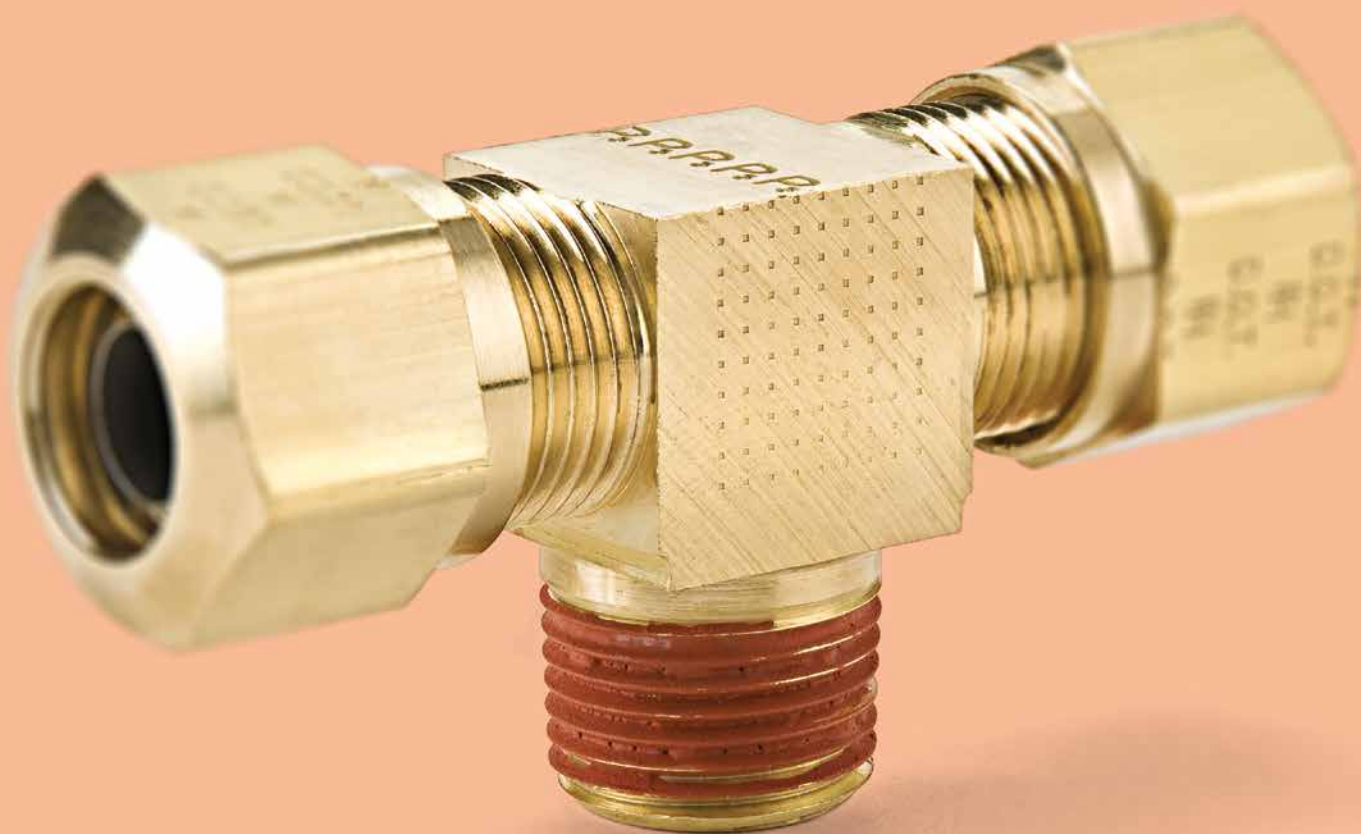




TRANSPORTATION COMPRESSION

**Fittings & Valves, Air Brake-NTA® Fittings,
Transmission Fittings, Air Brake – AB Fittings,
Air Brake Hose Ends Fittings, Vibra-Lok Fittings,
Truck Valves & Lanyard Valve**



AIR BRAKE— NTA® FITTINGS



Parker's NTA Fittings utilize a ribbed sleeve for compression and positive grip. Fittings meet SAE and D.O.T. specifications. Designed for all D.O.T truck and trailer applications. Electroless nickel plated bodies can be used with bio-diesel.

Product Features:

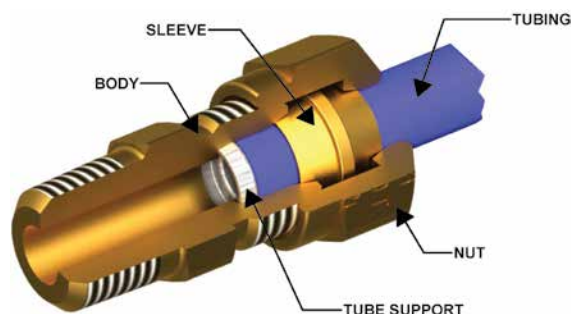
- Brass Body
- Meets D.O.T. FMVSS571.106 Performance
- Meets functional Requirements SAE J246 & SAE J1131
- Pre-applied Vibra-Seal thread sealant available
- Nickel Plated Versions Available for Bio-diesel

Markets:

- Heavy Duty Truck
- Trailer
- Mobile

Applications:

- Air Brakes
- Air Tanks
- Air Ride
- Sliders
- Tire Inflation
- Primary & Secondary Air Lines
- Cab Controls



Assembly Instructions

1. Cut tubing squarely – maximum of 15° angle allowable.
2. Check that port or mating part is clean and free of debris.
3. Insert tubing until it bottoms on seat.
4. Tighten nut with wrench until one thread remains visible on the fitting body; (this will allow for a number of remakes) or, the nut should be screwed down finger tight, then wrench-tightened as indicated in the following table.



Specifications:

Pressure Range Up to 150 PSI (10.3 bar)

Temperature Range -40° to +200° F (-40° to +93.3° C)

Compatible Tubing:

- SAE J844 Type A & B nylon tubing

Tube Size	Additional Number of Turns From Hand-Tight
3/16	2-1/2
1/4	3
3/8 & 1/2	4
5/8 & 3/4	3-1/2

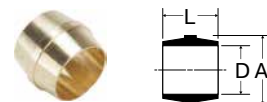


WARNING

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Sleeve 60NTA

Ref. SAE 100115

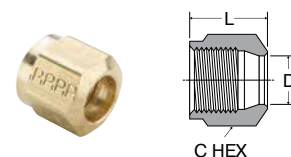


Part No.	Tube Size	A	D	L
60NTA-3*	3/16	.255	.194	.23
60NTA-4	1/4	.359	.256	.30
60NTA-6	3/8	.479	.384	.39
60NTA-8	1/2	.624	.509	.43
60NTA-10	5/8	.746	.634	.49
60NTA-12	3/4	.922	.760	.54

*Meets D.O.T. FMVSS 571.106 specification. No applicable SAE specification for this tube size.

Nut 61NTA

Ref. SAE 100110

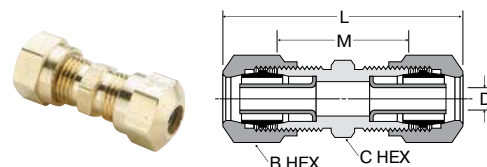


Part No.	Tube Size	Straight Thread	C Hex	D	L
61NTA-3*	3/16	5/16-24	7/16	.194	.40
61NTA-4	1/4	7/16-24	9/16	.256	.45
61NTA-6	3/8	17/32-24	5/8	.384	.63
61NTA-8	1/2	11/16-20	13/16	.509	.72
61NTA-10	5/8	13/16-18	15/16	.634	.77
61NTA-12	3/4	1-18	1-1/8	.760	.81

*Meets D.O.T. FMVSS 571.106 specification. No applicable SAE specification for this tube size.

Union 62NTA

Ref. SAE 100101 BA

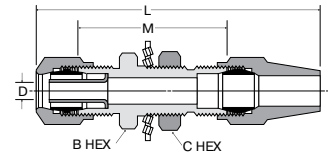


Part No.	Tube Size	Straight Thread	B Hex	C Hex	L	M	Flow Dia. D
62NTA-4	1/4	7/16-24	9/16	7/16	1.49	.83	.137
62NTA-6	3/8	17/32-24	5/8	9/16	2.00	1.08	.217
62NTA-8	1/2	11/16-20	13/16	11/16	2.32	1.29	.338
62NTA-10	5/8	13/16-18	15/16	13/16	2.39	1.41	.398
62NTA-12	3/4	1-18	1-1/8	1	2.60	1.58	.523



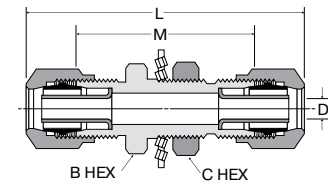
WARNING

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Bulkhead Union 62ANBH (NTA® & Air Brake)

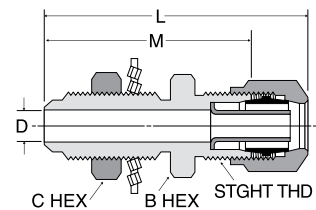
Part No.	Tube Size	Straight Thread	B Hex	C Hex	L	M	Flow Dia. D	Bulkhead Hole Dia.
62ANBH-4	1/4	7/16-24	9/16	9/16	2.28	1.38	.137	7/16
62ANBH-6	3/8	17/32-24	11/16	3/4	2.97	1.62	.217	17/32
62ANBH-8	1/2	11/16-20	13/16	1	3.36	1.88	.338	11/16



Bulkhead Union 62NBH

Part No.	Tube Size	Straight Thread	B Hex	C Hex	L	M	Flow Dia. D	Bulkhead Hole Dia.
62NBH-3*	3/16	5/16-24	7/16	7/16	1.80	1.21	.087	5/16
62NBH-4	1/4	7/16-24	9/16	9/16	2.04	1.38	.137	7/16
62NBH-6	3/8	17/32-24	11/16	3/4	2.54	1.62	.217	17/32
62NBH-8	1/2	11/16-20	13/16	1	2.92	1.88	.338	11/16
62NBH-10	5/8	13/16-18	15/16	1	2.99	2.01	.398	13/16

*Meets D.O.T. FMVSS 571.106 specification. No applicable SAE specification for this tube size.



Bulkhead Union 62NFBH

Part No.	Tube Size	Flare Size	Straight Thread	B Hex	C Hex	L	M	Flow Dia. D	Bulkhead Hole Dia.
62NFBH-4	1/4	1/4	7/16-24	9/16	9/16	1.86	1.53	.137	7/16
62NFBH-6	3/8	3/8	17/32-24	3/4	3/4	2.24	1.78	.217	5/8
62NFBH-8	1/2	1/2	11/16-20	7/8	7/8	2.73	2.22	.338	3/4
62NFBH-10	5/8	5/8	13/16-18	1	1	2.68	2.21	.398	7/8
62NFBH-10-8	5/8	1/2	13/16-18	7/8	7/8	2.90	2.40	.398	3/4



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Stainless Steel Insert 63NTA

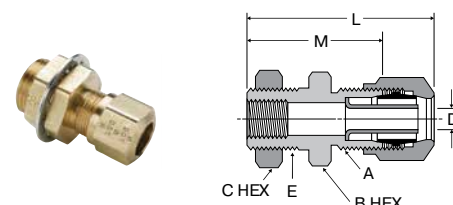
(For SAE J844 Tubing)



Part No.	Tube Size	L	O.D.
63NTA-4	1/4	.53	.163
63NTA-6	3/8	.64	.245
63NTA-8	1/2	.81	.370
63NTA-10	5/8	.86	.434
63NTA-12	3/4	1.04	.559

Bulkhead Union 66NBH

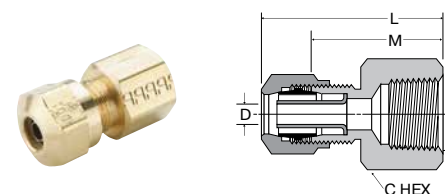
Part No.	Tube Size	Pipe Thread	A Straight Thread	E Straight Thread	B Hex	C Hex	L	M	Flow Dia. D	Bulkhead Hole Dia.
66NBH-8-6	1/2	3/8	11/16-20	7/8-14	1-1/16	1-1/16	1.94	1.42	.338	7/8



Female Connector 66NTA

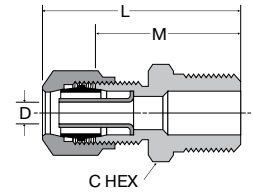
Ref. SAE 100103 BA

Part No.	Tube Size	Pipe Thread	Straight Thread	C Hex	L	M	Flow Dia. D
66NTA-4-2	1/4	1/8	7/16-24	9/16	1.17	.84	.137
66NTA-4-4	1/4	1/4	7/16-24	11/16	1.40	1.07	.137
66NTA-6-2	3/8	1/8	17/32-24	9/16	1.46	1.00	.217
66NTA-6-4	3/8	1/4	17/32-24	11/16	1.64	1.18	.217
66NTA-6-6	3/8	3/8	17/32-24	7/8	1.64	1.18	.217
66NTA-8-6	1/2	3/8	11/16-20	7/8	1.79	1.27	.338
66NTA-8-8	1/2	1/2	11/16-20	1-1/16	1.96	1.44	.338
66NTA-10-6	5/8	3/8	13/16-18	7/8	1.80	1.31	.398
66NTA-10-8	5/8	1/2	13/16-18	1-1/16	1.99	1.50	.398



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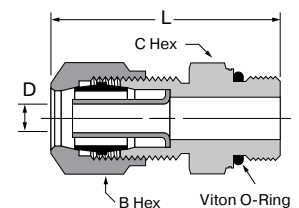


Male Connector VS68NTA

Ref. SAE 100102 BA

Part No.	Tube Size	Pipe Thread	Straight Thread	C Hex	L	M	Flow Dia. D
VS68NTA-3-1*	3/16	1/16	5/16-24	3/8	1.16	.87	.087
VS68NTA-3-2*	3/16	1/8	5/16-24	7/16	1.15	.86	.087
VS68NTA-3-4*	3/16	1/4	5/16-24	9/16	1.35	1.05	.087
VS68NTA-4-2	1/4	1/8	7/16-24	7/16	1.22	.89	.137
VS68NTA-4-4	1/4	1/4	7/16-24	9/16	1.43	1.10	.137
VS68NTA-4-6	1/4	3/8	7/16-24	11/16	1.47	1.14	.137
VS68NTA-6-2	3/8	1/8	17/32-24	9/16	1.49	1.03	.217
VS68NTA-6-4	3/8	1/4	17/32-24	9/16	1.67	1.21	.217
VS68NTA-6-6	3/8	3/8	17/32-24	11/16	1.70	1.24	.217
VS68NTA-6-8	3/8	1/2	17/32-24	7/8	1.89	1.43	.217
VS68NTA-8-4	1/2	1/4	11/16-20	11/16	1.85	1.33	.338
VS68NTA-8-6	1/2	3/8	11/16-20	11/16	1.85	1.33	.338
VS68NTA-8-8	1/2	1/2	11/16-20	7/8	2.04	1.52	.338
VS68NTA-10-6	5/8	3/8	13/16-18	13/16	1.88	1.39	.398
VS68NTA-10-8	5/8	1/2	13/16-18	7/8	2.10	1.58	.398
VS68NTA-12-6	3/4	3/8	1-18	1	2.00	1.49	.440
VS68NTA-12-8	3/4	1/2	1-18	1	2.19	1.68	.523
VS68NTA-12-12	3/4	3/4	1-18	1-1/8	2.22	1.71	.523

*Meets D.O.T. FMVSS 571.106 specification. No applicable SAE specification for this tube size.



NTA® to Metric Adaptor 68NTA-X-MIX

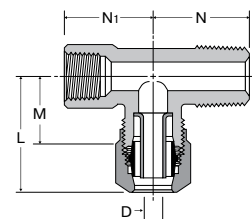
Part No.	Tube Size	Metric Thread	B Hex	C Hex	L	D
68NTA-4-MI10	1/4	M10 X 1.0	9/16	9/16	1.33	.140

Note: Fluorocarbon o-ring is standard



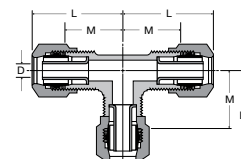
WARNING

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Adapter Tee VS176NTA

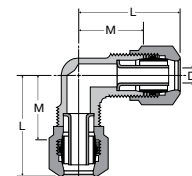
Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	N1	Flow Dia. D
VS176NTA-4-2	1/4	1/8	7/16-24	1.02	.69	.75	.66	.137



Union Tee 264NTA

Ref. SAE 100401 BA

Part No.	Tube Size	Straight Thread	L	M	Flow Dia. D
264NTA-4	1/4	7/16-24	.95	.62	.137
264NTA-6	3/8	17/32-24	1.24	.78	.217
264NTA-8	1/2	11/16-20	1.45	.93	.338
264NTA-10	5/8	13/16-18	1.58	1.09	.398



Union Elbow 265NTA

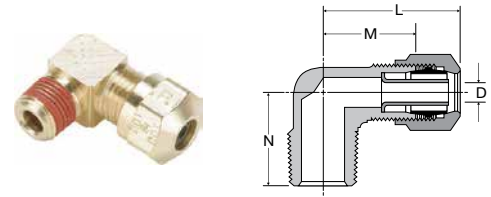
Ref. SAE 100201 BA

Part No.	Tube Size	Straight Thread	L	M	Flow Dia. D
265NTA-4	1/4	7/16-24	.95	.62	.137
265NTA-6	3/8	17/32-24	1.25	.79	.217
265NTA-8	1/2	11/16-20	1.45	.93	.338
265NTA-10	5/8	13/16-18	1.58	1.09	.398



WARNING

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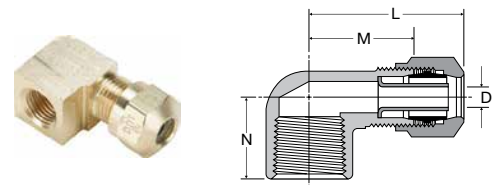


Male Elbow VS269NTA

Ref. SAE 100202 BA

Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
VS269NTA-3-2*	3/16	1/8	5/16-24	.90	.61	.67	.087
VS269NTA-3-4*	3/16	1/4	5/16-24	.91	.62	.87	.087
VS269NTA-4-2	1/4	1/8	7/16-24	.95	.62	.67	.137
VS269NTA-4-4	1/4	1/4	7/16-24	1.00	.68	.87	.137
VS269NTA-4-6	1/4	3/8	7/16-24	1.06	.73	.86	.137
VS269NTA-6-2	3/8	1/8	17/32-24	1.19	.73	.75	.217
VS269NTA-6-4	3/8	1/4	17/32-24	1.25	.79	.92	.217
VS269NTA-6-6	3/8	3/8	17/32-24	1.30	.84	.91	.217
VS269NTA-6-8	3/8	1/2	17/32-24	1.40	.94	1.09	.217
VS269NTA-8-4	1/2	1/4	11/16-20	1.38	.86	.99	.338
VS269NTA-8-6	1/2	3/8	11/16-20	1.44	.92	.99	.338
VS269NTA-8-8	1/2	1/2	11/16-20	1.55	1.03	1.18	.338
VS269NTA-10-6	5/8	3/8	13/16-18	1.49	1.00	1.05	.398
VS269NTA-10-8	5/8	1/2	13/16-18	1.58	1.09	1.24	.398
VS269NTA-10-12	5/8	3/4	13/16-18	1.76	1.25	1.32	.398
VS269NTA-12-8	3/4	1/2	1-18	1.70	1.19	1.32	.523
VS269NTA-12-12	3/4	3/4	1-18	1.77	1.26	1.32	.523

*Meets D.O.T. FMVSS 571.106 specification. No applicable SAE specification for this tube size.



Female Elbow 270NTA

Ref. SAE 100203 BA

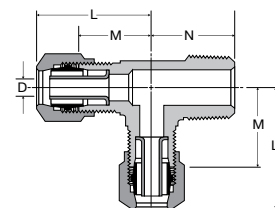
Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
270NTA-3-2*	3/16	1/8	5/16-24	.96	.67	.52	.087
270NTA-4-2	1/4	1/8	7/16-24	1.02	.69	.52	.137
270NTA-4-4	1/4	1/4	7/16-24	1.11	.78	.71	.137
270NTA-6-2	3/8	1/8	17/32-24	1.29	.83	.58	.217
270NTA-6-4	3/8	1/4	17/32-24	1.35	.89	.77	.217
270NTA-6-6	3/8	3/8	17/32-24	1.39	.93	.77	.217
270NTA-8-6	1/2	3/8	11/16-20	1.55	1.03	.82	.338
270NTA-8-8	1/2	1/2	11/16-20	1.65	1.13	1.01	.338
270NTA-10-8	5/8	1/2	13/16-18	1.70	1.19	1.07	.398

*Meets D.O.T. FMVSS 571.106 specification. No applicable SAE specification for this tube size.



WARNING

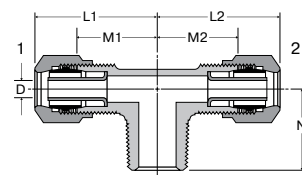
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Male Run Tee VS271NTA

Ref. SAE 100424 BA

Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
VS271NTA-4-2	1/4	1/8	7/16-24	.95	.62	.66	.137
VS271NTA-4-4	1/4	1/4	7/16-24	1.00	.68	.87	.137
VS271NTA-6-4	3/8	1/4	17/32-24	1.25	.78	.91	.217
VS271NTA-6-6	3/8	3/8	17/32-24	1.30	.84	.91	.217
VS271NTA-8-6	1/2	3/8	11/16-20	1.45	.93	.99	.338
VS271NTA-8-8	1/2	1/2	11/16-20	1.55	1.03	1.18	.338
VS271NTA-10-8	5/8	1/2	13/16-18	1.60	1.09	1.24	.398



Male Branch Tee VS272NTA

Ref. SAE 100425 BA

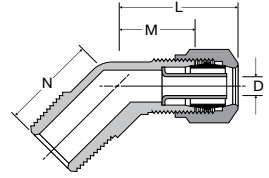
Part No.	Tb 1	Tb 2	Pipe Thread	Straight Thread	L1	L2	M1	M2	N	Flow Dia. D
VS272NTA-3-2*	3/16	3/16	1/8	5/16-24	.90	.90	.61	.61	.66	.087
VS272NTA-4-2	1/4	1/4	1/8	7/16-24	.95	.95	.62	.62	.66	.137
VS272NTA-4-4	1/4	1/4	1/4	7/16-24	1.00	1.00	.68	.68	.87	.137
VS272NTA-6-2	3/8	3/8	1/8	17/32-24	1.18	1.18	.75	.75	.73	.217
VS272NTA-6-4	3/8	3/8	1/4	17/32-24	1.25	1.25	.91	.91	.92	.217
VS272NTA-6-4-4	3/8	1/4	1/4	7/16-24	.99	1.25	.67	.79	.91	.137
				17/32-24						
VS272NTA-6-6	3/8	3/8	3/8	17/32-24	1.27	1.27	.84	.84	.91	.217
VS272NTA-8-4	1/2	1/2	1/4	11/16-20	1.45	1.45	.93	.93	.99	.338
VS272NTA-8-6	1/2	1/2	3/8	11/16-20	1.45	1.45	.93	.93	.99	.338
VS272NTA-8-8	1/2	1/2	1/2	11/16-20	1.55	1.55	1.03	1.03	1.18	.338
VS272NTA-10-8	5/8	5/8	1/2	13/16-18	1.60	1.60	1.09	1.09	1.24	.398

*Meets D.O.T. FMVSS 571.106 specification. No applicable SAE specification for this tube size.



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45° Elbow VS279NTA

Ref. SAE 100302 BA

Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
VS279NTA-4-2	1/4	1/8	7/16-24	.81	.48	.62	.137
VS279NTA-4-4	1/4	1/4	7/16-24	.93	.59	.84	.137
VS279NTA-6-2	3/8	1/8	17/32-24	1.17	.70	.66	.190
VS279NTA-6-4	3/8	1/4	17/32-24	1.17	.70	.84	.217
VS279NTA-6-6	3/8	3/8	17/32-24	1.21	.75	.94	.217
VS279NTA-6-8	3/8	1/2	17/32-24	1.24	.78	1.16	.217
VS279NTA-8-4	1/2	1/4	11/16-20	1.36	.84	.94	.338
VS279NTA-8-6	1/2	3/8	11/16-20	1.36	.84	.94	.338
VS279NTA-8-8	1/2	1/2	11/16-20	1.39	.87	1.16	.338
VS279NTA-10-6	5/8	3/8	13/16-18	1.43	.94	.98	.398
VS279NTA-10-8	5/8	1/2	13/16-18	1.42	.93	1.16	.398
VS279NTA-12-8	3/4	1/2	1-18	1.61	1.10	1.18	.523



WARNING

These products can expose you to chemicals including NICKEL or LEAD, which are known to the state of California to cause cancer, and LEAD which is known to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

TRANSMISSION FITTINGS



Parker's Transmission Fittings utilizes a specially designed slotted sleeve to help eliminate notch stress related to over-torque. Ideal for pressure protected pneumatic transmission applications. Electroless nickel plated bodies can be used with bio-diesel.

Product Features:

- Brass Body
- D.O.T. Approved with Staked in Tube Support
- 3/16" & 5/32" Tube sizes
- Slotted Sleeve
- Nickel Plated Versions Available for Bio-diesel
- Pre-applied Vibra-Seal thread sealant available

Markets:

- Heavy Duty Truck

Applications:

- Air Shift Transmissions
- Seat Controls
- Dash Controls

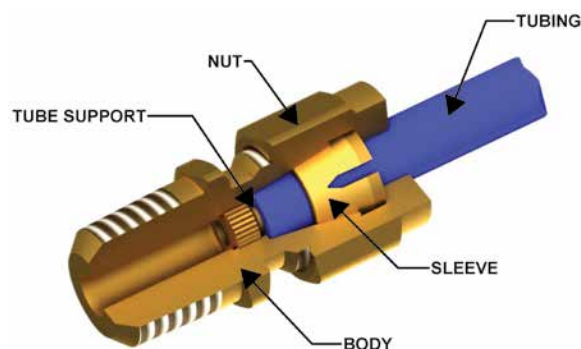
Specifications:

Pressure Range Up to 150 PSI (10.3 bar)

Temperature Range -40° to +200° F (-40° to +93.3° C)

Compatible Tubing:

- SAE J844 Type A & B nylon tubing



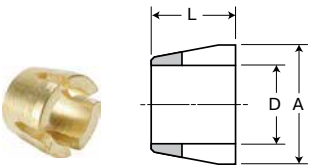
Assembly Instructions

1. Cut tubing squarely and remove burrs
2. Insert tubing into fitting until bottomed
3. Tighten nut 1 1/2 turns from finger tight



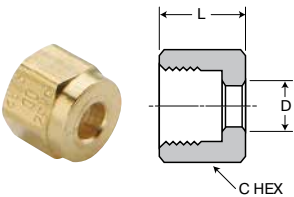
WARNING

This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov



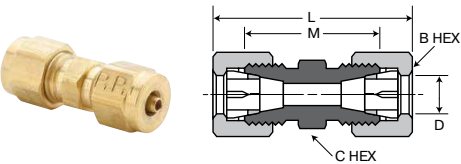
Sleeve 60TF

Part No.	Tube Size	A	D	L
60TF-2	1/8	.235	.130	0.17
60TF-5/32	5/32	.251	.165	0.18



Nut 61TF

Part No.	Tube Size	D	L	Straight Thd	C Hex
61TF-2	1/8	.133	.32	5/16-24	3/8
61TF-5/32	5/32	.163	.32	5/16-24	3/8



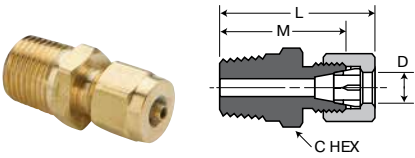
Union 62TF

Part No.	Tube Size	D	L	Straight Thd	M	C Hex	B Hex
62TF-2	1/8	.109	1.04	5/16-24	.68	5/16	3/8
62TF-5/32	5/32	.068	1.04	5/16-24	.68	5/16	3/8



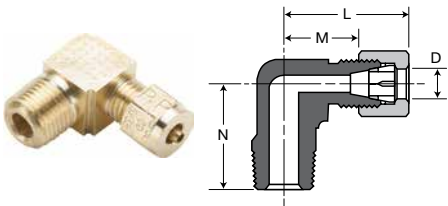
WARNING

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Male Connector 68TF

Part No.	Tube Size	Pipe Thd	D	L	Straight Thd	M	C Hex
68TF-2-1	1/8	1/16	.109	.96	5/16-24	.78	11/32
68TF-2-2	1/8	1/8	.109	.96	5/16-24	.78	7/16
68TF-5/32-1	5/32	1/16	.068	.84	5/16-24	.66	11/32
68TF-5/32-2	5/32	1/8	.068	.96	5/16-24	.78	7/16



Male Elbow 269TF

Part No.	Tube Size	Pipe Thd	D	L	Straight Thd	M	N
269TF-2-2	1/8	1/8	.109	.79	5/16-24	.61	.66
269TF-5/32-2	5/32	1/8	.068	.79	5/16-24	.61	.66



WARNING

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AIR BRAKE – AB FITTINGS



Parker's Air Brake – AB Fittings are economical compression style fittings for copper air brake lines. AB fittings meet the functional requirements of SAE and the performance requirements of D.O.T.

Product Features:

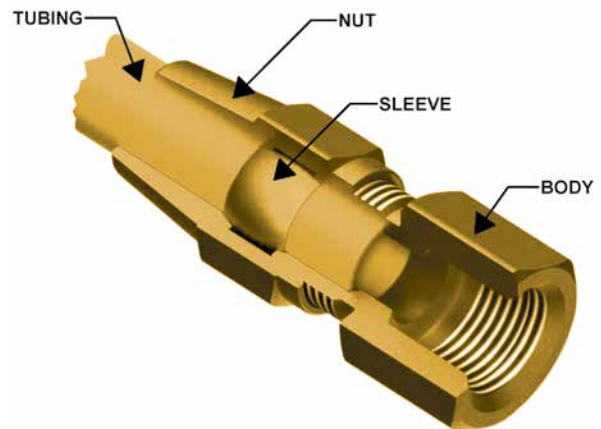
- Brass Body
- Meets D.O.T. FMVSS571.106 Performance
- Meets functional Requirements SAE J246
- Reusable
- Pre-applied Vibra-Seal thread sealant available

Markets:

- Heavy Duty Truck
- Trailer
- Mobile

Applications:

- Copper Air Brake Lines
- Coolant Lines
- Fuel Lines



Specifications:

Pressure Range Up to 400 PSI (27.5 bar)

Temperature Range -65° to +250° F (-53.8° to +121.1° C)

Compatible Tubing:

- Copper Air Brake Tubing

Assembly Instructions

1. Cut tubing squarely and remove burrs
2. Slide nut and sleeve onto tubing.
3. Insert tubing into fitting until bottomed on seat. The nut should be screwed down finger tight, then wrench tightened as indicated in the chart

Tube Size	Turns Required To Seal From Hand-Tight
1/4, 3/8, 1/2	2
5/8, 3/4	3

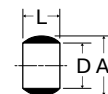


WARNING

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Sleeve 60AB

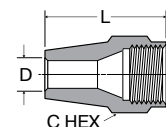
Ref. SAE 120115



Part No.	Tube Size	A	D	L
60AB-4	1/4	.322	.255	.250
60AB-6	3/8	.461	.382	.310
60AB-8	1/2	.594	.507	.380
60AB-10	5/8	.734	.632	.440
60AB-12	3/4	.874	.758	.500

Nut 61AB

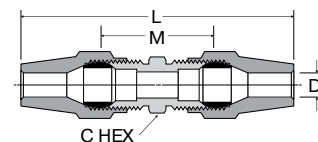
Ref. SAE 120111



Part No.	Tube Size	Straight Thd	C Hex	D	L
61AB-4	1/4	7/16-24	9/16	.256	.75
61AB-6	3/8	17/32-24	5/8	.384	1.13
61AB-8	1/2	11/16-20	13/16	.509	1.25
61AB-10	5/8	13/16-18	15/16	.634	1.38
61AB-12	3/4	1-18	1-1/8	.760	1.56

Union 62AB

Ref. SAE 120101 BA

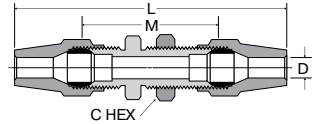


Part No.	Tube Size	Straight Thd	C Hex	L	M	Flow Dia. D
62AB-4	1/4	7/16-24	7/16	1.98	.83	.189
62AB-6	3/8	17/32-24	9/16	2.87	1.08	.314
62AB-8	1/2	11/16-20	11/16	3.21	1.29	.405
62AB-10	5/8	13/16-18	13/16	3.59	1.41	.531
62AB-12	3/4	1-18	1	4.08	1.59	.656



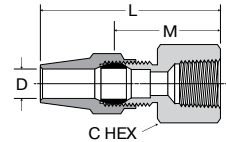
WARNING

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Bulkhead Union 62ABH

Part No.	Tube Size	Straight Thread	C Hex	L	M	Flow Dia. D	Bulkhead Hole Dia.
62ABH-4	1/4	7/16-24	9/16	2.53	1.38	.188	7/16
62ABH-6	3/8	17/32-24	3/4	3.41	1.62	.314	17/32
62ABH-8	1/2	11/16-20	1	3.80	1.88	.408	11/16



Female Connector 66AB

Ref. SAE 120103 BA

Part No.	Tube Size	Pipe Thd	Straight Thd	L	M	N	Flow Dia. D
66AB-4-2	1/4	1/8	7/16-24	9/16	1.42	.84	.188
66AB-4-4	1/4	1/4	7/16-24	11/16	1.65	1.07	.188
66AB-6-2	3/8	1/8	17/32-24	9/16	1.89	1.00	.314
66AB-6-4	3/8	1/4	17/32-24	11/16	2.07	1.18	.314
66AB-6-6	3/8	3/8	17/32-24	7/8	2.07	1.18	.314
66AB-8-6	1/2	3/8	11/16-20	7/8	2.23	1.27	.408
66AB-8-8	1/2	1/2	11/16-20	1-1/16	2.40	1.44	.408
66AB-10-6	5/8	3/8	13/16-18	7/8	2.40	1.31	.533
66AB-10-8	5/8	1/2	13/16-18	1-1/16	2.59	1.50	.533

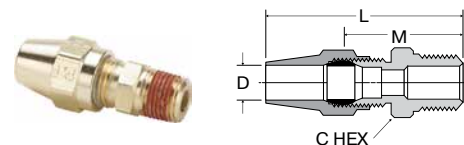


WARNING

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Male Connector VS68AB

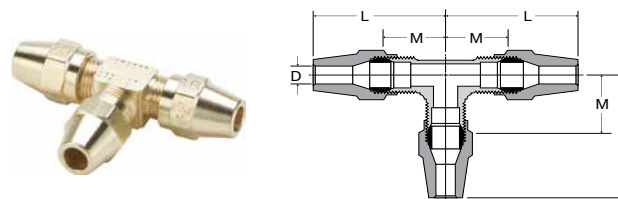
Ref. SAE 120102 BA



Part No.	Tube Size	Pipe Thd	Straight Thd	L	M	N	Flow Dia. D
VS68AB-4-2	1/4	1/8	7/16-24	7/16	1.47	.89	.189
VS68AB-4-4	1/4	1/4	7/16-24	9/16	1.68	1.10	.189
VS68AB-4-6	1/4	3/8	7/16-24	11/16	1.72	1.14	.189
VS68AB-6-2	3/8	1/8	17/32-24	9/16	1.92	1.03	.189
VS68AB-6-4	3/8	1/4	17/32-24	9/16	2.10	1.21	.314
VS68AB-6-6	3/8	3/8	17/32-24	11/16	2.13	1.24	.314
VS68AB-6-8	3/8	1/2	17/32-24	7/8	2.32	1.43	.314
VS68AB-8-4	1/2	1/4	11/16-20	11/16	2.29	1.33	.314
VS68AB-8-6	1/2	3/8	11/16-20	11/16	2.29	1.33	.408
VS68AB-8-8	1/2	1/2	11/16-20	7/8	2.48	1.52	.408
VS68AB-10-6	5/8	3/8	13/16-18	13/16	2.48	1.39	.408
VS68AB-10-8	5/8	1/2	13/16-18	7/8	2.67	1.58	.533
VS68AB-12-8	3/4	1/2	1-18	1	2.92	1.68	.533
VS68AB-12-12	3/4	3/4	1-18	1-1/8	2.95	1.71	.658

Union Tee 264AB

Ref. SAE 120401 BA

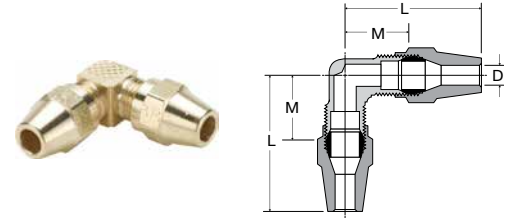


Part No.	Tube Size	Straight Thd	L	M	Flow Dia. D
264AB-4	1/4	7/16-24	1.20	.62	.189
264AB-6	3/8	17/32-24	1.67	.78	.314
264AB-8	1/2	11/16-20	1.89	.93	.408
264AB-10	5/8	13/16-18	2.18	1.09	.533



WARNING

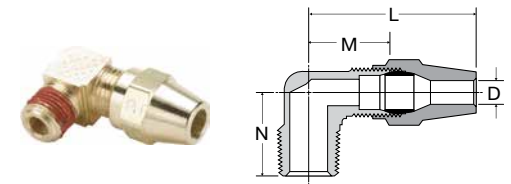
This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov



Union Elbow 265AB

Ref. SAE 120201 BA

Part No.	Tube Size	Straight Thd	L	M	Flow Dia. D
265AB-4	1/4	7/16-24	1.20	.62	.189
265AB-6	3/8	17/32-24	1.68	.79	.314
265AB-8	1/2	11/16-20	1.89	.93	.408
265AB-10	5/8	13/16-18	2.18	1.09	.533



Male Elbow VS269AB

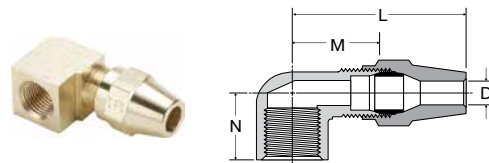
Ref. SAE 120202 BA

Part No.	Tube Size	Pipe Thd	Straight Thd	L	M	N	Flow Dia. D
VS269AB-4-2	1/4	1/8	7/16-24	1.20	.62	.66	.189
VS269AB-4-4	1/4	1/4	7/16-24	1.26	.68	.87	.189
VS269AB-4-6	1/4	3/8	7/16-24	1.31	.73	.86	.189
VS269AB-6-2	3/8	1/8	17/32-24	1.62	.73	.75	.189
VS269AB-6-4	3/8	1/4	17/32-24	1.68	.79	.92	.314
VS269AB-6-6	3/8	3/8	17/32-24	1.73	.84	.91	.314
VS269AB-6-8	3/8	1/2	17/32-24	1.83	.94	1.10	.314
VS269AB-8-4	1/2	1/4	11/16-20	1.82	.86	.99	.314
VS269AB-8-6	1/2	3/8	11/16-20	1.88	.93	.99	.408
VS269AB-8-8	1/2	1/2	11/16-20	1.99	1.03	1.18	.408
VS269AB-10-6	5/8	3/8	13/16-18	2.09	1.00	1.05	.408
VS269AB-10-8	5/8	1/2	13/16-18	2.18	1.09	1.24	.533
VS269AB-12-8	3/4	1/2	1-18	2.33	1.19	1.32	.533
VS269AB-12-12	3/4	3/4	1-18	2.50	1.26	1.32	.533



WARNING

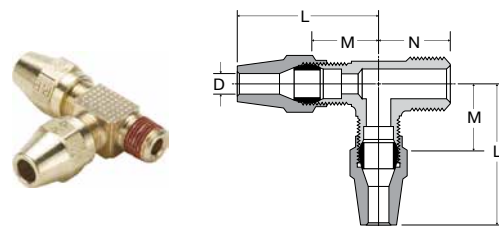
This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov



Female Elbow 270AB

Ref. SAE 120203 BA

Part No.	Tube Size	Pipe Thd	Straight Thd	L	M	N	Flow Dia. D
270AB-4-2	1/4	1/8	7/16-24	1.27	.69	.52	.189
270AB-4-4	1/4	1/4	7/16-24	1.36	.78	.71	.189
270AB-6-2	3/8	1/8	17/32-24	1.72	.83	.59	.314
270AB-6-4	3/8	1/4	17/32-24	1.78	.89	.77	.314
270AB-6-6	3/8	3/8	17/32-24	1.82	.93	.77	.314
270AB-8-6	1/2	3/8	11/16-20	1.99	1.03	.82	.408
270AB-8-8	1/2	1/2	11/16-20	2.09	1.13	1.01	.408
270AB-10-8	5/8	1/2	13/16-18	2.28	1.19	1.07	.533



Male Run Tee VS271AB

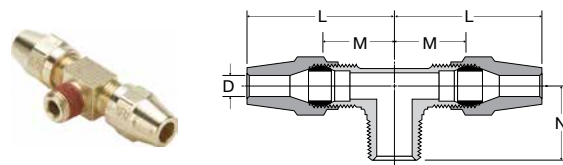
Ref. SAE 120424 BA

Part No.	Tube Size	Pipe Thd	Straight Thd	L	M	N	Flow Dia. D
VS271AB-4-2	1/4	1/8	7/16-24	1.20	.62	.66	.189
VS271AB-4-4	1/4	1/4	7/16-24	1.26	.68	.87	.189
VS271AB-6-4	3/8	1/4	17/32-24	1.68	.79	.92	.314
VS271AB-6-6	3/8	3/8	17/32-24	1.73	.84	.91	.314
VS271AB-8-6	1/2	3/8	11/16-20	1.89	.93	.99	.408
VS271AB-8-8	1/2	1/2	11/16-20	1.99	1.03	1.18	.408
VS271AB-10-8	5/8	1/2	13/16-18	2.18	1.09	1.24	.533



WARNING

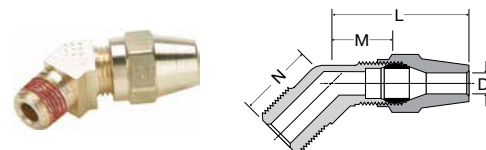
This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov



Male Branch Tee VS272AB

Ref. SAE 120425 BA

Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
VS272AB-4-2	1/4	1/8	7/16-24	1.20	.62	.66	.189
VS272AB-4-4	1/4	1/4	7/16-24	1.26	.68	.87	.189
VS272AB-6-2	3/8	1/8	17/32-24	1.61	.72	.75	.189
VS272AB-6-4	3/8	1/4	17/32-24	1.68	.79	.92	.314
VS272AB-6-6	3/8	3/8	17/32-24	1.73	.84	.91	.314
VS272AB-8-6	1/2	3/8	11/16-20	1.89	.93	.99	.408
VS272AB-8-8	1/2	1/2	11/16-20	1.99	1.03	1.18	.408
VS272AB-10-8	5/8	1/2	13/16-18	2.18	1.09	1.24	.533



45° Elbow VS279AB

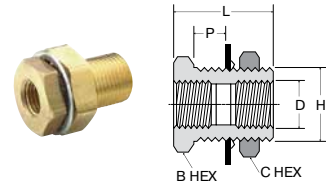
Ref. SAE 120302 BA

Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
VS279AB-4-2	1/4	1/8	7/16-24	1.07	.49	.63	.189
VS279AB-4-4	1/4	1/4	7/16-24	1.18	.60	.85	.189
VS279AB-6-2	3/8	1/8	17/32-24	1.60	.71	.68	.189
VS279AB-6-4	3/8	1/4	17/32-24	1.64	.71	.85	.314
VS279AB-6-6	3/8	3/8	17/32-24	1.64	.75	.94	.314
VS279AB-6-8	3/8	1/2	17/32-24	1.67	.78	1.16	.314
VS279AB-8-6	1/2	3/8	11/16-20	1.80	.84	.94	.408
VS279AB-8-8	1/2	1/2	11/16-20	1.83	.87	1.16	.408
VS279AB-10-6	5/8	3/8	13/16-18	2.03	.94	.98	.408
VS279AB-10-8	5/8	1/2	13/16-18	2.13	1.05	1.16	.533
VS279AB-12-8	3/4	1/2	1-18	2.34	1.10	1.18	.533



WARNING

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Anchor Coupling 207ACBH

Part No.	Female Pipe Thd	Straight Thd	Max. Bkhd P	B Hex	C Hex	L	Bkhd Hole Dia. H	Flow Dia. D
207ACBH-2	1/8	5/8-18	.89	7/8	15/16	1.50	5/8	.339
207ACBHS-2	1/8	5/8-18	.35	7/8	15/16	.96	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
207ACBH-12	3/4	1-5/16-12	.65	1-1/2	1-1/2	1.50	1-5/16	.906
207ACBH-16*	1	1-5/8-14	1.00	2	2	1.68	1-5/8	1.140



WARNING

This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

AIR BRAKE HOSE ENDS FITTINGS



Parker's Air Brake Hose Fittings are field attachable fittings for use with Parker 271 air brake hose. Easy to assemble and disassemble, these fittings meet D.O.T. requirements when used with SAE J1402 air brake hose.

Product Features:

- Brass Body
- Meets D.O.T. FMVSS571.106 when used with SAE J1402 air brake hose
- Pre-applied Vibra-Seal thread sealant available

Markets:

- Heavy Duty Truck
- Trailer

Applications:

- Air Lines Frame to Axle

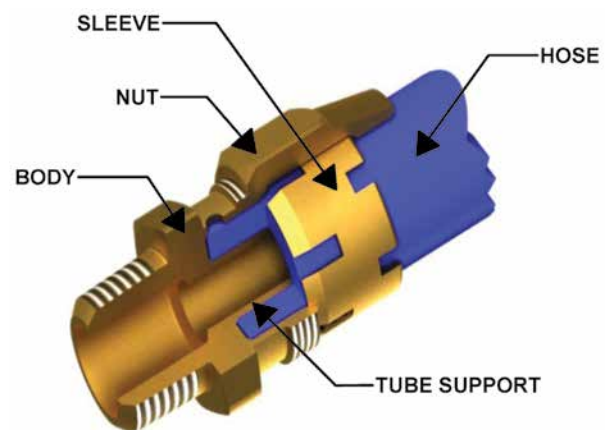
Specifications:

Pressure Range Up to 400 PSI (27.5 bar)

Temperature Range -65° to +250° F (-53.8° to +121.1° C)

Compatible Tubing:

- Parker 271 air brake hose
- SAE J1402 air brake hose



Assembly Instructions

1. Slide nut onto hose
2. Slide sleeve onto hose with tapered edge toward fitting body
3. Bottom hose into fitting
4. Tighten nut until it contacts body hex

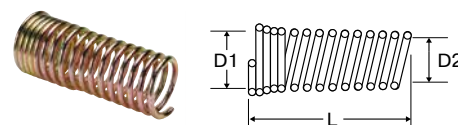


Note: When reassembling fitting, body and nut should be inspected. Only reuse if parts are in proper condition. Sleeves should never be Reused.



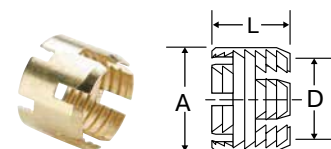
WARNING

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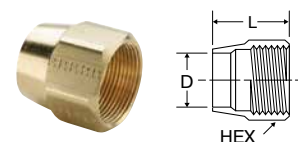
Spring 56RBSG

Part No.	Hose Size	L	D1	D2
56RBSG-6	3/8	2.75	.84	.78
56RBSG-8	1/2	3.00	1.03	.91



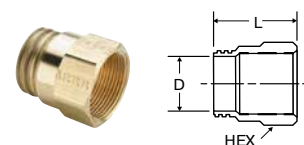
Sleeve 60RB

Part No.	Hose Size	L	A	D
60RB-6	3/8	.69	.90	.78
60RB-8	1/2	.69	1.03	.92



Nut 61RB

Part No.	Hose Size	Straight Thread	Hex	L	D
61RB-6	3/8	31/32-20	1-1/16	1.12	.80
61RB-8	1/2	1-3/32-20	1-1/4	1.12	.93



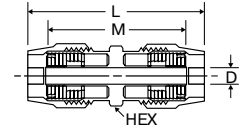
Spring Guard Nut 61RBSG

Part No.	Hose Size	Straight Thread	Hex	L	D
61RBSG-6	3/8	31/32-20	1-1/16	1.22	.80
61RBSG-8	1/2	1-3/32-20	1-1/4	1.19	.92



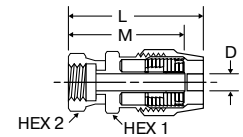
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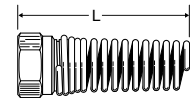
Union 62RB

Part No.	Hose Size	Straight Thread	Hex	L	M	D
62RB-6	3/8	31/32-20	31/32	2.98	2.56	.281
62RB-8	1/2	1-3/32-20	1-1/8	2.99	2.55	.390



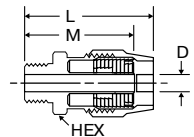
Female Swivel Connector 66RBSV

Part No.	Hose Size	Straight Thread	Hex1	Hex2	L	M	D
66RBSV-6-3/4	3/8	3/4-20	31/32	7/8	2.30	2.09	.281
66RBSV-8-7/8	1/2	7/8-20	1-1/8	1"	2.36	2.14	.390



Air Brake Hose Nut & Attached Spring 67RBSG

Part No.	L
67RBSG-6	3.50
67RBSG-8	3.75



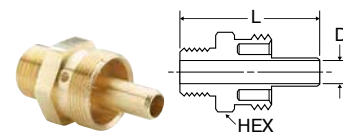
Male Connector 68RB

Part No.	Hose Size	Straight Thread	Pipe Thd	Hex	L	M	D
68RB-6-4	3/8	31/32-20	1/4	31/32	2.24	1.91	.281
68RB-6-6	3/8	31/32-20	3/8	31/32	2.24	1.91	.281
68RB-6-8	3/8	31/32-20	1/2	31/32	2.38	2.06	.281
68RB-8-6	1/2	1-3/32-20	3/8	1-1/8	2.24	1.91	.390
68RB-8-8	1/2	1-3/32-20	1/2	1-1/8	2.29	2.07	.390



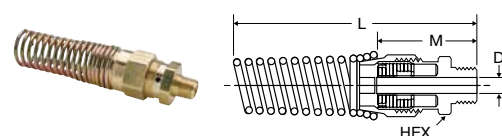
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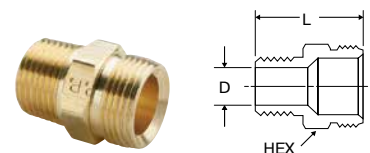
Male Connector Body Only 68RB

Part No.	Hose Size	Straight Thread	Pipe Thd	Hex	L	D
68RB-6-4B	3/8	31/32-20	1/4	31/32	1.91	.281
68RB-6-6B	3/8	31/32-20	3/8	31/32	1.91	.281
68RB-6-8B	3/8	31/32-20	1/2	31/32	2.06	.281
68RB-8-6B	1/2	1-3/32-20	3/8	1-1/8	1.91	.390
68RB-8-8B	1/2	1-3/32-20	1/2	1-1/8	2.07	.390



Male Connector with Spring Guard 68RBSG

Part No.	Hose size	Pipe Thd	Hex	L	M	D
68RBSG-6-4	3/8	1/4	31/32	4.8	1.91	.281
68RBSG-6-6	3/8	3/8	31/32	4.8	1.91	.281
68RBSG-6-8	3/8	1/2	31/32	4.9	2.06	.281
68RBSG-8-6	1/2	3/8	1-1/8	5.0	1.91	.390
68RBSG-8-8	1/2	1/2	1-1/8	5.2	2.07	.390



Adapter 76RB

Part No.	Pipe Thd	Straight Thread	Hex	L	D
76RB-3/4-4	1/4	3/4-20	3/4	1.06	.310
76RB-3/4-6	3/8	3/4-20	3/4	1.12	.422
76RB-7/8-6	3/8	7/8-20	7/8	1.25	.440
76RB-7/8-8	1/2	7/8-20	7/8	1.47	.500



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VIBRA-LOK FITTINGS



Parker's Vibra-Lok Fittings provide a positive reliable seal under vibration conditions, mechanical shock or tube movement. The sleeve cushions the tubing, permitting the tubing to flex back and forth in the fitting. The seal design compensates for tube misalignment and tube surface defects.

Product Features:

- Brass Body
- Sleeves in Buna N and Fluorocarbon
- NPTF and SAE J1926 Straight Threads are Standard
- Excellent Vibration Resistance
- Pre-applied Vibra-Seal thread sealant available

Markets:

- Heavy Duty Truck
- Trailer
- Mobile

Applications:

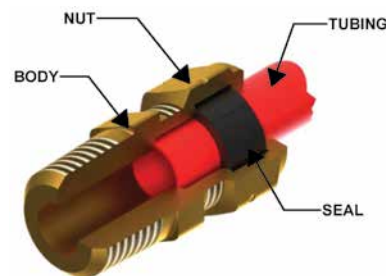
- Oil, Fuel and Coolant Lines on engines

Specifications:

Pressure Range	Dependent on condition and tube size, refer to pressure chart
Temperature Range	-15° to +450° F (-26.1° to +232.2° C) with Fluorocarbon Sleeve
	-30° to +275° F (-34.4° to +135° C) with Buna N Sleeve

Compatible Tubing:

- Copper
- Aluminum
- Steel (Bundy)
- Stainless Steel
- Glass



Pressure Chart

Condition	Tube O.D.	Tube Not Belled	Tube Belled or Flared
Static Pressure	1/8"	500	1000
	3/16"	500	1000
	1/4"	500	1000
	5/16"	450	900
	3/8"	350	700
	1/2"	200	500
	5/8"		400
Minor Surges and/or Vibrations	1/8"	400	800
	3/16"	400	800
	1/4"	400	800
	5/16"	325	700
	3/8"	225	500
	1/2"	150	375
	5/8"		300
Severe Vibrations Or Shock	1/8"	300	600
	3/16"	300	600
	1/4"	300	600
	5/16"	225	500
	3/8"	175	400
	1/2"	100	250
	5/8"		100

In high pressure applications and sizes larger than 1/2" O.D., the tube end should be belled or flared.

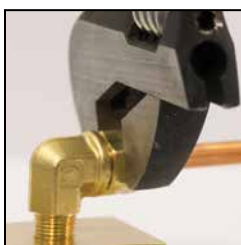


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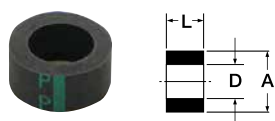
Assembly Instructions

1. Cut the tubing squarely removing burrs
2. Slip nut and sleeve over tube
3. Bottom tubing into fitting and tighten nut until stop is reached. The elastic sleeve ordinarily will extrude slightly around the tube at the end of the nut. This extrusion further aids in isolating the tube from the nut.



For Higher Pressure applications

1. Consult pressure chart to determine if tubing should be belled
2. Slip nut and sleeve over tube. The sleeve should be positioned near end of tubing just behind the surface to be belled
3. Bell tubing with standard 45° flaring tool or 90° punch. The size of bell should be approximately that shown.

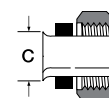


Sleeve 60VL

Part No.	Tube Size	A	D	L
60VL-2	1/8	.306	.100	.20
60VL-3	3/16	.359	.156	.20
60VL-4	1/4	.422	.219	.21
60VL-5	5/16	.484	.281	.24
60VL-6	3/8	.547	.344	.25
60VL-8	1/2	.688	.469	.36
60VL-10	5/8	.875	.594	.48
60VL-12	3/4	1.000	.720	.59

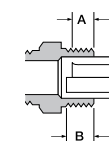
Recommended Size of Bell

Tube O.D.	Bell Dia. C
1/8	.190-.160
3/16	.255-.225
1/4	.318-.288
5/16	.381-.351
3/8	.444-.414
1/2	.569-.539
5/8	.694-.664
3/4	.819-.789
7/8	.944-.914

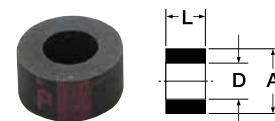


Tube Length Calculator

This table shows distance tube extends beyond face of Vibra-Lok fitting body on installation with bell on tubing and without bell on tubing.



O.D. of Tube	A With Bell	B Without Bell
1/8	3/16	3/16
3/16	3/16	7/32
1/4	3/16	1/4
5/16	3/16	1/4
3/8	3/16	1/4
1/2	3/16	11/32
5/8	3/16	TUBING SHOULD BE BELLED
3/4	3/16	
7/8	1/4	



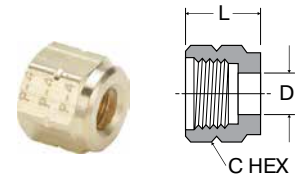
Sleeve (Fluorocarbon) 60VLV

Part No.	Tube Size	A	D	L
60VLV-3	3/16	.359	.156	.20
60VLV-4	1/4	.422	.219	.21
60VLV-5	5/16	.484	.281	.24
60VLV-6	3/8	.547	.344	.25
60VLV-8	1/2	.688	.469	.36
60VLV-10	5/8	.875	.594	.48
60VLV-12	3/4	1.000	.720	.59



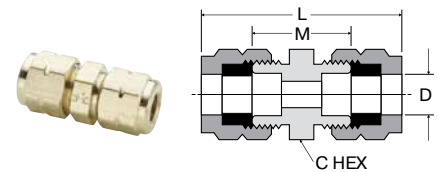
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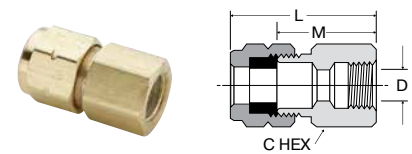
Nut 61VL

Part No.	Tube Size	Straight Thread	C Hex	D	L
61VL-2	1/8	3/8-24	7/16	.156	.44
61VL-3	3/16	7/16-24	1/2	.218	.47
61VL-4	1/4	1/2-24	9/16	.281	.50
61VL-5	5/16	9/16-24	5/8	.344	.53
61VL-6	3/8	5/8-24	3/4	.406	.53
61VL-8	1/2	13/16-18	15/16	.531	.67
61VL-10	5/8	1-18	1-1/8	.656	.88
61VL-12	3/4	1-1/8-18	1-1/4	.781	.98



Union 62VL

Part No.	Tube Size	C Hex	L	M	Flow Dia. D
62VL-4	1/4	9/16	1.39	.77	.188
62VL-5	5/16	5/8	1.49	.81	.250
62VL-6	3/8	11/16	1.49	.80	.312
62VL-8	1/2	7/8	1.90	.94	.437



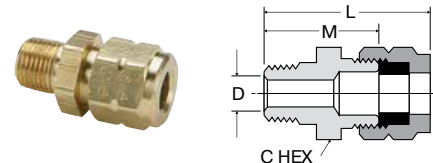
Female Connector 66VL

Part No.	Tube Size	Pipe Thread	C Hex	L	M	Flow Dia. D
66VL-4-2	1/4	1/8	9/16	1.09	.78	.188
66VL-5-4	5/16	1/4	11/16	1.32	.97	.250



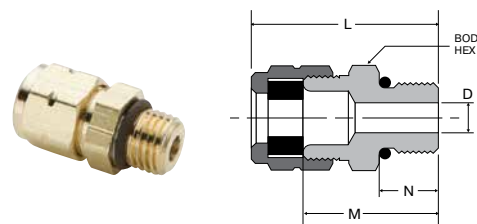
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Male Connector 68VL

Part No.	Tube Size	Pipe Thread	C Hex	L	M	Flow Dia. D
68VL-2-2	1/8	1/8	7/16	1.12	.81	.093
68VL-3-2	3/16	1/8	1/2	1.10	.81	.125
68VL-4-2	1/4	1/8	9/16	1.15	.84	.188
68VL-4-4	1/4	1/4	9/16	1.34	1.03	.188
68VL-5-4	5/16	1/4	5/8	1.41	1.06	.250
68VL-6-2	3/8	1/8	11/16	1.22	.87	.235
68VL-6-4	3/8	1/4	11/16	1.41	1.06	.312
68VL-6-6	3/8	3/8	11/16	1.41	1.06	.312
68VL-8-6	1/2	3/8	7/8	1.64	1.16	.406
68VL-8-8	1/2	1/2	7/8	1.64	1.35	.406
68VL-10-8	5/8	1/2	1-1/16	2.10	1.44	.560
68VL-12-8	3/4	1/2	1-3/16	2.26	1.50	.530
68VL-12-12	3/4	3/4	1-3/16	2.26	1.50	.688



Male Connector 685VLV

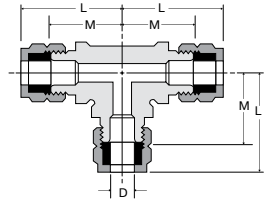
Part No.	Tube Size	Straight Thread	Body Hex	L	M	N	D
685VLV-4-4	1/4	7/16-20	9/16	1.14	.83	.36	.18
685VLV-5-4	5/16	7/16-20	5/8	1.18	.83	.36	.18
685VLV-6-4	3/8	7/16-20	11/16	1.18	.83	.36	.18
685VLV-6-6	3/8	9/16-18	11/16	1.25	.90	.39	.30
685VLV-8-8	1/2	3/4-16	7/8	1.52	1.04	.44	.39
685VLV-10-10	5/8	7/8-14	1 1/16	1.84	1.20	.50	.50
685VLV-12-12	3/4	1 1/16-12	1 1/4	2.10	1.34	.59	.62

Note: Fluorocarbon seal & o-ring standard



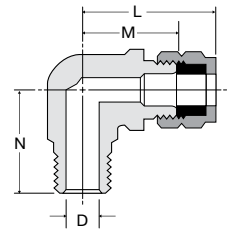
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Union Tee 164VL

Part No.	Tube Size	Body Hex	L	M	Flow Dia. D
164VL-3	3/16	3/8	.98	.69	.160
164VL-4	1/4	1/2	1.06	.75	.190
164VL-5	5/16	15/32	1.22	.88	.250
164VL-8	1/2	13/16	1.64	1.16	.406



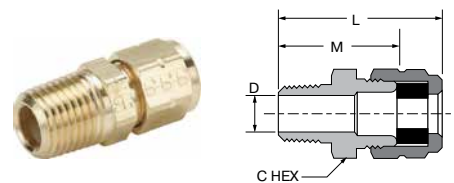
Male Elbow 169VL

Part No.	Tube Size	Pipe Thread	L	M	N	Flow Dia. d
169VL-3-2	3/16	1/8	.98	.69	.75	.156
169VL-4-2	1/4	1/8	1.00	.69	.78	.188
169VL-4-4	1/4	1/4	1.16	.84	1.00	.188
169VL-5-4	5/16	1/4	1.16	.81	1.00	.252
169VL-6-2	3/8	1/8	1.19	.84	.91	.235
169VL-6-4	3/8	1/4	1.19	.84	1.06	.312
169VL-6-6	3/8	3/8	1.29	.94	1.13	.312
169VL-8-6	1/2	3/8	1.48	1.00	1.06	.406
169VL-8-8	1/2	1/2	1.54	1.06	1.44	.406
169VL-10-8	5/8	1/2	1.92	1.28	1.47	.565



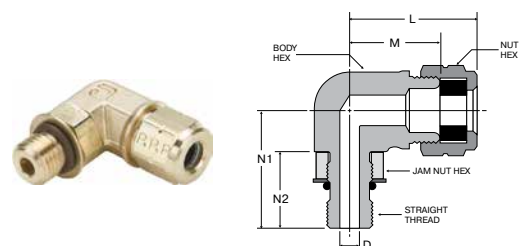
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Straight Through Tank Fitting 682VL

Part No.	Tube Size	Pipe Thread	C Hex	L	M	Flow Dia. d
682VL-4-2	1/4	1/8	9/16	1.15	.84	.265
682VL-4-4	1/4	1/4	9/16	1.34	1.03	.265
682VL-5-4	5/16	1/4	5/8	1.41	1.06	.328
682VL-6-6	3/8	3/8	11/16	1.41	1.06	.406



Male Elbow 1695VLV

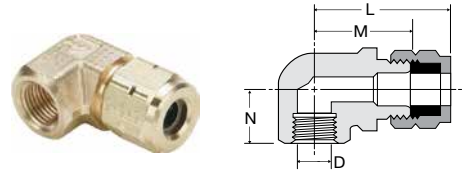
Part No.	Tube Size	Straight Thread	Nut Hex	Body Hex	Jam Nut Hex	L	M	N1	N2	D
1695VLV-4-4	1/4	7/16-20	9/16	9/16	9/16	1.15	.84	1.07	.71	.18
1695VLV-5-4	5/16	7/16-20	5/8	9/16	9/16	1.16	.81	1.07	.71	.18
1695VLV-6-4	3/8	7/16-20	3/4	5/8	9/16	1.19	.84	1.10	.71	.18
1695VLV-6-6	3/8	9/16-18	3/4	5/8	11/16	1.29	.94	1.17	.78	.30
1695VLV-8-8	1/2	3/4-16	15/16	3/4	7/8	1.54	1.06	1.44	.89	.39
1695VLV-10-10	5/8	7/8-14	1 1/8	1.00	1.00	1.92	1.28	1.68	1.03	.50
1695VLV-12-12	3/4	1 1/16-12	1 1/4	1.00	1 1/4	2.04	1.28	1.82	1.17	.62

Note: Fluorocarbon seal & o-ring standard



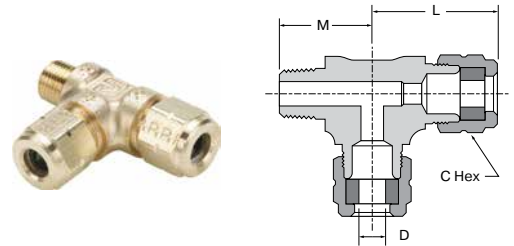
WARNING

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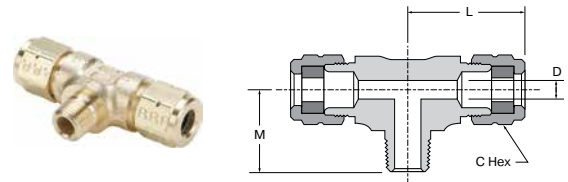
Female Elbow 170VL

Part No.	Tube Size	Pipe Thread	L	M	N	Flow Dia. D
170VL-4-2	1/4	1/8	.96	.65	.50	.188
170VL-5-4	5/16	1/4	1.16	.81	.70	.250



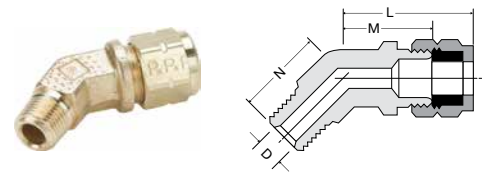
Male Run Tee 171VL

Part No.	Tube Size	Pipe Thread	C Hex	L	M	Flow Dia. D
171VL-4-2	1/4	1/8	9/16	1.03	.76	.188



Male Branch Tee 172VL

Part No.	Tube Size	Pipe Thread	C Hex	L	M	Flow Dia. D
172VL-4-2	1/4	1/8	9/16	1.06	.75	.188



45° Elbow 179VL

Part No.	Tube Size	Pipe Thread	L	M	N	Flow Dia. D
179VL-4-2	1/4	1/8	1.06	.75	.69	.188
179VL-6-4	3/8	1/4	1.07	.72	.84	.315



WARNING

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TRUCK VALVES & LANYARD VALVE



Parker's Truck Valves have metal-to-metal seats with fine thread screwdown. Parker's Lanyard Valves' compact design is ideally suited for releasing condensate from air tanks.

Product Features:

Truck Valves

- Brass Body and Stem
- Flare, Hose, Tube and Pipe Connections
- Round and Pin Handles

Lanyard Valve

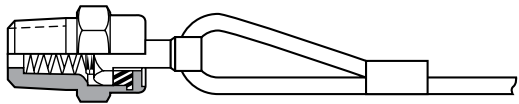
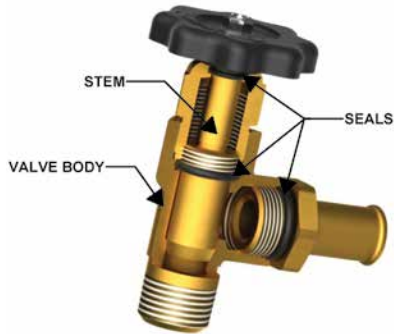
- Low Temperature Seal
- All Brass Body
- Manual Release

Markets:

- Heavy Duty Truck
- Trailer
- Mobile

Applications:

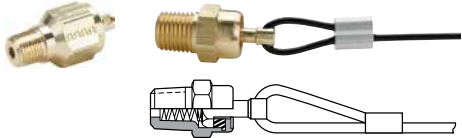
- Water
- Oil
- Coolant lines



Lanyard Valve Operating Instructions

A pulling action exerted on the cable cocks the stem, allowing condensate to pass through the valve. Releasing the cable resets the stem which returns the valve to its closed position.

LV91HF-4-SUB



Truck Valve Specifications:

Pressure Range	Up to 150 PSI (10.3 bar)
Temperature Range	-30° to +250° F (-34.4° to +121.1° C)

Lanyard Valve Specifications:

Pressure Range	Up to 150 PSI (10.3 bar)
Temperature Range	-40° to +200° F (-40° to +93.3° C)

Lanyard Valve LV91

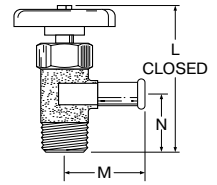
Temperature Range: -40° to +200° F (-40° to +93.3° C)

Part No.	Pipe Thd	Cable Length Inches
LV91-4-036	1/4	36
LV91-4-048	1/4	48
LV91-4-060	1/4	60
LV91HF-4-SUB	1/4	--



WARNING

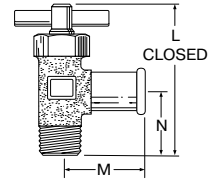
This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov



Truck Valve V404P Hose to Male Pipe

Temperature Range: -30° to +250° F (-34.4° to +121.1° C)

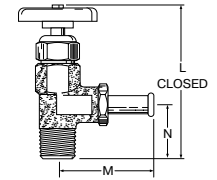
Part No.	Hose I.D.	Pipe Thd	Flow	L	M	N
V404P-6-6	3/8	3/8	.281	2.35	1.36	.94
V404P-10-6	5/8	3/8	.406	2.75	1.31	1.10



Truck Valve V404PH Hose to Male Pipe with Pin Handle

Temperature Range: -30° to +250° F (-34.4° to +121.1° C)

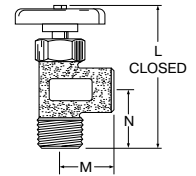
Part No.	Hose I.D.	Pipe Thd	Flow	L	M	N
V404PH-10-6	5/8	3/8	.406	2.47	1.31	1.10



Truck Valve SV404P Hose to Male Pipe

Temperature Range: -30° to +250° F (-34.4° to +121.1° C)

Part No.	Hose I.D.	Pipe Thd	Flow	L	M	N
SV404P-10-8	5/8	1/2	.468	3.71	2.31	1.34
SV404P-12-6	3/4	3/8	.438	3.73	2.31	1.34
SV404P-12-8	3/4	1/2	.562	3.73	2.31	1.34



Truck Valve V405P Female Pipe to Male Pipe

Temperature Range: -30° to +250° F (-34.4° to +121.1° C)

Part No.	Female Pipe Thd	Male Pipe Thd	Flow	L	M	N
V405P-6-6	3/8	3/8	.406	2.72	.91	1.19
V405P-6-8	3/8	1/2	.406	2.95	.91	1.31
V405P-8-8	1/2	1/2	.562	3.15	1.17	1.34



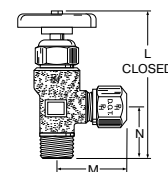
WARNING

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Truck Valve V408NTA Tube to Male Pipe

Temperature Range: -30° to +250° F (-34.4° to +121.1° C)

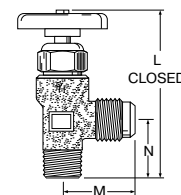
Part No.	Hose I.D.	Pipe Thd	Flow	L	M	N
V408NTA-8-8	1/2	1/2	.328	3.28	1.15	1.19



Truck Valve V409F Flare to Male Pipe

Temperature Range: -30° to +250° F (-34.4° to +121.1° C)

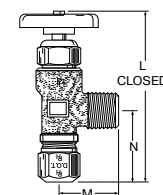
Part No.	Hose I.D.	Pipe Thd	Flow	L	M	N
V409F-8-6	1/2	3/8	.406	3.07	1.31	1.00
V409F-8-8	1/2	1/2	.406	3.28	1.31	1.19
V409F-10-8	5/8	1/2	.500	3.47	1.50	1.25
V409F-12-8	3/4	1/2	.562	3.70	2.31	1.34



Truck Valve V410NTA Tube to Male Pipe

Temperature Range: -30° to +250° F (-34.4° to +121.1° C)

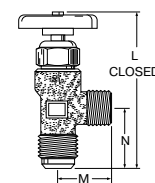
Part No.	Hose I.D.	Pipe Thd	Flow	L	M	N
V410NTA-8-8	1/2	1/2	.328	3.58	1.38	1.31



Truck Valve V412F Tube to Male Pipe

Temperature Range: -30° to +250° F (-34.4° to +121.1° C)

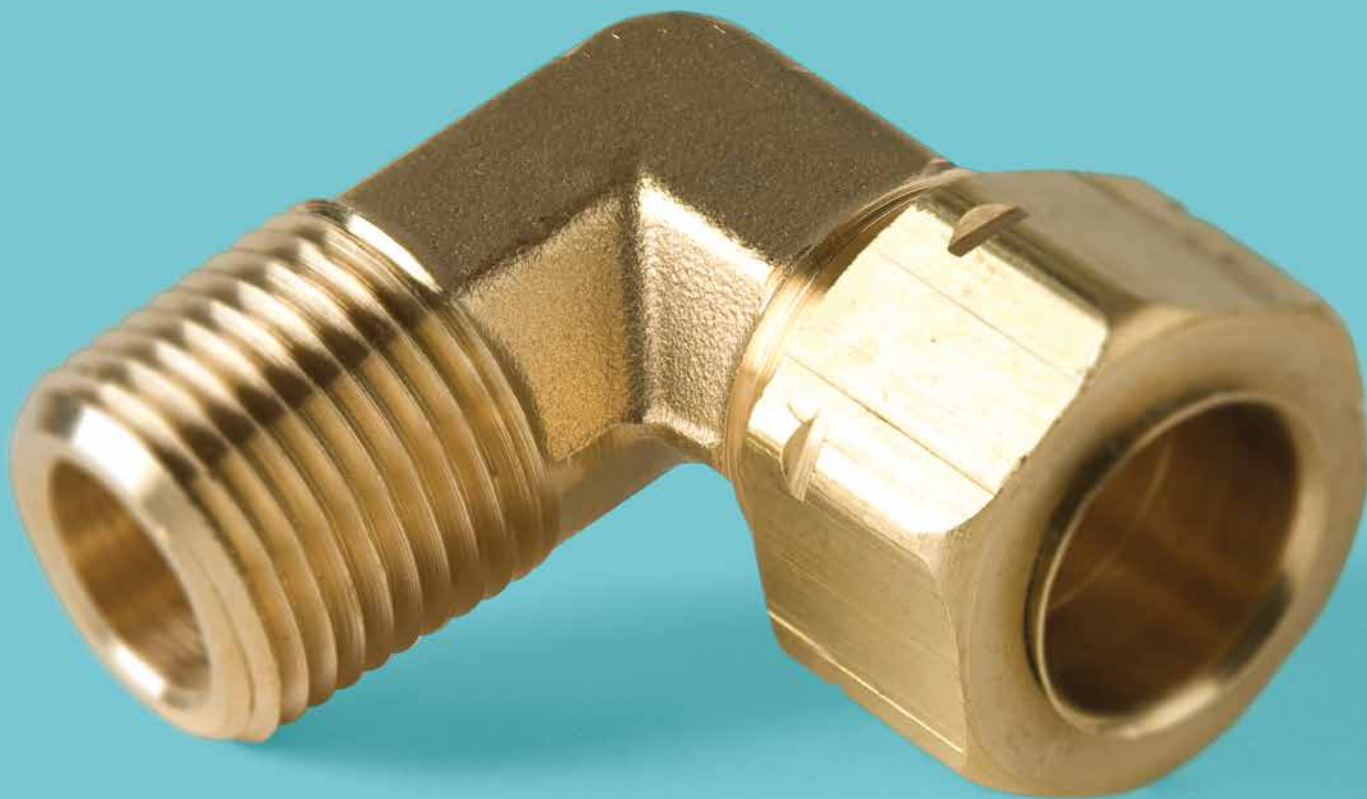
Part No.	Hose I.D.	Pipe Thd	Flow	L	M	N
V412F-10-8	5/8	1/2	.500	3.60	1.38	1.31



WARNING

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This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



INDUSTRIAL COMPRESSION STYLE FITTINGS

Compression Fittings, Compress-Align® Fittings,
Brass Metric Compression, Poly-Tite Fittings,
Hi-Duty Flareless Tube Fittings



COMPRESSION FITTINGS



Parker's Compression Fittings provide users with an economical choice with numerous connection options for a wide variety of tube materials without the need for flaring, soldering or other tube preparation necessary to assemble.

Product Features:

- Meets functional requirements of SAE J-512
- UL Listed for flammable liquid
- Brass or acetal sleeve available
- No tube preparation
- Forged and extruded shapes
- Pre-applied Vibra-Seal thread sealant available

Markets:

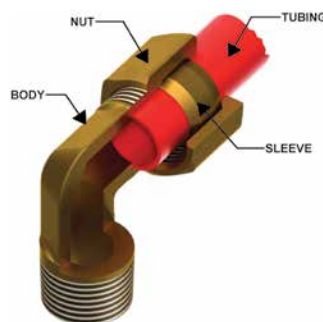
- Industrial
- Packaging
- Pneumatic
- Printing

Applications:

- Air lines
- Lubrication Lines
- Cooling lines
- Industry
- Machinery
- Compressors
- Fluid transfer

Compatible Tubing:

- Copper
- Aluminum
- Thermoplastic tubing



Specifications:

Temperature Range: -65° to +250° F (- 53.8° to +121.1° C)

Pressure Range:

Tube Size	psi	bar	Tube Size	psi	bar
1/8	2800	193.0	7/16	900	62.05
3/16	1900	131.0	1/2	750	51.7
1/4	1400	96.5	5/8	650	44.8
5/16	1200	82.7	3/4	550	37.9
3/8	1000	68.9	7/8	450	24.1

Note: Pressures listed in above table are with brass sleeve and copper tubing



WARNING

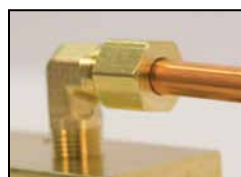
This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

COMPRESSION FITTINGS

Assembly Instructions

1. Slide nut then sleeve onto tubing. The thread end of the nut must face out.
2. Insert tube and bottom on the fitting shoulder
3. Assemble nut to body and tighten “hand tight”. Then wrench tighten the number of turns indicated in the 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
7	7/16	2-1/4	—
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	—

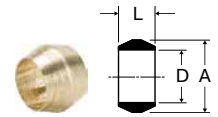


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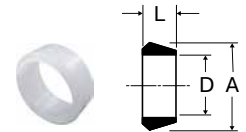
Sleeve 60C

Ref. SAE 060115



Part No.	Tube Size	A	D	L
60C-2	1/8	.187	.130	.19
60C-3	3/16	.266	.192	.22
60C-4	1/4	.344	.255	.25
60C-5	5/16	.406	.318	.25
60C-6	3/8	.469	.382	.25
60C-7	7/16	.531	.444	.31
60C-8	1/2	.594	.507	.38
60C-10	5/8	.719	.632	.38
60C-12	3/4	.875	.758	.44
60C-14	7/8	1.000	.883	.41

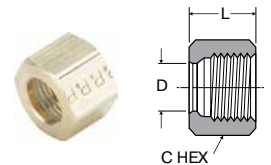
Acetal Sleeve 60PT



Part No.	Plastic Tube Wall	Tube Wall	A	D	L
60PT-4	1/4	.040	.375	.254	.19
60PT-5	5/16	.062	.438	.317	.19
60PT-6	3/8	.062	.500	.379	.19
60PT-8	1/2	.062	.631	.507	.25
60PT-10	5/8	.062	.747	.632	.22

Nut 61C

Ref. SAE 060110



Part No.	Tube Size	Straight Thread	C Hex	D	L
61C-2	1/8	5/16-24	3/8	.130	.38
61C-3	3/16	3/8-24	7/16	.192	.41
61C-4	1/4	7/16-24	1/2	.255	.44
61C-5	5/16	1/2-24	9/16	.318	.44
61C-6	3/8	9/16-24	5/8	.382	.47
61C-7	7/16	5/8-24	11/16	.444	.50
61C-8	1/2	11/16-20	13/16	.507	.62
61C-10	5/8	13/16-18	15/16	.632	.62
61C-12	3/4	1-18	1-3/16	.758	.69
61C-14	7/8	1-1/8-18	1-1/4	.890	.62

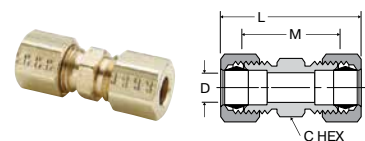


WARNING

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Union 62C

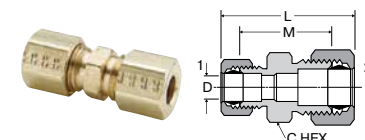
Ref. SAE 060101 BA



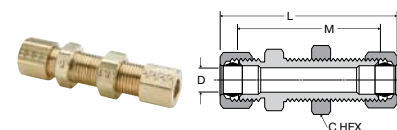
Part No.	Tube Size	Straight Thread	C Hex	L	M	Flow Dia. D
62C-2	1/8	5/16-24	5/16	1.05	.64	.094
62C-3	3/16	3/8-24	3/8	1.21	.72	.125
62C-4	1/4	7/16-24	7/16	1.33	.79	.188
62C-5	5/16	1/2-24	1/2	1.39	.85	.250
62C-6	3/8	9/16-24	9/16	1.52	.97	.312
62C-7	7/16	5/8-24	5/8	1.70	1.02	.312
62C-8	1/2	11/16-20	11/16	1.90	1.08	.406
62C-10	5/8	13/16-18	13/16	2.06	1.23	.500
62C-12	3/4	1-18	1	2.37	1.41	.562
62C-14	7/8	1-1/8-18	1-1/8	2.07	1.19	.766

Union Reducers 62C

Ref. SAE 060101 BA



Part No.	1 Tube Size	2 Tube Size	1 Straight Thread	2 Straight Thread	C Hex	L	M	Flow Dia. D
62C-4-3	3/16	1/4	3/8-24	7/16-24	7/16	1.29	.78	.125
62C-6-4	1/4	3/8	7/16-24	9/16-24	9/16	1.46	.91	.188
62C-8-6	3/8	1/2	9/16-24	11/16-20	11/16	1.71	1.03	.312
62C-10-6	3/8	5/8	9/16-24	13/16-18	13/16	1.82	1.13	.312



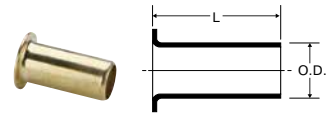
Bulkhead Union 62CBH

Part No.	Tube Size	Straight Thread	C Hex	L	M	Bulkhead Hole Dia.	Flow Dia. D
62CBH-4	1/4	7/16-24	9/16	2.29	1.75	7/16	.188
62CBH-6	3/8	9/16-24	11/16	2.42	1.88	9/16	.312



WARNING

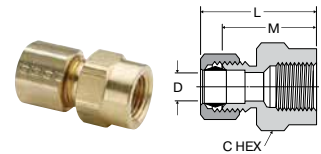
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Brass Insert 63PT

Part No.	Tube O.D.	Tube Wall	L	O.D.
63PT-2-16	1/8	.016	.46	.080
63PT-2-23	1/8	.023	.45	.073
63PT-3-25	3/16	.025	.45	.135
63PT-3-40	3/16	.040	.52	.095
63NTA-4*	1/4	.040	.53	.163
63PT-4-62	1/4	.062	.33	.110
63PT-5-40	5/16	.040	.50	.232
63PT-5-62	5/16	.062	.53	.187
63NTA-6*	3/8	.062	.64	.245
63NTA-8*	1/2	.062	.81	.370
63PT-10-62	5/8	.062	.72	.483

* Denotes 304 stainless steel



Female Connector 66C

Ref. SAE 060103 BA

Part No.	Tube Size	Pipe Thread	Straight Thread	C Hex	L	M	Flow Dia. D
66C-2-2	1/8	1/8	5/16-24	9/16	.95	.75	.094
66C-3-2	3/16	1/8	3/8-24	9/16	1.02	.78	.125
66C-3-4	3/16	1/4	3/8-24	11/16	1.20	.96	.125
66C-4-2	1/4	1/8	7/16-24	9/16	1.02	.78	.188
66C-4-4	1/4	1/4	7/16-24	11/16	1.24	1.00	.188
66C-5-2	5/16	1/8	1/2-24	9/16	1.07	.81	.250
66C-5-4	5/16	1/4	1/2-24	11/16	1.29	1.03	.250
66C-6-2	3/8	1/8	9/16-24	9/16	1.06	.78	.312
66C-6-4	3/8	1/4	9/16-24	11/16	1.34	1.06	.312
66C-6-6	3/8	3/8	9/16-24	13/16	1.34	1.06	.312
66C-6-8	3/8	1/2	9/16-24	1	1.54	1.27	.312
66C-7-6	7/16	3/8	5/8-24	13/16	1.43	1.09	.312
66C-8-4	1/2	1/4	11/16-20	11/16	1.49	1.09	.406
66C-8-6	1/2	3/8	11/16-20	13/16	1.52	1.12	.406
66C-8-8	1/2	1/2	11/16-20	1	1.71	1.31	.406
66C-10-8	5/8	1/2	13/16-18	1	1.80	1.38	.500

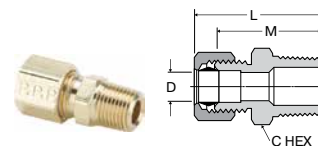


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Male Connector 68C

Ref. SAE 060102 BA



Part No.	Tube Size	Pipe Thread	Straight Thread	C Hex	L	M	Flow Dia. D
68C-2-1	1/8	1/16	5/16-24	3/8	.99	.78	.095
68C-2-2	1/8	1/8	5/16-24	7/16	.97	.77	.094
68C-3-1	3/16	1/16	3/8-24	3/8	1.08	.84	.125
68C-3-2	3/16	1/8	3/8-24	7/16	1.08	.84	.125
68C-3-4	3/16	1/4	3/8-24	9/16	1.27	1.03	.125
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-4-6	1/4	3/8	7/16-24	11/16	1.27	1.03	.188
68C-4-8	1/4	1/2	7/16-24	7/8	1.55	1.31	.188
68C-5-2	5/16	1/8	1/2-24	1/2	1.15	.89	.234
68C-5-4	5/16	1/4	1/2-24	9/16	1.33	1.07	.250
68C-6-2	3/8	1/8	9/16-24	9/16	1.25	.97	.250
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-7-4	7/16	1/4	5/8-24	5/8	1.50	1.17	.312
68C-8-4	1/2	1/4	11/16-20	11/16	1.60	1.20	.312
68C-8-6	1/2	3/8	11/16-20	11/16	1.60	1.20	.406
68C-8-8	1/2	1/2	11/16-20	7/8	1.71	1.31	.406
68C-10-6	5/8	3/8	13/16-18	13/16	1.73	1.31	.406
68C-10-8	5/8	1/2	13/16-18	7/8	1.90	1.48	.500
68C-10-12	5/8	3/4	13/16-18	1-1/16	1.98	1.56	.500
68C-12-8	3/4	1/2	1-18	1	2.05	1.60	.562
68C-12-12	3/4	3/4	1-18	1-1/16	2.08	1.63	.656
68C-14-12	7/8	3/4	1-1/8-18	1-1/8	1.76	1.41	.750



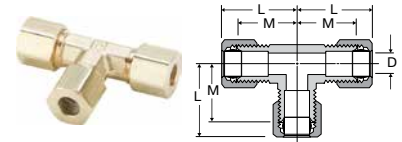
WARNING

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Union Tee 164C-264C

Ref. SAE 060401 BA

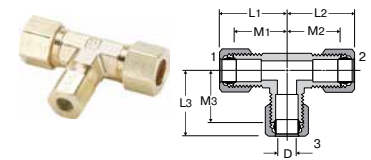
Part No.	Tube Size	Straight Thread	L	M	Flow Dia. D
164C-2	1/8	5/16-24	.82	.61	.094
264C-3	3/16	3/8-24	.84	.60	.125
164C-4	1/4	7/16-24	.86	.63	.188
164C-5	5/16	1/2-24	.98	.71	.250
164C-6	3/8	9/16-24	1.03	.74	.312
164C-8	1/2	11/16-20	1.34	.93	.406
164C-10	5/8	13/16-18	1.54	1.08	.500
164C-12	3/4	1.00-18	1.65	1.17	.563



Union Tee 164C-264C Combination Sizes

Ref. SAE 060401 BA

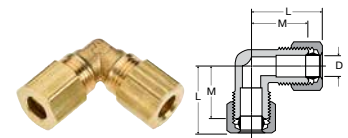
Part No.	1 Tube Size	2 Tube Size	3 Tube Size	L1	L2	L3	M1	M2	M3	Flow Dia. D
164C-6-4-4	3/8	1/4	1/4	1.03	.96	.96	.75	.72	.72	.188
164C-6-6-4	3/8	3/8	1/4	1.03	.96	.96	.75	.75	.72	.188
164C-8-8-6	1/2	1/2	3/8	1.34	1.16	1.16	.94	.94	.88	.312



Union Elbow 165C

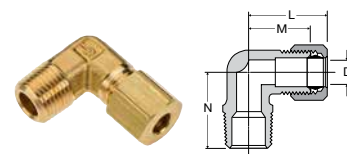
Ref. SAE 060201 BA

Part No.	Tube Size	Straight Thread	L	M	Flow Dia. D
165C-2	1/8	5/16-24	.82	.61	.094
165C-3	3/16	3/8-24	.87	.61	.125
165C-4	1/4	7/16-24	.89	.62	.188
165C-5	5/16	1/2-24	.95	.71	.250
165C-6	3/8	9/16-24	1.03	.74	.312
165C-7	7/16	5/3-24	1.16	.82	.312
165C-8	1/2	11/16-20	1.34	.93	.406
165C-10	5/8	13/16-18	1.48	1.05	.500
165C-12	3/4	1-18	1.65	1.17	.563



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Male Elbow 169C-269C

Ref. SAE 060202 BA

Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
169C-2-1	1/8	1/16	5/16-24	.81	.60	.67	.095
269C-2-2	1/8	1/8	5/16-24	.80	.60	.67	.094
169C-3-1	3/16	1/16	3/8-24	.85	.61	.67	.126
169C-3-2	3/16	1/8	3/8-24	.83	.60	.67	.125
169C-3-4	3/16	1/4	3/8-24	.86	.64	.93	.125
169C-4-2	1/4	1/8	7/16-24	.87	.60	.73	.188
169C-4-4	1/4	1/4	7/16-24	.87	.60	.80	.188
169C-4-6	1/4	3/8	7/16-24	.93	.68	1.00	.188
169C-5-2*	5/16	1/8	1/2-24	.88	.61	.74	.234
169C-5-4	5/16	1/4	1/2-24	.95	.71	.93	.250
169C-5-6	5/16	3/8	1/2-24	1.01	.75	1.00	.250
169C-6-2*	3/8	1/8	9/16-24	1.03	.74	.74	.234
169C-6-4	3/8	1/4	9/16-24	1.03	.74	.93	.312
169C-6-6	3/8	3/8	9/16-24	1.03	.75	1.00	.312
169C-6-8	3/8	1/2	9/16-24	1.22	.94	1.27	.312
269C-7-6	7/16	3/8	5/8-24	1.16	.82	.98	.312
169C-8-4*	1/2	1/4	11/16-20	1.34	.94	1.00	.312
169C-8-6	1/2	3/8	11/16-20	1.34	.93	1.11	.406
169C-8-8	1/2	1/2	11/16-20	1.48	1.00	1.37	.406
169C-10-8	5/8	1/2	13/16-18	1.48	1.06	1.31	.500
169C-12-8	3/4	1/2	1-18	1.64	1.18	1.49	.562
169C-12-12	3/4	3/4	1-18	1.70	1.27	1.58	.562

* For these parts the pipe thread through hole is smaller than the through hole on the flare end.

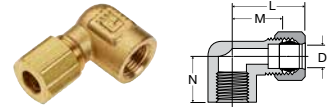


WARNING

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Female Elbow 170C

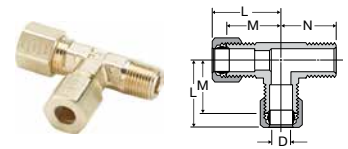
Ref. SAE 060203 BA



Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
170C-2-2	1/8	1/8	5/16-24	.89	.69	.56	.094
170C-3-2	3/16	1/8	3/8-24	.98	.69	.56	.125
170C-4-2	1/4	1/8	7/16-24	.95	.67	.54	.188
170C-4-4	1/4	1/4	7/16-24	1.02	.78	.67	.188
170C-6-4	3/8	1/4	9/16-24	1.06	.79	.73	.312
170C-6-6	3/8	3/8	9/16-24	1.22	.89	.69	.312
170C-7-4	7/16	1/4	5/8-24	1.27	.93	.73	.312
170C-8-6	1/2	3/8	11/16-20	1.34	1.00	.69	.406
170C-8-8	1/2	1/2	11/16-20	1.56	1.15	.97	.408
170C-12-12	3/4	3/4	1-18	2.06	1.58	1.58	.563

Male Run Tee 171C

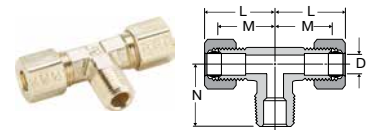
Ref. SAE 060424 BA



Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
171C-2-2	1/8	1/8	5/16-24	.82	.61	.67	.094
171C-3-2	3/16	1/8	3/8-24	.86	.61	.67	.125
171C-4-2	1/4	1/8	7/16-24	.90	.64	.75	.188
171C-4-4	1/4	1/4	7/16-24	.93	.69	.92	.188
171C-6-4	3/8	1/4	9/16-24	1.09	.81	1.03	.312

Male Branch Tee 172C

Ref. SAE 060425 BA

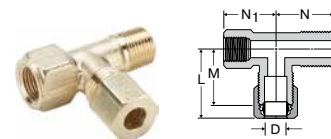


Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
172C-2-2	1/8	1/8	5/16-24	.82	.61	.67	.094
172C-3-2	3/16	1/8	3/8-24	.86	.61	.67	.125
172C-4-2	1/4	1/8	7/16-24	.86	.61	.74	.188
172C-4-4	1/4	1/4	7/16-24	.93	.69	.92	.188
172C-6-2	3/8	1/8	9/16-24	1.03	.75	.75	.234
172C-6-4	3/8	1/4	9/16-24	1.09	.77	.92	.312
172C-6-6	3/8	3/8	9/16-24	1.09	.81	1.00	.312
172C-8-6	1/2	3/8	11/16-20	1.34	.93	1.10	.406



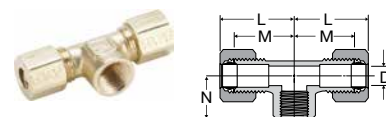
WARNING

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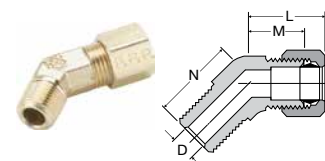
Adapter Tee 176C

Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	N1	Flow Dia. D
176C-4-2	1/4	1/8	7/16-24	.93	.69	.75	.66	.188



Female Branch Tee 177C

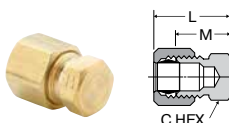
Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
177C-4-2	1/4	1/8	7/16-24	.86	.63	.53	.188



45° Elbow 179C

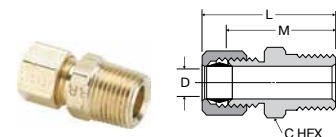
Compression to male pipe

Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
179C-4-2	1/4	1/8	7/16-24	.76	.48	.56	.188
179C-4-4	1/4	1/4	7/16-24	.80	.56	.84	.188
179C-6-2	3/8	1/8	9/16-24	.90	.63	.65	.234
179C-6-4	3/8	1/4	9/16-24	.90	.63	.84	.312
179C-6-6	3/8	3/8	9/16-24	.97	.75	.95	.312
179C-8-6	1/2	3/8	11/16-20	1.15	.81	.95	.406



Seal Plug 639C

Part No.	Tube Size	Straight Thread	C Hex	L	M
639C-4	1/4	7/16-24	7/16	.74	.50



Straight Through Tank Fitting 682C

Part No.	Tube Size	Pipe Thread	Straight Thread	C Hex	L	M	Flow Dia. D
682C-3-2	3/16	1/8	3/8-24	7/16	1.06	.84	.195
682C-6-6	3/8	3/8	9/16-24	11/16	1.44	1.16	.387
682C-8-8	1/2	1/2	11/16-20	7/8	1.90	1.31	.516



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COMPRESS-ALIGN® FITTINGS



Parker's Compress-Align Fittings are pre-assembled with a captive sleeve, always oriented for a faster installation. The design of the captive sleeve aligns to seal even out-of-round tubing.

