

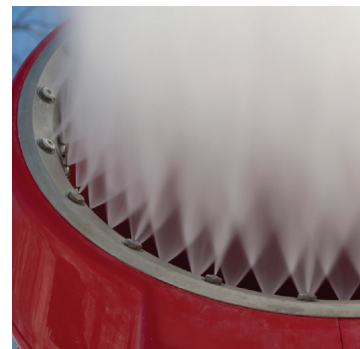


aerospace  
climate control  
electromechanical  
filtration  
fluid & gas handling  
hydraulics  
pneumatics  
process control  
sealing & shielding



# Brass, Composite and Thermoplastic Fittings and Valves

Catalog 3501E USA | October 2009



ENGINEERING YOUR SUCCESS.





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**Parker Hannifin Corporation**  
Fluid Connectors Group  
Otsego, Michigan



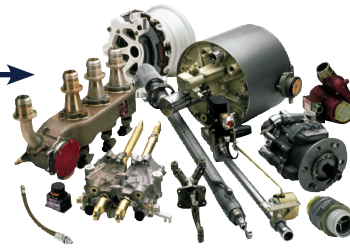
## Aerospace

### Key Markets

- Commercial transports
- Military aircraft
- Regional transports
- Aircraft engines
- Business and general aviation

### Key Products

- Flight control systems and components
- Hydraulic systems and components
- Fuel systems and components
- Pneumatic systems and components
- Inert oxygen generating systems
- Fluid metering, delivery and atomization devices
- Wheels and brakes
- Couplings, fittings, hoses and tubes



## Automation

### Key Markets

- Factory automation
- Transportation and automotive
- Life sciences and medical
- Machine tools
- Semiconductor and electronics

### Key Products

- Pneumatic motion and control
- Air preparation
- Vacuum controls and sensors
- Electromechanical stepper and servo motors, drives, and controls
- Human machine interface
- Electric actuators, gantry robots, slides and linear motors
- Structural extrusion



## Climate & Industrial Controls

### Key Markets

- Refrigeration and air conditioning
- Transportation/mobile
- Process
- Industrial machinery
- Medical/life sciences
- Fuel cells
- Precision cooling

### Key Products

- Pressure regulators
- Check, ball and service valves
- Value-added systems
- Thermostatic and expansion valves
- Electronic controllers
- Contaminant controls
- Heating/air conditioning hose
- Gerotors



## Filtration

### Key Markets

- Industrial machinery
- Process
- Mobile
- Marine
- Oil & gas
- Power generation and energy
- Transportation
- Food and beverage

### Key Products

- Hydraulic, lubrication and coolant filters
- Process, chemical, water and microfiltration filters
- Compressed air and gas purification filters
- Condition monitoring
- Analytical gas generators
- Nitrogen, hydrogen and zero air generators
- Engine air, fuel, oil filtration and systems



## Fluid Connectors

### Key Markets

- Construction machinery
- Agriculture
- Transportation
- Mobile
- Industrial machinery
- Oil & gas

### Key Products

- Rubber and thermoplastic hose
- Industrial hose
- Tube fittings and adaptors
- Tubing and plastic fittings
- Brass fittings and valves
- Hose couplings
- Quick disconnects



## Hydraulics

### Key Markets

- Construction machinery
- Agriculture
- Industrial machinery
- Oil & gas
- Truck hydraulics
- Power generation and energy

### Key Products

- Hydraulic cylinders and accumulators
- Hydraulic valves and controls
- Hydraulic motors and pumps
- Power take-offs
- Hydraulic systems



## Instrumentation

### Key Markets

- Power generation
- Oil & gas
- Petrochemical
- Microelectronics
- Biopharmaceutical

### Key Products

- Medium/high pressure fittings and valves
- Instrumentation fittings, valves, manifolds and regulators
- High purity fittings, valves and regulators
- Fluoropolymer fittings, valves, pumps and regulators
- Analytical systems



## Seal

### Key Markets

- Transportation
- Energy, oil & gas
- Semiconductor
- Aerospace
- Fluid power
- Life sciences
- Telecommunications

### Key Products

- Elastomeric O-rings
- Homogeneous and inserted elastomeric shapes and diaphragms
- Metal and plastic retained composite seals
- Polymeric and plastic dynamic seals
- Rubber and plastic boots/bellows
- Extruded and precision-cut/fabricated elastomeric seals
- Thermoplastic engineered seals





# Parker Fluid Connectors Group

## North American Divisions & Distribution Service Centers

**Your complete source** for quality tube fittings, hose & hose fittings, brass & composite fittings, quick-disconnect couplings, valves and assembly tools, locally available from a worldwide network of authorized distributors.

### **Fittings:**

Available in inch and metric sizes covering SAE, BSP, DIN, GAZ, JIS and ISO thread configurations, manufactured from steel, stainless steel, brass, aluminum, nylon and thermoplastic.

### **Hose, Tubing and Bundles:**

Available in a wide variety of sizes and materials including rubber, wire-reinforced, thermoplastic, hybrid and custom compounds.

### **Worldwide Availability:**

Parker operates Fluid Connectors manufacturing locations and sales offices throughout North America, South America, Europe and Asia-Pacific.

**For information,** call toll free...

**1-800-C-PARKER  
(1-800-272-7537)**

## **North American Divisions**

### **Energy Products Division**

Stafford, TX  
phone 281 566 4500  
fax 281 530 5353

### **Fluid System Connectors Division**

Otsego, MI  
phone 269 694 9411  
fax 269 694 4614

### **Hose Products Division**

Wickliffe, OH  
phone 440 943 5700  
fax 440 943 3129

### **Industrial Hose Division**

Strongsville, OH  
phone 440 268 2120  
fax 440 268 2230

### **Parflex Division**

Ravenna, OH  
phone 330 296 2871  
fax 330 296 8433

### **Quick Coupling Division**

Minneapolis, MN  
phone 763 544 7781  
fax 763 544 3418

### **Tube Fittings Division**

Columbus, OH  
phone 614 279 7070  
fax 614 279 7685

## **Distribution Service Centers**

### **Buena Park, CA**

phone 714 522 8840  
fax 714 994 1183

### **Conyers, GA**

phone 770 929 0330  
fax 770 929 0230

### **Lakeville, MN**

phone 952 469 5000  
fax 952 469 5729

### **Louisville, KY**

phone 502 937 1322  
fax 502 937 4180

### **Portland, OR**

phone 503 283 1020  
fax 503 283 2201

### **Toledo, OH**

phone 419 878 7000  
fax 419 878 7001  
fax 419 878 7420  
(FCG Kit Operations)

### **Canada**

#### **Grimsby, ONT**

phone 905 945 2274  
fax 905 945 3945  
(Contact Grimsby for other Service Center locations.)





**Compression Style, Pneumatic**

Compression, Compress-Align®, Poly-Tite, Hi-Duty, Metru-Lok™

**A****Push-to-Connect, Pneumatic**

Prestolok Metal, Prestolok Composite, PrestoWeld

**B****Integrated Fittings**

Compact Flow Control Valves, Flow Controls Miniature, Flow Controls Swivel Outlet, Flow Controls Plug-In, Flow Controls In-Line, Compact Metal Flow Control Valves, Flow Control Check Valves, Flow Control Blocking Valves, Slow Start Flow Control Valve, Threshold Sensor

**C****Thermoplastic Fittings and Valves**

TrueSeal™ Thermoplastic Push-In Fittings, Fast &amp; Tite® Thermoplastic Fittings, Par-Barb® Thermoplastic Fittings

**D****Flare Fittings**

45° Flare, Inverted Flare, Access Valves

**E****Adapters**

Pipe, Metric Adapters, ISO Port Adapters, Garden Hose

**F****Barbed Fittings**

Dubl-Barb®, Hose Barbs

**G****Compression Style, Transportation**

NTA®, Transmission Fittings, Air Brake, Air Brake Hose Ends, Vibra-Lok

**H****Push-to-Connect, Transportation**

Prestomatic, PTC, Metric Prestomatic

**I****Cartridges & Manifolds**

SAE Cartridges, Manifolds

**J****Valves**

Ball Valves, Plug Valves, Needle Valves, Truck Valves, Lanyard Valve, Shutoff Cocks, Drain Cocks

**K****Tube Fabricating Equipment**

Tube Cutters, Benders, Flaring Tools, Deburring Tools

**L****Accessories**

Bins, Bags, Copper Tubing

**M****General Technical****N****Numerical Index**

Numerical Index, Parker Safety Guide, Offer of Sale

**O**





Automotive

Industrial  
Equip.

Marine

Transportation  
Water &

Plumbing



Agriculture



Forestry



Military



Oil &amp; Gas

Power  
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## Notes

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# Compression Style Pneumatic



## **Compression**

*Thermoplastic /  
Soft Metal Tubing  
Economical  
UL Listed*



## **Compress-Align®**

*Pre-assembled  
Captive Sleeve  
Two piece*



## **Parker Metru-Lok™**

*NPT, BSPT, BSPP,  
Metric Threads  
Captive Sleeve  
Metric Tubing*



## **Poly-Tite**

*Built-in Tube Support  
Captive Sleeve  
Knurled Nut*



## **Hi-Duty**




*Higher Pressure Rating  
Two Piece Design  
Easy Assembly*



A




























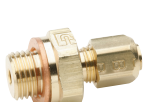



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# Compression Fittings

A

MATERIALS OF CONSTRUCTION	
FITTINGS:	BRASS
NUTS:	BRASS
SLEEVES:	BRASS OR ACETAL

NOMENCLATURE	
EXAMPLE: 169C-6-4	ATTRIBUTE:
1	FORGING
2 (NOT SHOWN)	EXTRUSION (2)
69	MALE ELBOW
C	COMPRESSION
6	3/8 TUBE O.D.
4	1/4 PIPE THREAD

PRESSURE RANGE @73°F		
PSI	TUBE O.D. (IN.)	TUBE WALL (IN.)
400	1/8	.030
400	9/16	.030
300	1/4	.030
300	5/16	.032
200	3/8	.032
200	1/2	.032
150	5/8	.035
100	3/4	.035
75	7/8	.035

APPLICABLE TUBE	
TUBE MATERIAL:	COPPER, ALUMINUM, THERMOPLASTIC TUBING
TUBE O.D.:	1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 7/8

SPECIFICATIONS	
OPERATING FLUID:	WATER, AIR, INERT AND NON-COMBUSTIBLE GASSES COMPATIBLE WITH MATERIALS OF CONSTRUCTION
TEMPERATURE RANGES:	FROM -65° TO +250°F.
NOTE:	FOR OTHER TYPES OF FLUIDS OR GASSES, PLEASE CONSULT FACTORY



No flaring, soldering or other preparation of tubing necessary to assemble. Listed with Underwriter's Laboratories for flammable liquid. Compression fittings meet functional requirements of SAE J-512.

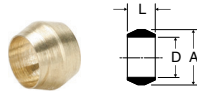
## Assembly Instructions

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

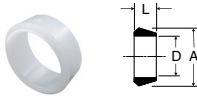
FITTING SIZE	TUBE SIZE	TURNS REQUIRED TO SEAL FROM HAND-TIGHT	
		60C WITH SOFT METAL TUBING	60PT WITH THERMOPLASTIC TUBING
2	1/8	1-1/4	—
3	3/16	1-1/4	—
4	1/4	1-1/4	2
5	5/16	1-1/4	2
6	3/8	2-1/4	2
8	1/2	2-1/4	2
10	5/8	2-1/4	2
12	3/4	2-1/4	2
14	7/8	2-1/4	—

**A****Sleeve 60C**

REF. SAE 060115



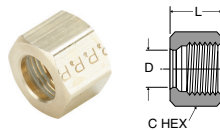
PART NO.	TUBE SIZE	A	D	L
60C-2	1/8	.187	.130	.19
60C-3	3/16	.266	.192	.22
60C-4	1/4	.344	.255	.25
60C-5	5/16	.406	.318	.25
60C-6	3/8	.469	.382	.25
60C-7	7/16	.531	.444	.31
60C-8	1/2	.594	.507	.38
60C-10	5/8	.719	.632	.38
60C-12	3/4	.875	.758	.44
60C-14	7/8	1.000	.883	.41

**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
60PT-12	3/4	.062	.931	.760	.25

**Nut 61C**

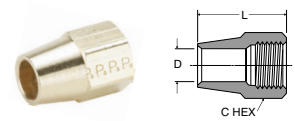
REF. SAE 060110



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

**Long Nut 61CL**

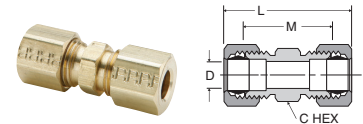
REF. SAE 060111



PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	D	L
61CL-4	1/4	7/16-24	1/2	.255	.75
61CL-5	5/16	1/2-24	9/16	.318	.84
61CL-6	3/8	9/16-24	5/8	.382	.97
61CL-8	1/2	11/16-20	13/16	.507	1.06
61CL-10	5/8	13/16-18	15/16	.632	1.19
61CL-12	3/4	1-18	1-3/16	.758	1.38

**Union 62C**

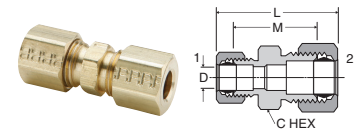
REF. SAE 060101 BA



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**

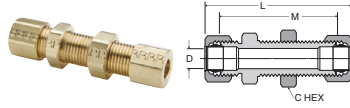
REF. SAE 060101 BA



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



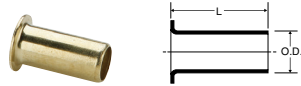
## Bulkhead Union 62CBH



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

## Brass Insert 63PT

(For industrial grade plastic tubing)



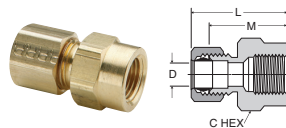
PART NO.	TUBE O.D.	TUBE WALL	L	O.D.
63PT-2-16	1/8	.016	.46	.080
63PT-2-23	1/8	.023	.45	.073
63PT-2-32	1/8	.032	.31	.061
63PT-3-25	3/16	.025	.45	.135
63PT-3-40	3/16	.040	.52	.095
63PT-4-40	1/4	.040	.50	.163
63PT-4-62	1/4	.062	.33	.110
63PT-5-40	5/16	.040	.50	.232
63PT-5-62	5/16	.062	.53	.187
63PT-6-62	3/8	.062	.56	.250
63PT-8-62	1/2	.062	.72	.370
63PT-10-62	5/8	.062	.72	.483

For plastic tubing

Acetal Sleeve 60PT and Brass Insert 63PT converts standard compression fittings for use with industrial grades of thermoplastic tubing.

## Female Connector 66C

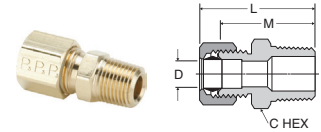
REF. SAE 060103 BA



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

## Male Connector 68C

REF. SAE 060102 BA

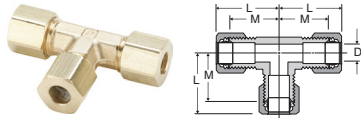


PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	C HEX	L	M	FLOW DIA. D
68C-2-1	1/8	1/16	5/16-24	11/32	.99	.78	.095
68C-2-2	1/8	1/8	5/16-24	7/16	.97	.77	.094
68C-3-1	3/16	1/16	3/8-24	3/8	1.08	.84	.125
68C-3-2	3/16	1/8	3/8-24	7/16	1.08	.84	.125
68C-3-4	3/16	1/4	3/8-24	9/16	1.27	1.03	.125
68C-4-2	1/4	1/8	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

A

## Union Tee 164C-264C

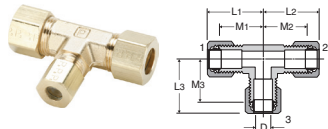
REF. SAE 060401 BA



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
264C-4	1/4	7/16-24	.84	.60	.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

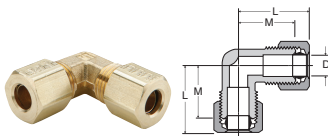
REF. SAE 060401 BA



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

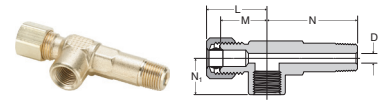
## Union Elbow 165C-265C

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	.88	.61	.188
265C-4	1/4	7/16-24	.84	.60	.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

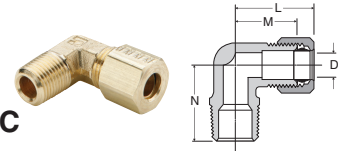
## Compression Gage Tee 168C



PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	L	M	N	N1	FLOW DIA. D
168C-4-2	1/4	1/8	7/16-24	.96	.72	1.41	.56	.188

## Male Elbow 169C-269C

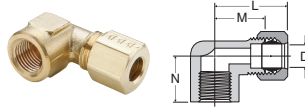
REF. SAE 060202 BA



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	.84	.61	.69	.125
269C-3-2	3/16	1/8	3/8-24	.84	.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	.86	.61	.74	.188
269C-4-2	1/4	1/8	7/16-24	.84	.60	.73	.188
169C-4-4	1/4	1/4	7/16-24	.86	.62	.94	.188
269C-4-4	1/4	1/4	7/16-24	.84	.60	.79	.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
269C-5-2	5/16	1/8	1/2-24	.86	.60	.73	.250
169C-5-4	5/16	1/4	1/2-24	.95	.71	.93	.250
269C-5-4	5/16	1/4	1/2-24	.93	.67	.82	.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
269C-6-2	3/8	1/8	9/16-24	.97	.69	.75	.220
169C-6-4	3/8	1/4	9/16-24	1.03	.74	.93	.312
269C-6-4	3/8	1/4	9/16-24	1.01	.73	.92	.312
169C-6-6	3/8	3/8	9/16-24	1.03	.75	1.00	.312
269C-6-6	3/8	3/8	9/16-24	1.12	.84	.97	.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

## Female Elbow 170C-270C

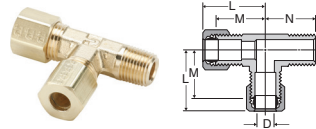
REF. SAE 060203 BA



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	.93	.69	.56	.188
270C-4-2	1/4	1/8	7/16-24	.91	.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	.560

## Male Run Tee 171C

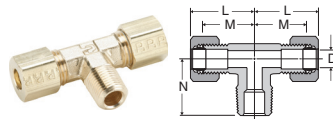
REF. SAE 060424 BA



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

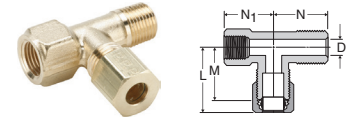
## Male Branch Tee 172C

REF. SAE 060425 BA



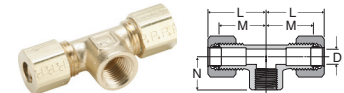
PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	L	M	N	FLOW DIA. D
172C-2-2	1/8	1/8	5/16-24	.82	.61	.67	.094
172C-3-2	3/16	1/8	3/8-24	.86	.61	.67	.125
172C-4-2	1/4	1/8	7/16-24	.86	.61	.74	.188
172C-4-4	1/4	1/4	7/16-24	.93	.69	.92	.188
172C-6-2	3/8	1/8	9/16-24	1.03	.75	.75	.234
172C-6-4	3/8	1/4	9/16-24	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

## 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

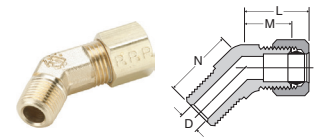
## Female Branch Tee 177C



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



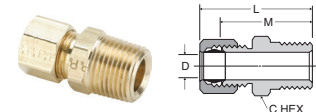
PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	L	M	N	FLOW DIA. D
179C-4-2	1/4	1/8	7/16-24	.90	.66	.56	.188
179C-4-4	1/4	1/4	7/16-24	.80	.56	.84	.188
179C-6-2	3/8	1/8	9/16-24	.90	.63	.65	.234
179C-6-4	3/8	1/4	9/16-24	.90	.63	.84	.312
179C-6-6	3/8	3/8	9/16-24	.97	.75	.95	.312
179C-8-6	1/2	3/8	11/16-24	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	0.84	.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

MATERIALS OF CONSTRUCTION	
FITTINGS:	BRASS
NUTS:	BRASS

NOMENCLATURE	
EXAMPLE: 269CA-6-4	ATTRIBUTE:
1 (NOT SHOWN)	FORGING (1)
2	EXTRUSION
69	MALE ELBOW
CA	COMPRESS-ALIGN
6	3/8 TUBE O.D.
4	1/4 PIPE THREAD

PRESSURE RANGE		
PSI	TUBE O.D. (IN.)	TUBE WALL (IN.)
2800	1/8	.030
1900	3/16	.030
1400	1/4	.030
1200	5/16	.032
1000	3/8	.032
750	1/2	.032
650	5/8	.035
550	3/4	.035
450	7/8	.035
350	1	.035

APPLICABLE TUBE	
TUBE MATERIAL:	COPPER, ALUMINUM, TFE, FEA, PFA, THERMOPLASTIC TUBING
TUBE O.D.:	1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 1

SPECIFICATIONS	
OPERATING FLUID:	WATER, AIR, INERT AND NON-COMBUSTIBLE GASSES COMPATIBLE WITH MATERIALS OF CONSTRUCTION
TEMPERATURE RANGES:	FROM -65° TO +250°F.
NOTE:	FOR OTHER TYPES OF FLUIDS OR GASSES, PLEASE CONSULT FACTORY

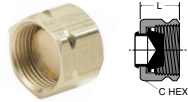


No flaring, soldering or other preparation of tubing is necessary. Preassembled fitting, with captive sleeve. Sleeve is always oriented for correct installation, visible for inspection before and after installation.

## Assembly Instructions

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

## Plug 59CA



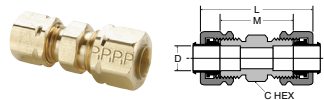
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	L
59CA-4	1/4	7/16-24	1/2	.40
59CA-6	3/8	9/16-24	5/8	.45
59CA-8	1/2	11/16-20	13/16	.50

## Nut and Sleeve Assembly 61CA



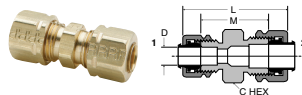
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	D	L
61CA-2	1/8	5/16-24	3/8	.130	.36
61CA-3	3/16	3/8-24	7/16	.194	.38
61CA-4	1/4	7/16-24	1/2	.255	.40
61CA-5	5/16	1/2-24	9/16	.318	.45
61CA-6	3/8	9/16-24	5/8	.382	.45
61CA-8	1/2	11/16-20	13/16	.507	.50
61CA-10	5/8	13/16-18	15/16	.632	.53
61CA-12	3/4	1-18	1-3/16	.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



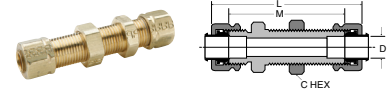
PART NO.	SIZE	STRAIGHT THREAD	C HEX	L	M	FLOW DIA. D
62CA-2	1/8	5/16-24	5/16	1.12	.64	.094
62CA-3	3/16	3/8-24	3/8	1.19	.72	.125
62CA-4	1/4	7/16-24	7/16	1.26	.79	.188
62CA-5	5/16	1/2-24	1/2	1.32	.85	.250
62CA-6	3/8	9/16-24	9/16	1.42	.97	.312
62CA-8	1/2	11/16-20	11/16	1.53	1.08	.406
62CA-10	5/8	13/16-18	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

## 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

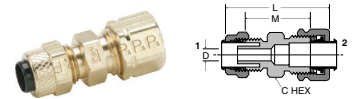
## Bulkhead Union 62CABH



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

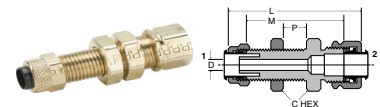
(Poly-Tite to Compress-Align)



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 BKH 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

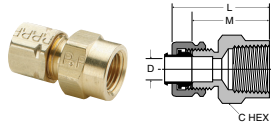
## Brass Insert 63PT

(For industrial grade plastic tubing)



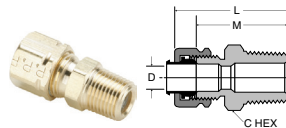
PART NO.	TUBE SIZE	TUBE WALL	L	O.D.
63PT-2-16	1/8	.016	.46	.080
63PT-2-23	1/8	.023	.45	.073
63PT-2-32	1/8	.032	.31	.061
63PT-3-25	3/16	.025	.45	.135
63PT-3-40	3/16	.040	.52	.095
63PT-4-40	1/4	.040	.50	.163
63PT-4-62	1/4	.062	.33	.110
63PT-5-40	5/16	.040	.50	.232
63PT-5-62	5/16	.062	.53	.187
63PT-6-62	3/8	.062	.56	.250
63PT-8-62	1/2	.062	.72	.370
63PT-10-62	5/8	.062	.72	.483

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### Female Connector 66CA

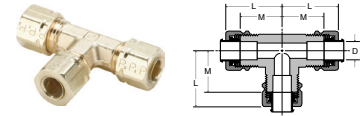
PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	C HEX	L	M	FLOW DIA. D
66CA-2-2	1/8	1/8	5/16-24	9/16	.99	.75	.094
66CA-3-2	3/16	1/8	3/8-24	9/16	1.01	.78	.125
66CA-3-4	3/16	1/4	3/8-24	11/16	1.19	.96	.125
66CA-4-2	1/4	1/8	7/16-24	9/16	1.02	.78	.188
66CA-4-4	1/4	1/4	7/16-24	11/16	1.24	1.00	.188
66CA-5-2	5/16	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



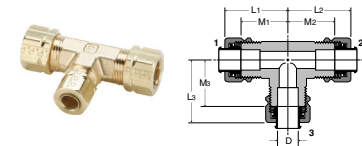
### Male Connector 68CA

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	11/32	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

### Union Tee 164CA-264CA

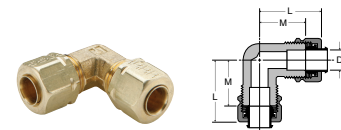


PART NO.	TUBE SIZE	STRAIGHT THREAD	L	M	FLOW DIA. D
164CA-2	1/8	5/16-24	.84	.61	.093
264CA-3	3/16	3/8-24	.83	.60	.125
164CA-4	1/4	7/16-24	.84	.63	.188
264CA-4	1/4	7/16-24	.84	.60	.188
164CA-5	5/16	1/2-24	.95	.71	.250
164CA-6	3/8	9/16-24	.96	.74	.312
164CA-8	1/2	11/16-20	1.15	.93	.406
164CA-10	5/8	13/16-18	1.32	1.08	.500
164CA-12	3/4	1-18	1.56	1.17	.562



### Union Tee 164CA combination sizes

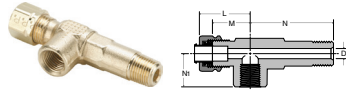
PART NO.	1 TUBE SIZE	2 TUBE SIZE	3 TUBE SIZE	L1	L2	L3	M1	M2	M3	FLOW DIA. D
164CA-6-4-4	3/8	1/4	1/4	.97	.96	.96	.75	.72	.72	.188
164CA-6-6-4	3/8	3/8	1/4	.97	.97	.96	.75	.75	.72	.188
164CA-8-8-6	1/2	1/2	3/8	1.17	1.17	1.10	.94	.94	.88	.312



### Union Elbow 165CA-265CA

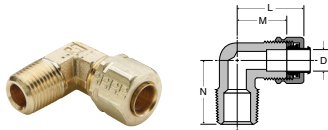
PART NO.	TUBE SIZE	STRAIGHT THREAD	L	M	FLOW DIA. D
165CA-2	1/8	5/16-24	.84	.61	.094
165CA-3	3/16	3/8-24	.84	.61	.125
165CA-4	1/4	7/16-24	.84	.61	.188
265CA-4	1/4	7/16-24	.84	.60	.188
165CA-5	5/16	1/2-24	.94	.71	.250
165CA-6	3/8	9/16-24	.96	.74	.312
165CA-8	1/2	11/16-20	1.15	.93	.406
165CA-10	5/8	13/16-18	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

## Gage Tee 168CA



PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	L	M	N	N1	FLOW DIA. D
168CA-4-2	1/4	1/8	7/16-24	.96	.72	1.41	.56	.188

## Male Elbow 169CA-269CA



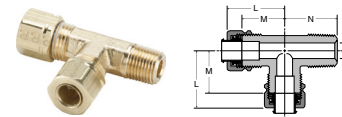
PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	L	M	N	FLOW DIA. D
169CA-2-1	1/8	1/16	5/16-24	.84	.60	.67	.095
269CA-2-2	1/8	1/8	5/16-24	.84	.60	.67	.094
169CA-3-1	3/16	1/16	3/8-24	.84	.61	.67	.126
169CA-3-2	3/16	1/8	3/8-24	.84	.61	.69	.125
269CA-3-2	3/16	1/8	3/8-24	.83	.60	.67	.125
169CA-3-4	3/16	1/4	3/8-24	.87	.64	.93	.125
169CA-4-2	1/4	1/8	7/16-24	.84	.61	.74	.188
269CA-4-2	1/4	1/8	7/16-24	.84	.60	.73	.188
169CA-4-4	1/4	1/4	7/16-24	.86	.62	.94	.188
269CA-4-4	1/4	1/4	7/16-24	.84	.60	.79	.188
169CA-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
269CA-5-2	5/16	1/8	1/2-24	.84	.60	.73	.250
169CA-5-4	5/16	1/4	1/2-24	.94	.71	.93	.250
269CA-5-4	5/16	1/4	1/2-24	.91	.67	.82	.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
269CA-6-2	3/8	1/8	9/16-24	.96	.69	.75	.220
169CA-6-4	3/8	1/4	9/16-24	.96	.74	.93	.312
269CA-6-4	3/8	1/4	9/16-24	.95	.73	.92	.312
169CA-6-6	3/8	3/8	9/16-24	.97	.75	1.00	.312
269CA-6-6	3/8	3/8	9/16-24	1.06	.84	.97	.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

## Female Elbow 170CA-270CA



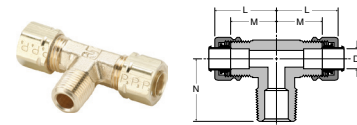
PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	L	M	N	FLOW DIA. D
170CA-2-2	1/8	1/8	5/16-24	.93	.69	.56	.094
170CA-3-2	3/16	1/8	3/8-24	.98	.69	.56	.125
170CA-4-2	1/4	1/8	7/16-24	.98	.69	.56	.188
270CA-4-2	1/4	1/8	7/16-24	.91	.67	.54	.188
170CA-4-4	1/4	1/4	7/16-24	1.02	.78	.67	.188
170CA-6-4	3/8	1/4	9/16-24	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	.560

## 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

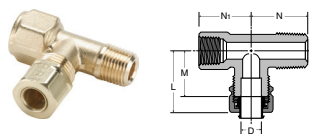
## Male Branch Tee 172CA



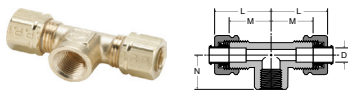
PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	L	M	N	FLOW DIA. D
172CA-2-2	1/8	1/8	5/16-24	.84	.61	.67	.093
172CA-3-2	3/16	1/8	3/8-24	.83	.61	.67	.125
172CA-4-2	1/4	1/8	7/16-24	.84	.61	.74	.188
172CA-4-4	1/4	1/4	7/16-24	.93	.69	.92	.188
172CA-6-2	3/8	1/8	9/16-24	.97	.75	.75	.234
172CA-6-4	3/8	1/4	9/16-24	.99	.77	.92	.312
172CA-6-6	3/8	3/8	9/16-24	1.03	.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



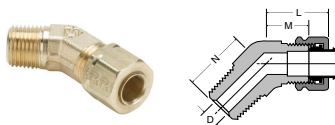
A

**Adapter Tee 176CA**

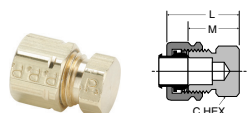
PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	L	M	N	N1	FLOW DIA. D
176CA-4-2	1/4	1/8	7/16-24	.92	.69	.75	.66	.188

**Female Branch Tee 177CA**

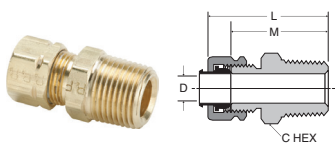
PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	L	M	N	FLOW DIA. D
177CA-4-2	1/4	1/8	7/16-24	.86	.63	.53	.188

**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



# Metru-Lok™

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MATERIALS OF CONSTRUCTION	
FITTING:	BRASS
NUT:	BRASS
FERRULE:	BRASS

SPECIFICATIONS	
TEMPERATURE RANGE:	FROM -65° TO +250°F
TUBE MATERIAL:	COPPER, ALUMINUM, THERMOPLASTIC TUBING
TUBE O.D.(MM):	4,6,8,10,12,14,16,18,20,22
OPERATING FLUID:	WATER, AIR, INERT AND NON-COMBUSTIBLE GASSES COMPATIBLE WITH MATERIALS OF CONSTRUCTION
NOTE:	FOR OTHER TYPES OF FLUIDS OR GASSES, PLEASE CONSULT FACTORY

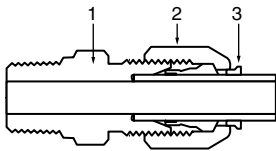
## Assembly Instructions

1. Cut the tube square.
2. De-burr (copper tube).
3. Insert the tube through the nut and ferrule until it bottoms.
4. Finger tighten the nut.
5. Wrench tighten the nut one turn, or one and one half turns, according to size.



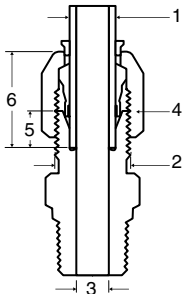
A one piece, ready to use, bite type fitting. Preassembled fitting with captive ferrule. No presetting of the ferrule is necessary. Visible ferrule allows for visual inspection before and after assembly.

## Technical Features



MATERIAL			WORKING TEMP.	WORKING PRESSURE* DEPENDING ON TUBE O.D.								
1	2	3		TUBE O.D. MM PSI	4	6	8	10	12	14	16 TO 20	800
BODY BRASS	NUT BRASS	FERRULE BRASS	FROM -65° TO +250° F		2600	2600	1800	1500	1300	1000		

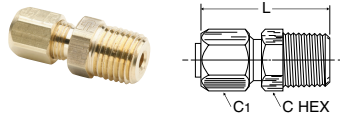
## Fitting Dimensions



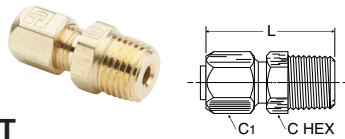
1 TUBE O.D. MM	2 METRIC STRAIGHT THREAD	3 INSIDE DIAMETER MM	4 HEX OF NUT MM	5 TUBE ENTRY BODY MM	6 TUBE ENTRY COMPL. FITTING MM	WRENCH TIGHTENING IN TURNS
4	M8X1	2	10	4	12	1 1/2
6	M10X1	4	12	5	13	1 1/2
8	M12X1	6	14	6	14	1 1/2
10	M14X1	8	17	6	14	1 1/2
12	M16X1	10	19	7	15	1 1/2
14	M18X1	12	22	8	16	1 1/2
16	M22X1.50	14	27	8	16	1
18	M24X1.50	16	30	9	21	1
20	M26X1.50	18	32	9	21	1
22	M28X1.50	20	36	10	22	1

**A**

### FBMB Male Connector NPT



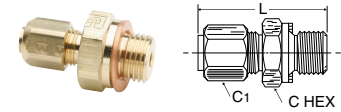
PART NO.	TUBE SIZE	NPT THREAD	C HEX	C1	L
FBMB4-1/16	4	1/16	8	10	26
FBMB4-1/8	4	1/8	11	10	27
FBMB6-1/8	6	1/8	11	12	28
FBMB6-1/4	6	1/4	14	12	32
FBMB8-1/8	8	1/8	12	14	29
FBMB8-1/4	8	1/4	14	14	33
FBMB10-1/4	10	1/4	14	17	33
FBMB10-3/8	10	3/8	19	17	34
FBMB12-3/8	12	3/8	19	19	35
FBMB12-1/2	12	1/2	22	19	40
FBMB14-3/8	14	3/8	19	22	36
FBMB14-1/2	14	1/2	22	22	41
FBMB16-1/2	16	1/2	22	27	40
FBMB18-1/2	18	1/2	24	30	46
FBMB20-3/4	20	3/4	27	32	47
FBMB22-3/4	22	3/4	30	36	49



### F3BMB Male Connector BSPT

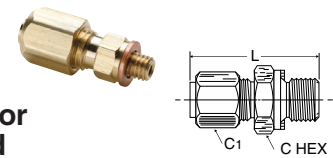
PART NO.	TUBE SIZE	BSPT THREAD	C HEX	C1	L
F3BMB4-1/8	4	1/8	10	10	24.0
F3BMB6-1/8	6	1/8	11	12	26.0
F3BMB6-1/4	6	1/4	14	12	29.5
F3BMB8-1/8	8	1/8	12	14	27.5
F3BMB8-1/4	8	1/4	14	14	30.5
F3BMB10-1/4	10	1/4	14	17	30.5
F3BMB10-3/8	10	3/8	17	17	31.0
F3BMB12-3/8	12	3/8	17	19	32.4
F3BMB12-1/2	12	1/2	22	19	35.5
F3BMB14-3/8	14	3/8	19	22	33.2
F3BMB14-1/2	14	1/2	22	22	36.2
F3BMB16-3/8	16	3/8	22	27	34.2
F3BMB16-1/2	16	1/2	22	27	36.4
F3BMB18-1/2	18	1/2	24	30	42.3
F3BMB20-3/4	20	3/4	27	32	43.0
F3BMB22-3/4	22	3/4	30	36	45.0

### F4BMB Male Connector BSPP



PART NO.	TUBE SIZE	BSPP THREAD	C HEX	C1	L
F4BMB4-1/8	4	1/8	14	10	29
F4BMB6-1/8	6	1/8	14	12	30
F4BMB6-1/4	6	1/4	19	12	32
F4BMB8-1/4	8	1/4	19	14	33
F4BMB10-1/4	10	1/4	19	17	33

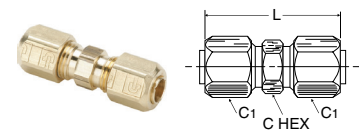
These parts are supplied with a copper seal.



### F8BMB Male Connector Metric Straight Thread

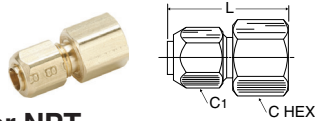
PART NO.	TUBE SIZE	MM THREAD	C HEX	C1	L
F8BMB4M5	4	M5X0.8	8	10	24
F8BMB12M16	12	M16X1.5	22	19	37
F8BMB12M22	12	M22X1.5	27	19	40
F8BMB14M16	14	M16X1.5	22	22	38
F8BMB14M22	14	M22X1.5	27	22	41
F8BMB16M16	16	M16X1.5	22	27	37
F8BMB16M22	16	M22X1.5	27	27	40

These parts are supplied with a copper seal.

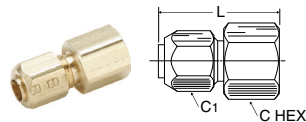


### HBMB Equal Union

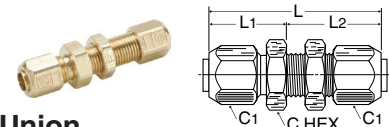
PART NO.	TUBE SIZE	C HEX	C1	L
HBMB4	4	8	10	31
HBMB6	6	10	12	34
HBMB8	8	12	14	37
HBMB10	10	14	17	37
HBMB12	12	17	19	39
HBMB14	14	19	22	41
HBMB16	16	22	27	41
HBMB18	18	24	30	51
HBMB20	20	27	32	51
HBMB22	22	30	36	54

**GBMB Female Connector NPT**

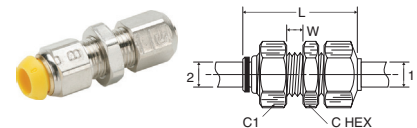
PART NO.	TUBE SIZE	NPT THREAD	C HEX	C1	L
GBMB6-1/8	6	1/8	14	12	29
GBMB6-1/4	6	1/4	19	12	32
GBMB8-1/8	8	1/8	14	14	30
GBMB8-1/4	8	1/4	19	14	33
GBMB10-1/4	10	1/4	19	17	33
GBMB10-3/8	10	3/8	22	17	35
GBMB12-3/8	12	3/8	22	19	36
GBMB12-1/2	12	1/2	27	19	38
GBMB14-3/8	14	3/8	22	22	37
GBMB14-1/2	14	1/2	27	27	39
GBMB16-1/2	16	1/2	27	27	39

**G4BMB Female Connector BSPP**

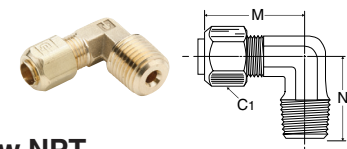
PART NO.	TUBE SIZE	BSPP THREAD	C HEX	C1	L
G4BMB4-1/8	4	1/8	14	10	26
G4BMB6-1/8	6	1/8	14	12	27
G4BMB6-1/4	6	1/4	19	12	29
G4BMB8-1/8	8	1/8	14	14	28
G4BMB8-1/4	8	1/4	19	14	30
G4BMB10-1/4	10	1/4	19	17	30
G4BMB10-3/8	10	3/8	22	17	32
G4BMB12-3/8	12	3/8	22	19	33
G4BMB12-1/2	12	1/2	27	19	36
G4BMB14-3/8	14	3/8	22	22	34
G4BMB14-1/2	14	1/2	27	22	37
G4BMB16-1/2	14	1/2	27	27	37
G4BMB18-1/2	18	1/2	27	30	41

**WBMB Bulkhead Union**

PART NO.	TUBE SIZE	MM THREAD	C HEX	C1	L	L1	L2	BULKHEAD HOLE DIA.
WBMB4	4	M8X1	12	10	47	19	28	8MM
WBMB6	6	M10X1	14	12	49	20	29	10MM
WBMB8	8	M12X1	16	14	52	21	31	12MM
WBMB10	10	M14X1	19	17	53	22	31	14MM
WBMB12	12	M16X1	22	19	56	24	32	16MM
WBMB14	14	M18X1	24	22	60	26	34	18MM
WBMB16	16	M22X1.5	27	27	58	25	33	22MM
WBMB18	18	M24X1.5	30	30	70	31	39	24MM
WBMB20	20	M26X1.5	32	32	70	31	39	26MM
WBMB22	22	M28X1.5	36	36	74	33	41	28MM

**WBMPB Mixed Bulkhead Union**

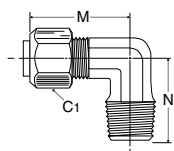
PART NO.	TUBE SIZE 1	TUBE SIZE 2	MM THREAD	C1	C HEX	L	W	BULKHEAD HOLE DIA.
WBMPB4	4	4	M8X1	10	12	34	5	8MM
WBMPB6	6	6	M10X1	12	12	37	5	10MM
WBMPB8	8	8	M12X1	14	16	39	5	12MM
WBMPB10	10	10	M14X1	17	19	45	5	14MM
WBMPB12	12	12	M16X1	19	22	49	5	16MM
WBMPB14	14	14	M18X1	22	22	52	7	18MM

**CBMB 90° Male Elbow NPT**

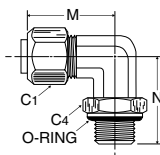
PART NO.	TUBE SIZE	NPT THREAD	C1	M	N
CBMB4-1/8	4	1/8	10	22	17
CBMB6-1/8	6	1/8	12	24	18
CBMB6-1/4	6	1/4	12	24	22
CBMB8-1/8	8	1/8	14	26	19
CBMB8-1/4	8	1/4	14	26	23
CBMB10-1/4	10	1/4	17	27	24
CBMB10-3/8	10	3/8	17	28	25
CBMB12-3/8	12	3/8	19	32	27
CBMB12-1/2	12	1/2	19	32	31
CBMB14-3/8	14	3/8	22	32	26
CBMB14-1/2	14	1/2	22	33	31
CBMB16-1/2	16	1/2	27	35	34
CBMB18-1/2	18	1/2	30	41	35
CBMB20-3/4	20	3/4	32	45	40
CBMB22-3/4	22	3/4	36	46	40



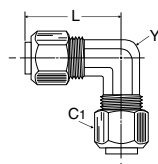
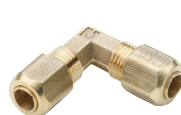
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**C3BMB 90° Male Elbow BSPT**

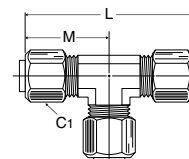
PART NO.	TUBE SIZE	BSPT THREAD	C1	M	N
C3BMB4-1/8	4	1/8	10	22	17.0
C3BMB6-1/8	6	1/8	12	24	17.0
C3BMB6-1/4	6	1/4	12	24	20.5
C3BMB8-1/8	8	1/8	14	26	18.0
C3BMB8-1/4	8	1/4	14	26	21.5
C3BMB10-1/4	10	1/4	17	27	22.5
C3BMB10-3/8	10	3/8	17	28	22.1
C3BMB12-3/8	12	3/8	19	32	25.1
C3BMB12-1/2	12	1/2	19	32	27.8
C3BMB14-3/8	14	3/8	22	32	24.1
C3BMB14-1/2	14	1/2	22	32	27.3
C3BMB16-1/2	16	1/2	27	35	30.8
C3BMB18-1/2	18	1/2	30	41	31.8
C3BMB22-3/4	22	3/4	36	46	36.5

**C8BMB 90° Adjustable Male Elbow Metric Straight Thread**

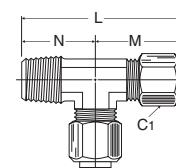
PART NO.	TUBE SIZE	MM THREAD	C1	C4	M	N
C8BMB12M22	12	M22X1.5	19	30	35	39
C8BMB14M16	14	M16X1.5	22	22	32	33
C8BMB14M22	14	M22X1.5	22	30	35	39
C8BMB16M16	16	M16X1.5	24	22	35	36
C8BMB16M22	16	M22X1.5	27	30	36	39

**EBMB 90° Union Elbow**

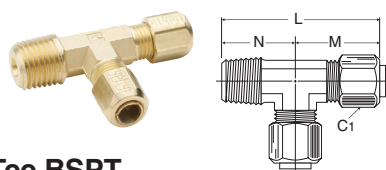
PART NO.	TUBE SIZE	C1	L	Y
EBMB4	4	10	22	7
EBMB6	6	12	24	8
EBMB8	8	14	26	10
EBMB10	10	17	27	12
EBMB12	12	19	32	14
EBMB14	14	22	32	16
EBMB16	16	27	35	18
EBMB18	18	30	41	20
EBMB20	20	32	45	24

