.56	3000	4300	4600
12-6 RA	3/4	3/8	1-3/8	1.75	.56	3000	4300	4600
12-8 RA	3/4	1/2	1-3/8	1.94	.75	3000	4300	4600
16-2 RA	1	1/8	1-5/8	1.81	.38	3100	4500	4800
16-4 RA	1	1/4	1-5/8	2.00	.56	3100	4500	4800
16-6 RA	1	3/8	1-5/8	2.00	.56	3100	4500	4800
16-8 RA	1	1/2	1-5/8	2.19	.75	3100	4500	4800
16-12 RA	1	3/4	1-5/8	2.19	.75	3100	4500	4800
16-16 RA	1	1	1-5/8	2.38	.94			
20-16 RA	1-1/4	1	2	2.47	.94	2300	3500	3700

Dimensions for reference only, subject to change.

**REDUCING BUSHING**

**SERIES RB**



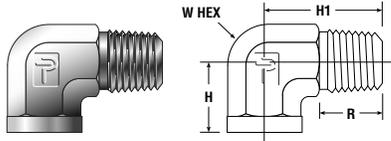
Part No.	NPT Thread		W Hex	D (in.)	R (in.)	Working Pressures (psig)		
	Male T <sub>1</sub>	Female T <sub>2</sub>				Brass	Stainless Steel	Steel
2-1 RB	1/8	1/16	7/16	.63	.38	2900	6400	6800
4-1 RB	1/4	1/16	5/8	.86	.56	4100	7500	8000
4-2 RB	1/4	1/8	5/8	.86	.56	3600	6000	6400
6-1 RB	3/8	1/16	3/4	.86	.56	4000	7200	7600
6-2 RB	3/8	1/8	3/4	.86	.56	4000	6400	6800
6-4 RB	3/8	1/4	3/4	.86	.56	3000	5300	5600
8-2 RB	1/2	1/8	7/8	1.11	.75	3900	6600	6800
8-4 RB	1/2	1/4	7/8	1.11	.75	3900	6400	7000
8-6 RB	1/2	3/8	7/8	1.11	.75	2800	4600	4900
12-2 RB	3/4	1/8	1-1/8	1.17	.75	3800	6400	6800
12-4 RB	3/4	1/4	1-1/8	1.17	.75	3800	6400	6800
12-6 RB	3/4	3/8	1-1/8	1.17	.75	3500	5300	5600
12-8 RB	3/4	1/2	1-1/8	1.17	.75	2800	4900	5200
16-2 RB	1	1/8	1-3/8	1.36	.94	2700	4600	4900
16-4 RB	1	1/4	1-3/8	1.36	.94	2700	4600	4900
16-6 RB	1	3/8	1-3/8	1.36	.94	2700	4600	4900
16-8 RB	1	1/2	1-3/8	1.36	.94	2700	4600	4900
16-12 RB	1	3/4	1-3/8	1.36	.94	2500	4200	4500
20-12 RB	1-1/4	3/4	1-3/4	1.47	.97	2000	3500	3700
20-16 RB	1-1/4	1	1-3/4	1.47	.97	2000	3500	3700
24-16 RB	1-1/2	1	2	1.58	1.00	1800	2900	3100
24-20 RB	1-1/2	1-1/4	2	1.58	1.00	1700	2700	2800

Dimensions for reference only, subject to change.



**STREET ELBOW**

**SERIES SE**

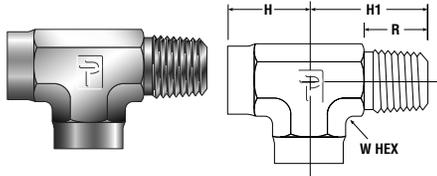


Part No.	NPT Thread		W Hex	H (in.)	H1 (in.)	R (in.)	Working Pressures (psig)		
	Male	Female					Brass	Stainless Steel	Steel
1-1 SE	1/16	1/16	9/16	.66	.72	.38	3800	7000	7500
2-1 SE	1/8	1/16	9/16	.66	.78	.38	3800	7000	7500
2-2 SE	1/8	1/8	9/16	.66	.78	.38	2900	5500	5900
4-1 SE	1/4	1/16	9/16	.66	1.09	.56	3800	7000	7500
4-2 SE	1/4	1/8	9/16	.66	1.09	.56	2900	5500	5900
4-4 SE	1/4	1/4	3/4	.88	1.09	.56	3000	5600	6000
6-1 SE	3/8	1/16	3/4	.88	1.09	.56	3800	7000	7500
6-2 SE	3/8	1/8	3/4	.88	1.22	.58	2900	5500	5900
6-4 SE	3/8	1/4	3/4	.88	1.22	.56	3000	5500	6000
6-6 SE	3/8	3/8	7/8	1.02	1.22	.56	2700	5600	5300
8-2 SE	1/2	1/8	7/8	.95	1.47	.75	2900	5000	5900
8-4 SE	1/2	1/4	7/8	.95	1.47	.75	3000	5600	6000
8-6 SE	1/2	3/8	7/8	1.23	1.47	.75	2700	5000	5300
8-8 SE	1/2	1/2	1-1/16	1.23	1.47	.75	2500	4500	4800
12-2 SE	3/4	1/8	1-1/16	1.00	1.59	.75	2900	5500	5900
12-4 SE	3/4	1/4	1-1/16	1.00	1.59	.75	3000	5600	6000
12-6 SE	3/4	3/8	1-1/16	1.23	1.59	.75	2700	5000	5300
12-8 SE	3/4	1/2	1-1/16	1.23	1.59	.75	2500	4500	4800
12-12 SE	3/4	3/4	1-5/16	1.36	1.59	.75	2000	3500	3700
16-2 SE	1	1/8	1-5/16	1.63	1.97	.94	2700	5500	5900
16-4 SE	1	1/4	1-5/16	1.63	1.97	.94	2700	5600	6000
16-6 SE	1	3/8	1-5/16	1.50	1.97	.94	2700	5000	5300
16-8 SE	1	1/2	1-5/16	1.63	1.97	.94	2500	4500	4800
16-12 SE	1	3/4	1-5/16	1.36	1.97	.94	2000	3500	3700
16-16 SE	1	1	1-5/8	1.63	1.97	.94	2300	3900	4200
20-20 SE	1-1/4	1-1/4	1-7/8	1.70	2.38	.97	1900	3100	3300

Dimensions for reference only, subject to change.

**STREET TEE**

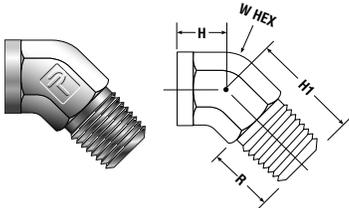
**SERIES ST**



Part No.	NPT Thread		W Hex	H (in.)	H1 (in.)	R (in.)	Working Pressures (psig)		
	Male	Female					Brass	Stainless Steel	Steel
1-1-1 ST	1/16	1/16	7/16	.50	.72	.38	3800	7000	7500
2-2-2 ST	1/8	1/8	9/16	.66	.78	.38	2900	5500	5900
4-4-4 ST	1/4	1/4	3/4	.88	1.09	.56	3000	5600	6000
6-6-6 ST	3/8	3/8	7/8	1.02	1.22	.56	2700	5000	5300
8-8-8 ST	1/2	1/2	1-1/16	1.23	1.47	.75	2500	4500	4800
12-12-12 ST	3/4	3/4	1-5/16	1.36	1.59	.75	2000	3500	3700
16-16-16 ST	1	1	1-5/8	1.63	1.97	.94	2300	3900	4200

**STREET ELBOW 45°**

**SERIES SVE**



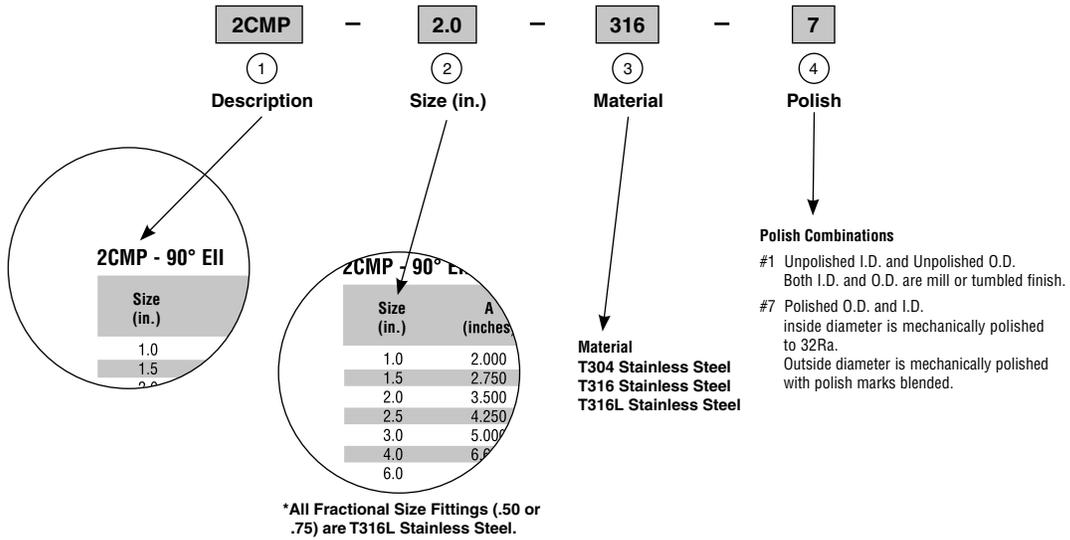
Part No.	NPT Thread		W Hex	H (in.)	H1 (in.)	R (in.)	Working Pressures (psig)		
	Male	Female					Brass	Stainless Steel	Steel
1-1 SVE	1/16	1/16	7/16	.47	.66	.38	3800	7000	7500
2-2 SVE	1/8	1/8	9/16	.47	.72	.38	2900	5500	5900
4-4 SVE	1/4	1/4	3/4	.63	1.05	.56	3000	5600	6000
6-6 SVE	3/8	3/8	7/8	.72	1.06	.56	2700	5000	5300
8-8 SVE	1/2	1/2	1-1/16	.91	1.34	.75	2500	4500	4800
12-12 SVE	3/4	3/4	1-5/16	.97	1.38	.75	2000	3500	3700
16-16 SVE	1	1	1-5/8	1.13	1.72	.94	2300	3900	4200

Dimensions for reference only, subject to change.

**ORDERING INFORMATION**

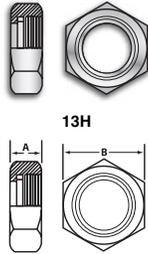
To specify the part completely, start with the description and select each of the additional options shown below. Be sure to denote the material and polish combination. See the example below.

**PART NUMBER EXAMPLE**



**HEX UNION NUT**

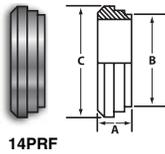
**SERIES 13H**



Size (in.)	A (in.)	B (in.)
1.0	0.906	1.812
1.5	0.968	2.406
2.0	1.062	3.000
2.5	1.187	3.593
3.0	1.281	4.187
4.0	1.500	5.437

**SHORT WELD FERRULE**

**SERIES 14PRF**

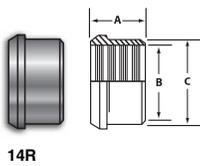


Size (in.)	A (in.)	B (in.)	C (in.)
1.0	0.870	0.687	1.00
1.5	1.370	0.719	1.50
2.0	1.870	0.718	2.00
2.5	2.370	0.843	2.50
3.0	2.870	0.906	3.00
4.0	3.834	1.218	4.00
6.0	5.782	1.218	6.00

10

**PLAIN RECESSLESS FERRULE**

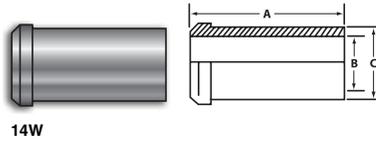
**SERIES 14R**



Size (in.)	A (in.)	B (in.)	C (in.)
1.0	.750	1.007	1.160
1.5	1.125	1.507	1.676
2.0	1.312	2.007	2.192
2.5	1.375	2.507	2.708
3.0	1.437	3.007	3.224
4.0	1.500	4.007	4.256

**PLAIN FERRULE TANK SPUD (HEAVY)**

**SERIES 14W**

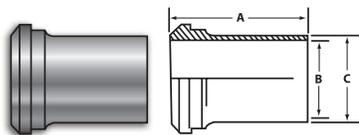


14W

Size (in.)	A (in.)	B (in.)	C (in.)
1.0	2.375	0.870	1.156
1.5	2.531	1.370	1.672
2.0	2.781	1.870	2.187
2.5	3.062	2.370	2.703
3.0	3.531	2.870	3.218
4.0	4.313	3.834	4.250

**PLAIN FERRULE TANK SPUD (LIGHT)**

**SERIES 14WL**

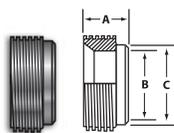


14WL

Size (in.)	A (in.)	B (in.)	C (in.)
1.0	2.000	0.870	
1.5	2.250	1.370	
2.0	2.500	1.870	
2.5	2.750	2.370	
3.0	3.000	2.870	
4.0	4.000	3.834	

**THREADED RECESSLESS FERRULE**

**SERIES 15R**

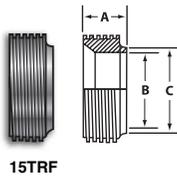


15R

Size (in.)	A (in.)	B (in.)	C (in.)
1.0	0.812	1.007	1.160
1.5	1.625	1.507	1.676
2.0	1.375	2.007	2.192
2.5	1.500	2.507	2.708
3.0	1.625	3.007	3.224
4.0	1.625	4.007	4.256

**SHORT WELD THREADED FERRULE**

**SERIES 15TRF**

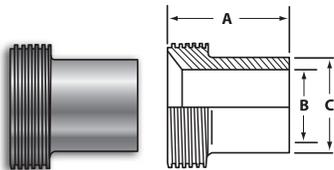


15TRF

Size (in.)	A (in.)	B (in.)	C (in.)
1.0	0.688	0.870	1.00
1.5	0.719	1.370	1.50
2.0	0.750	1.870	2.00
2.5	0.844	2.370	2.50
3.0	0.938	2.870	3.00
4.0	1.219	3.834	4.00
6.0	1.219	5.782	6.00

**THREADED FERRULE TANK SPUD (HEAVY)**

**SERIES 15W**

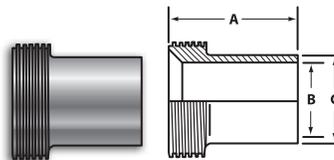


15W

Size (in.)	A (in.)	B (in.)	C (in.)
1.0	1.500	0.906	1.250
1.5	1.625	1.406	1.750
2.0	1.750	1.875	2.312
2.5	1.750	2.375	2.875
3.0	1.812	2.875	3.375
4.0	2.125	3.844	4.250

**THREADED FERRULE TANK SPUD (LIGHT)**

**SERIES 15WL**

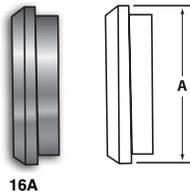


15WL

Size (in.)	A (in.)	B (in.)	C (in.)
1.0	2.000	0.906	1.000
1.5	2.250	1.406	1.500
2.0	2.500	1.875	2.000
2.5	2.750	2.375	2.500
3.0	3.000	2.875	3.000
4.0	4.000	3.844	4.000

**SOLID END CAP**

**SERIES 16A**

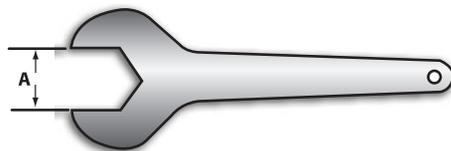


16A

Size (in.)	A (in.)
1.0	1.312
1.5	1.843
2.0	2.375
2.5	2.906
3.0	3.437
4.0	4.500

**ALUMINUM HEX - WRENCH SINGLE END**

**SERIES 25H**

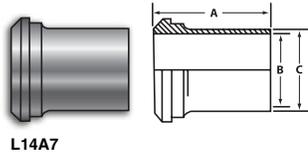


25H

Size A (in.)
1.0
1.5
2.0
2.5
3.0
4.0

**PLAIN TUBE FERRULE**

**SERIES L14A7**

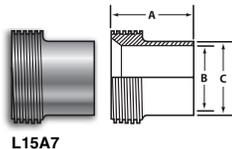


L14A7

Size (in.)	A (in.)	B (in.)	C (in.)
1.0	1.375	0.870	1.00
1.5	1.500	1.370	1.50
2.0	1.500	1.870	2.00
2.5	1.750	2.370	2.50
3.0	1.750	2.870	3.00
4.0	1.750	3.834	4.00

**THREADED TUBE FERRULE**

**SERIES L15A7**



L15A7

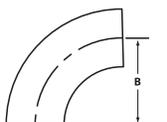
Size (in.)	A (in.)	B (in.)	C (in.)
1.0	1.375	0.870	1.00
1.5	1.500	1.370	1.50
2.0	1.500	1.870	2.00
2.5	1.750	2.370	2.50
3.0	1.750	2.870	3.00
4.0	1.750	3.834	4.00

**90° TUBE BEND - SHORT**

**SERIES 2WCL**



2WCL



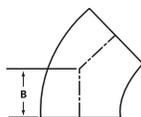
B (in.)	Nominal Wall Thickness
1.50	.065
2.25	.065
3.00	.065
3.75	.065
4.50	.065
6.00	.083
9.00	.109

**45° TUBE BEND - SHORT**

**SERIES 2WK**



2WK



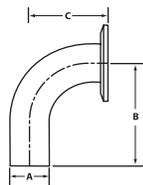
B (in.)	Nominal Wall Thickness
.625	.065
.938	.065
1.250	.065
1.563	.065
1.875	.065
2.500	.083
3.750	.109

**90° CLAMP ONE END**

**SERIES L2CM**



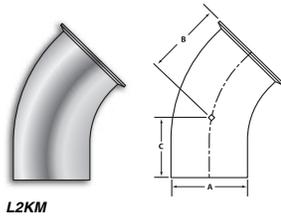
L2CM



Size A (in.)	B (in.)	C (in.)	Nominal Wall Thickness
1.0	2.062	2.562	.065
1.5	2.937	3.437	.065
2.0	4.062	4.562	.065
2.5	5.187	5.687	.065
3.0	6.312	6.812	.065
4.0	8.312	8.937	.083
6.0	9.000	9.750	.109

**45° CLAMP ONE END**

**SERIES L2KM**

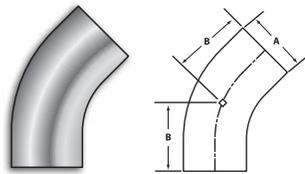


L2KM

Size A (in.)	B (in.)	C (in.)	Nominal Wall Thickness
1.0	1.687	1.187	.065
1.5	2.125	1.625	.065
2.0	3.812	2.312	.065
2.5	3.500	3.000	.065
3.0	4.187	3.687	.065
4.0	5.437	4.812	.083
6.0	4.500	3.750	.109

**45° TUBE BEND - LONG**

**SERIES L2KS**

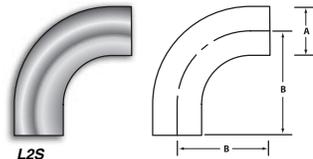


L2KS

Size A (in.)	B (in.)	Nominal Wall Thickness
1.0	1.187	.065
1.5	1.625	.065
2.0	2.312	.065
2.5	3.000	.065
3.0	3.687	.065
4.0	4.812	.083
6.0	3.750	.109

**90° TUBE BEND - LONG**

**SERIES L2S**

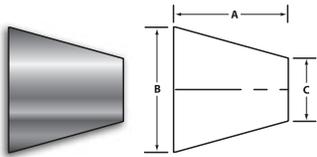


L2S

Size A (in.)	B (in.)	Nominal Wall Thickness
1.0	2.062	.065
1.5	2.937	.065
2.0	4.062	.065
2.5	5.187	.065
3.0	6.312	.065
4.0	8.312	.083
6.0	9.000	.109

**CONCENTRIC REDUCERS**

**SERIES L31**

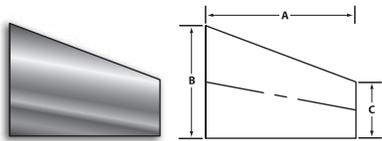


L31

Size A (in.)	B (in.)	C (in.)	Nominal Wall Thickness
1.5 x 1.0	2.000	1.500	.065
2.0 x 1.0	2.000	2.000	.065
2.0 x 1.5	2.000	2.000	.065
2.5 x 1.5	4.000	2.500	.065
2.5 x 2.0	2.000	2.500	.065
3.0 x 1.5	6.000	3.000	.065
3.0 x 2.0	4.000	3.000	.065
3.0 x 2.5	2.000	3.000	.065
4.0 x 1.5	10.000	4.000	.083
4.0 x 2.0	8.000	4.000	.083
4.0 x 2.5	6.000	4.000	.083
4.0 x 3.0	4.000	4.000	.083
6.0 x 4.0	9.000	6.000	.109

**ECCENTRIC REDUCERS**

**SERIES L32**

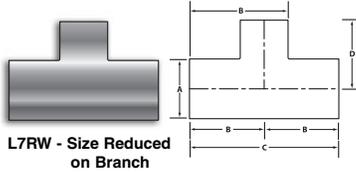


L32

Size A (in.)	B (in.)	C (in.)	Nominal Wall Thickness
1.5 x 1.0	2.000	1.500	.065
2.0 x 1.0	4.000	2.000	.065
2.0 x 1.5	2.000	2.000	.065
2.5 x 1.5	4.000	2.500	.065
2.5 x 2.0	2.000	2.500	.065
3.0 x 1.5	6.000	3.000	.065
3.0 x 2.0	4.000	3.000	.065
3.0 x 2.5	2.000	3.000	.065
4.0 x 1.5	10.000	4.000	.083
4.0 x 2.0	8.000	4.000	.083
4.0 x 2.5	6.000	4.000	.083
4.0 x 3.0	4.000	4.000	.083
6.0 x 4.0	5.500	6.000	.109

**REDUCING TEE**

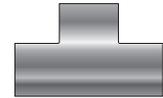
**SERIES L7RW**



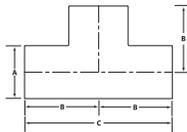
Size A (in.)	B (in.)	C (in.)	D (in.)	Nominal Wall Thickness
1.5 x 1.0	1.5	3.00	3.312	.065
2.0 x 1.0	2.0	4.00	4.125	.065
2.0 x 1.5	2.0	4.00	4.125	.065
2.5 x 1.0	2.5	5.00	4.687	.065
2.5 x 1.5	2.5	5.00	4.687	.065
2.5 x 2.0	2.5	5.00	4.687	.065
3.0 x 1.0	3.0	6.00	5.187	.065
3.0 x 1.5	3.0	6.00	5.187	.065
3.0 x 2.0	3.0	6.00	5.187	.065
3.0 x 2.5	3.0	6.00	5.187	.065
4.0 x 1.0	4.0	8.00	9.250	.083
4.0 x 1.5	4.0	8.00	9.250	.083
4.0 x 2.0	4.0	8.00	9.250	.083

**TEE - LONG**

**SERIES L7WWW**



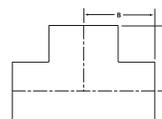
L7WWW "LONG"



Size A (in.)	B (in.)	C (in.)	Nominal Wall Thickness
1.0	1.875	3.75	.065
1.5	2.250	4.50	.065
2.0	3.000	6.00	.065
2.5	3.000	6.00	.065
3.0	3.250	6.50	.065
4.0	3.875	7.75	.083
6.0	5.625	11.25	.109

**TEE - SHORT**

**SERIES 7W**



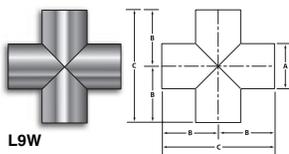
7W "SHORT"

Size (in.)	B (in.)	Nominal Wall Thickness
1.0	1.125	.065
1.5	1.656	.065
2.0	2.062	.065
2.5	2.344	.065
3.0	2.594	.065
4.0	3.438	.083

10

**CROSS**

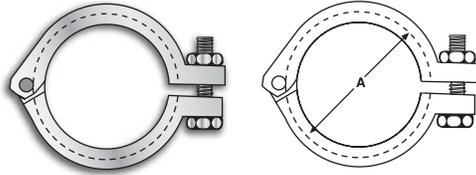
**SERIES L9W**



Size A (in.)	B (in.)	C (in.)	Nominal Wall Thickness
1.0	1.125	2.250	.065
1.5	1.656	3.312	.065
2.0	2.062	4.125	.065
2.5	2.343	4.687	.065
3.0	2.593	5.187	.065
4.0	3.437	6.875	.083
6.0	5.000	10.00	.109

**I-LINE BOLTED CLAMP**

**SERIES 13ILB**

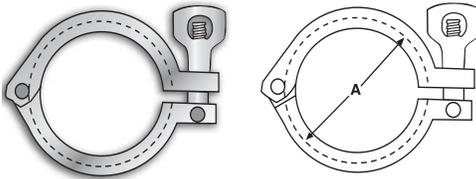


**13ILB**

Size (Tube O.D.) (in.)	A (in.)
1.0 / 1.5	1.06
2.0	1.41
2.5	1.75
3.0	2.03
4.0	2.50

**I-LINE HEAVY DUTY CLAMP**

**SERIES 13IS**

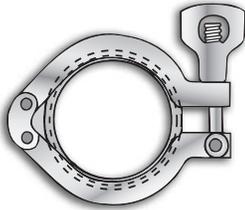


**13IS**

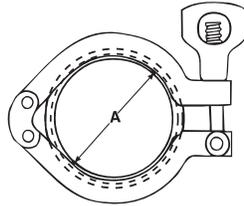
Size (Tube O.D.) (in.)	A (in.)
1.0 / 1.5	2.102
2.0	2.842
2.5	3.468
3.0	4.031
4.0	5.031

**HEAVY DUTY CLAMP DOUBLE PIN HINGE**

**SERIES 13MHHM**



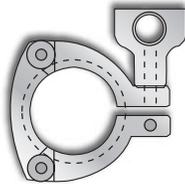
13MHHM



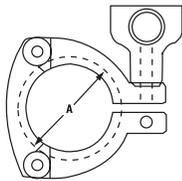
Size (Tube O.D.) (in.)	A (in.)
1.0 / 1.5	2.140
2.0	2.610
2.5	3.141
3.0	3.673
4.0	4.776
6.0	6.695
8.0	8.695
10.0	10.695
12.0	12.695

**THREE SEGMENT CLAMP**

**SERIES 13MHHS**



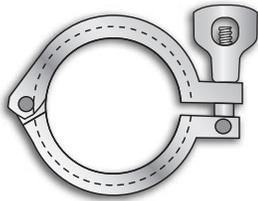
13MHHS



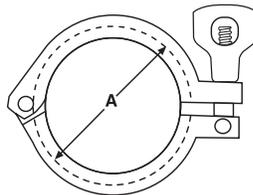
Size (in.)	A (in.)
1.0 / 1.5	2.140
2.0	2.610
2.5	3.141
3.0	3.673
4.0	4.776

**HEAVY DUTY CLAMP SINGLE PIN HINGE**

**SERIES 13MHM**



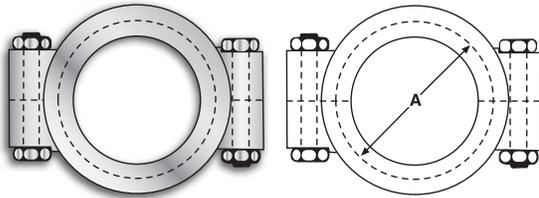
13MHM



Size (Tube O.D.) (in.)	A (in.)
.50 / .75	1.109
1.0 / 1.5	2.140
2.0	2.610
2.5	3.141
3.0	3.673
4.0	4.776
6.0	6.695
8.0	8.695
10.0	10.695

**HIGH PRESSURE BOLTED CLAMP**

**SERIES 13MHP**

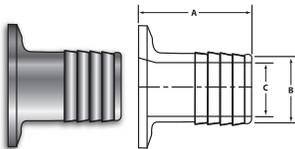


13MHP

Size (Tube O.D.) (in.)	A (in.)
.50 / .75	1.141
1.0 / 1.5	2.046
2.0	2.578
2.5	3.110
3.0	3.640
4.0	4.744
6.0	6.632
8.0	8.632

**RUBBER HOSE ADAPTER**

**SERIES 14MPHR**



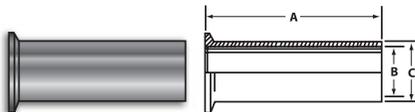
14MPHR

Size (in.)	A (in.)	B (in.)	C (in.)
1.0 x 1.0	1.687	1.000	0.812
1.5 x 1.5	1.687	1.500	1.312
1.5 x 1.0	1.687	1.000	0.875
2.0 x 2.0	2.312	2.000	1.810
2.0 x 1.5	2.312	1.500	1.312
2.5 x 2.5	2.343	2.500	2.312
3.0 x 3.0	3.093	3.000	2.834
4.0 x 4.0	3.406	4.000	3.834
6.0 x 6.0	3.406	6.000	5.728
8.0 x 8.0	3.406	8.000	7.728

Size = Clamp x Hose Size. Call for others.

**TYGON HOSE ADAPTER**

**SERIES 14MPHT**

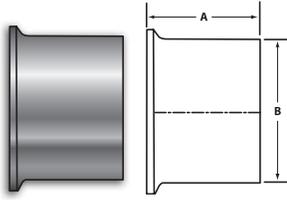


14MPHT

Size (in.)	A (in.)	B (in.)	C (in.)
0.50	4.500	.3750	0.500
0.75	4.500	.6250	0.750
1.00	4.500	.8700	1.000
1.50	4.500	1.370	1.500
2.00	4.500	1.870	2.000
2.50	4.500	2.370	2.500
3.00	4.500	2.870	3.000
4.00	4.6250	3.834	4.000

**TANK WELDING FERRULE - HEAVY**

**SERIES 14MPW**

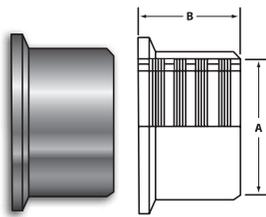


14MPW

Size (in.)	A (in.)	B (in.)	Nominal Wall Thickness
.50	2.125	0.500	.065
.75	2.125	0.750	.065
1.0	1.625	1.160	.145
1.5	1.625	1.676	.153
2.0	1.750	2.192	.161
2.5	1.750	2.708	.169
3.0	1.812	3.224	.177
4.0	2.125	4.256	.211
6.0	2.125	6.000	.217
8.0	2.125	8.000	.217

**RECESSLESS FERRULE**

**SERIES 14RMP**



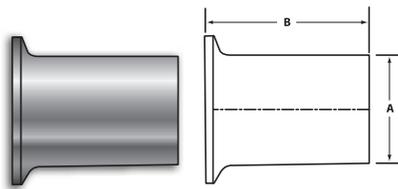
14RMP

Size A (in.)	B (in.)
1.0	0.750
1.5	1.125
2.0	1.312
2.5	1.375
3.0	1.437
4.0	1.500

10

**TANK WELDING SPUD - LIGHT**

**SERIES 14WLMP**

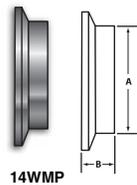


14WLMP

Size A (in.)	B (in.)	Nominal Wall Thickness
1.0	3.000	.065
1.5	3.000	.065
2.0	3.000	.065
2.5	3.000	.065
3.0	4.000	.065
4.0	4.000	.083
6.0	6.000	.109
8.0	6.000	.109
10.0	6.000	.140
12.0	6.000	.140

**SHORT WELDING FERRULE**

**SERIES 14WMP**



14WMP

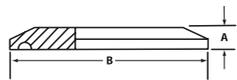
Size A (in.)	B (in.)	Nominal Wall Thickness
1.0	0.500	.065
1.5	0.500	.065
2.0	0.500	.065
2.5	0.500	.065
3.0	0.500	.065
4.0	0.625	.083
6.0	0.750	.109

**SOLID END CAP**

**SERIES 16AMP**



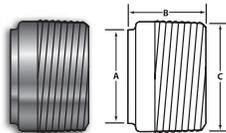
16AMP



Size (Tube O.D.) (in.)	A (in.)	B (in.)
.50 / .75	0.250	0.993
1.0 / 1.5	0.250	1.984
2.0	0.250	2.516
2.5	0.250	3.047
3.0	0.250	3.579
4.0	0.312	4.682
6.0	0.500	6.570

**WELD X MALE NPT**

**SERIES 19WB**

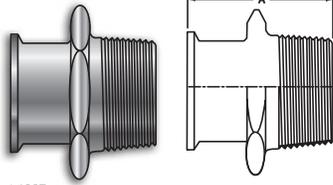


19WB

Size A (in.)	B (in.)	C (in.)	Nominal Tube Size
.50	1.500	.8400	.650
.75	1.625	1.050	.650
1.0	1.750	1.315	.650
1.5	1.750	1.660	.650
2.0	1.812	1.900	.650
2.5	2.312	2.375	.650
3.0	2.500	3.500	.650
4.0	2.562	4.500	.083
6.0	4.000	6.625	.109

**ADAPTER (NPT MALE THREADS)**

**SERIES 21MP**



21MP

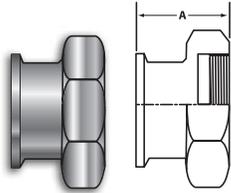
Size (T/C X NPT) (in.)	A (in.)
0.50 x 0.125*	2.000
0.50 x 0.250*	2.000
0.50 x 0.375*	2.000
0.50 x 0.500*	2.000
0.50 x 0.750*	2.000
0.75 x 0.125*	2.000
0.75 x 0.250*	2.000
0.75 x 0.375*	2.000
0.75 x 0.500*	2.000
0.75 x 0.750*	2.000
0.75 x 1.000*	2.250
1.00 x 0.125*	2.187
1.00 x 0.250*	2.161
1.00 x 0.375*	2.187
1.00 x 0.500*	2.187
1.00 x 0.750*	2.187
1.00 x 1.000	2.250
1.00 x 1.500	2.437
1.00 x 2.000	2.625
1.00 x 3.000*	2.625
1.50 x 0.750*	2.187
1.50 x 1.000	2.312
1.50 x 1.250	2.437
1.50 x 1.500	2.437
1.50 x 2.000	2.625
1.50 x 2.500*	3.281
2.00 x 1.000	2.468
2.00 x 1.500	2.468
2.00 x 2.000	2.656
2.00 x 2.500*	3.125
2.00 x 3.000*	3.500
2.00 x 4.000*	3.500
2.50 x 1.000*	2.781
2.50 x 1.500*	2.781
2.50 x 2.000*	2.781
2.50 x 2.500*	3.281
2.50 x 3.000*	3.690
3.00 x 1.000*	3.000
3.00 x 1.500*	3.000
3.00 x 2.000*	3.000
3.00 x 2.500*	3.500
3.00 x 3.000*	3.500
3.00 x 4.000*	3.500
4.00 x 1.500*	3.812
4.00 x 2.000*	3.812
4.00 x 2.500*	3.812
4.00 x 3.000*	3.812
4.00 x 4.000*	3.812
6.00 x 6.000*	4.500

**BPE** SIZE ONLY

\* = No Hex Head Reduction on NPT

**ADAPTER (NPT FEMALE THREADS)**

**SERIES 22MP**



**22MP**

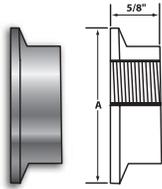
Size (T/C X NPT) (in.)	A (in.)
0.50 x 0.125*	1.250
0.50 x 0.250*	1.500
0.50 x 0.375*	1.500
0.50 x 0.500*	1.500
0.50 x 0.750*	1.625
0.50 x 1.000*	1.625
0.50 x 1.500*	2.250
0.50 x 2.000*	2.250
0.75 x 0.125*	1.250
0.75 x 0.250*	1.500
0.75 x 0.375*	1.500
0.75 x 0.500*	1.500
0.75 x 0.750*	1.625
0.75 x 1.000*	1.625
1.00 x 0.750*	1.625
1.00 x 1.000	1.625
1.00 x 1.500	2.250
1.00 x 2.000	2.250
1.00 x 2.500*	2.500
1.50 x 0.750*	1.625
1.50 x 1.000	1.625
1.50 x 1.250	2.250
1.50 x 1.500	2.250
1.50 x 2.000	2.250
1.50 x 2.500*	2.500
1.50 x 3.000*	2.500
2.00 x 1.000	2.500
2.00 x 1.250	1.687
2.00 x 1.500	1.687
2.00 x 2.000	2.343
2.00 x 2.500*	2.406
2.00 x 3.000*	2.406
2.00 x 4.000*	3.000
2.50 x 1.000*	1.312
2.50 x 1.500*	1.656
2.50 x 2.000*	1.718
2.50 x 2.500*	2.093
2.50 x 3.000*	2.187
3.00 x 1.000*	2.187
3.00 x 1.500*	2.187
3.00 x 2.000*	2.187
3.00 x 2.500*	2.187
3.00 x 3.000*	2.187
4.00 x 1.500*	2.187
4.00 x 2.000*	2.187
4.00 x 2.500*	2.187
4.00 x 3.000*	2.187
4.00 x 4.000*	2.625
4.00 x 6.000*	3.250

**BPE** SIZE ONLY

\* = No Hex Head Reduction on NPT

**THERMOMETER CAP**

**SERIES 23BMP**



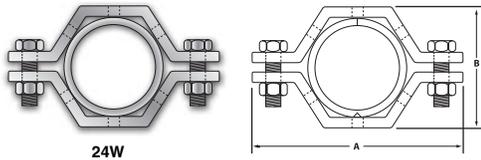
23BMP

Size (in.)	A (in.)
1.0	1.984
1.5	1.984
2.0	2.516
2.5	3.047
3.0	3.579
4.0	4.682

Specify Tap Thread: .50, .75, 1.0 or blank.

**HANGER W/ POLYPROPYLENE INSERT**

**SERIES 24W**

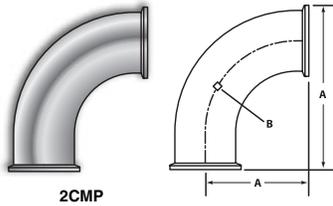


24W

Size (Tube O.D.) (in.)	A (in.)	B (in.)
.50	2.80	1.15
.75	2.80	1.15
1.0	3.375	1.625
1.5	4.000	2.125
2.0	4.500	2.500
2.5	4.750	3.125
3.0	5.000	3.750
4.0	6.750	4.750

**90° ELL**

**SERIES 2CMP**



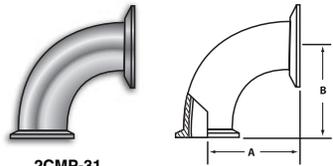
2CMP

Size (in.)	A (in.)	B (in.)
1.0	2.000	1.500
1.5	2.750	2.250
2.0	3.500	3.000
2.5	4.250	3.750
3.0	5.000	4.500
4.0	6.625	6.000
6.0	9.750	9.000

**BPE** SIZE ONLY

**90° CONCENTRIC REDUCING ELBOW**

**SERIES 2CMP-31**

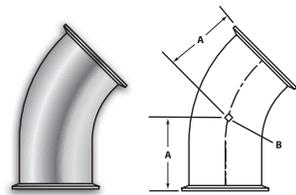


2CMP-31

Size (in.)	A (in.)	B (in.)
2.0 x 1.0	2.00	2.00
2.0 x 1.0	2.75	2.75
2.5 x 1.0	2.75	2.75
2.5 x 2.0	3.50	3.50
3.0 x 1.5	2.75	2.75
3.0 x 2.0	3.50	3.50
3.0 x 2.5	4.25	4.25
4.0 x 2.5	4.25	4.25
4.0 x 3.0	5.00	5.00

**45° ELL**

**SERIES 2KMP**



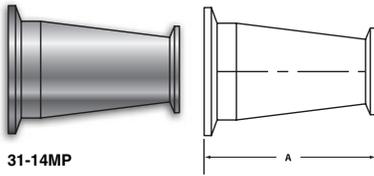
2KMP

Size (in.)	A (in.)	B (in.)
1.0	1.125	1.500
1.5	1.437	2.250
2.0	1.750	3.000
2.5	2.062	3.750
3.0	2.375	4.500
4.0	3.125	6.000
6.0	4.500	9.000

**BPE** SIZE ONLY

**CONCENTRIC REDUCERS**

**SERIES 31-14MP**



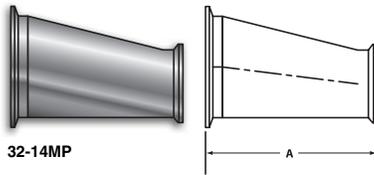
31-14MP

Size (in.)	A (in.)
1.5 x 1.0	3.000
2.0 x 1.0	5.000
2.0 x 1.5	3.000
2.5 x 1.5	5.000
2.5 x 2.0	3.000
3.0 x 1.5	7.000
3.0 x 2.0	5.000
3.0 x 2.5	3.000
4.0 x 1.5	11.125
4.0 x 2.0	9.125
4.0 x 2.5	7.125
4.0 x 3.0	5.125
6.0 x 4.0	10.500

**BPE** SIZE ONLY

**ECCENTRIC REDUCERS**

**SERIES 32-14MP**



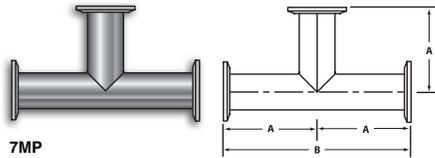
32-14MP

Size (in.)	A (in.)
1.5 x 1.0	3.000
2.0 x 1.0	5.000
2.0 x 1.5	3.000
2.5 x 1.5	5.000
2.5 x 2.0	3.000
3.0 x 1.5	7.000
3.0 x 2.0	5.000
3.0 x 2.5	3.000
4.0 x 1.5	11.125
4.0 x 2.0	9.125
4.0 x 2.5	7.125
4.0 x 3.0	5.125
6.0 x 4.0	10.500

**BPE** SIZE ONLY

**TEE**

**SERIES 7MP**

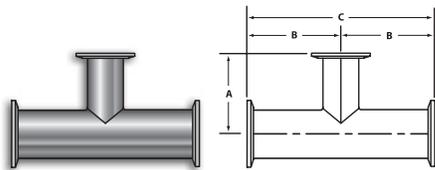


7MP

Size (in.)	A (in.)	B (in.)
1.0	2.375	4.750
1.5	2.750	5.500
2.0	3.500	7.000
2.5	3.500	7.000
3.0	3.750	7.500
4.0	4.500	9.000
6.0	7.150	14.300

**REDUCING TEE**

**SERIES 7RMP**

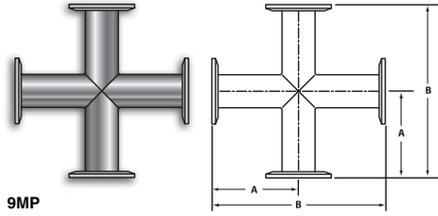


7RMP - Size Reduced on Branch

Size (in.)	A (in.)	B (in.)	C (in.)
1.5 x 1.0	1.875	2.156	4.312
2.0 x 1.0	2.125	2.562	5.125
2.0 x 1.5	2.406	2.562	5.125
2.5 x 1.0	2.812	2.843	5.687
2.5 x 1.5	2.656	2.844	5.688
2.5 x 2.0	2.812	2.843	5.687
3.0 x 1.0	3.062	3.093	6.187
3.0 x 1.5	3.062	3.093	6.187
3.0 x 2.0	3.062	3.093	6.187
3.0 x 2.5	3.093	3.093	6.187
4.0 x 1.0	4.875	4.062	8.125
4.0 x 1.5	4.875	4.062	8.125
4.0 x 2.0	4.875	4.062	8.125
4.0 x 2.5	4.875	4.062	8.125
4.0 x 3.0	4.875	4.062	8.125
6.0 x 2.0	5.500	5.750	11.50
6.0 x 2.5	5.500	5.750	11.50
6.0 x 3.0	5.500	5.750	11.50
6.0 x 4.0	5.625	5.750	11.50

**CROSS**

**SERIES 9MP**

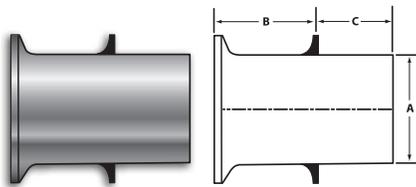


9MP

Size (in.)	A (in.)	B (in.)
1.0	2.375	4.750
1.5	2.750	5.500
2.0	3.500	7.000
2.5	3.500	7.000
3.0	3.750	7.500
4.0	4.500	9.000
6.0	5.750	11.500

**FLOWVERTER FERRULE**

**SERIES FLV14AM**

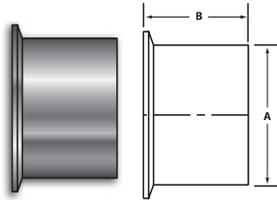


FLV14AM

Size A (in.)	B (in.)	C (in.)	Nominal Wall Thickness
.50	1.125	1.000	.065
.75	1.125	1.000	.065
1.0	1.625	1.000	.065
1.5	1.625	1.000	.065
2.0	1.625	1.000	.065
2.5	1.625	1.000	.065
3.0	1.625	1.000	.065
4.0	1.625	1.000	.083

**BUTTWELDING FERRULE**

**SERIES L14AM**

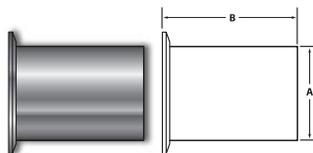


**L14AM**

Size A (in.)	B (in.)	Nominal Wall Thickness
1.0	1.125	.065
1.5	1.125	.065
2.0	1.125	.065
2.5	1.125	.065
3.0	1.125	.065
4.0	1.125	.083
6.0	1.500	.109

**BUTTWELDING FERRULE**

**SERIES TL14AM**



**TL14AM**

Size A (in.)	B (in.)	Nominal Wall Thickness
.50	1.750	.065
.75	1.750	.065
1.0	1.750	.065
1.5	1.750	.065
2.0	2.250	.065
2.5	2.250	.065
3.0	2.250	.065
4.0	2.250	.083
6.0	3.000	.109

**BPE** SIZE ONLY

**REFERENCE CHARTS**

**CLAMP SERVICE RATING CHART IN PSI**

Size Tube O.D.	1/2" & 3/4"	1" & 1-1/2"	2"	2-1/2"	3"	4"	6"
<b>13MHHS - Screw tightened to maximum</b>							
at 70°F	2200	600	550	450	350	350	-
at 250°F	1200	300	275	225	175	175	-
<b>13HHM - Wing nut tightened to 25 in. lb. of torque</b>							
at 70°F	-	500	450	400	350	350	150
at 250°F	-	300	300	200	195	195	75
<b>13MHP - Bolts tightened to 20 ft. lb. of torque</b>							
at 70°F	-	1500	1000	1000	1000	1000	300
at 250°F	-	1200	800	800	800	800	200
<b>A13MHM - Wing nut tightened to 25 in. lb. of torque</b>							
at 70°F	-	500	450	400	350	350	150
at 250°F	-	300	250	200	175	175	75

\*PSI ratings based on hydrostatic test using standard gaskets molded from Buna-N. Ratings assume proper installation of ferrules, joint assembly and the absence of any shock pressure. Please contact Parker Hannifin for ratings at higher temperatures or utilizing other materials. For temperatures above 250° F, only 13MHP clamps are recommended.

**CLAMP GASKET MATERIALS REFERENCE CHART**

Original Physical Property Characteristics	BUNA-N (U)	EPDM (E)	Fluoroelastomer (SFY)	Silicone (X)	PTFE (G)
Temperature Range	-65 To 200°F	-60 To 300°F	-20 To 350°F	-40 To 450°F	-40 To 200°F
Tensile Strength, Psi	1875	1650	1212	1340	-
Elongation, %	340	317	272	260	-
Hardness, Shore A	70	70	70	70	-
Acid Resistance	Good	Good/Excellent	Good/Excellent	Poor/Good	Good/Excellent
Resistance To Fats/Oils	Good/Excellent	Poor	Good/Excellent	Poor/Good	Excellent
Alkali Resistance	Fair/Good	Good/Excellent	Poor/Good	Poor/Fair	Excellent
Abrasion Resistance	Excellent	Good	Good/Excellent	Poor	Fair
Compression Set Resistance	Good	Fair	Good/Excellent	Good/Excellent	Cold Flows

**REFERENCE CHARTS**

**SURFACE FINISH REFERENCE CHART**

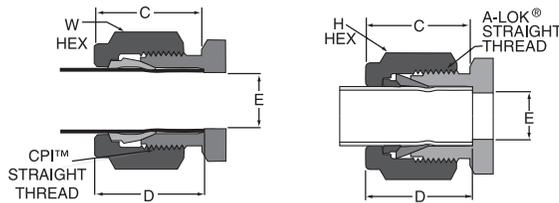
Polishing Code	Maximum Surface Roughness (RA)		ASME BPE Finish Code	Polish Method	OD / Product Noncontact Surface
	Microinches (μ-in.)	Microinches (μm)			
1	-	-	-	Unpolished	Unpolished
3	32	0.8	-	Mechanical Polish	Unpolished
7	32	0.8	-	Mechanical Polish	Polished to Ra, 32 μ-in./0.8um
PC	20	0.5	SFF1	Mechanical Polish	Unpolished
PL	20	0.5	SFF1	Mechanical Polish	Polished to Ra, 32 μ-in./0.8um
	25	0.625	SFF2	Mechanical Polish	32 or MILL
	30	0.75	SFF3	Mechanical Polish	32 or MILL
PD	15	0.4	SFF4	Mechanical Polish and Electropolished	Unpolished
PM	15	0.4	SFF4	Mechanical Polish and Electropolished	Polished to Ra, 32 μ-in./0.8um
	20	0.5	SFF5	Mechanical Polish and Electropolished	32 or MILL
	25	0.625	SFF6	Mechanical Polish and Electropolished	32 or MILL

**DIMENSIONS OF CLAMP CONNECTIONS FOR OD-TUBING**

OD (in.)	ID (in.)	Wall Thickness (in./gauge)	A Ferrule Face (in.)
1/4	0.35	-	-
1/2	0.37	0.065/16ga.	0.984
3/4	0.62	0.065/16ga.	0.984
1	0.87	0.065/16ga.	1.984
1-1/2	1.37	0.065/16ga.	1.984
2	1.87	0.065/16ga.	2.516
2-1/2	2.37	0.065/16ga.	3.047
3	2.87	0.065/16ga.	3.579
4	3.87	0.083/14ga.	4.682
6	-	.109	-

**General Description:** Parker CPI™/A-LOK® Instrumentation Tube Fittings are designed as leak-free connections for process, power and instrumentation applications. These single and two ferrule fittings are manufactured to the highest quality standards and are available in a broad range of sizes, materials and configurations. The Parker CPI™/A-LOK® tube fitting has been specifically designed for use on instrumentation, process and control systems, analysers and environmental equipment employed in chemical, petroleum, power generating and pulp and paper plants. The CPI™/A-LOK® tube fitting has also found extensive application in other fields where a high quality tube fitting is required.