Product Features:

- Self-aligning captive sleeve
- 2-piece fitting – Less inventory
- Visible inspection before and after installation
- 1/8" – 1" Sizes
- No flaring, soldering or other tube preparation
- Forged and extruded shapes
- Pre-applied Vibra-Seal thread sealant available

Specifications:

Temperature Range: -65° to +250° F (-53.8° to +121.1° C)

Pressure Range:

Tube Size	Psi	Bar	Tube Size	Psi	Bar
1/8	2800	193.0	1/2	750	51.7
3/16	1900	131.0	5/8	650	44.8
1/4	1400	96.5	3/4	550	37.9
5/16	1200	82.7	7/8	450	31.0
3/8	1000	68.9	1	350	24.1

Markets:

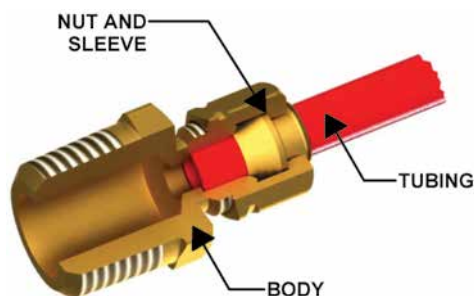
- Industrial
- Packaging
- Pneumatic
- Printing
- Chemical

Applications:

- Air lines
- Lubrication Lines
- Cooling lines
- Industry
- Machinery
- Chemical Dispensing
- Compressors
- Fluid transfer

Compatible Tubing:

- Copper, Aluminum
- Thermoplastic tubing
- TFE, FEA, PFA



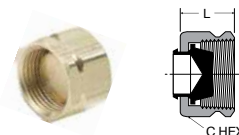
Assembly Instructions

With nut finger tight on fitting body, insert tubing until it bottoms in the Fitting. Complete the seal with one wrench turn for all sizes.



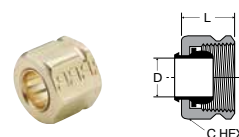
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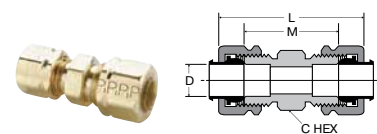
Plug 59CA

Part No.	Tube Size	Straight Thread	C Hex	L
59CA-4	1/4	7/16-24	1/2	.40
59CA-6	3/8	9/16-24	5/8	.45
59CA-8	1/2	11/16-20	13/16	.50



Nut and Sleeve Assembly 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-5	5/16	1/2-24	9/16	.318	.45
61CA-6	3/8	9/16-24	5/8	.382	.45
61CA-8	1/2	11/16-20	13/16	.507	.50
61CA-10	5/8	13/16-18	15/16	.632	.53
61CA-12	3/4	1-18	1-3/16	.760	.56
61CA-14	7/8	1-1/8-18	1-3/8	.885	.68
61CA-16	1	1-1/4-18	1-1/2	1.012	.63



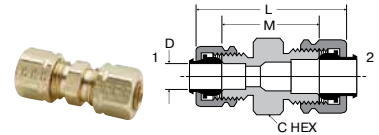
Union 62CA

Part No.	Size	Straight Thread	C Hex	L	M	Flow Dia. D
62CA-2	1/8	5/16-24	5/16	1.12	.64	.094
62CA-3	3/16	3/8-24	3/8	1.19	.72	.125
62CA-4	1/4	7/16-24	7/16	1.26	.79	.188
62CA-5	5/16	1/2-24	1/2	1.32	.85	.250
62CA-6	3/8	9/16-24	9/16	1.42	.97	.312
62CA-8	1/2	11/16-20	11/16	1.53	1.08	.406
62CA-10	5/8	13/16-18	13/16	1.71	1.23	.500
62CA-12	3/4	1-18	1	2.20	1.41	.562
62CA-14	7/8	1-1/8-18	1-1/8	2.08	1.19	.766



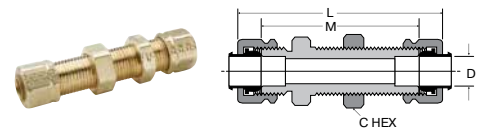
WARNING

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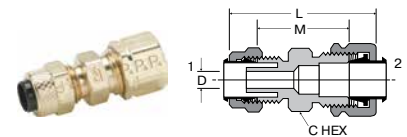
Union Reducers 62CA

Part No.	1 Tube Size	2 Tube Size	1 Straight Thread	2 Straight Thread	C Hex	L	M	Flow Dia. D
62CA-4-3	3/16	1/4	3/8-24	7/16-24	7/16	1.25	.78	.125
62CA-6-4	1/4	3/8	7/16-24	9/16-24	9/16	1.37	.91	.188
62CA-8-6	3/8	1/2	9/16-24	11/16-20	11/16	1.48	1.03	.312
62CA-10-6	3/8	5/8	9/16-24	13/16-18	13/16	1.59	1.13	.312



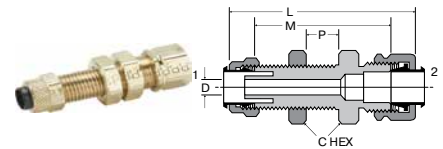
Bulkhead Union 62CABH

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



Union 62PCA (Poly-Tite to Compress-Align)

Part No.	Tube Size	1 Straight Thread	2 Straight Thread	C Hex	L	M	Flow Dia. D
62PCA-4	1/4	3/8-24	7/16-24	7/16	1.24	.89	.125
62PCA-5	5/16	7/16-24	1/2-24	1/2	1.26	.92	.144
62PCA-6	3/8	1/2-24	9/16-24	9/16	1.32	.98	.204



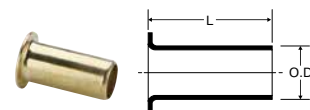
Bulkhead Union 62PCABH (Poly-Tite to Compress-Align)

Part No.	Tube Size	1 Str Thd	2 Str Thd	C Hex	P Max	L	M	Flow Bkhd Dia.	Flow Dia. D
62PCABH-4	1/4	3/8-24	7/16-24	9/16	.38	1.80	1.45	3/8	.125
62PCABH-6	3/8	1/2-24	9/16-24	11/16	.47	1.98	1.64	1/2	.204



WARNING

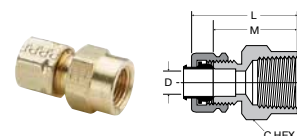
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Brass Insert 63PT

Part No.	Tube Size	Tube Wall	L	O.D.
63PT-2-16	1/8	.016	.46	.080
63PT-2-23	1/8	.023	.45	.073
63PT-3-25	3/16	.025	.45	.135
63PT-3-40	3/16	.040	.52	.095
63NTA-4*	1/4		.53	.163
63PT-4-62	1/4	.062	.33	.110
63PT-5-40	5/16	.040	.50	.232
63PT-5-62	5/16	.062	.53	.187
63NTA-6*	3/8		.64	.245
63NTA-8*	1/2		.81	.370
63PT-10-62	5/8	.062	.72	.483

* Denotes 304 stainless steel



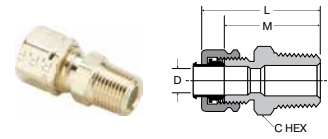
Female Connector 66CA

Part No.	Tube Size	Pipe Thread	Straight Thread	C Hex	L	M	Flow Dia. D
66CA-2-2	1/8	1/8	5/16-24	9/16	.99	.75	.094
66CA-3-2	3/16	1/8	3/8-24	9/16	1.01	.78	.125
66CA-3-4	3/16	1/4	3/8-24	11/16	1.19	.96	.125
66CA-4-2	1/4	1/8	7/16-24	9/16	1.02	.78	.188
66CA-4-4	1/4	1/4	7/16-24	11/16	1.24	1.00	.188
66CA-5-2	5/16	1/8	1/2-24	9/16	1.05	.81	.250
66CA-5-4	5/16	1/4	1/2-24	11/16	1.27	1.03	.250
66CA-6-2	3/8	1/8	9/16-24	9/16	1.00	.78	.312
66CA-6-4	3/8	1/4	9/16-24	11/16	1.28	1.06	.312
66CA-6-6	3/8	3/8	9/16-24	13/16	1.29	1.06	.312
66CA-6-8	3/8	1/2	9/16-24	1	1.49	1.27	.312
66CA-8-4	1/2	1/4	11/16-20	11/16	1.32	1.09	.406
66CA-8-6	1/2	3/8	11/16-20	13/16	1.35	1.12	.406
66CA-8-8	1/2	1/2	11/16-20	1	1.54	1.31	.406
66CA-10-8	5/8	1/2	13/16-18	1	1.62	1.38	.500



WARNING

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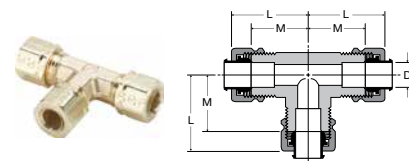
Male Connector 68CA

Part No.	Tube Size	Pipe Thread	Straight Thread	C Hex	L	M	Flow Dia. D
68CA-2-1	1/8	1/16	5/16-24	3/8	1.02	.78	.095
68CA-2-2	1/8	1/8	5/16-24	7/16	1.01	.77	.094
68CA-3-1	3/16	1/16	3/8-24	3/8	1.07	.84	.125
68CA-3-2	3/16	1/8	3/8-24	7/16	1.07	.84	.125
68CA-3-4	3/16	1/4	3/8-24	9/16	1.26	1.03	.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-4-6	1/4	3/8	7/16-24	11/16	1.28	1.03	.188
68CA-4-8	1/4	1/2	7/16-24	7/8	1.56	1.31	.188
68CA-5-2	5/16	1/8	1/2-24	1/2	1.13	.89	.234
68CA-5-4	5/16	1/4	1/2-24	9/16	1.35	1.07	.250
68CA-6-2	3/8	1/8	9/16-24	9/16	1.19	.97	.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-8-4	1/2	1/4	11/16-20	11/16	1.45	1.22	.312
68CA-8-6	1/2	3/8	11/16-20	11/16	1.43	1.20	.406
68CA-8-8	1/2	1/2	11/16-20	7/8	1.54	1.31	.406
68CA-10-6	5/8	3/8	13/16-18	13/16	1.55	1.31	.406
68CA-10-8	5/8	1/2	13/16-18	7/8	1.72	1.48	.500
68CA-10-12	5/8	3/4	13/16-18	1-1/16	1.80	1.56	.500
68CA-12-8	3/4	1/2	1-18	1	1.99	1.60	.562
68CA-12-12	3/4	3/4	1-18	1-1/16	2.02	1.63	.656
68CA-14-12	7/8	3/4	1-1/8-18	1-1/8	1.85	1.41	.750
68CA-16-12	1	3/4	1-1/4-18	1-1/4	1.83	1.39	.750
68CA-16-16	1	1	1-1/4-18	1-3/8	2.02	1.58	.875



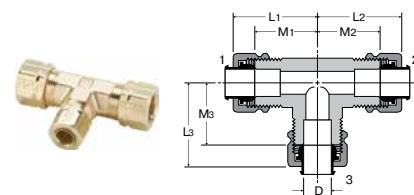
WARNING

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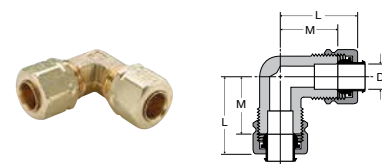
Union Tee 164CA-264CA

Part No.	Tube Size	Straight Thread	L	M	Flow Dia. D
164CA-2	1/8	5/16-24	.84	.61	.093
264CA-3	3/16	3/8-24	.83	.60	.125
164CA-4	1/4	7/16-24	.84	.63	.188
164CA-5	5/16	1/2-24	.95	.71	.250
164CA-6	3/8	9/16-24	.96	.74	.312
164CA-8	1/2	11/16-20	1.15	.93	.406
164CA-10	5/8	13/16-18	1.32	1.08	.500
164CA-12	3/4	1.00-18	1.56	1.17	.562



Union Tee 164CA combination sizes

Part No.	1 Tube Size	2 Tube Size	3 Tube Size	L1	L2	L3	M1	M2	M3	Flow Dia. D
164CA-6-4-4	3/8	1/4	1/4	.97	.96	.96	.75	.72	.72	.188
164CA-6-6-4	3/8	3/8	1/4	.97	.97	.96	.75	.75	.72	.188
164CA-8-8-6	1/2	1/2	3/8	1.17	1.17	1.10	.94	.94	.88	.312



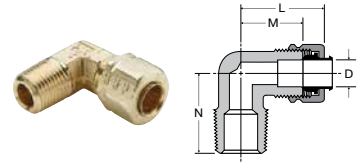
Union Elbow 165CA-265CA

Part No.	Tube Size	Straight Thread	L	M	Flow Dia. D
165CA-2	1/8	5/16-24	.84	.61	.094
165CA-3	3/16	3/8-24	.84	.61	.125
165CA-4	1/4	7/16-24	.87	.62	.188
165CA-5	5/16	1/2-24	.94	.71	.250
165CA-6	3/8	9/16-24	.96	.74	.312
165CA-8	1/2	11/16-20	1.15	.93	.406
165CA-10	5/8	13/16-18	1.29	1.05	.500
165CA-12	3/4	1-18	1.56	1.17	.562
165CA-16	1	1-1/4-18	1.63	1.19	.877



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Male Elbow 169CA-269CA

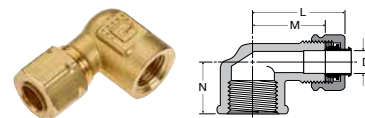
Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
169CA-2-1	1/8	1/16	5/16-24	.84	.60	.67	.095
269CA-2-2	1/8	1/8	5/16-24	.84	.60	.67	.094
169CA-3-1	3/16	1/16	3/8-24	.84	.61	.67	.126
169CA-3-2	3/16	1/8	3/8-24	.83	.60	.67	.125
169CA-3-4	3/16	1/4	3/8-24	.87	.64	.93	.125
169CA-4-2	1/4	1/8	7/16-24	.85	.60	.73	.188
169CA-4-4	1/4	1/4	7/16-24	.84	.60	.80	.188
169CA-4-6	1/4	3/8	7/16-24	.92	.68	1.00	.188
169CA-5-2 *	5/16	1/8	1/2-24	.84	.61	.74	.234
169CA-5-4	5/16	1/4	1/2-24	.94	.71	.93	.250
169CA-5-6	5/16	3/8	1/2-24	.99	.75	1.00	.250
169CA-6-2 *	3/8	1/8	9/16-24	.96	.74	.74	.234
169CA-6-4	3/8	1/4	9/16-24	.96	.74	.93	.312
169CA-6-6	3/8	3/8	9/16-24	.97	.75	1.00	.312
169CA-6-8	3/8	1/2	9/16-24	1.16	.94	1.27	.312
169CA-8-4 *	1/2	1/4	11/16-20	1.17	.94	1.00	.312
169CA-8-6	1/2	3/8	11/16-20	1.15	.93	1.11	.406
169CA-8-8	1/2	1/2	11/16-20	1.23	1.00	1.37	.406
169CA-10-6 *	5/8	3/8	13/16-18	1.30	1.06	1.15	.406
169CA-10-8	5/8	1/2	13/16-18	1.30	1.06	1.31	.500
169CA-12-8	3/4	1/2	1-18	1.57	1.18	1.49	.562
169CA-12-12	3/4	3/4	1-18	1.66	1.27	1.58	.562
169CA-16-12 *	1	3/4	1-1/4-18	1.63	1.19	1.60	.875

* For these parts the pipe thread through hole is smaller than the through hole on the tube end.



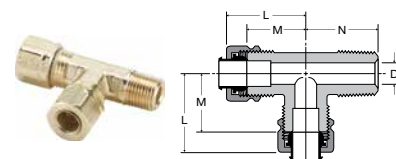
WARNING

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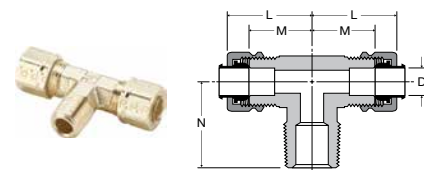
Female Elbow 170CA

Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
170CA-2-2	1/8	1/8	5/16-24	.93	.69	.56	.094
170CA-3-2	3/16	1/8	3/8-24	.98	.69	.56	.125
170CA-4-2	1/4	1/8	7/16-24	.92	.67	.54	.188
170CA-4-4	1/4	1/4	7/16-24	1.02	.78	.67	.188
170CA-6-4	3/8	1/4	9/16-24	1.09	.79	.73	.312
170CA-6-6	3/8	3/8	9/16-24	1.16	.89	.69	.312
170CA-8-6	1/2	3/8	11/16-20	1.23	1.00	.69	.406
170CA-8-8	1/2	1/2	11/16-20	1.38	1.15	.97	.408
170CA-12-12	3/4	3/4	1-18	1.97	1.58	1.58	.563



Male Run Tee 171CA

Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
171CA-2-2	1/8	1/8	5/16-24	.84	.61	.67	.094
171CA-3-2	3/16	1/8	3/8-24	.83	.61	.67	.125
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



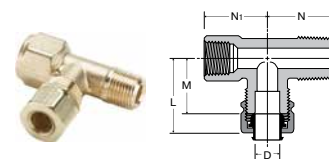
Male Branch Tee 172CA

Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
172CA-2-2	1/8	1/8	5/16-24	.84	.61	.67	.093
172CA-3-2	3/16	1/8	3/8-24	.83	.61	.67	.125
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-6-2	3/8	1/8	9/16-24	.97	.75	.75	.234
172CA-6-4	3/8	1/4	9/16-24	.99	.77	.92	.312
172CA-6-6	3/8	3/8	9/16-24	1.07	.81	1.00	.312
172CA-8-6	1/2	3/8	11/16-20	1.15	.93	1.10	.406
172CA-12-12	3/4	3/4	1-18	1.67	1.27	1.50	.562



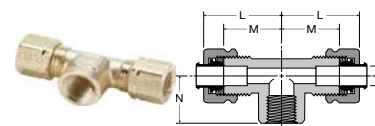
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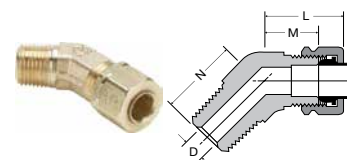
Adapter Tee 176CA

Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	N1	Flow Dia. D
176CA-4-2	1/4	1/8	7/16-24	.92	.69	.75	.66	.188



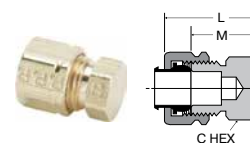
Female Branch Tee 177CA

Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
177CA-4-2	1/4	1/8	7/16-24	.86	.63	.53	.188



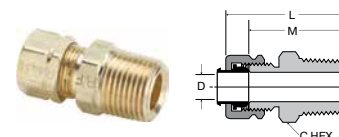
45° Elbow 179CA

Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
179CA-4-2	1/4	1/8	7/16-24	.89	.66	.56	.188
179CA-4-4	1/4	1/4	7/16-24	.80	.56	.84	.188
179CA-6-2	3/8	1/8	9/16-24	.85	.63	.65	.234
179CA-6-4	3/8	1/4	9/16-24	.85	.63	.84	.312
179CA-6-6	3/8	3/8	9/16-24	.97	.75	.95	.312
179CA-8-6	1/2	3/8	11/16-20	1.03	.81	.95	.406



Seal Plug 639CA

Part No.	Tube Size	Straight Thread	C Hex	L	M
639CA-4	1/4	7/16-24	7/16	.74	.50



Straight Through Tank Fitting 682CA

Part No.	Tube Size	Pipe Thread	Straight Thread	C Hex	L	M	Flow Dia. D
682CA-3-2	3/16	1/8	3/8-24	7/16	1.07	.84	.194



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BRASS METRIC COMPRESSION FITTINGS



Parker's Metric Compression Fittings provide users with an economical choice with numerous connection options for a wide variety of tube materials without the need for flaring, soldering or other tube preparation necessary to assemble.

Product Features:

- 4mm – 28mm tube sizes
- NPT, BSPT, BSPP, Metric Threads
- NBR seal
- Silicone free

Markets:

- Factory/Process Automation
- Automotive Process
- Packaging
- Pneumatic
- Printing

Applications:

- Air lines
- Lubrication Lines
- Cooling lines
- Water
- Machinery
- Compressors
- Fluid transfer

Compatible Tubing:

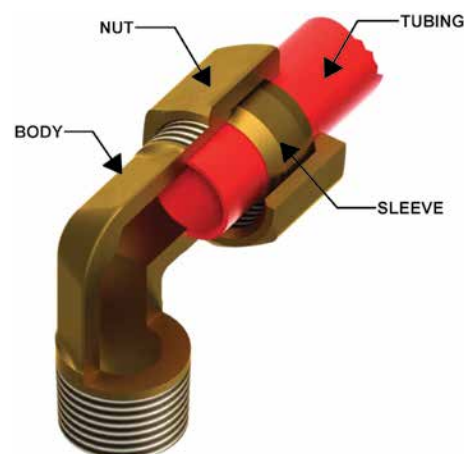
- Copper
- Aluminum
- Thermoplastic tubing

Specifications:

Temperature Range: -40° to +250° F (-40° to +121.1° C)

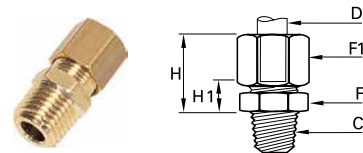
Pressure Range:

tube size mm	psi	bar	tube size mm	psi	bar
4	3335	229.9	14	652	44.9
6	2175	149.9	16	580	39.9
8	1450	99.9	18	536	36.9
10	1087	74.9	20	507	34.9
12	797	54.9	22	435	29.9



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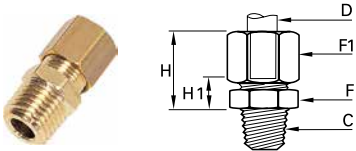
0105 Male Connector BSPT

Part no.	O.D.	C	F	F1	H Max	H1	Kg
0105 04 10	4	R1/8	10	10	17	7	.012
0105 05 10	5	R1/8	11	12	17.5	7.5	.016
0105 05 13	5	R1/4	14	12	17.5	7.5	.022
0105 06 10	6	R1/8	11	13	18	7.5	.017
0105 06 13	6	R1/4	14	13	18	7.5	.024
0105 06 17	6	R3/8	17	13	18	8.5	.031
0105 08 10	8	R1/8	13	14	19.5	7	.020
0105 08 13	8	R1/4	14	14	19.5	7	.025
0105 08 17	8	R3/8	17	14	20.5	8	.032
0105 10 10	10	R1/8	17	19	24	9	.043
0105 10 13	10	R1/4	17	19	24	9	.047
0105 10 17	10	R3/8	17	19	24	9	.048
0105 10 21	10	R1/2	22	19	25	10	.067
0105 12 13	12	R1/4	19	22	24	9	.059
0105 12 17	12	R3/8	19	22	24	9	.060
0105 12 21	12	R1/2	22	22	25	10	.076
0105 14 13	14	R1/4	22	24	25	8	.068
0105 14 17	14	R3/8	22	24	25	8	.068
0105 14 21	14	R1/2	22	24	26	9	.080
0105 14 27	14	R3/4	27	24	27	10	.107
0105 15 17	15	R3/8	22	24	25	8	.065
0105 15 21	15	R1/2	22	24	26	9	.076
0105 16 13	16	R1/4	24	27	27	9.5	.092
0105 16 17	16	R3/8	24	27	27	9.5	.092
0105 16 21	16	R1/2	24	27	27	9.5	.099
0105 16 27	16	R3/4	27	27	28	10.5	.123
0105 18 21	18	R1/2	27	30	30	10.5	.127
0105 18 27	18	R3/4	27	30	30	10.5	.138
0105 20 21	20	R1/2	30	32	32	11	.148
0105 20 27	20	R3/4	30	32	32	11	.157
0105 22 21	22	R1/2	32	36	33	11	.187
0105 22 27	22	R3/4	32	36	33	11	.196
0105 22 34	22	R1	36	36	33	11	.227
0105 25 27	25	R3/4	36	41	36	11	.261
0105 25 34	25	R1	36	41	36	11	.278
0105 28 27	28	R3/4	41	42	36	11	.274
0105 28 34	28	R1	41	42	36	11	.283



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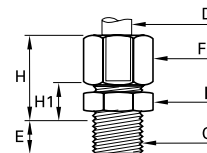
0105 Male Connector NPT

Part No.	O.D.	C	F	F1	H Max	H1	Kg
0105 06 11	6	NPT1/8	11	13	18	7.5	.018
0105 06 14	6	NPT1/4	14	13	18	7.5	.027
0105 08 11	8	NPT1/8	13	14	21	7	.021
0105 08 14	8	NPT1/4	14	14	18.5	7	.026
0105 10 14	10	NPT1/4	17	19	24	9	.048
0105 10 18	10	NPT3/8	17	19	24	9	.048
0105 10 22	10	NPT1/2	22	19	25	10	.066



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0101 Male Connector with Captive Sealing Washer Male BSPP

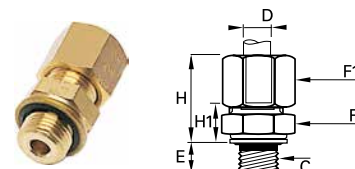
Part No.	O.D.	C	E	F	F1	H Max	H1	Kg
0101 04 19	4	M5X0.8	5	10	10	16.5	8	.011
0101 04 10	4	G1/8	6.5	13	10	16.5	8	.016
0101 05 10	5	G1/8	6.5	13	12	17.5	8.5	.018
0101 06 10	6	G1/8	6.5	13	13	18	8.5	.020
0101 06 13	6	G1/4	8	17	13	18	9.5	.030
0101 08 10	8	G1/8	6.5	13	14	19	8.5	.021
0101 08 13	8	G1/4	8	17	14	19.5	9	.032
0101 08 17	8	G3/8	11	22	14	20	10.5	.044
0101 10 13	10	G1/4	8	17	19	24	11	.049
0101 10 17	10	G3/8	11	22	19	24	11.5	.061
0101 12 13	12	G1/4	8	19	22	24	11	.062
0101 12 17	12	G3/8	11	22	22	24	11.5	.069
0101 12 21	12	G1/2	12	27	22	24	12	.089
0101 14 17	14	G3/8	11	22	24	25	10.5	.074
0101 14 21	14	G1/2	12	27	24	25	11	.094
0101 15 17	15	G3/8	11	22	24	25	10.5	.071
0101 15 21	15	G1/2	12	27	24	25	11	.093
0101 16 17	16	G3/8	11	22	27	27	12	.092
0101 16 21	16	G1/2	12	27	27	27	12.5	.109
0101 18 21	18	G1/2	12	27	30	29.5	12.5	.128
0101 18 27	18	G3/4	13	32	30	29.5	13	.152
0101 20 27	20	G3/4	13	32	32	31	13	.164
0101 22 27	22	G3/4	13	32	36	32	13	.195
0101 22 34	22	G1	15	41	36	31	13.5	.259
0101 25 27	25	G3/4	13	36	41	35.5	13	.261
0101 25 34	25	G1	15	41	41	35.5	13	.169
0101 28 34	28	G1	15	41	42	35.5	13.5	.300

With pre-assembled captive polymer sealing washer



WARNING

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0101 Male Connector with Bi-Material Seal Male BSPP

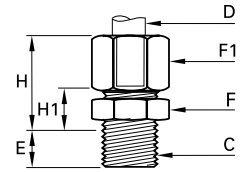
Part No.	O.D.	C	E	F	F1	H Max	H1	Kg
0101 04 10 39	4	G1/8	5.5	13	10	17.5	9	.016
0101 05 10 39	5	G1/8	5.5	13	12	18.5	9.5	.019
0101 06 10 39	6	G1/8	5.5	13	13	19	9.5	.020
0101 06 13 39	6	G1/4	7	17	13	19	10.5	.030
0101 08 10 39	8	G1/8	5.5	13	14	20	9.5	.022
0101 08 13 39	8	G1/4	7	17	14	20.5	10	.032
0101 08 17 39	8	G3/8	9.5	22	14	21.5	12	.045
0101 10 13 39	10	G1/4	7	17	19	25	12	.048
0101 10 17 39	10	G3/8	9.5	22	19	25.5	13	.062
0101 12 13 39	12	G1/4	7	19	22	25	12	.063
0101 12 17 39	12	G3/8	9.5	22	22	25	13	.071
0101 12 21 39	12	G1/2	10.5	27	22	25	13.5	.091
0101 14 17 39	14	G3/8	9.5	22	24	26.5	12	.075
0101 14 21 39	14	G1/2	10.5	27	24	26.5	12.5	.095
0101 15 17 39	15	G3/8	9.5	22	24	26.5	12	.073
0101 15 21 39	15	G1/2	10.5	27	24	26.5	12.5	.095
0101 16 17 39	16	G3/8	9.5	22	27	28.5	13.5	.092
0101 16 21 39	16	G1/2	10.5	27	27	28.5	14	.111
0101 18 21 39	18	G1/2	10.5	27	30	31	14	.129
0101 18 27 39	18	G3/4	11.5	32	30	31	14.5	.155
0101 20 27 39	20	G3/4	11.5	32	32	32.5	14.5	.164
0101 22 27 39	22	G3/4	11.5	32	36	32.5	14.5	.197
0101 22 34 39	22	G1	13	41	36	33	15.5	.259
0101 25 34 39	25	G1	13	41	41	37.5	15.5	.309
0101 28 34 39	28	G1	13	41	42	37.5	15.5	.301

Zinc plated steel with NBR seal



WARNING

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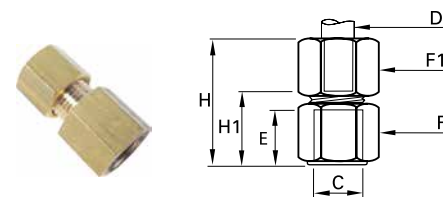
0101 Male Connector Metric Thread

Part No.	O.D.	C	E	F	F1	H Max	H1	Kg
0101 04 55	4	M7X1	6.5	10	10	16.5	7.5	.012
0101 04 56	4	M8X1	6.5	11	10	16.5	7.5	.013
0101 05 56	5	M8X1	6.5	11	12	17.5	8	.016
0101 05 60	5	M10X1	6.5	14	12	17.5	8.5	.020
0101 06 60	6	M10X1	6.5	14	13	18	8.5	.021
0101 06 62	6	M10X1.5	6.5	14	13	18	8.5	.021
0101 08 65	8	M12X1	8	17	14	19.5	9	.029
0101 08 66	8	M12X1.25	8	17	14	19.5	9	.029
0101 08 68	8	M13X1.25	8	17	14	19.5	9	.030
0101 10 70	10	M14X1.25	8	17	19	24	11	.047
0101 10 71	10	M14X1.5	8	17	19	24	11	.047
0101 10 74	10	M16X1.25	9	19	19	24	11	.051
0101 10 75	10	M16X1.5	9	19	19	24	11	.051
0101 10 78	10	M18X1.5	9	22	19	24	11.5	.060
0101 12 74	12	M16X1.25	9	19	22	24	11	.061
0101 12 75	12	M16X1.5	9	19	22	24	11	.061
0101 12 78	12	M18X1.5	9	22	22	24	11.5	.070
0101 14 78	14	M18X1.5	9	22	24	25	10.5	.077
0101 14 80	14	M20X1.5	10	24	24	25	11	.084
0101 15 78	15	M18X1.5	9	22	24	25	10.5	.071
0101 16 80	16	M20X1.5	10	24	27	27	12.5	.102
0101 16 82	16	M22X1.5	10	27	27	27	12.5	.111
0101 18 82	18	M22X1.5	10	27	30	29.5	12.5	.129
0101 18 83	18	M24X1.5	11	30	30	29.5	13	.142



WARNING

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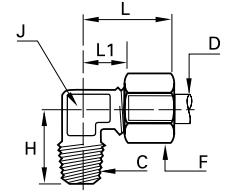
0114 Female Connector BSPP

Part No.	O.D.	C	E	F	F1	H Max	H1	Kg
0114 04 10	4	G1/8	9.5	14	10	26	16.5	.020
0114 04 13	4	G1/4	13.5	17	10	30	20.5	.030
0114 05 10	5	G1/8	9.5	14	12	28	17	.023
0114 05 13	5	G1/4	13.5	17	12	31	21	.033
0114 06 10	6	G1/8	9.5	14	13	28	17	.025
0114 06 13	6	G1/4	13.5	17	13	32	21	.034
0114 06 17	6	G3/8	14	22	13	32	21.5	.051
0114 08 10	8	G1/8	9.5	14	14	29	16.5	.026
0114 08 13	8	G1/4	13.5	17	14	33	20.5	.036
0114 08 17	8	G3/8	14	22	14	34	21	.052
0114 10 13	10	G1/4	13.5	17	19	37	21.5	.052
0114 10 17	10	G3/8	14	22	19	37	22	.068
0114 10 21	10	G1/2	18.5	27	19	42	26.5	.099
0114 12 13	12	G1/4	13.5	19	22	36	20.5	.069
0114 12 17	12	G3/8	14	22	22	37	22	.078
0114 12 21	12	G1/2	18.5	27	22	42	26.5	.109
0114 14 13	14	G1/4	13.5	22	24	36	18.5	.085
0114 14 17	14	G3/8	14	22	24	38	21	.048
0114 14 21	14	G1/2	18.5	27	24	43	25.5	.113
0114 15 17	15	G3/8	14	22	24	38	21	.078
0114 15 21	15	G1/2	18.5	27	24	43	25.5	.109
0114 16 13	16	G1/4	13.5	24	27	36	18	.107
0114 16 17	16	G3/8	14	24	27	38	20.5	.106
0114 16 21	16	G1/2	18.5	27	27	44	26	.127
0114 18 17	18	G3/8	14	27	30	39	19.5	.140
0114 18 21	18	G1/2	18.5	27	30	45	26	.144
0114 18 27	18	G3/4	19.5	32	30	46	27	.165
0114 20 17	20	G3/8	14	30	32	38	18	.161
0114 20 21	20	G1/2	18.5	30	32	44.5	24	.173
0114 20 27	20	G3/4	19.5	32	32	47	26.5	.170
0114 22 27	22	G3/4	19.5	32	36	48	26.5	.204
0114 25 27	25	G3/4	19.5	36	41	50.5	26	.297



WARNING

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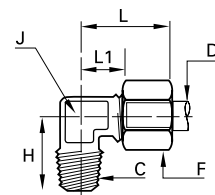
0109 Male Elbow BSPT

Part No.	O.D.	C	F	H	J	L Max	L1	Kg
0109 04 10	4	R1/8	10	17	8	19	9.5	.016
0109 04 13	4	R1/4	10	20	10	19	11	.026
0109 05 10	5	R1/8	12	17.5	8	21	11	.019
0109 05 13	5	R1/4	12	21.5	10	22	12	.028
0109 06 10	6	R1/8	13	18	8	22	11	.021
0109 06 13	6	R1/4	13	21.5	10	22	12	.031
0109 08 10	8	R1/8	14	18.5	10	28	15	.028
0109 08 13	8	R1/4	14	22	10	28	15	.033
0109 08 17	8	R3/8	14	24	12	28	15	.044
0109 10 13	10	R1/4	19	25	12	30	14.5	.052
0109 10 17	10	R3/8	19	25.5	12	30	14.5	.060
0109 10 21	10	R1/2	19	32	19	36	21	.109
0109 12 13	12	R1/4	22	26	15	30	15	.074
0109 12 17	12	R3/8	22	27	15	30	15	.077
0109 12 21	12	R1/2	22	32	19	36	21	.116
0109 14 17	14	R3/8	24	30	19	35	18	.105
0109 14 21	14	R1/2	24	32	19	35	18	.112
0109 15 17	15	R3/8	24	30	19	35	18	.099
0109 15 21	15	R1/2	24	32	19	35	18	.106
0109 16 17	16	R3/8	27	30	19	39	21	.120
0109 16 21	16	R1/2	27	33.5	19	39	21	.130
0109 16 27	16	R3/4	27	36.5	23	41	23	.189
0109 18 21	18	R1/2	30	35.5	23	41	21.5	.182
0109 18 27	18	R3/4	30	36.5	23	41	21.5	.199
0109 20 21	20	R1/2	32	36.5	23	42	21.5	.181
0109 20 27	20	R3/4	32	38	23	42	21.5	.200
0109 22 27	22	R3/4	36	40	27	50	30	.288
0109 22 34	22	R1	36	44	27	50	30	.342
0109 25 34	25	R1	41	44	27	54	30	.367
0109 28 34	28	R1	42	48	32	54	30	.384



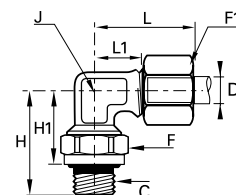
WARNING

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0109 Male Elbow NPT

Part No.	O.D.	C	F	H	J	L Max	L1	Kg
0109 06 11	6	1/8	13	18	8	22	11	.021
0109 06 14	6	1/4	13	21.5	10	22	12	.030
0109 08 11	8	1/8	14	18.5	10	28	15	.028
0109 08 14	8	1/4	14	22	10	28	15	.033
0109 10 14	10	1/4	19	25	12	30	14.5	.053



0199 Adjustable Male Elbow BSPP

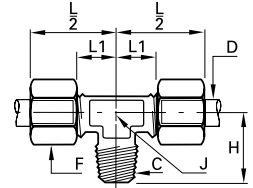
Part No.	O.D.	C	F	F1	H	H1	H1 Max	J	L Max	L1	Kg
0199 04 10	4	G1/8	14	10	23	16	17	8	19	9.5	.023
0199 04 13	4	G1/4	19	10	30.5	22	23.5	10	19	11	.043
0199 06 10	6	G1/8	14	13	23	16	17	8	22	11	.027
0199 06 13	6	G1/4	19	13	30.5	22	23.5	10	22	12	.047
0199 08 10	8	G1/8	14	14	24	17	18	10	28	15	.033
0199 08 13	8	G1/4	19	14	30.5	22	23.5	10	28	15	.051
0199 08 17	8	G3/8	22	14	33.5	24	25.5	12	28	15	.065
0199 10 13	10	G1/4	19	19	31	22.5	24	12	30	14.5	.068
0199 10 17	10	G3/8	22	19	33.5	24	25.5	12	30	14.5	.079
0199 10 21	10	G1/2	27	19	40	29.5	31	19	37	22	.138
0199 14 17	14	G3/8	22	24	35.5	26	27.5	19	35	18	.119
0199 14 21	14	G1/2	27	24	40	29.5	31	19	35	18	.141
0199 18 21	18	G1/2	27	30	40	29	30.5	23	41	21.5	.187
0199 18 27	18	G3/4	32	30	43.5	32	33.5	23	41	21.5	.222
0199 22 27	22	G3/4	32	36	45.5	34	36	32	51	31	.382
0199 22 34	22	G1	41	36	54	40.5	43	32	51	31	.408
0199 28 34	28	G1	41	42	54	40.5	43	32	54	30	.420

The body will orientate for positioning purposes



WARNING

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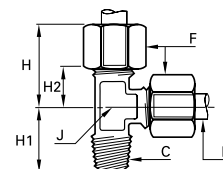
0108 Male Branch Tee Male BSPT

Part no.	O.D.	C	f	h	j	l1	l2	kg
0108 04 10	4	R1/8	10	17	8	9.5	19	.025
0108 05 10	5	R1/8	12	17.5	8	11	21	.017
0108 06 10	6	R1/8	13	18	8	11	22	.032
0108 06 13	6	R1/4	13	21.5	10	16	27	.047
0108 08 10	8	R1/8	14	18.5	10	15	28	.045
0108 08 13	8	R1/4	14	22	10	15	28	.050
0108 08 17	8	R3/8	14	24	12	15	28	.061
0108 10 13	10	R1/4	19	25	12	14.5	30	.084
0108 10 17	10	R3/8	19	25.5	12	14.5	30	.090
0108 12 13	12	R1/4	22	26	15	15	30	.116
0108 12 17	12	R3/8	22	27	15	15	30	.117
0108 14 17	14	R3/8	24	30	19	18	35	.153
0108 14 21	14	R1/2	24	32	19	18	35	.168
0108 16 17	16	R3/8	27	30	19	21	39	.190
0108 16 21	16	R1/2	27	33.5	19	21	39	.203
0108 18 21	18	R1/2	30	35.5	23	21.5	41	.265
0108 18 27	18	R3/4	30	36.5	23	21.5	41	.292
0108 20 27	20	R3/4	32	38	23	21.5	42	.298
0108 22 27	22	R3/4	36	40	27	29	50	.435
0108 22 34	22	R1	36	44	27	29	50	.466



WARNING

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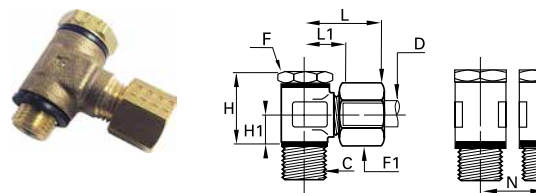
0103 Male Run Tee BSPT

Part No.	O.D.	C	F	H Max	H1	H2	J	Kg
0103 04 10	4	R1/8	10	19	17	9.5	8	.025
0103 06 10	6	R1/8	13	22	18	11	8	.033
0103 06 13	6	R1/4	13	27	21.5	16	10	.048
0103 08 13	8	R1/4	14	28	22	15	10	.050
0103 08 17	8	R3/8	14	28	24	15	12	.061
0103 10 13	10	R1/4	19	30	25	14.5	12	.084
0103 12 13	12	R1/4	22	30	26	15	15	.114
0103 14 17	14	R3/8	24	35	30	18	19	.161
0103 14 21	14	R1/2	24	35	32	18	19	.169
0103 15 17	15	R3/8	24	35	30	18	19	.148
0103 15 21	15	R1/2	24	35	32	18	19	.158
0103 16 17	16	R3/8	27	39	30	21	19	.192
0103 18 21	18	R1/2	30	41	35.5	21.5	23	.269
0103 18 27	18	R3/4	30	41	36.5	21.5	23	.282
0103 20 27	20	R3/4	32	42	38	21.5	23	.298
0103 22 27	22	R3/4	36	50	40	29	27	.435
0108 22 34	22	R1	36	44	27	29	50	.466



WARNING

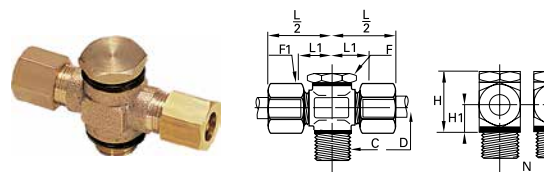
This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov



0118 Single Banjo with Captive Sealing Washer Male BSPP

Part No.	O.D.	C	F	F1	H	H1	L1 Max	L1	N	Kg
0118 05 10	5	G1/8	14	12	24	9.5	25	14.5	17.5	.041
0118 05 13	5	G1/4	17	12	25	10	26	16	21	.058
0118 14 13	14	G1/4	17	24	37	16	37	20.5	28	.154
0118 14 17	14	G3/8	22	24	38	16	37	20.5	28	.195
0118 14 21	14	G1/2	27	24	40	16	38	20.5	32.5	.208
0118 15 17	15	G3/8	22	24	38	16	37	20.5	28	.190
0118 15 21	15	G1/2	27	24	40	16	38	20.5	32.5	.198
0118 16 21	16	G1/2	27	27	42	16	38	21	32.5	.221
0118 18 21	18	G1/2	27	30	46	19.5	43	24.5	36	.366
0118 20 27	20	G3/4	32	32	49	20	44	24.5	39	.403
0118 22 27	22	G3/4	32	36	53	22	45	24.5	39	.459

With pre-assembled captive polymer sealing washer



0119 Double Banjo with Captive Sealing Washer Male BSPP

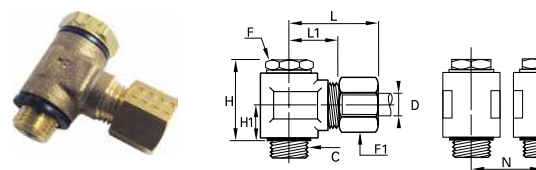
Part No.	O.D.	C	F	F1	H	H1	L1	L2	N	Kg
0119 08 13	8	G1/4	17	14	25	10	15.5	28	21	.074
0119 08 17	8	G3/8	22	14	32	13	18	30.5	26.5	.140
0119 10 13	10	G1/4	17	19	31	13	19	34	23	.156
0119 10 17	10	G3/8	22	19	32	13	19	34	26.5	.165
0119 12 13	12	G1/4	17	22	34	14.5	19	34	23	.180
0119 12 17	12	G3/8	22	22	35	14.5	19	34	26.5	.182
0119 14 13	14	G1/4	17	24	37	16	20.5	37.5	28	.246
0119 14 17	14	G3/8	22	24	38	16	20.5	37.5	28	.247
0119 14 21	14	G1/2	27	24	40	16	20.5	38	32.5	.219

Zinc plated steel with NBR seal. Thread with pre-assembled polymer washer



WARNING

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0118 Single Banjo with Bi-Material Seal Male BSPP

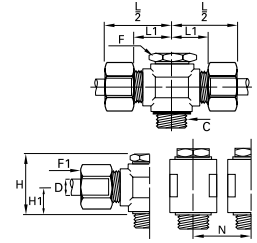
Part No.	O.D.	C	F	F1	H	H1	L1 Max	L1	N	Kg
0118 04 10 39	4	G1/8	14	10	23	9.5	24	14.5	17.5	.038
0118 05 10 39	5	G1/8	14	12	23	9.5	25	14.5	17.5	.041
0118 05 13 39	5	G1/4	17	12	24	10	26	16	21	.064
0118 06 10 39	6	G1/8	14	13	23	9.5	25	14.5	17.5	.042
0118 06 13 39	6	G1/4	17	13	24	10	26	16	21	.057
0118 08 10 39	8	G1/8	14	14	23	9.5	28	15.5	17.5	.055
0118 08 13 39	8	G1/4	17	14	24	10	28	15.5	21	.058
0118 08 17 39	8	G3/8	22	14	31.5	13.5	30	18	26.5	.113
0118 10 13 39	10	G1/4	17	19	30	13	34	19	23	.118
0118 10 17 39	10	G3/8	22	19	31.5	13.5	34	19	26.5	.128
0118 12 13 39	12	G1/4	17	22	33	14.5	34	19	23	.128
0118 12 17 39	12	G3/8	22	22	34.5	15	34	19	26.5	.140
0118 14 13 39	14	G1/4	17	24	36	16	37	20.5	28	.189
0118 14 17 39	14	G3/8	22	24	37.5	16.5	37	20.5	28	.198
0118 14 21 39	14	G1/2	27	24	39	16.5	38	20.5	32.5	.205
0118 15 17 39	15	G3/8	22	24	37.5	16.5	37	20.5	28	.389
0118 15 21 39	15	G1/2	27	24	40	16.5	38	20.5	32.5	.202
0118 16 21 39	16	G1/2	27	27	40	16.5	38	21	32.5	.225
0118 18 21 39	18	G1/2	27	30	47	20	43	24.5	36	.369
0118 20 27 39	20	G3/4	32	32	50	20.5	44	24.5	39	.394

Zinc plated steel with NBR seal



WARNING

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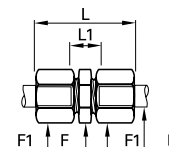
0119 Double Banjo with Bi-Material Seal Male BSPP

Part No.	O.D.	C	F	F1	H	H1	L1	L2	N	Kg
0119 04 10 39	4	G1/8	14	10	23	9.5	14.5	24	17.5	.050
0119 05 10 39	5	G1/8	14	12	23	9.5	14.5	25	17.5	.049
0119 05 13 39	5	G1/4	17	12	24	10	126	26	21	.072
0119 06 10 39	6	G1/8	14	13	23	9.5	14.5	25	17.5	.056
0119 06 13 39	6	G1/4	17	13	24	10	16	26	21	.071
0119 08 10 39	8	G1/8	14	14	23	9.5	15.5	28	17.5	.072
0119 08 13 39	8	G1/4	17	14	24	10	15.5	28	21	.080
0119 08 17 39	8	G3/8	22	14	31.5	13.5	18	30	26.5	.118
0119 10 13 39	10	G1/4	17	19	30	13	19	34	23	.156
0119 10 17 39	10	G3/8	22	19	31.5	13.5	19	34	26.5	.167
0119 12 13 39	12	G1/4	17	22	33	14.5	19	34	23	.180
0119 12 17 39	12	G3/8	22	22	34.5	15	19	34	26.5	.183
0119 14 13 39	14	G1/4	17	24	36	16	20.5	37	28	.248
0119 14 17 39	14	G3/8	22	24	37.5	16.5	20.5	37	28	.247
0119 14 21 39	14	G1/2	27	24	39	16.5	20.5	38	32.5	.262
0119 15 17 39	15	G3/8	22	24	37.5	16.5	20.5	37	28	.246
0119 15 21 39	15	G1/2	27	24	40	16.5	20.5	38	32.5	.251
0119 18 21 39	18	G1/2	27	30	47	20	24.5	43	36	.469
0119 20 27 39	20	G3/4	32	32	50	20.5	24.5	44	39	.638
0119 22 27 39	22	G3/4	32	36	54	22.5	24.5	45	39	.610



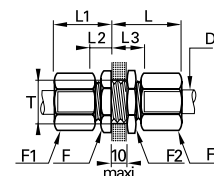
WARNING

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0106 Equal Tube-to-Tube Connector

Part No.	O.D.	F	F1	L Max	L1	Kg
0106 04 00	4	10	10	28	10	.016
0106 05 00	5	11	12	31	11	.023
0106 06 00	6	11	13	32	11	.026
0106 08 00	8	13	14	36	10	.031
0106 10 00	10	17	19	42	13	.070
0106 12 00	12	19	22	42	13	.092
0106 14 00	14	22	24	45	11	.104
0106 15 00	15	22	24	45	11	.097
0106 16 00	16	24	27	48	13	.141
0106 18 00	18	27	30	53	14	.186
0106 20 00	20	30	32	56	14	.211
0106 22 00	22	32	36	60	14	.283
0106 25 00	25	36	41	64	14	.396
0106 28 00	28	41	42	64	14	.399



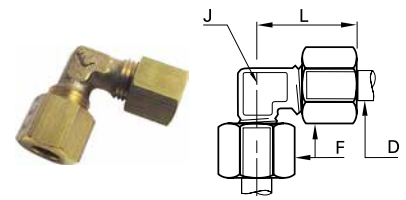
0116 Bulkhead Union

Part No.	O.D.	F	F1	F2	L Max	L1 Max	L2	L3	OT Min	Kg
0116 04 00	4	10	10	13	27	17	7	17	8.3	.024
0116 05 00	5	13	12	14	28	18	7.5	17.5	10.3	.035
0116 06 00	6	13	13	14	28	19	7.5	17.5	10.3	.037
0116 08 00	8	14	14	17	29	20	7	17	12.3	.045
0116 10 00	10	19	19	22	33	25	9	19	16.5	.101
0116 12 00	12	22	22	22	33	25	9	19	18.5	.121
0116 14 00	14	24	24	24	35	25	8	18	20.5	.145
0116 15 00	15	24	24	24	35	25	8	18	20.5	.134
0116 16 00	16	27	27	27	36	28	9.5	19.5	22.5	.189
0116 18 00	18	27	30	30	40	30	10.5	20.5	24.5	.237
0116 20 00	20	32	30	32	41	31	11	21	27.5	.274
0116 22 00	22	36	36	36	42	32	11	21	30.5	.372
0116 25 00	25	36	41	38	46	36	11	21	33.5	.469



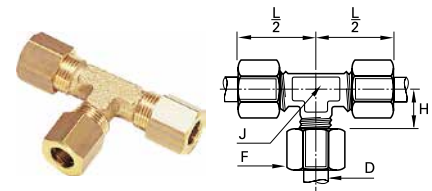
WARNING

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0102 Union Elbow

Part No.	O.D.	F	J	L Max	Kg
0102 04 00	4	10	5	19	.016
0102 05 00	5	12	8	21	.024
0102 06 00	6	13	8	22	.027
0102 08 00	8	14	10	28	.038
0102 10 00	10	19	12	30	.073
0102 12 00	12	22	15	30	.098
0102 14 00	14	24	19	35	.133
0102 15 00	15	24	19	35	.122
0102 16 00	16	27	19	39	.164
0102 18 00	18	30	23	41	.231
0102 20 00	20	32	23	42	.233
0102 22 00	22	36	27	50	.371
0102 25 00	25	41	27	54	.446
0102 28 00	28	42	32	54.5	.478



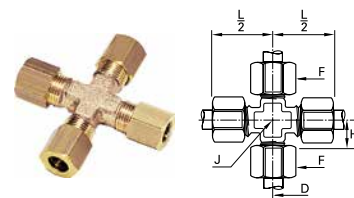
0104 Union Tee

Part No.	O.D.	F	H	J	L 2	Kg
0104 04 00	4	10	9.5	8	19	.028
0104 05 00	5	12	11	8	21	.036
0104 06 00	6	13	11	8	22	.040
0104 08 00	8	14	15	10	28	.055
0104 10 00	10	19	14.5	12	30	.105
0104 12 00	12	22	15	15	30	.142
0104 14 00	14	24	18	19	35	.190
0104 15 00	15	24	18	19	35	.175
0104 16 00	16	27	21	19	39	.239
0104 18 00	18	30	21.5	23	41	.330
0104 20 00	20	32	21.5	23	42	.330
0104 22 00	22	36	29	27	50	.518
0104 25 00	25	41	29	27	54	.630



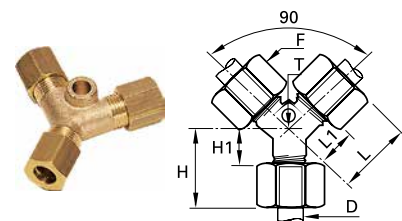
WARNING

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0107 Union Cross

Part No.	O.D.	F	H	J	L2	Kg
0107 04 00	4	10	9.5	8	19	.035
0107 05 00	5	12	11	8	21	.047
0107 08 00	8	14	15	11	28	.073
0107 12 00	12	22	15	15	35	.096
0107 14 00	14	24	18	20	35	.246
0107 15 00	15	24	18	20	35	.227
0107 16 00	16	27	21	20	39	.312
0107 18 00	18	30	21.5	25	41	.426
0107 20 00	20	32	21.5	25	42	.429
0107 22 00	22	36	29	27	50	.676
0107 25 00	25	41	29	27	50	.819



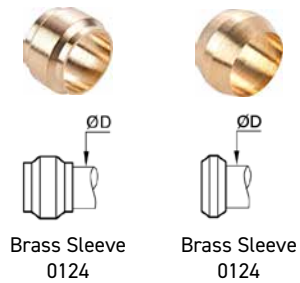
0142 Union Y with Mounting Boss

Part No.	O.D.	F	H Max	H1	L Max	L1	0t	Kg
0142 15 00	15	24	28	11	41.5	24.5	6.2	.204
0142 16 00	16	27	30	12	43	25	6.2	.252
0142 18 00	18	30	31.5	12	50.5	31	10.2	.220
0142 25 00	25	41	39	14	59	34	10.2	.728



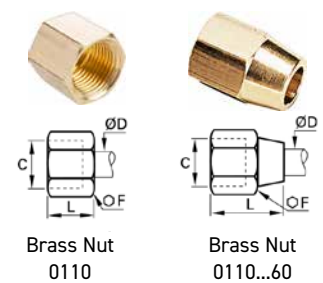
WARNING

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0124 Suffix 40, 0124 Sleeves

OD mm	Part No.	Wt	Part No.	Wt
4	0124 04 00	.001	-	-
5	0124 05 00	.001	0124 05 00 40	.001
6	0124 06 00	.001	0124 06 00 40	.001
8	0124 08 00	.002	0124 08 00 40	.002
10	0124 10 00	.003	0124 10 00 40	.002
12	0124 12 00	.004	0124 12 00 40	.003
14	0124 14 00	.004	0124 14 00 40	.003
15	0124 15 00	.004	0124 15 00 40	.003
16	0124 16 00	.006	-	-
18	0124 18 00	.007	-	-
20	0124 20 00	.009	-	-
22	0124 22 00	.012	-	-
28	0124 28 00	.017	-	-



0110, 0110 Suffix 60 Nuts

Od mm	C	Part No.	Wt	Part No.	Wt
4	M8X1	0110 04 00	.005	0110 04 00 60	.006
5	M10X1	0110 05 00	.006	0110 05 00 60	.009
6	M10X1	0110 06 00	.008	0110 06 00 60	.011
8	M12X1	0110 08 00	.008	0110 08 00 60	.012
10	M16X1.5	0110 10 00	.019	0110 10 00 60	.027
12	M18X1.5	0110 12 00	.026	0110 12 00 60	.041
14	M20X1.5	0110 14 00	.029	-	-
15	M20X1.5	0110 15 00	.028	0110 15 00 60	.050
16	M22X1.5	0110 16 00	.043	0110 16 00 60	.072
18	M24X1.5	0110 18 00	.059	-	-
20	M27X1.5	0110 20 00	.057	-	-
22	M30X1.5	0110 22 00	.079	-	-
25	M33X1.5	0110 25 00	.121	-	-
28	M36X1.5	0110 28 00	.109	-	-

Technical Specifications of Nuts

Tightening Torque

- Maximum kg = tightening torque for nut 0110 and sleeve 0124 on copper, brass or steel tube

OD mm	Max kg. Torque
4	.7
5	.7
6	1.5
8	1.5
10	1.8
12	3
14	3.5
15	4
16	5
18	6
20	6
22	7
25	8
28	9



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Complementary Brass Fittings – Assembly Configuration

The table and information given below illustrate the large number of options available with Parker Legris brass compression fittings. To these must be added the advantages specific to the original Parker Legris reducer shown on the previous page.

 0110 Brass			 0110..60 Brass		 0110..40 Steel	 0110..70* Polymer
	0124 Brass	0111 BNA** Bras	0124 Brass	0111 BNA** Bras	01 24...40 Steel	
No olive required to assemble the plug						No olive required to assemble the tube
Brass plug: 0126	Copper, cold-rolled brass, polymer tube and barb connectors 0122 and 0165	Coiled annealed copper tube	Cold-rolled copper tube for vibration and side loading, etc.	Coiled annealed copper tube for vibration and side loading, etc.	Steel or copper tube: low/medium hydraulic pressure, lubricate before assembly	Polymer tube
						

*Assembly specifications for nut-olive 0110 ..70

This part functions as both olive and nut for flexible polymer tube assemblies:

1. Hand tighten the polymer nut-olive a few turns onto the body of the fitting; the knurling makes this easier.
2. Then introduce the polymer tube and push home into the body of the fitting.
3. Continue manually tightening the polymer nut-olive.
4. Finish tightening using a spanner until the nut body disengages and turns freely, which acts as a torque limiter.

N.B.: To avoid damaging the threads, do not insert the tube before hand tightening the nut-olive into the body of the fitting.

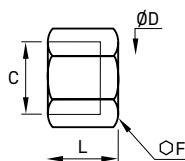
****Bureau de Normalisation de l'Automobile (French Automotive Bureau of Standards)**

Ø D (mm)	F 0110	F 0110..60	max. daN.m copper or brass	F 0110..40	max. daN.m steel
4	10	11	.7	10	1.5
5	12	12	.7	12	1.5
6	13	12	1.5	13	2.5
8	14	16	1.5	14	2.5
10	19	20	1.8	19	3
12	22	22	3	22	4.5
14	24	24	3.5	24	5.5
15	24	24	4	24	6
16	27	27	5	27	7
18	30	30	6	30	9
20	32	32	6	32	10
22	36	36	7	36	12
25	41	42	8	41	13
28	42		9		

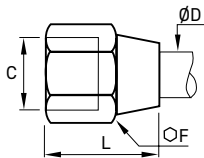
Recommended Tightening Torque

Tightening torque in daN.m = maximum tightening torque of a 0110 nut and 0124 olive with copper, brass or steel tube.

Nut 0110 and 0110..40

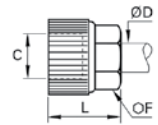


Nut 0110..60



WARNING

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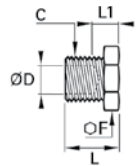


Engineering Plastic

0110 Suffix 70 Nut Sleeve

Part No.	O.D. mm	C	F mm	L mm	Wt
0110 04 00 70	4	M8X1	8	13	.001
0110 06 00 70	6	M10X1	11	15	.002
0110 08 00 70	8	M12X1	13	16	.002
0110 10 00 70	10	M16X1.5	17	19	.004
0110 12 00 70	12	M18X1.5	19	19	.005
0110 14 00 70	14	M20X1.5	22	20	.007
0110 16 00 70	16	M22X1.5	24	21	.009

Plastic nut-sleeve should not be used on metal tubes.

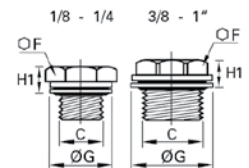


0125 End Plug Metric

Part No.	O.D. mm	C	F mm	L mm	L1 mm	Wt
0125 06 00	6	M10X1	11	13.5	9.5	.009
0125 08 00	8	M12X1	14	14	9	.012
0125 10 00	10	M16X1.5	17	18	11	.025

The plug enables unused tubes to be blanked off. The male thread on the plug has the same pitch as the female thread on the nut of a standard Legris fitting. Therefore, the plug screwed into the nut blanks off the tube.

To reopen the passage, simply unscrew the plug and fit the required connector. No further treatment of the tube is required.

Brass with
Bi-Material Seal

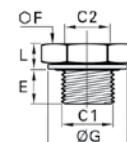
0220 Male Plug BSPP

Part No.	C BSPP	F mm	G mm	H1 mm	Wt
0220 10 00 39	G 1/8	14	14	6.5	.005
0220 13 00 39	G 1/4	17	17	6.5	.016
0220 17 00 39	G 3/8	17	22	8	.021
0220 21 00 39	G 1/2	22	26	9	.045
0220 27 00 39	G 3/4	22	32	10	.053
0220 34 00 39	G 1	27	39.5	10.5	.067



WARNING

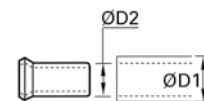
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Brass with
Bi-Material Seal

0168 Reducer Male To Female BSPP

Part No.	C1 BSPP	C2 BSPP	E mm	F mm	G mm	L mm	Wt
0168 10 19 39	G 1/8	M5X.8	8	14	14	4.5	.010
0168 13 19 39	G 1/4	M5X.8	8	17	17	5	.012
0168 13 10 39	G 1/4	G 1/8	8	17	17	5	.020
0168 17 10 39	G 3/8	G 1/8	10	19	22	5	.028
0168 17 13 39	G 3/8	G 1/4	10	19	22	5	.035
0168 21 10 39	G 1/2	G 1/8	12	24	26	7.5	.039
0168 21 13 39	G 1/2	G 1/4	12	24	26	7.5	.056
0168 21 17 39	G 1/2	G 3/8	12	24	26	7.5	.062
0168 27 13 39	G 3/4	G 1/4	12	32	32	9.5	.067
0168 27 17 39	G 3/4	G 3/8	12	32	32	9.5	.097
0168 27 21 39	G 3/4	G 1/2	12	32	32	9.5	.116



0127 Tube Support for Plastic Tube

Part No.	ØD1 mm	ØD2 mm	Wt
0127 04 00	4	2	.001
0127 04 27	4	2.7	.001
0127 05 03	5	3	.001
0127 05 00	5	3.3	.001
0127 06 00	6	4	.001
0127 08 55	8	5.5	.001
0127 08 00	8	6	.001
0127 10 07	10	7	.002
0127 10 75	10	7.5	.002
0127 10 00	10	8	.002
0127 12 08	12	8	.002
0127 12 09	12	9	.002

Part No.	ØD1 mm	ØD2 mm	Wt
0127 12 00	12	10	.002
0127 14 11	14	11	.003
0127 14 00	14	12	.003
0127 15 12	15	12	.003
0127 16 13	16	13	.003
0127 18 14	18	14	.004
0127 20 15	20	15	.004
0127 22 16	22	16	.005
0127 25 19	25	19	.005

At high temperature and pressure or during oscillating movements, the use of tube supports prevents distortion of the tube and guarantees effective gripping and sealing.



WARNING

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POLY-TITE FITTINGS



Parker's Poly-Tite Fittings are compact, pre-assembled compression style fittings designed for fast assembly. An exclusive acetal copolymer sleeve has superior resilience to resist creeping and stress caused from compression.

Product Features:

- Self aligning captive sleeve
- Built-in tube support
- Knurled nuts for hand tightening
- Plastic and brass sleeves available
- Nickel plated and stainless steel side latch couplers available

Markets:

- Dental
- Packaging
- Machine Tools
- Car Wash
- Printing

Applications:

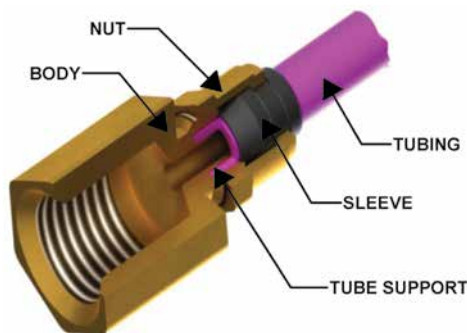
- Pneumatic Systems
- Water Lines
- Dental Equipment

Specifications:

Pressure Range	Up to 150 PSI (10.3 bar)
Temperature Range	0° to +150° F (-17.7° to +65.5° C)
	Buna N on nickel plated couplers
O-rings	Fluorocarbon on Stainless Steel couplers

Compatible Tubing:

- Polyethylene
- Nylon
- Polypropylene
- Vinyl



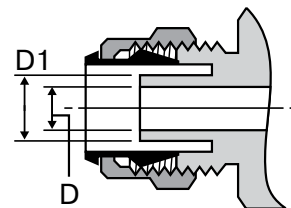
Assembly Instructions

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.

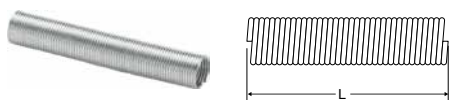
Tube Support O.D.

Tube Size Inches	* D1 Tube Support O.D.
1/4	.168
5/16	.185
3/8	.248
1/2	.373



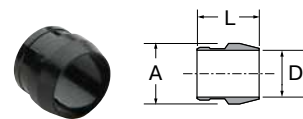
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Spring Guard 56PSG

Part No.	Tube O.D.	L
56PSG-4	1/4	3.000
56PSG-6	3/8	3.000



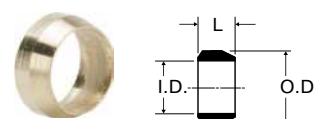
Acetal Plastic Sleeve 60P

Part no.	Tube Size	A	D	L
60P-4	1/4	.334	.261	.338
60P-5	5/16	.405	.321	.340
60P-6	3/8	.465	.381	.367
60P-8	1/2	.628	.514	.399



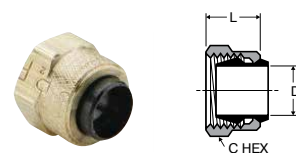
Plastic Cap 59P

Part No.	Tube Size	A	L
59P-4	1/4	.247	.50
59P-6	3/8	.372	.56



Sleeve 60PB

Part no.	I	O.D.	I.D.
60PB-4	.187	.336	.255
60PB-5	.187	.400	.318
60PB-6	.218	.460	.382
60PB-8	.250	.620	.507



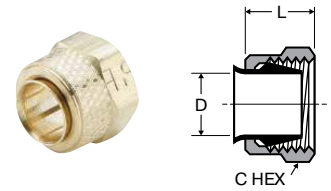
Nut and Plastic Sleeve Assembly 61P

Part No.	Tube Size	Straight Thread	C Hex	D	L
61P-4	1/4	3/8-24	7/16	.261	.38
61P-5	5/16	7/16-24	1/2	.321	.34
61P-6	3/8	1/2-24	9/16	.380	.38
61P-8	1/2	11/16-20	3/4	.514	.44



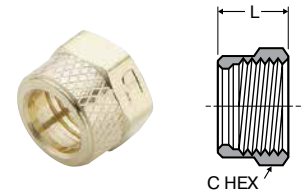
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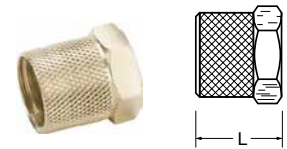
Nut and Brass Sleeve Assembly 61PB

Part No.	Tube Size	Straight Thread	C Hex	D	L
61PB-4	1/4	3/8-24	7/16	.255	.38
61PB-5	5/16	7/16-24	1/2	.318	.34
61PB-6	3/8	1/2-24	9/16	.382	.38
61PB-8	1/2	11/16-20	3/4	.507	.44



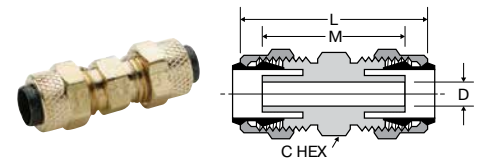
Nut 61PN

Part No.	Tube Size	Straight Thread	C Hex	L
61PN-4	1/4	3/8-24	7/16	.38
61PN-5	5/16	7/16-24	1/2	.34
61PN-6	3/8	1/2-24	9/16	.38
61PN-8	1/2	11/16-20	3/4	.44



Nut only for use with Spring Gaurd 61PSGN

Part No.	Tube O.D.	L	C Hex
61PSGN-4	1/4	.625	.437
61PSGN-6	3/8	.656	.562



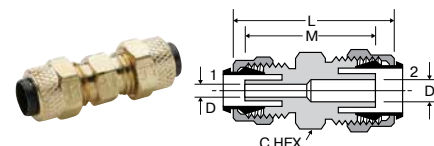
Union 62P

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-5	5/16	7/16-24	7/16	1.16	.96	.144
62P-6	3/8	1/2-24	1/2	1.23	.99	.204
62P-8	1/2	11/16-20	11/16	1.47	1.24	.323



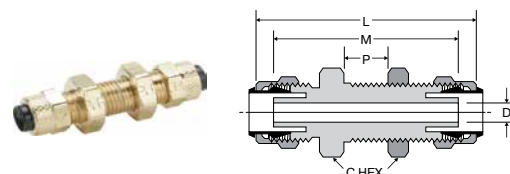
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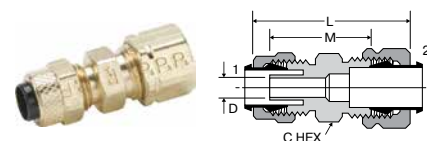
Union Reducer 62P

Part No.	1 Tube Size	2 Tube Size	1 Straight Thread	2 Straight Thread	C Hex	L	M	Flow Dia. D
62P-6-4	1/4	3/8	3/8-24	1/2-24	1/2	1.22	.99	.125



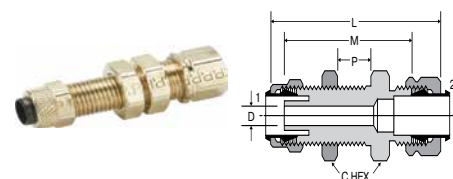
Bulkhead Union 62PBH

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-5	5/16	7/16-24	5/8	.38	1.71	1.52	7/16	.144
62PBH-6	3/8	1/2-24	11/16	.47	1.89	1.65	1/2	.204
62PBH-8	1/2	1 1/16-20	7/8	.63	2.28	2.05	1 1/16	.323



Union 62PCA (Tube to Compress-Align)

Part No.	Tube Size	1 Straight Thread	2 Straight Thread	C Hex	L	M	Flow Dia. D
62PCA-4	1/4	3/8-24	7/16-24	7/16	1.25	.89	.125
62PCA-5	5/16	7/16-24	1/2-24	1/2	1.30	.92	.144
62PCA-6	3/8	1/2-24	9/16-24	9/16	1.37	.98	.204



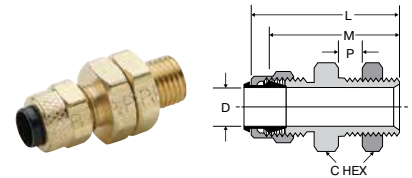
Bulkhead Union 62PCABH (Tube to Compress-Align)

Part No.	Tube Size	1 Str Thd	2 Str Thd	C Hex	P Max	L	M	Blkhd Hole Dia.	Flow Dia. D
62PCABH-4	1/4	3/8-24	7/16-24	9/16	.38	1.81	1.45	3/8	.125
62PCABH-6	3/8	1/2-24	9/16-24	1 1/16	.47	2.03	1.64	1/2	.204



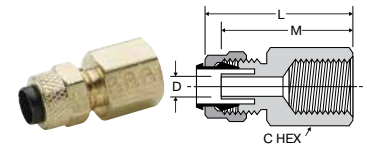
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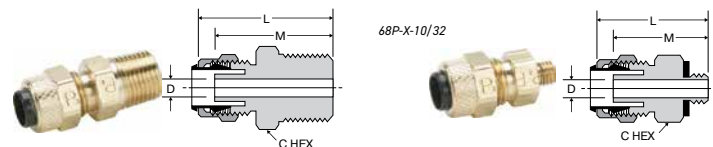
Bulkhead Union 62PTBH (Straight Through)

Part No.	Tube Size	Straight Thread	C Hex	P Max.	L	M	Bulkhead Hole Dia.	Flow Dia. D
62PTBH-4	1/4	3/8-24	9/16	.31	1.19	.93	3/8	.260
62PTBH-5	5/16	7/16-24	5/8	.31	1.19	.93	7/16	.323
62PTBH-6	3/8	1/2-24	11/16	.34	1.26	.99	1/2	.387



Female Connector 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	9/16	.97	.86	.125
66P-4-4	1/4	1/4	3/8-24	5/8	1.18	1.07	.125
66P-5-2	5/16	1/8	7/16-24	9/16	.97	.86	.144
66P-6-4	3/8	1/4	1/2-24	5/8	1.18	1.07	.204
66P-8-6	1/2	3/8	1 1/16-20	13/16	1.31	1.20	.323



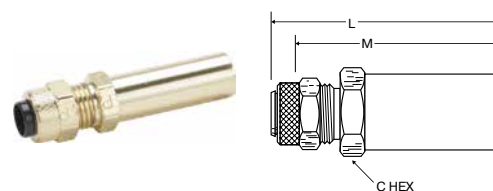
Male Connector 68P

Part No.	Tube Size	Pipe Thread	Straight Thread	C Hex	L	M	Flow Dia. D
68P-4-1	1/4	1/16	3/8-24	3/8	1.06	.95	.125
68P-4-10X32	1/4	10-32	3/8-24	3/8	.86	.75	.094
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-5-2	5/16	1/8	7/16-24	7/16	1.05	.95	.144
68P-5-4	5/16	1/4	7/16-24	9/16	1.24	1.14	.144
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-8-4	1/2	1/4	1 1/16-20	11/16	1.46	1.29	.320
68P-8-6	1/2	3/8	1 1/16-20	11/16	1.37	1.29	.323



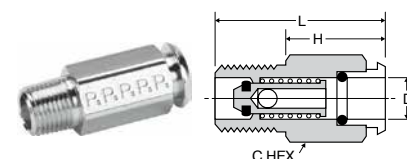
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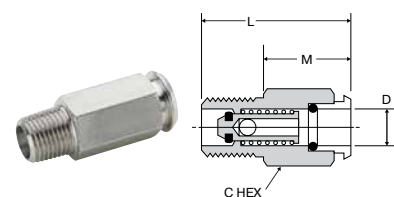
Tube End Reducer 97P

Part No.	Tube O.D.	L	M	C Hex
97P-4-6	3/8 X 1/4	1.718	1.625	.437
97P-6-8	1/2 X 3/8	1.875	1.781	.562



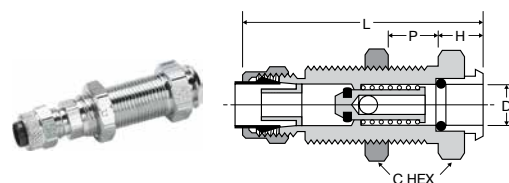
Pipe Coupler Body 391P (Chrome Plated)

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	11/16	.85	1.41



Pipe Coupler Body 391PSS (Stainless Steel)

Part No.	D-Insert Dia.	Pipe Thread	L	C Hex	M
391PSS-4-2	1/4	1/8	1.271	.500	.900
391PSS-4-4	1/4	1/4	1.271	.562	.710
391PSS-6-4	3/8	1/4	1.40	.625	.840



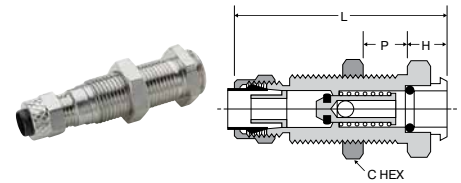
Bulkhead Coupler Body 392P (Chrome Plated)

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



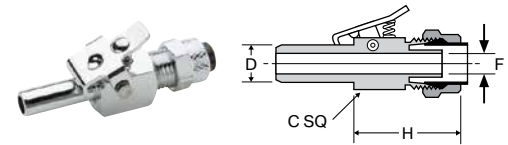
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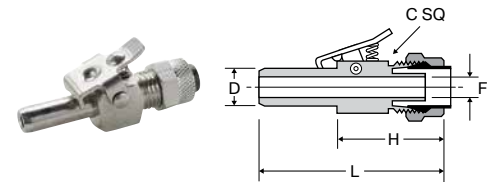
Bulkhead Coupler Body 392PSS (Stainless Steel)

Part No.	Tube O.D.	Bulkhead Thread	L	C Hex	H	P Max	Bulkhead Hole Dia.
392PSS-4-4	1/4	1/2-24	2.03	.625	.28	.84	1/2
392PSS-6-6	3/8	11/16-24	2.20	.812	.31	.93	11/16



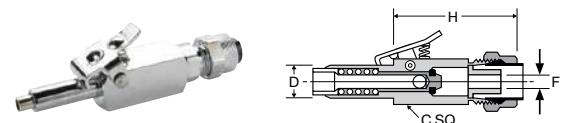
Through Type Insert 393P (Chrome Plated)

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



Through Type Insert 393PSS (Stainless Steel)

Part No.	Tube O.D.	D-Insert Dia.	L	C Square	H	Flow Dia. F
393PSS-4-4	1/4	1/4	1.677	7/16	.99	.125
393PSS-6-6	3/8	3/8	2.030	1/2	1.27	.203



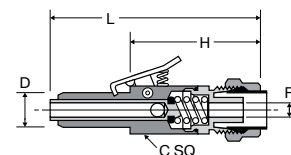
Shutoff Type Insert 393PD (Chrome Plated)

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



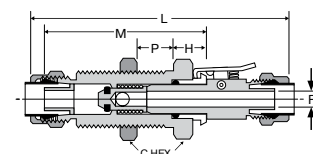
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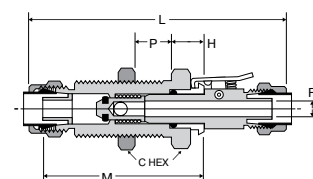
Shut-Off Type Insert 393PDSS (Stainless Steel)

Part No.	Tube O.D.	D-Insert Dia.	L	C Square	H	Flow Dia. F
393PDSS-4-4	1/4	1/4	2.46	.500	1.62	.116
393PDSS-6-6	3/8	3/8	2.60	.500	1.67	.157



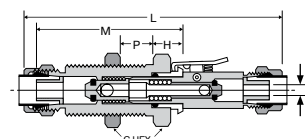
Single End Shutoff Bulkhead Quick Coupler 394P (Chrome Plated)

Part No.	Tube Size	Straight Thread	C Hex	P Max	H	L	M	Bulkhead Hole Dia.	Flow Dia. F
394P-4-4	1/4	1/2-24	5/8	.84	.39	3.28	2.13	1/2	.125
394P-6-6	3/8	11/16-24	13/16	.93	.37	3.41	2.01	11/16	.203



Coupler Single End Shut-Off Bulkhead 394PSS (Stainless Steel)

Part No.	Tube O.D.	Bulkhead Thread	L	M	C Hex	H	P Max	Flow Dia. F
394PSS-4-4	1/4	1/2-24	3.05	2.06	.625	.31	.84	.125
394PSS-6-6	3/8	11/16-24	3.50	2.23	.812	.34	.93	.203



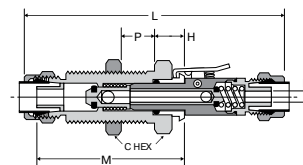
Double End Shutoff Bulkhead Quick Coupler 394PD (Chrome Plated)

Part No.	Tube Size	Straight Thread	C Hex	P Max	H	L	M	Bulkhead Hole Dia.	Flow Dia. F
394PD-4-4	1/4	1/2-24	5/8	.84	.39	3.77	2.13	1/2	.125
394PD-6-6	3/8	11/16-24	13/16	.93	.37	3.48	2.01	11/16	.204



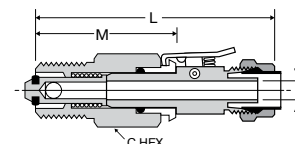
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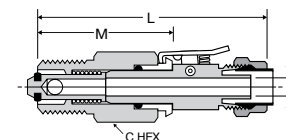
Double End Shut-Off Bulkhead Quick Coupler 394PDSS (Stainless Steel)

Part No.	Tube O.D.	Bulkhead Thread	L	M	C Hex	h	P MAX	Flow Dia. F
394PDSS-4-4	1/4	1/2-24	3.69	2.67	.625	.32	.84	.125
394PDSS-6-6	3/8	1 1/16-24	3.91	2.24	.812	.34	.93	.203



Single End Shutoff Pipe Connector Quick Coupler 398P (Chrome Plated)

Part No.	Tube Size	Pipe Thread	Straight Thread	C Hex	L	M	Flow Dia. F
398P-4-2	1/4	1/8	3/8-24	1/2	2.45	1.32	.125
398P-4-4	1/4	1/4	3/8-24	9/16	2.45	1.32	.125
398P-6-4	3/8	1/4	1/2-24	5/8	2.80	1.46	.203



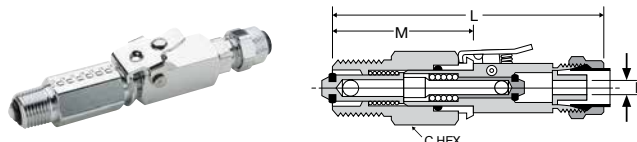
Single End Shut-Off Connector Quick Coupler 398PSS (Stainless Steel)

Part No.	Tube O.D.	Pipe Thread	L	M	C Hex	Flow Dia. F
398PSS-4-2	1/4	1/8	2.30	1.32	.500	.125
398PSS-4-4	1/4	1/4	2.30	1.32	.562	.125
398PSS-6-4	3/8	1/4	2.70	1.43	.625	.203



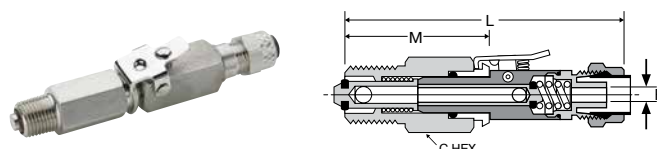
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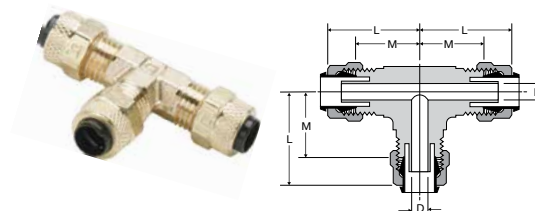
Double End Shutoff Pipe Connector Quick Coupler 398PD (Chrome Plated)

Part No.	Tube Size	Pipe Thread	Straight Thread	C Hex	L	M	Flow Dia. F
398PD-4-2	1/4	1/8	3/8-24	1/2	2.93	1.31	.125
398PD-4-4	1/4	1/4	3/8-24	9/16	2.93	1.32	.125
398PD-6-4	3/8	1/4	1/2-24	5/8	2.88	1.43	.204



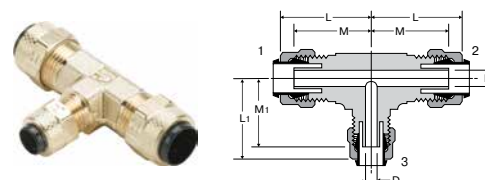
Double End Shut-Off Pipe Connector Quick Coupler 398PDSS (Stainless Steel)

Part No.	Tube O.D.	Pipe Thread	L	M	C Hex	Flow Dia. D
398PDSS-4-2	1/4	1/8	2.93	1.31	.500	.125
398PDSS-4-4	1/4	1/4	2.93	1.31	.562	.125
398PDSS-6-4	3/8	1/4	3.10	1.43	.625	.125



Union Tee 164P

Part No.	Tube Size	Straight Thread	L	M	Flow Dia. D
164P-4	1/4	3/8-24	.84	.73	.125
164P-5	5/16	7/16-24	.83	.73	.144
164P-6	3/8	1/2-24	.98	.86	.203
164P-8	1/2	11/16-20	1.12	1.04	.323



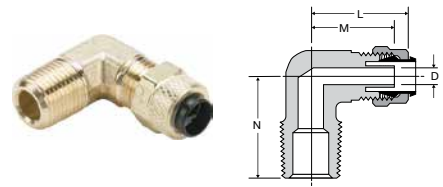
Union Tee 164P combination size

Part No.	1 Tube Size	2 Tube Size	3 Tube Size	L	L1	M	M1	Flow Dia. D
164P-6-4	3/8	3/8	1/4	.98	.90	.86	.79	.125



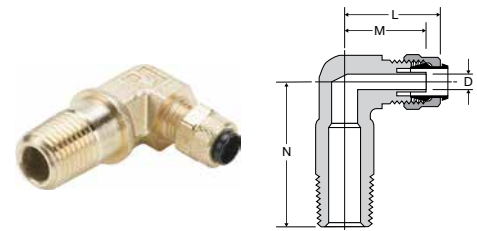
WARNING

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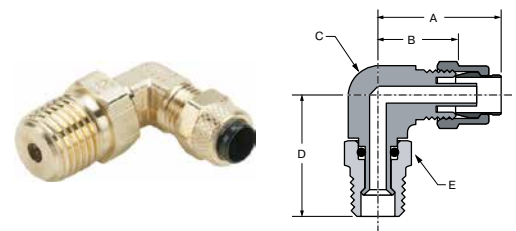
Male Elbow 169P

Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
169P-4-1	1/4	1/16	3/8-24	.92	.58	.67	.130
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-4-6	1/4	3/8	3/8-24	.93	.84	1.08	.125
169P-5-2	5/16	1/8	7/16-24	.87	.73	.68	.144
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
169P-8-6	1/2	3/8	11/16-20	1.12	1.04	1.13	.323



Long Male Elbow 169LP

Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
169LP-4-4	1/4	1/4	3/8-24	.90	.79	1.38	.125



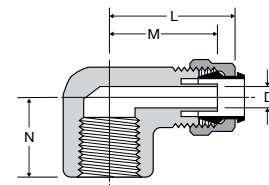
Male Elbow Swivel 169PS

Part No.	Tube O.D.	Pipe Thread	A	B	C Hex	D	E
169PS-4-2	1/4	1/8	.812	.594	.375	.862	.437
169PS-4-4	1/4	1/4	.906	.688	.562	1.218	.562
169PS-6-2	3/8	1/8	.875	.625	.437	.904	.437
169PS-6-4	3/8	1/4	.937	.685	.562	1.218	.562
169PS-6-6	3/8	3/8	.859	.602	.562	1.190	.687
169PS-8-6	1/2	3/8	1.031	.782	.500	1.218	.687



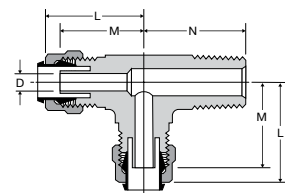
WARNING

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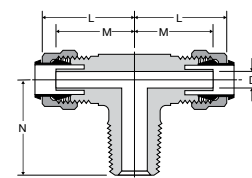
Female Elbow 170P

Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
170P-4-2	1/4	1/8	3/8-24	.90	.79	.56	.125
170P-4-4	1/4	1/4	3/8-24	1.00	.89	.69	.125
170P-6-4	3/8	1/4	1/2-24	1.01	.89	.69	.204
170P-8-6	1/2	3/8	11/16-20	1.19	1.11	1.13	.323



Male Run Tee 171P

Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
171P-4-2	1/4	1/8	3/8-24	.84	.73	.72	.125
171P-4-4	1/4	1/4	3/8-24	.92	.81	.92	.125
171P-5-2	5/16	1/8	7/16-24	.83	.73	.72	.144
171P-6-4	3/8	1/4	1/2-24	.98	.86	1.03	.203
171P-8-6	1/2	3/8	11/16-20	1.12	1.04	1.13	.323



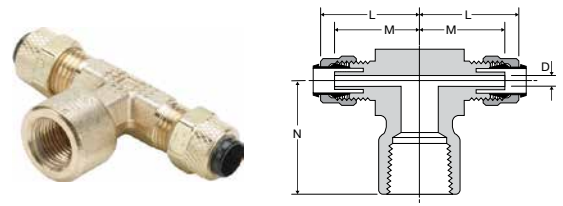
Male Branch Tee 172P

Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
172P-4-2	1/4	1/8	3/8-24	.84	.73	.72	.125
172P-4-4	1/4	1/4	3/8-24	.92	.81	.92	.125
172P-5-2	5/16	1/8	7/16-24	.83	.73	.72	.144
172P-6-2	3/8	1/8	1/2-24	.88	.86	.74	.204
172P-6-4	3/8	1/4	1/2-24	.98	.86	1.03	.204
172P-8-6	1/2	3/8	11/16-20	1.12	1.04	1.13	.323



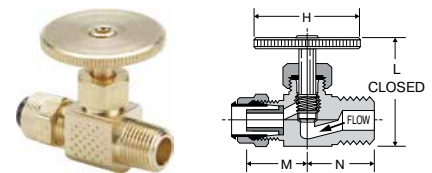
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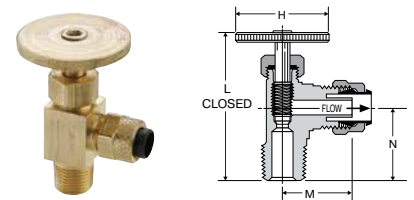
Female Branch Tee 177P

Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
177P-4-2	1/4	1/8	3/8-24	.92	.81	.88	.125
177P-4-4	1/4	1/4	3/8-24	.92	.81	1.03	.125
177P-4-6	1/4	3/8	3/8-24	1.03	.92	1.13	.125



Needle Valve NV311P

Part No.	Tube Size	Pipe Thread	H	L Open	L Closed	M	N
NV311P-4-2	1/4	1/8	1.06	1.36	1.16	.64	.63
NV311P-4-4	1/4	1/4	1.06	1.38	1.18	.64	.72
NV311P-6-4	3/8	1/4	1.06	1.38	1.18	.64	.72



Angle Needle Valve NV312P

Part No.	Tube Size	Pipe Thread	H	L Open	L Closed	M	N
NV312P-4-2	1/4	1/8	1.06	1.70	1.50	.63	.68
NV312P-4-4	1/4	1/4	1.06	2.07	1.82	.71	.86
NV312P-6-4	3/8	1/4	1.06	2.00	1.75	.74	.86



WARNING

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HI-DUTY FLARELESS TUBE FITTINGS



Parker's Hi-Duty Fittings are preassembled with the sleeve machined onto the nut. During assembly the sleeve breaks away from the nut and creates a seal on the tubing. Rated to a much higher pressure rating than compression fittings, Hi-Duty will work with seamless steel tubing as well as copper, brass and thermoplastic tubing.

Product Features:

- All brass construction
- Two piece fitting
- Higher pressure rating
- Easy assembly
- Pre-applied Vibra-Seal thread sealant available

Markets:

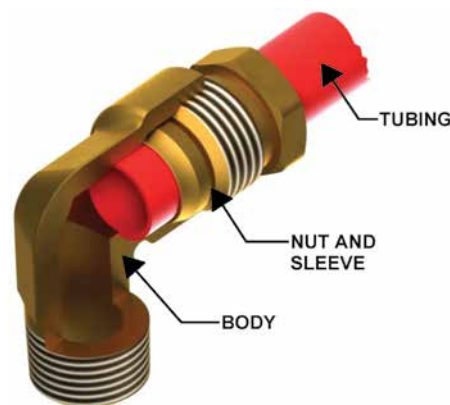
- Mobile
- Industrial
- Compressors
- Lubrication

Applications:

- Lubrication Lines
- Coolant Lines
- Oil Lines
- Engines

Compatible Tubing:

- Copper
- Brass
- Seamless Steel
- Thermoplastic Tubing



Specifications:

Temperature Range: -65° to +250° F (-53.8° to +121.1° C)

Pressure Range:

tube size	psi	bar	tube size	psi	bar
1/8	4300	296.4	3/8	1500	103.4
3/16	2850	196.5	1/2	1150	79.2
1/4	2100	144.7	5/8	1000	68.9
5/16	1800	124.1			

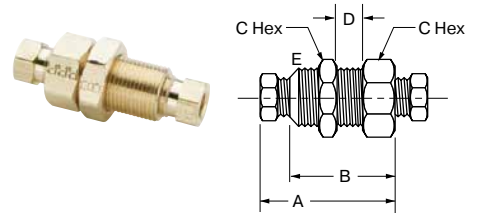
Assembly Instructions

1. Cut tube squarely and cleanly removing all burrs.
2. Grasp fitting. Do not remove nut.
3. Insert tube in fitting through nut until tube seats firmly against tube shoulder in body.
4. Grip tube firmly to prevent turning and tighten nut to finger-tight. Continue to tighten for one and three-quarter additional turns (one and one-half turns for 1/2" size fittings) for a positive, leak proof seal. During tightening a slight "give" will be felt. This "give" indicates the sleeve has been sheared from the nut. It is not necessary to tighten the nut all the way down.