**JBMB Union Tee**

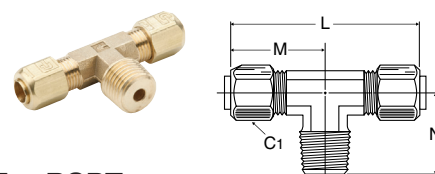
PART NO.	TUBE SIZE	C1	L	M
JBMB4	4	10	47	23.5
JBMB6	6	12	48	24.0
JBMB8	8	14	52	26.0
JBMB10	10	17	54	27.0
JBMB12	12	19	63	31.5
JBMB14	14	22	63	31.5
JBMB16	16	27	69	34.5
JBMB18	18	30	82	41.0
JBMB20	20	32	89	44.5
JBMB22	22	36	91	45.5

**RBMB Male Run Tee NPT**

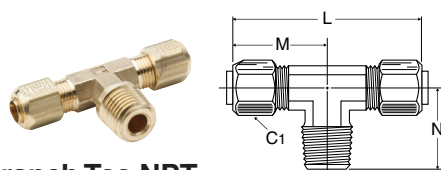
PART NO.	TUBE SIZE	NPT THREAD	C1	L	M	N
RBMB6-1/4	6	1/4	12	48	25	23
RBMB8-1/8	8	1/8	14	45	26	19
RBMB8-1/4	8	1/4	14	49	26	23
RBMB10-1/4	10	1/4	17	51	27	24
RBMB10-3/8	10	3/8	17	52	28	24
RBMB12-3/8	12	3/8	19	59	32	27
RBMB12-1/2	12	1/2	19	63	32	31
RBMB14-3/8	14	3/8	22	60	33	28
RBMB14-1/2	14	1/2	22	64	33	31
RBMB16-1/2	16	1/2	22	69	35	34

**R3BMB Male Run Tee BSPT**

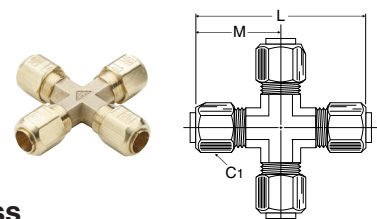
PART NO.	TUBE SIZE	BSPT THREAD	C1	L	M	N
R3BMB6-1/8	6	1/8	12	42	24	18
R3BMB6-1/4	6	1/4	12	48	25	23
R3BMB8-1/8	8	1/8	14	45	26	19
R3BMB8-1/4	8	1/4	14	49	26	23
R3BMB10-1/4	10	1/4	17	51	27	24
R3BMB10-3/8	10	3/8	17	52	28	24
R3BMB12-3/8	12	3/8	19	59	32	27
R3BMB12-1/2	12	1/2	19	63	32	31
R3BMB14-3/8	14	3/8	22	59	32	28
R3BMB14-1/2	14	1/2	22	63	33	31
R3BMB16-1/2	16	1/2	27	69	35	34

**S3BMB Male Branch Tee BSPT**

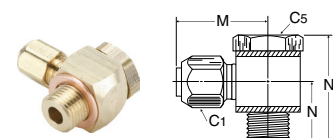
PART NO.	TUBE SIZE	BSPT THREAD	C1	L	M	N
S3BMB6-1/8	6	1/8	12	48	24.0	18
S3BMB6-1/4	6	1/4	12	49	24.5	23
S3BMB8-1/8	8	1/8	14	52	26.0	19
S3BMB8-1/4	8	1/4	14	52	26.0	23
S3BMB10-1/4	10	1/4	17	54	27.0	24
S3BMB10-3/8	10	3/8	17	56	28.0	24
S3BMB12-3/8	12	3/8	19	63	31.5	27
S3BMB12-1/2	12	1/2	19	63	31.5	31
S3BMB14-3/8	14	3/8	22	63	31.5	28
S3BMB14-1/2	14	1/2	22	65	32.5	31
S3BMB16-1/2	16	1/2	27	69	34.5	34

**SBMB Male Branch Tee NPT**

PART NO.	TUBE SIZE	NPT THREAD	C1	L	M	N
SBMB6-1/8	6	1/8	12	48	24.0	18
SBMB6-1/4	6	1/4	12	50	25.0	23
SBMB8-1/8	8	1/8	14	52	26.0	19
SBMB8-1/4	8	1/4	14	52	26.0	23
SBMB10-1/4	10	1/4	17	56	28.0	24
SBMB10-3/8	10	3/8	17	56	28.0	24
SBMB12-3/8	12	3/8	19	63	31.5	25
SBMB12-1/2	12	1/2	19	63	31.5	31

**KBMB Union Cross**

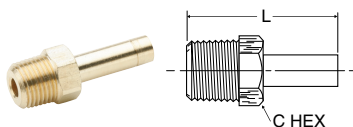
PART NO.	TUBE SIZE	C1	L	M
KBMB6	6	12	48	24.0
KBMB8	8	14	52	26.0
KBMB10	10	17	54	27.0
KBMB12	12	19	63	31.5
KBMB14	14	22	65	32.5

**COR4BMB Single Banjo BSPP**

PART NO.	TUBE SIZE	BSPP THREAD	C1	C5	M	N	N1
COR4BMB4-1/8	4	1/8	10	14	23	15	27
COR4BMB6-1/4	6	1/4	12	19	26	18	29
COR4BMB8-1/4	8	1/4	14	19	27	20	35
COR4BMB14-1/2	14	1/2	22	27	34	27	48
COR4BMB16-1/2	16	1/2	27	27	33	27	48
COR4BMB20-3/4	20	3/4	32	32	41	33	60

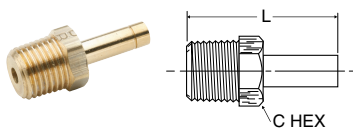
A

### T2HFB Tube End Male Adapter NPT



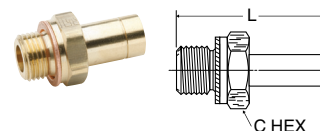
PART NO.	TUBE SIZE	NPT THREAD	C HEX	L
T2HFB6-1/8	6	1/8	11	31
T2HFB6-1/4	6	1/4	14	36
T2HFB8-1/8	8	1/8	11	32
T2HFB8-1/4	8	1/4	14	36
T2HFB10-1/4	10	1/4	14	37
T2HFB10-3/8	10	3/8	19	38
T2HFB12-3/8	12	3/8	19	38
T2HFB12-1/2	12	1/2	22	43
T2HFB14-3/8	14	3/8	19	39
T2HFB14-1/2	14	1/2	22	44
T2HFB16-1/2	16	1/2	22	46
T2HFB18-1/2	18	1/2	22	50
T2HFB20-3/4	20	3/4	27	51
T2HFB22-3/4	22	3/4	27	54

### T23HFB Tube End Male Adapter BSPT



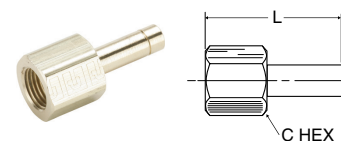
PART NO.	TUBE SIZE	BSPT THREAD	C HEX	L
T23HFB6-1/8	6	1/8	10	30
T23HFB6-1/4	6	1/4	14	34
T23HFB8-1/8	8	1/8	10	30
T23HFB8-1/4	8	1/4	14	35
T23HFB10-1/4	10	1/4	14	36
T23HFB10-3/8	10	3/8	17	36
T23HFB12-3/8	12	3/8	17	37
T23HFB12-1/2	12	1/2	22	40
T23HFB14-3/8	14	3/8	17	38
T23HFB14-1/2	14	1/2	22	41
T23HFB16-1/2	16	1/2	22	43
T23HFB18-1/2	18	1/2	22	47
T23HFB20-3/4	20	3/4	27	49
T23HFB22-3/4	22	3/4	27	51

### T28HFB Tube Adapter Metric Straight Thread



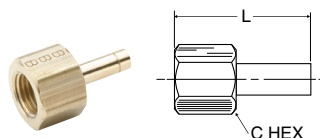
PART NO.	TUBE SIZE	MM THREAD	C HEX	L
T28HFB12M14	12	M14X1.5	19	39
T28HFB12M16	12	M16X1.5	22	40
T28HFB12M18	12	M18X1.5	24	40
T28HFB12M22	12	M22X1.5	27	43
T28HFB14M16	14	M16X1.5	22	41

### T2HGB Tube End Female Adapter NPT



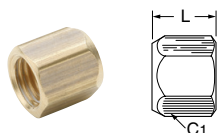
PART NO.	TUBE SIZE	NPT THREAD	C HEX	L
T2HGB6-1/8	6	1/8	14	32
T2HGB6-1/4	6	1/4	19	35
T2HGB8-1/8	8	1/8	14	33
T2HGB8-1/4	8	1/4	19	36
T2HGB10-1/4	10	1/4	19	37
T2HGB12-3/8	12	3/8	22	39
T2HGB12-1/2	12	1/2	27	41
T2HGB14-3/8	14	3/8	22	40
T2HGB14-1/2	14	1/2	27	42
T2HGB16-1/2	16	1/2	27	44
T2HGB18-1/2	18	1/2	27	48
T2HGB20-3/4	20	3/4	32	49
T2HGB22-3/4	22	3/4	32	51

### T24HGB Tube End Female Adapter BSPP



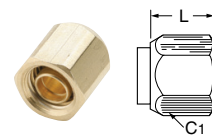
PART NO.	TUBE SIZE	BSPP THREAD	C HEX	L
T24HGB6-1/8	6	1/8	14	30
T24HGB6-1/4	6	1/4	19	32
T24HGB8-1/8	8	1/8	14	31
T24HGB8-1/4	8	1/4	19	33
T24HGB10-1/4	10	1/4	19	34
T24HGB10-3/8	10	3/8	22	36
T24HGB12-3/8	12	3/8	22	36
T24HGB12-1/2	12	1/2	27	40
T24HGB14-3/8	14	3/8	22	37
T24HGB14-1/2	14	1/2	27	41
T24HGB16-1/2	16	1/2	27	42
T24HGB18-1/2	18	1/2	27	46
T24HGB20-3/4	20	3/4	32	47
T24HGB22-3/4	22	3/4	32	49

### BMB Nut



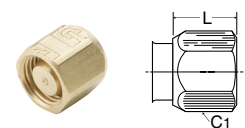
PART NO.	TUBE SIZE	C1	L
BMB4	4	10	11
BMB6	6	12	12
BMB8	8	14	13
BMB10	10	17	13
BMB12	12	19	14
BMB14	14	22	15
BMB16	16	27	15
BMB18	18	30	19
BMB20	20	32	19
BMB22	22	36	20

### BTMB Nut and Ferrule



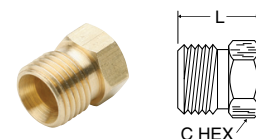
PART NO.	TUBE SIZE	C1	L
BTMB4	4	10	12
BTMB6	6	12	13
BTMB8	8	14	14
BTMB10	10	17	14
BTMB12	12	19	15
BTMB14	14	22	16
BTMB16	16	27	16
BTMB18	18	30	21
BTMB20	20	32	21
BTMB22	22	36	22

### FNMB Fitting Body Cap



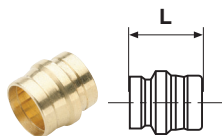
PART NO.	TUBE SIZE	C1	L
FNMB4	4	10	14
FNMB6	6	12	15
FNMB8	8	14	16
FNMB10	10	17	16
FNMB12	12	19	17
FNMB14	14	22	18
FNMB16	16	27	18
FNMB18	18	30	23
FNMB20	20	32	23
FNMB22	22	36	24

### PNMB Tube Plug

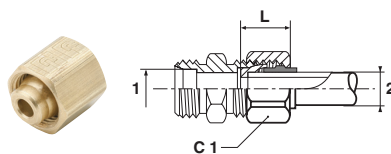


PART NO.	TUBE SIZE	C HEX	L
PNMB4	4	8	11
PNMB6	6	10	13
PNMB8	8	12	15
PNMB10	10	14	15
PNMB12	12	17	16
PNMB14	14	19	17
PNMB16	16	22	18
PNMB18	18	24	20
PNMB20	20	27	20
PNMB22	22	30	22

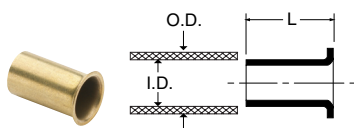


**A****TMB Ferrule**

PART NO.	TUBE SIZE	L
TMB4A	4	10
TMB6A	6	10
TMB8A	8	10
TMB10A	10	10
TMB12A	12	10
TMB14A	14	10
TMB16A	16	10
TMB18A	18	14
TMB20A	20	14
TMB22A	22	14

**TRBMB  
Tube End Reducer**

PART NO.	TUBE 1	TUBE 2	C1	L
TRBMB6-4	6	4	12	14
TRBMB8-4	8	4	14	15
TRBMB8-6	8	6	14	15
TRBMB10-6	10	6	17	16
TRBMB10-8	10	8	17	16
TRBMB12-8	12	8	19	16
TRBMB12-10	12	10	19	16
TRBMB14-10	14	10	22	18
TRBMB14-12	14	12	22	18
TRBMB16-12	16	12	27	19
TRBMB16-14	16	14	27	19
TRBMB18-14	18	14	30	21
TRBMB20-16	20	16	32	21
TRBMB22-18	22	18	36	21

**T23UB Tube Insert**

PART NO.	TUBE I.D.	TUBE O.D.	L
T23UB4	4	6	10
T23UB6	6	8	15
T23UB8	8	10	15
T23UB10	10	12	15
T23UB12	12	14	15



# Poly-Tite Fittings

A

MATERIALS OF CONSTRUCTION	
BODIES & NUTS:	CA377, CA360, CA345, 316 STAINLESS STEEL
PLASTIC SLEEVES:	ACETAL COPOLYMER
O-RINGS:	BUNA N ON CHROME PLATED COUPLINGS FLUOROCARBON ON STAINLESS STEEL COUPLINGS

NOMENCLATURE	
EXAMPLE: 66P-4-2	ATTRIBUTE:
66	FEMALE CONNECTOR (TUBE TO FEMALE PIPE)
P	POLY-TITE
4	1/4" TUBE O.D.
2	1/8" PIPE THREAD

APPLICABLE TUBE	
TUBE MATERIAL:	THERMOPLASTIC TUBING, SOFT METAL TUBING
TUBE O.D.:	1/8, 3/16, 1/4, 5/16, 3/8, 1/2

PRESSURE AND TEMPERATURE RANGE	
THERMOPLASTIC TUBING	UP TO 150 PSI FROM 0° TO +150°F
SOFT METAL TUBING	UP TO 300 PSI FROM 0° TO +175°F



A preassembled compact compression fitting. An exclusive acetal copolymer sleeve has superior resilience to resist creeping and stress caused from compression. Poly-Tite nuts will rotate around the sleeve as it tightens to prevent twisting and weakening of the plastic tubing.

## Assembly Instructions

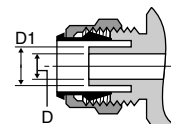
Polyethylene, polypropylene and vinyl tubing:

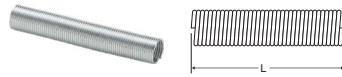
1. Cut tubing squarely—maximum of 15° angle allowable.
2. Check that port or mating part is clean and free of debris.
3. Insert tube end until it bottoms in the Poly-Tite fitting and tighten knurl/hex nut finger-tight — plus one wrench turn.

## Tube Support O.D.

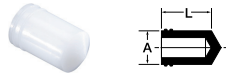
TUBE SIZE INCHES	* D1 TUBE SUPPORT O.D.
1/4	.168
5/16	.185
3/8	.248
1/2	.373

\* Note: No tube support for sizes 1/8" and 3/16"

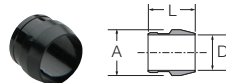


**A****Spring Guard 56PSG**

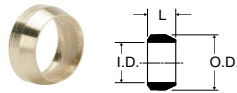
PART NO.	TUBE O.D.	L
56PSG-4	1/4	3.000
56PSG-5	5/16	3.000
56PSG-6	3/8	3.000

**Plastic Cap 59P**

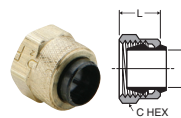
PART NO.	TUBE SIZE	A	L
59P-4	1/4	.247	.50
59P-5	5/16	.307	.53
59P-6	3/8	.372	.56
59P-8	1/2	.497	.63

**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

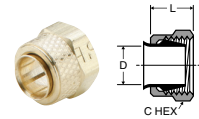
**Sleeve 60PB**

PART NO.	L	O.D.	I.D.
60PB-2	.187	.265	.130
60PB-3	.187	.322	.192
60PB-4	.187	.336	.255
60PB-5	.187	.400	.318
60PB-6	.218	.460	.382
60PB-8	.250	.620	.507

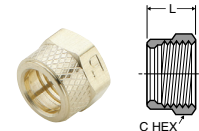
**Nut and Plastic Sleeve Assembly 61P**

PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	D	L
61P-2*	1/8	5/16-24	3/8	.130	.34
61P-3*	3/16	3/8-24	7/16	.192	.37
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

\* Brass Sleeve

**Nut and Brass Sleeve Assembly 61PB**

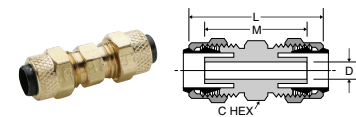
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	D	L
61PB-4	1/4	3/8-24	7/16	.255	.38
61PB-5	5/16	7/16-24	1/2	.318	.34
61PB-6	3/8	1/2-24	9/16	.382	.38
61PB-8	1/2	11/16-20	3/4	.507	.44

**Nut 61PN**

PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	L
61PN-2	1/8	5/16-24	3/8	.34
61PN-3	3/16	3/8-24	7/16	.37
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 Guard 61PSGN**

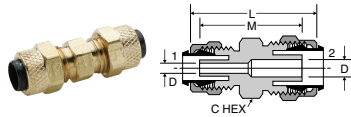
PART NO.	TUBE O.D.	L	C HEX
61PSGN-4	1/4	.625	.437
61PSGN-5	5/16	.625	.500
61PSGN-6	3/8	.656	.562

**Union 62P**

PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	L	M	FLOW DIA. D
62P-2*	1/8	5/16-24	5/16	1.08	.64	.094
62P-3*	3/16	3/8-24	3/8	1.16	.73	.125
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

\* Brass Sleeve, No Tube Support

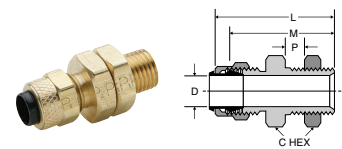
### Union Reducer 62P



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

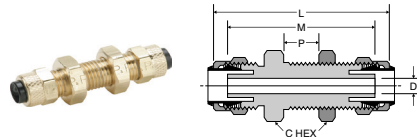
### Bulkhead Union 62PTBH

(Straight Through)



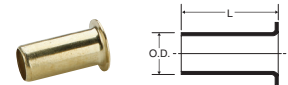
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	P MAX.	L	M	BULKHEAD HOLE DIA.	FLOW DIA. D
62PTBH-4	1/4	3/8-24	9/16	.31	1.19	.93	3/8	.260
62PTBH-5	5/16	7/16-24	5/8	.31	1.19	.93	7/16	.323
62PTBH-6	3/8	1/2-24	11/16	.34	1.26	.99	1/2	.387

### 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

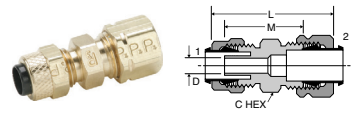
### Brass Insert 63PT



PART	TUBE SIZE	L	O.D.
63PT-2-16	1/8	.46	.080
63PT-2-32	1/8	.31	.061
63PT-3-25	3/16	.45	.135
63PT-3-40	3/16	.52	.095

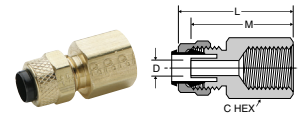
### Union 62PCA

(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

### Female Connector 66P

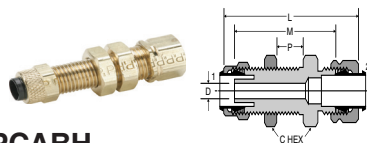


PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	C HEX	L	M	FLOW DIA. D
66P-2-2*	1/8	1/8	5/16-24	9/16	.97	.75	.094
66P-3-2*	3/16	1/8	3/8-24	9/16	1.00	.78	.125
66P-3-4*	3/16	1/4	3/8-24	11/16	1.18	.96	.125
66P-4-2	1/4	1/8	3/8-24	9/16	.97	.86	.125
66P-4-4	1/4	1/4	3/8-24	5/8	1.18	1.07	.125
66P-5-2	5/16	1/8	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

\*Brass Sleeve, No Tube Support

### Bulkhead Union 62PCABH

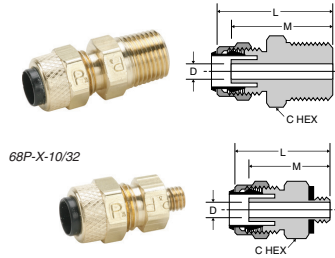
(Tube to Compress-Align)



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	11/16	.47	2.03	1.64	1/2	.204

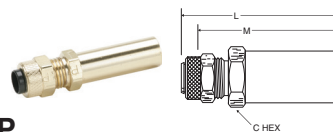


A

**Male Connector 68P**

PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	C HEX	L	M	FLOW DIA. D
68P-2-1*	1/8	1/16	5/16-24	11/32	1.00	.78	.094
68P-2-10X32*	1/8	10-32	5/16-24	3/8	.86	.64	.094
68P-2-2*	1/8	1/8	5/16-24	7/16	.99	.77	.094
68P-3-1	3/16	1/16	3/8-24	7/16	1.09	.84	.094
68P-3-2*	3/16	1/8	3/8-24	7/16	1.06	.84	.125
68P-3-4*	3/16	1/4	3/8-24	9/16	1.25	1.03	.125
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	11/16-20	11/16	1.46	1.29	.320
68P-8-6	1/2	3/8	11/16-20	11/16	1.37	1.29	.323

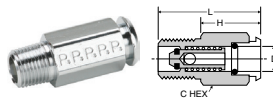
\*Brass Sleeve, No Tube Support

**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**

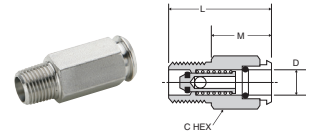
(Chrome Plated)



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	5/8	.85	1.41

**Pipe Coupler Body 391PSS**

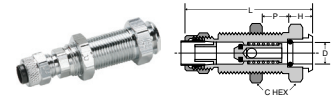
(Stainless Steel)



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**

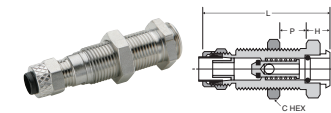
(Chrome Plated)



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

**Bulkhead Coupler Body 392PSS**

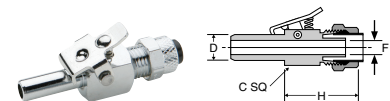
(Stainless Steel)



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**

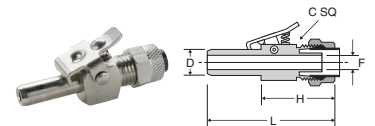
(Chrome Plated)



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)

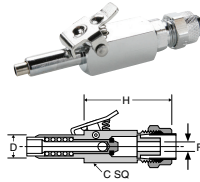


PART NO.	TUBE O.D.	D-INSERT DIA.	L	C SQUARE	H	FLOW DIA. F
393PSS-4-4	1/4	1/4	1.677	.500	.99	.125
393PSS-6-6	3/8	3/8	2.030	.500	1.27	.203

### Shutoff Type Insert 393PD

(Chrome Plated)

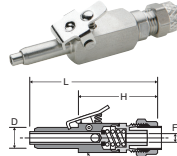
PART NO.	TUBE SIZE	D-INSERT DIA.	STRAIGHT THREAD	C SQUARE	H	FLOW DIA. F
393PD-4-4	1/4	1/4	3/8-24	7/16	1.61	.110
393PD-6-6	3/8	3/8	1/2-24	1/2	1.45	.187



### Shut-Off Type Insert 393PDSS

(Stainless Steel)

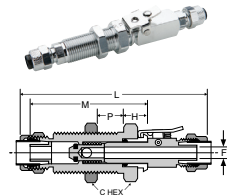
PART NO.	TUBE O.D.	D-INSERT DIA.	L	C SQUARE	H	FLOW DIA. F
393PDSS-4-4	1/4	1/4	2.46	.500	1.62	.116
393PDSS-6-6	3/8	3/8	2.60	.500	1.67	.157



### Single End Shutoff Bulkhead Quick Coupler 394P

(Chrome Plated)

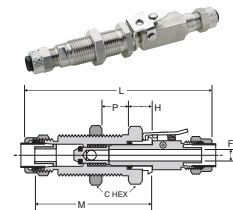
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	P MAX	H	L	M	BULKHEAD HOLE DIA.	FLOW DIA. F
394P-4-4	1/4	1/2-24	5/8	.84	.39	3.28	2.13	1/2	.125
394P-6-6	3/8	11/16-24	13/16	.93	.37	3.41	2.01	11/16	.203



### Coupler Single End Shut-Off Bulkhead 394PSS

(Stainless Steel)

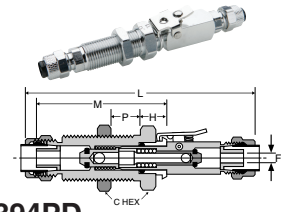
PART NO.	TUBE O.D.	BULKHEAD THREAD	L	M	C HEX	H	P MAX	FLOW DIA. F
394PSS-4-4	1/4	1/2-24	3.05	2.06	.625	.31	.84	.125
394PSS-6-6	3/8	11/16-24	3.50	2.23	.812	.34	.93	.203



### Double End Shutoff Bulkhead Quick Coupler 394PD

(Chrome Plated)

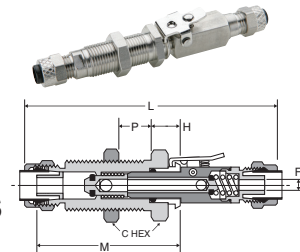
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	P MAX	H	L	M	BULKHEAD HOLE DIA.	FLOW DIA. F
394PD-4-4	1/4	1/2-24	5/8	.84	.39	3.77	2.13	1/2	.125
394PD-6-6	3/8	11/16-24	13/16	.93	.37	3.48	2.01	11/16	.204



### Double End Shut-Off Bulkhead Quick Coupler 394PDSS

(Stainless Steel)

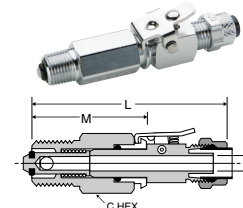
PART NO.	TUBE O.D.	BULKHEAD THREAD	L	M	C HEX	H	P H	FLOW DIA. F
394PDSS-4-4	1/4	1/2-24	3.69	2.67	.625	.32	.84	.125
394PDSS-6-6	3/8	11/16-24	3.91	2.24	.812	.34	.93	.203



### Single End Shutoff Pipe Connector Quick Coupler 398P

(Chrome Plated)

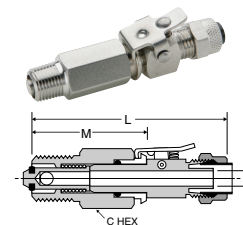
PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	C HEX	L	M	FLOW DIA. F
398P-4-2	1/4	1/8	3/8-24	1/2	2.45	1.32	.125
398P-4-4	1/4	1/4	3/8-24	9/16	2.45	1.32	.125
398P-6-4	3/8	1/4	1/2-24	5/8	2.80	1.46	.203



### Single End Shut-Off Connector Quick Coupler 398PSS

(Stainless Steel)

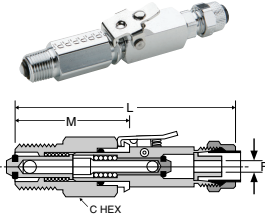
PART NO.	TUBE O.D.	PIPE THREAD	L	M	C HEX	FLOW DIA. F
398PSS-4-2	1/4	1/8	2.30	1.32	.500	.125
398PSS-4-4	1/4	1/4	2.30	1.32	.562	.125
398PSS-6-4	3/8	1/4	2.70	1.43	.625	.203



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## Double End Shutoff Pipe Connector Quick Coupler 398PD

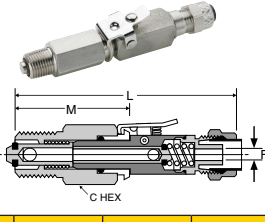
(Chrome Plated)



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

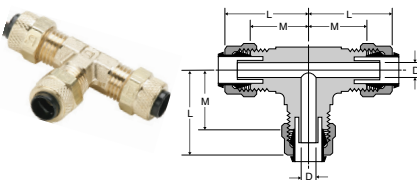
## Double End Shut-Off Pipe Connector Quick Coupler 398PDSS

(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

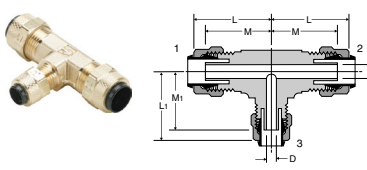
## Union Tee 164P



PART NO.	TUBE SIZE	STRAIGHT THREAD	L	M	FLOW DIA. D
164P-2*	1/8	5/16-24	.83	.61	.094
264P-3*	3/16	3/8-24	.83	.61	.125
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

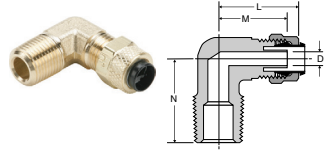
\*Brass Sleeve, No Tube Support

## 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

## Male Elbow 169P/269P



PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	L	M	N	FLOW DIA. D
169P-2-1	1/8	1/16	5/16-24	.88	.63	.69	.094
269P-2-2*	1/8	1/8	5/16-24	.83	.61	.67	.094
169P-3-1*	3/16	1/16	3/8-24	.88	.63	.69	.094
169P-3-2*	3/16	1/8	3/8-24	.83	.61	.69	.125
169P-3-4*	3/16	1/4	3/8-24	.85	.63	.94	.125
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

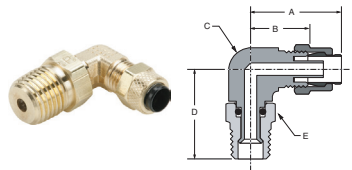
\*Brass Sleeve, No Tube Support

## Long Male Elbow 169LP

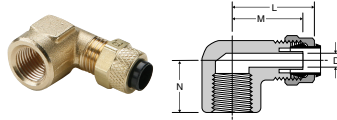


PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	L	M	N	FLOW DIA. D
169LP-4-4	1/4	1/4	3/8-24	.90	.79	1.38	.125

## Male Elbow Swivel 169PS

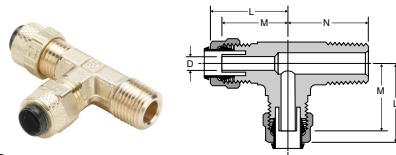


PART NO.	TUBE O.D.	PIPE THREAD	A	B	C HEX	D	E
169PS-4-2	1/4	1/8	.812	.594	.375	.862	.437
169PS-4-4	1/4	1/4	.906	.688	.562	1.218	.562
169PS-6-2	3/8	1/8	.875	.625	.437	.904	.437
169PS-6-4	3/8	1/4	.937	.685	.562	1.218	.562
169PS-6-6	3/8	3/8	.859	.602	.562	1.190	.687
169PS-8-6	1/2	3/8	1.031	.782	.500	1.218	.687

**Female Elbow 170P**

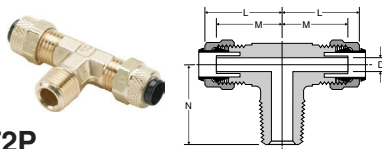
PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	L	M	N	FLOW DIA. D
170P-2-2*	1/8	1/8	5/16-24	.91	.69	.56	.094
170P-3-2*	3/16	1/8	3/8-24	.91	.69	.56	.125
170P-4-2	1/4	1/8	3/8-24	.90	.79	.56	.125
170P-4-4	1/4	1/4	3/8-24	1.00	.89	.69	.125
170P-6-4	3/8	1/4	1/2-24	1.01	.89	.69	.204
170P-8-6	1/2	3/8	11/16-20	1.19	1.11	1.13	.323

\*Brass Sleeve, No Tube Support

**Male Run Tee 171P**

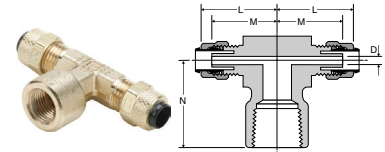
PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	L	M	N	FLOW DIA. D
171P-2-2*	1/8	1/8	5/16-24	.82	.60	.67	.094
171P-3-2*	3/16	1/8	3/8-24	.82	.60	.67	.125
171P-4-2	1/4	1/8	3/8-24	.84	.73	.72	.125
171P-4-4	1/4	1/4	3/8-24	.92	.81	.92	.125
171P-5-2	5/16	1/8	7/16-24	.83	.73	.72	.144
171P-6-4	3/8	1/4	1/2-24	.98	.86	1.03	.203
171P-8-6	1/2	3/8	11/16-20	1.12	1.04	1.13	.323

\*Brass Sleeve, No Tube Support

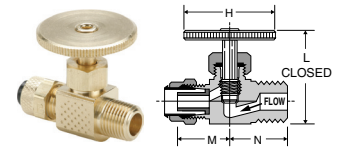
**Male Branch Tee 172P**

PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	L	M	N	FLOW DIA. D
172P-2-2*	1/8	1/8	5/16-24	.82	.60	.67	.094
172P-3-2*	3/16	1/8	3/8-24	.82	.60	.67	.125
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

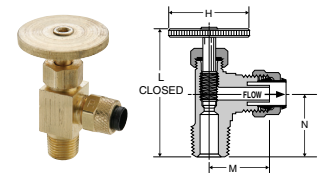
\*Brass Sleeve, No Tube Support

**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





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# Hi-Duty Flareless Tube Fittings

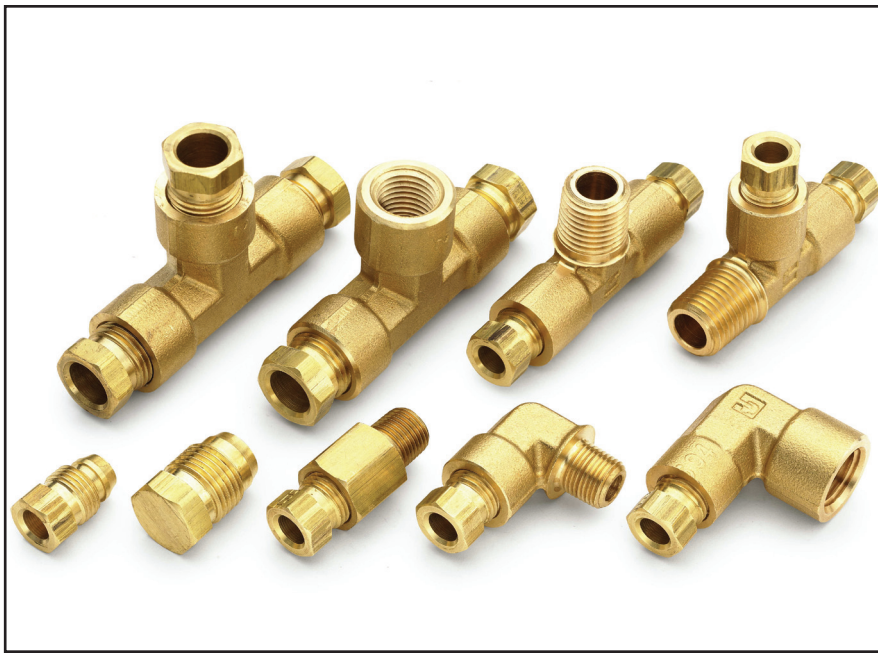
MATERIALS OF CONSTRUCTION	
FITTING:	BRASS
NUT:	BRASS
SLEEVE:	BRASS

NOMENCLATURE	
EXAMPLE: 169HD-6-4	ATTRIBUTE:
1	FORGING
69	MALE ELBOW
HD	HI-DUTY
6	3/8" TUBE O.D.
4	1/4" PIPE THREAD

APPLICABLE TUBE	
TUBE MATERIAL:	<ul style="list-style-type: none"> <li>COPPER, BRASS, SEAMLESS STEEL, THERMOPLASTIC TUBING</li> <li>STEEL TUBING MUST BE COLD DRAWN AND ANNEALED SEAMLESS LOW-CARBON PER SAE J524 WITH A MAXIMUM HARDNESS OF ROCKWELL B 65.</li> </ul>
TUBE O.D.:	1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8

MAXIMUM RECOMMENDED WORKING PRESSURE	
TUBE O.D.	PSI
1/8	4,300
3/16	2,850
1/4	2,100
5/16	1,800
3/8	1,500
1/2	1,150
5/8	1,000

SPECIFICATIONS	
OPERATING FLUID:	WATER, AIR, INERT AND NON-COMBUSTIBLE GASSES COMPATIBLE WITH MATERIALS OF CONSTRUCTION
NOTE:	FOR OTHER TYPES OF FLUIDS OR GASSES, PLEASE CONSULT FACTORY

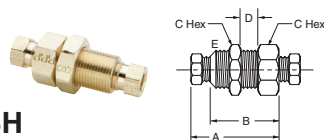


A preassembled brass fitting, with sleeve machined onto nut. During assembly sleeve breaks away from nut and creates a seal on the tubing. No flaring, soldering or other tube preparation of tubing is necessary.

## Assembly Instructions

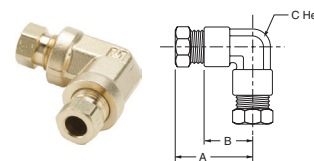
1. Cut tube squarely and cleanly removing all burrs.
2. Grasp fitting. Do not remove nut.
3. Insert tube in fitting through nut until tube seats firmly against tube shoulder in body.
4. Grip tube firmly to prevent turning and tighten nut to finger-tight. Continue to tighten nut for one and three-quarter additional turns (one and one-half turns for 1/2" size tube 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.

## Bulkhead Union 62HDBH



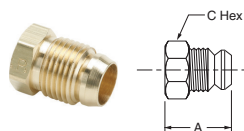
PART NO.	TUBE SIZE	MIN. ORIFICE SIZE	A	B	C	D	E
62HDBH-2	1/8	.093	1.781	1.156	.562	.625	7/16-24
62HDBH-4	1/4	.187	1.968	1.156	.687	.625	9/16-24

## Union Elbow 165HD



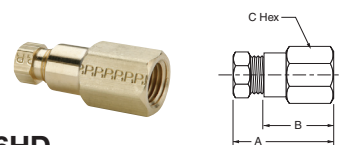
PART NO.	TUBE SIZE	MIN. ORIFICE SIZE	A	B	C HEX
165HD-4	1/4	.187	1.084	.690	.552
165HD-6	3/8	.312	1.376	.970	.615
165HD-8	1/2	.437	1.546	1.060	.750

## Nut/Sleeve 61HD



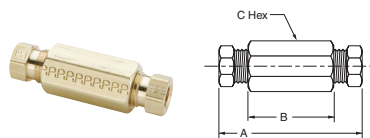
PART NO.	TUBE SIZE	PIPE THREAD	A	C
61HD-2	1/8	5/16-24	.656	.312
61HD-3	3/16	3/8-24	.687	.375
61HD-4	1/4	7/16-24	.734	.437
61HD-5	5/16	1/2-20	.765	.500
61HD-6	3/8	9/16-20	.843	.562
61HD-8	1/2	1 1/16-16	.921	.688
61HD-10	5/8	7/8-18	1.078	.875

## Female Connector 66HD



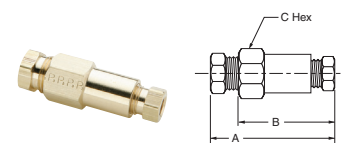
PART NO.	TUBE SIZE	PIPE THREAD	MIN. ORIFICE SIZE	A	B	C HEX
66HD-2-2	1/8	1/8	.093	1.312	1.000	.500
66HD-4-2	1/4	1/8	.187	1.406	1.000	.562
66HD-4-4	1/4	1/4	.187	1.593	1.187	.687
66HD-6-2	3/8	1/8	.312	1.531	1.125	.625
66HD-6-4	3/8	1/4	.312	1.718	1.312	.625
66HD-6-6	3/8	3/8	.312	1.750	1.343	.812

## Union 62HD



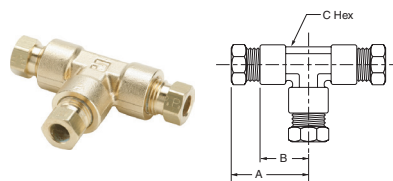
PART NO.	TUBE SIZE	MIN. ORIFICE SIZE	A	B	C
62HD-2	1/8	.093	1.687	1.062	.375
62HD-3	3/16	.125	1.781	1.031	.437
62HD-4	1/4	.187	1.906	1.093	.562
62HD-6	3/8	.312	2.187	1.375	.625
62HD-8	1/2	.437	2.437	1.562	.812
62HD-10	5/8	.500	2.937	1.812	1.062

## 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

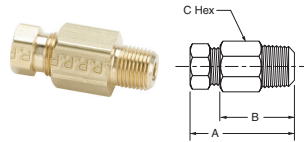
## Union Tee 164HD



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

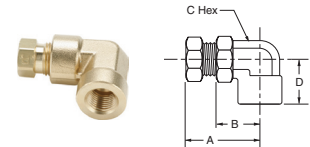
A

## Male Connector 68HD

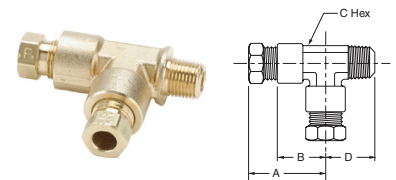


PART NO.	TUBE SIZE	PIPE THREAD	MIN. ORIFICE SIZE	A	B	C HEX
68HD-2-2	1/8	1/8	.093	1.062	.750	.437
68HD-3-2	3/16	1/8	.125	1.140	.765	.437
68HD-4-2	1/4	1/8	.187	1.343	.937	.562
68HD-4-4	1/4	1/4	.187	1.468	1.062	.562
68HD-4-6	1/4	3/8	.187	1.343	.937	.687
68HD-4-8	1/4	1/2	.187	1.531	1.125	.875
68HD-5-2	5/16	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

## Female Elbow 170HD



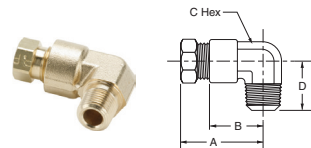
PART NO.	TUBE SIZE	PIPE THREAD	MIN. ORIFICE SIZE	A	B	C HEX	D
170HD-2-2	1/8	1/8	.093	1.005	.690	.500	.750
170HD-4-2	1/4	1/8	.187	1.084	.687	.500	.750
170HD-4-4	1/4	1/4	.187	1.234	.843	.562	.875
170HD-6-2	3/8	1/8	.312	1.281	.875	.562	.937
170HD-6-4	3/8	1/4	.312	1.376	.970	.615	1.093
170HD-6-6	3/8	3/8	.312	1.526	1.120	.690	1.150
170HD-8-6	1/2	3/8	.437	1.481	1.062	.740	1.281



## Male Run Tee 171HD

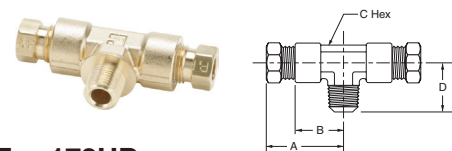
PART NO.	TUBE SIZE	PIPE THREAD	MIN. ORIFICE SIZE	A	B	C HEX	D
171HD-4-2	1/4	1/8	.187	1.144	.750	.500	.780
171HD-4-4	1/4	1/4	.187	1.207	.812	.500	.937
171HD-6-4	3/8	1/4	.312	1.376	.970	.562	1.000

## Male Elbow 169HD



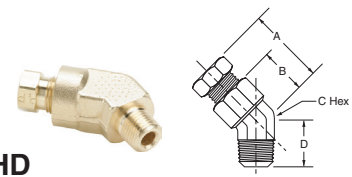
PART NO.	TUBE SIZE	PIPE THREAD	MIN. ORIFICE SIZE	A	B	C HEX	D
169HD-2-2	1/8	1/8	.093	.975	.656	.438	.720
169HD-3-2	3/16	1/8	.125	1.056	.687	.437	.750
169HD-4-2	1/4	1/8	.187	1.084	.687	.500	.750
169HD-4-4	1/4	1/4	.187	1.144	.750	.500	.937
169HD-5-2	5/16	1/8	.218	1.144	.750	.562	.810
169HD-5-4	5/16	1/4	.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

## Male Branch Tee 172HD

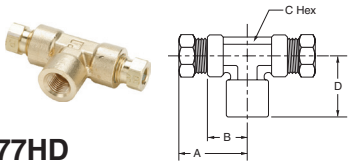


PART NO.	TUBE SIZE	PIPE THREAD	MIN. ORIFICE SIZE	A	B	C HEX	D
172HD-4-2	1/4	1/8	.187	1.082	.687	.500	.780
172HD-4-4	1/4	1/4	.187	1.269	.875	.500	.937
172HD-6-6	3/8	3/8	.312	1.406	1.000	.562	1.125

## 45° Male Elbow 179HD

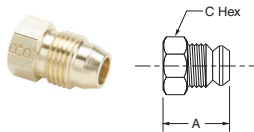


PART NO.	TUBE SIZE	PIPE THREAD	MIN. ORIFICE SIZE	A	B	C HEX	D
179HD-4-2	1/4	1/8	.187	1.093	.687	.562	.750
179HD-6-4	3/8	1/4	.280	1.138	.710	.550	.850



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

A

## Notes

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.