**TUBE END DIMENSIONAL DATA**



Size No. (in.)	Tube O.D. (in.)	Straight Thread (in.)	†C (in.)	H Hex (in.)	E Dia. (in.)	†D Tube Ins. Depth (in.)
1	1/16	10-32	.43	5/16	.052	.34
2	1/8	5/16-20	.60	7/16	.093	.50
3	3/16	3/8-20	.64	1/2	.125	.54
4	1/4	7/16-20	.70	9/16	.187	.60
5	5/16	1/2-20	.73	5/8	.250	.64
6	3/8	9/16-20	.76	11/16	.281	.67
8	1/2	3/4-20	.87	7/8	.406	.90
10	5/8	7/8-20	.87	1	.500	.96
12	3/4	1-20	.87	1-1/8	.625	.96
14	7/8	1-1/8-20	.87	1-1/4	.750	1.03
16	1	1-5/16-20	1.05	1-1/2	.875	1.24
20	1-1/4	1-5/8-20	1.52	1-7/8	1.09	1.61
24	1-1/2	1-15/16-20	1.77	2-1/4	1.34	1.96
32	2	2-5/8-20	2.47	2-3/4	1.81	2.65

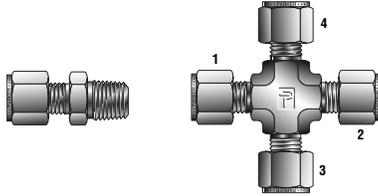
**10**

**NOTE:** Dimensions C and D are shown in the finger-tight position.  
 † Average Value  
 Dimensions for reference only, subject to change.

**NOMENCLATURE**

Parker CPI™/A-LOK® tube fittings part numbers are constructed from symbols that identify the size and style of the fitting and material used.

**Example:** The part number shown below is for a Parker CPI™/A-LOK® stainless steel male connector for 1/2" O.D. tube (-8) and 1/4" male pipe thread (-4).



**CPI™ INCH PARTS**

**HOW TO ORDER**

<b>8</b>	<b>4</b>	<b>FBZ</b>	<b>SS</b>
<b>1st End</b> (1/2" Tube O.D.)	<b>2nd End</b> (1/4" Pipe Thread)	<b>Fitting Type</b> (Male Connector)	<b>Material</b> (Stainless Steel)

**A-LOK® INCH PARTS**

**HOW TO ORDER**

<b>8</b>	<b>MSC</b>	<b>4</b>	<b>N</b>	<b>316</b>
<b>1st End</b> (1/2" Tube O.D.)	<b>Fitting Type</b> (Male Connector)	<b>2nd End</b> (1/4" Pipe Thread)	<b>Thread Type</b> (NPT)	<b>Material</b> (Stainless Steel)

Parker CPI™/A-LOK® Tube Fittings are ordered by part number as listed in this catalog.

**Size:** Tube and pipe thread sizes are designed by the number of sixteenths of an inch (1/2" tube = 8/16" = 8) (1/4" pipe thread = 4/16" = 4).

**Straights & Elbows:** Call out largest CPI™/A-LOK® tube end size first followed by the smaller CPI™/A-LOK® tube end or pipe thread size.

**Tees & Crosses:** For drop size tees – first size the run (1 to 2) and then branch (3). Example – the size designator for a male run tee for 3/8" O.D. tube and 1/4" male pipe thread would be 6-4-6. For crosses – first size the run (1 to 2) and then the branch (3 to 4). For tees with all ends the same, use the tube and size before and after the style designator; i.e. 4-4-4 JBZ (CPI™), 4ET4 (A-LOK®).

**Type:** A letter or combination of letters and numbers are used to designate the type of fitting. (i.e. SBZ or MBT = male branch tee, GBZ or FA = female adapter, etc.)

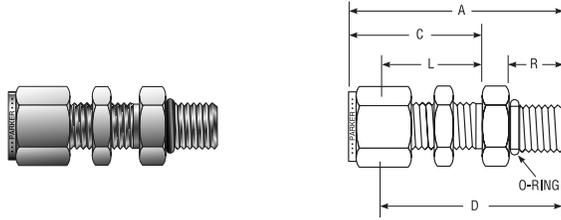
**Material:** Basic material type (B = brass, SS or 316 = stainless steel, type 316; S = steel; A = aluminum; M = Alloy 400; HC = Hastelloy C-276®;

IN = Alloy 600; SS20 = Carpenter 20®; 6MO = 6Mo; 625 = 625; 825 = 825; T = Titanium). Parker CPI™/A-LOK® Tube fittings, for special applications, can be furnished in almost any material suitable for machining.

**Special Fittings:** If there is any question as to the fitting desired, particularly for special fitting configurations, it is suggested that a customer print be submitted with the fitting request for quote.

**BULKHEAD TO CONVERSION ADAPTER FOR FRACTIONAL TUBE**

**SERIES AH2BZ/AH2LZ**

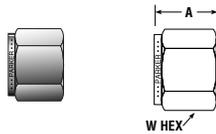


CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	Straight Thread Size (in.)	A (in.)	C (in.)	D (in.)	R (in.)	L (in.)	W Hex (in.)	Bulkhead Hole Drill Size (in.)	Max. Bulkhead Thickness (in.)
4-6 AH2BZ	4-6 AH2LZ	400-61-6ST	1/4	9/16-18	1.74	1.17	1.45	.39	.88	3/4	37/64	9/16
6-6 AH2BZ	6-6 AH2LZ	600-61-6ST	3/8	9/16-18	1.81	1.24	1.52	.39	.94	3/4	37/64	9/16

**NOTE:** A and C dimensions are typical finger-tight.  
 For use with SAE J.1926/1 port can also be used with MS-16142 port.  
 Parts are supplied with nitrile o-rings as standard. For Fluorocarbon o-rings, add the suffix "-VO". Other o-rings available upon request.  
 Dimensions for reference only, subject to change.

**TUBE NUT FOR FRACTIONAL TUBE**

**SERIES BZ/NU**

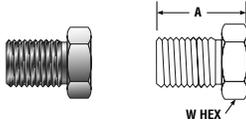


CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	A (in.)	W Hex (in.)
1 BZ	1NU1	102-1	1/16	.31	5/16
2 BZ	2NU2	202-1	1/8	.47	7/16
3 BZ	3NU3	302-1	3/16	.47	1/2
4 BZ	4NU4	402-1	1/4	.50	9/16
5 BZ	5NU5	502-1	5/16	.53	5/8
6 BZ	6NU6	602-1	3/8	.56	11/16
8 BZ	8NU8	812-1	1/2	.69	7/8
10 BZ	10NU10	1012-1	5/8	.69	1
12 BZ	12NU12	1212-1	3/4	.69	1-1/8
14 BZ	14NU14	1412-1	7/8	.69	1-1/4
16 BZ	16NU16	1612-1	1	.81	1-1/2
20 BZ	20NU20	2012-1	1-1/4	1.25	1-7/8
24 BZ	24NU24	2412-1	1-1/2	1.50	2-1/4
32 BZ	32NU32	3212-1	2	2.062	3

Dimensions for reference only, subject to change.  
**NOTE:** All size 20, 24 and 32 silver plated nuts should have a system compatible lube (Permatex Anti-seize) or equivalent applied to the fitting body threads and the inside back of nuts. This will minimize the effort required to assemble the fitting properly.

**INVERTED TUBE NUT FOR FRACTIONAL TUBE**

**SERIES BZI**



Part No.	Interchanges with	Tube O.D. (in.)	A (in.)	W Hex (in.)
1 BZI	1F2-1GC	1/16	.39	1/4
2 BZI	2F2-1GC	1/8	.44	7/16

Dimensions for reference only, subject to change.

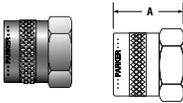
**KNURLED NUT FOR FRACTIONAL TUBE**

**SERIES BZP**

**HOW TO ASSEMBLE BZP**

1. Replace NU nut with BZP nut on Parker A-LOK® fitting body.
2. Insert plastic tubing until it bottoms in fitting body.
3. Tighten finger tight.

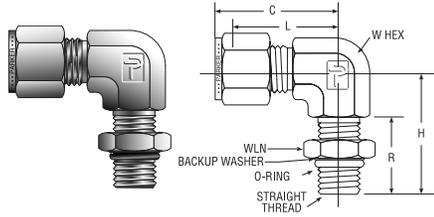
The knurled nut is designed for use with soft plastic tubing on low pressure applications where a finger tight assembly procedure is satisfactory.  
**Example:** Laboratory test hook-ups. Nylon or Teflon® ferrules are frequently used instead of metal ferrules in this type of application.



Part No.	Interchanges with	Tube O.D. (in.)	A (in.)
1 BZP	102-1K	1/16	.32
2 BZP	202-1K	1/8	.47
3 BZP	302-1K	3/16	.47
4 BZP	402-1K	1/4	.51
5 BZP	502-1K	5/16	.54
6 BZP	812-1K	3/8	.57
8 BZP	602-1K	1/2	.69
10 BZP	1012-1K	5/8	.69

Dimensions for reference only, subject to change.

**MALE SAE STRAIGHT THREAD ELBOW FOR FRACTIONAL TUBE**  
**SERIES C5BZ/M5SEL**

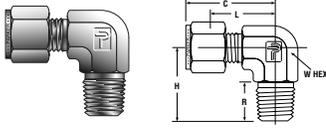


CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	Straight Thread Size (in.)	C (in.)	H (in.)	L (in.)	R (in.)	W Hex (in.)	O-Ring APR Uniform Dash No.
4-4 C5BZ	4M5SEL4	400-2-4ST	1/4	7/16-20	1.12	1.18	.83	.83	9/16	3-904
6-6 C5BZ	6M5SEL6	600-2-6ST	3/8	9/16-18	1.26	1.27	.97	.84	9/16	3-906
8-8 C5BZ	8M5SEL8	810-2-8ST	1/2	3/4-16	1.48	1.48	1.08	.97	3/4	3-908
12-12 C5BZ	12M5SEL12	1210-2-12ST	3/4	1-1/16-12	1.63	1.92	1.23	1.28	1-1/16	3-912
16-16 C5BZ	16M5SEL16	1610-2-16ST	1	1-5/16-12	1.91	2.11	1.42	1.28	1-5/16	3-916
24-24 C5BZ	24M5SEL24	2410-2-24ST	1-1/2	1-7/8-12	3.47	2.33	2.00	1.16	1-7/8	3-924

**NOTE:** C dimension is typical finger-tight.  
 Size 24 requires additional lubrication prior to assembly.  
 Parts are supplied with nitrile o-rings as standard. For Fluorocarbon o-rings, add the suffix "-VO". Other o-rings available upon request.  
 Dimensions for reference only, subject to change.

**MALE ELBOW FOR FRACTIONAL TUBE**

**SERIES CBZ/MSELN NPT**

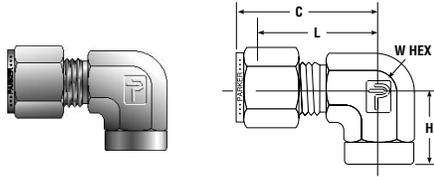


CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	NPT Pipe Thread (in.)	A (in.)	C (in.)	D (in.)	R (in.)	W Hex (in.)
1-1 CBZ	1MSEL1N	100-2-1	1/16	1/16	.75	.70	.60	.38	7/16
1-2 CBZ	1MSEL2N	100-2-2	1/16	1/8	.75	.70	.60	.38	7/16
2-1 CBZ	2MSEL1N	200-2-1	1/8	1/16	.93	.70	.67	.38	7/16
2-2 CBZ	2MSEL2N	200-2-2	1/8	1/8	.93	.70	.67	.38	7/16
2-4 CBZ	2MSEL4N	200-2-4	1/8	1/4	.97	.93	.72	.56	9/16
3-2 CBZ	3MSEL2N	300-2-2	3/16	1/8	1.00	.74	.74	.38	1/2
3-4 CBZ	3MSEL4N	300-2-4	3/16	1/4	1.00	.93	.74	.56	9/16
4-1 CBZ	4MSEL1N	400-2-1	1/4	1/16	1.06	.74	.77	.38	1/2
4-2 CBZ	4MSEL2N	400-2-2	1/4	1/8	1.06	.74	.77	.38	1/2
4-4 CBZ	4MSEL4N	400-2-4	1/4	1/4	1.06	.93	.77	.56	9/16
4-6 CBZ	4MSEL6N	400-2-6	1/4	3/8	1.17	1.04	.88	.56	11/16
4-8 CBZ	4MSEL8N	400-2-8	1/4	1/2	1.25	1.31	.96	.75	13/16
5-2 CBZ	5MSEL2N	500-2-2	5/16	1/8	1.13	.79	.84	.38	9/16
5-4 CBZ	5MSEL4N	500-2-4	5/16	1/4	1.13	.97	.84	.56	9/16
6-2 CBZ	6MSEL2N	600-2-2	3/8	1/8	1.20	.82	.91	.38	5/8
6-4 CBZ	6MSEL4N	600-2-4	3/8	1/4	1.20	1.01	.91	.56	5/8
6-6 CBZ	6MSEL6N	600-2-6	3/8	3/8	1.23	1.13	.97	.56	11/16
6-8 CBZ	6MSEL8N	600-2-8	3/8	1/2	1.31	1.31	1.02	.75	13/16
6-12 CBZ	6MSEL12N	600-2-12	3/8	3/4	1.46	1.46	1.17	.75	1-1/16
8-4 CBZ	8MSEL4N	810-2-4	1/2	1/4	1.42	1.12	1.02	.56	13/16
8-6 CBZ	8MSEL6N	810-2-6	1/2	3/8	1.42	1.12	1.02	.56	13/16
8-8 CBZ	8MSEL8N	810-2-8	1/2	1/2	1.42	1.31	1.02	.75	13/16
8-12 CBZ	8MSEL12N	810-2-12	1/2	3/4	1.57	1.46	1.17	.75	1-1/16
10-6 CBZ	10MSEL6N	1010-2-6	5/8	3/8	1.50	1.20	1.10	.56	15/16
10-8 CBZ	10MSEL8N	1010-2-8	5/8	1/2	1.50	1.39	1.10	.75	15/16
10-12 CBZ	10MSEL12N	1010-2-12	5/8	3/4	1.57	1.46	1.17	.75	1-1/16
12-8 CBZ	12MSEL8N	1210-2-8	3/4	1/2	1.57	1.46	1.17	.75	1-1/16
12-12 CBZ	12MSEL12N	1210-2-12	3/4	3/4	1.57	1.46	1.17	.75	1-1/16
14-12 CBZ	14MSEL12N	1410-2-12	7/8	3/4	1.76	1.65	1.36	.75	1-3/8
16-12 CBZ	16MSEL12N	1610-2-12	1	3/4	1.93	1.65	1.45	.75	1-3/8
16-16 CBZ	16MSEL16N	1610-2-16	1	1	1.93	1.84	1.45	.94	1-3/8
20-20 CBZ	20MSEL20N	2010-2-20	1-1/4	1-1/4	2.61	1.88	1.75	.97	1-5/8
24-24 CBZ	24MSEL24N	2410-2-24	1-1/2	1-1/2	3.06	2.38	2.00	1.00	1-7/8
32-32 CBZ	32MSEL32N	3200-2-32	2	2	4.22	2.79	2.75	1.04	2-13/16

NOTE: C dimension is typical finger-tight.  
 Dimensions for reference only, subject to change.  
 Sizes 20, 24 require additional lubrication prior to assembly.



**FEMALE ELBOW FOR FRACTIONAL TUBE**  
**SERIES DBZ/FELN NPT**



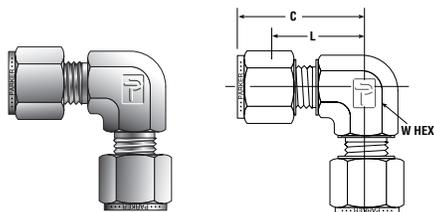
CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	NPT Pipe Thread (in.)	C (in.)	H (in.)	L (in.)	W Hex (in.)
1-1 DBZ	1FEL1N	100-8-1	1/16	1/16	.75	.50	.60	7/16
1-2 DBZ	1FEL2N	100-8-2	1/16	1/8	.79	.75	.64	9/16
2-2 DBZ	2FEL2N	200-8-2	1/8	1/8	.97	.75	.71	9/16
2-4 DBZ	2FEL4N	200-8-4	1/8	1/4	1.10	.88	.84	3/4
3-2 DBZ	3FEL2N	300-8-2	3/16	1/8	1.00	.75	.74	9/16
4-2 DBZ	4FEL2N	400-8-2	1/4	1/8	1.06	.75	.77	9/16
4-4 DBZ	4FEL4N	400-8-4	1/4	1/4	1.20	.88	.91	11/16
4-6 DBZ	4FEL6N	400-8-6	1/4	3/8	1.25	.88	.96	13/16
4-8 DBZ	4FEL8N	400-8-8	1/4	1/2	1.36	1.13	1.07	1
5-2 DBZ	5FEL2N	500-8-2	5/16	1/8	1.13	.75	.84	9/16
5-4 DBZ	5FEL4N	500-8-4	5/16	1/4	1.24	.88	.94	11/16
6-2 DBZ	6FEL2N	600-8-2	3/8	1/8	1.20	.75	.91	5/8
6-4 DBZ	6FEL4N	600-8-4	3/8	1/4	1.26	.88	.97	11/16
6-6 DBZ	6FEL6N	600-8-6	3/8	3/8	1.31	.88	1.02	13/16
6-8 DBZ	6FEL8N	600-8-8	3/8	1/2	1.42	1.13	1.13	1
8-4 DBZ	8FEL4N	810-8-4	1/2	1/4	1.42	.88	1.02	13/16
8-6 DBZ	8FEL6N	810-8-6	1/2	3/8	1.42	.88	1.02	13/16
8-8 DBZ	8FEL8N	810-8-8	1/2	1/2	1.53	1.13	1.13	1
10-6 DBZ	10FEL6N	1010-8-6	5/8	3/8	1.50	.88	1.10	15/16
10-8 DBZ	10FEL8N	1010-8-8	5/8	1/2	1.57	1.13	1.17	1-1/16
12-8 DBZ	12FEL8N	1210-8-8	3/4	1/2	1.57	1.13	1.17	1-1/16
12-12 DBZ	12FEL12N	1210-8-12	3/4	3/4	1.76	1.25	1.36	1-3/8
14-12 DBZ	14FEL12N	1410-8-12	7/8	3/4	1.76	1.25	1.36	1-3/8
16-12 DBZ	16FEL12N	1610-8-12	1	3/4	1.93	1.25	1.45	1-3/8
16-16 DBZ	16FEL16N	1610-8-16	1	1	2.02	1.50	1.53	1-5/8

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**NOTE:** C dimension is typical finger-tight.  
 Dimensions for reference only, subject to change.

**UNION ELBOW FOR FRACTIONAL TUBE**

**SERIES EBZ/EE**

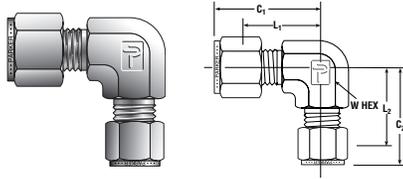


CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	C (in.)	L (IN.)	W Hex (in.)
1-1 EBZ	1EE1	100-9	1/16	.70	.55	3/8
2-2 EBZ	2EE2	200-9	1/8	.88	.62	3/8
3-3 EBZ	3EE3	300-9	3/16	1.00	.74	1/2
4-4 EBZ	4EE4	400-9	1/4	1.06	.77	1/2
5-5 EBZ	5EE5	500-9	5/16	1.13	.84	9/16
6-6 EBZ	6EE6	600-9	3/8	1.20	.91	5/8
8-8 EBZ	8EE8	810-9	1/2	1.42	1.02	13/16
10-10 EBZ	10EE10	1010-9	5/8	1.50	1.10	15/16
12-12 EBZ	12EE12	1210-9	3/4	1.57	1.17	1-1/16
14-14 EBZ	14EE14	1410-9	7/8	1.76	1.36	1-3/8
16-16 EBZ	16EE16	1610-9	1	1.93	1.45	1-3/8
20-20 EBZ	20EE20	2010-9	1-1/4	2.61	1.75	1-5/8
24-24 EBZ	24EE24	2410-9	1-1/2	3.06	2.00	1-7/8
32-32 EBZ	32EE32	3210-9	2	4.22	2.75	2-13/16

**NOTE:** C dimension is typical finger-tight.  
 Sizes 20, 24, 32 require additional lubrication prior to assembly.  
 Dimensions for reference only, subject to change.

**DROP SIZE ELBOWS FOR FRACTIONAL TUBE**

**SERIES EBZ/ELZ**



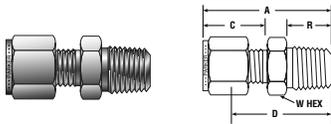
CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	L <sub>1</sub> (in.)	C <sub>1</sub> (in.)	L <sub>2</sub> (in.)	C <sub>2</sub> (in.)	W Hex (in.)
3-2 EBZ	3-2 ELZ	300-9-2	3/16-1/8	.74	1.01	.70	.96	1/2
4-2 EBZ	4-2 ELZ	400-9-2	1/4-1/8	.77	1.06	.70	.96	1/2
5-2 EBZ	5-2 ELZ	500-9-2	5/16-1/8	.88	1.17	.78	1.04	5/8
5-4 EBZ	5-4 ELZ	500-9-4	5/16-1/4	.88	1.17	.85	1.14	5/8
6-2 EBZ	6-2 ELZ	600-9-2	3/8-1/8	.91	1.20	.78	1.04	5/8
6-4 EBZ	6-4 ELZ	600-9-4	3/8-1/4	.91	1.20	.85	1.17	5/8
6-5 EBZ	6-5 ELZ	600-9-5	3/8-5/16	.91	1.20	.88	1.17	5/8
8-4 EBZ	8-4 ELZ	810-9-4	1/2-1/4	1.02	1.42	.96	1.25	13/16
8-5 EBZ	8-5 ELZ	810-9-5	1/2-5/16	1.02	1.42	.99	1.28	13/16
8-6 EBZ	8-6 ELZ	810-9-6	1/2-3/8	1.02	1.42	1.02	1.31	13/16
10-6 EBZ	10-6 ELZ	1010-9-6	5/8-3/8	1.10	1.50	1.10	1.39	15/16
10-8 EBZ	10-8 ELZ	1010-9-8	5/8-1/2	1.10	1.50	1.10	1.50	15/16
12-4 EBZ	12-4 ELZ	1210-9-4	3/4-1/4	1.16	1.56	1.10	1.39	1-1/16
12-6 EBZ	12-6 ELZ	1210-9-6	3/4-3/8	1.16	1.56	1.16	1.45	1-1/16
12-8 EBZ	12-8 ELZ	1210-9-8	3/4-1/2	1.16	1.56	1.16	1.56	1-1/16
14-4 EBZ	14-4 ELZ	1410-9-4	7/8-1/4	1.36	1.76	1.30	1.59	1-3/8
16-8 EBZ	16-8 ELZ	1610-9-8	1-1/2	1.45	1.94	1.36	1.76	1-3/8
16-12 EBZ	16-12 ELZ	1610-9-12	1-3/4	1.45	1.94	1.36	1.76	1-3/8

**10**

**NOTE:** C dimension is typical finger-tight.  
 Dimensions for reference only, subject to change.

**MALE CONNECTOR FOR FRACTIONAL TUBE**

**SERIES FBZ/MSCN NPT**



CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O. D. (in.)	NPT Pipe Thread (in.)	A (in.)	C (in.)	D (in.)	R (in.)	W Hex (in.)
1-1 FBZ	1MSC1N	100-1-1	1/16	1/16	.93	.43	.78	.38	5/16
1-2 FBZ	1MSC2N	100-1-2	1/16	1/8	1.03	.43	.88	.38	7/16
1-4 FBZ	1MSC4N	100-1-4	1/16	1/4	1.23	.43	1.08	.56	9/16
2-1 FBZ	2MSC1N	200-1-1	1/8	1/16	1.17	.60	.91	.38	3/8
2-2 FBZ	2MSC2N	200-1-2	1/8	1/8	1.20	.60	.94	.38	7/16
2-4 FBZ	2MSC4N	200-1-4	1/8	1/4	1.40	.60	1.14	.56	9/16
2-6 FBZ	2MSC6N	200-1-6	1/8	3/8	1.42	.60	1.16	.56	11/16
2-8 FBZ	2MSC8N	200-1-8	1/8	1/2	1.67	.60	1.41	.75	7/8
3-1 FBZ	3MSC1N	300-1-1	3/16	1/16	1.23	.64	.97	.38	7/16
3-2 FBZ	3MSC2N	300-1-2	3/16	1/8	1.23	.64	.97	.38	7/16
3-4 FBZ	3MSC4N	300-1-4	3/16	1/4	1.43	.64	1.17	.56	9/16
4-1 FBZ	4MSC1N	400-1-1	1/4	1/16	1.29	.70	1.00	.38	1/2
4-2 FBZ	4MSC2N	400-1-2	1/4	1/8	1.29	.70	1.00	.38	1/2
4-4 FBZ	4MSC4N	400-1-4	1/4	1/4	1.49	.70	1.20	.56	9/16
4-6 FBZ	4MSC6N	400-1-6	1/4	3/8	1.51	.70	1.22	.56	11/16
4-8 FBZ	4MSC8N	400-1-8	1/4	1/2	1.76	.70	1.47	.75	7/8
4-12 FBZ	4MSC12N	400-1-12	1/4	3/4	1.82	.70	1.53	.75	1-1/16
5-2 FBZ	5MSC2N	500-1-2	5/16	1/8	1.34	.73	1.05	.38	9/16
5-4 FBZ	5MSC4N	500-1-4	5/16	1/4	1.52	.73	1.23	.56	9/16
5-6 FBZ	5MSC6N	500-1-6	5/16	3/8	1.55	.73	1.25	.56	11/16
5-8 FBZ	5MSC8N	500-1-8	5/16	1/2	1.79	.73	1.50	.75	7/8
6-2 FBZ	6MSC2N	600-1-2	3/8	1/8	1.38	.76	1.09	.38	5/8
6-4 FBZ	6MSC4N	600-1-4	3/8	1/4	1.57	.76	1.28	.56	5/8
6-6 FBZ	6MSC6N	600-1-6	3/8	3/8	1.57	.76	1.28	.56	11/16
6-8 FBZ	6MSC8N	600-1-8	3/8	1/2	1.82	.76	1.53	.75	7/8
6-12 FBZ	6MSC12N	600-1-12	3/8	3/4	1.88	.76	1.59	.75	1-1/16
8-2 FBZ	8MSC2N	810-1-2	1/2	1/8	1.53	.87	1.13	.38	13/16
8-4 FBZ	8MSC4N	810-1-4	1/2	1/4	1.71	.87	1.31	.56	13/16
8-6 FBZ	8MSC6N	810-1-6	1/2	3/8	1.71	.87	1.31	.56	13/16
8-8 FBZ	8MSC8N	810-1-8	1/2	1/2	1.93	.87	1.53	.75	7/8
8-12 FBZ	8MSC12N	810-1-12	1/2	3/4	1.99	.87	1.59	.75	1-1/16
8-16 FBZ	8MSC16N	810-1-16	1/2	1	2.28	.87	1.88	.94	1-3/8

NOTE: A and C dimensions are typical finger-tight.  
 Sizes 20, 24, 32 require additional lubrication prior to assembly.  
 Dimensions for reference only, subject to change.

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**MALE CONNECTOR FOR FRACTIONAL TUBE**

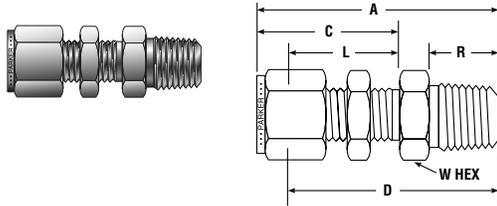
**SERIES FBZ/MSCN NPT**

CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	NPT Pipe Thread (in.)	A (in.)	C (in.)	D (in.)	R (in.)	W Hex (in.)
10-6 FBZ	10MSC6N	1010-1-6	5/8	3/8	1.74	.87	1.34	.56	15/16
10-8 FBZ	10MSC8N	1010-1-8	5/8	1/2	1.93	.87	1.53	.75	15/16
10-12 FBZ	10MSC12N	1010-1-12	5/8	3/4	1.99	.87	1.59	.75	1-1/16
12-8 FBZ	12MSC8N	1210-1-8	3/4	1/2	1.99	.87	1.59	.75	1-1/16
12-12 FBZ	12MSC12N	1210-1-12	3/4	3/4	1.99	.87	1.59	.75	1-1/16
12-16 FBZ	12MSC16N	1210-1-16	3/4	1	2.28	.87	1.88	.94	1-3/8
14-12 FBZ	14MSC12N	1410-1-12	7/8	3/4	1.99	.87	1.59	.75	1-3/16
14-16 FBZ	14MSC16N	1410-1-16	7/8	1	2.28	.87	1.88	.94	1-3/8
16-8 FBZ	16MSC8N	1610-1-8	1	1/2	2.27	1.05	1.78	.75	1-3/8
16-12 FBZ	16MSC12N	1610-1-12	1	3/4	2.27	1.05	1.78	.75	1-3/8
16-16 FBZ	16MSC16N	1610-1-16	1	1	2.46	1.05	1.97	.94	1-3/8
20-20 FBZ	20MSC20N	2010-1-20	1-1/4	1-1/4	3.03	1.52	2.17	.97	1-3/4
24-24 FBZ	24MSC24N	2410-1-24	1-1/2	1-1/2	3.50	1.77	2.44	1.00	2-1/8
32-32 FBZ	32MSC32N	3210-1-32	2	2	4.47	2.47	3.00	1.04	2-3/4

**NOTE:** A and C dimensions are typical finger-tight.  
 Sizes 20, 24, 32 require additional lubrication prior to assembly.  
 Dimensions for reference only, subject to change.

**MALE BULKHEAD CONNECTOR FOR FRACTIONAL TUBE**

**SERIES FH2BZ/MBCN NPT**

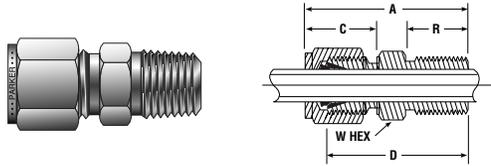


CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	NPT Pipe Thread (in.)	A (in.)	C (in.)	D (in.)	L (in.)	R (in.)	W Hex (in.)
1-1 FH2BZ	1MBC1N	100-11-1	1/16	1/16	1.19	.68	1.038	.53	.38	5/16
1-2 FH2BZ	1MBC2N	100-11-2	1/16	1/8	1.27	.68	1.116	.53	.38	7/16
2-2 FH2BZ	2MBC2N	200-11-2	1/8	1/8	1.83	1.23	1.571	.97	.38	1/2
3-2 FH2BZ	3MBC2N	300-11-2	3/16	1/8	1.89	1.26	1.634	1.00	.38	9/16
4-2 FH2BZ	4MBC2N	400-11-2	1/4	1/8	1.95	1.31	1.655	1.02	.38	5/8
4-4 FH2BZ	4MBC4N	400-11-4	1/4	1/4	2.132	1.31	1.842	1.02	.56	5/8
4-6 FH2BZ	4MBC6N	400-11-6	1/4	3/8	2.162	1.31	1.872	1.02	.56	11/16
4-8 FH2BZ	4MBC8N	400-11-8	1/4	1/2	2.374	1.31	2.084	1.02	.75	7/8
5-2 FH2BZ	5MBC2N	500-11-2	5/16	1/8	2.08	1.42	1.779	1.12	.38	11/16
5-4 FH2BZ	5MBC4N	500-11-4	5/16	1/4	2.27	1.42	1.966	1.12	.56	11/16
6-2 FH2BZ	6MBC2N	600-11-2	3/8	1/8	2.08	1.44	1.788	1.15	.38	3/4
6-4 FH2BZ	6MBC4N	600-11-4	3/8	1/4	2.265	1.44	1.975	1.15	.56	3/4
6-6 FH2BZ	6MBC6N	600-11-6	3/8	3/8	2.265	1.44	1.975	1.15	.56	3/4
6-8 FH2BZ	6MBC8N	600-11-8	3/8	1/2	2.48	1.44	2.219	1.15	.75	7/8
8-4 FH2BZ	8MBC4N	810-11-4	1/2	1/4	2.494	1.65	2.094	1.25	.56	15/16
8-6 FH2BZ	8MBC6N	810-11-6	1/2	3/8	2.494	1.65	2.094	1.25	.56	15/16
8-8 FH2BZ	8MBC8N	810-11-8	1/2	1/2	2.712	1.65	2.312	1.25	.75	15/16
8-12 FH2BZ	8MBC12N	810-11-12	1/2	3/4	2.722	1.65	2.322	1.25	.75	1-1/8
10-6 FH2BZ	10MBC6N	1010-11-6	5/8	3/8	2.628	1.68	2.228	1.28	.56	1-1/16
10-8 FH2BZ	10MBC8N	1010-11-8	5/8	1/2	2.816	1.68	2.416	1.28	.75	1-1/16
12-8 FH2BZ	12MBC8N	1210-11-8	3/4	1/2	3.00	1.87	2.601	1.47	.75	1-3/16
12-12 FH2BZ	12MBC12N	1210-11-12	3/4	3/4	3.00	1.87	2.601	1.47	.75	1-3/16
14-12 FH2BZ	14MBC12N	1410-11-12	7/8	3/4	3.31	2.09	2.913	1.69	.75	1-3/8
16-12 FH2BZ	16MBC12N	1610-11-12	1	3/4	3.54	2.27	3.006	1.78	.75	1-5/8
16-16 FH2BZ	16MBC16N	1610-11-16	1	1	3.72	2.27	3.194	1.78	.94	1-5/8

**NOTE:** A and C dimensions are typical finger-tight.  
 Dimensions for reference only, subject to change.

**THERMOCOUPLE CONNECTOR FOR FRACTIONAL TUBE**

**SERIES FH4BZ/MTCN**

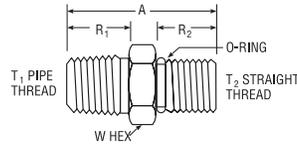


CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	NPT Pipe Thread (in.)	A (in.)	C (in.)	D (in.)	R (in.)	W Hex (in.)
1-1 FH4BZ	1MTC1N	100-1-1BT	1/16	1/16	.93	.43	.78	.38	5/16
1-2 FH4BZ	1MTC2N	100-1-2BT	1/16	1/8	1.03	.43	.88	.38	7/16
1-4 FH4BZ	1MTC4N	100-1-4BT	1/16	1/4	1.23	.43	1.08	.56	9/16
2-1 FH4BZ	2MTC1N	200-1-1BT	1/8	1/16	1.17	.60	.91	.38	3/8
2-2 FH4BZ	2MTC2N	200-1-2BT	1/8	1/8	1.20	.60	.94	.38	7/16
2-4 FH4BZ	2MTC4N	200-1-4BT	1/8	1/4	1.40	.60	1.14	.56	9/16
3-2 FH4BZ	3MTC2N	300-1-2BT	3/16	1/8	1.23	.64	.97	.38	7/16
3-4 FH4BZ	3MTC4N	300-1-4BT	3/16	1/4	1.43	.64	1.17	.56	9/16
4-2 FH4BZ	4MTC2N	400-1-2BT	1/4	1/8	1.29	.70	1.00	.38	1/2
4-4 FH4BZ	4MTC4N	400-1-4BT	1/4	1/4	1.49	.70	1.20	.56	9/16
4-6 FH4BZ	4MTC6N	400-1-6BT	1/4	3/8	1.60	.70	1.22	.56	11/16
4-8 FH4BZ	4MTC8N	400-1-8BT	1/4	1/2	1.87	.70	1.47	.75	7/8
5-4 FH4BZ	5MTC4N	500-1-4BT	5/16	1/4	1.52	.73	1.22	.56	9/16
6-4 FH4BZ	6MTC4N	600-1-4BT	3/8	1/4	1.57	.76	1.28	.56	5/8
6-6 FH4BZ	6MTC6N	600-1-6BT	3/8	3/8	1.57	.76	1.28	.56	11/16
6-8 FH4BZ	6MTC8N	600-1-8BT	3/8	1/2	1.82	.76	1.53	.75	7/8
6-12 FH4BZ	6MTC12N	600-1-12BT	3/8	3/4	1.88	.76	1.59	.75	1-1/16
8-8 FH4BZ	8MTC8N	810-1-8BT	1/2	1/2	1.93	.87	1.53	.76	7/8
8-12 FH4BZ	8MTC12N	810-1-12BT	1/2	3/4	1.99	.87	1.59	.75	1-1/16
10-12 FH4BZ	10MTC12N	1010-1-12BT	5/8	3/4	1.99	.87	1.59	.75	1-1/16
12-12 FH4BZ	12MTC12N	1210-1-12BT	3/4	3/4	1.99	.87	1.59	.75	1-1/16
16-16 FH4BZ	16MTC16N	1610-1-16BT	1	1	2.46	1.05	1.97	.94	1-3/8

NOTE: A and C dimensions are typical finger-tight.  
 Dimensions for reference only, subject to change.

**PIPE THREAD TO SAE STRAIGHT THREAD ADAPTER FOR FRACTIONAL TUBE**

**SERIES FHOA/FHOA**

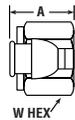


CPI™ Part No.	A-LOK® Part No.	Interchanges with	T Straight Thread (in.)	NPT Pipe T <sub>1</sub> Pipe Thread (in.)	A (in.)	R <sub>1</sub> (in.)	R <sub>2</sub> (in.)	W Hex (in.)	O-Ring AS Uniform Dash No.
4-4 FHOA	4-4 FHOA	4SAE-1-4	1/4-18	7/16-20	1.20	.56	.36	9/16	3-904
6-6 FHOA	6-6 FHOA	6-6SAE-1-6	3/8-18	9/16-18	1.26	.56	.39	11/16	3-906
8-8 FHOA	8-8 FHOA	8-8SAE-1-8	1/2-14	3/4-16	1.53	.75	.44	7/8	3-908
12-12 FHOA	12-12 FHOA	12-12SAE-1-12	3/4-14	1-1/16-12	1.75	.75	.59	1-1/4	3-912
16-16 FHOA	16-16 FHOA	16-16SAE-1-16	1-11-1/2	1-5/16-12	2.00	.94	.59	1-1/2	3-916

**NOTE:** A and C dimensions are typical finger-tight.  
 For use with SAE J.1926/1 port can also be used with MS-16142 port.  
 Parts are supplied with nitrile o-rings as standard. For Fluorocarbon o-rings, add the suffix "-VO". Other o-rings available upon request.  
 Dimensions for reference only, subject to change

**PLUG FOR FRACTIONAL TUBE**

**SERIES FNZ/BLP**



• For plugging open ended CPI™/A-LOK® fitting ends

CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	Thread (in.)	A (in.)	W Hex (in.)
1 FNZ	1BLP1	100-P	1/16	10-32	.31	5/16
2 FNZ	2BLP2	200-P	1/8	5/16-20	.47	7/16
3 FNZ	3BLP3	300-P	3/16	3/8-20	.47	1/2
4 FNZ	4BLP4	400-P	1/4	7/16-20	.50	9/16
5 FNZ	5BLP5	500-P	5/16	1/2-20	.53	5/8
6 FNZ	6BLP6	600-P	3/8	9/16-20	.56	11/16
8 FNZ	8BLP8	810-P	1/2	3/4-20	.69	7/8
10 FNZ	10BLP10	1010-P	5/8	7/8-20	.69	1
12 FNZ	12BLP12	1210-P	3/4	1-20	.69	1-1/8
14 FNZ	14BLP14	1410-P	7/8	1-1/8-20	.69	1-1/4
16 FNZ	16BLP16	1610-P	1	1-5/16-20	.81	1-1/2
20 FNZ	20BLP20	2010-P	1-1/4	1-5/8-20	1.35	1-7/8
24 FNZ	24BLP24	2410-P	1-1/2	1-15/16-20	1.72	2-1/4
32 FNZ	32BPL32	3210-P	2	2-5/8-20	2.27	3

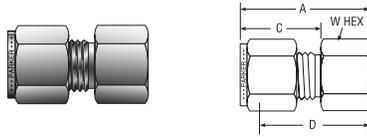
Dimensions for reference only, subject to change.

**HOW TO ASSEMBLE**

Wrench tighten only 1/4 turn from finger tight position. Assembly includes machined ferrule with lock ring.

**FEMALE CONNECTOR FOR FRACTIONAL TUBE**

**SERIES GBZ/FSCN NPT**



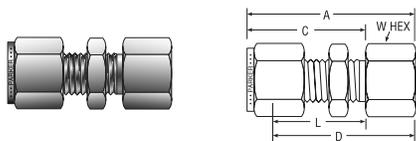
CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	NPT Pipe Thread (in.)	A (in.)	C (in.)	D (in.)	W Hex (in.)
1-1 GBZ	1FSC1N	100-7-1	1/16	1/16	.93	.43	.78	7/16
1-2 GBZ	1FSC2N	100-7-2	1/16	1/8	.95	.43	.81	9/16
2-2 GBZ	2FSC2N	200-7-2	1/8	1/8	1.14	.60	.88	9/16
2-4 GBZ	2FSC4N	200-7-4	1/8	1/4	1.32	.60	1.06	3/4
3-2 GBZ	3FSC2N	300-7-2	3/16	1/8	1.17	.64	.91	9/16
3-4 GBZ	3FSC4N	300-7-4	3/16	1/4	1.35	.64	1.09	3/4
4-2 GBZ	4FSC2N	400-7-2	1/4	1/8	1.23	.70	.94	9/16
4-4 GBZ	4FSC4N	400-7-4	1/4	1/4	1.42	.70	1.13	3/4
4-6 GBZ	4FSC6N	400-7-6	1/4	3/8	1.48	.70	1.19	7/8
4-8 GBZ	4FSC8N	400-7-8	1/4	1/2	1.67	.70	1.38	1-1/16
5-2 GBZ	5FSC2N	500-7-2	5/16	1/8	1.27	.73	.97	9/16
5-4 GBZ	5FSC4N	500-7-4	5/16	1/4	1.46	.73	1.16	3/4
5-6 GBZ	5FSC6N	500-7-6	5/16	3/8		.73	1.219	7/8
6-2 GBZ	6FSC2N	600-7-2	3/8	1/8	1.29	.76	1.00	5/8
6-4 GBZ	6FSC4N	600-7-4	3/8	1/4	1.48	.76	1.19	3/4
6-6 GBZ	6FSC6N	600-7-6	3/8	3/8	1.54	.76	1.25	7/8
6-8 GBZ	6FSC8N	600-7-8	3/8	1/2	1.73	.76	1.44	1-1/16
6-12 GBZ	6FSC12N	600-7-12	3/8	3/4	1.85	.76	1.56	1-1/4
8-4 GBZ	8FSC4N	810-7-4	1/2	1/4	1.59	.87	1.19	13/16
8-6 GBZ	8FSC6N	810-7-6	1/2	3/8	1.65	.87	1.25	7/8
8-8 GBZ	8FSC8N	810-7-8	1/2	1/2	1.84	.87	1.44	1-1/16
8-12 GBZ	8FSC12N	810-7-12	1/2	3/4	1.96	.87	1.56	1-1/4
10-6 GBZ	10FSC6N	1010-7-6	5/8	3/8	1.65	.87	1.25	15/16
10-8 GBZ	10FSC8N	1010-7-8	5/8	1/2	1.84	.87	1.44	1-1/16
10-12 GBZ	10FSC12N	1010-7-12	5/8	3/4	1.96	.87	1.56	1-3/8
12-8 GBZ	12FSC8N	1210-7-8	3/4	1/2	1.84	.87	1.44	1-1/16
12-12 GBZ	12FSC12N	1210-7-12	3/4	3/4	1.96	.87	1.56	1-3/8
14-12 GBZ	14FSC12N	1410-7-12	7/8	3/4	1.96	.87	1.56	1-3/8
16-12 GBZ	16FSC12N	1610-7-12	1	3/4	2.15	1.05	1.66	1-3/8
16-16 GBZ	16FSC16N	1610-7-16	1	1	2.46	1.05	1.97	1-5/8
20-20 GBZ	20FSC20N	2010-7-20	1-1/4	1-1/4	2.94	1.52	2.08	2
24-24 GBZ	24FSC24N	2410-7-24	1-1/2	1-1/2	3.28	1.77	2.22	2-3/8
32-32 GBZ	32FSC32N	3210-7-32	2	2	4.00	2.47	2.53	2-7/8

10

**NOTE:** A and C dimensions are typical finger-tight.  
 Sizes 20, 24, 32 require additional lubrication prior to assembly.  
 Dimensions for reference only, subject to change.



**FEMALE BULKHEAD CONNECTOR FOR FRACTIONAL TUBE**  
**SERIES GH2BZ/FBCN NPT**

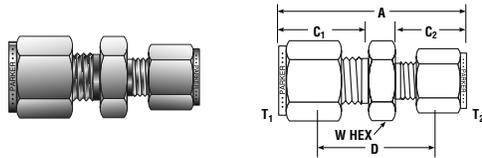


CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	NPT Pipe Thread (in.)	A (in.)	C (in.)	D (in.)	L (in.)	W Hex (in.)
2-2 GH2BZ	2FBC2N	200-71-2	1/8	1/8	1.76	1.23	1.50	.97	9/16
3-2 GH2BZ	3FBC2N	300-71-2	3/16	1/8	1.79	1.26	1.53	1.00	9/16
4-2 GH2BZ	4FBC2N	400-71-2	1/4	1/8	1.85	1.31	1.56	1.02	5/8
4-4 GH2BZ	4FBC4N	400-71-4	1/4	1/4	2.04	1.31	1.75	1.02	3/4
5-2 GH2BZ	5FBC2N	500-71-2	5/16	1/8	1.96	1.42	1.66	1.12	11/16
5-8 GH2BZ	5FBC8N	500-71-8	5/16	1/2	2.38	1.42	2.08	1.12	1-1/16
6-4 GH2BZ	6FBC4N	600-71-4	3/8	1/4	2.17	1.44	1.88	1.15	3/4
8-6 GH2BZ	8FBC6N	810-71-6	1/2	3/8	2.43	1.65	2.03	1.25	15/16
8-8 GH2BZ	8FBC8N	810-71-8	1/2	1/2	2.62	1.65	2.22	1.25	1-1/16
10-8 GH2BZ	10FBC8N	1010-71-8	5/8	1/2	2.65	1.68	2.25	1.28	1-1/16
12-12 GH2BZ	12FBC12N	1210-71-12	3/4	3/4	2.90	1.87	2.50	1.47	1-3/8
14-12 GH2BZ	14FBC12N	1410-71-12	7/8	3/4	3.18	2.09	2.78	1.69	1-3/8
16-16 GH2BZ	16FBC16N	1610-71-16	1	1	3.68	2.27	3.19	1.78	1-5/8

**NOTE:** A and C dimensions are typical finger-tight. Dimensions for reference only, subject to change.

**REDUCING UNION FOR FRACTIONAL TUBE**

**SERIES HBZ/RU**

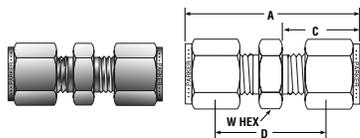


CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	NPT Pipe Thread (in.)	A (in.)	C (in.)	H (in.)	L (in.)	W Hex (in.)
2-1 HBZ	2RU1	200-6-1	1/8	1/16	1.21	.81	.60	.43	7/16
3-1 HBZ	3RU1	300-6-1	3/16	1/16	1.27	.86	.64	.43	7/16
3-2 HBZ	3RU2	300-6-2	3/16	1/8	1.44	.92	.64	.60	7/16
4-1 HBZ	4RU1	400-6-1	1/4	1/16	1.38	.91	.70	.43	1/2
4-2 HBZ	4RU2	400-6-2	1/4	1/8	1.52	.97	.70	.60	1/2
4-3 HBZ	4RU3	400-6-3	1/4	3/16	1.55	1.00	.70	.64	1/2
5-2 HBZ	5RU2	500-6-2	5/16	1/8	1.58	1.03	.73	.60	9/16
5-4 HBZ	5RU4	500-6-4	5/16	1/4	1.67	1.08	.73	.70	9/16
6-1 HBZ	6RU1	600-6-1	3/8	1/16	1.44	1.00	.76	.43	5/8
6-2 HBZ	6RU2	600-6-2	3/8	1/8	1.61	1.06	.76	.60	5/8
6-4 HBZ	6RU4	600-6-4	3/8	1/4	1.71	1.13	.76	.70	5/8
6-5 HBZ	6RU5	600-6-5	3/8	5/16	1.75	1.16	.76	.73	5/8
8-2 HBZ	8RU2	810-6-2	1/2	1/8	1.75	1.09	.87	.60	13/16
8-4 HBZ	8RU4	810-6-4	1/2	1/4	1.85	1.16	.87	.70	13/16
8-6 HBZ	8RU6	810-6-6	1/2	3/8	1.91	1.22	.87	.76	13/16
10-6 HBZ	10RU6	1010-6-6	5/8	3/8	1.94	1.25	.87	.76	15/16
10-8 HBZ	10RU8	1010-6-8	5/8	1/2	2.05	1.25	.87	.87	15/16
12-4 HBZ	12RU4	1210-6-4	3/4	1/4	1.95	1.25	.87	.76	1-1/16
12-6 HBZ	12RU6	1210-6-6	3/4	3/8	2.00	1.31	.87	.76	1-1/16
12-8 HBZ	12RU8	1210-6-8	3/4	1/2	2.11	1.31	.87	.87	1-1/16
12-10 HBZ	12RU10	1210-6-10	3/4	5/8	2.11	1.31	.87	.87	1-1/16
16-8 HBZ	16RU8	1610-6-8	1	1/2	2.39	1.50	1.05	.87	1-3/8
16-12 HBZ	16RU12	1610-6-12	1	3/4	2.39	1.50	1.05	.87	1-3/8

**NOTE:** A and C dimensions are typical finger-tight. Dimensions for reference only, subject to change.

**UNION FOR FRACTIONAL TUBE**

**SERIES HBZ/SC**

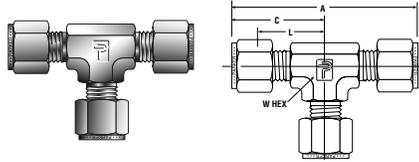


CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	A (in.)	C (in.)	D (in.)	W Hex (in.)
1-1 HBZ	1SC1	100-6	1/16	.99	.43	.69	5/16
2-2 HBZ	2SC2	200-6	1/8	1.39	.60	.88	7/16
3-3 HBZ	3SC3	300-6	3/16	1.48	.64	.95	7/16
4-4 HBZ	4SC4	400-6	1/4	1.62	.70	1.03	1/2
5-5 HBZ	5SC5	500-6	5/16	1.70	.73	1.11	9/16
6-6 HBZ	6SC6	600-6	3/8	1.77	.76	1.19	5/8
8-8 HBZ	8SC8	810-6	1/2	2.02	.87	1.22	13/16
10-10 HBZ	10SC10	1010-6	5/8	2.05	.87	1.25	15/16
12-12 HBZ	12SC12	1210-6	3/4	2.11	.87	1.31	1-1/16
14-14 HBZ	14SC14	1410-6	7/8	2.18	.87	1.38	1-3/16
16-16 HBZ	16SC16	1610-6	1	2.57	1.05	1.59	1-3/8
20-20 HBZ	20SC20	2010-6	1-1/4	3.61	1.52	1.89	1-3/4
24-24 HBZ	24SC24	2410-6	1-1/2	4.23	1.77	2.11	2-1/8
32-32 HBZ	32SC32	3210-6	2	5.88	2.47	2.94	2-3/4

**NOTE:** A and C dimensions are typical finger-tight.  
 Dimensions for reference only, subject to change.

**UNION TEE FOR FRACTIONAL TUBE**

**SERIES JBZ/ET**



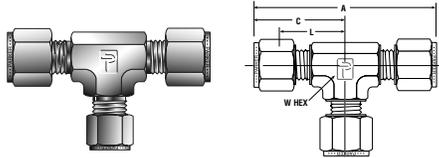
CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	A (in.)	C (in.)	L (in.)	W Hex (in.)
1-1-1 JBZ	1ET1	100-3	1/16	1.42	.71	.56	3/8
2-2-2 JBZ	2ET2	200-3	1/8	1.76	.88	.62	3/8
3-3-3 JBZ	3ET3	300-3	3/16	1.96	.96	.70	7/16
4-4-4 JBZ	4ET4	400-3	1/4	2.12	1.06	.77	1/2
5-5-5 JBZ	5ET5	500-3	5/16	2.34	1.17	.88	5/8
6-6-6 JBZ	6ET6	600-3	3/8	2.40	1.20	.91	5/8
8-8-8 JBZ	8ET8	810-3	1/2	2.84	1.42	1.02	13/16
10-10-10 JBZ	10ET10	1010-3	5/8	3.06	1.53	1.13	1
12-12-12 JBZ	12ET12	1210-3	3/4	3.14	1.57	1.16	1-1/16
14-14-14 JBZ	14ET14	1410-3	7/8	3.52	1.76	1.36	1-3/8
16-16-16 JBZ	16ET16	1610-3	1	3.86	1.93	1.45	1-3/8
20-20-20 JBZ	20ET20	2010-3	1-1/4	5.22	2.61	1.75	1-5/8
24-24-24 JBZ	24ET24	2410-3	1-1/2	6.12	3.06	2.00	1-7/8
32-32-32 JBZ	32ET32	3210-3	2	8.44	4.22	2.75	2-13/16

**NOTE:** A and C dimensions are typical finger-tight.  
 Sizes 20, 24, 32 require additional lubrication prior to assembly.  
 Dimensions for reference only, subject to change.