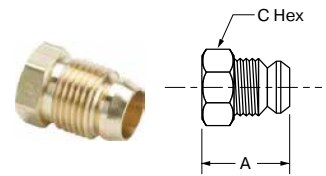
WARNING

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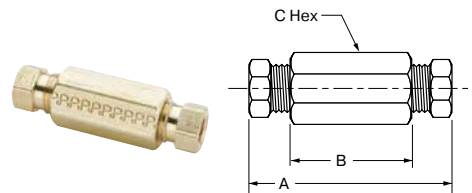
Bulkhead Union 62HDBH

Part No.	Tube Size	Min. Orifice Size	A	B	C	D	E
62HDBH-2	1/8	.093	1.781	1.156	.562	.625	7/16-24
62HDBH-4	1/4	.187	1.968	1.156	.687	.625	9/16-24



Nut/Sleeve 61HD

Part No.	Tube Size	Pipe Thread	A	C
61HD-2	1/8	5/16-24	.656	.312
61HD-3	3/16	3/8-24	.687	.375
61HD-4	1/4	7/16-24	.734	.437
61HD-5	5/16	1/2-20	.765	.500
61HD-6	3/8	9/16-20	.843	.562
61HD-8	1/2	1 1/16-16	.921	.688
61HD-10	5/8	7/8-18	1.078	.875



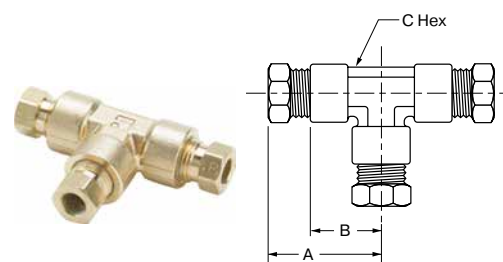
Union 62HD

Part No.	Tube Size	Min. Orifice Size	A	B	C
62HD-2	1/8	.093	1.687	1.062	.375
62HD-3	3/16	.125	1.781	1.031	.437
62HD-4	1/4	.187	1.906	1.093	.562
62HD-6	3/8	.312	2.187	1.375	.625
62HD-8	1/2	.437	2.437	1.562	.812
62HD-10	5/8	.500	2.937	1.812	1.062



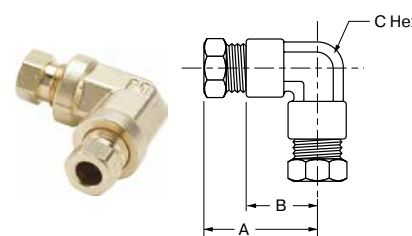
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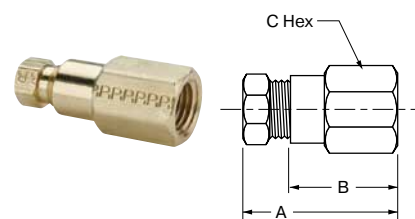
Union Tee 164HD

Part No.	Tube Size	Min. Orifice Size	A	B	C Hex
164HD-4	1/4	.187	1.082	.687	.500
164HD-6	3/8	.312	1.357	.970	.562
164HD-8	1/2	.437	1.481	1.060	.750



Union Elbow 165HD

Part No.	Tube Size	Min. Orifice Size	A	B	C Hex
165HD-4	1/4	.187	1.084	.690	.552
165HD-6	3/8	.312	1.376	.970	.615
165HD-8	1/2	.437	1.546	1.060	.750



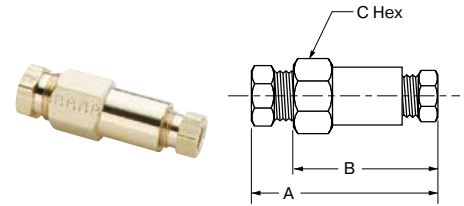
Female Connector 66HD

Part No.	Tube Size	Pipe Thread	Min. Orifice Size	A	B	C Hex
66HD-2-2	1/8	1/8	.093	1.312	1.000	.500
66HD-4-2	1/4	1/8	.187	1.406	1.000	.562
66HD-4-4	1/4	1/4	.187	1.593	1.187	.687
66HD-6-2	3/8	1/8	.312	1.531	1.125	.625
66HD-6-4	3/8	1/4	.312	1.718	1.312	.625
66HD-6-6	3/8	3/8	.312	1.750	1.343	.812



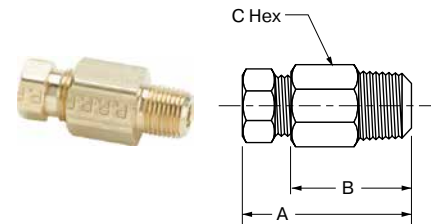
WARNING

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Reducing Union 62HD

Part No.	Tube Size	Min. Orifice Size	A	B	C Hex
62HD-6-4	3/8 X 1/4	.187	2.000	1.187	.625
62HD-8-4	1/2 X 1/4	.187	2.125	1.281	.812
62HD-8-6	1/2 X 3/8	.312	2.656	1.406	.812



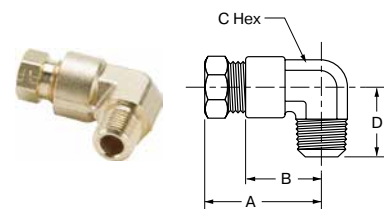
Male Connector 68HD

Part No.	Tube Size	Pipe Thread	Min. Orifice Size	A	B	C Hex
68HD-2-2	1/8	1/8	.093	1.062	.750	.437
68HD-3-2	3/16	1/8	.125	1.140	.765	.437
68HD-4-2	1/4	1/8	.187	1.343	.937	.562
68HD-4-4	1/4	1/4	.187	1.468	1.062	.562
68HD-4-6	1/4	3/8	.187	1.343	.937	.687
68HD-4-8	1/4	1/2	.187	1.531	1.125	.875
68HD-5-2	5/16	1/8	.218	1.406	1.000	.562
68HD-5-4	5/16	1/4	.218	1.500	1.093	.562
68HD-6-2	3/8	1/8	.218	1.531	1.125	.625
68HD-6-4	3/8	1/4	.312	1.656	1.250	.625
68HD-6-6	3/8	3/8	.312	1.531	1.125	.687
68HD-6-8	3/8	1/2	.312	1.531	1.125	.875
68HD-8-4	1/2	1/4	.312	1.813	1.375	.812
68HD-8-6	1/2	3/8	.406	1.750	1.312	.812
68HD-8-8	1/2	1/2	.437	1.812	1.375	.875
68HD-8-12	1/2	3/4	.437	1.625	1.187	1.062
68HD-10-6	5/8	3/8	.406	2.031	1.468	1.062
68HD-10-8	5/8	1/2	.500	2.156	1.593	1.062



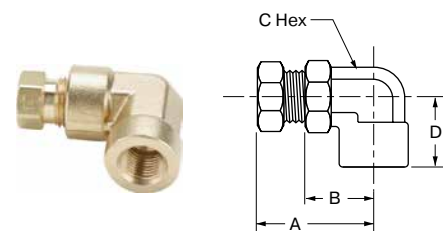
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Male Elbow 169HD

Part No.	Tube Size	Pipe Thread	Min. Orifice Size	A	B	C Hex	D
169HD-2-2	1/8	1/8	.093	.975	.656	.438	.720
169HD-3-2	3/16	1/8	.125	1.056	.687	.437	.750
169HD-4-2	1/4	1/8	.187	1.084	.687	.500	.750
169HD-4-4	1/4	1/4	.187	1.144	.750	.500	.937
169HD-5-2	5/16	1/8	.218	1.144	.750	.562	.810
169HD-5-4	5/16	1/4	.250	1.206	.812	.562	1.000
169HD-6-2	3/8	1/8	.218	1.281	.875	.562	.875
169HD-6-4	3/8	1/4	.312	1.281	.875	.562	1.000
169HD-6-6	3/8	3/8	.312	1.376	.970	.615	1.031
169HD-6-8	3/8	1/2	.312	1.526	1.120	.687	1.310
169HD-8-4	1/2	1/4	.312	1.421	1.000	.678	1.062
169HD-8-6	1/2	3/8	.406	1.421	1.000	.678	1.062
169HD-8-8	1/2	1/2	.437	1.481	1.060	.740	1.420
169HD-10-6	5/8	3/8	.406	1.818	1.270	.875	1.340
169HD-10-8	5/8	1/2	.500	1.818	1.270	.875	1.480



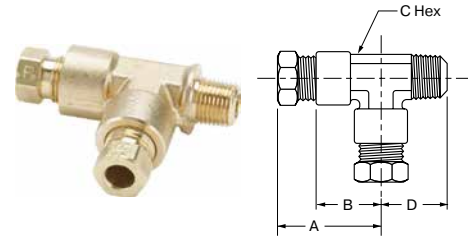
Female Elbow 170HD

Part No.	Tube Size	Pipe Thread	Min. Orifice Size	A	B	C Hex	D
170HD-2-2	1/8	1/8	.093	1.005	.690	.500	.750
170HD-4-2	1/4	1/8	.187	1.084	.687	.500	.750
170HD-4-4	1/4	1/4	.187	1.234	.843	.562	.875
170HD-6-2	3/8	1/8	.312	1.281	.875	.562	.937
170HD-6-4	3/8	1/4	.312	1.376	.970	.615	1.093
170HD-6-6	3/8	3/8	.312	1.526	1.120	.690	1.150
170HD-8-6	1/2	3/8	.437	1.481	1.062	.740	1.281



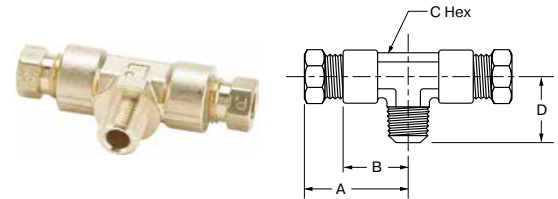
WARNING

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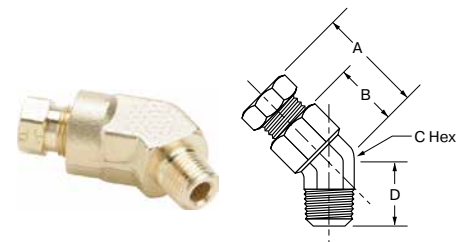
Male Run Tee 171HD

Part No.	Tube Size	Pipe Thread	Min. Orifice Size	A	B	C Hex	D
171HD-4-2	1/4	1/8	.187	1.144	.750	.500	.780
171HD-4-4	1/4	1/4	.187	1.207	.812	.500	.937
171HD-6-4	3/8	1/4	.312	1.376	.970	.562	1.000



Male Branch Tee 172HD

Part No.	Tube Size	Pipe Thread	Min. Orifice Size	A	B	C Hex	D
172HD-4-2	1/4	1/8	.187	1.082	.687	.500	.780
172HD-4-4	1/4	1/4	.187	1.269	.875	.500	.937
172HD-6-6	3/8	3/8	.312	1.406	1.000	.562	1.125



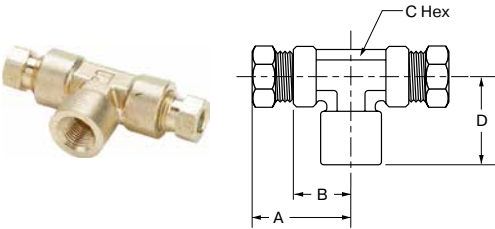
45° Male Elbow 179HD

Part No.	Tube Size	Pipe Thread	Min. Orifice Size	A	B	C Hex	D
179HD-4-2	1/4	1/8	.187	1.093	.687	.562	.750
179HD-6-4	3/8	1/4	.280	1.138	.710	.550	.850



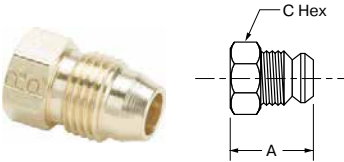
WARNING

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Female Branch Tee 177HD

Part No.	Tube Size	Pipe Thread	Min. Orifice Size	A	B	C Hex	D
177HD-4-2	1/4	1/8	.187	1.082	.687	.500	.750
177HD-4-4	1/4	1/4	.187	1.144	.750	.562	1.093
177HD-6-4	3/8	1/4	.312	1.376	.970	.562	1.093



Plug 59HD

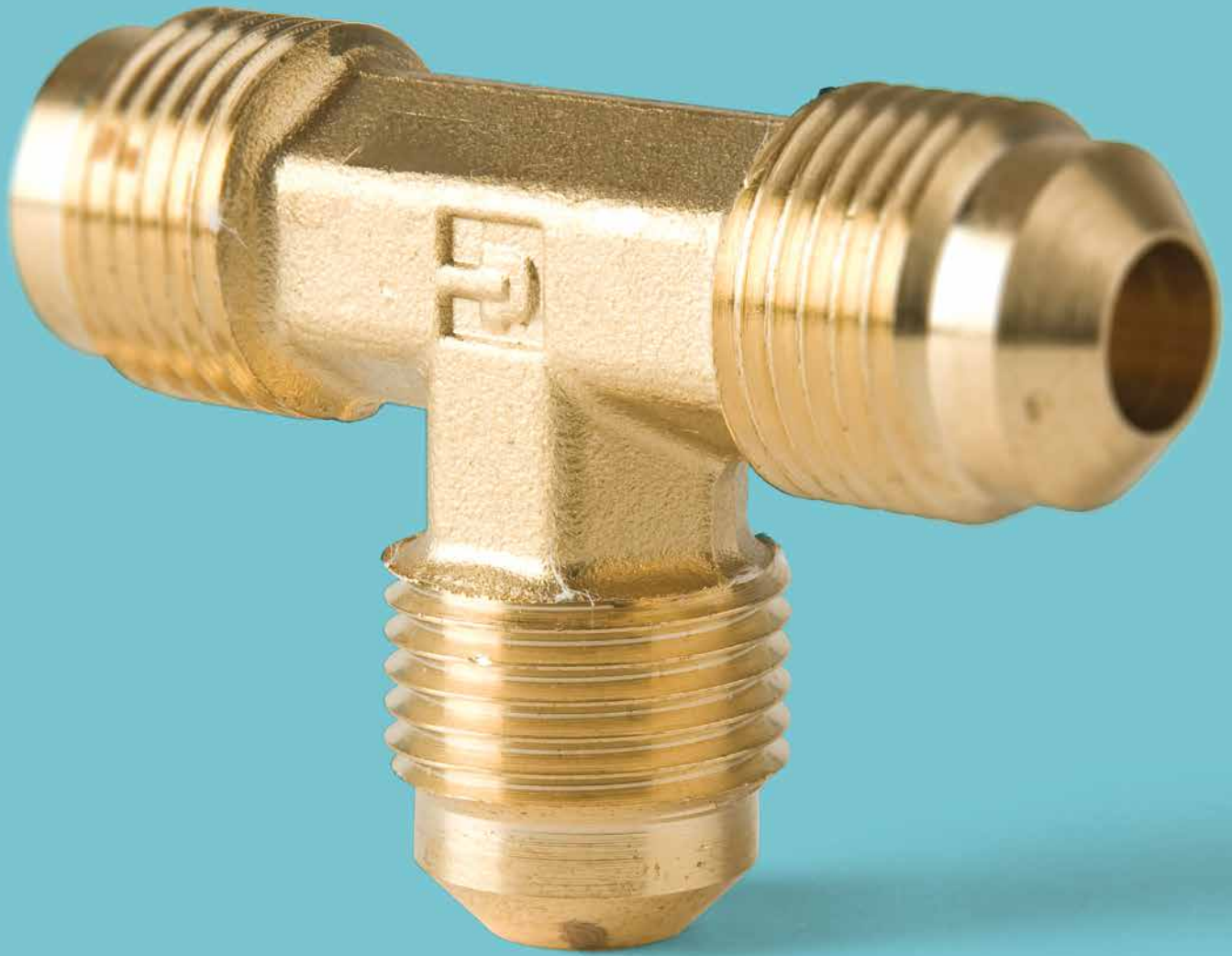
Part No.	Tube Size	A	C
59HD-4	1/4	.734	.437
59HD-6	3/8	.843	.625



WARNING

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INDUSTRIAL FLARE FITTINGS

45° Flare Fittings, Inverted Flared Fittings, Access Valves

45° FLARE FITTINGS



Parker's Flare Fittings is an economical choice for a metal-to-metal seal that resists mechanical pullout. Meets functional requirements of SAE J512 and SAE J513.

Product Features:

- All brass construction
- Resists vibration with use of long nut
- UL listing
- Functional requirements of SAE J512 and J513
- Pre-applied Vibra-Seal thread sealant available

Markets:

- Refrigeration
- Heavy Duty Truck
- Mobile
- Industrial
- Heating
- Air Conditioning

Applications:

- Refrigerant Lines
- Propane
- Fuels
- Adapters
- Natural Gas

Compatible Tubing:

- Copper
- Aluminum
- Brass
- Welded Steel Hydraulic Tubing

Specifications:

Temperature Range: -65° to +250° F (-53.8° to 121.1° C)

Pressure Range:

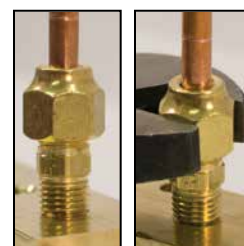
Tube Size	psi	bar	Tube Size	psi	bar
1/8	2800	193.0	3/8	1000	68.9
3/16	1900	131.0	1/2	750	51.7
1/4	1400	96.5	5/8	650	44.8

Tube Size	psi	bar	Tube Size	psi	bar
5/16	1200	82.7	3/4	550	37.9



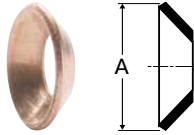
Assembly Instructions

1. Cut tubing squarely and clean tube end thoroughly to remove burrs.
2. Place nut onto tube. Place threaded end of nut toward end of tube.
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 1/4 to 1/2 turn past finger-tight for a metal-to-metal seal.



WARNING

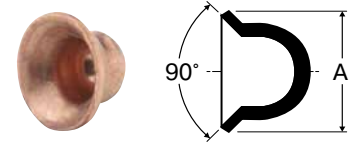
This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov



Copper Flare Gasket 2GF

Ref. SAE 010113

Part No.	Tube Size	A
2GF-3	3/16	.32
2GF-4	1/4	.36
2GF-5	5/16	.43
2GF-6	3/8	.56
2GF-8	1/2	.67
2GF-10	5/8	.78
2GF-12	3/4	.97



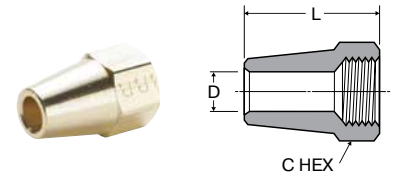
Seal Bonnet 3GF

Ref. SAE 010114

Part No.	Tube Size	A
3GF-3	3/16	.32
3GF-4	1/4	.37
3GF-5	5/16	.43
3GF-6	3/8	.56
3GF-8	1/2	.67
3GF-10	5/8	.78
3GF-12	3/4	.97

Long Nut 41FL

Ref. SAE 010111



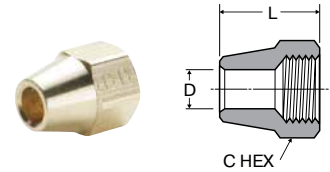
Part No.	Tube Size	Straight Thread	C Hex	D	L
41FL-2	1/8	5/16-24	3/8	.133	.75
41FL-3	3/16	3/8-24	7/16	.195	.81
41FL-4	1/4	7/16-20	9/16	.257	.94
41FL-5	5/16	1/2-20	5/8	.320	1.12
41FL-6	3/8	5/8-18	3/4	.382	1.31
41FL-8	1/2	3/4-16	7/8	.507	1.62
41FL-10	5/8	7/8-14	1-1/16	.632	1.88
41FL-12	3/4	1-1/16-14	1-1/4	.757	2.19

*Comes standard with thread protectors



WARNING

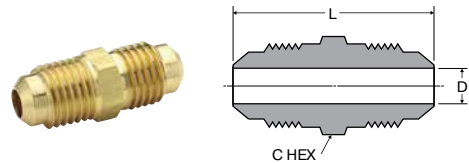
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Short Nut 41FS / Shorter Nut 41FX

Ref. SAE 010110

Part No.	Tube Size	Straight Thread	C Hex	D	L
41FS-2	1/8	5/16-24	3/8	.132	.50
41FS-3	3/16	3/8-24	7/16	.195	.62
41FS-4	1/4	7/16-20	9/16	.257	.75
41FS-5	5/16	1/2-20	5/8	.320	.88
41FS-6	3/8	5/8-18	3/4	.382	1.00
41FX-6	3/8	5/8-18	3/4	.382	.91
41FS-8	1/2	3/4-16	7/8	.507	1.12
41FX-8	1/2	3/4-16	7/8	.507	1.00
41FS-10	5/8	7/8-14	1-1/16	.632	1.31
41FX-10	5/8	7/8-14	1-1/16	.632	1.06
41FX-12	3/4	1-1/16-14	1-1/4	.757	1.17
41FS-12	3/4	1-1/16-14	1-1/4	.757	1.50
41FS-14	7/8	1-1/4-12	1-1/2	.882	1.62



Union 42F

Ref. SAE 010101 *Thread Protectors

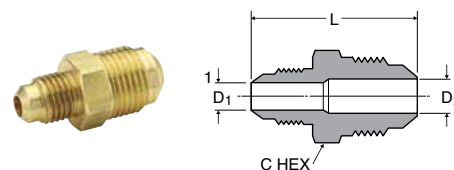
Part No.	Tube Size	Straight Thread	C Hex	L	D
42F-2	1/8	5/16-24	5/16	.90	.079
42F-3	3/16	3/8-24	3/8	1.04	.125
42F-4	1/4	7/16-20	7/16	1.17	.189
42F-5	5/16	1/2-20	1/2	1.32	.220
42F-6	3/8	5/8-18	5/8	1.48	.282
42F-8	1/2	3/4-16	3/4	1.79	.407
42F-10	5/8	7/8-14	7/8	2.10	.501
42F-12*	3/4	1-1/16-14	1-1/16	2.42	.626
42F-14*	7/8	1-1/4-12	1-1/4	2.72	.751

*Comes standard with thread protectors



WARNING

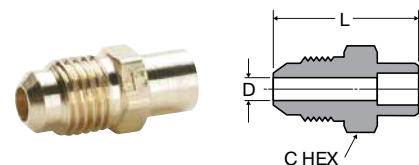
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Union Reducers 42F

Ref. SAE 010101

Part No.	1 Tube Size	2 Tube Size	1 Straight Thread	2 Straight Thread	C Hex	L	Flow Dia. D1	Flow Dia. D2
42F-6-4	1/4	3/8	7/16-20	5/8-18	5/8	1.36	.189	.282
42F-6-5	5/16	3/8	1/2-20	5/8-18	5/8	1.42	.220	.282
42F-8-4	1/4	1/2	7/16-20	3/4-16	3/4	1.54	.189	.407
42F-8-6	3/8	1/2	5/8-18	3/4-16	3/4	1.67	.282	.407
42F-10-6	3/8	5/8	5/8-18	7/8-14	7/8	1.86	.282	.501
42F-10-8	1/2	5/8	3/4-16	7/8-14	7/8	1.98	.407	.501



Flare to Solder 43F

Ref. SAE 010104

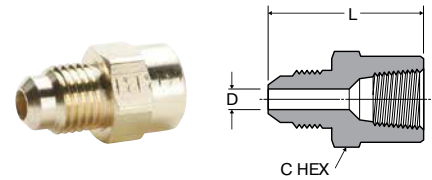
Part No.	Tube Size	Solder Od	Straight Thread	C Hex	L	Flow Dia. D
43F-4-4	1/4	1/4	7/16-20	7/16	.98	.189
43F-4-5	1/4	5/16	7/16-20	7/16	.98	.189
43F-4-6	1/4	3/8	7/16-20	1/2	.98	.189
43F-6-4	3/8	1/4	5/8-18	5/8	1.17	.189
43F-6-5	3/8	5/16	5/8-18	5/8	1.17	.252
43F-6-6	3/8	3/8	5/8-18	5/8	1.17	.282
43F-6-8	3/8	1/2	5/8-18	5/8	1.23	.282
43F-6-10	3/8	5/8	5/8-18	3/4	1.36	.282
43F-8-6	1/2	3/8	3/4-16	3/4	1.36	.314
43F-8-8	1/2	1/2	3/4-16	3/4	1.42	.407
43F-8-10	1/2	5/8	3/4-16	3/4	1.54	.407
43F-10-8	5/8	1/2	7/8-14	7/8	1.60	.440
43F-10-10	5/8	5/8	7/8-14	7/8	1.73	.501
43F-10-12*	5/8	3/4	7/8-14	7/8	1.86	.501
43F-12-12*	3/4	3/4	1-1/16-14	1-1/16	2.04	.626
43F-12-14*	3/4	7/8	1-1/16-14	1-1/16	2.17	.626

*Comes standard with thread protectors



WARNING

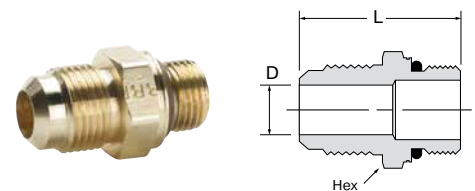
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Female Connector 46F

Ref. SAE 010103

Part No.	Tube Size	Pipe Thread	Straight Thread	C Hex	L	Flow Dia. D
46F-2-2	1/8	1/8	5/16-24	9/16	.91	.078
46F-3-2	3/16	1/8	3/8-24	9/16	.95	.125
46F-4-2	1/4	1/8	7/16-20	9/16	1.01	.189
46F-4-4	1/4	1/4	7/16-20	11/16	1.23	.189
46F-4-6	1/4	3/8	7/16-20	13/16	1.26	.189
46F-5-2	5/16	1/8	1/2-20	9/16	1.05	.220
46F-5-4	5/16	1/4	1/2-20	11/16	1.26	.220
46F-6-2	3/8	1/8	5/8-18	5/8	1.10	.282
46F-6-4	3/8	1/4	5/8-18	11/16	1.29	.282
46F-6-6	3/8	3/8	5/8-18	13/16	1.36	.282
46F-6-8	3/8	1/2	5/8-18	1	1.60	.282
46F-8-4	1/2	1/4	3/4-16	3/4	1.39	.407
46F-8-6	1/2	3/8	3/4-16	13/16	1.48	.407
46F-8-8	1/2	1/2	3/4-16	1	1.73	.407
46F-8-12*	1/2	3/4	3/4-16	1-1/4	1.79	.407
46F-10-6	5/8	3/8	7/8-14	7/8	1.57	.501
46F-10-8	5/8	1/2	7/8-14	1	1.80	.501
46F-10-12*	5/8	3/4	7/8-14	1-1/4	1.89	.501



Flare to Metric Adaptor 48F-X-MIX

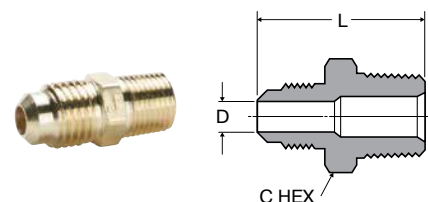
Part Number	Tube Size	Metric Thread	Straight Thread Tube	Hex	L	D
48F-8-M16	1/2	M16 X 1.5	3/4-16	7/8	1.60	.35
48F-10-M127	5/8	M27 X 2.0	7/8-14	1 1/4	1.87	.50
48F-12-M127*	3/4	M27 X 2.0	1 1/16-14	1 1/4	1.99	.63

Note: Fluorocarbon o-ring is standard



WARNING

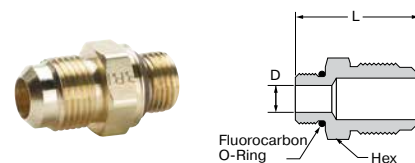
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Male Connector 48F

Ref. SAE 010102

Part No.	Tube Size	Pipe Thread	Straight Thread	C Hex	L	Flow Dia. D
48F-2-2	1/8	1/8	5/16-24	7/16	.91	.078
48F-3-2	3/16	1/8	3/8-24	7/16	.98	.125
48F-3-4	3/16	1/4	3/8-24	9/16	1.17	.125
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-4-6	1/4	3/8	7/16-20	11/16	1.29	.189
48F-4-8	1/4	1/2	7/16-20	7/8	1.54	.189
48F-5-2	5/16	1/8	1/2-20	1/2	1.14	.220
48F-5-4	5/16	1/4	1/2-20	9/16	1.32	.220
48F-5-6	5/16	3/8	1/2-20	11/16	1.36	.220
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-6-8	3/8	1/2	5/8-18	7/8	1.67	.282
48F-6-12*	3/8	3/4	5/8-18	1-1/16	1.79	.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-8-12	1/2	3/4	3/4-16	1-1/16	1.92	.407
48F-10-4	5/8	1/4	7/8-14	7/8	1.79	.313
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-10-12*	5/8	3/4	7/8-14	1-1/16	2.04	.501
48F-12-8*	3/4	1/2	1-1/16-14	1-1/16	2.17	.563
48F-12-12*	3/4	3/4	1-1/16-14	1-1/16	2.17	.626
48F-14-12*	7/8	3/4	1-1/4-12	1-1/4	2.35	.751



Flare to SAE Straight Thread 485F

Part No.	Tube Size	Straight Thread	Straight Thread Tube	Hex	L	Flow Dia. D
485F-12-8*	3/4	3/4-16	1 1/16-14	1 1/16	1.80	.397
485F-12-12*	3/4	1 1/16-12	1 1/16-14	1 1/4	2.03	.615

*Comes standard with thread protectors

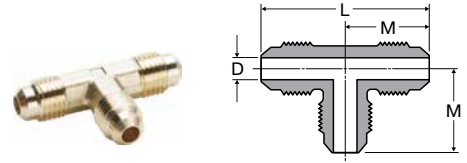


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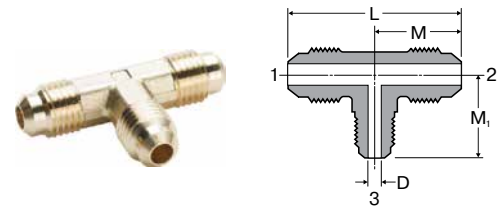
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Union Tee 144F

Ref. SAE 010401

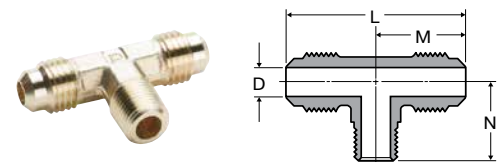


Part No.	Tube Size	Straight Thread	L	M	Flow Dia. D
144F-3	3/16	3/8-24	1.46	.73	.125
144F-4	1/4	7/16-20	1.72	.86	.189
144F-5	5/16	1/2-20	1.82	.91	.220
144F-6	3/8	5/8-18	2.08	1.04	.282
144F-8	1/2	3/4-16	2.46	1.23	.407
144F-10	5/8	7/8-14	2.78	1.39	.501



Union Tee 144F combination sizes

Part No.	1 Tube Size	2 Tube Size	3 Tube Size	L	M	M1	Flow Dia. D
144F-6-6-4	3/8	3/8	1/4	2.08	1.04	.89	.189
144F-8-8-6	1/2	1/2	3/8	2.40	1.20	1.10	.282



Male Branch Tee 145F

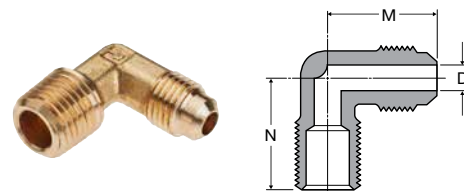
Ref. SAE 010425

Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
145F-2-2	1/8	1/8	5/16-24	1.26	.63	.69	.079
145F-4-2	1/4	1/8	7/16-20	1.58	.79	.76	.189
145F-4-4	1/4	1/4	7/16-20	1.78	.89	.92	.189
145F-5-4	5/16	1/4	1/2-20	1.90	.95	.96	.220
145F-6-4	3/8	1/4	5/8-18	1.96	.98	1.05	.282
145F-6-6	3/8	3/8	5/8-18	2.00	1.00	.98	.282
145F-6-8	3/8	1/2	5/8-18	2.28	1.14	1.26	.282
145F-8-6	1/2	3/8	3/4-16	2.40	1.20	1.10	.407
145F-8-8	1/2	1/2	3/4-16	2.46	1.23	1.36	.407
145F-10-8	5/8	1/2	7/8-14	2.78	1.39	1.36	.501



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Male Elbow 149F

Ref. SAE 010202

Part No.	Tube Size	Pipe Thread	Straight Thread	M	N	Flow Dia. D
149F-2-2	1/8	1/8	5/16-24	.63	.69	.079
149F-3-2	3/16	1/8	3/8-24	.73	.73	.125
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-4-6	1/4	3/8	7/16-20	.92	1.01	.189
149F-4-8	1/4	1/2	7/16-20	1.02	1.26	.189
149F-5-2	5/16	1/8	1/2-20	.90	.79	.220
149F-5-4	5/16	1/4	1/2-20	.95	.95	.220
149F-5-6	5/16	3/8	1/2-20	.98	1.01	.220
149F-6-2*	3/8	1/8	5/8-18	1.01	.90	.220
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-6-8	3/8	1/2	5/8-18	1.15	1.26	.282
149F-6-12*	3/8	3/4	5/8-18	1.25	1.38	.282
149F-8-4*	1/2	1/4	3/4-16	1.20	1.17	.314
149F-8-6	1/2	3/8	3/4-16	1.20	1.10	.407
149F-8-8	1/2	1/2	3/4-16	1.28	1.38	.407
149F-8-12*	1/2	3/4	3/4-16	1.38	1.38	.407
149F-10-4*	5/8	1/4	7/8-14	1.41	1.25	.314
149F-10-6*	5/8	3/8	7/8-14	1.41	1.25	.407
149F-10-8	5/8	1/2	7/8-14	1.40	1.39	.501
149F-10-12*	5/8	3/4	7/8-14	1.42	1.48	.501
149F-12-8**	3/4	1/2	1-1/16-14	1.60	1.48	.563
149F-12-12*	3/4	3/4	1-1/16-14	1.60	1.62	.626

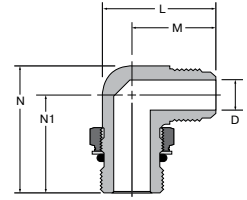
* For these parts the pipe thread through hole is smaller than the through hole on the flare end.

*Comes standard with thread protectors



WARNING

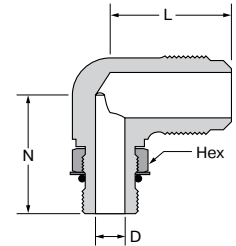
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Flare Elbow to ISO 6149 Metric Straight Thread 149F-X-MIX

Part Number	Tube Size	Metric Thread	Straight Thread Tube	L	M	N	N1	D
149F-10-MI27	5/8	M27 X 2.0	7/8-14	1.95	1.46	2.12	1.63	.501

Note: Fluorocarbon o-ring is standard

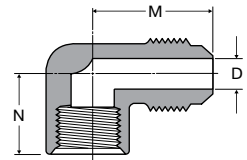


Flare Elbow to SAE Straight Thread 1495F

Part No.	Tube Size	Straight Thread	Straight Thread Tube	Hex	L	N	Flow Dia. D
1495F-12-12*	3/4	1-1/16-12	1 1/16-14	1 1/4	1.59	2.12	.616

Note: Fluorocarbon o-ring is standard

*Comes standard with thread protectors



Female Elbow 150F

Ref. SAE 010203

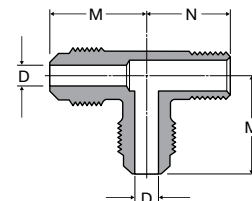
Part No.	Tube Size	Pipe Thread	Straight Thread	M	N	Flow Dia. D
150F-4-2	1/4	1/8	7/16-20	.86	.50	.189
150F-4-4	1/4	1/4	7/16-20	.95	.67	.189
150F-5-4	5/16	1/4	1/2-20	1.01	.67	.220
150F-6-2	3/8	1/8	5/8-18	1.08	.48	.282
150F-6-4	3/8	1/4	5/8-18	1.07	.67	.282
150F-6-6	3//8	3/8	5/8-18	1.14	.67	.282
150F-6-8	3/8	1/2	5/8-18	1.23	.86	.282
150F-8-6	1/2	3/8	3/4-16	1.25	.69	.407
150F-8-8	1/2	1/2	3/4-16	1.36	.92	.407
150F-8-12	1/2	3/4	3/4-16	1.51	.92	.407
150F-10-8*	5/8	1/2	7/8-14	1.48	.98	.501
150F-10-12*	5/8	3/4	7/8-14	1.64	.98	.501

*Comes standard with thread protectors



WARNING

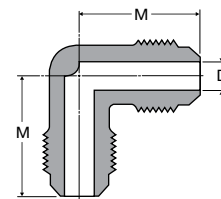
This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov



Male Run Tee 151F

Ref. SAE 010424

Part No.	Tube Size	Pipe Thread	Straight Thread	M	N	Flow Dia. D
151F-4-2	1/4	1/8	7/16-20	.86	.76	.189
151F-4-4	1/4	1/4	7/16-20	.89	.92	.189
151F-5-4	5/16	1/4	1/2-20	.95	.92	.220
151F-6-4	3/8	1/4	5/8-18	1.04	1.04	.282
151F-6-6	3/8	3/8	5/8-18	1.00	.98	.282
151F-6-8	3/8	1/2	5/8-18	1.16	1.26	.282
151F-8-6	1/2	3/8	3/4-16	1.20	1.10	.407
151F-8-8	1/2	1/2	3/4-16	1.23	1.36	.407
151F-10-8	5/8	1/2	7/8-14	1.39	1.36	.501



Union Elbow 155F

Ref. SAE 010201

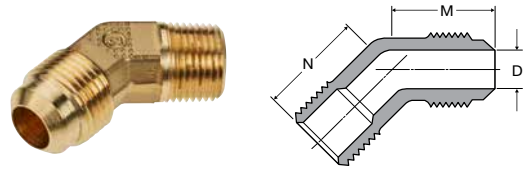
Part No.	Tube Size	Straight Thread	M	Flow Dia. D
155F-2	1/8	5/16-24	.64	.079
155F-3	3/16	3/8-24	.73	.125
155F-4	1/4	7/16-20	.86	.189
155F-5	5/16	1/2-20	.92	.220
155F-6	3/8	5/8-18	1.04	.282
155F-8	1/2	3/4-16	1.20	.407
155F-10	5/8	7/8-14	1.39	.501
155F-12*	3/4	1-1/16-14	1.64	.626

*Comes standard with thread protectors



WARNING

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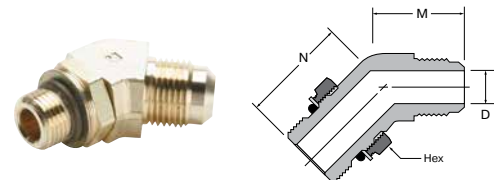


45° Elbow 159F

Ref. SAE 010302

Part No.	Tube Size	Pipe Thread	Straight Thread	M	N	Flow Dia. D
159F-4-2	1/4	1/8	7/16-20	.65	.56	.189
159F-4-4	1/4	1/4	7/16-20	.75	.84	.189
159F-5-2	5/16	1/8	1/2-20	.76	.65	.220
159F-5-4	5/16	1/4	1/2-20	.75	.81	.220
159F-6-2*	3/8	1/8	5/8-18	.89	.67	.220
159F-6-4	3/8	1/4	5/8-18	.89	.86	.282
159F-6-6	3/8	3/8	5/8-18	.91	.93	.282
159F-8-4*	1/2	1/4	3/4-16	1.06	.95	.314
159F-8-6	1/2	3/8	3/4-16	1.04	.93	.407
159F-8-8	1/2	1/2	3/4-16	1.12	1.16	.407
159F-10-6*	5/8	3/8	7/8-14	1.13	.95	.407
159F-10-8	5/8	1/2	7/8-14	1.21	1.16	.501
159F-12-8**	3/4	1/2	1-1/16-14	1.28	1.16	.560

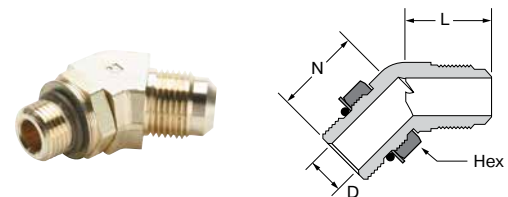
* For these parts the pipe thread through hole is smaller than the through hole on the flare end.



45° Flare Elbow to SAE Metric Straight Thread 159F-X-MIX

Part Number	Tube Size	Metric Thread	Straight Thread Tube	Hex	M	N	D
159F-8-M16	1/2	M16 X 1.5	3/4-16	22MM	1.10	1.16	.36
159F-10-M127	5/8	M27 X 2.0	7/8-14	1 1/4	1.21	1.50	.50

Note: Fluorocarbon o-ring is standard



45° Flare to SAE Straight Thread 1595F

Part No.	Tube Size	Straight Thread	Straight Thread Tube	Hex	L	N	Flow Dia. D
1595F-8-8	1/2	3/4-16	3/4-16	7/8	1.00	1.16	.398
1595F-12-8*	3/4	3/4-16	1 1/16-14	7/8	1.41	1.30	.398
1595F-12-12*	3/4	1 1/16-12	1 1/16-14	1 1/4	1.41	1.45	.615

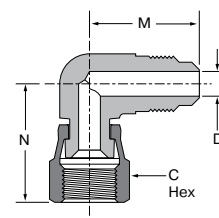
Note: Fluorocarbon o-ring is standard

* Comes standard with thread protectors



WARNING

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90° Swivel Elbow 166FSV

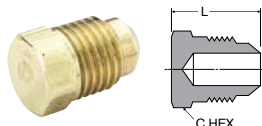
Part No.	Tube Size	Straight Thread	C Hex	M	N	Flow Dia. D
166FSV-4-4	1/4	7/16-20	9/16	.86	.93	.189
166FSV-6-6	3/8	5/8-18	3/4	1.04	1.12	.282
166FSV-8-8	1/2	3/4-16	7/8	1.20	1.29	.407
166FSV-10-10	5/8	7/8-14	1	1.39	1.50	.501
166FSV-12-12*	3/4	1-1/16-14	1-1/4	1.60	1.83	.626

* Comes standard with thread protectors



Adapter Tee 156F

Part No.	Tube Size	Pipe Thread	Straight Thread	M	N	N1	Flow Dia. D
156F-4-2	1/4	1/8	7/16-20	.76	.75	.66	.188



Flared Seal Plug 639F

Ref. SAE 010109

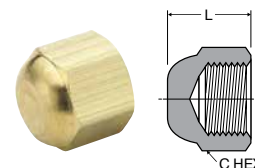
Part No.	Tube Size	Straight Thread	C Hex	L
639F-4	1/4	7/16-20	7/16	.69
639F-5	5/16	1/2-20	1/2	.78
639F-6	3/8	5/8-18	5/8	.88
639F-8	1/2	3/4-16	3/4	1.06
639F-10	5/8	7/8-14	7/8	1.19

* Comes standard with thread protectors

† Should be used with 2GF flare gasket

Cap Nut 640F

Ref. SAE 010112



Part No.	Tube Size	Straight Thread	C Hex	L
640F-3†	3/16	3/8-24	1/2	.47
640F-4†	1/4	7/16-20	9/16	.53
640F-5†	5/16	1/2-20	5/8	.62
640F-6†	3/8	5/8-18	3/4	.69
640F-8†	1/2	3/4-16	7/8	.84
640F-10†	5/8	7/8-14	1-1/16	.97

† Should be used with 2GF flare gasket

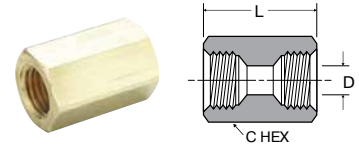


WARNING

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Flared Union–Female Flare to Female Flare 660FHD

Ref. SAE 010107

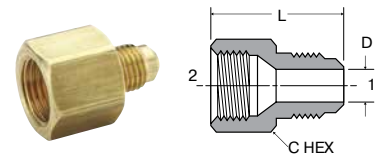


Part No.	Tube Size	Straight Thread	C Hex	L	Flow Dia. D
660FHD-4†	1/4	7/16-20	5/8	.98	.251
660FHD-6†	3/8	5/8-18	13/16	1.24	.376
660FHD-8†	1/2	3/4-16	15/16	1.43	.501
660FHD-10†	5/8	7/8-14	1-1/16	1.67	.626

† Should be used with 2GF flare gasket

Male Flare to Female Flare 661FHD

Ref. SAE 010105



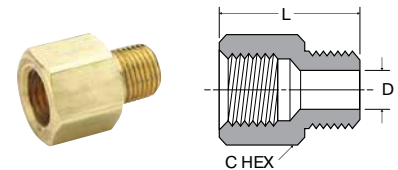
Part No.	1 Tube Size	2 Tube Size	1 Straight Thread	2 Straight Thread	C Hex	L	Flow Dia. D
661FHD-4-6†	1/4	3/8	7/16-20	5/8-18	13/16	1.20	.189
661FHD-4-8†	1/4	1/2	7/16-20	3/4-16	15/16	1.36	.189
661FHD-6-4†	3/8	1/4	5/8-18	7/16-20	5/8	1.10	.282
661FHD-6-8†	3/8	1/2	5/8-18	3/4-16	15/16	1.42	.282
661FHD-8-6†	1/2	3/8	3/4-16	5/8-18	13/16	1.39	.407
661FHD-8-10†	1/2	5/8	3/4-16	7/8-14	1-1/16	1.67	.407
661FHD-10-8†	5/8	1/2	7/8-14	3/4-16	15/16	1.60	.501
661FHD-10-12*†	5/8	3/4	7/8-14	1-1/16-14	1-5/16	1.95	.501
661FHD-12-10*†	3/4	5/8	1-1/16-14	7/8-14	1-1/16	1.86	.626

* Comes standard with thread protectors

† Should be used with 2GF flare gasket

Female Flare to Male Pipe Thread 664FHD

Ref. SAE 010106



Part No.	Tube Size	Pipe Thread	Straight Thread	C Hex	L	Flow Dia. D
664FHD-4-2†	1/4	1/8	7/16-20	5/8	.91	.220
664FHD-4-4†	1/4	1/4	7/16-20	5/8	1.01	.252
664FHD-6-4†	3/8	1/4	5/8-18	13/16	1.28	.345
664FHD-8-6†	1/2	3/8	3/4-16	15/16	1.31	.407

† Should be used with 2GF flare gasket



WARNING

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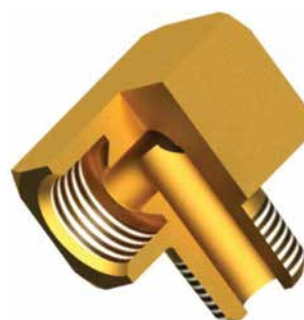
INVERTED FLARED FITTINGS



Parker's Inverted Flare Fittings offers a metal-to-metal seal that is internal to the fitting for tighter tube bends. These fittings are listed with UL and meets the functional requirements of SAE J512.

Product Features:

- All brass construction
- UL listed for flammable liquid and gas
- Meets functional requirements of SAE J512
- Steel nut for economy
- Pre-applied Vibra-Seal thread sealant available



Markets:

- Air Conditioning
- Marine
- Mobile
- Engines

Applications:

- Refrigerant Lines
- Brake Lines
- Fuel Lines

Compatible Tubing:

- Copper
- Brass
- Aluminum
- Welded Steel Hydraulic Tubing

Specifications:

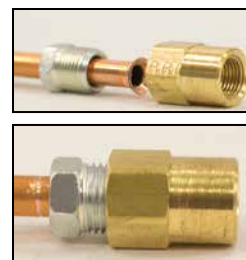
Temperature Range: -65° to +250° F (-53.8° to 121.1° C)

Pressure Range:

tube size	psi	bar	tube size	psi	bar
1/8	2800	193.0	3/8	1000	68.9
3/16	1900	131.0	1/2	750	51.7
1/4	1400	96.5	5/8	650	44.8
5/16	1200	82.7	3/4	550	37.9

Assembly Instructions

1. Cut tubing squarely and clean to remove burrs
2. Place nut onto tube. Place threaded end of nut toward end of tube.
3. Flare tube end with flaring tool to provide 45° flare
4. On thin wall copper, welded or brazed tubing, use double flare to prevent pinch-off or cracked flares
5. Clamp tube flare between nut and nose of fitting body by screwing nut on finger tight. Tighten nut with a wrench an additional 1/4 to 1/2 turn past finger tight for a metal-to-metal seal.

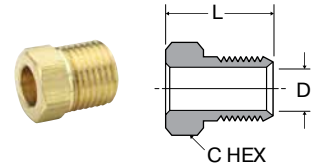


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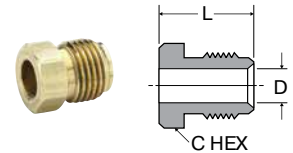
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Nut 41IF

Ref. SAE 040110



Part No.	Tube Size	Straight Thread	C Hex	L	D
41IF-2	1/8	5/16-28	5/16	.52	.133
41IF-3	3/16	3/8-24	3/8	.56	.196
41IF-4	1/4	7/16-24	7/16	.56	.259
41IF-5	5/16	1/2-20	1/2	.62	.321
41IF-6	3/8	5/8-18	5/8	.66	.384
41IF-8	1/2	3/4-18	3/4	.74	.508
41IF-10	5/8	7/8-18	7/8	.80	.633



Piloted Nut 41IFF for Single Flared Tubing

Ref. SAE 040110

Part No.	Tube Size	Straight Thread	C Hex	L	D
41IFF-2	1/8	5/16-28	5/16	.52	.133
41IFF-3	3/16	3/8-24	3/8	.56	.196
41IFF-4	1/4	7/16-24	7/16	.56	.259
41IFF-5	5/16	1/2-20	1/2	.62	.321
41IFF-6	3/8	5/8-18	5/8	.66	.384
41IFF-8	1/2	3/4-18	3/4	.74	.508

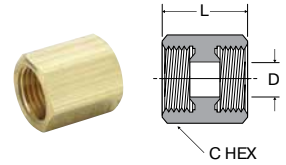


WARNING

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Union 42IFHD

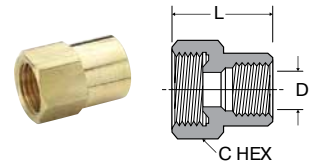
Ref. SAE 040101



Part No.	Tube Size	Straight Thread	C Hex	L	D
42IFHD-2	1/8	5/16-28	13/32	.60	.078
42IFHD-3	3/16	3/8-24	15/32	.63	.125
42IFHD-4	1/4	7/16-24	17/32	.63	.189
42IFHD-5	5/16	1/2-20	19/32	.71	.220
42IFHD-6	3/8	5/8-18	3/4	.81	.282

Female Connector 46IFHD

Ref. SAE 040103



Part No.	Tube Size	Pipe Thread	Straight Thread	C Hex	L	Flow Dia. D
46IFHD-3-2	3/16	1/8	3/8-24	1/2	.76	.125
46IFHD-4-2	1/4	1/8	7/16-24	17/32	.78	.189
46IFHD-5-2	5/16	1/8	1/2-20	19/32	.79	.220
46IFHD-6-4	3/8	1/4	5/8-18	3/4	1.04	.282

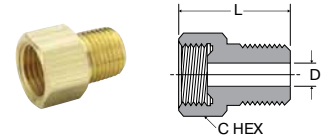


WARNING

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Male Connector 48IFHD

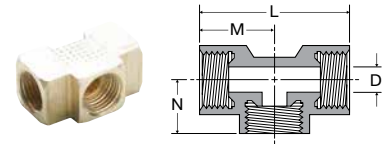
Ref. SAE 040102



Part No.	Tube Size	Pipe Thread	Straight Thread	C Hex	L	Flow Dia. D
48IFHD-2-2	1/8	1/8	5/16-28	13/32	.63	.078
48IFHD-3-2	3/16	1/8	3/8-24	15/32	.70	.125
48IFHD-4-2	1/4	1/8	7/16-24	17/32	.74	.189
48IFHD-4-4	1/4	1/4	7/16-24	9/16	.89	.189
48IFHD-5-2	5/16	1/8	1/2-20	19/32	.79	.220
48IFHD-5-4	5/16	1/4	1/2-20	19/32	.98	.220
48IFHD-6-2	3/8	1/8	5/8-18	3/4	.89	.220
48IFHD-6-4	3/8	1/4	5/8-18	3/4	1.03	.282
48IFHD-6-6	3/8	3/8	5/8-18	3/4	1.03	.282
48IFHD-8-4	1/2	1/4	3/4-18	29/32	1.07	.346
48IFHD-8-6	1/2	3/8	3/4-18	29/32	1.07	.407
48IFHD-8-8	1/2	1/2	3/4-18	29/32	1.26	.407
48IFHD-10-8	5/8	1/2	7/8-18	1-1/16	1.32	.533
48IFHD-12-12	3/4	3/4	1-1/16-16	1 1/4	1.38	.626

Union Tee 244IFHD

Ref. SAE 040401



Part No.	Tube Size	Straight Thread	L	M	N	Flow Dia. D
244IFHD-3	3/16	3/8-24	1.10	.55	.39	.125
244IFHD-4	1/4	7/16-24	1.13	.56	.42	.189
244IFHD-5	5/16	1/2-20	1.26	.63	.45	.220
244IFHD-6	3/8	5/8-18	1.48	.74	.56	.282
244IFHD-8*	1/2	3/4-18	1.76	.88	.67	.407

*Does not meet SAE or UL.

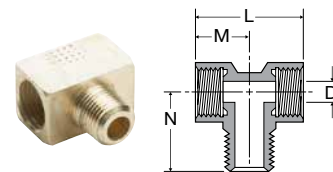


WARNING

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Male Branch Tee 245IFHD

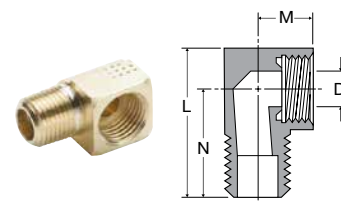
Ref. SAE 040425



Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
245IFHD-4-2	1/4	1/8	7/16-24	.85	.43	.64	.189
245IFHD-6-4	3/8	1/4	5/8-18	1.17	.58	.94	.282

Male Elbow 249IFHD–249IF

Ref. SAE 040202



Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
249IFHD-2-2	1/8	1/8	5/16-28	.79	.27	.58	.078
249IFHD-3-2	3/16	1/8	3/8-24	.85	.27	.61	.125
249IFHD-4-2*	1/4	1/8	7/16-24	.92	.33	.65	.189
249IFHD-4-4	1/4	1/4	7/16-24	1.10	.28	.82	.189
249IFHD-5-4	5/16	1/4	1/2-20	1.16	.45	.86	.220
249IFHD-6-2*	3/8	1/8	5/8-18	1.13	.53	.76	.220
249IF-6-4†	3/8	1/4	5/8-18	1.26	.45	.92	.282
249IFHD-6-4	3/8	1/4	5/8-18	1.32	.53	.95	.282
249IFHD-6-6	3/8	3/8	5/8-18	1.32	.50	.94	.282
249IFHD-8-4*	1/2	1/4	3/4-18	1.48	.59	1.02	.407
249IF-8-6*	1/2	3/8	3/4-18	1.42	.53	.99	.407
249IFHD-8-8	1/2	1/2	3/4-18	1.67	.66	1.22	.407
249IFHD-10-6*	5/8	3/8	7/8-18	1.62	.67	1.09	.531
249IFHD-10-8*	5/8	1/2	7/8-18	1.82	.67	1.29	.533

† Light Duty Series

+ For these parts the pipe thread through hole is smaller than the through hole on the flare end.

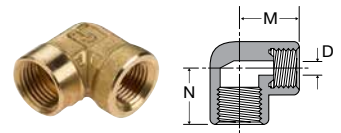
Male Elbow 149IFHD

Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
149IFHD-8-6	1/2	3/8	3/4-18	1.47	0.65	1.03	0.407



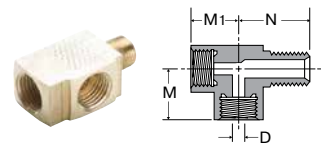
WARNING

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Female Elbow 150IFHD

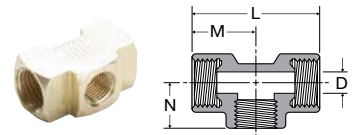
Part No.	Tube Size	Pipe Thread	Straight Thread	M	N	Flow Dia. D
150IFHD-3-2	3/16	1/8	3/8-24	0.5	0.49	0.125
150IFHD-4-2	1/4	1/8	7/16-24	0.53	0.53	0.189
150IFHD-5-2	5/16	1/8	1/2-20	0.59	0.6	0.22
150IFHD-6-4	3/8	1/4	5/8-18	0.67	0.67	0.282



Male Run Tee 251IFHD

Ref. SAE 040424

Part No.	Tube Size	Pipe Thread	Straight Thread	M	M1	N	Flow Dia. D
251IFHD-3-2	3/16	1/8	3/8-24	.39	.53	.72	.125
251IFHD-5-2	5/16	1/8	1/2-20	.45	.62	.85	.220
251IFHD-6-4	3/8	1/4	5/8-18	.56	.75	1.08	.282



Female Branch Tee 252IFHD

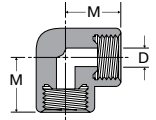
Ref. SAE 040427

Part No.	Tube Size	Pipe Thread	Straight Thread	L	M	N	Flow Dia. D
252IFHD-5-2	5/16	1/8	1/2-20	1.26	.63	.45	.220
252IFHD-6-4	3/8	1/4	5/8-18	1.48	.74	.56	.282



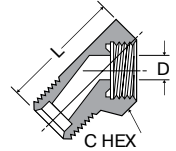
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Union Elbow 155IFHD

Part No.	Tube Size	Straight Thread	M	Flow Dia. D
155IFHD-4	1/4	7/16-24	0.52	0.189



45° Elbow 259IFHD

Ref. SAE 040302

Part No.	Tube Size	Pipe Thread	Straight Thread	C Hex	L	Flow Dia. D
259IFHD-3-2	3/16	1/8	3/8-24	17/32	.88	.125
259IFHD-4-2	1/4	1/8	7/16-24	9/16	.94	.189
259IFHD-5-2	5/16	1/8	1/2-20	5/8	1.00	.220
259IFHD-5-4	5/16	1/4	1/2-20	5/8	1.16	.220
259IFHD-6-4*	3/8	1/4	5/8-18	13/16	1.34	.282
259IFHD-8-6	1/2	3/8	3/4-18	7/8	1.44	.407
259IFHD-10-8	5/8	1/2	7/8-18	1-1/16	1.75	.533

*Does not meet SAE or UL.



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ACCESS VALVES



Parker's Access Valves are designed to offer convenient, low cost access ports for refrigeration service. Access valves may be installed in any position on either high or low side for quick testing, pressure checking, purging or charging.

Product Features:

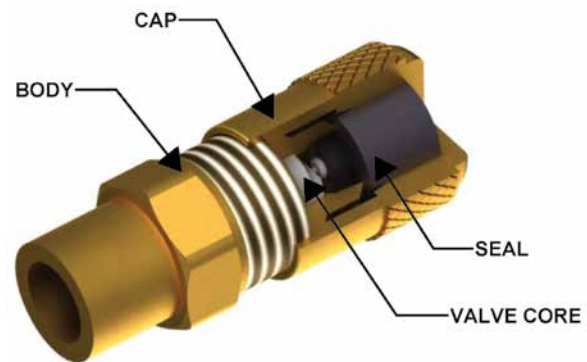
- All brass construction
- 1/4" SAE male flare access ports
- Finger tight quick seal caps
- Access valves with pipe connections have internal ODS solder cups

Markets:

- Refrigeration
- Air Conditioning

Applications:

- Pressure Testing
- Purging
- Charging Refrigeration Lines



Specifications:

Pressure Range Up to 500 PSI (34.3 bar)

Temperature Range -20° to +220° F (-28.8° to +104.4° C)

Compatible Tubing:

- Copper



WARNING

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Solder Tee AVTS

Part No.	Connection size
AVTS-4	1/4" O.D. Tube or 3/8" Solder Fitting/Swaged Tube
AVTS-6	3/8" O.D. Tube or 1/2" Solder Fitting/Swaged Tube
AVTS-8	1/2" O.D. Tube

Product comes with valve core loose and should be torqued after brazing to ARI 720 standard.



Male Connector AVU1

Part No.	Connection size
AVU1-2	1/8" Male Pipe or 1/4" O.D. Solder
AVU1-4	1/4" Male Pipe or 5/16" O.D. Solder

Product comes with valve core loose and should be torqued after brazing to ARI 720 standard.



Full Union AVU2

Part No.	Connection size
AVU2-4	1/4" O.D. Flare Tube With Forged Flare Nut



Access Valve Assembly AVUIFI

Part No.	Connection size
AVUIFI-4	7/16-20 SAE Straight thread O-Ring Port

Note: Standard o-ring is neoprene. Consult Fluid System Connectors Division for optional o-rings



Bulkhead Union AVU2BH

Part No.	Connection size
AVU2BH-4	1/4" Bulkhead Access X 1/4" SAE With Forged Nut



Forged Male Elbow AVE1

Part No.	Connection size
AVE1-2	1/8" Male Pipe or 1/4" O.D. Solder

Product comes with valve core loose and should be torqued after brazing to ARI 720 standard.



Bulkhead Solder Union AVUS3BH

Part No.	Connection size
AVUS3BH-4	1/4" Bulkhead Access X 3 Way ODS

Product comes with valve core loose and should be torqued after brazing to ARI 720 standard.



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Forged Male Run Tee AVT3

Part No.	Connection size
AVT3-2	1/8" Male Pipe or 1/4" O.D. Solder on Run x 1/4" Access on Run and Branch With One Core and Cap
AVT3-4	1/4" Male Pipe or 5/16" O.D. Solder on Run x 1/4" Access on Run and Branch With One Core and Cap

Product comes with valve core loose and should be torqued after brazing to ARI 720 standard.



Straight Solder Connector AVUS

Part No.	Connection size
AVUS-42	1/8" O.D. Tube or 1/4" Solder Fitting/Swaged Tube
AVUS-43	3/16" O.D. Tube or 1/4" Solder Fitting/Swaged Tube
AVUS-44	1/4" O.D. Tube or 3/8" Solder Fitting/Swaged Tube
AVUS-46	3/8" O.D. Tube or 1/2" Solder Fitting/Swaged Tube

Product comes with valve core loose and should be torqued after brazing to ARI 720 standard.



Forged Male Cross AVC1

Part No.	Connection size
AVC1-4	1/4" Male Pipe or 5/16" O.D. Solder x 1/4" Access on all Flare Ends With One Core and Cap

Product comes with valve core loose and should be torqued after brazing to ARI 720 standard.



3 Way Solder Connector AVUS3

Part No.	Connection size
AVUS3-40	For 3/16" O.D. Tube or 1/4" and 3/8" Solder Fitting/Swaged Tube

Product comes with valve core loose and should be torqued after brazing to ARI 720 standard.



Female Connector AVUR3

Part No.	Connection size
AVUR3-4	1/4" Female Flare with Copper Gasket



Swivel Connector AVUS4D

Part No.	Connection size
AVUS4D-4	1/4" Forged Female Flare Swivel Nut with Depressor



Forged Female Run Swivel Tee AVTS4

Part No.	Connection size
AVTS4-4	1/4" Female Flare Swivel x 1/4" Access on Both Run and Branch
AVTS4D-4	1/4" Female Flare Swivel on Run with Depressor x 1/4" Access on Both Run and Branch



WARNING

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Forged Female Branch Tee AVTS6

Part No.	Connection size
AVTS6-4	1/4" Female Flare Swivel x 1/4" Access on Both Ends
AVTS6D-4	1/4" Female Flare Swivel on Branch with Depressor x 1/4" Access on Both Ends



Valve Cores VC

Part No.	Connection size
VC-001	Replacement Valve Cores For all 1/4" Access Valves



Quick Seal Caps 640QSF

Part No.	Connection size
640QSF-4	1/4" SAE Seal Cap with Seal Gasket
640QSF-6	3/8" SAE Seal Cap with Seal Gasket



Refrigerant Adapter 88AC

Part No.	Connection size
88AC-8-2	1/8" male pipe to SAE J2197 Acme threaded male connector



Quick Seal Cap with Core Remover 640QSFCR

Part No.	Connection size
640QSFCR-4	1/4" SAE Seal Cap Core Remover with internal Seal Gasket



Refrigerant Adapter 880AC

Part No.	Connection size
880AC-8-4	1/4" female SAE flare to SAE J2197 Acme threaded male connector



Refrigerant Adapter 881AC

Part No.	Connection size
881AC-8-4	1/4" SAE male flare to SAE J2197 Acme threaded female connector



Core Remover CR

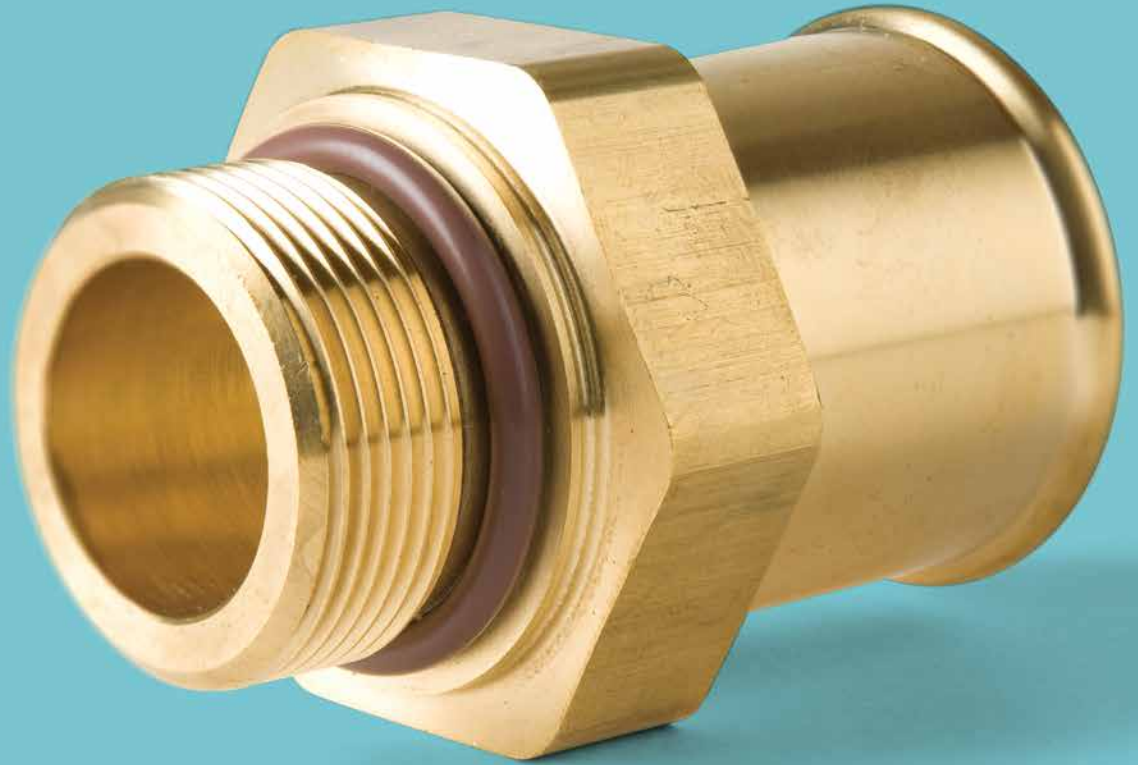
Part No.	Connection size
CR-001	Standard Core Remover



WARNING

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[illegible]



INDUSTRIAL BARBED FITTINGS

Dubl-Barb® Fittings, Hose Barb Fittings, Pneumatic Hose Fittings



DUBL-BARB® FITTINGS



Parker's Dubl-Barb Fittings are an economical one piece, push-on brass barbed fitting that does not require any type of clamp. These fittings are a quick way to connect polyethylene tubing.

Product Features:

- Compact
- One piece
- No clamp required
- Good vibration resistance

Markets:

- Pneumatic
- Environmental control

Applications:

- Pneumatic Systems
- Climate Control
- Humidifiers
- Filters

Compatible Tubing:

- Polyethylene



Assembly Instructions

Cut tube squarely and simply push tube over the two barbs



Specifications:

Pressure Range:

tube size	psi	bar	tube size	psi	bar
5/32	150	10.3	3/8	150	10.3
1/4	150	10.3	1/2	100	6.8

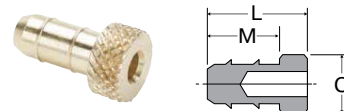
Temperature Range:

tube size	temperature in FAHRENHEIT	temperature in CELSIUS
5/32	-65° to +90° F	-53.8° to +32.2° C
1/4	-65° to +90° F	-53.8° to +32.2° C
3/8	-65° to +90° F	-53.8° to +32.2° C
1/2	-65° to +75° F	-53.8° to +23.8° C



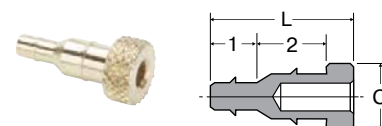
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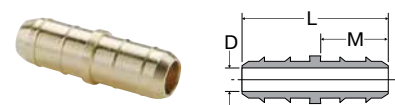
Plug 20

Part No.	Tube O.D.	Tube I.D.	C Dia.	L	M
20-4	1/4	.170	.32	.56	.41
20-6	3/8	.250	.390	.68	.44
20-8	1/2	.377	.577	.81	.56



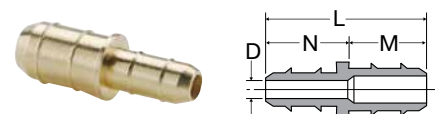
Plug Adapter 20

Part No.	tube O.D. 1	tube I.D. 1	tube O.D. 2	tube I.D. 2	c DIA.	l
20-4-5/32	5/32	.096	1/4	.170	.32	.65



Union 22

Part No.	Tube O.D.	Tube I.D.	L	M	Flow Dia. D
22-5/32	5/32X5/32	.096X.096	.59	.28	.062
22-4	1/4X1/4	.170X.170	.84	.41	.120
22-6	3/8X3/8	.250X.250	.94	.44	.187
22-8	1/2X1/2	.375X.375	1.19	.56	.312



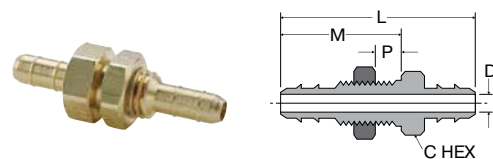
Union Reducer 22

Part No.	Tube O.D.	Tube I.D.	L	M	N	Flow Dia. D
22-4-5/32	1/4X5/32	.170X.096	.72	.41	.28	.062
22-4-6	1/4X3/8	.170X.250	.88	.44	.41	.120
22-4-8	1/4X1/2	.170X.375	1.06	.56	.41	.120
22-6-8	3/8X1/2	.250X.375	1.06	.56	.44	.187



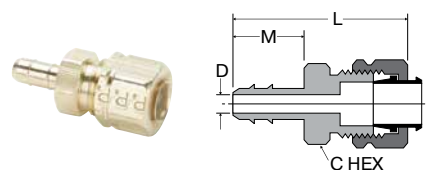
WARNING

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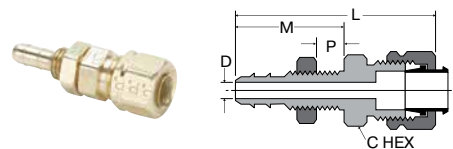
Bulkhead Union 22BH

Part No.	Tube O.D.	Tube I.D.	St. Thd.	C Hex	P Max.	L	M	Flow Dia. D	Blkhd 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



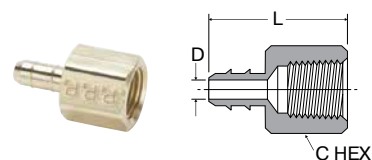
Union 22CA Tube to Compress-Align

Part No.	Tube O.D.	Tube I.D.	Ca Tube	C Hex	L	M	Flow Dia. D
22CA-4-4	1/4	.170	1/4	7/16	1.15	.41	.120



Bulkhead Union 22CABH Tube to Compress-Align

Part No.	Tube O.D.	Tube I.D.	Ca Tube	St. Thd.	C Hex	P Max	L	M	Flow Dia. D	Bkhd Hole Dia.
22CABH-4-4	1/4	.170	1/4	5/16-24	7/16	.219	1.53	.78	.120	5/16
22CABH-6-6	3/8	.250	3/8	3/8-24	9/16	.375	1.87	1.00	.187	3/8



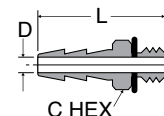
Female Connector 26

Part No.	Tube O.D.	Tube I.D.	Pipe Thd	C Hex	L	Flow Dia. D
26-5/32-2	5/32	.096	1/8	1/2	.79	.062
26-4-2	1/4	.170	1/8	1/2	.91	.120
26-6-2	3/8	.250	1/8	1/2	.93	.187
26-6-4	3/8	.250	1/4	11/16	1.06	.187



WARNING

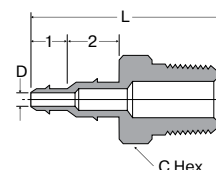
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Male Connector 27

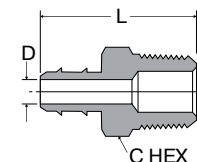
Part No.	Tube O.D.	Tube I.D.	Straight Thd	C Hex	L	Flow Dia. D
27-1*	1/8	.062	10-32	1/4	.61	.052
27-2*	1/4	.125	10-32	1/4	.74	.093

* For vinyl tubing only.



Barb-to-Pipe Adapter 28

Part No.	Tube O.D. 1	Tube I.D. 1	Tube O.D. 2	Tube I.D. 2	Pipe Thd.	C Hex	L	Flow Dia. D
28-4-5/32-2	5/32	.096	1/4	.170	1/8	7/16	1.07	.062



Male Connector 28

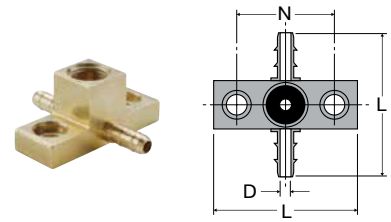
Part No.	Tube O.D.	Tube I.D.	Pipe Thd	C Hex	L	Flow Dia. D
28-5/32-2	5/32	.096	1/8	7/16	.84	.062
28-4-1	1/4	.170	1/16	3/8	.93	.120
28-4-2	1/4	.170	1/8	7/16	.97	.120
28-4-4	1/4	.170	1/4	9/16	1.09	.120
28-4-10X32*	1/4	.170	10-32	1/4	.71	.093
28-6-2	3/8	.250	1/8	7/16	1.00	.187
28-6-4	3/8	.250	1/4	9/16	1.13	.187
28-8-4	1/2	.375	1/4	9/16	1.25	.312
28-8-6	1/2	.375	3/8	11/16	1.28	.312
28-8-8	1/2	.375	1/2	7/8	1.44	.312

*Straight thread



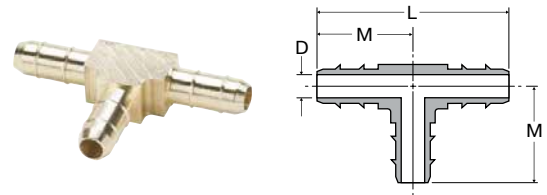
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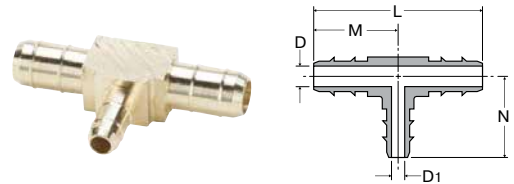
Adapter Tee 220

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



Union Tee 224

Part No.	Tube O.D.	Tube I.D.	L	M	Flow Dia. D
224-5/32	5/32	.096	1.00	.50	.062
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



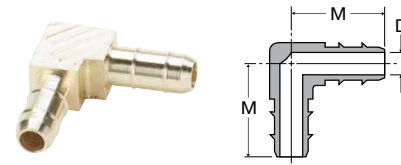
Union Tee 224 Combination Sizes

Part No.	Tube O.D.	Tube I.D.	L	M	N	Flow Dia. D	Flow Dia. D1
224-4-4-5/32	1/4X5/32	.170X.096	1.25	.63	.50	.120	.062
224-6-6-5/32	3/8X5/32	.250X.096	1.38	.69	.50	.187	.062
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
224-8-8-6	1/2X3/8	.375X.250	1.62	.81	.69	.312	.187



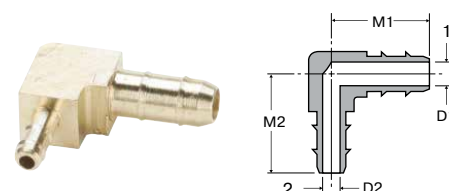
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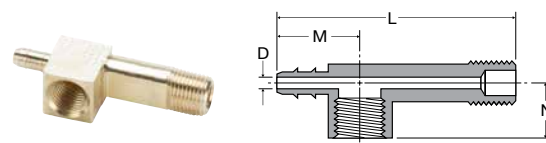
Union Elbow 225

Part No.	Tube O.D.	Tube I.D.	M	Flow Dia. D
225-5/32	5/32	.096	.50	.062
225-4-4	1/4	.170	.63	.120
225-6-6	3/8	.250	.63	.187
225-8-8	1/2	.375	.81	.312



Union Elbow 225 Combination Size

Part No.	Tube O.D. 1	Tube O.D. 2	Tube I.D. 1	Tube I.D. 2	M1	M2	Flow Dia. D1	Flow Dia. D2
225-4-5/32	1/4	5/32	.170	.096	.63	.50	.120	.062



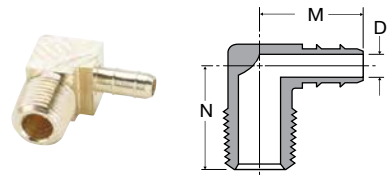
Gauge Tee 228

Part No.	Tube O.D.	Tube I.D.	Pipe Thd	L	M	N	Flow Dia. D
228-4-2	1/4	.170	1/8	1.91	.66	.44	.120



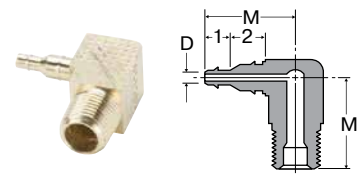
WARNING

This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov



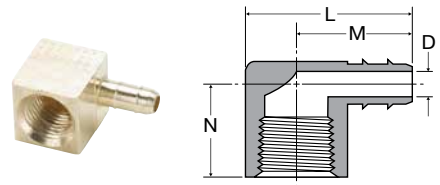
Male Elbow 229

Part No.	Tube O.D.	Tube I.D.	Pipe Thd	M	N	Flow Dia. D
229-5/32-2	5/32	.096	1/8	.56	.63	.062
229-4-1	1/4	.170	1/16	.62	.60	.120
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
229-8-4	1/2	.375	1/4	.94	.74	.312
229-8-6	1/2	.375	3/8	.94	.81	.312



90° Elbow Barb Adapter 229

Part No.	Tube O.D. 1	Tube I.D. 1	Tube O.D. 2	Tube I.D. 2	Pipe Thd	M	Flow Dia. D
229-4-5/32-2	5/32	.096	1/4	.170	1/8	.78	.062



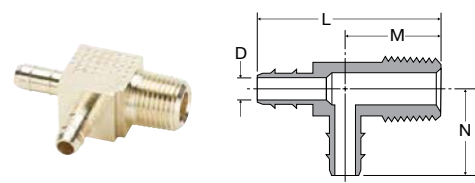
Female Elbow 230

Part No.	Tube O.D.	Tube I.D.	Pipe Thd	L	M	N	Flow Dia. D
230-4-2	1/4	.170	1/8	.91	.66	.44	.120
230-6-4	3/8	.250	1/4	1.12	.78	.63	.187



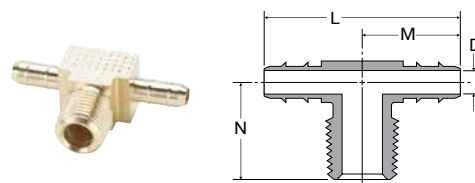
WARNING

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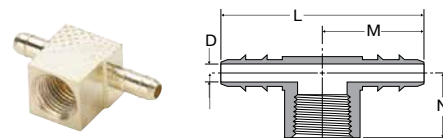
Male Run Tee 231

Part No.	Tube O.D.	Tube I.D.	Pipe Thd	L	M	N	Flow Dia. D
231-4-2	1/4	.170	1/8	1.28	.66	.69	.120
231-6-2	3/8	.250	1/8	1.38	.69	.69	.187
231-6-4	3/8	.250	1/4	1.44	.75	.75	.187



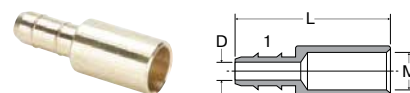
Male Branch Tee 232

Part No.	Tube O.D.	Tube I.D.	Pipe Thd	L	M	N	Flow Dia. D
232-4-1	1/4	.170	1/16	1.33	.66	.65	.120
232-4-2	1/4	.170	1/8	1.38	.69	.66	.120
232-6-2	3/8	.250	1/8	1.38	.69	.69	.187
232-6-4	3/8	.250	1/4	1.50	.75	.75	.187



Female Branch Tee 237

Part No.	Tube O.D.	Tube I.D.	Pipe Thd	L	M	N	Flow Dia. D
237-5/32-2	5/32	.096	1/8	1.06	.53	.44	.062
237-4-2	1/4	.170	1/8	1.34	.67	.49	.120



Solder Connector 238

Part No.	Tube O.D. 1	Tube I.D. 1	L	M	Flow Dia. D
238-4-4	1/4	.170	.91	.25	.120



WARNING

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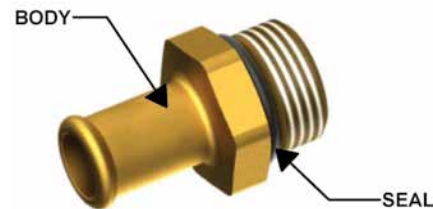
HOSE BARB FITTINGS



Parker's Hose Barb Fittings are an economical choice for general purpose fluid handling and pneumatics. Manufactured in both regular hose barb and beaded hose barb styles. Fittings are intended for use with 97HC hose clamps, similar type clamp or a crimped ferrule.

Product Features:

- All brass construction
- Fluorocarbon O-rings
- NPTF, SAE straight thread, metric thread ends
- Reusable
- Clamp required
- Pre-applied Vibra-Seal thread sealant available



Compatible Hose:

- Rubber
- Silicone
- Thermoplastic

Markets:

- Industrial
- Construction
- Heavy duty truck
- Mobile
- Data Center

Applications:

- Air Lines
- Water Line
- Liquid Cooling Fluid Transfer

Assembly Instructions

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



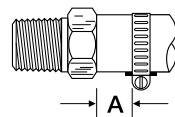
Specifications:

Pressure Range Up to 150 PSI (10.3 bar)

Temperature Range -50° to +350° F (-45° to +176° C)*
Vibra-Seal Only: -50° to +302° F (-45° to +250° C)*

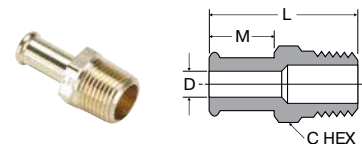
*Type of hose clamp used is application dependent. The use of a worm drive hose clamp is shown for example.

Hose Size	Hose Clamp	A
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



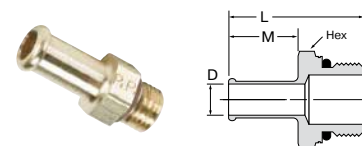
WARNING

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Beaded Hose Barb to Male Pipe 68HB

Part No.	I.D. Hose Size	Pipe Thd	C Hex	L	M	Flow Dia. D
68HB-6-6	3/8	3/8	11/16	1.53	.78	.281
68HB-8-4	1/2	1/4	5/8	1.56	.78	.375
68HB-8-6	1/2	3/8	11/16	1.53	.78	.406
68HB-8-8	1/2	1/2	7/8	1.84	.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-12-8	3/4	1/2	7/8	1.98	.88	.564
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
68HB-16-16	1	1	1.38	2.31	1.00	.812



Beaded Hose Barb to SAE Straight Thread 685HB

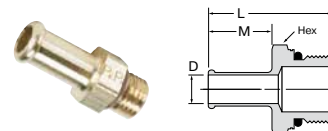
Part No.	I.D. Hose Size	Straight Thd	C Hex	L	M	Flow Dia. D
685HB-4-4	1/4	7/16-20	9/16	1.40	.78	.18
685HB-6-4	3/8	7/16-20	9/16	1.39	.78	.18
685HB-8-8	1/2	3/4-16	7/8	1.48	.78	.40
685HB-10-8	5/8	3/4-16	7/8	1.56	.78	.40
685HB-12-8	3/4	3/4-16	7/8	1.75	.97	.40
685HB-12-12	3/4	1 1/16-12	1 1/4	1.82	.97	.62
685HB-16-8	1	3/4-16	1 1/8	1.79	.97	.40
685HB-16-12	1	1 1/16-12	1 1/4	1.99	.97	.62

Note: Fluorocarbon o-ring is standard



WARNING

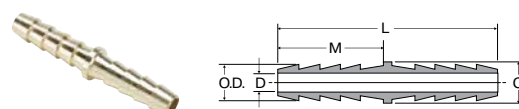
These products can expose you to chemicals including NICKEL or LEAD, which are known to the state of California to cause cancer, and LEAD which is known to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



Hose Barb to Metric Adaptor 68HB-X-MIX

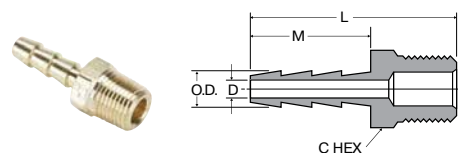
Part No.	I.D. Hose Size	Metric Thd	Hex	L	M	D
68HB-6-MI12	3/8	M12 X 1.5	11/16	1.50	.78	.24
68HB-6-MI14	3/8	M14 1.5	3/4	1.51	.78	.29
68HB-8-MI12	1/2	M12 X 1.5	11/16	1.50	.78	.24

Note: Fluorocarbon o-ring is standard



Hose Mender 122HBL

Part No.	I.D. Hose Size	C Dia.	L	M	O.D.	Flow Dia. D
122HB-3	3/16	5/16	1.44	.69	.227	.125
122HBL-4	1/4	3/8	2.00	.97	.290	.187
122HBL-5	5/16	7/16	2.00	.97	.353	.250
122HBL-6	3/8	1/2	2.00	.97	.415	.281
122HBL-8	1/2	5/8	2.00	.97	.530	.375
122HBL-12	3/4	7/8	2.00	.97	.790	.562



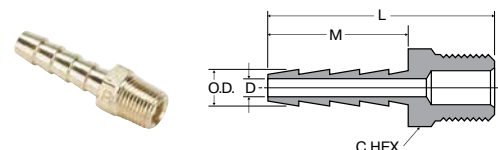
Hose Barb to Male Pipe 125HB

Part No.	I.D. Hose Size	Pipe Thd	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
125HB-3-4	3/16	1/4	9/16	1.44	.69	.227	.125



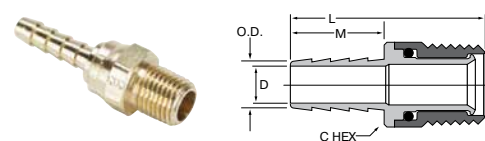
WARNING

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Hose Barb to Male Pipe 125HBL

Part No.	I.D. Hose Size	Pipe Thd	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-4-6	1/4	3/8	11/16	1.77	.97	.290	.187
125HBL-5-2	5/16	1/8	7/16	1.54	.97	.353	.250
125HBL-5-4	5/16	1/4	9/16	1.72	.97	.353	.250
125HBL-5-6	5/16	3/8	11/16	1.77	.97	.353	.250
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-6-8	3/8	1/2	7/8	1.97	.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-8-12	1/2	3/4	1-1/16	1.98	.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-10-12	5/8	3/4	1-1/16	1.98	.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



Male Swivel Hose Barb 125HBLSV

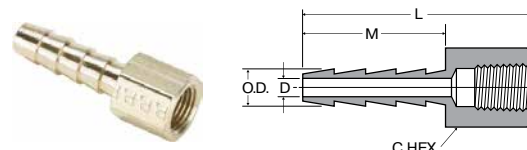
Part No.	I.D. Hose Size	Pipe Thd	C Hex	L	M	O.D.	Flow Dia. D
125HBLSV-4-4	1/4	1/4	9/16	1.73	.97	.290	.187
125HBLSV-6-4	3/8	1/4	9/16	1.73	.97	.415	.212
125HBLSV-6-6	3/8	3/8	11/16	1.80	.97	.415	.280
125HBLSV-8-8	1/2	1/2	7/8	2.01	.97	.530	.375

Nitrile o-ring is standard. Temperature range limited up to 225°F.