# Push to Connect Pneumatic



## **Prestolok Metal**

*Swivels on Shaped Male Threads  
Pre-applied Sealant  
Inch & Metric Sizes  
Metal Bodies*



## **Prestolok Composite**

*Swivels on Shaped Male Threads  
Pre-applied Sealant  
Inch & Metric Sizes  
Composite Bodies*



## **PrestoWeld**

*Prevents Weld Spatter Build-up  
Positive Tube Retention  
Ease of assembly,  
Flame resistant*



**B**

Tube to Male NPTF	<b>W369PLP</b> Male Elbow  Page B18	<b>W369PLPX</b> Extended Male Elbow  Page B19	<b>W379PLP</b> Male Elbow 45°  Page B20	<b>W372PLP</b> Branch Tee Swivel  Page B21	<b>W371PLP</b> Male Run Tee Swivel  Page B22	<b>W68PLPSP</b> Male Standpipe  Page B23
	<b>W368PLP</b> Male Y Connector  Page B24	<b>W369PLPBJ</b> Single Banjo  Page B25	<b>W369PLPTJ</b> Twin Banjo  Page B27	Tube to Male BSPT	<b>W369PLP</b> Male Elbow  Page B18	<b>W372PLP</b> Male Branch Tee  Page B21
Tube to Tube	<b>32PLP</b> Equal Union  Page B28	<b>365PLP</b> Union Elbow  Page B28	<b>364PLP</b> Union Tee  Page B29		<b>362PLP</b> Union Y Connector  Page B29	<b>362PLPD</b> Double Y Connector  Page B30
	<b>24PLPD</b> Double Multiple Tee  Page B31	<b>347PLP</b> Equal Cross  Page B31	<b>32PLPRC</b> Connector for 2 Tubes  Page B35	<b>32PLPDRC</b> Connector for 3 Tubes  Page B35	Tube to Female NPTF	<b>377PLP</b> Female Branch Tee Swivel  Page B22
Bulkhead Unions	<b>32PLPBH</b> Bulkhead Union  Page B30	<b>32PLPBHP</b> Plug-in Bulkhead Union  Page B36	<b>365PLPBH</b> Equal Bulkhead Elbow  Page B30	Plug-ins		<b>369PLPSP</b> Plug-In Elbow  Page B31
	<b>379PLPSP</b> 45° Plug-In Elbow  Page B32	<b>372PLPSP</b> Plug-In Branch Tee  Page B32	<b>371PLPSP</b> Plug-In Run Tee  Page B32		<b>362PLPSP</b> Plug-In Y  Page B33	<b>67PLP</b> Tube End Reducer  Page B34
Auxiliary Components	<b>63PLP</b> Double Male Union  Page B33	<b>639PLP</b> Plug  Page B34	Metric Tube to Male NPTF	<b>W369PLP</b> Male Elbow  Page B18	<b>W372PLP</b> Male Branch Tee Swivel  Page B21	



Metric Tube to Metric Tube	32PLP Equal Union	365PLP Union Elbow	364PLP Union Tee	362PLP Union Y Connector	362PLPD Double Y Connector	24PLP Multiple Tee
	 Page B28	 Page B28	 Page B29	 Page B29	 Page B30	 Page B30
24PLPD Double Multiple Tee	347PLP Equal Cross	32PLPRC Connector for 2 Tubes	32PLPDRC Connector for 3 Tubes	Metric Bulkhead Unions	32PLPBH Bulkhead Union	365PLPBH Equal Bulkhead Elbow
 Page B31	 Page B31	 Page B35	 Page B35		 Page B30	 Page B30
Metric Tube to Male BSPT	W369PLP Male Elbow	W369PLPX Extended Male Elbow	W379PLP Male Elbow 45°	W372PLP Male Branch Tee	W371PLP Male Run Tee	W68PLPSP Male Standpipe
	 Page B18	 Page B19	 Page B20	 Page B21	 Page B22	 Page B23
W368PLP Male Y Connector	W368PLPD Double Y Male Connector	Metric Tube to Female BSPP	370PLP Female Elbow	Metric Tube to Male BSPP	369PLP Male Elbow	369PLPX Male Elbow
 Page B24	 Page B24		 Page B25		 Page B19	 Page B20
379PLP 45° Male Elbow	372PLP Male Branch Tee	371PLP Male Run Tee	68PLPSP Male Standpipe	368PLP Male Y Connector	368PLPD Double Y Male Connector	
 Page B20	 Page B22	 Page B23	 Page B23	 Page B24	 Page B25	
Metric Tube to Metric Straight Thread	369PLP Male Elbow	369PLPX Male Elbow	379PLP 45° Male Elbow	372PLP Male Branch Tee	371PLP Male Run Tee	68PLPSP Male Standpipe
	 Page B19	 Page B20	 Page B20	 Page B22	 Page B21	 Page B23
368PLP Male Y Connector	Metric Banjo Fittings	W369PLPBJ Single Banjo	369PLPBJ Banjo	369PLPBJB Single Banjo Bodies	32PLPDJB Double Banjo Bodies	369PLPTJB Twin Banjo Bodies
 Page B19		 Page B25	 Page B26	 Page B26	 Page B26	 Page B26
68BJB Single Banjo Bolt	68BJBD Double Banjo Bolt	68BJBT Triple Banjo Bolt	66BJB Female Threaded Banjo Bolt	376PLPBJ Banjo with Female Bolt	W369PLPTJ Twin Banjo	32PLPDJ Double Banjo
 Page B26	 Page B27	 Page B27	 Page B27	 Page B27	 Page B27	 Page B27

B

Metric Plug-Ins	<b>369PLPSP</b> Plug-In Elbow  Page B31	<b>369PLXPSP</b> Extended Plug-In Elbow  Page B32	<b>379PLPSP</b> 45° Plug-In Elbow  Page B32	<b>372PLPSP</b> Plug-In Branch Tee  Page B32	<b>371PLPSP</b> Plug-In Run Tee  Page B33	<b>362PLPSP</b> Plug-In Y  Page B33		
	<b>362PLPDSP</b> Plug-In Multiple Y  Page B33	<b>67PLP</b> Tube End Reducer  Page B34	<b>32PLPSP</b> Tube Expander  Page B34	<b>322PLPSP</b> Barbed Connector  Page B35	Metric Auxiliary Components		<b>63PLP</b> Double Male Union  Page B33	<b>639PLP</b> Plug  Page B34
Tube to Male NPTF	<b>W68PLP</b> Male Connector  Page B8	<b>W68PLPR</b> Male Connector Round Body  Page B9	<b>W68PW</b> Male Connector  Page B38	<b>W169PLP</b> Male Elbow Swivel  Page B11	<b>W169PLPNS</b> Male Elbow  Page B11	<b>W169PW</b> Male Elbow Swivel  Page B39		
	<b>W171PLP</b> Male run Tee Swivel  Page B13	<b>W171PW</b> Male run Tee Swivel  Page B39	<b>W172PLP</b> Male Branch Tee Swivel  Page B14	<b>W172PW</b> Male Branch Tee Swivel  Page B39	Tube to Tube		<b>62PLP</b> Union  Page B7	<b>62PW</b> Union  Page B38
164PLP Union Tee	164PW Union Tee	165PLP Union Elbow	165PW Union Elbow	Tube to Female NPTF		<b>66PLP</b> Female Connector  Page B8	<b>66PW</b> Female Connector  Page B38	
				<b>62PLPBH</b> Union Bulkhead  Page B7	<b>66PLPBH</b> Female Bulkhead  Page B7	<b>62PWBH</b> Union Bulkhead  Page B38	<b>66PWBH</b> Female Bulkhead  Page B38	Tube to Male BSPP
Auxiliary Components		<b>DB</b> Dust/Weld Spatter Boot  Page B38	Metric Tube to Male NPTF		<b>FPB</b> Male connector  Page B9	<b>C6PB</b> Male Elbow  Page B12	Metric Tube to Metric Tube	
<b>JPB</b> Union Tee  Page B10 & B39	<b>EPB</b> Union Elbow  Page B11 & B40	Metric Bulkhead Unions		<b>WBMPB</b> Union Bulkhead  Page B7	<b>WPB</b> Union Bulkhead  Page B7 & B39	<b>WE6PB</b> Union Elbow Bulkhead  Page B11		

<b>Metric Tube to Male BSPT</b>	<b>F23PB</b> Male Connector  Page B10	<b>F3PB</b> Male Connector  Page B9 & B39	<b>C3PB</b> Male Elbow Swivel  Page B13	<b>C63LPB</b> Extended Male Elbow  Page B13	<b>C63PB</b> Male Elbow Swivel  Page B12 & B40	<b>R63PB</b> Male Run Tee Swivel  Page B13 & B40
<b>S63PB</b> Male Branch Tee Swivel  Page B14 & B40	<b>Metric Tube to Female BSPP</b>	<b>G4PB</b> Female Connector  Page B8	<b>WG4PB</b> Union Female Bulkhead  Page B7	<b>Metric Tube to Male BSPP</b>	<b>C64PB</b> Male Elbow Swivel  Page B12	<b>C64SPB</b> Male Elbow Swivel  Page B12
<b>F4PB</b> Male Connector  Page B9	<b>R64PB</b> Male Run Tee Swivel  Page B14	<b>S64PB</b> Male Branch Tee Swivel  Page B15	<b>Metric Tube to Metric Straight Thread</b>  <b>Metric Banjo Fittings</b>  <b>Metric Auxiliary Components</b>	<b>C68PB</b> Male Elbow Swivel  Page B12	<b>C68SPB</b> Male Elbow Swivel  Page B13	<b>F28PB</b> Male Connector  Page B10
<b>F8PB</b> Male Connector  Page B10	<b>R68PB</b> Male Run Tee Swivel  Page B14	<b>S68PB</b> Male Branch Tee Swivel  Page B15		<b>CORPB</b> Single Banjo Body  Page B15	<b>CORPBD</b> Double Banjo Body  Page B15	<b>COR8PB/ COR4PB</b> Single Banjo  Page B15
<b>COR8PBD/ COR4PBD</b> Double Banjo  Page B16	<b>SC4U/SC8U</b> Single Banjo Bolt  Page B16	<b>SC8UD/SC4UD</b> Double Banjo Bolt  Page B16		<b>TRPB</b> Tube end Reducer  Page B16	<b>FNPB</b> Plug  Page B16 & B40	<b>TEPB</b> Tube end Expander  Page B16





# Prestolok Metal Fittings

B

MATERIALS OF CONSTRUCTION	
NICKEL PLATED BODIES:	NICKEL PLATED BRASS
O-RING:	NITRILE (OTHER COMPOUNDS AVAILABLE ON REQUEST)
RELEASE BUTTON:	POLYACETAL
GRAB RING:	STAINLESS STEEL
NOTE:	FOR BRASS BODY PRESTOLOK REPLACE PLP WITH PLN

NOMENCLATURE	
EXAMPLE: W68PLP-4-2	ATTRIBUTE:
W	WHITE ACRYLIC THREAD SEALANT
68	MALE CONNECTOR
PLP	PRESTOLOK
4	1/4" (4/16) TUBE O.D.
2	1/8" (2/16) PIPE THREAD

SPECIFICATIONS	
PRESSURE RANGE:	UP TO 300 PSI DEPENDING ON TUBING
TEMPERATURE RANGE:	0° TO +200°F
NOTE:	VACUUM APPLICATIONS ARE DEPENDENT UPON TEMPERATURE AND TYPE OF TUBING USED.

TUBING SIZES	
TUBE O.D.:	1/8, 3/16, 5/32, 1/4, 5/16, 3/8, 1/2
TUBE O.D. (MM):	4,6,8,10,12,14

## Recommended Tubing

Prestolok nickel plated and composite fittings are designed to be used with the following Parker Hannifin Parflex Division tubing.

TUBING SERIES	TUBING MATERIAL
E	LINEAR LOW DENSITY POLYETHYLENE
PP	POLYPROPYLENE
N	PLASTICIZED POLYAMIDE (NYLON)
NR	UNPLASTICIZED POLYAMIDE (RIGID NYLON)
U	POLYURETHANE 90 DUROMETER SHORE A
HU	POLYURETHANE 95 DUROMETER SHORE A

Other materials for Prestolok inch sized nickel plated fittings: Polyurethane 85 Durometer Shore A



A compact one-piece push-to-connect fitting. Designed for low pressure circuits where assembly, disassembly and reassembly is important. Stainless steel grab ring grips the tubing to provide retention. Swivels are featured on all male pipe threaded shapes for installation in tight places and for precise positioning. Prestolok should not be used for live swivel applications. Prestolok fittings come with a pre-applied white acrylic sealant.

**CAUTION:** All current manufacturers of 85A PU tubing do not approve the use of push-to-connect fittings with their product.

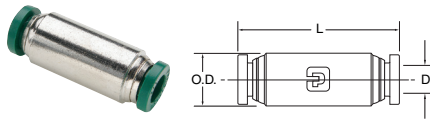
Testing has shown acceptable use with certain O.D. – I.D. combinations. Applications and service conditions vary and therefore the use of a tube support may be required for any 85A PU tubing.

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

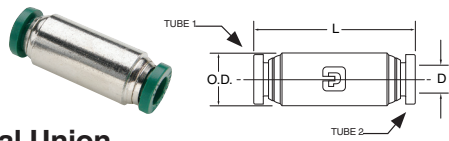
5/32" – 3/32"	3/16" – 1/8"	1/4" - .170"	1/4" – 3/16"
5/16" – 1/4"	3/8" – 5/16"	1/2" – 3/8"	

## Assembly Instructions

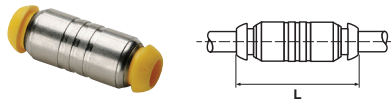
1. Cut thermoplastic tubing squarely, using Parker Tube Cutter PTC-001. Be certain the port or mating part is clean and free of debris.
2. Insert tubing into fitting until it bottoms. A slight twisting motion will ease the insertion. Pull on tubing to verify it is properly retained in the fitting.
3. To disassemble, simply push the release button against the body and remove tubing.
4. It is recommended to trim the tubing after every disassembly to insure a proper seal.

**62PLP Union**

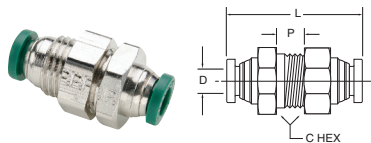
PART NO.	TUBE SIZE	O.D.	L	FLOW DIA. D
62PLP-2	1/8	.375	1.40	.094
62PLP-3	3/16	.437	1.41	.156
62PLP-5/32	5/32	.375	1.41	.125
62PLP-4	1/4	.500	1.43	.188
62PLP-5	5/16	.562	1.65	.250
62PLP-6	3/8	.625	1.66	.312
62PLP-8	1/2	.750	1.82	.375

**62PLP Unequal Union**

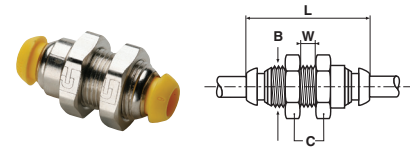
PART NO.	TUBE 1 SIZE (IN)	TUBE 2 SIZE (IN)	O.D.	L	FLOW DIA. D
62PLP-5/32-2	5/32	1/8	.375	1.41	.094
62PLP-4-2	1/4	1/8	.500	1.43	.094
62PLP-4-5/32	1/4	5/32	.500	1.43	.125
62PLP-4-6	1/4	3/8	.625	1.66	.188
62PLP-6-8	3/8	1/2	.750	1.82	.312

**HPB Equal Union**

PART NO.	TUBE SIZE (MM)	L
HPB4	4	33.0
HPB5	5	34.5
HPB6	6	36.0
HPB8	8	38.0
HPB10	10	48.0
HPB12	12	48.0
HPB14	14	54.0

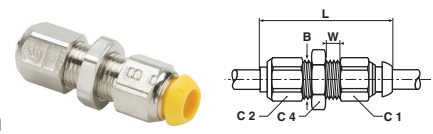
**62PLPBH Bulkhead Union**

PART NO.	TUBE SIZE (IN)	BULKHEAD HOLE DIA. B	C HEX	P MAX.	L	D
62PLPBH-2	1/8	7/16	9/16	.39	1.40	.094
62PLPBH-5/32	5/32	7/16	9/16	.39	1.41	.125
62PLPBH-4	1/4	9/16	11/16	.29	1.43	.188
62PLPBH-5	5/16	5/8	3/4	.60	1.65	.250
62PLPBH-6	3/8	3/4	7/8	.54	1.66	.312
62PLPBH-8	1/2	7/8	1	.66	2.04	.375

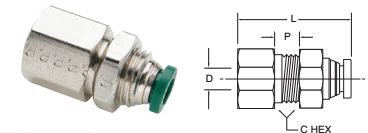
**WPB Bulkhead Union**

PART NO.	TUBE SIZE (MM)	B-MM THREAD	C HEX	L	W	BULKHEAD HOLE DIA.
WPB4	4	M11X0.75	16	33	6	11MM
WPB6	6	M13X1	19	35	6	13MM
WPB8	8	M15X1.25	22	36	6	16MM
WPB10	10	M18X1	22	43	8	18MM
WPB12	12	M23X1.5	27	46	10	23MM
WPB14	14	M24X1.5	30	52	10	24MM

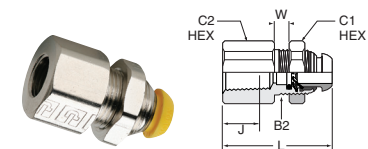
Jam nut is supplied loose in box

**WBMPB Mixed Bulkhead Union**

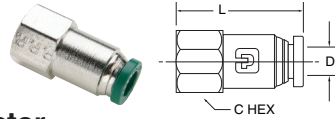
PART NO.	TUBE 1 SIZE (MM)	TUBE 2 SIZE (MM)	B-MM THREAD	C1	C2	C4	L	W	BULKHEAD HOLE DIA.
WBMPB4	4	4	M8X1	10	10	12	34	5	8MM
WBMPB6	6	6	M10X1	12	10	12	37	5	10MM
WBMPB8	8	8	M12X1	14	14	16	39	5	12MM
WBMPB10	10	10	M14X1	17	17	19	45	5	14MM
WBMPB12	12	12	M16X1	22	19	22	49	5	16MM
WBMPB14	14	14	M18X1	24	22	22	52	7	18MM

**66PLPBH Female Bulkhead**

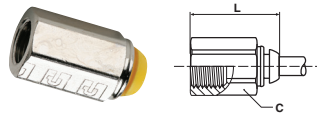
PART NO.	TUBE SIZE (IN)	PIPE THD (NPTF)	C HEX	P MAX.	L	FLOW DIA. D	BKHD HOLE DIA.
66PLPBH-5/32-4	5/32	1/4	11/16	.19	1.39	.125	1/2
66PLPBH-4-4	1/4	1/4	11/16	.24	1.35	.188	9/16
66PLPBH-6-6	3/8	3/8	1	.22	1.47	.312	7/8
66PLPBH-8-6	1/2	3/8	1 1/4	.35	1.56	.344	1

**WG4PB Bulkhead Union Fitting Female BSPP**

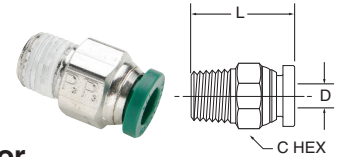
PART NUMBER	TUBE SIZE (MM)	BSPP	B2	C1 HEX	C2 HEX	J	L	W
WG4PB4-1/8	4	G1/8	M11X0.75	14	14	8	25.0	6
WG4PB6-1/8	6	G1/8	M13X1	17	17	8	25.0	6
WG4PB6-1/4	6	G1/4	M13X1	17	19	12	29.5	6
WG4PB8-1/8	8	G1/8	M15X1.25	19	17	8	25.0	6
WG4PB8-1/4	8	G1/4	M15X1.25	19	19	12	30.0	6
WG4PB10-3/8	10	G3/8	M18X1	22	22	12	34.0	8
WG4PB12-3/8	12	G3/8	M23X1.5	27	24	12	35.0	10
WG4PB12-1/2	12	G1/2	M23X1.5	27	27	14	40.0	10

**66PLP Female Connector**

PART NO.	TUBE SIZE	PIPE THREAD (NPTF)	C HEX	L	FLOW DIA. D
66PLP-2-2	1/8	1/8	9/16	1.17	.094
66PLP-2-4	1/8	1/4	11/16	1.34	.094
66PLP-3-2	3/16	1/8	9/16	1.13	.156
66PLP-5/32-2	5/32	1/8	9/16	1.17	.125
66PLP-5/32-4	5/32	1/4	11/16	1.38	.125
66PLP-4-2	1/4	1/8	9/16	1.17	.188
66PLP-4-4	1/4	1/4	11/16	1.38	.188
66PLP-5-2	5/16	1/8	9/16	1.25	.250
66PLP-5-4	5/16	1/4	11/16	1.45	.250
66PLP-6-4	3/8	1/4	11/16	1.46	.312
66PLP-6-6	3/8	3/8	13/16	1.51	.312

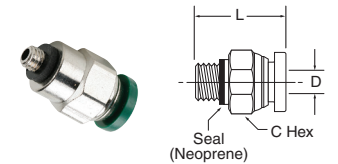
**G4PB Female Connector BSPP**

PART NO.	TUBE SIZE (MM)	BSPP	C HEX	L
G4PB4-1/8	4	1/8	14	26.0
G4PB6-1/8	6	1/8	14	27.5
G4PB6-1/4	6	1/4	17	33.0
G4PB8-1/8	8	1/8	17	29.0
G4PB8-1/4	8	1/4	17	33.0

**W68PLP Male Connector**

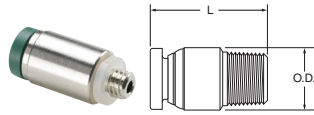
PART NO.	TUBE SIZE (IN)	PIPE THD (NPTF)	C HEX	L	FLOW DIA. D
W68PLP-2-1	1/8	1/16	3/8	.79	.094
W68PLP-2-2	1/8	1/8	7/16	.79	.094
W68PLP-2-4	1/8	1/4	9/16	1.02	.094
W68PLP-3-2	3/16	1/8	7/16	.85	.156
W68PLP-3-4	3/16	1/4	9/16	1.01	.156
W68PLP-5/32-1	5/32	1/16		.88	.940
W68PLP-5/32-2	5/32	1/8	7/16	.80	.125
W68PLP-5/32-4	5/32	1/4	9/16	1.03	.125
W68PLP-4-1	1/4	1/16	1/2	1.07	.141
W68PLP-4-2	1/4	1/8	1/2	.89	.188
W68PLP-4-4	1/4	1/4	9/16	1.00	.188
W68PLP-4-6	1/4	3/8	3/4	1.04	.188
W68PLP-5-2	5/16	1/8	9/16	1.18	.250
W68PLP-5-4	5/16	1/4	9/16	1.04	.250
W68PLP-5-6	5/16	3/8	11/16	1.04	.250
W68PLP-6-2	3/8	1/8	5/8	1.21	.250
W68PLP-6-4	3/8	1/4	5/8	1.08	.312
W68PLP-6-6	3/8	3/8	11/16	1.02	.312
W68PLP-6-8	3/8	1/2	7/8	1.28	.312
W68PLP-8-4	1/2	1/4	13/16	1.44	.344
W68PLP-8-6	1/2	3/8	13/16	1.24	.344
W68PLP-8-8	1/2	1/2	7/8	1.35	.375
68PLP-5/32-4LT*	5/32	1/4-28	7/16	.88	.093

\*SAE-LTThreads

**68PLP-X-0 Male Connector**

PART NO.	TUBE SIZE (IN)	PIPE THREAD (NPTF)	C HEX	L	FLOW DIA. D
68PLP-2-0	1/8	10X32	3/8	.92	.094
68PLP-5/32-0	5/32	10X32			
68PLP-4-0	1/4	10X32	1/2	.96	.094

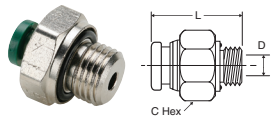
### 68PLPR Round Body Male Connector



PART NO.	TUBE SIZE	THREAD SIZE NPTF	INTERNAL HEX BROACH	BODY DIA. O.D.	L	FLOW DIA.
68PLPR-2-0*	1/8	10-32	3/32	3/8"	.89	.094
68PLPR-5/32-0*	5/32	10-32	3/32	3/8"	.91	.094
68PLPR-4-0*	1/4	10-32	3/32	1/2"	.95	.094
W68PLPR-5/32-1	5/32	1/16	1/8	7/16"	.87	.125
W68PLPR-5/32-2	5/32	1/8	1/8	7/16"	.79	.125
W68PLPR-4-1	1/4	1/16	5/32	1/2"	1.06	.156
W68PLPR-4-2	1/4	1/8	3/16	1/2"	.88	.188
W68PLPR-4-4	1/4	1/4	3/16	5/8"	.99	.188

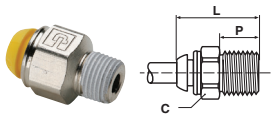
\*10-32 seal is neoprene

### PLPHBF4-B Male Connector BSPP



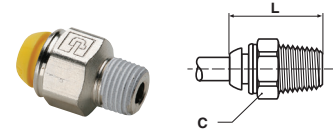
PART NO.	TUBE SIZE (IN)	PIPE THD BSPP	C HEX	L	FLOW DIA. D
3-1/8PLPHBF4-B	3/16	1/8-28	11/16	.96	.156
3-1/4PLPHBF4-B	3/16	1/4-19	3/4	.97	.156
4-1/8PLPHBF4-B	1/4	1/8-28	11/16	1.13	.188
4-1/4PLPHBF4-B	1/4	1/4-19	3/4	1.13	.188
4-3/8PLPHBF4-B	1/4	3/8-19	7/8	1.13	.188
6-1/4PLPHBF4-B	3/8	1/4-19	3/4	1.26	.256
6-3/8PLPHBF4-B	3/8	3/8-19	7/8	1.26	.312
6-1/2PLPHBF4-B	3/8	1/2-14	1-1/16	1.26	.312
8-3/8PLPHBF4-B	1/2	3/8-19	7/8	1.41	.452
8-1/2PLPHBF4-B	1/2	1/2-14	1-1/16	1.37	.452

### FPB Male Connector NPT



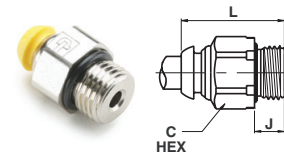
PART NO.	TUBE SIZE (MM)	NPT	C HEX	L	P	INT. HEX
W68PLP-5/32-2	4	1/8-27	7/16"	21.7	9.7	-
W68PLP-5/32-4	4	1/4-18	9/16"	28.1	14.2	-
FPB6-1/8	6	1/8-27	14	26.0	10.1	4
FPB6-1/4	6	1/4-18	14	28.5	14.6	4
FPB10-1/4	10	1/4-18	19	40.0	14.6	8
FPB10-3/8	10	3/8-18	19	34.0	14.6	8
FPB12-3/8	12	3/8-18	22	36.5	14.6	10

### F3PB Male Connector BSPT



PART NO.	TUBE SIZE (MM)	BSPT	C HEX	L
F3PB4-1/8	4	1/8	10	18.4
F3PB4-1/4	4	1/4	14	20.0
F3PB5-1/8	5	1/8	11	22.0
F3PB5-1/4	5	1/4	14	23.0
F3PB6-1/8	6	1/8	12	20.7
F3PB6-1/4	6	1/4	14	20.8
F3PB8-1/8	8	1/8	14	27.5
F3PB8-1/4	8	1/4	14	26.5
F3PB8-3/8	8	3/8	17	22.5
F3PB10-1/4	10	1/4	17	32.3
F3PB10-3/8	10	3/8	17	26.3
F3PB10-1/2	10	1/2	22	26.3
F3PB12-1/4	12	1/4	20	34.3
F3PB12-3/8	12	3/8	20	29.3
F3PB12-1/2	12	1/2	22	27.3
F3PB14-3/8	14	3/8	22	38.0
F3PB14-1/2	14	1/2	22	33.0

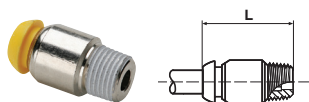
### F4PB Compact Male Connector BSPP



PART NO.	TUBE SIZE (MM)	BSPP	C HEX	J	L
F4PB4-1/8	4	1/8	13	4.7	19.9
F4PB4-1/4	4	1/4	16	6.0	20.3
F4PB6-1/8	6	1/8	13	4.7	23.4
F4PB6-1/4	6	1/4	16	6.0	22.2
F4PB8-1/4	8	1/4	16	6.0	23.8
F4PB8-1/8	8	1/8	14	4.7	25.1
F4PB8-3/8	8	3/8	20	6.5	23.5
F4PB10-1/4	10	1/4	17	6.0	31.3
F4PB10-3/8	10	3/8	20	6.5	26.8
F4PB10-1/2	10	1/2	24	7.5	26.1
F4PB12-1/4	12	1/4	20	6.0	31.9
F4PB12-3/8	12	3/8	20	6.5	31.8
F4PB12-1/2	12	1/2	24	7.5	27.8
F4PB14-3/8	14	3/8	22	6.5	35.0
F4PB14-1/2	14	1/2	24	7.5	30.0

B

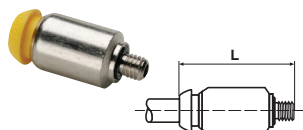
### F23PB Male Connector BSPT



PART NO.	TUBE SIZE (MM)	BSPT	L
F23PB4-1/8	4	1/8	21
F23PB6-1/8	6	1/8	24
F23PB6-1/4	6	1/4	28
F23PB8-1/8	8	1/8	28
F23PB8-1/4	8	1/4	28

This fitting has been designed for use where space is at a premium. It is assembled using the internal hexagon and an allen key.

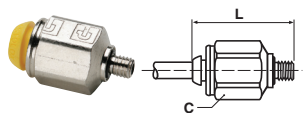
### F28PB Male Connector Metric Straight Thread



PART NO.	TUBE SIZE (MM)	MM THREAD	L
F28PB4M3	4	M3X0.5	24
F28PB4M5	4	M5X0.8	25
F28PB6M5	6	M5X0.8	25

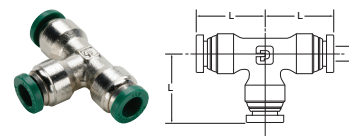
This fitting has been designed for use where space is at a premium. It is assembled using the internal hexagon and an allen key.

### F8PB Male Connector Metric Straight Thread



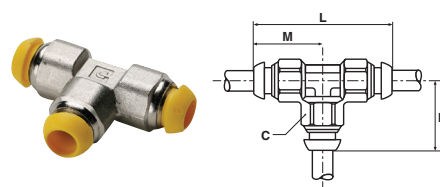
PART NO.	TUBE SIZE (MM)	MM THREAD	C HEX	L
F8PB4M5	4	M5X0.8	10	26.6
F8PB4M10	4	M10X1	14	24.0
F8PB6M5	6	M5X0.8	12	27.8
F8PB6M10	6	M10X1	14	28.0
F8PB6M12	6	M12X1.5	17	23.5
F8PB8M12	8	M12X1.5	17	27.0
F8PB8M16	8	M16X1.5	22	28.0
F8PB8M22	8	M22X1.5	27	30.0

### 164PLP Union Tee



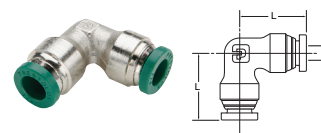
PART NO.	TUBE SIZE (IN)	L	FLOW DIA. D
164PLP-2	1/8	.74	.094
164PLP-3	3/16	.82	.156
164PLP-5/32	5/32	.77	.125
164PLP-4	1/4	.85	.188
164PLP-5	5/16	.97	.250
164PLP-6	3/8	1.01	.250
164PLP-8	1/2	1.15	.375

### JPB Union Tee



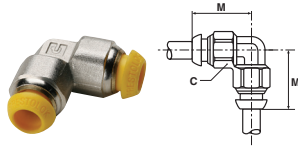
PART NO.	TUBE SIZE (MM)	C	L	M
JPB4	4	10	36	18
JPB5	5	12	41	21
JPB6	6	12	40	20
JPB8	8	14	44	22
JPB10	10	17	56	28
JPB12	12	22	60	30
JPB14	14	25	68	34

### 165PLP Union Elbow

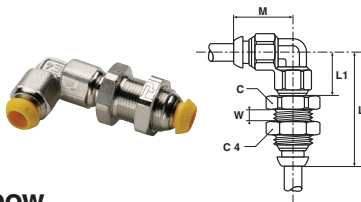


PART NO.	TUBE SIZE (IN)	L	FLOW DIA. D
165PLP-2	1/8	.74	.094
165PLP-5/32	5/32	.77	.125
165PLP-3	3/16	.82	.156
165PLP-4	1/4	.85	.188
165PLP-5	5/16	.97	.250
165PLP-6	3/8	1.01	.312
165PLP-8	1/2	1.15	.375

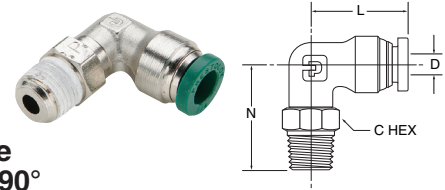


**EPB 90° Union Elbow**

PART NO.	TUBE SIZE (MM)	C HEX	M
EPB4	4	10	18.0
EPB5	5	12	20.5
EPB6	6	12	20.0
EPB8	8	14	22.0
EPB10	10	17	28.0
EPB12	12	22	30.0
EPB14	14	25	35.0

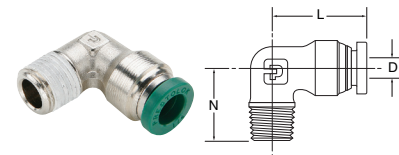
**WE6PB Adjustable Bulkhead Union Elbow**

PART NO.	TUBE SIZE (MM)	THREAD B (MM)	C HEX	C4 HEX	L	L1	M	W	BKHD HOLE DIA.
WE6PB4	4	M11X0.75	14	16	37	18.0	18.0	6	11MM
WE6PB6	6	M13X1	17	17	39	19.5	20.5	6	13MM
WE6PB8	8	M15X1.25	19	19	43	21.5	22.5	6	15MM
WE6PB10	10	M18X1	22	22	54	22.8	28.5	8	18MM
WE6PB12	12	M23X1.5	27	27	59	30.0	30.0	10	23MM

**W169PLP Male Elbow Swivel 90°**

PART NO.	TUBE SIZE (IN)	PIPE THREAD (NPTF)	C HEX	L	N	FLOW DIA. D
W169PLP-2-1	1/8	1/16	3/8	.74	.93	.160
W169PLP-2-2	1/8	1/8	7/16	.74	.92	.094
169PLP-2-0*	1/8	10-32	3/8	.74	.74	.080
W169PLP-2-4	1/8	1/4	9/16	.74	1.10	.094
W169PLP-3-2	3/16	1/8	7/16	.82	.92	.156
W169PLP-5/32-1	5/32	1/16	3/8	.84	.93	.160
W169PLP-5/32-2	5/32	1/8	7/16	.77	.92	.125
W169PLP-5/32-4	5/32	1/4	9/16	.77	1.10	.125
169PLP-5/32-0*	5/32	10-32	3/8	.85	.74	.080
W169PLP-4-1	1/4	1/16	3/8	.84	.93	.160
W169PLP-4-2	1/4	1/8	7/16	.85	.92	.156
W169PLP-4-4	1/4	1/4	9/16	.85	1.10	.156
W169PLP-4-6	1/4	3/8	11/16	.85	1.19	.156
169PLP-4-0*	1/4	10-32	3/8	.85	.74	.080
W169PLP-5-2	5/16	1/8	9/16	.97	1.02	.250
W169PLP-5-4	5/16	1/4	9/16	.97	1.24	.250
W169PLP-6-2	3/8	1/8	9/16	1.01	1.02	.250
W169PLP-6-4	3/8	1/4	9/16	1.01	1.24	.250
W169PLP-6-6	3/8	3/8	11/16	1.01	1.24	.250
W169PLP-6-8	3/8	1/2	7/8	1.01	1.48	.250
W169PLP-8-4	1/2	1/4	9/16	1.15	1.28	.312
W169PLP-8-6	1/2	3/8	11/16	1.15	1.31	.312
W169PLP-8-8	1/2	1/2	7/8	1.15	1.52	.312

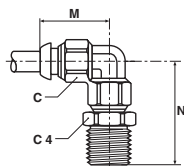
\*10-32 seal is neoprene

**W169PLPNS Male Elbow 90°**

PART NO.	TUBE SIZE (IN)	PIPE THREAD (NPTF)	L	N	FLOW DIA. D
W169PLPNS-2-2	1/8	1/8	.74	.67	.094
W169PLPNS5/32-2	5/32	1/8	.77	.67	.125
W169PLPNS5/32-4	5/32	1/4	.77	.87	.125
W169PLPNS-4-2	1/4	1/8	.85	.67	.188
W169PLPNS-4-4	1/4	1/4	.85	.87	.188
W169PLPNS-5-2	5/16	1/8	.97	.75	.234
W169PLPNS-5-4	5/16	1/4	.97	.94	.250
W169PLPNS-6-4	3/8	1/4	1.01	.94	.312
W169PLPNS-6-6	3/8	3/8	1.01	1.01	.312
W169PLPNS-6-8	3/8	1/2	1.01	1.27	.312
W169PLPNS-8-6	1/2	3/8	1.15	1.00	.375
W169PLPNS-8-8	1/2	1/2	1.15	1.27	.375
169PLPNS532-4LT*	5/32	1/4-28	.60	.48	.090

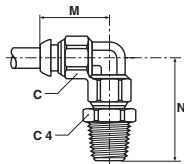
\* SAE-LT Threads

B



### C6PB Adjustable Male Elbow NPT

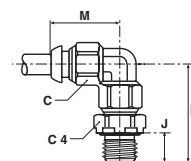
PART NO.	TUBE SIZE (MM)	NPT	C HEX	C4 HEX	M	N
C6PB6-1/4	6	1/4-18	12	14	20	36.0
C6PB6-3/8	6	3/8-18	12	19	20	36.5
C6PB10-1/4	10	1/4-18	17	16	28	41.5
C6PB10-3/8	10	3/8-18	17	19	28	41.5
C6PB12-1/2	12	1/2-14	22	22	30	47.5



### C63PB Adjustable Male Elbow BSPT

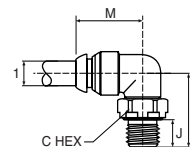
PART NO.	TUBE SIZE (MM)	BSPT	C HEX	C4 HEX	M	N
C63PB4-1/8	4	1/8	10	10	18	26.5
C63PB4-1/4	4	1/4	10	14	18	30.0
C63PB6-1/8	6	1/8	12	11	20	28.0
C63PB6-1/4	6	1/4	12	14	20	31.0
C63PB8-1/8	8	1/8	14	14	22	30.0
C63PB8-1/4	8	1/4	14	14	22	33.0
C63PB8-3/8	8	3/8	14	17	22	34.5
C63PB10-1/4	10	1/4	17	17	28	40.0
C63PB10-3/8	10	3/8	17	17	28	39.0
C63PB12-1/4	12	1/4	22	19	30	42.0
C63PB12-3/8	12	3/8	22	19	30	41.0
C63PB12-1/2	12	1/2	22	22	30	44.5
C63PB14-3/8	14	3/8	25	22	34	46.0
C63PB14-1/2	14	1/2	25	22	34	48.5

### C64PB Adjustable Male Elbow BSPP



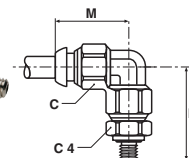
PART NO.	TUBE SIZE (MM)	BSPP	C HEX	C4 HEX	J	M	N
C64PB4-1/8	4	1/8	10	13	4.7	18	23.4
C64PB4-1/4	4	1/4	10	16	6.0	18	25.2
C64PB6-1/8	6	1/8	12	13	4.7	20	26.1
C64PB6-1/4	6	1/4	12	16	6.0	20	26.4
C64PB8-1/8	8	1/8	14	13	4.7	22	28.1
C64PB8-1/4	8	1/4	14	16	6.0	22	28.4
C64PB8-3/8	8	3/8	14	20	6.5	22	30.6
C64PB10-1/4	10	1/4	17	16	6.0	28	34.9
C64PB10-3/8	10	3/8	17	20	6.5	28	37.4
C64PB12-1/4	12	1/4	22	19	6.0	30	36.5
C64PB12-3/8	12	3/8	22	22	6.5	30	39.0
C64PB12-1/2	12	1/2	22	24	7.5	30	38.5
C64PB14-3/8	14	3/8	25	22	6.5	34	44.7
C64PB14-1/2	14	1/2	25	24	7.5	34	44.3

### C64SPB Compact Adjustable Male Elbow BSPP



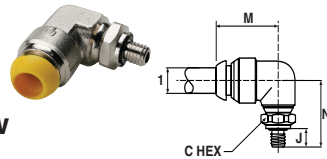
PART NUMBER	TUBE SIZE (MM)	BSPP	C HEX	J	M	N
C64SPB4-1/8	4	1/8	13	4.7	17	17.3
C64SPB6-1/8	6	1/8	13	4.7	22	17.3
C64SPB6-1/4	6	1/4	16	6.0	22	19.1
C64SPB8-1/8	8	1/8	13	4.7	24	16.9
C64SPB8-1/4	8	1/4	16	6.0	24	18.7
C64SPB8-3/8	8	3/8	20	6.5	24	20.7
C64SPB10-1/4	10	1/4	16	6.0	29	20.5
C64SPB10-3/8	10	3/8	20	6.5	29	22.5
C64SPB12-1/4	12	1/8	16	6.0	31	20.5
C64SPB12-3/8	12	3/8	20	6.5	31	23.2
C64SPB12-1/2	12	1/2	24	7.5	31	25.2

### C68PB Adjustable Male Elbow Metric Straight Thread



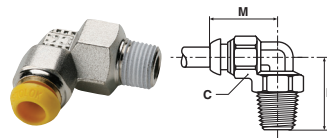
PART NO.	TUBE SIZE (MM)	THREAD (MM)	C HEX	C4 HEX	M	N
C68PB4M5	4	M5X0.8	11	10	17	18
C68PB6M5	6	M5X0.8	11	10	17	18

### C68SPB Compact Adjustable Male Elbow Metric Straight Thread

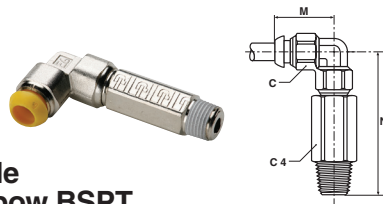


PART NUMBER	TUBE SIZE (MM)	THREAD (MM)	C HEX	J	M	N
C68SPB4M5	4	M5X0.8	12.5	5	17	18
C68SPB6M5	6	M5X0.8	12.5	5	17	18

### C3PB Compact Elbow BSPT



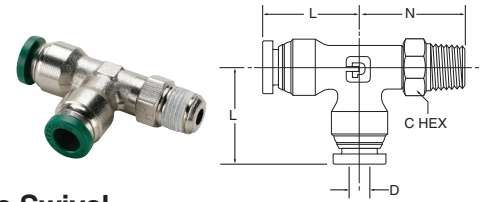
PART NO.	TUBE SIZE (MM)	BSPT	C HEX	M	N
C3PB4-1/8	4	1/8	14	18	21
C3PB6-1/8	6	1/8	14	20	21
C3PB6-1/4	6	1/4	14	20	21
C3PB8-1/8	8	1/8	14	22	23
C3PB8-1/4	8	1/4	14	22	23
C3PB10-1/4	10	1/4	17	28	26
C3PB10-3/8	10	3/8	17	28	26
C3PB12-3/8	12	3/8	17	30	27
C3PB12-1/2	12	1/2	17	30	31
C3PB14-3/8	14	3/8	20	34	30
C3PB14-1/2	14	1/2	20	34	33



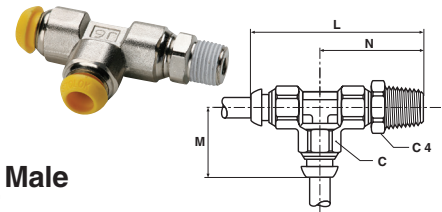
### C63LPB Adjustable Extended Male Elbow BSPT

PART NO.	TUBE SIZE (MM)	BSPT	C HEX	C4 HEX	M	N
C63LPB4-1/8	4	1/8	10	10	18	42.0
C63LPB4-1/4	4	1/4	10	14	18	46.0
C63LPB6-1/8	6	1/8	12	11	20	45.5
C63LPB6-1/4	6	1/4	12	14	20	49.5
C63LPB8-1/8	8	1/8	14	14	22	50.0
C63LPB8-1/4	8	1/4	14	14	22	52.5

### W171PLP Male Run Tee Swivel



PART NO.	TUBE SIZE (IN)	PIPE THREAD (NPTF)	C HEX	L	N	FLOW DIA. D
W171PLP-2-2	1/8	1/8	7/16	.74	.92	.094
W171PLP-5/32-2	5/32	1/8	7/16	.77	.92	.125
W171PLP-4-2	1/4	1/8	7/16	.85	.92	.156
W171PLP-4-4	1/4	1/4	9/16	.85	1.10	.156
W171PLP-4-6	1/4	3/8	11/16	.85	1.24	.156
W171PLP-5-2	5/16	1/8	9/16	.97	1.02	.250
W171PLP-5-4	5/16	1/4	9/16	.97	1.24	.250
W171PLP-6-4	3/8	1/4	9/16	1.01	1.24	.250
W171PLP-6-6	3/8	3/8	11/16	1.01	1.24	.250
W171PLP-8-6	1/2	3/8	11/16	1.15	1.31	.312
W171PLP-8-8	1/2	1/2	7/8	1.15	1.52	.312

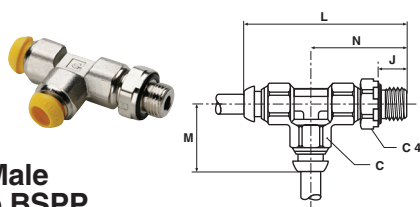


### R63PB Swivel Male Run Tee BSPT

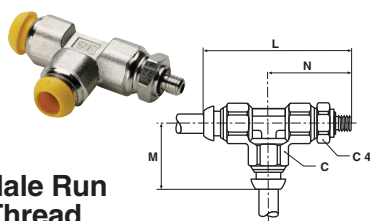
PART NO.	TUBE SIZE (MM)	BSPT	C HEX	C4 HEX	L	M	N
R63PB4-1/8	4	1/8	10	10	44.5	18	26.5
R63PB4-1/4	4	1/4	10	14	48.0	18	30.0
R63PB6-1/8	6	1/8	12	11	48.0	20	28.0
R63PB6-1/4	6	1/4	12	14	51.0	20	31.0
R63PB8-1/8	8	1/8	14	14	52.0	22	30.0
R63PB8-1/4	8	1/4	14	14	55.0	22	33.0
R63PB8-3/8	8	3/8	14	17	56.5	22	34.5
R63PB10-1/4	10	1/4	17	17	68.0	28	40.0
R63PB10-3/8	10	3/8	17	17	67.0	28	39.0
R63PB12-1/4	12	1/4	22	19	72.0	30	42.0
R63PB12-3/8	12	3/8	22	19	71.0	30	41.0
R63PB12-1/2	12	1/2	22	22	74.5	30	44.5
R63PB14-3/8	14	3/8	25	22	80.0	34	46.0
R63PB14-1/2	14	1/2	25	22	82.5	34	48.5