**DROP SIZE TEES FOR FRACTIONAL TUBE**

**SERIES JBZ/JLZ**

Eliminates the extra connection when adapting with a tube stub reducer



CPI™ Part No.	A-LOK® Part No.	Interchanges with	T <sub>1</sub> Tube O.D. (in.)	T <sub>2</sub> Tube O.D. (in.)	T <sub>3</sub> Tube O.D. (in.)	A (in.)	L <sub>1</sub> (in.)	C <sub>1</sub> (in.)	L <sub>2</sub> (in.)	C <sub>2</sub> (in.)	L <sub>3</sub> (in.)	C <sub>3</sub> (in.)	W Hex (in.)
4-4-2 JBZ	4-4-2 JLZ	400-3-4-2	1/4	1/4	1/8	2.10	.76	1.05	.76	1.05	.70	.96	1/2
6-4-4 JBZ	6-4-4 JLZ	600-3-4-4	3/8	1/4	1/4	2.34	.91	1.20	.85	1.14	.85	1.14	5/8
6-4-6 JBZ	6-4-6 JLZ	600-3-4-6	3/8	1/4	3/8	2.34	.91	1.20	.85	1.14	.91	1.20	5/8
6-6-4 JBZ	6-6-4 JLZ	600-3-6-4	3/8	3/8	1/4	2.40	.91	1.20	.91	1.20	.85	1.14	5/8
8-4-4 JBZ	8-4-4 JLZ	810-3-4-4	1/2	1/4	1/4	2.67	1.02	1.42	.96	1.25	.96	1.25	13/16
8-4-8 JBZ	8-4-8 JLZ	810-3-4-8	1/2	1/4	1/2	2.67	1.02	1.42	.96	1.25	1.02	1.42	13/16
8-6-6 JBZ	8-6-6 JLZ	810-3-6-6	1/2	3/8	3/8	2.73	1.02	1.42	1.02	1.31	1.02	1.31	13/16
8-6-8 JBZ	8-6-8 JLZ	810-3-6-8	1/2	3/8	1/2	2.73	1.02	1.42	1.02	1.31	1.02	1.42	13/16
8-8-4 JBZ	8-8-4 JLZ	810-3-8-4	1/2	1/2	1/4	2.84	1.02	1.42	1.02	1.42	.96	1.25	13/16
8-8-6 JBZ	8-8-6 JLZ	810-3-8-6	1/2	1/2	3/8	2.84	1.02	1.42	1.02	1.42	1.02	1.31	13/16
10-6-6 JBZ	10-6-6 JLZ	1010-3-6-6	5/8	3/8	3/8	2.95	1.13	1.53	1.13	1.42	1.13	1.42	7/8
10-6-8 JBZ	10-6-8 JLZ	1010-3-6-8	5/8	3/8	1/2	2.95	1.13	1.53	1.13	1.42	1.13	1.53	7/8
10-8-6 JBZ	10-8-6 JLZ	1010-3-8-6	5/8	1/2	3/8	3.06	1.13	1.53	1.13	1.53	1.13	1.42	7/8
10-8-8 JBZ	10-8-8 JLZ	1010-3-8-8	5/8	1/2	1/2	3.06	1.13	1.53	1.13	1.53	1.13	1.53	7/8
10-10-6 JBZ	10-10-6 JLZ	1010-3-10-6	5/8	5/8	3/8	3.06	1.13	1.53	1.13	1.53	1.13	1.53	7/8
10-10-8 JBZ	10-10-8 JLZ	1010-3-10-8	5/8	5/8	1/2	3.06	1.13	1.53	1.13	1.53	1.13	1.53	7/8
12-6-6 JBZ	12-6-6 JLZ	1210-3-6-6	3/4	3/8	3/8	3.01	1.16	1.56	1.16	1.45	1.16	1.45	1-1/16
12-8-6 JBZ	12-8-6 JLZ	1210-3-8-6	3/4	1/2	3/8	3.12	1.16	1.56	1.16	1.56	1.16	1.45	1-1/16
12-8-8 JBZ	12-8-8 JLZ	1210-3-8-8	3/4	1/2	1/2	3.12	1.16	1.56	1.16	1.56	1.16	1.56	1-1/16
12-10-6 JBZ	12-10-6 JLZ	1210-3-10-6	3/4	5/8	3/8	3.12	1.16	1.56	1.16	1.56	1.16	1.45	1-1/16
12-10-8 JBZ	12-10-8 JLZ	1210-3-10-8	3/4	5/8	1/2	3.12	1.16	1.56	1.16	1.56	1.16	1.56	1-1/16
12-10-10 JBZ	12-10-10 JLZ	1210-3-10-10	3/4	5/8	5/8	3.12	1.16	1.56	1.16	1.56	1.16	1.56	1-1/16
12-12-4 JBZ	12-12-4 JLZ	1210-3-12-4	3/4	3/4	1/4	3.12	1.16	1.56	1.16	1.56	1.10	1.39	1-1/16
12-12-6 JBZ	12-12-6 JLZ	1210-3-12-6	3/4	3/4	3/8	3.12	1.16	1.56	1.16	1.56	1.16	1.45	1-1/16
12-12-8 JBZ	12-12-8 JLZ	1210-3-12-8	3/4	3/4	1/2	3.12	1.16	1.56	1.16	1.56	1.16	1.56	1-1/16
12-12-10 JBZ	12-12-10 JLZ	1210-3-12-10	3/4	3/4	5/8	3.12	1.16	1.56	1.16	1.56	1.16	1.56	1-1/16

**NOTE:** C dimensions are typical finger-tight.  
 Dimensions for reference only, subject to change.

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**DROP SIZE TEES FOR FRACTIONAL TUBE**

**SERIES JBZ/JLZ**

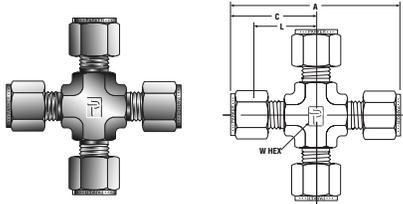
CPI™ Part No.	A-LOK® Part No.	Interchanges with	T <sub>1</sub> Tube O.D. (in.)	T <sub>2</sub> Tube O.D. (in.)	T <sub>3</sub> Tube O.D. (in.)	A (in.)	L <sub>1</sub> (in.)	C <sub>1</sub> (in.)	L <sub>2</sub> (in.)	C <sub>2</sub> (in.)	L <sub>3</sub> (in.)	C <sub>3</sub> (in.)	W Hex (in.)
14-8-12 JBZ	14-8-12 JLZ	1410-3-8-12	7/8	1/2	3/4	3.52	1.36	1.76	1.36	1.76	1.36	1.76	1-3/8
14-10-6 JBZ	14-10-6 JLZ	1410-3-10-6	7/8	5/8	3/8	3.52	1.36	1.76	1.36	1.76	1.36	1.65	1-3/8
14-12-6 JBZ	14-12-6 JLZ	1410-3-12-6	7/8	3/4	3/8	3.52	1.36	1.76	1.36	1.76	1.36	1.65	1-3/8
14-12-8 JBZ	14-12-8 JLZ	1410-3-12-8	7/8	3/4	1/2	3.52	1.36	1.76	1.36	1.76	1.36	1.76	1-3/8
14-12-12 JBZ	14-12-12 JLZ	1410-3-12-12	7/8	3/4	3/4	3.52	1.36	1.76	1.36	1.76	1.36	1.76	1-3/8
14-14-4 JBZ	14-14-4 JLZ	1410-3-14-4	7/8	7/8	1/4	3.52	1.36	1.76	1.36	1.76	1.30	1.59	1-3/8
14-14-6 JBZ	14-14-6 JLZ	1410-3-14-6	7/8	7/8	3/8	3.52	1.36	1.76	1.36	1.76	1.30	1.59	1-3/8
16-8-4 JBZ	16-8-4 JLZ	1610-3-8-4	1	1/2	1/4	3.70	1.45	1.94	1.36	1.76	1.30	1.59	1-3/8
16-8-6 JBZ	16-8-6 JLZ	1610-3-8-6	1	1/2	3/8	3.70	1.45	1.94	1.36	1.76	1.36	1.65	1-3/8
16-8-8 JBZ	16-8-8 JLZ	1610-3-8-8	1	1/2	1/2	3.70	1.45	1.94	1.36	1.76	1.36	1.76	1-3/8
16-8-16 JBZ	16-8-16 JLZ	1610-3-8-16	1	1/2	1	3.70	1.45	1.94	1.36	1.76	1.45	1.94	1-3/8
16-10-6 JBZ	16-10-6 JLZ	1610-3-10-6	1	5/8	3/8	3.70	1.45	1.94	1.36	1.76	1.36	1.65	1-3/8
16-12-8 JBZ	16-12-8 JLZ	1610-3-12-8	1	3/4	1/2	3.70	1.45	1.94	1.36	1.76	1.36	1.76	1-3/8
16-12-10 JBZ	16-12-10 JLZ	1610-3-12-10	1	3/4	5/8	3.70	1.45	1.94	1.36	1.76	1.36	1.76	1-3/8
16-12-16 JBZ	16-12-16 JLZ	1610-3-12-16	1	3/4	1	3.70	1.45	1.94	1.36	1.76	1.45	1.94	1-3/8
16-14-4 JBZ	16-14-4 JLZ	1610-3-14-4	1	7/8	1/4	3.70	1.45	1.94	1.36	1.76	1.30	1.59	1-3/8
16-14-6 JBZ	16-14-6 JLZ	1610-3-14-6	1	7/8	3/8	3.70	1.45	1.94	1.36	1.76	1.36	1.65	1-3/8
16-14-8 JBZ	16-14-8 JLZ	1610-3-14-8	1	7/8	1/2	3.70	1.45	1.94	1.36	1.76	1.36	1.76	1-3/8
16-14-12 JBZ	16-14-12 JLZ	1610-3-14-12	1	7/8	3/4	3.70	1.45	1.94	1.36	1.76	1.36	1.76	1-3/8
16-14-14 JBZ	16-14-14 JLZ	1610-3-14-14	1	7/8	7/8	3.70	1.45	1.94	1.36	1.76	1.36	1.76	1-3/8
16-16-4 JBZ	16-16-4 JLZ	1610-3-16-4	1	1	1/4	3.88	1.45	1.94	1.45	1.94	1.30	1.59	1-3/8
16-16-6 JBZ	16-16-6 JLZ	1610-3-16-6	1	1	3/8	3.88	1.45	1.94	1.45	1.94	1.36	1.65	1-3/8
16-16-8 JBZ	16-16-8 JLZ	1610-3-16-8	1	1	1/2	3.88	1.45	1.94	1.45	1.94	1.36	1.76	1-3/8
16-16-10 JBZ	16-16-10 JLZ	1610-3-16-10	1	1	5/8	3.88	1.45	1.94	1.45	1.94	1.36	1.76	1-3/8
16-16-12 JBZ	16-16-12 JLZ	1610-3-16-12	1	1	3/4	3.88	1.45	1.94	1.45	1.94	1.36	1.76	1-3/8
16-16-14 JBZ	16-16-14 JLZ	1610-3-16-14	1	1	7/8	3.88	1.45	1.94	1.45	1.94	1.36	1.76	1-3/8

NOTE: C dimensions are typical finger-tight.  
 Dimensions for reference only, subject to change.



**UNION CROSS FOR FRACTIONAL TUBE**

**SERIES KBZ/ECR**

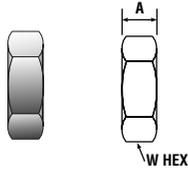


CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	A (in.)	C (in.)	L (in.)	W Hex (in.)
2 KBZ	2ECR2	200-4	1/8	1.76	.98	.62	7/16
3 KBZ	3ECR3	300-4	3/16	1.83	.96	.70	7/16
4 KBZ	4ECR4	400-4	1/4	2.12	1.06	.76	1/2
5 KBZ	5ECR5	500-4	5/16	2.34	1.17	.88	5/8
6 KBZ	6ECR6	600-4	3/8	2.40	1.20	.91	5/8
8 KBZ	8ECR8	810-4	1/2	2.84	1.42	1.02	13/16
10 KBZ	10ECR10	1010-4	5/8	3.06	1.53	1.13	1-1/16
12 KBZ	12ECR12	1210-4	3/4	3.12	1.57	1.16	1-1/16
14 KBZ	14ECR14	1410-4	7/8	3.52	1.76	1.36	1-5/16
16 KBZ	16ECR16	1610-4	1	3.86	1.93	1.45	1-5/16

**NOTE:** A and C dimensions are typical finger-tight.  
 Dimensions for reference only, subject to change.

**ACCESSORY LOCKNUT**

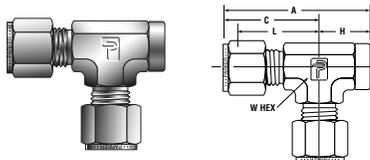
**SERIES L5N**



Part No.	Straight Thread (in.)	A (in.)	W Hex (in.)
2 L5N	5/16-24	.22	7/16
3 L5N	3/8-24	.22	1/2
4 L5N	7/16-20	.28	9/16
5 L5N	1/2-20	.28	5/8
6 L5N	9/16-18	.28	11/16
8 L5N	3/4-16	.31	7/8
10 L5N	7/8-14	.36	1
12 L5N	1-1/16-12	.41	1-1/4
14 L5N	1-3/16-12	.41	1-3/8
16 L5N	1-5/16-12	.41	1-1/2

**NOTE:** For use with M2SC and M2TU fittings.  
 Dimensions for reference only, subject to change.

**FEMALE RUN TEE FOR FRACTIONAL TUBE**  
**SERIES MBZ/FRTN NPT**

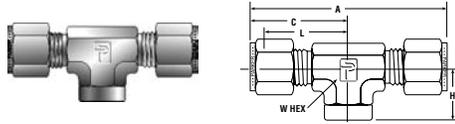


CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O. D. (in.)	NPT Pipe Thread (in.)	A (in.)	C (in.)	H (in.)	L (in.)	W Hex (in.)
2-2-2 MBZ	2FRT2N	200-3-2TFT	1/8	1/8	1.72	.96	.75	.70	1/2
3-2-3 MBZ	3FRT2N	300-3-2TFT	3/16	1/8	1.76	1.01	.75	.74	1/2
4-2-4 MBZ	4FRT2N	400-3-2TFT	1/4	1/8	1.81	1.06	.75	.77	1/2
4-4-4 MBZ	4FRT4N	400-3-4TFT	1/4	1/4	2.05	1.17	.88	.88	11/16
5-2-5 MBZ	5FRT2N	500-3-2TFT	5/16	1/8	1.92	1.17	.75	.88	5/8
6-4-6 MBZ	6FRT4N	600-3-4TFT	3/8	1/4	2.11	1.23	.88	.94	11/16
8-4-8 MBZ	8FRT4N	810-3-4TFT	1/2	1/4	2.56	1.42	.88	1.02	13/16
8-6-8 MBZ	8FRT6N	810-3-6TFT	1/2	3/8	2.30	1.42	.88	1.02	7/8
8-8-8 MBZ	8FRT8N	810-3-8TFT	1/2	1/2	2.66	1.53	1.13	1.13	1
10-8-10 MBZ	10FRT8N	1010-3-8TFT	5/8	1/2	2.70	1.57	1.13	1.17	1-1/16
12-12-12 MBZ	12FRT12N	1210-3-12TFT	3/4	3/4	3.01	1.76	1.25	1.36	1-3/8
14-8-14 MBZ	14FRT8N	1410-3-8TFT	7/8	1/2	3.01	1.76	1.25	1.36	1-3/8
14-12-14 MBZ	14FRT12N	1410-3-12TFT	7/8	3/4	3.01	1.76	1.25	1.36	1-3/8
16-12-16 MBZ	16FRT12N	1610-3-12TFT	1	3/4	3.18	1.93	1.25	1.45	1-3/8
16-16-16 MBZ	16FRT16N	1610-3-16TFT	1	1	3.52	2.02	1.50	1.65	1-3/8

**NOTE:** A and C dimensions are typical finger-tight.  
 Dimensions for reference only, subject to change.

**FEMALE BRANCH TEE FOR FRACTIONAL TUBE**

**SERIES OBZ/FBTN NPT**



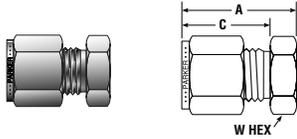
CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	NPT Pipe Thread (in.)	A (in.)	C (in.)	H (in.)	L (in.)	W Hex (in.)
2-2-2 OBZ	2FBT2N	200-3-2TTF	1/8	1/8	1.91	1.01	.75	.70	1/2
3-3-2 OBZ	3FBT2N	300-3-2TTF	3/16	1/8	2.02	1.01	.75	.74	1/2
4-4-2 OBZ	4FBT2N	400-3-2TTF	1/4	1/8	2.12	1.06	.75	.77	1/2
4-4-4 OBZ	4FBT4N	400-3-4TTF	1/4	1/4	2.34	1.17	.88	.88	11/16
5-5-2 OBZ	5FBT2N	500-3-2TTF	5/16	1/8	2.34	1.17	.75	.88	5/8
6-6-4 OBZ	6FBT4N	600-3-4TTF	3/8	1/4	2.46	1.23	.88	.94	11/16
8-8-4 OBZ	8FBT4N	810-3-4TTF	1/2	1/4	2.84	1.42	.88	1.02	13/16
8-8-6 OBZ	8FBT6N	810-3-6TTF	1/2	3/8	2.84	1.42	.88	1.02	7/8
8-8-8 OBZ	8FBT8N	810-3-8TTF	1/2	1/2	3.06	1.53	1.13	1.13	1
10-10-8 OBZ	10FBT8N	1010-3-8TTF	5/8	1/2	3.06	1.53	1.13	1.13	1
12-12-12 OBZ	12FBT12N	1210-3-12TTF	3/4	3/4	3.52	1.76	1.25	1.36	1-3/8
14-14-12 OBZ	14FBT12N	1410-3-12TTF	7/8	3/4	3.52	1.76	1.25	1.36	1-3/8
16-16-12 OBZ	16FBT12N	1610-3-12TTF	1	3/4	3.86	1.94	1.25	1.45	1-3/8
16-16-16 OBZ	16FBT16N	1610-3-16TTF	1	1	4.28	2.14	1.50	1.65	1-5/8

**NOTE:** A and C dimensions are typical finger-tight. Dimensions for reference only, subject to change.

**CAP FOR FRACTIONAL TUBE**

**SERIES PNBZ/BLEN**

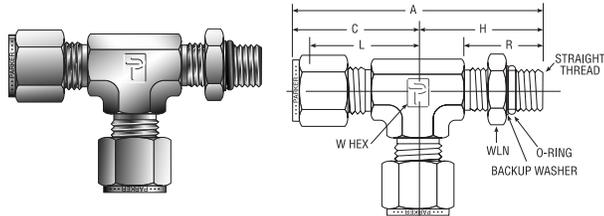
- For capping open ended tubing



CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	A (in.)	C (in.)	W Hex (in.)
1 PNBZ	1BLEN1	100-C	1/16	.56	.43	5/16
2 PNBZ	2BLEN2	200-C	1/8	.79	.60	7/16
3 PNBZ	3BLEN3	300-C	3/16	.84	.64	7/16
4 PNBZ	4BLEN4	400-C	1/4	.92	.70	1/2
5 PNBZ	5BLEN5	500-C	5/16	.96	.73	9/16
6 PNBZ	6BLEN6	600-C	3/8	1.01	.76	5/8
8 PNBZ	8BLEN8	810-C	1/2	1.15	.87	13/16
10 PNBZ	10BLEN10	1010-C	5/8	1.18	.87	15/16
12 PNBZ	12BLEN12	1210-C	3/4	1.25	.87	1-1/16
14 PNBZ	14BLEN14	1410-C	7/8	1.31	.87	1-3/16
16 PNBZ	16BLEN16	1610-C	1	1.52	1.05	1-3/8
20 PNBZ	20BLEN20	2010-C	1-1/4	2.09	1.52	1-3/4
24 PNBZ	24BLEN24	2410-C	1-1/2	2.53	1.77	2-1/8
32 PNBZ	32BLEN32	3210-C	2	3.41	2.47	2-3/4

**NOTE:** For body only specify PNBZ.  
 A and C dimensions are typical finger-tight.  
 Dimensions for reference only, subject to change.

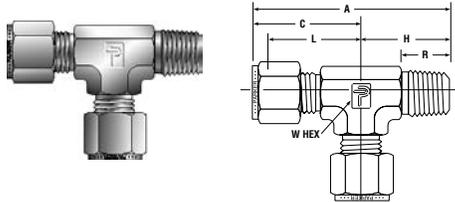
**MALE RUN TEE SAE STRAIGHT THREAD FOR FRACTIONAL TUBE**  
**SERIES R5BZ/M5RT**



CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	Straight Thread Size (in.)	A (in.)	C (in.)	H (in.)	L (in.)	R (in.)	W Hex (in.)	O-Ring APR Uniform Dash No.
4-4-4 R5BZ	4M5RT4	400-3TST	1/4	7/16-20	2.24	1.12	1.18	.83	.83	7/16	3-904
6-6-6 R5BZ	6M5RT6	600-3TST	3/8	9/16-18	2.53	1.26	1.27	.97	.84	9/16	3-906
8-8-8 R5BZ	8M5RT8	810-3TST	1/2	3/4-16	2.97	1.48	1.48	1.08	.97	3/4	3-908
12-12-12 R5BZ	12M5RT12	1210-3TST	3/4	1-1/16-12	3.55	1.63	1.92	1.23	1.28	1-1/16	3-912
16-16-16 R5BZ	16M5RT16	1610-3TST	1	1-5/16-12	3.74	1.87	2.11	1.38	1.28	1-5/16	3-916

**NOTE:** A and C dimensions are typical finger-tight.  
 Parts are supplied with nitrile o-rings as standard. For Fluorocarbon o-rings, add the suffix "-VO".  
 Other o-rings available upon request.  
 Dimensions for reference only, subject to change.

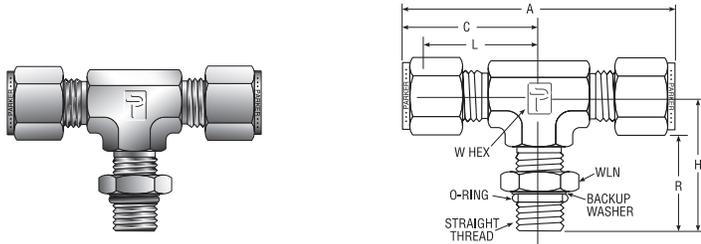
**MALE RUN TEE FOR FRACTIONAL TUBE**  
**SERIES RBZ/MRTN NPT**



CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	NPT Pipe Thread (in.)	A (in.)	C (in.)	H (in.)	L (in.)	R (in.)	W Hex (in.)
2-2-2 RBZ	2MRT2N	200-3-2TMT	1/8	1/8	1.63	.93	.71	.66	.38	7/16
2-4-2 RBZ	2MRT4N	200-3-4TMT	1/8	1/4	1.89	.97	.93	.70	.56	9/16
3-2-3 RBZ	3MRT2N	300-3-2TMT	3/16	1/8	1.66	.96	.70	.70	.38	7/16
4-2-4 RBZ	4MRT2N	400-3-2TMT	1/4	1/8	1.80	1.06	.74	.77	.38	1/2
4-4-4 RBZ	4MRT4N	400-3-4TMT	1/4	1/4	1.98	1.06	.93	.77	.56	1/2
5-2-5 RBZ	5MRT2N	500-3-2TMT	5/16	1/8	1.99	1.17	.82	.88	.38	5/8
5-4-5 RBZ	5MRT4N	500-3-4TMT	5/16	1/4	2.18	1.17	1.01	.88	.56	5/8
6-4-6 RBZ	6MRT4N	600-3-4TMT	3/8	1/4	2.20	1.20	1.01	.91	.56	5/8
6-6-6 RBZ	6MRT6N	600-3-6TMT	3/8	3/8	2.42	1.31	1.12	1.02	.56	13/16
8-6-8 RBZ	8MRT6N	810-3-6TMT	1/2	3/8	2.53	1.42	1.12	1.02	.56	13/16
8-8-8 RBZ	8MRT8N	810-3-8TMT	1/2	1/2	2.72	1.42	1.31	1.02	.75	7/8
10-8-10 RBZ	10MRT8N	1010-3-8TMT	5/8	1/2	2.88	1.50	1.39	1.10	.75	15/16
12-12-12 RBZ	12MRT12N	1210-3-12TMT	3/4	3/4	3.02	1.57	1.46	1.17	.75	1-1/16
14-12-14 RBZ	14MRT12N	1410-3-12TMT	7/8	3/4	3.41	1.76	1.65	1.36	.75	1-3/8
16-12-16 RBZ	16MRT12N	1610-3-12TMT	1	3/4	3.59	1.94	1.65	1.45	.75	1-3/8
16-16-16 RBZ	16MRT16N	1610-3-16TMT	1	1	3.78	1.94	1.84	1.45	.94	1-3/8

**NOTE:** A and C dimensions are typical finger-tight. Dimensions for reference only, subject to change.

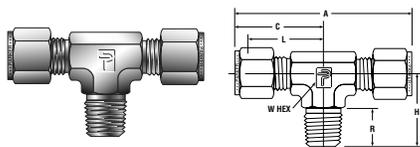
**MALE BRANCH TEE SAE STRAIGHT THREAD FOR FRACTIONAL TUBE  
 SERIES S5BZ/M5BT**



CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	Straight Thread Size (in.)	A (in.)	C (in.)	H (in.)	L (in.)	R (in.)	W Hex (in.)	O-Ring APR Uniform Dash No.
4-4-4 S5BZ	4M5BT4	400-3TTS	1/4	7/16-20	2.24	1.19	1.19	.81	.81	7/16	3-904
6-6-6 S5BZ	6M5BT6	600-3TTS	3/8	9/16-18	2.52	1.26	1.27	.97	.84	9/16	3-906
8-8-8 S5BZ	8M5BT8	810-3TTS	1/2	3/4-16	2.96	1.48	1.48	1.08	.97	3/4	3-908
12-12-12 S5BZ	12M5BT12	1210-3TTS	3/4	1-1/16-12	3.26	1.63	1.92	1.23	1.28	1-1/16	3-912
16-16-16 S5BZ	16M5BT16	1610-3TTS	1	1-5/16-12	3.74	1.87	2.11	1.38	1.28	1-5/16	3-916

**NOTE:** A and C dimensions are typical finger-tight.  
 Parts are supplied with nitrile o-rings as standard. For Fluorocarbon o-rings, add the suffix "-VO". Other o-rings available upon request.  
 Dimensions for reference only, subject to change.

**MALE BRANCH TEE FOR FRACTIONAL TUBE**  
**SERIES SBZ/MBTN NPT**

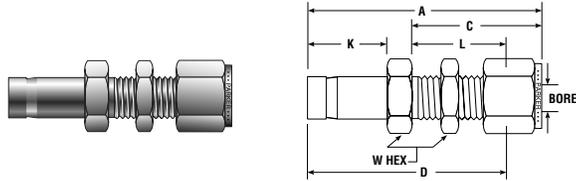


CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	NPT Pipe Thread (in.)	A (in.)	C (in.)	H (in.)	L (in.)	R (in.)	W Hex (in.)
2-2-2 SBZ	2MBT2N	200-3-2TTM	1/8	1/8	1.84	.92	.70	.66	.38	7/16
2-2-4 SBZ	2MBT4N	200-3-4TTM	1/8	1/4	1.96	.98	.93	.72	.56	1/2
3-3-2 SBZ	3MBT2N	300-3-2TTM	3/16	1/8	2.00	1.00	.74	.74	.38	1/2
4-4-2 SBZ	4MBT2N	400-3-2TTM	1/4	1/8	2.12	1.06	.74	.77	.38	1/2
4-4-4 SBZ	4MBT4N	400-3-4TTM	1/4	1/4	2.12	1.07	.93	.77	.56	1/2
5-5-2 SBZ	5MBT2N	500-3-2TTM	5/16	1/8	2.34	1.17	.82	.88	.38	5/8
5-5-4 SBZ	5MBT4N	500-3-4TTM	5/16	1/4	2.34	1.17	1.01	.88	.56	5/8
6-6-4 SBZ	6MBT4N	600-3-4TTM	3/8	1/4	2.40	1.20	1.01	.91	.56	5/8
6-6-6 SBZ	6MBT6N	600-3-6TTM	3/8	3/8	2.62	1.31	1.12	1.02	.56	13/16
8-8-6 SBZ	8MBT6N	810-3-6TTM	1/2	3/8	2.84	1.42	1.12	1.02	.56	13/16
8-8-8 SBZ	8MBT8N	810-3-8TTM	1/2	1/2	2.86	1.43	1.31	1.03	.75	7/8
10-10-8 SBZ	10MBT8N	1010-3-8TTM	5/8	1/2	2.86	1.53	1.42	1.13	.75	1
12-12-12 SBZ	12MBT12N	1210-3-12TTM	3/4	3/4	3.14	1.57	1.46	1.17	.75	1-1/16
14-14-12 SBZ	14MBT12N	1410-3-12TTM	7/8	3/4	3.52	1.76	1.65	1.36	.75	1-3/8
16-16-12 SBZ	16MBT12N	1610-3-12TTM	1	3/4	3.88	1.94	1.65	1.45	.75	1-3/8
16-16-16 SBZ	16MBT16N	1610-3-16TTM	1	1	3.88	1.94	1.84	1.45	.94	1-3/8

**NOTE:** A and C dimensions are typical finger-tight.  
 Dimensions for reference only, subject to change.

**TUBE END BULKHEAD ADAPTER FOR FRACTIONAL TUBE**

**SERIES T2H2B2/TUBC**

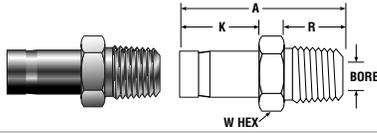


CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	A (in.)	C (in.)	L (in.)	K (in.)	D (in.)	Bore (in.)	W Hex (in.)
2-2 T2H2BZ	2TUBC2	200-R1-2	1/8	1.95	1.23	.97	.53	1.69	.093	1/2
4-4 T2H2BZ	4TUBC4	400-R1-4	1/4	2.20	1.31	1.02	.63	1.91	.187	5/8
6-6 TH2HBZ	6TUBC6	600-R1-6	3/8	2.42	1.44	1.15	.69	2.13	.281	3/4
8-8 T2H2BZ	8TUBC8	810-R1-8	1/2	2.87	1.65	1.25	.91	2.47	.406	15/16

**NOTE:** A and C dimensions are typical finger-tight.  
 Tube stub is pre-grooved as standard.  
 Add -Z6 for assembly of nuts and ferrules on the tube stub end.  
 Dimensions for reference only, subject to change.

**TUBE END MALE ADAPTER FOR FRACTIONAL TUBE**

**SERIES T2HF/MAN NPT**

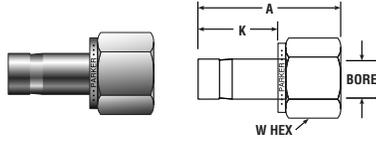


CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	NPT Pipe Thread (in.)	A (in.)	R (in.)	K (in.)	W Hex (in.)	Bore (in.)
1-2 T2HF	1MA2N	1-TA-1-1	1/16	1/8	1.00	.38	.38	7/16	.031
2-2 T2HF	2MA2N	2-TA-1-2	1/8	1/8	1.16	.38	.54	7/16	.078
2-4 T2HF	2MA4N	2-TA-1-4	1/8	1/4	1.38	.56	.54	9/16	.078
3-2 T2HF	3MA2N	3-TA-1-2	3/16	1/8	1.20	.38	.58	7/16	.116
3-4 T2HF	3MA4N	3-TA-1-4	3/16	1/4	1.42	.56	.58	9/16	.116
4-2 T2HF	4MA2N	4-TA-1-2	1/4	1/8	1.25	.38	.63	7/16	.156
4-4 T2HF	4MA4N	4-TA-1-4	1/4	1/4	1.46	.56	.63	9/16	.156
4-6 T2HF	4MA6N	4-TA-1-6	1/4	3/8	1.49	.56	.63	11/16	.156
4-8 T2HF	4MA8N	4-TA-1-8	1/4	1/2	1.71	.75	.63	7/8	.156
5-2 T2HF	5MA2N	5-TA-1-2	5/16	1/8	1.29	.38	.66	7/16	.219
5-4 T2HF	5MA4N	5-TA-1-4	5/16	1/4	1.50	.56	.66	9/16	.219
5-6 T2HF	5MA6N	5-TA-1-6	5/16	3/8	1.53	.56	.66	11/16	.219
5-8 T2HF	5MA8N	5-TA-1-8	5/16	1/2	1.74	.75	.66	7/8	.219
6-2 T2HF	6MA2N	6-TA-1-2	3/8	1/8	1.32	.38	.69	7/16	.281
6-4 T2HF	6MA4N	6-TA-1-4	3/8	1/4	1.53	.56	.69	9/16	.281
6-6 T2HF	6MA6N	6-TA-1-6	3/8	3/8	1.56	.56	.69	11/16	.281
6-8 T2HF	6MA8N	6-TA-1-8	3/8	1/2	1.78	.75	.69	7/8	.281
8-4 T2HF	8MA4N	8-TA-1-4	1/2	1/4	1.75	.56	.91	9/16	.281
8-6 T2HF	8MA6N	8-TA-1-6	1/2	3/8	1.78	.56	.91	11/16	.375
8-8 T2HF	8MA8N	8-TA-1-8	1/2	1/2	2.00	.75	.91	7/8	.375
10-8 T2HF	10MA8N	10-TA-1-8	5/8	1/2	2.06	.75	.97	7/8	.469
12-8 T2HF	12MA8N	12-TA-1-8	3/4	1/2	2.06	.75	.97	7/8	.469
12-12 T2HF	12MA12N	12-TA-1-12	3/4	3/4	2.06	.75	.97	1-1/16	.578
12-16 T2HF	12MA16N	12-TA-1-16	3/4	1	2.41	.94	.97	1-3/8	.813
16-12 T2HF	16MA12N	16-TA-1-12	1	3/4	2.31	.75	1.22	1-1/16	.813
16-16 T2HF	16MA16N	16-TA-1-16	1	1	2.68	.94	1.22	1-3/8	.813
20-20 T2HF	20MA20N	20-TA-1-20	1-1/4	1-1/4	3.16	.97	1.71	1-3/4	1.000
24-24 T2HF	24MA24N	24-TA-1-24	1-1/2	1-1/2	3.72	1.00	2.05	2-1/8	1.250
32-32 T2HF	32MA32N	32-TA-1-32	2	2	4.70	1.04	2.74	2-3/4	1.720

**NOTE:** Add -Z6 for assembly of nuts and ferrules on the tube stub end.  
 Tube stub is pre-grooved as standard.  
 Inch sizes 1, 2, and 3 and metric sizes 2, 3, and 4mm do not have grooves.  
 Sizes 20, 24, 32 require additional lubrication prior to assembly.  
 Dimensions for reference only, subject to change.

**TUBE END NPT FEMALE ADAPTER FOR FRACTIONAL TUBE**

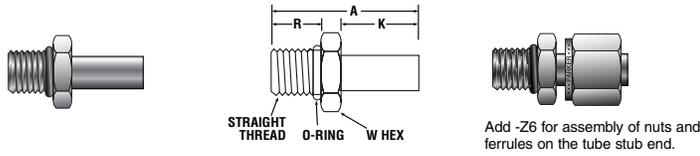
**SERIES T2HG/FAN NPT**



CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	L <sub>1</sub> (in.)	C <sub>1</sub> (in.)	L <sub>2</sub> (in.)	C <sub>2</sub> (in.)	W Hex (in.)
1-2 T2HG	1FA2N	1-TA-7-2	1/16	1/8	1.07	.34	9/16	.031
2-2 T2HG	2FA2N	2-TA-7-2	1/8	1/8	1.23	.53	9/16	.093
2-4 T2HG	2FA4N	2-TA-7-4	1/8	1/4	1.38	.53	3/4	.093
3-2 T2HG	3FA2N	3-TA-7-2	3/16	1/8	1.25	.56	9/16	.116
3-4 T2HG	3FA4N	3-TA-7-4	3/16	1/4	1.42	.56	3/4	.116
4-2 T2HG	4FA2N	4-TA-7-2	1/4	1/8	1.31	.63	9/16	.188
4-4 T2HG	4FA4N	4-TA-7-4	1/4	1/4	1.47	.63	3/4	.188
4-6 T2HG	4FA6N	4-TA-7-6	1/4	3/8	1.56	.63	7/8	.188
4-8 T2HG	4FA8N	4-TA-7-8	1/4	1/2	1.80	.63	1-1/16	.188
5-2 T2HG	5FA2N	5-TA-7-2	5/16	1/8	1.34	.66	9/16	.219
5-4 T2HG	5FA4N	5-TA-7-4	5/16	1/4	1.50	.66	3/4	.219
5-6 T2HG	5FA6N	5-TA-7-6	5/16	3/8	1.59	.66	7/8	.219
6-2 T2HG	6FA2N	6-TA-7-2	3/8	1/8	1.36	.69	9/16	.281
6-4 T2HG	6FA4N	6-TA-7-4	3/8	1/4	1.55	.69	3/4	.281
6-6 T2HG	6FA6N	6-TA-7-6	3/8	3/8	1.59	.69	7/8	.281
6-8 T2HG	6FA8N	6-TA-7-8	3/8	1/2	1.84	.69	1-1/16	.281
8-4 T2HG	8FA4N	8-TA-7-4	1/2	1/4	1.72	.91	3/4	.391
8-6 T2HG	8FA6N	8-TA-7-6	1/2	3/8	1.80	.91	7/8	.391
8-8 T2HG	8FA8N	8-TA-7-8	1/2	1/2	2.10	.91	1-1/16	.390
10-6 T2HG	10FA6N	10-TA-7-6	5/8	3/8	1.86	.97	7/8	.469
10-8 T2HG	10FA8N	10-TA-7-8	5/8	1/2	2.09	.97	1-1/16	.469
12-8 T2HG	12FA8N	12-TA-7-8	3/4	1/2	2.10	.97	1-1/16	.578
12-12 T2HG	12FA12N	12-TA-7-12	3/4	3/4	2.16	.97	1-1/4	.578
12-16 T2HG	12FA16N	12-TA-7-16	3/4	1	2.30	.97	1-5/8	.578
14-12 T2HG	14FA12N	14-TA-7-12	7/8	3/4	2.22	1.02	1-5/16	.578
16-12 T2HG	16FA12N	16-TA-7-12	1	3/4	2.41	1.22	1-5/16	.813
16-16 T2HG	16FA16N	16-TA-7-16	1	1	2.54	1.22	1-5/8	.813
20-20 T2HG	20FA20N	20-TA-7-20	1-1/4	1-1/4	3.06	1.71	2-1/8	1.000
24-24 T2HG	24FA24N	24-TA-7-24	1-1/2	1-1/2	3.50	2.05	2-3/8	1.250
32-32 T2HG	32FA32N	32-TA-7-32	2	2	4.23	2.74	2-7/8	1.720

**NOTE:** Tube stub is pre-grooved as standard.  
Add -Z6 for assembly of nuts and ferrules on the tube stub end.  
Dimensions for reference only, subject to change.

**TUBE END TO SAE STRAIGHT THREAD ADAPTER FOR FRACTIONAL TUBE  
 SERIES T2HOA/TUHOA NPT**

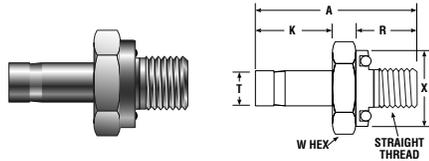


CPI™ Part No.	A-LOK® Part No.	Interchanges with	T Tube O.D. (in.)	Straight Thread Size (in.)	A (in.)	K (in.)	R (in.)	W Hex (in.)	O-Ring APR Uniform Dash No.
6-4 T2HOA	6TUHOA4	6-TA-1-4ST	3/8	7/16-20	1.46	.69	.36	9/16	3-904
6-8 T2HOA	6TUHOA8	6-TA-1-8ST	3/8	3/4-16	1.59	.69	.44	7/8	3-908
8-6 T2HOA	8TUHOA6	8-TA-1-6ST	1/2	9/16-18	1.74	.91	.39	11/16	3-906
10-10 T2HOA	10TUHOA10	10-TA-1-10ST	5/8	7/8-14	1.94	.91	.50	1	3-910
*24-24 T2HOA	24TUHOA24	24-TA-1-24ST	1-1/2	1-7/8-12	3.28	2.05	.59	2-1/8	3-924

\* Sizes 20, 24 and 32 are preassembled with nut and ferrules.  
 A dimension is typical finger-tight. Size 24 requires additional lubrication prior to assembly. Parts are supplied with nitrile o-rings as standard. For Fluorocarbon o-rings, add the suffix "-VO". Other o-rings available upon request.  
 Dimensions for reference only, subject to change.

**TUBE END TO O-RING STRAIGHT THREAD FOR FRACTIONAL TUBE**

**SERIES T2HOA5/M2TU**

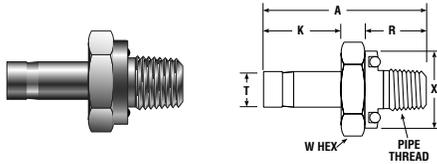


CPI™ Part No.	A-LOK® Part No.	Interchanges with	T Tube O.D. (in.)	NPT Pipe Thread (in.)	A (in.)	K (in.)	R (in.)	X Dia. (in.)	W Hex (in.)	O-Ring APR Uniform Size No.
2-2 T2HOA5	2M2TU2	2-TA-OR-ST	1/8	5/16-24	1.22	.53	.34	.55	9/16	2-011
3-3 T2HOA5	3M2TU3	3-TA-OR-ST	3/16	3/8-24	1.38	.56	.38	.62	5/8	2-012
4-4 T2HOA5	4M2TU4	4-TA-OR-ST	1/4	7/16-20	1.55	.63	.41	.74	3/4	2-111
5-5 T2HOA5	5M2TU5	5-TA-OR-ST	5/16	1/2-20	1.64	.66	.44	.86	7/8	2-112
6-6 T2HOA5	6M2TU6	6-TA-OR-ST	3/8	9/16-18	1.70	.69	.47	.93	15/16	2-113
8-8 T2HOA5	8M2TU8	8-TA-OR-ST	1/2	3/4-16	1.95	.91	.47	1.12	1-1/8	2-116
10-10 T2HOA5	10M2TU10	10-TA-OR-ST	5/8	7/8-14	2.12	.97	.47	1.30	1-3/8	2-212
12-12 T2HOA5	12M2TU12	12-TA-OR-ST	3/4	1-1/16-12	2.16	.97	.56	1.49	1-1/2	2-215
16-16 T2HOA5	16M2TU16	16-TA-OR-ST	1	1-5/16-12	2.47	1.22	.56	1.74	1-3/4	2-219

**NOTE:** Add -Z6 for assembly of nuts and ferrules on the tube stub end. Parts are supplied with nitrile o-rings as standard. For Fluorocarbon o-rings, add the suffix "-VO". Other o-rings available upon request. Dimensions for reference only, subject to change.

**TUBE END TO O-RING PIPE THREAD FOR FRACTIONAL TUBE**

**SERIES T2HOF5/M3TU**



CPI™ Part No.	A-LOK® Part No.	Interchanges with	T Tube O.D. (in.)	NPT Pipe Thread (in.)	A (in.)	K (in.)	R (in.)	X Dia. (in.)	W Hex (in.)	O-Ring APR Uniform Size No.
1-2 T2HOF5	1M3TU2	1-TA-1-20R	1/16	1/8	1.03	.34	.28	.74	3/4	2-111
4-2 T2HOF5	4M3TU2	4-TA-1-20R	1/4	1/8	1.31	.63	.28	.74	3/4	2-111
4-4 T2HOF5	4M3TU4	4-TA-1-40R	1/4	1/4	1.44	.63	.38	.93	15/16	2-113
4-6 T2HOF5	4M3TU6	4-TA-1-60R	1/4	3/8	1.50	.63	.41	1.12	1-1/8	2-116
5-2 T2HOF5	5M3TU2	5-TA-1-20R	5/16	1/8	1.34	.66	.28	.74	3/4	2-111
5-4 T2HOF5	5M3TU4	5-TA-1-40R	5/16	1/4	1.47	.66	.38	.93	15/16	2-113
6-2 T2HOF5	6M3TU2	6-TA-1-20R	3/8	1/8	1.38	.69	.28	.74	3/4	2-111
6-4 T2HOF5	6M3TU4	6-TA-1-40R	3/8	1/4	1.50	.69	.38	.93	15/16	2-113
6-6 T2HOF5	6M3TU6	6-TA-1-60R	3/8	3/8	1.59	.69	.41	1.12	1-1/8	2-116
8-6 T2HOF5	8M3TU6	8-TA-1-60R	1/2	3/8	1.78	.91	.41	1.12	1-1/8	2-116
10-8 T2HOF5	10M3TU8	10-TA-1-80R	5/8	1/2	2.14	.97	.53	1.30	1-3/8	2-212
12-12 T2HOF5	12M3TU12	12-TA-1-120R	3/4	3/4	2.16	.97	.56	1.49	1-1/2	2-215
16-16 T2HOF5	16M3TU16	16-TA-1-160R	1	1	2.56	1.22	.66	1.65	1-3/4	2-219

**NOTE:** Add -Z6 for assembly of nuts and ferrules on the tube stub end.  
 Parts are supplied with nitrile o-rings as standard. For Fluorocarbon o-rings, add the suffix "-VO". Other o-rings available upon request.  
 Dimensions for reference only, subject to change.