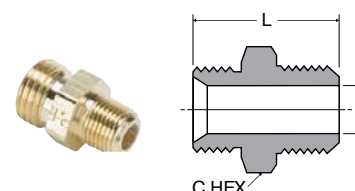
WARNING

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Hose Barb to Female Pipe 126HBL

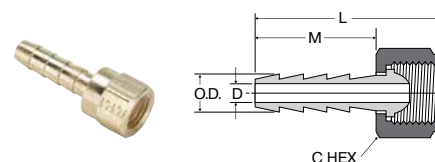
Part No.	I.D. Hose Size	Pipe Thd	C Hex	L	M	O.D.	Flow Dia. D
126HBL-4-2	1/4	1/8	1/2	1.47	.97	.290	.187
126HBL-4-4	1/4	1/4	11/16	1.66	.97	.290	.187
126HBL-5-4	5/16	1/4	11/16	1.58	.97	.353	.250
126HBL-6-2	3/8	1/8	1/2	1.47	.97	.415	.281
126HBL-6-4	3/8	1/4	11/16	1.66	.97	.415	.281
126HBL-6-6	3/8	3/8	13/16	1.69	.97	.415	.281
126HBL-8-6	1/2	3/8	13/16	1.69	.97	.530	.375
126HBL-8-8	1/2	1/2	1	1.73	.97	.530	.375
126HBL-12-12	3/4	3/4	1-1/4	1.92	.97	.790	.562



Ball-End Joint Adapter to Male Pipe 127HB

For use with 128HBLSV

Part No.	Male NPSM Thd	Male NPT Thd	C Hex	L	Flow Dia. D
127HB-4-2	1/4	1/8	9/16	.91	.219
127HB-4-4	1/4	1/4	9/16	1.10	.281
127HB-6-4	3/8	1/4	11/16	1.10	.312
127HB-6-6	3/8	3/8	11/16	1.15	.406
127HB-8-6	1/2	3/8	7/8	1.25	.406
127HB-8-8	1/2	1/2	7/8	1.50	.531



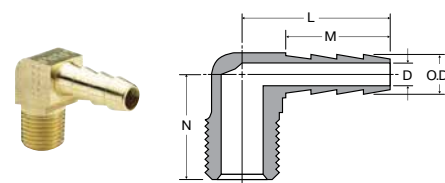
Hose Barb to Swivel Female Ball-End 128HBLSV

Part No.	I.D. Hose Size	Female NPSM Thd	C Hex	L	M	O.D.	Flow Dia. D
128HBLSV-4-4	1/4	1/4	5/8	1.50	.97	.290	.187
128HBLSV-5-4	5/16	1/4	5/8	1.50	.97	.353	.250
128HBLSV-6-4	3/8	1/4	5/8	1.63	.97	.415	.250
128HBLSV-6-6	3/8	3/8	3/4	1.50	.97	.415	.281
128HBLSV-8-8	1/2	1/2	29/32	1.52	.97	.530	.375



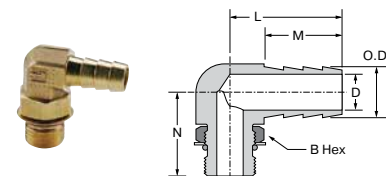
WARNING

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Hose Barb 90° Elbow to Male Pipe 129HB

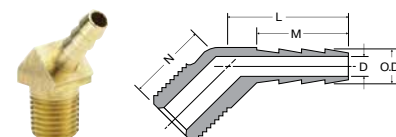
Part No.	I.D. Hose Size	Pipe Thd	L	M	N	O.D.	Flow Dia. D
129HB-3-2	3/16	1/8	.97	.69	.66	.227	.173
129HB-4-2	1/4	1/8	1.04	.76	.66	.290	.187
129HB-4-4	1/4	1/4	1.06	.76	.82	.290	.187
129HB-4-6	1/4	3/8	1.19	.76	.84	.290	.187
129HB-5-2	5/16	1/8	1.06	.76	.66	.353	.234
129HB-5-4	5/16	1/4	1.12	.76	.84	.353	.234
129HB-5-6	5/16	3/8	1.19	.76	.84	.353	.234
129HB-6-2	3/8	1/8	1.32	.97	.75	.415	.219
129HB-6-4	3/8	1/4	1.32	.97	.94	.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
129HB-8-4	1/2	1/4	1.53	.97	1.06	.530	.375
129HB-8-6	1/2	3/8	1.53	.97	1.06	.530	.375
129HB-8-8	1/2	1/2	1.53	.97	1.25	.530	.375
129HB-12-12	3/4	3/4	1.33	.79	1.27	.790	.562



Hose Barb Elbow to SAE Straight Thread 1295HB

Part No.	I.D. Hose Size	Straight Thd	B Hex	L	M	N	O.D.	Flow Dia. D
1295HB-6-6	3/8	9/16-18	11/16	1.10	.76	1.10	.42	.280

Note: Fluorocarbon o-ring is standard



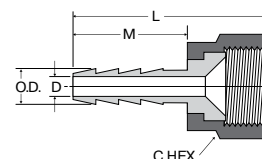
Hose Barb 45° Elbow to Male Pipe 139HB

Part No.	I.D. Hose Size	Pipe Thd	L	M	N	O.D.	Flow Dia. D
139HB-4-2	1/4	1/8	.91	.76	.68	.290	.187
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



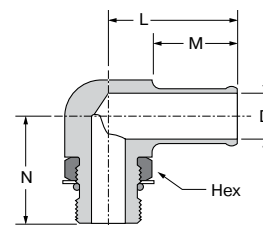
WARNING

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Hose Barb to Swivel 45° Female Flare 146HBLFSV

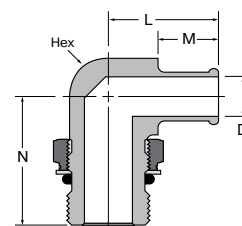
Part No.	I.D. Hose Size	Straight Thd	C Hex	L	M	O.D.	Flow Dia. D
146HBLFSV-4-4	1/4	7/16-20	9/16	1.55	.97	.290	.187
146HBLFSV-4-6	1/4	5/8-18	3/4	1.72	.97	.290	.187
146HBLFSV-6-6	3/8	5/8-18	3/4	1.72	.97	.415	.281



Beaded Hose Barb Elbow to SAE Straight Thread 1695HB

Part No.	Hose Size	Straight Thd	Hex	L	M	N	D
1695HB-6-4	3/8	7/16-20	9/16	1.09	.78	1.10	.18
1695HB-8-6	1/2	9/16-18	9/16	1.10	.78	1.11	.30
1695HB-8-8	1/2	3/4-16	7/8	1.28	.78	1.42	.40
1695HB-10-8	5/8	3/4-16	7/8	1.47	.88	1.47	.40
1695HB-10-10	5/8	7/8-14	1	1.41	.88	1.60	.50
1695HB-12-8	3/4	3/4-16	7/8	1.47	.97	1.47	.40
1695HB-12-10	3/4	7/8-14	1	1.60	.97	1.62	.50
1695HB-12-12	3/4	1 1/16-12	1	1.60	.97	1.64	.62
1695HB-16-12	1	1 1/16-12	1 1/4	1.60	.97	1.75	.60

Note: Fluorocarbon o-ring is standard



Beaded Elbow to Metric Adaptor 169HB-X-MIX

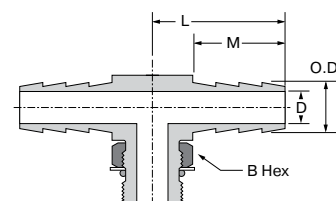
Part No.	Hose Size	Metric Thd	Hex	L	M	N	D
169HB-10-MI27	5/8	M27 X 2.0	7/8	1.41	.78	1.63	.50
169HB-16-MI27	1	M27 X 2.0	1	1.67	.97	1.68	.71
169HB-16-MI33	1	M33 X 2.0	1 5/16	1.75	.97	1.90	.84

Note: Fluorocarbon o-ring is standard



WARNING

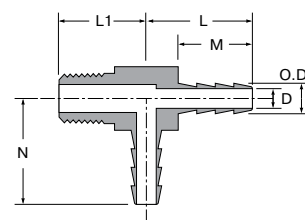
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Hose Barb Tee to SAE Straight Thread 1725HB

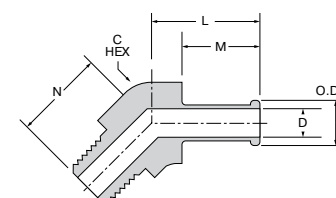
Part No.	I.D. Hose Size	Straight Thd	B Hex	L	M	O.D.	Flow Dia. D
1725HB-6-6	3/8	9/16-18	11/16	1.10	.76	.420	.280

Note: Fluorocarbon o-ring is standard



Hose Barb Tee to Male Pipe 171HB

Part No.	I.D. Hose Size	Pipe Thd	L	L1	M	N	O.D.	Flow Dia. D
171HB-4-4	1/4	1/4	1.10	.85	.76	1.10	.290	.187



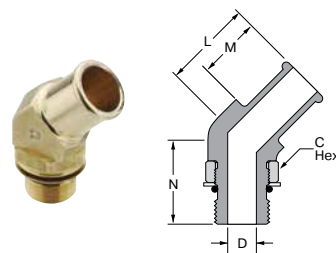
Beaded Hose Barb 45° Elbow Tube to Male Pipe 179HB

Part No.	I.D. Hose Size	NPTF Thd	C Hex	L	M	N	O.D.	Flow Dia. D
179HB-6-4	3/8	1/4-18	.75	1.09	.78	.93	.45	.28
179HB-6-6	3/8	3/8-18	.75	1.09	.78	.93	.45	.28
179HB-10-8	5/8	1/2-14	.81	1.19	.78	1.13	.70	.50
179HB-12-8	3/4	1/2-14	.81	1.19	.78	1.13	.83	.56



WARNING

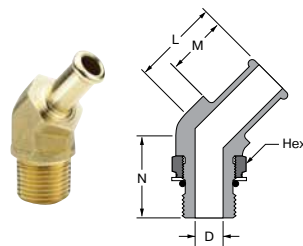
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Beaded Hose Barb 45° Elbow Tube to Straight Thread 1795HB

Part No.	I.D. Hose Size	Straight Thd	C Hex	L	M	N	Flow Dia. D
1795HB-8-8	1/2	3/4-16	7/8	1.12	.78	1.16	.400
1795HB-10-8	5/8	3/4-16	7/8	1.22	.88	1.16	.398
1795HB-12-8	3/4	3/4-16	7/8	1.22	.88	1.16	.398
1795HB-12-12	3/4	1 1/16-12	1 1/4	1.35	.97	1.65	.620
1795HB-16-12	1	1 1/16-12	1 1/4	1.38	.97	1.47	.620

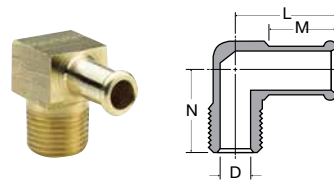
Note: Fluorocarbon o-ring is standard



Beaded Hose Barb 45° Elbow to Metric Thread 179HB-X-MIX

Part No.	Hose Size	Metric Thd	Hex	L	M	N	D
179HB-12-M18	3/4	M18 X 1.5	13/16	1.15	.78	1.16	.44
179HB-16-M27	1	M27 X 2.0	1 1/16	1.51	.97	1.71	.71

Note: Fluorocarbon o-ring is standard



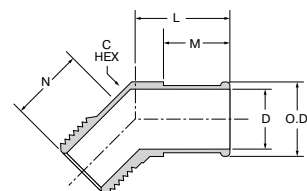
Beaded Hose Barb 90° Elbow Tube to Male Pipe 269HB

Part No.	I.D. Hose Size	Pipe Thd	L	M	N	Flow Dia. D
269HB-6-6	3/8	3/8	1.19	.78	.88	.281
269HB-8-4	1/2	1/4	1.16	.78	.99	.310
269HB-8-6	1/2	3/8	1.16	.78	1.08	.406
269HB-8-8	1/2	1/2	1.28	.78	1.25	.406
269HB-10-4	5/8	1/4	1.13	.78	.99	.312
269HB-10-6	5/8	3/8	1.16	.78	.99	.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	.563
269HB-12-12	3/4	3/4	1.33	.78	1.27	.625



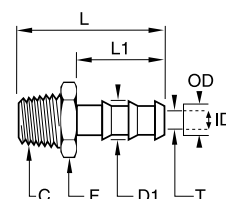
WARNING

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Beaded Hose Barb 45° Elbow Tube to Male Pipe 279HB

Part No.	I.D. Hose Size	NPTF Thd	C Hex	L	M	N	O.D.	Flow Dia. D
279HB-16-12	1	3/4-14	1.12	1.38	.97	1.13	1.06	.720



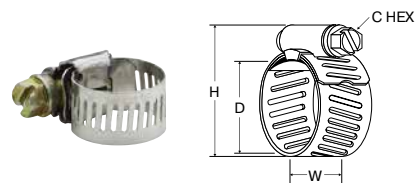
0123 Barbed Adapter for Rubber Hose BSPT

Part No.	D (mm)	C BSPT	D1 (mm)	F (mm)	L (mm)	L1 (mm)	T Min (mm)	Wt. Kg
0123 04 10	4	R1/8	6	10	34	22.5	3.3	.008
0123 06 10	6	R1/8	8	10	34	22.5	5	.009
0123 07 10	7	R1/8	9	10	34	22.5	5	.009
0123 07 13	7	R1/4	9	14	38.5	22.5	6	.018
0123 07 17	7	R3/8	9	17	39	22.5	6	.023
0123 10 10	10	R1/8	12.2	13	34	22.5	5	.014
0123 10 13	10	R1/4	12.2	14	38.5	22.5	7	.021
0123 10 17	10	R3/8	12.2	17	39	22.5	9.5	.023
0123 12 17	12	R3/8	14	17	46	29.5	11	.026
0123 13 13	13	R1/4	15	17	45.5	29.5	7	.027
0123 13 17	13	R3/8	15	17	46	29.5	11	.027
0123 13 21	13	R1/2	15	22	50.5	29.5	12	.047
0123 16 17	16	R3/8	18.5	19	54.5	38	11	.040
0123 16 21	16	R1/2	18.5	22	59	38	14	.056
0123 16 27	16	R3/4	18.5	27	62	38	15	.082
0123 19 17	19	R3/8	21.5	22	54.5	38	11	.046
0123 19 21	19	R1/2	21.5	22	59	38	14	.058
0123 19 27	19	R3/4	21.5	27	62	38	18	.083
0123 25 27	25	R3/4	26.7	27	62	38	18	.083
0123 25 34	25	R1	27	36	65	38	24	.124
0123 32 34	32	R1	34.5	36	70	43	24	.144



WARNING

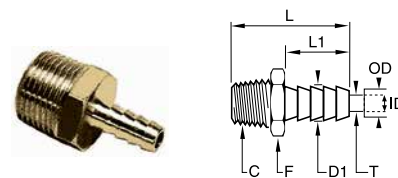
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Stainless Steel Worm Drive Clamp 97HC

Part No.	D Max.	D Min.	C Hex	H Max.	W
97HC-3	.62	.25	.25	1.00	.31
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

Drive screw is plated steel



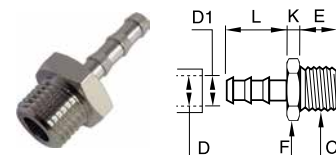
0136 Barbed Adapter for Nylon Tube BSPT

Part No.	d (mm)	c BSPT	d1 (mm)	f (mm)	l (mm)	L1 (mm)	T Min (mm)	Wt kg
0136 06 10	6	R1/8	6.4	10	26.5	15	4	.007
0136 06 13	6	R1/4	6.4	14	31	15	4	.015
0136 06 17	6	R3/8	6.4	17	31.5	15	4	.020
0136 08 13	8	R1/4	8.4	14	31	15	6	.016
0136 08 17	8	R3/8	8.4	17	31.5	15	6	.020
0136 08 21	8	R1/2	8.4	22	36	15	6	.039
0136 10 13	10	R1/4	10.7	14	36	20	7	.019
0136 10 17	10	R3/8	10.7	17	36.5	20	8	.023
0136 10 21	10	R1/2	10.7	22	41	20	8	.040
0136 12 13	12	R1/4	12.7	14	36	20	7	.019
0136 12 17	12	R3/8	12.7	17	36.5	20	10	.023
0136 12 21	12	R1/2	12.7	22	41	20	10	.042
0136 12 27	12	R3/4	12.7	27	44	20	10	.072
0136 13 17	13	R3/8	13.7	17	36.5	20	11	.023
0136 13 21	13	R1/2	13.7	22	41	20	11	.041
0136 13 27	13	R3/4	13.7	27	44	20	11	.071



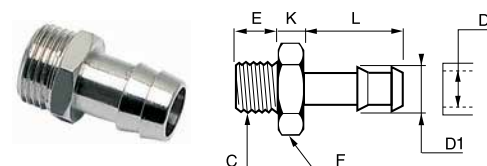
WARNING

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0191 Nickel Plated Hose to Male BSPP

Part No.	D (mm)	C BSPP	D1 (mm)	E (mm)	F (mm)	K (mm)	L (mm)	Wt. kg
0191 04 13	4	G1/4	6	9.5	17	5	22.5	.019
0191 07 13	7	G1/4	9	9.5	17	5	22.5	.021
0191 07 21	7	G1/2	9	11	27	7	29.5	.065
0191 10 13	10	G1/4	12.2	9.5	17	5	22.5	.021
0191 10 21	10	G1/2	12.2	11	27	7	29.5	.060
0191 13 13	13	G1/4	15.2	9.5	17	5	22.5	.023
0191 13 21	13	G1/2	15.2	11	27	7	29.5	.058
0191 16 21	16	G1/2	18.5	11	27	7	36.5	.069



0931 Nickel Plated Hose to Male BSPP

Part No.	D (mm)	C BSPP	D1 (mm)	E (mm)	F (mm)	K (mm)	L (mm)	wt. kg
0931 06 10	6	G1/8	7	6	12	4	20	0.008
0931 06 13	6	G1/4	7	8	14	5	20	0.013
0931 07 10	7	G1/8	8	6	12	4	20	0.009
0931 07 13	7	G1/4	8	8	14	5	20	0.017
0931 07 17	7	G3/8	8	9	19	5	20	0.022
0931 08 10	8	G1/8	9	6	12	4	20	0.009
0931 08 13	8	G1/4	9	8	14	5	20	0.014
0931 08 17	8	G3/8	9	9	19	5	20	0.022
0931 10 13	10	G1/4	12	8	14	5	20	0.016
0931 10 17	10	G3/8	12	9	19	5	20	0.023
0931 10 21	10	G1/2	12	10	22	6	22	0.032
0931 15 17	15	G3/8	17	9	19	6	24	0.030
0931 15 21	15	G1/2	17	10	22	6	24	0.036
0931 18 21	18	G1/2	20	10	22	6	24	0.043



WARNING

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PNEUMATIC HOSE FITTINGS



Parker's Pneumatic Hose Fittings are manufactured from heavy duty brass for dependable, leak-free usage.

Product Features:

- All Brass Construction

Markets:

- Industrial Pneumatics
- Industrial Automation
- Construction & Carpentry

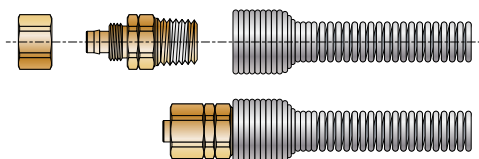
Applications:

- Air Hose
- Blow Guns
- Pneumatic Assembly Tools
- Construction & carpentry tools
- Manufacturing air drops

Specifications:

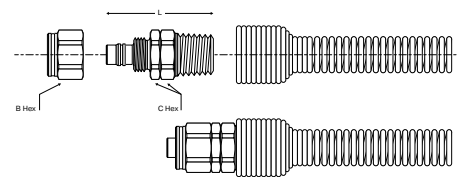
Pressure Range Dependent on hose end connection

Temperature Range Dependent on hose end connection



WARNING

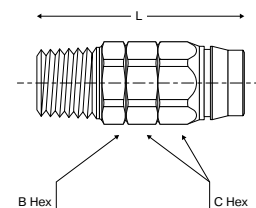
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Field Attachable Fittings (Nylon Hose)

Part No.	Thd Size (NPT)	Hose Size (in)	B Hex (in)	C Hex (in)	L (in)
01200	1/8	1/8	7/16	7/16	1.31
01300	1/4	3/16	9/16	9/16	1.31
01400-XX	1/4	1/4	9/16	9/16	1.37
01500	1/4	5/16	9/16	5/8	1.56
01640	1/4	3/8	9/16	11/16	1.48
01600	3/8	3/8	11/16	11/16	1.53
01700	1/2	1/2	15/16	15/16	1.93

Includes Nut & Spring Guard



Field Attachable Fittings (Polyurethane Hose)

Part No.	Thd Size (NPT)	Hose Size (in)	B Hex (in)	C Hex (in)	L (in)
06167*	1/4	3/16	9/16	9/16	1.43
07244S**	1/4	1/4	9/16	9/16	4.97
06244S	1/4	1/4	9/16	9/16	1.60
06254S	1/4	5/16	5/8	9/16	1.74
06256S	3/8	5/16	5/8	5/8	1.65
06264S	1/4	3/8	3/4	9/16	1.88
06266S	3/8	3/8	3/4	11/16	1.93
06172	1/2	1/2	1	7/8	2.23

* Compression Fitting (includes fitting, nut ferrule, & insert)

** For use on XX only (includes spring guard)



WARNING

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INDUSTRIAL ADAPTERS

Pipe Fittings, Metric Adapters, Nickel Plated Metric
Adapters, Garden Hose Fittings





PIPE FITTINGS

Parker's Pipe Fittings meet all functional requirements of SAE J530 and SAE J531. All threads on the pipe fittings are made to dryseal standards.

Product Features:

- All brass construction
- Meets functional requirements of SAE J530 and SAE J531
- Threads made to dryseal standards
- Pre-applied Vibra-Seal thread sealant available

Markets:

- Industrial
- Construction
- Heavy duty truck
- Mobile
- Factory/process automation

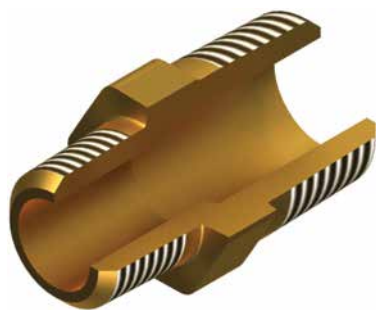
Applications:

- Air Lines
- Water Line
- Cooling Lines

Specifications:

Pressure Range Up to 1000 PSI (68.9 bar)

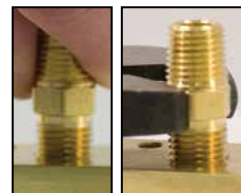
Temperature Range -65° to +350° F (-53.9° to +176° C)
Vibra-Seal Only: -65° to +350° F (-53.9° to +176° C)



Assembly Instructions

Straight Fittings

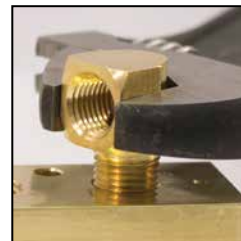
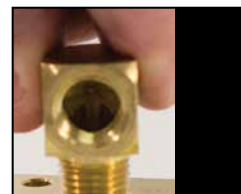
1. Hand tighten external thread into internal thread
2. Tighten an additional 2 turns with a wrench up to 1/2" male pipe thread.
3. Above 1/2" 1 1/2 to 2 1/2 turns.



Elbow or Tee Fittings

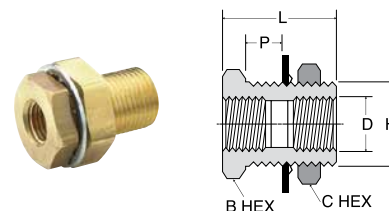
1. Hand tighten external thread into internal thread
2. Tighten an additional 1 to 1 1/2 turns with a wrench
3. Tighten fitting, clockwise to align with tubing. (Never counter clockwise)

Note: To minimize the possibility of a leaking threaded joint after assembling Male to female pipe threads, neither end should be backed out (loosened) Once the assembly has been made.



WARNING

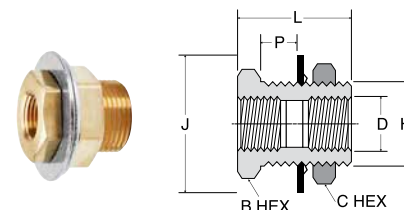
This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov



Bulkhead 207ACBH

Part No.	Female Pipe Thread	Straight Thread	Max . Bulk Head P	B Hex	C Hex	L	Blkhd Hole Dia. H	Flow Dia. D
207ACBH-2	1/8	5/8-18	.89	7/8	15/16	1.50	5/8	.339
207ACBHS-2	1/8	5/8-18	.35	7/8	15/16	.96	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
207ACBH-12	3/4	1-5/16-12	.65	1-1/2	1-1/2	1.50	1-5/16	.906
207ACBH-16*	1	1-5/8-14	1.00	2	2	1.68	1-5/8	1.140

*Lock Washer not Available



Sealed Bulkhead 207ACBH-S

Part No.	Female Pipe Thread	Straight Thread	Max. Bulk Head P	B Hex	C Hex	J	L	Blkhd Hole Dia. H	Flow Dia. D
207ACBH-2-S	1/8	5/8-18	.84	7/8	15/16	1.19	1.50	.656	.339
207ACBHS-2-S	1/8	5/8-18	.30	7/8	15/16	1.19	.96	.656	.339
207ACBH-4-S	1/4	3/4-16	.75	1	1-1/8	1.31	1.50	.781	.441
207ACBHS-4-S	1/4	3/4-16	.20	1	1	1.31	.94	.781	.441
207ACBH-6-S	3/8	1-14	.56	1-1/8	1-1/4	1.75	1.31	1.031	.571

Supplied with NEMA 6 rated sealing washer. 207ACBH-S bulkhead with sealing washer and sealing washer kit. When properly installed, the bulkhead and sealing washer will meet an IP67/NEMA-4X rating. Sealing material nitrile. Temperature range limited up to 225°F.



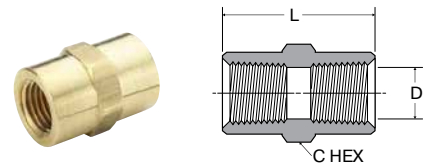
Sealing Washer Kit (10 pcs)

Part No.	Inner Dia.	Outer Dia.
207ACBH-WSHR-2	.625	1.19
207ACBH-WSHR-4	.75	1.31
207ACBH-WSHR-6	1.00	1.75



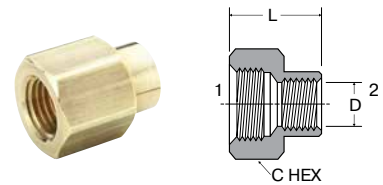
WARNING

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Coupling 207P

Part No.	Female 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
207P-12	3/4	1-3/8	1.53	.906



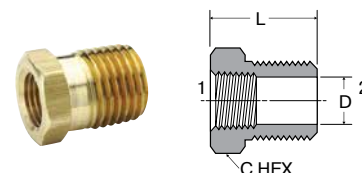
Reducer Coupling 208P

Part No.	Female Pipe Thread	Male Pipe Thread	C Hex	L	Flow Dia. D
208P-4-2	1/4	1/8	3/4	.97	.339
208P-6-4	3/8	1/4	7/8	1.16	.441
208P-8-4	1/2	1/4	1-1/16	1.28	.441
208P-8-6	1/2	3/8	1-1/16	1.38	.571
208P-12-6	3/4	3/8	1-3/8	1.32	.571
208P-12-8	3/4	1/2	1-3/8	1.50	.703



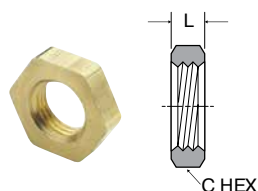
WARNING

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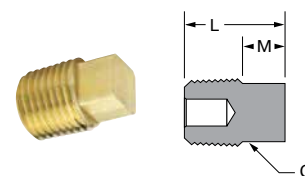
Bushing 209P

Part No.	Female Pipe Thread	Male Pipe Thread	C Hex	L	Flow Dia. D
209P-4-2	1/8	1/4	9/16	.75	.339
209P-6-2	1/8	3/8	11/16	.75	.339
209P-6-4	1/4	3/8	3/4	.75	.441
209P-8-2	1/8	1/2	7/8	1.00	.339
209P-8-4	1/4	1/2	7/8	1.00	.441
209P-8-6	3/8	1/2	7/8	1.00	.571
209P-12-2	1/8	3/4	1-1/8	1.00	.339
209P-12-4	1/4	3/4	1-1/8	1.00	.441
209P-12-6	3/8	3/4	1-1/8	1.00	.571
209P-12-8	1/2	3/4	1-1/8	1.00	.703
209P-16-8	1/2	1	1-3/8	1.31	.703
209P-16-12	3/4	1	1-3/8	1.31	.906



Lock Nut 210P

Part No.	Pipe Thd	C Hex	L
210P-2	1/8 NPSL	11/16	.19
210P-4	1/4 NPSL	7/8	.25
210P-6	3/8 NPSL	1	.25
210P-8	1/2 NPSL	1-1/8	.25



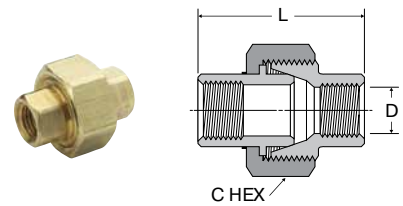
Square-Head Plug 211P

Part No.	Pipe Thd	C	L	M
211P-2	1/8	9/32	.59	.25
211P-4	1/4	3/8	.80	.29
211P-6	3/8	7/16	.83	.32
211P-8	1/2	9/16	1.07	.39
211P-12	3/4	5/8	1.14	.45



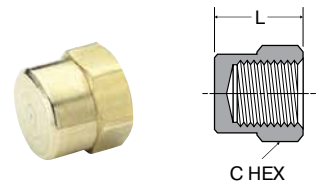
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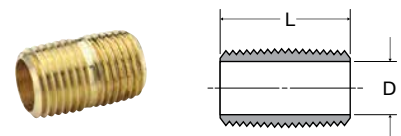
Union 212P

Part No.	Pipe Thd	C Hex	L	D
212P-4	1/4	1-3/16	1.54	.441
212P-6	3/8	1-1/4	1.76	.571



Cap 213P

Part No.	Pipe Thd	C Hex	L
213P-2	1/8	9/16	.50
213P-4	1/4	11/16	.63
213P-6	3/8	13/16	.63
213P-8	1/2	1-1/16	.87
213P-12	3/4	1-1/4	.89



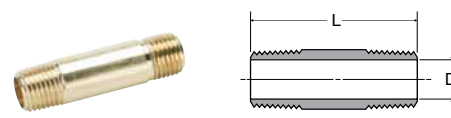
Close Nipple 215PN

Part No.	Pipe Thd	L	Flow Dia. D
215PN-2	1/8	.75	.281
215PN-4	1/4	.88	.375
215PN-6	3/8	1.00	.500
215PN-8	1/2	1.13	.625
215PN-12	3/4	1.31	.750



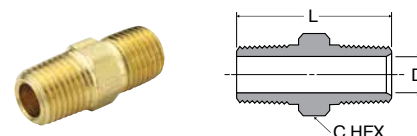
WARNING

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Long Nipple 215PNL

Part No.	Pipe Thd	L	Flow Dia. D
215PNL-2-15	1/8	1-1/2	.250
215PNL-4-15	1/4	1-1/2	.375
215PNL-6-15	3/8	1-1/2	.500
215PNL-8-15	1/2	1-1/2	.625
215PNL-2-20	1/8	2	.250
215PNL-4-20	1/4	2	.375
215PNL-6-20	3/8	2	.500
215PNL-8-20	1/2	2	.625
215PNL-2-25	1/8	2-1/2	.250
215PNL-4-25	1/4	2-1/2	.375
215PNL-6-25	3/8	2-1/2	.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
215PNL-2-35	1/8	3-1/2	.250
215PNL-4-35	1/4	3-1/2	.375
215PNL-6-35	3/8	3-1/2	.500
215PNL-8-35	1/2	3-1/2	.625



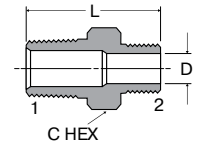
Hex Nipple 216P

Part No.	Pipe Thd	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
216P-12	3/4	1-1/16	1.81	.752



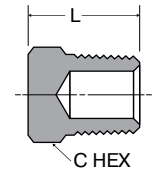
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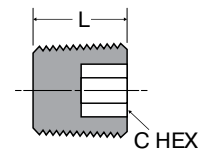
Hex Nipple Reducers 216P

Part No.	1 Pipe Thd	2 Pipe Thd	C Hex	L	Flow Dia. D
216P-4-2	1/4	1/8	9/16	1.19	.220
216P-6-2	3/8	1/8	11/16	1.22	.220
216P-6-4	3/8	1/4	11/16	1.41	.314
216P-8-4	1/2	1/4	7/8	1.62	.314
216P-8-6	1/2	3/8	7/8	1.62	.440
216P-12-8	3/4	1/2	1-1/16	1.80	.564



Hex-Head Plug 218P

Part No.	Pipe Thd	C Hex	L
218P-2	1/8	7/16	.560
218P-4	1/4	9/16	.747
218P-6	3/8	11/16	.780
218P-8	1/2	7/8	.970
218P-12	3/4	1-1/16	1.054



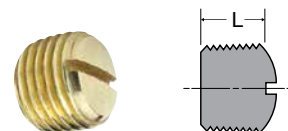
Countersunk Hex-Head Plug 219P

Part No.	Pipe Thd	C Hex	L
219P-2	1/8	3/16	.30
219P-4	1/4	1/4	.46
219P-6	3/8	5/16	.46
219P-8	1/2	3/8	.61
219P-12	3/4	9/16	.62



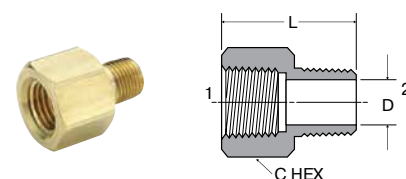
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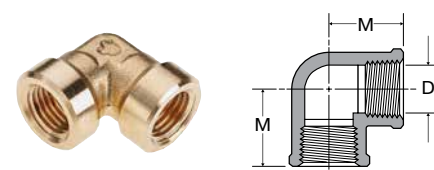
Slotted-Head Plug 220P

Part No.	Pipe Thd	L
220P-2	1/8	.31
220P-4	1/4	.42
220P-6	3/8	.43



Adapter 222P

Part No.	Female Pipe Thread	Male Pipe Thread	C Hex	L	Flow Dia. D
222P-2-2	1/8	1/8	9/16	.88	.220
222P-4-2	1/4	1/8	3/4	1.06	.220
222P-4-4	1/4	1/4	3/4	1.25	.314
222P-6-2	3/8	1/8	7/8	1.10	.220
222P-6-4	3/8	1/4	7/8	1.25	.314
222P-6-6	3/8	3/8	7/8	1.25	.440
222P-8-4	1/2	1/4	1	1.47	.314
222P-8-6	1/2	3/8	1-1/16	1.47	.440
222P-8-8	1/2	1/2	1-1/16	1.66	.564
222P-12-6	3/4	3/8	1-3/8	1.50	.440
222P-12-8	3/4	1/2	1-3/8	1.69	.564
222P-12-12	3/4	3/4	1-3/8	1.69	.752



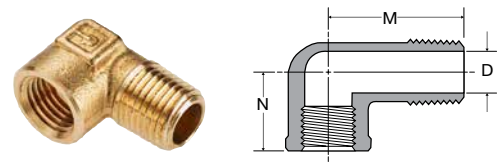
90° Union Elbow 1200P

Part No.	Pipe Thd	M	Flow Dia. D
1200P-2-2	1/8	.56	.329
1200P-4-4	1/4	.81	.441
1200P-6-6	3/8	.84	.571
1200P-8-8	1/2	1.07	.70



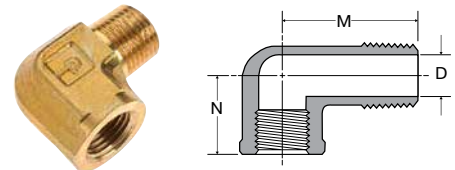
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90° Street Elbow 1202P

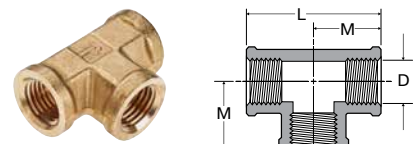
Part No.	Female Pipe Thread	Male Pipe Thread	M	N	Flow Dia. D
1202P-2-2	1/8	1/8	.64	.46	.25
1202P-4-2	1/4	1/8	.72	.48	.23
1202P-4-4	1/4	1/4	.90	.56	.35
1202P-4-6	1/4	3/8	.98	.77	.44
1202P-6-4	3/8	1/4	.98	.77	.31
1202P-6-6	3/8	3/8	.98	.77	.42
1202P-6-8	3/8	1/2	1.53	1.01	.56
1202P-8-6	1/2	3/8	1.25	.97	.42
1202P-8-8	1/2	1/2	1.33	1.01	.55
1202P-12-8	3/4	1/2	1.39	1.1	.56
1202P-12-12	3/4	3/4	1.39	1.1	.75



90° Street Elbow 1202PA

Part No.	Female Pipe Thread	Male Pipe Thread	M	N	Flow Dia. D
1202PA-2-2	1/8	1/8	0.68	0.48	0.22
1202PA-4-4	1/4	1/4	0.93	0.7	0.31
1202PA-6-6	3/8	3/8	0.99	0.76	0.44

* Meets SAE Dimensions



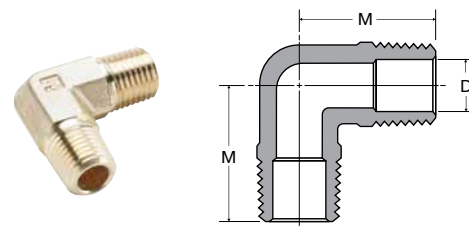
Union Tee 1203P-2203P

Part No.	Pipe Thd	L	M	Flow Dia. D
1203P-2	1/8	1.12	.56	.339
1203P-4	1/4	1.38	.69	.441
1203P-6	3/8	1.66	.83	.57
1203P-8	1/2	2.12	1.06	.703
1203P-12	3/4	2.28	1.14	.91



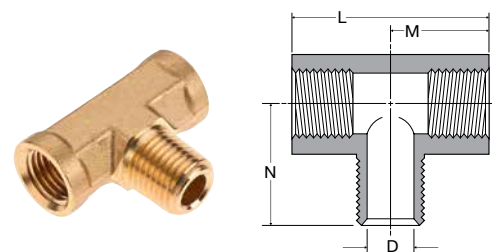
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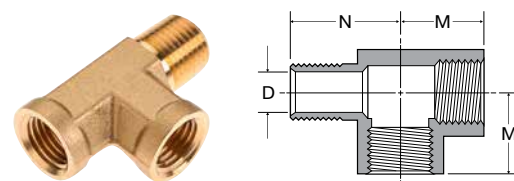
Male Elbow 1204P

Part No.	Pipe Thd	M	Flow Dia. D
1204P-2	1/8	.71	.220
1204P-4	1/4	1.09	.312
1204P-6	3/8	1.09	.408
1204P-8	1/2	1.41	.502



Male Branch Tee 1224P

Part No.	Pipe Thd	L	M	N	Flow Dia. D
1224P-2	1/8	1.06	.53	.68	.22
1224P-4	1/4	1.52	.76	.91	.31
1224P-6	3/8	1.66	.83	.97	.44
1224P-8	1/2	2.14	1.07	1.25	.56
1224P-12	3/4	2.28	1.14	1.38	.75



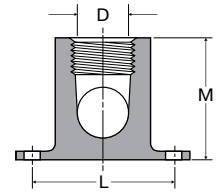
Street Tee 1225P

Part No.	Pipe Thd	M	N	Dia. D
1225P-2	1/8	.53	.68	.22
1225P-4	1/4	.76	.91	.31
1225P-6	3/8	.83	.97	.44
1225P-8	1/2	1.07	1.25	.56
1225P-12	3/4	1.14	1.38	.75



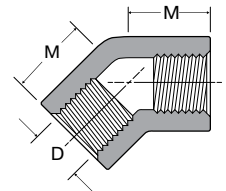
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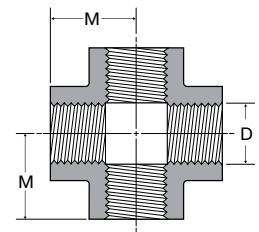
Drop-ear 90° Elbow 2200PDE

Part No.	Pipe Thd	L	M	Flow Dia. D
2200PDE-2	1/8	1.38	1.00	.339



45° Female Elbow 1201P

Part No.	Pipe Thd	M	Flow Dia. D
1201P-2-2	1/8	0.43	.34
1201P-8-8	1/2	.89	.703



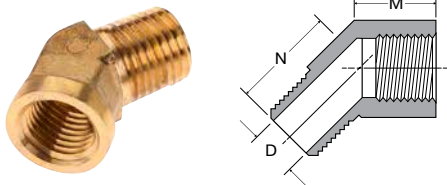
Cross 1205P

Part No.	Pipe Thd	M	Flow Dia. D
1205P-2	1/8	.53	.34
1205P-4	1/4	.74	.44
1205P-6	3/8	.81	.58
1205P-8	1/2	1.05	.72
1205P-12	3/4	1.16	.92



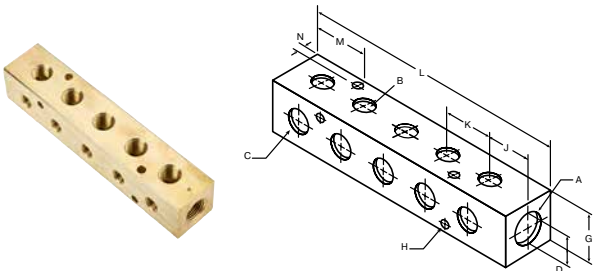
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45° Street Elbow 1214P

Part No.	Pipe Thd	M	N	Flow Dia. D
1214P-2-2	1/8	.38	.50	.22
1214P-4-4	1/4	.54	.70	.31
1214P-6-6	3/8	.56	.78	.44
1214P-8-8	1/2	.73	1.00	.56
1214P-12-12	3/4	.73	1.04	.75



Brass Manifold 255M

Part No.	Pipe Thd A	Pipe Thd B	Pipe Thd D	G	Mounting Hole Dia. H	J	K	L	M	N	D
X255MP-6-4-2	3/8	1/8	1/4	1.25	.22	.88	1.13	6.25	1.45	.25	.25



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METRIC ADAPTERS



Parker's Metric Adapters offers a comprehensive range of NPT, BSPT, BSPP and metric pipe threads. Metric adapters are produced in both forgings and extrusions.

Product Features:

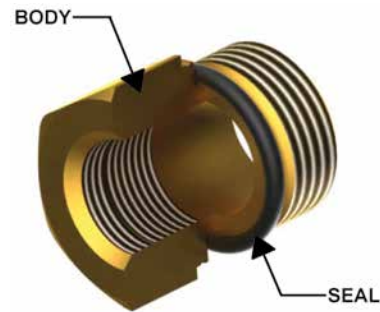
- All brass construction
- Nickel plated adapters
- Robust design
- Reusable

Markets:

- Industrial
- Construction
- Heavy duty truck
- Mobile
- Factory/process automation

Applications:

- Air Lines
- Water Line
- Cooling Lines



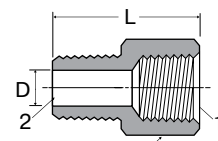
Specifications:

	Pressure Range	Temperature Range
Brass	1/8" to 1/2": 2900 PSI (200 bar)	-76F to +302F (-60°C to +150°C)
	3/4" and 1": 2175 PSI (150 bar)	without sealing washer
	without sealing washer	-4F to +34F (-20°C to +100°C)
		with sealing washer
Nickel-plated Brass	870 PSI (59.9 bar)	+14F to +176F (-10°C to +80°C)



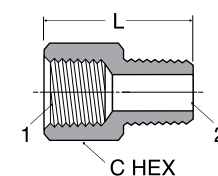
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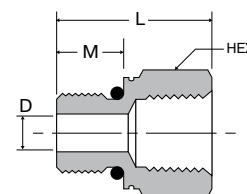
F3HG Adapter NPTF Male BSPT

Part No.	NPTF 1	BSPT 2	C Hex	L	Flow D
1/8F3HG-B	1/8	1/8	9/16	.93	.22
1/4F3HG-B	1/4	1/4	3/4	1.35	.31
3/8F3HG-B	3/8	3/8	7/8	1.35	.44
1/2F3HG-B	1/2	1/2	1-1/16	1.76	.56



0164 Adapter Male NPT/Female BSPP

Part No.	BSPP 1	NPTF 2	C Hex	L
0164 11 10	1/8	1/8	14	20
0164 14 13	1/4	1/4	17	27.5
0164 18 17	3/8	3/8	22	28.5
0164 22 21	1/2	1/2	27	36.5
0164 28 27	3/4	3/4	32	38.5



Pipe to Metric Adaptor 222P-X-MIX

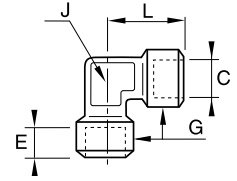
Part No.	NPTF	Metric Thd	Hex	L	M	D
222P-2-MI10	1/8-27	M10 X 1.0	9/16	.80	.34	.18
222P-2-MI14	1/8-27	M14 X 1.5	3/4	.91	.43	.30
222P-4-MI12	1/4-18	M12 X 1.5	11/16	1.09	.43	.24
222P-6-MI16	3/8-18	M16 X 1.5	7/8	1.10	.45	.35
222P-6-MI22	3/8-18	M22 X 1.5	1 1/16	1.05	.37	.47
222P-8-MI27	1/2-14	M27 X 2.0	1 1/4	1.32	.63	.60

Note: Fluorocarbon o-ring is standard



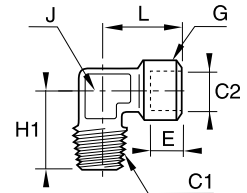
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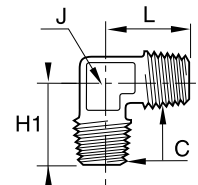
0143 90° Union Elbow BSPP

Part No.	C BSPP	E (mm)	G (mm)	J (mm)	L (mm)	Wt. (kg)
0143 10 10	G1/8	7.5	16.5	12	22.5	.042
0143 13 13	G1/4	11	18.5	15	26.5	.055
0143 17 17	G3/8	11.5	23.5	19	31.5	.098
0143 21 21	G1/2	15	28	23	35.5	.158
0143 27 27	G3/4	16.5	34	27	43.5	.256



0144 Street Elbow Female BSPP to Male BSPT

Part No.	C1 BSPT	C2 BSPP	E (mm)	G (mm)	H1 (mm)	J (mm)	L (mm)	Wt. (kg)
0144 10 10	R1/8	G1/8	7.5	16.5	23	12	22.5	.033
0144 13 13	R1/4	G1/4	11	18.5	26	15	26.5	.050
0144 17 17	R3/8	G3/8	11.5	23.5	30	19	31.5	.085
0144 21 21	R1/2	G1/2	15	28	35	23	34.5	.138
0144 27 27	R3/4	G3/4	16.5	34	40	27	43.5	.229



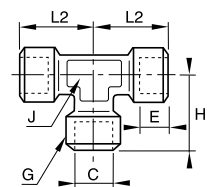
0152 Union Elbow Male BSPT

Part No.	C BSPT	H1 (mm)	J (mm)	L (mm)	Wt. (kg)
0152 10 10	R1/8	19.5	10	19.5	.018
0152 13 13	R1/4	25	15	25	.045
0152 17 17	R3/8	26.5	15	26.5	.056
0152 21 21	R1/2	31.5	19	31.5	.087
0152 27 27	R3/4	35.5	23	35.5	.153



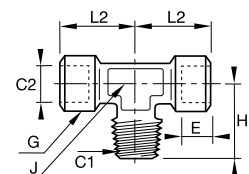
WARNING

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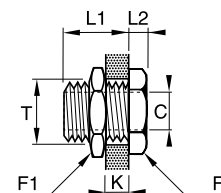
0145 Female Union Tee BSPP

Part No.	C BSPP	E (mm)	G (mm)	H1 (mm)	J (mm)	L2 (mm)	Wt. (kg)
0145 10 10	G1/8	7.5	16.5	22.5	12	22.5	.051
0145 13 13	G1/4	11	18.5	26.5	15	26.5	.074
0145 17 17	G3/8	11.5	23.5	31	19	31	.147
0145 21 21	G1/2	15	28	38	23	38	.231
0145 27 27	G3/4	16.5	34	47.5	27	47.5	.381



0158 Branch Tee Female BSPP to Male BSPT

Part No.	C1 BSPT	C2 BSPP	E (mm)	G (mm)	H1 (mm)	J (mm)	L2 (mm)	Wt. (kg)
0158 10 10	R1/8	G1/8	7.5	16.5	21.5	12	21.5	.045
0158 13 13	R1/4	G1/4	11	18.5	26	15	26	.071
0158 17 17	R3/8	G3/8	11.5	23.5	30	19	30	.118
0158 21 21	R1/2	G1/2	15	28	36	23	36	.203
0158 27 27	R3/4	G3/4	16.5	34	44	27	44	.320



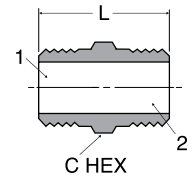
0117 Bulkhead BSPP and M5

Part No.	C BSPP/M5	F (mm)	F1 (mm)	K max (mm)	L1 (mm)	L2 (mm)	T max (mm)	Wt. (kg)
0117 00 19	M5X0.8	14	14	7	10.5	3.5	10.5	.013
0117 00 10	G1/8	19	22	9	14	4	16.5	.033
0117 00 13	G1/4	24	27	15	21	4	20.5	.057
0117 00 17	G3/8	30	32	14	21	5	26.5	.096
0117 00 21	G1/2	32	36	20	27	6	28.5	.117
0117 00 27	G3/4	41	41	22.5	30	6	34.5	.162
0117 00 34	G1	46	50	24.5	34	8	42.5	.270
0117 00 42	G1-1/4	55	55	29.5	39	8	49.5	.300
0117 00 49	G1-1/2	60	60	29.5	39	8	54.5	.306



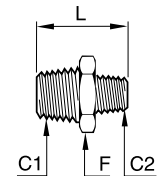
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0121 Hex Nipple NPT/BSPT

Part No.	NPTF 1	BSPT 2	C Hex	L
0121 11 10	1/8	1/8	11	19
0121 14 13	1/4	1/4	14	27
0121 18 17	3/8	3/8	17	28
0121 22 21	1/2	1/2	22	36
0121 28 27	3/4	3/4	27	40



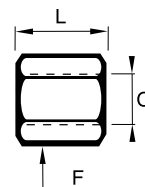
0121 Hex Nipple Male BSPT

Part No.	C1 BSPT	C2 BSPT	F (mm)	L (mm)	Wt. (kg)
0121 10 10	R1/8	R1/8	11	19	.009
0121 13 13	R1/4	R1/4	14	27	.021
0121 13 10	R1/4	R1/8	14	23.5	.021
0121 17 17	R3/8	R3/8	17	28	.025
0121 17 13	R3/8	R1/4	17	27.5	.024
0121 17 10	R3/8	R1/8	17	24	.022
0121 21 21	R1/2	R1/2	22	36	.053
0121 21 17	R1/2	R3/8	22	32.5	.045
0121 21 13	R1/2	R1/4	22	32	.045
0121 21 10	R1/2	R1/8	22	28.5	.041
0121 27 27	R3/4	R3/4	27	40	.092
0121 27 21	R3/4	R1/2	27	39	.084
0121 27 17	R3/4	R3/8	27	35.5	.076
0121 27 13	R3/4	R1/4	27	35	.079
0121 34 34	R1	R1	36	46	.156
0121 34 27	R1	R3/4	36	43	.143
0121 34 21	R1	R1/2	36	42	.133
0121 34 17	R1	R3/8	36	38.5	.126
0121 42 42	R1-1/4	R1-1/4	46	53	.233
0121 42 34	R1-1/4	R1	46	50.5	.237
0121 42 27	R1-1/4	R3/4	46	47.5	.229
0121 42 21	R1-1/4	R1/2	46	46.5	.219



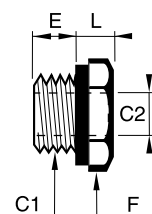
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0155 Coupling BSPP

Part No.	C BSPP	F (mm)	L (mm)	Wt. (kg)
0155 10 10	G1/8	14	17	.015
0155 13 13	G1/4	17	24	.025
0155 17 17	G3/8	22	25	.045
0155 21 21	G1/2	27	32	.084
0155 27 27	G3/4	32	35	.109



0168 Adapter Reducer Female BSPP to Male BSPP

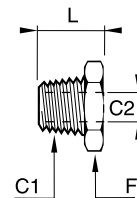
Part No.	C1 BSPP	C2 BSPP	E (mm)	F (mm)	L (mm)	Wt. (kg)
0168 10 19	G1/8	M5X0.8	7	14	6	.008
0168 13 19	G1/4	M5X0.8	7	17	7	.010
0168 13 10	G1/4	G1/8	7	17	7	.010
0168 17 10	G3/8	G1/8	9	19	6	.020
0168 17 13	G3/8	G1/4	9	19	6	.013
0168 21 10	G1/2	G1/8	11	24	10	.046
0168 21 13	G1/2	G1/4	11	24	10	.038
0168 21 17	G1/2	G3/8	11	24	10	.026
0168 27 13	G3/4	G1/4	11	32	12	.090
0168 27 17	G3/4	G3/8	11	32	12	.078
0168 27 21	G3/4	G1/2	11	32	12	.058

* With captive polymer seal



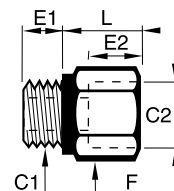
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0163 Adapter Reducer Female BSPP to Male BSPT

Part No.	C1 BSPT	C2 BSPP	F (mm)	L (mm)	Wt. (kg)
0163 13 10	R1/4	G1/8	14	16	.009
0163 17 10	R3/8	G1/8	17	16.5	.020
0163 17 13	R3/8	G1/4	17	16.5	.012
0163 21 10	R1/2	G1/8	22	21	.047
0163 21 13	R1/2	G1/4	22	21	.038
0163 21 17	R1/2	G3/8	22	21	.025
0163 27 13	R3/4	G1/4	27	24	.086
0163 27 17	R3/4	G3/8	27	24	.069
0163 27 21	R3/4	G1/2	27	24	.048



0169 Expander Female BSPP to Male BSPP

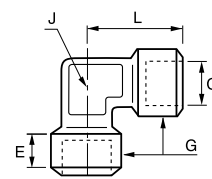
Part No.	C1 BSPP	C2 BSPP	E1(mm)	E2(mm)	F (mm)	L (mm)	Wt. (kg)
0169 10 13	G1/8	G1/4	5	11	17	16	.020
0169 10 17	G1/8	G3/8	5	14	22	19.5	.038
0169 13 17	G1/4	G3/8	7	14	22	19.5	.042
0169 13 21	G1/4	G1/2	7	14.5	27	20.5	.061
0169 17 21	G3/8	G1/2	8	14.5	27	20.5	.062
0169 17 27	G3/8	G3/4	8	15.5	32	22	.082
0169 21 27	G1/2	G3/4	9.5	15.5	32	22.5	.088



WARNING

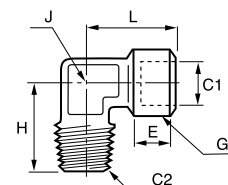
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Nickel Plated Metric Adapters



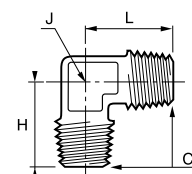
0912 Female Elbow BSPP and M5

Part No.	C BSPP/M5	E (mm)	G (mm)	J (mm)	L (mm)	Wt. (kg)
0912 00 19	M5	4	8	9	11	.037
0912 00 10	G1/8	8	13	10	21	.042
0912 00 13	G1/4	11	17	13	25.5	.055
0912 00 17	G3/8	11.5	21	17	28	.098
0912 00 21	G1/2	14	26	21	33.5	.158
0912 00 27	G3/4	15	31	27	36.5	.256



0913 / 0921 Street Elbow Female BSPP to Male BSPT and M5

Part No.	C1 BSPP/M5	C2 BSPT	E (mm)	G (mm)	H (mm)	J (mm)	L (mm)	Wt. (kg)
0921 00 19	M5		4	8	11	9	11	.037
0913 00 10	G1/8	R1/8	8	13	18.5	10	21	.033
0913 00 13	G1/4	R1/4	11	17	23.5	13	25.5	.050
0913 00 17	G3/8	R3/8	11.5	21	26	17	28	.085
0913 00 21	G1/2	R1/2	14	26	31	21	33.5	.138
0913 00 27	G3/4	R3/4	15	31	35	27	36.5	.229



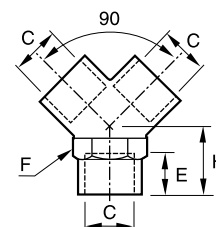
0914 / 0922 Equal Elbow Male BSPT or M5

Part No.	C BSPT/M5	H (mm)	J (mm)	L (mm)	Wt. (kg)
0922 00 19	M5	11	9	11	.037
0914 00 10	R1/8	18.5	10	18.5	.018
0914 00 13	R1/4	23.5	13	23.5	.045
0914 00 17	R3/8	26	17	26	.056
0914 00 21	R1/2	31	21	31	.087
0914 00 27	R3/4	35	27	35	.153



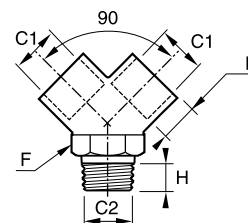
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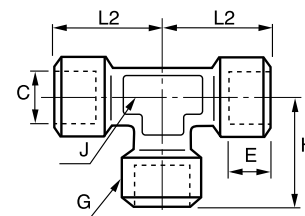
0910 “Y” Connector Female BSPP

Part No.	C BSPP	E (mm)	F (mm)	H (mm)	Wt. (kg)
0910 00 10	1/8	8	13	12	.055
0910 00 13	1/4	11	17	14	.081
0910 00 17	3/8	11.5	20	16	.128
0910 00 21	1/2	14	25	19	.213



0911 “Y” Connector Female BSPP to Male BSPT

Part No.	C1 BSPP	C2 BSPT	E	F	H	Wt.
0911 00 10	G1/8	R1/8	8	13	12	.055
0911 00 13	G1/4	R1/4	11	17	14	.081
0911 00 17	G3/8	R3/8	11.5	20	16	.128
0911 00 21	G1/2	R1/2	14	25	19	.213



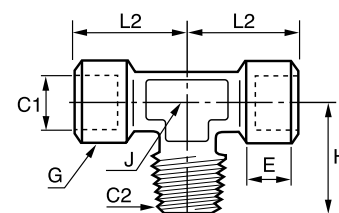
0915 Female Tee BSPP or M5

Part No.	C BSPP/M5	E (mm)	G (mm)	H (mm)	J (mm)	L2 (mm)	Wt. (kg)
0915 00 19	M5	4	8	11	9	11	.047
0915 00 10	G1/8	8	13	21	10	21	.051
0915 00 13	G1/4	11	17	25.5	13	25.5	.074
0915 00 17	G3/8	11.5	21	28	17	28	.147
0915 00 21	G1/2	14	26	33.5	21	33.5	.231
0915 00 27	G3/4	15	31	36.5	27	36.5	.381



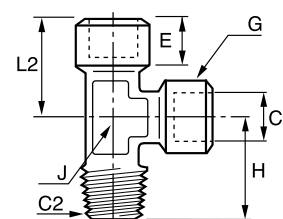
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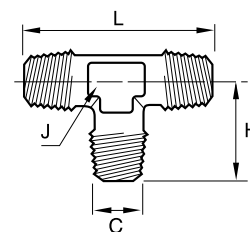
0916 / 0923 Branch Tee Female BSPP to Male BSPT

Part No.	C1 BSPP/M5	C2 BSPT	E (mm)	G (mm)	H (mm)	J (mm)	L2 (mm)	Wt. (kg)
0923 00 19	M5		4	8	11	9	11	.040
0916 00 10	G1/8	R1/8	8	13	18.5	10	21	.045
0916 00 13	G1/4	R1/4	11	17	23.5	13	25.5	.071
0916 00 17	G3/8	R3/8	11.5	21	26	17	28	.118
0916 00 21	G1/2	R1/2	14	26	31	21	33.5	.203
0916 00 27	G3/4	R3/4	15	31	36.5	27	36.5	.320



0917 / 0924 Run Tee Female BSPP to Male BSPT or M5

Part No.	C1 BSPP/M5	C2 BSPT	E (mm)	G (mm)	H (mm)	J (mm)	L2 (mm)	Wt. (kg)
0924 00 19	M5		4	8	11	9	11	.040
0917 00 10	G1/8	R1/8	8	13	18.5	10	21	.045
0917 00 13	G1/4	R1/4	11	17	23.5	13	25.5	.071
0917 00 17	G3/8	R3/8	11.5	21	26	17	28	.118
0917 00 21	G1/2	R1/2	14	26	31	21	33.5	.203
0917 00 27	G3/4	R3/4	15	31	36.5	27	36.5	.320



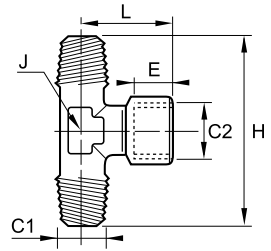
0927 Equal Male Tee BSPT

Part No.	C BSPT	H (mm)	J (mm)	L (mm)	Wt. (kg)
0927 00 10	R1/8	18.5	10	37	.017
0927 00 13	R1/4	23.5	13	47	.038
0927 00 17	R3/8	26	17	52	.057
0927 00 21	R1/2	31	21	62	.093



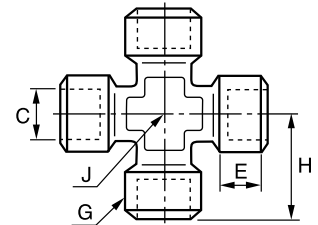
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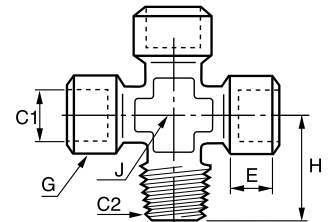
0928 Male Stud Branch Tee BSPT Female BSPP

Part No.	C1 BSPT	C2 BSPP	E (mm)	H (mm)	J (mm)	L (mm)	Wt. (kg)
0928 00 10	R1/8	G1/8	8	37	10	21	0.021
0928 00 13	R1/4	G1/4	11	47	13	25.5	0.044
0928 00 17	R3/8	G3/8	11.5	52	17	28	0.066
0928 00 21	R1/2	G1/2	14	62	21	33.5	0.109



0908 Cross Female BSPP

Part No.	C BSPP	E (mm)	G (mm)	H (mm)	J (mm)	Wt. (kg)
0908 00 10	G1/8	8	13	21	10	.055
0908 00 13	G1/4	11	17	25.5	13	.081
0908 00 17	G3/8	11.5	21	28	17	.128
0908 00 21	G1/2	14	26	33.5	21	.213



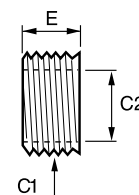
0909 Cross Female BSPP to Male BSPT

Part No.	C1 BSPP	C2 BSPT	E (mm)	G (mm)	H (mm)	J (mm)	Wt. (kg)
0909 00 10	G1/8	R1/8	8	13	18.5	10	.055
0909 00 13	G1/4	R1/4	11	17	23.5	13	.081
0909 00 17	G3/8	R3/8	11.5	21	26	17	.128
0909 00 21	G1/2	R1/2	14	26	31	21	.213



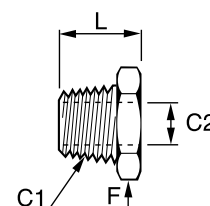
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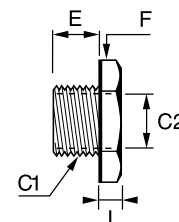
0903 Adapter Reducer BSPP

Part No.	C1 BSPP	C2 BSPP	E (mm)	Wt. (kg)
0903 10 13	G1/4	G1/8	8	.009
0903 13 17	G3/8	G1/4	9	.020
0903 17 21	G1/2	G3/8	10	.025
0903 21 27	G3/4	G1/2	14	.048
0903 27 34	G1"	G3/4	20	.060



0904 Adapter Reducer Female BSPP to Male BSPT

Part No.	C1 BSPT	C2 BSPP	F (mm)	L (mm)	Wt. (kg)
0904 10 13	R1/4	G1/8	14	16	.009
0904 10 17	R3/8	G1/8	17	16.5	.020
0904 13 17	R3/8	G1/4	17	16.5	.012
0904 13 21	R1/2	G1/4	22	19.5	.038
0904 17 21	R1/2	G3/8	22	19.5	.025
0904 17 27	R3/4	G3/8	27	23.5	.069
0904 21 27	R3/4	G1/2	27	23.5	.048



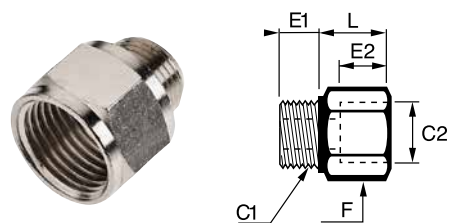
0905 Adapter Reducer Male BSPP to Female BSPP or M5

Part No.	C1 BSPP	C2 BSPP/M5	E (mm)	F (mm)	L (mm)	Wt. (kg)
0905 19 10	G1/8	M5	6	14	4.5	.009
0905 10 13	G1/4	G1/8	8	17	5	.009
0905 10 17	G3/8	G1/8	9	19	5	.020
0905 13 17	G3/8	G1/4	9	19	5	.012
0905 13 21	G1/2	G1/4	10	24	5.5	.038
0905 17 21	G1/2	G3/8	10	24	5.5	.025
0905 17 27	G3/4	G3/8	12	30	5.5	.069
0905 21 27	G3/4	G1/2	12	30	5.5	.048



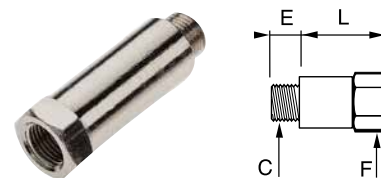
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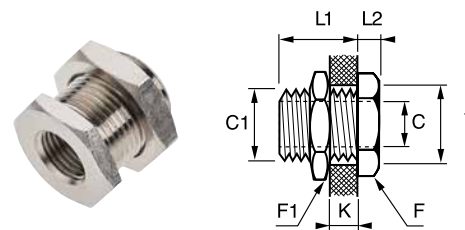
0906 Expander Female BSPP to Male BSPP

Part No.	C1 BSPP/M5	C2 BSPP	E1 (mm)	E2 (mm)	F (mm)	L (mm)	Wt. (kg)
0906 10 19	M5	G1/8	4	8	14	10	.009
0906 00 10	G1/8	G1/8	6	8.5	14	10	.009
0906 10 13	G1/8	G1/4	6	11.5	17	14	.020
0906 10 17	G1/8	G3/8	6	11.5	22	14.5	.038
0906 00 13	G1/4	G1/4	8	11.5	17	14	.040
0906 13 17	G1/4	G3/8	8	11.5	22	14.5	.042
0906 13 21	G1/4	G1/2	8	15	27	18	.061
0906 00 17	G3/8	G3/8	9	11.5	22	14.5	.061
0906 17 21	G3/8	G1/2	9	15	27	18	.062
0906 00 21	G1/2	G1/2	10	15	27	18	.070



0907 Extended Adapter BSPP

Part No.	C BSPP	E (mm)	F (mm)	L (mm)	Wt. (kg)
0907 00 10	G1/8	6	14	16	.009
0907 00 10 01	G1/8	6	14	36	.009
0907 00 13	G1/4	8	17	23	.020
0907 00 13 01	G1/4	8	17	43	.020



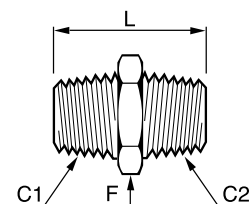
0920 Bulkhead BSPP and M5

Part No.	C1 Metric	C BSPP/M5	F (mm)	F1 (mm)	K Max (mm)	L1 (mm)	L2 (mm)	T Min (mm)	Wt. (kg)
0920 00 19	M10X1	M5	14	14	7	10.5	3.5	10.5	.013
0920 00 10	M16X1.5	G1/8	19	22	9	14	4	16.5	.033
0920 00 13	M20X1.5	G1/4	24	27	15	21	4	20.5	.057
0920 00 17	M26X1.5	G3/8	30	32	14	21	5	26.5	.096
0920 00 21	M28X1.5	G1/2	32	36	20	27	6	28.5	.117



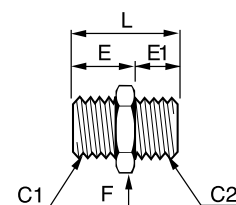
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0900 Male Straight Adapter BSPT

Part No.	C1 BSPT	C2 BSPT	F (mm)	L (mm)	Wt. (kg)
0900 00 10	R1/8	R1/8	12	19.5	.009
0900 10 13	R1/8	R1/4	14	23.5	.021
0900 00 13	R1/4	R1/4	14	27	.021
0900 10 17	R1/8	R3/8	17	24	.022
0900 13 17	R1/4	R3/8	17	27.5	.024
0900 00 17	R3/8	R3/8	17	28	.025
0900 13 21	R1/4	R1/2	22	30.5	.045
0900 17 21	R3/8	R1/2	22	31	.045
0900 00 21	R1/2	R1/2	22	33.5	.055
0900 21 27	R1/2	R3/4	27	37.5	.084
0900 00 27	R3/4	R3/4	27	40	.092
0900 27 34	R3/4	R1	34	43	.143
0900 00 34	R1	R1	34	45.5	.156



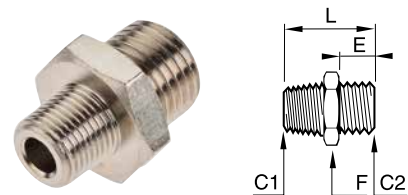
0901 Male Straight Adapter M5 or BSPP

Part No.	C1 BSPP/M5	C2 BSPP/M5	E (mm)	E1 (mm)	F (mm)	L (mm)	Wt. (kg)
0901 00 19	M5	M5	4	4	8	11.5	.002
0901 19 10	M5	G1/8	4	6	14	14.5	.008
0901 00 10	G1/8	G1/8	6	6	14	16.5	.008
0901 10 13	G1/8	G1/4	6	8	17	19	.014
0901 00 13	G1/4	G1/4	8	8	17	21	.016
0901 13 17	G1/4	G3/8	8	9	19	22	.021
0901 00 17	G3/8	G3/8	9	9	19	23	.024



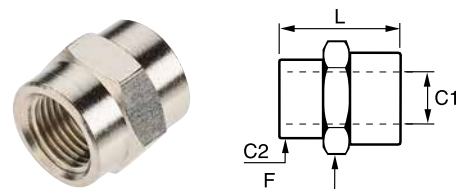
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0192 Male Straight Adapter BSPT to BSPP

Part No.	C1 BSPT	C2 BSPP	E (mm)	F (mm)	L (mm)	Wt. (kg)
0192 10 13	R1/8	G1/4	9.5	17	23.5	.019
0192 13 13	R1/4	G1/4	9.5	17	27.5	.024
0192 13 21	R1/4	G1/2	27	27	31.5	.067
0192 17 13	R3/8	G1/4	9.5	17	45	.025
0192 17 21	R3/8	G1/2	27	27	31.5	.061
0192 21 21	R1/2	G1/2	27	27	34	.060



0902 Female Sleeve BSPP and M5

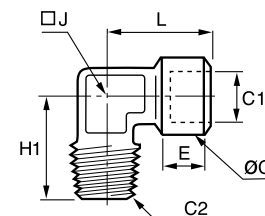
Part No.	C1 BSPP/M5	C2 BSPP/M5	F (mm)	L (mm)	Wt. (kg)
0902 00 19	M5	M5	8	11	.009
0902 19 10	M5	G1/8	14	13	.009
0902 00 10	G1/8	G1/8	14	15	.015
0902 10 13	G1/8	G1/4	17	19.5	.020
0902 00 13	G1/4	G1/4	17	22	.025
0902 10 17	G1/8	G3/8	22	20	.030
0902 13 17	G1/4	G3/8	22	23	.040
0902 00 17	G3/8	G3/8	22	24	.045
0902 13 21	G1/4	G1/2	27	27	.050
0902 17 21	G3/8	G1/2	27	27.5	.060
0902 00 21	G1/2	G1/2	27	30	.084
0902 21 27	G1/2	G3/4	30	30	.090
0902 00 27	G3/4	G3/4	30	32	.109



WARNING

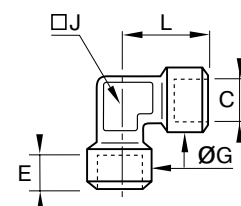
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Stainless Steel Adapters



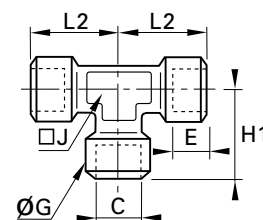
1844 Equal Male Stud Elbow Male BSPT to Female BSPP

Part No.	C1 BSPT	C2 BSPP	E (mm)	G (mm)	H1 (mm)	J (mm)	L (mm)	Wt. (kg)
1844 10 10	R1/8	G1/8	7.5	15	20.5	10	22.5	.025
1844 13 13	R1/4	G1/4	12	18.5	27.5	12	26.5	.046
1844 17 17	R3/8	G3/8	12	23.5	28	14	30	.070
1844 21 21	R1/2	G1/2	15	28	38	18	38	.125
1844 27 27	R3/4	G3/4	16.5	33	41	22	44.5	.175
1844 34 34	R1	G1	19	40	48	32	50	.335



1843 Equal Elbow Female BSPP

Part No.	C BSPP	E (mm)	G (mm)	J (mm)	L (mm)	Wt. (kg)
1843 10 10	G1/8	7.5	15	12	22.5	.044
1843 13 13	G1/4	11	18.5	15	26.5	.051
1843 17 17	G3/8	11.5	23.5	18	29	.077
1843 21 21	G1/2	15	28	23	38	.160
1843 27 27	G3/4	16.5	33	22	43.5	.232
1843 34 34	G1	19	40	32	52	.477



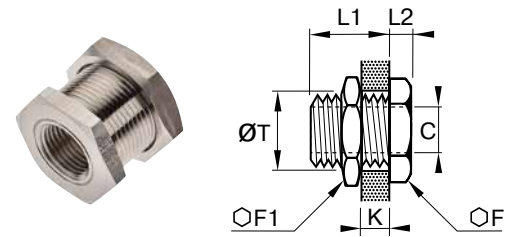
1845 Equal Tee Female BSPP

Part No.	C BSPP	E (mm)	G (mm)	H1 (mm)	J (mm)	L2 (mm)	Wt. (kg)
1845 10 10	G1/8	7.5	15	22.5	12	22.5	.061
1845 13 13	G1/4	11	18.5	26.5	15	26.5	.074
1845 17 17	G3/8	11.5	23.5	29	18	29	.147
1845 21 21	G1/2	15	28	38	23	38	.224
1845 27 27	G3/4	16.5	33	43.5	22	43.5	.325
1845 34 34	G1	19	40	50	32	50	.489



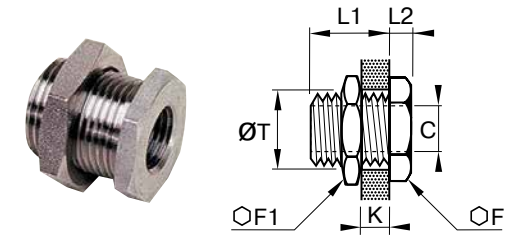
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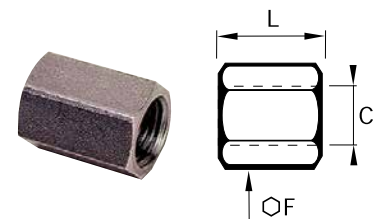
1871 Bulkhead Adapter NPT

Part No.	C Npt	F (mm)	F1 (mm)	K Max (in)	L1 (in)	L2 (in)	T Min (in)	Wt. (oz)
1871 00 11	1/8	19	22	.35	.55	.20	.65	1.33
1871 00 14	1/4	24	27	.67	.91	.20	.81	2.50
1871 00 18	3/8	30	32	.71	.91	.20	1.04	3.92
1871 00 22	1/2	32	36	.87	1.14	.24	1.12	4.98



1817 Bulkhead Adapter BSPP

Part No.	C Bsp	F (mm)	F1 (mm)	K Max (in)	L1 (in)	L2 (in)	T Min (in)	Wt. (kg)
1817 00 10	G1/8	19	22	9	14	4	16.5	.033
1817 00 13	G1/4	24	21	15	21	4	20.5	.057
1817 00 17	G3/8	30	32	14	21	5	26.5	.096
1817 00 21	G1/2	32	36	20	27	6	28.5	.117
1817 00 27	G3/4	41	41	22.5	30	6	34.5	.185
1817 00 34	G1	46	50	24.5	34	8	42.5	.306



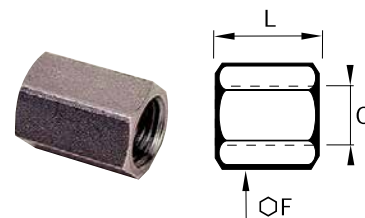
1855 Double Female Sleeve BSPP

Part No.	C BSPP	F (mm)	L (mm)	Wt. (kg)
1855 10 10	G1/8	14	17	.033
1855 13 13	G1/4	17	24	.023
1855 17 17	G3/8	22	25	.042
1855 21 21	G1/2	27	32	.077
1855 27 27	G3/4	32	35	.116
1855 34 34	G1	41	40	.227



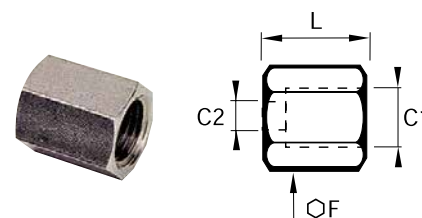
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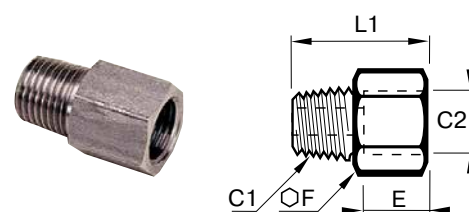
1870 Double Female Sleeve NPT

Part No.	C NPT	F (in)	L (in)	Wt. (oz)
1870 11 11	1/8	.55	.74	.564
1870 14 14	1/4	.67	1.10	1.164
1870 18 18	3/8	.87	1.10	1.940
1870 22 22	1/2	1.06	1.38	3.668



1862 Reducer/Expander Double Female Sleeve, BSPP

Part No.	C1 BSPP	C2 BSPP	F (mm)	L (mm)	Wt. (kg)
1862 13 10	G1/4	G1/8	17	20.5	.023
1862 17 10	G3/8	G1/8	22	21	.042
1862 17 13	G3/8	G1/4	22	24.5	.048
1862 21 13	G1/2	G1/4	27	28.5	.084
1862 21 17	G1/2	G3/8	27	29	.080
1862 34 27	G1	G3/4	41	45	.302



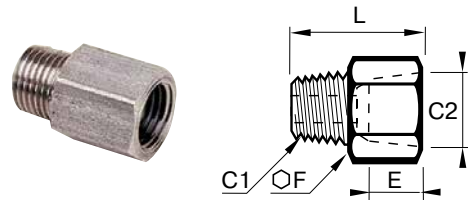
1864 Adapter Male NPT to Female BSPP

Part No.	C1 NPT	C2 BSPP	E (mm)	F (mm)	L (mm)	Wt. (kg)
1864 11 10	1/8	G1/8	7.5	14	21.5	.014
1864 14 13	1/4	G1/4	11	17	30	.027
1864 18 17	3/8	G3/8	11.5	22	31	.043
1864 22 21	1/2	G1/2	15	27	39.5	.079



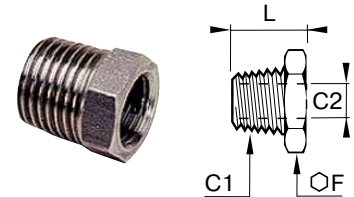
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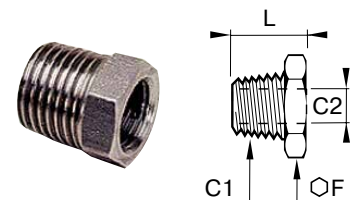
1867 Adapter Male BSPT to Female NPT

Part No.	C1 BSPT	C2 NPT	E (mm)	F (mm)	L (mm)	Wt. (kg)
1867 10 11	R1/8	1/8	8	14	21	.014
1867 13 14	R1/4	1/4	11.5	17	28.5	.027
1867 18 18	R3/8	3/8	12	22	29.5	.044
1867 21 22	R1/2	1/2	15.5	27	37.5	.080



1872 Reducer Male/Female NPT

Part No.	C1 NPT	C2 NPT	F (mm)	L (mm)	Wt. (oz)
1872 14 11	1/4	1/8	14	.63	.42
1872 18 11	3/8	1/8	19	.65	.92
1872 18 14	3/8	1/4	19	.65	.71
1872 22 14	1/2	1/4	22	.83	1.59
1872 22 18	1/2	3/8	22	.83	1.24



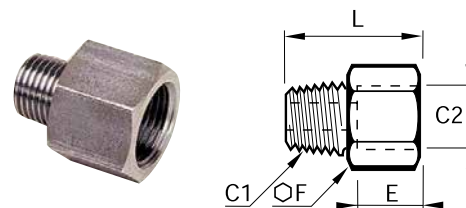
1863 Reducer Male BSPT to Female BSPP

Part No.	C1 BSPT	C2 BSPP	F (mm)	L (mm)	Wt. (kg)
1863 13 10	R1/4	G1/8	14	16	.008
1863 17 10	R3/8	G1/8	17	16.5	.018
1863 17 13	R3/8	G1/4	17	16.5	.011
1863 21 13	R1/2	G1/4	22	21	.035
1863 21 17	R1/2	G3/8	22	21	.022
1863 27 21	R3/4	G1/2	27	25.5	.058
1863 34 27	R1	G3/4	36	28.5	.104



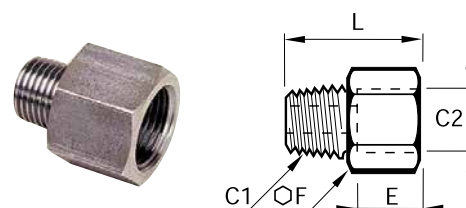
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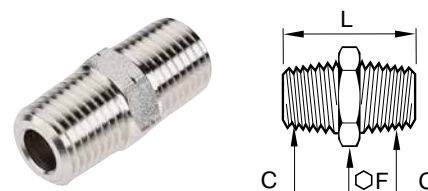
1873 Expander Male/Female NPT

Part No.	C1 NPT	C2 NPT	E (in)	F (mm)	L (in)	Wt. (oz)
1873 11 14	1/8	1/4	.55	14	.98	.092
1873 11 18	1/8	3/8	.55	22	.98	1.48
1873 14 18	1/4	3/8	.55	22	1.10	1.66
1873 14 22	1/4	1/2	.69	27	1.22	2.50
1873 18 22	3/8	1/2	.69	27	1.24	2.54



1861 Expander Male BSPT to Female BSPP

Part No.	C1 BSPT	C2 BSPP	E (mm)	F (mm)	L (mm)	Wt. (kg)
1861 10 13	R1/8	G1/4	11	17	24	.021
1861 10 17	R1/8	G3/8	11.5	22	25	.037
1861 13 17	R1/4	G3/8	11.5	22	28.5	.041
1861 13 21	R1/4	G1/2	15	27	32.5	.069
1861 17 21	R3/8	G3/4	15	27	33	.070
1861 21 27	R1/2	G3/4	16.5	32	38	.104
1861 27 34	R3/4	G1	19	41	43.5	.200



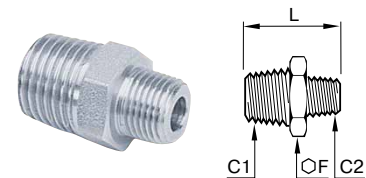
1821 Adapter Male NPT

Part No.	C NPT	F (mm)	L (mm)	Wt. (oz)
1821 11 11	1/8	12	.90	.388
1821 14 14	1/4	14	1.26	.811
1821 18 28	3/8	19	1.30	1.093
1821 22 22	1/2	22	1.65	1.975



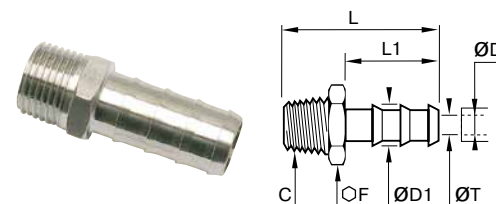
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1821 Adapter Male BSPT

Part No.	C1 BSPT	C2 BSPT	F (mm)	L (mm)	Wt. (kg)
1821 10 10	R1/8	R1/8	12	19	.008
1821 13 13	R1/4	R1/4	14	27	.019
1821 13 10	R1/4	R1/8	14	23.5	.015
1821 17 17	R3/8	R3/8	17	28	.025
1821 17 13	R3/8	R1/4	17	27.5	.024
1821 21 21	R1/2	R1/2	22	36	.048
1821 21 17	R1/2	R3/8	22	32.5	.041
1821 27 27	R3/4	R3/4	27	42	.099
1821 27 21	R3/4	R1/2	27	41	.088
1821 34 34	R1	R1	36	46	.168
1821 34 27	R1	R3/4	22	48	.158



1823 Tailpiece Adapter For Rubber Hose Male NPT

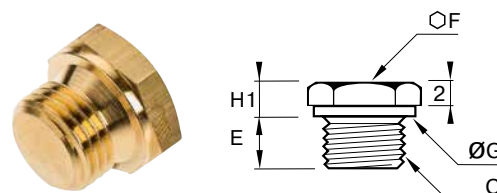
Part No.	ØD (in)	C NPT	ØD1 (in)	F (mm)	L (in)	L1 (in)	T min (mm)	Wt. (oz)
1823 56 11	1/4	1/8	.33	10	1.34	.88	.21	.388
1823 56 14	1/4	1/4	.33	14	1.51	.88	.21	.635
1823 60 14	3/8	1/4	.46	14	1.51	.88	.33	.705
1823 60 18	3/8	3/8	.46	19	1.53	.88	.33	1.022



WARNING

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Plugs & Washers



0200 Brass Hex Head Plug BSPP and Metric

Part No.	C BSPP	E (mm)	F (mm)	G (mm)	H1 (mm)	H2 (mm)	Wt. (kg)
0200 10 00	G1/8	7	14	13.7	5.5	4	.012
0200 13 00	G1/4	8.5	17	16.7	5.5	4	.019

Part No.	C metric	E (mm)	F (mm)	G (mm)	H1 (mm)	H2 (mm)	Wt. (kg)
0200 52 00	M6X1	6	10	10	4	3.5	.004
0200 57 00	M8X1.25	7	13	13	4	3.5	.007
0200 60 00	M10X1	8	14	14	5	4.5	.012
0200 65 00	M12X1	9	17	17	5	4.5	.018
0200 66 00	M10X1.25	9	17	17	5	4.5	.018

Parallel metric threads ISO – standards NFE 03-054 and BNA 541. Parallel metric threads – standards NFE 03-005 and BNA 541.



0220 Brass Hex Plug BSPP

Part No.	C BSPP	F (mm)	G (mm)	H1 (mm)
0222 10 00	G 1/8	14	14	6.5
0220 13 00	G 1/4	17	17	6.5
0220 17 00	G 3/8	17	22	8
0220 21 00	G 1/2	22	26	9
0220 27 00	G 3/4	22	32	10
0220 34 00	G 1	27	39.5	10.5

0220 Brass Hex Plug BSPP with bi-metal washer

Part No.	C BSPP	F (mm)	G (mm)	H1 (mm)
0222 10 00 39	G 1/8	14	14	6.5
0220 13 00 39	G 1/4	17	17	6.5
0220 17 00 39	G 3/8	17	22	8
0220 21 00 39	G 1/2	22	26	9
0220 27 00 39	G 3/4	22	32	10
0220 34 00 39	G 1	27	39.5	10.5



WARNING

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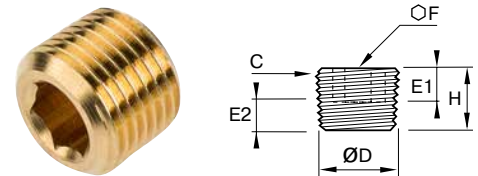


0222 Nickel-Plated Brass Hex Plug BSPP and Metric

Part No.	C BSPP	E (mm)	F (mm)	F1 (mm)	H (mm)	Wt. (kg)
0222 10 00	G 1/8	5	13	5	8.5	0.006
0222 13 00	G 1/4	5.5	16	6	9.5	0.01
0222 17 00	G 3/8	5.5	20	8	10.5	0.019
0222 21 00	G 1/2	7.5	24	10	12	0.031

Part No.	C metric	E (mm)	F (mm)	F1 (mm)	H (mm)	Wt. (kg)
0222 19 00	M5X0.8	3.5	8	2.5	7	0.002
0222 55 00	M7X1	5	10	3	8.5	0.003

With Integrated O-ring Seal



0205 Brass Internal Hex Head Plug NPT and BSPT

Part No.	C NPT	oD (in)	E1 (in)	E2 min (in)	E2 max (in)	F (in)	H (in)	Wt. (oz)
0205 11 00	1/8	.40	.24	.12	.20	.79	.31	.141
0205 14 00	1/4	.54	.31	.17	.28	.94	.39	.282
0205 18 00	3/8	.67	.31	.18	.29	1.22	.43	.494
0205 22 00	1/2	.93	.31	.25	.39	1.53	.51	.917
0205 28 00	3/4	1.04	.43	.27	.41	2.16	.67	1.834
0205 35 00	1	1.31	.51	.31	.49	2.95	.75	3.245

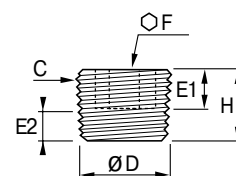
Part No.	C BSPT	oD (mm)	E1 (mm)	E2 min (mm)	E2 max (mm)	F (mm)	H (mm)	Wt. (kg)
0205 10 00	R1/8	9.728	6	3.1	4.9	5	8	.004
0205 13 00	R1/4	13.157	8	4.7	7.3	6	10	.008
0205 17 00	R3/8	16.662	8	5.1	7.7	8	11	.014
0205 21 00	R1/2	20.955	8	6.4	10	10	13	.027
0205 27 00	R3/4	26.441	11	7.7	11.3	14	17	.053
0205 34 00	R1	33.249	13	8.1	12.7	17	19	.092
0205 42 00	R1-1/4	41.910	14	10.4	15	22	22	.183
0205 49 00	R1-1/2	47.803	14	10.4	15	24	22	.250
0205 48 00	R2	59.614	16	13.6	18.2	30	25	.440

For BSP taper plus 1/2" - 1 1/2" inclusive - thread standard NFE 03-004 - DIN906



WARNING

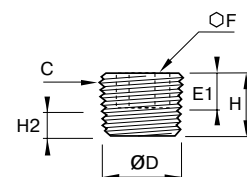
This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov



0285 Stainless Steel 316L Internal Hex Head Plug NPT or BSPT

Part No.	C NPT	oD (in)	E1 (in)	E2 min (in)	E2 max (in)	F (mm)	H (in)	Wt. (oz)
0285 11 00	1/8	.40	.24	.13	.20	5	.31	.14
0285 14 00	1/4	.54	.31	.17	.28	6	.39	.25
0285 18 00	3/8	.67	.31	.19	.30	8	.43	.49
0285 22 00	1/2	.84	.31	.25	.39	10	.51	.88

Part No.	C BSPT	oD (mm)	E1 (mm)	E2 min (mm)	E2 max (mm)	F (mm)	H (mm)	Wt. (kg)
0285 10 00	R1/8	9.72	6	3.1	4.9	5	8	.003
0285 13 00	R1/4	13.15	8	4.7	7.3	6	10	.007
0285 17 00	R3/8	16.66	8	5.1	7.7	8	11	.013
0285 21 00	R1/2	20.95	8	6.4	10	10	13	.025
0285 27 00	R3/4	26.44	11	7.7	11.3	14	17	.057
0285 34 00	R1	33.25	13	8.1	12.7	17	19	.098



0206 Steel Internal Hex Head NPT and BSPT

Part No.	C NPT	OD (in)	E1 (in)	E2 min (in)	E2 max (in)	F (mm)	H (in)	Wt. (oz)
0206 08 00	1/16	.31	.24	.15	.25	.16	.26	.070
0206 11 00	1/8	.40	.24	.12	.20	.20	.31	.106
0206 14 00	1/4	.54	.31	.17	.28	.24	.39	.247
0206 18 00	3/8	.67	.31	.18	.29	.31	.43	.423
0206 22 00	1/2	.83	.31	.25	.39	.39	.51	.847
0206 28 00	3/4	1.04	.43	.27	.41	.55	.67	1.658
0206 25 00	1	1.31	.51	.31	.49	.67	.75	2.928

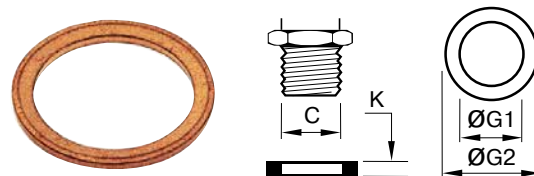
Part No.	C BSPT	OD (mm)	E1 (mm)	E2 min (mm)	E2 max (mm)	F (mm)	H (mm)	Wt. (kg)
0285 10 00	R1/8	9.728	6	3.1	4.9	5	8	.003
0285 13 00	R1/4	13.157	8	4.7	7.3	6	10	.007
0285 17 00	R3/8	16.662	8	5.1	7.7	8	11	.013
0285 21 00	R1/2	20.955	8	6.4	10	10	13	.024
0285 27 00	R3/4	26.441	11	7.7	11.3	14	17	.048
0285 34 00	R1	33.249	13	8.1	12.7	17	19	.086
0285 34 00	R1-1/4	41.910	14	10.4	15	22	22	.162
0285 34 00	R1-1/2	47.803	14	10.4	15	24	22	.222

For BSP taper plugs 1/2" - 1 1/2" inclusive - conform to standard BNA 247 - thread - DIN 906 standard NFE 03-004



WARNING

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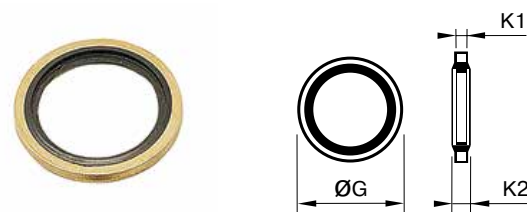
0138 Copper Washer BSPP and Metric

Part No.	C BSPP/M5	G1 (mm)	G2 (mm)	K (mm)	Wt. (oz)
0138 06 00	M6	6.3	9	1	.033
0138 08 00	M8	8.3	11	1	.001
0138 12 00	M12	12.3	15.5	1.5	.072
0138 14 00	M14	14.3	18	1.5	.001
0138 16 00	M16	16.3	20	1.5	.001
0138 18 00	M18	18.3	22	1.5	.001
0138 20 00	M20	20.3	24	1.5	.001
0138 22 00	M22	22.3	27	1.5	.002
0138 24 00	M24	24.3	29	2	.003
0138 26 00	M26	26.3	31	2	.003
0138 30 00	M30	30.3	36	2	.004
0138 36 00	M36	36.3	42	2	.005
0138 39 00	M39	39.3	44	2	.007
0138 52 00	M52	52.3	60	2	.009
0138 10 00	G1/8	10.3	13.5	1	.001
0138 13 00	G1/4	13.5	18	1.3	.001
0138 17 00	G3/8	17.3	21	1.5	.001
0138 21 00	G1/2	21.3	26	1.5	.002
0138 27 00	G3/4	27.3	32	2	.003
0138 33 00	G1	33.5	39	2	.005
0138 42 00	G1-1/4	42.5	49	2	.007
0138 60 00	G2	60	68	2.5	.014



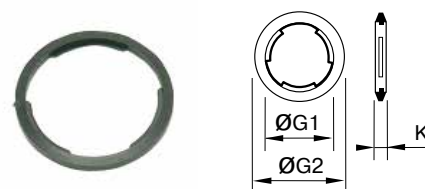
WARNING

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0139 Bi-Material Captive Sealing Washer BSPP

Part No.	C BSPP	G (mm)	G2 (mm)	K (mm)	Wt. (oz)
0139 10 00	G1/8	14	1	1.8	.001
0139 13 00	G1/4	17	1	1.8	.001
0139 17 00	G3/8	22	1.3	2.1	.001
0139 21 00	G1/2	26	1.6	2.4	.002
0139 27 00	G3/4	32	1.6	2.4	.002
0139 34 00	G1	43	3.5	2.5	.002



0602 Captive Sealing Washer BSPP and M5

Part No.	C BSPP/M5	G1 (mm)	G2 (mm)	K (mm)	Wt. (oz)
0602 29 93 15	M5X0.8	5.2	7.8	1.5	.001
0602 23 10 20	G1/8	10.3	14	2	.001
0602 23 11 20	G1/4	13.7	17.5	2	.001
0602 23 12 20	G3/8	17.2	21	2	.001
0602 23 13 20	G1/2	21.5	25.5	2.5	.001
0602 27 32 20	G3/4	27	32	2.5	.001
0602 30 60 20	G1	33.8	39	3	.001



WARNING

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GARDEN HOSE FITTINGS



Parker's Garden Hose Fittings connect garden hose to other garden hose, to pipe or to tubing. Swivel connections allow hose to twist without kinking.

Product Features:

- All brass construction
- 3/4" garden hose thread
- Rubber washer
- Flare, hose barb and pipe end configurations
- High Flow couplings

Markets:

- Industrial
- Mobile
- Factory/process automation

Applications:

- Water Line

Specifications:

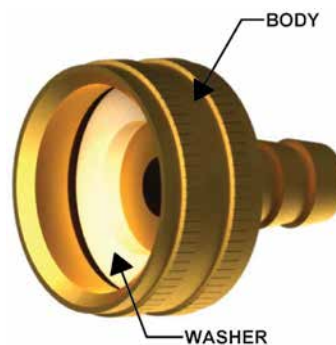
Pressure Range Up to 150 PSI (10.3 bar)

Temperature Range +35° to +100° F at 75 PSI
(+1.6° to +37.7° C at 5.1 bar)

Compatible Tubing:

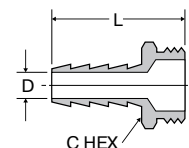
- Garden Hose

Note: 90Gh is intended for use with the 97HC hose clamp or crimped ferrule. All female connector ends should have a rubber washer(901GH-12) inserted prior to use.



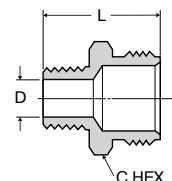
WARNING

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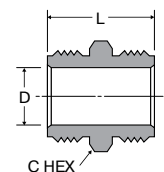
Hose Barb to Male Hose Thread 53GH, 54GH & 55GH

Part No.	I.D. Hose Size	Hose Thread	C Hex	L	Flow Dia. D
53GH-8-12	1/2	3/4	1-1/16	1.88	.375
54GH-10-12	5/8	3/4	1-1/16	1.88	.500
55GH-12-12	3/4	3/4	1-1/16	1.88	.625



Male Hose to Male Pipe 69GH, 70GH, 71GH

Part No.	Hose Thread	Pipe Thread	C Hex	L	Flow Dia. D
69GH-12-4	3/4	1/4	1-1/16	1.25	.410
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



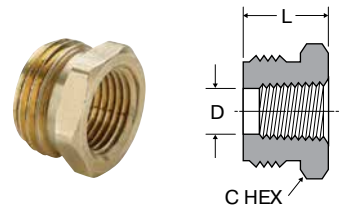
Male Hose to Male Hose 75GH

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



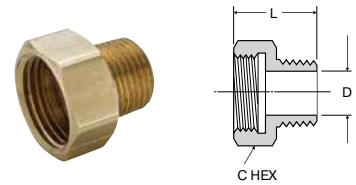
WARNING

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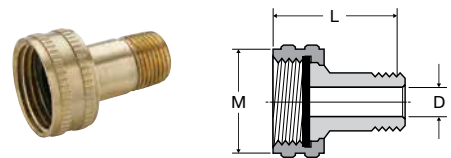
Male Hose to Female Pipe 78GH, 79GH, 80GH & 81GH

Part No.	Hose Thread	Pipe Thread	C Hex	L	Flow Dia. D
78GH-12-4	3/4	1/4	1-1/16	.75	.422
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



Female Hose to Male Pipe 82GH & 83GH

Part No.	Hose Thread	Pipe Thread	C Hex	L	Flow Dia. D
82GH-12-8	3/4	1/2	1-3/16	1.20	.562
83GH-12-12	3/4	3/4	1-3/16	1.22	.750



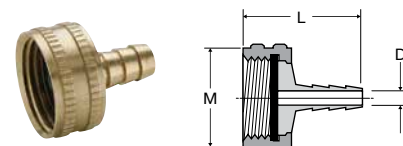
Swivel Connector Female Garden Hose to Male Pipe 88GH

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



WARNING

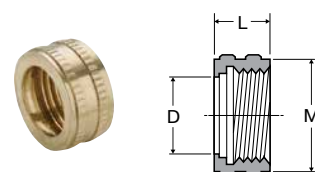
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Swivel Connector Female Garden Hose to Hose Barb 90GH

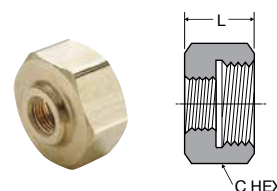
Part No.	Hose Thread	I.D. Hose Size	L	M	Flow Dia. D
90GH-12-3	3/4	3/16	1.29	1.15	.125
90GH-12-4	3/4	1/4	1.21	1.15	.187
90GH-12-6	3/4	3/8	1.21	1.15	.281
90GH-12-8	3/4	1/2	1.21	1.15	.375
90GH-12-10*	3/4	5/8	1.93	1.19	.500
90GH-12-12*	3/4	3/4	1.93	1.19	.625

*Denotes hex body



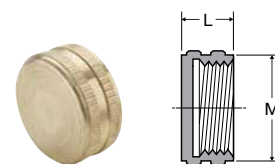
Knurled Hose Nut 94GH

Part No.	Hose Thread	L	M	Flow Dia. D
94GH-12	3/4	.57	1.15	.808
94GH-12G	3/4 BSP	.57	1.15	.808



Hose Nut Reducer 95GH

Part No.	Hose Thread	Pipe Thread	C Hex	L
95GH-12-2	3/4	1/8	1-1/8	.63



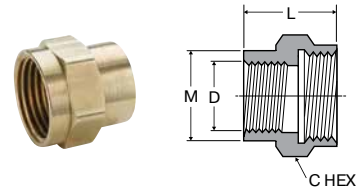
Hose Cap Nut 96GH

Part No.	Hose Thread	L	M
96GH-12	3/4	.50	1.15



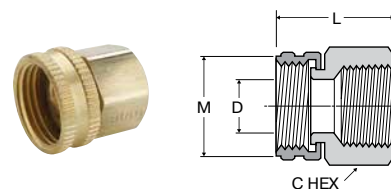
WARNING

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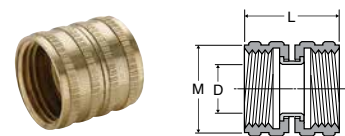
Female Hose to Female Pipe 98GH & 99GH

Part No.	Hose Thread	Pipe Thread	C Hex	L	M	Flow Dia. D
98GH-12-8	3/4	1/2	1-3/16	1.14	1.01	.687
99GH-12-12	3/4	3/4	1-3/16	1.25	1.17	.750



Swivel Connector Female Hose to Female Pipe 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 101GHSV

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



Rubber Garden Hose Coupling Washer 30GH

Part No.	Hose Thread
30GH-12	3/4

NOTE: All female connector ends should have this rubber washer



WARNING

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Hydraulic Quick Couplings/High Flow Couplings

Applications

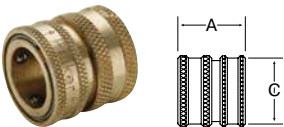
Parker Water Service Couplings are used anywhere water hoses are connected and disconnected frequently. They are used on a wide variety of applications including garden hoses, wash down systems, and mobile water tank lines. The unvalved design permits maximum flow with minimum pressure drop.