B

### R64PB Swivel Male Branch Run Tee BSPP



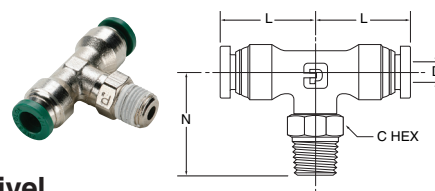
PART NO.	TUBE SIZE (MM)	BSPP	C HEX	C4 HEX	J	L	M	N
R64PB4-1/8	4	1/8	10	13	4.7	41.4	18	23.4
R64PB4-1/4	4	1/4	10	16	6.0	43.2	18	25.2
R64PB6-1/8	6	1/8	12	13	4.7	46.1	20	26.1
R64PB6-1/4	6	1/4	12	16	6.0	46.4	20	26.4
R64PB8-1/8	8	1/8	14	13	4.7	50.1	22	28.1
R64PB8-1/4	8	1/4	14	16	6.0	50.4	22	28.4
R64PB8-3/8	8	3/8	14	20	6.5	52.6	22	30.6
R64PB10-1/4	10	1/4	17	16	6.0	62.9	28	34.9
R64PB10-3/8	10	3/8	17	20	6.5	65.4	28	37.4
R64PB12-1/4	12	1/4	22	19	6.0	65.5	29	36.5
R64PB12-3/8	12	3/8	22	22	6.5	68.0	29	39.0
R64PB14-3/8	14	3/8	25	22	6.5	78.7	34	44.7
R64PB14-1/2	14	1/2	25	24	7.5	78.3	34	44.3



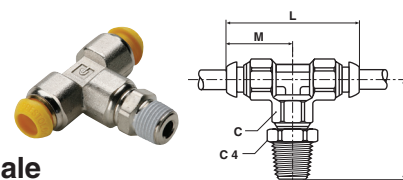
### R68PB Adjustable Male Run Tee Metric Straight Thread

PART NO.	TUBE SIZE (MM)	THREAD (MM)	C HEX	C4 HEX	L	M	N
R68PB4M3	4	M3X0.5	10	10	41.0	18	23.0
R68PB4M5	4	M5X0.8	10	10	42.5	18	24.5
R68PB6M5	6	M5X0.8	12	11	45.5	20	25.5

### W172PLP Male Branch Tee Swivel

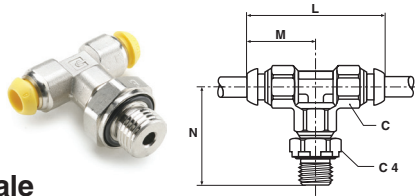


PART NO.	TUBE SIZE (IN)	PIPE THREAD (NPTF)	C HEX	L	N	FLOW DIA. D
W172PLP-2-2	1/8	1/8	7/16	.74	.92	.094
W172PLP-3-2	3/16	1/8	7/16	.82	.92	.156
W172PLP-5/32-2	5/32	1/8	7/16	.77	.92	.125
W172PLP-4-2	1/4	1/8	7/16	.85	.92	.156
W172PLP-4-4	1/4	1/4	9/16	.85	1.10	.156
W172PLP-4-6	1/4	3/8	11/16	.85	1.10	.156
W172PLP-5-2	5/16	1/8	9/16	.97	1.02	.250
W172PLP-5-4	5/16	1/4	9/16	.97	1.24	.250
W172PLP-6-4	3/8	1/4	9/16	1.01	1.24	.250
W172PLP-6-6	3/8	3/8	11/16	1.01	1.24	.250
W172PLP-8-4	1/2	1/4	9/16	1.15	1.30	.312
W172PLP-8-6	1/2	3/8	11/16	1.15	1.31	.312
W172PLP-8-8	1/2	1/2	7/8	1.15	1.52	.312



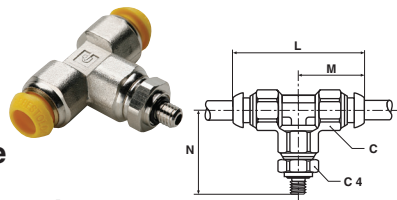
### S63PB Swivel Male Branch Tee BSPT

PART NO.	TUBE SIZE (MM)	BSPT	C HEX	C4 HEX	L	M	N
S63PB4-1/8	4	1/8	10	10	36	18	26.5
S63PB4-1/4	4	1/4	10	14	36	18	30.0
S63PB6-1/8	6	1/8	12	11	40	20	28.0
S63PB6-1/4	6	1/4	12	14	40	20	31.0
S63PB8-1/8	8	1/8	14	14	44	22	30.0
S63PB8-1/4	8	1/4	14	14	44	22	33.0
S63PB8-3/8	8	3/8	14	17	44	22	34.5
S63PB10-1/4	10	1/4	17	17	56	28	40.0
S63PB10-3/8	10	3/8	17	17	56	28	39.0
S63PB12-1/4	12	1/4	22	19	60	30	42.0
S63PB12-3/8	12	3/8	22	19	60	30	41.0
S63PB12-1/2	12	1/2	22	22	60	30	44.5
S63PB14-3/8	14	3/8	25	22	68	34	46.0
S63PB14-1/2	14	1/2	25	22	68	34	48.5



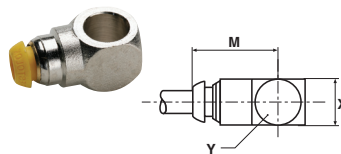
### S64PB Swivel Male Branch Tee BSPP

PART NO.	TUBE SIZE (MM)	BSPP	C HEX	C4 HEX	L	M	N
S64PB4-1/8	4	1/8	10	13	36	18	23.4
S64PB4-1/4	4	1/4	10	16	36	18	25.2
S64PB6-1/8	6	1/8	12	13	40	20	26.1
S64PB6-1/4	6	1/4	12	16	40	20	26.4
S64PB8-1/8	8	1/8	14	13	44	22	28.1
S64PB8-1/4	8	1/4	14	16	44	22	28.4
S64PB8-3/8	8	3/8	14	20	44	22	30.6
S64PB10-1/4	10	1/4	17	16	56	28	34.9
S64PB10-3/8	10	3/8	17	20	56	28	37.4
S64PB12-1/4	12	1/4	22	19	58	29	36.5
S64PB12-3/8	12	3/8	22	22	58	29	39.0
S64PB14-3/8	14	3/8	25	22	68	34	44.7
S64PB14-1/2	14	1/2	25	24	68	34	44.3



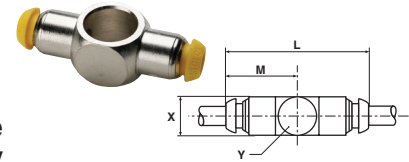
### S68PB Adjustable Male Branch Tee Metric Straight Thread

PART NO.	TUBE SIZE (MM)	THREAD (MM)	C HEX	C4 HEX	L	M	N
S68PB4M3	4	M3X0.5	10	10	36	18	23.0
S68PB4M5	4	M5X0.8	10	10	36	18	24.5
S68PB6M5	6	M5X0.8	12	11	40	20	25.5



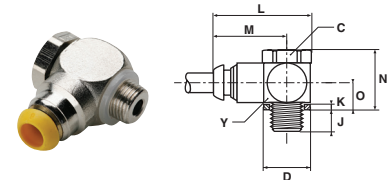
### CORPB Single Banjo Body Only

PART NO.	TUBE SIZE (MM)	PART NO. SINGLE BOLT	PART NO. STACKING BOLT	M	X	Y
CORPB4-5	4	SC8UM5-4	SC8UDM5-4	19.0	10	10
CORPB4-10	4	SC4U1/8-4	SC4UD1/8-4	22.5	14	14
CORPB6-10	6	SC4U1/8-4	SC4UD1/8-4	23.0	14	14
CORPB6-13	6	SC4U1/4-6	SC4UD1/4-6	24.5	14	17
CORPB8-10	8	SC4U1/8-4	SC4UD1/8-4	24.0	14	14
CORPB8-13	8	SC4U1/4-6	SC4UD1/4-6	25.5	14	17
CORPB10-17	10	SC4U3/8-10	SC4UD3/8-10	32.0	17	22



### CORPBD Double Banjo Body Only

PART NO.	TUBE SIZE (MM)	PART NO. SINGLE BOLT	PART NO. STACKING BOLT	L	M	X	Y
CORPB4D5	4	SC8UM5-4	SC8UDM5-4	38	19.0	10	10
CORPB4D10	4	SC4U1/8-4	SC4UD1/8-4	45	22.5	14	14
CORPB6D10	6	SC4U1/8-4	SC4UD1/8-4	46	23.0	14	14
CORPB6D13	6	SC4U1/4-6	SC4UD1/4-6	49	24.5	14	17
CORPB8D10	8	SC4U1/8-4	SC4UD1/8-4	48	24.0	14	14

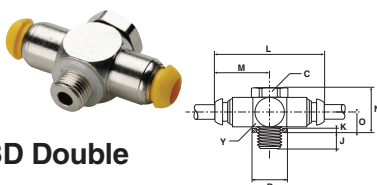


### COR8PB/COR4PB Single Banjo Assembled

PART NO.	TUBE SIZE (MM)	BSPP	C HEX	D	J	K	L	M	N	O	Y
COR8PB4M5	4	M5X0.8	8	8.2	4.5	1.0	24.0	19.0	13.5	6.0	10
COR4PB4-1/8	4	1/8	14	14.4	6.0	1.5	29.5	22.5	19.5	8.5	14
COR4PB6-1/8	6	1/8	14	14.4	6.0	1.5	30.0	23.0	19.5	8.5	14
COR4PB6-1/4	6	1/4	17	18.4	9.0	2.0	33.0	24.5	21.0	9.0	17
COR4PB8-1/8	8	1/8	14	14.4	6.0	1.5	31.0	34.0	19.5	8.5	14
COR4PB8-1/4	8	1/4	17	18.4	9.0	2.0	34.0	25.5	21.0	9.0	17
COR4PB10-3/8	10	3/8	22	21.6	9.0	2.5	43.0	32.0	25.5	11.0	22

These parts are delivered complete with sealing washer.

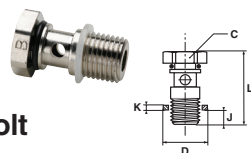


**B**

### COR8PBD/COR4PBD Double Banjo Assembled

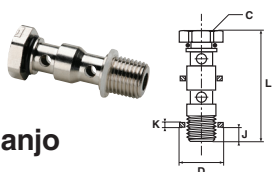
PART NO.	TUBE SIZE (MM)	BSPP	C HEX	D	J	K	L	M	N	O	Y
COR8PB4DM5	4	M5X0.8	8	8.2	4.5	1.0	38	19.0	13.5	6.0	10
COR4PB4D1/8	4	1/8	14	14.4	6.0	1.5	45	22.5	19.5	8.5	14
COR4PB6D1/8	6	1/8	14	14.4	6.0	1.5	46	23.0	19.5	8.5	14
COR4PB6D1/4	6	1/4	17	18.4	9.0	2.0	49	24.5	21.0	9.0	17
COR4PB8D1/8	8	1/8	14	14.4	6.0	1.5	48	24.0	19.5	8.5	14

These parts are delivered complete with sealing washer.



### SC8U/SC4U Single Banjo Bolt with Seals BSPP

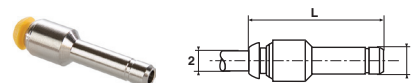
PART NO.	BSPP	C HEX	D	J	K	L
SC8UM5-4	M5X0.8	8	8.2	4.5	1.0	18.5
SC4U1/8-4	1/8	14	14.4	6.0	1.5	25.5
SC4U1/4-6	1/4	17	18.4	9.0	2.0	30.0
SC4U3/8-10	3/8	22	21.6	9.0	2.5	34.5



### SC8UD/SC4UD Stacking Banjo Bolt with Seals BSPP

PART NO.	BSPP	C HEX	D	J	K	L
SC8UDM5-4	M5X0.8	8	8.2	4.5	1.0	29.5
SC4UD1/8-4	1/8	14	14.4	6.0	1.5	41.0
SC4UD1/4-6	1/4	17	18.4	9.0	2.0	46.0

### TRPB Tube End Reducer

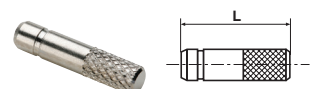


PART NO.	TUBE 1 SIZE (MM)	TUBE 2 SIZE (MM)	L
TRPB6-4	6	4	40.0
TRPB8-4	8	4	39.5
TRPB8-6	8	6	41.5
TRPB10-4	10	4	37.0
TRPB10-6	10	6	43.0
TRPB10-8	10	8	47.5
TRPB12-6	12	6	38.0
TRPB12-8	12	8	44.0
TRPB12-10	12	10	52.0
TRPB14-8	14	8	41.0
TRPB14-10	14	10	51.0
TRPB14-12	14	12	55.0



### TEPB Tube End Expander

PART NO.	TUBE 1 SIZE (MM)	TUBE 2 SIZE (MM)	L
TEPB4-6	4	6	39



### FNPB Plug

PART NO.	TUBE SIZE (MM)	L
FNPB4	4	27
FNPB6	6	27
FNPB8	8	30
FNPB10	10	30
FNPB12	12	35
FNPB14	14	36



# Prestolok Composite Fittings

B

MATERIALS OF CONSTRUCTION	
BODY:	GLASS REINFORCED NYLON 6.6
COLLAR:	NYLON
GRIPPING RING:	STAINLESS STEEL
D SEAL:	NITRILE
O-RINGS:	NITRILE
BASE:	NICKEL PLATED BRASS WITH THREAD SEALANT ON TAPERED COMPONENTS AND CAPTIVE SEAL ON PARALLEL THREADS.

NOMENCLATURE	
EXAMPLE: W369PLP-4-2	ATTRIBUTE:
W	WHITE THREAD SEALANT
3	COMPOSITE BODY
69	MALE ELBOW
PLP	PRESTOLOK
4	1/4" (4/16) TUBE O.D.
2	1/8" (2/16) PIPE THREAD

PRESSURE AND TEMPERATURE RANGE	
GRIPPING RING:	-4°F TO +175°F AT UP TO 290 PSI DEPENDING ON TUBING
COLLET TECHNOLOGY:	+5°F TO +155°F AT UP TO 260 PSI DEPENDING ON TUBING
VACUUM CAPABILITY:	28" HG

APPLICABLE TUBE	
TUBE O.D.:	1/8, 5/32, 3/16, 1/4, 5/16, 3/8, 1/2
TUBE O.D. (MM):	3, 4, 6, 8, 10, 12, 14



A compact one piece push-to-connect fitting. All items in the Prestolok composite range are silicone free. The stainless steel gripping ring ensures excellent tube retention while the D seal within the fitting provides a positive seal on the O.D. of the tube, in both static and dynamic positions, due to an optimized design of the fitting cavity. Prestolok composite should not be used for live swivel applications.

## Recommended Tubing

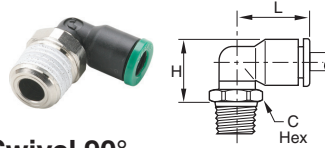
Prestolok composite fittings are designed to be used with the following tubing.

- Nylon Semi-Rigid
- Polyurethane
- Nylon
- Fluoropolymer

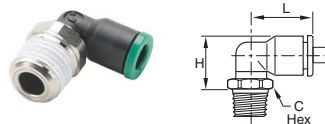
## Assembly Instructions

1. Achieve a square cut edge with a tube cutter
2. Simply push the tubing until it can go no further. Holding and sealing is accomplished instantaneously.
3. Pull on the tubing to verify gripping action
4. To disassemble make sure there is no air flow
5. Depress the manual push button, then pull the tube out.

B

**W369PLP Male Elbow Swivel 90°**

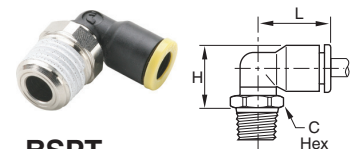
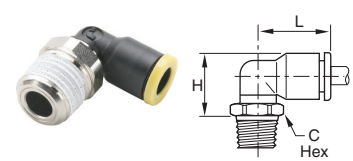
PART NO.	TUBE SIZE (IN)	THREAD NPT / UNF	C HEX (MM)	L	H
369PLP-2-0	1/8	10-32	8	0.57	0.52
W369PLP-2-1	1/8	1/16	10	0.57	0.53
W369PLP-2-2	1/8	1/8	11	0.57	0.53
W369PLP-2-4	1/8	1/4	14	0.57	0.55
369PLP-5/32-0	5/32	10-32	8	0.55	0.53
W369PLP-5/32-2	5/32	1/8	11	0.55	0.53
W369PLP-5/32-4	5/32	1/4	14	0.55	0.55
W369PLP-3-2	3/16	1/8	11	0.85	0.67
369PLP-4-0	1/4	10-32	11	0.71	0.63
W369PLP-4-2	1/4	1/8	11	0.71	0.67
W369PLP-4-4	1/4	1/4	14	0.71	0.63
W369PLP-4-6	1/4	3/8	18	0.71	0.65
W369PLP-5-2	5/16	1/8	11	0.91	0.75
W369PLP-5-4	5/16	1/4	14	0.91	0.71
W369PLP-5-6	5/16	3/8	18	0.91	0.73
W369PLP-6-2	3/8	1/8	15	1.08	0.91
W369PLP-6-4	3/8	1/4	15	1.08	0.91
W369PLP-6-6	3/8	3/8	18	1.08	0.87
W369PLP-6-8	3/8	1/2	22	1.08	0.91
W369PLP-8-4	1/2	1/4	20	1.38	1.22
W369PLP-8-6	1/2	3/8	20	1.38	1.22
W369PLP-8-8	1/2	1/2	24	1.38	1.12

**W369PLP Male Elbow Swivel 90° - BSPT**

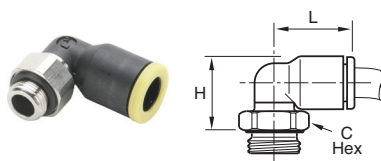
PART NO.	TUBE SIZE (IN)	THREAD BSPT	C HEX (MM)	L	H
W369PLP-2-2R	1/8	1/8	10	0.57	0.53
W369PLP-5/32-2R	5/32	1/8	10	0.55	0.53
W369PLP-5/32-4R	5/32	1/4	14	0.55	0.55
W369PLP-3-2R	3/16	1/8	11	0.85	0.67
W369PLP-4-2R	1/4	1/8	10	0.71	0.67
W369PLP-4-4R	1/4	1/4	14	0.71	0.63
W369PLP-5-2R	5/16	1/8	10	0.91	0.75
W369PLP-5-4R	5/16	1/4	14	0.91	0.71
W369PLP-5-6R	5/16	3/8	17	0.91	0.71
W369PLP-5-8R	5/16	1/2	21	0.91	0.77
W369PLP-6-4R	3/8	1/4	15	1.04	0.87
W369PLP-6-6R	3/8	3/8	17	1.04	0.87
W369PLP-8-4R	1/2	1/4	20	1.38	1.22
W369PLP-8-6R	1/2	3/8	20	1.38	1.22
W369PLP-8-8R	1/2	1/2	24	1.38	1.12

**W369PLP Male Elbow**

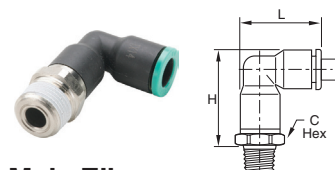
PART NO.	TUBE SIZE (MM)	THREAD NPT	C HEX (MM)	H	L
W369PLP-4M-2	4	1/8	11	0.5	0.6
W369PLP-4M-4	4	1/4	14	0.6	0.6
W369PLP-6M-2	6	1/8	11	0.6	0.6
W369PLP-6M-4	6	1/4	14	0.6	0.6
W369PLP-8M-2	8	1/8	11	0.8	0.9
W369PLP-8M-4	8	1/4	14	0.7	0.9
W369PLP-8M-6	8	3/8	18	0.7	0.9
W369PLP-10M-4	10	1/4	15	0.9	1.0
W369PLP-10M-6	10	3/8	18	0.9	1.0
W369PLP-10M-8	10	1/2	22	0.9	1.0
W369PLP-12M-6	12	3/8	18	1.0	1.2
W369PLP-12M-8	12	1/2	22	1.0	1.2

**W369PLP Male Elbow - BSPT**

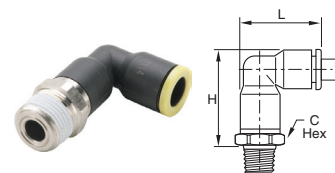
PART NO.	TUBE SIZE (MM)	THREAD BSPT	C HEX (MM)	H	L
W369PLP-4M-2R	4	1/8	10	13.5	14.0
W369PLP-4M-4R	4	1/4	14	14.0	14.0
W369PLP-4M-6R	4	3/8	17	13.5	14.0
W369PLP-6M-2R	6	1/8	10	15.5	16.0
W369PLP-6M-4R	6	1/4	14	16.0	16.0
W369PLP-6M-6R	6	3/8	17	16.0	16.0
W369PLP-6M-8R	6	1/2	21	16.5	16.0
W369PLP-8M-2R	8	1/8	10	19.0	23.0
W369PLP-8M-4R	8	1/4	14	18.0	23.0
W369PLP-8M-6R	8	3/8	17	18.0	23.0
W369PLP-8M-8R	8	1/2	21	19.5	23.0
W369PLP-10M-2R	10	1/8	15	23.0	26.5
W369PLP-10M-4R	10	1/4	15	22.0	26.5
W369PLP-10M-6R	10	3/8	17	22.0	26.5
W369PLP-10M-8R	10	1/2	21	22.0	26.5
W369PLP-12M-4R	12	1/4	15	25.0	31.0
W369PLP-12M-6R	12	3/8	17	25.0	31.0
W369PLP-12M-8R	12	1/2	21	25.0	31.0
W369PLP-14M-6R	14	3/8	20	30.5	35.5
W369PLP-14M-8R	14	1/2	24	28.5	35.5

**369PLP Male Elbow - BSPP**

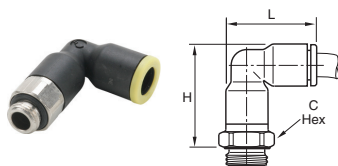
PART NO.	TUBE SIZE (MM)	BSPP / METRIC	C HEX (MM)	H	L
369PLP-3M-M3	3	M3X0.5	8	15.0	14.5
369PLP-3M-M5	3	M5X0.8	8	13.5	14.5
369PLP-4M-M3	4	M3X0.5	8	15.0	14.5
369PLP-4M-M5	4	M5X0.8	8	13.5	14.0
369PLP-4M-M7	4	M7X1	10	15.0	14.0
369PLP-4M-2G	4	1/8	13	13.0	14.0
369PLP-4M-4G	4	1/4	16	13.0	14.0
369PLP-6M-M5	6	M5X0.8	8	15.5	16.0
369PLP-6M-M7	6	M7X1	10	17.5	16.0
369PLP-6M-M10	6	M10X1	13	15.0	14.0
369PLP-6M-M12	6	M12X1.5	15	15.0	16.0
369PLP-6M-2G	6	1/8	13	15.0	16.0
369PLP-6M-4G	6	1/4	16	15.0	16.0
369PLP-6M-6G	6	3/8	20	15.5	16.0
369PLP-6M-8G	6	1/2	24	16.0	16.0
369PLP-8M-M10	8	M10X1	13	20.5	23.0
369PLP-8M-M12	8	M12X1.5	15	19.5	23.0
369PLP-8M-2G	8	1/8	13	20.5	23.0
369PLP-8M-4G	8	1/4	16	18.5	23.0
369PLP-8M-6G	8	3/8	20	18.5	23.0
369PLP-8M-8G	8	1/2	24	19.0	23.0
369PLP-10M-4G	10	1/4	16	23.5	26.5
369PLP-10M-6G	10	3/8	20	22.0	26.5
369PLP-10M-8G	10	1/2	24	22.0	26.5
369PLP-12M-4G	12	1/4	16	26.5	31.0
369PLP-12M-6G	12	3/8	20	25.0	31.0
369PLP-12M-8G	12	1/2	24	25.0	31.0
369PLP-14M-6G	14	3/8	20	32.5	35.5
369PLP-14M-8G	14	1/2	24	27.0	35.5

**W369PLPX Extended Male Elbow**

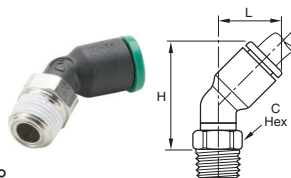
PART NO.	TUBE SIZE (IN)	THREAD NPT / UNF	C HEX (MM)	H	L
369PLPX-2-0	1/8	10-32	8	0.91	0.75
W369PLPX-2-2	1/8	1/8	11	0.91	0.75
W369PLPX-2-4	1/8	1/4	14	0.93	0.75
369PLPX-5/32-0	5/32	10-32	8	0.91	0.75
W369PLPX-5/32-2	5/32	1/8	11	0.91	0.75
W369PLPX-5/32-4	5/32	1/4	14	0.93	0.75
369PLPX-4-0	1/4	10-32	11	1.10	0.93
369PLPX-4-M7	1/4	M7	9	1.17	0.93
W369PLPX-4-2	1/4	1/8	11	1.12	0.93
W369PLPX-4-4	1/4	1/4	14	1.08	0.93
W369PLPX-4-6	1/4	3/8	17	1.12	0.93
W369PLPX-5-2	5/16	1/8	13	1.32	1.16
W369PLPX-5-4	5/16	1/4	14	1.28	1.16
W369PLPX-6-2	3/8	1/8	17	1.40	1.34
W369PLPX-6-4	3/8	1/4	17	1.41	1.33
W369PLPX-6-6	3/8	3/8	18	1.45	1.33

**W369PLPX Extended Male Elbow - BSPT**

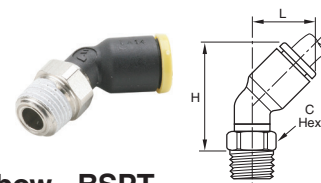
PART NO.	TUBE SIZE (MM)	THREAD BSPT	C HEX (MM)	H	L
W369PLPX-4M-2R	4	1/8	10	23.0	19.0
W369PLPX-4M-4R	4	1/4	14	23.5	19.0
W369PLPX-6M-2R	6	1/8	10	27.0	22.5
W369PLPX-6M-4R	6	1/4	14	27.5	22.5
W369PLPX-8M-2R	8	1/8	13	34.5	29.5
W369PLPX-8M-4R	8	1/4	14	32.5	29.5
W369PLPX-8M-6R	8	3/8	17	33.0	29.5
W369PLPX-10M-4R	10	1/4	15	39.5	34.5
W369PLPX-10M-6R	10	3/8	17	39.5	34.5
W369PLPX-10M-8R	10	1/2	21	39.5	34.5
W369PLPX-12M-4R	12	1/4	19	45.5	40.5
W369PLPX-12M-6R	12	3/8	19	45.5	40.5
W369PLPX-12M-8R	12	1/2	21	45.5	40.5
W369PLPX-14M-6R	14	3/8	21	51.5	46.5
W369PLPX-14M-8R	14	1/2	21	51.5	46.5

**B****369PLPX Male Elbow - BSPP**

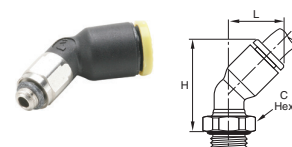
PART NO.	TUBE SIZE (MM)	BSPP / METRIC	C HEX (MM)	H
369PLPX-4M-M5	4	M5X0.8	8	23.0
369PLPX-4M-M7	4	M7X1	10	22.5
369PLPX-4M-2G	4	1/8	13	22.5
369PLPX-4M-4G	4	1/4	16	22.5
369PLPX-6M-M5	6	M5X0.8	10	27.5
369PLPX-6M-M7	6	M7X1	10	26.0
369PLPX-6M-2G	6	1/8	13	27.0
369PLPX-6M-4G	6	1/4	16	27.0
369PLPX-8M-2G	8	1/8	13	36.0
369PLPX-8M-4G	8	1/4	16	33.0
369PLPX-8M-6G	8	3/8	20	33.0
369PLPX-10M-4G	10	1/4	16	40.5
369PLPX-10M-6G	10	3/8	20	40.5
369PLPX-10M-8G	10	1/2	24	40.5
369PLPX-12M-4G	12	1/4	19	44.5
369PLPX-12M-6G	12	3/8	20	42.0
369PLPX-12M-8G	12	1/2	24	42.0
369PLPX-14M-6G	14	3/8	22	51.0
369PLPX-14M-8G	14	1/2	24	48.5

**W379PLP Male Elbow 45°**

PART NO.	TUBE SIZE (IN)	THREAD NPT / UNF	C HEX (MM)	H	L
379PLP-2-0	1/8	10-32	8	0.91	0.49
W379PLP-2-2	1/8	1/8	11	0.81	0.49
W379PLP-4-2	1/4	1/8	11	0.98	0.57
W379PLP-4-4	1/4	1/4	14	0.98	0.57
W379PLP-4-M7	1/4	M7	9	1.14	0.57
W379PLP-6-4	3/8	1/4	17	1.36	0.91
W379PLP-6-6	3/8	3/8	18	1.36	0.91

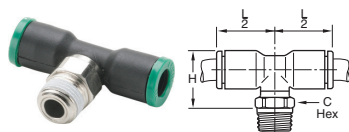
**W379PLP 45° Male Elbow - BSPT**

PART NO.	TUBE SIZE (MM)	BSPT	C HEX (MM)	H	L
W379PLP-4M-2R	4	1/8	10	24.5	13.0
W379PLP-6M-2R	6	1/8	10	28.0	14.5
W379PLP-6M-4R	6	1/4	14	30.0	14.5
W379PLP-8M-2R	8	1/8	10	33.5	19.5
W379PLP-8M-4R	8	1/4	14	33.5	19.5
W379PLP-8M-6R	8	3/8	17	33.5	19.5
W379PLP-10M-4R	10	1/4	15	38.5	23.0
W379PLP-10M-6R	10	3/8	17	39.0	23.0
W379PLP-10M-8R	10	1/2	21	40.5	23.0
W379PLP-12M-4R	12	1/4	15	44.0	26.0
W379PLP-12M-6R	12	3/8	17	44.0	26.0
W379PLP-12M-8R	12	1/2	21	46.0	26.0

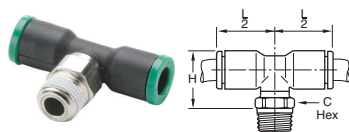
**379PLP 45° Male Elbow - BSPP**

PART NO.	TUBE SIZE (MM)	BSPP / M5	C HEX (MM)	H	L
379PLP-4M-M5	4	M5X0.8	8	23.0	13.0
379PLP-4M-2G	4	1/8	13	25.0	13.0
379PLP-6M-M5	6	M5X0.8	8	30.0	14.5
379PLP-6M-2G	6	1/8	13	28.5	14.5
379PLP-6M-4G	6	1/4	16	29.5	14.5
379PLP-8M-2G	8	1/8	13	36.0	19.5
379PLP-8M-4G	8	1/4	16	34.5	19.5
379PLP-8M-6G	8	3/8	20	34.5	19.5
379PLP-10M-4G	10	1/4	16	40.5	23.0
379PLP-10M-6G	10	3/8	20	39.0	23.0
379PLP-10M-8G	10	1/2	24	41.0	23.0
379PLP-12M-4G	12	1/4	16	46.0	26.0
379PLP-12M-6G	12	3/8	20	44.5	26.0
379PLP-12M-8G	12	1/2	24	46.0	26.0

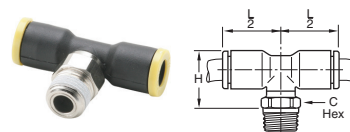


**W372PLP Male Branch Tee Swivel**

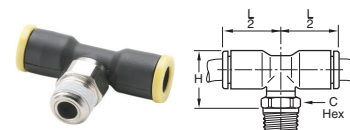
PART NO.	TUBE SIZE (IN)	THREAD NPT / UNF	C HEX (MM)	L/2	H
372PLP-2-0	1/8	10-32	8	0.57	0.61
W372PLP-2-1	1/8	1/16	10	0.57	0.61
W372PLP-2-2	1/8	1/8	11	0.57	0.61
W372PLP-2-4	1/8	1/4	14	0.57	0.63
372PLP-5/32-0	5/32	10-32	8	0.55	0.71
W372PLP-5/32-2	5/32	1/8	11	0.55	0.61
W372PLP-5/32-4	5/32	1/4	14	0.55	0.63
W372PLP-3-2	3/16	1/8	11	0.85	0.67
W372PLP-4-2	1/4	1/8	11	0.71	0.67
W372PLP-4-4	1/4	1/4	14	0.71	0.63
W372PLP-4-6	1/4	3/8	18	0.71	0.65
W372PLP-5-2	5/16	1/8	11	0.91	0.87
W372PLP-5-4	5/16	1/4	14	0.91	0.83
W372PLP-5-6	5/16	3/8	18	0.91	0.85
W372PLP-6-2	3/8	1/8	15	1.04	0.99
W372PLP-6-4	3/8	1/4	15	1.04	0.99
W372PLP-6-6	3/8	3/8	18	1.04	0.95
W372PLP-6-8	3/8	1/2	22	1.04	0.98
W372PLP-8-4	1/2	1/4	20	1.38	1.22
W372PLP-8-6	1/2	3/8	20	1.38	1.22
W372PLP-8-8	1/2	1/2	24	1.38	1.21

**W372PLP Male Branch Tee - BSPT**

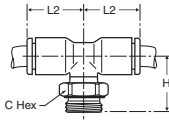
PART NO.	TUBE SIZE (IN)	THREAD BSPT	C HEX (MM)	L/2	H
W372PLP-2-2R	1/8	1/8	10	0.55	0.61
W372PLP-5/32-2R	5/32	1/8	10	0.55	0.61
W372PLP-5/32-4R	5/32	1/4	14	0.55	0.63
W372PLP-3-2R	3/16	1/8	11	0.85	0.67
W372PLP-3-4R	3/16	1/4	14	0.85	0.67
W372PLP-4-2R	1/4	1/8	10	0.71	0.67
W372PLP-4-4R	1/4	1/4	14	0.71	0.63
W372PLP-5-2R	5/16	1/8	10	0.91	0.87
W372PLP-5-4R	5/16	1/4	14	0.91	0.83
W372PLP-5-6R	5/16	3/8	17	0.91	0.83
W372PLP-6-4R	3/8	1/4	15	1.04	0.95
W372PLP-6-6-R	3/8	3/8	17	1.04	0.95
W372PLP-8-4R	1/2	1/4	20	1.38	1.24
W372PLP-8-6R	1/2	3/8	20	1.38	1.22

**W372PLP Male Branch Tee - NPT**

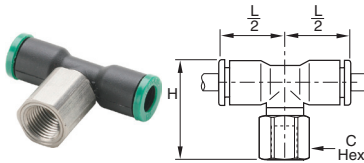
PART NO.	TUBE SIZE (MM)	NPT	C HEX (MM)	H	L/2
W372PLP-4M-2	4	1/8	11	0.61	0.55
W372PLP-4M-4	4	1/4	14	0.63	0.55
W372PLP-6M-2	6	1/8	11	0.69	0.63
W372PLP-6M-4	6	1/4	14	0.71	0.63
W372PLP-8M-2	8	1/8	11	0.87	0.91
W372PLP-8M-4	8	1/4	14	0.83	0.91
W372PLP-8M-6	8	3/8	18	0.85	0.91
W372PLP-10M-4	10	1/4	15	0.98	1.04
W372PLP-10M-6	10	3/8	18	0.95	1.04
W372PLP-10M-8	10	1/2	22	0.98	1.04
W372PLP-12M-6	12	3/8	18	1.06	1.22
W372PLP-12M-8	12	1/2	22	0.98	1.22

**W372PLP Male Branch Tee - BSPT**

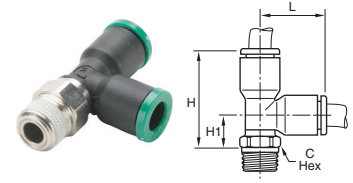
PART NO.	TUBE SIZE (MM)	BSPT	C HEX (MM)	H	L/2
W372PLP4M-2R	4	1/8	10	15.5	14.0
W372PLP-4M-4R	4	1/4	14	16.0	14.0
W372PLP-6M-2R	6	1/8	10	17.5	16.0
W372PLP-6M-4R	6	1/4	14	18.0	16.0
W372PLP-8M-2R	8	1/8	10	22.0	23.0
W372PLP-8M-4R	8	1/4	14	21.0	23.0
W372PLP-8M-6R	8	3/8	17	21.0	23.0
W372PLP-10M-4R	10	1/4	15	24.0	26.5
W372PLP-10M-6R	10	3/8	17	24.0	26.5
W372PLP-10M-8R	10	1/2	21	24.0	26.5
W372PLP-12M-4R	12	1/4	15	27.0	31.0
W372PLP-12M-6R	12	3/8	17	27.0	31.0
W372PLP-12M-8R	12	1/2	21	27.0	31.0
W372PLP-14M-6R	14	3/8	20	30.5	35.5
W372PLP-14M-8M	14	1/2	24	28.5	35.5

**B****372PLP Male Branch Tee - BSPP**

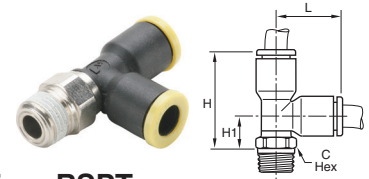
PART NO.	TUBE SIZE (MM)	BSPP / M5	C HEX (MM)	H	L/2
372PLP-4M-M5	4	M5X0.8	8	17.5	14.0
372PLP-4M-2G	4	1/8	13	15.0	14.0
372PLP-4M-4G	4	1/4	16	15.0	14.0
372PLP-6M-M5	6	M5X0.8	8	19.5	16.0
372PLP-6M-2G	6	1/8	13	17.0	16.0
372PLP-6M-4G	6	1/4	16	17.0	16.0
372PLP-8M-2G	8	1/8	13	23.5	23.0
372PLP-8M-4G	8	1/4	16	21.5	23.0
372PLP-8M-6G	8	3/8	20	21.5	23.0
372PLP-10M-4G	10	1/4	16	26.0	26.5
372PLP-10M-6G	10	3/8	20	24.0	26.5
372PLP-10M-8G	10	1/2	24	24.0	26.5
372PLP-12M-4G	12	1/4	16	29.0	31.0
372PLP-12M-6G	12	3/8	20	27.0	31.0
372PLP-12M-8G	12	1/2	24	27.0	31.0
372PLP-14M-6G	14	3/8	20	32.5	35.5
372PLP-14M-8G	14	1/2	24	27.0	35.5

**377PLP Female Branch Tee Swivel**

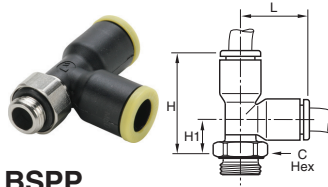
PART NO.	TUBE SIZE (IN)	THREAD NPT / UNF	C HEX (MM)	L/2	H
377PLP-2-2	1/8	1/8	13	0.57	0.99
377PLP-5/32-2	5/32	1/8	13	0.55	0.91
377PLP-5/32-4	5/32	1/4	16	0.55	1.08
377PLP-4-2	1/4	1/8	13	0.71	1.02
377PLP-4-4	1/4	1/4	16	0.71	1.18
377PLP-5-2	5/16	1/8	13	0.91	1.24
377PLP-5-4	5/16	1/4	16	0.91	1.40
377PLP-6-4	3/8	1/4	16	1.04	1.60
377PLP-8-6	1/2	3/8	22	1.38	1.88

**W371PLP Male Run Tee Swivel**

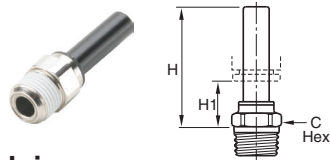
PART NO.	TUBE SIZE (IN)	THREAD NPT / UNF	C HEX (MM)	L	H	H1
371PLP-2-0	1/8	10-32	8	0.57	0.92	0.35
W371PLP-2-1	1/8	1/16	10	0.57	0.93	0.35
W371PLP-2-2	1/8	1/8	11	0.57	0.93	0.35
371PLP-5/32-0	5/32	10-32	8	0.57	1.02	0.45
W371PLP-5/32-2	5/32	1/8	11	0.57	0.93	0.53
W371PLP-5/32-4	5/32	1/4	14	0.57	0.94	0.37
W371PLP-3-2	3/16	1/8	11	0.85	1.31	0.45
W371PLP-4-2	1/4	1/8	11	0.69	1.16	0.45
W371PLP-4-4	1/4	1/4	14	0.69	1.12	0.41
W371PLP-4-6	1/4	3/8	18	0.69	1.14	0.43
W371PLP-5-2	5/16	1/8	11	0.91	1.38	0.49
W371PLP-5-4	5/16	1/4	14	0.91	1.34	0.45
W371PLP-5-6	5/16	3/8	18	0.91	1.36	0.47
W371PLP-6-2	3/8	1/8	15	1.04	1.63	0.60
W371PLP-6-4	3/8	1/4	15	1.04	1.63	0.60
W371PLP-6-6	3/8	3/8	18	1.04	1.60	0.55
W371PLP-6-8	3/8	1/2	22	1.04	1.63	0.59
W371PLP-8-4	1/2	1/4	20	1.38	2.17	0.79
W371PLP-8-6	1/2	3/8	20	1.38	2.17	0.79
W371PLP-8-8	1/2	1/2	24	1.38	2.07	0.79

**W371PLP Male run Tee - BSPT**

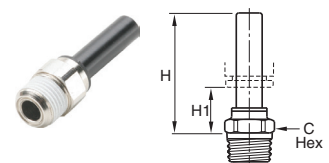
PART NO.	TUBE SIZE (MM)	THREAD BSPT	C HEX (MM)	H	H1	L
W371PLP-4M-2R	4	1/8	10	23.5	9.0	14.5
W371PLP-4M-4R	4	1/4	14	24.0	9.5	14.5
W371PLP-6M-2R	6	1/8	10	27.5	10.0	17.5
W371PLP-6M-4R	6	1/4	14	28.0	10.5	17.5
W371PLP-8M-2R	8	1/8	10	35.0	12.0	23.0
W371PLP-8M-4R	8	1/4	14	34.0	11.0	23.0
W371PLP-8M-6R	8	3/8	17	34.0	11.0	23.0
W371PLP-10M-4R	10	1/4	15	40.5	14.0	26.5
W371PLP-10M-6R	10	3/8	17	40.5	14.0	26.5
W371PLP-10M-8R	10	1/2	21	40.5	14.0	26.5
W371PLP-12M-4R	12	1/4	15	46.5	15.5	31.0
W371PLP-12M-6R	12	3/8	17	46.5	15.5	31.0
W371PLP-12M-8R	12	1/2	21	46.5	15.5	31.0
W371PLP-14M-6R	14	3/8	20	55.0	19.5	35.5
W371PLP-14M-8R	14	1/2	24	52.5	17.5	35.5

**371PLP Male Run Tee - BSPP**

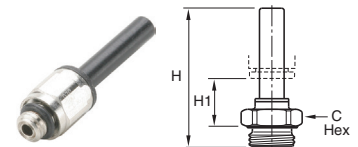
PART NO.	TUBE SIZE (MM)	BSPP / M5	C HEX (MM)	H	H1	L
371PLP-4M-M5	4	M5X0.8	8	26.0	11.5	14.5
371PLP-4M-2G	4	1/8	13	23.0	8.5	14.5
371PLP-4M-4G	4	1/4	16	23.0	8.5	14.5
371PLP-6M-M5	6	M5X0.8	8	29.5	12.5	17.5
371PLP-6M-2G	6	1/8	13	27.0	10.0	17.5
371PLP-6M-4G	6	1/4	16	27.0	10.0	17.5
371PLP-8M-2G	8	1/8	13	36.5	14.0	23.0
371PLP-8M-4G	8	1/4	16	34.5	12.0	23.0
371PLP-8M-6G	8	3/8	20	34.5	12.0	23.0
371PLP-10M-4G	10	1/4	16	42.0	15.5	26.5
371PLP-10M-6G	10	3/8	20	40.5	14.0	26.5
371PLP-10M-8G	10	1/2	24	40.5	14.0	26.5
371PLP-12M-4G	12	1/4	16	48.0	17.0	31.0
371PLP-12M-6G	12	3/8	20	46.5	15.5	31.0
371PLP-12M-8G	12	1/2	24	46.5	15.5	31.0
371PLP-14M-6G	14	3/8	20	56.5	21.5	35.5
371PLP-14M-8G	14	1/2	24	51.0	16.0	35.5

**W68PLPSP Male Standpipe**

PART NO.	TUBE SIZE (IN)	THREAD NPT / UNF	C HEX (MM)	H	H1
68PLPSP-5/32-0	5/32	10-32	8	1.24	
W68PLPSP-5/32-2	5/32	1/8	11	1.02	0.57
W68PLPSP-5/32-4	5/32	1/4	14	1.04	0.59
W68PLPSP-4-2	1/4	1/8	11	1.18	0.61
W68PLPSP-4-4	1/4	1/4	14	1.12	0.57
W68PLPSP-5-2	5/16	1/8	11	1.16	0.43
W68PLPSP-5-4	5/16	1/4	14	1.12	0.39
W68PLPSP-6-2	3/8	1/8	15	1.75	0.65
W68PLPSP-6-4	3/8	1/4	15	1.42	0.67
W68PLPSP-6-6	3/8	3/8	17	1.42	0.61
W68PLPSP-8-6	1/2	3/8	17	1.44	0.37
W68PLPSP-8-8	1/2	1/2	21	1.46	0.39

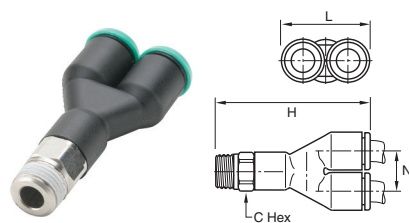
**W68PLPSP Male Standpipe - BSPT**

PART NO.	TUBE SIZE (MM)	BSPT	C HEX (MM)	H	H1
W68PLPSP-4M-2R	4	1/8	10	26.0	14.0
W68PLPSP-4M-4R	4	1/4	14	26.5	14.5
W68PLPSP-6M-2R	6	1/8	10	28.0	14.0
W68PLPSP-6M-4R	6	1/4	14	28.5	14.5
W68PLPSP-8M-2R	8	1/8	10	29.5	11.0
W68PLPSP-8M-4R	8	1/4	14	28.5	10.0
W68PLPSP-8M-6R	8	3/8	17	28.5	10.0
W68PLPSP-10M-4R	10	1/4	15	36.0	15.5
W68PLPSP-10M-6R	10	3/8	17	36.0	15.5
W68PLPSP-10M-8R	10	1/2	21	36.0	15.5
W68PLPSP-12M-6R	12	3/8	17	36.5	12.0
W68PLPSP-12M-8R	12	1/2	21	36.5	12.0
W68PLPSP-14M-8R	14	1/2	21	41.0	13.5