**INSERT FOR FRACTIONAL TUBE**

**SERIES TIZ**



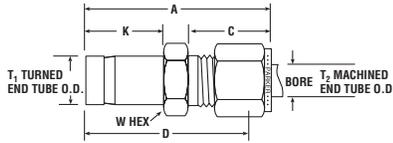
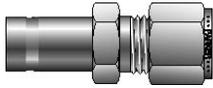
Part No.	Interchanges with	Tube O.D. (in.)	Tube I.D. (in.)	Tube Wall (in.)
3 TIZ (.125)	305-2	3/16	.125	.031
4 TIZ (.125)	405-2	1/4	.125	.062
4 TIZ (.170)	405-170	1/4	.170	.040
4 TIZ (.188)	405-3	1/4	.188	.031
5 TIZ (.125)	505-2	5/16	.125	.094
5 TIZ (.188)	505-3	5/16	.188	.062
5 TIZ (.250)	505-4	5/16	.250	.031
6 TIZ (.188)	605-3	3/8	.188	.094
6 TIZ (.250)	605-4	3/8	.250	.062
8 TIZ (.250)	815-4	1/2	.250	.125
8 TIZ (.375)	815-6	1/2	.375	.062
10 TIZ (.375)	1015-6	5/8	.375	.125
10 TIZ (.500)	1015-8	5/8	.500	.062
12 TIZ (.500)	1215-8	3/4	.500	.125
12 TIZ (.625)	1215-10	3/4	.625	.062
16 TIZ (.750)	1615-12	1	.750	.125
16 TIZ (.875)	1615-14	1	.875	.062

Dimensions for reference only, subject to change.

**NOTE:** The TIZ insert is designed to be used with soft plastic tubing. Tubing wall thickness and corresponding minimum I.D. flow paths are listed so the system designer can properly match the insert to the tubing. **Example:** 4 TIZ (.125) is used with tubing having a wall thickness of .062 and I.D. of .125.

**TUBE END REDUCER FOR FRACTIONAL TUBE**

**SERIES TRBZ/TUR**



CPI™ Part No.	A-LOK® Part No.	Interchanges with	T <sub>1</sub> Turned End Tube O.D. (in.)	T <sub>2</sub> Machine End Tube O.D. (in.)	A (in.)	C (in.)	D (in.)	K (in.)	W Hex (in.)	Bore (in.)
1-2 TRBZ	1TUR2*	200-R-1	1/16	1/8	1.18	.60	.922	.38	7/16	.09
2-1 TRBZ	2TUR1*	100-R-2	1/8	1/16	1.10	.43	.95	.53	5/16	.05
2-2 TRBZ	2TUR2*	200-R-2	1/8	1/8	1.34	.43	1.09	.54	7/16	.07
2-3 TRBZ	2TUR3*	300-R-2	1/8	3/16	1.37	.63	1.11	.53	7/16	.08
2-4 TRBZ	2TUR4*	400-R-2	1/8	1/4	1.45	.70	1.16	.53	1/2	.08
3-1 TRBZ	3TUR1*	100-R-3	3/16	1/16	1.13	.43	.98	.58	5/16	.05
3-2 TRBZ	3TUR2*	200-R-3	3/16	1/8	1.35	.60	1.09	.58	7/16	.09
3-4 TRBZ	3TUR4*	400-R-3	3/16	1/4	1.48	.60	1.19	.56	1/2	.12
4-1 TRBZ	4TUR1	100-R-4	1/4	1/16	1.24	.43	1.09	.63	7/16	.05
4-2 TRBZ	4TUR2	200-R-4	1/4	1/8	1.42	.60	1.16	.63	7/16	.09
4-3 TRBZ	4TUR3	300-R-4	1/4	3/16	1.46	.63	1.20	.63	7/16	.13
4-4 TRBZ	4TUR4	400-R-4	1/4	1/4	1.54	.70	1.25	.63	1/2	.19
4-6 TRBZ	4TUR6	600-R-4	1/4	3/8	1.63	.76	1.34	.63	5/8	.19
4-8 TRBZ	4TUR8	810-R-4	1/4	1/2	1.77	.87	1.37	.63	13/16	.19
5-4 TRBZ	5TUR4	400-R-5	5/16	1/4	1.57	.70	1.28	.66	1/2	.19
6-2 TRBZ	6TUR2	200-R-6	3/8	1/8	1.48	.60	1.22	.69	7/16	.09
6-4 TRBZ	6TUR4	400-R-6	3/8	1/4	1.60	.70	1.31	.69	1/2	.19
6-5 TRBZ	6TUR5	500-R-6	3/8	5/16	1.65	.73	1.36	.69	9/16	.25
6-6 TRBZ	6TUR6	600-R-6	3/8	3/8	1.70	.76	1.41	.69	5/8	.28
6-8 TRBZ	6TUR8	810-R-6	3/8	1/2	1.84	.87	1.44	.69	13/16	.19
8-2 TRBZ	8TUR2	200-R-8	1/2	1/8	1.74	.60	1.48	.91	9/16	.09
8-4 TRBZ	8TUR4	400-R-8	1/2	1/4	1.82	.70	1.53	.91	9/16	.19
8-5 TRBZ	8TUR5	500-R-8	1/2	5/16	1.87	.73	1.58	.91	9/16	.25
8-6 TRBZ	8TUR6	600-R-8	1/2	3/8	1.91	.76	1.62	.91	5/8	.28
8-12 TRBZ	8TUR12	1210-R-8	1/2	3/4	2.15	.87	1.75	.91	1-1/16	.39
10-4 TRBZ	10TUR4	400-R-10	5/8	1/4	1.89	.70	1.60	.97	11/16	.19
10-6 TRBZ	10TUR6	600-R-10	5/8	3/8	1.98	.76	1.69	.97	11/16	.28
10-8 TRBZ	10TUR8	810-R-10	5/8	1/2	2.12	.87	1.72	.97	13/16	.41
12-4 TRBZ	12TUR4	400-R-12	3/4	1/4	1.88	.70	1.59	.97	13/16	.19

(continued on next page)

**NOTE:** A and C dimensions are typical finger-tight.

Size 4 and above tube stub is pre-grooved as standard. Generic (non-grooved) can be ordered through Quick Response Department.

\*Size 1, 2, and 3 do not require a groove. Add -Z6 for assembly of nuts and ferrules on the tube stub end. Sizes 20, 24 require additional lubrication prior to assembly. Dimensions for reference only, subject to change.

**TUBE END REDUCER FOR FRACTIONAL TUBE**

**SERIES TRBZ/TUR**

CPI™ Part No.	A-LOK® Part No.	Interchanges with	T <sub>1</sub> Turned End Tube O.D. (in.)	T <sub>2</sub> Machine End Tube O.D. (in.)	A (in.)	C (in.)	D (in.)	K (in.)	W Hex (in.)	Bore (in.)
12-6 TRBZ	12TUR6	600-R-12	3/4	3/8	1.98	.76	1.69	.97	13/16	.28
12-8 TRBZ	12TUR8	810-R-12	3/4	1/2	2.12	.87	1.72	.97	13/16	.41
12-10 TRBZ	12TUR10	1010-R-12	3/4	5/8	2.15	.87	1.75	.97	15/16	.50
14-10 TRBZ	14TUR10	1010-R-14	7/8	5/8	2.21	.87	1.81	1.03	15/16	.50
16-8 TRBZ	16TUR8	810-R-16	1	1/2	2.37	.87	1.97	1.22	1-1/16	.41
16-10 TRBZ	16TUR10	1010-R-16	1	5/8	2.40	.87	2.00	1.22	1-1/16	.50
16-12 TRBZ	16TUR12	1210-R-16	1	3/4	2.46	.87	2.06	1.22	1-1/16	.63
24-16-TRBZ	24TUR16	1610-R-24	1-1/2	1	3.519	1.05	3.03	2.05	1-5/8	.88
24-20 TRBZ	24TUR20	2010-R-24	1-1/2	1-1/4	4.10	1.52	3.23	2.05	1-7/8	1.09
32-24 TRBZ	32TUR24	2410-R-32	2	1-1/2	5.17	1.52	4.10	2.74	2-1/4	1.34

**NOTE:** A and C dimensions are typical finger-tight.  
 Size 4 and above tube stub is pre-grooved as standard.  
 \*Size 1, 2, and 3 do not require a groove. Add -Z6 for assembly of nuts and ferrules on the tube stub end. Sizes 20, 24 require additional lubrication prior to assembly.  
 Dimensions for reference only, subject to change.

**FERRULES**

**SERIES TZ**



Part No.	Tube O.D. (in.)	Part No.	Tube O.D. (in.)
1 TZ	1/16	TZ 3	
2 TZ	1/8	TZ 6	6
3 TZ	3/16	TZ 8	8
4 TZ	1/4	TZ 10	10
5 TZ	5/16	TZ 12	12
6 TZ	3/8	TZ 16	16
8 TZ	1/2	TZ 20	
10 TZ	5/8	TZ 25	
12 TZ	3/4		
14 TZ	7/8		
16 TZ	1		
20 TZ	1-1/4		
24 TZ	1-1/2		
32 TZ	2		

Dimensions for reference only, subject to change.

**FRONT FERRULE FOR FRACTIONAL TUBE**

**SERIES INCH FF**



Part No.	Interchanges with	Tube O.D. (in.)
1FF1	103-1	1/16
2FF2	203-1	1/8
3FF3	303-1	3/16
4FF4	403-1	1/4
5FF5	503-1	5/16
6FF6	603-1	3/8
8FF8	813-1	1/2
10FF10	1013-1	5/8
12FF12	1213-1	3/4
14FF14	1413-1	7/8
16FF16	1613-1	1
20FF20	2013-1	1-1/4
24FF24	2413-1	1-1/2
32FF32	3213-1	2

**BACK FERRULE FOR FRACTIONAL TUBE**

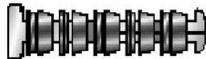
**SERIES INCH BF**



Part No.	Interchanges with	Tube O.D. (in.)
1BF1	104-1	1/16
2BF2	204-1	1/8
3BF3	304-1	3/16
4BF4	404-1	1/4
5BF5	504-1	5/16
6BF6	604-1	3/8
8BF8	814-1	1/2
10BF10	1014-1	5/8
12BF12	1214-1	3/4
14BF14	1414-1	7/8
16BF16	1614-1	1
20BF20	2014-1	1-1/4
24BF24	2414-1	1-1/2
32BF32	3214-1	2

**SERIES FERRULE HOLDER**

Package simplifies ordering,  
 stocking and assembling

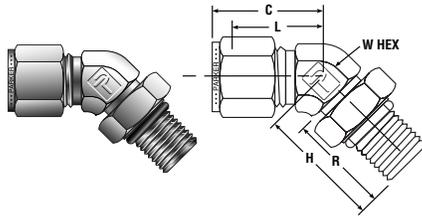


CPI™ Part No. 1 Holder	A-LOK® Part No. 1 Holder	T Tube O.D. (in.)
2 CPI- <sup>*</sup> -SET	2 ALOK- <sup>*</sup> -SET	1/8
4 CPI- <sup>*</sup> -SET	4 ALOK- <sup>*</sup> -SET	1/4
6 CPI- <sup>*</sup> -SET	6 ALOK- <sup>*</sup> -SET	3/8
8 CPI- <sup>*</sup> -SET	8 ALOK- <sup>*</sup> -SET	1/2
12 CPI- <sup>*</sup> -SET	12 ALOK- <sup>*</sup> -SET	3/4
16 CPI- <sup>*</sup> -SET	16 ALOK- <sup>*</sup> -SET	1

<sup>\*</sup>Material designator – 316-SS, B-Brass, S-Steel

For stainless steel, sizes 4-32 are Supercase ferrules.

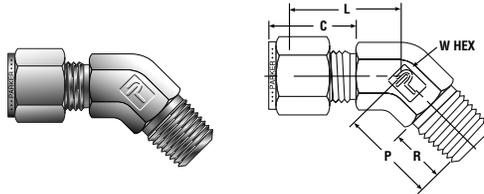
**45° POSITIONABLE MALE ELBOW SAE/MS STRAIGHT THREAD FOR FRACTIONAL TUBE  
 SERIES V5BZ/M5VEL**



CPI™ Part No.	A-LOK® Part No.	Interchanges with	Straight Tube O.D. (in.)	Thread Size (in.)	C (in.)	H (in.)	L (in.)	R (in.)	W Hex (in.)	O-Ring Uniform Size No.
4-4 V5BZ	4M5VEL4	400-5-4ST	1/4	7/16-20	.93	1.02	.65	.75	7/16	3-904
6-6 V5BZ	6M5VEL6	600-5-6ST	3/8	9/16-18	1.01	1.27	.72	.77	9/16	3-906
8-8 V5BZ	8M5VEL8	810-5-8ST	1/2	3/4-16	1.15	1.48	.75	.88	3/4	3-908
12-12 V5BZ	12M5VEL12	1210-5-12ST	3/4	1-1/16-12	1.63	1.92	1.23	1.16	1-1/16	3-912
16-16 V5BZ	16M5VEL16	1610-5-16ST	1	1-5/16-12	1.87	2.11	1.39	1.16	1-5/16	3-916

**NOTE:** C dimension is typical finger-tight.  
 • Adapts to SAE J1926 straight thread boss and MS16142 boss.  
 Parts are supplied with nitrile o-rings as standard. For Fluorocarbon o-rings, add the suffix "-VO". Other o-rings available upon request.  
 Dimensions for reference only, subject to change.

**MALE 45° ELBOW FOR FRACTIONAL TUBE**  
**SERIES VBZ/MVELN NPT**

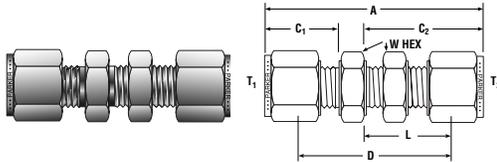


CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	NPT Pipe Thread (in.)	C (in.)	L (in.)	P (in.)	R (in.)	W Hex (in.)
1-1 VBZ	1MVEL1N	100-5-1	1/16	1/16	.43	.47	.57	.38	7/16
2-2 VBZ	2MVEL2N	200-5-2	1/8	1/8	.60	.53	.57	.38	7/16
3-2 VBZ	3MVEL2N	300-5-2	3/16	1/8	.64	.56	.58	.38	7/16
4-2 VBZ	4MVEL2N	400-5-2	1/4	1/8	.70	.66	.66	.38	9/16
4-4 VBZ	4MVEL4N	400-5-4	1/4	1/4	.70	.66	.86	.56	9/16
5-2 VBZ	5MVEL2N	500-5-2	5/16	1/8	.73	.66	.66	.38	9/16
6-2 VBZ	6MVEL2N	600-5-2	3/8	1/8	.76	.72	.67	.38	9/16
6-4 VBZ	6MVEL4N	600-5-4	3/8	1/4	.76	.72	.86	.56	9/16
6-6 VBZ	6MVEL6N	600-5-6	3/8	3/8	.76	.75	.95	.56	3/4
8-6 VBZ	8MVEL6N	810-5-6	1/2	3/8	.87	.75	.95	.56	3/4
10-8 VBZ	10MVEL8N	1010-5-8	5/8	1/2	.87	.84	1.20	.75	1-1/16
12-12 VBZ	12MVEL12N	1210-5-8	3/4	3/4	.87	.84	1.20	.75	1-1/16
14-12 VBZ	14MVEL12N	1410-5-8	7/8	3/4	.87	1.36	1.27	.75	1-5/16
16-16 VBZ	16MVEL16N	1610-5-8	1	1	1.05	1.19	1.14	.94	1-5/16

**NOTE:** C dimension is typical finger-tight.  
 Dimensions for reference only, subject to change.

**BULKHEAD UNION FOR FRACTIONAL TUBE**

**SERIES WBZ/BC**

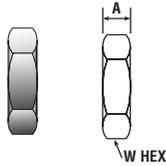


CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	A (in.)	C <sub>1</sub> (in.)	D (in.)	C <sub>2</sub> (in.)	L <sub>1</sub> (in.)	L <sub>2</sub> (in.)	W Hex (in.)	Bulkhead Hole Drill Size (in.)	Maximum Bulkhead Thickness (in.)
1-1 WBZ	1BC1	100-61	1/16	1.23	.43	.94	.68	.28	.53	5/16	13/64	1/8
2-2 WBZ	2BC2	200-61	1/8	2.02	.60	1.50	1.23	.34	.97	1/2	21/64	1/2
3-3 WBZ	3BC3	300-61	3/16	2.11	.64	1.59	1.26	.38	1.00	9/16	25/64	1/2
4-2 WBZ	4BC2	400-61-2	1/4	2.17	.70	1.03	1.23	.41	.97	5/8	21/64	1/2
4-4 WBZ	4BC4	400-61	1/4	2.27	.70	1.69	1.31	.41	1.02	5/8	29/64	17/32
5-5 WBZ	5BC5	500-61	5/16	2.40	.73	1.81	1.42	.44	1.12	11/16	33/64	9/16
6-6 WBZ	6BC6	600-61	3/8	2.46	.76	1.88	1.44	.47	1.15	3/4	37/64	9/16
8-8 WBZ	8BC8	810-61	1/2	2.80	.87	2.00	1.65	.47	1.25	15/16	49/64	19/32
10-10 WBZ	10BC10	1010-61	5/8	2.86	.87	2.06	1.68	.47	1.28	1-1/16	57/64	19/32
12-12 WBZ	12BC12	1210-61	3/4	3.11	.87	2.31	1.87	.47	1.47	1-3/16	1-1/64	25/32
14-14 WBZ	14BC14	1410-61	7/8	3.33	.87	2.53	2.09	.47	1.69	1-3/8	1-9/64	15/16
16-16 WBZ	16BC16	1610-61	1	3.78	1.05	2.81	2.27	.56	1.78	1-5/8	1-21/64	15/16

**NOTE:** For reducer sizes call out short end first.  
 A, C<sub>1</sub>, and C<sub>2</sub> dimensions are typical finger-tight.  
 Use part no. WLZ replacement bulkhead nuts.  
 Dimensions for reference only, subject to change.

**BULKHEAD LOCKNUT FOR FRACTIONAL TUBE**

**SERIES WLN**

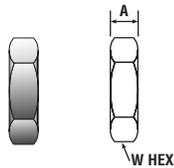


Part No.	SAE Adj. Thread (in.)	Tube O.D. (in.)	A (in.)	W Hex (in.)
4 WLN	7/16-20	1/4	.28	11/16
6 WLN	9/16-18	3/8	.27	13/16
8 WLN	3/4-16	1/2	.31	1
12 WLN	1-1/16-12	3/4	.41	1-3/8
16 WLN	1-5/16-12	1	.41	1-5/8

Dimensions for reference only, subject to change.

**BULKHEAD LOCKNUT FOR FRACTIONAL TUBE**

**SERIES WLZ**



Part No.	Interchanges with	A-LOK® Thread (in.)	Tube O.D. (in.)	A (in.)	W Hex (in.)
1 WLZ	102-61	10-32	1/16	.13	5/16
2 WLZ	202-61	5/16-20	1/8	.19	1/2
3 WLZ	302-61	3/8-20	3/16	.22	9/16
4 WLZ	402-61	7/16-20	1/4	.22	5/8
5 WLZ	502-61	1/2-20	5/16	.23	11/16
6 WLZ	602-61	9/16-20	3/8	.25	3/4
8 WLZ	812-61	3/4-20	1/2	.28	15/16
10 WLZ	1012-61	7/8-20	5/8	.31	1-1/16
12 WLZ	1212-61	1"-20	3/4	.34	1-3/16
14 WLZ	1412-61	1-1/8-20	7/8	.38	1-3/8
16 WLZ	1612-61	1-5/16-20	1	.38	1-5/8

Dimensions for reference only, subject to change.

**37° FLARE (AN) TO CPI™/A-LOK® FOR FRACTIONAL TUBE**

**SERIES X6HBZ6/X6TU**

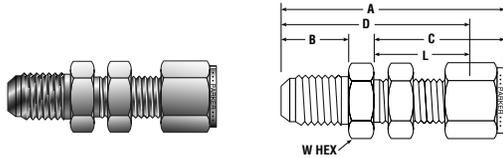


CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	D (in.)	W Hex (in.)
2-2 X6HBZ6	2X6TU2	200-A-2 ANF	1/8	.88	3/8
4-4 X6HBZ6	4X6TU4	400-A-4 ANF	1/4	.96	9/16
6-6 X6HBZ6	6X6TU6	600-A-6 ANF	3/8	1.07	11/16
8-8 X6HBZ6	8X6TU8	810-A-8 ANF	1/2	1.37	7/8
12-12 X6HBZ6	12X6TU12	1210-A-12ANF	3/4	1.49	1-1/4
16-16 X6HBZ6	16X6TU16	1610-A-16ANF	1	1.80	1-1/2

Dimensions for reference only, subject to change.

**37° FLARE BULKHEAD CONNECTOR FOR FRACTIONAL TUBE**

**SERIES XH2BZ/XABC**

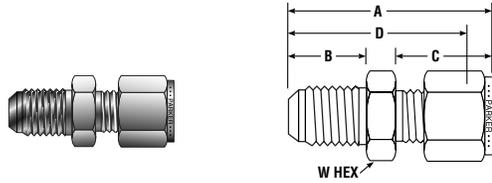


CPI™ Part No.	A-LOK® Part No.	Interchanges with	Flare End (in.)	Tube O.D. (in.)	A (in.)	D (in.)	C (in.)	L (in.)	B (in.)	W Hex (in.)
2-2 XH2BZ	2XABC2	200-61-2 AN	1/8	1/8	1.91	1.65	1.23	.97	.45	1/2
3-3 XH2BZ	3XABC3	200-61-4 AN	1/4	1/8	2.04	1.78	1.23	.97	.55	5/8
4-2 XH2BZ	4XABC2	300-61-3 AN	3/16	3/16	1.98	1.71	1.26	1.00	.48	9/16
4-4 XH2BZ	4XABC4	400-61-4 AN	1/4	1/4	2.12	1.83	1.31	1.02	.55	5/8
5-5 XH2BZ	5XABC5	500-61-5 AN	5/16	5/16	2.21	1.92	1.41	1.12	.55	11/16
4-6 XH2BZ	4XABC6	600-61-4 AN	1/4	3/8	2.25	1.96	1.44	1.15	.55	3/4
6-6 XH2BZ	6XABC6	600-61-6 AN	3/8	3/8	2.25	1.96	1.44	1.15	.56	3/4
8-8 XH2BZ	8XABC8	810-61-8 AN	1/2	1/2	2.59	2.19	1.65	1.25	.66	15/16
10-10 XH2BZ	10XABC10	1010-61-10 AN	5/8	5/8	2.74	2.34	1.68	1.28	.76	1-1/16
12-12 XH2BZ	12XABC12	1210-61-12 AN	3/4	3/4	3.11	2.71	1.87	1.47	.86	1-3/16
16-16 XH2BZ	16XABC16	1610-61-16 AN	1	1	3.65	3.16	2.27	1.78	.91	1-9/16

**NOTE:** A and C dimensions are typical finger-tight.  
 Dimensions for reference only, subject to change.

**37° FLARE CONNECTOR FOR FRACTIONAL TUBE**

**SERIES XHBZ/XASC**



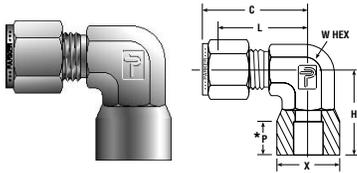
CPI™ Part No.	A-LOK® Part No.	Interchanges with	Flare End (in.)	Tube O.D. (in.)	A (in.)	B (in.)	C (in.)	D (in.)	W Hex (in.)
2-1 XHBZ	2XASC1	100-6-2 AN	1/8	1/16	1.07	.45	.43	.92	7/16
2-2 XHBZ	2XASC2	200-6-2 AN	1/8	1/8	1.28	.45	.60	1.02	7/16
3-3 XHBZ	3XASC3	300-6-3 AN	3/16	3/16	1.32	.48	.64	1.06	7/16
4-2 XHBZ	4XASC2	200-6-4 AN	1/4	1/8	1.39	.55	.60	1.13	1/2
4-4 XHBZ	4XASC4	400-6-4 AN	1/4	1/4	1.48	.55	.70	1.19	1/2
4-6 XHBZ	4XASC6	600-6-4 AN	1/4	3/8	1.56	.55	.76	1.27	5/8
5-5 XHBZ	5XASC5	500-6-5 AN	5/16	5/16	1.52	.55	.73	1.22	9/16
6-6 XHBZ	6XASC6	600-6-6 AN	3/8	3/8	1.56	.56	.76	1.27	5/8
8-8 XHBZ	8XASC8	810-6-8 AN	1/2	1/2	1.81	.66	.87	1.41	13/16
10-10 XHBZ	10XASC10	1010-6-10 AN	5/8	5/8	1.93	.76	.87	1.53	15/16
12-12 XHBZ	12XASC12	1210-6-12 AN	3/4	3/4	2.11	.86	.87	1.70	1-1/8
16-16 XHBZ	16XASC16	1610-6-16 AN	1	1	2.43	.91	1.05	1.94	1-3/8

**NOTE:** A and C dimensions are typical finger-tight.  
 Dimensions for reference only, subject to change.

**SOCKET WELD ELBOW FOR FRACTIONAL TUBE**

**SERIES ZEBW/ZELW**

- for CPI™/A-LOK® to tubing socket weld connection



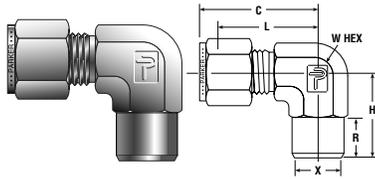
CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	C (in.)	L (in.)	H (in.)	P* (IN.)	X (IN.)	W Hex (in.)
2-2 ZEBW	2-2 ZELW	200-9-2 W	1/8	.92	.66	.63	.16	.38	5/16
3-3 ZEBW	3-3 ZELW	300-9-3 W	3/16	.98	.72	.69	.20	.44	7/16
4-4 ZEBW	4-4 ZELW	400-9-4 W	1/4	1.06	.78	.84	.25	.50	9/16
6-6 ZEBW	6-6 ZELW	600-9-6 W	3/8	1.31	1.02	1.08	.34	.63	3/4
8-8 ZEBW	8-8 ZELW	810-9-8 W	1/2	1.42	1.02	1.14	.41	.76	3/4
10-10 ZEBW	10-10 ZELW	1010-9-10 W	5/8	1.57	1.17	1.35	.49	.94	1-1/16
12-12 ZEBW	12-12 ZELW	1210-9-12 W	3/4	1.57	1.17	1.39	.50	1.09	1-1/16
16-16 ZEBW	16-16 ZELW	1610-9-16 W	1	1.93	1.65	1.84	.56	1.38	1-5/8

**NOTE:** C dimension is typical finger-tight.  
 \*Socket Depth  
 Dimensions for reference only, subject to change.

**BUTTWELD ELBOW FOR FRACTIONAL TUBE**

**SERIES ZEBW2/ZELW2**

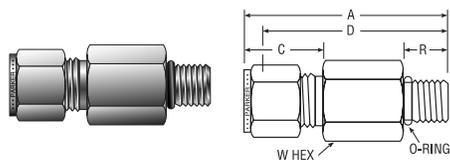
- for CPI™/A-LOK® to pipe buttweld connection



CPI™ Part No.	A-LOK® Part No.	Interchanges with	T Tube O.D. (in.)	Buttweld Pipe Size (in.)	C (in.)	H (in.)	L (in.)	R (in.)	X Buttweld O.D. (in.)	W Hex (in.)
2-1/8 ZEBW2	2-1/8 ZELW2	200-2-2 W	1/8	1/8	.93	.70	.67	.38	.405	7/16
3-1/8 ZEBW2	3-1/8 ZELW2	300-2-2 W	3/16	1/8	1.01	.74	.74	.38	.405	7/16
4-1/8 ZEBW2	4-1/8 ZELW2	400-2-2 W	1/4	1/8	1.06	.74	.77	.38	.405	7/16
4-1/4 ZEBW2	4-1/4 ZELW2	400-2-4 W	1/4	1/4	1.10	.97	.78	.56	.540	9/16
6-1/4 ZEBW2	6-1/4 ZELW2	600-2-4 W	3/8	1/4	1.20	1.00	.91	.56	.540	5/8
8-3/8 ZEBW2	8-3/8 ZELW2	810-2-6 W	1/2	3/8	1.42	1.11	1.02	.56	.675	13/16
8-1/2 ZEBW2	8-1/2 ZELW2	810-2-8 W	1/2	1/2	1.42	1.30	1.02	.75	.840	7/8
10-1/2 ZEBW2	10-1/2 ZELW2	1010-2-8 W	5/8	1/2	1.50	1.39	1.10	.75	.840	15/16
12-3/4 ZEBW2	12-3/4 ZELW2	1210-2-12 W	3/4	3/4	1.57	1.45	1.17	.75	1.050	1-1/16
16-3/4 ZEBW2	16-3/4 ZELW2	1610-2-12 W	1	3/4	1.94	1.64	1.45	.75	1.050	1-3/8
16-1 ZEBW2	16-1 ZELW2	1610-2-16 W	1	1	1.94	1.84	1.45	.94	1.315	1-5/16

**NOTE:** C dimension is typical finger-tight.  
 Pipe buttweld end will conform to Schedule 80 unless otherwise noted.  
 Dimensions for reference only, subject to change.

**LONG MALE CONNECTOR SAE/MS STRAIGHT THREAD FOR FRACTIONAL TUBE**  
**SERIES ZH3BA/ZH3LA**

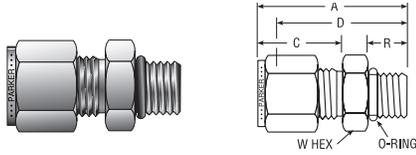


CPI™ Part No.	A-LOK® Part No.	Interchanges with	T Tube O.D. (in.)	S- SAE/MS Thread Size (in.)	A (in.)	R (in.)	C (in.)	D (in.)	E Min. Opening (in.)	W Hex (in.)	ST O-Ring Uniform Size No.
4-4 ZH3BA	4-4 ZH3LA	400-1L-4ST	1/4	7/16-20	2.26	.36	.70	1.97	.19	9/16	-904
6-6 ZH3BA	6-6 ZH3LA	600-1L-6ST	3/8	9/16-18	2.48	.39	.76	2.19	.28	11/16	-906
8-8 ZH3BA	8-8 ZH3LA	810-1L-8ST	1/2	3/4-16	3.01	.44	.86	2.58	.41	7/8	-908
12-12 ZH3BA	12-12 ZH3LA	1210-1L-12ST	3/4	1-1/16-12	3.88	.59	.86	3.48	.62	1-1/4	-912
16-16 ZH3BA	16-16 ZH3LA	1610-1L-16ST	1	1-5/16-12	4.34	.59	1.04	3.86	.88	1-1/2	-916

**NOTE:** A and C dimensions are typical finger-tight.  
 Parts are supplied with nitrile o-rings as standard. For Fluorocarbon o-rings, add the suffix "-VO". Other o-rings available upon request.  
 Dimensions for reference only, subject to change.

**MALE CONNECTOR TO SAE STRAIGHT THREAD FOR FRACTIONAL TUBE**

**SERIES ZHBA/M1SC**

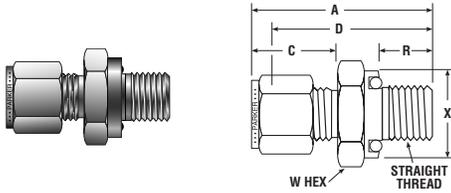


CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	Straight Thread Size (in.)	A (in.)	C (in.)	D (in.)	R (in.)	W Hex (in.)	O-Ring AS Uniform Dash No.
1-2 ZHBA	1M1SC2	100-1-2 ST	1/16	5/16-24	.92	.43	.77	.30	7/16	3-902
2-2 ZHBA	2M1SC2	200-1-2 ST	1/8	5/16-24	1.18	.60	.92	.30	7/16	3-902
2-6 ZHBA	2M1SC6	200-1-6 ST	1/8	9/16-18	1.35	.60	1.06	.39	11/16	3-906
3-3 ZHBA	3M1SC3	300-1-3 ST	3/16	3/8-24	1.20	.64	.94	.30	1/2	3-903
4-4 ZHBA	4M1SC4	400-1-4 ST	1/4	7/16-20	1.34	.70	1.05	.36	9/16	3-904
4-6 ZHBA	4M1SC6	400-1-6 ST	1/4	9/16-18	1.40	.70	1.11	.39	11/16	3-906
4-8 ZHBA	4M1SC8	400-1-8 ST	1/4	3/4-16	1.48	.70	1.19	.44	7/8	3-908
4-10 ZHBA	4M1SC10	400-1-10 ST	1/4	7/8-14	1.60	.70	1.31	.50	1	3-910
5-5 ZHBA	5M1SC5	500-1-5 ST	5/16	1/2-20	1.37	.73	1.08	.36	5/8	3-905
6-4 ZHBA	6M1SC4	600-1-4 ST	3/8	7/16-20	1.40	.76	1.11	.36	5/8	3-904
6-6 ZHBA	6M1SC6	600-1-6 ST	3/8	9/16-18	1.46	.76	1.17	.39	11/16	3-906
6-8 ZHBA	6M1SC8	600-1-8 ST	3/8	3/4-16	1.54	.76	1.25	.44	7/8	3-908
6-10 ZHBA	6M1SC10	600-1-10 ST	3/8	7/8-14	1.67	.76	1.38	.50	1.00	3-910
8-6 ZHBA	8M1SC6	810-1-6 ST	1/2	9/16-18	1.54	.87	1.14	.39	7/8	3-906
8-8 ZHBA	8M1SC8	810-1-8 ST	1/2	3/4-16	1.65	.87	1.25	.44	7/8	3-908
8-12 ZHBA	8M1SC12	810-1-12 ST	1/2	1-1/16-12	1.93	.87	1.53	.59	1-1/4	3-912
10-10 ZHBA	10M1SC10	1010-1-10 ST	5/8	7/8-14	1.78	.87	1.38	.50	1	3-910
12-10 ZHBA	12M1SC10	1210-1-10 ST	3/4	7/8-14	1.68	.87	1.28	.50	1-1/8	3-910
12-12 ZHBA	12M1SC12	1210-1-12 ST	3/4	1-1/16-12	1.93	.87	1.53	.59	1-1/4	3-912
12-14 ZHBA	14M1SC14	1410-1-14 ST	7/8	1-3/16-12	1.93	.87	1.53	.59	1-3/8	3-914
16-12 ZHBA	16M1SC12	1610-1-12 ST	1	1-1/16-12	2.12	1.05	1.63	.59	1-3/8	3-912
16-16 ZHBA	16M1SC16	1610-1-16 ST	1	1-5/16-12	2.15	1.04	1.66	.59	1-1/2	3-916
20-20 ZHBA	20M1SC20	2010-1-20 ST	1-1/4	1-5/8-12	2.59	1.52	1.82	.59	1-7/8	3-920
24-24 ZHBA	24M1SC24	2410-1-24 ST	1-1/2	1-7/8-12	3.05	1.77	1.99	.59	2-1/8	3-924
32-32 ZHBA	32M1SC32	3210-1-32 ST	2	2-1/2-12	4.00	2.47	2.53	.59	2-3/4	3-932

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**NOTE:** A and C dimensions are typical finger-tight.  
 For use with SAE J.1926/1 port can also be used with MS-16142 port. Sizes 20, 24, 32 require additional lubrication prior to assembly. Parts are supplied with nitrile o-rings as standard. For Fluorocarbon o-rings, add the suffix "-VO". Other o-rings available upon request.  
 Dimensions for reference only, subject to change.

**MALE CONNECTOR TO O-RING STRAIGHT THREAD FOR FRACTIONAL TUBE**  
**SERIES ZHBA5/M2SC**

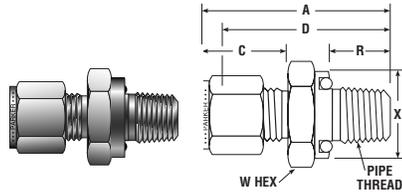


CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	Straight Thread Size (in.)	A (in.)	C (in.)	D (in.)	R (in.)	X Dia. (in.)	W Hex (in.)	O-Ring APR Uniform Dash No.
1-2 ZHBA5	1M2SC2	100-1-OR	1/16	5/16-24	1.06	.43	.91	.34	.55	9/16	2-011
2-2 ZHBA5	2M2SC2	200-1-OR	1/8	5/16-24	1.29	.60	1.03	.34	.55	9/16	2-011
3-3 ZHBA5	3M2SC3	300-1-OR	3/16	3/8-24	1.35	.64	1.09	.38	.62	5/8	2-012
4-4 ZHBA5	4M2SC4	400-1-OR	1/4	7/16-20	1.51	.70	1.22	.41	.74	3/4	2-111
5-5 ZHBA5	5M2SC5	500-1-OR	5/16	1/2-20	1.61	.73	1.31	.44	.86	7/8	2-112
6-6 ZHBA5	6M2SC6	600-1-OR	3/8	9/16-18	1.67	.76	1.38	.44	.93	15/16	2-113
8-8 ZHBA5	8M2SC8	810-1-OR	1/2	3/4-16	1.81	.87	1.41	.47	1.12	1-1/8	2-116
10-10 ZHBA5	10M2SC10	1010-1-OR	5/8	7/8-14	1.90	.87	1.50	.47	1.30	1-3/8	2-212
12-12 ZHBA5	12M2SC12	1210-1-OR	3/4	1-1/16-12	2.06	.87	1.66	.56	1.49	1-1/2	2-215
14-12 ZHBA5	14M2SC12	1410-1-OR	7/8	1-1/16-12	2.06	.87	1.66	.56	1.49	1-1/2	2-215
16-16 ZHBA5	16M2SC16	1610-1-OR	1	1-5/16-12	2.30	1.05	1.81	.56	1.74	1-3/4	2-219

**NOTE:** A and C dimensions are typical finger-tight.  
 Parts are supplied with nitrile o-rings as standard. For Fluorocarbon o-rings, add the suffix “-VO”. Other o-rings available upon request.  
 Dimensions for reference only, subject to change.

**MALE CONNECTOR TO O-RING PIPE THREAD FOR FRACTIONAL TUBE**

**SERIES ZHBF5/M3SC**



CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	NPT Pipe Thread (in.)	A (in.)	C (in.)	D (in.)	R (in.)	X Dia. (in.)	W Hex (in.)	O-Ring APR Uniform Dash No.
1-2 ZHBF5	1M3SC2	100-1-2-OR	1/16	1/8	1.12	.43	.97	.28	.74	3/4	2-011
2-2 ZHBF5	2M3SC2	200-1-2-OR	1/8	1/8	1.29	.60	1.03	.28	.74	3/4	2-011
2-4 ZHBF5	2M3SC4	200-1-4-OR	1/8	1/4	1.43	.60	1.17	.38	.93	15/16	2-113
3-2 ZHBF5	3M3SC2	300-1-2-OR	3/16	1/8	1.32	.64	1.06	.28	.74	3/4	2-011
3-4 ZHBF5	3M3SC4	300-1-4-OR	3/16	1/4	1.46	.64	1.20	.38	.93	15/16	2-113
4-2 ZHBF5	4M3SC2	400-1-2-OR	1/4	1/8	1.38	.70	1.09	.28	.74	3/4	2-011
4-4 ZHBF5	4M3SC4	400-1-4-OR	1/4	1/4	1.51	.70	1.22	.38	.93	15/16	2-113
4-6 ZHBF5	4M3SC6	400-1-6-OR	1/4	3/8	1.57	.70	1.28	.41	1.12	1-1/8	2-116
5-2 ZHBF5	5M3SC2	500-1-2-OR	5/16	1/8	1.43	.73	1.13	.28	.74	3/4	2-011
5-4 ZHBF5	5M3SC4	500-1-4-OR	5/16	1/4	1.46	.73	1.25	.38	.93	15/16	2-113
6-2 ZHBF5	6M3SC2	600-1-2-OR	3/8	1/8	1.45	.76	1.16	.28	.74	3/4	2-011
6-4 ZHBF5	6M3SC4	600-1-4-OR	3/8	1/4	1.57	.76	1.28	.38	.93	15/16	2-113
6-6 ZHBF5	6M3SC6	600-1-6-OR	3/8	3/8	1.63	.76	1.34	.41	1.12	1-1/8	2-116
6-8 ZHBF5	6M3SC8	600-1-8-OR	3/8	1/2	1.85	.76	1.56	.53	1.30	1-3/8	2-212
8-4 ZHBF5	8M3SC4	810-1-4-OR	1/2	1/4	1.68	.87	1.28	.38	.93	15/16	2-113
8-6 ZHBF5	8M3SC6	810-1-6-OR	1/2	3/8	1.76	.87	1.36	.41	1.12	1-1/8	2-116
8-8 ZHBF5	8M3SC8	810-1-8-OR	1/2	1/2	1.98	.87	1.58	.53	1.30	1-3/8	2-212
10-8 ZHBF5	10M3SC8	1010-1-8-OR	5/8	1/2	1.96	.87	1.56	.53	1.30	1-3/8	2-212
10-12 ZHBF5	10M3SC12	1010-1-8-OR	5/8	3/4	2.06	.87	1.66	.56	1.49	1-1/2	2-215
12-8 ZHBF5	12M3SC8	1210-1-8-OR	3/4	1/2	1.98	.87	1.58	.53	1.30	1-3/8	2-212
12-12 ZHBF5	12M3SC12	1210-1-12-OR	3/4	3/4	2.06	.87	1.66	.56	1.49	1-1/2	2-215
16-12 ZHBF5	16M3SC12	1610-1-12-OR	1	3/4	2.24	1.05	1.75	.56	1.49	1-1/2	2-215
16-16 ZHBF5	16M3SC16	1610-1-16-OR	1	1	2.40	1.05	1.91	.66	1.74	1-3/4	2-219

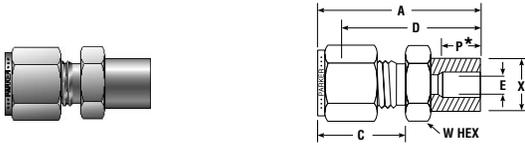
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**NOTE:** A and C dimensions are typical finger-tight.  
 Parts are supplied with nitrile o-rings as standard. For Fluorocarbon o-rings, add the suffix "-VO". Other o-rings available upon request.  
 Dimensions for reference only, subject to change.

**SOCKET WELD CONNECTOR FOR FRACTIONAL TUBE**

**SERIES ZHBW/ZHLW**

- for CPI™/A-LOK® to tubing socket weld connection



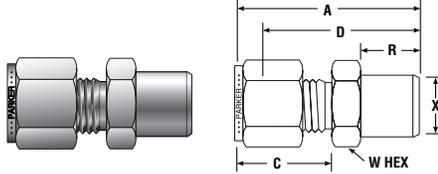
CPI™ Part No.	A-LOK® Part No.	Interchanges with	T Tube O.D. (in.)	A (in.)	C (in.)	D (in.)	P* (in.)	X (in.)	E Bore (in.)	W Hex (in.)
2-2 ZHBW	2-2 ZHLW	200-6-2 W	1/8	1.16	.60	.90	.16	.38	.094	7/16
3-3 ZHBW	3-3 ZHLW	300-6-3 W	3/16	1.24	.64	.98	.20	.44	.141	7/16
4-4 ZHBW	4-4 ZHLW	400-6-4 W	1/4	1.36	.70	1.07	.25	.50	.188	7/16
6-6 ZHBW	6-6 ZHLW	600-6-6 W	3/8	1.53	.76	1.24	.34	.63	.313	9/16
8-8 ZHBW	8-8 ZHLW	810-6-8 W	1/2	1.77	.87	1.34	.41	.78	.438	5/8
10-10 ZHBW	10-10 ZHLW	1010-6-10 W	5/8	1.86	.87	1.46	.47	.94	.500	13/16
12-12 ZHBW	12-12 ZHLW	1210-6-12 W	3/4	1.92	.87	1.52	.50	1.09	.656	7/8
16-16 ZHBW	16-16 ZHLW	1610-6-16 W	1	2.31	1.05	1.82	.56	1.44	.906	15/16

**NOTE:** A and C dimensions are typical finger-tight.  
 \*Socket Depth  
 Dimensions for reference only, subject to change.

**BUTTWELD CONNECTOR FOR FRACTIONAL TUBE**

**SERIES ZHBW2/ZHLW2**

- for CPI™/A-LOK® to pipe butt weld connection



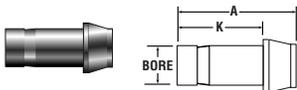
CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	Buttweld Pipe Size (in.)	A (in.)	C (in.)	D (in.)	R (in.)	X Butt weld O.D. (in.)	W Hex (in.)
2-1/8 ZHBW2	2-1/8 ZHLW2	200-1-2 W	1/8	1/8	1.20	.60	.94	.38	.405	7/16
3-1/8 ZHBW2	3-1/8 ZHLW2	300-1-2 W	3/16	1/8	1.24	.61	.97	.38	.405	7/16
4-1/8 ZHBW2	4-1/8 ZHLW2	400-1-2 W	1/4	1/8	1.29	.66	1.00	.38	.405	1/2
4-1/4 ZHBW2	4-1/4 ZHLW2	400-1-4 W	1/4	1/4	1.46	.66	1.17	.56	.540	9/16
5-1/8 ZHBW2	5-1/8 ZHLW2	500-1-2 W	5/16	1/8	1.48	.73	1.22	.38	.405	1/2
5-1/4 ZHBW2	5-1/4 ZHLW2	500-1-4 W	5/16	1/4	1.49	.73	1.23	.56	.540	9/16
6-1/4 ZHBW2	6-1/4 ZHLW2	600-1-4 W	3/8	1/4	1.49	.70	1.20	.56	.540	9/16
6-3/8 ZHBW2	6-3/8 ZHLW2	600-1-6 W	3/8	3/8	1.60	.70	1.31	.56	.675	3/4
6-1/2 ZHBW2	6-1/2 ZHLW2	600-1-8 W	3/8	1/2	1.82	.70	1.53	.75	.840	7/8
6-3/4 ZHBW2	6-3/4 ZHLW2	600-1-12 W	3/8	3/4	1.88	.70	1.59	.75	1.050	1-1/8
8-3/8 ZHBW2	8-3/8 ZHLW2	810-1-6 W	1/2	3/8	1.71	.84	1.31	.56	.675	13/16
8-1/2 ZHBW2	8-1/2 ZHLW2	810-1-8 W	1/2	1/2	1.90	.84	1.50	.75	.840	7/8
8-3/4 ZHBW2	8-3/4 ZHLW2	810-1-12 W	1/2	3/4	1.96	.84	1.56	.75	1.050	1-1/16
10-1/2 ZHBW2	10-1/2 ZHLW2	1010-1-8 W	5/8	1/2	1.93	.87	1.53	.75	.840	15/16
12-3/4 ZHBW2	12-3/4 ZHLW2	1210-1-12 W	3/4	3/4	1.99	.87	1.59	.75	1.050	7/8
16-1 ZHBW2	16-1 ZHLW2	1610-1-16 W	1	1	2.46	.96	1.97	.94	1.310	1-1/16

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**NOTE:** A and C dimensions are typical finger-tight.  
 Pipe Buttweld end will conform to Schedule 80 unless otherwise noted.  
 Dimensions for reference only, subject to change.

**PORT CONNECTOR FOR FRACTIONAL TUBE**

**SERIES ZPC/PC**



CPI™ Part No.	A-LOK® Part No.	Interchanges with	Tube O.D. (in.)	A (in.)	K (IN.)	Bore (in.)
1-1 ZPC	1PC1	101-PC	1/16	.63	.44	.031
1-2 ZPC	1PC2	201-PC-1	1/16-1/8	.84	.44	.031
1-4 ZPC	1PC4	401-PC-1	1/16-1/4	.91	.44	.031
2-2 ZPC	2PC2	201-PC	1/8	.95	.54	.078
2-4 ZPC	2PC4	401-PC-2	1/8-1/4	1.05	.54	.078
2-6 ZPC	2PC6	601-PC-2	1/8-3/8	1.09	.54	.031
3-3 ZPC	3PC3	301-PC	3/16	.981	.67	.116
4-4 ZPC	4PC4	401-PC	1/4	1.07	.76	.156
4-6 ZPC	4PC6	601-PC-4	1/4-3/8	1.15	.64	.156
4-8 ZPC	4PC8	811-PC-4	1/4-1/2	1.36	.64	.156
6-6 ZPC	6PC6	601-PC	3/8	1.16	.84	.281
6-8 ZPC	6PC8	811-PC-6	3/8-1/2	1.40	.72	.281
8-8 ZPC	8PC8	811-PC	1/2	1.59	1.11	.375
8-12 ZPC	8PC12	1211-PC-8	1/2-3/4	1.72	.91	.375
12-12 ZPC	12PC12	1211-PC	3/4	1.65	1.16	.578
16-16 ZPC	16PC16	1611-PC	1	2.12	1.44	.813

**NOTE:** Tube stub is pre-grooved as standard. (Size 1, 2, and 3 not grooved).  
 The machined ferrule end (T<sub>2</sub>) requires only 1/4 turn from finger tight to assemble.  
 Add -Z6 for assembly of nuts and ferrules on the tube stub end.  
 Dimensions for reference only, subject to change.

**General Description:** The EO progressive ring fitting produces a low to high pressure, leak free connection of tubes and components in fluid systems.

**The EO Body.** EO fitting bodies are available in over thirty configurations. The shaped products (i.e., elbows, tees, crosses) are hot forged, then machined to the stringent EO fitting specifications. Straight products are made from cold drawn bar stock.

**The EO Progressive Ring (Cutting Ring).** EO progressive rings are precision machined with all dimensions and surfaces, particularly the critical bite edges. PSR features a “positive stop” to eliminate over-tightening.