Specifications

- **Body Size** 3/4"
- **Rated Pressure** PSI 200 (13.7 bar)
- **Rated Flow** GPM 28
- **Temperature Range** (std seals)
-40° to +250° F (-40° to 121.1° C)

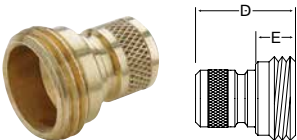
Features

- Brass and stainless steel construction for heavy duty service.
- Durable 4-ball locking mechanism for secure connections.
- Quality, temperature-resistant nitrile seals for a leak-free service life.



High Flow Coupler 1163-60-BPD

Part No.	Body Size	Thread Size NH	A	C
1163-60-BPD	3/4	3/4-11 1/2	1.12	1.21



High Flow Nipple 1163-61-BPD

Part No.	Body Size	Thread Size NH	D	E
1163-61-BPD	3/4	3/4-11 1/2	1.25	.5



WARNING

These products can expose you to chemicals including CARBON BLACK, or LEAD, which are known to the state of California to cause cancer, and LEAD which is known to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



INDUSTRIAL VALVES

Ball Valves, Axial Valves, Needle Valves,
Drain Cocks & Ground Plug Shutoffs



BALL VALVES BRASS SERIES 500



Parker's industrial ball valves are intended for general purpose use. Ball valves are intended for use in the fully open or closed positions. Throttling of the valve may result in premature seal failure and/or inability to turn the valve handle.

Product Features:

- Forged brass body
- Chrome plated brass ball
- PTFE seats/seals
- Steel handle

Style:

- V-Valve
- VP-Valve, padlocking handle
- VV-Valve, vented
- VVP-Valve, vented, padlocking handle

Type:

- 500-Female/Female PTF ports

Material:

- P-Brass
- PN-Nickel plated

Options:

- 01-Stainless Steel Ball & Stem
- 02-Stainless Steel Handle & Nut
- 03-Stainless Steel Ball, Stem, Handle & Nut
- 04-Tee Handle
- 08-Unmarked yellow vinyl handle cover
- 21-Oval Handle

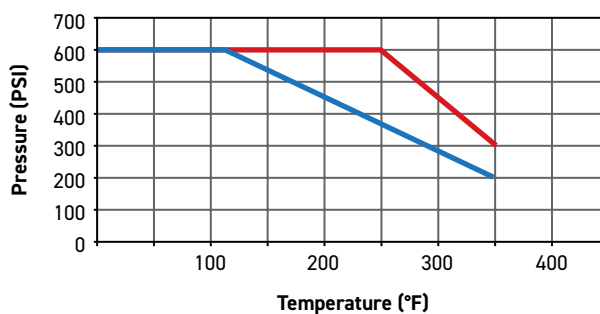
Specifications:

Pressure Range:

- 600 WOG, Cold Non-shock
- Saturated Steam up to 150 PSI (10.3 bar)
- Vacuum Service to 29 Inches Hg
- Vented up to 250 PSI (17.2 bar)

Temperature Range

- 0° to +350° F (-17.7° to +176.6° C)



■ 1/2" to 1"
■ 1 1/2" to 2"

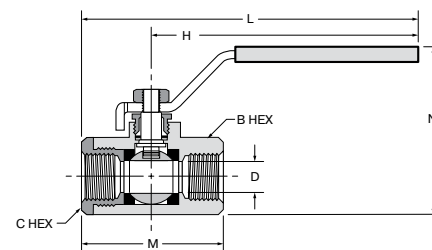
Flow Data			
Valve Size	CV	Valve Size	CV
1/4	4.0	1	35.0
3/8	5.8	1-1/4*	57.0
1/2	12.0	1-1/2*	92.0
3/4	25.0	2*	224.0

*For these part numbers only the * options are available.



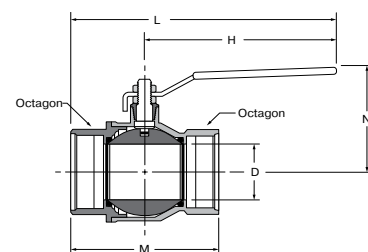
WARNING

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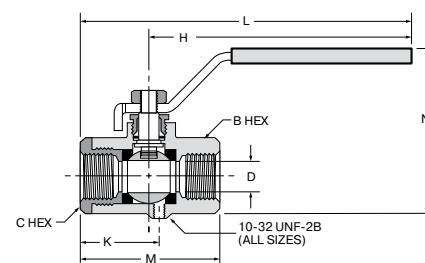
Female-Female Pipe Ends V500P

Part No.	Pipe Thd [PTF]	B Hex	C Hex	H	L	M	N	Flow Dia. D
V500P-4	1/4	15/16	15/16	3.96	4.90	2.03	2.47	.375
V500P-6	3/8	15/16	15/16	3.96	4.90	2.03	2.47	.375
V500P-8	1/2*	1-1/16	1-1/16	3.96	5.00	2.20	2.58	.500
V500P-12	3/4**	1-1/4	1-5/16	3.96	5.25	2.42	2.81	.685
V500P-16	1**	1-1/2	1-9/16	3.96	5.34	2.75	3.08	.875



Female-Female Pipe Ends V500P-20, V500P-24, V500P-32

Part No.	Pipe Thd [NPT]	Octagon	H	L	M	N	Flow Dia. D
V500P-20	1-1/4	1.93	6.22	8.05	3.66	3.01	1.18
V500P-24	1-1/2	2.13	6.22	8.23	4.02	3.25	1.50
V500P-32	2	2.69	6.22	8.58	4.76	3.52	1.89



Vented, Female Pipe Ends VV500P

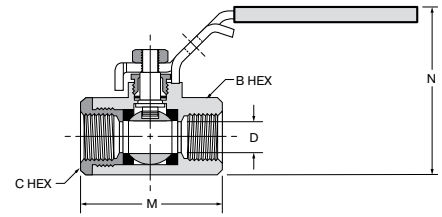
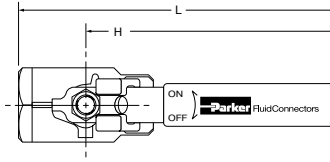
Part No.	Pipe Thd [PTF]	B Hex	C Hex	K	H	L	M	N	D Flow Ø
VV500P-4	1/4	15/16	15/16	1.11	3.96	4.90	2.03	2.47	.375
VV500P-6	3/8	15/16	15/16	1.11	3.96	4.90	2.03	2.47	.375
VV500P-8	1/2*	1-1/16	1-1/16	1.23	3.96	5.00	2.20	2.58	.500
VV500P-12	3/4**	1-1/4	1-5/16	1.45	3.96	5.25	2.42	2.81	.685
VV500P-16	1**	1-1/2	1-9/16	1.58	3.96	5.34	2.75	3.08	.875

*PTF Special Short. **PTF SPL Extra Short



WARNING

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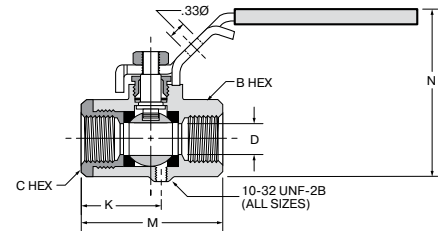
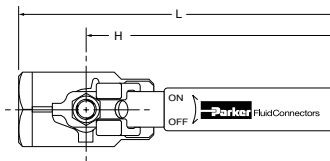
Locking Handle, Female Pipe Ends VP500P

Part No.	Pipe Thd [PTF]	B Hex	C Hex	h	l	m	n	D Flow Ø
VP500P-4	1/4	15/16	15/16	3.96	4.90	2.03	2.47	.375
VP500P-6	3/8	15/16	15/16	3.96	4.90	2.03	2.47	.375
VP500P-8	1/2*	1-1/16	1-1/16	3.96	5.00	2.20	2.58	.500
VP500P-12	3/4**	1-1/4	1-5/16	3.96	5.25	2.42	2.81	.685
VP500P-16	1**	1-1/2	1-9/16	3.96	5.34	2.75	3.08	.875

For use with 5/16" Ø shank lock; .33Ø

Part No.	Pipe Thd [PTF]	B Hex	C Hex	h	l	m	n	D Flow Ø
VP500P-20	1-1/4	1-15/16	1-15/16	6.22	8.05	3.66	4.04	1.180
VP500P-24	1-1/2	2-1/8	2-1/8	6.22	8.23	4.02	4.52	1.500
VP500P-32	2	2-11/16	2-11/16	6.22	8.60	4.76	5.07	1.890

For use with 9/32" Ø shank lock; .31Ø



OSHA 29 CFR Part 1910 Vented, Locking Handle, Female Pipe Ends VVP500P

Part No.	Pipe Thd [PTF]	B Hex	C Hex	K	H	L	M	N	D Flow Ø
VVP500P-4	1/4	15/16	15/16	1.11	3.96	4.90	2.03	2.47	.375
VVP500P-6	3/8	15/16	15/16	1.11	3.96	4.90	2.03	2.47	.375
VVP500P-8	1/2*	1-1/16	1-1/16	1.23	3.96	5.00	2.20	2.58	.500
VVP500P-12	3/4**	1-1/4	1-5/16	1.45	3.96	5.25	2.42	2.81	.685
VVP500P-16	1**	1-1/2	1-9/16	1.58	3.96	5.34	2.75	3.08	.875

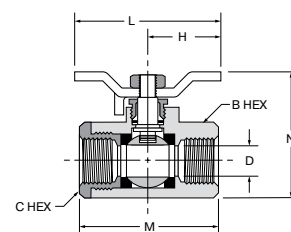
For use with 5/16" Ø shank lock

*PTF Special Short. **PTF SPL Extra Short



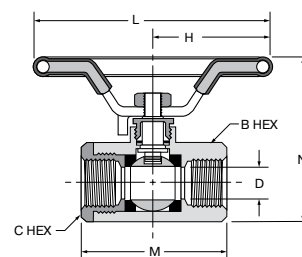
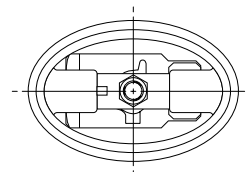
WARNING

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Tee Handle, Female Pipe Ends V500P-X-04

Part No.	Pipe Thd [PTF]	B Hex	C Hex	H	L	M	N	D Flow Ø
V500P-4-04	1/4	15/16	15/16	1.25	2.50	2.03	1.87	.375
V500P-6-04	3/8	15/16	15/16	1.25	2.50	2.03	1.87	.375
V500P-8-04	1/2*	1-1/16	1-1/16	1.25	2.50	2.20	1.98	.500
V500P-12-04	3/4**	1-1/4	1-5/16	1.25	2.50	2.42	2.20	.685
V500P-16-04	1**	1-1/2	1-9/16	1.25	2.50	2.75	2.48	.875



Oval Handle, Female Pipe Ends V500P-X-21

Part No.	Pipe Thd [PTF]	B Hex	C Hex	H	L	M	N	D Flow Ø
V500P-4-21	1/4	15/16	15/16	1.74	3.49	2.03	2.38	.375
V500P-6-21	3/8	15/16	15/16	1.74	3.49	2.03	2.38	.375
V500P-8-21	1/2*	1-1/16	1-1/16	1.74	3.49	2.20	2.49	.500
V500P-12-21	3/4**	1-1/4	1-5/16	1.74	3.48	2.42	2.71	.685
V500P-16-21	1**	1-1/2	1-9/16	1.74	3.48	2.75	2.99	.875

*PTF Special Short. **PTF SPL Extra Short



WARNING

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BALL VALVES BRASS SERIES 501



Product Features:

- Forged brass body
- Chrome plated brass ball
- PTFE seats/seals
- Steel handle

Style:

- V-Valve
- VP-Valve, padlocking handle
- VV-Valve, vented
- VVP-Valve, vented, padlocking handle

Type:

- 501-Male/Female PTF ports

Material:

- P-Brass
- PN-Nickel plated

Options:

- 01-Stainless Steel Ball & Stem
- 02-Stainless Steel Handle & Nut
- 03-Stainless Steel Ball, Stem, Handle & Nut
- 04-Tee Handle
- 08-Unmarked yellow vinyl handle cover
- 21-Oval Handle

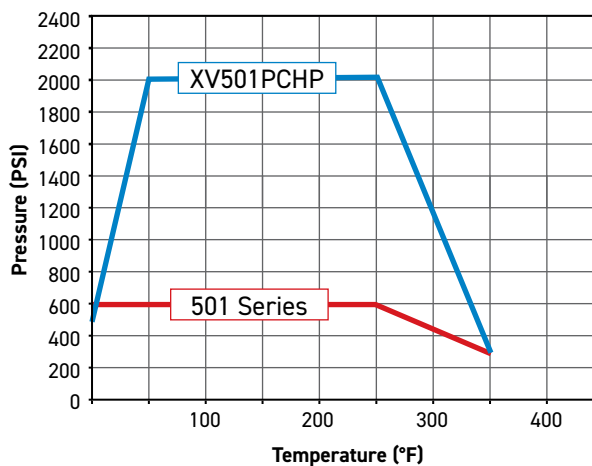
Specifications:

Pressure Range:

- 600 WOG , Cold Non-shock
- Saturated Steam up to 150 PSI (10.3 bar)
- Vacuum Service to 29 Inches Hg
- Vented up to 250 PSI (17.2 bar)
- XV501PCHP up to 2000PSI (137.8 bar)

Temperature Range

- 0° to +350° F (-17.7° to +176.6° C)

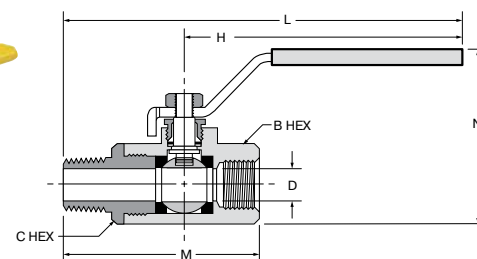


Flow Data			
Valve Size	CV	Valve Size	CV
1/4	6.3	3/4	25.0
3/8	5.7	1	35.0
1/2	10.0		



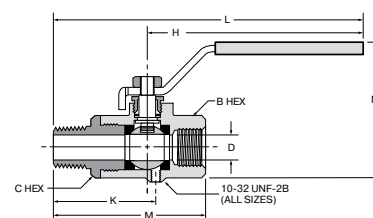
WARNING

These products can expose you to chemicals including NICKEL or LEAD, which are known to the state of California to cause cancer, and LEAD which is known to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



Male-Female Pipe Ends V501P

Part No.	Female Pipe Thrd [PTF]	Male Pipe Thrd [NPTF]	B Hex	C Hex	H	L	M	N	D Flow Ø
V501P-4	1/4	1/4	15/16	15/16	3.96	5.46	2.59	2.47	.344
V501P-6	3/8	3/8	15/16	15/16	3.96	5.46	2.59	2.47	.375
V501P-8	1/2*	1/2	1-1/16	1-1/16	3.96	5.75	2.94	2.58	.500
V501P-12	3/4**	3/4*	1-1/4	1-5/16	3.96	5.83	3.00	2.81	.685
V501P-16	1**	1*	1-1/2	1-9/16	3.96	6.19	3.60	3.08	.875



Vented, Male-Female Pipe Ends VV501P

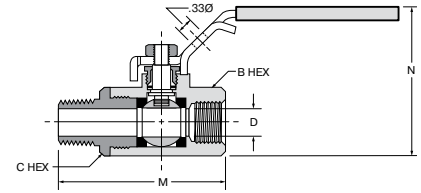
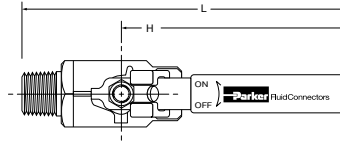
Part No.	Female Pipe Thrd [PTF]	Male Pipe Thrd [NPTF]	B Hex	C Hex	K	H	L	M	N	D Flow Ø
VV501P-4	1/4	1/4	15/16	15/16	1.67	3.96	5.46	2.59	2.47	.344
VV501P-6	3/8	3/8	15/16	15/16	1.67	3.96	5.46	2.59	2.47	.375
VV501P-8	1/2*	1/2	1-1/16	1-1/16	1.98	3.96	5.75	2.95	2.58	.500
VV501P-12	3/4**	3/4*	1-1/4	1-5/16	2.03	3.96	5.83	3.00	2.81	.685
VV501P-16	1**	1*	1-1/2	1-9/16	2.43	3.96	6.19	3.60	3.08	.875

*PTF Special Short. **PTF SPL Extra Short



WARNING

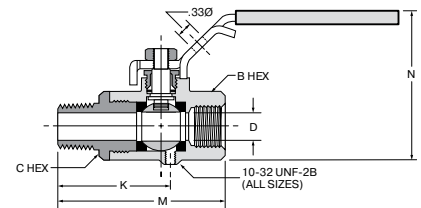
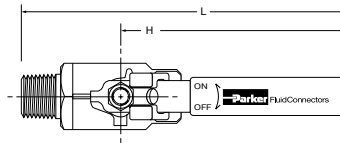
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Locking Handle, Male-Female Pipe Ends VP501P

Part No.	Female Pipe Thrd [PTF]	Male Pipe Thrd [NPTF]	B Hex	C Hex	H	L	M	N	D Flow Ø
VP501P-4	1/4	1/4	15/16	15/16	3.96	5.46	2.59	2.47	.344
VP501P-6	3/8	3/8	15/16	15/16	3.96	5.46	2.59	2.47	.375
VP501P-8	1/2*	1/2	1-1/16	1-1/16	3.96	5.75	2.95	2.58	.500
VP501P-12	3/4**	3/4*	1-1/4	1-5/16	3.96	5.83	3.00	2.81	.685
VP501P-16	1**	1*	1-1/2	1-9/16	3.96	6.19	3.60	3.08	.875

For use with 5/16" Ø shank lock



OSHA 29 CFR Part 1910 Vented, Locking Handle, Male-Female Pipe Ends VVP501P

Part No.	Female Pipe Thrd [PTF]	Male Pipe Thrd [NPTF]	B Hex	C Hex	K	H	L	M	N	D Flow Ø
VVP501P-4	1/4	1/4	15/16	15/16	1.67	3.96	5.46	2.59	2.47	.344
VVP501P-6	3/8	3/8	15/16	15/16	1.67	3.96	5.46	2.59	2.47	.375
VVP501P-8	1/2*	1/2	1-1/16	1-1/16	1.98	3.96	5.75	2.95	2.58	.500
VVP501P-12	3/4**	3/4	1-1/4	1-5/16	2.03	3.96	5.83	3.00	2.81	.685
VVP501P-16	1**	1	1-1/2	1-9/16	2.43	3.96	6.19	3.60	3.08	.875

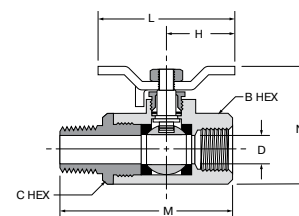
For use with 5/16" Ø shank lock

*PTF Special Short. **PTF SPL Extra Short



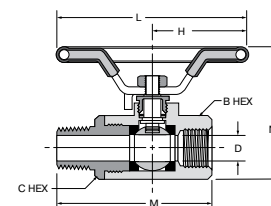
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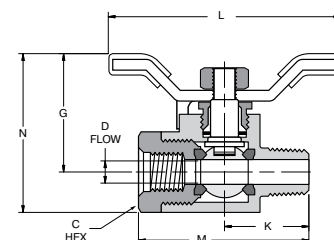
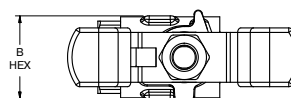
Tee Handle, Male-Female Pipe Ends V501P-X-04

Part No.	Female Pipe Thrd [PTF]	Male Pipe Thrd [NPTF]	B Hex	C Hex	H	L	M	N	D Flow Ø
V501P-4-04	1/4	1/4	15/16	15/16	1.25	2.50	2.59	1.87	.344
V501P-6-04	3/8	3/8	15/16	15/16	1.25	2.50	2.59	1.87	.375
V501P-8-04	1/2*	1/2	1-1/16	1-1/16	1.25	2.50	2.95	1.98	.500
V501P-12-04	3/4**	3/4	1-1/4	1-5/16	1.25	2.50	3.00	2.20	.685
V501P-16-04	1**	1	1-1/2	1-9/16	1.25	2.50	3.60	2.48	.875



Oval Handle, Male-Female Pipe Ends V501P-X-21

Part No.	Female Pipe Thrd [PTF]	Male Pipe Thrd [NPTF]	B Hex	C Hex	H	L	M	N	D Flow Ø
V501P-4-21	1/4	1/4	15/16	15/16	1.74	3.49	2.59	2.38	.344
V501P-6-21	3/8	3/8	15/16	15/16	1.74	3.49	2.59	2.38	.375
V501P-8-21	1/2*	1/2	1-1/16	1-1/16	1.74	3.49	2.95	2.49	.500
V501P-12-21	3/4**	3/4	1-1/4	1-5/16	1.74	3.48	3.00	2.71	.685
V501P-16-21	1**	1	1-1/2	1-9/16	1.74	3.48	3.60	2.99	.875



Compact High Pressure XV501PCHP

Part No.	Female Pipe Thrd [PTF]	Male Pipe Thrd [NPTF]	B Hex	C Hex	G	K	L	M	N	D Flow Ø
XV501PCHP-4	1/4	1/4	15/16	13/16	1.33	.95	2.62	1.92	1.79	.25

*PTF Special Short. **PTF SPL Extra Short



WARNING

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BALL VALVES BRASS SERIES 502



Product Features:

- Forged brass body
- Chrome plated brass ball
- PTFE seats/seals
- Steel handle

Style:

- V-Valve
- VP-Valve, padlocking handle
- VV-Valve, vented
- VVP-Valve, vented, padlocking handle

Type:

- 502-Female/Female PTF ports

Material:

- P-Brass
- PN-Nickel plated

Options:

- 01-Stainless Steel Ball & Stem
- 02-Stainless Steel Handle & Nut
- 03-Stainless Steel Ball, Stem, Handle & Nut
- 04-Tee Handle
- 08-Unmarked yellow vinyl handle cover
- 21-Oval Handle

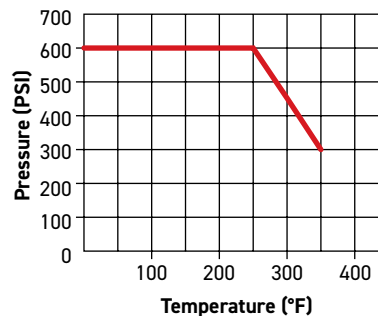
Specifications:

Pressure Range:

- 600 WOG , Cold Non-shock
- Saturated Steam up to 150 PSI (10.3 bar)
- Vacuum Service to 29 Inches Hg
- Vented up to 250 PSI (17.2 bar)

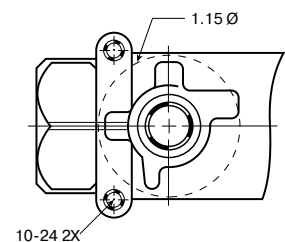
Temperature Range

- 0° to +350° F (-17.7° to +176.6° C)



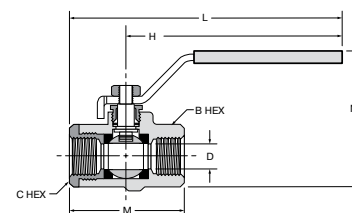
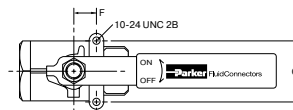
Flow Data	
Valve Size	CV
1/4	4.0
3/8	5.8
1/2	12.0
3/4	25.0
1	35.0

Mounting detail for all sizes



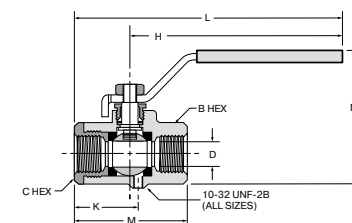
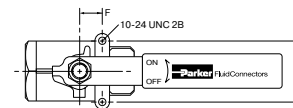
WARNING

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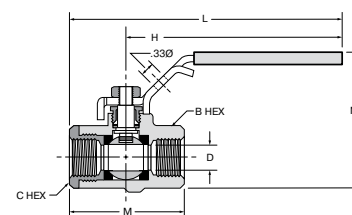
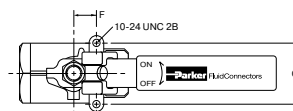
Female-Female Pipe Ends, Panel Mount V502P

Part No.	Pipe Thd [PTF]	B Hex	C Hex	F	G	H	L	M	N	Flow Dia. D
V502P-4	1/4	15/16	15/16	.50	1.12	3.96	4.90	2.03	2.47	.375
V502P-6	3/8	15/16	15/16	.50	1.12	3.96	4.90	2.03	2.47	.375
V502P-8	1/2*	1-1/16	1-1/16	.50	1.12	3.96	5.06	2.20	2.58	.500
V502P-12	3/4**	1-1/4	1-5/16	.87	1.37	3.96	5.25	2.42	2.81	.685
V502P-16	1**	1-1/2	1-9/16	.87	1.37	3.96	5.34	2.75	3.08	.875



Vented, Female-Female Pipe Ends, Panel Mount VV502P

Part No.	Pipe Thd [PTF]	B Hex	C Hex	F	G	K	H	L	M	N	D Flow Ø
VV502P-4	1/4	15/16	15/16	.50	1.12	1.11	3.96	4.90	2.03	2.47	.375
VV502P-6	3/8	15/16	15/16	.50	1.12	1.11	3.96	4.90	2.03	2.47	.375
VV502P-8	1/2*	1-1/16	1-1/16	.50	1.12	1.23	3.96	5.06	2.20	2.58	.500
VV502P-12	3/4**	1-1/4	1-5/16	.87	1.37	1.45	3.96	5.25	2.42	2.81	.685
VV502P-16	1**	1-1/2	1-9/16	.87	1.37	1.58	3.96	5.34	2.75	3.08	.875



Locking Handle, Female Pipe Ends, Panel Mount VP502P

Part No.	Pipe Thd [PTF]	B Hex	C Hex	F	G	H	L	M	N	D Flow Ø
VP502P-4	1/4	15/16	15/16	.50	1.12	3.96	4.90	2.03	2.47	.375
VP502P-6	3/8	15/16	15/16	.50	1.12	3.96	4.90	2.03	2.47	.375
VP502P-8	1/2*	1-1/16	1-1/16	.50	1.12	3.96	5.06	2.20	2.58	.500
VP502P-12	3/4**	1-1/4	1-5/16	.87	1.37	3.96	5.25	2.42	2.81	.685
VP502P-16	1**	1-1/2	1-9/16	.87	1.37	3.96	5.34	2.75	3.08	.875

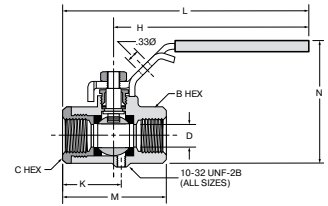
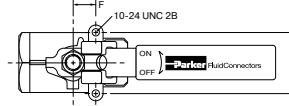
For use with 5/16" Ø shank lock

*PTF Special Short. **PTF SPL Extra Short



WARNING

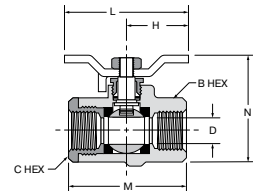
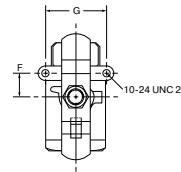
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OSHA 29 CFR Part 1910 Vented, Locking Handle, Female Pipe Ends, Panel Mount VVP502P

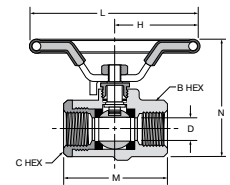
Part No.	Pipe Thd [PTF]	B Hex	C Hex	F	G	K	H	L	M	N	D Flow Ø
VVP502P-4	1/4	15/16	15/16	.50	1.12	1.11	3.96	4.90	2.03	2.47	.375
VVP502P-6	3/8	15/16	15/16	.50	1.12	1.11	3.96	4.90	2.03	2.47	.375
VVP502P-8	1/2*	1-1/16	1-1/16	.50	1.12	1.23	3.96	5.06	2.20	2.58	.500
VVP502P-12	3/4**	1-1/4	1-5/16	.87	1.37	1.45	3.96	5.25	2.42	2.81	.685
VVP502P-16	1**	1-1/2	1-9/16	.87	1.37	1.58	3.96	5.34	2.75	3.08	.875

For use with 5/16" Ø shank lock



Tee Handle, Female Pipe Ends, Panel Mount V502P-X-04

Part No.	Pipe Thd [PTF]	B Hex	C Hex	F	G	H	L	M	N	D Flow Ø
V502P-4-04	1/4	15/16	15/16	.50	1.12	1.25	2.50	2.03	1.87	.375
V502P-6-04	3/8	15/16	15/16	.50	1.12	1.25	2.50	2.03	1.87	.375
V502P-8-04	1/2*	1-1/16	1-1/16	.50	1.12	1.25	2.50	2.20	1.98	.500
V502P-12-04	3/4**	1-1/4	1-5/16	.87	1.37	1.25	2.50	2.42	2.20	.685
V502P-16-04	1**	1-1/2	1-9/16	.87	1.37	1.25	2.50	2.75	2.48	.875



Oval Handle, Female Pipe Ends, Panel Mount V502P-X-21

Part No.	Pipe Thd [PTF]	B Hex	C Hex	H	L	M	N	D Flow Ø
V502P-4-21	1/4	15/16	15/16	1.74	3.49	2.03	2.38	.375
V502P-6-21	3/8	15/16	15/16	1.74	3.49	2.03	2.38	.375
V502P-8-21	1/2*	1-1/16	1-1/16	1.74	3.49	2.20	2.49	.500
V502P-12-21	3/4**	1-1/4	1-5/16	1.74	3.48	2.42	2.71	.685
V502P-16-21	1**	1-1/2	1-9/16	1.74	3.48	2.75	2.99	.875

*PTF Special Short. **PTF SPL Extra Short



WARNING

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BALL VALVE BRASS SERIES 506



Product Features:

- Forged brass body
- Chrome plated brass ball
- PTFE seats/seals
- Steel handle

Style:

- V-Valve
- VP-Valve, padlocking handle

Type:

- 506-Female/Female SAE J1926-1 Ports

Material:

- P-Brass
- PN-Nickel plated

Options:

- 01-Stainless Steel Ball & Stem
- 02-Stainless Steel Handle & Nut
- 03-Stainless Steel Ball, Stem, Handle & Nut
- 04-Tee Handle
- 08-Unmarked yellow vinyl handle cover
- 21-Oval Handle

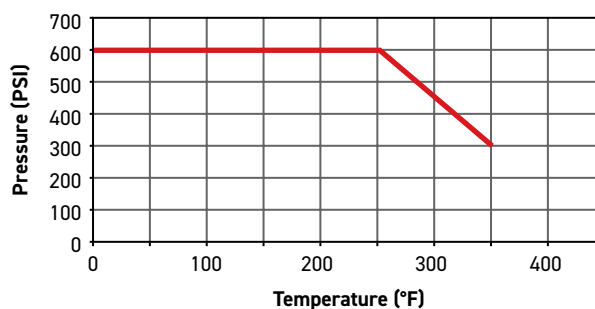
Specifications:

Pressure Range:

- 600 WOG , Cold Non-shock
- Saturated Steam up to 150 PSI (10.3 bar)
- Vacuum Service to 29 Inches Hg

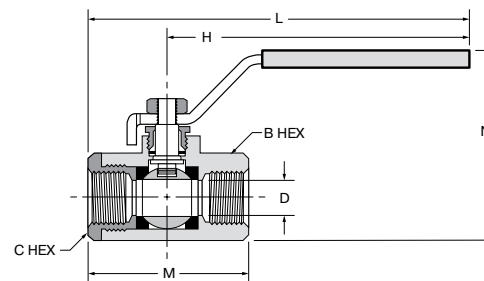
Temperature Range

- 0° to +350° F (-17.7° to +176.6° C)



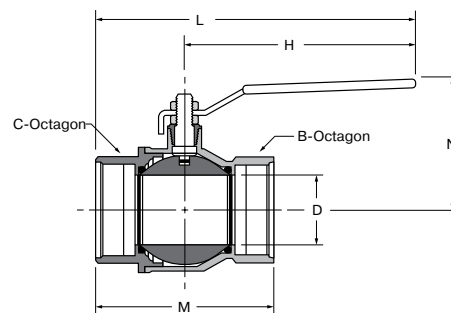
WARNING

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Female/Female, Straight Thread O-Ring Port V506P

Part No.	Straight Thd	B Hex	C Hex	H	L	M	N	D Flow Ø
V506P-4	7/16-20	15/16	15/16	3.96	5.01	2.20	2.47	.375
V506P-6	9/16-18	15/16	15/16	3.96	5.07	2.26	2.47	.375
V506P-8	3/4-16	1-1/16	1-1/16	3.96	5.18	2.42	2.60	.500
V506P-12	1-1/16-12	1-1/4	1-5/16	3.96	5.87	3.46	2.81	.685
V506P-16	1-5/16-12	1-1/2	1-9/16	3.96	5.96	3.68	3.08	.875



Female/Female, Straight Thread O-Ring Port V506P-20, V506P-24, V506P-32

Part No.	Straight Thd	B Oct	C Oct	H	L	M	N	D Flow Ø
V506P-20	1 5/8-12	1.93	1.93	6.22	8.05	3.66	3.01	1.18
V506P-24	1 7/8-12	2.13	2.13	6.22	8.23	4.02	3.25	1.50
V506P-32	2 1/2-12	2.85	2.85	6.22	8.60	4.76	3.52	1.89



WARNING

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BALL VALVES BRASS SERIES 509



Product Features:

- Forged brass body
- Chrome plated brass ball
- PTFE seats/seals
- Steel handle

Style: **Type:** **Material:**

- V-Valve ■ 509-Solder Ends ■ P-Brass

Flow Data	
Valve Size	CV
1/2"	26
3/4"	69
1"	91
1 1/4"	127
1 1/2"	299
2"	425

* For these part numbers only
the * options are available.

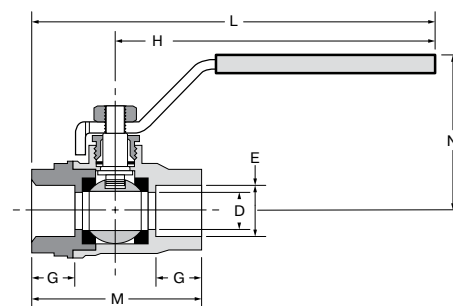
Specifications:

Pressure Range:

- 600 WOG , Cold Non-shock
- Saturated Steam up to 150 PSI (10.3 bar)

Temperature Range

- Nylon: 0° to +350° F (-17.7° to +176.6° C)
- Solder temperature not to exceed 470° F (243.3° C)



Solder Cup Ends V509P

Part No.	Tube Size	E	G	H	L	M	N	Flow Dia. D
V509P-8	1/2	.630	.49	3.94	5.00	2.24	1.69	.55
V509P-12	3/4	.877	.75	4.72	6.10	2.85	1.97	.75
V509P-16	1	1.128	.90	4.72	6.40	3.35	2.13	.94
V509P-20	1 1/4	1.378	.96	6.22	8.13	3.82	3.01	1.18
V509P-24	1 1/2	1.628	1.10	6.22	8.46	4.49	3.25	1.50
V509P-32	2	2.128	1.34	6.22	8.94	5.43	3.52	1.89



WARNING

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BALL VALVES BRASS SERIES 510



Product Features:

- Forged brass body
- Chrome plated brass ball
- PTFE seats/seals
- Steel handle

Style:

- V-Valve
- VP-Valve, padlocking handle

Type:

- 510-Male/Female Straight Thread O-ring SAE J1926

Material:

- P-Brass

Options:

- 01-Stainless Steel Ball & Stem
- 02-Stainless Steel Handle & Nut
- 03-Stainless Steel Ball, Stem, Handle & Nut
- 04-Tee Handle
- 08-Unmarked yellow vinyl handle cover
- 21-Oval Handle

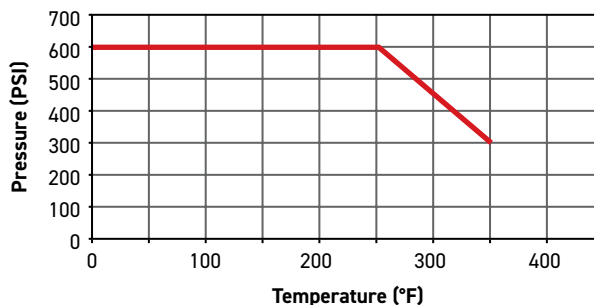
Specifications:

Pressure Range:

- 600 WOG , Cold Non-shock
- Saturated Steam up to 150 PSI (10.3 bar)
- Vacuum Service to 29 Inches Hg
- Vented up to 250 PSI (17.2 bar)

Temperature Range

- 0° to +350° F (-17.7° to +176.6° C)

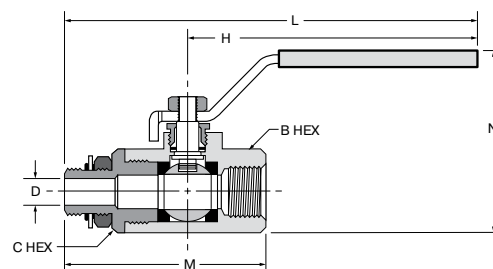


Flow Data	
Valve Size	CV
1/4	.8
3/8	2.1
1/2	5.3
5/8	7.6
3/4	13.0
1	33.0



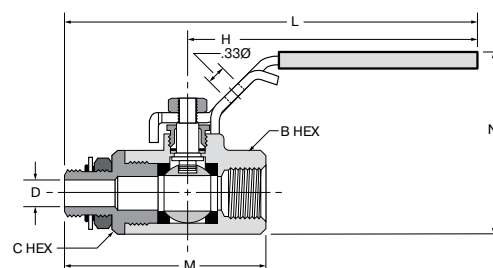
WARNING

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Male-Female, Straight Thread O-Ring Port V510P

Part No.	Straight Thd	B Hex	C Hex	H	L	M	N	D Flow Ø
V510P-4	7/16-20	15/16	15/16	3.96	5.61	2.85	2.47	.188
V510P-6	9/16-18	15/16	15/16	3.96	5.68	2.92	2.47	.281
V510P-8	3/4-16	1-1/16	1-1/16	3.96	5.88	3.17	2.58	.422
V510P-10	7/8-14	1-1/4	1-5/16	3.96	6.31	3.90	2.81	.500
V510P-12	1-1/16-12	1-1/4	1-5/16	3.96	6.44	4.03	2.81	.656
V510P-16	1-5/16-12	1-1/2	1-9/16	3.96	6.56	4.28	3.08	.875



Locking Handle, Straight Thread O-Ring Port VP510P

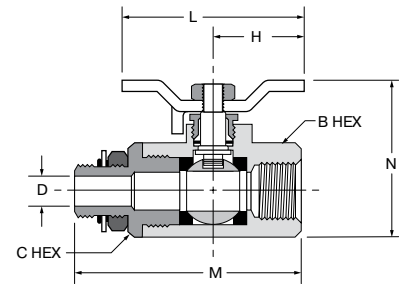
Part No.	Straight Thd	B Hex	C Hex	H	L	M	N	D Flow Ø
VP510P-4	7/16-20	15/16	15/16	3.96	5.61	2.85	2.47	.188
VP510P-6	9/16-18	15/16	15/16	3.96	5.68	2.92	2.47	.281
VP510P-8	3/4-16	1-1/16	1-1/16	3.96	5.88	3.17	2.58	.422
VP510P-10	7/8-14	1-1/4	1-5/16	3.96	6.31	3.90	2.81	.500
VP510P-12	1-1/16-12	1-1/4	1-5/16	3.96	6.44	4.03	2.81	.656

For use with 5/16" Ø shank lock



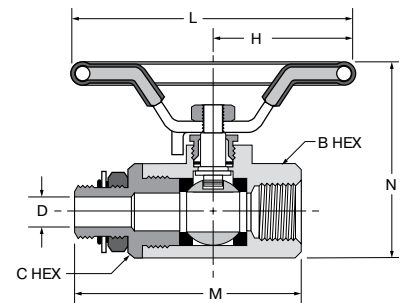
WARNING

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Tee Handle, Straight Thread O-Ring Port V510P-X-04

Part No.	Straight Thd	B Hex	C Hex	H	L	M	N	D Flow Ø
V510P-4-04	7/16-20	15/16	15/16	1.25	2.50	2.85	1.87	.188
V510P-6-04	9/16-18	15/16	15/16	1.25	2.50	2.92	1.87	.281
V510P-8-04	3/4-16	1-1/16	1-1/16	1.25	2.50	3.17	1.98	.422
V510P-10-04	7/8-14	1-1/4	1-5/16	1.25	2.50	3.90	2.20	.500
V510P-12-04	1-1/16-12	1-1/4	1-5/16	1.25	2.50	4.03	2.20	.656
V510P-16-04	1-5/16-12	1-1/2	1-9/16	1.25	2.50	4.28	2.48	.875



Oval Handle, Straight Thread O-Ring Port V510P-X-21

Part No.	Straight Thd	B & C Hex	H	L	M	N	D Flow Ø
V510P-4-21	7/16-20	15/16	1.74	3.49	2.85	2.38	.188
V510P-6-21	9/16-18	15/16	1.74	3.49	2.92	2.38	.281
V510P-8-21	3/4-16	1 1/16	1.74	3.49	3.17	2.49	.422
V510P-12-21	1-1/16-12	1-1/4 (B)	1.75	3.49	4.03	2.71	.656
		1-5/16 (C)					



WARNING

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BALL VALVES BRASS SERIES 520



Product Features:

- Forged brass body
- Chrome plated brass ball
- PTFE seats/seals
- Fluorocarbon Stem O-rings
- Steel handle

Style:

- V-Valve
- VP-Valve, padlocking handle

Type:

- 520-Female/Female NPT Ports

Material:

- P-Brass

Options:

- 04-Tee Handle

Specifications:

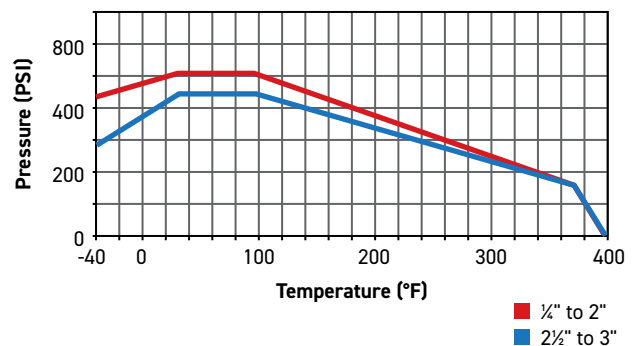
Pressure Range:

- 600 WOG Cold Non-shock 1/4" – 2"
- 450 WOG, Cold Non-shock 2 1/2" – 3"
- Saturated Steam up to 150 PSI (10.3 bar)
- Vacuum Service to 29 Inches Hg

Temperature Range

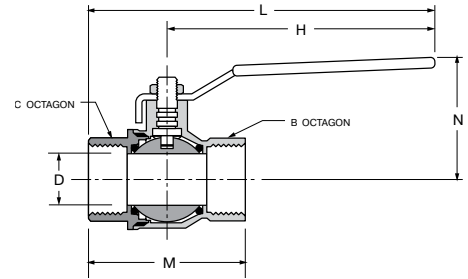
- -40° to +350° F (-40° to +176.6° C)

U.L. LISTED	
Category	
YSDT	LP-GAS SHUT-OFF VALVES
YRBX	FLAMMABLE LIQUID SHUT-OFF VALVES
YRPV	GAS SHUT-OFF VALVES
YQNZ	COMPRESSED GAS SHUT-OFF VALVES



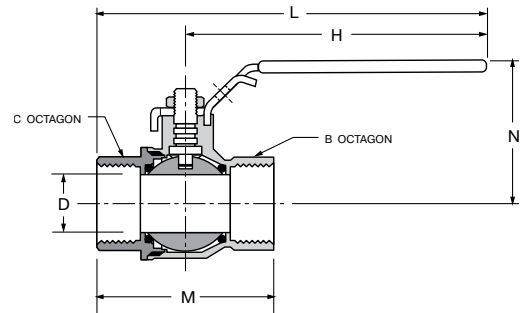
WARNING

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Female Pipe Ends V520P

Part No.	Pipe Thd [NPT]	B Octagon	C Octagon	H	L	M	N	D Flow Ø
V520P-4	1/4-18	.67	.67	3.94	4.83	1.77	1.50	.310
V520P-6	3/8-18	.79	.79	3.94	4.83	1.77	1.50	.400
V520P-8	1/2-14	.98	.98	3.94	5.10	2.32	1.69	.600
V520P-12	3/4-14	1.22	1.22	4.72	5.98	2.52	1.97	.790
V520P-16	1-11.5	1.57	1.57	4.72	6.32	3.19	2.13	1.000
V520P-20	1-1/4	1.93	1.93	6.22	8.05	3.66	2.82	1.180
V520P-24	1-1/2	2.13	2.13	6.22	8.23	4.02	3.06	1.570
V520P-32	2	2.69	2.69	6.22	8.58	4.76	3.33	2.000
V520P-40	2-1/2	3.35	3.35	10.04	13.11	6.14	5.20	2.520
V520P-48	3	3.89	3.89	10.04	13.52	6.97	5.51	3.000



Locking Handle, Female Pipe Ends VP520P

Part No.	Pipe Thd [NPT]	B Octagon	C Octagon	H	L	M	N	D Flow Ø
VP520P-4	1/4-18	.67	.67	3.94	4.83	1.77	1.50	.310
VP520P-6	3/8-18	.79	.79	3.94	4.83	1.77	1.50	.400
VP520P-8	1/2-14	.98	.98	3.94	5.10	2.32	1.69	.600
VP520P-12	3/4-14	1.22	1.22	4.72	5.98	2.52	1.97	.790
VP520P-16	1-11.5	1.57	1.57	4.72	6.32	3.19	2.13	1.000
VP520P-20	1-1/4	1.93	1.93	6.22	8.05	3.66	2.82	1.180
VP520P-24	1-1/2	2.13	2.13	6.22	8.23	4.02	3.06	1.570
VP520P-32	2	2.69	2.69	6.22	8.58	4.76	3.33	2.000



WARNING

These products can expose you to chemicals including NICKEL or LEAD, which are known to the state of California to cause cancer, and LEAD which is known to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

BALL VALVES BRASS SERIES 533 3-WAY DIVERSION/ SERIES 540 4-WAY



Product Features:

- Forged brass body
- Chrome plated brass ball
- PTFE seats/seals
- Steel handle

Style:

- V-Valve
- VP-Valve, padlocking handle

Type:

- 533 3-Way Diversion
- 540 4-Way

Material:

- P-Brass

Options:

- 02-Stainless Steel Handle & Nut
- 08-Unmarked yellow vinyl handle cover

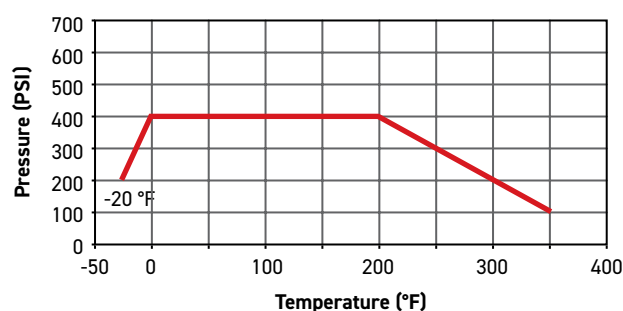
Specifications:

Pressure Range:

- 400 PSI (27.5 bar)
- Vacuum Service to 29 Inches Hg

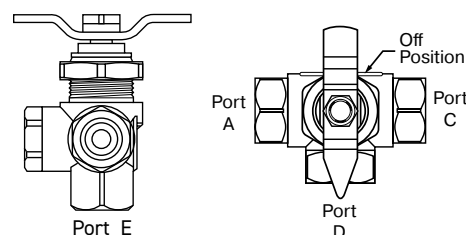
Temperature Range

- -20° to +350° F (-6.6° to +176.6° C)

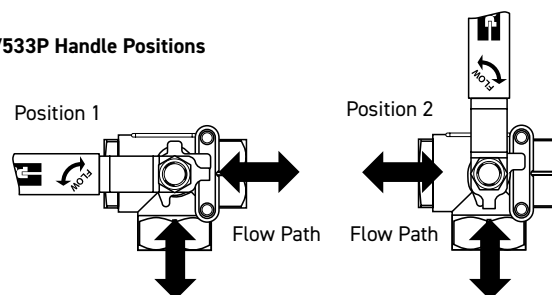


V540P Flow Information	
Pointer Over	Flow Path
A	A to E
Off	CLOSED
C	C to E
D	D to E

V540P Handle Positions

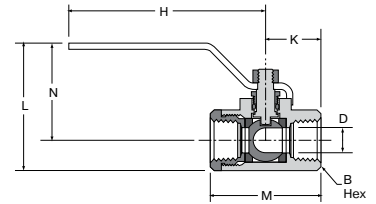
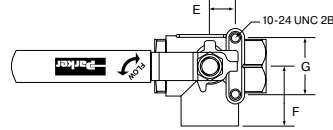


V533P Handle Positions



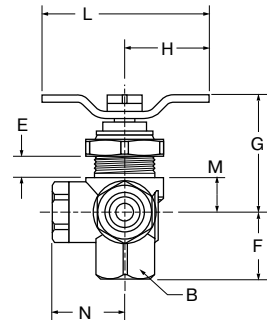
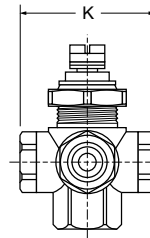
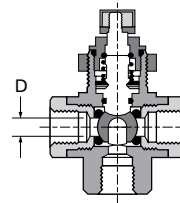
WARNING

These products can expose you to chemicals including NICKEL or LEAD, which are known to the state of California to cause cancer, and LEAD which is known to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



Female-Female-Female Pipe Ends V533P

Part No.	Pipe Thd (PTF)	B Hex	E	F	G	H	K	L	M	N	Flwo Dia. D
V533P-4	1/4	15/16	.50	1.08	1.12	3.96	1.03	2.47	2.03	1.94	.375
V533P-6	3/8	15/16	.50	1.08	1.12	3.96	1.03	2.47	2.03	1.94	.375
V533P-8	1/2	1-1/16	.50	1.18	1.12	3.96	1.11	2.58	2.20	1.98	.500
V533P-12	3/4	1-1/4	.87	1.43	1.37	3.96	1.42	2.90	2.83	2.17	.685
V533P-16	1	1-9/16	.87	1.62	1.37	3.96	1.58	3.21	3.16	2.32	.875



Female-Female-Female-Female Pipe Ends V540P

Part No.	Pipe Thd (PTF)	B Hex	E	F	G	H	K	L	M	N	Flwo Dia. D
V540P-4	1/4	7/8	.32	1.00	1.76	1.25	1.98	2.49	.52	1.07	.250



WARNING

These products can expose you to chemicals including NICKEL or LEAD, which are known to the state of California to cause cancer, and LEAD which is known to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

BALL VALVES BRASS SERIES 590/591



Product Features:

- Forged brass body
- Chrome plated brass ball
- PTFE seats/seals
- Steel handle

Style:

- V-Valve

Type:

- 590-Male/Female
- 591-Male/Female

Material:

- P-Brass

Options:

- 04-Lever Handle
- 08-Unmarked yellow vinyl handle cover

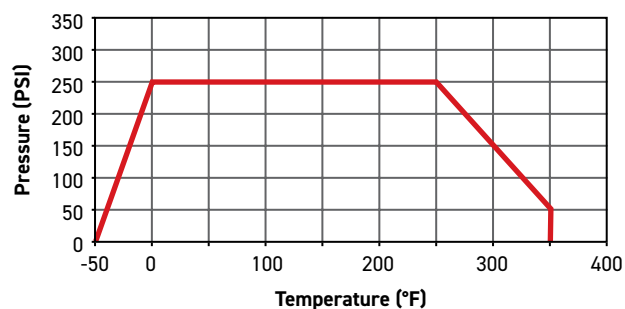
Specifications:

Pressure Range:

- 250 PSI (17.2 bar)
- Saturated Steam up to 150 PSI (10.3 bar)
- Vacuum Service to 29 Inches Hg

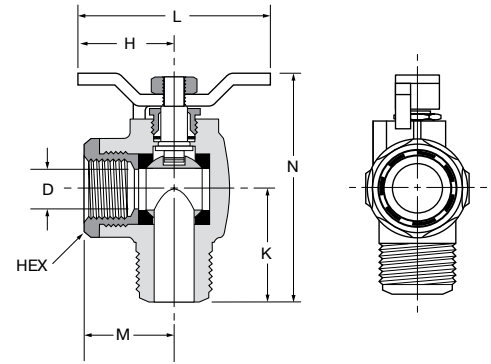
Temperature Range

- -50° to +350° F (-45.5° to +176.6° C)



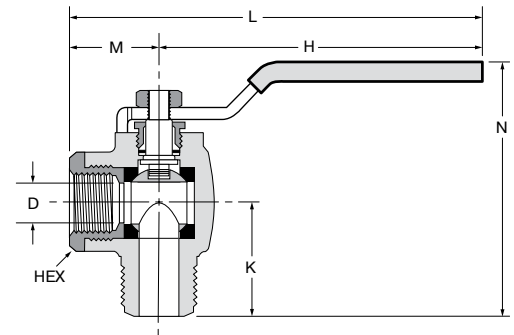
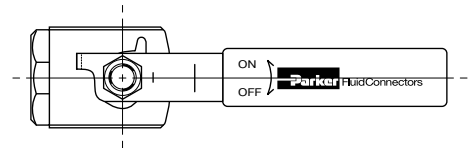
WARNING

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90° Flow, Male-Female Pipe Ends V590P

Part No.	Pipe PTF Thd	Hex	H	K	L	M	N	D Flow Ø
V590P-4	1/4	15/16	1.25	1.08	2.50	1.00	2.42	.375
V590P-6	3/8	15/16	1.25	1.09	2.50	1.00	2.43	.375
V590P-8	1/2*	1-1/16	1.25	1.30	2.50	1.08	2.67	.500
V590P-16	1**	1-9/16"	1.30	1.90	2.60	1.38	3.62	.750



Lever Handle, 90° Flow, Male-Female Pipe Ends V590P-X-04

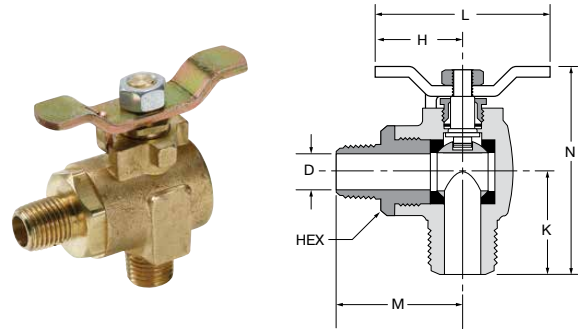
Part No.	Pipe PTF Thd	Hex	H	K	L	M	N	D Flow Ø
V590P-4-04	1/4	15/16	3.96	1.08	4.96	1.00	3.02	.375
V590P-6-04	3/8	15/16	3.96	1.09	4.96	1.00	3.03	.375
V590P-8-04	1/2*	1-1/16	3.80	1.30	4.88	1.08	2.95	.500
V590P-16-04	1**	1-9/16"	3.96	1.90	5.34	1.38	4.17	.750

*PTF Special Short. **PTF SPL Extra Short



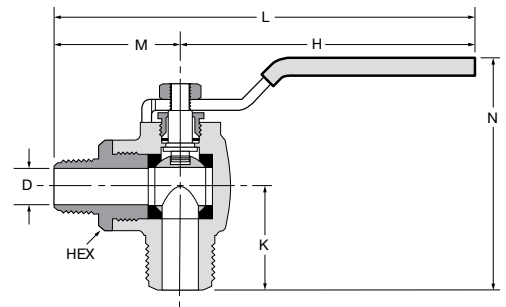
WARNING

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90° Flow, Male-Male Pipe Ends V591P

Part No.	Pipe Thd	Hex	H	K	L	M	N	D Flow Ø
V591P-4	1/4	15/16	1.25	1.08	2.50	1.56	2.42	.375
V591P-6	3/8	15/16	1.25	1.09	2.50	1.56	2.43	.375
V591P-8	1/2	1-1/16	1.25	1.30	2.50	1.84	2.67	.500



Lever Handle, 90° Flow, Male-Male Pipe Ends V591P-X-04

Part No.	Pipe Thd	Hex	H	K	L	M	N	D Flow Ø
V591P-4-04	1/4	15/16	3.96	1.08	5.52	1.56	3.02	.375
V591P-6-04	3/8	15/16	3.96	1.09	5.52	1.56	3.03	.375
V591P-8-04	1/2	1-1/16	3.80	1.30	5.64	1.84	2.95	.500



WARNING

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BALL VALVES BRASS SERIES 500HB



Product Features:

- Forged brass body
- Chrome plated brass ball
- PTFE seats/seals
- Steel handle

Style:

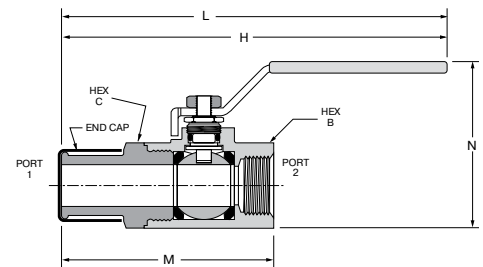
- V-Valve

Type:

- 500HB-Female/Beaded Hose Barb

Material:

- P-Brass



Brass Hose Barb Ball Valve V500P-HB

Part No.	Port 1	Port 2 PTF	B Hex	C Hex	H	L	M	N	Flow Dia. D
V500P-12-16HB	1	3/4*	1-1/4	1-5/16	3.96	6.25	3.41	2.81	.685

*PTF special extra short



WARNING

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BALL VALVES BRASS SERIES 600



Product Features:

- Forged brass body
- Chrome plated brass ball
- PTFE seats/seals
- Fluorocarbon O-rings
- Steel handle

Specifications:

Pressure Range:

- 150 PSI (10.3 bar)
- Vacuum Service to 29 Inches Hg

Temperature Range

- 0° to +250° F (-17.7° to +121.1° C)

Style:

- V-Valve

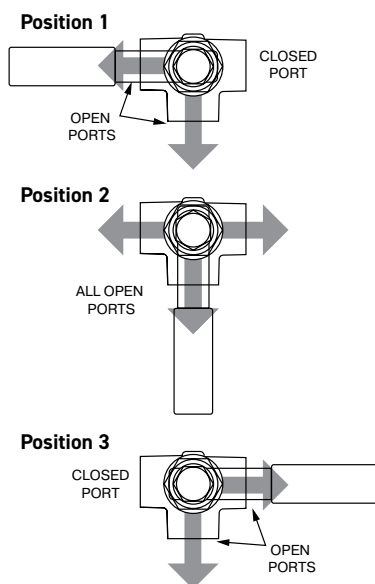
Type:

- 600-Three Position
- 633-Two Position

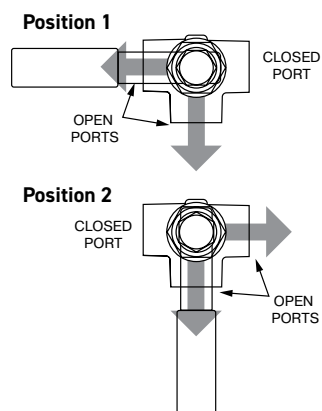
Material:

- P-Brass

Series 600 Handle Positions



Series 633 Handle Positions



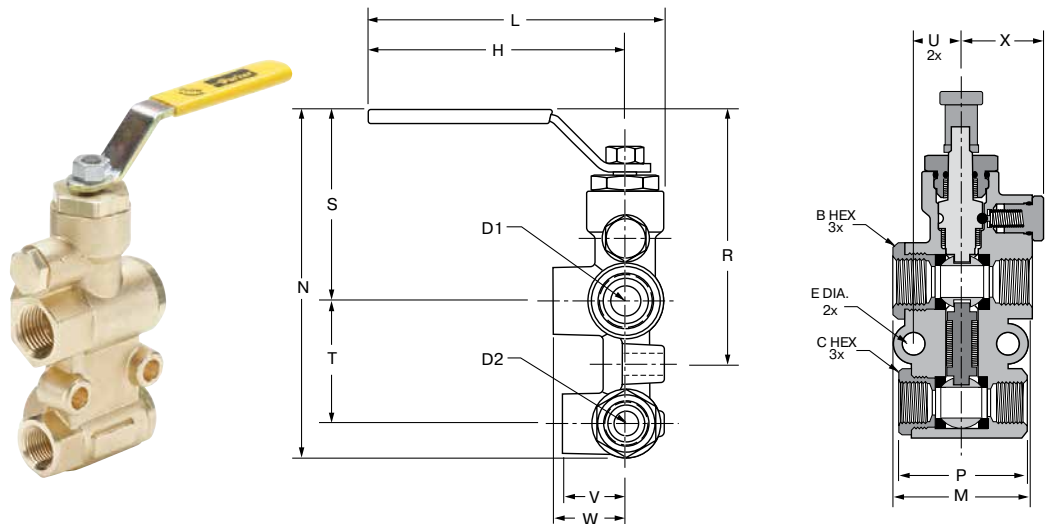
This valve can be used on applications where a fluid return or spillback is required. For use on construction equipment, chemical processing, diesel engines, filter banks, pumps and specialized industrial machinery.

NOTE: Diversion valves do not have off positions, therefore, the center ports can not be used for shut-off purposes.



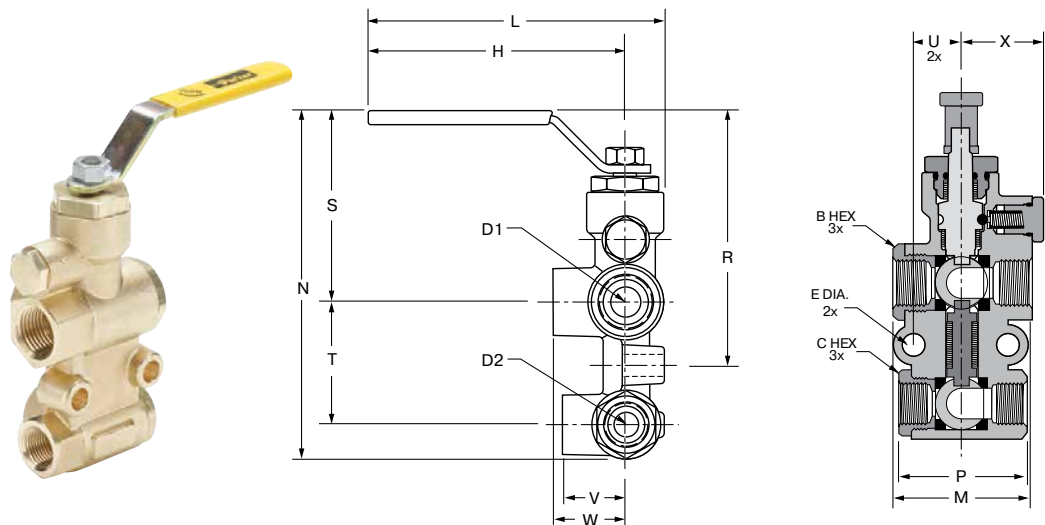
WARNING

These products can expose you to chemicals including NICKEL or LEAD, which are known to the state of California to cause cancer, and LEAD which is known to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



Six Port Diversion Brass Valve V600P

Pipe Thd. Part No.	Pipe Thd. Top Port Spl Short	Bottom Port PTF	B Hex	C Hex	D1 Flow	D2 Flow	E	H	L	M	N	P	R	S	T	U	V	W	X
V600P-8-6	1/2	3/8	1 1/16	15/16	.500	.375	.34	3.96	4.56	2.20	5.43	2.03	3.98	2.99	1.91	.73	.98	1.12	1.31



Six Port Diversion Brass Valve V633P

Pipe Thd. Part No.	Pipe Thd. Top Port Spl Short	Bottom Port PTF	B Hex	C Hex	D1 Flow	D2 Flow	E	H	L	M	N	P	R	S	T	U	V	W	X
V633P-8-6	1/2	3/8	1 1/16	15/16	.500	.375	.34	3.96	4.56	2.20	5.43	2.03	3.98	2.99	1.91	.73	.98	1.12	1.31



WARNING

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BALL VALVES CARBON STEEL SERIES 500CS/502CS



Product Features:

- Carbon Steel Phosphate Coated body
- Steel ball
- PTFE seats/seals
- Steel handle

Style:

- V-Valve
- VP-Valve, padlocking handle

Type:

- 500-Female/Female
- 502-Female/Female

Material:

- CS-Carbon Steel

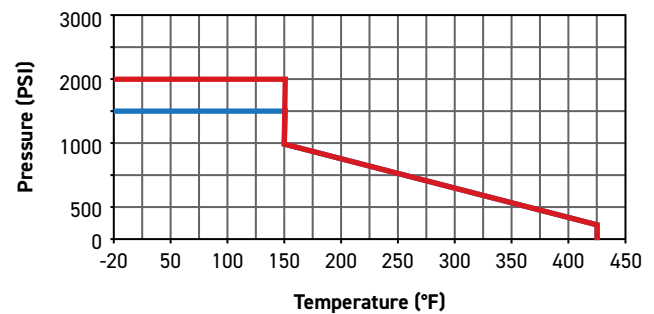
Specifications:

Pressure Range:

- 1/4" – 1": 2000 PSI (137.8 bar)
- 1 1/4" – 2": 1500 PSI (103.4 bar)
- Saturated Steam up to 150 PSI (10.3 bar)

Temperature Range

- -20° to +425° F (-28.8° to +218.3° C)



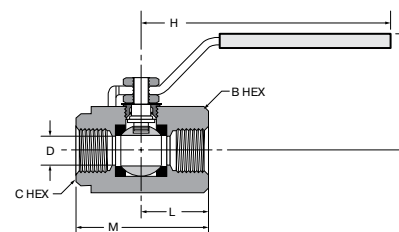
■ 1/4" to 1" ■ 1 1/4" to 2"

Flow Data	
Valve Size	CV
1/4	6.0
3/8	12.8
1/2	15.0
3/4	23.0
1	36.0
1-1/4	44.0
1-1/2	64.0
2	114.0



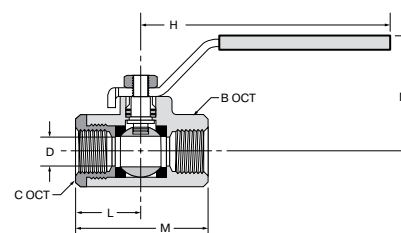
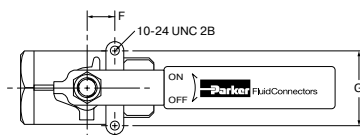
WARNING

This product can expose you to chemicals including Nickel which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov



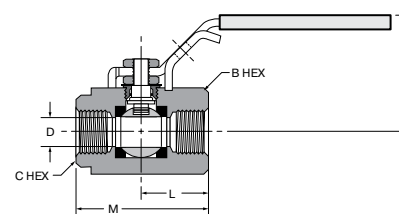
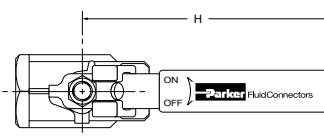
Female-Female Pipe Ends V500CS

Part No.	Pipe Thd	B Hex	C Hex	H	L	M	N	D Flow Ø
V500CS-4	1/4	1-1/16	15/16	3.78	1.00	2.00	1.63	.400
V500CS-6	3/8	1-1/16	15/16	3.78	1.00	2.00	1.63	.400
V500CS-8	1/2	1-1/4	1-1/16	3.78	1.25	2.37	1.73	.540
V500CS-12	3/4	1-5/8	1-3/8	5.10	1.50	2.90	2.08	.680
V500CS-16	1	2	1-5/8	5.10	1.76	3.41	2.30	.880



Female-Female Pipe Ends, Panel Mount V502CS

Part No.	Pipe Thd	B Oct	C Oct	F	G	H	L	M	N	Flow Dia. D
V502CS-20	1-1/4	1.98	1.98	.88	1.42	6.60	1.82	3.66	2.99	.98
V502CS-24	1-1/2	2.21	2.21	1.00	1.50	6.60	2.01	3.96	3.17	1.26
V502CS-32	2	2.69	2.69	1.00	1.50	7.50	2.28	4.61	3.52	1.500



Locking Handle, Female Pipe Ends VP500CS

Part No.	Pipe Thd	B Hex	C Hex	H	L	M	N	D Flow Ø
VP500CS-4	1/4	1-1/16	15/16	4.13	1.00	2.00	2.23	.400
VP500CS-6	3/8	1-1/16	15/16	4.13	1.00	2.00	2.23	.400
VP500CS-8	1/2	1-1/4	1-1/16	4.13	1.25	2.37	2.33	.540
VP500CS-12	3/4	1-5/8	1-3/8	5.00	1.50	2.90	2.80	.680
VP500CS-16	1	2	1-5/8	5.00	1.76	3.41	2.97	.880



WARNING

This product can expose you to chemicals including Nickel which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

BALL VALVES CARBON STEEL SERIES 506CS



Product Features:

- Carbon Steel Phosphate Coated body
- Steel ball
- PTFE seats/seals
- Steel handle

Style:

- V-Valve

Type:

- 506-Female/Female SAE
Straight Thread Ports

Material:

- CS-Carbon Steel

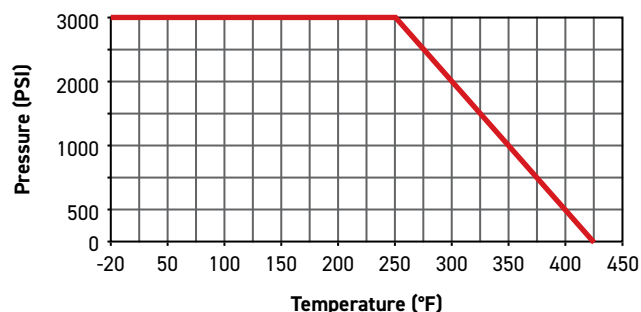
Specifications:

Pressure Range:

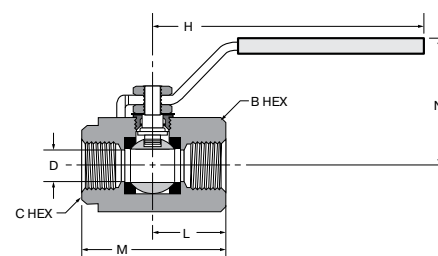
- 3000 PSI (206.8 bar)
- Saturated Steam up to 150 PSI (10.3 bar)

Temperature Range

- -20° to +425° F (-28.8° to +218.3° C)



Flow Data	
Valve Size	CV
1/4	6.0
3/8	12.0
1/2	15.0
3/4	34.0
1	54.0



Female-Female SAE Straight Thread Ports V506CS

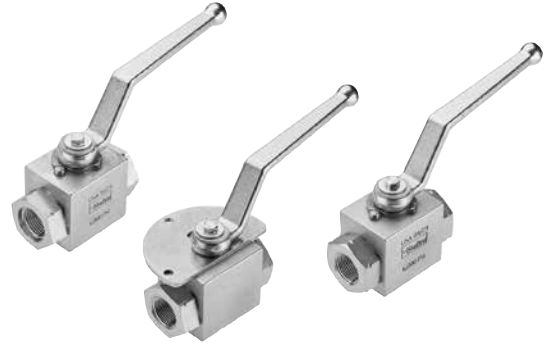
Part No.	Straight Thd	B Hex	C Hex	H	L	M	N	D Flow Ø
V506CS-4	7/16-20	1-1/16	15/16	3.78	1.00	2.00	1.63	.400
V506CS-6	9/16-18	1-1/16	15/16	3.78	1.00	2.00	1.63	.400
V506CS-8	3/4-16	1-5/8	1-1/4	4.78	1.32	2.84	2.16	.500
V506CS-12	1-1/16-12	1-7/8	1-5/8	4.78	1.66	3.71	2.35	.750
V506CS-16	1-5/16-12	2-1/2	2-1/8	6.10	1.88	4.15	2.85	1.000



WARNING

This product can expose you to chemicals including Nickel which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

BALL VALVES CARBON STEEL SERIES 500HP, 506HP



Product Features:

- Carbon Steel Phosphate Coated body
- Steel ball
- Delrin with Molybdenum Disulphide Seats
- Nitrile O-rings Stem Seals
- Steel handle

Style:

- V-Valve
- VP-Valve, padlocking handle

Type:

- 500-Female/Female NPT Ports
- 506-Female/Female SAE Straight Thread Ports

Material:

- HP-High Pressure Carbon Steel

Specifications:

Pressure Range:

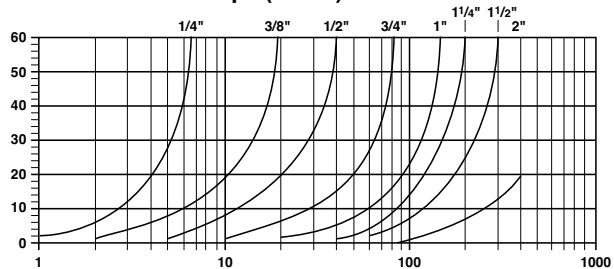
- 6000 PSI (413.6 bar)*
- 7250 PSI (9.9 bar)*

*Dependent on size

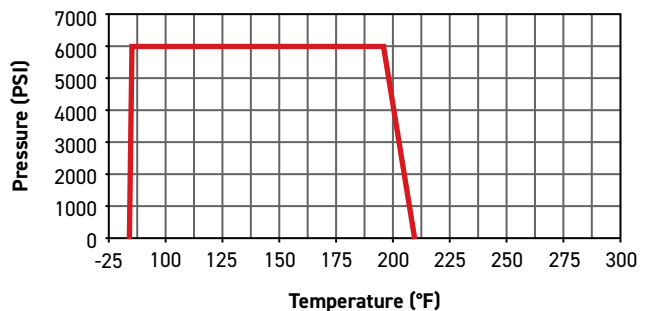
Temperature Range

- -10° to +210° F (-23.3° to 98.8° C)

Pressure Drop (PSI)

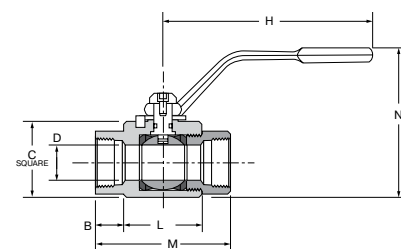


Flow (GPM)



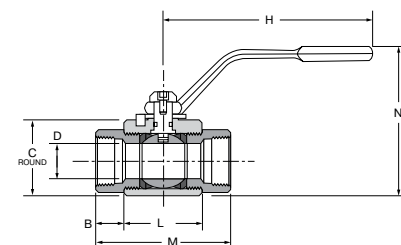
WARNING

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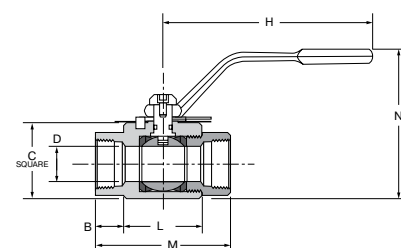
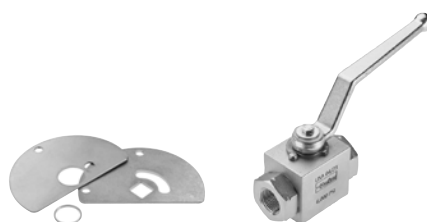
6000 PSI Female-Female Pipe Ends V500HP

Part No.	Pipe Thd [NPT]	B	C	H	L	M	N	Flow Dia. D
V500HP-12	3/4-14	.66	2.24	6.73	2.44	3.75	4.94	.790
V500HP-20	1 1/4-11.5	.79	3.38	12.05	3.15	4.72	6.99	1.26
V500HP-24	1 1/2-11.5	.89	4.06	12.05	3.35	5.12	7.66	1.50
V500HP-32	2-11.5	.78	4.79	12.05	3.94	5.50	8.21	1.89



7,250 PSI Female-Female Pipe Ends V500HP

Part No.	Pipe Thd [NPT]	B	C	H	L	M	N	Flow Dia. D
V500HP-4	1/4-18	.57	1.30	4.61	1.57	2.72	3.22	.240
V500HP-6	3/8-18	.57	1.50	4.61	1.70	2.83	3.42	.390
V500HP-8	1/2-14	.68	1.57	4.61	1.89	3.25	3.50	.510
V500HP-16	1-11.5	.76	2.76	6.73	2.92	4.45	5.45	.980



6000 PSI Locking-Female-Female Pipe Ends VP500HP

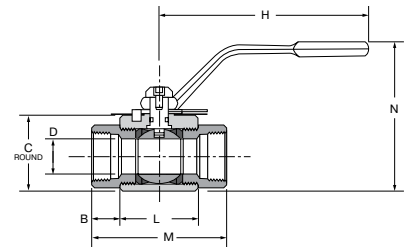
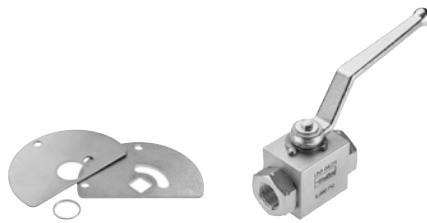
Part No.	Pipe Thd [NPT]	B	C	H	L	M	N	Flow Dia. D
VP500HP-12	3/4-14	.66	2.24	6.73	2.44	3.75	4.94	.790
VP500HP-20	1 1/4-11.5	.79	3.38	12.05	3.15	4.72	6.99	1.26
VP500HP-24	1 1/2-11.5	.89	4.06	12.05	3.35	5.12	7.66	1.50
VP500HP-32	2-11.5	.78	4.79	12.05	3.94	5.50	8.21	1.89

*Locking plate ships separately in the box. Assembly is required.



WARNING

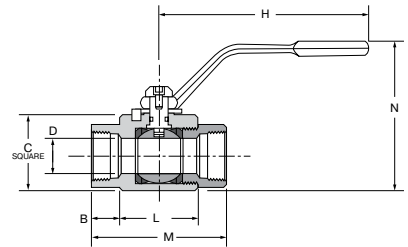
This product can expose you to chemicals including Nickel which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov



7,250 PSI Locking-Female-Female Pipe Ends VP500HP

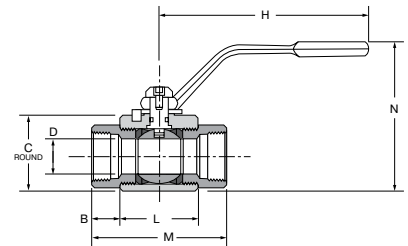
Part No.	Pipe Thd [NPT]	B	C	H	L	M	N	Flow Dia. D
VP500HP-4	1/4-18	.57	1.30	4.61	1.57	2.72	3.22	.240
VP500HP-6	3/8-18	.57	1.50	4.61	1.70	2.83	3.42	.390
VP500HP-8	1/2-14	.68	1.57	4.61	1.89	3.25	3.50	.510
VP500HP-16	1-11.5	.76	2.76	6.73	2.92	4.45	5.45	.980

*Locking plate ships separately in the box. Assembly is required.



6000 PSI Female-Female Straight Thread Ends V506HP

Part No.	SAE J1926-1 Thread	B	C	H	L	M	N	Flow Dia. D
V506HP-12	1 1/16-12 UNF	.66	2.24	6.73	2.44	3.75	4.94	.790
V506HP-20	1 5/8-12 UNF	.61	3.38	12.05	3.15	4.37	6.99	1.18
V506HP-24	1 7/8-12 UNF	.89	3.98	12.05	3.35	5.12	7.66	1.50
V506HP-32	2 1/2-12 UNF	.78	4.61	12.05	3.94	5.50	8.21	1.77



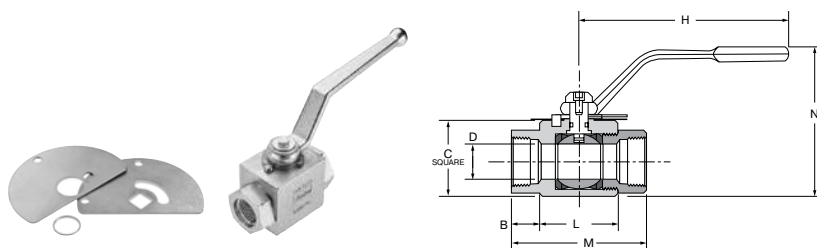
7,250 PSI Female-Female Straight Thread Ends V506HP

Part No.	SAE J1926-1 Thread	B	C	H	L	M	N	Flow Dia. D
V506HP-4	7/16-20 UNF	.57	1.30	4.61	1.57	2.72	3.22	.200
V506HP-6	9/16-18 UNF	.57	1.50	4.61	1.70	2.83	3.42	.390
V506HP-8	3/4-16 UNF	.68	1.57	4.61	1.89	3.25	3.50	.510
V506HP-16	1 5/16-12 UNF	.66	2.76	6.73	2.92	4.75	5.45	.790



WARNING

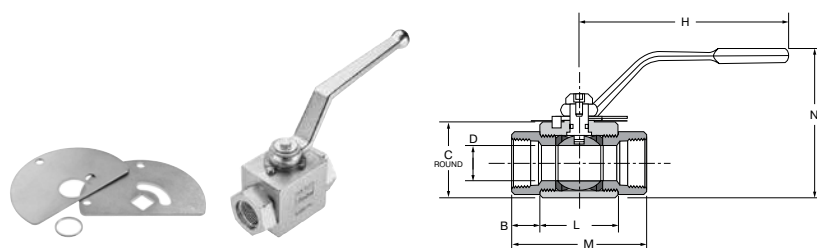
This product can expose you to chemicals including Nickel which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov



6000 PSI Locking-Female-Female Straight Thread Ends XV506HP

Part No.	SAE J1926-1 Thread	B	C	H	L	M	N	Flow Dia. D
V506HP-12	1 1/16-12 UNF	.66	2.24	6.73	2.44	3.75	4.94	.790
V506HP-20	1 5/8-12 UNF	.61	3.38	12.05	3.15	4.37	6.99	1.18
V506HP-24	1 7/8-12 UNF	.89	3.98	12.05	3.35	5.12	7.66	1.50
V506HP-32	2 1/2-12 UNF	.78	4.61	12.05	3.94	5.50	8.21	1.77

*Locking plate ships separately in the box. Assembly is required.



7,250 PSI Locking-Female-Female Straight Thread Ends V506HP

Part No.	SAE J1926-1 Thread	B	C	H	L	M	N	Flow Dia. D
V506HP-4	7/16-20 UNF	.57	1.30	4.61	1.57	2.72	3.22	.200
V506HP-6	9/16-18 UNF	.57	1.50	4.61	1.70	2.83	3.42	.390
V506HP-8	3/4-16 UNF	.68	1.57	4.61	1.89	3.25	3.50	.510
V506HP-16	1 5/16-12 UNF	.66	2.76	6.73	2.92	4.75	5.45	.790

Locking plate ships separately in the box. Assembly is required.



WARNING

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BALL VALVES STAINLESS STEEL SERIES 501SS



Product Features:

- CF-8M Stainless Steel body
- Stainless Steel ball
- PTFE Seats/Seals
- Stainless Steel handle
- Silicone Free

Style:

- V-Valve

Material:

- SS – Stainless Steel

Type:

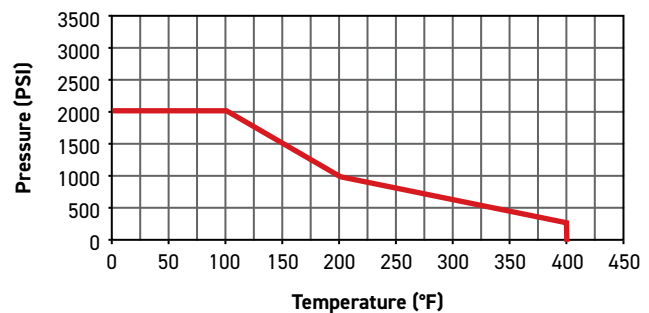
- 501-Male/Female NPT Ports

Options:

- 20-Short Handle
- 21-Oval Handle
- 35-Welded Retainer Nut

Approvals

- Meets material requirements of NACE MR-01-75



Specifications:

Pressure Range:

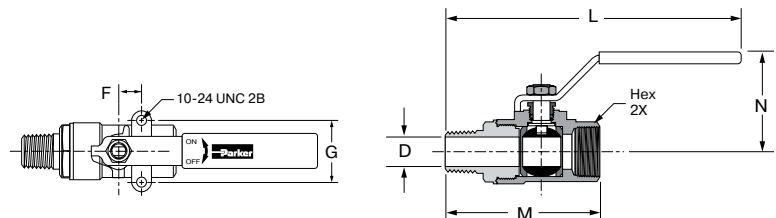
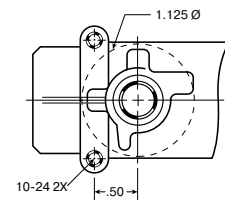
- 2000 PSI (137.8 bar)
- Vacuum service 28 inches Hg

Temperature Range

- 0° to +400° F (-17.7° to +204.4° C)

Flow Data	
Valve Size	CV
1/4	4.0
3/8	6.0
1/2	14.0
3/4	35.0
1	54.0

Mounting Detail



Male-Female Pipe Ends V501SS

Part No.	Pipe Thd [NPT]	Hex	F	G	L	M	N	D Flow Ø
V501SS-4	1/4	15/16	.50	1.12	5.60	2.65	1.97	.280
V501SS-6	3/8	15/16	.50	1.12	5.60	2.65	1.97	.375
V501SS-8	1/2	1-1/16	.50	1.12	5.85	3.05	2.00	.500
V501SS-12	3/4	1-3/8	.88	1.37	7.27	3.85	2.55	.720
V501SS-16	1	1-5/8	.88	1.37	7.48	4.25	2.68	.940



WARNING

This product can expose you to chemicals including Nickel which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

BALL VALVES STAINLESS STEEL SERIES 502SS



Product Features:

- CF-8M Stainless Steel body
- Stainless Steel ball
- PTFE Seats/Seals
- Stainless Steel handle
- Silicone Free

Style:

- V-Valve
- VP-Valve, Padlocking

Material:

- SS – Stainless Steel

Type:

- 502-Panel Mount Female/
Female NPT Ports

Options

- 20-Short Handle
- 21-Oval Handle
- 35-Welded Retainer Nut

Specifications:

Pressure Range:

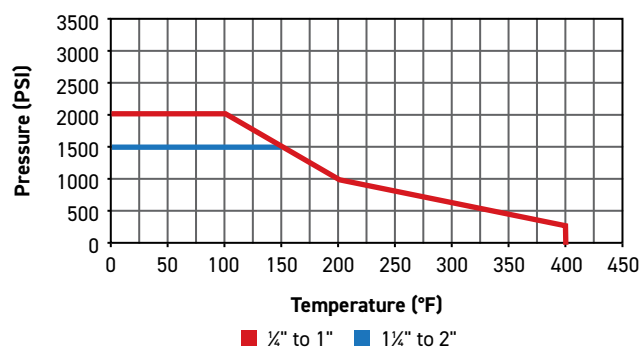
- 1/4" – 1": 2000 PSI (137.8 bar)
- 1 1/4" – 2": 1500 PSI (103.4 bar)
- Vacuum service 28 inches Hg

Temperature Range

- 0° to +400° F (-17.7° to +204.4° C)

Approvals

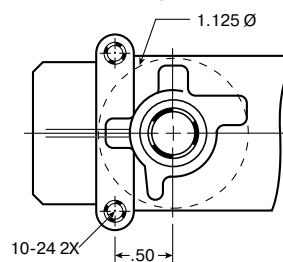
- Meets material requirements of NACE MR-01-75



Flow Data	
Valve Size	CV
1/4	4.0
3/8	6.0
1/2	14.0
3/4	35.0
1	54.0
1 1/4	74.0
1 1/2	120.0
2	226.0

Mounting hole diameter	
Valve Size	dia. in.
1/4	1.125
3/8	1.125
1/2	1.125
3/4	1.500
1	1.500
1 1/4	1.875
1 1/2	1.875
2	1.875

Mounting Detail

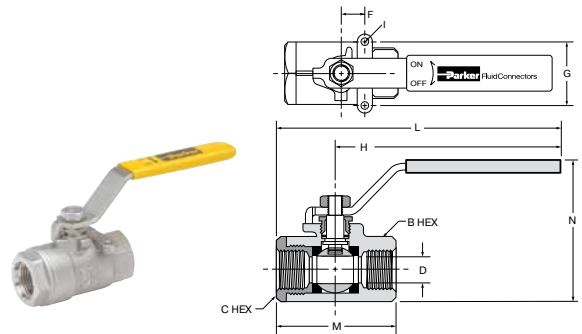


Note: Periodically check the adjustable packing nut and tighten as required.