**68PLPSP Male Standpipe - BSPP**

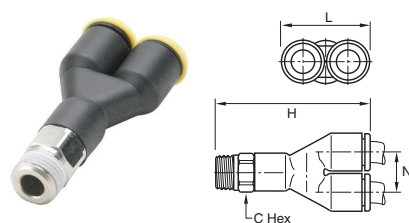
PART NO.	TUBE SIZE (MM)	BSPT	C HEX (MM)	H	H1
68PLPSP-4M-M5	4	M5X0.8	8	31.0	16.0
68PLPSP-4M-2G	4	1/8	13	30.0	13.5
68PLPSP-4M-4G	4	1/4	16	31.0	13.5
68PLPSP-6M-2G	6	1/8	13	32.0	13.5
68PLPSP-6M-4G	6	1/4	16	33.0	13.5
68PLPSP-8M-2G	8	1/8	13	35.5	12.5
68PLPSP-8M-4G	8	1/4	16	34.5	10.5
68PLPSP-8M-6G	8	3/8	20	34.5	10.5
68PLPSP-10M-4G	10	1/4	16	43.5	17.5
68PLPSP-10M-6G	10	3/8	20	41.5	15.5
68PLPSP-10M-8G	10	1/2	24	41.5	15.5
68PLPSP-12M-6G	12	3/8	20	42.0	12.0
68PLPSP-12M-8G	12	1/2	24	43.5	12.0
68PLPSP-14M-6G	14	3/8	20	46.5	14.0
68PLPSP-14M-8G	14	1/2	24	48.0	13.5

B



### W368PLP Male Y Connector

PART NO.	TUBE SIZE (IN)	THREAD NPT	C HEX (MM)	H	L	N
W368PLP-5/32-2	5/32	1/8	11	1.28	0.69	0.35
W368PLP-5/32-4	5/32	1/4	14	1.30	0.69	0.35
W368PLP-4-2	1/4	1/8	11	1.61	0.87	0.45
W368PLP-4-4	1/4	1/4	14	1.56	0.87	0.45
W368PLP-6-4	3/8	1/4	17	2.24	1.30	0.67
W368PLP-6-6	3/8	3/8	18	2.28	1.30	0.67

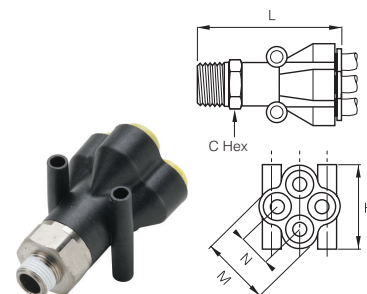


### 368PLP Male Y Connector - BSPP

PART NO.	TUBE SIZE (MM)	BSPP / M5	C HEX (MM)	H	L	N
368PLP-4M-M5	4	M5X0.8	8	32.5	17.5	9.0
368PLP-4M-2G	4	1/8	13	32.0	17.5	9.0
368PLP-4M-4G	4	1/4	16	32.0	17.5	9.0
368PLP-6M-M5	6	M5X0.8	10	39.5	21.5	11.0
368PLP-6M-2G	6	1/8	13	39.0	21.5	11.0
368PLP-6M-4G	6	1/4	16	39.0	21.5	11.0
368PLP-8M-2G	8	1/8	13	56.0	28.0	14.5
368PLP-8M-4G	8	1/4	16	55.0	28.0	14.5
368PLP-8M-6G	8	3/8	19	54.0	28.0	14.5
368PLP-10M-4G	10	1/4	16	63.5	33.0	17.0
368PLP-10M-6G	10	3/8	20	63.5	33.0	17.0
368PLP-10M-8G	10	1/2	20	65.0	33.0	17.0
368PLP-12M-6G	12	3/8	19	68.0	39.0	20.0
368PLP-12M-8G	12	1/2	24	70.0	39.0	20.0

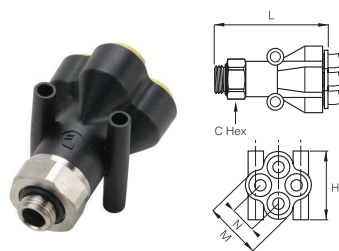
### W368PLP Male Y Connector - BSPT

PART NO.	TUBE SIZE (MM)	BSPT	C HEX (MM)	H	L	N
W368PLP-4M-2R	4	1/8	10	32.5	17.5	9.0
W368PLP-4M-4R	4	1/4	14	33.0	17.5	9.0
W368PLP-6M-2R	6	1/8	10	39.5	21.5	1.0
W368PLP-6M-4R	6	1/4	14	40.0	21.5	1.0
W368PLP-8M-2R	8	1/8	13	56.5	28.0	14.5
W368PLP-8M-4R	8	1/4	14	55.5	28.0	14.5
W368PLP-8M-6R	8	3/8	16	48.5	28.0	14.5
W368PLP-10M-4R	10	1/4	14	60.0	39.0	20.0
W368PLP-10M-6R	10	3/8	16	60.5	39.0	20.0
W368PLP-10M-8R	10	1/2	24	61.0	39.0	20.0
W368PLP-12M-6R	12	3/8	19	66.0	39.0	20.0
W368PLP-12M-8R	12	1/2	21	66.0	39.0	20.0

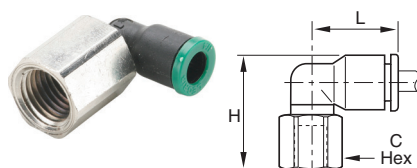


### W368PLPD Double Y Male Connector - BSPT

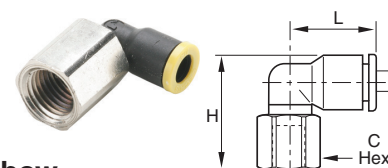
PART NO.	TUBE SIZE (MM)	BSPT	C HEX (MM)	H	L	M	N	MOUNTING HOLE DIA
W368PLPD-4M-2R	4	1/8	13	25.5	41.5	21.0	10.0	3.7
W368PLPD-4M-4R	4	1/4	14	25.5	43.5	21.0	10.0	3.7
W368PLPD-6M-2R	6	1/8	19	31.5	54.5	26.5	12.0	3.7
W368PLPD-6M-4R	6	1/4	19	31.5	57.5	26.5	12.0	3.7

**368PLPD Double Y Male Connector - BSPP**

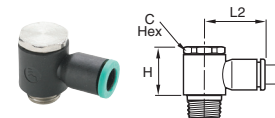
PART NO.	TUBE SIZE (MM)	BSPP	C HEX (MM)	H	L	M	N	MOUNTING HOLE DIA
368PLPD-4M-2G	4	1/8	13	25.5	41.0	21.0	10.0	3.7
368PLPD-4M-4G	4	1/4	16	25.5	40.0	21.0	10.0	3.7
368PLPD-6M-2G	6	1/8	19	31.5	52.5	26.5	12.0	3.7
368PLPD-6M-4G	6	1/4	19	31.5	53.5	26.5	12.0	3.7

**370PLP Female Elbow Swivel**

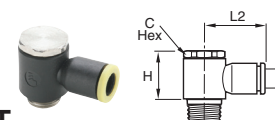
PART NO.	TUBE SIZE (IN)	THREAD NPT	C HEX (MM)	L	H
370PLP-2-2	1/8	1/8	13	0.57	0.91
370PLP-5/32-2	5/32	1/8	13	0.55	0.91
370PLP-5/32-4	5/32	1/4	16	0.55	1.08
370PLP-4-2	1/4	1/8	13	0.71	1.02
370PLP-4-4	1/4	1/4	16	0.71	1.18
370PLP-5-2	5/16	1/8	13	0.91	1.12
370PLP-5-4	5/16	1/4	16	0.91	1.28
370PLP-6-4	3/8	1/4	16	1.04	1.52
370PLP-8-6	1/2	3/8	22	1.38	1.88

**370PLP Female Elbow**

PART NO.	TUBE SIZE (MM)	BSPP	C HEX (MM)	H	L
370PLP-4M-2G	4	1/8	13	23.0	14.0
370PLP-4M-4G	4	1/4	16	27.0	14.0
370PLP-6M-2G	6	1/8	13	25.0	16.0
370PLP-6M-4G	6	1/4	16	29.0	16.0
370PLP-8M-2G	8	1/8	13	28.0	23.0
370PLP-8M-4G	8	1/4	16	32.0	23.0
370PLP-8M-6G	8	3/8	19	33.0	23.0
370PLP-10M-4G	10	1/4	16	34.5	26.5
370PLP-10M-6G	10	3/8	19	35.0	26.5
370PLP-10M-8G	10	1/2	24	41.0	26.5
370PLP-12M-4G	12	1/4	16	38.0	30.5
370PLP-12M-6G	12	3/8	19	38.5	30.5
370PLP-12M-8G	12	1/2	24	43.5	30.5

**W369PLPBJ Single Banjo**

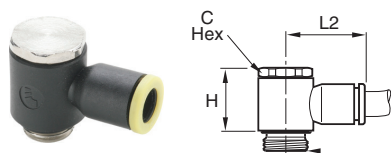
PART NO.	TUBE SIZE (IN)	THREAD NPT / UNF	C HEX (MM)	H	L2
369PLPBJ-2-0	1/8	10-32		0.79	0.65
369PLPBJ-5/32-0	5/32	10-32		0.79	0.65
W369PLPBJ-5/32-2	5/32	1/8	13	0.73	0.73
369PLPBJ-4-0	1/4	10-32		0.79	0.73
W369PLPBJ-4-2	1/4	1/8	13	0.73	0.83
W369PLPBJ-4-4	1/4	1/4	17	0.89	0.91
W369PLPBJ-4-6	1/4	3/8	21	1.04	1.12
W369PLPBJ-6-4	3/8	1/4	17	0.89	1.12
W369PLPBJ-6-6	3/8	3/8	21	1.04	1.20

**W369PLPBJ Banjo - BSPT**

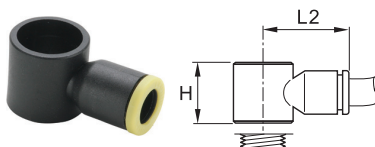
PART NO.	TUBE SIZE (MM)	BSPT	C HEX (MM)	H	L2
W369PLPBJ-4M-2R	4	1/8	13	18.5	18.5
W369PLPBJ-6M-2R	6	1/8	13	18.5	20.0
W369PLPBJ-6M-4R	6	1/4	17	22.5	22.0
W369PLPBJ-8M-2R	8	1/8	13	18.5	25.0
W369PLPBJ-8M-4R	8	1/4	17	22.5	27.0
W369PLPBJ-8M-6R	8	3/8	21	26.5	29.0
W369PLPBJ10M-4R	10	1/4	17	22.5	29.0
W369PLPBJ10M-6R	10	3/8	21	26.5	31.0
W369PLPBJ12M-4R	12	1/4	21	26.5	34.5
W369PLPBJ12M-6R	12	3/8	21	26.5	34.5
W369PLPBJ12M-8R	12	1/2	25	30.0	37.0



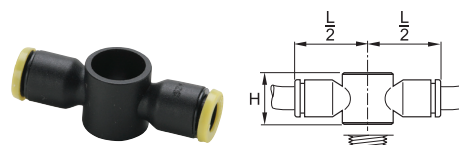
B

**369PLPBJ Banjo - BSPP**

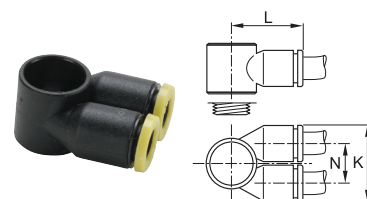
PART NO.	TUBE SIZE (MM)	BSPP / METRIC	C HEX (MM)	H	L2
369PLPBJ-3M-M3	3	M3X0.5		13.0	16.0
369PLPBJ-3M-M5	3	M5X0.8		13.0	16.0
369PLPBJ-4M-M5	4	M5X0.8		13.0	16.0
369PLPBJ-4M-2G	4	1/8	13	17.0	18.5
369PLPBJ-6M-M5	6	M5X0.8		13.0	18.5
369PLPBJ-6M-2G	6	1/8	13	17.0	20.0
369PLPBJ-6M-4G	6	1/4	17	21.0	22.0
369PLPBJ-8M-2G	8	1/8	13	16.5	25.0
369PLPBJ-8M-4G	8	1/4	17	21.0	27.0
369PLPBJ-8M-6G	8	3/8	20	24.5	29.0
369PLPBJ-10M-4G	10	1/4	17	21.0	29.0
369PLPBJ-10M-6G	10	3/8	20	24.5	31.0
369PLPBJ-10M-8G	10	1/2	25	27.5	36.5
369PLPBJ-12M-6G	12	3/8	20	24.5	34.5
369PLPBJ-12M-8G	12	1/2	25	27.5	36.5

**369PLPBJB Single Banjo Bodies**

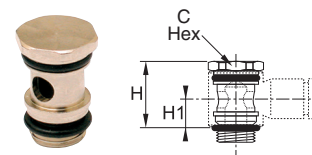
PART NO.	TUBE SIZE (MM)	BSPP / M5	H	L2
369PLPBJB-3M-M5	3	M5X0.8	13.0	16.0
369PLPBJB-4M-M5	4	M5X0.8	13.0	16.0
369PLPBJB-4M-2G	4	1/8	14.5	18.5
369PLPBJB-6M-M5	6	M5X0.8	13.0	18.5
369PLPBJB-6M-2G	6	1/8	14.5	20.0
369PLPBJB-6M-4G	6	1/4	18.0	22.0
369PLPBJB-8M-2G	8	1/8	14.5	25.0
369PLPBJB-8M-4G	8	1/4	18.0	27.0
369PLPBJB-8M-6G	8	3/8	21.5	29.0
369PLPBJB-10M-4G	10	1/4	18.0	29.0
369PLPBJB-10M-6G	10	3/8	21.5	31.0
369PLPBJB-10M-8G	10	1/2	22.5	36.5
369PLPBJB-12M-6G	12	3/8	21.5	34.5
369PLPBJB-12M-8G	12	1/2	22.5	36.5

**32PLPDJB Double Banjo Bodies**

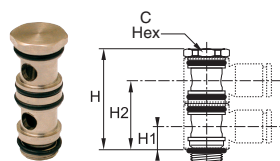
PART NO.	TUBE SIZE (MM)	BSPP / M5	H	L/2
32PLPDJB-4M-M5	4	M5X0.8	13.0	16.0
32PLPDJB-4M-2G	4	1/8	14.4	20.0
32PLPDJB-6M-2G	6	1/8	14.4	20.0
32PLPDJB-6M-4G	6	1/4	18.0	26.0
32PLPDJB-8M-4G	8	1/4	18.0	27.0
32PLPDJB-8M-6G	8	3/8	21.5	30.5
32PLPDJB-10M-6G	10	3/8	21.5	31.0

**369PLPTJB Twin Banjo Bodies**

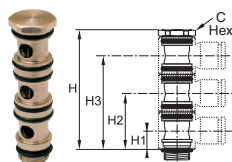
PART NO.	TUBE SIZE (MM)	BSPP / M5	K	L	N
369PLPTJB-4M-M5	4	M5X0.8	17.5	15.5	9.0
369PLPTJB-4M-2G	4	1/8	22.5	20.0	12.0
369PLPTJB-4M-4G	4	1/4	28.0	25.0	14.5
369PLPTJB-6M-2G	6	1/8	22.5	20.5	12.0
369PLPTJB-6M-4G	6	1/4	28.0	25.0	14.5
369PLPTJB-6M-6G	6	3/8	33.0	28.5	17.0
369PLPTJB-8M-4G	8	1/4	28.0	26.0	14.5
369PLPTJB-8M-6G	8	3/8	33.0	29.5	17.0
369PLPTJB-10M-6G	10	3/8	33.0	29.5	17.0

**68BJB Single Banjo Bolt**

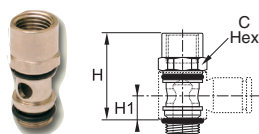
PART NO.	BSPP / M5	C HEX (MM)	H	H1
68BJB-M5	M5X0.8		17.0	7.5
68BJB-2G	1/8	13	17.0	7.5
68BJB-4G	1/4	17	21.0	9.5
68BJB-6G	3/8	20	24.5	11.0
68BJB-8G	1/2	25	27.5	11.5

**68BJBD Double Banjo Bolt**

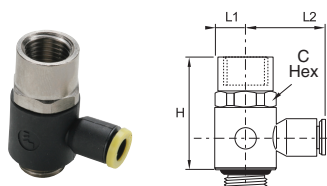
PART NO.	BSPP / M5	C HEX (MM)	H	H1	H2
68BJBD-M5	M5X0.8		24.5	7.5	18.5
68BJBD-2G	1/8	13	31.0	7.5	22.0
68BJBD-4G	1/4	17	39.0	9.5	27.5
68BJBD-6G	3/8	20	46.0	11.0	32.5

**68BJBT Triple Banjo Bolt**

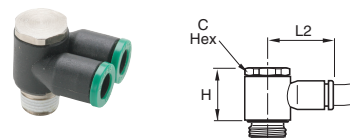
PART NO.	BSPP	C HEX (MM)	H	H1	H2	H3
68BJBT-2G	1/8	13	45.5	7.5	22.0	36.0
68BJBT-4G	1/4	17	54.0	9.5	27.5	45.5
68BJBT-6G	3/8	20	67.5	11.0	32.5	54.0

**66BJB Female Threaded Banjo Bolt**

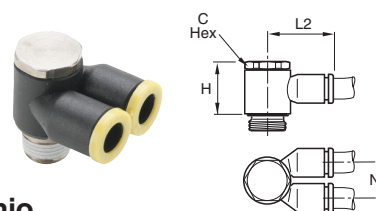
PART NO.	1 BSPP / M5	2 BSPP / M5	C HEX (MM)	H	H1
66BJB-M5	M5X0.8	M5X0.8	8	17.0	7.5
66BJB-2G	1/8	1/8	13	24.5	7.5
66BJB-4G	1/4	1/4	17	33.0	9.5
66BJB-6G	3/8	3/8	20	37.5	11.0
66BJB-8G	1/2	1/2	25	42.0	11.5

**376PLPBJ Banjo with Female Bolt**

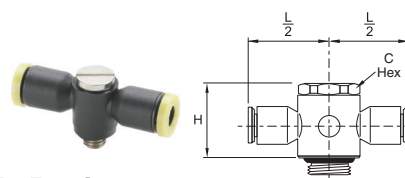
PART NO.	TUBE SIZE (MM)	BSPP / M5	C HEX (MM)	H	L1	L2
376PLPBJ-4M-M5	4	M5X0.8	8	19.0	5.0	16.0
376PLPBJ-4M-2G	4	1/8	13	25.5	7.0	18.5
376PLPBJ-6M-4G	6	1/4	17	33.0	9.0	22.0

**W369PLPTJ Twin Banjo**

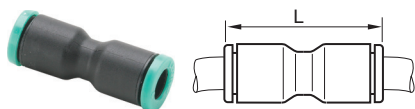
PART NO.	TUBE SIZE (IN)	THREAD NPT / UNF	C HEX (MM)	H	L2
369PLPTJ-5/32-0	5/32	10-32		0.63	0.61
W369PLPTJ-5/32-2	5/32	1/8	13	0.73	0.73
W369PLPTJ-4-2	1/4	1/8	13	0.73	0.73
W369PLPTJ-4-4	1/4	1/4	17	0.89	1.04
W369PLPTJ-6-4	3/8	1/4	21	1.04	1.22
W369PLPTJ-6-6	3/8	3/8	21	1.04	1.22

**369PLPTJ Twin Banjo**

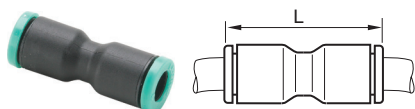
PART NO.	TUBE SIZE (MM)	BSPP / M5	C HEX (MM)	H	L2	N
369PLPTJ-4M-M5	4	M5X0.8		13.0	16.0	9.0
369PLPTJ-4M-2G	4	1/8	13	16.5	18.5	11.5
369PLPTJ-6M-2G	6	1/8	13	16.5	18.5	11.5
369PLPTJ-6M-4G	6	1/4	17	21.0	27.0	14.5
369PLPTJ-8M-4G	8	1/4	17	21.0	27.0	14.5
369PLPTJ-8M-6G	8	3/8	20	24.5	31.0	17.0
369PLPTJ-10M-6G	10	3/8	20	24.5	31.0	17.0

**32PLPDJ Double Banjo**

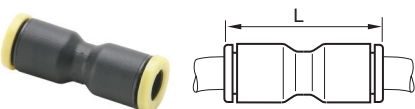
PART NO.	TUBE SIZE (MM)	BSPP / M5	C HEX (MM)	H	L/2
32PLPDJ-4M-M5	4	M5X0.8		13.0	16.0
32PLPDJ-6M-2G	6	1/8	13	17.0	20.0
32PLPDJ-6M-4G	6	1/4	17	21.0	26.5
32PLPDJ-8M-4G	8	1/4	17	21.0	27.0
32PLPDJ-8M-6G	8	3/8	20	24.5	30.5
32PLPDJ-10M-6G	10	3/8	20	24.5	31.0

**32PLP Equal Union**

PART NO.	TUBE SIZE (IN)	L
32PLP-2	1/8	0.97
32PLP-5/32	5/32	0.98
32PLP-3	3/16	1.44
32PLP-4	1/4	1.16
32PLP-5	5/16	1.50
32PLP-6	3/8	1.65
32PLP-8	1/2	2.17

**32PLP Unequal Union**

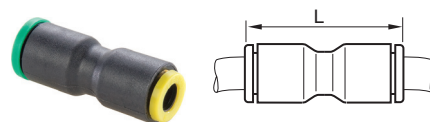
PART NO.	1 TUBE SIZE (IN)	2 TUBE SIZE (IN)	L
32PLP-5/32-2	5/32	1/8	0.96
32PLP-5/32-4	5/32	1/4	1.16
32PLP-4-2	1/4	1/8	1.32
32PLP-5-4	5/16	1/4	1.44
32PLP-6-4	3/8	1/4	1.61
32PLP-6-8	3/8	1/2	2.17

**32PLP Union**

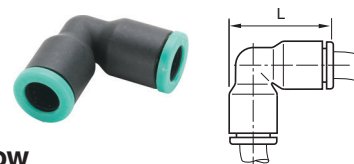
PART NO.	TUBE SIZE (MM)	L
32PLP-3M	3	25.0
32PLP-4M	4	25.0
32PLP-6M	6	28.5
32PLP-8M	8	38.0
32PLP-10M	10	42.0
32PLP-12M	12	50.5
32PLP-14M	14	56.0

**32PLP Unequal Union**

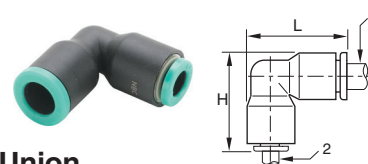
PART NO.	1 TUBE SIZE (MM)	2 TUBE SIZE (MM)	L
32PLP-3M-4M	3	4	25.0
32PLP-6M-4M	6	4	28.0
32PLP-8M-4M	8	4	28.0
32PLP-8M-6M	8	6	38.0
32PLP-10M-6M	10	6	42.0
32PLP-10M-8M	10	8	42.0
32PLP-12M-10M	12	10	50.5
32PLP-12M-14M	12	14	56.0
32PLP-12M-8M	12	8	50.5

**32PLP Converter**

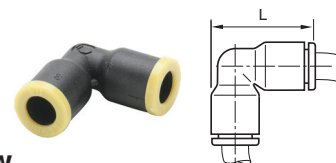
PART NO.	TUBE SIZE (IN)	TUBE SIZE (MM)	L
32PLP-6M-4	1/4	6	1.18
32PLP-10M-6	3/8	10	1.99
32PLP-12M-8	1/2	12	2.25

**365PLP Union Elbow**

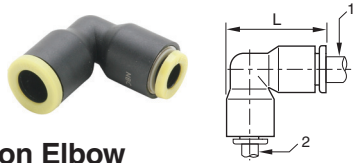
PART NO.	TUBE SIZE (IN)	L
365PLP-2	1/8	0.71
365PLP-5/32	5/32	0.75
365PLP-3	3/16	1.07
365PLP-4	1/4	0.93
365PLP-5	5/16	1.16
365PLP-6	3/8	1.33
365PLP-8	1/2	1.38

**365PLP Unequal Union**

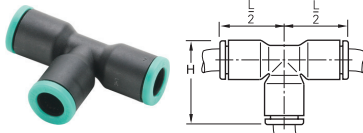
PART NO.	1 TUBE SIZE (IN)	2 TUBE SIZE (IN)	L	H
365PLP-2-4	1/8	1/4	0.93	0.93
365PLP-5/32-4	5/32	1/4	0.93	0.93
365PLP-6-4	3/8	1/4	1.33	1.30
365PLP-6-8	3/8	1/2	1.81	1.81

**365PLP Union Elbow**

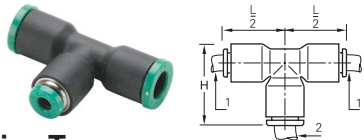
PART NO.	TUBE SIZE (MM)	L
365PLP-4M	4	19.0
365PLP-6M	6	22.5
365PLP-8M	8	29.5
365PLP-10M	10	34.5
365PLP-12M	12	40.5
365PLP-14M	14	46.5

**365PLP Unequal Union Elbow**

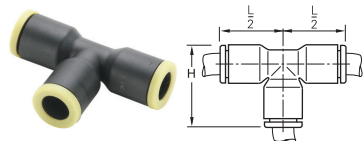
PART NO.	1 TUBE SIZE (MM)	2 TUBE SIZE (MM)	L
365PLP-4M-6M	4	6	22.5
365PLP-6M-8M	6	8	29.5
365PLP-8M-10M	8	10	34.5
365PLP-10M-12M	10	12	40.5

**364PLP Union Tee**

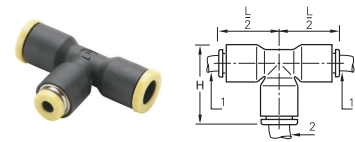
PART NO.	TUBE SIZE (IN)	L/2	H
364PLP-2	1/8	0.57	0.75
364PLP-5/32	5/32	0.57	0.75
364PLP-3	3/16	0.85	1.07
364PLP-4	1/4	0.93	0.89
364PLP-5	5/16	0.91	1.16
364PLP-6	3/8	1.02	1.34
364PLP-8	1/2	1.38	1.81

**364PLP Unequal Union Tee**

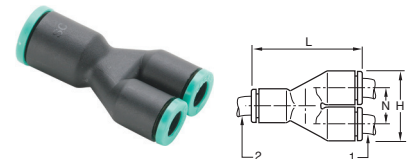
PART NO.	1 TUBE SIZE (IN)	2 TUBE SIZE (IN)	L/2	H
364PLP-2-4	1/8	1/4	0.71	0.93
364PLP-5/32-4	5/32	1/4	0.71	0.93
364PLP-4-2	1/4	1/8	0.73	0.93
364PLP-4-5/32	1/4	5/32	0.73	0.93
364PLP-4-6	1/4	3/8	0.96	1.32
364PLP-6-4	3/8	1/4	1.00	1.28
364PLP-6-8	3/8	1/2	1.38	1.81
364PLP-8-4	1/2	1/4	1.38	1.81
364PLP-8-6	1/2	3/8	1.38	1.81

**364PLP Union Tee**

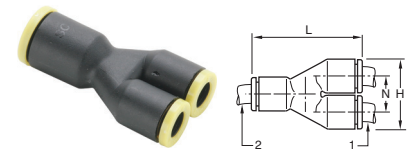
PART NO.	TUBE SIZE (MM)	H	L/2
364PLP-3M	3	19.0	14.5
364PLP-4M	4	19.0	14.5
364PLP-6M	6	23.5	18.0
364PLP-8M	8	29.5	23.0
364PLP-10M	10	34.5	26.5
364PLP-12M	12	40.5	31.0
364PLP-14M	14	46.0	35.5

**364PLP Unequal Union Tee**

PART NO.	1 TUBE SIZE (MM)	2 TUBE SIZE (MM)	H	L/2
364PLP-4M-6M	4	6	22.5	17.5
364PLP-6M-4M	6	4	22.5	17.5
364PLP-6M-8M	6	8	29.5	23.0
364PLP-8M-6M	8	6	29.5	23.0
364PLP-8M-10M	8	10	34.5	26.5
364PLP-10M-12M	10	12	34.5	26.5
364PLP-10M-8M	10	8	40.5	31.0
364PLP-12M-10M	12	10	40.5	31.0
364PLP-14M-8M	14	8	46.0	35.5

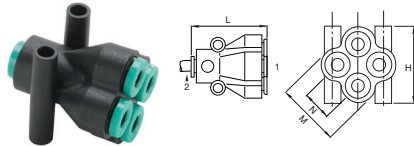
**362PLP Union Y Connector**

PART NO.	1 TUBE SIZE (IN)	2 TUBE SIZE (IN)	L	H	N
362PLP-2	1/8	1/8	1.12	0.69	0.35
362PLP-2-4	1/8	1/4	1.42	0.87	0.45
362PLP-5/32	5/32	5/32	1.12	0.69	0.35
362PLP-5/32-4	5/32	1/4	1.42	0.87	0.45
362PLP-4	1/4	1/4	1.42	0.87	0.45
362PLP-4-6	1/4	3/8	1.31	1.30	0.67
362PLP-5	5/16	5/16	1.77	1.10	0.57
362PLP-6	3/8	3/8	2.09	1.30	0.67

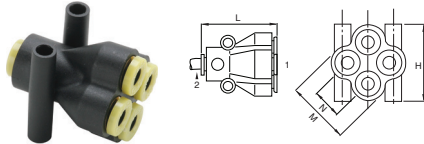
**362PLP Union Y Connector**

PART NO.	1 TUBE SIZE (MM)	2 TUBE SIZE (M)	H	L	N
362PLP-4M	4	4	17.5	28.5	9.0
362PLP-6M	6	6	21.5	35.0	11.0
362PLP-8M	8	8	28.0	45.0	14.5
362PLP-10M	10	10	33.0	53.0	17.0
362PLP-12M	12	12	39.0	57.0	20.0
362PLP-4M-6M	4	6	17.5	33.0	9.0
362PLP-6M-8M	6	8	22.5	41.0	11.5
362PLP-8M-10M	8	10	28.0	47.0	14.5
362PLP-10M-12M	10	12	33.0	57.0	17.0

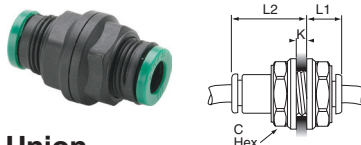
B

**362PLPD Double Y Connector**

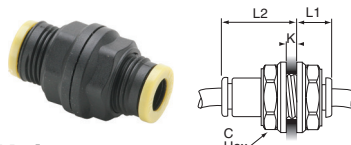
PART NO.	1 TUBE SIZE (IN)	2 TUBE SIZE (IN)	H	L	M	N	MOUNTING HOLE DIA.
362PLPD-5/32	5/32	5/32	1.00	1.20	0.83	0.39	0.15
362PLPD-5/32-4	5/32	1/4	1.00	1.18	0.83	0.39	0.15

**362PLPD Double Y Connector**

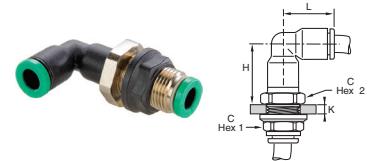
PART NO.	1 TUBE SIZE (MM)	2 TUBE SIZE (MM)	H	L	M	N	MOUNTING HOLE DIA.
362PLPD-4M	4	4	25.5	30.5	21.0	10.0	3.7
362PLPD-6M	6	6	31.5	37.5	26.5	12.0	3.7
362PLPD-4M-6M	4	6	25.5	30.5	21.0	10.0	3.7
362PLPD-6M-8M	6	8	31.5	38.0	26.5	12.0	3.7

**32PLPBH Bulkhead Union**

PART NO.	TUBE SIZE (IN)	C HEX (MM)	K MAX	L1	L2
32PLPBH-2	1/8	13	0.22	0.37	0.61
32PLPBH-5/32	5/32	13	0.22	0.59	0.39
32PLPBH-4	1/4	16	0.35	0.37	0.81
32PLPBH-5	5/16	18	0.57	0.98	0.53
32PLPBH-6	3/8	22	0.57	0.51	1.18
32PLPBH-8	1/2	29	0.81	0.67	1.61

**32PLPBH Bulkhead Union**

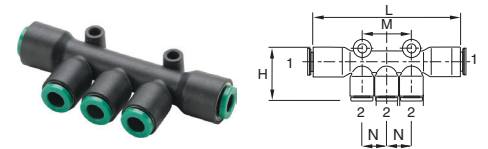
PART NO.	TUBE SIZE (MM)	C HEX (MM)	K MAX	L1	L2
32PLPBH-4M	4	13	5.5	15.0	10.0
32PLPBH-6M	6	15	8.5	18.0	10.5
32PLPBH-8M	8	18	14.5	25.0	13.5
32PLPBH-10M	10	22	14.5	27.5	15.5
32PLPBH-12M	12	26	18.5	33.0	18.0
32PLPBH-14M	14	29	20.5	37.5	20.5

**365PLPBH Equal Bulkhead Elbow**

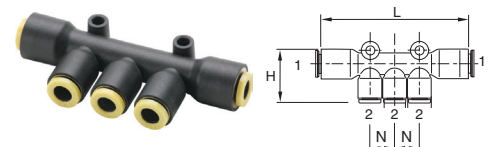
PART NO.	TUBE SIZE (IN)	C1 HEX	C2 HEX	K MAX	H	L
365PLPBH-2	1/8	13	13	0.28	0.71	0.57
365PLPBH-5/32	5/32		13	0.26	0.83	0.67
365PLPBH-4	1/4	18	17	0.32	0.87	0.71
365PLPBH-5	5/16		18	0.31	1.22	0.94
365PLPBH-6	3/8	22	22	0.33	1.08	1.00
365PLPBH-8	1/2	29	27	0.41	1.54	1.38

**365PLPBH Equal Bulkhead Elbow**

PART NO.	TUBE SIZE (MM)	C1 HEX	C2 HEX	K MAX	H	L
365PLPBH-4M	4	13	13	6.5	21.0	17.0
365PLPBH-6M	6	15	15	7.0	24.5	19.5
365PLPBH-8M	8	18	18	8.0	31.0	24.0
365PLPBH-10M	10	22	22	8.5	36.0	28.0
365PLPBH-12M	12	26	26	8.5	42.0	33.0

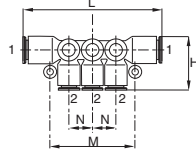
**24PLP Multiple Tee**

PART NO.	1 TUBE SIZE (IN)	2 TUBE SIZE (IN)	H	L	M	N	MOUNTING HOLE DIA.
24PLP-4-5/32	1/4	5/32	0.97	2.81	0.90	0.45	0.17
24PLP-4-4	1/4	1/4	1.22	3.14	1.21	0.61	0.17
24PLP-5-5/32	5/16	5/32	0.96	2.91		0.45	0.17
24PLP-6-4	3/8	1/4	1.34	3.21	1.22	0.61	0.17

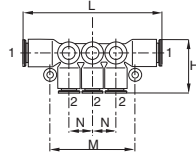
**24PLP Multiple Tee**

PART NO.	1 TUBE SIZE (MM)	2 TUBE SIZE (M)	H	L	N	MOUNTING HOLE DIA.
24PLP-6M-4M	6	4	24.5	74	11.5	4.2
24PLP-8M-4M	8	4	24.5	74	11.5	4.2
24PLP-8M-6M	8	6	24.5	74	11.5	4.2
24PLP-10M-6M	10	6	36.0	81	14.5	4.2
24PLP-10M-8M	10	8	36.0	81	14.5	4.2

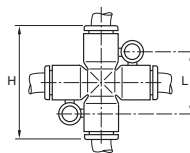


**24PLPD Double Multiple Tee**

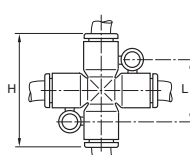
PART NO.	1 TUBE SIZE (IN)	2 TUBE SIZE (IN)	H	L	M	N	MOUNTING HOLE DIA.
24PLPD-4-5/32	1/4	5/32	0.73	2.84	1.69	0.45	0.17
24PLPD-4-4	1/4	1/4	0.73	2.84	1.69	0.45	0.17
24PLPD-5-5/32	5/16	5/32	0.77	2.87	1.69	0.45	0.17
24PLPD-6-4	3/8	1/4	0.91	3.31	2.05	0.57	0.17

**24PLPD Double Multiple Tee**

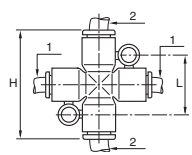
PART NO.	1 TUBE SIZE (MM)	2 TUBE SIZE (MM)	H	L	M	N	MOUNTING HOLE DIA.
24PLPD-6M-4M	6	4	18.5	72.0	43.0	11.5	4.2
24PLPD-8M-4M	8	4	18.5	73.0	43.0	11.5	4.2
24PLPD-8M-6M	8	6	18.5	73.0	43.0	11.5	4.2
24PLPD-10M-6M	10	6	23.0	84.0	52.0	14.5	4.2
24PLPD-10M-8M	10	8	23.5	84.0	52.0	14.5	4.2

**347PLP Equal Cross**

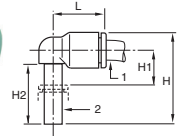
PART NO.	TUBE SIZE (IN)	H	L	MOUNTING HOLE DIA.
347PLP-5/32	5/32	1.42	0.79	0.17
347PLP-4	1/4	1.40	0.79	0.17
347PLP-5	5/16	1.81	0.89	0.17

**347PLP Equal Cross**

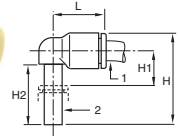
PART NO.	TUBE SIZE (MM)	H	L	MOUNTING HOLE DIA.
347PLP-4M	4	36	20.0	4.2
347PLP-6M	6	36	20.0	4.2
347PLP-8M	8	46	22.5	4.2

**347PLP Unequal Cross**

PART NO.	1 TUBE SIZE (MM)	2 TUBE SIZE (MM)	H	L	MOUNTING HOLE DIA.
347PLP-4M-6M	4	6	36	20.0	4.2
347PLP-6M-8M	6	8	46	22.5	4.2
347PLP-4M-6M	4	6	36	20.0	4.2
347PLP-6M-8M	6	8	46	22.5	4.2

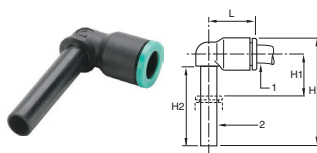
**369PLPSP Plug-In Elbow**

PART NO.	1 TUBE SIZE (IN)	2 TUBE SIZE (IN)	H	H1	H2	L
369PLPSP-2	1/8	1/8	0.92	0.31	0.64	0.57
369PLPSP-5/32	5/32	5/32	0.91	0.24	0.61	0.55
369PLPSP-5/32-4	5/32	1/4	1.08	0.30	0.71	0.71
369PLPSP-4	1/4	1/4	1.20	0.43	0.83	0.73
369PLPSP-4-6	1/4	3/8	1.52	0.35	0.96	0.98
369PLPSP-5	5/16	5/16	1.32	0.32	0.85	0.91
369PLPSP-6	3/8	3/8	1.52	0.35	0.96	1.02
369PLPSP-8	1/2	1/2	2.00	0.51	1.12	1.38

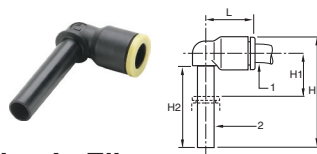
**369PLPSP Plug-In Elbow**

PART NO.	1 TUBE SIZE (MM)	2 TUBE SIZE (M)	H	H1	H2	L
369PLPSP-4M	4	4	23.0	6.0	15.5	14.0
369PLPSP-6M	6	6	26.5	7.0	17.0	16.0
369PLPSP-8M	8	8	33.5	8.0	21.5	23.0
369PLPSP-10M	10	10	39.0	9.5	24.5	23.5
369PLPSP-12M	12	12	44.5	10.0	27.5	31.0
369PLPSP-4M-6M	4	6	26.5	7.0	17.0	16.0
369PLPSP-6M-4M	6	4	24.5	7.0	15.5	16.0
369PLPSP-6M-8M	6	8	33.5	8.0	21.5	22.0
369PLPSP-8M-10M	8	10	39.0	8.5	24.5	26.5
369PLPSP10M-12M	10	12	44.5	10.0	27.5	31.0

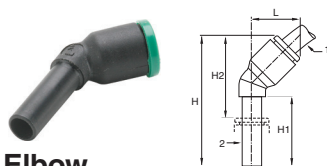
B

**369PLPSPX Extended Plug-In Elbow**

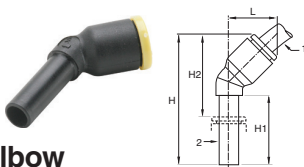
PART NO.	1 TUBE SIZE (IN)	2 TUBE SIZE (IN)	H	H1	H2	L
369PLPSPX-2	1/8	1/8	1.26	0.65	0.98	0.57
369PLPSPX-5/32	5/32	5/32	1.28	0.61	0.98	0.55
369PLPSPX-4	1/4	1/4	1.56	0.77	1.18	0.71
369PLPSPX-5	5/16	5/16	1.93	0.93	1.46	0.91
369PLPSPX-6	3/8	3/8	2.19	1.02	1.63	1.02

**369PLPXSP Extended Plug-In Elbow**

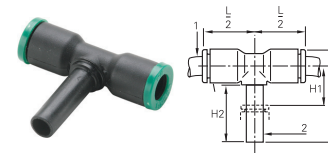
PART NO.	1 TUBE SIZE (MM)	2 TUBE SIZE (MM)	H	H1	H2	L
369PLPXSP-4M	4	4	32.5	15.5	25.0	14.0
369PLPXSP-6M	6	6	38.5	19.0	29.0	16.0
369PLPXSP-8M	8	8	49.0	23.5	37.0	23.0
369PLPXSP-10M	10	10	56.0	26.5	41.5	26.5
369PLPXSP-12M	12	12	62.5	28.0	45.5	31.0
369PLPXSP-4M-6M	4	6	38.5	19.0	29.0	16.0
369PLPXSP-6M-8M	6	8	49.0	23.5	37.0	23.0
369PLPXSP-8M-10M	8	10	56.0	26.5	41.5	26.5
369PLPXSP-10-12M	10	12	62.5	28.0	45.5	31.0

**379PLPSP 45° Plug-In Elbow**

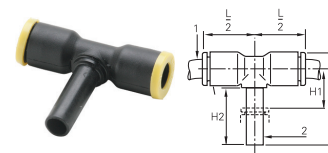
PART NO.	1 TUBE SIZE (IN)	2 TUBE SIZE (IN)	H	H1	H2	L
379PLPSP-2	1/8	1/8	1.14	0.59	0.69	0.47
379PLPSP-5/32	5/32	5/32	1.32	0.75	0.83	0.51
379PLPSP-4	1/4	1/4	1.44	0.71	0.87	0.57
379PLPSP-5	5/16	5/16	1.73	0.85	1.00	0.77
379PLPSP-6	3/8	3/8	2.00	0.96	1.16	0.91

**379PLPSP 45° Plug-In Elbow**

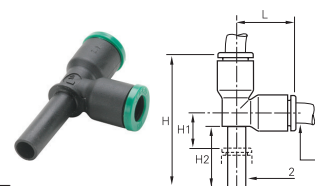
PART NO.	1 TUBE SIZE (MM)	2 TUBE SIZE (MM)	H	H1	H2	L
379PLPSP-4M	4	4	33.5	19.0	21.0	13.0
379PLPSP-6M	6	6	39.0	21.0	25.0	14.5
379PLPSP-8M	8	8	44.0	21.5	25.5	19.5
379PLPSP-10M	10	10	53.0	27.0	32.5	23.0
379PLPSP-12M	12	12	58.5	27.5	34.0	26.5

**372PLPSP Plug-In Branch Tee**

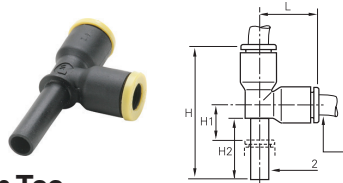
PART NO.	1 TUBE SIZE (IN)	2 TUBE SIZE (IN)	H	H1	H2	L/2
372PLPSP-2	1/8	1/8	0.95	0.26	0.59	0.57
372PLPSP-5/32	5/32	5/32	0.91	0.24	0.61	0.57
372PLPSP-4	1/4	1/4	0.98	0.43	0.77	0.73
372PLPSP-5	5/16	5/16	1.32	0.32	0.85	0.91
372PLPSP-6	3/8	3/8	1.61	0.35	0.96	0.98
372PLPSP-8	1/2	1/2	2.01	0.51	1.12	1.38

**372PLPSP Plug-In Branch Tee**

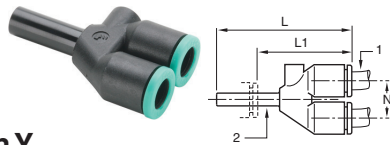
PART NO.	1 TUBE SIZE (MM)	2 TUBE SIZE (M)	H	H1	H2	L/2
372PLPSP-4M	4	4	23.0	6.0	15.5	14.5
372PLPSP-6M	6	6	26.5	7.0	17.0	16.0
372PLPSP-8M	8	8	33.5	8.0	21.5	23.0
372PLPSP-10M	10	10	39.0	9.5	24.5	26.5
372PLPSP-12M	12	12	44.5	10.0	27.5	31.0
372PLPSP-4M-6M	4	6	26.5	7.0	17.0	16.0
372PLPSP-6M-8M	6	8	33.5	8.0	21.5	23.0
372PLPSP-8M-10M	8	10	39.0	9.5	24.5	26.5
372PLPSP-10M-12M	10	12	44.5	10.0	27.5	31.0

**371PLPSP Plug-In Run Tee**

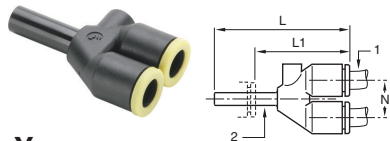
PART NO.	1 TUBE SIZE (IN)	2 TUBE SIZE (IN)	H	H1	H2	L
371PLPSP-5/32	5/32	5/32	1.30	0.24	0.61	0.57
371PLPSP-4	1/4	1/4	1.69	0.43	0.83	0.73
371PLPSP-5	5/16	5/16	1.93	0.32	0.85	0.91
371PLPSP-6	3/8	3/8	2.23	0.33	0.96	1.00
371PLPSP-8	1/2	1/2	2.86	0.51	1.12	1.38