**The EO Nut.** EO fitting nuts are either cold formed, hot formed or machined from cold drawn material.

**Features:**

- Visible Bite
- Sealing Capability
  - EO fittings have demonstrated a remarkable ability to remain leak free under various service conditions ranging from sealing high vacuum and small molecules gases to high pressure hydraulic fluids.
- Distributed Stresses
- Vibration Control
- Progressive Ring Design
- Envelope Size
- Temperature Rating
- Compatibility
- Tube Wall
  - EO fittings are suitable for use with light wall, medium wall, heavy wall, and extra heavy wall tubing.
- Re-Usability/Remakeability
  - Joints can be disassembled and reassembled many times.
- Assembly
  - No expensive, complicated tooling is necessary to assemble EO fittings.
- Materials
  - EO fittings can be manufactured from almost any metallic material.
- Finish
  - Steel EO fittings have a zinc gold chromate finish. This finish provides good corrosion protection.
- Silver Plated Nuts
  - Stainless steel tube nuts are pre-lubricated with silver plated threads

**EO Specifications**

**Steel fittings:** EO tube fittings  
 – Materials according to DIN 3859-1

**Stainless steel fittings:** EO tube fittings  
 – X6CrNiMoTi 17122 in accordance with DIN 17440 / EN 10088, material no. 1.4571.

**Brass fittings:** EO tube fittings  
 – CUZN35Ni2 in accordance with DIN 17660, material no. 2.0540.

**Elastomer seals:** NBR (BUNA-N), FPM (Fluorocarbon)

**Surface Finish -**

- Steel fittings:** Standard
- LL Series
    - Body, Nuts, and Rings
      - Zinc yellow chromate
  - L+S Series
    - Body and Nuts
      - Zinc yellow chromate
    - Progressive Rings (DPR)
      - Zinc olive chromate
    - Progressive Rings (PSR)
      - Zinc clear chromate

### **EO Tube Recommendations**

#### **For steel fittings:**

Seamless cold drawn steel tubes made from material St. 35.4 or from conditioned base material St. 37.4 in accordance with DIN 1630, state of delivery NBK (normal annealed) with tube outer and inner diameter tolerances in accordance with DIN 2391/ISO 3304. Max. hardness: HRB 75.

#### **For stainless steel fittings:**

##### **Material no. 1.4571 and 1.4541**

Seamless drawn tubes made from austenitic, stainless steel materials no. 1.4571 and 1.4541, in accordance with DIN/EN/ ISO 1127. Max. hardness: HRB 90.

These tubes are particularly recommended for tube fittings, since the tube outer diameter and wall thickness, tolerances correspond to those of steel tubes in accordance with DIN 2391/ISO 3304.

#### **For brass fittings:**

Seamless drawn copper tube made from material with short code SF-Cu F37 in accordance with DIN 1786.

#### **Tube wall thicknesses:**

In order to determine the necessary tube wall thicknesses for applications, refer to the calculated pressures provided in the tables for EO metric tubing. The calculated pressures DIN 2413-I are for static and DIN 2413-III for dynamic loads.

The maximum wall thickness is based on the pressure holding capacity of the fitting. In some cases, the wall thickness of the tube might be too thin for reliable service and an insert must be used to prevent excessive tube collapse. See assembly section for recommended tube wall thicknesses.

#### **Plastic tube:**

EO fittings are suitable for use with various types of plastic tubes such as nylon, polyethylene, etc. When used with plastic tube, an insert must be used to prevent tube pull out due to tensile loading.

**General Description: EO-2 Fittings**

Before assembly there is a gap in between the flat surfaces of the retaining ring and the metallic support ring of the seal. As soon as the retaining ring has reached the proper incision depth, the gap closes, resulting in a sharp increase of assembly torque. This results in uniform and reliable fitting assemblies.

**The Functional Nut**

The unique Functional Nut simplifies handling of fitting components and helps to minimize storage and procurement costs. The sealing and retaining rings are combined as a pair and are inserted into the internal thread of the nut in such a manner that they cannot fall out, so that these three parts form one functional element.

Individual components such as seal or retaining ring cannot be forgotten, confused or assembled in the wrong orientation. Time and cost are saved by eliminating searching and arranging the components to make up individual joints.

Functional Nuts are completely interchangeable with the full range of EO tube fitting ends.

**Features:**

- Sealing Capability
  - An elastomeric seal forms the primary sealing element, thus assuring leak-free sealing. Even low-viscosity media such as water or gas are hermetically sealed.
- High Pressure Resistance
  - EO-2 fittings are rated up to Pmax 900 bar.
- Durability
  - The elastomeric seal does not require any retightening.
- Bite Control
- Functional Nut
  - Individual components such as the retaining ring or seal cannot be lost, forgotten, confused or assembled in the wrong orientation.
- Assembly Cost
  - With less than 10 seconds cycle time on the EOMAT III/A (actual presetting process: 1.4 seconds), the cost of presetting EO-2 is extremely low.
- Integrated Preassembly Tool
  - Each EO-2 Functional Nut comes assembled with an integrated assembly tool that makes sure that the retaining ring securely cuts into the tube surface without damaging the sensitive inner cone of the fitting body.
- Unlimited Presetting Tool Lifetime

**EO-2 Specifications**

<b>Steel fittings:</b>	EO-2 tube fittings – Materials according to DIN 3859-1	<b>Surface Finish - Steel fittings:</b>	Standard – LL Series Body, Nuts, and Rings – Zinc yellow chromate – L+S Series Body and Nuts – Zinc yellow chromate Rings (Progressive) – Zinc olive chromate
<b>Stainless steel fittings:</b>	EO-2 tube fittings – X6CrNiMoTi 17122 in accordance with DIN 17440 / EN 10088, material no. 1.4571.		
<b>Brass fittings:</b>	EO-2 tube fittings – CUZN35Ni2 in accordance with DIN 17660, material no. 2.0540.		
<b>Elastomer seals:</b>	NBR (BUNA-N), FPM (Fluorocarbon)		

Short codes for surface protection procedure in accordance with DIN 267 part 9 or DIN 50942.

### **EO-2 Tube Recommendations**

#### **For steel fittings:**

Seamless cold drawn steel tubes made from material St. 35.4 or from conditioned base material St. 37.4 in accordance with DIN 1630, state of delivery NBK (normal annealed) with tube outer and inner diameter tolerances in accordance with DIN 2391/ISO 3304. Max. hardness: HRB 75.

#### **For stainless steel fittings:**

##### **Material no. 1.4571 and 1.4541**

Seamless drawn tubes made from austenitic, stainless steel materials no. 1.4571 and 1.4541, in accordance with DIN/EN/ ISO 1127. Max. hardness: HRB 90.

These tubes are particularly recommended for tube fittings, since the tube outer diameter and wall thickness, tolerances correspond to those of steel tubes in accordance with DIN 2391/ISO 3304.

#### **Tube wall thicknesses:**

In order to determine the necessary tube wall thicknesses for applications, refer to the calculated pressures provided in the tables for EO metric tubing. The calculated pressures DIN 2413-I are for static and DIN 2413-III for dynamic loads.

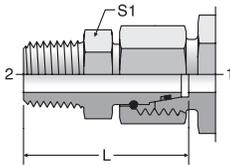
The maximum wall thickness is based on the pressure holding capacity of the fitting. In some cases, the wall thickness of the tube might be too thin for reliable service and an insert must be used to prevent excessive tube collapse. See assembly section for recommended tube wall thicknesses.

#### **Plastic tube:**

EO-2 fittings are suitable for use with various types of plastic tubes such as nylon, polyethylene, etc. When used with plastic tube, an insert must be used to prevent tube pull out due to tensile loading.

**SWIVEL CONNECTOR FLARELESS SWIVEL - NPT**

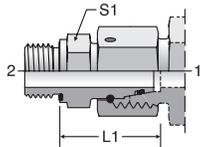
**SERIES EGE-NPT**



Part No.	End Size		L (mm)	S1 (mm)	Standard Pressure Rating (bar)	
	1 Metric	2 NPT			EO	CF
EGE15L1/2NPT	M22 x 1.5	1/2-14	49.5	22	315	
EGE12S3/8NPT	M20 x 1.5	3/8-18	42.0	19	630	
EGE16S1/2NPT	M24 x 1.5	1/2-14	51.0	22	400	

**SWIVEL CONNECTOR FLARELESS SWIVEL - BSPP w/ EOLASTIC SEAL**

**SERIES EGE-R-ED**

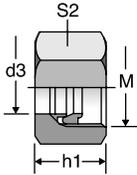


Part No.	End Size		L1 (mm)	S1 (mm)	Standard Pressure Rating (bar)	
	1 Metric	2 BSPP			EO	CF
EGE06LRED	M12 x 1.5	G 1/8A	24.5	14	315	
EGE08LRED	M14 x 1.5	G 1/4A	29.5	19	315	
EGE15LRED	M22 x 1.5	G 1/2A	32.0	27	315	
EGE18LRED	M26 x 1.5	G 1/2A	31.5	27	315	
EGE22LRED	M30 x 2	G 3/4A	32.5	32	160	
EGE28LRED	M36 x 2	G 1A	35.0	41	160	

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**EO-2 DUAL FUNCTION NUT**

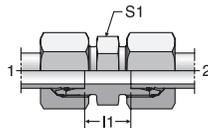
**SERIES FM**



Part No.	Series	d3 End Size (mm)	M Metric Thread	h1 (mm)	S2 (mm)	Standard From Stock	
						CF	SSA
FM06L	L	6	M12 x 1.5	15	14		+
FM10L	Light	10	M16 x 1.5	16	19		+
FM12L		12	M18 x 1.5	16	22		+
FM22L		22	M30 x 2	20.5	36	+	+
FM28L		28	M36 x 2	21	41	+	
FM35L		35	M45 x 2	24	50	+	
FM08S	S	8	M16 x 1.5	17	19		+
FM10S	Heavy	10	M18 x 1.5	18	22		+
FM12S		12	M20 x 1.5	18	24		+
FM16S		16	M24 x 1.5	21	30		+
FM20S		20	M30 x 2	24.5	36		+

**UNION 24° FLARELESS - 24° FLARELESS**

**SERIES G**

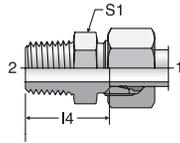


Part No.	End Size		I1 (mm)	S1 (mm)	Standard Pressure Rating (bar)	
	1 (mm)	2 (mm)			EO CF	EO-2 CF
G04LL	4	4	12	9		100
G06L*	6	6	10	12	315	
G08L*	8	8	11	14	315	
G10L*	10	10	13	17	315	
G15L	15	15	16	24	315	
G35L	35	35	20	46		160
G08S	8	8	18	17	630	
G10S	10	10	17	19	630	
G16S	16	16	21	27	400	
G20S	20	20	23	32	400	

For EO-2 part number, insert "Z" between size and pressure series. Example: G04ZLLA3C  
 \*Add "X" to part number to order at body level. Example: G06LCFX

**MALE CONNECTOR 24° FLARELESS - NPTF**

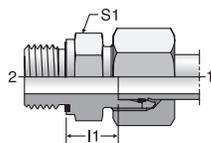
**SERIES GE-NPT**



Part No.	End Size		I4 (mm)	S1 (mm)	Standard Pressure Rating (bar) EO CF
	1 (mm)	2 NPT			
GE04LL1/8NPT	4	1/8-27	18.5	11	100
GE06LL1/8NPT	6	1/8-27	16.5	11	100
GE06L1/8NPT	6	1/8-27	17.0	12	315
GE06L1/4NPT	6	1/4-18	23.0	17	315
GE08L1/4NPT	8	1/4-18	23.0	17	315
GE10L1/4NPT	10	1/4-18	24.0	17	315
GE10L3/8NPT	10	3/8-18	25.0	19	315
GE12L1/4NPT	12	1/4-18	25.0	19	315
GE12L3/8NPT	12	3/8-18	25.0	19	315
GE12L1/2NPT	12	1/2-14	30.0	22	315
GE15L1/2NPT	15	1/2-14	31.0	29	315
GE18L1/2NPT	18	1/2-14	31.5	27	315
GE22L3/4NPT	22	3/4-14	33.5	32	160
GE28L1NPT	28	1-11 1/2	39.5	41	160
GE08S1/4NPT	8	1/4-18	28.0	17	630
GE12S3/8NPT	12	3/8-18	29.5	22	630
GE12S1/2NPT	12	1/2-14	34.5	22	630
GE16S1/2NPT	16	1/2-14	39.5	32	400
GE20S3/4NPT	20	3/4-14	37.5	32	400

**MALE CONNECTOR 24° FLARELESS - BSPP**

**SERIES GE-R-ED**

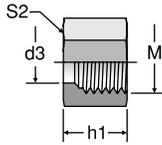


Part No.	End Size		I 1 (mm)	S1 (mm)	Standard Pressure Rating (bar)	
	1 (mm)	2 BSPP			EO CF	EO-2 CF
GE04LLRED	4	G 1/8 A	9.5	14		100
GE06LRED	6	G 1/8 A	8.5	14	315	
GE06LR1/4ED	6	G 1/4A	10.0	19	315	
GE08LR1/8ED	8	G 1/8 A	9.5	14		315
GE08LRED	8	G 1/4A	10.0	19	315	
GE08LR3/8ED	8	G 3/8 A	11.5	22		315
GE10LRED	10	G 1/4A	11.0	19	315	
GE10LR3/8ED	10	G 3/8 A	12.5	22	315	
GE10LR1/2ED	10	G 1/2 A	13.0	27		315
GE12LRED	12	G 3/8 A	12.0	22	315	
GE12LR1/2ED	12	G 1/2 A	14.0	27	315	
GE15LR3/8ED	15	G 3/8 A	12.0	24		315
GE15LRED	15	G 1/2 A	14.0	27	315	315
GE18LRED	18	G 1/2 A	14.0	27		315
GE18LR3/4ED	18	G 3/4 A	16.0	32	315	315
GE28LRED	28	G1 A	18.0	41		160
GE35LRED	35	G1 1/4A	20.0	50		160
GE42LRED	42	G1 1/2 A	22.0	55		160
GE08SRED	8	G 1/4A	15.0	19	630	
GE16SRED	16	G 1/2 A	18.5	27	400	
GE20SRED	20	G 3/4 A	20.5	32	400	

For EO-2 part number, insert "Z" between size and pressure series. Example: GE06ZLREDA3C

**NUT**

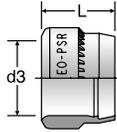
**SERIES M**



Part No. Steel	Standard From Stock		d3 End Size (mm)	M Metric Thread	S2 (mm)	h1 (mm)
	Part No. Stainless	Part No. Brass				
M28LCFX	M28LEODURX	M28LMSX	28	M36 x 2	41	21.0
M06SCFX	M06SEODURX	M06SMSX	6	M14 x 1.5	17	17.0
M10SCFX	M10SEODURX	M10SMSX	10	M18 x 1.5	22	18.0
M12SCFX	M12SEODURX	M12SMSX	12	M20 x 1.5	24	18.0
M16SCFX	M16SEODURX	M16SMSX	16	M24 x 1.5	30	21.0

**PROGRESSIVE RING FOR L & S SERIES ONLY**

**SERIES PSR**



Standard From Stock Part No. Steel	d3 End Size (mm)	L (mm)
PSR22LX	22	10.5
PSR28LX	28	10.5
PSR20SX	20	12.5
PSR25SX	25	12.5

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PSR Progressive Rings: Zinc plated and clear chromated

**General Description:** The Ferulok fitting design and performance capabilities exceed the strict requirements of (SAE J514) and Military Standards (MILF18866). The Ferulok fitting is a flareless fitting that consists of a body, a one-piece precision machined ferrule, and a nut. On assembly, the ferrule “bites” into the outer surface of the tube with sufficient strength to hold the tube against pressure, without significant distortion of the inside tube diameter.

The ferrule also forms a pressure seal against the fitting body. Ferulok fittings have a visible bite, allowing the fitting assembler to visually inspect the bite quality, thus significantly minimizing the risk of improper assembly and related service problems. Ferulok fittings are suitable for use with tube wall thickness ranging from medium to extra heavy.

**The Ferulok Body** – Ferulok fitting bodies are available in over thirty configurations. The shaped products (i.e. elbows, tees, crosses) are hot forged, then machined to the stringent Ferulok fitting specifications. Straight products are made from cold drawn bar stock.

**The Ferulok Ferrules** – Ferulok fitting ferrules are precision machined, then heat-treated.

**The Ferulok Nuts** – Ferulok fitting nuts are either cold formed to size and shape, or machined from cold drawn material.

**Features:**

- Visible bite
- Distributed stresses
- Ferrule with rear bevel
- Tube wall range
- Remakeability
- Metal-to-metal seal
- No flaring or flanging required
- Protected sealing surface

**Specifications**

Ferulok Fittings	Steel		Stainless Steel	
	ASTM	Type	ASTM	Type
Cold Formed Bodies	A576	C1010/C1008	—	—
Forged Bodies	A576	1214/1215	A182	316
Bar Stock Bodies	A108	12L14	A479	316
Cold Formed Tube Nuts	A576	C1010	A479	316L
Bar Stock Tube Nuts	A108	12L14	A479	316
Tube Ferrules	A108	12L14	A564	630

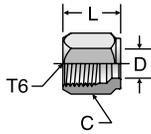
**Note:** On request, Ferulok can be furnished in materials other than those shown above.  
**Finish:** Zinc with yellow chromate (being changed to Zinc Chromium 6 Free) is used on all standard steel products.

**Recommended Tube Wall Thickness**

Size		Steel/Stainless Steel	
O.D. Inches	Dash Number	Minimum Wall Thickness	Maximum Wall Thickness
1/8	-2	0.010	0.035
3/16	-3	0.020	0.049
1/4	-4	0.028	0.065
5/16	-5	0.028	0.065
3/8	-6	0.035	0.095
1/2	-8	0.049	0.120
5/8	-10	0.058	0.120
3/4	-12	0.065	0.120
7/8	-14	0.072	0.120
1	-16	0.083	0.148
1 1/4	-20	0.095	0.188
1 1/2	-24	0.095	0.220
2	-32	0.095	0.220

**NUT FLARELESS**

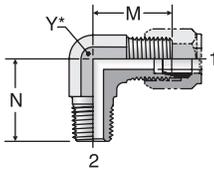
**SERIES BU**



Part No.	Tube O.D. (in.)	T6 UN/UNF-2B	C Hex (in.)	D Drill (in.)	L (in.)	Standard Material From Stock	
						-S	-SS
2 BU	1/8	5/16-24	3/8	0.130	0.53	+	
3 BU	3/16	3/8-24	7/16	0.193	0.61	+	
4 BU	1/4	7/16-20	9/16	0.255	0.70	+	+
5 BU	5/16	1/2-20	5/8	0.318	0.72	+	
6 BU	3/8	9/16-18	11/16	0.380	0.75	+	+
8 BU	1/2	3/4-16	7/8	0.505	0.84	+	+
10 BU	5/8	7/8-14	1	0.631	0.92	+	
12 BU	3/4	1 1/16-12	1 1/4	0.756	0.97	+	
16 BU	1	1 5/16-12	1 1/2	1.006	1.05	+	

**MALE ELBOW FLARELESS - NPTF**

**SERIES CBU**

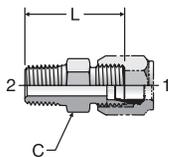


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Part No.	End Size		M (in.)	N (in.)	Y (in.)	Standard Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 NPTF				-S	-SS
	2 CBU	1/8				1/8-27	0.77
4 CBU	1/4	1/8-27	0.89	0.78	7/16	5.0	
4-4 CBU	1/4	1/4-18	1.03	1.09	9/16	5.0	5.0
6 CBU	3/8	1/4-18	1.05	1.09	9/16	5.0	5.0
6-2 CBU	3/8	1/8-27	1.05	0.90	9/16	5.0	
6-6 CBU	3/8	3/8-18	1.14	1.22	3/4	5.0	
8 CBU	1/2	3/8-18	1.25	1.22	3/4	5.0	
8-8 CBU	1/2	1/2-14	1.35	1.47	7/8	5.0	
10 CBU	5/8	1/2-14	1.42	1.47	7/8	4.5	
16 CBU	1	1-11 1/2	1.73	1.97	1 5/16	3.0	

**MALE CONNECTOR FLARELESS - NPTF**

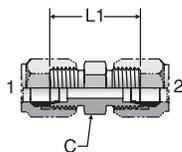
**SERIES FBU**



Part No.	End Size		C Hex (in.)	L (in.)	Standard Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 NPTF			-S	-SS
2 FBU	1/8	1/8-27	7/16	1.04	5.0	
3 FBU	3/16	1/8-27	7/16	1.09	5.0	
4 FBU	1/4	1/8-27	1/2	1.12	5.0	5.0
4-4 FBU	1/4	1/4-18	9/16	1.32	5.0	5.0
5-4 FBU	5/16	1/4-18	9/16	1.32	5.0	
6 FBU	3/8	1/4-18	5/8	1.34	5.0	5.0
6-2 FBU	3/8	1/8-27	5/8	1.15	5.0	
6-6 FBU	3/8	3/8-18	3/4	1.35	5.0	5.0
6-8 FBU	3/8	1/2-14	15/16	1.60	5.0	
8 FBU	1/2	3/8-18	13/16	1.44	5.0	
8-8 FBU	1/2	1/2-14	7/8	1.69	5.0	5.0
10 FBU	5/8	1/2-14	15/16	1.75	4.5	
12 FBU	3/4	3/4-14	1 1/8	1.88	4.0	
16 FBU	1	1-11 1/2	1 3/8	2.07	3.0	

**UNION FLARELESS - FLARELESS**

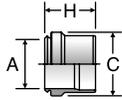
**SERIES HBU**



Part No.	End Size		C Hex (in.)	L1 (in.)	Standard Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)			-S	-SS
4 HBU	1/4	1/4	1/2	1.19	6.0	6.0
5 HBU	5/16	5/16	9/16	1.19		6.0
6 HBU	3/8	3/8	5/8	1.24	6.0	6.0
8 HBU	1/2	1/2	13/16	1.42	5.0	
10 HBU	5/8	5/8	15/16	1.61	5.0	
12 HBU	3/4	3/4	1 1/8	1.81	4.5	

**FERRULE FLARELESS**

**SERIES TU**

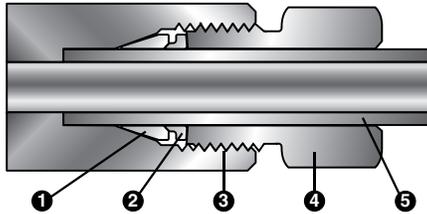


Part No.	Tube O.D. (in.)	A (in.)	C (in.)	H (in.)	Standard Material From Stock	
					-S	-SS
2 TU	1/8	0.13	0.24	0.29	+	
3 TU	3/16	0.19	0.31	0.33	+	
4 TU	1/4	0.26	0.37	0.36	+	+
5 TU	5/16	0.32	0.43	0.37	+	
6 TU	3/8	0.38	0.50	0.39	+	+
8 TU	1/2	0.51	0.66	0.43	+	+
10 TU	5/8	0.63	0.78	0.44	+	
12 TU	3/4	0.76	0.93	0.48	+	
16 TU	1	1.01	1.19	0.48	+	

**General Description:** Parker Hannifin MPI™ Fittings\* are engineered and manufactured to provide secure, tight, and leak-resistant connections throughout industry, including off-shore oil and gas exploration platforms, research labs, and other facilities that require operating pressures in the range of 6,000 to 15,000 psi.

MPI™ Fittings are ideally suited to handle liquids, gases, or chemicals and can be used on a wide variety of tubing materials including cold drawn - 1/8 hard (unannealed) tubing or instrument grade thick-walled annealed stainless steel. Every Parker MPI™ Fitting is supplied complete and ready to install.

**Features:** Every MPI™ Fitting has the features shown below:

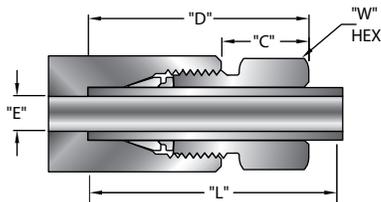


1. Front ferrule with corrosion-resistant Parker SUPARCASE® forms a tight pressure seal between the body and ferrule in a second strong mechanical hold on the tube.
2. Rear ferrule with corrosion-resistant Parker SUPARCASE® provides a strong mechanical hold on the tube.
3. Longer thread area for improved resistance to pressure and load on the ferrules.
4. Molybdenum disulfide-coated inverted nut helps prevent galling, provides easier assembly, and permits multiple remakes.
5. Long tube-support area improves resistance to vibration and line loads.

**TUBE END DIMENSIONAL DATA**

Size No.	Tube O.D. (in.)	Straight Thread (in.)	C (in.)	D (in.)	E (in.)	*L (in.)	W Hex (in.)
4	1/4	1/2 - 20	.50	1.34	.13	1.62	9/16
6	3/8	5/8 - 20	.63	1.58	.25	1.88	11/16
8	1/2	13/16 - 20	.69	1.85	.31	2.12	15/16
9	9/16	7/8 - 20	.75	1.91	.38	2.25	1
12	3/4	1 1/8 - 18	.88	2.26	.52	2.75	1 1/4
16	1	1 3/8 - 18	1.13	2.88	.69	3.38	1 1/2

\* L = Recommended Straight Length of Circular Unbent Tubing



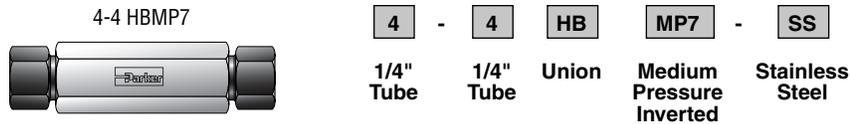
\* Patent Pending

**MPI™ Fittings:** Parker MPI™ Fittings should be ordered using the part number as listed in this catalog. Part numbers are developed as follows:

1. A combination of letters and numbers identifies the size and style of the fitting and the material used.
2. Tube and pipe thread sizes are designated by the number of sixteenths of an inch (1/4" tube = 4/16" or 4).

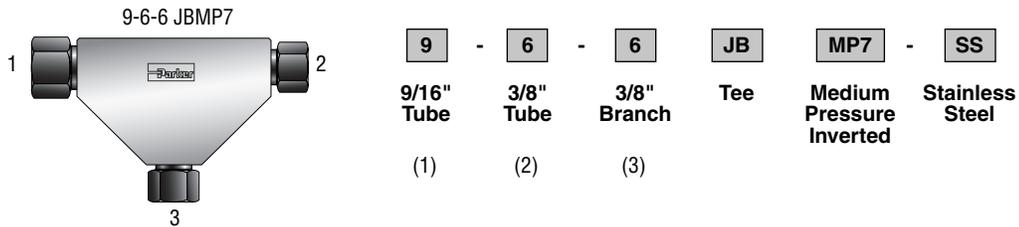
All standard MPI™ Fittings are manufactured from 316 stainless steel. Other materials are available upon special order.

**STRAIGHTS AND ELBOWS:** Specify the largest end of the MPI first, followed by the smaller tube end OR pipe thread size.



**Example:** Part number 4-4 HBMP7 union would have the specifications listed below.

**TEES:**  
**Example:** Part number 9-6-6 JBMP7 would have the following specifications:



**Cryogenic Service:** MPI™ fittings for cryogenic applications include a vent hole to prevent pressure build-up in front of the threads. To order “vented” MPI™ parts, add “-VT” to the end of the standard part number (e.g., 6-6 HBMP7-SS becomes 6-6 HBMP7-SS-VT).

**TUBING**

**MPI™ TUBING**

MPI™ tubing is marked “MPI” and is designed to provide optimum performance for MPI™ fittings. MPI™ tubing is nominal OD (±.003”) 316 seamless stainless steel, cold drawn - 1/8 hard (unannealed) tubing. Tensile strength is approximately 40% higher than annealed tubing.

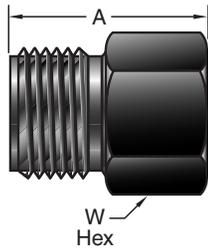
316 Stainless Steel (Seamless/Unannealed - 1/8 Hard)				
Tube Size (in.)	Nominal OD (in.)	Nominal ID (in.)	Working Pressure	MPI™ Tube Part No.
1/4	.250	.125	15,000	4-240 MPITUBE-SS-15K
3/8	.375	.219	15,000	6-240 MPITUBE-SS-15K
9/16	.562	.344	15,000	9-240 MPITUBE-SS-15K
3/4	.750	.469	15,000	12-240 MPITUBE-SS-15K
1	1.000	.656	12,500	16-240 MPITUBE-SS-12K

NOTE: Working pressures calculated using an allowable stress of 35,000 psi for 1/8 hard 316 stainless steel tubing with a minimum tensile strength of 105,000 psi.

NOTE: Sizes 3/4" & 1" require hydraulic presetting when used with MPI™ fittings.

**MPI™ NUT**

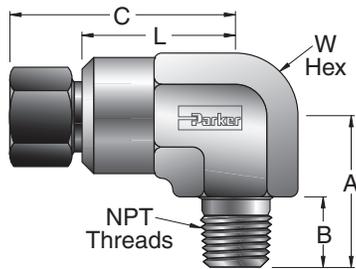
**SERIES BMP7**



Part No.	MPI™ Size (in.)	A (in.)	W Hex (in.)
4 BMP7	1/4	0.81	9/16
6 BMP7	3/8	0.92	11/16
8 BMP7	1/2	0.97	15/16
9 BMP7	9/16	1.03	1
12 BMP7	3/4	1.34	1 1/4
16 BMP7	1	1.74	1 1/2

**MPI™ TO MALE NPT ELBOW**

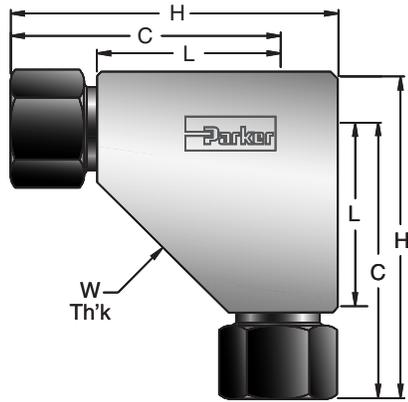
**SERIES CBMP7**



Part No.	MPI™ Size (in.)	NPT Thread (in.)	A (in.)	B (in.)	C (in.)	L (in.)	W Hex (in.)	Working Pressure (PSIG)
4-4 CBMP7	1/4	1/4 - 18	1.13	.57	1.53	1.03	3/4	15,000
4-6 CBMP7	1/4	3/8 - 18	1.13	.57	1.56	1.06	3/4	12,000
4-8 CBMP7	1/4	1/2 - 14	1.41	.76	1.64	1.14	3/4	10,000
6-4 CBMP7	3/8	1/4 - 18	1.23	.57	1.86	1.24	7/8	12,500
6-6 CBMP7	3/8	3/8 - 18	1.23	.57	1.86	1.24	7/8	12,000
6-8 CBMP7	3/8	1/2 - 14	1.41	.76	1.92	1.30	7/8	10,000

**MPI™ UNION ELBOW**

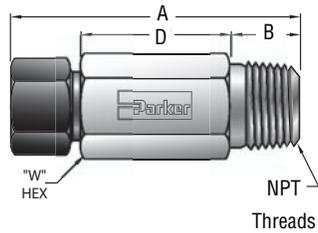
**SERIES EBMP7**



Part No.	MPI™ Size (in.)	C (in.)	H (in.)	L (in.)	W Th'k (in.)	Working Pressure (PSIG)
4-4 EBMP7	1/4	1.53	1.88	1.03	5/8	15,000
6-6 EBMP7	3/8	1.86	2.25	1.24	3/4	15,000
8-8 EBMP7	1/2	2.22	2.81	1.54	1	15,000
9-9 EBMP7	9/16	2.29	2.88	1.54	1	15,000
12-12 EBMP7	3/4	2.82	3.51	1.94	1 3/8	15,000
16-16 EBMP7	1	3.63	4.51	2.50	1 3/4	12,500

**MPI™ TO MALE NPT CONNECTOR**

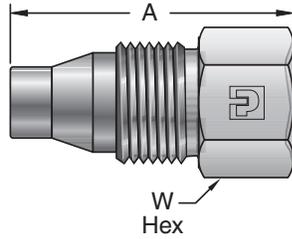
**SERIES FBMP7**



Part No.	MPI™ Size (in.)	NPT Thread (in.)	A (in.)	B (in.)	D (in.)	W Hex (in.)	Working Pressure (PSIG)
4-2 FBMP7	1/4	1/8 - 27	1.91	.38	1.03	5/8	15,000
4-4 FBMP7	1/4	1/4 - 18	2.10	.57	1.03	5/8	15,000
4-6 FBMP7	1/4	3/8 - 18	2.00	.57	.93	3/4	15,000
4-8 FBMP7	1/4	1/2 - 14	2.17	.76	.91	7/8	15,000
6-4 FBMP7	3/8	1/4 - 18	2.43	.57	1.24	3/4	15,000
6-6 FBMP7	3/8	3/8 - 18	2.43	.57	1.24	3/4	15,000
6-8 FBMP7	3/8	1/2 - 14	2.48	.76	1.10	7/8	15,000
8-6 FBMP7	1/2	3/8 - 18	2.85	.57	1.60	1	15,000
8-8 FBMP7	1/2	1/2 - 14	2.81	.76	1.37	1	15,000
9-6 FBMP7	9/16	3/8 - 18	2.91	.57	1.59	1 1/16	15,000
9-8 FBMP7	9/16	1/2 - 14	3.04	.76	1.53	1 1/16	15,000
12-8 FBMP7	3/4	1/2 - 14	3.85	.76	2.21	1 3/8	15,000
12-12 FBMP7	3/4	3/4 - 14	3.46	.76	1.82	1 3/8	10,000
16-12 FBMP7	1	3/4 - 14	4.53	.76	2.64	1 3/4	10,000
16-16 FBMP7	1	1 - 11.5	4.58	.95	2.50	1 3/4	10,000

**MPI™ PLUG**

**SERIES FNM7**

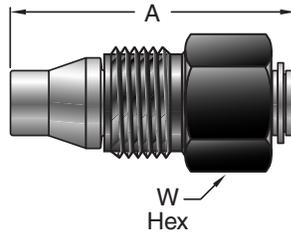


Part No.	MPI™ Size (in.)	A (in.)	W Hex (in.)	Working Pressure (PSIG)
4 FNM7	1/4	1.26	9/16	15,000
6 FNM7	3/8	1.49	11/16	15,000
8 FNM7	1/2	1.76	15/16	15,000
9 FNM7	9/16	1.82	1	15,000
12 FNM7	3/4	2.17	1 1/4	15,000

Assemble 1/4 to 1/2 turn from finger tight and lubricate threads and taper before each remake.

**MPI™ PLUG**

**SERIES FNMP7**



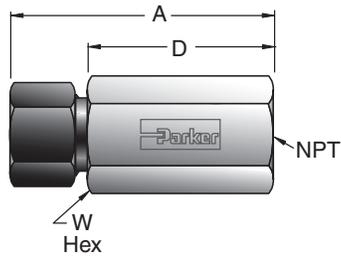
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Part No.	MPI™ Size (in.)	A (in.)	W Hex (in.)	Working Pressure (PSIG)
4 FNMP7	1/4	1.41	9/16	15,000
6 FNMP7	3/8	1.65	11/16	15,000
8 FNMP7	1/2	1.94	15/16	15,000
9 FNMP7	9/16	2.00	1	15,000
12 FNMP7	3/4	2.35	1 1/4	15,000
16 FNMP7	1	2.96	1 1/2	12,500

Assemble 1/4 to 1/2 turn from finger tight.

**MPI™ FEMALE NPT CONNECTOR**

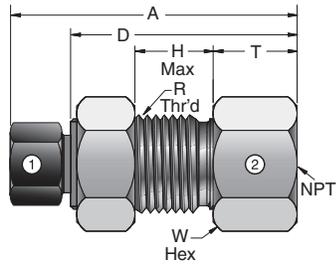
**SERIES GBMP7**



Part No.	MPI™ Size (in.)	NPT Thread	A (in.)	D (in.)	W Hex (in.)	Working Pressure (PSIG)
4-2 GBMP7	1/4	1/8 - 27	2.06	1.56	13/16	15,000
4-4 GBMP7	1/4	1/4 - 18	2.25	1.75	1	15,000
4-6 GBMP7	1/4	3/8 - 18	2.35	1.85	1 1/8	15,000
4-8 GBMP7	1/4	1/2 - 14	2.58	2.08	1 3/8	15,000
6-2 GBMP7	3/8	1/8 - 27	2.37	1.74	13/16	15,000
6-4 GBMP7	3/8	1/4 - 18	2.56	1.93	1	15,000
6-6 GBMP7	3/8	3/8 - 18	2.66	2.03	1 1/8	15,000
6-8 GBMP7	3/8	1/2 - 14	2.87	2.24	1 3/8	15,000
8-4 GBMP7	1/2	1/4 - 18	2.89	2.20	1	15,000
8-6 GBMP7	1/2	3/8 - 18	2.99	2.30	1 1/8	15,000
8-8 GBMP7	1/2	1/2 - 14	3.20	2.51	1 3/8	15,000
9-4 GBMP7	9/16	1/4 - 18	2.68	2.18	1 3/8	15,000
9-6 GBMP7	9/16	3/8 - 18	2.93	2.30	1 1/8	15,000
9-8 GBMP7	9/16	1/2 - 14	3.26	2.51	1 3/8	15,000
12-8 GBMP7	3/4	1/2 - 14	3.70	2.82	1 3/8	15,000

**MPI™ BULKHEAD TO FEMALE NPT CONNECTOR**

**SERIES GH2BMP7**

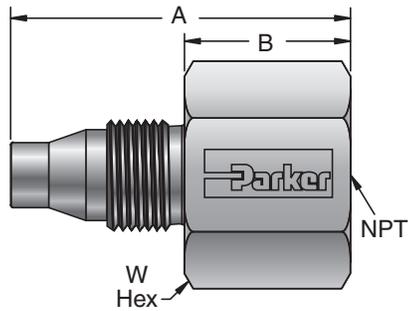


Part No.	MPI™ Size (in.)	NPT Thread	A (in.)	D (in.)	H Max (in.)	R Thread (in.)	T (in.)	W Hex (in.)	Working Pressure (PSIG)
4-4 GH2BMP7	1/4	1/4 - 18	2.38	1.88	.56	3/4 - 20	.75	1	15,000
6-8 GH2BMP7	3/8	1/2 - 14	3.13	2.50	.63	7/8 - 20	1.25	1 3/8	15,000
6-12 GH2BMP7	3/8	3/4 - 14	3.19	2.56	.63	7/8 - 20	1.31	1 1/2	10,000
8-12 GH2BMP7	1/2	3/4 - 14	3.50	2.81	.75	1 1/8 - 20	1.31	1 1/2	10,000
9-4 GH2BMP7	9/16	1/4 - 18	2.82	2.07	.63	1 1/8 - 20	.69	1 3/8	15,000

Bulkhead hole approximately 1/64" (.015") larger than thread major diameter.

**MPI™ MALE END TO FEMALE NPT**

**SERIES GM7**

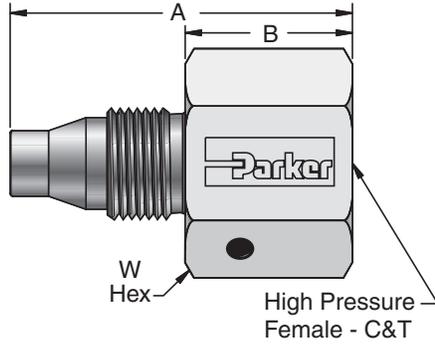


Part No.	MPI™ Male Thread <sup>1</sup> (in.)	Female NPT End (in.)	A (in.)	B (in.)	NPT Thread (in.)	W Hex (in.)	Working Pressure (PSIG)
4-4 GM7	1/4	1/4	1.73	.85	1/4 - 18	1	15,000
4-6 GM7	1/4	3/8	1.83	.95	3/8 - 18	1 1/8	15,000
6-4 GM7	3/8	1/4	1.84	.85	1/4 - 18	1	15,000
6-6 GM7	3/8	3/8	1.94	.95	3/8 - 18	1 1/8	15,000
6-8 GM7	3/8	1/2	2.17	1.17	1/2 - 14	1 3/8	15,000
8-4 GM7	1/2	1/4	2.05	.85	1/4 - 18	1	15,000
8-6 GM7	1/2	3/8	2.15	.95	3/8 - 18	1 1/8	15,000
8-8 GM7	1/2	1/2	2.37	1.17	1/2 - 14	1 3/8	15,000
9-4 GM7	9/16	1/4	2.05	.85	1/4 - 18	1	15,000
9-6 GM7	9/16	3/8	2.15	.95	3/8 - 18	1 1/8	15,000
9-8 GM7	9/16	1/2	2.37	1.17	1/2 - 14	1 3/8	15,000
12-4 GM7	3/4	1/4	2.17	.75	1/4 - 18	1 1/4	15,000
12-6 GM7	3/4	3/8	2.17	.75	3/8 - 18	1 1/4	15,000
12-8 GM7	3/4	1/2	2.59	1.17	1/2 - 14	1 3/8	15,000

<sup>1</sup>Assemble 1/4 to 1/2 turn from finger tight & lubricate threads & taper before each remake.

**MPI™ MALE END TO HIGH PRESSURE C&T PORT**

**SERIES GM7**



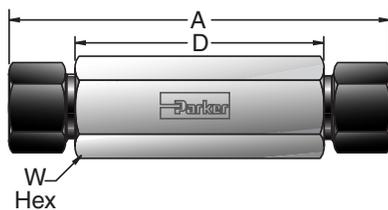
Part No.	MPI™ Male Thread <sup>1</sup> (in.)	High Pressure C&T Port (in.)	A (in.)	B (in.)	C&T Thread (in.)	W Hex (in.)	Working Pressure (PSIG)
4-4HF GM7	1/4	1/4	1.57	.69	9/16 - 18	3/4	15,000
6-4HF GM7	3/8	1/4	1.68	.69	9/16 - 18	3/4	15,000
6-6HF GM7	3/8	3/8	1.87	.88	3/4 - 16	1	15,000
8-4HF GM7	1/2	1/4	1.89	.69	9/16 - 18	15/16	15,000
8-6HF GM7	1/2	3/8	2.07	.88	3/4 - 16	1	15,000
9-4HF GM7	9/16	1/4	1.89	.69	9/16 - 18	1	15,000
9-6HF GM7	9/16	3/8	2.07	.88	3/4 - 16	1	15,000
12-4HF GM7	3/4	1/4	2.17	.75	9/16 - 18	1 1/4	15,000
12-6HF GM7	3/4	3/8	2.30	.88	3/4 - 16	1 1/4	15,000

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<sup>1</sup>Assemble 1/4 to 1/2 turn from finger tight & lubricate threads & taper before each remake.

**MPI™ UNION CONNECTOR**

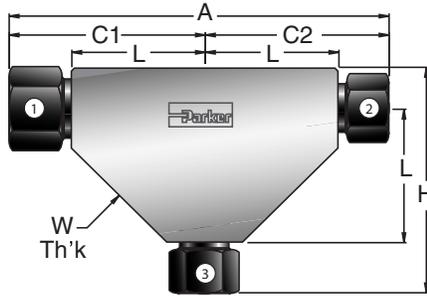
**SERIES HBMP7**



Part No.	MPI™ Size (in.)	A (in.)	D (in.)	W Hex (in.)	Working Pressure (PSIG)
4-4 HBMP7	1/4	2.88	1.88	5/8	15,000
6-4 HBMP7	3/8 - 1/4	3.32	2.19	3/4	15,000
6-6 HBMP7	3/8	3.44	2.19	3/4	15,000
8-4 HBMP7	1/2 - 1/4	3.88	2.70	1	15,000
8-6 HBMP7	1/2 - 3/8	4.01	2.70	1	15,000
8-8 HBMP7	1/2	4.07	2.70	1	15,000
9-4 HBMP7	9/16 - 1/4	3.95	2.70	1 1/16	15,000
9-6 HBMP7	9/16 - 3/8	4.07	2.70	1 1/16	15,000
9-8 HBMP7	9/16 - 1/2	4.13	2.70	1 1/16	15,000
9-9 HBMP7	9/16	4.20	2.70	1 1/16	15,000
12-6 HBMP7	3/4 - 3/8	4.76	3.25	1 3/8	15,000
12-9 HBMP7	3/4 - 9/16	5.15	3.51	1 3/8	15,000
12-12 HBMP7	3/4	5.08	3.31	1 3/8	15,000
16-16 HBMP7	1	6.52	4.25	1 3/4	12,500

**MPI™ UNION TEE**

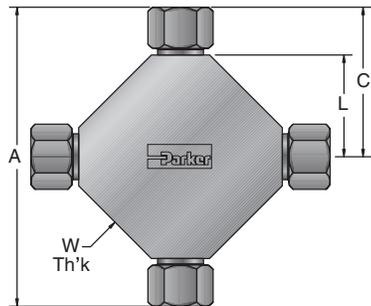
**SERIES JBMP7**



Part No.	MPI™ Size #1 (in.)	MPI™ Size #2 (in.)	MPI™ Size #3 (in.)	A (in.)	C1 (in.)	C2 (in.)	H (in.)	L (in.)	W Th'k (in.)	Working Pressure (PSIG)
4-4-4 JBMP7	1/4	1/4	1/4	3.06	1.53	1.53	1.88	1.03	5/8	15,000
6-6-6 JBMP7	3/8	3/8	3/8	3.72	1.86	1.86	2.25	1.24	3/4	15,000
8-8-8 JBMP7	1/2	1/2	1/2	4.45	2.22	2.22	2.81	1.54	1	15,000
9-9-9 JBMP7	9/16	9/16	9/16	4.57	2.29	2.29	2.88	1.54	1	15,000
12-12-12 JBMP7	3/4	3/4	3/4	5.64	2.82	2.82	3.51	1.94	1 3/8	15,000
16-16-16 JBMP7	1	1	1	7.27	3.63	3.63	4.51	2.50	1 3/4	12,500
4-4-6 JBMP7	1/4	1/4	3/8	3.47	1.74	1.74	2.25	1.24	3/4	15,000
6-6-4 JBMP7	3/8	3/8	1/4	3.72	1.86	1.86	2.13	1.24	3/4	15,000
6-4-4 JBMP7	3/8	1/4	1/4	3.60	1.86	1.74	2.13	1.24	3/4	15,000
6-6-8 JBMP7	3/8	3/8	1/2	4.32	2.16	2.16	2.81	1.54	1	15,000
6-6-9 JBMP7	3/8	3/8	9/16	4.45	2.16	2.29	2.88	1.54	1	15,000
8-8-6 JBMP7	1/2	1/2	3/8	4.45	2.22	2.22	2.75	1.54	1	15,000
8-6-6 JBMP7	1/2	3/8	3/8	4.38	2.22	2.16	2.75	1.54	1	15,000
9-9-4 JBMP7	9/16	9/16	1/4	4.57	2.29	2.29	2.63	1.54	1	15,000
9-9-6 JBMP7	9/16	9/16	3/8	4.57	2.29	2.29	2.75	1.54	1	15,000
9-6-4 JBMP7	9/16	3/8	1/4	4.45	2.29	2.16	2.63	1.54	1	15,000
9-6-6 JBMP7	9/16	3/8	3/8	4.45	2.29	2.16	2.75	1.54	1	15,000
12-12-9 JBMP7	3/4	3/4	9/16	5.64	2.82	2.82	3.38	1.94	1 3/8	15,000
16-16-9 JBMP7	1	1	9/16	7.27	3.63	3.63	4.13	2.50	1 3/4	12,500
16-16-12 JBMP7	1	1	3/4	7.27	3.63	3.63	4.26	2.50	1 3/4	12,500

**MPI™ UNION CROSS**

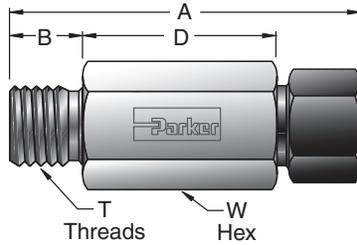
**SERIES KBMP7**



Part No.	MPI™ Size (in.)	A (in.)	C (in.)	L (in.)	W Th'k (in.)	Working Pressure (PSIG)
4 KBMP7	1/4	3.06	1.53	1.03	5/8	15,000
6 KBMP7	3/8	3.72	1.86	1.24	3/4	15,000
8 KBMP7	1/2	4.45	2.22	1.54	1	15,000
9 KBMP7	9/16	4.57	2.29	1.54	1	15,000
12 KBMP7	3/4	5.64	2.82	1.94	1 3/8	15,000

**TYPE “M” HIGH PRESSURE HOSE TO MPI™ CONNECTOR**

**SERIES M40HBMP7**

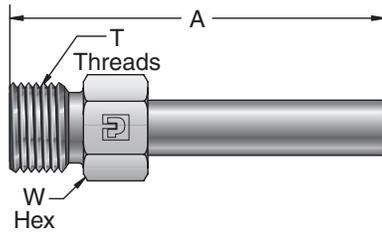


Part No.	Hose* Adapter (in.)	MPI™ Size (in.)	A (in.)	B (in.)	D (in.)	T Thread	W Hex	Working Pressure (PSIG)
6-4 M40HBMP7	- 6	1/4	2.03	.50	1.03	9/16 - 18	5/8	15,000
6-6 M40HBMP7	- 6	3/8	2.45	.50	1.32	9/16 - 18	3/4	15,000
8-6 M40HBMP7	- 8	3/8	2.57	.63	1.32	3/4 - 16	13/16	15,000
8-8 M40HBMP7	- 8	1/2	2.90	.63	1.59	3/4 - 16	1	15,000
8-9 M40HBMP7	- 8	9/16	2.97	.63	1.59	3/4 - 16	1 1/16	15,000
10-4 M40HBMP7	- 10	1/4	2.39	.75	1.14	7/8 - 14	15/16	15,000
10-6 M40HBMP7	- 10	3/8	2.72	.75	1.34	7/8 - 14	15/16	15,000
11-8 M40HBMP7	- 11	1/2	2.89	.63	1.58	1 - 12	1 1/16	15,000
11-9 M40HBMP7	- 11	9/16	2.95	.63	1.58	1 - 12	1 1/16	15,000
11-12 M40HBMP7	- 11	3/4	3.59	.63	2.08	1 - 12	1 3/8	15,000
16-16 M40HBMP7	- 16	1	3.88	.63	2.13	1 5/16 - 12	1 3/4	12,500

\* Adapts to Type “M” Swivel Hose Connection.