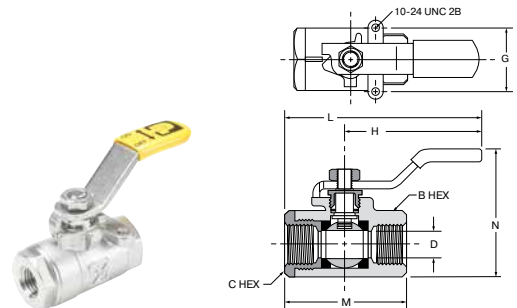
WARNING

This product can expose you to chemicals including Nickel which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov



Female Pipe Ends, Panel Mount V502SS

Part No.	Pipe Thd [NPT]	B/C Hex	F	G	H	I Thread	L	M	N	Panel Flow Dia. D	Hole Dia.
V502SS-4	1/4	15/16	.500	1.125	4.00	10-24 UNC	5.03	2.07	2.52	.380	1.125
V502SS-6	3/8	15/16	.500	1.125	4.00	10-24 UNC	5.03	2.07	2.52	.380	1.125
V502SS-8	1/2	1-1/16	.500	1.125	4.00	10-24 UNC	5.13	2.27	2.65	.500	1.125
V502SS-12	3/4	1-3/8	.875	1.375	5.00	10-24 UNC	6.67	3.35	3.46	.790	1.500
V502SS-16	1	1-5/8	.875	1.375	5.00	10-24 UNC	6.77	3.54	3.74	1.000	1.500
V502SS-20	1-1/4	2	1.000	1.500	7.00	1/4-20 UNC	9.00	4.00	4.55	1.250	2.000
V502SS-24	1-1/2	2-3/8	1.000	1.500	7.00	1/4-20 UNC	7.19	4.38	5.42	1.500	2.000
V502SS-32	2	3	1.000	1.500	7.00	1/4-20 UNC	9.75	5.50	5.68	2.000	2.000



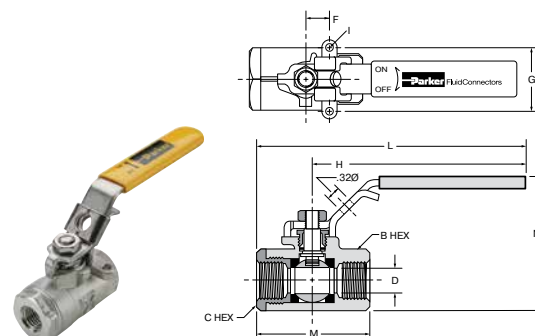
Short Handle, Female Pipe Ends, Panel Mount V502SS-X-20

Part No.	Pipe Thd [NPT]	B/C Hex	G	H	L	M	N	Flow Dia. D
V502SS-4-20	1/4	15/16	1.12	2.28	3.32	2.07	2.53	.375
V502SS-6-20	3/8	15/16	1.12	2.28	3.32	2.07	2.53	.375
V502SS-8-20	1/2	1-1/16	1.12	2.22	3.37	2.25	2.63	.500



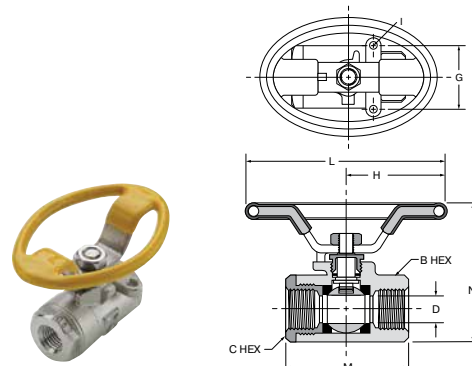
WARNING

This product can expose you to chemicals including Nickel which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov



Locking Handle, Female Pipe Ends, Panel Mount VP502SS

Part No.	Pipe Thd (NPT)	B/C Hex	F	G	H	I Thread	L	M	N	Panel Flow Dia. D	Hole Dia.
VP502SS-4	1/4	15/16	.500	1.125	4.00	10-24 UNC	5.03	2.07	2.52	.380	1.125
VP502SS-6	3/8	15/16	.500	1.125	4.00	10-24 UNC	5.03	2.07	2.52	.380	1.125
VP502SS-8	1/2	1-1/16	.500	1.125	4.00	10-24 UNC	5.13	2.27	2.65	.500	1.125
VP502SS-12	3/4	1-3/8	.875	1.375	5.00	10-24 UNC	6.67	3.35	3.46	.790	1.500
VP502SS-16	1	1-5/8	.875	1.375	5.00	10-24 UNC	6.77	3.54	3.74	1.000	1.500
VP502SS-20	1-1/4	2	1.000	1.500	7.00	1/4-20 UNC	9.00	4.00	4.55	1.250	2.000
VP502SS-24	1-1/2	2-3/8	1.000	1.500	7.00	1/4-20 UNC	7.19	4.38	5.42	1.500	2.000
VP502SS-32	2	3	1.000	1.500	7.00	1/4-20 UNC	9.75	5.50	5.68	2.000	2.000



Oval Handle, Female Pipe Ends, Panel Mount V502SS-X-21

Part No.	Pipe Thd (NPT)	B/C Hex	G	H	L	I Thread	M	N	Panel Flow Dia. D	Hole Dia.
V502SS-4-21	1/4	15/16	1.125	1.74	3.48	10-24 UNC	2.07	2.43	.380	1.125
V502SS-6-21	3/8	15/16	1.125	1.74	3.48	10-24 UNC	2.07	2.43	.380	1.125
V502SS-8-21	1/2	1-1/16	1.125	1.74	3.48	10-24 UNC	2.27	2.54	.500	1.125
V502SS-12-21	3/4	1-3/8	1.375	2.68	5.36	10-24 UNC	3.35	3.45	.790	1.500
V502SS-16-21	1	1-5/8	1.375	2.68	5.36	10-24 UNC	3.54	3.74	1.000	1.500



WARNING

This product can expose you to chemicals including Nickel which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

BALL VALVES MICRO SERIES 708/709



Product Features:

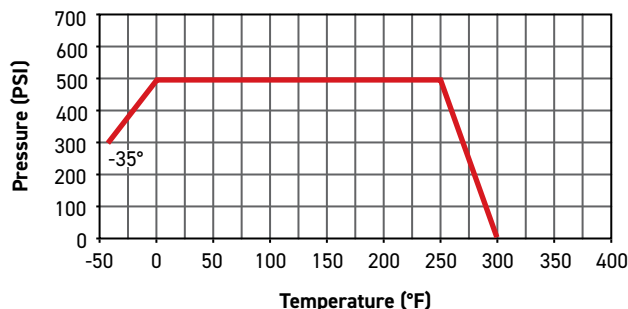
- Brass Body
- Chrome Plated Brass Ball
- PTFE Seats/Seals
- Nitrile Stem Seal
- Chrome Plated Steel Handle

Style:

- MV-Micro Valve

Type:

- 708-Male/Female
- 709-Female/Female



Specifications:

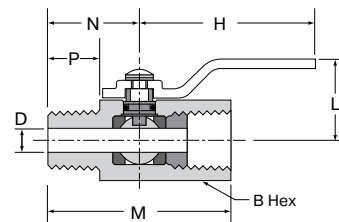
Pressure Range:

- Up to 500 PSI (34.4 bar)
- Vacuum service 29 inches Hg

Temperature Range

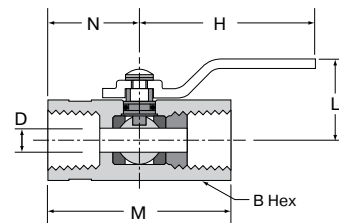
- -35° to +300° F (-37.2 to +148.8° C)

Flow Data		
Valve Size	MV708 CV	MV709 CV
1/4	.95	.95



Male-Female Pipe Ends, Mini Ball Valve MV708

Part No.	Pipe Thread	B Hex	H	L	M	N	P	Flow Dia. D
MV708-2	1/8	9/16	1.18	.63	1.62	.93	.38	.180
MV708-4	1/4	11/16	1.52	.70	1.57	.79	.50	.210



Female Pipe Ends, Mini Ball Valve MV709

Part No.	Pipe Thread	B Hex	H	L	M	N	Flow Dia. D
MV709-2	1/8	9/16	1.18	.63	1.52	.68	.180
MV709-4	1/4	11/16	1.52	.70	1.57	.76	.210



WARNING

These products can expose you to chemicals including NICKEL or LEAD, which are known to the state of California to cause cancer, and LEAD which is known to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

BALL VALVES MINI SERIES 200/608/609

Product Features:

- Chrome Plated Brass Body
- Chrome Plated Brass Ball
- PTFE Seats/Seals
- Fluorocarbon Stem Seal
- 608/609 Polyamide Wedge Handle
- 200 Polyamide Lever Handle

Style:

- MV-Mini Valve

Type:

- 608-Male/Female
- 609-Female/Female
- 200-Female/Female
- 21-Oval Handle

Specifications:

Pressure Range:

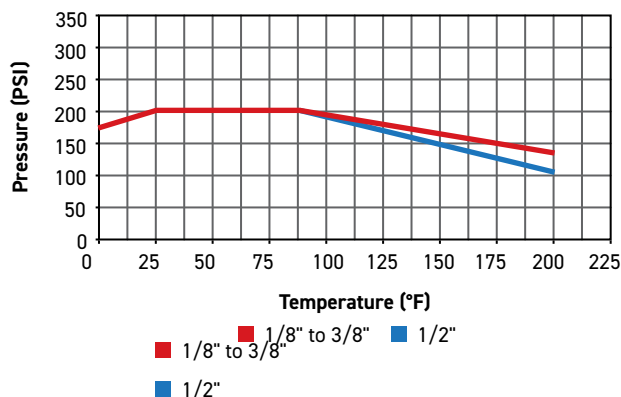
- MV200: 200 PSI (13.7 bar)
- MV608/609: Vacuum Service 28 Inches Hg
- MV608/609: 450 PSI (31.0 bar)

Temperature Range

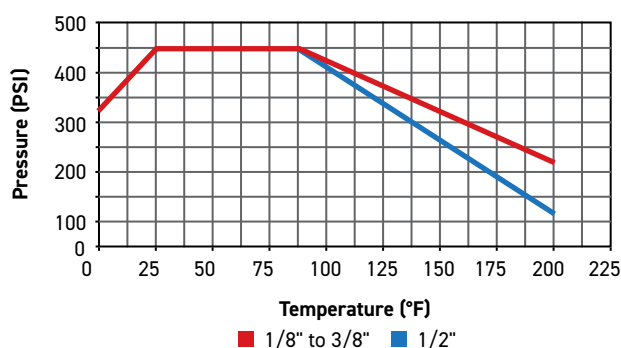
- 0° to +200° F (-17.7° to +93.3° C)



MV200 Pressure and Temperature



MV608/609 Pressure and Temperature

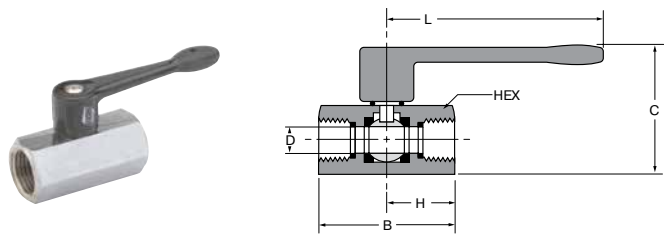


Flow Data			
Valve Size	MV200 CV	MV608 CV	MV609 CV
1/8	1.3	1.2	1.4
1/4	4.0	5.8	4.3
3/8	3.7	3.9	3.6
1/2	5.8	5.6	6.0



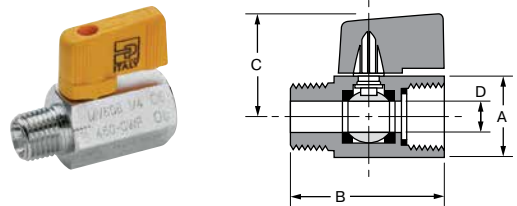
WARNING

These products can expose you to chemicals including NICKEL or LEAD, which are known to the state of California to cause cancer, and LEAD which is known to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



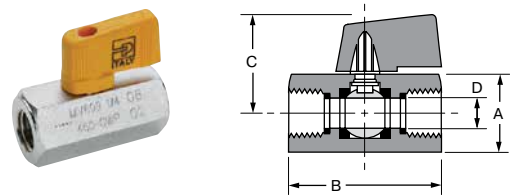
Female Pipe Ends, Lever Handle, Mini Ball Valve MV200

Part No.	Pipe Thread	Hex	B	C	H	L	Flow Dia. D
MV200-2	1/8	.83	1.71	1.20	.91	2.83	.31
MV200-4	1/4	.83	1.71	1.20	.91	2.83	.31
MV200-6	3/8	.83	1.71	1.20	.91	2.83	.31
MV200-8	1/2	.98	2.11	1.28	1.10	2.83	.39



Male-Female Pipe Ends, Compact Handle, Mini Ball Valve MV608

Part No.	Pipe Thread	A Hex	B	C	Flow Dia. D
MV608-2	1/8	.83	1.72	1.22	.20
MV608-4	1/4	.83	1.72	1.22	.31
MV608-6	3/8	.83	1.72	1.22	.31
MV608-8	1/2	.98	2.11	1.30	.39



Female Pipe Ends, Compact Handle, Mini Ball Valve MV609

Part No.	Pipe Thread	A Hex	B	C	Flow Dia. D
MV609-2	1/8	.83	1.71	1.22	.24
MV609-4	1/4	.83	1.71	1.22	.31
MV609-6	3/8	.83	1.71	1.22	.31
MV609-8	1/2	.98	2.11	1.30	.39
MV609-6-4	3/8X1/4	.83	1.71	1.22	.31



WARNING

These products can expose you to chemicals including NICKEL or LEAD, which are known to the state of California to cause cancer, and LEAD which is known to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

PLUG VALVES SERIES PV



Product Features:

- Extruded Brass Body
- One Piece Stem/Handle
- Acetal Stem/Handle
- 100% Leak Tested

Style:

- PV-Plug Valve

Type:

- 607-Male/Male
- 608-Male/Female
- 609-Female/Female

Specifications:

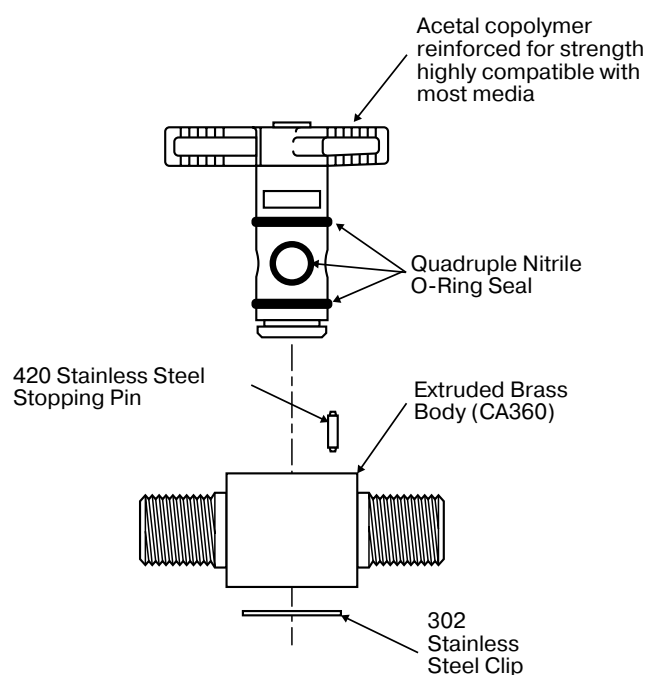
Pressure Range:

- Up to 250 PSI (17.2 bar)

Temperature Range

- -40° to +175° F (-40° to +79.4° C)

Valve Components



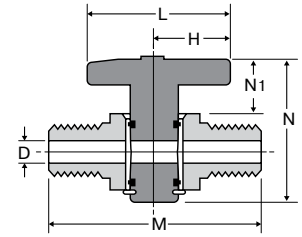
Assembly Instructions

To assure sealability and reliable performance, the valve must be installed so that the flow media travels in the direction of the arrow on the valve handle.



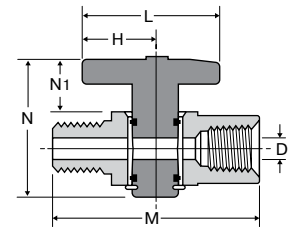
WARNING

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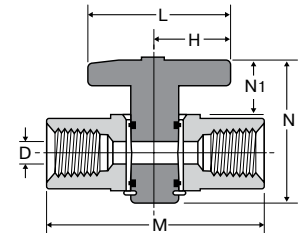
Male Pipe to Male Pipe Plug Valve PV607

Part No.	Pipe Thread	H	L	M	N	N1	Flow Dia. D
PV607-2	1/8	.67	1.34	1.66	1.38	.51	.200
PV607-4	1/4	.67	1.34	2.02	1.38	.51	.200



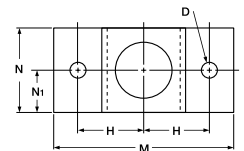
Female Pipe to Male Pipe Plug Valve PV608

Part No.	Pipe Thread	H	L	M	N	N1	Flow Dia. D
PV608-2	1/8	.67	1.34	1.67	1.38	.51	.200
PV608-4	1/4	.67	1.34	2.06	1.38	.51	.200



Female Pipe to Female Pipe Plug Valve PV609

Part No.	Pipe Thread	H	L	M	N	N1	Flow Dia. D
PV609-2	1/8	.67	1.34	1.68	1.38	.51	.200
PV609-4	1/4	.67	1.34	2.10	1.38	.51	.200



Mounting Bracket PVMB-001

Part No.	H	M	N	N1	D
PVMB-001	.68	1.86	.90	.45	.135

Note: 1" diameter hole required in panel when using mounting bracket



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BALL VALVES ROTARY ACTUATOR SERIES ACT



Product Features:

- One Piece Aluminum Extrusion Body
- PTFE Seals
- Stainless Steel Shaft
- Self Lubricated Vane Seal
- Anodized Aluminum Extrusion Vane

Specifications:

Pressure Range:

- 150 PSI (10.3 bar)
Maximum Air Pressure to Actuator
- Vacuum service 28 inches Hg

Temperature Range

- -40° to +180° F (-40° to +82.2° C)

How Do Vane Actuators Work?

Parker vane actuators provide the maximum amount of output torque from the smallest possible envelope size. They convert fluid power pressure into rotary motion for a wide variety of industrial applications. Double vane units produce twice the torque output of single vane actuators from identical envelope dimensions and have a maximum rotation of 95°.

A short cylindrical chamber encloses a vane attached to a central shaft. Fluid pressure differential is applied through a stationary barrier (stator) within the cylinder to one side of the vane. The opposite side of the vane is connected to exhaust through the stator. This pressure differential produces rotation of the vane and central shaft. Due to vane actuator design there will always be some internal bypass in these units.

Rotary Actuator Series ACT Features

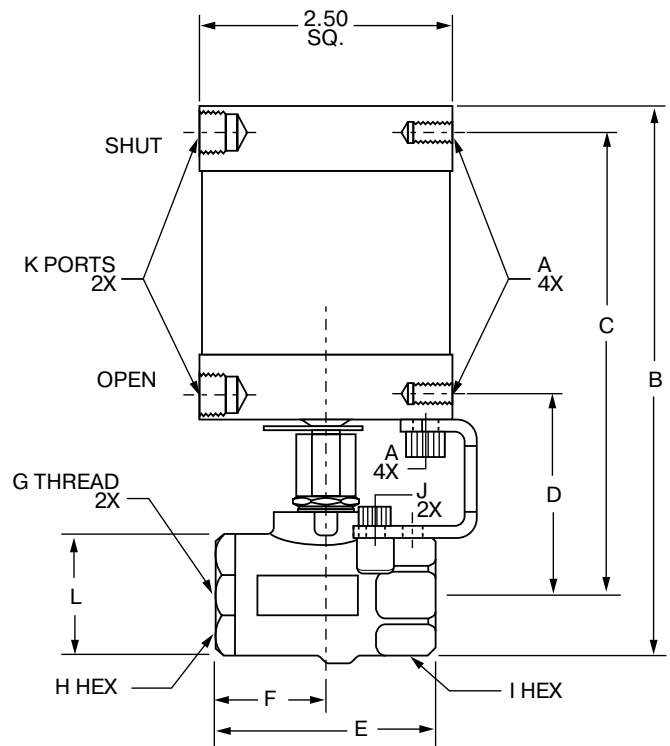
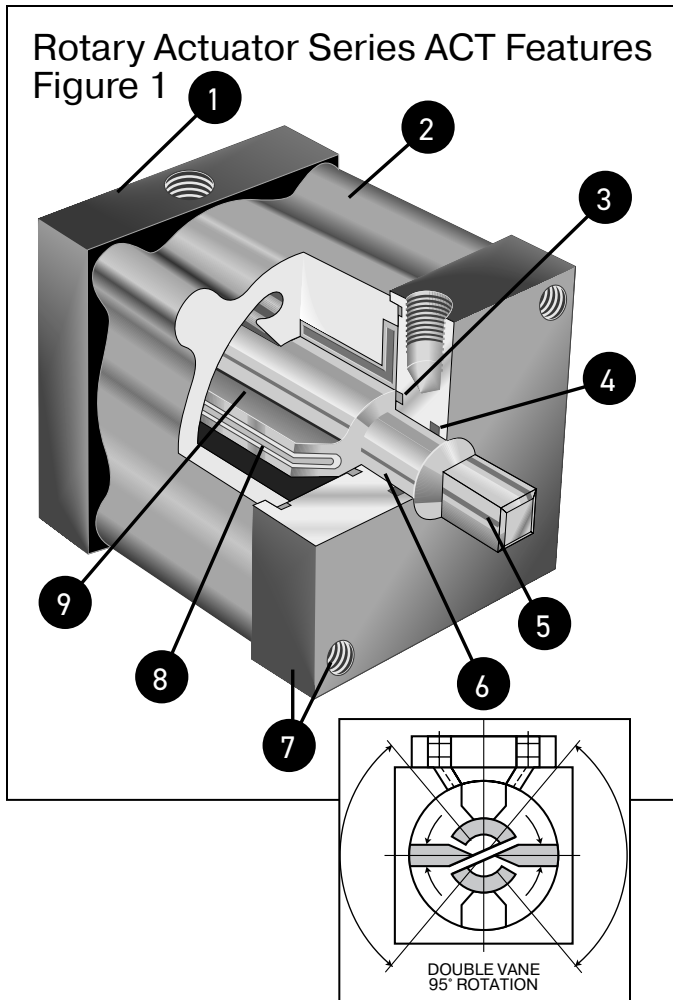
(See figure 1, next page)

1. **Heads** - are precision machined from aluminum, then hard-coat anodized and PTFE impregnated to ensure long seal life and low breakaway pressure.
2. **Body** - is machined from a one-piece aluminum extrusion that incorporates the stator for superior rigidity. The extrusion is hard-coat anodized and PTFE impregnated, resulting in a smooth, slick seal surface which guarantees long seal life and low breakaway pressure.
3. **Shoulder Seal** - a nitrile-energized, PTFE seal is used to reduce bypass flow and friction, providing superior performance and long life.
4. **Shaft Seal** - the high-quality, self-lubricated, abrasion-resistant nitrile seal is a multiple lobe construction for leakfree operation and greater reliability.
5. **Shaft** - stainless steel provides high strength and corrosion resistance for the most demanding applications.
6. **Bearings** - hard-coat anodized aluminum-bearing surface with permanent solid film lubricant provides substantial shaft support and wear resistance, ensuring continuous lubrication, high performance, and long life.
7. **Mounting** - combination face and base mounting offer flexibility in application and design.
8. **Vane Seal** - a special self-lubricated, abrasion-resistant nitrile compound is molded into a one-piece vane seal, providing low breakaway pressure and long life, even with no lubrication. The vane seal is also removable so that field repairs can be made, if necessary.
9. **Vane** - a hard-coat anodized aluminum extrusion permanently affixed to shaft, forming a structurally sound assembly. The light weight also reduces inertia allowing faster operating speeds.



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Rotary Actuator, Female Pipe Ends V502P-X-ACT

Part No.	Size	A Mtg. Holes	B	C	D	E	F	G	H Hex	I Hex	J UNC	K NPTF	L	Flow Dia.	Flow CV	Min. Act Pressure (psi)
V502P-4-ACT	1/4	1/4-20 UNC	5.25	4.47	1.91	2.03	1.00	1/4-18PTF	15/16	15/16	10-24	1/8-27	1.06	.375	4.0	50
V502P-6-ACT	3/8	1/4-20 UNC	5.25	4.47	1.91	2.03	1.00	3/8-18PTF	15/16	15/16	10-24	1/8-27	1.06	.375	5.8	50
V502P-8-ACT	1/2	1/4-20 UNC	5.38	4.54	1.98	2.20	1.09	1/2-14PTF*	1-1/16	1-1/16	10-24	1/8-27	1.19	.500	12.0	50
V502P-12-ACT	3/4	1/4-20 UNC	5.57	4.63	2.07	2.42	1.29	3/4-14PTF**	1-5/16	1-1/4	10-24	1/8-27	1.38	.685	25.0	75
V502P-16-ACT	1	1/4-20 UNC	5.85	4.76	2.20	2.75	1.38	1-11.5PTF**	1-9/16	1-1/2	10-24	1/8-27	1.67	.875	35.0	75

Stainless Steel Rotary Actuator, Female Pipe Ends V502SS-X-ACT

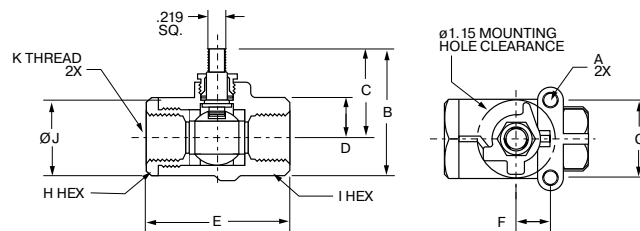
Part No.	Size	A Mtg. Holes	B	C	D	E	F	G	H/I Hex	J	K NPTF	L	Flow Dia.	Flow CV
V502SS-4-ACT	1/4	1/4-20 UNC	5.41	4.61	2.05	2.07	1.04	1/4-18 NPT	15/16	10-24	1/8-27	1.10	.375	4.0
V502SS-6-ACT	3/8	1/4-20 UNC	5.41	4.61	2.05	2.07	1.04	3/8-18 NPT	15/16	10-24	1/8-27	1.10	.375	6.0
V502SS-8-ACT	1/2	1/4-20 UNC	5.53	4.64	2.08	2.27	1.17	1/2-14 NPT	1 1/16	10-24	1/8-27	1.28	.500	14.0

*PTF Special Short. **PTF Special Extra Short



WARNING

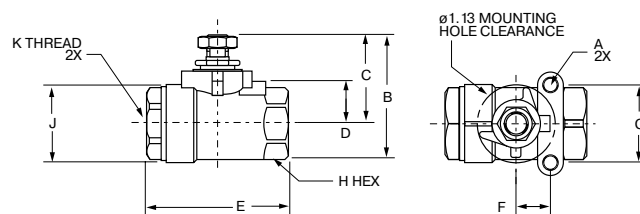
These products can expose you to chemicals including NICKEL or LEAD, which are known to the state of California to cause cancer, and LEAD which is known to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



Actuator Sub-Assembly V502P-X-SUB

Part No.	Size	A UNC	B	C	D	E	F	G	H Hex	I Hex	J	K
V502P-4-SUB	1/4	10-24	1.68	1.15	.495	2.03	.50	1.12	15/16	15/16	1.06	1/4-18 PTF
V502P-6-SUB	3/8	10-24	1.68	1.15	.495	2.03	.50	1.12	15/16	15/16	1.06	3/8-18 PTF
V502P-8-SUB	1/2	10-24	1.78	1.19	.565	2.20	.50	1.12	1-1/16	1-1/16	1.19	1/2-14 PTF*
V502P-12-SUB	3/4	10-24	2.09	1.40	.655	2.42	.87	1.37	1-5/16	1-1/4	1.38	3/4-14 PTF**
V502P-16-SUB	1	10-24	2.38	1.54	.785	2.75	.87	1.37	1-9/16	1-1/2	1.67	1-11.5 PTF**

* PTF Special Short ** PTF Special Extra Short



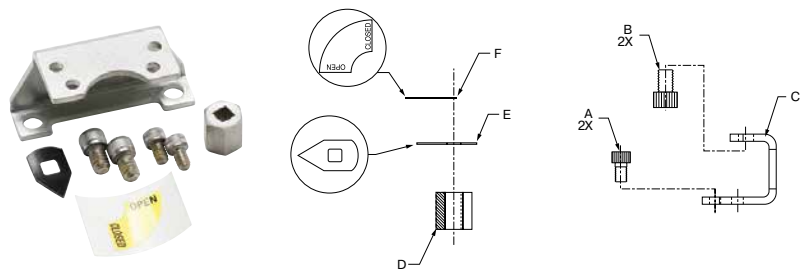
Actuator Sub-Assembly V502SS-X-SUB

Part No.	Size	A UNC	B	C	D	E	F	G	H Hex	J	K
V502SS-4-SUB	1/4	10-24	1.88	1.32	.63	2.07	.50	1.12	15/16	1.10	1/4-18 NPT
V502SS-6-SUB	3/8	10-24	1.88	1.32	.63	2.07	.50	1.12	15/16	1.10	3/8-18 NPT
V502SS-8-SUB	1/2	10-24	2.00	1.35	.66	2.27	.50	1.12	1-1/16	1.28	1/2-14 NPT



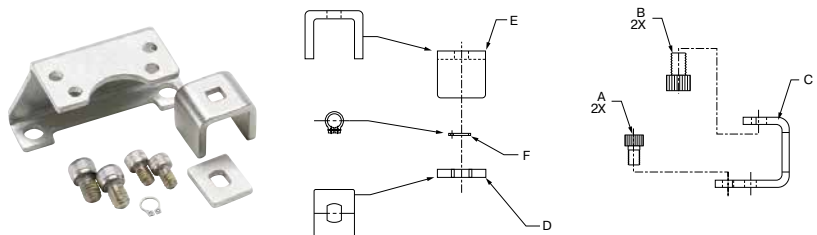
WARNING

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ACT-P-X-KIT

Part No.	For Use With	A	B	C	D	E	F
ACT-P-1-KIT	V502P-4, 6, 8-ACT	10-24 UNC	1/4-20 UNC	Bracket	.60 Long Coupling	Position Indicator	Position Label
ACT-P-2-KIT	V502P-12, 16-ACT	10-24 UNC	1/4-20 UNC	Bracket	.55 Long Coupling	Position Indicator	Position Label



ACT-SS-X-KIT

Part No.	For Use With	A	B	C	D	E	F
ACT-SS-1-KIT	V502SS-4, 6, 8-ACT	10-24 UNC	1/4-20 UNC	Bracket	Clip	Handle Yoke	Snap Ring



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BALL VALVE SERIES BVGL

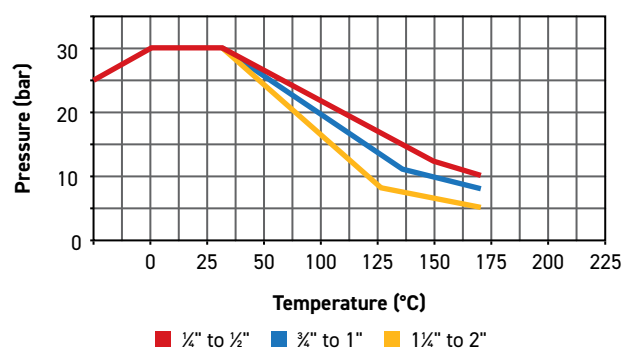


Product Features:

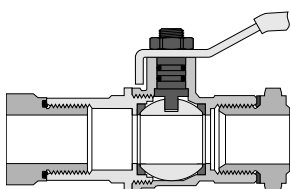
- Nickel plated brass body
- Chrome plated brass ball
- PTFE seats/seals
- Fluorocarbon stem seal

Specifications:

- Female threads manufactured in accordance to DIN 2999/ISO 228
- **Pressure Range:** Up to 580 (40 bar)
- **Temperature Range:** -58° to + 338° F (-50° to +170° C)
- **Compatible Fluids:** Compressed Air, Water, Gas

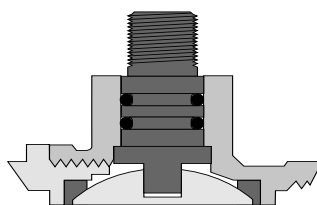


Advantages



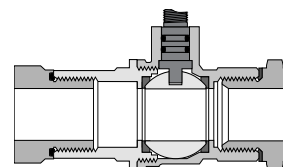
Long female threads

BVGL series valves are manufactured with long female threads in accordance to DIN 2999/ISO 228. This enables the valves to be used with Prestolok and brass adaptors but also Parker's range of steel hydraulic fittings, e.g. Triple-Lok, O-Lok, EO, and BSPP coned adaptors.



Anti extrusion stem

The BVGL series ball valves are fitted with an anti extrusion stem to prevent blow out in the case of pressure peaks. The stem is sealed with two Fluorocarbon O-rings for maximum safety and performance.



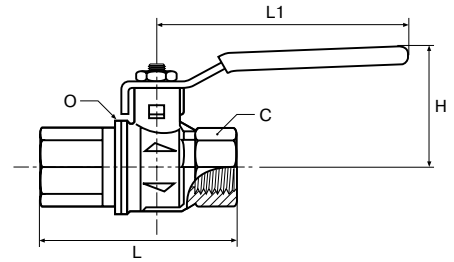
Full flow

All BVGL series valves are full-flow. This limits the turbulence created by the passage of fluid across the valve, minimizing pressure drop.



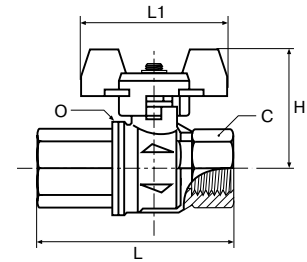
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BVGL BSPP Female/Female Valve with Lever Handle

Part No.	DN (mm)	Thread BSPP	C	H	L	L1	O
BVG4-1/4L	8	1/4	20	38	50	82	25.0
BVG4-3/8L	10	3/8	20	38	60	82	25.0
BVG4-1/2L	15	1/2	25	43	75	100	32.5
BVG4-3/4L	20	3/4	32	50	80	120	39.0
BVG4-1L	25	1	41	54	90	120	47.5
BVG4-1.1/4L	32	1 1/4	50	73	110	158	59.0
BVG4-1.1/2L	40	1 1/2	55	79	120	158	71.5
BVG4-2L	50	2	70	86	140	158	86.0



BVGT4 BSPP Female/Female Valve with Compact Handle

Part No.	DN (mm)	Thread BSPP	C	H	L	L1	O
BVGT4-1/4L	8	1/4	20	39	50	50	25.0
BVGT4-3/8L	10	3/8	20	39	60	50	25.0
BVGT4-1/2L	15	1/2	25	43	75	50	32.5
BVGT4-3/4L	20	3/4	32	47	80	60	39.0
BVGT4-1L	25	1	41	51	90	60	47.5



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BALL VALVE SERIES BVGLOCK

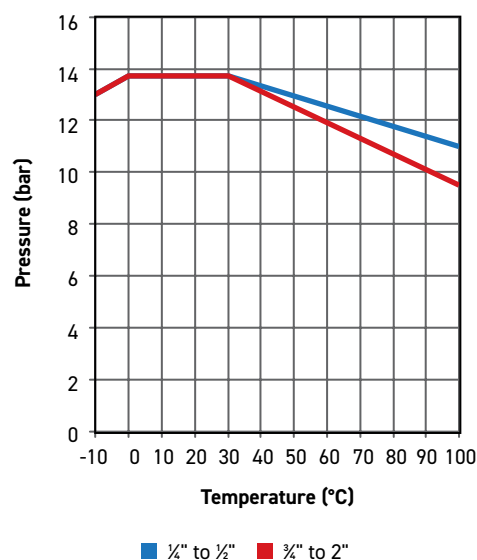


Product Features:

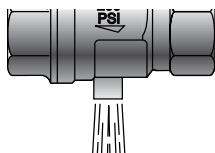
- Nickel plated brass body
- Chrome plated brass ball
- PTFE seats /seals
- PTFE packing gland
- Carbon steel handle

Specifications:

- Meets the requirements of European directive DI 89/392/CEE relating to the isolation of power supply and to meet the health and safety requirements for machines and materials in paragraphs L233-5 of the code DU Travail.

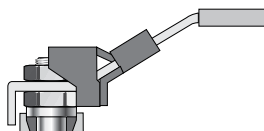


Advantages



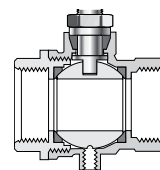
Threaded Exhaust

BVGLOCK series ball valves are manufactured with an exhaust port, this safety feature enables the downstream air pressure to be vented when the valve is closed. 1/4-1" have M5 thread. 1.1/4 and larger are not threaded.



Lockable Handle

The BVGLOCK series ball valves are fitted with a handle that can be locked in the closed position with a padlock. This safety feature ensures the valve cannot be accidentally opened, and only authorized personnel can operate the valve.



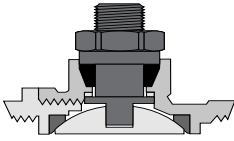
DIN 2999 / ISO 228 Female Threads

BVGLOCK series valves are manufactured with long female threads in accordance to DIN2999/ISO228. This enables the valves to be used with Prestolok and brass adaptors but also Parker's range of steel hydraulic fittings and EO-fittings form "A" or "C" to DIN 3852.



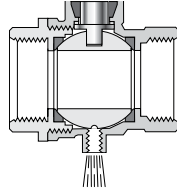
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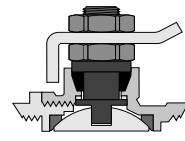
Anti Extrusion Stem

The BVGLOCK series ball valves are fitted with an anti-extrusion stem to prevent blow out in the case of pressure peaks.



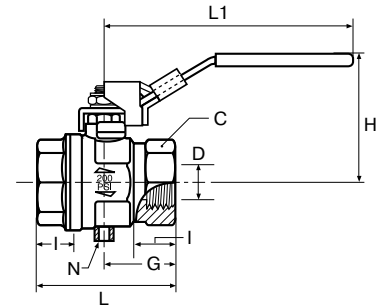
Full Flow

All BVGLOCK series valves are full-flow. This limits the turbulence created by the passage of fluid across the valve, minimizing pressure drop.



Adjustable Packing

The PTFE packing gland and adjustable washer are designed to give longer service like and lower operating torques.



BVG4PLOCK BSPP Female/Female, Vented, Locking Handle

Part No.	D Flow Ø	Thread BSPP	C	G	H	I	L	L1	N
BVG4P-1/4 LOCK	8.0	1/4	20	22.5	47.5	12.0	45	96	M5
BVG4P-3/8 LOCK	9.5	3/8	20	22.5	47.5	12.0	45	96	
BVG4P-1/2 LOCK	15.0	1/2	25	29.5	52.0	15.5	59	96	
BVG4P-3/4 LOCK	19.0	3/4	31	32.0	59.5	17.0	64	117	
BVG4P-1 LOCK	24.0	1	40	40.5	63.5	21.0	81	117	
BVG4P-1.1/4LOCK	32.0	1-1/4	49	46.5	76.5	23.0	93	158	G1/4
BVG4P-1.1/2LOCK	40.0	1-1/2	54	51.0	82.5	23.0	102	158	
BVG4P-2LOCK	50.0	2	69	60.5	89.5	26.5	121	158	



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AXIAL VALVES

This valve is equipped with a pneumatic or electro-pneumatic actuator, so it can be integrated into simple automated systems.

Product Features:

- Very compact
- Simple to install: ready-to-use
- Two seal materials (FKM, EPDM) for a wider chemical and temperature range
- Pneumatic or electro-pneumatic
- Three versions: normally closed, normally open and double-acting
- Uni-directional Flow arrow marked on body

Applications:

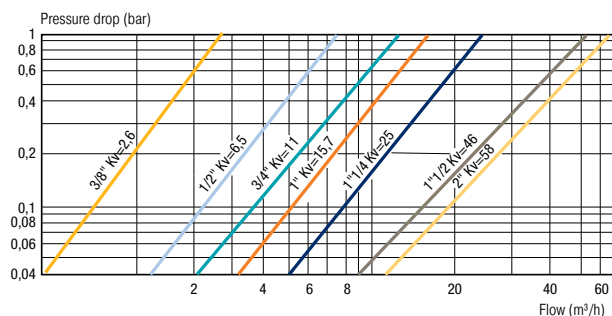
- Injection Molding
- Pneumatics
- Packaging
- Textile
- Printing
- Robotics

Compatible Fluids:

- Compressed air, water, industrial fluids
- Other fluids: please contact division.

Flow Curve and Pressure Drop (Kv)

Kv in m³/h (ambient water temperature, under a differential pressure of 1 bar)



Specifications:

Pressure Range:

- Up to 150 PSI (10.3 bar)

Vacuum Service:

- 29 in Hg

Pilot Pressure:

- NC and NO: 61 to 116 PSI (4.2 to 8 bar)
- Double-acting: 62 to 116 PSI (4.3 to 8 bar)

Temperature Range:

- -4° to +275°F (-20° to +150°C) (suffix 20 FKM)
- -4° to +275°F (-20° to +150°C) (suffix 30 EPDM optional; please contact division)

Reliable performance is dependent upon the type of fluid conveyed, component materials and tubing being used.

Guaranteed for use with a vacuum of 23 mm Hg (97% vacuum).

Regulations

- PED
- RoHS
- REACH

Silicone-free

Sub-base:

technical polymer

O-ring:

EPDM or FKM

Seat:

nickel-plated brass

Seat seal:

EPDM or FKM

Body: nickel-plated shot-blasted brass

Piston: chemical nickel-plated brass

Lip seal: EPDM or FKM

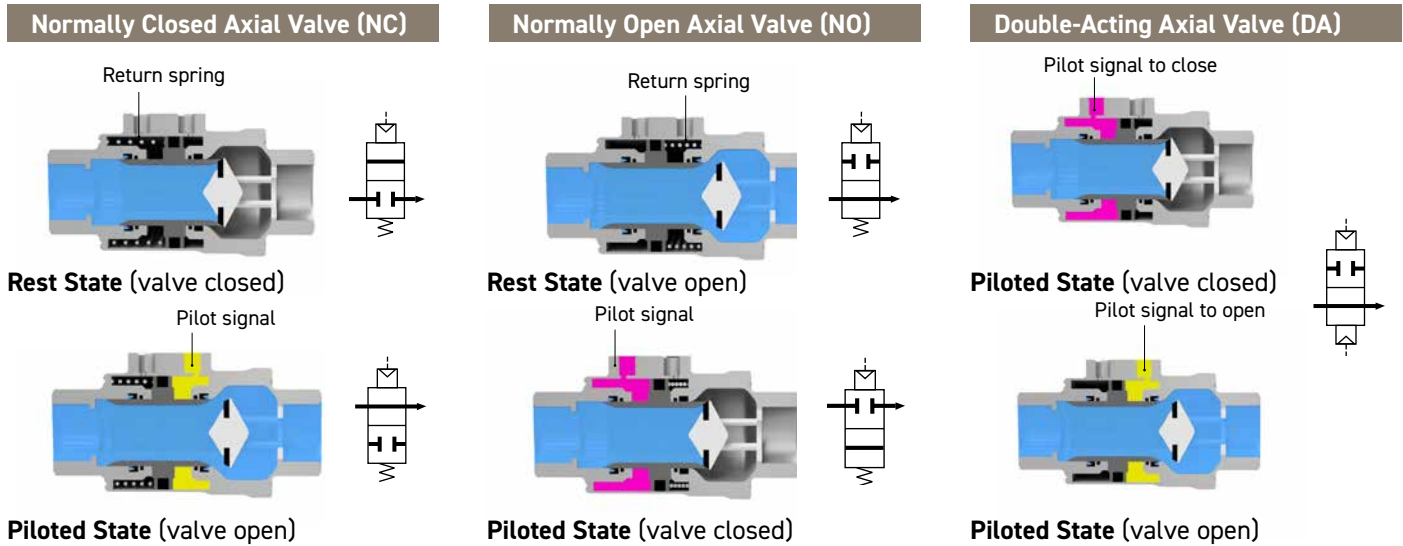


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Operation

Depending on operational requirement, piloting air is passed into the actuation chamber to open or close the valve.



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Installation Options

The Parker Legris axial valve offers 3 control methods depending on the application:

Pneumatic Control

- available for single or double acting
- local compressed air control
- for repetitive on/off cycles
- remote control where access to the machine is difficult or ATEX areas

Pneumatic operation



Electro-Pneumatic Control

with **NAMUR spool valve** (5/2 for double acting)

- available for single or double acting
- for automated industrial systems
- Namur pad-mounting (delivered unassembled)
- robust and compact solution
- better response time than other technologies

Electro-pneumatic operation



Electro-Pneumatic Control

with **solenoid valves** (3/2)

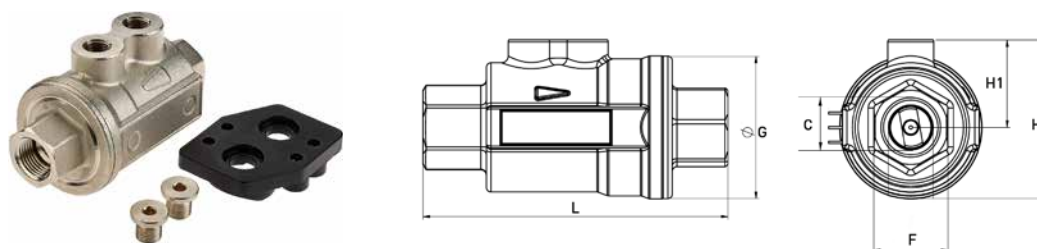
- recommended for single acting
- for automated industrial systems
- pilot solenoid valve banjo G1/8 normally closed 3/2
- easy to connect
- swivel at 360°

Electro-pneumatic operation



WARNING

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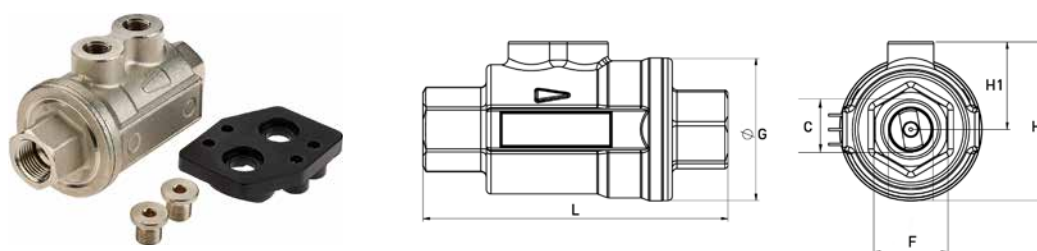
4202 Normally Closed Axial Valve with FKM Seal, Female BSPP Thread Nickel-plated brass

Part No.	C BSPP	F (mm)	G (in)	H (in)	H1 (in)	L (in)	kg.
4202 10 17 20	G3/8	22.0	46	53.5.0	30.5	98.0	0.650
4202 15 21 20	G1/2	27.0	52	59.0	33.0	113.0	0.850
4202 20 27 20	G3/4	33.0	63.5	71.0	39.0	136.0	1.500
4202 25 34 20	G1	41.0	69	76.0	41.5	144.0	1.700
4202 32 42 20*	G1 1/4	50.0	86	91.0	48.0	166.0	3.300
4202 40 49 20*	G1 1/2	60.0	96	102.0	54.0	181.0	3.600
4202 50 48 20*	G2	70.0	109	115.0	60.0	205.0	5.100

Pilot port: G1/8

Delivered with a silencer

*Models with EC marking



4203 Normally Closed Axial Valve with FKM Seal, Female NPT Thread Nickel-plated brass

Part No.	C NPT	F (mm)	G (in)	H (in)	H1 (in)	L (in)	lb.
4203 10 18 20	3/8	22.0	46	53.5.0	30.5	98.0	0.650
4203 15 22 20	1/2	27.0	52	59.0	33.0	113.0	0.850
4203 20 28 20	3/4	33.0	63.5	71.0	39.0	136.0	1.500
4203 40 50 20*	1 1/2	60.0	96	102.0	54.0	181.0	3.600
4203 50 44 20*	2	70.0	109	115.0	60.0	205.0	5.100

Pilot port: 1/8

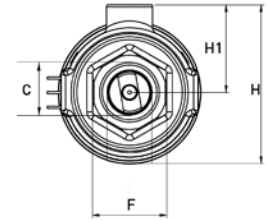
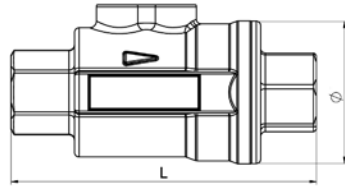
Delivered with a silencer

*Models with EC marking



WARNING

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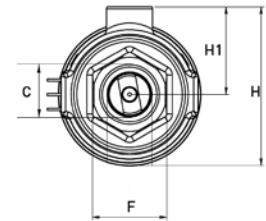
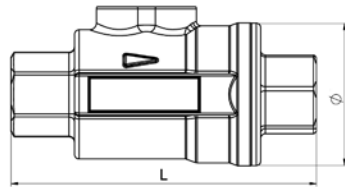
4212 Normally Open Axial Valve with FKM Seal, Female BSPP Thread Nickel-plated brass

Part No.	C BSPP	F (mm)	G (in)	H (in)	H1 (in)	L (in)	kg.
4212 10 17 20	G3/8	22.0	46	53.9	30.9	98.0	0.650
4212 15 21 20	G1/2	27.0	52	59.7	33.8	113.0	0.850
4212 20 27 20	G3/4	33.0	63.5	71.6	39.8	136.0	1.500
4212 25 34 20	G1	41.0	69	76.9	42.4	144.0	1.700
4212 32 42 20*	G1 1/4	50.0	86	92.0	49.0	166.0	3.300
4212 40 49 20*	G1 1/2	60.0	96	103.0	55.0	181.0	3.600
4212 50 48 20*	G2	70.0	109	115.3	60.8	205.0	5.100

Pilot port: G1/8

Delivered with a silencer

*Models with EC marking



4222 Double-Acting Axial Valve with FKM Seal, Female BSPP Thread Nickel-plated brass

Part No.	C BSPP	F (mm)	G (in)	H (in)	H1 (in)	L (in)	kg.
4222 10 17 20	G3/8	22.0	46	53.9	30.9	98.0	0.600
4222 15 21 20	G1/2	27.0	52	59.7	33.8	113.0	0.800
4222 20 27 20	G3/4	33.0	63.5	71.6	39.8	136.0	1.400
4222 25 34 20	G1	41.0	69	76.9	42.4	144.0	1.600
4222 32 42 20*	G1 1/4	50.0	86	92.0	49.0	166.0	3.000
4222 40 49 20*	G1 1/2	60.0	96	103.0	55.0	181.0	3.300
4222 50 48 20*	G2	70.0	109	115.3	60.8	205.0	4.800

Pilot port: G1/8

*Models with EC marking

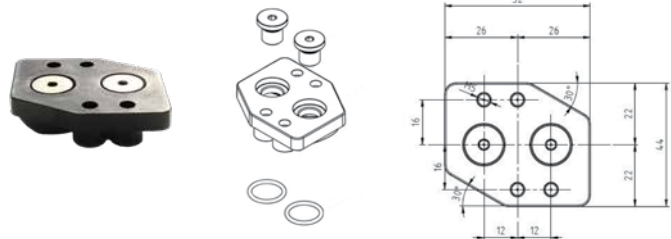


WARNING

These products can expose you to chemicals including NICKEL or LEAD, which are known to the state of California to cause cancer, and LEAD which is known to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Sub-Base for Control with Spool Valve or Solenoid Valve with NAMUR Pad Mounting

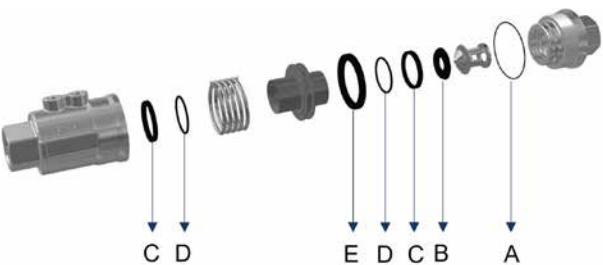
Technical polymer



Delivered with the valve, unassembled

4243 Spare Parts Kit

Part No.	
4243 00 10 20	KIT FOR FKM SEAL DN10
4243 00 15 20	KIT FOR FKM SEAL DN15
4243 00 20 20	KIT FOR FKM SEAL DN20
4243 00 25 20	KIT FOR FKM SEAL DN25
4243 00 32 20	KIT FOR FKM SEAL DN32
4243 00 40 20	KIT FOR FKM SEAL DN40
4243 00 50 20	KIT FOR FKM SEAL DN50



- A = Body seal
- B = Piston seal
- C = Lip seals
- D = Stem seals
- E = Piston seal



WARNING

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Complimentary Products



222P Male Connector BSPP to NPTF

Part No.	Thread BSPP	Thread NPTF	C Hex	L (IN)	Flow Dia. D
222P-2-2G	1/8-28	1/8-27	9/16	.77	.24



Solenoid Valve U341N03

Part No.	Port Size NPT	Orifice Size In.	Flow Factor CV	Wattage	Function	Solenoid	Operating Pressure Differential (MOPD)		Min. Fluid Temp (F)	Max. Fluid Temp (F)
							Minimum PSI	AC/DC Rating PSI		
U341N03	1/4	0.27	1.2	5 W	2-WAY	SINGLE	37	150	32	122



3 Way Solenoid Valve 131B14

Part No.	Inlet Port Size (BSPP)	Outlet Port Size (BSPP)	Orifice (mm)	Flow Factor (l/min)	Seat Seal	Operating Pressure Differential (MOPD)			Min. Fluid Temp (C)	Max. Fluid Temp (F)
						Min (Bar)	Max (AC bar)	MOPD (DC bar)		
131B14	1/8"	1/4"	1.2	50	NBR	0	10	10	-10	50



Solenoid Coil P2FCB

Part No.	Voltage
P2FCB449	24 VDC
P2FCB453	110 VAC



3-Pin DIN Connector PS2429BP

Part No.	Pin	Pin Size (mm)
PS2429BP	Rectangle	22



WARNING

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NEEDLE VALVES



Parker's all brass needle valves have metal-to-metal seats with fine thread screwdown. The specially formulated low temperature seal remains elastic to temperatures as low as -40°F (-40° C).

Product Features:

- Extruded Brass Body & Stem
- Low Temperature Seal
- Metal-to-Metal Seal
- Pin Handle
- Pre-applied Vibra-Seal thread sealant available

Specifications:

Pressure Range:

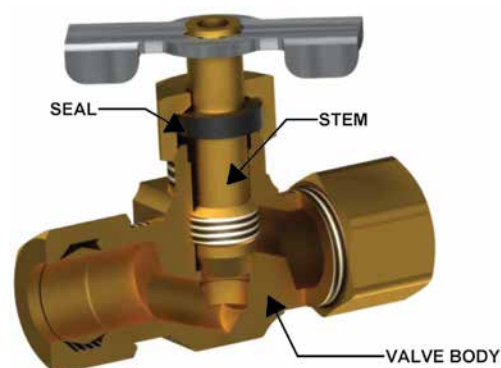
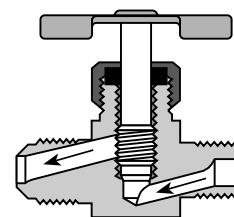
- Up to 150 PSI (10.3 bar)

Temperature Range

- -40° to +175° F (-40° to +79.4° C)
- Humidifier Valve Kit & Self Piercing Humidifier Kit:
-30° to +250° F (-34.4° to +121.1° C)
- NV311P/NV312P: 0° to +150° F (-17.7° to +65.5° C)

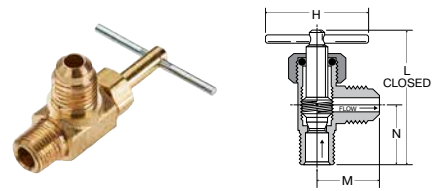
Needle Valves Installation Instructions

Series NV valves should always be installed with the pressure against the seat. Refer to drawing to determine correct direction of flow.



WARNING

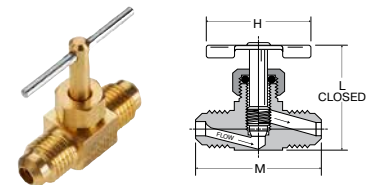
These products can expose you to chemicals including NICKEL or LEAD, which are known to the state of California to cause cancer, and LEAD which is known to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



Angle Needle Valve NV101F Flare to Male Pipe

*Provided with Pin Handle Temperature Range: -45° to +250° F (-42.7° to +121.1° C)

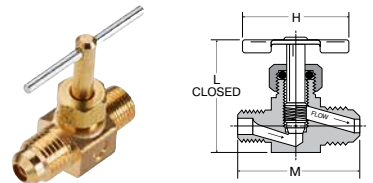
Part No.	Tube Size	Pipe Thd	H	L	M	N
NV101F-4-2*	1/4	1/8	1.50	1.58	.75	.66
NV101F-6-4	3/8	1/4	1.38	1.86	.95	.90



Needle Valve NV102F Flare to Flare

*Provided with Pin Handle Temperature Range: -45° to +250° F (-42.7° to +121.1° C)

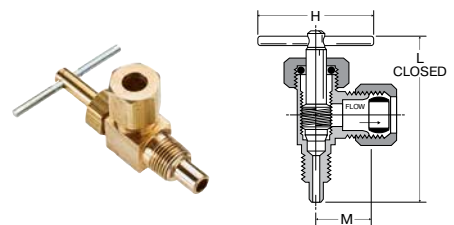
Part No.	Tube Size	H	L	M
NV102F-4*	1/4	1.50	1.34	1.50



Needle Valve NV103F Flare to Male Pipe

*Provided with Pin Handle Temperature Range: -45° to +250° F (-42.7° to +121.1° C)

Part No.	Tube Size	Pipe Thread	H	L	M
NV103F-4-2*	1/4	1/8	1.50	1.33	1.35



Humidifier Valve HV104C

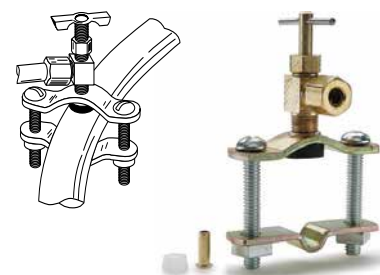
Temperature Range: -45° to +250° F (-42.7° to +121.1° C)

Part No.	Tube Size	Pipe Thread	H	L	M
HV104C-4-2	1/4	1/8	1.50	1.89	.53



WARNING

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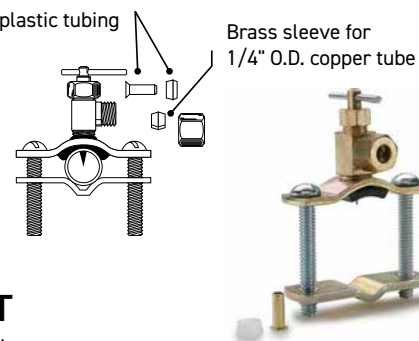
Humidifier Valve Clamp Kit HV104C-KIT

Temperature Range: -30° to +250° F (-34.4° to +121.1° C) Clamp fits 3/8" O.D. through 1.315" O.D. tube or pipe.

Kit includes 60PT-4 and 63PT-4 for assembly with plastic or nylon tubing. For complete kit, specify entire part number as shown below:

Part No.	Tube Size	Pipe Thd
HV104C-4-2 KIT	1/4	1/8

Plastic sleeve and brass insert for 1/4" O.D. x .040 wall plastic tubing



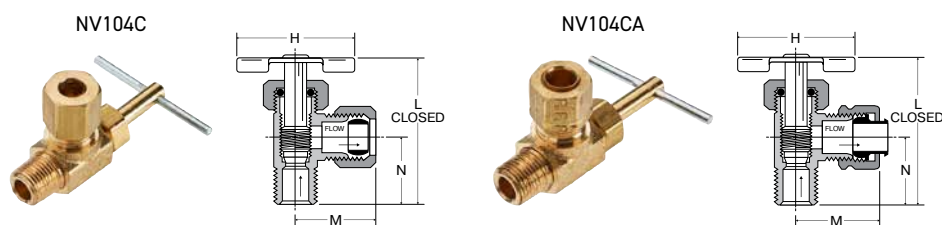
Brass sleeve for 1/4" O.D. copper tube

Self-Piercing Humidifier Valve Clamp Kit SPV104C-KIT

Temperature Range: -30° to +250° F (-34.4° to +121.1° C) Clamp fits 3/8" O.D. through 1.315" O.D. tube or pipe.

Kit includes 60PT-4 and 63PT-4 for assembly with plastic or nylon tubing. For complete kit, specify entire part number as shown below:

Part No.	Tube Size	Pipe Thd
SPV104C KIT	1/4	1/8



Angle Needle Valve NV104C-NV104CA Compression to Male Pipe

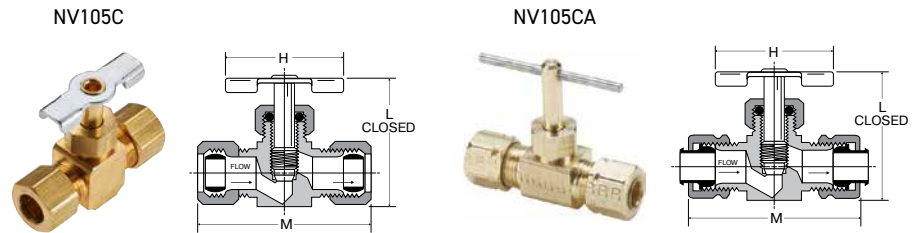
*Provided with Pin Handle Temperature Range: -45° to +250° F (-42.7° to +121.1° C)

Part No.	Tube Size	Pipe Thd	H	L	M	N
NV104C-4-2*	1/4	1/8	1.50	1.54	.88	.67
NV104CA-4-2*	1/4	1/8	1.50	1.49	.77	.66
NV104C-4-4	1/4	1/4	1.38	1.80	.93	.75
NV104C-5-2*	5/16	1/8	1.50	1.63	.88	.68
NV104C-6-4	3/8	1/4	1.38	1.76	.94	.81



WARNING

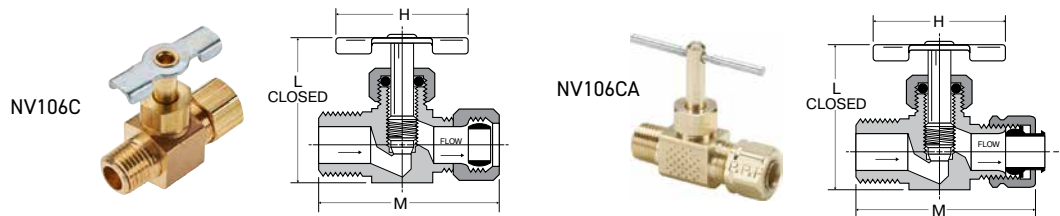
These products can expose you to chemicals including NICKEL or LEAD, which are known to the state of California to cause cancer, and LEAD which is known to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



Needle Valve NV105C-NV105CA Compression to Compression

*Provided with Pin Handle Temperature Range: -45° to +250° F (-42.7° to +121.1° C)

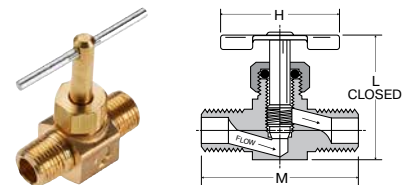
Part No.	Tube Size	H	L	M
NV105C-4*	1/4	1.50	1.41	1.75
NV105C-5*	5/16	1.50	1.35	1.73
NV105C-6	3/8	1.38	1.55	1.93
NV105CA-4*	1/4	1.50	1.41	1.64
NV105CA-6	3/8	1.38	1.55	1.78



Needle Valve NV106C-NV106CA Compression to Male Pipe

*Provided with Pin Handle Temperature Range: -45° to +250° F (-42.7° to +121.1° C)

Part No.	Tube Size	Pipe Thread	H	I	M
NV106C-4-2*	1/4	1/8	1.50	1.41	1.53
NV106C-4-4*	1/4	1/4	1.50	1.40	1.55
NV106C-5-2*	5/16	1/8	1.50	1.35	1.50
NV106C-6-4	3/8	1/4	1.38	1.56	1.75
NV106CA-4-2*	1/4	1/8	1.50	1.41	1.47
NV106CA-4-4*	1/4	1/4	1.50	1.33	1.52
NV106CA-6-4	3/8	1/4	1.38	1.53	1.78



Needle Valve NV107P Male Pipe to Male Pipe

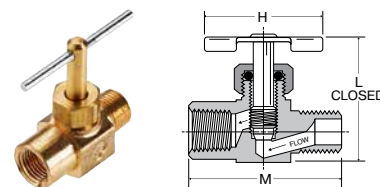
*Provided with Pin Handle Temperature Range: -45° to +250° F (-42.7° to +121.1° C)

Part No.	Pipe Thread	H	I	M
NV107P-2*	1/8	1.50	1.35	1.25
NV107P-4	1/4	1.38	1.54	1.65



WARNING

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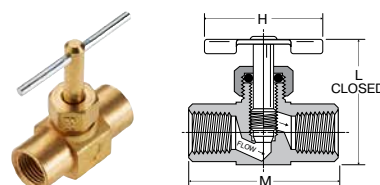


Needle Valve NV108P Female Pipe to Male Pipe

*Provided with Pin Handle

Temperature Range: -45° to +250° F (-42.7° to +121.1° C)

Part No.	Pipe Thread	H	I	M
NV108P-2*	1/8	1.50	1.36	1.24
NV108P-4	1/4	1.38	1.56	1.61

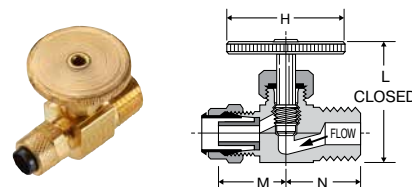


Needle Valve NV109P Female Pipe to Female Pipe

*Provided with Pin Handle

Temperature Range: -45° to +250° F (-42.7° to +121.1° C)

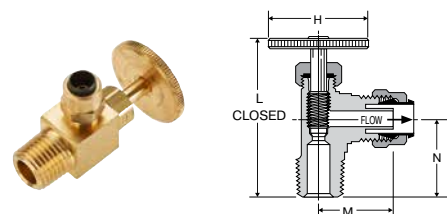
Part No.	Pipe Thread	H	I	M
NV109P-2*	1/8	1.50	1.35	1.25
NV109P-4	1/4	1.38	1.53	1.60



Needle Valve NV311P Poly-Tite to Male Pipe

Temperature Range: 0° to +150° F (0° to +65.5° C)

Part No.	Tube Size	Pipe Thread	H	I	M	N
NV311P-4-2	1/4	1/8	1.07	1.17	.50	.63
NV311P-4-4	1/4	1/4	1.07	1.18	.50	.72
NV311P-6-4	3/8	1/4	1.07	1.19	.56	.72



Angle Needle Valve NV312P Poly-Tite to Male Pipe

Temperature Range: 0° to +150° F (0° to +65.5° C)

Part No.	Tube Size	Pipe Thread	H	I	M	N
NV312P-4-2	1/4	1/8	1.07	1.53	.48	.68
NV312P-4-4	1/4	1/4	1.07	1.72	.56	.86
NV312P-6-4	3/8	1/4	1.07	1.68	.64	.86



WARNING

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DRAIN COCKS/ GROUND PLUG SHUTOFF



Parker's ground plug shutoffs are manufactured from castings or forged bodies for extra strength. Hand tightening provides a metal-to-metal seal. Drain cocks are manufactured in both external and internal seats.

Product Features

- Pre-applied Vibra-Seal thread sealant available

Specifications:

Pressure Range:

- Ground Plug Shutoff: 30 PSI (2.0 bar)
- Drain Cocks: Up to 150 PSI (10.3 bar)

Temperature Range

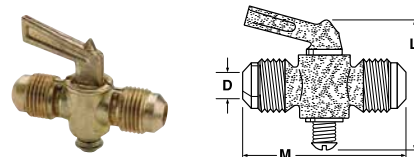
- Ground Plug Shutoff: 32° to +125° F (0° to +51.6° C)
- V406P/V407P: -40° to +180° F (-40° to +82.2° C)
- Drain Cocks: -65° to +250° F (-53.8° to +121.1° C)
- DCR601: -30° to +250° F (-34.4° to +121.1° C)



Ground Plug Shutoff V203F Flare to Flare

Temperature Range: +32° to +125° F (0° to +51.6° C)

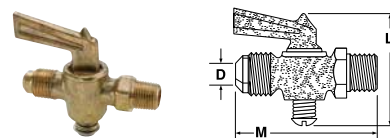
Part No.	Tube Size	L	M	Flow Dia. D
V203F-6-6	3/8	2.26	2.13	.220
V203F-8-8	1/2	2.26	2.50	.281



Ground Plug Shutoff V204F Flare to Male Pipe

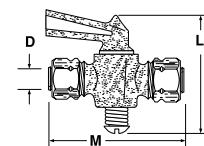
Temperature Range: +32° to +125° F (0° to +51.6° C)

Part No.	Tube Size	Pipe Thread	L	M	Flow Dia. D
V204F-4-2	1/4	1/8	1.85	2.00	.188
V204F-6-4	3/8	1/4	1.85	2.18	.218



WARNING

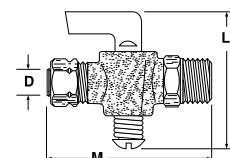
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Ground Plug Shutoff V303C / V303CA Compression to Compression

Temperature Range: +32° to +125° F (0° to +51.6° C)

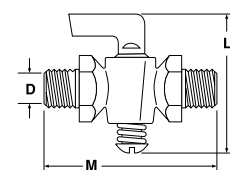
Part No.	Tube Size	L	M	Flow Dia. D
V303C-4-4	1/4	1.88	2.33	.188
V303CA-4-4	1/4	1.90	1.75	.188
V303C-6-6	3/8	2.26	2.45	.218
V303CA-6-6	3/8	1.76	1.60	.218



Ground Plug Shutoff V304C/V304CA Compression to Male Pipe

Temperature Range: +32° to +125° F (0° to +51.6° C)

Part No.	Tube Size	Pipe Thread	L	M	Flow Dia. D
V304C-4-2	1/4	1/8	1.90	2.29	.188
V304CA-4-2	1/4	1/8	1.88	2.00	.188
V304C-4-4	1/4	1/4	1.90	2.15	.188
V304C-6-4	3/8	1/4	1.83	2.24	.218
V304CA-6-4	3/8	1/4	1.83	2.11	.218



Ground Plug Shutoff V401P Male Pipe to Male Pipe

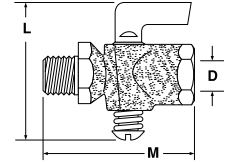
Temperature Range: +32° to +125° F (0° to +51.6° C)

Part No.	Pipe Thread	L	M	Flow Dia. D
V401P-2-2	1/8	1.90	2.25	.188
V401P-4-4	1/4	1.90	1.98	.188



WARNING

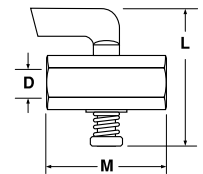
These products can expose you to chemicals including NICKEL or LEAD, which are known to the state of California to cause cancer, and LEAD which is known to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



Ground Plug Shutoff V402P Female Pipe to Male Pipe

Temperature Range: +32° to +125° F (0° to +51.6° C)

Part No.	Female Pipe Thread	Pipe Thread	L	M	Flow Dia. D
V402P-2-2	1/8	1/8	1.85	1.78	.218
V402P-4-4	1/4	1/4	1.86	2.26	.218
V402P-6-6	3/8	3/8	2.34	2.21	.245

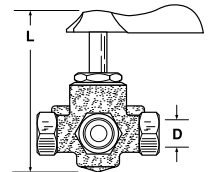


Ground Plug Shutoff V403P Female Pipe to Female Pipe

Temperature Range: +32° to +125° F (0° to +51.6° C)

Part No.	Female Pipe Thread	L	M	Flow Dia. D
V403P-2-2	1/8	1.90	1.51	.218
V403P-4-4	1/4	1.90	1.65	.188
V403P-6-6*	3/8	2.25	2.00	.250

*Made from extruded bar stock



Three-Way Valve V406P Female Pipe three ends

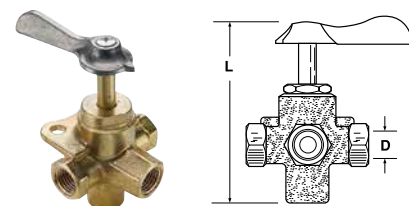
Temperature Range: -40° to +180° F (-40° to +82.2° C)

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



WARNING

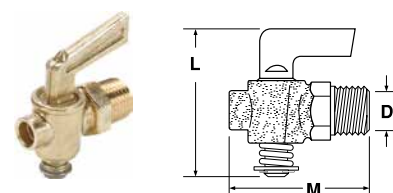
These products can expose you to chemicals including NICKEL or LEAD, which are known to the state of California to cause cancer, and LEAD which is known to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



Four-Way Valve V407P Female Pipe four ends

Temperature Range: -40° to +180° F (-40° to +82.2° C)

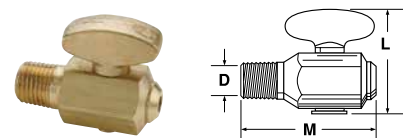
Part No.	Pipe Thread	L	Flow Dia. D
V407P-4	1/4	3.30	.281



Ground Plug Shutoff DC601

Temperature Range: +32° to +125° F (0° to +51.6° C)

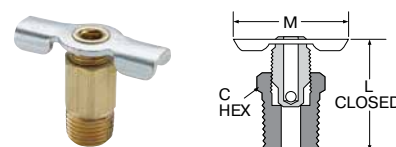
Part No.	Pipe Thread	L	M	Flow Dia. D
DC601-2	1/8	1.90	1.40	.170
DC601-4	1/4	1.90	1.52	.170
DC601-6	3/8	2.26	1.74	.281
DC601-8	1/2	2.29	1.82	.281



Drain Cock DCR601

Temperature Range: -30° to +250° F (-34.4° to +121.1° C)

Part No.	Pipe Thread	L	M	Flow Dia. D
DCR601-4	1/4	1.39	1.74	.16
DCR601-6	3/8	1.41	1.74	.156



Internal Seal Drain Cock DC602

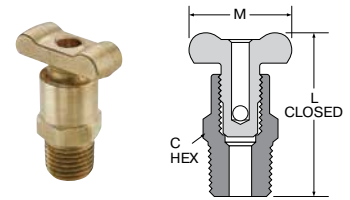
Temperature Range: -65° to +250° F (-53.8° to +121.1° C)

Part No.	Pipe Thread	C Hex	L	M
DC602-2	1/8	13/32	.92	1.25
DC602-4	1/4	9/16	.94	1.25



WARNING

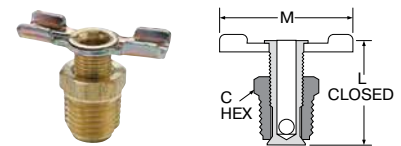
This product can expose you to chemicals including Nickel which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov



Drain Cock DC603

Temperature Range: -65° to +250° F (-53.8° to +121.1° C)

Part No.	Pipe Thread	C Hex	L	M
DC603-2	1/8	5/8	1.41	1.00
DC603-4	1/4	5/8	1.54	1.16
DC603-6	3/8	11/16	1.63	1.16

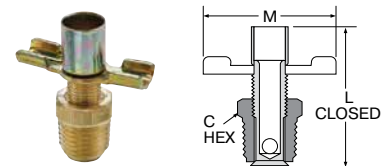


External Seal Drain Cock DC604

Temperature Range: -65° to +250° F (-53.8° to +121.1° C)

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

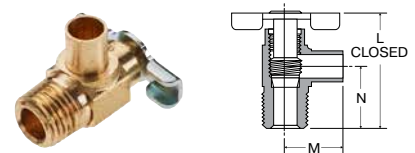
*When assembled handle wings are down facing



External Seal Drain Cock DC606

Temperature Range: -65° to +250° F (-53.8° to +121.1° C)

Part No.	Pipe Thread	C Hex	L	M
DC606-4	1/4-18	9/16	1.50	1.38



Bib Drain Valve DC607

Temperature Range: -65° to +250° F (-53.8° to +121.1° C)

Part No.	Hose Size	Pipe Thread	Flow	L	M	N
DC607-4	3/8	1/4	.28	1.32	.67	.71



WARNING

These products can expose you to chemicals including NICKEL or LEAD, which are known to the state of California to cause cancer, and LEAD which is known to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Replacement Handles

	Valve	Plated Steel Lever w/Cover	S.S. Lever (No Cover)	S.S. Lever w/Cover	Tee (No Cover)	Oval (w/Cover)	Short Lever (No Cover)	Plated Steel Lkg. Lever w/Cover	S.S. Locking Lever w/Cover
V500P (501, 502, 506, 510, 590, 591)	-4	2560-10082	2566-00105		2566-00147	2566-00215	2566-00231	2560-10080	2560-10081
	-6	2560-10082	2566-00105		2566-00147	2566-00215	2566-00231	2560-10080	2560-10081
	-8	2560-10082	2566-00105		2566-00147	2566-00215	2566-00231	2560-10080	2560-10081
	-10	2560-10097	2566-00178		2566-00179			2560-10100	
	-12	2560-10097	2566-00178		2566-00179	2566-00180	—	2560-10100	2560-10101
	-16	2560-10097	2566-00178		2566-00179	2566-00180	—	2560-10100	2560-10101
	-20	2566-00143	2566-00153			—	2566-00142	2566-00135	—
	-24	2566-00143	2566-00153			—	2566-00142	2566-00135	—
	-32	2566-00143	2566-00153			—	2566-00142	2566-00135	—
V501SS & V502SS	-4	—		2566-00132	—	2566-00108	2566-00146	—	2566-00138
	-6	—		2566-00132	—	2566-00108	2566-00146	—	2566-00138
	-8	—		2566-00132	—	2566-00108	2566-00146	—	2566-00138
	-12	—		2566-00133	—	2566-00109	—	—	2566-00184
	-16	—		2566-00133	—	2566-00109	—	—	2566-00184
V502SS	-20	—		2566-00134	—		—	—	2566-00185
	-24	—		2566-00134	—		—	—	2566-00185
	-32	—		2566-00134	—		—	—	2566-00185
V500CS & V502CS	-4	2566-00158			2566-00170	2566-00166		2566-00162	
	-6	2566-00158			2566-00170	2566-00166		2566-00162	
	-8	2566-00158			2566-00171	2566-00166		2566-00162	
	-12				2566-00172	2566-00167		2566-00163	
	-16				2566-00172	2566-00167		2566-00163	
	-20					2566-00168		2566-00164	
	-24					2566-00168		2566-00164	
	-32					2566-00169		2566-00165	
V506CS	-4	2566-00158			2566-00170	2566-00166		2566-00162	
	-6	2566-00158			2566-00170	2566-00166		2566-00162	
	-8							2566-00234	
	-12	—						2566-00235	
	-16	—						2566-00236	
V533P	-4	2560-10152	2566-00105		2566-00147	2566-00215	2566-00231	2560-10160	
	-6	2560-10152	2566-00105		2566-00147	2566-00215	2566-00231	2560-10160	
	-8	2560-10152	2566-00105		2566-00147	2566-00215	2566-00231	2560-10160	
	-12	2560-10153	2566-00178		2566-00179	2566-00180		2560-10168	
	-16	2560-10153	2566-00178		2566-00179	2566-00180		2560-10168	
V520P	-4				2566-00277			2566-00262	
	-6				2566-00277			2566-00262	
	-8				2566-00277			2566-00262	
	-12				2566-00280			2566-00261	
	-16				2566-00280			2566-00261	
	-20	2566-00143	2566-00153					2566-00135	
	-24	2566-00143	2566-00153					2566-00135	
	-32	2566-00143	2566-00153					2566-00135	
	40	2566-00253							
	48	2566-00253							

Replacement Handles

	Valve	Plated Steel Lever w/Cover	S.S. Lever (No Cover)	S.S. Lever w/Cover	Tee (No Cover)	Oval (w/Cover)	Short Lever (No Cover)	Plated Steel Lkg. Lever w/Cover	S.S. Locking Lever w/Cover
V500HP, V506HP, V507HP	-4							BVHPLK-1 ^A	
	-6							BVHPLK-1 ^A	
	-8							BVHPLK-1 ^A	
	-12							BVHPLK-2 ^A	
	-16							BVHPLK-2 ^A	
	-20							BVHPLK-3 ^A	
	-24							BVHPLK-3 ^A	
	-32							BVHPLK-3 ^A	

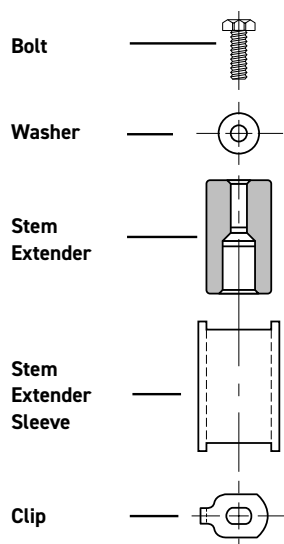
^A Locking kit for use with standard handles

Replacement Handle Nuts

Valve	Plated Steel	Stainless Steel
V500P-4	2567-00020	2567-00023
V500P-6	2567-00020	2567-00023
V500P-8	2567-00020	2567-00023
V500P-12	2567-00055	2567-00057
V500P-16	2567-00055	2567-00057
V500P-20	2567-00051	2567-00052
V500P-24	2567-00051	2567-00052
V500P-32	2567-00051	2567-00052
V500CS-4	2567-00020	2567-00023
V500CS-6	2567-00020	2567-00023
V500CS-8	2564-00020	2567-00023

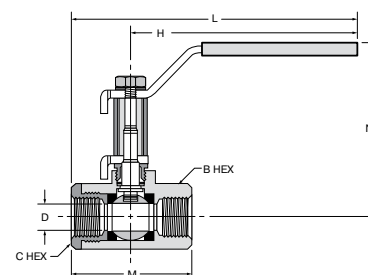
Replacement Handle Covers

Valve	Lever	Short Lever	Tee
V500P-4	2569-00108	2569-00342	2569-00155
V500P-6	2569-00108	2569-00342	2569-00155
V500P-8	2569-00108	2569-00342	2569-00155
V500P-12	2569-00296		2569-00155
V500P-16	2569-00296		2569-00155
V500P-20	2569-00229		
V500P-24	2569-00229		
V500P-32	2569-00229		
V502SS-4		2569-00203	
V502SS-6		2569-00203	
V502SS-8		2569-00203	



STX	Stem Extension Kit
P	For Use on Brass Ball Valves
1	1: 1/4" thru 1/2" valves 2: 3/4" thru 1" valves
125	125: 1 1/4" extension length 225: 2 1/4" extension length

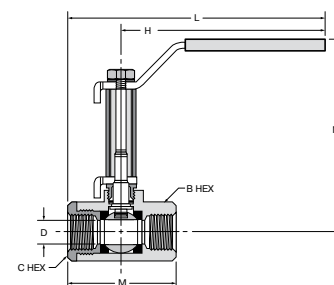
Note: Stem extensions cannot be used with series 509 and series 520.



Brass Valve Extension Dimensions STX-P-1-125

Part No.	Valve Size	B Hex	C Hex	H	L	M	N	D Flow Ø
STX-P-1-125	1/4	15/16	15/16	3.96	4.96	2.03	3.73	.375
STX-P-1-125	3/8	15/16	15/16	3.96	4.96	2.03	3.73	.375
STX-P-1-125	1/2	1-1/16	1-1/16	3.96	5.05	2.20	3.84	.500
STX-P-2-125	3/4	1-1/4	1-5/16	3.96	5.25	2.42	4.06	.685
STX-P-2-125	1	1-1/2	1-9/16	3.96	5.89	2.75	4.33	.875

Note: Drawing shows STX-P assembled to XV500P series-not included



Brass Valve Extension Dimensions STX-P-1-225

Part No.	Valve Size	B Hex	C Hex	H	L	M	N	D Flow Ø
STX-P-1-225	1/4	15/16	15/16	3.96	4.96	2.03	4.73	.375
STX-P-1-225	3/8	15/16	15/16	3.96	4.96	2.03	4.73	.375
STX-P-1-225	1/2	1-1/16	1-1/16	3.96	5.05	2.20	4.84	.500
STX-P-2-225	3/4	1-1/4	1-5/16	3.96	5.25	2.42	5.06	.685
STX-P-2-225	1	1-1/2	1-9/16	3.96	5.89	2.75	5.33	.875

Note: Drawing shows STX-P assembled to XV500P series-not included



WARNING

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This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



ACCESSORIES

Accessories, Blow Guns, Silencers, Bins & Copper Tubing

BLOW GUNS

Controlled Pressure Blow Guns

Parker Controlled Pressure Blow Guns meet OSHA requirements (section 29 CFR 1910.242 paragraph b), and directive #100-1. "Compressed air shall not be used for cleaning purposes except where reduced to less than 30 psi, and then only with effective chip guarding and personal protective equipment."

Parker Controlled Pressure Blow Guns have a black epoxy coated zinc body and vented nozzles to prevent pressure build-up when dead ending occurs up to 150 PSI (10.3 bar).

Specifications		
Part No.	Maximum Pressure PSI (bar)	Wt (lb) P/Piece
410-S	150 (10.3)	.50
410-SV	150 (10.3)	.53
415-S	150 (10.3)	.48



410-S

Parker Controlled Pressure Blow Guns features thumb lever valve actuator and brass nozzle. Inlet port is 1/4" NPT.



410-SV

Parker Venturi Nozzle Controlled Pressure Blow Gun with thumb lever valve and large venturi side ports for high volume flow. Inlet port is 1/4" NPT.



415-S

Parker Controlled Pressure Blow Guns features push button valve actuator and brass nozzle. Inlet port is 1/4" NPT.

Full Pressure Blow Guns

The following Parker Blow Guns must have a pressure regulator setting below 30 psi to conform to OSHA safety requirements 29 CFR 1910.242 Paragraph b.

Specifications		
Part No.	Maximum Pressure PSI (bar)	Wt. (lb) P/Piece
410	150 (10.3)	.48
410-N	150 (10.3)	.51
415-N	150 (10.3)	.49



410

Parker two way thumb lever valve has a zinc body with 1/4" NPT inlet and 1/8" NPSF outlet.

Note: Standard Gun without nozzle.



410-N

Parker thumb lever style Blow Gun features a zinc body, brass nozzle, and 1/4" NPT female inlet.



415-N

Parker Blow Gun features a push button style actuator, zinc body with a brass nozzle and 1/4" NPT female inlet.



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410/415 Blow Gun Tip Options

Part No.	Description	Meets OSHA Requirements
400-T06S	6" SAFETY EXTENSION	YES
400-T10S	10" SAFETY EXTENSION	YES
400-T12S	12" SAFETY EXTENSION	YES
400-T18S	18" SAFETY EXTENSION	YES
400-T24S	24" SAFETY EXTENSION	YES
400-TR	RUBBER TIP	NO
400-TS	HEX SAFETY TIP	YES
400-TSV	BOOSTER SAFETY TIP	YES
400-S-TIP	BLOW GUN REPLACEMENT TIP	



BG Series Blow Gun

Made from impact resistant plastic, BG 442 Series blow gun is durable and versatile. Extended nozzle allows air to be directed where it is required. The pistol grip trigger allows greater control over the amount of air delivered. Combined, these two features provide superior performance in a light weight, ergonomically designed package.

Standard nozzle meets OSHA directives on the use of compressed air for cleaning purposes. OSHA directive #100-1 states that "when dead ending occurs a static pressure at the main orifice shall not exceed 30 psi."

- Easy to control variable flow pistol grip trigger.
- Standard nozzle meets OSHA directive #100-1
- Lightweight ergonomical design.
- Body is constructed of impact resistant plastic.

Specifications	
Rated Pressure PSI	175 (12.0 bar)
Temperature Range	TO +120° F (+48.8° C)
Inlet Port	1/4" NPTF

Nomenclature	
Example: BG442-SBL	Attribute:
BG	BG Series Blow Gun
4	inlet port in 16ths
42	Nozzle Style 42 - Extended (OSHA)
S	Meets OSHA requirements S - Yes N - No
BL	Color BL - black

BG442-SBL BG Series Blow Gun

Part No.	Nozzle	Meets OSHA Requirements
BG442-SBL	EXTENDED	YES



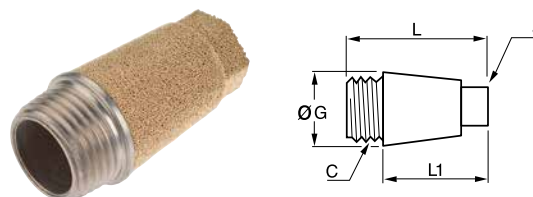
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SILENCERS

Technical Specification of Silencers:

material	Working Pressure	Working Temperature
SINTERED BRONZE	175 PSI (12.0 bar)	-4° to +300° F (-20° to +148.8° C)
POLYETHYLENE	145 PSI (9.9 bar)	-14° to +175° F (-25.5° to +79.4° C)
STAINLESS STEEL	175 PSI (12.0 bar)	-4° to +355° F (-20° to +179.4° C)



0673 0610 0670 Threaded Silencer UNF, NPT or BSPP Sintered Bronze

Part No.	C UNF/NPT	J (in)	G (in)	L (in)	L1 (in)	Wt (oz)
0673 00 20*	10-32	.27	.31	.34	.18	.07
0610 00 11	1/8	.31	.42	.89	.71	.21
0610 00 14	1/4	.39	.59	1.10	.87	.46
0610 00 18	3/8	.51	.75	1.42	1.14	.85
0610 00 22	1/2	.59	.91	1.73	1.42	1.48

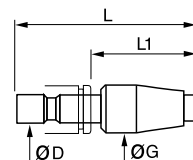
Part No.	C BSPP	J (mm)	G (mm)	L (mm)	L1 (mm)	Wt (kg)
0670 00 10	G1/8	7	12	20.5	15	.007
0670 00 13	G1/4	8	15	24.5	18.5	.013
0670 00 17	G3/8	10	19	37	29	.033
0670 00 21	G1/2	14	23	40	31	.049
0670 00 27	G3/4	16.5	29.5	51	40.5	.092
0670 00 34	G1	20	36	60	49.5	.140

* Brass Body



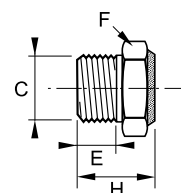
WARNING

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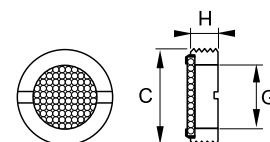
0671 Plug-In Silencer Body Nickel Plated Brass Sintered Bronze

Part No.	C	G (mm)	L (mm)	L1 (mm)	Wt (oz)
0671 04 00	4	13	41.5	24.5	.015
0671 06 00	6	15	48	29	.023
0671 08 00	8	15	49.5	29.5	.024
0671 10 00	10	19.5	68	43.5	.054
0671 12 00	12	20	68.5	43	.055



0673 Compact Threaded Silencer Male BSPP, M5 Body Nickel Plated Brass Sintered Bronze

Part No.	C	E (mm)	F (mm)	H (mm)	Wt (oz)
0673 00 10	G1/8	4	13	12	.006
0673 00 13	G1/4	6	16	16	.012
0673 00 17	G3/8	8	19	17	.022
0673 00 19	M5X0.8	8	8	8.5	.001
0673 00 20	UNF 10-32	4	6	11	.006
0673 00 21	G1/2	9	24	18	.037



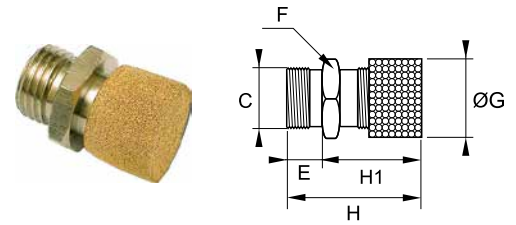
0677 Miniature Silencer BSPP Body Nickel Plated Brass Sintered Bronze

Part No.	C	G (mm)	H (mm)	Wt (oz)
0677 00 10	G1/8	5.5	4	.002
0677 00 13	G1/4	6	4.5	.003
0677 00 17	G3/8	9.5	5	.006
0677 00 21	G1/2	12.5	5.5	.012
0677 00 27	G3/4	19	6	.014
0677 00 34	G1	24	7	.025



WARNING

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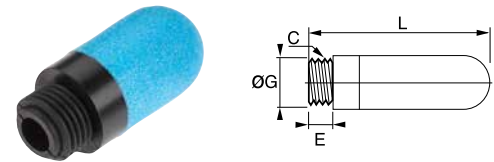


0672 Flow Control Silencer Male NPT, BSPP

Brass Body, Silencer Sintered Bronze

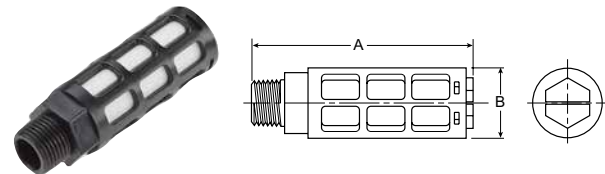
Part No.	C BSPP	E (mm)	F (mm)	G (mm)	H min	H max	H1 (mm)	Wt (kg)
0672 00 10	1/8	8	14	14	24	27	18	.012
0672 00 13	1/4	8	17	17	25	28	19	.023
0672 00 17	3/8	10	22	22	30	33	24	.033
0672 00 21	1/2	12	27	27	39	42	33	.044

Consult us for flow characteristics



0674 Threaded Silencer NPT, BSPP, M5 Polyethylene Body, Plastic Thread

Part No.	C BSPP	E (mm)	G (mm)	L (mm)	Wt (oz)
0674 00 19	M5X0.8	4	6.5	23	.001
0674 00 10	G1/8	6	12.5	34	.002
0674 00 13	G1/4	7	15.5	42.5	.003
0674 00 17	G3/8	11.5	18.5	67.5	.006
0674 00 21	G1/2	11	23.5	78	.010
0674 00 27	G3/4	15.5	38.5	131	.040
0674 00 34	G1	19.5	49	160	.050



ASN Air Line Silencer – Plastic

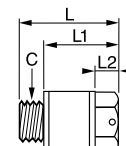
Part No.	Thd Size	A (in)	A (mm)	B (in)	B (mm)	Maximum Flow (SCFM)*	Sound Pressure Level (dBA)	
							20 PSIG Inlet	100 PSIG Inlet
AS-5	M5	0.43	11	0.32	8	15	69	79
ASN-6	1/8 NPT	1.57	40	0.63	16	51	69	81
ASN-8	1/4 NPT	2.56	65	0.83	21	124	67	84
ASN-10	3/8 NPT	3.35	85	0.98	25	247	83	98
ASN-15	1/2 NPT	3.74	95	1.18	30	370	69	96

*Based on a 100 PSIG Inlet



WARNING

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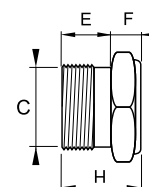
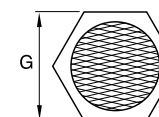


0676 Flow Control Silencer BSPP Polyethylene/Plastic

Part No.	C BSPP	F (mm)	F1 (mm)	g (mm)	L (mm)	L1 (mm)	L2 (mm)	Wt (oz)
0676 00 10	G1/8	2.5	13	15	20.5	14.5	5	.002
0676 00 13	G1/4	4	15	18	29	22	7	.007

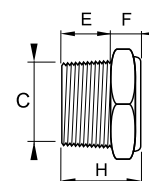
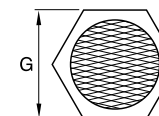
No. of Turns	Flow scfm at 87 psi										Noise Level dba*
	0	1	2	3	4	5	6	7	8	9	
0676 00 10	0	1.06	3.2	7.4	11.8	13	13.8	13.8	13.9	13.9	82
0676 00 13	0	.78	.88	1.77	12	26.5	33	34.6	35.3	36	84

* dBA at 87 PSI and 12 SCFM



0682 Stainless Steel Threaded Silencer Male BSPP Body Stainless Steel 316L

Part No.	C BSPP	E (mm)	F (mm)	G (mm)	H (mm)	Wt (kg)
0682 00 10	G1/8	8	7	14	15	.009
0682 00 13	G1/4	8	7	17	15	.013
0682 00 17	G3/8	10	8	22	18	.020
0682 00 21	G1/2	12	10	27	22	.038
0682 00 27	G3/4	15	12	32	27	.066
0682 00 34	G1	18	14	38	32	.118



0683 Stainless Steel Threaded Silencer Male NPT Body Stainless Steel 316L

Part No.	C NPT	E (in)	F (in)	G (mm)	H (in)	Wt (kg)
0683 00 11	1/8	.28	.28	14	.55	.35
0683 00 14	1/4	.43	.28	17	.71	.53
0683 00 18	3/8	.43	.31	22	.75	.81
0683 00 22	1/2	.59	.39	27	.98	1.55



WARNING

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BINS, BAGS & COPPER TUBING

16 Compartment Large Scoop Box

- Prime cold rolled steel outer shell
- High impact styrene insert with 16 compartments
- Scooped bottom compartments for easy part removal
- Full piano hinge on cover provides rigidity
- Positive pull-down catch keeps cover tightly closed to prevent part migration
- Handle allows for easy transport
- Durable gray powder coat finish

Part No.	Dimensions (in)		
	Width	Depth	Height
16-CB	18	12	3



24 Compartment Large Scoop Box

- Prime cold rolled steel outer shell
- High impact styrene insert with 24 compartments
- Scooped bottom compartments for easy part removal
- Full piano hinge on cover provides rigidity
- Positive pull-down catch keeps cover tightly closed to prevent part migration
- Handle allows for easy transport
- Durable gray powder coat finish

Part No.	Dimensions (in)		
	Width	Depth	Height
24-CB	18	12	3



ADJ-CB

- Prime cold rolled steel outer shell
- High impact styrene insert with 4 fixed vertical compartments and 9 moveable dividers adjustable on 1" centers
- Full piano hinge on cover provides rigidity
- Positive pull-down catch keeps cover tightly closed to prevent part migration
- Durable gray powder coat finish

Part No.	Dimensions (in)			Compartments
	Width	Depth	Height	
ADJ-CB	18	12	3	ADJUSTABLE



Easy Glide Slide Rack (Holds 4 16-CB or 24-CB per rack)

- Sturdy construction using prime cold-rolled steel
- Each cradle holds up to 40 lbs
- Easy glide slides allow boxes to move in and out smoothly
- Center braces on cradles provide extra rigidity
- Reinforced rack keeps boxes level
- Boxes can be easily removed for transport to work areas
- Base and locking hinge are available as accessories
- Durable gray powder coat finish

Part No.	Dimensions (in.)		
	Width	Depth	Height
4CB-SR	20	15.75	15



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LSR-Stand

- Sturdy all steel construction
- Raises units 15 inches off the floor
- Legs attach easily using fasteners provided
- Durable gray powder finish

Part No.	Dimensions (in)		
	Width	Depth	Height
LSR-STAND	20 5/8	16 1/4	15 5/8



9 Drawer Cabinet

- Prime cold rolled steel construction
- High density drawer cabinet, easy to store large quantities of small parts
- Drawers feature interlocking design for superior strength
- Drawers have full width handles and easy glide runners
- Each drawer includes 2 easy label dividers, which are adjustable on 1" centers
- Cabinets can be stacked using mounting holes
- Durable gray powder coat finish
- Ships fully assembled

Part No.	Dimensions (in)			Drawer Dimensions (in)		
	Width	Depth	Height	Width	Depth	Height
9-DC	17.25	11.625	10.875	5.375	11.25	2.75



18 Drawer Cabinet

- Prime cold rolled steel construction
- High density drawer cabinet, easy to store large quantities of small parts
- Drawers feature interlocking design for superior strength
- Drawers have full width handles and easy glide runners
- Each drawer includes 2 easy label dividers, which are adjustable on 1" centers
- Cabinets can be stacked using mounting holes
- Durable gray powder coat finish
- Ships fully assembled

Part No.	Dimensions (in)			Drawer Dimensions (in)		
	Width	Depth	Height	Width	Depth	Height
18-DC	17.25	11.625	21.25	5.375	11.25	2.75



24 Opening Bin

- All welded, prime cold rolled steel
- Fully hemmed 1 1/8" bin fronts to hold labels and retain parts
- Roll-formed sides for increased strength and stability
- Ribbed and hemmed dividers provide added strength
- Modular with most 12" deep bins and drawer cabinets; mounting holes are located at both the top and bottom
- Durable gray powder coat finish
- Ships fully assembled

Part No.	Dimensions (in)			Drawer Dimensions (in)		
	Width	Depth	Height	Width	Depth	Height
24B-CABINET	33.75	12	23.875	5.375	11.875	5.5



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40 Opening Bin

- All welded, prime cold rolled steel
- Fully hemmed 1 1/8" bin fronts to hold labels and retain parts
- Roll-formed sides for increased strength and stability
- Ribbed and hemmed dividers provide added strength
- Modular with most 12" deep bins and drawer cabinets; mounting holes are located at both the top and bottom
- Durable gray powder coat finish
- Ships fully assembled

Part No.	Dimensions (in)			Bin Dimensions (in)		
	Width	Depth	Height	Width	Depth	Height
40B-CABINET	33.75	12	23.875	3.8125	11.875	3.8125



Parker Brass Products Base Stand for 40B Cabinets

- Stands are 12" high
- Designed for use with 40B Cabinets
- Each stand includes a 15 piece bolt and nut set package for assembly

Part No.	Dimensions (in)		
	Width	Depth	Height
40B-STAND	33.75	12	23.875



Pneumatic Cabinet

- High quality all-steel construction
- Partitioning slots provide flexibility for customization
- Drawer locks limit access to prevent loss and improve safety when moved
- Drawer interlock prevent opening multiple drawers that could cause accidental tip over
- Available fitting and connector labels with photos make easy selection and restock easy
- Locking 4" heavy-duty casters
- Retainer top with a non-skid mat work surface

Part No.	Dimensions (in)			Drawers
	Width	Depth	Height	
PNEU-CAB	22.1875	28.5	39.5	5-3" AND 1-9"



Copper Tubing

Copper tubing meets A.S.T.M. specification B-280 (copper tube for refrigeration field service)

Part No.	Tube O.D.	Tube I.D.	Wall Thickness	Feet per Coil
50CT-2-30	1/8	.065	.030	50
50CT-3-30	3/16	.128	.030	50
50CT-4-30	1/4	.190	.030	50
50CT-5-32	5/16	.249	.032	50
50CT-6-32	3/8	.311	.032	50
50CT-8-32	1/2	.436	.032	50



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TUBE FABRICATING EQUIPMENT

Tube Cutters, Tube Benders, Flaring Tools,
In-Ex® Tube Deburring Tool



Tube Cutters

For hard or soft copper, aluminum, brass, thin wall steel, stainless steel, monel, titanium and other metal tubing. Rollers have flare cut-off groove, fold away reamer and spare cutting wheel.



Part No.	Description
TC-1000-BPD	For 1/8" to 1 1/8" (4 to 28 mm) O.D. tubing, (1/8" to 1" nom.). Length: 4 15/16" Weight: 6 1/2 oz.