**371PLPSP Plug-In Run Tee**

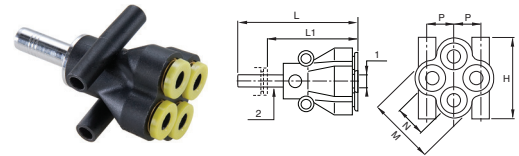
PART NO.	1 TUBE SIZE (MM)	2 TUBE SIZE (MM)	H	H1	H2	L
371PLPSP-4M	4	4	33.0	6.0	15.5	14.5
371PLPSP-6M	6	6	38.5	7.0	17.0	17.5
371PLPSP-8M	8	8	49.0	8.0	21.5	23.0
371PLPSP-10M	10	10	57.0	10.5	24.5	26.5
371PLPSP-12M	12	12	65.5	10.5	27.5	31.0
371PLPSP-4M-6M	4	6	10.5	7.0	17.0	17.5
371PLPSP-6M-8M	6	8	13.5	8.0	21.5	23.0
371PLPSP-8M-10M	8	10	16.0	10.5	24.5	26.5
371PLPSP-1012M	10	12	19.0	10.5	27.5	31.0

**362PLPSP Plug-In Y**

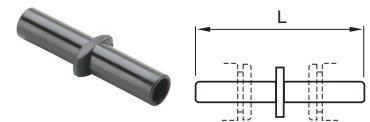
PART NO.	1 TUBE SIZE (IN)	2 TUBE SIZE (IN)	L	L1	N
362PLPSP-2	1/8	1/8	1.36	1.00	0.35
362PLPSP-5/32	5/32	5/32	1.34	0.85	0.35
362PLPSP-4	1/4	1/4	1.60	1.02	0.45
362PLPSP-5	5/16	5/16	2.00	1.26	0.57
362PLPSP-6	3/8	3/8	2.23	1.42	0.67

**362PLPSP Plug-In Y**

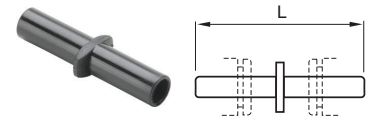
PART NO.	1 TUBE SIZE (MM)	2 TUBE SIZE (M)	L	L1	N
362PLPSP-4M	4	4	34.0	21.5	9.0
362PLPSP-6M	6	6	39.5	25.5	11.0
362PLPSP-8M	8	8	50.5	32.0	14.5
362PLPSP-10M	10	10	57.5	36.0	17.0
362PLPSP-12M	12	12	66.0	41.0	20.0
362PLPSP-4M-6M	4	6	35.5	21.5	9.0
362PLPSP-6M-8M	6	8	44.0	25.5	11.0
362PLPSP-8M-10M	8	10	53.5	32.0	14.5
362PLPSP10M-12M	10	12	60.0	35.0	17.0

**362PLPDSP Plug-In Multiple Y**

PART NO.	1 TUBE SIZE (MM)	2 TUBE SIZE (M)	H	L	L1	M	N
362PLPDSP-6M-4M	6	4	25.5	45.0	31.0	21.0	10.0
362PLPDSP-8M-4M	8	4	25.5	49.5	31.0	21.0	10.0
362PLPDSP-8M-6M	8	6	31.5	59.5	41.0	26.5	12.0

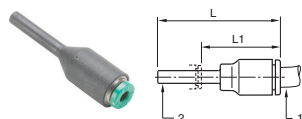
**63PLP Double Male Union**

PART NO.	TUBE SIZE (IN)	L
63PLP-5/32	5/32	1.36
63PLP-4	1/4	1.52
63PLP-5	5/16	1.61
63PLP-6	3/8	2.03
63PLP-8	1/2	2.13

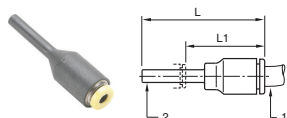
**63PLP Double Male Union**

PART NO.	TUBE SIZE (MM)	L
63PLP4M	4	34 1/2
63PLP6M	6	38 1/2
63PLP8M	8	41
63PLP10M	10	51 1/2
63PLP12M	12	60
63PLP14M	14	69 1/2

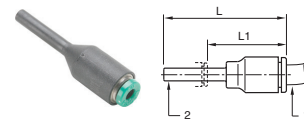
B

**67PLP Tube End Reducer**

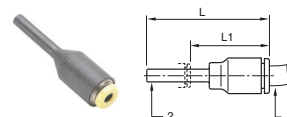
PART NO.	1 TUBE SIZE (IN)	2 TUBE SIZE (IN)	L	L1
67PLP-2-5/32	1/8	5/32	1.79	1.32
67PLP-2-3	1/8	3/16	1.79	1.14
67PLP-2-4	1/8	1/4	1.79	1.22
67PLP-5/32-3	5/32	3/16	1.48	.83
67PLP-5/32-4	5/32	1/4	1.48	.91
67PLP-5/32-5	5/32	5/16	1.48	.75
67PLP-5/32-6	5/32	3/8	1.61	.81
67PLP-3-5	3/16	5/16	1.79	1.06
67PLP-3-4	3/16	1/4	1.79	1.22
67PLP-4-5	1/4	5/16	1.61	.89
67PLP-4-6	1/4	3/8	1.61	.81
67PLP-4-8	1/4	1/2	1.97	.98
67PLP-5-6	5/16	3/8	1.93	1.12
67PLP-5-8	5/16	1/2	2.01	1.02
67PLP-6-8	3/8	1/2	2.01	1.04

**67PLP Tube Reducer**

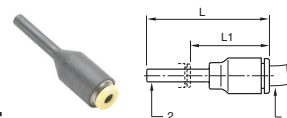
PART NO.	1 TUBE SIZE (MM)	2 TUBE SIZE (MM)	L	L1
67PLP-6M-4M	6	4	37.5	23.5
67PLP-8M-4M	8	4	37.5	19.0
67PLP-8M-6M	8	6	36.0	20.5
67PLP-10M-4M	10	4	44.0	22.5
67PLP-10M-6M	10	6	38.0	17.5
67PLP-10M-8M	10	8	49.0	28.5
67PLP-12M-10M	12	10	56.5	33.5
67PLP-12M-6M	12	6	46.0	23.0
67PLP-12M-8M	12	8	49.0	24.5
67PLP-14M-10M	14	10	58.5	33.5
67PLP-14M-12M	14	12	58.5	33.5
67PLP-14M-6M	14	6	48.0	23.0
67PLP-14M-8M	14	8	48.0	23.0

**32PLPSP Tube Expander**

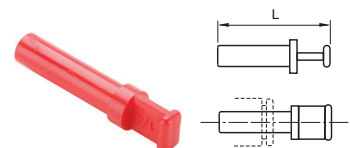
PART NO.	1 TUBE SIZE (IN)	2 TUBE SIZE (IN)	L	L1
32PLPSP-4-2	1/4	1/8	1.61	1.16
32PLPSP-4-6M	1/4	6M	1.75	1.02
32PLPSP-4-5/32	1/4	5/32	1.61	1.14
32PLPSP-4-3	1/4	3/16	1.61	1.00
32PLPSP-6-4	3/8	1/4	1.58	1.00

**32PLPSP Tube Expander**

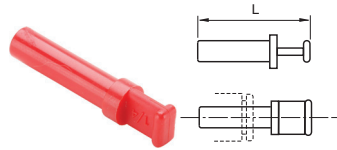
PART NO.	TUBE SIZE (MM)	TUBE SIZE (MM)	L	L1
32PLPSP-6M-4M	6	4	35.0	23.0
32PLPSP-8M-6M	8	6	45.0	31.5
32PLPSP-10M-8M	10	8	42.5	21.0
32PLPSP-12M-10M	12	10	49.0	24.5

**32PLPSP Tube Converter**

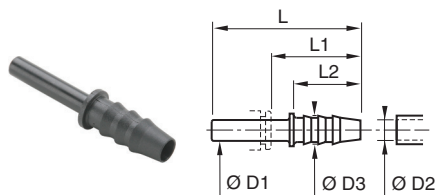
PART NO.	1 TUBE SIZE (MM)	2 TUBE SIZE (IN)	L	L1
32PLPSP-4M-2	4M	1/8	1.61	1.16
32PLPSP-8M-4	8M	1/4	1.58	1.00

**639PLP Plug**

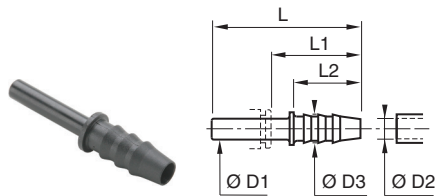
PART NO.	TUBE SIZE (IN)	L
639PLP-2	1/8	1.30
639PLP-5/32	5/32	1.18
639PLP-3	3/16	1.36
639PLP-4	1/4	1.44
639PLP-5	5/16	1.38
639PLP-6	3/8	1.67
639PLP-8	1/2	1.91

**639PLP Plug**

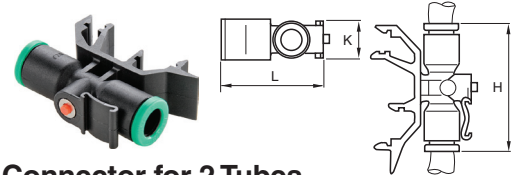
PART NO.	TUBE SIZE (MM)	L
639PLP-3M	3	25
639PLP-4M	4	30
639PLP-6M	6	33
639PLP-8M	8	33
639PLP-10M	10	42
639PLP-12M	12	45
639PLP-14M	14	49

**322PLPSP Barbed Connector**

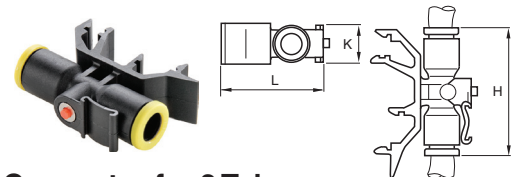
PART NO.	OD 1	OD 2	OD 3	L	L1	L2
322PLPSP-2-5/32	5/32	0.12	0.20	1.46	0.98	0.67
322PLPSP-5-5/32	5/32	0.20	0.28	1.46	0.98	0.67
322PLPSP-3-4	1/4	3/16		1.65	1.00	
322PLPSP-4-5	5/16	0.25	0.34	1.55	0.83	0.67
322PLPSP-5-5	3/8	0.32	0.39	1.75	1.02	0.87
322PLPSP-5-6	3/8	0.32	0.39	1.97	1.16	0.87

**322PLPSP Barbed Connector**

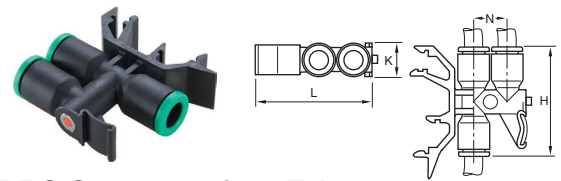
PART NO.	OD 1	OD 2	OD 3	L	L1	L2
322PLPSP-3M-4M	4	3.2	5.0	37.0	25.0	17.0
322PLPSP-5M-4M	4	5.0	7.0	37.0	25.0	17.0
322PLPSP-5M-6M	6	5.0	7.0	39.0	25.0	17.0
322PLPSP-6M-8M	8	6.3	8.5	39.5	21.0	17.0
322PLPSP-8M-8M	8	8.0	10.0	44.5	26.0	22.0
322PLPSP-6M-10M	10	6.3	8.0	45.0	24.5	17.0
322PLPSP-8M-10M	10	8.0	10.0	50.0	29.5	22.0
322PLPSP-8M-12M	12	8.0	10.0	50.0	26.0	22.0
322PLPSP-10-12M	12	10.0	12.0	48.5	25.5	22.5
322PLPSP-12-12M	12	12.5	14.5	57.0	34.0	22.5
322PLPSP-12-14M	14	12.5	14.5	59.5	34.5	22.5
322PLPSP-14-14M	14	14.0	16.0	59.5	34.5	22.5

**32PLPRC Connector for 2 Tubes**

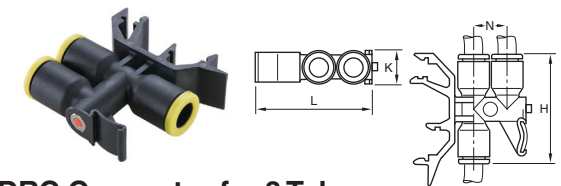
PART NO.	TUBE SIZE (IN)	H	K	L
32PLPRC-5/32	5/32	1.44	0.47	1.18
32PLPRC-4	1/4	1.44	0.47	1.18
32PLPRC-5	5/16	1.81	0.51	1.28

**32PLPRC Connector for 2 Tubes**

PART NO.	TUBE SIZE (MM)	H	K	L
32PLPRC-4M	4	36.5	11.0	39.5
32PLPRC-6M	6	36.5	11.0	39.5
32PLPRC-8M	8	46.0	13.0	44.5

**32PLPDRC Connector for 3 Tubes**

PART NO.	TUBE SIZE (IN)	H	K	L	N
32PLPDRC-5/32	5/32	1.44	0.43	1.56	0.45
32PLPDRC-5	5/16	1.81	0.51	1.75	0.57

**32PLPDRC Connector for 3 Tubes**

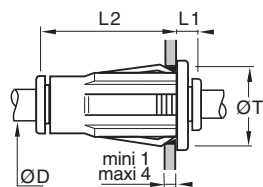
PART NO.	TUBE SIZE (MM)	H	K	L	N
32PLPDRC-4M	4	36.5	11.0	39.5	
32PLPDRC-6M	6	36.5	11.0	39.5	
32PLPDRC-8M	8	46.0	13.0	14.5	



B

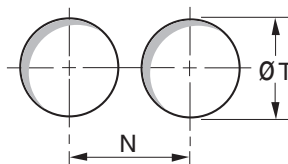
**32PLPBHP Plug-in Bulkhead Union**

PART NO.	TUBE SIZE (IN)	L1	L2	ØT
32PLPBHP-5/32	5/32	0.26	1.080	0.62
32PLPBHP-4	1/4	0.26	1.240	0.75
32PLPBHP-5	5/16	0.30	1.280	0.87
32PLPBHP-6	3/8	0.30	1.630	1.12
32PLPBHP-8	1/2	0.30	1.710	1.25

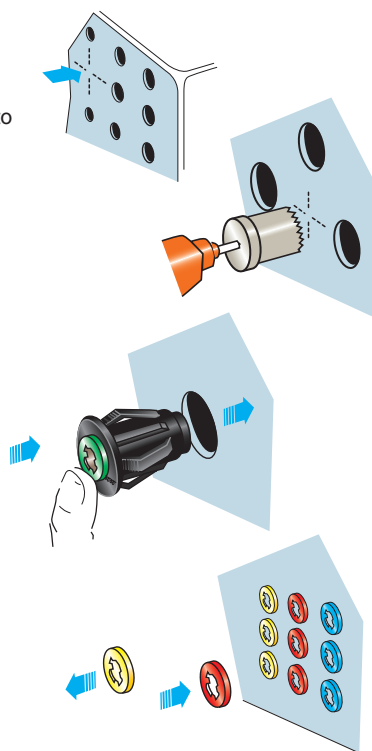
**Fixing Hole**

D		5/32	1/4	5/16	3/8	1/2
T	inches	5/8"	3/4"	7/8"	1 1/8"	1 1/4"
	mm	15.87	19.05	22.22	28.57	31.75
N	in	.89	1.00	1.08	1.34	1.50

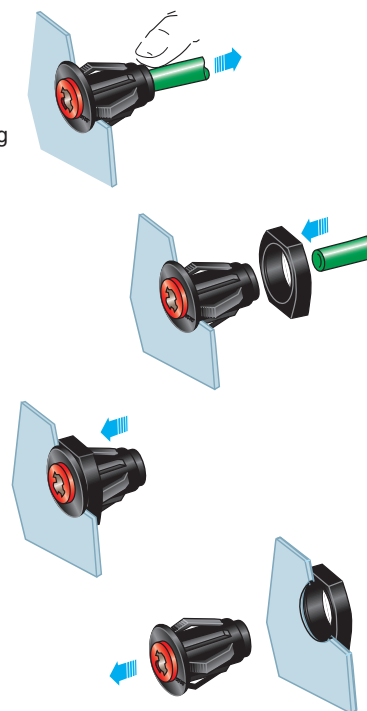
Tolerance T: +0.3 -0.1

Minimum distance between fittings.  
Diameter of fixing hole.**Installation**

1. Mark out the fixing hole
2. Make hole in panel
3. Simply push the fitting into place
4. To complete the installation
5. To identify circuits simply remove the black release button and replace with colored one

**Removal**

1. Disconnect the tube
2. Put the removal tool on the fitting
3. Push the tool over the fitting to the bulkhead face
4. Simply remove the fitting





# PrestoWeld Fittings

B

MATERIALS OF CONSTRUCTION	
BODY:	NICKEL PLATED BRASS
O-RING:	NITRILE SILICONE FREE
RELEASE BUTTON:	PBT UL94-VO
GRAB RING:	STAINLESS STEEL

NOMENCLATURE	
EXAMPLE: W169PW-4-2	ATTRIBUTE:
W	WHITE PCTFE THREAD SEALANT
169	MALE ELBOW
PW	PRESTOWELD
4	1/4" TUBE O.D.
2	1/8" PIPE THREAD

SPECIFICATIONS	
PRESSURE AND TEMPERATURE RANGE	0° TO +200°F AT UP TO 300 PSI DEPENDING ON TUBING BEING USED
TUBE MATERIAL	PARKER MICROWELD TUBING
TUBE O.D.	1/4, 5/16, 3/8, 1/2
TUBE O.D.(MM)	6, 8, 10, 12



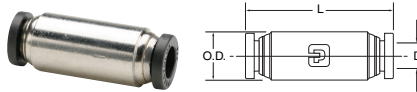
Push-to-connect fittings that are weld splatter resistant and silicone free to meet the requirements of the robotic welding industry. All fittings feature nickel plated brass bodies and threads. The release button collets aids in preventing weld spatter into the fittings.

## Assembly Instructions

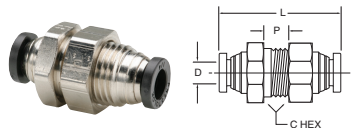
1. Cut tubing squarely, be certain the port of mating part is clean and free of debris
2. Insert tubing into fitting until it bottoms. A slight twisting motion will ease the insertion. Pull on the tubing to verify it is properly retained in the fitting.
3. To disassemble, simply push in the release button against the body and remove the tubing.
4. It is recommended to trim the tubing after every disassembly to insure a proper seal.

**DB Dust/Weld Spatter Boot**

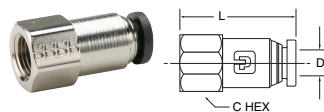
PART NO.	TUBE SIZE	L	D
DB-4	1/4	.50	.53
DB-6	3/8	.50	.76
DB-8	1/2	.50	.88

**62PW Union  
(Nickel Plated)**

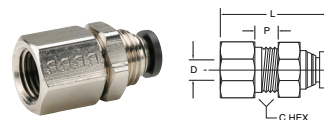
PART NO.	TUBE SIZE	O.D.	L	FLOW DIA. D
62PW-4	1/4	.500	1.43	.188
62PW-5	5/16	.562	1.65	.250
62PW-6	3/8	.625	1.66	.312
62PW-8	1/2	.750	1.82	.375

**62PWBH  
Bulkhead Union  
(Nickel Plated)**

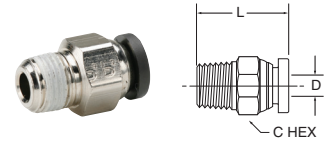
PART NO.	TUBE SIZE	BULKHEAD HOLE DIA. B	C HEX	P MAX.	L	D
62PWBH-4	1/4	9/16	11/16	.29	1.43	.188
62PWBH-5	5/16	5/8	3/4	.60	1.65	.250
62PWBH-6	3/8	3/4	7/8	.54	1.66	.312
62PWBH-8	1/2	7/8	1	.66	2.04	.375

**66PW Female  
Connector  
(Nickel Plated)**

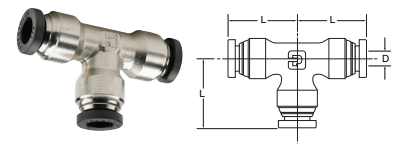
PART NO.	TUBE SIZE	PIPE THREAD (NPTF)	C HEX	L	FLOW DIA. D
66PW-4-2	1/4	1/8	9/16	1.17	.188
66PW-4-4	1/4	1/4	11/16	1.38	.188
66PW-5-2	5/16	1/8	9/16	1.25	.250
66PW-5-4	5/16	1/4	11/16	1.45	.250
66PW-6-4	3/8	1/4	11/16	1.46	.312
66PW-6-6	3/8	3/8	13/16	1.51	.312

**66PWBH  
Female Bulkhead  
(Nickel Plated)**

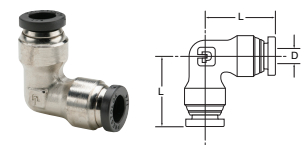
PART NO.	TUBE SIZE	THREAD (NPTF)	C HEX	P MAX.	L	FLOW DIA. D	BULKHEAD HOLE DIA.
66PWBH-4-4	1/4	1/4	11/16	.24	1.35	.188	9/16
66PWBH-6-6	3/8	3/8	1	.22	1.47	.312	7/8
66PWBH-8-6	1/2	3/8	1 1/4	.35	1.56	.344	1

**W68PW Male  
Connector  
(Nickel Plated)**

PIPE PART NO.	TUBE SIZE	THREAD (NPTF)	C HEX	L	FLOW DIA. D
W68PW-4-2	1/4	1/8	1/2	.89	.188
W68PW-4-4	1/4	1/4	9/16	1.00	.188
W68PW-4-6	1/4	3/8	3/4	1.04	.188
W68PW-5-2	5/16	1/8	9/16	1.18	.250
W68PW-5-4	5/16	1/4	9/16	1.04	.250
W68PW-5-6	5/16	3/8	11/16	1.04	.250
W68PW-6-2	3/8	1/8	5/8	1.21	.250
W68PW-6-4	3/8	1/4	5/8	1.08	.312
W68PW-6-6	3/8	3/8	11/16	1.02	.312
W68PW-6-8	3/8	1/2	7/8	1.28	.312
W68PW-8-4	1/2	1/4	13/16	1.44	.344
W68PW-8-6	1/2	3/8	13/16	1.24	.344
W68PW-8-8	1/2	1/2	7/8	1.35	.375

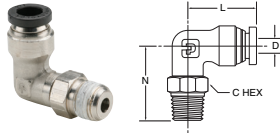
**164PW Union Tee  
(Nickel Plated)**

PART NO.	TUBE SIZE	L	FLOW DIA. D
164PW-4	1/4	.85	.188
164PW-5	5/16	.97	.250
164PW-6	3/8	1.01	.250
164PW-8	1/2	1.15	.375

**165PW Union Elbow  
(Nickel Plated)**

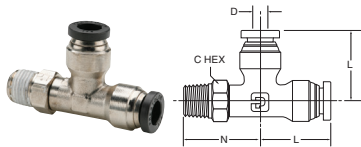
PART NO.	TUBE SIZE	L	FLOW DIA. D
165PW-4	1/4	.85	.188
165PW-5	5/16	.97	.250
165PW-6	3/8	1.01	.312
165PW-8	1/2	1.15	.375

### W169PW Male Elbow Swivel 90° (Nickel Plated)



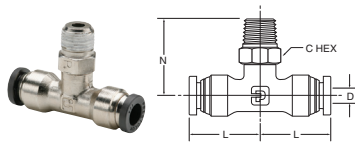
TUBE PART NO.	PIPE SIZE	THREAD (NPTF)	C HEX	L	N	FLOW DIA. D
W169PW-4-2	1/4	1/8	7/16	.85	.92	.156
W169PW-4-4	1/4	1/4	9/16	.85	1.10	.156
W169PW-4-6	1/4	3/8	11/16	.85	1.19	.156
W169PW-5-2	5/16	1/8	9/16	.97	1.02	.250
W169PW-5-4	5/16	1/4	9/16	.97	1.24	.250
W169PW-6-2	3/8	1/8	9/16	1.01	1.02	.250
W169PW-6-4	3/8	1/4	9/16	1.01	1.24	.250
W169PW-6-6	3/8	3/8	11/16	1.01	1.24	.250
W169PW-6-8	3/8	1/2	7/8	1.01	1.48	.250
W169PW-8-4	1/2	1/4	9/16	1.15	1.28	.312
W169PW-8-6	1/2	3/8	11/16	1.15	1.31	.312
W169PW-8-8	1/2	1/2	7/8	1.15	1.52	.312

### W171PW Male Run Tee Swivel (Nickel Plated)



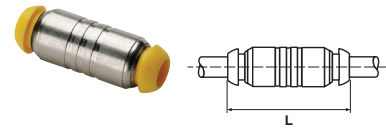
PART NO.	TUBE SIZE	PIPE THREAD (NPTF)	C HEX	L	N	FLOW DIA. D
W171PW-4-2	1/4	1/8	7/16	.85	.92	.156
W171PW-4-4	1/4	1/4	9/16	.85	1.10	.156
W171PW-4-6	1/4	3/8	11/16	.85	1.24	.156
W171PW-5-2	5/16	1/8	9/16	.97	1.02	.250
W171PW-5-4	5/16	1/4	9/16	.97	1.24	.250
W171PW-6-4	3/8	1/4	9/16	1.01	1.24	.250
W171PW-6-6	3/8	3/8	11/16	1.01	1.24	.250
W171PW-8-6	1/2	3/8	11/16	1.15	1.31	.312
W171PW-8-8	1/2	1/2	7/8	1.15	1.52	.312

### W172PW Male Branch Tee Swivel (Nickel Plated)

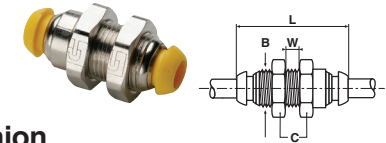


TUBE PART NO.	PIPE SIZE	THREAD (NPTF)	C HEX	L	N	FLOW DIA. D
W172PW-4-2	1/4	1/8	7/16	.85	.92	.156
W172PW-4-4	1/4	1/4	9/16	.85	1.10	.156
W172PW-4-6	1/4	3/8	11/16	.85	1.10	.156
W172PW-5-2	5/16	1/8	9/16	.97	1.02	.250
W172PW-5-4	5/16	1/4	9/16	.97	1.24	.250
W172PW-6-4	3/8	1/4	9/16	1.01	1.24	.250
W172PW-6-6	3/8	3/8	11/16	1.01	1.24	.250
W172PW-8-4	1/2	1/4	9/16	1.15	1.30	.312
W172PW-8-6	1/2	3/8	11/16	1.15	1.31	.312
W172PW-8-8	1/2	1/2	7/8	1.15	1.52	.312

### HPB Equal Union

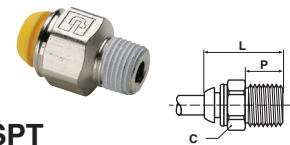


PART NO.	TUBE SIZE (MM)	L
HPB6	6	36.0
HPB8	8	38.0
HPB10	10	48.0
HPB12	12	48.0



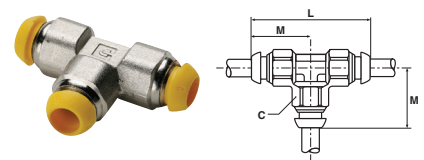
### WPB Bulkhead Union

PART NO.	TUBE SIZE (MM)	B-MM THREAD	C HEX	L	W	BULKHEAD HOLE DIA.
WPB6	6	M13X1	19	35	6	13MM
WPB8	8	M15X1.25	22	36	6	16MM
WPB10	10	M18X1	22	43	8	18MM
WPB12	12	M23X1.5	27	46	10	23MM



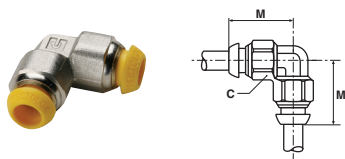
### F3PB Male Connector BSPT

PART NO.	TUBE SIZE (MM)	BSPT	C HEX	L
F3PB6-1/8	6	1/8	14	24.0
F3PB6-1/4	6	1/4	14	24.0
F3PB8-1/8	8	1/8	17	28.0
F3PB8-1/4	8	1/4	17	28.5
F3PB8-3/8	8	3/8	17	26.5
F3PB10-1/4	10	1/4	19	35.5
F3PB10-3/8	10	3/8	19	33.0
F3PB10-1/2	10	1/2	22	31.0
F3PB12-1/4	12	1/4	22	36.5
F3PB12-3/8	12	3/8	22	36.0
F3PB12-1/2	12	1/2	22	36.0

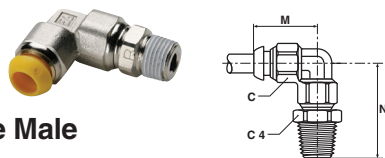


### JPB Equal Tee

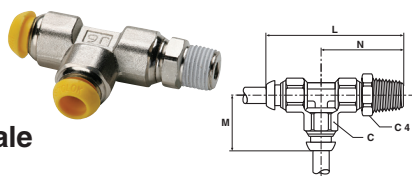
PART NO.	TUBE SIZE (MM)	C	L	M
JPB6	6	12	40	20
JPB8	8	14	44	22
JPB10	10	17	56	28
JPB12	12	22	60	30

**B****EPB Equal Elbow**

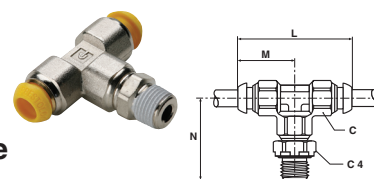
PART NO.	TUBE SIZE (MM)	C HEX	M
EPB6	6	12	20.0
EPB8	8	14	22.0
EPB10	10	17	28.0
EPB12	12	22	30.0

**C63PB Adjustable Male Elbow BSPT**

PART NO.	TUBE SIZE (MM)	BSPT	C HEX	C4 HEX	M	N
C63PB6-1/8	6	1/8	12	11	20	28.0
C63PB6-1/4	6	1/4	12	14	20	31.0
C63PB8-1/8	8	1/8	14	14	22	30.0
C63PB8-1/4	8	1/4	14	14	22	33.0
C63PB8-3/8	8	3/8	14	17	22	34.5
C63PB10-1/4	10	1/4	17	17	28	40.0
C63PB10-3/8	10	3/8	17	17	28	39.0
C63PB12-1/4	12	1/4	22	19	30	42.0
C63PB12-3/8	12	3/8	22	19	30	41.0
C63PB12-1/2	12	1/2	22	22	30	44.5

**R63PB Swivel Male Run Tee BSPT**

PART NO.	TUBE SIZE (MM)	BSPT	C HEX	C4 HEX	L	M	N
R63PB6-1/8	6	1/8	12	11	48.0	20	28.0
R63PB6-1/4	6	1/4	12	14	51.0	20	31.0
R63PB8-1/8	8	1/8	14	14	52.0	22	30.0
R63PB8-1/4	8	1/4	14	14	55.0	22	33.0
R63PB8-3/8	8	3/8	14	17	56.5	22	34.5
R63PB10-1/4	10	1/4	17	17	68.0	28	40.0
R63PB10-3/8	10	3/8	17	17	67.0	28	39.0
R63PB12-1/4	12	1/4	22	19	72.0	30	42.0
R63PB12-3/8	12	3/8	22	19	71.0	30	41.0
R63PB12-1/2	12	1/2	22	22	74.5	30	44.5

**S63PB Swivel Male Branch Tee BSPT**

PART NO.	TUBE SIZE (MM)	BSPT	C HEX	C4 HEX	L	M	N
S63PB6-1/8	6	1/8	12	11	40	20	28.0
S63PB6-1/4	6	1/4	12	14	40	20	31.0
S63PB8-1/8	8	1/8	14	14	44	22	30.0
S63PB8-1/4	8	1/4	14	14	44	22	33.0
S63PB8-3/8	8	3/8	14	17	44	22	34.5
S63PB10-1/4	10	1/4	17	17	56	28	40.0
S63PB10-3/8	10	3/8	17	17	56	28	39.0
S63PB12-1/4	12	1/4	22	19	60	30	42.0
S63PB12-3/8	12	3/8	22	19	60	30	41.0
S63PB12-1/2	12	1/2	22	22	60	30	44.5

**FNPB Plug**

PART NO.	TUBE SIZE (MM)
FNPB6	6
FNPB8	8
FNPB10	10
FNPB12	12





# Integrated Fittings



## Flow Controls

*Compact & Miniature Styles  
Brass & Composite Bodies  
Right Angle & In-line  
Inch & Metric Sizes  
Direct Mounting*



## Check Valves

*Compact & light weight  
Inch & Metric sizes  
NPT, BSPT, BSPP*



## Blocking Valves

*Safe & Immediate  
Stopping of Piston Rod  
Push-in or Threaded  
Terminations  
Direct Mounting*



## Slow Start Fittings

*Mount to FRL or Power Unit  
Permits Gradual Increase in  
Pressure  
Prevents Shocks to System*














































## Threshold Sensor Valves

*Senses the end of the stroke  
Use with air or  
solenoid piloted valve  
No limit switch  
Compact*



C

Compact Flow Control Valves	<b>FCC731</b> Meter Out	 Page C5	<b>FCC731</b> Meter Out - BSPT	 Page C5	<b>FC731</b> Meter Out - BSPP	 Page C5	<b>FCCI731</b> Meter In Flow Control	 Page C5	<b>FCCI731</b> Meter In Flow Control - BSPT	 Page C5	<b>FCCI731</b> Meter In Flow Control - BSPP	 Page C5			
	<b>FCCB731</b> Bi-Directional Flow Control	 Page C6	<b>FCCB731</b> Bi-directional Flow Control - BSPT	 Page C6	<b>FCCB731</b> Bi-directional Flow Control - BSPP	 Page C6	<b>FCKC731</b> Knobless Meter Out Flow Control	 Page C6	<b>FCKC731</b> Knobless Flow Control - BSPP	 Page C6	<b>FCKCI731</b> Knobless Meter In Flow Control	 Page C7	<b>FCKCI731</b> Knobless Meter In Flow Control-BSPP	 Page C7	
	<b>FCKCB731</b> Knobless Bi-directional Flow Control - BSPP	 Page C7	<b>FCK701C</b> Knobless Compression Metal Flow Control - BSPP	 Page C7	<b>Flow Controls Miniature</b>			<b>FCM731</b> Meter Out Flow Control	 Page C9	<b>Meter In Flow Control</b>	 Page C9	<b>FCM731</b> Flow Control - BSPT	 Page C9	<b>FCMI731</b> Meter In Flow Control - BSPT	 Page C9
	<b>FCM731</b> Flow Control - BSPP	 Page C9	<b>FCMI731</b> Meter In Flow Control - BSPP	 Page C10	<b>FCMB731</b> Bi-directional Flow Control - BSPP	 Page C10	<b>FCMK731</b> Knobless Mini Meter Out Flow Control	 Page C10	<b>Flow Controls Swivel Outlet</b>			<b>FCCS731</b> Compact Swivel Outlet Flow Control	 Page C12	<b>FCCS731</b> Compact Swivel Outlet Flow Control - BSPT	 Page C12
	<b>FCCSI731</b> Compact Swivel Outlet Meter In - BSPP	 Page C12	<b>FCMS731</b> Mini Swivel Outlet Flow Control	 Page C13	<b>FCMS731</b> Miniature Swivel Outlet Flow Control - BSPT	 Page C13	<b>FCMS731</b> Miniature Swivel Outlet - BSPP	 Page C13	<b>FCMSI731</b> Miniature Swivel Outlet Meter In - BSPP	 Page C13	<b>FCCS731</b> Compact Swivel Outlet - BSPP	 Page C13			
	<b>Flow Controls Plug-In</b>		<b>FCMSP731</b> Mini Flow Control	 Page C15	<b>FCMSPI731</b> Mini Meter In Flow Control	 Page C15	<b>FCMSP701</b> Miniature Flow Control	 Page C15	<b>FCMSPI 731</b> Mini Meter In Flow Control	 Page C15	<b>FCCSP731</b> Compact Flow Control	 Page C15	<b>FCCSPI731</b> Compact Meter-In Flow Control	 Page C15	
			<b>Flow Controls In-Line</b>		<b>FC832</b> Flow Control	 Page C17	<b>FCB832</b> Bi-directional Flow Control	 Page C17	<b>FC832</b> Flow Control	 Page C17	<b>FCB832</b> Bi-directional Flow Control	 Page C7	<b>FCPM832</b> Panel Mountable Flow Control	 Page C18	<b>FC836</b> Threaded Flow Control
<b>FC836</b> Threaded Flow Control - BSPP	 Page C18														

**C**





# Compact Flow Control Valves

C

MATERIALS OF CONSTRUCTION	
BODY (DEPENDENT UPON THE MODEL):	<ul style="list-style-type: none"> <li>GLASS REINFORCED NYLON 6.6</li> <li>BRASS</li> </ul>
GRIPPING RING:	STAINLESS STEEL
ADJUSTMENT SCREWS	NICKEL-PLATED BRASS
LOCKING NUT:	NICKEL-PLATED BRASS
BASE:	NICKEL-PLATED BRASS

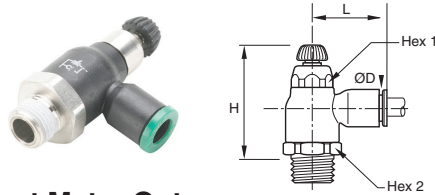
NOMENCLATURE	
EXAMPLE: FCC731-4-2	ATTRIBUTE:
FC	FLOW CONTROL
C	COMPACT
7	RIGHT ANGLE
3	NYLON BODY
1	TUBE X PIPE
4	1/4 TUBE O.D.
2	1/8 PIPE THREAD

APPLICABLE TUBE	
TUBE O.D.	1/8, 5/32, 1/4, 3/8
TUBE O.D. (MM)	4, 6, 8, 10, 12

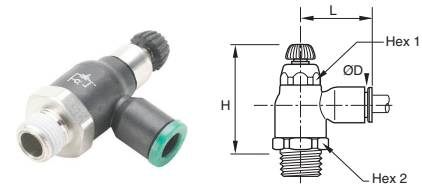
SPECIFICATIONS	
PRESSURE RANGE:	15 TO 145 PSI
TEMPERATURE RANGES:	30° TO 160°F
WORKING FLUID:	COMPRESSED AIR



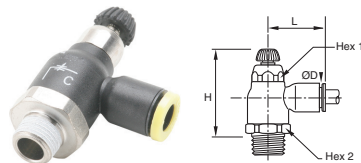
Compact flow control regulators ensure excellent performance of flow and are perfectly suited for reduced spaces due to their small size. The sensitivity of the adjustment screw provides very precise air flow control and regulation. A locking nut guarantees stability of adjustment against vibration tampering of the flow setting.

**FCC731 Compact Meter Out**

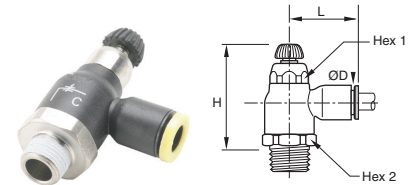
PART NO.	TUBE SIZE (IN)	NPT	HEX 1	HEX 2	H OPEN	H CLOSED	L
FCC731-5/32-2	5/32	1/8	0.63	0.39	1.67	1.44	0.85
FCC731-5/32-4	5/32	1/4	0.63	0.39	1.67	1.44	0.85
FCC731-1/4-2	1/4	1/8	0.63	0.39	1.67	1.44	0.85
FCC731-1/4-4	1/4	1/4	0.63	0.39	1.67	1.44	0.85
FCC731-1/2-4	1/2	1/4	0.91	0.67	2.03	1.71	1.22
FCC731-1/2-6	1/2	3/8	0.91	0.67	2.03	1.71	1.22

**FCCI731 Compact Meter In Flow Control**

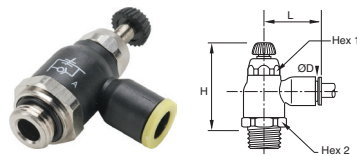
PART NO.	TUBE SIZE (IN)	NPT	HEX 1	HEX 2	H OPEN	H CLOSED	L
FCCI731-5/32-2	5/32	1/8	0.63	0.39	1.67	1.44	0.85
FCCI731-5/32-4	5/32	1/4	0.63	0.39	1.67	1.44	0.85
FCCI731-1/4-2	1/4	1/8	0.63	0.39	1.67	1.44	0.85
FCCI731-1/4-4	1/4	1/4	0.63	0.39	1.67	1.44	0.85

**FCC731 Compact Meter Out - BSPT**

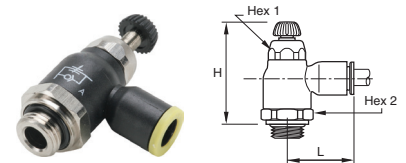
PART NO.	TUBE SIZE (MM)	BSPT	HEX 1	HEX 2	H CLOSED	H OPEN	L
FCC731-6M-2R	6	1/8	16	10	36.5	42.5	22.0
FCC731-8M-2R	8	1/8	19	14	40.0	45.0	27.0
FCC731-8M-4R	8	1/4	19	14	40.0	45.0	27.0
FCC731-10M-4R	10	1/4	23	17	43.5	51.5	31.5
FCC731-10M-6R	10	3/8	23	17	43.5	51.5	31.5
FCC731-10M-8R	10	1/2	23	17	43.5	51.5	31.5
FCC731-12M-4R	12	1/4	23	17	43.5	51.5	35.0
FCC731-12M-6R	12	3/8	23	17	43.5	51.5	35.0
FCC731-12M-8R	12	1/2	23	17	43.5	51.5	35.0

**FCCI731 Compact Meter In Flow Control - BSPT**

PART NO.	TUBE SIZE (MM)	BSPT	HEX 1	HEX 2	H CLOSED	H OPEN	L
FCCI731-10M-4R	10	1/4	23	17	43.5	51.5	31.5
FCCI731-10M-6R	10	3/8	23	17	43.5	51.5	31.5
FCCI731-10M-8R	10	1/2	23	17	43.5	51.5	31.5
FCCI731-12M-4R	12	1/4	23	17	43.5	51.5	35.0
FCCI731-12M-6R	12	3/8	23	17	43.5	51.5	35.0
FCCI731-12M-8R	12	1/2	23	17	43.5	51.5	35.0

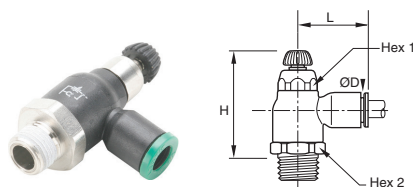
**FC731 Compact Meter Out - BSPP**

PART NO.	TUBE SIZE (MM)	BSPP	HEX 1	HEX 2	H CLOSED	H OPEN	L
FC731-4M-2G	4	1/8	10	16	38.0	44.0	22.0
FC731-6M-2G	6	1/8	10	16	38.0	44.0	22.0
FC731-6M-4G	6	1/4	10	16	36.5	42.5	22.0
FC731-8M-2G	8	1/8	14	19	41.5	48.0	28.0
FC731-8M-4G	8	1/4	14	19	41.5	48.0	28.0
FC731-8M-6G	8	3/8	14	19	41.5	48.0	28.0
FC731-10M-4G	10	1/4	17	23	45.5	53.5	31.5
FC731-10M-6G	10	3/8	17	23	45.5	54.0	31.5
FC731-12M-6G	12	3/8	17	23	45.5	54.0	35.0
FC731-12M-8G	12	1/2	17	24	45.5	54.0	35.0

**FCCI731 Compact Meter In Flow Control - BSPP**

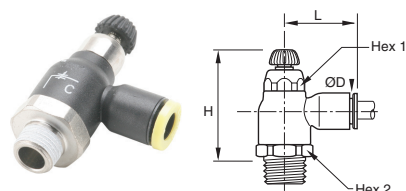
PART NO.	TUBE SIZE (MM)	BSPP	HEX 1	HEX 2	H CLOSED	H OPEN	L
FCCI731-4M-2G	4	1/8	10	16	38.0	44.0	22.0
FCCI731-6M-2G	6	1/8	10	16	38.0	44.0	22.0
FCCI731-6M-4G	6	1/4	10	16	36.5	42.5	22.0
FCCI731-8M-2G	8	1/8	14	19	41.5	48.0	28.0
FCCI731-8M-4G	8	1/4	14	19	41.5	48.0	28.0
FCCI731-8M-6G	8	3/8	14	19	41.5	48.0	28.0
FCCI731-10M-4G	10	1/4	17	23	45.5	53.5	31.5
FCCI731-10M-6G	10	3/8	17	23	45.5	54.0	31.5
FCCI731-12M-8G	12	1/2	17	24	45.5	54.0	35.0





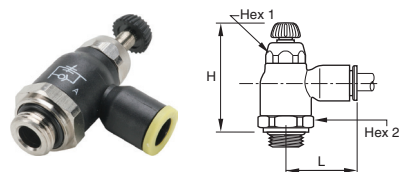
### FCCB731 Compact Bi-Directional Flow Control

PART NO.	TUBE SIZE (IN)	NPT	HEX 1	HEX 2	H OPEN	H CLOSED	L
FCCB731-5/32-2	5/32	1/8	0.63	0.39	1.67	1.44	0.85
FCCB731-4-2	1/4	1/8	0.63	0.39	1.67	1.44	0.85
FCCB731-4-4	1/4	1/4	0.63	0.39	1.67	1.44	0.85



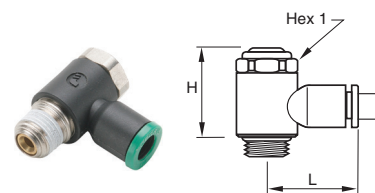
### FCCB731 Compact Bi-directional Flow Control - BSPT

PART NO.	TUBE SIZE (MM)	BSPT	HEX 1	HEX 2	H CLOSED	H OPEN	L
FCCB731-4M-2R	4	1/8	16	10	36.5	42.5	22.0
FCCB731-6M-2R	6	1/8	16	10	36.5	42.5	22.0
FCCB731-6M-4R	6	1/4	16	10	36.5	42.5	22.0
FCCB731-8M-2R	8	1/8	19	14	40.0	45.0	27.0
FCCB731-8M-4R	8	1/4	19	14	40.0	45.0	27.0
FCCB731-8M-6R	8	3/8	19	14	40.0	45.0	27.0



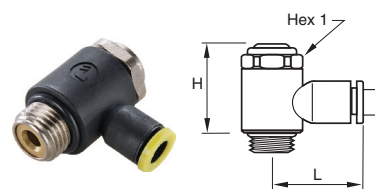
### FCCB731 Compact Bi-directional Flow Control - BSPP

PART NO.	TUBE SIZE (MM)	BSPP	HEX 1	HEX 2	H CLOSED	H OPEN	L
FCCB731-4M-2G	4	1/8	10	16	38.0	44.0	22.0
FCCB731-6M-2G	6	1/8	10	16	38.0	44.0	22.0
FCCB731-6M-4G	6	1/4	10	16	36.5	42.5	22.0
FCCB731-8M-2G	8	1/8	14	19	41.5	48.0	28.0
FCCB731-8M-4G	8	1/4	14	19	41.5	48.0	28.0
FCCB731-8M-6G	8	3/8	14	19	41.5	48.0	28.0