**TYPE “M” HIGH PRESSURE ADAPTER TO MPI™ TUBE STUB**

**SERIES M40HT7**

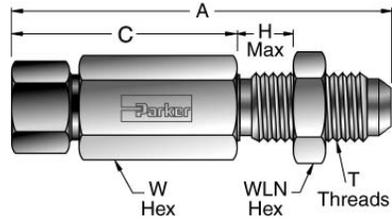


Part No.	Hose Adapter Size (in.)	MPI™ Tube Stub (in.)	A (in.)	T Thread (in.)	W Hex (in.)	Working Pressure (PSIG)
6-4 M40HT7	-6	1/4	2.31	9/16 - 18	5/8	15,000
6-6 M40HT7	-6	3/8	2.55	9/16 - 18	5/8	15,000
8-6 M40HT7	-8	3/8	2.74	3/4 - 16	13/16	15,000
8-9 M40HT7	-8	9/16	3.12	3/4 - 16	13/16	15,000
11-6 M40HT7	-11	3/8	2.99	1 - 12	1 1/16	15,000
11-9 M40HT7	-11	9/16	3.31	1 - 12	1 1/16	15,000
11-12 M40HT7	-11	3/4	3.66	1 - 12	1 1/16	15,000
16-12 M40HT7	-16	3/4	3.91	1 5/16 - 12	1 3/8	15,000
16-16 M40HT7	-16	1	4.51	1 5/16 - 12	1 3/8	12,500

Add "-Z6" to part number for part assembled with preset ferrules and nuts.

**37° FLARE BULKHEAD TO MPI™ CONNECTOR**

**SERIES MP7H2BX**

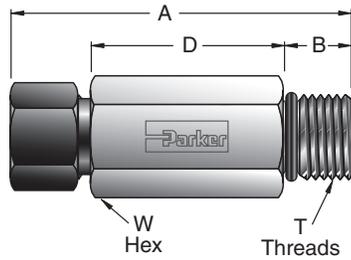


Part No.	MPI™ Size (in.)	37° Flare Adapter (in.)	A (in.)	C (in.)	H Max (in.)	T Thread (in.)	WLN Hex (in.)	W Hex	Working Pressure (PSIG)
4-4 MP7H2BX	1/4	1/4	2.76	1.53	.40	7/16 - 20	11/16	5/8	15,000
6-6 MP7H2BX	3/8	3/8	3.24	1.93	.48	9/16 - 18	13/16	3/4	12,500
8-8 MP7H2BX	1/2	1/2	3.44	1.97	.50	3/4 - 16	1	1	12,500
9-8 MP7H2BX	9/16	1/2	3.76	2.29	.50	3/4 - 16	1	1 1/16	12,500

Bulkhead hole approximately 1/64" (.015") larger than thread major diameter.

**MPI™ TO SAE MALE O-RING CONNECTOR**

**SERIES MP7HBA**

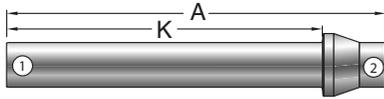


Part No.	MPI™ Size (in.)	SAE* End (in.)	A (in.)	B (in.)	D (in.)	T Thread (in.)	W Hex (in.)	Working Pressure (PSIG)
4-4 MP7HBA	1/4	1/4	1.90	.43	.97	7/16 - 20	5/8	12,500
4-6 MP7HBA	1/4	3/8	1.94	.47	.97	9/16 - 18	11/16	12,500
4-8 MP7HBA	1/4	1/2	1.97	.55	.91	3/4 - 16	7/8	12,500
6-4 MP7HBA	3/8	1/4	2.41	.43	1.35	7/16 - 20	3/4	12,500
6-6 MP7HBA	3/8	3/8	2.20	.47	1.10	9/16 - 18	3/4	12,500
6-8 MP7HBA	3/8	1/2	2.23	.55	1.05	3/4 - 16	7/8	12,500
8-4 MP7HBA	1/2	1/4	2.81	.43	1.69	7/16 - 20	1	12,500
8-6 MP7HBA	1/2	3/8	2.82	.47	1.66	9/16 - 18	1	12,500
8-8 MP7HBA	1/2	1/2	2.60	.55	1.36	3/4 - 16	1	12,500
9-6 MP7HBA	9/16	3/8	2.89	.47	1.67	9/16 - 18	1 1/16	12,500
9-8 MP7HBA	9/16	1/2	2.89	.55	1.59	3/4 - 16	1 1/16	12,500

\*All male O-ring ends for MPI™ fittings are heavy duty and comply with SAE J1926-2. This end has maximum thread engagement for strength and requires the minimum full thread engagement specified in SAE J9126 for the female port. Standard O-ring material is Nitrile #N0552-90.

**MPI™ PORT CONNECTOR**

**SERIES MP7PC**



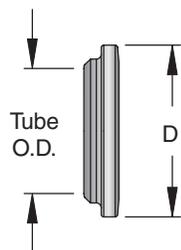
Part No.	MPI™ Tube Stub #1 (in.)	MPI™ Port #2 <sup>1</sup> (in.)	A (in.)	K (in.)	Working Pressure (PSIG)
4-4 MP7PC	1/4	1/4	2.69	2.23	15,000
4-6 MP7PC	1/4	3/8	2.93	2.40	15,000
6-6 MP7PC	3/8	3/8	3.17	2.64	15,000
6-8 MP7PC	3/8	1/2	3.43	2.68	15,000
6-9 MP7PC	3/8	9/16	3.50	2.75	15,000
8-8 MP7PC	1/2	1/2	3.70	2.95	15,000
9-9 MP7PC	9/16	9/16	3.82	3.07	15,000
9-12 MP7PC	9/16	3/4	4.17	3.32	15,000
12-12 MP7PC	3/4	3/4	4.52	3.67	15,000
12-16 MP7PC	3/4	1	5.12	4.07	12,500
16-16 MP7PC	1	1	5.74	4.70	12,500

<sup>1</sup> Assemble 1/4 to 1/2 turn from finger tight.

Add "-Z6" to part number for part assembled with preset ferrules and nuts.

**MPI™ BACK FERRULE**

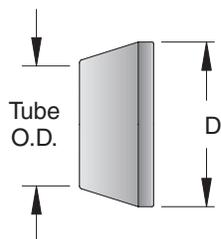
**SERIES MPBF**



Part No.	Tube O.D.	Ferrule O.D.
4 MPBF	1/4	0.40
6 MPBF	3/8	0.52
8 MPBF	1/2	0.72
9 MPBF	9/16	0.78
12 MPBF	3/4	0.99
16 MPBF	1	1.30

**MPI™ FRONT FERRULE**

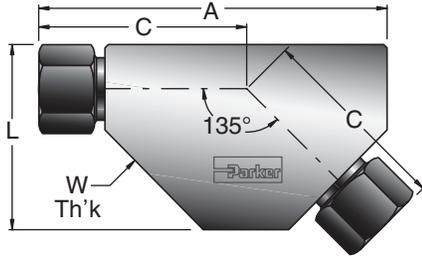
**SERIES MPFF**



Part No.	Tube O.D.	Ferrule O.D.
4 MPFF	1/4	0.40
6 MPFF	3/8	0.52
8 MPFF	1/2	0.72
9 MPFF	9/16	0.78
12 MPFF	3/4	0.99
16 MPFF	1	1.30

**45° MPI™ UNION ELBOW**

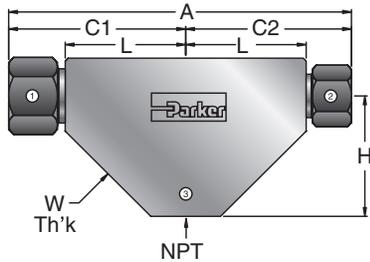
**SERIES NBMP7**



Part No.	MPI™ Tube Stub (in.)	A (in.)	C (in.)	L (in.)	W Th'k (in.)	Working Pressure (PSIG)
4-4 NBMP7	1/4	2.56	1.50	1.38	5/8	15,000
6-6 NBMP7	3/8	3.10	1.81	1.63	3/4	15,000
8-8 NBMP7	1/2	3.76	2.18	2.13	1	15,000
9-9 NBMP7	9/16	3.82	2.24	2.13	1	15,000
12-12 NBMP7	3/4	4.76	2.38	2.63	1 3/8	15,000

**MPI™ TO NPT FEMALE BRANCH TEE**

**SERIES OBMP7**

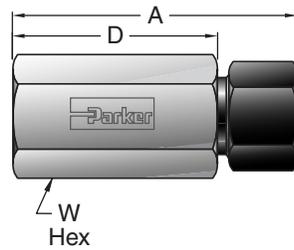


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Part No.	MPI™ Size #1 (in.)	NPT Size #2 (in.)	NPT Thr'd #3 (in.)	A (in.)	C1 (in.)	C2 (in.)	C3 (in.)	B (in.)	W Th'k (in.)	Working Pressure (PSIG)
4-4-4 OBMP7	1/4	1/4	1/4-18	3.47	1.74	1.74	1.24	1.24	3/4	15,000
6-6-4 OBMP7	3/8	3/8	1/4-18	3.72	1.86	1.86	1.24	1.24	3/4	15,000
6-6-8 OBMP7	3/8	3/8	1/2-14	3.88	1.94	1.94	1.54	1.31	1 3/8	15,000
8-8-8 OBMP7	1/2	1/2	1/2-14	4.45	2.22	2.22	1.94	1.54	1 3/8	15,000
9-9-8 OBMP7	9/16	9/16	1/2-14	4.57	2.29	2.29	1.94	1.54	1 3/8	15,000
12-12-8 OBMP7	3/4	3/4	1/2-14	5.64	2.82	2.82	1.94	1.94	1 3/8	15,000

**MPI™ CAP**

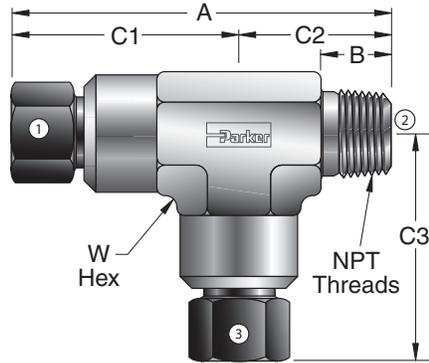
**SERIES PNBMP7**



Part No.	MPI™ Size (in.)	A (in.)	D (in.)	W Hex (in.)	Working Pressure (PSIG)
4 PNBMP7	1/4	1.69	1.19	5/8	15,000
6 PNBMP7	3/8	2.12	1.49	3/4	15,000
8 PNBMP7	1/2	2.62	1.93	1	15,000
9 PNBMP7	9/16	2.75	2.00	1 1/16	15,000
12 PNBMP7	3/4	3.53	2.64	1 3/8	15,000
16 PNBMP7	1	4.44	3.31	1 3/4	12,500

**MPI™ TO MALE RUN NPT TEE**

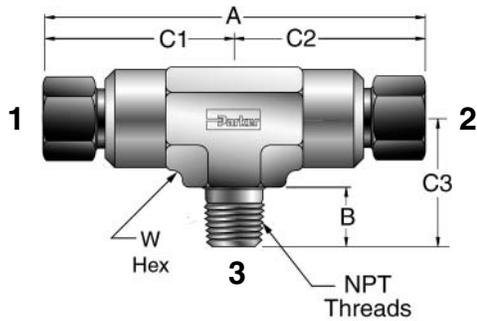
**SERIES RBMP7**



Part No.	MPI™ Size #1 (in.)	NPT Thr'd #2 (in.)	MPI™ Size #3 (in.)	A (in.)	C1 (in.)	C2 (in.)	C3 (in.)	B (in.)	W Hex (in.)	Working Pressure (PSIG)
4-4-4 RBMP7	1/4	1/4 - 18	1/4	2.76	1.63	1.13	1.63	.57	3/4	15,000
4-4-6 RBMP7	1/4	1/4 - 18	3/8	2.85	1.63	1.23	1.86	.57	7/8	12,500
4-6-4 RBMP7	1/4	3/8 - 18	1/4	2.76	1.63	1.13	1.63	.57	3/4	12,000
4-6-6 RBMP7	1/4	3/8 - 18	3/8	2.85	1.63	1.23	1.86	.57	7/8	12,000
6-4-4 RBMP7	3/8	1/4 - 18	1/4	3.09	1.86	1.23	1.63	.57	7/8	12,500
6-4-6 RBMP7	3/8	1/4 - 18	3/8	3.09	1.86	1.23	1.86	.57	7/8	12,500
6-6-4 RBMP7	3/8	3/8 - 18	1/4	3.09	1.86	1.23	1.63	.57	7/8	12,000
6-6-6 RBMP7	3/8	3/8 - 18	3/8	3.09	1.86	1.23	1.86	.57	7/8	12,000

**MPI™ TO MALE BRANCH NPT TEE**

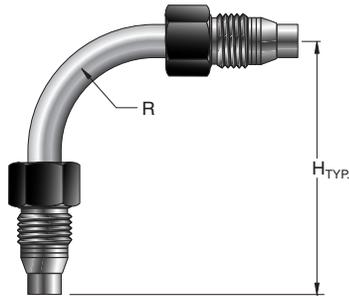
**SERIES SBMP7**



Part No.	MPI™ Size #1 (in.)	MPI™ Size #2 (in.)	NPT Thr'd #3 (in.)	A (in.)	C1 (in.)	C2 (in.)	C3 (in.)	B (in.)	W Hex (in.)	Working Pressure (PSIG)
4-4-4 SBMP7	1/4	1/4	1/4 - 18	3.25	1.63	1.63	1.13	.57	3/4	15,000
4-4-6 SBMP7	1/4	1/4	3/8 - 18	3.25	1.63	1.63	1.13	.57	3/4	12,000
6-6-4 SBMP7	3/8	3/8	1/4 - 18	3.72	1.86	1.86	1.23	.57	7/8	12,500
6-6-6 SBMP7	3/8	3/8	3/8 - 18	3.72	1.86	1.86	1.23	.57	7/8	12,000

**MPI™ TUBE ELBOW**

**SERIES T7EBT7**



Part No.	Tube Size (in.)	H (in.)	R (in.)	Working Pressure (PSIG)
4 T7EBT7-SS	1/4	2.12	0.75	15,000
* 4 T7EBT7-SS 2.9	1/4	2.91	0.75	15,000
4 T7EBT7-SS 6.0	1/4	6.00	0.75	15,000
4 T7EBT7-SS 8.0	1/4	8.00	0.75	15,000
4 T7EBT7-SS 10.0	1/4	10.00	0.75	15,000
4 T7EBT7-SS 12.0	1/4	12.00	0.75	15,000
6 T7EBT7-SS	3/8	2.88	1.25	15,000
* 6 T7EBT7-SS 3.5	3/8	3.47	1.25	15,000
6 T7EBT7-SS 6.0	3/8	6.00	1.25	15,000
6 T7EBT7-SS 8.0	3/8	8.00	1.25	15,000
6 T7EBT7-SS 10.0	3/8	10.00	1.25	15,000
6 T7EBT7-SS 12.0	3/8	12.00	1.25	15,000
* 9 T7EBT7-SS	9/16	4.22	2.00	15,000
9 T7EBT7-SS 6.0	9/16	6.00	2.00	15,000
9 T7EBT7-SS 8.0	9/16	8.00	2.00	15,000
9 T7EBT7-SS 10.0	9/16	10.00	2.00	15,000
9 T7EBT7-SS 12.0	9/16	12.00	2.00	15,000
12 T7EBT7-SS	3/4	5.31	3.00	15,000
12 T7EBT7-SS 6.0	3/4	6.00	3.00	15,000
12 T7EBT7-SS 8.0	3/4	8.00	3.00	15,000
12 T7EBT7-SS 10.0	3/4	10.00	3.00	15,000
12 T7EBT7-SS 12.0	3/4	12.00	3.00	15,000

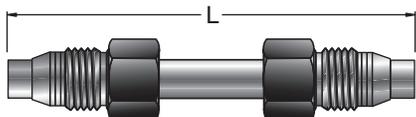
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Assemble 1/2 turn from finger tight.

\* Same Assembled Lengths as EBMP7 with Two (2) MP7PCs.

**MPI™ TUBE PORT CONNECTOR**

**SERIES T7HBT7**

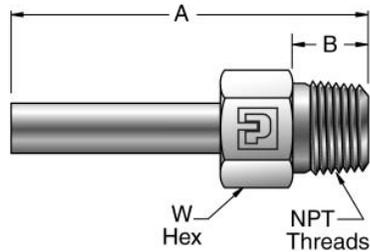


Part No.	Tube Size (in.)	L (in.)	Working Pressure (PSIG)
* 4 T7HBT7-SS	1/4	2.72	15,000
4 T7HBT7-SS 4.0	1/4	4.00	15,000
4 T7HBT7-SS 6.0	1/4	6.00	15,000
4 T7HBT7-SS 8.0	1/4	8.00	15,000
4 T7HBT7-SS 10.0	1/4	10.00	15,000
4 T7HBT7-SS 12.0	1/4	12.00	15,000
* 6 T7HBT7-SS	3/8	3.19	15,000
6 T7HBT7-SS 4.0	3/8	4.00	15,000
6 T7HBT7-SS 6.0	3/8	6.00	15,000
6 T7HBT7-SS 8.0	3/8	8.00	15,000
6 T7HBT7-SS 10.0	3/8	10.00	15,000
6 T7HBT7-SS 12.0	3/8	12.00	15,000
* 9 T7HBT7-SS	9/16	3.85	15,000
9 T7HBT7-SS 6.0	9/16	6.00	15,000
9 T7HBT7-SS 8.0	9/16	8.00	15,000
9 T7HBT7-SS 10.0	9/16	10.00	15,000
9 T7HBT7-SS 12.0	9/16	12.00	15,000
* 12 T7HBT7-SS	3/4	4.55	15,000
12 T7HBT7-SS 6.0	3/4	6.00	15,000
12 T7HBT7-SS 8.0	3/4	8.00	15,000
12 T7HBT7-SS 10.0	3/4	10.00	15,000
12 T7HBT7-SS 12.0	3/4	12.00	15,000

Assemble 1/2 turn from finger tight.  
 \* Same Assembled Length as MP7PC.

**MPI™ TUBE STUB TO MALE NPT PIPE**

**SERIES T7HF**

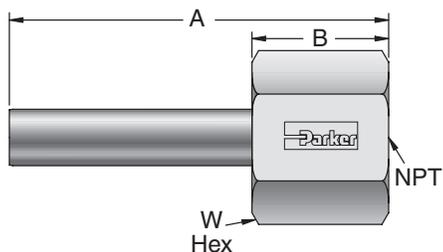


Part No.	MPI™ Tube Stub (in.)	Male NPT End (in.)	A (in.)	B (in.)	NPT Thread (in.)	W Hex	Working Pressure (PSIG)
4-4 T7HF	1/4	1/4	2.32	.57	1/4 - 18	5/8	15,000
4-6 T7HF	1/4	3/8	2.44	.57	3/8 - 18	3/4	15,000
4-8 T7HF	1/4	1/2	2.76	.76	1/2 - 14	7/8	15,000
6-4 T7HF	3/8	1/4	2.56	.57	1/4 - 18	5/8	15,000
6-6 T7HF	3/8	3/8	2.68	.57	3/8 - 18	3/4	15,000
6-8 T7HF	3/8	1/2	2.99	.76	1/2 - 14	7/8	15,000
8-4 T7HF	1/2	1/4	2.82	.57	1/4 - 18	5/8	15,000
8-6 T7HF	1/2	3/8	2.95	.57	3/8 - 18	3/4	15,000
8-8 T7HF	1/2	1/2	3.26	.76	1/2 - 14	7/8	15,000
9-4 T7HF	9/16	1/4	2.88	.57	1/4 - 18	5/8	15,000
9-6 T7HF	9/16	3/8	3.01	.57	3/8 - 18	3/4	15,000
9-8 T7HF	9/16	1/2	3.32	.76	1/2 - 14	7/8	15,000
9-12 T7HF	9/16	3/4	3.43	.76	3/4 - 14	1 1/8	10,000
12-8 T7HF	3/4	1/2	3.67	.76	1/2 - 14	7/8	15,000
12-12 T7HF	3/4	3/4	3.80	.76	3/4 - 14	1 1/8	10,000

Add "-Z6" to part number for part assembled with preset ferrules and nuts.

**MPI™ TUBE STUB TO FEMALE NPT PIPE**

**SERIES T7HG**

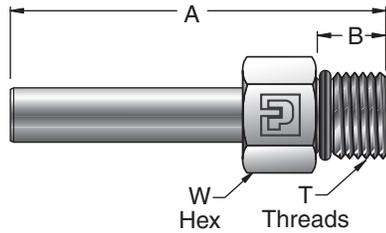


Part No.	MPI™ Tube Stub (in.)	Female Npt End (in.)	A (in.)	B (in.)	NPT Thread (in.)	W Hex (in.)	Working Pressure (PSIG)
4-2 T7HG	1/4	1/8	2.09	.72	1/8 - 27	13/16	15,000
4-4 T7HG	1/4	1/4	2.28	.91	1/4 - 18	1	15,000
4-8 T7HG	1/4	1/2	2.64	1.27	1/2 - 14	1 3/8	15,000
6-2 T7HG	3/8	1/8	2.33	.72	1/8 - 27	13/16	15,000
6-4 T7HG	3/8	1/4	2.52	.91	1/4 - 18	1	15,000
6-8 T7HG	3/8	1/2	2.88	1.27	1/2 - 14	1 3/8	15,000
8-2 T7HG	1/2	1/8	2.60	.72	1/8 - 27	13/16	15,000
8-4 T7HG	1/2	1/4	2.79	.91	1/4 - 18	1	15,000
8-8 T7HG	1/2	1/2	3.14	1.27	1/2 - 14	1 3/8	15,000
9-4 T7HG	9/16	1/4	2.84	.91	1/4 - 18	1	15,000
9-8 T7HG	9/16	1/2	3.20	1.27	1/2 - 14	1 3/8	15,000
12-8 T7HG	3/4	1/2	3.55	1.27	1/2 - 14	1 3/8	15,000
12-12 T7HG	3/4	3/4	3.60	1.31	3/4 - 11 1/2	1 1/2	10,000
16-16 T7HG	1	1	4.38	1.50	1 - 11 1/2	1 7/8	10,000

Add "-Z6" to part number for part assembled with preset ferrules and nuts.

**MPI™ TUBE STUB TO MALE SAE O-RING**

**SERIES T7HOA**



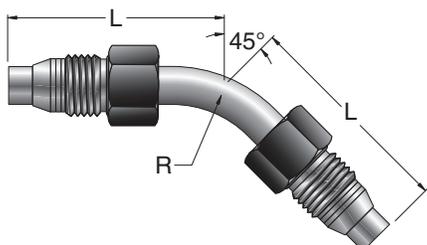
Part No.	MPI™ Tube Stub (in.)	SAE O-Ring End (in.)	A (in.)	B (in.)	T Thread (in.)	W Hex	Working Pressure (PSIG)
4-4 T7HOA	1/4	1/4	2.25	.43	7/16 - 20	9/16	12,500
4-6 T7HOA	1/4	3/8	2.35	.47	9/16 - 18	11/16	12,500
4-8 T7HOA	1/4	1/2	2.49	.55	3/4 - 16	7/8	12,500
6-4 T7HOA	3/8	1/4	2.48	.43	7/16 - 20	9/16	12,500
6-6 T7HOA	3/8	3/8	2.58	.47	9/16 - 18	11/16	12,500
6-8 T7HOA	3/8	1/2	2.72	.55	3/4 - 16	7/8	12,500
8-4 T7HOA	1/2	1/4	2.75	.43	7/16 - 20	9/16	12,500
8-6 T7HOA	1/2	3/8	2.85	.47	9/16 - 18	11/16	12,500
8-8 T7HOA	1/2	1/2	2.99	.55	3/4 - 16	7/8	12,500
9-4 T7HOA	9/16	1/4	2.81	.43	7/16 - 20	5/8	12,500
9-6 T7HOA	9/16	3/8	2.91	.47	9/16 - 18	11/16	12,500
9-8 T7HOA	9/16	1/2	3.05	.55	3/4 - 16	7/8	12,500

Add "-Z6" to part number for part assembled with preset ferrules and nuts.

\* All male O-ring ends for MPI™ fittings are heavy duty and comply with SAE J1926-2. This end has maximum thread engagement for strength and requires the minimum full thread engagement specified in SAE J9126 for the female port. Standard O-ring material is Nitrile #N0552-90.

**45° MPI™ TUBE STUB ELBOW**

**SERIES T7NBT7**



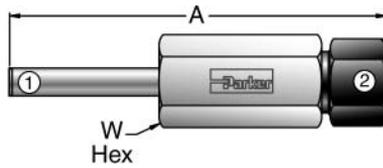
Part No.	Tube Size (in.)	H (in.)	R (in.)	Working Pressure (PSIG)
4 T7NBT7-SS	1/4	1.69	0.75	15,000
* 4 T7NBT7-SS 2.9	1/4	2.88	0.75	15,000
4 T7NBT7-SS 6.0	1/4	6.00	0.75	15,000
4 T7NBT7-SS 8.0	1/4	8.00	0.75	15,000
4 T7NBT7-SS 10.0	1/4	10.00	0.75	15,000
4 T7NBT7-SS 12.0	1/4	12.00	0.75	15,000
6 T7NBT7-SS	3/8	2.14	1.25	15,000
* 6 T7NBT7-SS 3.4	3/8	3.42	1.25	15,000
6 T7NBT7-SS 6.0	3/8	6.00	1.25	15,000
6 T7NBT7-SS 8.0	3/8	8.00	1.25	15,000
6 T7NBT7-SS 10.0	3/8	10.00	1.25	15,000
6 T7NBT7-SS 12.0	3/8	12.00	1.25	15,000
9 T7NBT7-SS	9/16	2.77	2.00	15,000
* 9 T7NBT7-SS 4.2	9/16	4.18	2.00	15,000
9 T7NBT7-SS 6.0	9/16	6.00	2.00	15,000
9 T7NBT7-SS 8.0	9/16	8.00	2.00	15,000
9 T7NBT7-SS 10.0	9/16	10.00	2.00	15,000
9 T7NBT7-SS 12.0	9/16	12.00	2.00	15,000
12 T7NBT7-SS	3/4	3.55	3.00	15,000
12 T7NBT7-SS 5.1	3/4	5.11	3.00	15,000
12 T7NBT7-SS 6.0	3/4	6.00	3.00	15,000
12 T7NBT7-SS 8.0	3/4	8.00	3.00	15,000
12 T7NBT7-SS 10.0	3/4	10.00	3.00	15,000
12 T7NBT7-SS 12.0	3/4	12.00	3.00	15,000

Assemble 1/2 turn from finger tight.

\* Similar Assembled Lengths as NBMP7 with Two (2) MP7PCs.

**MPI™ TUBE STUB REDUCER**

**SERIES TRBMP7**



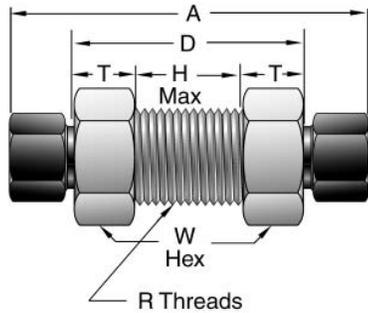
Part No.	MPI™ Tube Stub #1 (in.)	MPI™ Size #2 (in.)	A (in.)	W Hex (in.)	Working Pressures (PSIG)
4-6 TRBMP7	1/4	3/8	3.49	3/4	15,000
4-8 TRBMP7	1/4	1/2	3.94	1	15,000
4-9 TRBMP7	1/4	9/16	4.00	1 1/16	15,000
6-4 TRBMP7	3/8	1/4	3.30	5/8	15,000
6-8 TRBMP7	3/8	1/2	4.17	1	15,000
6-9 TRBMP7	3/8	9/16	4.24	1 1/16	15,000
8-4 TRBMP7	1/2	1/4	3.56	5/8	15,000
8-6 TRBMP7	1/2	3/8	3.99	3/4	15,000
9-4 TRBMP7	9/16	1/4	3.63	5/8	15,000
9-6 TRBMP7	9/16	3/8	4.06	3/4	15,000
9-12 TRBMP7	9/16	3/4	4.97	1 3/8	15,000
12-4 TRBMP7	3/4	1/4	4.17	13/16	15,000
12-6 TRBMP7	3/4	3/8	4.42	13/16	15,000
12-9 TRBMP7	3/4	9/16	4.82	1 1/16	15,000

**10**

Add "-Z6" to part number for part assembled with preset ferrules and nuts.

**MPI™ BULKHEAD UNION CONNECTOR**

**SERIES WBMP7**

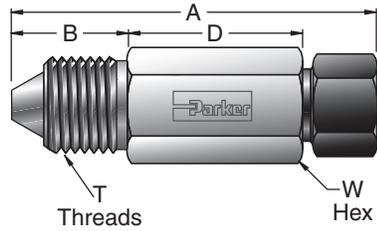


Part No.	MPI™ Size (in.)	A (in.)	D (in.)	H Max (in.)	T (in.)	*R Threads (in.)	W Hex (in.)	Working Pressure (PSIG)
4-4 WBMP7	1/4	2.88	1.88	.88	.50	3/4-20	1	15,000
6-6 WBMP7	3/8	3.44	2.19	1.07	.56	7/8-20	1 1/8	15,000
8-8 WBMP7	1/2	4.07	2.70	1.32	.69	1 1/8-20	1 3/8	15,000
8-9 WBMP7	1/2 - 9/16	4.20	2.70	1.32	.69	1 1/8-20	1 3/8	15,000
9-8 WBMP7	9/16 - 1/2	4.20	2.70	1.32	.69	1 1/8-20	1 3/8	15,000
9-9 WBMP7	9/16	4.20	2.70	1.32	.69	1 1/8-20	1 3/8	15,000
12-12 WBMP7	3/4	5.08	3.31	1.56	.88	1 7/16-18	1 7/8	15,000
16-16 WBMP7	1	6.52	4.25	2.00	1.13	1 7/8-12	2 1/2	12,500

\* Bulkhead hole approximately 1/64" (.015") larger than thread major diameter.

**HIGH PRESSURE TO MPI™ CONNECTOR**

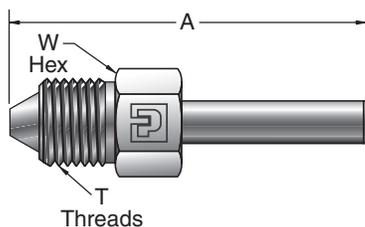
**SERIES X41HBMP7**



Part No.	High Pressure Adapter (in.)	MPI™ Size (in.)	A (in.)	B (in.)	D (in.)	T Thread (in.)	W Hex (in.)	Working Pressure (PSIG)
4-4 X41HBMP7	1/4	1/4	2.25	.72	1.03	9/16 - 18	5/8	15,000
4-6 X41HBMP7	1/4	3/8	2.71	.72	1.37	9/16 - 18	3/4	15,000
6-4 X41HBMP7	3/8	1/4	2.52	.92	1.10	3/4 - 16	13/16	15,000
6-6 X41HBMP7	3/8	3/8	2.92	.92	1.37	3/4 - 16	13/16	15,000
6-9 X41HBMP7	3/8	9/16	3.37	.92	1.70	3/4 - 16	1 1/16	15,000
9-6 X41HBMP7	9/16	3/8	3.12	1.13	1.37	1 1/8 - 12	1 3/16	15,000
9-9 X41HBMP7	9/16	9/16	3.58	1.13	1.70	1 1/8 - 12	1 3/16	15,000
9-12 X41HBMP7	9/16	3/4	4.03	1.13	2.02	1 1/8 - 12	1 3/8	15,000

**HIGH PRESSURE MPI™ TUBE STUB**

**SERIES X41HT7**

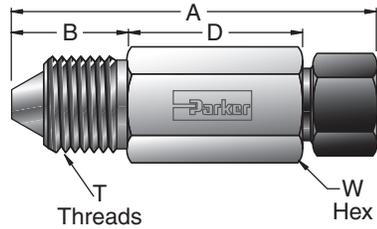


Part No.	High Pressure Adapter Size (in.)	MPI™ Tube Stub (in.)	A (in.)	T Thread (in.)	W Hex (in.)	Working Pressure (PSIG)
4-4 X41HT7	1/4	1/4	2.59	9/16 - 18	5/8	15,000
4-6 X41HT7	1/4	3/8	2.83	9/16 - 18	5/8	15,000
4-8 X41HT7	1/4	1/2	3.10	9/16 - 18	5/8	15,000
4-9 X41HT7	1/4	9/16	3.16	9/16 - 18	5/8	15,000
6-4 X41HT7	3/8	1/4	2.92	3/4 - 16	13/16	15,000
6-6 X41HT7	3/8	3/8	3.16	3/4 - 16	13/16	15,000
6-8 X41HT7	3/8	1/2	3.43	3/4 - 16	13/16	15,000
6-9 X41HT7	3/8	9/16	3.49	3/4 - 16	13/16	15,000
9-4 X41HT7	9/16	1/4	3.25	1 1/8 - 12	1 3/16	15,000
9-6 X41HT7	9/16	3/8	3.49	1 1/8 - 12	1 3/16	15,000
9-8 X41HT7	9/16	1/2	3.75	1 1/8 - 12	1 3/16	15,000
9-9 X41HT7	9/16	9/16	3.82	1 1/8 - 12	1 3/16	15,000

Add "-Z6" to part number for part assembled with preset ferrules and nuts.

**MEDIUM PRESSURE TO MPI™ CONNECTOR**

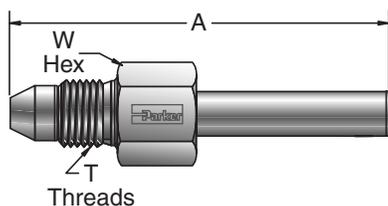
**SERIES X42HBMP7**



Part No.	Medium Pressure Adapter (in.)	MPI™ Size (in.)	A (in.)	B (in.)	D (in.)	T Thread (in.)	W Hex (in.)	Working Pressure (PSIG)
4-4 X42HBMP7	1/4	1/4	2.34	.81	1.03	7/16 - 20	5/8	15,000
4-6 X42HBMP7	1/4	3/8	2.80	.81	1.37	7/16 - 20	3/4	15,000
4-9 X42HBMP7	1/4	9/16	3.31	.81	1.75	7/16 - 20	1 1/16	15,000
6-4 X42HBMP7	3/8	1/4	2.47	.94	1.03	9/16 - 18	3/4	15,000
6-6 X42HBMP7	3/8	3/8	2.93	.94	1.37	9/16 - 18	3/4	15,000
6-8 X42HBMP7	3/8	1/2	3.28	.94	1.65	9/16 - 18	1	15,000
6-9 X42HBMP7	3/8	9/16	3.44	.94	1.75	9/16 - 18	1 1/16	15,000
9-4 X42HBMP7	9/16	1/4	2.56	1.13	.93	13/16 - 16	7/8	15,000
9-6 X42HBMP7	9/16	3/8	2.85	1.13	1.10	13/16 - 16	7/8	15,000
9-8 X42HBMP7	9/16	1/2	3.16	1.13	1.35	13/16 - 16	1	15,000
9-9 X42HBMP7	9/16	9/16	3.41	1.13	1.54	13/16 - 16	1 1/16	15,000
9-12 X42HBMP7	9/16	3/4	4.20	1.13	2.19	3/4 - 14 NPS	1 3/8	15,000
12-9 X42HBMP7	3/4	9/16	3.55	1.31	1.35	3/4 - 14 NPS	1 1/16	15,000
12-12 X42HBMP7	3/4	3/4	4.15	1.31	1.96	3/4 - 14 NPS	1 3/8	15,000
12-16 X42HBMP7	3/4	1	5.27	1.31	2.83	3/4 - 14 NPS	1 3/4	12,500

**MEDIUM PRESSURE TO MPI™ TUBE STUB**

**SERIES X42HT7**

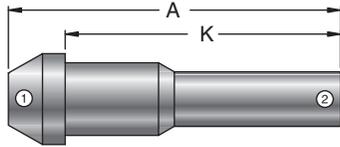


Part No.	Medium Pressure Adapter Size (in.)	MPI™ Tube Stub (in.)	A (in.)	T Thread (in.)	W Hex (in.)	Working Pressure (PSIG)
4-4 X42HT7	1/4	1/4	2.68	7/16 - 20	5/8	15,000
4-6 X42HT7	1/4	3/8	2.92	7/16 - 20	5/8	15,000
4-8 X42HT7	1/4	1/2	3.18	7/16 - 20	5/8	15,000
4-9 X42HT7	1/4	9/16	3.25	7/16 - 20	5/8	15,000
6-4 X42HT7	3/8	1/4	2.94	9/16 - 18	3/4	15,000
6-6 X42HT7	3/8	3/8	3.17	9/16 - 18	3/4	15,000
6-8 X42HT7	3/8	1/2	3.44	9/16 - 18	3/4	15,000
6-9 X42HT7	3/8	9/16	3.50	9/16 - 18	3/4	15,000
9-4 X42HT7	9/16	1/4	3.25	13/16 - 16	7/8	15,000
9-6 X42HT7	9/16	3/8	3.49	13/16 - 16	7/8	15,000
9-8 X42HT7	9/16	1/2	3.75	13/16 - 16	7/8	15,000
9-9 X42HT7	9/16	9/16	3.81	13/16 - 16	7/8	15,000
9-12 X42HT7	9/16	3/4	4.16	13/16 - 16	7/8	15,000
12-9 X42HT7	3/4	9/16	4.00	3/4 - 14 NPS	1 1/8	15,000
12-12 X42HT7	3/4	3/4	4.35	3/4 - 14 NPS	1 1/8	15,000

Add "-Z6" to part number for part assembled with preset ferrules and nuts.

**MEDIUM PRESSURE PORT CONNECTOR TO MPI™ TUBE STUB**

**SERIES X47HT7**

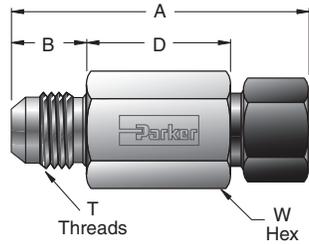


Part No.	MP Port Connector #1 (in.)	MPI™ Tube Stub #2 (in.)	A (in.)	K (in.)	Working Pressure (PSIG)
16-9 X47HT7	1	9/16	4.23	3.44	15,000
16-12 X47HT7	1	3/4	4.57	3.79	15,000
16-16 X47HT7	1	1	5.19	4.41	12,500

End # 1 must be used with a Medium Pressure Gland. Add "-Z6" to part number for part assembled with preset ferrules and nuts

**37° FLARE TO MPI™ CONNECTOR**

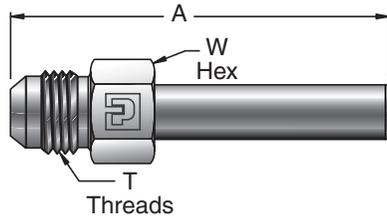
**SERIES XHBMP7**



Part No.	37° Flare Adapter (in.)	MPI™ Size (in.)	A (in.)	B (in.)	D (in.)	T Thread (in.)	W Hex (in.)	Working Pressure (PSIG)
4-4 XHBMP7	1/4	1/4	2.08	.55	1.03	7/16 - 20	5/8	15,000
4-6 XHBMP7	1/4	3/8	2.54	.55	1.37	7/16 - 20	3/4	15,000
4-8 XHBMP7	1/4	1/2	2.90	.55	1.66	7/16 - 20	1	15,000
4-9 XHBMP7	1/4	9/16	2.96	.55	1.66	7/16 - 20	1 1/16	15,000
6-4 XHBMP7	3/8	1/4	1.97	.56	.92	9/16 - 18	5/8	12,500
6-6 XHBMP7	3/8	3/8	2.24	.56	1.06	9/16 - 18	3/4	12,500
6-8 XHBMP7	3/8	1/2	2.90	.56	1.66	9/16 - 18	1	12,500
6-9 XHBMP7	3/8	9/16	2.97	.56	1.66	9/16 - 18	1 1/16	12,500
8-6 XHBMP7	1/2	3/8	2.34	.66	1.06	3/4 - 16	13/16	12,500
8-8 XHBMP7	1/2	1/2	2.69	.66	1.34	3/4 - 16	1	12,500
8-9 XHBMP7	1/2	9/16	2.77	.66	1.36	3/4 - 16	1 1/16	12,500
12-12 XHBMP7	1/2	3/4	3.38	.86	1.63	1 1/16 - 12	1 3/8	12,500
16-16 XHBMP7	1	1	4.23	.91	2.19	1 5/16 - 12	1 3/4	7,200

**37° FLARE TO MPI™ TUBE STUB**

**SERIES XHT7**



Part No.	37° Flare Adapter Size (in.)	MPI™ Tube Stub (in.)	A (in.)	T Thread (in.)	W Hex (in.)	Working Pressure (PSIG)
4-4 XHT7	1/4	1/4	2.24	7/16 - 20	1/2	15,000
4-6 XHT7	1/4	3/8	2.47	7/16 - 20	1/2	15,000
6-4 XHT7	3/8	1/4	2.37	9/16 - 18	5/8	12,500
6-6 XHT7	3/8	3/8	2.60	9/16 - 18	5/8	12,500
6-8 XHT7	3/8	1/2	2.87	9/16 - 18	5/8	12,500
6-9 XHT7	3/8	9/16	2.93	9/16 - 18	5/8	12,500
8-6 XHT7	1/2	3/8	2.77	3/4 - 16	13/16	12,500
8-8 XHT7	1/2	1/2	3.04	3/4 - 16	13/16	12,500
8-9 XHT7	1/2	9/16	3.10	3/4 - 16	13/16	12,500

Add "-Z6" to part number for part assembled with preset ferrules and nuts.

**General Description:** Shaped products (elbows, tees and crosses) are hot forged and machined, while straights are manufactured from cold drawn barstock. Where applicable, these products are made in conformance with the design criteria of the society of Automotive Engineers Standards, SAE J514, J530.

Parker Fluid Connector products made from steel and brass, for the most part, have NPTF threads. Stainless steel products may have NPT or slightly modified NPT threads to minimize the chance of galling on assembly.

**Finish** - Zinc with Yellow Chromate is used on all standard steel products. Stainless steel fittings are passivated.

**Features:**

- Tapered Thread Fittings (NPT/NPTF)
  - Compact size
  - Widespread acceptability
  - High static pressure rating
  - Offered in three standard materials (Steel, Stainless Steel, and Brass)
  - Adaptable to ORFS, Flareless Bite-type, Metric Bite-type, 37° flare, etc.
  - High temperature applications
- Straight Thread Fittings (UN/UNF, BSPP)
  - Reliable sealing in dynamics applications
  - Unlimited reusability/remakeability
  - No thread sealant needed
  - Infinite positioning of shaped adapters
  - Elastomeric seal

**Thread Conformance Standards**

Thread	Standard
NPT	ANSI B1.20.1, FED-STD-H28/7
NPTF	SAE J476, ANSI B1.20.3, FED-STD-H28/8
BSPT	BS 21, ISO 7/1
BSPP	BS 2779, ISO 228/1
Metric	ISO 261, ANSI B1.13M, FED-STD-H28/2
UN/UNF*	ANSI B1.1, FED-STD-H28/2

\*Class 2A or 2B

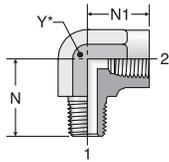
**Specifications**

Pipe Fittings, Adapters and Plugs	Steel		Stainless Steel		Brass	
	ASTM	Type	ASTM	Type	ASTM	Type
Forged Bodies	A576	1214/1215	A182	316	B124	CA377
Bar Stock Bodies	A108	12L14	A479	316	B16 B453	CA360 CA345
Cold Formed Bodies	A576	C1010/C1008	—	—	—	—



**STREET ELBOW NPTF - NPTF**

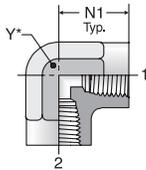
**SERIES CD**



Part No.	End Size		N (in.)	N1 (in.)	Y (in.)	Standard Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 NPTF				-S	-SS	-B
1/8 CD	1/8-27	1/8-27	0.78	0.66	9/16	5.0		
1/4 CD	1/4-18	1/4-18	1.09	0.88	3/4	5.0	5.0	3.2
3/8 CD	3/8-18	3/8-18	1.22	1.02	7/8	4.5		
1/2 CD	1/2-14	1/2-14	1.47	1.23	1 1/16	3.0		
3/4 CD	3/4-14	3/4-14	1.59	1.36	1 5/16	3.0		
1 CD	1-11 1/2	1-11 1/2	1.97	1.63	1 5/8	1.8		

**FEMALE PIPE ELBOW NPTF - NPTF**

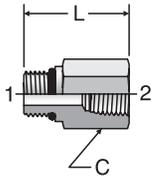
**SERIES DD**



Part No.	End Size		N1 (in.)	Y (in.)	Standard Dynamic Pressure (x 1,000 PSI)
	1 NPTF	2 NPTF			-S
1/8 DD	1/8-27	1/8-27	0.66	9/16	5.0
1/4 DD	1/4-18	1/4-18	0.88	3/4	5.0
3/8 DD	3/8-18	3/8-18	1.02	7/8	4.5
1/2 DD	3/8-18	3/8-18	1.23	1 1/16	3.0
3/4 DD	3/4-14	3/4-14	1.36	1 5/8	3.0

**FEMALE PIPE ADAPTER SAE-ORB - NPTF**

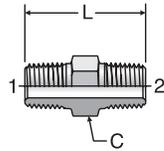
**SERIES F50G**



Part No.	End Size		C Hex (in.)	L (in.)	Standard Dynamic Pressure (x 1,000 PSI)
	1 NPTF	2 UN/UNF-2A			-S
4-1/4 F50G	1/4-18	7/16-20	3/4	1.16	6.0
6-1/4 F50G	1/4-18	9/16-18	3/4	1.16	6.0
8-1/4 F50G	1/4-18	3/4-16	7/8	1.13	6.0
8-3/8 F50G	3/8-18	3/4-16	7/8	1.28	6.0
8-1/2 F50G	1/2-14	3/4-16	1 1/8	1.50	5.0
10-3/8 F50G	3/8-18	7/8-14	1	1.31	5.0
10-1/2 F50G	1/2-14	7/8-14	1 1/8	1.53	5.0
12-1/2 F50G	1/2-14	1 1/16-12	1 1/4	1.41	5.0
12-3/4 F50G	3/4-14	1 1/16-12	1 3/8	1.72	4.0

**PIPE NIPPLE NPTF - NPTF**

**SERIES FF**

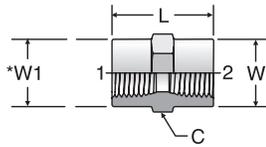


Part No.	End Size		C Hex (in.)	L (in.)	Standard Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 NPTF			-S	-SS	-B
1/8 FF	1/8-27	1/8-27	7/16	1.06	6.0		
1/4 x 1/8 FF	1/4-18	1/8-27	5/8	1.25	6.0		
1/4 FF	1/4-18	1/4-18	5/8	1.45	6.0	7.2	3.9
3/8 x 1/4 FF	3/8-18	1/4-18	3/4	1.45	6.0		
3/8 FF	3/8-18	3/8-18	3/4	1.45	6.0		
1/2 x 3/8 FF	1/2-14	3/8-18	7/8	1.70	6.0		
1/2 x 1/4 FF	1/2-14	1/4-18	7/8	1.70	6.0		
1/2 FF	1/2-14	1/2-14	7/8	1.89	6.0		3.9
3/4 x 1/2 FF	3/4-14	1/2-14	1 1/8	1.96	5.5		
3/4 FF	3/4-14	3/4-14	1 1/8	1.96	5.5		
1 FF	1-11 1/2	1-11 1/2	1 3/8	2.34	4.5		
1 1/4 FF	1 1/4-11 1/2	1 1/4-11 1/2	1 3/4	2.48	3.0		

Note: All "FF" fittings have a 30° chamfer for sealing with NPSM swivel type fittings.