Tube Cutters

Adjustable tube cutters to produce square cut ends with no external burr and minimum internal burring when used on fully annealed copper, brass, aluminum, and steel tubing. Features a hardened and burnished tool-steel cutting wheel, flare cut-off grooves in rollers for removal of old flares, swing-away reamer for removing internal burrs. Handle feeds and adjusts cutting wheel to uniformly cut tubing as the cutter is rotated.

NOTE: Tube cutters are not recommended for use with stainless steel tubing because of the work hardening effect. The use of a hacksaw with a "Tru-Kut" Sawing Vise or a rotary teeth saw is best recommended for stainless steel.



Part No.	Description
PTC-001	Plastic Tube Cutter May be used with polyethylene, Polypropylene, nylon and other thermoplastic tubing. For tube O.D. sizes 1/8" to 1/2"
PTC-001RB	Replacement blades



Part No.	Description
3000 71 11	Tube cutter for tubing & push-on hose For hoses up to 1" (25mm) Weight: 1.09 oz.
3000 71 11 05	Replacement blades



WARNING

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In-Ex® Tube Deburring Tool



Part No.	Description
226-BPD	Insert tube into the convexed end of the In-Ex for inside deburring and the opposite end for outside deburring Rotate in either direction. Replacement blades can be ordered.
	Weight: 10 oz.



WARNING

These products can expose you to chemicals including NICKEL or LEAD, which are known to the state of California to cause cancer, and LEAD which is known to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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GENERAL TECHNICAL

**Tubing Compatibility Chart, Manufacturing Techniques,
Tube Line Fabrication Guide for Leak Free Systems,
Thread Specifications, Flaring Instructions, Thread
Designations and Standards for Threads Used in Fluid
Connectors, Straight Thread Size Comparison Chart,
S.A.E. Part Index, SAE Standards, U.L. Listed Fittings,
Flow Curves, Flare and Thread Profiles, Pressure Conversions,
English/Metric Conversions, Assembly Guides, Fluid
Compatibility Guide**

TUBING COMPATIBILITY CHART

Nomenclature

- PS** Plastic Sleeve & Tube Support Recommended
- TS** Tube Support Is Recommended
- BS** Brass Sleeve Recommended
- CL** Clamp Required
- MG** Metal Gripper Collet Recommended
- Orange** Tube/Fitting Combination Compatible
- Yellow** Tube/Fitting Combination Not Compatible

Nomenclature		Soft Metal Tubing			Parflex Thermoplastic Tubing										
		Copper	Aluminum	Steel	Industrial Tubing Series (Outside Diameter Shown)										
					Polyethylene E & EB Inch (4.5, 6.8, 10) Metric (6.8, 10, 12)	Polyethylene PEFR Inch (2.5, 4, 6.8)	Polyethylene HDPE Inch (4.6)	Nylon N Inch (2.2, 5.3, 4.5, 6.8) Metric (4mm - 20mm)	Nylon PAT Inch (2.4, 6.8, 10, 12)	Nylon NR Inch (2.3, 4.5, 6.8)	Nylon NTNA Inch (2.2, 5.3, 4.5, 6.8)	Polypropylene PP & PPB Inch (2.3, 4.5, 6.8, 10)	95U/95UM Series Inch (2.2, 5.4, 6.8, 12) Metric (4.6, 8, 10, 12)	Polyurethane HUFRR (Weld Tubing) Inch (4.6, 8)	Clear Vinyl Inch (1/8" - 2 1/2")
Product Sizes (inch)															
Compression & Flare	Compression Inch (2,3,4,5,6,7,8,10,12)	BS	BS		PS TS	PS TS	PS TS	PS TS	PS TS	PS TS		PS TS			
	Compress-Align Inch (2,3,4,5,6,8,10,12,14,16)				TS	TS	TS	TS	TS	TS		TS			
	Metric Compression Metric (4,5,6,8,10,12,14,16,18,20,22,25,28)				TS			TS		TS		TS	TS		
	Poly-Tite Inch (4,5,6,8)	BS						BS				BS			
	Hi-Duty Inch (2,3,4,5,6,8,10)				TS	TS	TS	TS	TS	TS		TS			
	45 degree flare Inch (2,3,4,5,6,8,10,12,14)														
	Inverted Flare Inch (2,3,4,5,6,8,10,12)														
Push-to-Connect	Fast & Tite Inch (4,5,6,8,10)												TS		TS
	Flow Controls Inch (2,2.5,4,5,6,8) Metric (4,6,8,10,12)												TS		
	Prestolok PLP Metal Inch (2,2.5,3,4,5,6,8)														
	LF3000 / Prestolok PLP Composite Inch (2,2.5,3,4,5,6,8,10,12,14,16)												TS		
	LF3600 / Prestolok PLM Metal Inch (2.5,4,5,6,8) Metric (4,6,8,10,12,14)														
	LF3800 / Prestolok PLS Stainless Steel Inch (2.5,3,4,5,6,8) Metric (4,6,8,10,12)														
	Liquifit Inch (2.5,4,6,8) Metric (4,6,8,10,12)														
Barb	TrueSeal Inch (4,5,6,8)	MG								MG		MG	TS		TS
	Par-Barb Inch (2,3,4,5,6,8,10,12,16,20,24) Inside Diameter														CL
	Dubl-Barb Inch (2.5,4,6,8)														
	Hose Barb Inch (2,3,4,5,6,8,10,12,16) Inside Diameter														CL
DOT Transportation	Garden Hose														CL
	NTA Inch (3,4,6,8,10,12)														
	Transmission Fittings Inch (2,2.5)														
	Air Brake Inch (4,6,8,10,12,16)														
	Air Brake Hose Inch (6,8)														
	Vibra-Lok Inch (2,3,4,5,6,8,10,12)														
	Prestomatic Inch (4,6,8,10) Metric (6,8,10,12,16)														
	Brass PTC / Metric Prestomatic Inch (2.5,3,4,6,8,10,12)														

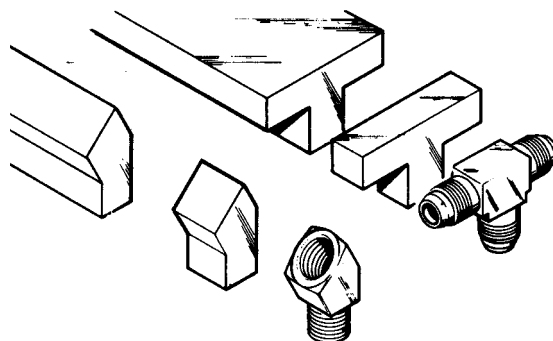
Parflex Thermoplastic Tubing								IHP/HPD Hose		
Transportation Tubing				Fluoropolymer Tubing						
PFT Air Brake (SAE J844) Inch (2,2.5,3,4,5,6,8,10,12)	Air Brake DIN 74324 (Nylon 12) Metric (4,6,8,10,12,15,16,18)	PFT Diesel Fuel Sizes 4,6,8,10,12	HTFL Diesel Fuel Sizes 4,6,8,10,12	PFA Inch (3/32" - 1") Metric (4mm - 12mm)	FEP Inch (1/8" - 1") Metric (3mm - 12mm)	PTFE Inch (3/32" - 1.1") Metric (3mm - 16mm)	PVDF Inch (2,3,4,5,6,8,10,12,16)			
								GPH General Purpose Inch (3,4,6,8,12) Inside Diameter	Parker 271 hose (SAE J1402) Inch (6,8) Inside Diameter	
Nomenclature										
PS Plastic Sleeve & Tube Support Recommended										
TS Tube Support Is Recommended										
BS Brass Sleeve Recommended										
CL Clamp Required										
MG Metal Gripper Collet Recommended										
Tube/Fitting Combination Compatible										
Tube/Fitting Combination Not Compatible										
Product Sizes (inch)										
				PS TS	PS TS	PS TS	PS TS		Compression Inch (2,3,4,5,6,7,8,10,12)	Compression & Flare
				TS	TS	TS	TS		Compress-Align Inch (2,3,4,5,6,8,10,12,14,16)	
				TS	TS	TS	TS		Metric Compression Metric (4,5,6,8,10,12,14,16,18,20,22,25,28)	
									Poly-Tite Inch (4,5,6,8)	
									Hi-Duty Inch (2,3,4,5,6,8,10)	
									45 degree flare Inch (2,3,4,5,6,8,10,12,14)	
									Inverted Flare Inch (2,3,4,5,6,8,10,12)	
									Fast & Tite Inch (4,5,6,8,10)	
									Flow Controls Inch (2,2.5,4,5,6,8) Metric (4,6,8,10,12)	Push-to-Connect
									Prestolok PLP Metal Inch (2,2.5,3,4,5,6,8)	
									Prestolok PLP Composite Inch (2,2.5,3,4,5,6,8,10) Metric (3,4,6,8,10,12,14,16)	
									Prestolok PLM Metal Inch (2.5,4,5,6,8) Metric (4,6,8,10,12,14)	
									Prestolok PLS Stainless Steel Inch (2.5,3,4,5,6,8) Metric (4,6,8,10,12)	
									Liquifit Inch (2.5,4,6,8) Metric (4,6,8,10,12)	
				MG	MG	MG	MG		TrueSeal Inch (4,5,6,8)	Barb
								CL	Par-Barb Inch (2,3,4,5,6,8,10,12,16,20,24) Inside Diameter	
									Dubl-Barb Inch (2.5,4,6,8)	
								CL	Hose Barb Inch (2,3,4,5,6,8,10,12,16) Inside Diameter	
								CL	Garden Hose	DOT Transportation
									NTA Inch (3,4,6,8,10,12)	
									Transmission Fittings Inch (2,2.5)	
									Air Brake Inch (4,6,8,10,12,16)	
									Air Brake Hose Inch (6,8)	
									Vibra-Lok Inch (2,3,4,5,6,8,10,12)	
									Metric Prestomatic Metric (6,8,10,12,16)	
									Brass PTC / PTCR Inch (2.5,3,4,6,8,10,12)	
									Composite PTC / PTCR Inch (2.5,3,4,6,8,10,12)	
									SAE Cartridges Inch (4,6,8,10)	

MANUFACTURING TECHNIQUES

Parker Extruded fittings

Hexagon, round and shaped bars are extruded in the configuration required, drawn to size, cut to length and straightened. First a solid round billet (8 to 12 inches in diameter) is heated to the pliable state and forced by pressure of approximately 80,000 pounds per square inch through a die. The resulting continuous length of bar is cooled and then drawn through dies to the desired external size. (The drawing process also controls the temper.) After straightening, the bar is ready for machining.

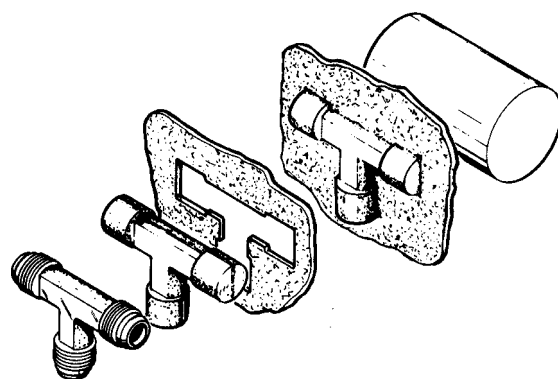
The process produces a dense, nonporous material somewhat stronger in the longitudinal direction due to an orientated flow of the grain.



Material used for Parker Brass Fittings

(Reference SAE J461)

Straight bodies:	barstock CA 360 or CA 345
Shape bodies:	extruded barstock CA 360
Shape bodies:	forged CA 377
Nuts:	barstock CA 360
Nuts:	forged CA 377



Parker Forged Fittings

Material for forgings is extruded in round bars, cut to length and straightened. (At this point in the process, forging rod differs from round extruded machinable bars only in temper and chemical properties.) After straightening, the bars are cut again into slugs (short lengths), reheated to the pliable state and pressed under a pressure of approximately 25,000 pounds per square inch between upper and lower die cavities. After cooling the flash is trimmed away and the forging blank is ready for machining.

This process of forming under extreme pressure produces a uniformly dense material of exceptional strength. Because grain flow follows the contour, the fitting has high impact strength and is more resistant to mechanical shock and vibration.

Of the major brass fittings producers, only Parker offers elbows and tees machined from both extruded and forged shapes.

TUBE LINE FABRICATION GUIDE FOR LEAK FREE SYSTEMS

Every hydraulic, pneumatic and lubrication system requires some form of tube line fabrication and fitting installation for completion. Proper fabrication and installation are essential for the overall efficiency, leak free performance, and general appearance of any system.

Start by planning ahead. After sizing the tube lines and selecting the appropriate style of fitting, consider the following in the design of your system:

1. Accessibility of joints
2. Proper routing of lines
3. Adequate tube line supports
4. Available fabricating tools

Routing of Lines

Routing of lines is probably the most difficult yet most significant of these system design considerations. Proper routing involves getting a connecting line from one point to another through the most logical path.

Always try to leave fitting joints as accessible as possible. Hard to reach joints are hard to assemble and tighten

properly. Inaccessible joints are also more difficult and time consuming to service.

The most logical path should have the following characteristics:

- **Avoid excessive strain on joint** — A strained joint will eventually leak. (See Figures A14 through A21.)
- **Allow for expansion and contraction** — Use a “U” bend or a hose in long lines to allow for expansion and contraction. (See Figure A22.)
- **Allow for motion under load** — Even some apparently rigid systems do move under load. (See Figure A23.)
- **Get around obstructions without using excessive amount of 90° bends** — Pressure drop due to one 90° bend is greater than that due to two 45° bends. (See Figures A24 and A25.)
- **Keep tube lines away from components that require regular maintenance.** (See Figures A26 and A27.)
- **Have a neat appearance and allow for easy troubleshooting, maintenance and repair.** (See Figures A28 and A29.)

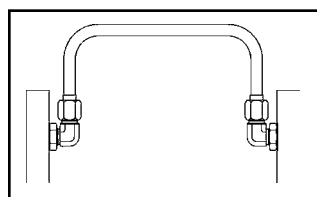


Fig. A14 – Correct Routing

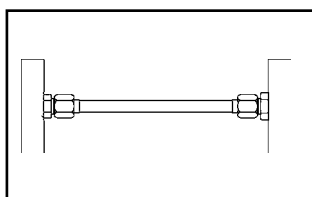


Fig. A15 – Incorrect Routing

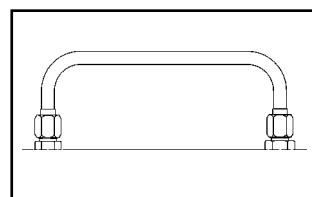


Fig. A18 – Correct Routing

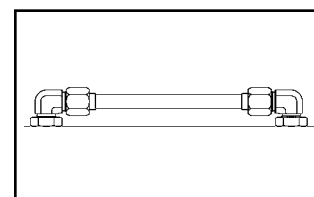


Fig. A19 – Incorrect Routing

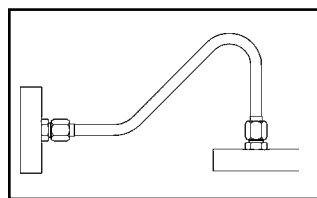


Fig. A16 – Correct Routing

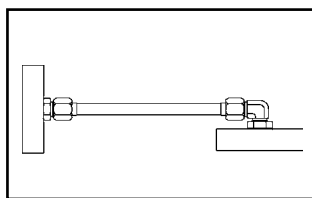


Fig. A17 – Incorrect Routing

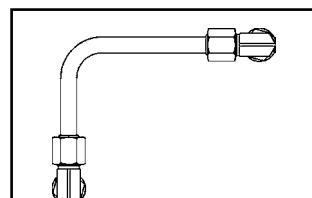


Fig. A20 – Correct Routing

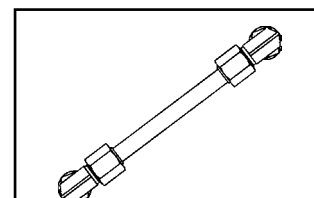


Fig. A21 – Incorrect Routing

(continued next page)

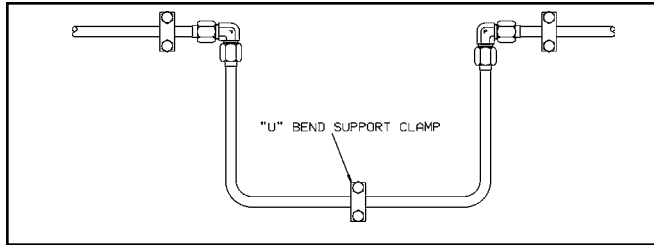


Fig. A22 – U-Bend Allowing Expansion and Contraction

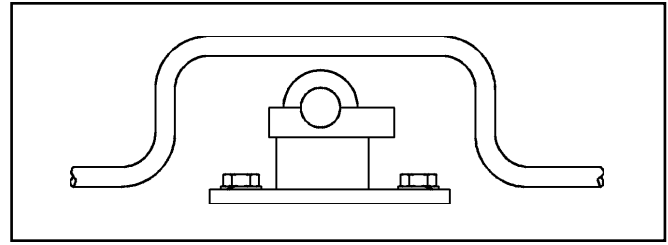


Fig. A25 – Incorrect

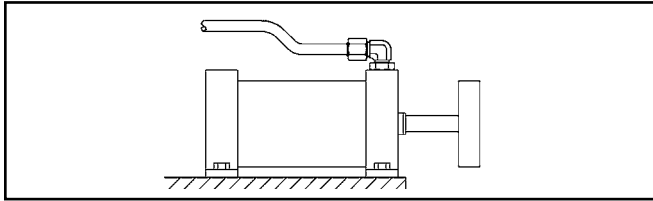


Fig. A23 – Bent Tube Allowing for Motion Under Load

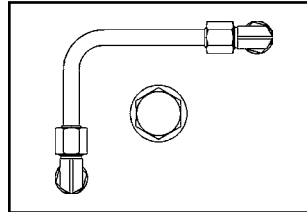


Fig. A26 – Correct

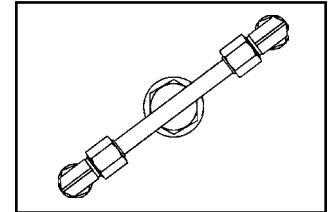


Fig. A27 – Incorrect

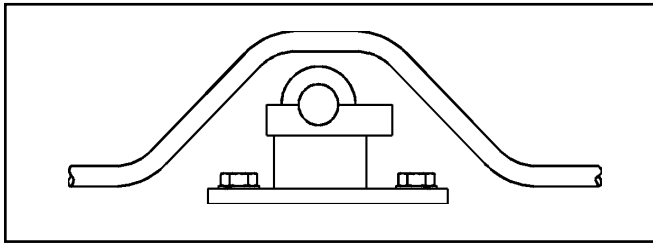


Fig. 24 – Correct

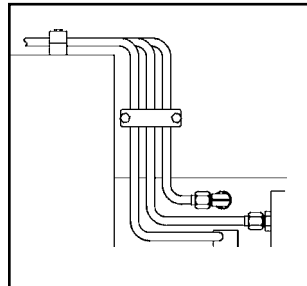


Fig. A28 – Correct

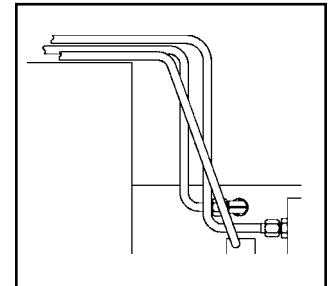


Fig. A29 – Incorrect

THREAD SPECIFICATIONS

Dryseal Pipe Threads

All dryseal pipe threads are manufactured in accordance with the American National Standards Institute (ANSI) B1.20.3 specification and designed to seal pressure tight joints. The threads may incorporate the NPTF (National Standard Pipe Taper Fuel and Oil), PTF-SAE Short, PTF-SPL Short or PTF-SPL Extra Short form. Dryseal threads are used on brass products found within this catalog. Use of a thread sealant is recommended.

Non-Dryseal Pipe Threads

All non-dryseal pipe threads are manufactured in accordance with the American National Standards Institute (ANSI) B1.20.1 specification. These tapered pipe threads are used on our carbon and stainless steel products. Use of a thread sealant is recommended.

Nickel Plating

Nickel Plating is optional on standard product. Specifications for plating are not considered when standard product is manufactured. Since plating will alter thread pitch diameters, all plated threads should be qualified by functional fit with mating parts and not by standard thread gauging. Consult factory on plated product that will be qualified by standard thread gauging. These should be ordered as non-standards so product can be machined to pre-plated specifications.

Nickel plating provides a corrosion resistant coating which is desirable in many applications. Electrolytic nickel plating is the standard plating supplied unless otherwise specified. This will provide a uniform coverage of external surfaces; however, internal surfaces may be uncoated.

Unified Threads

All threads in the columns headed "Straight Thread" found within this catalog are manufactured in accordance with the American National Standards Institute (ANSI) B1.1 specification.

British Standard Pipe Threads BSPT and BSPP

Pressure Tight

The British pipe threaded products found within this catalog intended for use where pressure tight joints are made on the threads are manufactured in accordance with British Standard (BS) 21 and International Standards Organization (ISO) 7-1. The threads are designated as follows:

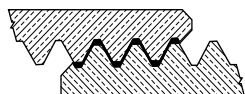
- Rp: Internal parallel
- Rc: Internal taper
- Rs: Special external parallel
- R: External taper

Use of a thread sealant is recommended with the R series thread. An elastomeric peripheral seal should be used with the Rs thread.

Non-Pressure Tight

All British Standard parallel pipe threads manufactured in this catalog according to BS2779 and ISO 228-1 are intended for use where pressure tight joints are not made on the threads. An elastomeric peripheral seal should be used. These threads are designated as follows:

- G: Internal Thread
- GA, External thread, tight tolerance classification
- GB, External thread, general purpose and assumed if no classification designation is given



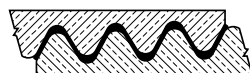
Dryseal Pipe Thread

Metal to metal contact. Crests of thread are crushed by the roots when wrench-tightened to form seal.



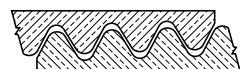
Non-Dryseal Pipe Thread

Flanks are in contact with possible clearance between the roots and crests. Will not prevent spiral leakage



BS21 British Standard Pipe Thread for Pressure Tight Joints

Metal to metal contact provides seal as tapered thread is wrench-tightened.



BS2779 British Standard Pipe Thread for Non-Pressure Tight Joints

Thread tolerances allow for possible clearance between threads. Will not prevent leakage paths.

Pipe Thread Assembly

The two British Standard pipe thread forms used for Parker's standard product are manufactured in a tighter tolerance range than required by the standards in order to facilitate the assembly and mating of fittings produced by the two different standards. In general, BS21 threads do not necessarily mate with BS2779 threads at tolerance overlap conditions, but fittings located within this catalog can be assembled as follows:

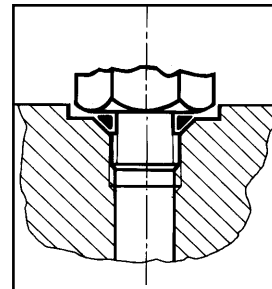
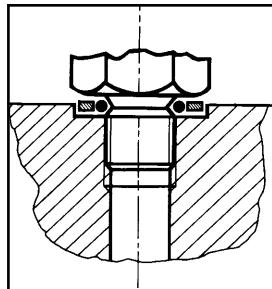
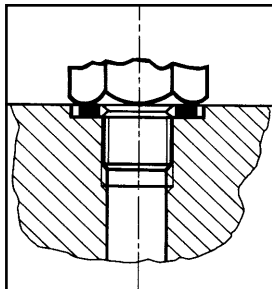
External Thread	Mating Internal Thread
G-BS2779 (parallel)	G-BS2779 (parallel) Rp-BS21* (parallel)
Rs-BS21 (parallel)	Rp-BS21 (parallel) G-BS2779 (parallel)
R-BS21 (taper)	Rp-BS21 (parallel) Rc-BS21 (taper) G-BS2779 (parallel)

*This thread must be manufactured within a reduced tolerance range to always assemble with the G series external thread.

British Standard ISO Metric Screw Threads

They are commonly used in miniature pneumatic applications because of the availability of small thread diameters and are also used extensively in the automotive industry. There are two forms of sealing on metric screw threads.

- O-ring sealing into a profiled port in accordance with ISO 6149.
- Peripheral sealing with a copper or bonded washer in accordance with ISO 261 and 262.



Peripheral sealing of parallel threads

Pressure-tight joints of screwed connections with parallel threads are achieved by placing a seal between the two machined faces

Flat seals

Washers and rings are manufactured in many different materials including copper, aluminium, fiber, plastics, etc.

The tightening torque at assembly must be carefully selected so as to avoid compressing the seal to the point of extrusion. As a general rule, the fitting should be tightened with an additional 1/4 wrench turn from the fingertight position.

O-rings

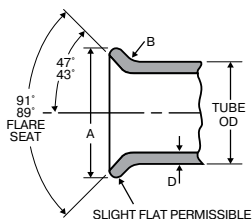
Depending upon the configuration of the female port or male thread, O-Ring seals are fitted with or without back-up washers, and can be fully retained in a captive seal.

FLARING INSTRUCTIONS

In order to properly flare copping tubing for use with Parker 45° Flared Fittings and Inverted Flared Fittings, the following procedures and specifications should be met in preparation and make-up of flares.

1. Cut tube with tube cutter:

To minimize the burr and workhardening, use a light feed on the cutting wheel and make several revolutions.



2. Ream the tubing:

Cutting with a tube cutter will always create a burr. The burr must be removed to obtain maximum sealing surface. Remove only the burr, do not remove material from the original wall thickness. Also clean the tube end thoroughly to remove burrs.

3. Flare tubing:

Flare with a compression or generating type flaring tool. Follow tool manufacturer's instructions for: (a) positioning the tube in tool and (b) for the correct number of turns on the feed handle.

4. Inspect tubing:

The flare cone should be checked for a smooth surface on the i.D. Of the cone and measure with micrometer over largest o.D. For proper size. (See dimensions below for flare size for each tubing size.)

Nominal Tube	A Single Flare Diameter		B Single Flare Radius	D Single Flare Wall Thickness
in	Max. in	Min. in	+/- 0.01 in	Max. in
1/8	.181	.171	.02	.035
3/16	.249	.239	.02	.035
1/4	.325	.315	.02	.049
5/16	.404	.388	.02	.049
3/8	.487	.471	.02	.065
7/16	.561	.545	.02	.065
1/2	.623	.607	.02	.083
9/16	.676	.660	.02	.083
5/8	.748	.732	.02	.095
3/4	.916	.900	.02	.109
7/8	1.041	1.025	.02	.109
1	1.157	1.141	.02	.120

THREAD DESIGNATIONS AND STANDARDS

for Threads Used in Fluid Connectors

	Abbreviation	Description	Applicable Std.
Straight Pipe	NPSC	American Standard Straight Pipe Threads in Pipe Couplings	ANSI B1.20.1 FED-STD-H28/7
	NPSF	Dryseal American Standard Fuel Internal Straight Pipe Threads (generally used in soft or ductile materials to mate with NPTF external taper threads)	SAE J476 ANSI B1.20.3 FED-STD-H28/8
	NPSI	Dryseal American Intermediate Internal Straight Pipe Threads (for brittle or hard materials; intended to mate with PTF-SAE short external taper threads)	SAE J476 ANSI B1.20.3 FED-STD-H28/8
	NPSM	American Standard Straight Pipe Threads for Free-Fitting Mechanical Joints for Fixtures (these threads fit freely over NPTF threads. They are used in swivel nuts of 07 adapters)	ANSI B1.20.1 FED-STD-H28/7

Continued next page

	Abbreviation	Description	Applicable Std.
Taper Pipe	ANPT	Aeronautical National Taper Pipe Threads (similar to NPT with various additional requirements in gaging)	MIL-P-7105
	NPT	American Standard Taper Pipe Threads for General Use	ANSI B1.20.1 FED-STD-H28/7
	NPTF	Dryseal American Standard Taper Pipe Threads (used in all of our steel and brass fittings)	SAE J476 ANSI B1.20.3 FED-STD-H28/8
	PTF - SAE Short	Dryseal SAE Short Taper Pipe Threads (mainly used in low pressure pneumatic and fuel applications)	SAE J476 ANSI B1.20.3 FED-STD-H28/8
	PTF - SPL Short ¹	Dryseal Special Short Taper Pipe Threads	ANSI B1.20.3
	PTF - SPL Extra Short ¹	Dryseal Special Extra Short Taper Pipe Threads	ANSI B1.20.3
Unified Threads	UN	Unified Constant Pitch Threads (standard series: 4, 6, 8, 12, 16, 20, 28, 32)	ANSI B1.1 ED-STD-H28/2
	UNC	Unified Coarse Threads	ANSI B1.1 FED-STD-H28/2
	UNEF	Unified Extra Fine Threads	ANSI B1.1 FED-STD-H28/2
	UNF	Unified Fine Threads	ANSI B1.1 FED-STD-H28/2
	UNS	Unified Special Pitch Threads	ANSI B1.1 FED-STD-H28/3
	UNJ	Unified Controlled Root Radius Threads	ANSI B1.15 FED-STD-H28/4
Metric Threads	M	Metric Screw Threads — M profile	ISO 261 ANSI B1.13M FED-STD-H28/21
	M — Keg	Metric Taper Threads (mainly used in Germany)	DIN 158
British Standard	R (BSPT)	British Standard Taper Pipe Threads, External	BS 21 ISO 7/1
	Rc (BSPT)	British Standard Taper Pipe Threads, Internal	BS 21 ISO 7/1
	Rp or G (BSPP)	British Standard Pipe (Parallel) Threads	BS 2779 ISO 228/1
Japanese Standard	PF ²	JIS Parallel Pipe Threads	JIS B202 ISO 228/1
	PT ²	JIS Taper Pipe Threads	JIS B203 ISO 7/1
	PS	JIS Parallel Internal Pipe Threads (to mate with PT threads)	JIS B203

Table A48 — Thread Designations and Standards for Threads Used in Fluid Connectors

1. Used in some pneumatic components where shortened thread depth is required because of lack of enough material due to component size limitations.
2. PF and PT threads are functionally interchangeable with BSPP and BSPT threads, respectively.
These are old designations. They are being replaced with G (for PF) and R and Rc (for PT) as documents are revised.

STRAIGHT THREAD SIZE COMPARISON CHART

	TUBE O.D.										
	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1
SAE 45° Flared	5/16 -24	3/8 -24	7/16 -20	1/2 -20	5/8 -18	11/16 -16	3/4 -16	7/8 -14	1-1/16 -14	1-1/4 -12	-
Inverted Flared	5/16 -28	3/8 -24	7/16 -24	1/2 -20	5/8 -18	11/16 -18	3/4 -18	7/8 -18	1-1/16 -16	1-3/16 -16	-
Air Brake/NTA	-	-	7/16 -24	-	17/32 -24	-	11/16 -20	13/16 -18	1 -18	-	1-1/4 -16
Standard. Compression / Compress-Align	5/16 -24	3/8 -24	7/16 -24	1/2 -24	9/16 -24	5/8 -24	11/16 -20	13/16 -18	1 -18	1-1/8 -18	1-1/4 -18
Poly-Tite			3/8 -24	7/16 -24	1/2 -24	-	11/16 -20	-	-	-	-
Vibra-Lok	3/8 -24	-	1/2 -24	9/16 -24	5/8 -24	-	13/16 -18	1 -18	1-1/8 -18	-	-
V510 Ball Valves	-	-	7/16 -20	-	9/16 -18	-	3/4 -16	7/8 -14	1-1/16 -12	-	1-5/16 -12
Hi-Duty Flareless Tube Fittings	5/16 -24	3/8 -24	7/16 -20	1/2 -20	9/16 -20	-	11/16 -16	7/8 -18	-	-	-

S.A.E. PART INDEX

Part No.	Page	Part No.	Page	Part No.	Page	Part No.	Page
SAE 010101.....	H8	SAE 010202.....	H10	SAE 060102 BA.....	G9	SAE 100203 BA.....	F9
SAE 010102.....	H9	SAE 010203.....	H11	SAE 060103 BA.....	G9	SAE 100302 BA.....	F9
SAE 010103.....	H9	SAE 010302.....	H11	SAE 060110.....	G8	SAE 100401 BA.....	F8
SAE 010104.....	H8	SAE 010401.....	H10	SAE 060111.....	G8	SAE 100424 BA.....	F9
SAE 010105.....	H12	SAE 010424.....	H11	SAE 060115.....	G8	SAE 100425 BA.....	F9
SAE 010106.....	H12	SAE 010425.....	H10	SAE 060201 BA.....	G10	SAE 120101 BA.....	F13
SAE 010107.....	H12	SAE 040101.....	H14	SAE 060202 BA.....	G10	SAE 120102 BA.....	F13
SAE 010108.....	H7	SAE 040102.....	H14	SAE 060203 BA.....	G11	SAE 120103 BA.....	F13
SAE 010109.....	H12	SAE 040103.....	H14	SAE 060401 BA.....	G10	SAE 120111.....	F13
SAE 010110.....	H8	SAE 040110.....	H14	SAE 060424 BA.....	G11	SAE 120115.....	F13
SAE 010111.....	H8	SAE 040202.....	H15	SAE 060425 BA.....	G11	SAE 120201 BA.....	F13
SAE 010112.....	H12	SAE 040203.....	H15	SAE 100101 BA.....	F7	SAE 120202 BA.....	F14
SAE 010113.....	H7	SAE 040302.....	H15	SAE 100102 BA.....	F8	SAE 120203 BA.....	F14
SAE 010114.....	H7	SAE 040401.....	H14	SAE 100103 BA.....	F8	SAE 120302 BA.....	F14
SAE 010165.....	H7	SAE 040424.....	H15	SAE 100110.....	F7	SAE 120401 BA.....	F13
SAE 010166.....	H7	SAE 040425.....	H15	SAE 100115.....	F7	SAE 120424 BA.....	F14
SAE 010167.....	H7	SAE 040427.....	H15	SAE 100201 BA.....	F8	SAE 120425 BA.....	F14
SAE 010201.....	H11	SAE 060101 BA.....	G8	SAE 100202 BA.....	F9		

SAE STANDARDS

(Current)

- J246:** Spherical and Flanged Sleeve
(Compression) Tube Fittings
Tubing: Copper and J844 Nylon
Fittings: NTA and Air Brake
- J476:** Dryseal Pipe Threads
- J512:** Automotive Tube Fittings
Tubing: Copper and Nylon
Fittings: 45° Flare, Inverted Flare, Compression
- J513:** Refrigeration Tube Fittings
Tubing: Annealed Copper
Fittings: 45° Flare
- J530:** Automotive Pipe Fittings
Fittings: Pipe
- J531:** Automotive Pipe, Filler and Drain Plugs
Fittings: Pipe Plugs
- J844:** Nonmetallic Air Brake System Tubing
Tubing: Non-reinforced Type A, reinforced Type B
- J1131:** Performance Requirements for SAE J844
Nonmetallic
Tubing and Fitting
Assemblies Used in Automotive Air Brake Systems
Tubing: J844 Nylon
Fittings: NTA and Prestomatic
- J1615:** Thread Sealants
- J2494:** Brass Body Push-to-Connect Fittings
Tubing: J844 Nylon
Fittings: Prestomatic

U.L. LISTED FITTINGS

Many of the Fluid System Connectors Division's fittings have been listed by the Underwriter's Laboratory. The listings fall under 1 of 3 categories, depending upon application. Underwriter's requires that the smallest unit package carry the U.L. symbol and each carton be printed in accordance with the specification of each category.

List of U.L. Fittings

FITTINGS, FLAMMABLE LIQUID			
1F	62C	168CA	252IFHD
2GF	62CA	169C	256IF
3GF	62CABH	169CA	259IFHD
14FL	62CBH	170C	264C
14FSV	66C	170CA	264CA
14FSX	66CA	171C	265C
41FL	68C	171CA	265CA
41FS	68CA	172C	269C
41FX	144F	172CA	269CA
41IF	145F	176C	270C
41IFS	147F	176CA	270CA
42F	149F	177C	639C
42IFHD	150F	177CA	639CA
46F	151F	244F	639F
46IFHD	155F	244IFHD	640F
48F	159F	245IFHD	660FHD
48IFHD	164C	249F	661FHD
60C	164CA	249IF	664FHD
61C	165C	249IFHD	
61CA	165CA	250IFHD	
61CL	168C	251IFHD	

FITTINGS, FUEL EQUIPMENT, MARINE			
2GF	48F	150F	640F
3GF	144F	151F	660FHD
14FL	145F	155F	661FHD
42F	147F	159F	664FHD
46F	149F	639F	

SHUT-OFF VALVES, FLAMMABLE LIQUIDS, LP GAS AND COMPRESS GAS		
XV520P-4	XV520P-16	XV520P-40
XV520P-6	XV520P-20	XV520P-48
XV520P-8	XV520P-24	
XV520P-12	XV520P-32	

FLOW CURVES

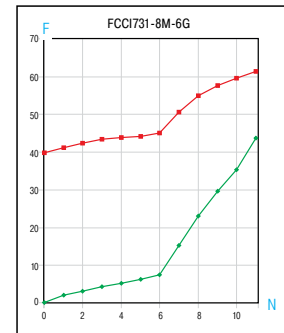
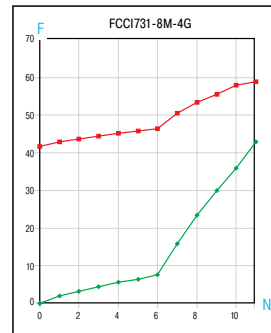
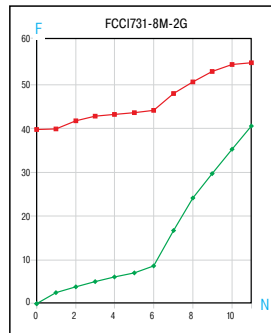
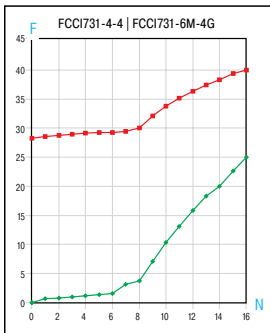
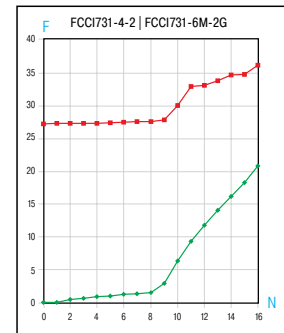
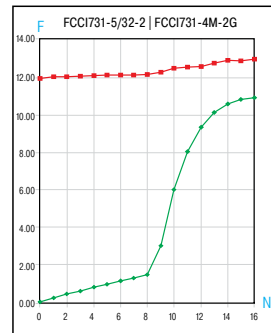
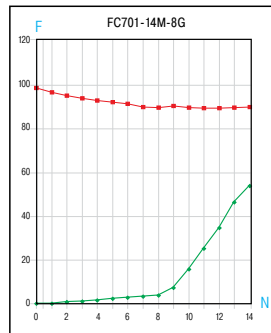
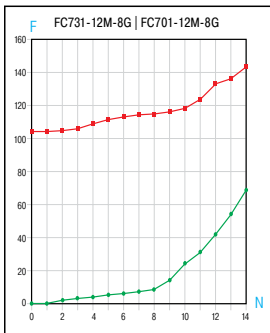
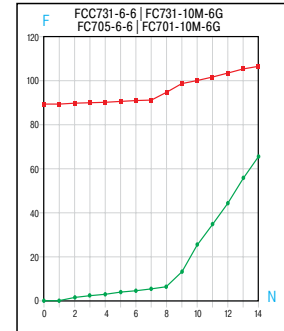
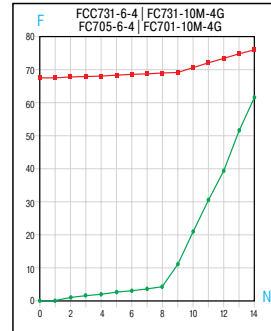
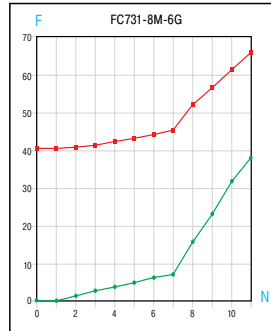
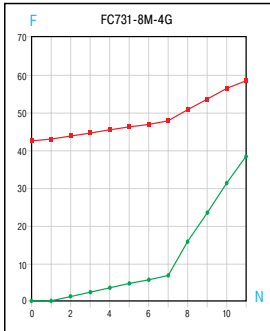
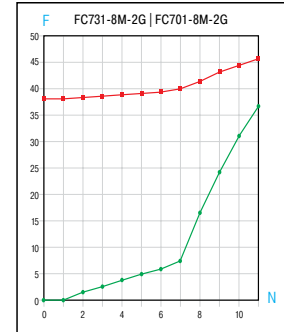
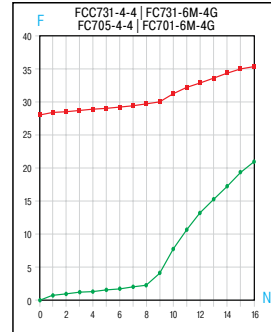
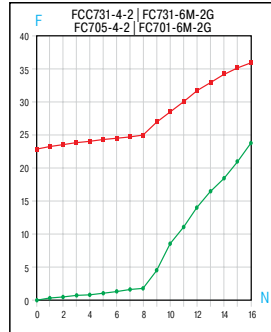
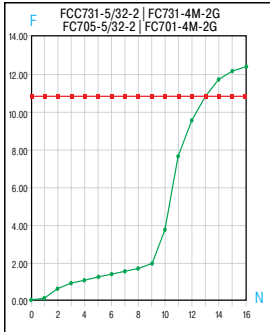
87 PSI (5.9 bar)

Return Direction

Controlled Direction

N = Number of Turns

F = Flow in SCFM



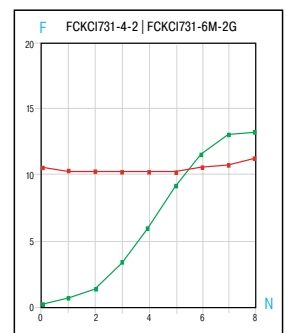
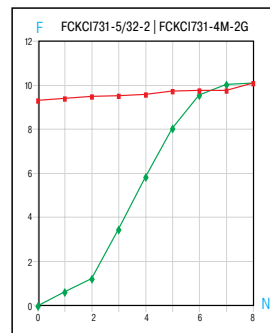
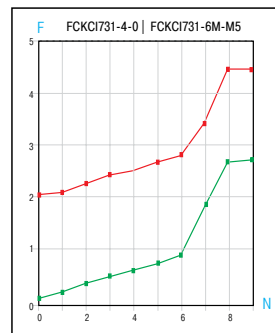
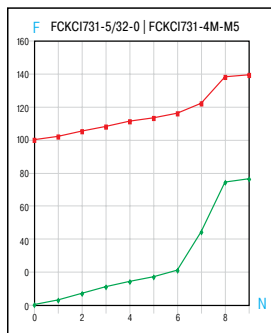
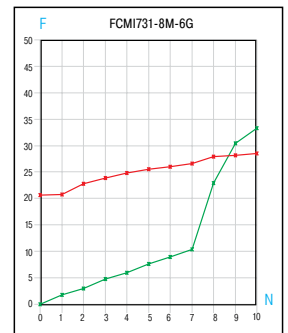
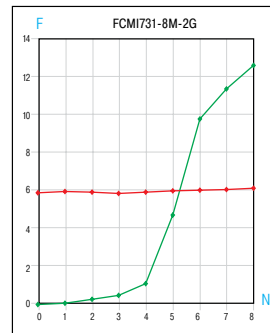
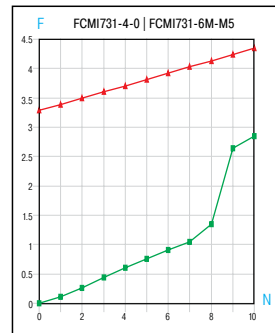
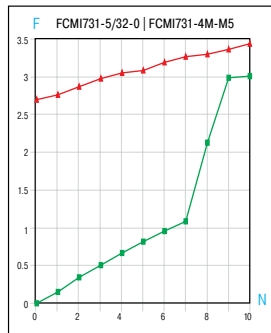
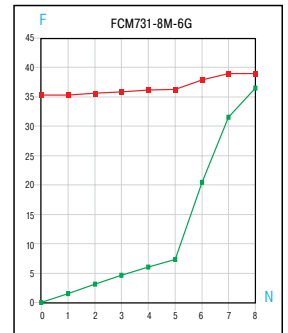
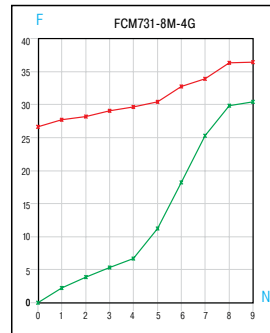
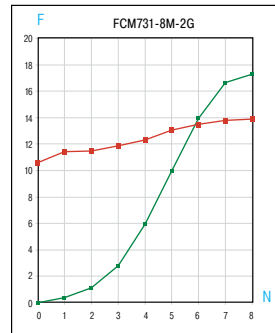
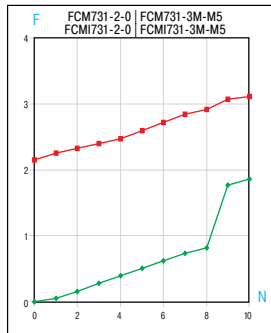
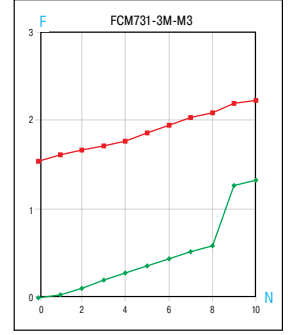
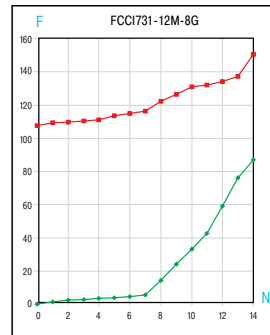
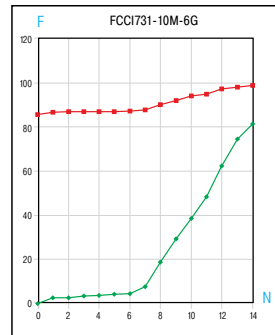
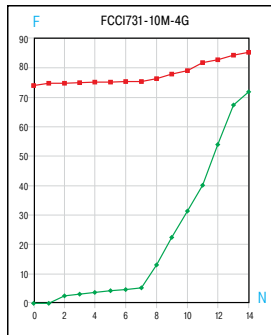
87 PSI (5.9 bar)

Return Direction

Controlled Direction

N = Number of Turns

F = Flow in SCFM



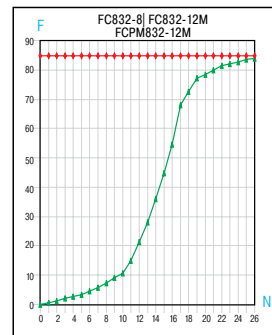
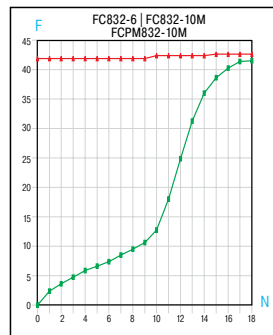
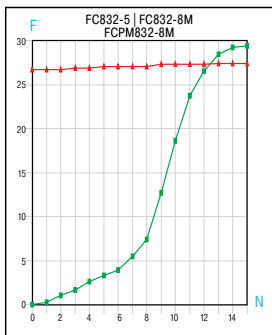
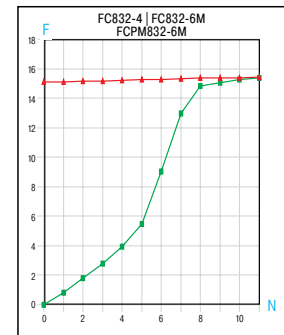
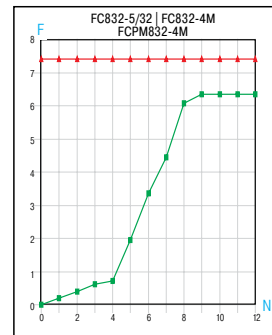
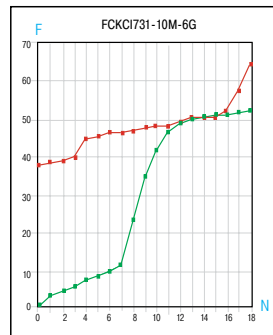
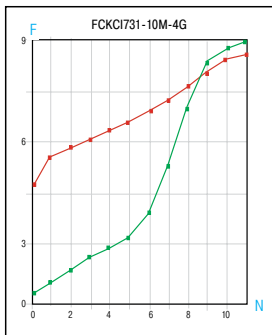
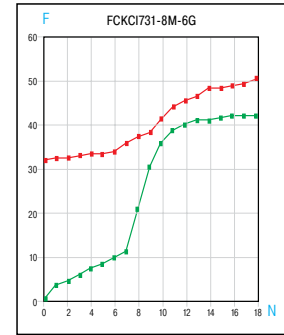
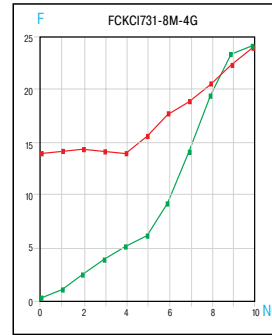
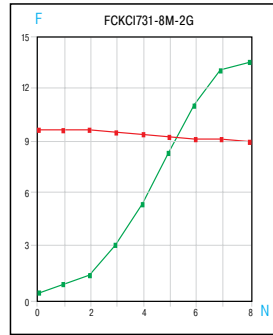
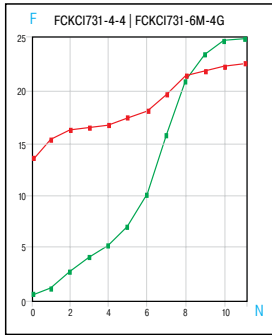
87 PSI (5.9 bar)

Return Direction

Controlled Direction

N = Number of Turns

F = Flow in SCFM



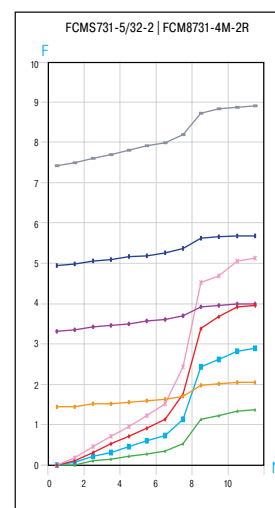
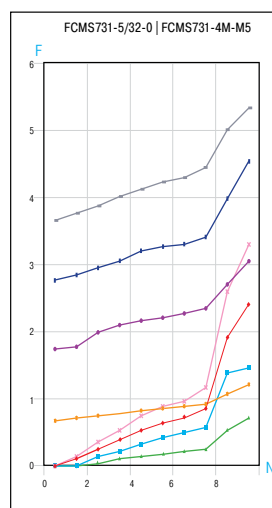
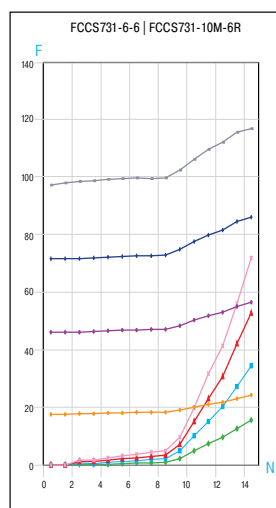
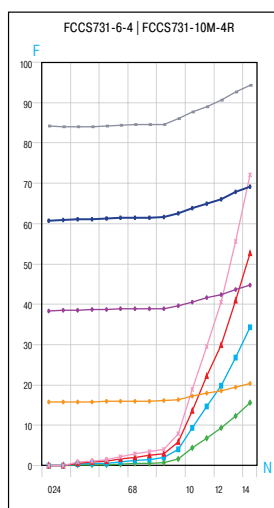
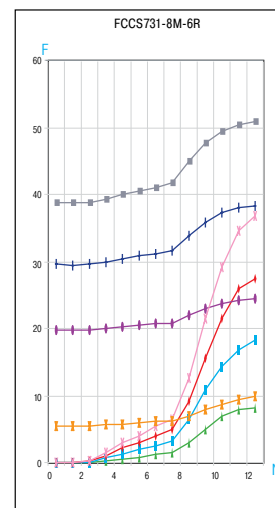
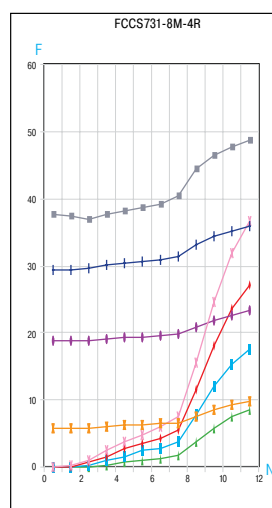
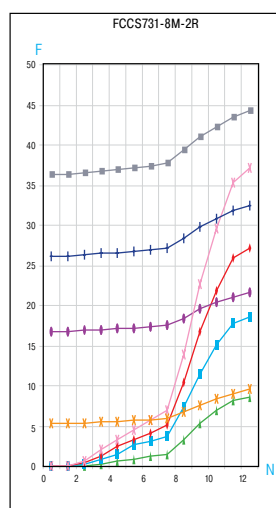
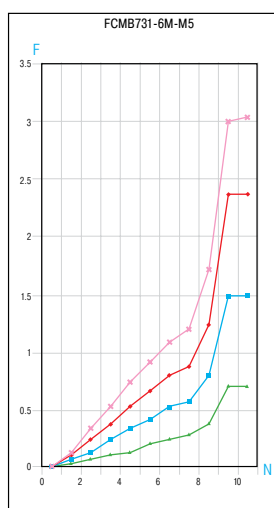
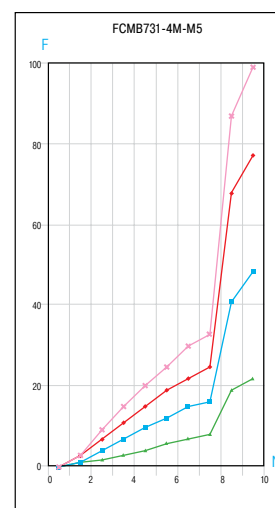
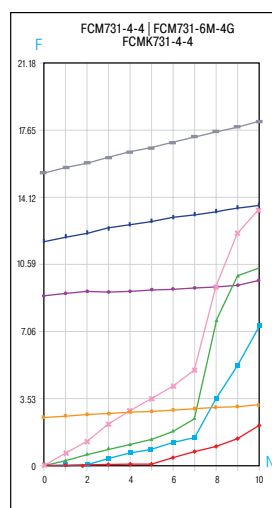
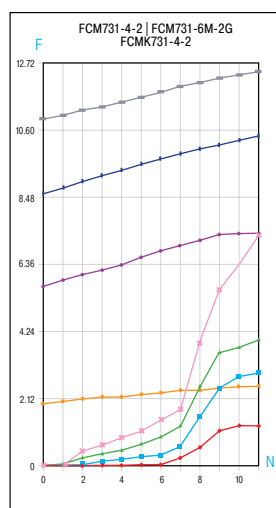
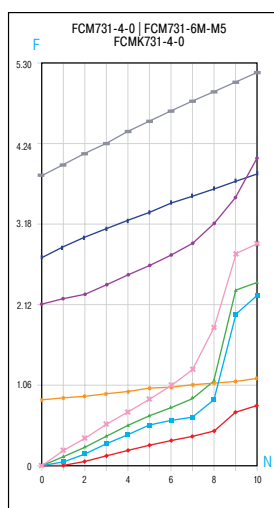
87 PSI (5.9 bar)

Return Direction

Controlled Direction

N = Number of Turns

F = Flow in SCFM



Controlled Direction - 14.5 PSI (0.9 bar)
Controlled Direction - 72.5 PSI (4.9 bar)
Return Direction - 14.5 PSI (0.9 bar)

Return Direction - 72.5 PSI (4.9 bar)
Controlled Direction - 43.5 PSI (2.9 bar)
Controlled Direction - 101.5 PSI (6.9 bar)

Return Direction - 43.5 PSI (2.9 bar)
Return Direction - 101.5 PSI (6.9 bar)

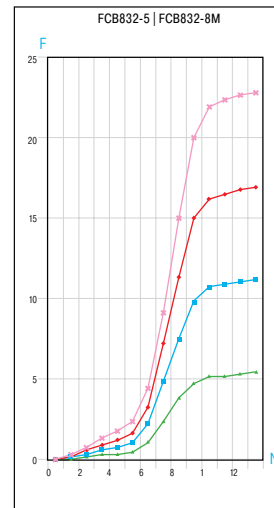
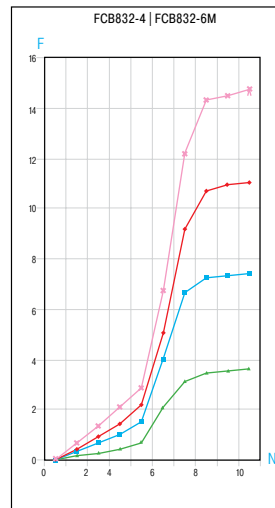
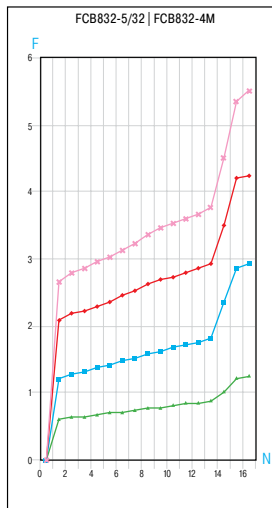
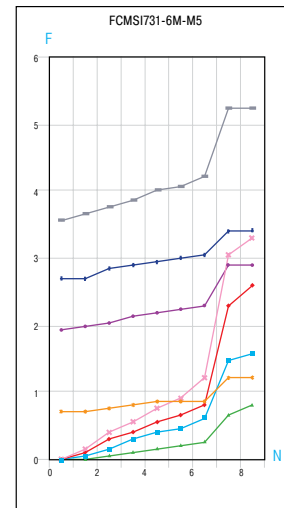
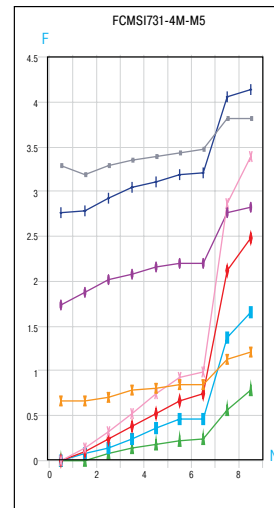
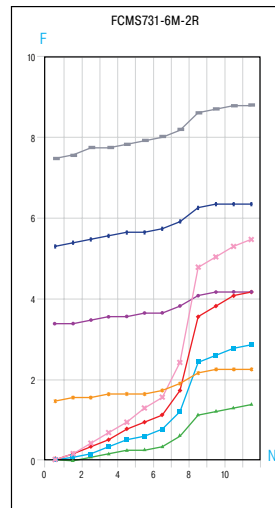
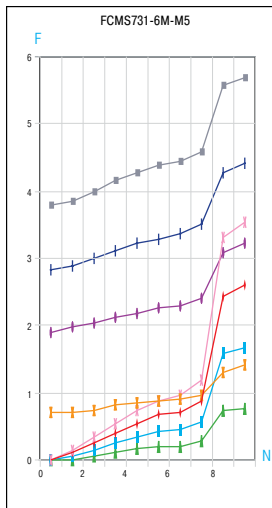
87 PSI (5.9 bar)

Return Direction

Controlled Direction

N = Number of Turns

F = Flow in SCFM



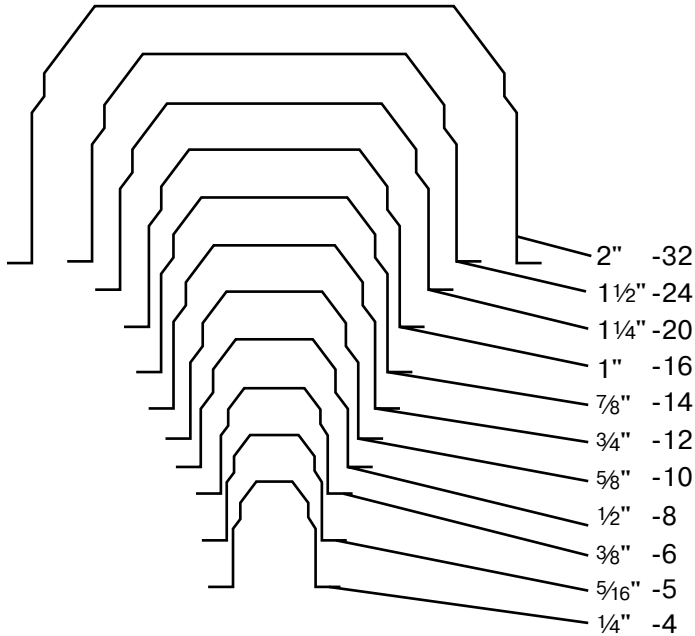
Controlled Direction - 14.5 PSI (0.9 bar)
 Controlled Direction - 72.5 PSI (4.9 bar)
 Return Direction - 14.5 PSI (0.9 bar)

Return Direction - 72.5 PSI (4.9 bar)
 Controlled Direction - 43.5 PSI (2.9 bar)
 Controlled Direction - 101.5 PSI (6.9 bar)

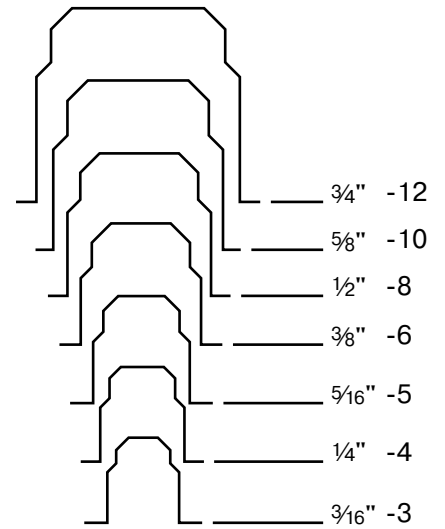
Return Direction - 43.5 PSI (2.9 bar)
 Return Direction - 101.5 PSI (6.9 bar)

FLARE AND THREAD PROFILES

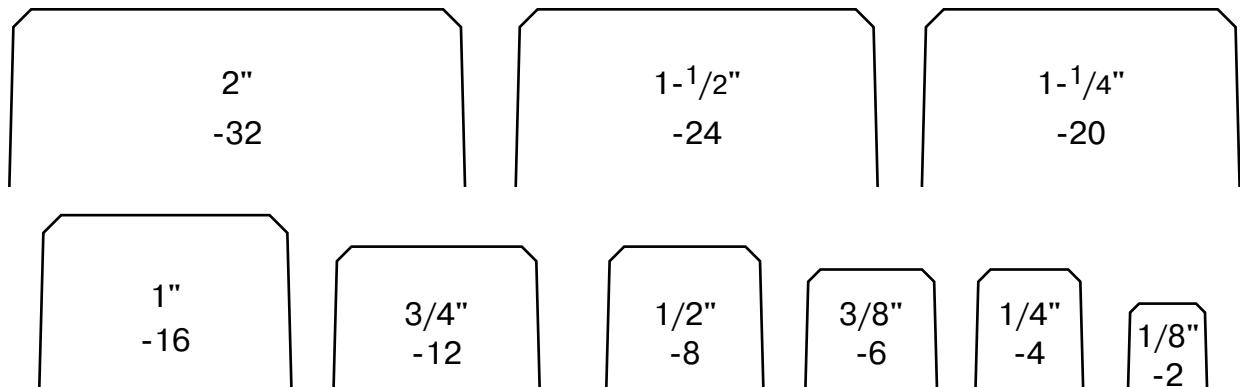
Actual Size SAE (JIC) 37° FLARE NOSE SIZES



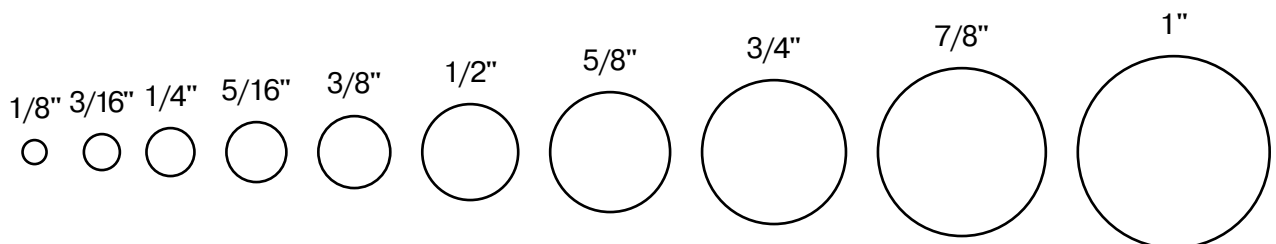
Actual Size SAE 45° FLARE NOSE SIZES



MALE PIPE THREAD SIZES



ACTUAL OUTSIDE DIAMETERS OF TUBING



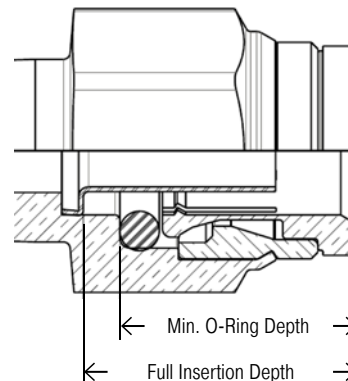
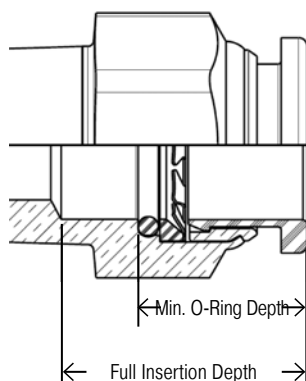
PRESSURE CONVERSIONS

Kilopascals (KPa)	Megapascals (MPa)	Bar (bar)	Kilograms Per Square Centimeter (Kgf/cm ²)	Pounds Per Square Inch (psi)
100	1.0	1	1.02	14.50
200	.2	2	2.04	29.00
300	.3	3	3.06	43.50
400	.4	4	4.08	58.00
500	.5	5	5.10	72.50
600	.6	6	6.12	87.00
700	.7	7	7.14	101.50
800	.8	8	8.16	116.00
900	.9	9	9.18	130.50
1000	1.0	10	10.20	145.00
2000	2.0	20	20.40	290.10
3000	3.0	30	30.60	435.10
4000	4.0	40	40.80	580.20
5000	5.0	50	51.00	725.20
6000	6.0	60	61.20	870.20
7000	7.0	70	71.40	1015.30
8000	8.0	80	81.60	1160.30
9000	9.0	90	91.80	1305.30
10000	10.0	100	102.00	1450.00
20000	20.0	200	204.00	2901.00
30000	30.0	300	306.00	4351.00
40000	40.0	400	408.00	5802.00
50000	50.0	500	510.00	7252.00
60000	60.0	600	612.00	8702.00
70000	70.0	700	714.00	10153.00
80000	80.0	800	816.00	11603.00
90000	90.0	900	918.00	13053.00
100000	100.0	1000	1020.00	14504.00
200000	100.0	2000	2040.00	29008.00
300000	300.0	3000	3060.00	43511.00

Pounds Per Square Inch (psi)	Kilopascals (KPa)	Megapascals (MPa)	Bar (bar)	Kilograms Per Square Centimeter (Kgf/cm ²)
10	68.90	.07	.70	.70
20	137.90	.14	1.41	1.41
30	206.80	.21	2.10	2.11
40	275.80	.28	2.80	2.81
50	344.70	.34	3.40	3.52
60	413.70	.41	4.10	4.22
70	482.60	.48	4.80	4.92
80	551.60	.55	5.50	5.63
90	620.50	.62	6.20	6.33
100	689.00	.70	6.90	7.00
200	1379.00	1.40	13.80	14.10
300	2068.00	2.10	20.70	21.10
400	2758.00	2.80	27.60	28.10
500	3447.00	3.40	34.50	35.20
600	4137.00	4.10	41.40	42.20
700	4826.00	4.80	48.30	49.20
800	5516.00	5.50	55.20	56.30
900	6205.00	6.20	62.10	63.30
1000	6895.00	6.90	68.90	70.30
2000	13790.00	13.80	137.90	140.70
3000	20684.00	20.70	206.80	211.00
4000	27579.00	27.60	275.80	281.30
5000	34474.00	34.50	344.70	351.60
6000	41369.00	41.40	413.70	421.90
7000	48263.00	48.30	482.60	492.30
8000	55158.00	55.20	551.60	562.60
9000	62053.00	62.10	620.50	632.90
10000	68948.00	68.90	689.00	703.00
20000	137895.00	137.90	1379.00	1406.00
30000	206843.00	206.80	2068.00	2110.00
40000	275790.00	275.80	2758.00	2813.00

TUBE INSERTION DEPTHS

This engineering standard covers the tube insertion depths and minimum depths to pass thru the o-ring. The depths are used for conveying information to customers and are meant to be used only as a guideline.



Brass Prestolok Plus (PLP Metal)

Tube Size	Full Insertion Depth (In.)	Minimum O-ring Depth (In.)
1/8"	.64	.48
5/32"	.64	.48
3/16"	.67	.48
1/4"	.67	.49
5/16"	.77	.51
3/8"	.78	.51
1/2"	.85	.58

LF3600 (PLM) & LF3800 (PLS)

Tube Size	Full Insertion Depth (In.)	Minimum O-ring Depth (In.)
1/4"	.66	.55
3/8"	.88	.73
1/2"	.89	.74
4MM	.57	.49
6MM	.68	.57
8MM	.71	.62
10MM	.90	.75
12MM	.96	.78
14MM	1.00	.82

LF3000 (PLP Composite) & LIQUIfit

Tube Size	Full Insertion Depth (In.)	Minimum O-ring Depth (In.)
1/8"	.46	.38
3/16"	.65	.56
1/4"	.58	.44
3/8"	.81	.62
1/2"	1.09	.84
4MM	.51	.39
6MM	.58	.45
8MM	.73	.55
10MM	.81	.62
12MM	.97	.73
14MM	1.08	.83
16MM	1.15	.89

Carstick

Tube Size	Full Insertion Depth (In.)	Minimum O-ring Depth (In.)
1/8"	.46	.38
1/4"	.75	.55
3/8"	.86	.68
1/2"	1.16	.92
4MM	.49	.41
6MM	.58	.49
8MM	.71	.60
10MM	.85	.67
12MM	1.00	.79

Composite PTC

Tube Size	Full Insertion Depth (In.)	Minimum O-ring Depth (In.)
1/4"	.58	.47
3/8"	.70	.53
1/2"	.80	.61
5/8"	.99	.72
3/4"	1.04	.83

PMTCE

Tube Size	Full Insertion Depth (In.)	Minimum O-ring Depth (In.)
1/4"	.65	.54
3/8"	.81	.72
1/2"	.94	.72
5/8"	1.00	.75
3/4"	1.00	.75

Brass PTC

Tube Size	Full Insertion Depth (In.)	Minimum O-ring Depth (In.)
5/32"	.64	.44
3/16"	.62	.44
1/4"	.59	.49
3/8"	.78	.56
1/2"	.85	.63
5/8"	1.02	.80
3/4"	1.03	.82

TrueSeal – Acetal & Kynar

Tube Size	Full Insertion Depth (In.)	Minimum O-ring Depth (In.)
1/4"	.71	.52
5/16"	.80	.55
3/8"	.80	.55
1/2"	.90	.63

TrueSeal - PolyPropylene

Tube Size	Full Insertion Depth (In.)	Minimum O-ring Depth (In.)
1/4"	.74	.55
3/8"	.83	.59
1/2"	.93	.66

Metric Prestomatic

Tube Size	Full Insertion Depth (In.)	Minimum O-ring Depth (In.)
6MM	.78	
8MM	.80	
10MM	.91	
12MM	.91	
16MM	.89	

LF3800 (PLS)

Tube Size	Full Insertion Depth (In.)	Minimum O-ring Depth (In.)
1/4"	.69	.58
3/16"	.57	.49
3/8"	.90	.75
1/2"	.93	.78
4MM	.57	.49
6MM	.67	.56
8MM	.74	.65
10MM	.91	.76
12MM	.96	.79

Prestomatic

Tube Size	Full Insertion Depth (In.)	Minimum O-ring Depth (In.)
1/4"	.63	.54
3/8"	.81	.72
1/2"	.94	.72
5/8"	1.12	.75
3/4"	1.12	.92

ENGLISH/METRIC CONVERSIONS

Inches x 25.4 = Millimeters (mm)
 Inches x 2.54 = Centimeters (cm)
 Inches x .254 = Decimeters (dm)
 Feet x .3048 = Meters (m)
 Yards x .9144 = Meters (m)
 PSI x .0689 = Bars (bar)
 Bars x 100 = Kilopascals (kPa)
 PSI x .0069 = Megapascals (MPa)
 Pound Inches x .113 = Newton Meters (N·m)

Pound Feet x 1.356 = Newton Meters (N·m)
 Millimeters x .0394 = Inches
 Centimeters x .3937 = Inches
 Meters x 3.281 = Feet
 Meters x 1.0936 = Yards
 Bars x 14.5 = PSI
 Megapascals x 145 = PSI
 Newton Meters x 8.85 = Pound Inches
 Newton Meters x .737 = Pound Feet

MILLIMETERS TO FRACTIONS TO DECIMALS

mm	inches	
	Fraction	Decimal
.3969	1/64	.0156
.7938	1/32	.0312
1.1906	3/64	.0468
1.5875	1/16	.0625
1.9844	5/64	.0781
2.3812	3/32	.0937
2.7781	7/64	.1093
3.1750	1/8	.1250
3.5719	9/64	.1406
3.9688	5/32	.1562
4.3656	11/64	.1718
4.7625	3/16	.1875
5.1594	13/64	.2031
5.5562	7/32	.2187
5.9531	15/64	.2343
6.3500	1/4	.2500

mm	inches	
	Fraction	Decimal
6.7469	17/64	.2656
7.1438	9/32	.2812
7.5406	19/64	.2968
7.9375	5/16	.3125
8.3344	21/64	.3281
8.7312	11/32	.3437
9.1281	23/64	.3593
9.5250	3/8	.3750
9.9219	25/64	.3906
10.3188	13/32	.4062
10.7156	27/64	.4218
11.1125	7/16	.4375
11.5094	29/64	.4531
11.9062	15/32	.4687
12.3031	31/64	.4843
12.7000	1/2	.5000

mm	inch	
	Fraction	Decimal
13.0969	33/64	.5156
13.4938	17/32	.5312
13.8906	35/64	.5468
14.2875	9/16	.5625
14.6844	37/64	.5781
15.0812	19/32	.5937
14.4781	39/64	.6093
15.8750	5/8	.6250
16.2719	41/64	.6406
16.6688	21/32	.6562
17.0656	43/64	.6718
17.4625	11/16	.6875
17.8594	45/64	.7031
18.2562	23/32	.7187
18.6531	47/64	.7343
19.0500	3/4	.7500

mm	inch	
	Fraction	Decimal
19.4469	49/64	.7656
19.8438	25/32	.7812
20.2406	51/64	.7968
20.6375	13/16	.8125
21.0344	53/64	.8281
21.4312	27/32	.8437
21.8281	55/64	.8593
22.2250	7/8	.8750
22.6219	57/64	.8906
23.0188	29/32	.9062
23.4156	59/64	.9218
23.8125	15/16	.9375
24.2094	61/64	.9531
24.6062	31/32	.9687
25.0031	63/64	.9843
25.4000	1	1.0000

ASSEMBLY GUIDES

Push-to-Connect Fittings

- Prestolok PLP Metal
- Prestolok PLP Composite
- Prestolok PLM
- Prestolok PLS
- Oscillating Elbows
- LIQUIFit
- TrueSeal
- Flow Controls
- Prestomatic
- PTC
- Metric Prestomatic
- PMH
- Polypropylene Ball Valves

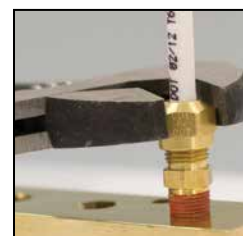
1. Cut tubing squarely – maximum of 15° angle allowable.
2. Check that port or mating part is clean and free of debris.
3. Mark tubing to appropriate tube insertion length. (see Tube Insertion Chart on page N22)
4. Insert tubing until it bottoms
5. Pull on tubing to verify it is fully inserted
6. To disassemble, simply press release button, hold against body and pull tubing out of fitting.



Transportation Compression Style NTA

1. Cut tubing squarely – maximum of 15° angle allowable.
2. Check that port or mating part is clean and free of debris.
3. Insert tubing until it bottoms on seat.
4. Tighten nut with wrench until one thread remains visible on the fitting body; (this will allow for a number of remakes) or, the nut should be screwed down finger tight, then wrench-tightened as indicated in the following table.

Tube Size	Additional Number of Turns From Hand-Tight
3/16	2-1/2
1/4	3
3/8 & 1/2	4
5/8 & 3/4	3-1/2



Air Brake – AB Fittings

1. Cut tubing squarely and remove burrs
2. Slide nut and sleeve onto tubing.
3. Insert tubing into fitting until bottomed on seat. The nut should be screwed down finger tight, then wrench tightened as indicated in the chart

Tube Size	Turns Required To Seal From Hand-Tight
1/4, 3/8, 1/2	2
5/8, 3/4	3



Transmission Fittings

1. Cut tubing squarely and remove burrs
2. Insert tubing into fitting until bottomed
3. Tighten nut 1 1/2 turns from finger tight



Vibra-Lok

1. Cut the tubing squarely removing burrs
2. Slip nut and sleeve over tube
3. Bottom tubing into fitting and tighten nut until stop is reached. The elastic sleeve ordinarily will extrude slightly around the tube at the end of the nut. This extrusion further aids in isolating the tube from the nut.



For Higher Pressure applications

4. Consult pressure chart to determine if tubing should be belled
5. Slip nut and sleeve over tube. The sleeve should be positioned near end of tubing just behind the surface to be belled
6. Bell tubing with standard 45° flaring tool or 90° punch. The size of bell should be approximately that shown.

Air Brake Hose Ends

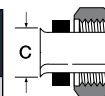
1. Slide nut onto hose
2. Slide sleeve onto hose with tapered edge toward fitting body
3. Bottom hose into fitting
4. Tighten nut until it contacts body hex



Note: When reassembling fitting, body and nut should be inspected. Only reuse if parts are in proper condition. Sleeves should never be Reused.

Recommended Size of Bell

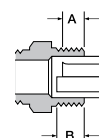
Tube O.D.	Bell Dia. C
1/8	.190-.160
3/16	.255-.225
1/4	.318-.288
5/16	.381-.351
3/8	.444-.414
1/2	.569-.539
5/8	.694-.664
3/4	.819-.789
7/8	.944-.914



Tube Length Calculator

This table shows distance tube extends beyond face of Vibra-Lok fitting body on installation with bell on tubing and without bell on tubing.

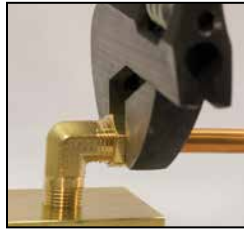
O.D. of Tube	A With Bell	B Without Bell
1/8	3/16	3/16
3/16	3/16	7/32
1/4	3/16	1/4
5/16	3/16	1/4
3/8	3/16	1/4
1/2	3/16	11/32
5/8	3/16	Tubing should be belled
3/4	3/16	
7/8	1/4	



Compression

1. Slide nut then sleeve onto tubing. The thread end of the nut must face out.
2. Insert tube and bottom on the fitting shoulder
3. Assemble nut to body and tighten "hand tight". Then wrench tighten the number of turns indicated in the 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	--



Poly-Tite

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.



Compress-Align

With nut finger tight on fitting body, insert tubing until it bottoms in the Fitting. Complete the seal with one wrench turn for all sizes.



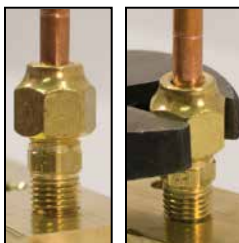
Hi-Duty

1. Cut tube squarely and cleanly removing all burrs.
2. Grasp fitting. Do not remove nut.
3. Insert tube in fitting through nut until tube seats firmly against tube shoulder in body.
4. Grip tube firmly to prevent turning and tighten nut to finger-tight. Continue to tighten for one and three-quarter additional turns (one and one-half turns for 1/2" size fittings) for a positive, leak proof seal. During tightening a slight "give" will be felt. This "give" indicates the sleeve has been sheared from the nut. It is not necessary to tighten the nut all the way down.



45° Flare Fittings

1. Cut tubing squarely and clean tube end thoroughly to remove burrs.
2. Place nut onto tube. Place threaded end of nut toward end of tube.
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 1/4 to 1/2 turn past finger-tight for a metal-to-metal seal.



Dubl-Barb

Cut tube squarely and simply push tube over the two barbs



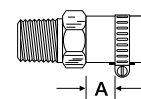
Inverted Flare

1. Cut tubing squarely and clean to remove burrs
2. Place nut onto tube. Place threaded end of nut toward end of tube.
3. Flare tube end with flaring tool to provide 45° flare
4. On thin wall copper, welded or brazed tubing, use double flare to prevent pinch-off or cracked flares
5. Clamp tube flare between nut and nose of fitting body by screwing nut on finger tight. Tighten nut with a wrench an additional 1/4 to 1/2 turn past finger tight for a metal-to-metal seal.



Hose Barbs

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

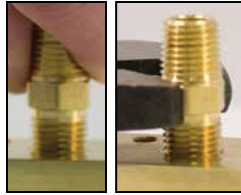


Hose Size	Hose Clamp	A
3/16	97 HC-3	1/4
1/4	97 HC-3	1/4
5/16	97 HC-6	1/4
3/8	97 HC-6	1/8
1/2	97 HC-8	1/8
5/8	97 HC-12	1/8
3/4	97 HC-12	1/8

Pipe Fittings

Straight Fittings

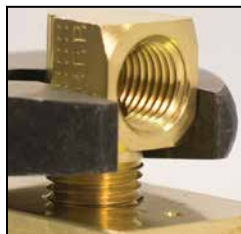
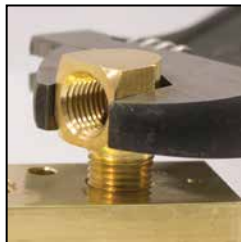
1. Hand tighten external thread into internal thread
2. Tighten an additional 2 turns with a wrench up to 1/2" male pipe thread.
3. Above 1/2" 1 1/2 to 2 1/2 turns.



Elbow or Tee Fittings

1. Hand tighten external thread into internal thread
2. Tighten an additional 1 to 1 1/2 turns with a wrench
3. Tighten fitting, clockwise to align with tubing. (Never counter clockwise)

Note: To minimize the possibility of a leaking threaded joint after assembling Male to female pipe threads, neither end should be backed out (loosened) Once the assembly has been made.



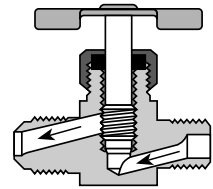
Plug Valves

To assure sealability and reliable performance, the valve must be installed So that the flow media travels in the direction of the arrow on the valve handle.



Needle Valves

Needle valves should always be installed with the pressure against the seat.



NEMA Rated Bulkhead

1. Drill panel to required diameter
2. Install sealing washer onto brass body.
3. Install fitting body through panel and secure with lock washer and jam nut.
4. Using a wrench to hold the fitting body torque the jam nut to spec per below table.

Note: For sealing bulkheads the sealing washer must be installed between the body hex and panel. To ensure a leak tight connection the panel surface must be kept flat and deburred after the drilling operation. It must be free from dirt, debris, and other contamination.

Thread Size	min. Torque Ft-Lbs	max. Torque Ft-Lbs
5/8-18	15	20
3/4-16	15	25
1-14	40	50

Bulkhead Threads:

Bulkhead fittings allow one to connect tube or hose through a panel – referred to as a bulkhead

1. Insert the bulkhead end of the fitting (without the jam nut) through the bulkhead opening.
2. If needed, install lock washer.
3. Screw jam nut onto fitting to finger tight.
4. Tighten to given torque values for appropriate thread size.

Thread Size	min. Torque Ft-Lbs	max. Torque Ft-Lbs	min. Torque N-m	max. Torque N-m
5/16-24	1.3	3.3	1.7	4.5
3/8-24	2.5	4.2	3.4	5.7
7/16-20	4.2	7.9	5.7	10.7
7/16-24	4.2	7.9	5.7	10.7
1/2-24	5	10	6.8	13.6
17/32-24	5	10	6.8	13.6
9/16-18	10	15	13.6	20.4
9/16-24	10	15	13.6	20.4
5/8-18	15	20	20.4	27.1
11/16-20	15	25	20.4	33.9
3/4-16	15	25	20.4	33.9
13/16-18	25	35	33.9	47.5
7/8-14	25	35	33.9	47.5
1-14	40	50	54.3	67.9
1-18	40	50	54.3	67.9
1 1/8-14	50	60	67.9	81.4
1 5/16-12	56	75	76.0	101.8
1 5/8-14	80	90	108.6	122.1

Straight Threads

Non-adjustable stud end: used on straight fitting, meaning no orientation before final tightening of the connection.

1. Inspect components to ensure that male and female port threads and sealing surfaces are free of burrs, nicks, scratches, or any foreign material.
2. Screw fitting into port.
3. Tighten to given torque values for appropriate thread size

Adjustable stud end: used on shaped fittings; external nut and seal used to orient fitting before final tightening of connection.

1. Inspect components to ensure that male and female port threads and sealing surfaces are free of burrs, nicks, scratches, or any foreign material.
2. Back off nut as far as possible.
3. Screw fitting into port until the back-up washer or o-ring contacts face of port.
4. To align the tube end of fitting, unscrew fitting by the required amount, but not more than one full turn.
5. Holding fitting in desired position, tighten nut to given torque values for appropriate thread size.

Thread Size	min. Torque Ft-Lbs	max. Torque Ft-Lbs	min. Torque N-m	max. Torque N-m
7/16-20 (-4)	6	10	8.1	13.6
9/16-18 (-6)	12	16	16.3	21.7
3/4-16 (-8)	18	22	24.4	29.9
7/8-14 (-10)	28	32	38.0	43.4
1 1/16-12 (-12)	38	42	51.6	57.0
1 5/16-12 (-16)	58	62	78.7	84.1
M10 X 1.0	5.9	8.8	8	12
M12 X 1.5	7.4	11.1	10	15
M14 X 1.5	11.1	14.7	15	20
M16 X 1.5	11.1	14.7	15	20
M18 X 1.5	14.7	18.4	20	25
M22 X 1.5	14.7	22.1	20	30
M26 X 1.5	25.8	33.2	35	45
M27 X 2.0	29.5	36.9	40	50
M33 X 2.0	44.2	51.6	60	70

FLUID COMPATIBILITY GUIDE

The following pages list general recommendations for the selection of valve materials. For specific cases, and for those not included in the Fluid Compatibility Chart, it is advisable to check with your Parker representative.

There are many specific environmental factors which might affect corrosion rate such as temperature, solution, concentration and presence of impurities. Therefore, we suggest that the information be used as a rough guide to material selection. If any questions exist regarding the expected performance of a material in a given application, actual tests should be performed to determine the suitability of the materials in question.