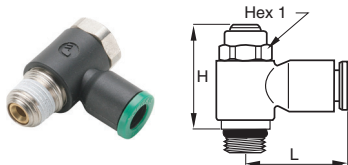
### FCKC731 Knobless Meter Out Flow Control

ART NO.	TUBE SIZE (IN)	NPT / UNF	HEX 1 MM	H	L
FCKC731-2-0	1/8	10-32		0.69	0.65
FCKC731-2-2	1/8	1/8	13	0.79	0.75
FCKC731-5/32-0	5/32	10-32		0.69	0.65
FCKC731-5/32-2	5/32	1/8	13	0.79	0.75
FCKC731-4-0	1/4	10-32		0.69	0.77
FCKC731-4-2	1/4	1/8	13	0.79	0.85
FCKC731-4-4	1/4	1/4	17	1.04	0.89
FCKC731-5-2	5/16	1/8	13	0.79	1.02
FCKC731-5-4	5/16	1/4	17	1.04	1.06
FCKC731-6-4	3/8	1/4	17	1.04	1.14
FCKC731-6-6	3/8	3/8	20	1.14	1.36

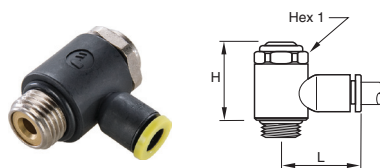


### FCKC731 Knobless Compact Flow Control - BSPP

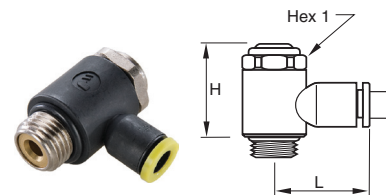
PART NO.	TUBE SIZE (MM)	BSPP / M5	HEX 1	H	L
FCKC731-4M-M5	4	M5X0.8	8.0	17.5	17.0
FCKC731-4M-2G	4	1/8	13.0	25.0	19.0
FCKC731-6M-M5	6	M5X0.8	8.0	17.5	19.0
FCKC731-6M-2G	6	1/8	13.0	25.0	21.0
FCKC731-6M-4G	6	1/4	17.0	26.5	22.0
FCKC731-8M-2G	8	1/8	13.0	25.0	26.0
FCKC731-8M-4G	8	1/4	17.0	26.5	27.0
FCKC731-8M-6G	8	3/8	20.0	37.5	29.0
FCKC731-10M-4G	10	1/4	17.0	26.5	29.0
FCKC731-10M-6G	10	3/8	20.0	37.5	31.0
FCKC731-10M-8G	10	1/2	23.0	43.0	37.0
FCKC731-12M-6G	12	3/8	20.0	37.5	6.8
FCKC731-12M-8G	12	1/2	23.0	43.0	37.0

**FCKCI731 Knobless Meter In Flow Control**

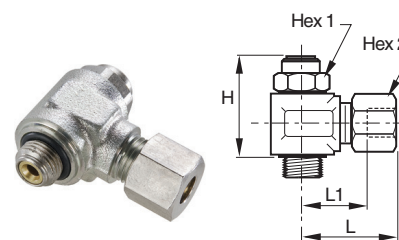
PART NO.	TUBE SIZE (IN)	NPT / UNF	HEX 1 MM	H	L
FCKCI731-5/32-0	5/32	10-32	8	0.69	0.65
FCKCI731-5/32-2	5/32	1/8	13	0.79	0.75
FCKCI731-4-0	1/4	10-32	8	0.69	0.77
FCKCI731-4-2	1/4	1/8	13	0.79	0.85
FCKCI731-4-4	1/4	1/4	17	1.04	0.89

**FCKCI731 Knobless Compact Meter In Flow Control-BSPP**

PART NO.	TUBE SIZE (MM)	BSPP / M5	HEX 1	H	L
FCKCI731-4M-M5	4	M5X0.8	8.0	17.5	17.0
FCKCI731-4M-2G	4	1/8	13.0	25.0	19.0
FCKCI731-6M-M5	6	M5X0.8	8.0	17.5	19.0
FCKCI731-6M-2G	6	1/8	13.0	25.0	21.0
FCKCI731-6M-4G	6	1/4	17.0	26.5	22.0
FCKCI731-8M-2G	8	1/8	13.0	25.0	26.0
FCKCI731-8M-4G	8	1/4	17.0	26.5	27.0
FCKCI731-8M-6G	8	3/8	20.0	37.5	29.0
FCKCI731-12M-6G	10	3/8	17.0	26.5	29.0
FCKCI731-12M-8G	10	1/2	20.0	37.5	31.0

**FCKCB731 Knobless Bi-directional Flow Control - BSPP**

PART NO.	TUBE SIZE (MM)	BSPP / M5	HEX 1	H	L
FCKCB731-4M-M5	4	M5X0.8	8	17.5	17.0
FCKCB731 -4M-2G	4	1/8	13	25.0	19.0
FCKCB731 -6M-M5	6	M5X0.8	8	17.5	19.0
FCKCB731 -6M-2G	6	1/8	13	25.0	21.0
FCKCB731 -6M-4G	6	1/4	17	26.5	22.0
FCKCB731 -8M-2G	8	1/8	13	25.0	26.0
FCKCB731 -8M-4G	8	1/4	17	26.5	27.0
FCKCB731 -8M-6G	8	3/8	20	37.5	29.0

**FCK701C Knobless Compression Metal Flow Control - BSPP**

PART NO.	TUBE SIZE (MM)	BSPP	HEX 1	HEX 2	H	L	L1
FCK701C-4M-2G	4	1/8	13	10	26.0	25.5	14.5
FCK701C-6M-2G	6	1/8	13	13	26.0	25.5	14.5
FCK701C-6M-4G	6	1/4	17	13	31.5	28.5	17.5
FCK701C-8M-2G	8	1/8	13	14	26.0	29.5	15.5
FCK701C-8M-4G	8	1/4	17	14	31.5	31.0	17.0
FCK701C-10M-4G	10	1/4	17	19	31.5	35.0	19.0
FCK701C-10M-6G	10	3/8	20	19	44.5	37.5	19.0
FCK701C-10M-8G	10	1/2	23	19	50.0	37.5	19.0
FCK701C-12M-6G	12	3/8	20	22	44.5	38.0	21.5
FCK701C-12M-8G	12	1/2	23	22	50.0	38.0	21.5



# Flow Controls Miniature

C

MATERIALS OF CONSTRUCTION	
BODY (DEPENDENT UPON THE MODEL):	<ul style="list-style-type: none"> <li>GLASS REINFORCED NYLON 6.6</li> <li>BRASS</li> </ul>
GRIPPING RING:	STAINLESS STEEL
ADJUSTMENT SCREWS	NICKEL-PLATED BRASS
LOCKING NUT:	NICKEL-PLATED BRASS
BASE:	NICKEL-PLATED BRASS

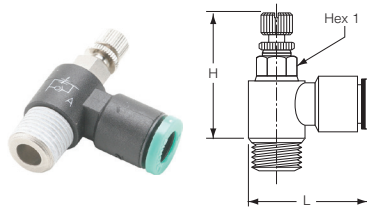
NOMENCLATURE	
EXAMPLE: FCM731-4-2	ATTRIBUTE:
FC	FLOW CONTROL
M	MINIATURE
7	RIGHT ANGLE
3	NYLON BODY
1	TUBE X PIPE
4	1/4 TUBE O.D.
2	1/8 PIPE THREAD

APPLICABLE TUBE	
TUBE O.D.	1/8, 5/32, 1/4
TUBE O.D. (MM)	3, 4, 6, 8

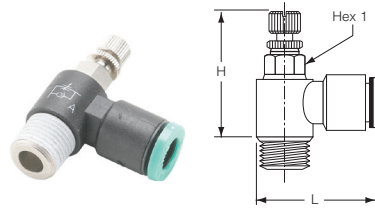
SPECIFICATIONS	
PRESSURE RANGE:	15 TO 145 PSI
TEMPERATURE RANGES:	30° TO 160°F
WORKING FLUID:	COMPRESSED AIR



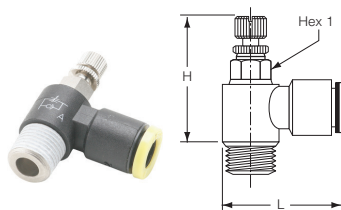
The miniature flow control regulator is especially adapted for all very small sized pneumatic applications (micro-pneumatic in particular). They are specifically designed for use with small bore cylinders (pancake / flat cylinders). Miniature flow control regulators are available in meter out, meter in and bi-directional versions.

**FCM731 Miniature Meter Out Flow Control**

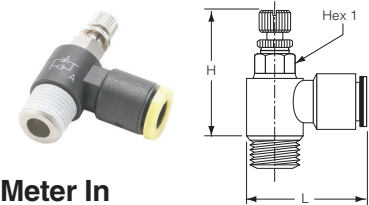
PART NO.	TUBE SIZE (IN)	NPT	HEX 1 MM	H OPEN	H CLOSED	L
FCM731-2-0	1/8	10-32	6	1.14	0.91	0.67
FCM731-2-2	1/8	1/8	7	1.41	1.26	0.69
FCM731-5/32-0	5/32	10-32	6	1.02	0.93	0.67
FCM731-5/32-2	5/32	1/8	7	1.16	1.06	0.71
FCM731-4-0	1/4	10-32	6	1.02	0.93	0.73
FCM731-4-2	1/4	1/8	7	1.16	1.06	0.75
FCM731-4-4	1/4	1/4	8	1.28	1.18	0.77

**FCM731 Miniature Meter In Flow Control**

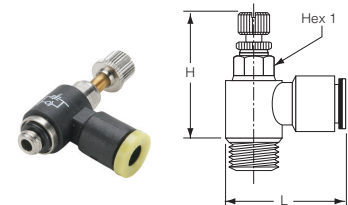
PART NO.	TUBE SIZE (IN)	NPT	HEX 1 MM	H OPEN	H CLOSED	L
FCM731-2-0	1/8	10-32	6	1.14	0.91	0.67
FCM731-5/32-0	5/32	10-32	6	1.02	0.93	0.67
FCM731-5/32-2	5/32	1/8	7	1.16	1.06	0.71
FCM731-4-0	1/4	10-32	6	1.02	0.93	0.73
FCM731-4-2	1/4	1/8	7	1.16	1.06	0.75
FCM731-4-4	1/4	1/4	8	1.28	1.18	0.77

**FCM731 Miniature Flow Control - BSPT**

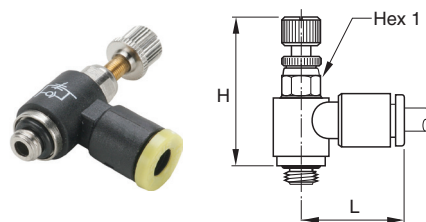
PART NO.	TUBE SIZE (MM)	BSPT	HEX 1	H CLOSED	H OPEN	L
FCM731-4M-2R	4	1/8	7	25.0	27.5	18.0
FCM731-6M-2R	6	1/8	7	25.0	27.5	18.5
FCM731-6M-4R	6	1/4	8	27.5	30.0	19.0
FCM731-6M-6R	6	3/8	17	31.5	34.0	19.0
FCM731-8M-2R	8	1/8	13	28.5	33.0	26.0
FCM731-8M-4R	8	1/4	16	31.0	35.0	27.5
FCM731-8M-6R	8	3/8	20	36.0	42.0	29.0

**FCM731 Miniature Meter In Flow Control - BSPT**

PART NO.	TUBE SIZE (MM)	BSPT	HEX 1	H CLOSED	H OPEN	L
FCM731-4M-2R	4	1/8	7	25.0	27.5	18.0
FCM731-6M-2R	6	1/8	7	25.0	27.5	18.5
FCM731-6M-4R	6	1/4	8	27.5	30.0	19.0
FCM731-8M-2R	8	1/8	13	28.5	33.0	26.0
FCM731-8M-4R	8	1/4	16	31.0	35.0	27.5
FCM731-8M-6R	8	3/8	20	36.0	42.0	29.0

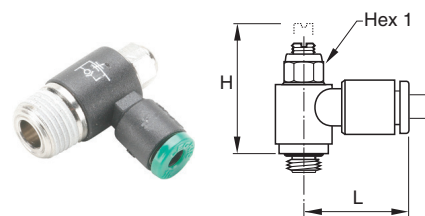
**FCM731 Miniature Flow Control - BSPP**

PART NO.	TUBE SIZE (MM)	BSPP	HEX 1	H CLOSED	H OPEN	L
FCM731-3M-M3	3	M3X0.5	6	23.5	26.0	17.0
FCM731-3M-M5	3	M5X0.8	6	23.5	26.0	17.0
FCM731-4M-M3	4	M3X0.5	6	23.5	26.0	16.5
FCM731-4M-M5	4	M5X0.8	6	23.5	26.0	17.0
FCM731-4M-2G	4	1/8	7	27.0	29.5	18.0
FCM731-6M-M5	6	M5X0.8	6	23.5	26.0	18.0
FCM731-6M-2G	6	1/8	7	27.0	29.5	18.5
FCM731-6M-4G	6	1/4	8	30.0	32.5	19.0
FCM731-8M-2G	8	1/8	13	26.5	31.0	26.0
FCM731-8M-4G	8	1/4	16	29.0	34.0	27.5
FCM731-8M-6G	8	3/8	20	36.0	42.0	29.0



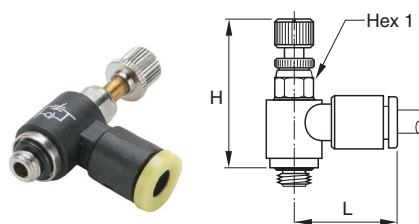
### FCMI731 Miniature Meter In Flow Control - BSPP

PART NO.	TUBE SIZE (MM)	BSPP	HEX 1	H CLOSED	H OPEN	L
FCMI731-3M-M3	3	M3X0.5	6	23.5	26.0	17.0
FCMI731-3M-M5	3	M5X0.8	6	23.5	26.0	17.0
FCMI731-4M-M5	4	M5X0.8	6	23.5	26.0	17.0
FCMI731-4M-2G	4	1/8	7	27.0	29.5	18.0
FCMI731-6M-M5	6	M5X0.8	6	23.5	26.0	18.0
FCMI731-6M-2G	6	1/8	7	27.0	29.5	18.5
FCMI731-6M-4G	6	1/4	8	30.0	32.5	19.0
FCMI731-8M-2G	8	1/8	13	26.5	31.0	26.0
FCMI731-8M-4G	8	1/4	16	29.0	34.0	27.5
FCMI731-8M-6G	8	3/8	20	36.0	42.0	29.0



### FCMK731 Knobless Mini Meter Out Flow Control

PART NO.	TUBE SIZE (IN)	NPT	HEX 1 MM	H OPEN	H CLOSED	L
FCMK731-2-0	1/8	10-32	6	0.79	0.65	0.65
FCMK731-2-2	1/8	1/8	6	0.85	0.71	0.71
FCMK731-5/32-0	5/32	10-32	6	0.79	0.65	0.65
FCMK731-5/32-2	5/32	1/8	6	0.85	0.71	0.71
FCMK731-4-0	1/4	10-32	6	0.79	0.65	0.65
FCMK731-4-2	1/4	1/8	6	0.85	0.71	0.73
FCMK731-4-4	1/4	1/4	6	0.97	0.83	0.73



### FCMB731 Miniature Bi-directional Flow Control - BSPP

PART NO.	TUBE SIZE (MM)	BSPP	HEX 1	H CLOSED	H OPEN	L
FCMB731-4M-M5	4	M5X0.8	6	23.5	26.0	16.5
FCMB731-4M-2G	4	1/8	7	27.0	29.5	17.0
FCMB731-6M-M5	6	M5X0.8	6	23.5	26.0	18.0
FCMB731-6M-2G	6	1/8	7	27.0	29.5	18.0
FCMB731-6M-4G	6	1/4	8	30.0	32.5	18.5





# Flow Controls Swivel Outlet

MATERIALS OF CONSTRUCTION	
BODY:	GLASS REINFORCED NYLON 6.6
GRIPPING RING:	STAINLESS STEEL
ADJUSTMENT SCREWS:	NICKEL-PLATED BRASS
LOCKING NUT:	NICKEL-PLATED BRASS
BASE:	NICKEL-PLATED BRASS

NOMENCLATURE	
EXAMPLE: FCMS731-5/32-2	ATTRIBUTE:
FC	FLOW CONTROL
M	MINIATURE
S	SWIVEL OUTLET
7	RIGHT ANGLE
3	NYLON BODY
1	TUBE X PIPE
5/32	5/32 TUBE O.D.
2	1/8 PIPE THREAD

APPLICABLE TUBE	
TUBE O.D.	5/32, 1/4, 3/8
TUBE O.D. (MM)	4, 6, 8, 10, 12

SPECIFICATIONS	
PRESSURE RANGE:	15 TO 145 PSI
TEMPERATURE RANGES:	30° TO 160°F
WORKING FLUID:	COMPRESSED AIR

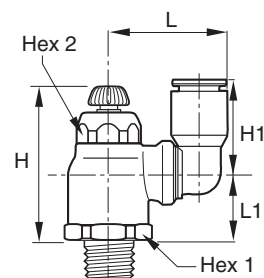


Flow control regulators with “swivel outlet” are especially designed to allow a vertical or angled tube exit where access is restricted. The swivel outlet comes with instant push-in connection to ease installation. Flow control regulators with swivel outlet are available in meter out and meter in versions.

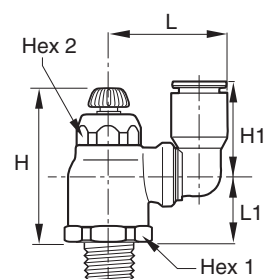
C

**FCCS731 Compact Swivel Outlet Flow Control**

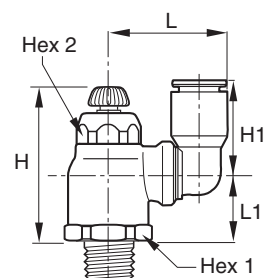
PART NO.	TUBE SIZE (IN)	NPT	HEX 1 MM	HEX 2 MM	H CLOSED	H OPEN	H1	L	L1
FCCS731-4-2	1/4	1/8	19	10	1.87	2.09	0.63	0.93	0.65
FCCS731-4-4	1/4	1/4	19	14	1.79	1.99	0.73	1.00	0.89
FCCS731-6-4	3/8	1/4	23	17	1.93	2.20	1.04	1.34	0.97
FCCS731-6-6	3/8	3/8	23	17	1.93	2.20	1.04	1.34	0.97

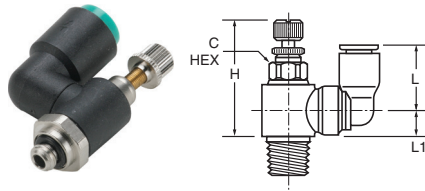
**FCCS731 Compact Swivel Outlet Flow Control - BSPT**

PART NO.	TUBE SIZE (MM)	BSPT	HEX 1	HEX 2	H CLOSED	H OPEN	H1	L	L1
FCCS731-6M-4R	6	1/4	16	10	36.5	42.5	16.0	23.5	16.5
FCCS731-8M-2R	8	1/8	19	14	40.0	46.0	23.0	28.0	17.5
FCCS731-8M-4R	8	1/4	19	14	40.0	46.0	23.0	28.0	17.5
FCCS731-12M-8R	12	1/2	23	17	43.5	51.5	31.0	37.0	19.5

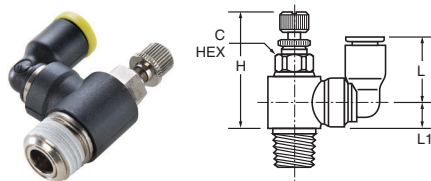
**FCCSI731 Compact Swivel Outlet Meter In - BSPP**

PART NO.	TUBE SIZE (MM)	BSPP	HEX 1	HEX 2	H CLOSED	H OPEN	H1	L	L1
FCCSI731-8M-2G	8	1/8	19	14	41.5	48.0	23.0	28.0	19.0
FCCSI731-8M-4G	8	1/4	19	14	41.5	48.0	23.0	28.0	19.5

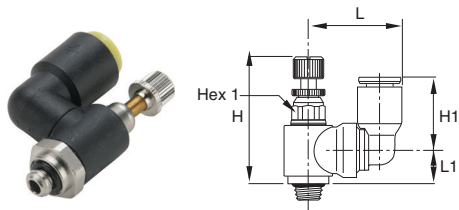


**FCMS731 Mini Swivel Outlet Flow Control**

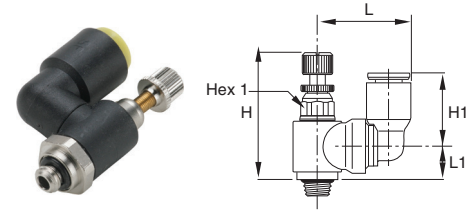
PART NO.	TUBE SIZE (IN)	NPT	HEX 1 MM	H CLOSED	H OPEN	H1	L	L1
FCMS731-5/32-0	5/32	10-32	6	0.96	1.08	0.55	0.73	0.26
FCMS731-5/32-2	5/32	1/8	8	1.08	1.20	0.55	0.73	0.33

**FCMS731 Miniature Swivel Outlet Flow Control - BSPT**

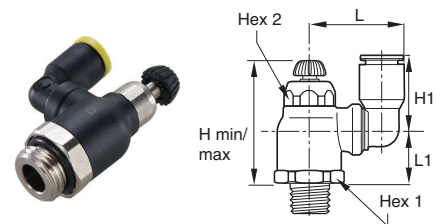
PART NO.	TUBE SIZE (MM)	BSPT	HEX 1	H CLOSED	H OPEN	H1	L	L1
FCMS731-4M-2R	4	1/8	7	25	28.5	14.5	11.5	6.0
FCMS731-6M-2R	6	1/8	7	25	28.5	16.0	11.5	6.0

**FCMS731 Miniature Swivel Outlet - BSPP**

PART NO.	TUBE SIZE (MM)	BSPP	HEX 1	H CLOSED	H OPEN	H1	L	L1
FCMS731-4M-M5	4	M5X0.8	6	24.5	27.5	14.5	19.5	6.5
FCMS731-4M-2G	4	1/8	7	27.5	31.0	14.5	20.0	8.5
FCMS731-6M-M5	6	M5X0.8	6	24.5	27.5	16.0	21.5	6.5
FCMS731-6M-2G	6	1/8	7	27.5	31.0	16.0	22.0	8.5

**FCMSI731 Miniature Swivel Outlet Meter In - BSPP**

PART NO.	TUBE SIZE (MM)	BSPP	HEX 1	H CLOSED	H OPEN	H1	L	L1
FCMSI731-4M-M5	4	M5X0.8	6	24.5	27.5	14.5	19.5	6.5
FCMSI731-4M-2G	4	1/8	7	27.5	31.0	14.5	20.0	8.5
FCMSI731-6M-M5	6	M5X0.8	6	24.5	27.5	16.0	21.5	6.5
FCMSI731-6M-2G	6	1/8	7	27.5	31.0	16.0	22.0	8.5

**FCCS731 Compact Swivel Outlet - BSPP**

PART NO.	TUBE SIZE (MM)	BSPP	HEX 1	HEX 2	H CLOSED	H OPEN	H1	L	L1
FCCS731-6M-2G	6	1/8	16	10	38.0	44.0	16.0	23.5	18.0
FCCS731-6M-4G	6	1/4	16	10	36.5	42.5	16.0	23.5	16.5
FCCS731-8M-2G	8	1/8	19	14	41.5	48.0	23.0	28.0	19.0
FCCS731-8M-4G	8	1/4	19	14	41.5	48.0	23.0	28.0	19.5
FCCS731-8M-6G	10	3/8	19	14	41.5	48.0	23.0	28.0	17.5
FCCS731-10M-4G	10	1/4	23	17	45.5	53.5	26.5	35.0	21.0
FCCS731-10M-6G	10	3/8	23	17	45.5	54.0	26.5	35.0	21.5
FCCS731-12M-6G	12	3/8	23	17	45.5	54.0	31.0	38.0	21.5
FCCS731-12M-8G	12	1/2	23	17	45.5	54.0	31.0	38.0	21.0



# Flow Controls Plug-In

C

MATERIALS OF CONSTRUCTION	
BODY:	GLASS REINFORCED NYLON 6.6
GRIPPING RING:	STAINLESS STEEL
ADJUSTMENT SCREWS:	NICKEL-PLATED BRASS
LOCKING NUT:	NICKEL-PLATED BRASS
TAILPIECE:	NICKEL-PLATED BRASS

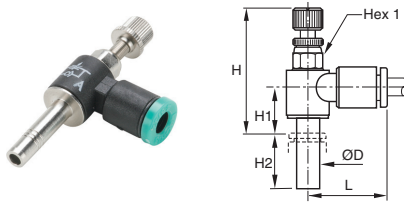
NOMENCLATURE	
EXAMPLE: FCM731-4-2	ATTRIBUTE:
FC	FLOW CONTROL
M	MINIATURE
7	RIGHT ANGLE
3	NYLON BODY
1	TUBE X PIPE
4	1/4 TUBE O.D.
2	1/8 PIPE THREAD

APPLICABLE TUBE	
TUBE O.D.	1/8, 5/32, 1/4
TUBE O.D. (MM)	4, 6, 8, 10, 12

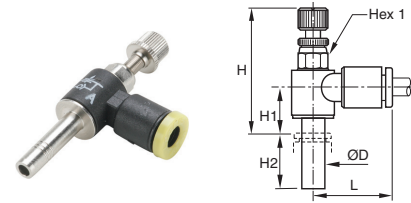
SPECIFICATIONS	
PRESSURE RANGE:	15 TO 145 PSI
TEMPERATURE RANGES:	30° TO 160°F
WORKING FLUID:	COMPRESSED AIR



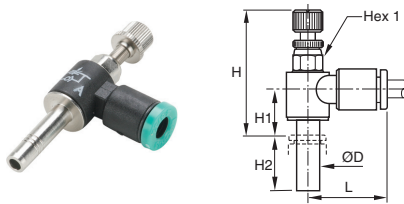
Plug-in flow control regulators can be directly mounted into existing fittings and allow very compact installations. They are particularly suited for mounting in manifolds using cartridges. Their design and function give equal performance to that of flow control regulators with threaded connections.

**FCMSP731 Plug-In Mini Flow Control**

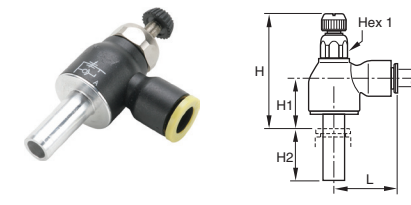
PART NO.	TUBE SIZE (IN)	HEX 1 MM	H OPEN	H CLOSED	H1	H2	L
FCMSP731-2	1/8	6	1.04	0.94	0.12	0.59	0.67
FCMSP731-5/32	5/32	6	1.10	1.00	0.37	0.61	0.67
FCMSP731-4	1/4	7	1.18	1.08	0.12	0.73	0.73

**FCMSP731 Plug-In Mini Meter In Flow Control**

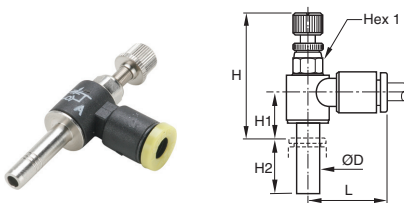
PART NO.	TUBE SIZE (MM)	HEX 1	H CLOSED	H OPEN	H1	H2	L
FCMSP731-4M	4	6	25.5	28.0	9.5	15.5	17.0
FCMSP731-6M	6	7	27.5	29.0	10.5	17.0	18.5

**FCMSP731 Plug-In Mini Meter In Flow Control**

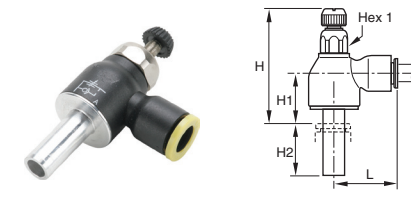
PART NO.	TUBE SIZE (IN)	HEX 1 MM	H OPEN	H CLOSED	H1	H2	L
FCMSP731-2	1/8	6	1.04	0.94	0.12	0.59	0.67
FCMSP731-5/32	5/32	6	1.10	1.00	0.37	0.61	0.67
FCMSP731-4	1/4	7	1.18	1.08	0.12	0.73	0.73

**FCCSP731 Plug-In Compact Flow Control**

PART NO.	TUBE SIZE (MM)	HEX 1	H CLOSED	H OPEN	H1	H2	L
FCCSP731-6M	6	10	35.0	41.0	14.0	17.0	22.0
FCCSP731-8M	8	14	39.5	46.5	16.0	21.5	28.0
FCCSP731-10M	10	17	43.5	51.5	17.5	24.5	31.5
FCCSP731-12M	12	17	43.0	51.0	17.0	27.0	31.5

**FCMSP701 - Plug-In Miniature Flow Control**

PART NO.	TUBE SIZE (MM)	HEX 1	H CLOSED	H OPEN	H1	H2	L
FCMSP701-4M	4	6	25.5	28.0	9.5	15.5	17.0
FCMSP701-6M	6	7	27.5	29.0	10.5	17.0	18.5

**FCCSPI731 Plug-In Compact Meter-In Flow Control**

PART NO.	TUBE SIZE (MM)	HEX 1	H CLOSED	H OPEN	H1	H2	L
FCCSPI731-6M	6	10	35.0	41.0	14.0	17.0	22.0
FCCSPI731-8M	8	14	39.5	46.5	16.0	21.5	28.0
FCCSPI731-10M	10	17	43.5	51.5	17.5	24.5	31.5
FCCSPI731-12M	12	17	43.0	51.0	17.0	27.0	31.5



# Flow Controls In-Line

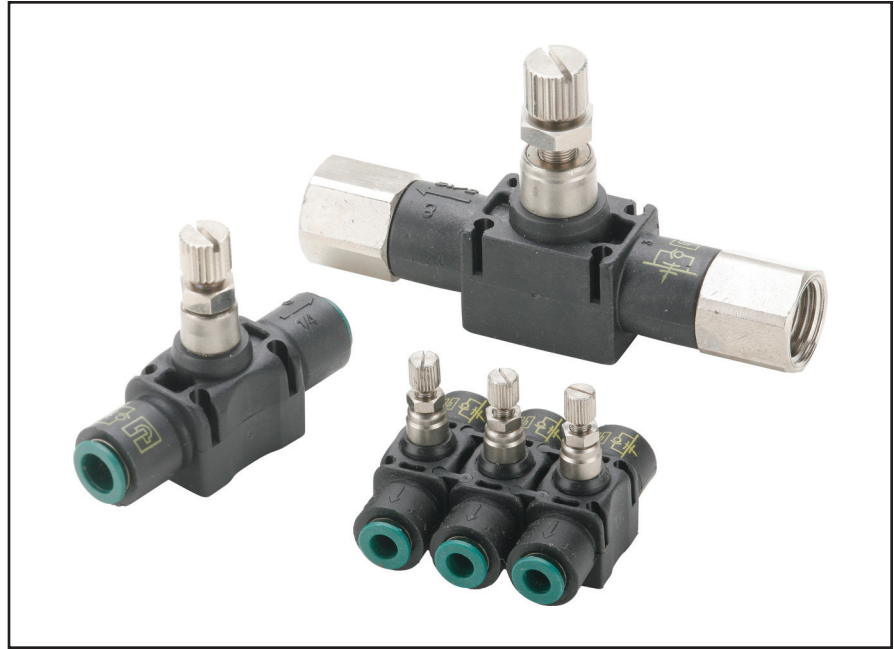
C

MATERIALS OF CONSTRUCTION	
BODY:	GLASS REINFORCED NYLON 6.6
GRIPPING RING:	STAINLESS STEEL
ADJUSTMENT SCREWS:	NICKEL-PLATED BRASS
LOCKING NUT:	NICKEL-PLATED BRASS
BASE:	NICKEL-PLATED BRASS

NOMENCLATURE	
EXAMPLE: FC832-4	ATTRIBUTE:
FC	FLOW CONTROL
8	IN-LINE
3	NYLON BODY
2	TUBE X TUBE
4	1/4 TUBE O.D.

APPLICABLE TUBE	
TUBE O.D.	5/32, 1/4, 5/16, 3/8, 1/2
TUBE O.D. (MM)	4, 6, 8, 10, 12

SPECIFICATIONS	
PRESSURE RANGE:	15 TO 145 PSI
TEMPERATURE RANGES:	30° TO 160°F
WORKING FLUID:	COMPRESSED AIR



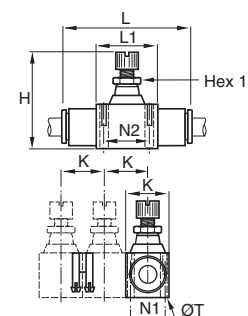
In-line flow controls are unidirectional flow control valves. Intake air flows freely through the flow control; exhaust air is metered out through a specially designed adjustment screw. An arrow on the body of the valve indicates the direction of controlled flow. They can be easily added to existing circuitry. Simply splice it into the cylinder port line.

They can be used individually or they may be stacked together using two joining clips.

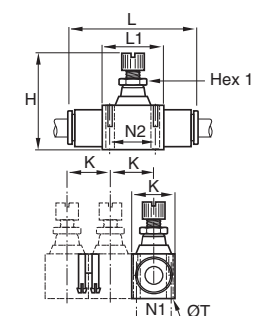


**FC832 In-Line Flow Control**

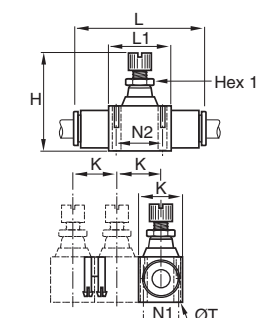
PART NO.	TUBE SIZE (IN)	HEX 1 MM	H CLOSED	H OPEN	K	L	L1	N1	N2	T
FC832-5/32	5/32	5	1.15	1.31	0.47	1.52	0.59	0.31	0.43	0.09
FC832-4	1/4	8	1.54	1.74	0.66	2.00	0.90	0.43	0.66	0.12
FC832-5	5/16	11	1.73	1.97	0.73	2.38	1.02	0.49	0.79	0.13
FC832-6	3/8	14	2.03	2.38	0.94	2.87	1.29	0.62	1.01	0.16
FC832-8	1/2	14	2.24	2.63	1.09	3.35	1.37	0.78	1.07	0.16

**FCB832 In-Line Bi-directional Flow Control**

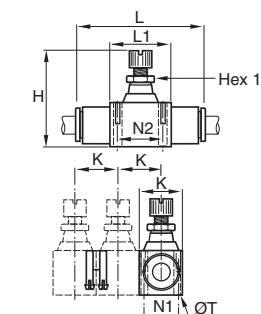
PART NO.	TUBE SIZE (IN)	HEX 1 MM	H CLOSED	H OPEN	K	L	L1	N1	N2	T
FCB832-5/32	5/32	5	1.15	1.31	0.47	1.52	0.59	0.31	0.43	0.09
FCB832-4	1/4	8	1.54	1.74	0.66	2.00	0.90	0.43	0.66	0.12
FCB832-5	5/16	11	1.73	1.97	0.73	2.38	1.02	0.49	0.79	0.13

**FC832 In-Line Flow Control**

PART NO.	TUBE SIZE (MM)	HEX 1	H CLOSED	H OPEN	K	L	L1	N1	N2	T
FC832-4M	4	5	29.5	33.5	12.0	39.0	15.0	8.0	11.0	2.2
FC832-6M	6	8	39.5	44.5	17.0	54.0	23.0	11.0	17.0	3.2
FC832-8M	8	11	44.0	50.0	18.5	60.5	26.0	12.5	20.0	3.2
FC832-10M	10	14	52.0	61.0	24.0	76.0	33.0	16.0	26.0	4.2
FC832-12M	12	14	57.5	67.5	28.0	86.0	35.0	20.0	27.5	4.2

**FCB832 In-Line Bi-directional Flow Control**

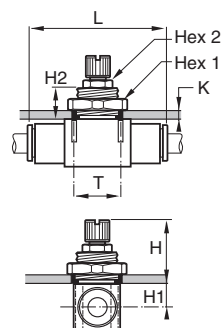
PART NO.	TUBE SIZE (MM)	HEX 1	H CLOSED	H OPEN	K	L	L1	N1	N2	T
FCB832-4M	4	5	29.5	33.5	12.0	39.0	15.0	8.0	11.0	2.2
FCB832-6M	6	8	39.5	44.5	17.0	54.0	23.0	11.0	17.0	3.2
FCB832-8M	8	11	44.0	50.0	18.5	60.5	26.0	12.5	20.0	3.2



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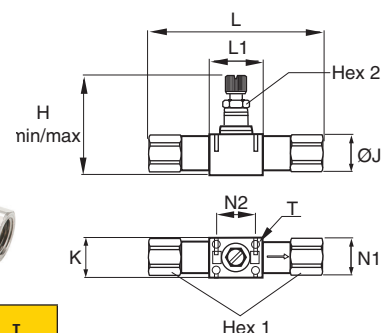
## FCPM832 In-Line Panel Mountable Flow Control

PART NO.	TUBE SIZE (MM)	HEX 1	HEX 2	H CLOSED	H OPEN	K	L	H1	H2	T
FCPM832-4M	4	14		21.5	25.5	6.0	39.0	6.5	11.0	10.5
FCPM832-6M	6	19		27.5	32.5	7.0	54.0	7.5	13.5	16.5
FCPM832-8M	8	24	11	28.5	34.5	7.0	60.5	9.0	13.5	18.5
FCPM832-10M	10	30	14	29.5	38.5	7.0	76.0	11.5	13.5	24.5
FCPM832-12M	12	32	14	32.0	42.0	8.0	86.0	12.5	15.5	27.5



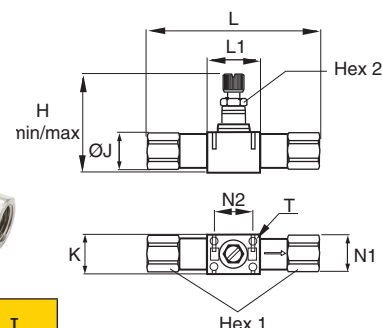
## FC836 Threaded In-Line Flow Control

PART NO.	NPT	HEX 1 MM	HEX 2 MM	H CLOSED	H OPEN	K	L	L1	N1	N2	T
FC836-2	1/8	13	8.00	1.56	1.75	0.67	2.70	0.91	0.43	0.67	0.12
FC836-4	1/4	16	11.00	1.73	1.97	0.73	3.27	1.02	0.49	0.79	0.12
FC836-6	3/8	22	14.00	2.05	2.40	0.94	3.82	1.30	0.63	1.02	0.16
FC836-8	1/2	24	14.00	2.26	2.66	1.10	4.76	1.38	0.79	1.08	0.16



## FC836 Threaded In-Line Flow Control - BSPP

PART NO.	BSPP	HEX 1	HEX 2	H CLOSED	H OPEN	K	L	N1	N2	T
FC836-2G	1/8	13	8	39.5	44.5	17.0	68.5	11.0	17.0	3.2
FC836-4G	1/4	16	11	44.0	50.0	18.5	83.0	12.5	20.0	3.2
FC836-6G	3/8	19	14	52.0	61.0	24.0	97.0	16.0	26.0	4.2
FC836-8G	1/2	24	14	57.5	67.5	28.0	121.0	20.0	27.5	4.2





# Compact Metal Flow Control Valves

C

MATERIALS OF CONSTRUCTION	
BODY:	TREATED BRASS
GRIPPING RING:	STAINLESS STEEL
ADJUSTMENT SCREWS	NICKEL-PLATED BRASS
LOCKING NUT:	NICKEL-PLATED BRASS
BASE:	NICKEL-PLATED BRASS

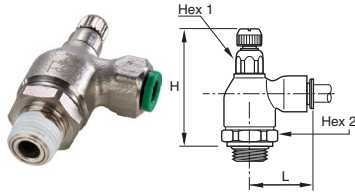
NOMENCLATURE	
EXAMPLE:FC701-4-2	ATTRIBUTE:
FC	FLOW CONTROL
7	RIGHT ANGLE
0	BRASS BODY
1	TUBE X PIPE
4	1/4 TUBE O.D.
2	1/8 PIPE THREAD

APPLICABLE TUBE	
TUBE O.D.	1/8, 5/32, 1/4, 3/8
TUBE O.D. (MM)	4, 6, 8, 10, 12, 14

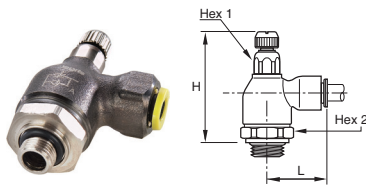
SPECIFICATIONS	
PRESSURE RANGE:	15 TO 145 PSI
TEMPERATURE RANGES:	30° TO 160°F
WORKING FLUID:	COMPRESSED AIR



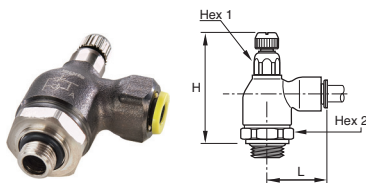
Metal flow control regulators are suited for use in severe conditions (temperatures, sparks, abrasion, etc). The screw and locking nut have been designed for easy manipulation, by hand. Adjustment can be made with a screwdriver and locking by use of a wrench.

**FC705 Push-to-Connect Metal Flow Control**

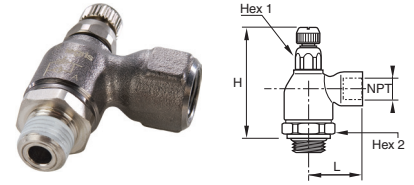
PART NO.	TUBE SIZE (IN)	NPT	HEX 1 MM	HEX 2 MM	H CLOSED	H OPEN	L
FC705-5/32-2	5/32	1/8	19	10	1.79	2.01	0.85
FC705-4-2	1/4	1/8	19	10	1.79	2.01	0.97
FC705-4-4	1/4	1/4	19	10	1.79	2.01	0.97
FC705-6-4	3/8	1/4	19	14	1.91	2.11	1.14
FC705-6-6	3/8	3/8	25	17	2.15	2.40	1.40

**FC701 Push-to-Connect Metal Flow Control - BSPP**

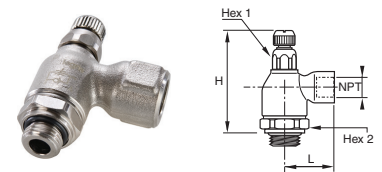
PART NO.	TUBE SIZE (MM)	BSPP	HEX 1	HEX 2	H CLOSED	H OPEN	L
FC701-4M-2G	4	1/8	10	19	47.0	53.0	21.0
FC701-6M-2G	6	1/8	10	19	47.0	53.0	24.5
FC701-6M-4G	6	1/4	10	19	47.5	53.0	24.5
FC701-8M-2G	8	1/8	14	19	50.0	55.0	29.0
FC701-8M-4G	8	1/4	14	19	50.0	56.0	29.0
FC701-8M-6G	8	3/8	17	25	56.0	62.0	30.5
FC701-10M-4G	10	1/4	14	19	50.0	56.0	35.0
FC701-10M-6G	10	3/8	17	25	56.0	62.0	35.0
FC701-12M-6G	12	3/8	17	25	56.0	62.0	38.0
FC701-12M-8G	12	1/2	17	25	55.0	62.0	38.0
FC701-14M-8G	14	1/2	17	25	55.0	62.0	41.0

**FCI701 Push-to-Connect Meter In Metal Flow Control - BSPP**

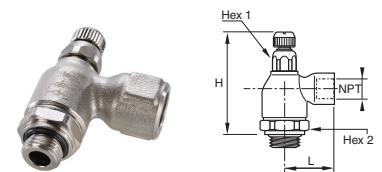
PART NO.	TUBE SIZE (MM)	BSPP	HEX 1	HEX 2	H CLOSED	H OPEN	L
FCI701-4M-2G	4	1/8	10	19	47.0	53.0	21.0
FCI701-6M-2G	6	1/8	10	19	47.0	53.0	24.5
FCI701-6M-4G	6	1/4	10	19	47.5	53.0	24.5
FCI701-8M-2G	8	1/8	14	19	50.0	55.0	29.0
FCI701-8M-4G	8	1/4	14	19	50.0	56.0	29.0
FCI701-8M-6G	8	3/8	17	25	56.0	62.0	30.5

**FC708 Threaded Port Meter Out Flow Control**

PART NO.	NPT	HEX 1 MM	HEX 2 MM	H CLOSED	H OPEN	L	L1	L2
FC708-2	1/8	19	10	1.79	2.01	0.89	0.87	1.14
FC708-4	1/4	19	14	1.91	2.11	1.28	0.87	1.28
FC708-6	3/8	25	17	2.15	2.40	1.36	0.91	1.44
FC708-8	1/2	25	17	2.15	2.40	1.50	0.91	1.50

**FC702 Threaded Port Metal Flow Control - BSPP**

PART NO.	BSPP	HEX 1	HEX 2	H CLOSED	H OPEN	L
FC702-2G	1/8	10	19	47.0	52.5	22.5
FC702-4G	1/4	14	19	50.5	55.5	32.0
FC702-6G	3/8	17	25	56.0	62.0	34.5
FC702-8G	1/2	17	25	55.0	62.0	37.5

**FCI702 Threaded Port Meter In Metal Flow Control - BSPP**

PART NO.	BSPP	HEX 1	HEX 2	H CLOSED	H OPEN	L
FCI702-2G	1/8	10	19	47.0	52.5	22.5
FCI702-4G	1/4	14	19	50.5	55.5	32.0



# Flow Control Check Valves

MATERIALS OF CONSTRUCTION	
BODY:	<ul style="list-style-type: none"> <li>• 32PLCK: NYLON/NICKEL PLATED BRASS</li> <li>• 68PLCK: NYLON BODY WITH NICKEL-PLATED BRASS BASE</li> <li>• VC: ACETAL</li> </ul>
GRIPPING RING:	STAINLESS STEEL
O-RING:	<ul style="list-style-type: none"> <li>• NITRILE (32PLCK &amp; 68PLCK)</li> <li>• EPDM (VC)</li> </ul>

NOMENCLATURE	
EXAMPLE: W68PLCK-4-2	ATTRIBUTE:
W	WHITE THREAD SEALANT
68	TUBE X PIPE
PL	PRESTOLOK
CK	CHECK VALVE
4	1/4 TUBE O.D.
2	1/8 PIPE THREAD

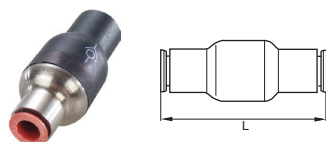
NOMENCLATURE	
EXAMPLE: A4VC4-MG	ATTRIBUTE:
A	ACETAL
4	1/4 TUBE O.D.
VC	VALVE, CHECK
4	1/4 TUBE O.D.
MG	METAL GRIPPING RING

APPLICABLE TUBE	
TUBE O.D.	<ul style="list-style-type: none"> <li>• PLCK: 5/32, 1/4, 5/16, 3/8</li> <li>• VC: 1/4, 5/16, 3/8</li> </ul>
TUBE O.D. (MM)	PLCK: 4, 6, 8, 10, 12

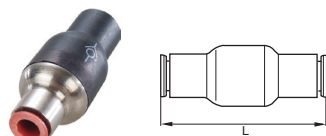
SPECIFICATIONS	
PRESSURE RANGE:	15 TO 145 PSI
TEMPERATURE RANGES:	34°F TO 150°F
CRACKING PRESSURE:	<ul style="list-style-type: none"> <li>• PLCK: 7 PSI</li> <li>• VC: 1/3 PSI</li> </ul>
WORKING FLUID:	COMPRESSED AIR



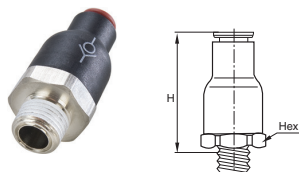
These in-line check valves allow air to pass in one direction while blocking flow in the other direction. Their extreme compactness and light weight make them suitable as a safety item in compressed air circuits. The body of the fitting contains an arrow to indicate the direction of flow.