**PIPE COUPLING NPTF - NPTF**

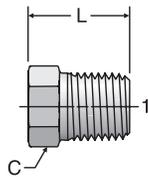
**SERIES GG**



Part No.	End Size		C Hex (in.)	L (in.)	W (in.)	W1 (in.)	Standard Dynamic Pressure (x 1,000 PSI)	
	1 NPTF	2 NPTF					-S	-S
1/8 GG	1/8-27	1/8-27	5/8	0.75	0.63	0.63	6.0	
1/4 x 1/8 GG	1/4-18	1/8-27	3/4	0.94	0.75	0.63	6.0	
1/4 GG	1/4-18	1/4-18	3/4	1.13	0.75	0.75	6.0	
3/8 x 1/4 GG	3/8-18	1/4-18	7/8	1.13	0.88	0.75	6.0	
3/8 GG	3/8-18	3/8-18	7/8	1.13	0.88	0.88	6.0	
1/2 GG	1/2-14	1/2-14	1 1/8	1.50	1.13	1.13	5.0	
3/4 GG	3/4-14	3/4-14	1 3/8	1.53	1.38	1.38	4.0	
1 GG	1-11 1/2	1-11 1/2	1 5/8	1.89	1.63	1.63	3.0	

**HEX HEAD PIPE PLUG NPTF**

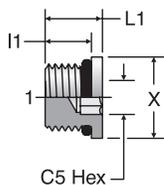
**SERIES HP**



Part No.	End Size 1 NPTF	C Hex (in.)	L (in.)	Standard Dynamic Pressure (x 1,000 PSI)	
				-S	-SS
1/8 HP	1/8-27	7/16	0.56	6.0	
1/4 HP	1/4-18	9/16	0.75	6.0	7.2
3/8 HP	3/8-18	11/16	0.78	6.0	
1/2 HP	1/2-14	7/8	0.97	6.0	7.2
3/4 HP	3/4-14	1 1/16	1.06	5.5	

**HOLLOW HEX PLUG SAE-ORB**

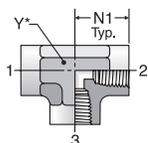
**SERIES HP50N**



Part No.	End Size 1 UN/UNF-2A	C5 Hex (in.)	I1 (in.)	L1 (in.)	X DIA (in.)	Standard Dynamic Pressure (x 1,000 PSI)	
						-S	-SS
2 HP50N	5/16-24	1/8	0.30	0.40	0.44	6.0	6.0
3 HP50N	3/8-24	1/8	0.30	0.40	0.50	6.0	6.0
4 HP50N	7/16-20	3/16	0.36	0.47	0.56	6.0	
5 HP50N	1/2-20	3/16	0.36	0.47	0.63	6.0	
6 HP50N	9/16-18	1/4	0.40	0.50	0.69	6.0	
8 HP50N	3/4-16	5/16	0.44	0.58	0.88	6.0	
10 HP50N	7/8-14	3/8	0.50	0.65	1.00	6.0	
12 HP50N	1 1/16-12	9/16	0.59	0.77	1.25	6.0	
16 HP50N	1 5/16-12	5/8	0.59	0.77	1.50	5.5	
20 HP50N	1 5/8-12	3/4	0.59	0.77	1.88	4.0	

**FEMALE PIPE TEE NPTF**

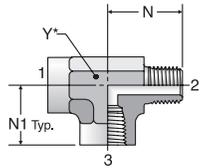
**SERIES MMO**



Part No.	End Size 1-3 NPTF	N1 (in.)	Y (in.)	Standard Dynamic Pressure (x 1,000 PSI)	
				-S	-B
1/4 MMO	1/4-18	0.88	3/4	5.0	3.2
3/8 MMO	3/8-18	1.02	7/8	4.5	
1/2 MMO	1/2-14	1.23	1 1/16	3.0	
3/4 MMO	3/4-14	1.36	1 5/16	3.0	

**MALE RUN TEE NPTF**

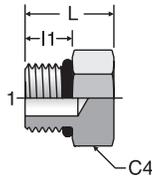
**SERIES MRO**



Part No.	End Size 1-3 NPTF	N (in.)	N1 (in.)	Y (in.)	Standard Dynamic Pressure (x 1,000 PSI)	
					-S	
1/8 MRO	1/8-27	0.78	0.66	9/16	5.0	
1/4 MRO	1/4-18	1.09	0.88	3/4	5.0	
3/8 MRO	3/8-18	1.22	1.02	7/8	4.5	
1/2 MRO	1/2-14	1.47	1.23	1 1/16	3.0	
3/4 MRO	3/4-14	1.59	1.36	1 5/16	3.0	

**HEX HEAD PLUG SAE-ORB**

**SERIES P50N**

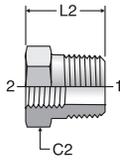


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Part No.	End Size 1 UN/UNF-2A	C4 Hex (in.)	I1 (in.)	L (in.)	Standard Dynamic Pressure (x 1,000 PSI)	
					-S	-SS
2 P50N	5/16-24	7/16	0.30	0.60	7.5	
3 P50N	3/8-24	1/2	0.30	0.60	7.5	
4 P50N	7/16-20	9/16	0.36	0.67	7.5	9.0
5 P50N	1/2-20	5/8	0.36	0.67	6.0	
6 P50N	9/16-18	11/16	0.39	0.73	6.0	
8 P50N	3/4-16	7/8	0.44	0.80	6.0	
10 P50N	7/8-14	1	0.50	0.94	6.0	
12 P50N	1 1/16-12	1 1/4	0.59	1.09	6.0	
16 P50N	1 5/16-12	1 1/2	0.59	1.13	5.5	
20 P50N	1 5/8-12	1 7/8	0.59	1.20	4.0	

**PIPE THREAD REDUCER NPTF - NPTF**

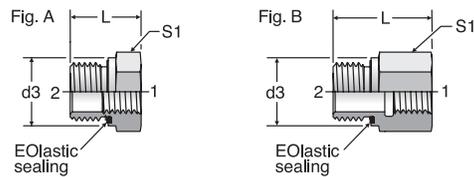
**SERIES PTR**



Part No.	End Size		C2 Hex (in.)	L2 (in.)	Standard Dynamic Pressure (x 1,000 PSI)	
	1 NPTF	2 NPTF			-S	
1/4 x 1/8 PTR	1/4-18	1/8-27	5/8	0.86	6.0	
3/8 x 1/8 PTR	3/8-18	1/8-27	3/4	0.86	6.0	
3/8 x 1/4 PTR	3/8-18	1/4-18	3/4	0.86	6.0	
1/2 x 1/4 PTR	1/2-14	1/4-18	7/8	1.11	6.0	
1/2 x 3/8 PTR	1/2-14	3/8-18	7/8	1.11	6.0	
3/4 x 1/4 PTR	3/4-14	1/4-18	1 1/8	1.17	5.5	
3/4 x 3/8 PTR	3/4-14	3/8-18	1 1/8	1.17	5.5	
3/4 x 1/2 PTR	3/4-14	1/2-14	1 1/8	1.17	5.0	
1 x 1/2 PTR	1-11 1/2	1/2-14	1 3/8	1.36	4.5	
1 x 3/4 PTR	1-11 1/2	3/4-14	1 3/8	1.36	4.0	
1 1/4 x 1 PTR	1 1/4-11 1/2	1-11 1/2	1 3/4	1.47	3.0	

**BSPP REDUCING ADAPTER - EXPANDER BSPP - BSPP-ED**

**SERIES RI-ED**



Part No.	End Size		d3 (mm)	L (mm)	S1 (mm)	Fig.	Standard Dynamic Pressure (x 1,000 PSI)	
	1 BSPP	2 BSPP					A3C	
RI1/4EDX3/8	G3/8	G1/4A	19	36	24	B	5.8	
RI3/8EDX1/8	G1/8	G3/8A	22	22.5	22	A	5.8	
RI3/8EDX1/2	G1/2	G3/8A	22	41	30	B	5.8	
RI3/4EDX3/8	G3/8	G3/4A	32	26	32	A	4.5	
RI1EDX1/2	G1/2	G1A	40	29	41	A	4.5	

**General Description:** The Seal-Lok fitting has proven to be very effective in eliminating leakage at the higher pressures found in today's hydraulic systems. It meets or exceeds the strict requirements of SAE J1453 and ISO 8434-3. The Seal-Lok fitting is an O-ring face seal type fitting that consists of a nut, a body, an O-ring and a sleeve. The tube is flanged to 90° (or the tube may be brazed instead to a braze-type sleeve). When the fitting is assembled, it compresses an O-ring in the precision machined groove of the fitting body to form a leak tight seal.

Seal-Lok's leak-free design and construction make it suitable for applications where higher pressures, vibration and impulse are prevalent.

**The Seal-Lok Fitting Body.** There are over 60 different body configurations to choose from. The body face is manufactured with Parker's CORG (captive O-ring groove), which keeps the high durometer O-ring captive during installation. Straight products are made from cold drawn barstock.

**The Seal-Lok Fitting Nut.** Seal-Lok tube nuts are either cold formed or machined from cold drawn bar stock, depending on the size.

**The Seal-Lok Braze Sleeve.** The sleeve is brazed to the tube end. The flat, smooth surface of the braze sleeve seals against the O-ring when fully assembled.

**Features:**

- Conformance to SAE J1453 and ISO 8434-3
- Elastomeric seal
- High pressure rating
- No tube entry (flat-face design)
- Captive O-ring groove (CORG)
- Forged Shapes
- Similar envelope size to 37° flared fitting
- Wide tube wall range
- Resistance to over-torque
- Unlimited reusability/ remakeability

**Specifications**

Seal-Lok Fittings	Steel		Stainless Steel	
	ASTM	Type	ASTM	Type
Forged Bodies	A576	1214/1215	A182	316
Bar Stock Bodies	A108	12L14	A479	316
Cold Formed Nuts	A576	C1010	--	--
Machined Nuts*	A108	12L14 11L37	A479	316
Braze Sleeves & Braze Connectors	A108	12L14	A276	316L
Flange Sleeves	A108	12L14	A479	316

\*All stainless steel nuts are coated to prevent galling at assembly.

**Note:** Other materials can be produced upon request.

**Finish:** Zinc with yellow chromate (being changed to zinc chromium 6 free) is used on all standard steel products. Stainless steel fittings are passivated.

**Recommended Min/Max Tube Wall Thickness for Inch Seal Lok™**

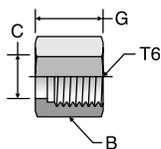
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Size		Steel, Alloy Steel, St. Steel, Copper, Monel
O.D. Inches	Dash Number	SAE O-Ring Face Seal Seal-Lok
1/4	-4	.020 – .083
3/8	-6	.020 – .109
1/2	-8	.028 – .148
5/8	-10	.035 – .134
3/4	-12	.035 – .148
7/8	-14	.035 – .156
1	-16	.035 – .188
1 1/4	-20	.049 – .220
1 1/2	-24	.049 – .250
2	-32	.058 – .250



**TUBE NUT ORFS**

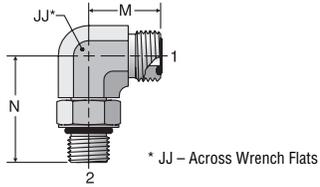
**SERIES BL**



Part No.	End Size (in.)	T6 UNF/UNF-2B	B Hex (in.)	C (in.)	G (in.)	Standard Material From Stock -S
4 BL	1/4	9/16-18	11/16	0.41	0.58	+
6 BL	3/8	11/16-16	13/16	0.53	0.67	+
8 BL	1/2	13/16-16	15/16	0.65	0.83	+
10 BL	5/8	1-14	1 1/8	0.83	0.93	+
12 BL	3/4	1 3/16-12	1 3/8	0.95	1.02	+
16 BL	1	1 7/16-12	1 5/8	1.14	1.10	+
20 BL	1 1/4	1 11/16-12	1 7/8	1.42	1.10	+
24 BL	1 1/2	2-12	2 1/4	1.73	1.10	+

**STRAIGHT THREAD ELBOW ORFS - SAE-ORB**

**SERIES C5OLO**

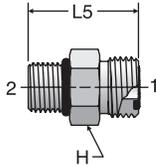


Part No.	End Size		JJ (in.)	M (in.)	N (in.)	Standard Dynamic Pressure (x 1,000 PSI) -S
	1 (in.)	2 UN/UNF-2A				
4 C5OLO	1/4	7/16-20	9/16	0.85	1.29	6.0
4-6 C5OLO**	1/4	9/16-18	9/16	0.92	1.45	6.0
4-8 C5OLO	1/4	3/4-16	3/4	0.97	1.60	6.0
6 C5OLO	3/8	9/16-18	3/4	0.98	1.45	6.0
6-8 C5OLO	3/8	3/4-16	3/4	1.04	1.60	6.0
6-10 C5OLO**	3/8	7/8-14	7/8	1.15	1.97	6.0
8 C5OLO	1/2	3/4-16	3/4	1.10	1.60	6.0
8-6 C5OLO	1/2	9/16-18	3/4	1.10	1.44	6.0
8-10 C5OLO**	1/2	7/8-14	7/8	1.21	1.97	6.0
8-12 C5OLO	1/2	1 1/16-12	1 3/16	1.32	2.17	6.0
10 C5OLO	5/8	7/8-14	1 1/16	1.31	1.97	6.0
12 C5OLO	3/4	1 1/16-12	1 3/16	1.47	2.17	6.0
16 C5OLO	1	1 5/16-12	1 7/16	1.64	2.35	5.5

\*\* JJ for these parts does not conform to SAE.

**STRAIGHT THREAD CONNECTOR ORFS - SAE-ORB**

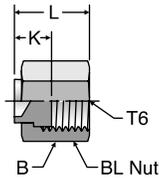
**SERIES F5OLO**



Part No.	End Size		H Hex (in.)	L5 (in.)	Standard Dynamic Pressure (x 1,000 PSI) -S
	1 (in.)	2 UN/UNF-2A			
4 F5OLO	1/4	7/16-20	5/8	1.13	9.2
4-6 F5OLO	1/4	9/16-18	3/4	1.20	9.2
4-8 F5OLO	1/4	3/4-16	7/8	1.32	9.2
6 F5OLO	3/8	9/16-18	3/4	1.25	9.2
6-4 F5OLO	3/8	7/16-20	3/4	1.34	9.2
6-8 F5OLO	3/8	3/4-16	7/8	1.38	9.2
6-10 F5OLO	3/8	7/8-14	1	1.53	9.2
8 F5OLO	1/2	3/4-16	7/8	1.44	9.2
8-6 F5OLO	1/2	9/16-18	7/8	1.47	6.0
8-10 F5OLO	1/2	7/8-14	1	1.59	6.0
8-12 F5OLO	1/2	1 1/16-12	1 1/4	1.75	6.0
10 F5OLO	5/8	7/8-14	1 1/16	1.70	6.0
12 F5OLO	3/4	1 1/16-12	1 1/4	1.92	6.0
12-16 F5OLO	3/4	1 5/16-12	1 1/2	1.96	6.0
16 F5OLO	1	1 5/16-12	1 1/2	1.98	6.0

**CAP ORFS**

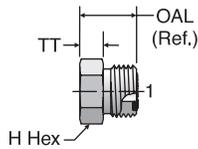
**SERIES FNL**



Part No.	Tube O.D. (in.)	T6 Swivel UN/UNF-2B	B Hex (in.)	K (in.)	L (in.)	Standard Dynamic Pressure (x 1,000 PSI) -S
4 FNL	1/4	9/16-18	11/16	0.34	0.65	9.2
6 FNL	3/8	11/16-16	13/16	0.39	0.76	9.2
8 FNL	1/2	13/16-16	15/16	0.45	0.88	9.2
10 FNL	5/8	1-14	1 1/8	0.51	1.04	6.0
12 FNL	3/4	1 3/16-12	1 3/8	0.57	1.14	6.0
16 FNL	1	1 7/16-12	1 5/8	0.61	1.18	6.0

**PLUG ORFS**

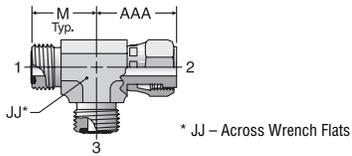
**SERIES PNLO**



Part No.	End Size 1 (in.)	H Hex (in.)	OAL (Ref) (in.)	TT (in.)	Standard Dynamic Pressure (x 1,000 PSI) -S
4 PNLO	1/4	5/8	0.66	0.20	9.2
6 PNLO	3/8	3/4	0.76	0.32	9.2
8 PNLO	1/2	7/8	0.86	0.35	9.2
10 PNLO	5/8	1 1/16	1.02	0.41	6.0
12 PNLO	3/4	1 1/4	1.08	0.41	6.0
16 PNLO	1	1 1/2	1.10	0.41	6.0

**SWIVEL NUT RUN TEE ORFS - ORFS SWIVEL - ORFS**

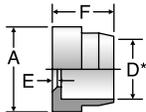
**SERIES R6LO**



Part No.	End Size		JJ (in.)	M (in.)	Standard Dynamic Pressure (x 1,000 PSI) -S
	1-3 (in.)	AAA (in.)			
4 R6LO	1/4	1.07	9/16	0.85	9.2
6 R6LO	3/8	1.17	3/4	0.98	9.2
8 R6LO	1/2	1.49	3/4	1.10	9.2
10 R6LO	5/8	1.65	1 1/16	1.31	6.0

**BRAZE SLEEVE FOR INCH TUBING ORFS SILVER BRAZE SLEEVE**

**SERIES TL**



Part No.	End Size (in.)	A Dia. (in.)	D* (in.)	E (in.)	F (in.)	Standard Material From Stock -S
4 TL	1/4	0.50	0.26	0.04	0.37	+
6 TL	3/8	0.62	0.38	0.04	0.37	+
8 TL	1/2	0.75	0.51	0.04	0.37	+
10 TL	5/8	0.92	0.63	0.06	0.41	+

**General Description:** As a tube fitting, Triple-Lok is especially suited for thin and medium wall thickness tube. Even though 37° flare fittings are generally considered to be 3000 psi fittings, Triple-Lok's capabilities range from 9000 psi for 1/4" size to 2000 psi for 2" size. Currently, it is used in virtually every application that uses fluid power for motion control.

Parker's Triple-Lok fittings meet the strict requirements of SAE J514 and ISO 8434-2 industry standards.

The fitting consists of three pieces: the body, sleeve and nut. The tube end is flared at a 37° angle (74° included angle) and held between the fitting nose (seat) and the sleeve (support) with the nut providing a very effective (single) seal between the fitting nose and the tube flare.

**The Triple-Lok Body** – Triple-Lok fittings are manufactured in over 65 configurations. Straight bodies are either cold formed or machined from cold drawn bar stock. Shaped Triple-Lok fittings are manufactured from a one-piece forged construction.

**The Triple-Lok Sleeves** – Most steel Triple-Lok flare support sleeves are cold formed and heat treated for an optimum combination of strength and ductility. The largest size sleeves, -20, -24, and -32, are machined from high strength steel. Stainless steel and brass sleeves are machined from cold drawn barstock.

**The Triple-Lok Tube Nuts** – Triple-Lok steel tube nuts are cold formed, except in sizes -20, -24, and -32, which are machined from cold drawn barstock.

**Features:**

- Small sealing area
- Metal-to-metal seal
- No minimum wall thickness limitation
- Short tube entry
- Adaptable to metric tube
- International standard design
- Worldwide availability
- Used as hose adapter
- Available in steel, stainless steel and brass
- Longer adjustable locknut
- Dual angle female seat
- Forged shapes
- Heat treated forgings
- Cold formed tube nuts and sleeves
- Widest range of tube O.D. sizes available in a hydraulic fitting
- Broad line of configurations and port ends available

**Triple-Lok Convertible  
Sleeve Connections**

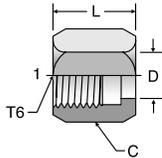
Fitting Dash Size	Tube O.D. (mm)	Metric Tube Sleeve Part No.	Nut Part No.
-4	6	TXS6	4 BTX-S
-5	8	5 TX-S	5 BTX-S
-6	10	TXS10	6 BTX-S
-8	12	TXS12	8 BTX-S
-10	14	TXS14	10 BTX-S
-10	15	TXS15	10 BTX-S
-10	16	10 TX-S	10 BTX-S
-12	18	TXS18	12 BTX-S
-12	20	20-12 TX-S	20-12 BTX-S
-14	22	TXS22	14 BTX-S
-16	25	TXS25	16 BTX-S
-20	28	TXS28	20 BTX-S
-20	30	TXS30	20 BTX-S
-20	32	TXS32	20 BTX-S
-24	35	TXS35	24 BTX-S
-24	38	24 TX-S	24 BTX-S

**Wall Thickness Chart  
for Inch Tubing**

Fitting Dash Size	O.D. (in.)	Wall Thickness – Inch Tube		
		Min. (in.)	(in.)	Max.
-2	1/8	0.010	–	0.035
-3	3/16	0.010	–	0.035
-4	1/4	0.020	–	0.065
-5	5/16	0.020	–	0.065
-6	3/8	0.020	–	0.065
-8	1/2	0.028	–	0.083
-10	5/8	0.035	–	0.095
-10	5/8	0.035	–	0.095
-10	5/8	0.035	–	0.095
-12	3/4	0.035	–	0.109
-12	3/4	0.035	–	0.109
-14	7/8	0.035	–	0.109
-16	1	0.035	–	0.120
-20	1 1/4	0.049	–	0.120
-20	1 1/4	0.049	–	0.120
-24	1 1/2	0.049	–	0.120
-32	2	0.058	–	0.134

**NUT 37° FLARE**

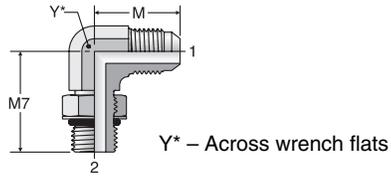
**SERIES BTX**



Part No.	End Size (in.)	T6 UN/UNF-2B	C Hex (in.)	D (in.)	L (in.)	Standard From Stock		
						-S	-SS	-B
4 BTX	1/4	7/16-20	9/16	0.31	0.62	+	+	+
5 BTX	5/16	1/2-20	5/8	0.38	0.68	+		
6 BTX	3/8	9/16-18	11/16	0.44	0.73	+	+	+
8 BTX	1/2	3/4-16	7/8	0.57	0.85	+	+	+
10 BTX	5/8	7/8-14	1	0.70	0.98	+		
12 BTX	3/4	1 1/16-12	1 1/4	0.84	1.03	+	+	
14 BTX	7/8	1 3/16-12	1 3/8	0.96	1.09	+		
16 BTX	1	1 5/16-12	1 1/2	1.09	1.13	+		
20 BTX	1 1/4	1 5/8-12	2	1.35	1.23	+		

**STRAIGHT THREAD ELBOW 37° FLARE - SAE-ORB**

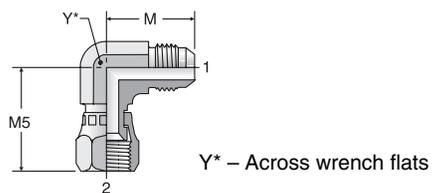
**SERIES C50X**



Part No.	End Size					Standard Dynamic Pressure (x 1,000 PSI) -S
	1 (in.)	2 UN/UNF-2A	M (in.)	M7 (in.)	Y (in.)	
4 C50X	1/4	7/16-20	0.89	1.03	7/16	6.0
4-6 C50X	1/4	9/16-18	1.05	1.25	9/16	6.0
6 C50X	3/8	9/16-18	1.06	1.25	9/16	6.0
6-4 C50X	3/8	7/16-20	1.06	1.19	9/16	6.0
6-8 C50X	3/8	3/4-16	1.14	1.45	3/4	6.0
6-10 C50X	3/8	7/8-14	1.23	1.70	7/8	5.0
8 C50X	1/2	3/4-16	1.25	1.45	3/4	6.0
8-6 C50X	1/2	9/16-18	1.25	1.34	3/4	6.0
8-10 C50X	1/2	7/8-14	1.34	1.70	7/8	5.0
8-12 C50X	1/2	1 1/16-12	1.42	1.94	1 1/16	5.0
10 C50X	5/8	7/8-14	1.45	1.70	7/8	5.0
12 C50X	3/4	1 1/16-12	1.66	1.94	1 1/16	5.0
16 C50X	1	1 5/16-12	1.81	2.05	1 5/16	4.0

**SWIVEL NUT ELBOW 37° FLARE - 37° SWIVEL**

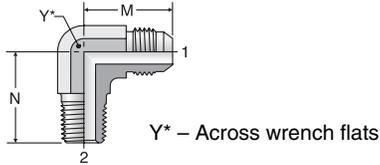
**SERIES C6X**



Part No.	End Size					Standard Dynamic Pressure (x 1,000 PSI)
	1 (in.)	2 (in.)	M (in.)	M5 (in.)	Y (in.)	-S
4 C6X	1/4	1/4	0.89	1.00	7/16	7.5
6 C6X	3/8	3/8	1.06	1.25	9/16	6.0
8 C6X	1/2	1/2	1.25	1.38	3/4	6.0
10 C6X	5/8	5/8	1.45	1.62	7/8	5.0
12 C6X	3/4	3/4	1.66	1.75	1 1/16	5.0
16 C6X	1	1	1.81	2.00	1 5/16	4.0

**MALE ELBOW 37° FLARE - NPTF**

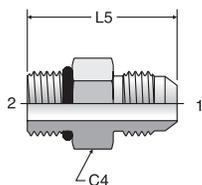
**SERIES CTX**



Part No.	End Size		M (in.)	N (in.)	Y (in.)	Standard Dynamic Pressure (x 1,000 PSI)		
	1 (in.)	2 NPTF				-S	-SS	-B
4 CTX	1/4	1/8-27	0.89	0.78	7/16	6.0		3.3
4-4 CTX	1/4	1/4-18	1.05	1.09	9/16	6.0	6.0	3.3
4-6 CTX	1/4	3/8-18	1.13	1.22	3/4	6.0		
5-4 CTX	5/16	1/4-18	1.05	1.09	9/16	6.0		
6 CTX	3/8	1/4-18	1.06	1.09	9/16	6.0		3.3
6-6 CTX	3/8	3/8-18	1.14	1.22	3/4	6.0		
6-8 CTX	3/8	1/2-14	1.22	1.47	7/8	6.0		
8 CTX	1/2	3/8-18	1.25	1.22	3/4	6.0		
8-4 CTX	1/2	1/4-18	1.25	1.22	3/4	6.0		
8-8 CTX	1/2	1/2-14	1.33	1.47	7/8	6.0		3.3
8-12 CTX	1/2	3/4-14	1.42	1.59	1 1/16	4.0		
10 CTX	5/8	1/2-14	1.45	1.47	7/8	5.0		
12 CTX	3/4	3/4-14	1.66	1.59	1 1/16	4.0		
16 CTX	1	1-11 1/2	1.81	1.97	1 5/16	3.0		

**STRAIGHT THREAD CONNECTOR 37° FLARE - SAE-ORB**

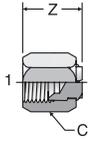
**SERIES F50X**



Part No.	End Size		C4 Hex (in.)	L5 (in.)	Standard Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 UN/UNF-2A			-S	-SS
4 F50X	1/4	7/16-20	9/16	1.23	7.5	9.0
4-6 F50X	1/4	9/16-18	11/16	1.28	6.0	
4-8 F50X	1/4	3/4-16	7/8	1.38	6.0	
6 F50X	3/8	9/16-18	11/16	1.30	6.0	7.2
6-4 F50X	3/8	7/16-20	5/8	1.27	6.0	
6-8 F50X	3/8	3/4-16	7/8	1.38	6.0	
6-10 F50X	3/8	7/8-14	1	1.50	5.0	
8 F50X	1/2	3/4-16	7/8	1.48	6.0	
8-6 F50X	1/2	9/16-18	13/16	1.44	6.0	
8-10 F50X	1/2	7/8-14	1	1.59	5.0	
8-12 F50X	1/2	1 1/16-12	1 1/4	1.77	5.0	
10 F50X	5/8	7/8-14	1	1.70	5.0	
12 F50X	3/4	1 1/16-12	1 1/4	1.97	5.0	
12-10 F50X	3/4	7/8-14	1 1/8	1.88	5.0	
12-16 F50X	3/4	15/16-12	1 1/2	1.99	4.5	
16 F50X	1	1 5/16-12	1 1/2	2.05	4.5	

**CAP 37° FLARE**

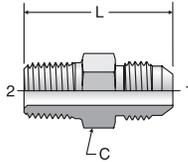
**SERIES FNTX**



Part No.	End Size 1 (in.)	C Hex (in.)	Z (in.)	Standard Dynamic Pressure (x 1,000 PSI)		
				-S	-SS	-B
4 FNTX	1/4	9/16	0.67	7.5	9.0	3.3
5 FNTX	5/16	5/8	0.77	6.0		
6 FNTX	3/8	11/16	0.81	6.0		3.3
8 FNTX	1/2	7/8	0.94	6.0		
10 FNTX	5/8	1	1.07	5.0		
12 FNTX	3/4	1 1/4	1.24	5.0		
16 FNTX	1	1 1/2	1.29	4.5		

**MALE CONNECTOR 37° FLARE - NPTF**

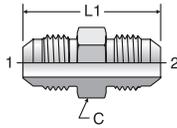
**SERIES FTX**



Part No.	End Size		C Hex (in.)	L (in.)	Standard Dynamic Pressure (x 1,000 PSI)		
	1 (in.)	2 NPTF			-S	-SS	-B
4 FTX	1/4	1/8-27	1/2	1.22	6.0	6.0	3.3
4-4 FTX	1/4	1/4-18	9/16	1.42	6.0	6.0	3.3
4-6 FTX	1/4	3/8-18	3/4	1.44	6.0		
5-4 FTX	5/16	1/4-18	9/16	1.42	6.0		
6 FTX	3/8	1/4-18	5/8	1.43	6.0	6.0	3.3
6-2 FTX	3/8	1/8-27	5/8	1.24	6.0		
6-6 FTX	3/8	3/8-18	3/4	1.44	6.0	6.0	3.3
6-8 FTX	3/8	1/2-14	7/8	1.69	6.0		
8 FTX	1/2	3/8-18	13/16	1.53	6.0		3.3
8-4 FTX	1/2	1/4-18	13/16	1.53	6.0		
8-8 FTX	1/2	1/2-14	7/8	1.78	6.0	6.0	3.3
8-12 FTX	1/2	3/4-14	1 1/8	1.85	5.5		
10 FTX	5/8	1/2-14	15/16	1.89	5.0		
12 FTX	3/4	3/4-14	1 1/8	2.06	5.0	5.0	2.6
12-8 FTX	3/4	1/2-14	1 1/8	2.06	5.0		
12-16 FTX	3/4	1-11 1/2	1 3/8	2.25	5.0		
16 FTX	1	1-11 1/2	1 3/8	2.30	4.5		2.0
16-12 FTX	1	3/4-14	1 3/8	2.11	4.5		
20 FTX	1 1/4	1 1/4-11 1/2	1 11/16	2.45	3.0		

**UNION 37° FLARE - 37° FLARE**

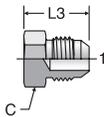
**SERIES HTX**



Part No.	End Size		C Hex (in.)	L1 (in.)	Standard Dynamic Pressure (x 1,000 PSI) -S
	1 (in.)	2 (in.)			
4 HTX	1/4	1/4	1/2	1.38	7.5
6 HTX	3/8	3/8	5/8	1.41	6.0
8 HTX	1/2	1/2	13/16	1.62	6.0
10 HTX	5/8	5/8	15/16	1.88	5.0
12 HTX	3/4	3/4	1 1/8	2.16	5.0
16 HTX	1	1	1 3/8	2.25	4.0

**PLUG 37° FLARE**

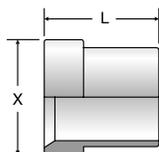
**SERIES PNTX**



Part No.	End Size 1 (in.)	C Hex (in.)	L3 (in.)	Standard Dynamic Pressure (x 1,000 PSI) -S
5 PNTX	5/16	9/16	0.80	6.0
6 PNTX	3/8	5/8	0.84	6.0
8 PNTX	1/2	13/16	0.94	6.0
10 PNTX	5/8	15/16	1.10	5.0
12 PNTX	3/4	1 1/8	1.28	5.0
16 PNTX	1	1 3/8	1.33	4.5

**SLEEVE 37° FLARE**

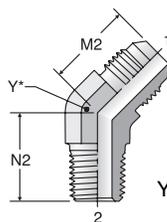
**SERIES TX**



Part No.	End Size (in.)	L (in.)	X (in.)	Standard From Stock		
				-S	-SS	-B
4 TX	1/4	0.41	0.38	+	+	+
5 TX	5/16	0.44	0.45	+		
6 TX	3/8	0.50	0.50	+	+	+
8 TX	1/2	0.56	0.68	+	+	+
10 TX	5/8	0.66	0.80	+		
12 TX	3/4	0.69	0.97	+	+	
14 TX	7/8	0.75	1.10	+		
16 TX	1	0.78	1.22	+		
20 TX	1 1/4	0.91	1.53	+		

**45° MALE ELBOW 37° FLARE - NPTF**

**SERIES VTX**

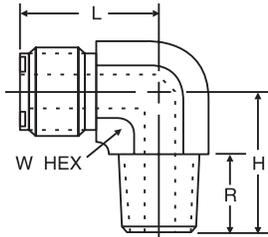


Y\* – Across wrench flats

Part No.	End Size		M2 (in.)	N2 (in.)	Y (in.)	Standard Dynamic Pressure (x 1,000 PSI)
	1 (in.)	2 NPTF				-S
4 VTX	1/4	1/8-27	0.72	0.64	7/16	6.0
4-4 VTX	1/4	1/4-18	0.82	0.86	9/16	6.0
6 VTX	3/8	1/4-18	0.83	0.86	9/16	6.0
6-6 VTX	3/8	3/8-18	0.87	0.95	3/4	6.0
8-8 VTX	1/2	1/2-14	0.99	1.17	7/8	6.0
12 VTX	3/4	3/4-14	1.28	1.20	1 1/16	4.0

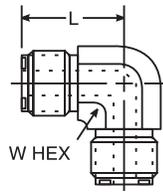
**General Description:** Parker UHP products are designed as leak-free connections where ultra-high pure conditions are required. UltraSeal™ products, with their o-ring face seal design, and optional metal o-ring, provide a leak-free seal from vacuum to positive pressure.

**UltraSeal™ TO MALE ELBOW**  
**SERIES CQ**



Part No.	Pipe Thread	W Hex (in.)	H (in.)	L (in.)	R (in.)
4-4 CQ	1/4	9/16	1.00	.84	.56
6-4 CQ	1/4	3/4	1.13	.97	.56
6-6 CQ	3/8	3/4	1.13	.97	.56
8-6 CQ	3/8	7/8	1.25	1.03	.56
8-8 CQ	1/2	7/8	1.31	1.03	.75
12-12 CQ	3/4	1-5/16	1.66	1.31	.75

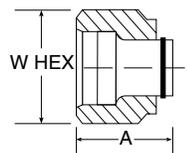
**UltraSeal™ UNION ELBOW**  
**SERIES EQ**



Part No.	W Hex (in.)	L (in.)
4-4 EQ	9/16	.84
6-6 EQ	3/4	.97
8-8 EQ	7/8	1.03
12-12 EQ	1-3/8	1.46

**10**

**UltraSeal™ PLUG ASSEMBLY**  
**SERIES FNQ**

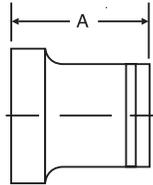


Part No.	A (in.)	W Hex (in.)
4 FNQ	1.02	11/16
6 FNQ	1.19	7/8
8 FNQ	1.21	1
12 FNQ	1/42	1-1/2

Assembly includes plug, nut and snap ring

**UltraSeal™ PLUG**

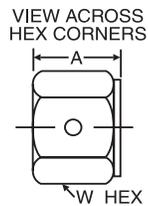
**SERIES FNQ1**



Part No.	A (in.)
4 FNQ1	.69
6 FNQ1	.81
8 FNQ1	.84
12 FNQ1	1.00

**UltraSeal™ NUT**

**SERIES BQ**

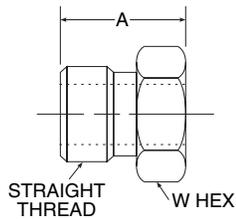


Part No.	W Hex (in.)	A (in.)	Straight Thrd. Size
4 BQ	11/16	.56	9/16-20
6 BQ	7/8	.69	3/4-20
8 BQ	1	.69	7/8-20
12 BQ	1-1/2	.81	1-5/16-20

NOTE: UltraSeal nuts are silver plated (I.D.) only to provide for lubrication during assembly

**UltraSeal™ NUT**

**SERIES BQI**

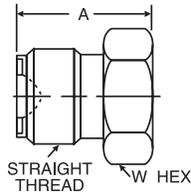


Part No.	W Hex (in.)	A (in.)	Straight Thrd. Size
4 BQI*	5/8	.65	9/16-20

\*For use with Q1RY inverted glands

**UltraSeal™ PLUG ASSEMBLY**

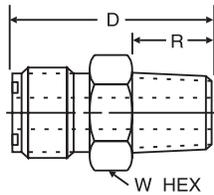
**SERIES PNQ**



Part No.	W Hex (in.)	A (in.)	Straight Thrd Size
4 PNQ	5/8	.72	9/16-20
6 PNQ	13/16	.75	3/4-20
8 PNQ	15/16	.81	7/8-20

**UltraSeal™ TO MALE PIPE CONNECTOR**

**SERIES FQ**

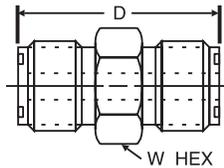


Part No.	Pipe Thread (in.)	W Hex (in.)	D (in.)	R (in.)
4-2 FQ	1/8	5/8	1.09	.38
4-4 FQ	1/4	5/8	1.28	.56
6-4 FQ	1/4	13/16	1.31	.56
6-6 FQ	3/8	13/16	1.31	.56
8-4 FQ	1/4	15/16	1.34	.56
8-6 FQ	3/8	15/16	1.34	.56
8-8 FQ	1/2	15/16	1.53	.75
12-8 FQ	1/2	1-3/8	1.78	.75
12-12 FQ	3/4	1-3/8	1.78	.75

**10**

**UltraSeal™ UNION**

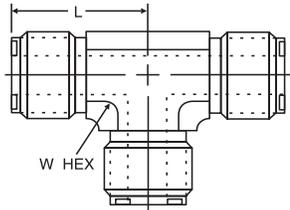
**SERIES HQ**



Part No.	W Hex (in.)	D (in.)
4-4 HQ	5/8	1.19
6-4 HQ	13/16	1.22
6-6 HQ	13/16	1.22
8-4 HQ	15/16	1.25
8-8 HQ	15/16	1.25
12-12 HQ	1-3/8	1.59

**UltraSeal™ UNION TEE**

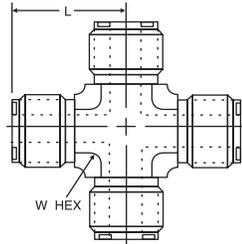
**SERIES JQ**



Part No.	W Hex (in.)	L (in.)
4-4-4 JQ	9/16	.84
6-6-6 JQ	3/4	.97
8-8-8 JQ	7/8	1.03
12-12-12 JQ	1-5/16	1.31

**UltraSeal™ UNION CROSS**

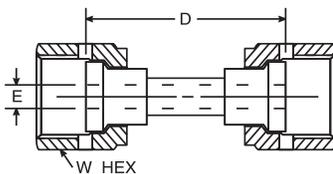
**SERIES KQ**



Part No.	W Hex (in.)	L (in.)
4 KQ	9/16	.84
6 KQ	3/4	.97
8KQ	7/8	1.03

**UltraSeal™ GLAND UNION (WELDED)**

**SERIES Q1HBQ1**

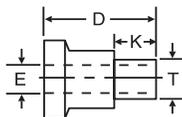


Part No.	W Hex (in.)	D (in.)	*E Bore (in.)
4-4 Q1HBQ1	11/16	1.33	.18
6-6 Q1HBQ1	7/8	1.25	.25
8-8 Q1HBQ1	1	1.25	.31

\* Note: Machined Bore diameters to match machined Bore in body.

**UltraSeal™ GLAND TO MINIBUTT WELD**

**SERIES Q1M**

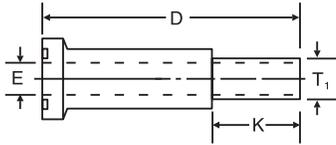


Part No.	D (in.)	*E Bore (in.)	T (in.)	K (in.)	Working Pressure
4-4 Q1M	.60	.18	.25	.25	5,400
6-6 Q1M	.62	.25	.38	.25	4,300
8-8 Q1M	.62	.31	.50	.25	3,600

\* Note: Machined Bore diameters to match machined Bore in body.

**UltraSeal™ INVERTED GLAND TO MALE TUBE WELD**

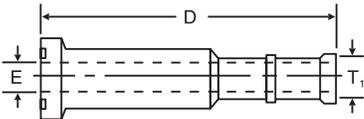
**SERIES Q1RT3**



Part No.	D (in.)	E (in.)	T <sub>1</sub> (in.)	K (in.)
4-4 Q1RT3	1.70	.18	.25	.75

**UltraSeal™ INVERTED GLAND TO AUTOMATIC BUTTWELD**

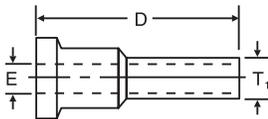
**SERIES Q1RY**



Part No.	T <sub>1</sub> (in.)	D (in.)	*E Bore (in.)	**Auto Buttweld Wall Size	Working Pressure
4-4 Q1RY	1/4	1.72	.18	.035	7,700

**UltraSeal™ GLAND TO TUBE STUB ADAPTER**

**SERIES Q1T2/Q1TU**

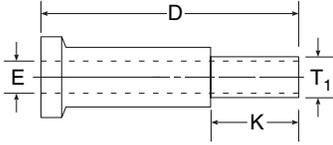


Part No.	T <sub>1</sub> (in.)	D (in.)	*E Bore (in.)	Working Pressure
4-4 Q1T2 (CPI™)	1/4	1.25	.18	4,500
6-6 Q1T2	3/8	1.38	.25	6,700
8-8 Q1T2	1/2	1.68	.31	6,250
12-12 Q1T2	3/4	2.31	.50	6,250
4-4 Q1TU (A-LOK®)	1/4	1.21	.18	4,500
6-6 Q1TU	3/8	1.38	.25	6,700
8-8 Q1TU	1/2	1.56	.31	6,250
12-12 Q1TU	3/4	2.25	.50	6,250

\* Note: Machined Bore diameters to match machined Bore in body.

**UltraSeal™ GLAND TO MALE TUBE WELD**

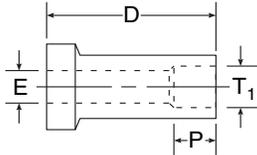
**SERIES Q1T3**



Part No.	D (in.)	E (in.)	T <sub>1</sub> (in.)	K (in.)
4-4 Q1T3	1.25	.18	.25	.75
8-6 Q1T3	1.50	.31	.38	.75
8-8 Q1T3	1.50	.41	.50	.75
12-12 Q1T3	1.22	.50	.75	.75

**UltraSeal™ GLAND TO WELD-LOK SOCKET**

**SERIES Q1W**

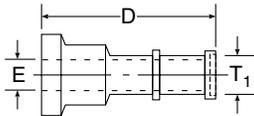


Part No.	T <sub>1</sub> Tube OD	D (in.)	P (in.)	*E Bore (in.)	Working Pressure
4-2 Q1W	1/8	1	.16	.09	10,000
4-4 Q1W	1/4	1	.25	.18	7,700
6-4 Q1W	1/4	1	.28	.18	10,000
6-6 Q1W	3/8	1	.31	.25	5,000
8-4 Q1W	1/4	1	.25	.18	10,000
8-6Q1W	3/8	1	.34	.31	9,500
8-8Q1W	1/2	1	.41	.38	4,300
12-12Q1W	3/4	1.50	.50	.50	4,600

\* Note: Machined Bore diameters to match machined Bore in body.

**UltraSeal™ GLAND TO AUTOMATIC BUTTWELD**

**SERIES Q1Y**

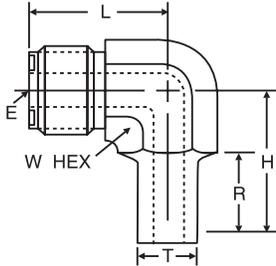


Part No.	T (in.)	D (in.)	*E Bore (in.)	**Auto Buttweld Wall Size	Working Pressure
4-4Q1Y	1/4	1.13	.18	.035	7,700
6-4 Q1Y	1/4	1.19	.18	.035	7,700
6-6 Q1Y	3/8	1.19	.31	.035	4,900
8-4 Q1Y	1/4	1.19	.18	.035	7,700
8-6 Q1Y	3/8	1.19	.31	.035	4,900
8-8 Q1Y	1/2	1.34	.41	.049	5,000
12-12 Q1Y	3/4	1.50	.50	.065	3,900

\* Note: Machined Bore diameters to match machined Bore in body.

**UltraSeal™ TUBE STUB WELD ELBOW**

**SERIES QET3**

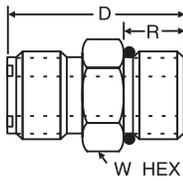


Part No.	H (in.)	*E Bore (in.)	L (in.)	R (in.)	W Hex (in.)	T (in.)
4-4 QET3	1.03	.18	.84	.65	9/16	.25

\* Note: Machined Bore diameters to match machined Bore in body.

**UltraSeal™ TO MALE CONNECTOR STRAIGHT THREAD**

**SERIES QHAO**

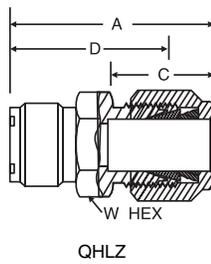
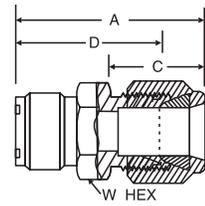


Part No.	Straight Thrd. Size	W Hex (in.)	D (in.)	R (in.)
4-2 QHAO*	5/16-24	5/8	1.03	.30
4-4 QHAO	7/16-20	5/8	1.09	.36
4-6 QHAO	9/16-18	11/16	1.13	.39
6-6 QHAO	9/16-18	7/8	1.14	.39
6-8 QHAO	3/4-16	7/8	1.19	.44
8-8 QHAO	3/4-16	15/16	1.31	.47

\*Note: Mass flow controller fitting with .125" orifice in straight thread end. Fitting is assembled with Fluorocarbon O-Ring. Other materials are available upon request

**UltraSeal™ TO COMPRESSION TUBE UNION**

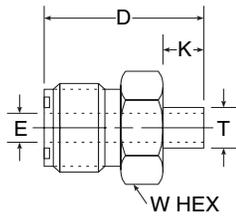
**SERIES QHBZ/QLZ**



Part No.	Tube O.D. (in.)	W Hex (in.)	C (in.)	A (in.)	D (in.)
4-4 QHBZ (CPI™)	1/4	5/8	.70	1.42	1.13
6-4 QHBZ	1/4	13/16	.70	1.45	1.16
6-6 QHBZ	3/8	13/16	.76	1.51	1.22
8-4 QHBZ	1/4	15/16	.70	1.48	1.19
8-6 QHBZ	3/8	15/16	.76	1.55	1.25
8-8 QHBZ	1/2	15/16	.87	1.65	1.25
12-12 QHBZ	3/4	1-3/8	.87	1.89	1.49
4-4 QHLZ (A-LOK®)	1/4	5/8	.70	1.42	1.13
6-4 QHLZ	1/4	13/16	.70	1.45	1.16
6-6 QHLZ	3/8	13/16	.76	1.51	1.22
8-4 QHLZ	1/4	15/16	.70	1.48	1.19
8-6 QHLZ	3/8	15/16	.76	1.55	1.25
8-8 QHLZ	1/2	15/16	.87	1.65	1.25
12-12 QHLZ	3/4	1-3/8	.87	1.89	1.49

**UltraSeal™ BODY MINIBUTTWELD**

**SERIES QHM**

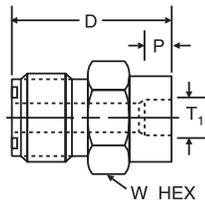


Part No.	T (in.)	D (in.)	K (in.)	*E Bore (in.)	W Hex (in.)
4-4 QHM .035	.25	1.00	.25	.18	5/8
6-6 QHM .035	.38	1.03	.25	.25	15/16
8-8 QHM .049	.50	1.00	.25	.31	15/16

\*Note: Machined Bore diameters to match machined Bore in body.

**UltraSeal™ TO SOCKET WELD CONNECTOR**

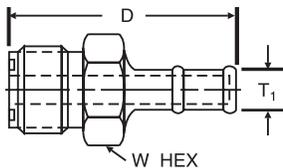
**SERIES QHW**



Part No.	T <sub>1</sub> Tube O.D. (in.)	W Hex (in.)	D (in.)	P (in.)
4-2 QHW	1/8	5/8	1.02	.16
4-4 QHW	1/4	5/8	1.09	.25
6-4 QHW	1/4	13/16	1.06	.28
6-6 QHW	3/8	13/16	1.16	.31
8-4 QHW	1/4	15/16	1.03	.25
8-6 QHW	3/8	15/16	1.13	.34
8-8 QHW	1/2	15/16	1.19	.41
12-12 QHW	3/4	1-3/8	1.53	.50

**UltraSeal™ TO AUTOMATIC BUTTWELD CONNECTOR**

**SERIES QHY**

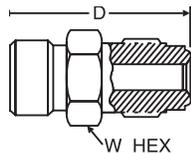


Part No.	T <sub>1</sub> (in.)	W Hex (in.)	D (in.)	Auto Buttweld Wall Size
4-4 QHY	1/4	5/8	1.47	.035
6-4 QHY	1/4	13/16	1.50	.035
6-6 QHY	3/8	13/16	1.53	.049
8-4 QHY	1/4	15/16	1.66	.035
8-6 QHY	3/8	15/16	1.53	.035
8-8 QHY	1/2	15/16	1.66	.049
12-12 QHY	3/4	1-3/8	2.03	0.65

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**UltraSeal™ TO VACUSEAL**

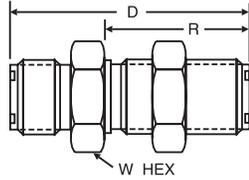
**SERIES VHQ**



Part No.	W Hex (in.)	D (in.)
4-4 VHQ	5/8	1.39
8-8 VHQ	15/16	1.55

**UltraSeal™ TO BULKHEAD CONNECTOR**

**SERIES WBQ**

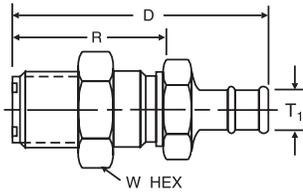


Part No.	W Hex (in.)	D (in.)	R (in.)
4-4 WBQ	3/4	1.59	.88
6-6 WBQ	15/16	2.00	.88
8-8 WBQ	1-1/16	1.69	.91
12-12 WBQ	1-9/16	2.09	1.06

Note: Fitting includes WLZ bulkhead lock nut.

**UltraSeal™ BULKHEAD TO AUTOMATIC BUTTWELD CONNECTOR**

**SERIES YH2BQ**

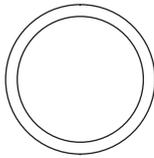


Part No.	W Hex (in.)	D (in.)	T <sub>1</sub> (in.)	R (in.)
4-4 YH2BQ	3/4	2.11	1/4	.88
6-6 YH2BQ	15/16	1.91	3/8	.88
8-8 YH2BQ	1-1/16	2.13	1/2	.91

Note: Fitting includes WLZ bulkhead lock nut.