Fluid	Brass	Carbon Steel	316 S.S.	Buna N (Nitrile)	Neoprene	EPR	Fluoro-Carbon	PTFE	Acetal	Nylon
Acetaldehyde	P	G	E	P	G	G	P	E	U	
Acetamine	G	G	G	E	G			E		
Acetate Solvents	E	E	E	P			U	E	U	
Acetic Acid Vapors	U		U	U				E		
Acetic Acid (10%)	P	P	E	U	P	G	U	E	U	U
Acetic Acid (80%)	P	P	E	U	U	P	U	E	U	U
Acetic Acid (Aerated)	P	P	E	G	G		P	E	U	
Acetic Acid (Air Free)	P	P	E	G	G		U	E	U	
Acetic Acid (Crude)	P	P	E	U	U		U	E	U	
Acetic Acid (Glacial)			U	U	P	G	P	E		U
Acetic Acid (Pure)	P	U	E	U	U		U	E	U	
Acetic Anhydride	U	U	G	U	P	P	U	E	U	U
Acetone	E	E	E	U	U	E	U	E	E	E
Acetophenone	G	G	G	U	U	E	U			
Acetyl Chloride	E	G	P	U	U	U	U	E		
Acetylene	G	E	E	G	P	E	E	E	E	
Acid Fumes	U	U	G	P	G			E		
Acrylonite	E	E	E	U	U	U	P	E		
Air	E	E	E	E	E	E	E	E	E	
Alcohol, Amyl	G	G	E	P	P	E	G	E	E	
Alcohol, Butyl	G	G	E	G	G	P	E	E	E	
Alcohol, Diacetone	E	E	E	U	P	G	U	E		
Alcohol, Ethyl	G	G	G	E	G	E	E	E	E	
Alcohol, Isopropyl	G	G	G	P	G	E	E	E	E	
Alcohol, Methyl	E	G	E	G	E	E	P	E	E	
Alcohol, Propyl	E	G	E	G	G	E	E	E		
Alcohols, Fatty	G	G	E	G	G			E		
Alum	U		G	G	G		G	E		
Alumina	U		E	E	E	E		E		
Aluminum Acetate	G		E	U	U	E	U	E		
Aluminum Bromide				E	E	E	E			
Aluminum Chloride Dry	U	P	P	G	G	E	E	E	E	
Aluminum Chloride Solution			U	G	G		E	E		U
Aluminum Fluoride	U	U	P	E	E	E	E	E		U
Aluminum Hydroxide	E	U	E	E	E	E	E	E		
	E-Excellent		G-Good		P-Poor		U-Unsatisfactory			

Fluid	Brass	Carbon Steel	316 S.S.	Buna N (Nitrile)	Neoprene	EPR	Fluoro-Carbon	PTFE	Acetal	Nylon
Aluminum Nitrate	U	U	P	G	G	G	U	E		
Aluminum Oxalate			U					E		
Aluminum Salts				E	E	E	E			
Aluminum Sulfate	P	U	G	E	E	E	E	E	E	P
Amines	G	G	E	U	U	P	U	E	E	
Amly Chloride	G		E	U	P	U	U	E		
Ammonium Bicarbonate	G	P	G	G	E	E	E	E	E	
Ammonia, Alum			E	G	G			E		
Ammonia, Anhydrous Liquid	U	E	E	G	P	G	U	E		
Ammonia, Aqueous	U	E	E	G	G		E	E		
Ammonia, Gas, Hot	U	G	E	P	E	E	U	E		
Ammonia Liquor			E					E		
Ammonia Solutions	U	G	E	G	G	G	U	E		
Ammonium Acetate	U		G	G	G	E	U	E		
Ammonium Bromide 5%			G					E		
Ammonium Carbonate	G	G	G	P	E	E	G	E	E	
Ammonium Chloride	U	U	P	G	E	E	E	E	E	U
Ammonium Hydroxide 28%	U	P	G	G	E	G	E	E		
Ammonium Hydroxide Conc.	U	P	G	P	E	E	E	E	E	
Ammonium Monosulfate			E					E		
Ammonium Nitrate	U	U	E	E	E	E	E	E	E	U
Ammonium Oxalate 5%			E					E		
Ammonium Persulfate	P	U	E	U	P	G	G	E		U
Ammonium Phosphate	U	U	G	E	E	E	E	E	G	P
Ammonium Phosphate Di-Basic	P	U	G	E	E		E	E	E	
Ammonium Phosphate Tri-Basic	P	U	G	E	E		E	E	E	
Ammonium Sulfate	P	P	G	E	E	E	G	E	E	U
Ammonium Sulfide	U	U	G	E	G	E	U	E		
Ammonium Sulfite	P	P	E	G	E	G	E	E	E	
Amyl Acetate	G	P	G	U	U	G	U	E	G	P
Amyl Borate				E	E	U	E			
Amyl Chloronaphthalene				U	U	U	E			
Amyl Napthalene				U	U	U	E			
Aniline	U	P	G	U	U	P	P	E	E	P
Aniline Dyes	P	P	E	P	P	P	G	E	E	
Animal Oil	G	G	G	E	G	G	E			
Antimony Trichloride	U	U	U	P			G	E		
Apple Juice	P	U	G	E	E	G	E	E		
Aqua Regia (Strong Acid)	U	U	G	U	U	U	U	E		U
Aroclor 1248	G	U	U	U	U	G	E			
Aroclor 1254	G	U	U	U	U	G	E			
Aroclor 1260	G	U	U	E	E		E			
Aromatic Solvents	E	P	E	U	U	U		E		
Arsenic Acid	U	U	G	E	E	G	E	E	E	U
Asphalt Emulsion	E	G	E	U	P	U	E	E	E	
	E-Excellent		G-Good		P-Poor		U-Unsatisfactory			

Fluid	Brass	Carbon Steel	316 S.S.	Buna N (Nitrile)	Neoprene	EPR	Fluoro-Carbon	PTFE	Acetal	Nylon
Asphalt Liquid	E	G	E	P	P	U	E	E	E	
Astm Oil, No. 1	E	E	E	E	E	U	E			
Astm Oil, No. 2	E	E	E	E	G	U	E			
Astm Oil, No. 3	E	E	E	E	U	U	E			
Astm Oil, No. 4	E	E	E	G	U	U	E			
Astm Reference Fuel A	U	G	E	E	G	U	E			
Astm Reference Fuel B	U	G	E	E	U	U	E			
Astm Reference Fuel C	U	G	E	G	U	U	E			
Barium Carbonate	G	G	G	G	E	E	E	E	E	
Barium Chloride	G	P	G	E	E	E	E	E	E	E
Barium Cyanide	P		G	G	G	G	G	E		
Barium Hydrate	U		E					E		
Barium Hydroxide	P	P	G	E	E	G	E	E	E	
Barium Nitrate			E		G			E		
Barium Salts				E	E	E	E			
Barium Sulfate	P	P	E	E	E	G	E	E	E	E
Barium Sulfide	U	P	G	E	G	E	E	E	E	
Beer	G	U	E	G	G	G	E	E	E	U
Beet Sugar Liquors	E	G	E	E	E	G	E	E	E	
Benzaldehyde	E	E	E	U	U	E	U	E	E	E
Benzene	G	G	G	U	U	U	G	E		E
Benzenesulfonic Acid, 10%	U	U	U	U	G	U	E			
Benzyl Chloride	U	U	G	U	U	U	E			
Benzoic Acid	G	U	G	P	P	U	G	E		P
Benzyl Alcohol		U	E	U	G	G	E			
Beryllium	G		G	G	G	G	G	E		
Bleach Liquor				U	G	E	E			
Bleaching Powder Wet	G		P	U	E	G	G	E		
Blood	G		E	G	G	G	G	E		
Borax	U	P	E	G	U	E	E	E	E	E
Borax Liquors	E	P	G		P	E	E	E	E	
Bordeaux Mixture			E					E		
Boric Acid	P	U	G	G	G	G	E	E	E	G
Brake Fluid	G		G	U	P	G	U	E		
Brines, Saturated	G	U	G	E	G	E	E	E	E	
Bromine, Dry	G	U	U	U	U	U	G	E		
Bromine, Wet	U	U	U	U	U		G	E		
Bunker Oils (Fuel)	G	G	E	G	G		E	E	E	
Butadiene	P	G	E	P	P	P	G	U		
Butane	E	G	E	G	G	U	E	E	E	
Butter	G	U	E	G	G			E		
Buttermilk	U	U	E	E	E	G	E	E	E	
Butyl Acetate	G		G	U	U	U	U	E		E
Butyl Alcohol	E	P	E	G	G		G	E		
Butyl Amine	G	G	E	U	U		U	E		
	E-Excellent		G-Good		P-Poor		U-Unsatisfactory			

Fluid	Brass	Carbon Steel	316 S.S.	Buna N (Nitrile)	Neoprene	EPR	Fluoro-Carbon	PTFE	Acetal	Nylon
Butyl Butyrate				U	U	E	E			
Butyl Carbitol	E	P	E	U	U		U	E		
Butyl Cellosolve	E	P	E	U	U		G	E		
Butyl Stearate				G	U	U	E			
Butylene	E	E	E	U	U	U	U	E		
Butyric Acid	P	U	G	P	P	P	P	E	E	U
Calcine Liquors				E		E	E			
Calcium Acetate				G	G	E	U			
Calcium Bisulfite	P	U	G	E	E	U	E	E	E	
Calcium Carbonate	P	U	G	E	E	G	E	E	E	
Calcium Chlorate	U		G	G	G	G	G	E		
Calcium Chloride	G	P	G	E	E	G	E	E	E	U
Calcium Hydroxide	P	P	G	E	G	E	E	E	E	
Calcium Hypochlorite	U	U	P	P	P		E	E		U
Calcium Nitrate			G	G	G	G		E		
Calcium Phosphate	P		G	G	G	G	G	E		
Calcium Salts				E	E	E	E			
Calcium Silicate	P		G	G	G	G	G	E		
Calcium Sulfate	P	P	G	E	E	G	E	E	E	U
Calcium Sulfide	U	U	G	E	E	E	E			
Caliche Liquor		G	E	G	G			E		
Camphor	P		G	G	G	G	G	E		
Cane Sugar Liquors	G	G	E	G	G	G	G	E		
Carbolic Acid	U	U	G	G	G	G	E	E	U	
Carbon Bisulfide	P	G	G	U	U	U	E	E	E	
Carbon Dioxide, Dry	E	E	E	P	G	G	G	E		
Carbon Disulfide	U	P	E	U	U		E	E		
Carbon Monoxide	E	E	E	G	U	G	G	E		
Carbon Tetrachloride, Dry	P	G	E	U	U	U	G	E	E	
Carbon Tetrachloride, Wet	U	U	G	U	U	U	G	E	E	
Carbonated Beverage	G	U	G	G	G	G	G	G	E	
Carbonated Water	G	G	E	E	E	E	E	E	E	
Casein	P			G	G	G	G	G	E	
Caster Oil	E	G	E	E	G	G	E	E	E	
Caustic Potash			E	G	G			E		
Caustic Soda		G	E	P		G	G	E		
Cellulose Acetate	G		G	U	U	G	U	E		
Cellulube	E	P	E	U	U		U	E		
China Wood Oil	P	P	E	E	G	U	E	E	E	
Chloracetic Acid	P	U	U	U	P		P	E		U
Chlorinated Solvents	P	P	E	U	U	U	P	E	E	
Chlorinated Water	U	P	G	E		E	E	E	U	U
Chlorine, Wet	U	U	U	U	U			E		
Chlorine Gas	P	G	G	P	U	U	G	E	E	
Chloro Bromo Methane	G	U	G	U	U		G	E		
	E-Excellent		G-Good		P-Poor		U-Unsatisfactory			

Fluid	Brass	Carbon Steel	316 S.S.	Buna N (Nitrile)	Neoprene	EPR	Fluoro-Carbon	PTFE	Acetal	Nylon
Chlorobenzene, Dry	G	G	E	U	U	U	E	E	E	E
Chlorobutadiene				U	U	U	E			
Chloroform, Dry	G	G	E	U	U	U	G	E	E	U
Chlorophyll, Dry	G		G	G	G	G	G	E		
Chlorosulfonic Acid, Dry	P	G	G	U	U	U	U	E		U
Chlorosulfonic Acid, Wet	U	U	U	U	U		P	E		
Chlorophenol				U	U	U	E			
Chrome Alum	P	G	E	G	G	G	G	E		
Chromic Acid <50%	U	U	P	U	U	P	P	E	U	U
Chromic Acid >50%	U	U	P	U	U	P	P	E	U	
Chromium Sulfate	P		G	G	G	G	G	E		
Cider			E					E		
Citric Acid	P	U	G	G	E	G	E	E		P
Citrus Juices	G	U	G	E	E		E	E	E	
Coca-Cola Syrup			E	G	G		G	E		
Coconut Oil	G	P	G	E	P	E	E	E	E	
Coffee	E		E	E	E	E	E	G		
Coffee Extracts, Hot	G	P	E					E		
Coke Oven Gas	P	G	E	P	U	U	G	E		
Cooking Oil	G	G	E	E	G	U	E	E	E	
Copper Acetate	U	U	E	P	P	G	U	E		
Copper Carbonate			E					E		
Copper Chloride	U	U	P	G	G		E	E		U
Copper Cyanide	U		E	E	E	G	G	E		E
Copper Nitrate	U	U	G	E	E	G	E	E	E	U
Copper Salts					E	E	E	E		
Copper Sulfate	U	U	G	E	E	E	E	E	E	P
Corn Oil	G	P	G	E	P	P	E	E	E	
Cottonseed Oil	G	P	G	E	G	P	G	E	E	
Creosote Oil	G	G	G	P	U	U	E	E	U	
Creosols	U	G	G	U	U	U	U	E		
Cresylic Acid	P	P	G	U	U	U	G	E	U	U
Crude Oil, Sour	P	G	E	E	G	U	E	E		
Crude Oil, Sweet	G	G	E	E	G		E	E		
Cupric Nitrate			E					E		
Cutting Oils,	E	G	E	E	G		E	E	E	
Water Emulsions										
Cyanide Plating Solution	U		G	G	G	G	G	E		
Cyclohexane	E	E	E	P	U	U	E	E	E	
Cyclohexanone	G		E	U	U			E		
Decane				E	U	U	E			
Denatured Alcohol				E	E	E	E			
Detergents, Synthetic	G	U	G	G	G	G	E	E		
Dextrin	G		G	G	G	G	G	E		
Diacetone Alcohol	E	E	E	U	P			E		
	E-Excellent		G-Good		P-Poor		U-Unsatisfactory			

Fluid	Brass	Carbon Steel	316 S.S.	Buna N (Nitrile)	Neoprene	EPR	Fluoro-Carbon	PTFE	Acetal	Nylon
Dichloroethane			P	U	U	U		E		
Dichloroethyl Ether	G		G	U	U	U	U	E		
Diesel Oil Fuels	E	E	E	E	P	U	E	E		
Diethyl Benzene			G	U	U	U		E		
Diethyl Sulfate	G		G	P	P	P	G	E		
Diethylamine	G	E	E	G	P	P	U	E		
Diethylene Glycol	G	E	E	E	E	E	G	E		
Dimethyl Formamide	G		E	G	U	U	U	E		
Dimethyl Phthalate			U	G	G		U	E		
Diocetyl Phthalate	E		E	P	U		P	E		
Dioxane	G		G	U	U	P	U	E		
Dipentane	E		E	G	U	U	G	E		
Disodium Phosphate			G	G	G		G	E		
Dow Chemical Hd50-4					G	E	U			
Dow Corning 200, 510, 550				G	E	E	E			
Dowtherm	E	G	E	U	U	U	E	E	E	
Drilling Mud	G	G	E	E	P	E	E	E	E	
Dry Cleaning Fluids	P	G	E	U	U		G	E	E	
Drying Oil	P	P	G	E	G			E	E	
Enamel	E		E	G	G	U		E		
Epsom Salts	G	P	G	E	E		E	E	E	
Ethane	G	P	G	E	G	U	E	E	E	
Ethanol	E	U	U	U	E	E	U			
Ethanolamine	U	G	E	G	P		U	E		
Ethers	G	E	E	U	U	P	P	E	P	
Ethyl Acetate	P	G	G	U	U	P	U	E	E	E
Ethyl Acrylate	G	P	E	U	U	P	U	E		
Ethyl Alcohol	G	G	G	E	E		E	E		
Ethyl Benzene			G	P	U	U		E	E	
Ethyl Bromide	E		G	G	G	G	G	E		
Ethyl Chloride, Dry	G	G	E	P	P	P	G	G	E	E
Ethyl Chloride, Wet	P	U	G	P	P	G	G	E		
Ethyl Ether	G		E	U	U	U	U	E		
Ethyl Hexanol				E	E	E	E			
Ethyl Silicate	G		G	G	P	G	G	E		
Ethyl Sulfate			G	G	G	P	E	E	E	
Ethylene Chloride			E	U	E		U	E		
Ethylene Dichloride	U	U	G	U	U	U	U	E		
Ethylene Glycol	G	G	G	E	G	E	E	E		
Ethylene Oxide	P	G	G	U	U	U	U	E		
Fatty Acids	P	U	E	G	G	U	E	E	E	U
Ferric Chloride	U	U	U	E	U		E	E		U
Ferric Hydroxide			E	G				E		
Ferric Nitrate	U	U	P	E	E	E	E	E	E	U
Ferric Sulfate	U	U	G	E	E	E	E	E	E	U
	E-Excellent		G-Good		P-Poor		U-Unsatisfactory			

Fluid	Brass	Carbon Steel	316 S.S.	Buna N (Nitrile)	Neoprene	EPR	Fluoro-Carbon	PTFE	Acetal	Nylon
Ferrous Ammonium Citrate			G					E		
Ferrous Chloride	G	U	U	E	E	E	E	E	E	U
Ferrous Sulfate	G	U	G	E	E	E	E	E	E	U
Ferrous Sulfate, Saturated	P	P	E	P	P	G	G	E		
Fertilizer Solutions	P	G	G	G	G			E	G	
Fish Oils	G	G	E	E	G	U	E	E	G	
Flue Gases	G		E	P	P	U	P	E	P	
Fluoboric Acid			G	E	G			E		U
Fluorosilicic Acid	G	U	G	P	P	P	P	E		U
Fluorine, Dry	U		U	U					E	
Food Fluids & Pastes	G	P	E	G	E			E		
Formaldehyde, Cold	E	E	E	G	P	G	U	E	E	U
Formaldehyde, Hot	G	U	P	G	G			E	E	U
Formic Acid, Cold	G	U	G	U	G		G	E	U	E
Formic Acid, Hot	G	U	G	U	E		E	E	U	
Fruit Juices	G	U	E	E	E	E	E	E	E	
Fuel Oil	G	G	E	E	P	U	E	E	E	
Fumaric Acid				G	G			E		
Furfural	E	E	E	U	P	P	U	E	E	E
Galic Acid 5%	P	U	G	G	G	P	E	E	E	
Gas, Natural	G	G	E	E	E	U	E	E	E	
Gas, Odorizers	E	G	G	G	G		E	E	E	
Gas Mfg.	G	G	G	E			E	E	E	
Gasoline, Aviation	E	E	E	P	U		E	E	E	
Gasoline, Leaded	E	E	E	P	U		E	E	E	
Gasoline, Motor	E	E	E	P	U	U	E	E	E	
Gasoline, Refined	G	G	E	P	P	U	E	E		
Gasoline, Sour	G	G	E	P	U	U	E	E	E	
Gasoline, Unleaded	E	E	E	P	U		E	E	E	E
Gelatin	E	U	E	E	E	E	E	E	E	
Glucose	E	G	E	E	E	E	E	E	E	
Glug	E	G	E	E	G	E	E			
Glycerine	G	P	E	P	U	E	G	E	P	E
Glycol	G	P	G	G	E	E	E	E	P	
Glycol Amine	U		G	E		U	U			
Graphite	G		G	G	G	G	G	E		
Grease	P	E	E	E	G	U	E	E		
Gulf-Fr Fluid, Emulsion				E	G	U	E			
Gulf-Fr Fluid G				E	E	E	E			
Gulf-Fr Fluid P				U	U	G	G			
Helium Gas	G	E	E	G	G	G	G	E		
Heptane	E	G	E	E	G	U	E	E	E	
Hexane	G	G	E	E	P	U	E	E	E	E
Hexanol, Tertiary	E	E	E	E	P	U	G	E		
Hexyl Alcohol	E	P	E	U	P		E	E		
	E-Excellent		G-Good		P-Poor		U-Unsatisfactory			

Fluid	Brass	Carbon Steel	316 S.S.	Buna N (Nitrile)	Neoprene	EPR	Fluoro-Carbon	PTFE	Acetal	Nylon
Hydraulic Oil, Petroleum Base	G	E	E	E	G	U	E	E	E	
Hydrazine	U	U	G	P	P	G	U	E		
Hydriegen Sulfide, Dry	P	G	E	P	E	E	E	E		
Hydrochloric Acid, Air Free	U	U	U	G	P		E	E		U
Hydrocyanic Acid	U	U	E	G	G	G	E	E	U	
Hydrofluoric Acid	U	U	U		G					U
Hydrofluosilicic Acid	E	U	P	G	G	G	E	E		U
Hydrogen Gas, Cold	G	G	E	G	G	G	E	E		
Hydrogen Gas, Hot	G	G	G	G	G		E			
Hydrogen Peroxide, Concentrated	U	U	G	U	U	G	G	E		U
Hydrogen Peroxide, Dilute	P	U	G	E	G	G	E	E	G	U
Hydrogen Sulfide, Wet	U	P	G	P	G	G	E	E	E	
Hydrolube				E	G	E	E			
Hypo (Sodium Thiosulfate)	P	U	G	E	E	E	E	E	E	
Hypochlorites, Sodium	U	U	P	P			E	E		
Illuminating Gas	E	E	E	P	P	U	E	E		
Ink, Newsprint	P	U	E	E	G	G	E	E	E	
Iodine, Wet	U	U	U	G			E	E		
Iodoform	P	G	E				E	E	E	
Isopropyl Acetate			G	U	U	U		E		
Isopropyl Alcohol	G	G	G	P	G		E	E		
Isopropyl Ether	E	E	E	P	P	U	U	E		
Iso-Butane			G	G	U	U		E		
Iso-Octane	E	E	E	E	P	U	E	E	E	
J P-4 Fuel	E	E	E	E	P		E	E	E	
J P-5 Fuel	E	E	E	G	P		E	E	E	
J P-6 Fuel	E	E	E	E	P		E	E	E	
Kerosene	E	G	E	E	P	U	E	E	E	
Ketchup	U	U	E	E	E		E	E	E	
Ketones	E	E	E	U	U	U	U	E	E	
Lactic Acid, Conc. Cold	U	U	E	G	E	G	E	E	U	U
Lactic Acid, Conc. Hot	U	U	G	P	P	G	G	E	U	U
Lactic Acid, Dilute Cold	U	U	E	G	E	G	E	E	U	U
Lactic Acid, Dilute Hot	U	U	E	P	U		U	E	U	U
Lactose	G		G	G	P	G	G	E		
Laquer	E	P	E	U	U	U	U	E	E	E
Lard	G	E	E	G	P	P		E		
Lard Oil	G	P	G	E	G	G	E	E	E	
Lead Acetate	P	U	G	E	G	G	G	E	E	E
Lead Sulfate	P		G	G	G	G	G	E		
Lecithin	P		G	U	U	U	G	E		
Linoleic Acid	G	G	E	G	G	U	G	E	E	
Linseed Oil	G	E	E	E	P	U	E	E	E	
Lithium Chloride	G		G	G	G	G	G	E		
	E-Excellent		G-Good		P-Poor		U-Unsatisfactory			

Fluid	Brass	Carbon Steel	316 S.S.	Buna N (Nitrile)	Neoprene	EPR	Fluoro-Carbon	PTFE	Acetal	Nylon
Lpg	E	G	G	E	G	U	E	E	E	
Lubricating Oil	G	E	E	E	G	U	E	E	E	
Ludox	U		G	G	G	G	G	E		
Magnesium Bisulfate	G	G	E	G	G	G	G	E		
Magnesium Bisulfide	U		G	G	G	G	G	E		
Magnesium Carbonate	G		E	G	G	G	G	E		
Magnesium Chloride	G	P	G	E	E	E	E	E	E	E
Magnesium Hydroxide	G	G	E	E	E	E	E	E	E	
Magnesium Hydroxide Hot	U	G	E	G	G		E	E	E	
Magnesium Nitrate			E	G	E		G	E		E
Magnesium Salts				E	E	E	E			
Magnesium Sulfate	G	G	E	E	E	E	E	E	E	E
Maleic Acid	G	G	G	G	G	U	E	E	E	
Maleic Anhydride	G		G	U	U	U	G	E		
Malic Acid	G	U	G	E	G		E	E	E	
Malt Beverages			E	E	E	G	E	E		
Manganese Carbonate			G	G				E		
Manganese Sulfate	G		E	G	G	G	G	E		
Mayonnaise	U	U	E	E	E		E	E	E	
Meat Juices	U		E	G	G			E		
Melamine Resins			P	G	G			E		
Mercuric Chloride	U	U	G	E	G	E	E	E		
Mercuric Cyanide	U	U	E	E	G	E	E	E		
Mercurous Nitrate	U		E				G	E		
Mercury	U	E	E	E	E	E	E	E	E	
Methane	E	G	E	E	G		E	E	E	
Methanol	E	E		E	E	E	U			
Methanol	G		E	G	G	U	G	E		
Methyl Acetate	E	G	E	U	U	G	U	E		
Methyl Acetone	E	E	E	U	U	E	U	E		
Methyl Alcohol	G	G	G	E	G		P	E		E
Methyl Bromide 100%	P	G	G	G	U	U	G	E		
Methyl Cellosolve	E	G	E	P	U	G	U	E		
Methyl Cellulose			E	U	U			E		
Methyl Chloride	G	G	E	U	U	U	G	E	E	
Methyl Ether				E	U	U	E			
Methyl Ethyl Ketone	E	E	E	U	U	G	U	E	E	E
Methyl Formate	E	P	G	U	G	G	U	E		
Methyl Isobutyle Ketone			E	U	U			E		
Methylamine	U	G	E	U	U	G	U	E		
Methylene Chloride	E	G	E	U	U	U	P	E		U
Milk & Milk Products	G	U	E	E	E	E	E	E	E	
Mil-F-81912, Jp-9	E	E	E	U	U	U	E			
Mil-H-5606	E	E	E	E	G	U	E			
Mil-H-6083	E	E	E	E	E	U	E			
	E-Excellent		G-Good		P-Poor		U-Unsatisfactory			

Fluid	Brass	Carbon Steel	316 S.S.	Buna N (Nitrile)	Neoprene	EPR	Fluoro-Carbon	PTFE	Acetal	Nylon
Mil-H-7083	E	E	E	E	G	E	G			
Mil-H-8446	G	E	E	G	E	U	E			
Mil-L-2104 & 2104b	E	E	E	E	G	U	E			
Mil-L-7808	U	G	E	G	U	U	E			
Mine Waters, Acid	P	U	P	E			E	E		
Mineral Oils	G	G	E	E	G	U	E	E	E	
Mineral Spirits	G	G	G	E	P		E	E	E	
Mixed Acids, Cold	U	P	G	U	U	U	G	E	U	
Mlo-7277 & Mlo-7557	G	E	E	U	U	U	E			
Mobile Hf	E	E	E	E	G	U	E			
Molasses, Crude	E	E	E	E	E		E	E	E	
Molasses, Edible	E	P	E	E	E		E	E	E	
Molybdic Acid			E					E		
Monochloro Benzene Dry			G	U	U			E		
Monomethyl Hydrazine				G	G	E				
Morpholine	G		E	U	U	G	U	E		
Muriatic Acid	U	U	U	G			E	E		
Mustard	E	G	E	E	E		E	E	E	
Naphthenic Acid	G	E	G	G	U	U	E			
Naptha	G	G	G	G	P	U	E	E	E	
Napthalene	G	G	G	U	U	U	E	E	E	
Natural Gas, Sour	G	G	E	E	E	U	E	E		
Neatsfoot Oil				E	U	G	E			
Nickel Acetate	U	G	E	G	G	E	U			
Nickel Ammonium Sulfate	U	U	E	E	G	G	U	E		
Nickel Chloride	U	U	G	E	E	G	E	E	E	E
Nickel Nitrate	U	U	G	E	E	E	E	E	E	
Nickel Salts				E	G	E	E			
Nickel Sulfate	U	U	G	E	E	G	E	E	E	E
Nitric Acid 100%	U	U	E	U	U	U	G	E	U	U
Nitric Acid 10%	U	U	E	P	G		E	E	U	U
Nitric Acid 30%	U	U	E	P	P	G	E	E	U	U
Nitric Acid 80%	U	U	P	U	U	U	G	E	U	U
Nitric Acid Anhydrous	U	U	E	U	U	U	E	E		
Nitrobenzene	U	G	E	U	U	P	P	E		E
Nitrogen	E	E	E	E	E	G	E	E	E	
Nitrous Acid 10%	U	U	G	P	E		E	E		
Nitrous Gases	U	G	E					E		
Nitrous Oxide	G	G	G	G	G		E	E		
Nicotinic Acid	E	G	E	U	U	U	G	E		
Octyl Alcohol	E	E	E	G	G	U	E			
Oils, Animal	E	E	E	E	G	G	G	E		
Oils, Petroleum Refined	G	E	E	E	G	U	E	E	E	
Oils, Petroleum Sour	P	G	E	G	G	U	E	E		
Oils, Water Mixture	E	G	E	E	G		E	E	E	
	E-Excellent		G-Good		P-Poor		U-Unsatisfactory			

Fluid	Brass	Carbon Steel	316 S.S.	Buna N (Nitrile)	Neoprene	EPR	Fluoro-Carbon	PTFE	Acetal	Nylon
Oils & Fats			E	G		U		E		
Olaic Acid			G	U	U		P	E		
Oleic Acid	G	P	G	G	P	U	E	E	E	
Oleum	P	G	G	U	U	U	P	E	U	
Oleum Spirits	U		G	P	U	U	E	E		
Olive Oil	P	G	E	E	G	G	E	E	E	
Ortho-Dichlorobenzene	G	G	G	U	U	U	E			
Other Ketones	E	E	E	U	U	U	U	E		
Oxalic Acid	G	U	G	P	G	G	E	E	P	U
Oxygen	E	G	E	G	G	E	E	E	U	
Ozone, Dry	E	E	E	U	U	E	G	E		
Ozone, Wet	G	P	E	U	U	G	G	E		
Paints & Solvents	E	E	E	U	U	U	G	E		
Palm Oil	G	P	G	G	G	U	E	E	E	
Palmitic Acid	G	P	G	G	G	G	E	E	E	
Paper Pulp	G		E	G	G	G	G	E		
Paraffin	E	G	E	E	P	U	E	E	E	
Paraformaldehyde	G	G	G	G	G	U		E	E	
Paraldehyde			G	G	G	U		E		
Para-Dichlorobenzene	G	E	E	U	U	U	E			
Parker O Lube	E	E	E	E	E	U	E			
Peanut Oil	G	E	E	E	U	U	E			
Pentane	E	G	E	E	G	U	E	E	E	
Perchlorethylene, Dry	P	G	E	U	U	U	E	E		
Perchloric Acid-2n	U	U	G	U	G	G	E			
Petrolatum (Petroleum Jelly)	G	P	G	E	G		E	E	E	
Phenol	G	U	E	U	U	U	G	E	U	E
Phosphate Ester	U	E	E	U		E		E		
Phosphoric Acid 10%	U	U	U	G	E	G	E	E	U	U
Phosphoric Acid 50% Cold	U	U	G	G	G	G	E	E	U	U
Phosphoric Acid 50% Hot	U	U	U	G	G	G	E	E	U	U
Phosphoric Acid 85% Cold	G	G	E	P	P		G	E	U	U
Phosphoric Acid 85% Hot	P	P	G	P	P			E	U	U
Phosphoric Anhydride			E	U	U		G	E	G	
Phosphorous Trichloride	U	G	E	U	U	G	G	E		
Phthalic Acid	G	P	G	P	P		E	E	E	
Phthalic Anhydride	G	P	G	P	P		E	E	E	
Picric Acid	P	U	G	P	E	G	G	E		
Pine Oil	G	G	E	E	U	U	E	E	E	
Pineapple Juice	P	P	E	E	E		E	E	E	
Pitch			E	P	P	U		E		
Plating Solutions, Chrome	E	U	E		U	E	E			
Plating Solutions, Other		E	E	E	U	E	E			
Pneumatic Service	E	E	E	E	E	E	E	E		
Polysulfide Liquor	U		G	G	G	G	G	E		
	E-Excellent		G-Good		P-Poor		U-Unsatisfactory			

Fluid	Brass	Carbon Steel	316 S.S.	Buna N (Nitrile)	Neoprene	EPR	Fluoro-Carbon	PTFE	Acetal	Nylon
Polyvinyl Acetate	G		G		P	G		E		
Polyvinyl Chloride	G		G		P	G		E		
Potassium Acetate	G	E	G	G	G	E	U			
Potassium Bicarbonate			E	G				E		E
Potassium Bichromate			E	G	G		G	E	G	
Potassium Bisulfate			E	G	G		E	E		
Potassium Bisulfite	P	U	G	E	E	G	E	E	E	
Potassium Bromide	P	U	E	E	E	G	E	E	E	P
Potassium Carbonate	G	G	G	E	E	G	E	E	E	E
Potassium Chlorate	G	G	G	E	E	G	E	E	E	P
Potassium Chloride	P	P	G	E	E	E	E	E	E	P
Potassium Chromate	G		G	G	E	G	G	E		
Potassium Cyanide	U	G	G	E	E	E	E	E	E	E
Potassium Dichromate	U	P	G	E	E	G	E	E	E	U
Potassium Diphosphate	G	E	E	E			E	E		
Potassium Ferricyanide	U	P	E	E	E	G	E	E	E	
Potassium Ferrocyanide	G	P	G	E	E		E	E	E	
Potassium Hydroxide Dilute Cold	U	E	G	E	G		U	E		E
Potassium Hydroxide Dilute Hot	U	G	G	G	G			E		
Potassium Hydroxide To 70% Cold										
Potassium Hydroxide To 70% Hot	U	E	G	P	G	E		E		
Potassium Hydroxide To 70% Hot	U	E	G	P	G	E		E		
Potassium Iodide	U	P	G	E	E	G	E	E	E	
Potassium Nitrate	G	G	G	E	E	G	E	E	E	P
Potassium Oxalate			E					E		
Potassium Permanganate	G	G	G	E	E	G	E	E	E	U
Potassium Phosphate	P		G	E	E	E	E	E		
Potassium Phosphate Di-Basic	G	E	E	E	E	G	E	E	E	
Potassium Phosphate Tri-Basic		E	G	G	G	G		E		
Potassium Salts				E	E	E	E			
Potassium Sulfate	G	G	E	E	E	E	E	E	E	P
Potassium Sulfide	G	G	E	E	G	G	G	E		
Potassium Sulfite	G	G	E	G	G	E	G	E		
Producer Gas	G	G	G	E	G	U	E	E	E	
Propane Gas	E	G	G	E	G	U	E	E	E	
Propyl Acetate	U	E	E	U	U	G	U			
Propyl Alcohol	E	G	G	E	E		E	E		
Propyl Bromide	G		G	G	G	G	G	E		
Propylene	E	E	E	U	U	U	E			
Propylene Glycol	G	G	G	E	E	G	E	E	P	
Pydraul	E	P	E	U	U		G	E		
Pyridine			G	U	U		U	E		
Pyrogard 42, 43, 53, 55				U	U	E	E			
Pyrogard D				E	G	E	E			
Pyrolytic Acid	G	G	G	E	E		E	E	E	
	E-Excellent		G-Good		P-Poor		U-Unsatisfactory			

Fluid	Brass	Carbon Steel	316 S.S.	Buna N (Nitrile)	Neoprene	EPR	Fluoro-Carbon	PTFE	Acetal	Nylon
Quench Oil	G	G	E	E	G		E	E	E	
Quinine, Sulfate, Dry			E					E		
R P-1 Fuel	E	E	E	G	P		E	E	E	
Resins & Rosins	E	P	E	P	P		E	E		
Resorcinol			G					E		
Road Tar	E	E	E	G	P	U	E	E	E	
Roof Pitch	E	E	E	G	P		E	E	E	
Rosin Emulsion	G	P	E	U	P		G	E		
Rubber Latex Emulsions	E	G	E				E	E	E	
Rubber Solvents	E	E	E	U	P		U	E	P	
Salad Oil	G	P	G	E	E	G	E	E	E	
Salicylic Acid	P	U	E	E	E	G	E	E	E	
Salt	G	P	G	E	E		E	E	E	
Salt Brine	G		G	E	U	G	G	E		
Sauerkraut Arine			G					E		
Sea Water	P	U	G	E	E	E	E	E	E	
Sewage	P	P	G	E	P	G	G	E		
Shell Iru 905				E	G	U	E			
Shellac	E	E	E	E	E			E		
Silicone Fluids	G		G	G	G		G	E		
Silver Bromide										
Silver Cyanide	U		E	G	G		G	E		
Silver Nitrate	U	U	E	P	P	E	E	E	E	
Silver Plating Sol.			E		G			E		
Skydrol 500	E	G	E	U	U		U	E		
Skydrol 7000, Type 2	U	E	E	U	U	E	G			
Soap Solutions	E	E	E	E	G	E	E	E		
Sodium Acetate	G	P	G	G	G	G	E	E	E	E
Sodium Aluminate	G	P	E	E	E	G	E	E	E	
Sodium Benzoate			G					E		
Sodium Bicarbonate	G	P	G	E	E	E	E	E	E	E
Sodium Bichromate			G	U				E		
Sodium Bisulfate 10%	G	U	E	E	E	G	E	E	E	P
Sodium Bisulfite 10%	G	U	E	E	E	G	E	E	E	P
Sodium Borate	G	P	G	E	E	G	E	E	E	
Sodium Bromide 10%	G	P	G	E	E	G	E	E	E	
Sodium Carbonate	G	G	E	E	E	G	E	E	E	E
Sodium Chlorate	G	P	G	E	E	G	E	E	E	P
Sodium Chloride	G	P	G	E	E	G	E	E	E	E
Sodium Chromate	P	G	E	E	E	G	E	E	E	
Sodium Citrate			G					E		
Sodium Cyanide	U	G	E	E	E	G	E	E	E	E
Sodium Ferricyanide			E					E		
Sodium Fluoride	P	U	G	E	E	G	E	E	E	
Sodium Hydroxide 20% Cold	E	E	E	E	E	G	G	E		E
	E-Excellent		G-Good		P-Poor		U-Unsatisfactory			

Fluid	Brass	Carbon Steel	316 S.S.	Buna N (Nitrile)	Neoprene	EPR	Fluoro-Carbon	PTFE	Acetal	Nylon
Sodium Hydroxide 20% Hot	E	G	E	G	G	G	P	E		
Sodium Hydroxide 50% Cold	E	E	E	E	E	G	P	E		E
Sodium Hydroxide 50% Hot	E	G	E	G	G		P	E		
Sodium Hydroxide 70% Cold	E	E	E	G	P	G	P	E		
Sodium Hydroxide 70% Hot	G	G	E	U	U	G	P	E		
Sodium Hypochlorite (Bleach)	U	U	U				E	E		U
Sodium Hyposulfite			G					E		
Sodium Lactate			E					E		
Sodium Metaphosphate	P	G	G	E	E	G		E		
Sodium Metasilicate Cold	G	P	E	G	E		G	E		
Sodium Metasilicate Hot	G	U	E					E		
Sodium Nitrate	G	G	E	P	G	G	E	E	E	E
Sodium Nitrite			G	P	U	E	G	E	G	
Sodium Perborate	G	G	G	P	G	E	E	E	E	
Sodium Peroxide	U	P	G	P	G	E	E	E	E	
Sodium Phosphate	P	P	G	G	P	E	E	E	G	
Sodium Phosphate Di-Basic	P	P	G	E	E	E	E	E	E	
Sodium Phosphate Tri-Basic	P	P	G	G	G	E	E	E	E	
Sodium Polyphosphate			G	G	G	E		E		
Sodium Salicylate			E					E		
Sodium Salts										
Sodium Silicate	G	G	G	E	E	G	E	E	E	E
Sodium Silicate, Hot	P	P	G			G		E		
Sodium Sulfate	G	G	E	E	E	E	E	E		E
Sodium Sulfide	U	G	G	E	E	G	E	E	E	E
Sodium Sulfite	P		E	E	E	G	G	E		
Sodium Tetraborate			E	E	E	G		E		
Sodium Thiosulfate	P	G	G	E	E	E	E	E	E	
Soybean	G	P	E	E	G	G	E	E	E	
Stannic Chloride	P	U	U	E	E		E	E		
Starch	G	P	G	E	E	P	E	E	E	
Steam (212 F)	E	E	E	U	U	G	P	E	U	
Stearic Acid	P	P	G	E	P	G	E	E	E	
Stoddard Solvent	G	E	E	E	G	U	E			
Styrene	E	E	E	U	U	U	G	E		
Sucrose Solutions	E	E	E	E	G	E	E			
Sugar, Syrups & Jam	G		E		G			E		
Sugar Liquids	E	G	E	E	E	G	E	E	E	
Sulfate, Black Liquor	P	P	G	P	G	G	P	E	E	
Sulfate, Green Liquor	P	P	G	P	G		P	E	E	
Sulfate, White Liquor	P	P	G	P	G		P	E	E	
Sulfur	U	P	G	U	P	G	G	E	E	
Sulfur, Molten	U	P	G	U	P	G	G	E		
Sulfur Chlorides	G	U	U	U	U	P	E	E	E	
Sulfur Dioxide, Dry	G	G	E	U	U	E	E	E	E	
	E-Excellent		G-Good		P-Poor		U-Unsatisfactory			

Fluid	Brass	Carbon Steel	316 S.S.	Buna N (Nitrile)	Neoprene	EPR	Fluoro-Carbon	PTFE	Acetal	Nylon
Sulfur Dioxide, Wet	U		E	U	U	G		E		
Sulfur Hexafluoride	G		E		G			E		
Sulfur Trioxide	G	G	G	U	U		G	E		
Sulfur Trioxide, Dry	G	G	G	U	U	G	E	E		
Sulfuric Acid 0 To 77%	P	U	P	G	G		E	E	P	U
Sulfuric Acid 100%	P	P	E	U	U	P	G	E	U	U
Sulfurous Acid	U	U	G	P	P	P	E	E	P	
Sunsafe	U	E	E	E	G	U	E			
Tall Oil	G	G	G	G	G	U	E	E		
Tannic Acid	G	P	G	G	G	G	E	E	E	U
Tanning Liquors			G	G	U			E		
Tar & Tar Oils	E	E	E	P	U	U	E	E		
Tartaric Acid	G	U	E	P	G	G	E	E	E	
Terpineol				G	U	U	E			
Tertiary Butyl Alcohol	E	E	E	G	G	G	E			
Tetrachloroethane		G	E	U	U	U	E			
Tetrachloroethylene	U	G	U	U	U	E				
Tetraethyl Lead	G	P	G					E	E	
Titanium Tetrachloride	G	E	G	G	U	U	E			
Toluol (Toluene)	E	E	E	U	U	U	G	E	E	E
Tomato Juice	P	P	E	E	E		E	E	E	
Transformer Oil	G	E	E	E	G		E	E	E	
Transmission Fluid, Type A	E	E	E	E	G	U	E			
Tributyl Phosphate	E	E	E	U	U	G	U	E		
Trichlorethylene	G	G	G	U	U	U	G	E	E	U
Trichloroacetic Acid	G		U	P	U		U	E		
Trichloroethane		G	E	U	U	U	E			
Tricresyl Phosphate		E	G	U	U	E	G			
Triethanolamine			G	P	G	G		E		
Triethylamine	G		G	G	G			E		
Trisodium Phosphate			G	E	E	G	G	E		
Tung Oil	G	G	E	E	G	U	E	E	E	
Turbine Oil #15		G	E	G	U	U	E			
Turpentine	G	G	G	G	U	U	E	E	E	E
Urea	U	P	G	P	G	G	U	E	E	
Uric Acid			E					E		
Varnish	E	P	E	P	G	U	G	E	E	
Vegetable Oils	G	G	E	E	G	U	E	E	E	
Vinegar	G	U	E	U	U	E	U	E		E
Vinyl Acetate	G		G		G	E		E		
Water, Acid Mine	U	U	G	G	E	E	U	E		
Water, Distilled	U	U	E	P	G	G	E	E	E	
Water, Fresh	P	P	E	P	G	G	E	E	E	
Waxes	E	E	E	E	G	P	E	E	E	
Whiskey & Wines	G	U	E	G	G	E	E	E	E	
	E-Excellent		G-Good		P-Poor		U-Unsatisfactory			

Fluid	Brass	Carbon Steel	316 S.S.	Buna N (Nitrile)	Neoprene	EPR	Fluoro-Carbon	PTFE	Acetal	Nylon
Xylene (Xylol), Dry	E	G	E	U	U	U	G	E	E	E
Zinc Bromide	G		G	G	G	G	G	E		
Zinc Chloride	U	U	U	G	G		E	E		U
Zinc Hydrosulfite	P	E	E	E	E	E	E	E	E	
Zinc Sulfate	G	U	G	E	E	E	E	E	E	P
	E-Excellent		G-Good		P-Poor		U-Unsatisfactory			

[illegible]

2GF	H3	59CA.....	G13	62TF	F12
3GF	H3	59HD	G61	62VL	F28
4CB-SR.....	L8	59P.....	G43	63NTA.....	F5
9-DC.....	L9	60AB.....	F15	63PLM	A92
16-CB	L8	60C.....	G4	63PLP	A68
18-DC	L9	60NTA.....	F3	63PT	G6, G15
20.....	I3	60P.....	G43	66AB.....	F16
22.....	I3	60PB.....	G43	66BJB.....	A52
22BH	I4	60PT	G4	66C.....	G6
22CA.....	I4	60RB	F23	66CA.....	G15
22CABH	I4	60TF	F12	66HD	G57
24B-Cabinet.....	L9	60VL	F27	66LF	A22
24-CB	L8	60VLV	F27	66NBH.....	F5
24M	E12	61AB.....	F15	66NTA.....	F5
24PLP	A59, A60	61C.....	G4	66P.....	G46
24PLPD.....	A60	61CA.....	G13	66PLM	A80
26.....	I4	61HD	G56	66PLMBH.....	A90
27.....	I5	61NTA.....	F3	66PLP	A6
28.....	I5	61P.....	G43	66PLPBH.....	A5
30GH	C36, J44	61PB.....	G44	66PTC.....	E16
32PLCK.....	B30	61PN.....	G44	66RBSV	F24
32PLP	A53	61PSGN	G44	66VL	F28
32PLPBH.....	A57, A58	61RB.....	F23	67PLM	A94
32PLPBHP	A74	61RBSG	F23	67PLP	A18
32PLPDJ.....	A47	61TF	F12	67PLS	A107
32PLPDJB.....	A47	61VL	F28	67RBSG	F24
32PLPDRC	A73	62AB.....	F15	68ALS	E35
32PLPRC.....	A72	62ABH	F16	68BJB.....	A51
32PLPSP.....	A70	62ANBH.....	F4	68BJBD	A52
32PTC.....	E3	62C.....	G5	68BJBT	A52
37PLP	A69	62CA.....	G13	68C.....	G7
37PTCSP.....	E6	62CABH	G14	68CA.....	G16
40B-Cabinet.....	L10	62HD	G56, G58	68HB	I11
41FL.....	H3	62HDBH.....	G56	68HB-X-MIX	I12
41FS	H4	62NBH.....	F4	68HD	G58
41FX.....	H4	62NFBH	F4	68LF	A26
41IF	H16	62NTA.....	F3	68LFR	A23, A24
41IFF.....	H16	62P.....	G44, G45	68NTA-X-MIX.....	F6
42F	H4	62PBH	G45	68P.....	G46
42IFHD.....	H17	62PCA	G14, G45	68PLCK.....	B32
43F	H5	62PCABH	G14, G45	68PLCKI.....	B32
46F	H6	62PLM	A89	68PLM	A80, A81, A82
46IFHD.....	H17	62PLMBH.....	A89, A90	68PLMSP	A83
48F.....	H7	62PLMSP	A95	68PLP	A9
48F-X-MIX.....	H6	62PLP	A3, A4, A17	68PLPR	A10
48IFHD.....	H18	62PLPBH.....	A4	68PLPSP.....	A45
50CT.....	L10	62PLPSP.....	A18	68PLS	A97, A98
53GH	J41	62PLS	A104	68PLSSP.....	A99, A100
55GH	J41	62PLSBH	A105	68RB	F24
56PSG	G43	62PTC.....	E15	68RBSG	F25
56RBSG	F23	62RB	F24	68TF	F13

68VL	F29	129HB	I15	169HD	G59
70GH	J41	131B14	K58	169LP	G52
71GH	J41	0136	I20	169P	G52
75GH	J41	0139	A20	169PLM	A84, A85
76RB	F25	139HB	I15	169PLMBJ	A94
78GH	J42	139PLP	A19	169PLMX	A85, A86
80GH	J42	0142	G37	169PLP	A14
81GH	J42	0143	J16	169PLS	A101, A102
82GH	J42	0144	J16	169PLSX	A103, A104
83GH	J42	144F	H8	169PMT	E20
88AC	H25	0145	J17	169PMTBH	E29
88GH	J42	145F	H8	169PMTL	E22
90GH	J43	146HBLFSV	I16	169PMTNS	E21
93-FB-BPD		149F	H9	169PMTNS-X-M	E22
94GH	C36, J43	149F-X-MIX	H10	169PTCNS	E22
95GH	J43	149IFHD	H19	169VL	F30
96GH	J43	150F	H10	170C	G10
97HC	I20	150IFHD	H20	170CA	G19
97P	G47	151F	H11	170HD	G59
98GH	J44	0152	J16	170P	G53
99GH	J44	0155	J19	170PMT	E23
99GHSV	J44	155F	H11	170PMTNS	E23
0101	G24, G25, G26	155IFHD	H21	170VL	F32
0102	G36	0158	J17	171C	G10
0103	G31	159F	H12	171CA	G19
0104	G36	159F-X-MIX	H12	171HB	I17
0105	G22, G23	0163	J20	171HD	G60
0106	G35	0164	J15	171P	G53
0107	G37	164C	G8	171PLM	A86, A87
0108	G30	164CA	G17	171PLP	A15
0109	G28, G29	164HD	G57	171PMT	E24
0110	G38, G40	164P	G51	171PMTNS	E24
0111	G38	164PLM	A92	171VL	F32
0114	G27	164PLP	A10, A11	172C	G10
0116	G35	164PLS	A106	172CA	G19
0117	J17	164PMT	E19	172HD	G60
0118	G32	164VL	F30	172P	G53
0119	G32, G34	165CA	G17	172PLM	A88
0121	J18	165HD	G57	172PLP	A17
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Parker Safety Guide for Selecting and Using Hose, Tubing, Fittings, Connectors, Conductors, Valves and Related Accessories

Parker Publication No. 4400-B.1

WARNING: Failure or improper selection or improper use of hose, tubing, fittings, assemblies, valves, connectors, conductors or related accessories (“Products”) can cause death, personal injury and property damage. Possible consequences of failure or improper selection or improper use of these Products include but are not limited to:

- Fittings thrown off at high speed.
- High velocity fluid discharge.
- Explosion or burning of the conveyed fluid.
- Electrocution from high voltage electric powerlines.
- Contact with suddenly moving or falling objects that are controlled by the conveyed fluid.
- Injections by high-pressure fluid discharge.
- Dangerously whipping Hose.
- Tube or pipe burst.
- Weld joint fracture.
- Contact with conveyed fluids that may be hot, cold, toxic or otherwise injurious.
- Sparking or explosion caused by static electricity buildup or other sources of electricity.
- Sparking or explosion while spraying paint or flammable liquids.
- Injuries resulting from inhalation, ingestion or exposure to fluids.

Before selecting or using any of these Products, it is important that you read and follow the instructions below. No product from any division in Fluid Connector Group is approved for in-flight aerospace applications. For hoses and fittings used in in-flight aerospace applications, please contact Parker Aerospace Group

GENERAL INSTRUCTIONS

- 1.0 **Scope:** This safety guide provides instructions for selecting and using (including assembling, installing, and maintaining) these Products. For convenience, all rubber and/or thermoplastic products commonly called “hose” or “tubing” are called “Hose” in this safety guide. Metallic tube or pipe are called “tube”. All assemblies made with Hose are called “Hose Assemblies”. All assemblies made with Tube are called “Tube Assemblies”. All products commonly called “fittings”, “couplings” or “adapters” are called “Fittings”. Valves are fluid system components that control the passage of fluid. Related accessories are ancillary devices that enhance or monitor performance including crimping, flaring, flanging, presetting, bending, cutting, deburring, swaging machines, sensors, tags, lockout handles, spring guards and associated tooling. This safety guide is a supplement to and is to be used with the specific Parker publications for the specific Hose, Fittings and Related Accessories that are being considered for use. Parker publications are available at www.parker.com. SAE J1273 (www.sae.org) and ISO 17165-2 (www.ansi.org) also provide recommended practices for hydraulic Hose Assemblies, and should be followed.
- 1.1 **Fail-Safe:** Hose, Hose Assemblies, Tube, Tube Assemblies and Fittings can and do fail without warning for many reasons. Design all systems and equipment in a fail-safe mode, so that failure of the Hose, Hose Assembly, Tube, Tube Assembly or Fitting will not endanger persons or property.
- 1.2 **Distribution:** Provide a copy of this safety guide to each person responsible for selecting or using Hose, Tube and Fitting products. Do not select or use Parker Hose, Tube or Fittings without thoroughly reading and understanding this safety guide as well as the specific Parker publications for the Products.
- 1.3 **User Responsibility:** Due to the wide variety of operating conditions and applications for Hose, Tube and Fittings, Parker does not represent or warrant that any particular Hose, Tube or Fitting is suitable for any specific end use system. This safety guide does not analyze all technical parameters that must be considered in selecting a product. The user, through its own analysis and testing, is solely responsible for:
 - Making the final selection of the Products.
 - Assuring that the user’s requirements are met and that the application presents no health or safety hazards.
 - Following the safety guide for Related Accessories and being trained to operate Related Accessories.
 - Providing all appropriate health and safety warnings on the equipment on which the Products are used.
 - Assuring compliance with all applicable government and industry standards.
- 1.4 **Additional Questions:** Call the appropriate Parker technical service department if you have any questions or require any additional information. See the Parker publication for the Products being considered or used, or call 1-800-CPARKER, or go to www.parker.com, for telephone numbers of the appropriate technical service department.

2.0 HOSE, TUBE AND FITTINGS SELECTION INSTRUCTIONS

- 2.1 **Electrical Conductivity:** Certain applications require that the Hose be nonconductive to prevent electrical current flow. Other applications require the Hose and the Fittings and the Hose/Fitting interface to be sufficiently conductive to drain off static electricity. Extreme care must be exercised when selecting Hose, Tube and Fittings for these or any other applications in which electrical conductivity or nonconductivity is a factor.
The electrical conductivity or nonconductivity of Hose, Tube and Fittings is dependent upon many factors and may be susceptible to change. These factors include but are not limited to the various materials used to make the Hose and the Fittings, Fitting finish (some Fitting finishes are electrically conductive while others are nonconductive), manufacturing methods (including moisture control), how the Fittings contact the Hose, age and amount of deterioration or damage or other changes, moisture content of the Hose at any particular time, and other factors.
The following are considerations for electrically nonconductive and conductive Hose. For other applications consult the individual catalog pages and the appropriate industry or regulatory standards for proper selection.
- 2.1.1 **Electrically Nonconductive Hose:** Certain applications require that the Hose be nonconductive to prevent electrical current flow or to maintain

electrical isolation. For applications that require Hose to be electrically nonconductive, including but not limited to applications near high voltage electric lines, only special nonconductive Hose can be used. The manufacturer of the equipment in which the nonconductive Hose is to be used must be consulted to be certain that the Hose, Tube and Fittings that are selected are proper for the application. Do not use any Parker Hose or Fittings for any such application requiring nonconductive Hose, including but not limited to applications near high voltage electric lines or dense magnetic fields, unless (i) the application is expressly approved in the Parker technical publication for the product, (ii) the Hose is marked “nonconductive”, and (iii) the manufacturer of the equipment on which the Hose is to be used specifically approves the particular Parker Hose, Tube and Fittings for such use.

- 2.1.2 **Electrically Conductive Hose:** Parker manufactures special Hose for certain applications that require electrically conductive Hose. Parker manufactures special Hose for conveying paint in airless paint spraying applications. This Hose is labeled “Electrically Conductive Airless Paint Spray Hose” on its layline and packaging. This Hose must be properly connected to the appropriate Parker Fittings and properly grounded in order to dissipate dangerous static charge buildup, which occurs in all airless paint spraying applications. Do not use any other Hose for airless paint spraying, even if electrically conductive. Use of any other Hose or failure to properly connect the Hose can cause a fire or an explosion resulting in death, personal injury, and property damage. All hoses that convey fuels must be grounded. Parker manufactures a special Hose for certain compressed natural gas (“CNG”) applications where static electricity buildup may occur. Parker CNG Hose assemblies comply with the requirements of ANSI/ASME NGV 4.2; CSA 12.52, “Hoses for Natural Gas Vehicles and Dispensing Systems” (www.ansi.org). This Hose is labeled “Electrically Conductive for CNG Use” on its layline and packaging. This Hose must be properly connected to the appropriate Parker Fittings and properly grounded in order to dissipate dangerous static charge buildup, which occurs in, for example, high velocity CNG dispensing or transfer. Do not use any other Hose for CNG applications where static charge buildup may occur, even if electrically conductive. Use of other Hoses in CNG applications or failure to properly connect or ground this Hose can cause a fire or an explosion resulting in death, personal injury, and property damage. Care must also be taken to protect against CNG permeation through the Hose wall. See section 2.6, Permeation, for more information. Parker CNG Hose is intended for dispenser and vehicle use within the specified temperature range. Parker CNG Hose should not be used in confined spaces or unventilated areas or areas exceeding the specified temperature range. Final assemblies must be tested for leaks. CNG Hose Assemblies should be tested on a monthly basis for conductivity per ANSI/ASME NGV 4.2; CSA 12.52. Parker manufactures special Hose for aerospace in-flight applications. Aerospace in-flight applications employing Hose to transmit fuel, lubricating fluids and hydraulic fluids require a special Hose with a conductive inner tube. This Hose for in-flight applications is available only from Parker’s Stratoflex Products Division. Do not use any other Parker Hose for in-flight applications, even if electrically conductive. Use of other Hoses for in-flight applications or failure to properly connect or ground this Hose can cause a fire or an explosion resulting in death, personal injury and property damage. These Hose assemblies for in-flight applications must meet all applicable aerospace industry, aircraft engine and aircraft requirements.
- 2.2 **Pressure:** Hose, Tube and Fitting selection must be made so that the published maximum working pressure of the Hose, Tube and Fittings are equal to or greater than the maximum system pressure. The maximum working pressure of a Hose, or Tube Assembly is the lower of the respective published maximum working pressures of the Hose, Tube and the Fittings used. Surge pressures or peak transient pressures in the system must be below the published maximum working pressure for the Hose, Tube and Fitting. Surge pressures and peak pressures can usually only be determined by sensitive electrical instrumentation that measures and indicates pressures at millisecond intervals. Mechanical pressure gauges indicate only average pressures and cannot be used to determine surge pressures or peak transient pressures. Published burst pressure ratings for Hose is for manufacturing test purposes only and is no indication that the Product can be used in applications at the burst pressure or otherwise above the published maximum recommended working pressure.

- 2.3 **Suction:** Hoses used for suction applications must be selected to insure that the Hose will withstand the vacuum and pressure of the system. Improperly selected Hose may collapse in suction application.
- 2.4 **Temperature:** Be certain that fluid and ambient temperatures, both steady and transient, do not exceed the limitations of the Hose, Tube, Fitting and Seals. Temperatures below and above the recommended limit can degrade Hose, Tube, Fittings and Seals to a point where a failure may occur and release fluid. Tube and Fittings performances are normally degraded at elevated temperature. Material compatibility can also change at temperatures outside of the rated range. Properly insulate and protect the Hose Assembly when routing near hot objects (e.g. manifolds). Do not use any Hose in any application where failure of the Hose could result in the conveyed fluids (or vapors or mist from the conveyed fluids) contacting any open flame, molten metal, or other potential fire ignition source that could cause burning or explosion of the conveyed fluids or vapors.
- 2.5 **Fluid Compatibility:** Hose, and Tube Assembly selection must assure compatibility of the Hose tube, cover, reinforcement, Tube, Plating and Seals with the fluid media used. See the fluid compatibility chart in the Parker publication for the product being considered or used. This information is offered only as a guide. Actual service life can only be determined by the end user by testing under all extreme conditions and other analysis. Hose, and Tube that is chemically compatible with a particular fluid must be assembled using Fittings and adapters containing likewise compatible seals. Flange or flare processes can change Tube material properties that may not be compatible with certain requirements such as NACE
- 2.6 **Permeation:** Permeation (that is, seepage through the Hose or Seal) will occur from inside the Hose or Fitting to outside when Hose or Fitting is used with gases, liquid and gas fuels, and refrigerants (including but not limited to such materials as helium, diesel fuel, gasoline, natural gas, or LPG). This permeation may result in high concentrations of vapors which are potentially flammable, explosive, or toxic, and in loss of fluid. Dangerous explosions, fires, and other hazards can result when using the wrong Hose for such applications. The system designer must take into account the fact that this permeation will take place and must not use Hose or Fitting if this permeation could be hazardous. The system designer must take into account all legal, government, insurance, or any other special regulations which govern the use of fuels and refrigerants. Never use a Hose or Fitting even though the fluid compatibility is acceptable without considering the potential hazardous effects that can result from permeation through the Hose or Tube Assembly. Permeation of moisture from outside the Hose or Fitting to inside the Hose or Fitting will also occur in Hose or Tube assemblies, regardless of internal pressure. If this moisture permeation would have detrimental effects (particularly, but not limited to refrigeration and air conditioning systems), incorporation of sufficient drying capacity in the system or other appropriate system safeguards should be selected and used. The sudden pressure release of highly pressurized gas could also result in Explosive Decompression failure of permeated Seals and Hoses.
- 2.7 **Size:** Transmission of power by means of pressurized fluid varies with pressure and rate of flow. The size of the components must be adequate to keep pressure losses to a minimum and avoid damage due to heat generation or excessive fluid velocity.
- 2.8 **Routing:** Attention must be given to optimum routing to minimize inherent problems (kinking or flow restriction due to Hose collapse, twisting of the Hose, proximity to hot objects or heat sources). For additional routing recommendations see SAE J1273 and ISO 17165-2. Hose Assemblies have a finite life and should be installed in a manner that allows for ease of inspection and future replacement. Hose because of its relative short life, should not be used in residential and commercial buildings inside of inaccessible walls or floors, unless specifically allowed in the product literature. Always review all product literature for proper installation and routing instructions.
- 2.9 **Environment:** Care must be taken to insure that the Hose, Tube and Fittings are either compatible with or protected from the environment (that is, surrounding conditions) to which they are exposed. Environmental conditions including but not limited to ultraviolet radiation, sunlight, heat, ozone, moisture, water, salt water, chemicals and air pollutants can cause degradation and premature failure.
- 2.10 **Mechanical Loads:** External forces can significantly reduce Hose, Tube and Fitting life or cause failure. Mechanical loads which must be considered include excessive flexing, twist, kinking, tensile or side loads, bend radius, and vibration. Use of swivel type Fittings or adapters may be required to insure no twist is put into the Hose. Use of proper Hose or Tube clamps may also be required to reduce external mechanical loads. Unusual applications may require special testing prior to Hose selection.
- 2.11 **Physical Damage:** Care must be taken to protect Hose from wear, snagging, kinking, bending smaller than minimum bend radius and cutting, any of which can cause premature Hose failure. Any Hose that has been kinked or bent to a radius smaller than the minimum bend radius, and any Hose that has been cut or is cracked or is otherwise damaged should be removed and discarded. Fittings with damages such as scratches on sealing surfaces and deformation should be replaced.
- 2.12 **Proper End Fitting:** See instructions 3.2 through 3.5. These recommendations may be substantiated by testing to industry standards such as SAE J517 for hydraulic applications, or MIL-A-5070, AS1339, or AS3517 for Hoses from Parker's Stratoflex Products Division for aerospace applications.
- 2.13 **Length:** When determining the proper Hose or Tube length of an assembly, be aware of Hose length change due to pressure, Tube length change due to thermal expansion or contraction, and Hose or Tube and machine tolerances and movement must be considered. When routing short hose assemblies, it is recommended that the minimum free hose length is always used. Consult the hose manufacturer for their minimum free hose length recommendations. Hose assemblies should be installed in such a way that any motion or flexing occurs within the same plane.
- 2.14 **Specifications and Standards:** When selecting Hose, Tube and Fittings, government, industry, and Parker specifications and recommendations must be reviewed and followed as applicable.
- 2.15 **Hose Cleanliness:** Hose and Tube components may vary in cleanliness levels. Care must be taken to insure that the Hose and Tube Assembly selected has an adequate level of cleanliness for the application.
- 2.16 **Fire Resistant Fluids:** Some fire resistant fluids that are to be conveyed by Hose or

Tube require use of the same type of Hose or Tube as used with petroleum base fluids. Some such fluids require a special Hose, Tube, Fitting and Seal, while a few fluids will not work with any Hose at all. See instructions 2.5 and 1.5. The wrong Hose, Tube, Fitting or Seal may fail after a very short service. In addition, all liquids but pure water may burn fiercely under certain conditions, and even pure water leakage may be hazardous.

- 2.17 **Radiant Heat:** Hose and Seals can be heated to destruction without contact by such nearby items as hot manifolds or molten metal. The same heat source may then initiate a fire. This can occur despite the presence of cool air around the Hose or Seal. Performance of Tube and Fitting subjected to the heat could be degraded.
- 2.18 **Welding or Brazing:** When using a torch or arc welder in close proximity to hydraulic lines, the hydraulic lines should be removed or shielded with appropriate fire resistant materials. Flame or weld spatter could burn through the Hose or Seal and possibly ignite escaping fluid resulting in a catastrophic failure. Heating of plated parts, including Hose Fittings and adapters, above 450°F (232°C) such as during welding, brazing or soldering may emit deadly gases. Any elastomer seal on fittings shall be removed prior to welding or brazing, any metallic surfaces shall be protected after brazing or welding when necessary. Welding and brazing filler material shall be compatible with the Tube and Fitting that are joined.
- 2.19 **Atomic Radiation:** Atomic radiation affects all materials used in Hose and Tube assemblies. Since the long-term effects may be unknown, do not expose Hose or Tube assemblies to atomic radiation. Nuclear applications may require special Tube and Fittings.
- 2.20 **Aerospace Applications:** The only Hose, Tube and Fittings that may be used for in-flight aerospace applications are those available from Parker's Stratoflex Products Division. Do not use any other Hose or Fittings for in-flight applications. Do not use any Hose or Fittings from Parker's Stratoflex Products Division with any other Hose or Fittings, unless expressly approved in writing by the engineering manager or chief engineer of Stratoflex Products Division and verified by the user's own testing and inspection to aerospace industry standards.
- 2.21 **Unlocking Couplings:** Ball locking couplings or other Fittings with quick disconnect ability can unintentionally disconnect if they are dragged over obstructions, or if the sleeve or other disconnect member, is bumped or moved enough to cause disconnect. Threaded Fittings should be considered where there is a potential for accidental uncoupling.

3.0 HOSE AND FITTINGS ASSEMBLY AND INSTALLATION INSTRUCTIONS

- 3.1 **Component Inspection:** Prior to assembly, a careful examination of the Hose and Fittings must be performed. All components must be checked for correct style, size, catalog number, and length. The Hose must be examined for cleanliness, obstructions, blisters, cover looseness, kinks, cracks, cuts or any other visible defects. Inspect the Fitting and sealing surfaces for burrs, nicks, corrosion or other imperfections. Do NOT use any component that displays any signs of nonconformance.
- 3.2 **Hose and Fitting Assembly:** Do not assemble a Parker Fitting on a Parker Hose that is not specifically listed by Parker for that Fitting, unless authorized in writing by the engineering manager or chief engineer of the appropriate Parker division. Do not assemble a Parker Fitting on another manufacturer's Hose or a Parker Hose on another manufacturer's Fitting unless (i) the engineering manager or chief engineer of the appropriate Parker division approves the Assembly in writing or that combination is expressly approved in the appropriate Parker literature for the specific Parker product, and (ii) the user verifies the Assembly and the application through analysis and testing. For Parker Hose that does not specify a Parker Fitting, the user is solely responsible for the selection of the proper Fitting and Hose Assembly procedures. See instruction 1.4. To prevent the possibility of problems such as leakage at the Fitting or system contamination, it is important to completely remove all debris from the cutting operation before installation of the Fittings. The Parker published instructions must be followed for assembling the Fittings on the Hose. These instructions are provided in the Parker Fitting catalog for the specific Parker Fitting being used, or by calling 1-800-CPARKER, or at www.parker.com.
- 3.3 **Related Accessories:** Do not crimp or swage any Parker Hose or Fitting with anything but the listed swage or crimp machine and dies in accordance with Parker published instructions. Do not crimp or swage another manufacturer's Fitting with a Parker crimp or swage die unless authorized in writing by the engineering manager or chief engineer of the appropriate Parker division.
- 3.4 **Parts:** Do not use any Parker Fitting part (including but not limited to socket, shell, nipple, or insert) except with the correct Parker mating parts, in accordance with Parker published instructions, unless authorized in writing by the engineering manager or chief engineer of the appropriate Parker division.
- 3.5 **Field Attachable/Permanent:** Do not reuse any field attachable Hose Fitting that has blown or pulled off a Hose. Do not reuse a Parker permanent Hose Fitting (crimped or swaged) or any part thereof. Complete Hose Assemblies may only be reused after proper inspection under section 4.0. Do not assemble Fittings to any previously used hydraulic Hose that was in service, for use in a fluid power application.
- 3.6 **Pre-Installation Inspection:** Prior to installation, a careful examination of the Hose Assembly must be performed. Inspect the Hose Assembly for any damage or defects. DO NOT use any Hose Assembly that displays any signs of nonconformance.
- 3.7 **Minimum Bend Radius:** Installation of a Hose at less than the minimum listed bend radius may significantly reduce the Hose life. Particular attention must be given to preclude sharp bending at the Hose to Fitting juncture. Any bending during installation at less than the minimum bend radius must be avoided. If any Hose is kinked during installation, the Hose must be discarded.
- 3.8 **Twist Angle and Orientation:** Hose Assembly installation must be such that relative motion of machine components does not produce twisting.
- 3.9 **Securement:** In many applications, it may be necessary to restrain, protect, or guide the Hose to protect it from damage by unnecessary flexing, pressure surges, and contact with other mechanical components. Care must be taken to

- insure such restraints do not introduce additional stress or wear points.
- 3.10 **Proper Connection of Ports:** Proper physical installation of the Hose Assembly requires a correctly installed port connection insuring that no twist or torque is transferred to the Hose when the Fittings are being tightened or otherwise during use.
 - 3.11 **External Damage:** Proper installation is not complete without insuring that tensile loads, side loads, kinking, flattening, potential abrasion, thread damage or damage to sealing surfaces are corrected or eliminated. See instruction 2.10.
 - 3.12 **System Checkout:** All air entrapment must be eliminated and the system pressurized to the maximum system pressure (at or below the Hose maximum working pressure) and checked for proper function and freedom from leaks. Personnel must stay out of potential hazardous areas while testing and using.
 - 3.13 **Routing:** The Hose Assembly should be routed in such a manner so if a failure does occur, the escaping media will not cause personal injury or property damage. In addition, if fluid media comes in contact with hot surfaces, open flame or sparks, a fire or explosion may occur. See section 2.4.
 - 3.14 **Ground Fault Equipment Protection Devices (GFEEDs):** **WARNING!** Fire and Shock Hazard. To minimize the danger of fire if the heating cable of a Multitube bundle is damaged or improperly installed, use a Ground Fault Equipment Protection Device. Electrical fault currents may be insufficient to trip a conventional circuit breaker. For ground fault protection, the IEEE 515: (www.ansi.org) standard for heating cables recommends the use of GFEEDs with a nominal 30 milliampere trip level for "piping systems in classified areas, those areas requiring a high degree of maintenance, or which may be exposed to physical abuse or corrosive atmospheres".

4.0 TUBE AND FITTINGS ASSEMBLY AND INSTALLATION INSTRUCTIONS

- 4.1 **Component Inspection:** Prior to assembly, a careful examination of the Tube and Fittings must be performed. All components must be checked for correct style, size, material, seal, and length. Inspect the Fitting and sealing surfaces for burrs, nicks, corrosion, missing seal or other imperfections. Do NOT use any component that displays any signs of nonconformance.
- 4.2 **Tube and Fitting Assembly:** Do not assemble a Parker Fitting with a Tube that is not specifically listed by Parker for that Fitting, unless authorized in writing by the engineering manager or chief engineer of the appropriate Parker division. The Tube must meet the requirements specified to the Fitting. The Parker published instructions must be followed for assembling the Fittings to a Tube. These instructions are provided in the Parker Fitting catalog for the specific Parker Fitting being used, or by calling 1-800-CPARKER, or at www.parker.com.
- 4.3 **Related Accessories:** Do not preset or flange Parker Fitting components using another manufacturer's equipment or procedures unless authorized in writing by the engineering manager or chief engineer of the appropriate Parker division. Tube, Fitting component and tooling must be checked for correct style, size and material. Operation and maintenance of Related Accessories must be in accordance with the operation manual for the designated Accessory.
- 4.4 **Securement:** In many applications, it may be necessary to restrain, protect, or guide the Tube to protect it from damage by unnecessary flexing, pressure surges, vibration, and contact with other mechanical components. Care must be taken to insure such restraints do not introduce additional stress or wear points.
- 4.5 **Proper Connection of Ports:** Proper physical installation of the Tube Assembly requires a correctly installed port connection insuring that no torque is transferred to the Tube when the Fittings are being tightened or otherwise during use.
- 4.6 **External Damage:** Proper installation is not complete without insuring that tensile loads, side loads, flattening, potential abrasion, thread damage or damage to sealing surfaces are corrected or eliminated. See instruction 2.10.
- 4.7 **System Checkout:** All air entrapment must be eliminated and the system pressurized to the maximum system pressure (at or below the Tube Assembly maximum working pressure) and checked for proper function and freedom from leaks. Personnel must stay out of potential hazardous areas while testing and using.
- 4.8 **Routing:** The Tube Assembly should be routed in such a manner so if a failure does occur, the escaping media will not cause personal injury or property damage. In addition, if fluid media comes in contact with hot surfaces, open flame or sparks, a fire or explosion may occur. See section 2.4.

5.0 HOSE AND FITTING MAINTENANCE AND REPLACEMENT INSTRUCTIONS

- 5.1 Even with proper selection and installation, Hose life may be significantly reduced without a continuing maintenance program. The severity of the application, risk potential from a possible Hose failure, and experience with any Hose failures in the application or in similar applications should determine the frequency of the inspection and the replacement for the Products so that Products are replaced before any failure occurs. Certain products require maintenance and inspection per industry requirements. Failure to adhere to these requirements may lead to premature failure. A maintenance program must be established and followed by the user and, at minimum, must include instructions 5.2 through 5.7
- 5.2 **Visual Inspection Hose/Fitting:** Any of the following conditions require immediate shut down and replacement of the Hose Assembly:
 - Fitting slippage on Hose;
 - Damaged, cracked, cut or abraded cover (any reinforcement exposed);
 - Hard, stiff, heat cracked, or charred Hose;
 - Cracked, damaged, or badly corroded Fittings;
 - Leaks at Fitting or in Hose;
 - Kinked, crushed, flattened or twisted Hose; and
 - Blistered, soft, degraded, or loose cover.
- 5.3 **Visual Inspection All Other:** The following items must be tightened, repaired, corrected or replaced as required:
 - Leaking port conditions;
 - Excess dirt buildup;
 - Worn clamps, guards or shields; and
 - System fluid level, fluid type, and any air entrapment.
- 5.4 **Functional Test:** Operate the system at maximum operating pressure and check for possible malfunctions and leaks. Personnel must avoid potential hazardous areas while testing and using the system. See section 2.2.
- 5.5 **Replacement Intervals:** Hose assemblies and elastomeric seals used on Hose

Fittings and adapters will eventually age, harden, wear and deteriorate under thermal cycling and compression set. Hose Assemblies and elastomeric seals should be inspected and replaced at specific replacement intervals, based on previous service life, government or industry recommendations, or when failures could result in unacceptable downtime, damage, or injury risk. See section 1.2. Hose and Fittings may be subjected to internal mechanical and/or chemical wear from the conveying fluid and may fail without warning. The user must determine the product life under such circumstances by testing. Also see section 2.5.

- 5.6 **Hose Inspection and Failure:** Hydraulic power is accomplished by utilizing high pressure fluids to transfer energy and do work. Hoses, Fittings and Hose Assemblies all contribute to this by transmitting fluids at high pressures. Fluids under pressure can be dangerous and potentially lethal and, therefore, extreme caution must be exercised when working with fluids under pressure and handling the Hoses transporting the fluids. From time to time, Hose Assemblies will fail if they are not replaced at proper time intervals. Usually these failures are the result of some form of misapplication, abuse, wear or failure to perform proper maintenance. When Hoses fail, generally the high pressure fluids inside escape in a stream which may or may not be visible to the user. Under no circumstances should the user attempt to locate the leak by "feeling" with their hands or any other part of their body. High pressure fluids can and will penetrate the skin and cause severe tissue damage and possibly loss of limb. Even seemingly minor hydraulic fluid injection injuries must be treated immediately by a physician with knowledge of the tissue damaging properties of hydraulic fluid. If a Hose failure occurs, immediately shut down the equipment and leave the area until pressure has been completely released from the Hose Assembly. Simply shutting down the hydraulic pump may or may not eliminate the pressure in the Hose Assembly. Many times check valves, etc., are employed in a system and can cause pressure to remain in a Hose Assembly even when pumps or equipment are not operating. Tiny holes in the Hose, commonly known as pinholes, can eject small, dangerously powerful but hard to see streams of hydraulic fluid. It may take several minutes or even hours for the pressure to be relieved so that the Hose Assembly may be examined safely. Once the pressure has been reduced to zero, the Hose Assembly may be taken off the equipment and examined. It must always be replaced if a failure has occurred. Never attempt to patch or repair a Hose Assembly that has failed. Consult the nearest Parker distributor or the appropriate Parker division for Hose Assembly replacement information. Never touch or examine a failed Hose Assembly unless it is obvious that the Hose no longer contains fluid under pressure. The high pressure fluid is extremely dangerous and can cause serious and potentially fatal injury.
- 5.7 **Elastomeric seals:** Elastomeric seals will eventually age, harden, wear and deteriorate under thermal cycling and compression set. Elastomeric seals should be inspected and replaced.
- 5.8 **Refrigerant gases:** Special care should be taken when working with refrigeration systems. Sudden escape of refrigerant gases can cause blindness if the escaping gases contact the eye and can cause freezing or other severe injuries if it contacts any other portion of the body.
- 5.9 **Compressed natural gas (CNG):** Parker CNG Hose Assemblies should be tested after installation and before use, and at least on a monthly basis per instructions provided on the Hose Assembly tag. The recommended procedure is to pressurize the Hose and check for leaks and to visually inspect the Hose for damage and to perform an electrical resistance test. Caution: Matches, candles, open flame or other sources of ignition shall not be used for Hose inspection. Leak check solutions should be rinsed off after use.

6.0 HOSE STORAGE

- 6.1 **Age Control:** Hose and Hose Assemblies must be stored in a manner that facilitates age control and first-in and first-out usage based on manufacturing date of the Hose and Hose Assemblies. Unless otherwise specified by the manufacturer or defined by local laws and regulations:
 - 6.1.1 The shelf life of rubber hose in bulk form or hose made from two or more materials is 28 quarters (7 years) from the date of manufacture, with an extension of 12 quarters (3 years), if stored in accordance with ISO 2230;
 - 6.1.2 The shelf life of thermoplastic and polytetrafluoroethylene hose is considered to be unlimited;
 - 6.1.3 Hose assemblies that pass visual inspection and proof test shall not be stored for longer than 2 years.
 - 6.1.4 **Storage:** Stored Hose and Hose Assemblies must not be subjected to damage that could reduce their expected service life and must be placed in a cool, dark and dry area with the ends capped. Stored Hose and Hose Assemblies must not be exposed to temperature extremes, ozone, oils, corrosive liquids or fumes, solvents, high humidity, rodents, insects, ultraviolet light, electromagnetic fields or radioactive materials.

PARKER-HANNIFIN CORPORATION

OFFER OF SALE

1. **Definitions.** As used herein, the following terms have the meanings indicated.

"Buyer" means any customer receiving a Quote for Products.

"Buyer's Property" means any tools, patterns, plans, drawings, designs, specifications materials, equipment, or information furnished by Buyer, or which are or become Buyer's property.

"Confidential Information" means any technical, commercial, or other proprietary information of Seller, including, without limitation, pricing, technical drawings or prints and/or part lists, which has been or will be disclosed, delivered, or made available, whether directly or indirectly, to Buyer.

"Goods" means any tangible part, system or component to be supplied by Seller.

"Intellectual Property Rights" means any patents, trademarks, copyrights, trade dress, trade secrets or similar rights.

"Products" means the Goods, Services and/or Software as described in a Quote.

"Quote" means the offer or proposal made by Seller to Buyer for the supply of Products.

"Seller" means Parker-Hannifin Corporation, including all divisions, subsidiaries and businesses selling Products under these Terms.

"Seller's IP" means patents, trademarks, copyrights, or other intellectual property rights relating to the Products, including without limitation, names, designs, images, drawings, models, software, templates, information, any improvements or creations or other intellectual property developed prior to or during the relationship contemplated herein.

"Services" means any services to be provided by Seller.

"Software" means any software related to the Goods, whether embedded or separately downloaded.

"Special Tooling" means equipment acquired by Seller or otherwise owned by Seller necessary to manufacture Goods, including but not limited to tools, jigs, and fixtures.

"Terms" means the terms and conditions of this Offer of Sale.

2. **Terms.** All sales of Products by Seller will be governed by, and are expressly conditioned upon Buyer's assent to, these Terms. These Terms are incorporated into any Quote provided by Seller to Buyer. Buyer's order for any Products whether communicated to Seller verbally, in writing, by electronic data interface or other electronic commerce, shall constitute acceptance of these Terms. Seller objects to any contrary or additional terms or conditions of Buyer. Reference in Seller's order acknowledgement to Buyer's purchase order or purchase order number shall in no way constitute an acceptance of any of Buyer's terms or conditions of purchase. Any Quote made by Seller to Buyer shall be considered a firm and definite offer and shall not be deemed to be otherwise despite any language on the face of the Quote. Seller reserves all rights to accept or reject any purported acceptance by Buyer to Seller's Quote if such purported acceptance attempts to vary the terms of the Quote. If Seller ships Products after Buyer issues an acceptance to the Quote, any additional or different terms proposed by Buyer will not become part of the parties' business relationship unless agreed to in a writing that is signed by an authorized representative of Seller, excluding email correspondence. If the transaction proceeds without such agreement on the part of Seller, the business relationship will be governed solely by these Terms and the specific terms in Seller's Quote.

3. **Price; Payment.** The Products set forth in the Quote are offered for sale at the prices indicated in the Quote. Unless otherwise specifically stated in the Quote, prices are valid for thirty (30) days and do not include any sales, use, or other taxes or duties. Seller reserves the right to modify prices for any reason and at any time by giving ten (10) days prior written notice. Unless otherwise specified by Seller, all prices are F.C.A. Seller's facility (INCOTERMS 2020). All sales are contingent upon credit approval and full payment for all purchases is due thirty (30) days from the date of invoice (or such date as may be specified in the Quote). Under any circumstances, Buyer may not withhold or suspend payment of any amounts due and payable as a deduction, set-off or recoupment of any amount, claim or dispute with Seller. Unpaid invoices beyond the specified payment date incur interest at the rate of 1.5% per month or the maximum allowable rate under applicable law. Seller reserves the right to require advance

payment or provision of securities for first and subsequent deliveries if there is any doubt, in Seller's sole determination, regarding the Buyer's creditworthiness or for other business reasons. If the requested advance payment or securities are not provided to Seller's satisfaction, Seller reserves the right to suspend performance or reject the purchase order, in whole or in part, without prejudice to Seller's other rights or remedies, including the right to full compensation. Seller may revoke or shorten any payment periods previously granted in Seller's sole determination. The rights and remedies herein reserved to Seller are cumulative and in addition to any other or further rights and remedies available at law or in equity. No waiver by Seller of any breach by Buyer of any provision of these terms will constitute a waiver by Seller of any other breach of such provision.

4. **Shipment; Delivery; Title and Risk of Loss.** All delivery dates are approximate, and Seller is not responsible for damages or additional costs resulting from any delay. All deliveries are subject to our ability to procure materials from our suppliers. Regardless of the manner of shipment, delivery occurs and title and risk of loss or damage pass to Buyer, upon placement of the Products with the carrier at Seller's facility. Unless otherwise agreed prior to shipment and for domestic delivery locations only, Seller will select and arrange, at Buyer's sole expense, the carrier and means of delivery. When Seller selects and arranges the carrier and means of delivery, freight and insurance costs for shipment to the designated delivery location will be prepaid by Seller and added as a separate line item to the invoice. Buyer shall be responsible for any additional shipping charges incurred by Seller due to Buyer's acts or omissions. Buyer shall not return or repackage any Products without the prior written authorization from Seller, and any return shall be at the sole cost and expense of Buyer.

5. **Warranty.** The warranty for the Products is as follows: (i) Goods are warranted against defects in material or workmanship for a period of twelve (12) months from the date of delivery or 2,000 hours of use, whichever occurs first; (ii) Services shall be performed in accordance with generally accepted practices and using the degree of care and skill that is ordinarily exercised and customary in the field to which the Services pertain and are warranted for a period of six (6) months from the date of completion of the Services; and (iii) Software is only warranted to perform in accordance with applicable specifications provided by Seller to Buyer for ninety (90) days from the date of delivery or, when downloaded by a Buyer or end-user, from the date of the initial download. All prices are based upon the exclusive limited warranty stated above, and upon the following disclaimer: **EXEMPTION CLAUSE; DISCLAIMER OF WARRANTY, CONDITIONS, REPRESENTATIONS: THIS WARRANTY IS THE SOLE AND ENTIRE WARRANTY, CONDITION, AND REPRESENTATION, PERTAINING TO PRODUCTS. SELLER DISCLAIMS ALL OTHER WARRANTIES, CONDITIONS, AND REPRESENTATIONS, WHETHER STATUTORY, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THOSE RELATING TO DESIGN, NONINFRINGEMENT, MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE. SELLER DOES NOT WARRANT THAT THE SOFTWARE IS ERROR-FREE OR FAULT-TOLERANT, OR THAT BUYER'S USE THEREOF WILL BE SECURE OR UNINTERRUPTED, UNLESS OTHERWISE AUTHORIZED IN WRITING BY SELLER, THE SOFTWARE SHALL NOT BE USED IN CONNECTION WITH HAZARDOUS OR HIGH-RISK ACTIVITIES OR ENVIRONMENTS. EXCEPT AS EXPRESSLY STATED HEREIN, ALL PRODUCTS ARE PROVIDED "AS IS".**

6. **Claims; Commencement of Actions.** Buyer shall promptly inspect all Products upon receipt. No claims for shortages will be allowed unless reported to Seller within ten (10) days of delivery. Buyer shall notify Seller of any alleged breach of warranty within thirty (30) days after the date the non-conformance is or should have been discovered by Buyer. Any claim or action against Seller based upon breach of contract or any other theory, including tort, negligence, or otherwise must be commenced within twelve (12) months from the date of the alleged breach or other alleged event, without regard to the date of discovery.

7. LIMITATION OF LIABILITY. IN THE EVENT OF A BREACH OF WARRANTY, SELLER WILL, AT ITS OPTION, REPAIR OR REPLACE THE NON-CONFORMING PRODUCTS, RE-PERFORM THE SERVICES, OR REFUND THE PURCHASE PRICE PAID WITHIN A REASONABLE PERIOD OF TIME. IN NO EVENT IS SELLER LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES INCLUDING ANY LOSS OF REVENUE OR PROFITS, WHETHER BASED IN CONTRACT, TORT OR OTHER LEGAL THEORY. IN NO EVENT SHALL SELLER'S LIABILITY UNDER ANY CLAIM MADE BY BUYER EXCEED THE PURCHASE PRICE PAID FOR THE PRODUCTS.

8. Confidential Information. Buyer acknowledges and agrees that Confidential Information has been and will be received in confidence and will remain the property of Seller. Buyer further agrees that it will not use Seller's Confidential Information for any purpose other than for the benefit of Seller and shall return all such Confidential Information to Seller within thirty (30) days upon request.

9. Loss to Buyer's Property. Buyer's Property will be considered obsolete and may be destroyed by Seller after two (2) consecutive years have elapsed without Buyer ordering the Products manufactured using Buyer's Property.

Also, Seller shall not be responsible for any loss or damage to Buyer's Property while it is in Seller's possession or control.

10. Special Tooling. Seller may impose a tooling charge for any Special Tooling. Special Tooling shall be and remain Seller's property. In no event will Buyer acquire any interest in the Special Tooling, even if such Special Tooling has been specially converted or adapted for manufacture of Goods for Buyer and notwithstanding any charges paid by Buyer. Unless otherwise agreed, Seller has the right to alter, discard or otherwise dispose of any Special Tooling or other property owned by Seller in its sole determination at any time.

11. Security Interest. To secure payment of all sums due from Buyer, Seller retains a security interest in all Products delivered to Buyer and, Buyer's acceptance of these Terms is deemed to be a Security Agreement under the Uniform Commercial Code. Buyer authorizes Seller as its attorney to execute and file on Buyer's behalf all documents Seller deems necessary to perfect Seller's security interest.

12. User Responsibility. Buyer, through its own analysis and testing, is solely responsible for making the final selection of the Products and assuring that all performance, endurance, maintenance, safety and warning requirements of the application of the Products are met. Buyer must analyze all aspects of the application and follow applicable industry standards, specifications, and any technical information provided with the Quote or the Products, such as Seller's instructions, guides and specifications. If Seller provides options of or for Products based upon data or specifications provided by Buyer, Buyer is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the Products. In the event Buyer is not the end-user of the Products, Buyer will ensure such end-user complies with this paragraph.

13. Use of Products, Indemnity by Buyer. Buyer shall comply with all instructions, guides and specifications provided by Seller with the Quote or the Products. If Buyer uses or resells the Products in any way prohibited by Seller's instructions, guides or specifications, or Buyer otherwise fails to comply with Seller's instructions, guides and specifications, Buyer acknowledges that any such use, resale, or non-compliance is at Buyer's sole risk. Further, Buyer shall indemnify, defend, and hold Seller harmless from any losses, claims, liabilities, damages, lawsuits, judgments and costs (including attorney fees and defense costs), whether for personal injury, property damage, intellectual property infringement or any other claim, arising out of or in connection with: (a) improper selection, design, specification, application, or any misuse of Products; (b) any act or omission, negligent or otherwise, of Buyer; (c) Seller's use of Buyer's Property; (d) damage to the Products from an external cause, repair or attempted repair by anyone other than Seller, failure to follow instructions, guides and specifications provided by Seller, use with goods not provided by Seller, or opening, modifying, deconstructing, tampering with or repackaging the Products; or (e) Buyer's failure to comply with these Terms,

including any legal or administrative proceedings, collection efforts, or other actions arising from or relating to such failure to comply. Seller shall not indemnify Buyer under any circumstance except as otherwise provided in these Terms.

14. Cancellations and Changes. Buyer may not cancel or modify, including but not limited to movement of delivery dates for the Products, any order for any reason except with Seller's written consent and upon terms that will indemnify, defend and hold Seller harmless against all direct, incidental and consequential loss or damage and any additional expense. Seller, at any time, may change features, specifications, designs and availability of Products.

15. Assignment. Buyer may not assign its rights or obligations without the prior written consent of Seller.

16. Force Majeure. Seller is not liable for delay or failure to perform any of its obligations by reason of any events or circumstances beyond its reasonable control. Such circumstances include without limitation: accidents, labor disputes or stoppages, government acts or orders, acts of nature, pandemics, epidemics, other widespread illness, or public health emergency, cyber related disruptions, cyber-attacks, ransomware sabotage, delays or failures in delivery from carriers or suppliers, shortages of materials, sudden increases in the price of raw material or components, shutdowns or slowdowns affecting the supply of raw materials or components, or the transportation thereof, oil shortages or oil price increases, energy crisis, energy or fuel interruption, war (whether declared or not) or the serious threat of same, riots, rebellions, acts of terrorism, embargoes, fire or any reason whether similar to the foregoing or otherwise. Seller will resume performance as soon as practicable after the event of force majeure has been removed. All delivery dates affected by an event of force majeure shall be tolled for the duration of such event of force majeure and rescheduled for mutually agreed dates as soon as practicable after the event of force majeure ceases to exist. The right to allocate capacity is in the Seller's sole discretion. An event of force majeure shall not include financial distress, insolvency, bankruptcy, or other similar conditions affecting one of the parties, affiliates and/or subcontractors. An event of force majeure in the meaning of these Terms means any circumstances beyond Seller's control that permanently or temporarily hinders performance, even where that circumstance was already foreseen. Buyer shall not be entitled to cancel any orders following its claim of an event of force majeure.

17. Waiver and Severability. Failure to enforce any provision of these Terms will not invalidate that provision; nor will any such failure prejudice either party's right to enforce that provision in the future. Invalidity of any provision of these Terms shall not invalidate any other provision herein and, the remaining provisions will remain in full force and effect.

18. Duration. Unless otherwise stated in the Quote, any agreement governed by or arising from these Terms shall: (a) be for an initial duration of one (1) year; and (b) shall automatically renew for successive one-year terms unless terminated by Buyer with at least 180-days written notice to Seller or if Seller terminates the agreement pursuant to Section 19 of these Terms.

19. Termination. Seller may, without liability to Buyer, terminate any agreement governed by or arising from these Terms for any reason and at any time by giving Buyer thirty (30) days prior written notice. Seller may immediately terminate, in writing, if Buyer: (a) breaches any provision of these Terms, (b) becomes or is deemed insolvent, (c) appoints or has appointed a trustee, receiver or custodian for all or any part of Buyer's property, (d) files a petition for relief in bankruptcy on its own behalf, or one is filed against Buyer by a third party, (e) makes an assignment for the benefit of creditors; or (f) dissolves its business or liquidates all or a majority of its assets.

20. Ownership of Rights. Buyer agrees that (a) Seller (and/or its affiliates) owns or is the valid licensee of Seller's IP and (b) the furnishing of information, related documents or other materials by Seller to Buyer does not grant or transfer any ownership interest or license in or to Seller's IP to Buyer, unless expressly agreed in writing. Without limiting the foregoing, Seller retains ownership of all Software supplied to Buyer. In no event shall Buyer obtain any greater right in and to the Software than a right in a license limited to the use thereof and subject to compliance with any other terms provided with the Software. Buyer further agrees that it will not, directly or

through intermediaries, reverse engineer, decompile, or disassemble any Software (including firmware) comprising or contained within a Product, except and only to the extent that such activity may be expressly permitted, either by applicable law or, in the case of open source software, the applicable open source license.

21. Indemnity for Infringement of Intellectual Property Rights. Seller is not liable for infringement of any Intellectual Property Rights except as provided in this Section. Seller will defend at its expense and will pay the cost of any settlement or damages awarded in an action brought against Buyer based on a third-party claim that one or more of the Products infringes the Intellectual Property Rights of a third party in the country of delivery of the Products by Seller to Buyer. Seller's obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of any such claim, and Seller having sole control over the defense of the claim including all negotiations for settlement or compromise. If one or more Products is subject to such a claim, Seller may, at its sole expense and option, procure for Buyer the right to continue using the Products, replace or modify the Products to render them non-infringing, or offer to accept return of the Products and refund the purchase price less a reasonable allowance for depreciation. Seller has no obligation or liability for any claim of infringement: (i) arising from information provided by Buyer (including Seller's use of Buyer's Property); or (ii) directed to any Products for which the designs are specified in whole or part by Buyer; or (iii) resulting from the modification, combination or use in a system of any Products. The foregoing provisions of this Section constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for claims of infringement of Intellectual Property Rights.

22. Governing Law. These Terms, the terms of any Quote, and the sale and delivery of all Products are deemed to have taken place in, and shall be governed and construed in accordance with, the laws of the State of Ohio, as applicable to contracts executed and wholly performed therein and without regard to conflicts of laws principles. Buyer irrevocably agrees and consents to the exclusive jurisdiction and venue of the courts of Cuyahoga County, Ohio with respect to any dispute, controversy or claim arising out of or relating to the sale and delivery of the Products.

23. Entire Agreement. These Terms, along with the terms set forth in the Quote, forms the entire agreement between the Buyer and Seller and constitutes the final, complete and exclusive expression of the terms of sale and purchase. In the event of a conflict between any term set forth in the Quote and these Terms, the terms set forth in the Quote shall prevail. All prior or contemporaneous written or oral agreements or negotiations with respect to the subject matter shall have no effect. No modification to these Terms will be binding on Seller unless agreed to in a writing that is signed by an authorized representative of Seller, excluding email correspondence, 'clickwrap' or other purported electronic assent to different or additional terms. Sections 2-25 of these Terms shall survive termination or cancellation of any agreement governed by or arising from these Terms.

24. No 'Wrap' Agreements/No Authority to Bind. Seller's clicking any buttons or any similar action, such as clicking "I Agree" or "Confirm," to utilize Buyer's software or webpage for the placement of orders, is NOT an agreement to Buyer's Terms and Conditions. **NO EMPLOYEE, AGENT OR REPRESENTATIVE OF SELLER HAS THE AUTHORITY TO BIND SELLER BY THE ACT OF CLICKING ANY BUTTON OR SIMILAR ACTION ON BUYER'S WEBSITE OR PORTAL.**

25. Compliance with Laws. Buyer agrees to comply with all applicable laws, regulations, and industry and professional standards, including those of the United States of America, and the country or countries in which Buyer may operate, including without limitation the U.S. Foreign Corrupt Practices Act ("FCPA"), the U.S. Anti-Kickback Act ("Anti-Kickback Act"), U.S. and E.U. export control and sanctions laws ("Export Laws"), the U.S. Food Drug and Cosmetic Act ("FDCA"), and the rules and regulations promulgated by the U.S. Food and Drug Administration ("FDA"), each as currently amended. Buyer agrees to indemnify, defend, and hold harmless Seller from the consequences of any violation of such laws, regulations and standards by Buyer, its employees or agents. Buyer represents that it is familiar with all applicable provisions of the FCPA, the Anti-Kickback Act, Export Laws, the FDCA and the FDA and certifies that Buyer will adhere to the requirements thereof and not take any action that would make Seller violate such requirements. Buyer represents and agrees that Buyer will not make any

payment or give anything of value, directly or indirectly, to any governmental official, foreign political party or official thereof, candidate for foreign political office, or commercial entity or person, for any improper purpose, including the purpose of influencing such person to purchase Products or otherwise benefit the business of Seller. Buyer further represents and agrees that it will not receive, use, service, transfer or ship any Products from Seller in a manner or for a purpose that violates Export Laws or would cause Seller to be in violation of Export Laws. Buyer agrees to promptly and reliably provide Seller all requested information or documents, including end-user statements and other written assurances, concerning Buyer's ongoing compliance with Export Law.

Parker's Motion & Control Product Groups

At Parker, we're guided by a relentless drive to help our customers become more productive and achieve higher levels of profitability by engineering the best systems for their requirements. It means looking at customer applications from many angles to find new ways to create value. Whatever the motion and control technology need, Parker has the experience, breadth of product and global reach to consistently deliver. No company knows more about motion and control technology than Parker.

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Aerospace

Key Markets

Aftermarket services
Commercial transports
Engines
General & business aviation
Helicopters
Launch vehicles
Military aircraft
Missiles
Power generation
Regional transports
Unmanned aerial vehicles

Key Products

Control systems & actuation products
Engine systems & components
Fluid conveyance systems & components
Fluid metering, delivery & atomization devices
Fuel systems & components
Fuel tank inerting systems
Hydraulic systems & components
Thermal management
Wheels & brakes



Automation

Key Markets

Alternative energy
Conveyor & material handling
Factory automation
Food & beverage
Life sciences & medical
Machine tools
Packaging machinery
Paper machinery
Plastics machinery
Primary metals
Safety & security
Semiconductor & electronics
Transportation & automotive

Key Products

AC/DC drives & systems
Air preparation
Electric actuators, gantry robots & slides
Human machine interfaces
Inverters
Manifolds
Miniature fluidics
Pneumatic actuators & grippers
Pneumatic valves & controls
Rotary actuators
Stepper motors, servo motors, drives & controls
Structural extrusions
Vacuum generators, cups & sensors



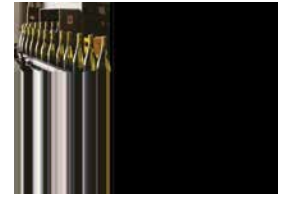
Climate & Industrial Controls

Key Markets

Agriculture
Air conditioning
Construction Machinery
Food & beverage
Industrial machinery
Life sciences
Oil & gas
Precision cooling
Process
Refrigeration
Transportation

Key Products

Accumulators
Advanced actuators
CO2 controls
Electronic controllers
Filter driers
Hand shut-off valves
Heat exchangers
Hose & fittings
Pressure regulating valves
Refrigerant distributors
Safety relief valves
Smart pumps
Solenoid valves
Thermostatic expansion valves



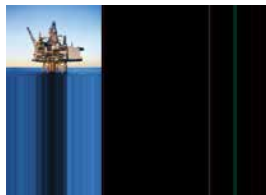
Filtration

Key Markets

Aerospace
Food & beverage
Industrial plant & equipment
Life sciences
Marine
Mobile equipment
Oil & gas
Power generation & renewable energy
Process
Transportation
Water Purification

Key Products

Analytical gas generators
Compressed air filters & dryers
Engine air, coolant, fuel & oil filtration systems
Fluid condition monitoring systems
Hydraulic & lubrication filters
Hydrogen, nitrogen & zero air generators
Instrumentation filters
Membrane & fiber filters
Microfiltration
Sterile air filtration
Water desalination & purification filters & systems



Fluid Connectors

Key Markets

Aerial lift
Agriculture
Bulk chemical handling
Construction machinery
Food & beverage
Fuel & gas delivery
Industrial machinery
Life sciences
Marine
Mining
Mobile
Oil & gas
Renewable energy
Transportation

Key Products

Check valves
Connectors for low pressure fluid conveyance
Deep sea umbilicals
Diagnostic equipment
Hose couplings
Industrial hose
Mooring systems & power cables
PTFE hose & tubing
Quick couplings
Rubber & thermoplastic hose
Tube fittings & adapters
Tubing & plastic fittings



Hydraulics

Key Markets

Aerial lift
Agriculture
Alternative energy
Construction machinery
Forestry
Industrial machinery
Machine tools
Marine
Material handling
Mining
Oil & gas
Power generation
Refuse vehicles
Renewable energy
Truck hydraulics
Turf equipment

Key Products

Accumulators
Cartridge valves
Electrohydraulic actuators
Human machine interfaces
Hybrid drives
Hydraulic cylinders
Hydraulic motors & pumps
Hydraulic systems
Hydraulic valves & controls
Hydrostatic steering
Integrated hydraulic circuits
Power take-offs
Power units
Rotary actuators
Sensors



Instrumentation

Key Markets

Alternative fuels
Biopharmaceuticals
Chemical & refining
Food & beverage
Marine & shipbuilding
Medical & dental
Microelectronics
Nuclear Power
Offshore oil exploration
Oil & gas
Pharmaceuticals
Power generation
Pulp & paper
Steel
Water/wastewater

Key Products

Analytical Instruments
Analytical sample conditioning products & systems
Chemical injection fittings & valves
Fluoropolymer chemical delivery fittings, valves & pumps
High purity gas delivery fittings, valves, regulators & digital flow controllers
Industrial mass flow meters/controllers
Permanent no-weld tube fittings
Precision industrial regulators & flow controllers
Process control double block & bleeds
Process control fittings, valves, regulators & manifold valves



Seal

Key Markets

Aerospace
Chemical processing
Consumer
Fluid power
General industrial
Information technology
Life sciences
Microelectronics
Military
Oil & gas
Power generation
Renewable energy
Telecommunications
Transportation

Key Products

Dynamic seals
Elastomeric o-rings
Electro-medical instrument design & assembly
EMI shielding
Extruded & precision-cut, fabricated elastomeric seals
High temperature metal seals
Homogeneous & inserted elastomeric shapes
Medical device fabrication & assembly
Metal & plastic retained composite seals
Shielded optical windows
Silicone tubing & extrusions
Thermal management
Vibration dampening



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