**UltraSeal™ O-RINGS**

**SERIES QO**



**STAINLESS STEEL**

Part No.	Material
4QO-SS	321 (SILVER PLATED)
6QO-SS	321 (SILVER PLATED)
8QO-SS	321 (SILVER PLATED)
12QO-SS	321 (SILVER PLATED)

**FLUOROCARBON RUBBER**

Part No.	Material Compound
4QO-VI	FLUOROCARBON
6QO-VI	FLUOROCARBON
8QO-VI	FLUOROCARBON
12QO-VI	FLUOROCARBON

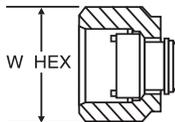
**NICKEL**

Part No.	Material
4QO-SS-NIC	321 (NICKEL PLATED)
6QO-SS-NIC	321 (NICKEL PLATED)
8QO-SS-NIC	321 (NICKEL PLATED)

**PTFE**

Part No.	Material Compound
4QO-TE	PTFE
6QO-TE	PTFE
8QO-TE	PTFE
12QO-TE	PTFE

**UltraSeal™ O-RING REMOVAL TOOL**



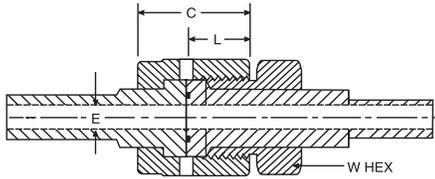
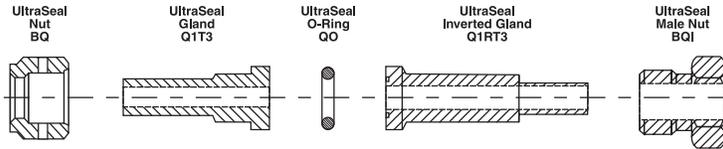
Part No.	W Hex (in.)
4 O-Ring Removal Tool	11/16
6 O-Ring Removal Tool	7/8
8 O-Ring Removal Tool	1

**HOW TO ORDER**

Parker UltraSeal™ components are ordered by part number, as listed in this catalog.  
 Note: Each component must be ordered separately.

**Nomenclature:** UltraSeal™ coupler part numbers are constructed from symbols that identify the size and configuration of the fitting and material used.

**Example:** If your system requires an UltraSeal™ coupler going from 1/4" tubing to 1/4" tubing, you would order the following part. (Keep in mind that you must order each component separately.)



**UltraSeal™ END DATA INFORMATION**

Size	UltraSeal™ Straight Thread	L (in.)	**C (in.)	W Hex (in.)	E Dia. (in.)
4	9/16-20	.46	.73	11/16	.18
8	7/8-20	.47	.85	1	.31
12	1-5/16-20	.57	1.05	1-3/8	.50

\*Average Value

\*\* Dimension C is shown in the finger tight position

**General Description:** Parker UHP products are designed as leak-free components for critical applications where ultra-high pure conditions are required. VacuSeal™ products, with their mating gasket and toroid design, provide a metal-to-metal seal with leak-free service from vacuum to positive pressure

**Features:**

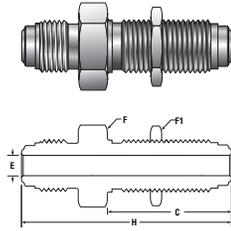
- **TorqTite™** gasket to seal damaged toroids and virtually eliminate loosening of componentry due to thermocycling and vibration.
- **High-Purity Nickel and Hastelloy C-22®** glands for extremely corrosive applications.
- **Non-Rotational Female Nut** to prevent transmission of torque during make-up and therefore minimize twist of componentry which causes stress concentration.
- **Anti-Galling Female Nut** to ensure consistent make-up without plating or lubrication.

**Specifications:**

- **Pressure Ratings** are based upon tests conducted on VacuSeal™ assemblies. All ratings comply with calculations per ANSI Code for Pressure Piping B31.3. Working Pressures are rated at ambient temperature and are based on a 4 to 1 design factor. To determine pressure ratings in accordance with ANSI B31.1, multiply Working Pressure by 0.94.
- **Temperature Ratings**

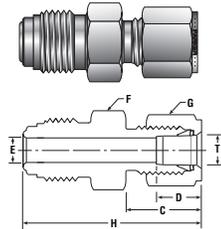
Fittings:	Stainless Steel 316, 316L, 316L VAR, 316L VIM/VAR 1000°F
Gaskets:	High-Purity Nickel 600°F Silver plated Stainless Steel 1000°F
- **Dimensions** are for reference only and are subject to change. Tube ends conform to the dimensional requirements of ASTM A269.
- **Plating:** VacuSeal™ Female Nuts are Silver plated with an enhanced plating process. Avoid aggressive chemical processes used for cleaning, electropolishing and passivation that will remove plating. Removal or damage to plating will cause threads to gall, damaging fitting components and preventing a proper seal.
- **Testing:** VacuSeal™ products are rated to a Helium leak rate of  $1 \times 10^{-9}$  STD cc/sec.
- **Internal Surface Finishes:** VacuSeal™ components are available with controlled surface finishes and electropolished internal surfaces.
- **Cleaning and Packaging:** Ultra-High Purity 'OMEGA' cleaning and packaging in a Class 100 Clean Room environment validated per Federal Standard 209E, is standard for all electropolished VacuSeal™ components.

**BULKHEAD UNION**



Size	Part No.	C (in.)	E (in.)	F Hex Flat	F1 Hex Flat	H (in.)	Panel Hole Size	Max. Panel Thickness	Working Pressure psig
1/4	4-4 WBV-SS 2.23	1.30	0.25	3/4	3/4	2.23	19/32	0.44	8000
1/4	4-4 WBV-SS 1.82	0.99	0.25	3/4	3/4	1.82	19/32	0.13	8000
1/2	8-8 WBV-SS 2.57	1.45	0.41	1 1/16	1 1/16	2.57	29/32	0.50	3500
1/2	8-8 WBV-SS 2.14	1.11	0.41	1 1/16	1 1/16	2.14	29/32	0.13	3500

**COMPRESSION TUBE FITTING CONNECTOR (A-LOK®)**

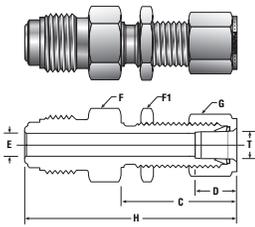


T Tube O.D.	Part No.	C (in.)	D (in.)	E (in.)	F Hex Flat	G Hex Flat	H (in.)	Working Pressure psig
1/8	2-2 VHLZ-SS	0.60	0.50	0.09 <sup>2</sup>	5/8	7/16	1.53	8000
1/4	4-4 VHLZ-SS	0.70	0.60	0.19	5/8	9/16	1.62	8000
3/8	8-6 VHLZ-SS	0.76	0.66	0.28	15/16	11/16	1.84	3500
1/2	8-8 VHLZ-SS	0.87	0.90	0.41	15/16	7/8	1.95	3500

Dimensions - C, D, H are typical finger-tight.  
Change "L" to a "B" to select CPI™ one ferrule connector.  
For maximum pressure ratings reference the Instrument Tubing Selection Guide, found in the Technical Section of your Parker Instrumentation Master Binder.

**COMPRESSION TUBE FITTING BULKHEAD CONNECTOR (A-LOK®)**

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T Tube O.D.	Part No.	C (in.)	D (in.)	E (in.)	F Hex Flat	F1 Hex Flat	G Hex Flat	H (in.)	Panel Hole Size	Max. Panel Thickness	Working Pressure psig
1/4	4-4 VH2LZ-SS	1.32	0.60	0.18	5/8	5/8	9/16	2.25	15/32	0.40	8000
1/4	4-4 VH2LZ-SS 1.88	1.05	0.60	0.18	5/8	5/8	9/16	1.88	15/32	0.13	8000
3/8	8-6 VH2LZ-SS	1.45	0.66	0.28	15/16	3/4	11/16	2.54	19/32	0.44	3500
1/2	8-8 VH2LZ-SS	1.65	0.90	0.41	15/16	15/16	7/8	2.74	25/32	0.50	3500

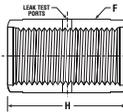
Dimensions - C, D, H are typical finger-tight.  
Change "L" to a "B" to select CPI™ one ferrule connector.  
For maximum pressure ratings reference the Instrument Tubing Selection Guide, found in the Technical Section of your Parker Instrumentation Master Binder.

<sup>1</sup> Uses 2 BV-SS and 2 BVI-SS nuts

<sup>2</sup> May contain internal transitions

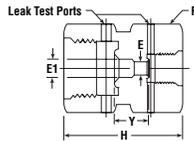
<sup>3</sup> O-rings fluorocarbon is standard. Contact local Parker representative for other available materials

**COUPLING**



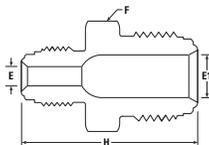
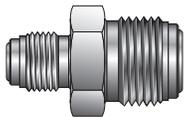
Size	Part No.	F Hex Flat	H (in.)
1/8	2 VHC-SS	7/16	0.66
1/4	4 VHC-SS	3/4	1.19
1/2	8 VHC-SS	1 1/16	1.31
3/4	12 VHC-SS	1 1/2	1.68
1	16 VHC-SS	1 3/4	2.04

**DOUBLE FEMALE REDUCING UNION**



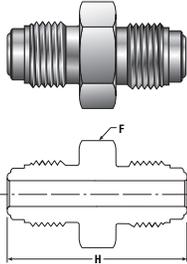
Size	Part No.	E (in.)	E1 (in.)	F Hex Flat	H (in.)	Y (in.)	Working Pressure psig
1/4x1/8	4-2 HV7-SS	0.13	.25	3/4	1.16	0.36	8000
1/2x1/4	8-4 HV7-SS	0.25	.41	1 1/16	1.41	0.35	3500

**DOUBLE MALE REDUCING UNION**



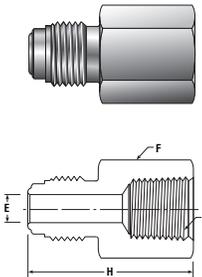
Size	Part No.	E (in.)	E1 (in.)	F Hex Flat	H (in.)	Working Pressure psig
1/4x1/8	4-2 HV-SS	0.09	0.18	5/8	1.37	8000
1/2x1/4	8-4 HV-SS	0.18	0.41	15/16	1.71	3500

**DOUBLE MALE UNION**



Size	Part No.	E (in.)	F Hex Flat	H (in.)	Working Pressure psig
1/8	2-2 HV-SS	0.09	3/8	1.13	9000
1/4	4-4 HV-SS	0.25	5/8	1.53	8000
1/2	8-8 HV-SS	0.41	15/16	1.84	3500
3/4	12-12 HV-SS	0.62	1 5/16	2.44	3000
1	16-16 HV-SS	0.87	1 5/8	2.59	2400

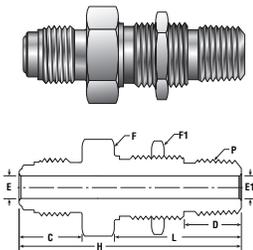
**FEMALE NPT CONNECTOR**



P Female NPT Size	Part No.	E (in.)	F Hex Flat	H (in.)	Working Pressure psig
1/16	2-1 GV-SS	0.09	7/16	1.10	6700
1/8	2-2 GV-SS	0.09	9/16	1.19	6500
1/8	4-2 GV-SS	0.18	5/8	1.41	8000
1/4	4-4 GV-SS	0.25	3/4	1.44	6600
3/8	8-6 GV-SS	0.41	15/16	1.62	3500
1/2	8-8 GV-SS	0.41	1 1/16	1.91	3500
3/4	12-12 GV-SS	0.62	1 5/16	2.36	3000
1	16-16 GV-SS	0.87	1 5/8	2.51	2400

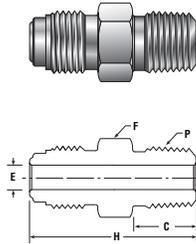
10

**MALE BULKHEAD CONNECTOR**



P Male NPT Size	Part No.	C (in.)	D (in.)	E (in.)	E1 (in.)	F Hex Flat	F1 Hex Flat	H (in.)	L (in.)	Panel Hole Size	Max. Panel Thick- ness	Working Pressure psig
1/4	4-4 VH2BF-SS	0.62	0.57	0.25	0.25	13/16	13/16	2.21	1.24	21/32	0.38	8000
1/4	8-4 VH2BF-SS	0.75	0.57	0.41	0.28	15/16	13/16	2.34	1.24	21/32	0.38	3500

**MALE NPT CONNECTOR**



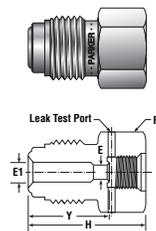
P Male NPT Size	Part No.	C (in.)	E (in.)	F Hex Flat	H (in.)	Working Pressure psig
1/16	2-1 FV-SS	0.38	0.09 <sup>2</sup>	3/8	1.07	9000
1/8	2-2 FV-SS	0.38	0.09 <sup>2</sup>	7/16	1.07	9000
1/8	4-2 FV-SS	0.38	0.19	5/8	1.28	8000
1/4	4-4 FV-SS	0.57	0.25	5/8	1.49	8000
3/8	8-6 FV-SS	0.57	0.38	15/16	1.62	3500
1/2	8-8 FV-SS	0.76	0.41	15/16	1.81	3500
3/4	12-12 FV-SS	0.76	0.62	1 15/16	2.19	3000
1	16-16 FV-SS	0.95	0.87	1 15/16	2.47	2400

**REDUCING ADAPTER**



Size	Part No.	E (in.)	E1 (in.)	F Hex Flat	H (in.)	Y (in.)	Working Pressure psig
1/8x1/4	4-2 V7HV-SS	0.09	.25	3/4	1.19	0.69	8000
1/4x1/2	8-4 V7HV-SS	0.18	.41	1 1/16	1.41	0.85	3500

**REDUCING BUSHING**



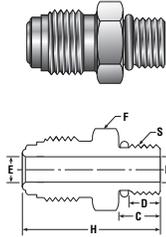
Size	Part No.	E (in.)	E1 (in.)	F Hex Flat	H (in.)	Y (in.)	Working Pressure psig
1/4x1/8	4-2 VHV7-SS	0.13	.18	5/8	1.06	0.76	8000
1/2x1/4	8-4 VHV7-SS	0.25	.41	15/16	1.41	0.91	3500

<sup>1</sup> Uses 2 BV-SS and 2 BVI-SS nuts

<sup>2</sup> May contain internal transitions

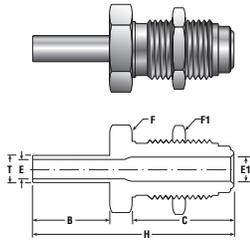
<sup>3</sup> O-rings fluorocarbon is standard. Contact local Parker representative for other available materials

**STRAIGHT THREAD O-RING SEAL MALE CONNECTOR<sup>3</sup>**



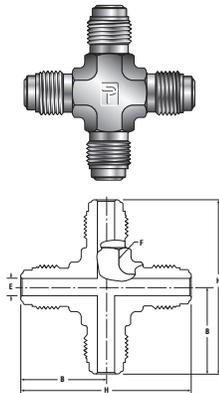
S Straight Thread Size	Part No.	C (in.)	D (in.)	E (in.)	E1 (in.)	F Hex Flat	H (in.)	Uniform O-Ring Size	Working Pressure psig
9/16-18	4-6 VHOA-SS	0.39	0.25	0.18	0.28	3/4	1.33	Fluorocarbon 906	4500
7/8-14	8-10 VHOA-SS	0.50	0.4	0.28	0.59	1	1.66	Fluorocarbon 910	3500
9/16-18	8-6 VHOA-SS	0.39	0.39	0.28	0.28	15/16	1.48	Fluorocarbon 906	3500

**TUBE BUTTWELD BULKHEAD CONNECTOR**



T Tube O.D. Size	Part No.	B (in.)	C (in.)	E (in.)	E1 (in.)	F Hex Flat	F1 Hex Flat	H (in.)	Panel Hole Size	Max. Panel Thickness	Working Pressure psig	
1/4	4-4 T3H2BV-*	1.95	0.75	0.99	0.18	0.22	3/4	3/4	1.95	19/32	0.13	5100
1/4	4-4 T3H2BV-*	2.36	0.75	1.30	0.18	0.22	3/4	3/4	2.36	19/32	0.44	5100

**UNION CROSS**



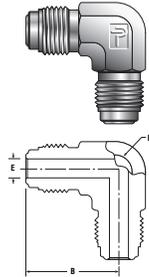
Size	Part No.	B (in.)	E (in.)	H (in.)	F Wrench Flat	Working Pressure psig
1/8	2 KV-SS	0.89	0.09	1.78	7/16	9000
1/4	4 KV-SS	1.13	0.25	2.25	9/16	8000
1/2	8 KV-SS	1.45	0.41	2.90	7/8	3500
3/4	12 KV-SS	1.92	0.62	3.84	1 1/4	3000
1	16 KV-SS	2.00	0.87	4.00	1 5/8	2400

<sup>1</sup> Uses 2 BV-SS and 2 BVI-SS nuts

<sup>2</sup> May contain internal transitions

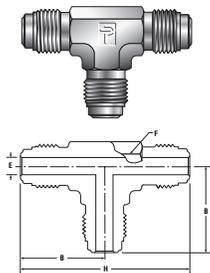
<sup>3</sup> O-rings fluorocarbon is standard. Contact local Parker representative for other available materials

**UNION ELBOW**



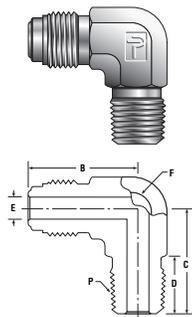
Size	Part No.	B (in.)	E (in.)	F Wrench Flat	Working Pressure psig
1/8	2-2 EV-SS	0.89	0.09	7/16	9000
1/4	4-4 EV-SS	1.13	0.25	9/16	8000
1/2	8-8 EV-SS	1.31	0.41	7/8	3500
3/4	12-12 EV-SS	1.92	0.62	1 1/4	3000
1	16-16 EV-SS	2.00	0.87	1 5/8	2400

**UNION TEE**



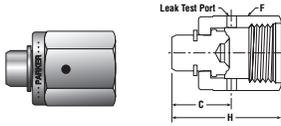
Size	Part No.	B (in.)	E (in.)	H (in.)	F Wrench Flat	Working Pressure psig
1/8	2-2-2 JV-SS	0.89	0.09	1.78	7/16	9000
1/4	4-4-4 JV-SS	1.13	0.25	2.25	9/16	8000
1/2	8-8-8 JV-SS	1.31	0.41	2.62	7/8	3500
3/4	12-12-12 JV-SS	1.92	0.62	3.84	1 1/4	3000
1	16-16-16 JV-SS	2.00	0.87	4.00	1 5/8	2400

**VACUSEAL™ TO MALE NPT ELBOW**



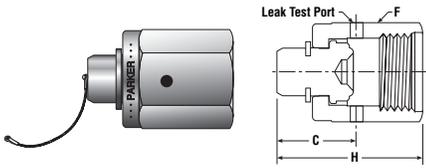
P Male NPT Size	Part No.	B (in.)	C (in.)	D (in.)	E (in.)	F Hex Flat	Working Pressure psig
1/8	2-2 CV-SS	1.07	0.87	0.38	0.18	9/16	8000
1/4	4-4 CV-SS	1.13	1.06	0.57	0.25	9/16	8000
3/8	8-6 CV-SS	1.45	1.26	0.57	0.40	7/8	3500
1/2	8-8 CV-SS	1.31	1.31	0.76	0.41	7/8	3500

**CAP**



Part No.	Size	C (in.)	F Hex Flat	H (in.)
4 FNV-SS	1/4	0.59	3/4	1.00
8 FNV-SS	1/2	0.59	1 1/16	1.07
12 FNV-SS	3/4	0.66	1 1/2	1.31
16 FNV-SS	1	0.63	1 3/4	1.53

**CAP WITH LANYARD**



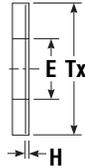
Part No.	Size	C (in.)	F Hex Flat	H (in.)	Lanyard Length (in.)
4 FNV-SS-L	1/4	0.59	3/4	1.00	6
8 FNV-SS-L	1/2	0.59	1 1/16	1.07	6

**PROTECTIVE SHIPPING CAP**



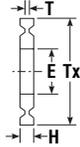
Part No.	Size
C-VacuSeal	1/4

**NON-RETAINED FLAT STYLE**



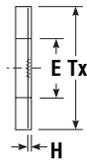
Size	Part No.	E (in.)	H (in.)	Tx (in.)
1/8	2 VG-*	0.09	0.02	0.26
1/4	4 VG-*	0.22	0.03	0.47
1/2	8 VG-*	0.44	0.03	0.78
3/4	12 VG-*	0.66	0.03	1.14
1	16 VG-*	0.89	0.03	1.41

**NON-RETAINED GROOVED STYLE (TORQTITE™ GASKET)**



Size	Part No.	E (in.)	H (in.)	Tx (in.)	T (in.)
1/4	4 GVG-*	0.21	0.06	0.50	0.03
1/2	8 GVG-*	0.43	0.06	0.78	0.03

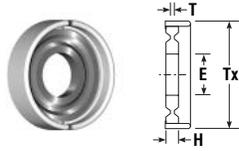
**RETAINED FLAT STYLE**



Size	Part No.	E (in.)	H (in.)	Tx (in.)
1/4	4 VGR-*	0.23	0.03	0.50
1/2	8 VGR-*	0.44	0.03	0.79
3/4	12 VGR-*	0.66	0.03	1.14
1	16 VGR-*	0.89	0.03	1.40

Retainer and gasket must be used as an assembly.  
 Note: Nickel Retained Flat Style Gaskets utilize a Stainless Steel Retainer

**RETAINED GROOVED STYLE (RETAINED TORQTITE™ GASKET)**



Size	Part No.	E (in.)	H (in.)	Tx (in.)	T (in.)
1/4	4 GVGR-*	0.21	0.06	0.49	0.03
1/2	8 GVGR-*	0.43	0.06	0.79	0.03

**HOW TO ORDER**

Specify gasket material by replacing asterisk with appropriate Part No. Designator.

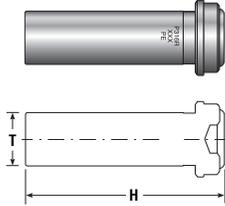
Material	Part No. Designator	Example
High-Purity Nickel (electropolished)	N	4 VGR-N
Stainless Steel <sup>3</sup>	SS	4 VGR-SS
Kel-F <sup>®12</sup>	K	4 VG-K
Teflon <sup>®12</sup>	T	4 VG-T

Blind (undrilled) gaskets are available by adding a -BL suffix at the end of the part number.  
 Example: 4 VG-N-BL

- 1 Parker uses Kel-F 81<sup>®</sup> or equal PCTFE Polymer. Parker uses Teflon<sup>®</sup> or equal PTFE Polymer
- 2 Kel-F 81<sup>®</sup> and Teflon<sup>®</sup> are only available for Non-Retained Flat Style gaskets
- 3 Stainless Steel gaskets are Silver plated

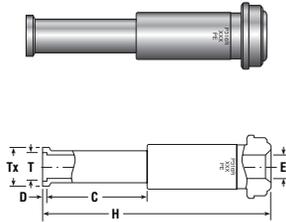
Kel-F 81<sup>®</sup> is a registered trademark of 3M Company  
 Teflon<sup>®</sup> is a registered trademark of Dupont Company

**BLIND (UNDRILLED) GLAND**



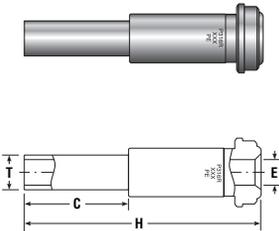
T Tube O.D.	Part No.	H (in.)
1/8	2-2 V1W-* -BL	0.70
1/4	4-4 V1W-* -BL	1.31
1/2	8-8 V1W-* -BL	1.50
3/4	12-12 V1W-* -BL	2.00
1	16-16 V1W-* -BL	2.22

**LONG AUTOMATIC TUBE BUTTWELD**



T Tube Size	Part No.	C (in.)	D (in.)	E (in.)	H (in.)	Tx (in.)	Normal Wall Thickness	Working Pressure psig
1/4	4-4 V1Y3-* 1.72	0.75	0.02	0.18	1.72	0.29	0.035	5100
1/4	8-4 V1Y3-* 1.82	0.75	0.02	0.18	1.82	0.29	0.035	5100
3/8	8-6 V1Y3-* 1.82	0.75	0.03	0.31	1.82	0.41	0.035	3300
1/2	8-8 V1Y3-* 1.83	0.75	0.04	0.40	1.83	0.55	0.049	3500
3/4	12-12 V1Y3-* 2.07	0.75	0.04	0.65	2.07	0.80	0.049	2400
1	16-16 V1Y3-* 2.57	0.96	0.04	0.87	2.57	1.06	0.065	2400
6 mm	4-6M V1Y3-* 1.72	0.75	0.02	0.16	1.72	0.27	1.0 mm	6800
12 mm	8-12M V1Y3-* 1.83	0.75	0.04	0.39	1.83	0.52	1.0 mm	3100
18 mm	12-18M V1Y3-* 2.07	0.75	0.04	0.59	2.07	0.76	1.5 mm	3000

**LONG TUBE WELD**



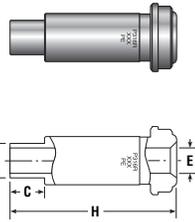
T Tube O.D.	Part No.	C (in.)	E (in.)	H (in.)	Normal Wall Thickness	Working Pressure psi
1/8	2-2 V1T3-* 1.42	0.75	0.07	1.42	0.028	8500
1/4	4-4 V1M-* 1.20	0.25	0.18	1.20	0.035	5100
1/4	4-4 V1T3-*	0.40	0.18	1.31	0.035	5100
1/4	4-4 V1TW-* 1.32	0.38	0.18	1.32	0.035	5100
1/4	4-4 V1T3-* 1.70	0.75	0.18	1.70	0.035	5100
1/4	8-4 V1T3-* 1.79	0.75	0.18	1.80	0.035	3500
3/8	8-6 V1M-* 1.29	0.25	0.31	1.29	0.035	3300
3/8	8-6 V1T3-* 1.79	0.75	0.31	1.79	0.035	3300
1/2	8-8 V1M-* 1.29	0.25	0.40	1.29	0.049	3500
1/2	8-8 V1TW-* 1.41	0.38	0.40	1.41	0.049	3500
1/2	8-8 V1T3-* 1.79	0.75	0.40	1.79	0.049	3500
3/4	12-12 V1T3-* 2.03	0.75	0.65	2.03	0.049	2400
1	16-16 V1T3-* 2.32	0.75	0.87	2.32	0.065	2400
6 mm	4-6M V1T3-* 1.70	0.75	0.16	1.70	1.0 mm	6800
8 mm	4-8M V1T3-* 1.70	0.75	0.24	1.70	1.0 mm	4900
10 mm	8-10M V1T3-* 1.79	0.75	0.31	1.79	1.0 mm	3500
12 mm	8-12M V1T3-* 1.79	0.75	0.39	1.79	1.0 mm	3100
18 mm	12-18M V1T3-* 2.03	0.75	0.59	2.03	1.5 mm	3000

<sup>1</sup> Uses 2 BV-SS and 2 BVI-SS nuts

<sup>2</sup> May contain internal transitions

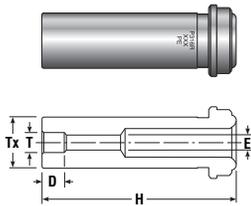
<sup>3</sup> O-rings fluorocarbon is standard. Contact local Parker representative for other available materials

**MALE WELD**



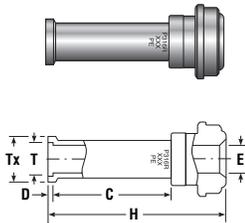
T Tube O.D.	Part No.	C (in.)	E (in.)	H (in.)	Working Pressure psig
1/8	2-2 V1T3-* .70 .035	0.28	0.06 <sup>2</sup>	0.70	9000
1/8	4-2 V1T3-* 1.31 .035	0.28	0.06 <sup>2</sup>	1.31	8000
1/4	4-4 V1T3-* 1.31 .065	0.41	0.12	1.31	8000
1/4	8-4 V1T3-* D970351	0.41	0.12	1.50	3500
3/8	8-6 V1T3-* 1.50 .049	0.41	0.28	1.50	3500
1/2	8-8 V1T3-*	0.50	0.40	1.50	3500
3/4	12-12 V1T3-* 2.00 .109	0.62	0.53	2.00	3000
1	16-16 V1T3-* 2.22 .120	0.81	0.75	2.22	2400

**REDUCING SOCKET WELD**



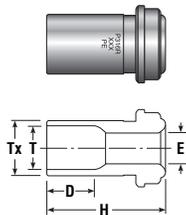
T Tube Socket	Part No.	D (in.)	E (in.)	H (in.)	Tx (in.)	Working Pressure psig
1/8	4-2 V1W-* 1.31	0.16	0.09 <sup>2</sup>	1.31	0.35	8000
1/4	8-4 V1W-*	0.25	0.19	1.50	0.60	3500

**SHORT AUTOMATIC TUBE BUTTWELD**



T Tube Size	Part No.	C (in.)	D (in.)	E (in.)	H (in.)	Tx (in.)	Normal Wall Thickness	Working Pressure psi
1/4	4-4 V1Y3-* 1.12	0.75	0.02	0.18	1.12	0.29	0.035	5100
1/2	8-8 V1Y3-* 1.16	0.75	0.04	0.40	1.16	0.55	0.049	3500
3/8	8-6 V1Y3-* 1.15	0.75	0.03	0.30	1.15	0.41	0.035	3300
6 mm	4-6M V1Y3-* 1.18	0.75	0.02	0.16	1.18	0.27	1.0 mm	6800
8 mm	4-8M V1Y3-* 1.19	0.75	0.03	0.24	1.19	0.35	1.0 mm	4900
10 mm	8-10M V1Y3-* 1.22	0.75	0.03	0.31	1.22	0.43	1.0 mm	3500
12 mm	8-12M V1Y3-* 1.20	0.75	0.04	0.39	1.20	0.52	1.0 mm	3100

**SHORT SOCKET WELD**



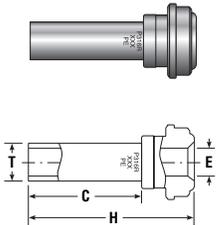
T Tube Socket	Part No.	D (in.)	E (in.)	H (in.)	Tx (in.)	Working Pressure psig
1/4	4-4 V1W-* .50	0.28	0.19	0.50	0.35	5500
1/4	4-4 V1W-* .75	0.28	0.19	0.75	0.35	5500

<sup>1</sup> Uses 2 BV-SS and 2 BVI-SS nuts

<sup>2</sup> May contain internal transitions

<sup>3</sup> O-rings fluorocarbon is standard. Contact local Parker representative for other available materials

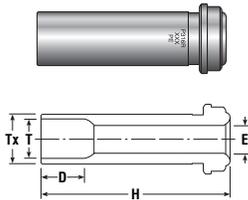
**SHORT TUBE BUTTWELD**



^Old Part Number 4-4 V1M-\* .035  
^^Old Part Number 8-8 V1M-\* .049

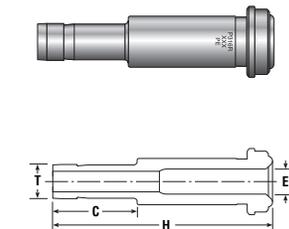
T Tube O.D.	Part No.	C (in.)	E (in.)	H (in.)	Normal Wall Thickness	Working Pressure psi
1/8	2-2 V1T3-* 1.08	0.75	0.07	1.08	0.028	8500
1/4	^4-4 V1M-* .60	0.25	0.18	0.60	0.035	5100
1/4	4-4 V1TW-* .72	0.38	0.18	0.72	0.035	5100
1/4	4-4 V1T3-* 1.10	0.75	0.18	1.10	0.035	5100
1/4	8-4 V1T3-* 1.12	0.75	0.18	1.12	0.035	3500
3/8	8-6 V1M-* .62	0.25	0.31	0.62	0.035	3300
3/8	8-6 V1T3-* 1.12	0.75	0.31	1.12	0.035	3300
1/2	^^8-8 V1M-* .62	0.25	0.40	0.62	0.049	3500
1/2	8-8 V1TW-* .74	0.38	0.40	0.74	0.049	3500
1/2	8-8 V1T3-* 1.12	0.75	0.40	1.12	0.049	3500
6 mm	4-6M V1T3-* -1.16	0.75	0.16	1.16	1.0 mm	6800
8 mm	4-8M V1T3-* -1.16	0.75	0.24	1.16	1.0 mm	4900
10 mm	8-10M V1T3-* -1.16	0.75	0.31	1.16	1.0 mm	3500
12 mm	8-12M V1T3-* -1.16	0.75	0.39	1.16	1.0 mm	3100
18 mm	12-18M V1T3-* -1.22	0.75	0.59	1.22	1.5 mm	3000

**SOCKET WELD**



T Tube Socket	Part No.	D (in.)	E (in.)	H (in.)	Tx (in.)	Working Pressure psig
1/16	1-1 V1W-* <sup>1</sup>	0.10	0.05	0.70	0.13	9000
1/8	2-2 V1W-* .70	0.10	0.09	0.70	0.20	7100
1/4	4-4 V1W-*	0.28	0.19	1.31	0.35	5500
3/8	8-6 V1W-*	0.31	0.28	1.50	0.60	3500
1/2	8-8 V1W-*	0.38	0.40	1.50	0.60	3000
3/4	12-12 V1W-*	0.44	0.62	2.00	0.88	2800
1	16-16 V1W-*	0.62	0.87	2.22	1.19	2400

**TUBE ADAPTER (A-LOK®)**



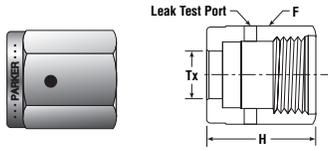
T Tube O.D.	Part No.	C (in.)	E (in.)	H (in.)	Working Pressure psig
1/4	4-4 V1TU-*	0.62	0.16	1.62	8000
3/8	8-6 V1TU-*	0.69	0.28 <sup>2</sup>	1.81	3500
1/2	8-8 V1TU-*	0.91	0.39	1.78	3500

Replace 'U' with a '2' to designate groove for CPI™ Fitting.

<sup>1</sup> Uses 2 BV-SS and 2 BVI-SS nuts  
<sup>2</sup> May contain internal transitions

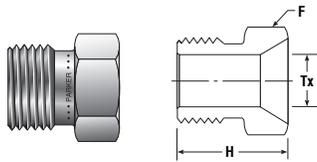
<sup>3</sup> O-rings fluorocarbon is standard. Contact local Parker representative for other available materials

**FEMALE NUT**



Part No.	Size	F Hex Flat	H (in.)	Tx (in.)
2 BV-SS	1/8	7/16	0.53	0.21
4 BV-SS-D	1/4	3/4	0.82	0.36
8 BV-SS	1/2	1 1/16	0.88	0.61
12 BV-SS	3/4	1 1/2	1.12	0.89
16 BV-SS	1	1 3/4	1.34	1.20

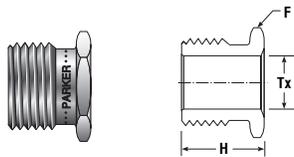
**MALE NUT**



Part No.	Size	F Hex Flat	H (in.)	Tx (in.)
2-BVI-SS	1/8	3/8	0.50	0.21
4 BVI-SS <sup>4</sup>	1/4	5/8	0.72	0.36
8-BVI-SS	1/2	15/16	0.81	0.61
12-BVI-SS	3/4	1 5/16	1.00	0.89
16-BVI-SS	1	1 5/8	1.19	1.20

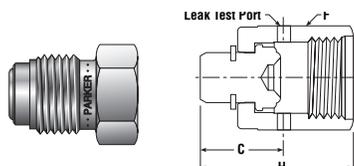
<sup>4</sup> Taper in the back of nut allows mobility around 90° bends

**SHORT MALE NUT**



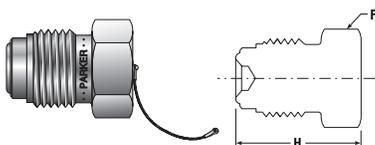
Part No.	Size	F Hex Flat	H (in.)	Tx (in.)
4 BVI .54-SS	1/4	5/8	0.54	0.36
4 BVI .65-SS	1/4	5/8	0.65	0.36

**PLUG**



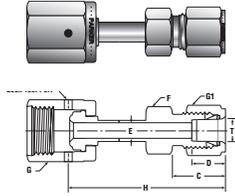
Part No.	Size	F Hex Flat	H (in.)
2 PNV-SS	1/8	3/8	0.68
4 PNV-SS	1/4	5/8	0.91
8 PNV-SS	1/2	15/16	1.08
12 PNV-SS	3/4	1 5/16	1.43
16 PNV-SS	1	1 5/8	1.52

**PLUG WITH LANYARD**



Part No.	Size	F Hex Flat	H (in.)	Lanyard Length (in.)
4 PNV-SS-L	1/4	5/8	0.91	6
8 PNV-SS-L	1/2	15/16	1.08	6

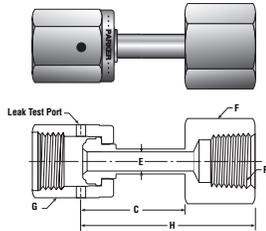
**COMPRESSION TUBE FITTING CONNECTOR (A-LOK®)**



T Tube O.D.	Part No.	C (in.)	D (in.)	E (in.)	F Hex Flat	G Hex Flat	G1 Hex Flat	H (in.)	Working Pressure psig
1/4	4-4 V1HLZ-*	0.70	0.60	0.18	1/2	3/4	9/16	1.94	5100
3/8	4-6 V1HLZ-*	0.76	0.67	0.18	5/8	3/4	11/16	1.97	5100
1/2	8-8 V1HLZ-*	0.87	0.90	0.40	13/16	1 1/16	1 7/8	2.23	3500

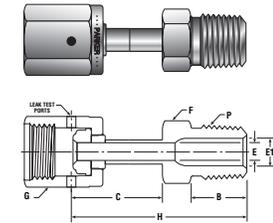
Dimensions - C, D, H are typical finger-tight.  
Change "L" to a "B" to select CPI™ one ferrule connector.  
For maximum pressure ratings reference the Instrument Tubing Selection Guide, found in the Technical Section of your Parker Instrumentation Master Binder.

**FEMALE NPT CONNECTOR**



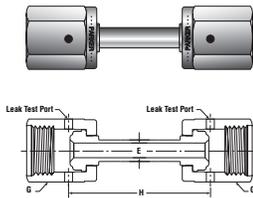
P Female NPT Size	Part No.	C (in.)	E (in.)	F Hex Flat	G Hex Flat	H in.	Working Pressure psig
1/4	4-4 V1HBG-*	1.05	0.18	3/4	3/4	1.77	5100
3/8	8-6 V1HBG-*	1.06	0.40	7/8	1 1/16	1.95	3500
1/2	8-8 V1HBG-*	1.04	0.40	1 1/16	1 1/16	2.18	3500

**MALE NPT CONNECTOR**

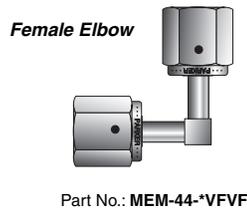


P Male NPT Size	Part No.	B (in.)	C (in.)	E (in.)	E1 (in.)	F Hex Flat	G Hex Flat	H (in.)	Working Pressure psig
1/8	2-2 V1HBF-*	.38	0.95	0.18	0.19	7/16	3/4	1.58	8000
1/4	4-4 V1HBF-*	.57	0.93	0.18	0.28	9/16	3/4	1.79	5100
3/8	8-6 V1HBF-*	.57	1.00	0.40	0.41	1 1/16	1 1/16	1.89	3500
1/2	8-8 V1HBF-*	.76	1.01	0.40	0.53	7/8	1 1/16	2.09	3500

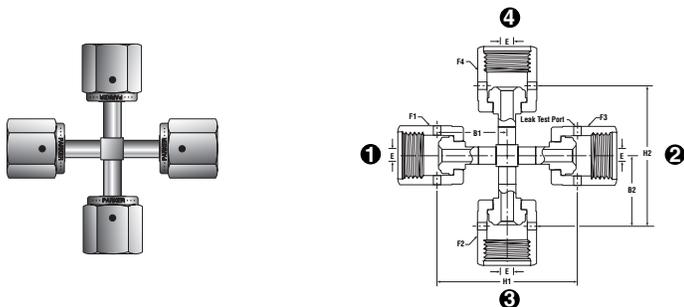
**ROTATING FEMALE UNION**



Size	Part No.	E (in.)	G Hex Flat	H (in.)	Working Pressure (psig)
1/4	4-4 V1HBV1-*	.18	3/4	1.35	5100
1/4	4-4 V1HBV1-*	1.70	3/4	1.70	5100
1/2	8-8 V1HBV1-*	.40	1 1/16	1.25	3500
1/2	8-8 V1HBV1-*	1.84	1 1/16	1.84	3500

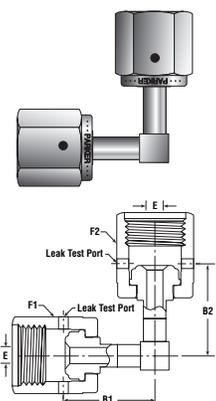


**CROSS MODULES**



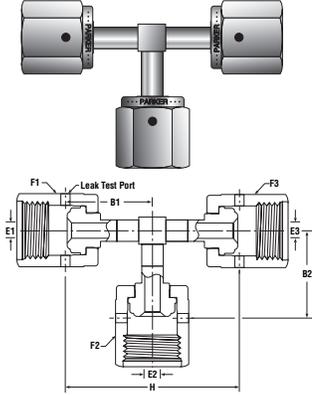
Size	Part No.	B1 (in.)	B2 (in.)	H1 (in.)	H2 (in.)	E (in.)	F1	F2	F3	F4	Working Pressure psig
1/4	MKM-4444*VMSV/FV/FV	1.60	1.00	2.60	2.00	0.18	5/8	3/4	3/4	3/4	5100
1/4	MKM-4444*VFV/FV/FV	1.00	1.00	2.00	2.00	0.18	3/4	3/4	3/4	3/4	5100

**ELBOW MODULES**



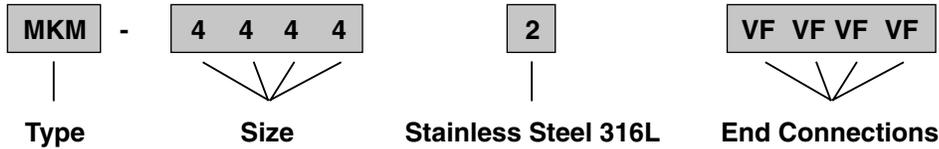
Size	Part No.	B1 (in.)	B2 (in.)	E (in.)	F1 Hex Flat	F2 Hex Flat	Working Pressure psig
1/4	MEM-44*VMSV/F	1.60	1.00	0.18	5/8	3/4	5100
1/4	MEM-44*VMSV/MS	1.60	1.60	0.18	5/8	5/8	5100
1/4	MEM-44*VFV/F	1.00	1.00	0.18	3/4	3/4	5100
1/2	MEM-88*VFV/F	1.17	1.17	0.18	1 1/16	1 1/16	3500

**TEE MODULES**



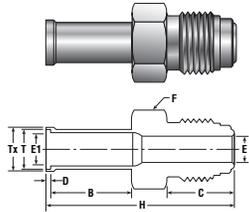
Size	Part No.	B1 (in.)	B2 (in.)	H (in.)	E1 (in.)	E2 (in.)	E3 (in.)	F1 Hex Flat	F2 Hex Flat	F3 Hex Flat	Working Pressure psig
1/4	MJM-444*VFVFMMS	1.00	1.00	2.60	0.18	0.18	0.18	3/4	3/4	5/8	5100
1/4	MJM-444*VFVMSVMS	1.00	1.60	2.60	0.18	0.18	0.18	3/4	5/8	5/8	5100
1/4	MJM-444*VFVVFV	1.00	1.00	2.00	0.18	0.18	0.18	3/4	3/4	3/4	5100
1/4	MJM-444*VMSVMSVMS	1.60	1.60	3.20	0.18	0.18	0.18	5/8	5/8	5/8	5100
1/2x1/4	MJM-884*VFVMSVF	1.17	1.12	3.20	0.40	0.18	0.40	1 1/16	3/4	15/16	3500

**HOW TO ORDER**



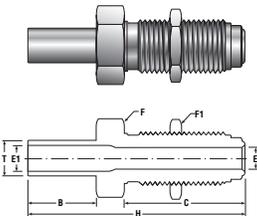
VF = Female VacuSeal™ Swivel  
 VMS = Male VacuSeal™ Swivel  
 Replace asterisk with 2 to specify Stainless Steel 316L.  
 For additional configurations and sizes contact your local Parker Representative.

**AUTOMATIC TUBE WELD**



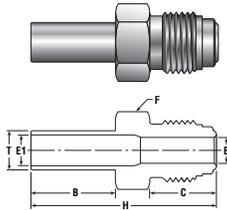
T Tube O.D.	Part No.	B (in.)	C (in.)	D (in.)	E (in.)	E1 (in.)	F Hex Flat	H (in.)	Tx (in.)	Working Pressure psig
3/8	4-6 VHY3-* 1.71	0.75	0.62	0.03	0.25	0.30	5/8	1.71	0.41	3300

**BULKHEAD CONNECTOR**



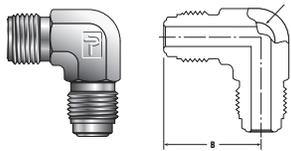
T Tube O.D.	Part No.	B (in.)	C (in.)	E (in.)	E1 (in.)	F Hex Flat	F1 Hex Flat	H (in.)	Panel Hole Size	Max. Panel Thick- ness	Working Pressure psig
3/8	6-4 T3H2BV-* 2.36	0.75	1.30	0.23	0.30	3/4	3/4	2.36	19/32	0.44	3300

**TUBE BUTTWELD**



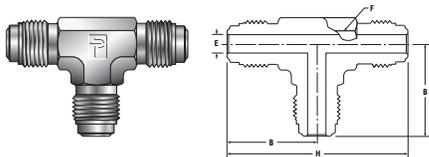
T Tube O.D.	Part No.	B (in.)	C (in.)	E (in.)	E1 (in.)	F Hex Flat	H (in.)	Working Pressure psig
3/8	4-6 VHT3-* 1.68	0.75	0.62	0.25	0.30	5/8	1.68	3300

**UNION ELBOW**



Size	Part No.	B (in.)	E (in.)	F Wrench Flat	Working Pressure psig
3/8	4-4 EV-SS	1.13	0.25	0.56	8000

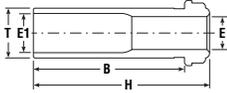
**UNION TEE**



Size	Part No.	B (in.)	E (in.)	H (in.)	F Wrench Flat	Working Pressure psig
3/8	4-4-4 JV-SS	1.13	0.25	2.25	1/2	8000

**GLANDS**

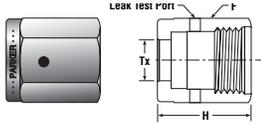
**TUBE BUTTWELD**



T Tube O.D.	Part No.	B (in.)	E (in.)	E1 (in.)	H (in.)	Working Pressure psig
3/8	4-6 VH1T3-*.60	0.41	0.25	0.30	0.60	3300
3/8	4-6 VH1T3-*	1.00	0.25	0.30	1.19	3300
3/8	4-6 VH1T3-*.1.31	1.12	0.25	0.30	1.31	3300

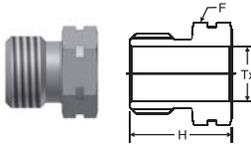
**NUTS**

**FEMALE NUT**



Size	Part No.	F Hex Flat	H (in.)	Tx (in.)
3/8	4 BVH-SS	3/4	0.82	0.39

**MALE NUT**



Size	Part No.	F Hex Flat	H (in.)	Tx (in.)
3/8	4 BVHI-SS	5/8	0.72	0.39

**HOW TO ORDER**

Parker VacuSeal™ components are ordered by part number, as listed in this catalog. Replace the asterisk within each part number. with the corresponding material designator listed below.

**Nomenclature:**

Part numbers of Parker VacuSeal™ components are constructed from symbols that identify the size, configuration and material of each component.

**Component Example:**

<b>4 - 4</b>	<b>V</b>	<b>1</b>	<b>T3</b>	-	<b>SSR</b>	<b>1.10</b>	-	<b>PE</b>
<b>Size</b>	<b>1st End</b>	<b>Type</b>	<b>2nd End</b>		<b>Material*</b>	<b>Overall Length</b>		<b>Surface Finish (5 µinch Ra)</b>

**Size:** Tube and Pipe are designated by the number of sixteenths of an inch. (i.e. 1/4" Pipe Thread = 4/16" = 4) Metric Tube O.D. is designated in millimeters with the suffix "M". (i.e. 4-6M V1T3-SSR 1.16)

**Type:** Designate shape of component. (i.e. 1=gland, E=elbow, J=tee, K=cross, etc.)

**\*Material:** Replace asterisks in Part Number to specify material:  
 SS = Stainless Steel 316  
 (All non-welded bodies and components)  
 SSR = Stainless Steel 316L VAR  
 SSV = Stainless Steel 316L VIM/VAR  
 Nickel and Hastelloy C-22® available upon request.

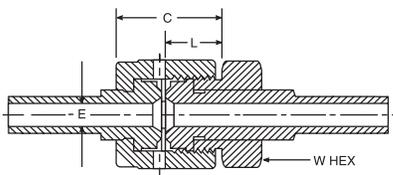
Forged product will be offered as a 15 RA EP or a standard.

**Size:** End Connections: Specify VacuSeal™ end first, followed by other corresponding ends:  
 V = VacuSeal™  
 M = Buttweld with .25" tube stub length  
 T3 = Buttweld with .75" tube stub length  
 TW = Buttweld with various tube stub length  
 Y3 = Buttweld with End Collar  
 W = Socket Weld

**Overall Length:** Specify length of component in inches.

Note: Contact Parker representative for information on additional materials.

**VACUSEAL™ END DATA INFORMATION**



Size	VacuSeal Thread	*L (in.)	**C (in.)	H Hex (in.)	E Dia. (in.)
4	9/16-18	.62	.97	5/8	.19
6	7/8-14	.75	1.10	15/16	.28
8	7/8-14	.75	1.10	15/16	.41
12	1-1/4-18	1.00	1.40	1-5/16	.53

\*Average Value  
 \*\*Dimension C is shown in the finger tight position