**32PLCK In-Line Check Valve**

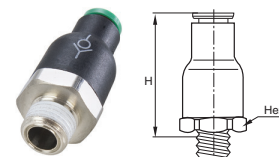
PART NO.	TUBE SIZE (IN)	L
32PLCK-5/32	5/32	1.52
32PLCK-4	1/4	1.61
32PLCK-5	5/16	2.03
32PLCK-6	3/8	2.50

**32PLCK In-Line Check Valve**

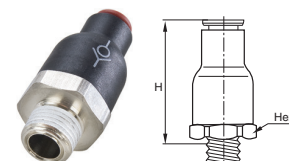
PART NO.	TUBE SIZE (MM)	L
32PLCK-4M	4	38.5
32PLCK-6M	6	41.0
32PLCK-8M	8	51.5
32PLCK-10M	10	63.5
32PLCK-12M	12	66.5

**W68PLCK Male Check Valve**

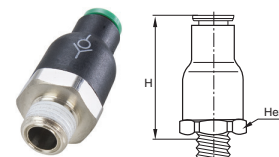
PART NO.	TUBE SIZE (IN)	NPT / UNF	HEX MM	H
68PLCK-5/32-0	5/32	10-32	9	1.26
W68PLCK-5/32-2	5/32	1/8	16	1.12
W68PLCK-4-2	1/4	1/8	19	1.42
W68PLCK-4-4	1/4	1/4	19	1.42
W68PLCK-6-4	3/8	1/4	23	1.65
W68PLCK-6-6	3/8	3/8	23	1.65

**W68PLCKI Male Check Valve Meter In**

PART NO.	TUBE SIZE (IN)	NPT / UNF	HEX MM	H
68PLCKI-5/32-0	5/32	10-32	9	1.26
W68PLCKI-5/32-2	5/32	1/8	16	1.12
W68PLCKI-4-2	1/4	1/8	19	1.42
W68PLCKI-4-4	1/4	1/4	19	1.42
W68PLCKI-6-4	3/8	1/4	23	1.65
W68PLCKI-6-6	3/8	3/8	23	1.65

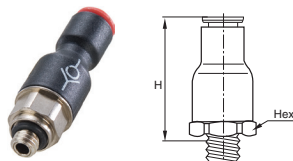
**W68PLCK Male Check Valve Meter Out - BSPT**

PART NO.	TUBE SIZE (MM)	BSPT	HEX 1	H
W68PLCK-4M-2R	4	1/8	16	28.5
W68PLCK -6M-2R	6	1/8	16	30.5
W68PLCK -6M-4R	6	1/4	16	30.5
W68PLCK -8M-2R	8	1/8	19	36.0
W68PLCK -8M-4R	8	1/4	19	36.0
W68PLCK -10M-6R	10	3/8	23	42.0
W68PLCK -12M-6R	12	3/8	23	42.0
W68PLCK -12M-8R	12	1/2	23	44.0

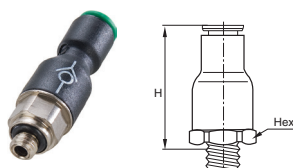
**W68PLCKI Male Check Valve Meter In - BSPT**

PART NO.	TUBE SIZE (MM)	BSPT	HEX 1	H
W68PLCKI-4M-2R	4	1/8	16	28.5
W68PLCKI -6M-2R	6	1/8	16	30.5
W68PLCKI -6M-4R	6	1/4	16	30.5
W68PLCKI -8M-2R	8	1/8	19	36.0
W68PLCKI -8M-4R	8	1/4	19	36.0

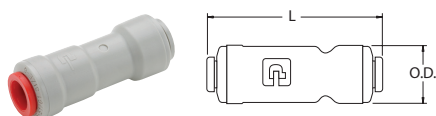


**68PLCK Male Check Valve Meter Out - BSPP**

PART NO.	TUBE SIZE (MM)	BSPP	HEX 1	H
68PLCK-4M-M5	4	M5X0.8	9	32.0
68PLCK-4M-2G	4	1/8	16	28.5
68PLCK-6M-2G	6	1/8	16	30.5
68PLCK-6M-4G	6	1/4	16	30.5
68PLCK-8M-2G	8	1/8	19	36.0
68PLCK-8M-4G	8	1/4	19	36.0

**68PLCKI Male Check Valve Meter In - BSPP**

PART NO.	TUBE SIZE (MM)	BSPP	HEX 1	H
68PLCKI-4M-M5	4	M5X0.8	9	32.0
68PLCKI-6M-2G	6	1/8	16	30.5
68PLCKI-8M-2G	8	1/8	19	36.0
68PLCKI-8M-4G	8	1/4	19	36.0
68PLCKI-10M-6G	10	3/8	23	42.0
68PLCKI-12M-6G	12	3/8	23	42.0
68PLCKI-12M-8G	12	1/2	23	44.0

**VC – Check Valve**

PART NO.	TUBE SIZE	L	O.D.
A4VC4-MG	1/4	2.00	.66
A5VC5-MG	5/16	2.10	.70
A6VC6-MG	3/8	2.15	.80



# Flow Control Blocking Valves

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MATERIALS OF CONSTRUCTION	
BODY:	TREATED BRASS
GRIPPING RING:	STAINLESS STEEL
SEALS, DIAPHRAGM:	NITRILE

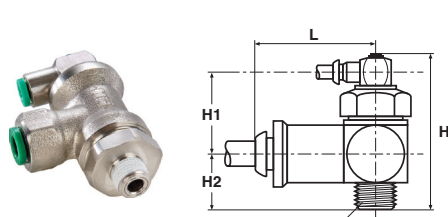
NOMENCLATURE	
EXAMPLE: FC601-4-2	ATTRIBUTE:
FC	FLOW CONTROL
6	BLOCKING
0	BRASS BODY
1	TUBE X PIPE
4	1/4 TUBE O.D.
2	1/8 PIPE THREAD

APPLICABLE TUBE	
TUBE O.D.	1/8, 5/32, 1/4, 3/8
TUBE O.D. (MM)	4, 6, 8, 10, 12, 14

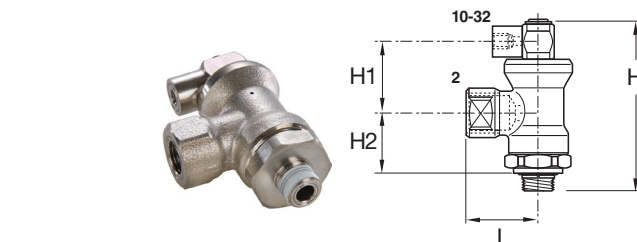
SPECIFICATIONS	
PRESSURE RANGE:	15 TO 145 PSI
TEMPERATURE RANGES:	-4° TO 160°F
NUMBER OF CYCLES:	>10 MILLION AT 68°F AND 1 HZ
LEAK RATE:	<3.2 CCM
WORKING FLUID:	COMPRESSED AIR



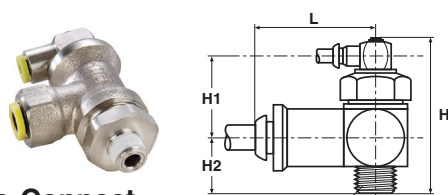
Blocking valves prevents damage to work and equipment in the event of a loss of pressure. Blocking valves which are mounted in pairs on a cylinder lock the piston by simultaneously cutting off the supply and exhaust. Functional locks are more precise and rapid when blocking valves are located on the cylinder: the volume of air in the pipework no longer needs to be taken into consideration.

**FC601 Push-to-Connect Lock Out Valves**

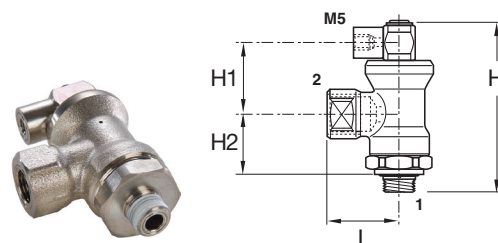
PART NO.	TUBE SIZE (IN)	NPT	HEX MM	H	H1	H2	L
FC601-4-2	1/4	1/8	21	2.03	1.24	0.79	1.10
FC601-4-4	1/4	1/4	21	2.03	1.24	0.79	1.10
FC601-6-6	3/8	3/8	24	2.19	1.14	1.04	1.38
FC601-8-8	1/2	1/2	24	2.19	1.14	1.04	1.69

**FC602 Threaded Port Lock Out Valves**

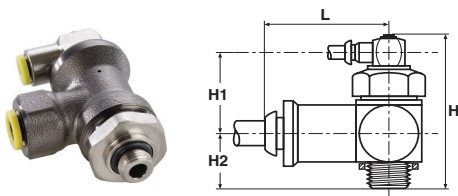
PART NO.	1 NPT	2 NPT	HEX MM	H	H1	H2	L
FC602-2	1/4	1/8	21	2.03	1.24	0.79	1.04
FC602-4	1/4	1/4	21	2.03	1.24	0.79	1.04
FC602-6	3/8	3/8	24	2.19	1.14	1.04	1.34
FC602-8	1/2	1/2	24	2.19	1.14	1.04	1.57

**FC601 Push-to-Connect Lock-Out Valve - BSPT**

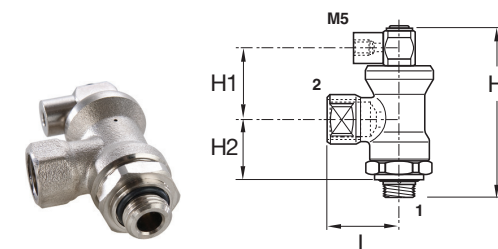
PART NO.	TUBE SIZE (MM)	BSPT	HEX 1	H	H1	H2	L
FC601-6M-2R	6	1/8	21	53	24.5	21.0	28.0
FC601-6M-4R	6	1/4	21	53	24.5	21.0	28.0
FC601-8M-4R	8	1/4	21	53	24.5	21.0	28.0
FC601-8M-6R	8	3/8	24	56	25.0	23.0	34.5
FC601-10-6R	10	3/8	24	56	25.0	23.0	35.0
FC601-12M-8R	12	1/2	24	56	25.0	23.0	37.5

**FC608 Threaded Port Lock-Out Valve - BSPT**

PART NO.	BSPT 1	BSPT 2	HEX 1	H	H1	H2	L
FC608-4R-2R	1/4	1/8	21	51.5	31.5	20.0	26.5
FC608-4R-4R	1/4	1/4	21	51.5	31.5	20.0	26.5
FC608-6R-6R	3/8	3/8	24	55.5	29.0	26.5	34.0
FC608-8R-8R	1/2	1/2	24	55.5	29.0	26.5	40.0

**FC601 Push-to-Connect Lock-Out Valve - BSPP**

PART NO.	TUBE SIZE (MM)	BSPP	HEX 1	H	H1	H2	L
FC601-6M-2G	6	1/8	21	53	24.5	21.0	28.0
FC601-6M-4G	6	1/4	21	53	24.5	21.0	28.0
FC601-8M-4G	8	1/4	21	53	24.5	21.0	28.0
FC601-8M-6G	8	3/8	24	56	25.0	23.0	34.5
FC601-10M-6G	10	3/8	24	56	25.0	23.0	35.0
FC601-12M-8G	12	1/2	24	56	25.0	23.0	37.5

**FC608 Threaded Port Lock-Out Valve - BSPP**

PART NO.	BSPP 1	BSPP 2	HEX 1	H	H1	H2	L
FC608-4G-2G	1/8	1/4	21	53	24.5	21.0	28.0
FC608-4G-4G	1/4	1/4	21	53	24.5	21.0	28.0
FC608-6G-6G	3/8	3/8	24	56	25.0	23.0	34.0
FC608-8G-8G	1/2	1/2	24	56	25.0	23.0	41.0



# Slow Start Flow Control Valve

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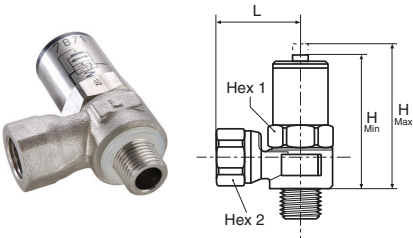
MATERIALS OF CONSTRUCTION	
BODY:	NICKEL-PLATED BRASS
SEALS:	NITRILE
THREADS:	NICKEL-PLATED BRASS

NOMENCLATURE	
EXAMPLE: FC902-6	ATTRIBUTE:
FC	FLOW CONTROL
9	SLOW START
0	BRASS BODY
2	PIPE X PIPE
6	3/8 PIPE THREAD

SPECIFICATIONS	
PRESSURE RANGE:	40 TO 150 PSI
TEMPERATURE RANGES:	5° TO 140°F
WORKING FLUID:	COMPRESSED AIR

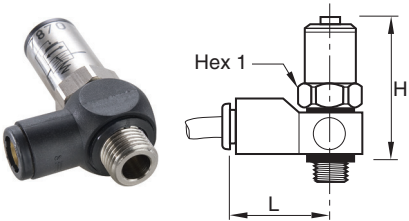


Slow start valves enables you to control the rate supply pressures introduced into your system after it has been vented (e.g. at the end of the work day, emergency stops, or adjustments). This gradual increase in pressure or “slow start,” prevents harmful mechanical shock which may occur when full system pressure is immediately introduced into a system. When the slow start valve is used, it gradually returns cylinders to the position they were in before the system air was vented.



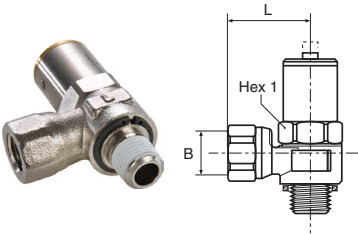
**FC908 Slow Start Valve for System Isolating**

PART NO.	NPT	HEX 1 MM	HEX 2 MM	H MIN	H MAX	L
FC908-4	1/4	7/8	3/4	2.17	2.44	1.22
FC908-6	3/8	7/8	3/4	2.17	2.44	1.36



**FC908 Push-to-Connect Slow Start Valve - BSPP for Isolated Component**

PART NO.	TUBE SIZE (MM)	BSPP	HEX 1	H CLOSED	H OPEN	L
FC908-8M-4G	8	1/4	17	54	61	35
FC908-10M-4G	10	1/4	22	55	62	41
FC908-10M-6G	10	3/8	22	55	62	41



**FCIC908 Slow Start Valve - BSPP for Isolated Component**

PART NO.	BSPP	HEX 1	H CLOSED	H OPEN	L
FCIC908-6G	3/8	22	55	62	31



# Threshold Sensor

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## SPECIFICATIONS: MODELS PSBJ, PSPJ

WORKING TEMPERATURE	5° TO 140°F
WORKING PRESSURE	45 TO 115 PSI
BREAKING PRESSURE	8.5 PSI
RESPONSE TIME	3 MS

## SPECIFICATIONS: MODEL PSPE

WORKING PRESSURE	45 TO 115 PSI
BREAKING PRESSURE	7 PSI
CURRENT RATING	5A/250VAC – 5W/48VDC

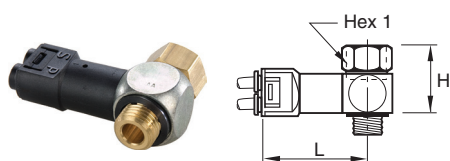
## UL LISTED COMPONENT

RESET PRESSURE	10 PSI
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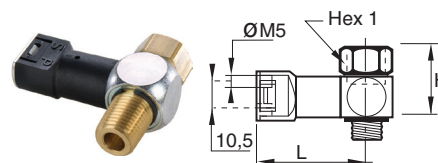
The sensor fitting detects the absence of pressure and translates it to a high pressure pneumatic output. When used to monitor the decaying or exhausting side of a pneumatic cylinder's piston, it emits a positive output. When the cylinder comes to the end of its stroke, wherever that may be, the signal emitted from the sensor can then be used to pilot the next step.





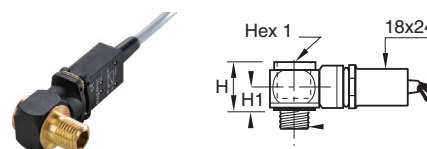
**PSBJ731 Pneumatic Threshold Sensor - 5/32 Pilot**

PART NO.	NPT / UNF	HEX MM	H	L
PSBJ731-0	10-32	5/16	0.62	1.70
PSBJ731-2	1/8	9/16	0.90	1.74
PSBJ731-4	1/4	5/8	1.09	1.81
PSBJ731-6	3/8	7/8	1.13	1.91
PSBJ731-8	1/2	1	1.17	2.05



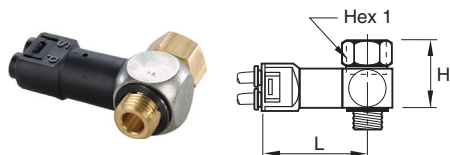
**PSBJ708 Pneumatic Threshold Sensor - M5 Pilot**

PART NO.	BSPP	HEX 1	H	L
PSBJ708-2G	1/8	14	23	40.5
PSBJ708-4G	1/4	17	28	42.5



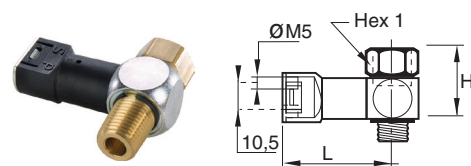
**PSPE701 Pneumatic / Electric Threshold Sensor - BSPP**

PART NO.	BSPP	HEX 1	H	H1	L
PSPE701-M5	M5X0.8	8	20	10	49
PSPE701-2G	1/8	6	20	10	52
PSPE701-4G	1/4	8	20	10	54
PSPE701-6G	3/8	10	22	12	57
PSPE701-8G	1/2	12	26	14	58



**PSBJ731 Pneumatic Threshold Sensor - 4mm Pilot**

PART NO.	BSPP	HEX 1	H	L
PSBJ731-M5	M5X0.8	8	16	43.5
PSBJ731-2G	1/8	14	23	44.5
PSBJ731-4G	1/4	17	28	46.5
PSBJ731-6G	3/8	22	29	49.0
PSBJ731-8G	1/2	27	30	52.5



**PSPJ731 Pneumatic Threshold Sensor - 10-32 Pilot**

PART NO.	NPT	HEX 1 MM	H	L
PSPJ731-2	1/8	9/16	0.90	1.58
PSPJ731-4	1/4	5/8	1.09	1.66
PSPJ731-6	3/8	7/8	1.13	1.76

## Notes

**C**



# Thermoplastic Fittings and Valves



## **TrueSeal™**

*Acetal Fittings meet NSF-61  
All Plastic Body Designs  
FDA Compliant  
NSF-51 Listed*



## **Polypropylene Ball Valves**

*Corrosion Resistant  
FDA Compliant  
NSF-51 Listed  
Bi-directional*



## **Fast & Tite®**

*Stainless Steel Grab Ring  
FDA Compliant  
NSF-51 Listed  
O-ring Seal*



## **Par-Barb®**

*FDA Compliant  
NSF-51 Listed  
High Strength,  
Chemically Inert*



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TrueSeal™	<b>MC</b> Male Connector Tube to Pipe	<b>EU</b> Elbow Union Tube to Tube	<b>TU</b> Tee Union Tube to Tube	<b>WY</b> "Y" Union Tube to Tube	<b>MES</b> Male Elbow Swivel Tube to Pipe	<b>MRS</b> Male Run Swivel Tube to Pipe	
							
	Page D5	Page D5	Page D5	Page D5	Page D6	Page D6	
	<b>MTS</b> Male Tee Swivel Tube to Pipe	<b>UC</b> Union Connector Tube to Tube	<b>CU</b> Cross Union Tube to Tube	<b>FA</b> Faucet Adapter Tube to Faucet	<b>FC</b> Female Connector Tube to Pipe	<b>FF</b> Female Flare Tube to Flare	<b>TMC</b> Tube Stem Adapter Tube Stem to Pipe
							
	Page D6	Page D6	Page D7	Page D7	Page D7	Page D7	Page D7
<b>BU</b> Bulkhead Union Tube to Tube	<b>TEU</b> Tube Elbow Union Tube to Tube Stem	<b>RD</b> Tube Reducer Tube to Tube Stem	<b>CAP</b> Tube Cap	<b>FE</b> Female Elbow Tube to Tube	<b>ME</b> Male Elbow Tube to Pipe	<b>ST</b> Straight Thread Tube to Male O-Ring Boss	
							
Page D8	Page D8	Page D8	Page D8	Page D8	Page D9	Page D9	
<b>TCB</b> Tube to Barb Connector	<b>TEB</b> Tube Elbow Barb Connector	<b>TPL</b> Plug	<b>TSC</b> Cartridge Insert	<b>VC</b> Check Valve	<b>VME</b> Valve Male Elbow	<b>VFE</b> Valve Female Elbow	
							
Page D9	Page D9	Page D9	Page D10	Page D10	Page D11	Page D11	
<b>VUC</b> Valve Union Connector	<b>VEU</b> Valve Elbow Union	<b>VMC</b> Valve Male Con- nector	<b>VFC</b> Valve Female Connector	<b>VTEU</b> Valve Tube Elbow Union	<b>VTU</b> Water Supply Valve	<b>TFA</b> Tube Faucet Adapter (Female Thread)	
							
Page D12	Page D12	Page D12	Page D12	Page D12	Page D13	Page D14	
<b>TAF</b> Tube Faucet Adapter (Male Thread)	<b>SC</b> Safety Clip	<b>TS</b> Tube Support	<b>AQRT</b> Quick Release Tool				
							
Page D14	Page D14	Page D14	Page D14				

Fast & Tite®	<b>MC</b> Male Connector Tube to Male Pipe  Page D16	<b>UC</b> Union Connector Tube to Tube  Page D16	<b>ME</b> Male Elbow Tube to Male Pipe  Page D16	<b>EU</b> Elbow Union Tube to Tube  Page D16	<b>BU</b> Bulkhead Union Tube to Tube  Page D17	<b>FE</b> Female Elbow Tube to Female Pipe  Page D17
	<b>FC</b> Female Connector Tube to Female Pipe  Page D17	<b>MR</b> Male Run Tee Tube to Tube to Male Pipe  Page D17	<b>TU</b> Tee Union Tube to Tube  Page D17	<b>MT</b> Male branch Tee Tube to Male Pipe  Page D17	<b>GR</b> Grab Ring Stainless or Plastic  Page D18	<b>OR</b> O-Ring  Page D18
<b>NS</b> Nut & Spacer Sets  Page D18						
Par-Barb®	<b>TUB</b> Tee Union  Page D20	<b>EUB</b> Elbow Union  Page D20	<b>MTB</b> Tee Male Branch  Page D20	<b>HPL</b> Hex Head Pipe Plug  Page D20	<b>MEB</b> Male Elbow Con- nector  Page D21	<b>UCB</b> Union Connector  Page D21
	<b>HPN</b> Hex Pipe Nipple  Page D21	<b>MCB</b> Male Connector Adapter  Page D22				





# TrueSeal™ Thermoplastic Push-In Fittings

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MATERIALS OF CONSTRUCTION		
MATERIAL	FITTING COLOR	O-RING
ACETAL	GRAY	EPDM
POLYPROPYLENE	WHITE	EPDM
KYNAR®	NATURAL	FLUOROCARBON

NOMENCLATURE	
EXAMPLE: A4MC4-MG-V	ATTRIBUTE:
A	FITTING BODY MATERIAL (A = ACETAL, PP = POLYPROPYLENE, F = KYNAR (PVDF))
4	TUBE O.D. IN SIXTEENTHS OF AN INCH
MC	BODY STYLE
4	END TERMINATION SIZE
MG	METAL GRIPPER COLLET
V	O-RING MATERIALS (BLANK = REFERENCE STANDARD MATERIALS, EPDM = ETHYLENE PROPYLENE, N = NITRILE, V = FLUOROCARBON)

WORKING PRESSURE AND TEMPERATURE			
FITTING SIZE	ACETAL	POLYPROPYLENE	KYNAR®
1/4"	300	150	300
5/16"	300		
3/8"	300	150	300
1/2"	250	150	
TEMP. RANGE	-20°F (-29°C) TO +180°F (85°C)	0°F (-18°C) TO +225°F (110°C)	0°F (-18°C) TO +275°F (135°C)

SPECIFICATIONS	
TUBE MATERIAL:	POLYETHYLENE, POLYPROPYLENE, NYLON, VINYL, FLUOROPOLYMER, POLYURETHANE. 3/8" AND 1/2" SIZES OF POLYURETHANE AND ALL SIZES OF VINYL SHOULD USE TUBE SUPPORTS.
TUBE O.D.:	1/4, 5/16, 3/8, 1/2
OPERATING FLUID:	AIR, WATER, SOFT DRINKS, BEER, WINE, DYES
NOTE:	FOR OTHER TYPES OF FLUIDS OR GASSES, PLEASE CONSULT FACTORY



An all plastic push-to-connect fitting manufactured from FDA compliant materials and are NSF-51 listed for contact with food. Gray acetal fittings meet NSF-61 requirements for drinking water (potable water) system components. Fittings are light weight, field attachable and connect to tubing without the use of tools. Black nitrile o-rings and colored collets in black, white, red, blue, green, yellow and orange are also available. Consult Division. KYNAR® is a registered trademark of Atochem North America, Inc. \*U.S. Patent 5,584,513.

## Assembly Instructions

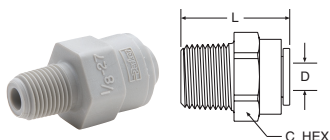
1. Cut tubing square and clean. (Use a Parker plastic tube cutter, Part No. PTC.)
2. Mark from end of tube the length of insertion (see table right).
3. Push tube into the fitting until it bottoms out.
4. To remove, depress collet and pull tubing out.
5. Use TrueSealant™ (Part No. PTS) on threads.

TUBE SIZES	O.D. TOLERANCE	INSERTION DEPTH
5/32"	±005"	9/16"
1/4"	±005"	11/16"
5/16"	±005"	13/16"
3/8"	±005"	3/4"
1/2"	±005"	7/8"



**MC - Male Connector**

Tube-to-Pipe

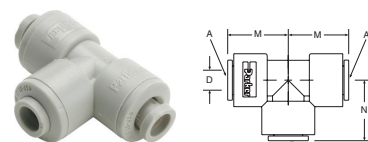


GRAY ACETAL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.	NPTF THD SIZE	C HEX	L OVERALL LENGTH	D THRU HOLE MIN.
A4MC2-MG	PP4MC2	F4MC2	1/4	1/8	11/16	1.28	.175
A4MC4-MG	PP4MC4	F4MC4	1/4	1/4	11/16	1.14	.175
A4MC6-MG	PP4MC6	F4MC6	1/4	3/8	11/16	1.18	.175
A5MC2-MG			5/16	1/8	13/16	1.46	.175
A5MC4-MG			5/16	1/4	13/16	1.41	.188
A5MC6-MG			5/16	3/8	13/16	1.27	.188
A6MC2-MG		F6MC2	3/8	1/8	13/16	1.46	.175
A6MC4-MG	PP6MC4	F6MC4	3/8	1/4	13/16	1.41	.250
A6MC6-MG	PP6MC6	F6MC6	3/8	3/8	13/16	1.27	.250
A6MC8-MG		F6MC8	3/8	1/2	15/16	1.45	.250
A8MC6-MG	PP8MC6		1/2	3/8	15/16	1.65	.360
A8MC8-MG	PP8MC8		1/2	1/2	15/16	1.46	.375

For nonstandard plastic collet, remove -MG suffix.

**TU - Tee Union**

Tube-to-Tube

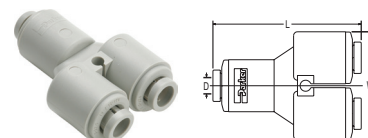


GRAY ACETAL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.		M	N	D THRU HOLE MIN.
			TUBE A RUN	TUBE B STEM			
A4TU4-MG	PP4TU4	F4TU4	1/4	1/4	0.81	0.85	.175
A5TU5-MG			5/16	5/16	1.02	1.02	.188
A6TU4-MG	PP6TU4	F6TU4	3/8	1/4	1.02	1.03	.175
A6TU6-MG	PP6TU6	F6TU6	3/8	3/8	1.02	1.02	.290
A8TU8-MG	PP8TU8		1/2	1/2	1.20	1.20	.375

For nonstandard plastic collet, remove -MG suffix.

**WY - "Y" Union**

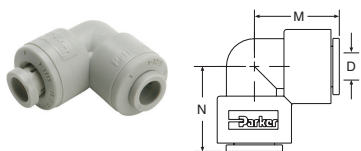
Tube-to-Tube



GRAY ACETAL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.		L	W	D THRU HOLE MIN.
			INLET TUBE A RUN	OUTLET TUBE B STEM			
A5WY5-MG			5/16	5/16	2.250	1.75	0.190
A6WY4-MG			3/8	1/4	2.100	1.43	0.190
A6WY5-MG			3/8	5/16	2.200	1.75	0.190
A6WY6-MG			3/8	3/8	2.175	1.75	0.250

**EU - Elbow Union**

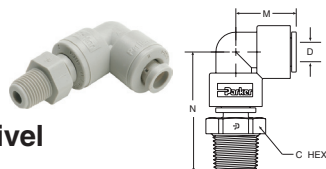
Tube-to-Tube



GRAY ACETAL EPDM SEAL	WHITE POLYPROPYLENE EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.	M	N	D THRU HOLE MIN.
A4EU4-MG	PP4EU4	F4EU4	1/4	0.87	0.87	.175
A5EU4-MG			5/16-1/4	1.052	0.90	.175
A5EU5-MG			5/16	1.02	1.02	.188
A6EU4-MG	PP6EU4	F6EU4	3/8-1/4	1.02	0.90	.212
A6EU5-MG			3/8-5/16	1.02	1.02	.175
A6EU6-MG	PP6EU6	F6EU6	3/8	1.02	1.02	.250
A8EU6-MG			1/2-3/8	1.20	1.20	.250
A8EU8-MG	PP8EU8		1/2	1.20	1.20	.375

For nonstandard plastic collet, remove -MG suffix.

NOTE: PPL refers to Polypropylene. FCB refers to Fluorocarbon.

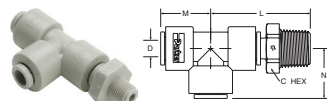


## MES - Male Elbow Swivel

Tube-to-Pipe

GRAY ACETAL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FCB SEAL	NOM. TUBE O.D.	NPTF THD SIZE	C HEX	M	N	D THRU HOLE MIN.
A4MES2-MG	PP4MES2	F4MES2	1/4	1/8	9/16	0.87	1.60	.175
A4MES4-MG	PP4MES4	F4MES4	1/4	1/4	11/16	0.87	1.71	.175
A4MES6-MG	PP4MES6	F4MES6	1/4	3/8	13/16	0.90	1.91	.212
A5MES2-MG			5/16	1/8	9/16	1.02	1.78	.188
A5MES4-MG			5/16	1/4	11/16	1.02	1.90	.188
A5MES6-MG			5/16	3/8	13/16	1.02	1.90	.188
A6MES2-MG		F6MES2	3/8	1/8	9/16	1.02	1.65	.175
A6MES4-MG	PP6MES4	F6MES4	3/8	1/4	13/16	1.02	1.90	.250
A6MES6-MG	PP6MES6	F6MES6	3/8	3/8	13/16	1.02	1.90	.250
A8MES4-MG			1/2	1/4	13/16	1.20	2.10	.240
A8MES6-MG	PP8MES6		1/2	3/8	13/16	1.20	2.10	.375
A8MES8-MG	PP8MES8		1/2	1/2	1	1.20	2.32	.375

\* Part consists of elbow union and tube stem adaptor.  
Note: Assemblies with metal gripper collets are permanent.  
Assemblies with plastic collets can be taken apart.

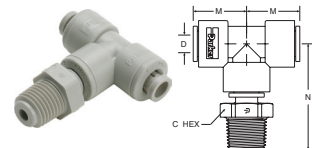


## MRS - Male Run Swivel

Tube-to-Pipe

GRAY ACETAL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FCB SEAL	NOM. TUBE O.D.	NPTF THD SIZE	C HEX	L	M	N	D THRU HOLE MIN.
A4MRS2-MG	PP4MRS2	F4MRS2	1/4	1/8	9/16	1.55	0.81	0.85	.175
A4MRS4-MG	PP4MRS4	F4MRS4	1/4	1/4	11/16	1.67	0.81	0.85	.175
A5MRS2-MG			5/16	1/8	9/16	1.78	1.02	1.02	.188
A5MRS4-MG			5/16	1/4	11/16	1.90	1.02	1.02	.188
A5MRS6-MG			5/16	3/8	13/16	1.90	1.02	1.02	.188
A6MRS4-MG	PP6MRS4	F6MRS4	3/8	1/4	13/16	1.90	1.02	1.02	.250
A6MRS6-MG	PP6MRS6	F6MRS6	3/8	3/8	13/16	1.90	1.02	1.02	.250
A8MRS4-MG			1/2	1/4	13/16	2.10	1.20	1.20	.240
A8MRS6-MG	PP8MRS6		1/2	3/8	13/16	2.10	1.20	1.20	.375
A8MRS8-MG	PP8MRS8		1/2	1/2	1	2.32	1.20	1.20	.375

\*Part consists of tee union and tube stem adaptor.  
Note: Assemblies with metal gripper collets are permanent.  
Assemblies with plastic collets can be taken apart.

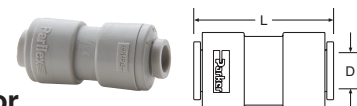


## MTS - Male Tee Swivel

Tube-to-Pipe

GRAY ACETAL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FCB SEAL	NOM. TUBE O.D.	NPTF THD SIZE	C HEX	M	N	D THRU HOLE MIN.
A4MTS2-MG	PP4MTS2	F4MTS2	1/4	1/8	9/16	0.81	1.60	.175
A4MTS4-MG	PP4MTS4	F4MTS4	1/4	1/4	11/16	0.81	1.71	.175
A5MTS2-MG			5/16	1/8	9/16	1.02	1.78	.188
A5MTS4-MG			5/16	1/4	11/16	1.02	1.90	.188
A5MTS6-MG			5/16	3/8	13/16	1.02	1.90	.188
A6MTS2-MG		F6MTS2	3/8	1/8	9/16	1.02	1.75	.175
A6MTS4-MG	PP6MTS4	F6MTS4	3/8	1/4	13/16	1.02	1.90	.250
A6MTS6-MG	PP6MTS6	F6MTS6	3/8	3/8	13/16	1.02	1.90	.250
A8MTS4-MG			1/2	1/4	13/16	1.20	2.10	.240
A8MTS6-MG	PP8MTS6		1/2	3/8	13/16	1.20	2.10	.375
A8MTS8-MG	PP8MTS8		1/2	1/2	1	1.20	2.32	.375

\* Part consists of tee union and tube stem adaptor.  
Note: Assemblies with metal gripper collets are permanent.  
Assemblies with plastic collets can be taken apart.



## UC - Union Connector

Tube-to-Tube

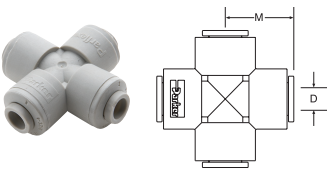
GRAY ACETAL EPDM SEAL	WHITE POLYPROPYLENE EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.	L OVERALL LENGTH	D THRU HOLE MIN.
A4UC4-MG	PP4UC4	F4UC4	1/4	1.49	.175
A5UC4-MG			5/16-1/4	1.70	.175
A5UC5-MG			5/16	1.70	.188
A6UC4-MG	PP6UC4	F6UC4	3/8-1/4	1.70	.175
A6UC5-MG			3/8-5/16	1.70	.188
A6UC6-MG	PP6UC6	F6UC6	3/8	1.70	.250
A8UC5-MG			1/2-5/16	1.90	.188
A8UC6-MG	PP8UC6		1/2-3/8	1.90	.250
A8UC8-MG	PP8UC8		1/2	1.91	.375

For nonstandard plastic collet, remove -MG suffix.

NOTE: PPL refers to Polypropylene. FCB refers to Fluorocarbon.

**CU - Cross Union**

Tube-to-Tube

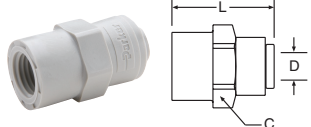


GRAY ACETAL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.	M	D THRU HOLE MIN.
A4CU4-MG			1/4	.91	.175
A6CU6-MG			3/8	1.08	.250

For nonstandard plastic collet, remove -MG suffix.

**FF - 45° Female Flare**

Tube-to-Flare

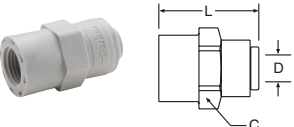


GRAY ACETAL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.	UNF-2B THREAD SIZE	C HEX	L OVERALL LENGTH	D THRU HOLE MIN.
A4FF4-MG	PP4FF4	F4FF4	1/4	7/16-20	23/32	1.32	.190
A6FF4-MG		F6FF4	3/8	7/16-20	13/16	1.41	.190
A6FF6-MG	PP6FF6	F6FF6	3/8	5/8-18	1	1.50	.250

For nonstandard plastic collet, remove -MG suffix.

**FA - Faucet Adapter**

Tube-to-Faucet

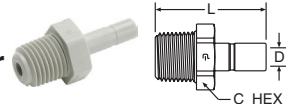


GRAY ACETAL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.	UNS-2B THREAD SIZE	C HEX	L OVERALL LENGTH	D THRU HOLE MIN.
A4FA7-MG	PP4FA7	F4FA7	1/4	7/16-24	23/32	1.32	.190
A5FA7-MG			5/16	7/16-24	13/16	1.41	.190
A6FA7-MG	PP6FA7	F6FA7	3/8	7/16-24	13/16	1.41	.190

For nonstandard plastic collet, remove -MG suffix.

**TMC - Tube Stem Adapter**

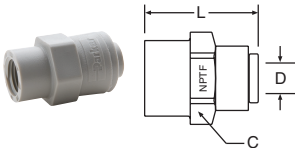
Tube Stem-to-Pipe



GRAY ACETAL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.	NPTF THREAD SIZE	C HEX	L OVERALL LENGTH	D THRU HOLE MIN.
A4TMC2	PP4TMC2	F4TMC2	1/4	1/8	9/16	1.44	.175
A4TMC4	PP4TMC4	F4TMC4	1/4	1/4	11/16	1.56	.175
A5TMC2			5/16	1/8	9/16	1.5	.188
A5TMC4			5/16	1/4	11/16	1.67	.188
A5TMC6			5/16	3/8	13/16	1.67	.188
A6TMC4	PP6TMC4	F6TMC4	3/8	1/4	13/16	1.70	.250
A6TMC6	PP6TMC6	F6TMC6	3/8	3/8	13/16	1.70	.250
A8TMC4			1/2	1/4	13/16	1.82	.240
A8TMC6	PP8TMC6		1/2	3/8	13/16	1.82	.375
A8TMC8	PP8TMC8		1/2	1/2	1	2.04	.375

**FC - Female Connector**

Tube-to-Pipe



GRAY ACETAL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.	NPTF THREAD SIZE	C HEX	L OVERALL LENGTH	D THRU HOLE MIN.
A4FC2-MG	PP4FC2	F4FC2	1/4	1/8	11/16	1.20	.175
A4FC4-MG	PP4FC4	F4FC4	1/4	1/4	23/32	1.32	.175
A5FC4-MG			5/16	1/4	13/16	1.41	.188
A5FC6-MG			5/16	3/8	1	1.50	.188
A6FC4-MG	PP6FC4	F6FC4	3/8	1/4	13/16	1.41	.250
A6FC6-MG	PP6FC6	F6FC6	3/8	3/8	1	1.50	.250
A6FC8-MG			3/8	1/2	1-1/8	1.52	.250
A8FC6-MG	PP8FC6		1/2	3/8	1-1/8	1.60	.375
A8FC8-MG	PP8FC8		1/2	1/2	1-1/8	1.75	.375

For nonstandard plastic collet, remove -MG suffix.

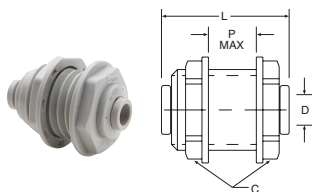
NOTE: PPL refers to Polypropylene. FCB refers to Fluorocarbon.

## BU - Bulkhead Union

Tube-to-Tube

GRAY ACETAL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FCB SEAL	NOM. TUBE O.D.	C1 HEX	C2 HEX	L OVERALL LENGTH	P MAX. WALL THK.	D THRU HOLE MIN.	BKHD HOLE DRILL SIZE
A4BU4-MG	PP4BU4	F4BU4	1/4	15/16	15/16	1.50	.50	.175	7/8
A5BU5-MG			5/16	1-1/16	1-1/16	1.75	.62	.188	1
A6BU4-MG	PP6BU4		3/8-1/4	1-1/16	1-1/16	1.75	.62	.175	1
A6BU6-MG	PP6BU6	F6BU6	3/8	1-1/16	1-1/16	1.75	.62	.250	1
A8BU8-MG			1/2	1-1/4	1-1/4	2.04	.70	.375	1-1/8

For nonstandard plastic collet, remove -MG suffix.

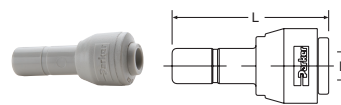


## RD - Tube Reducer

Tube-to-Tube Stem

GRAY ACETAL EPDM SEAL	WHITE POLYPROPYLENE EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.	TUBE STEM O.D.	L	D THRU HOLE MIN.
A4RD5-MG	PP4RD5		1/4	5/16	1.62	.18
A4RD6-MG	PP4RD6		1/4	3/8	1.62	.18
A5RD6-MG			5/16	3/8	1.78	.25
A5RD8-MG			5/16	1/2	1.90	.25
A6RD8-MG			3/8	1/2	1.90	.25

For nonstandard plastic collet, remove -MG suffix.

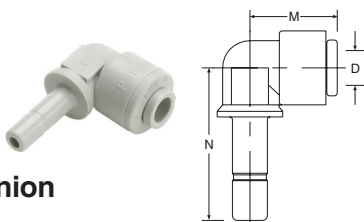


## TEU - Tube Elbow Union

Tube-to-Tube Stem

GRAY ACETAL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.	TUBE STEM O.D.	M	N	D THRU HOLE MIN.
A4TEU4-MG	PP4TEU4	F4TEU4	1/4	1/4	.84	1.21	.125
A4TEU6-MG		F4TEU6	1/4	3/8	.84	1.35	.125
A5TEU5-MG			5/16	5/16	1.03	1.40	.188
A6TEU4-MG		F6TEU4	3/8	1/4	1.03	1.29	.125
A6TEU6-MG	PP6TEU6	F6TEU6	3/8	3/8	1.03	1.64	.250
A8TEU8-MG	PP8TEU8		1/2	1/2	1.21	1.64	.380

For nonstandard plastic collet, remove -MG suffix.



## CAP - Tube Cap

GRAY ACETAL EPDM SEAL	WHITE POLYPROPYLENE EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.	L OVERALL LENGTH
A4CAP-MG	PP4CAP	F4CAP	1/4	0.77
A6CAP-MG	PP6CAP		3/8	0.88

For nonstandard plastic collet, remove -MG suffix.

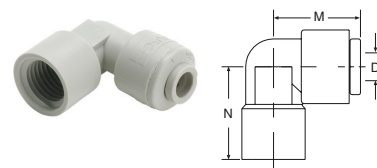


## FE - Female Elbow

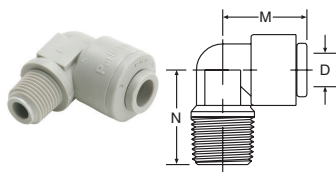
Tube-to-Tube

GRAY ACETAL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.	NPTF THREAD SIZE	M	N	D THRU HOLE MIN.
A4FE4-MG			1/4	1/4	0.84	1.00	.18
A6FE4-MG			3/8	1/4	1.03	1.00	.25
A6FE6-MG			3/8	3/8	1.03	1.00	.25

For nonstandard plastic collet, remove -MG suffix.



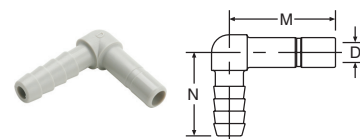
NOTE: PPL refers to Polypropylene. FCB refers to Fluorocarbon.

**ME - Male Elbow**

Tube-to-Pipe

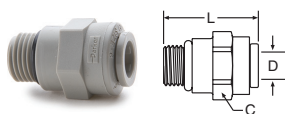
GRAY ACETAL EPDM SEAL	WHITE POLYPROPYLENE EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.	NPTF THD SIZE	M	N	D THRU HOLE MIN.
A4ME2-MG	PP4ME2	F4ME2	1/4	1/8	0.84	0.94	.175
A4ME4-MG	PP4ME4	F4ME4	1/4	1/4	0.84	0.94	.175
A4ME6-MG	PP4ME6	F4ME6	1/4	3/8	0.84	1.04	.175
A5ME4-MG			5/16	1/4	1.03	1.08	.175
A5ME6-MG			5/16	3/8	1.03	1.06	.188
A6ME4-MG	PP6ME4	F6ME4	3/8	1/4	1.03	1.08	.250
A6ME6-MG	PP6ME6	F6ME6	3/8	3/8	1.03	1.06	.250

For nonstandard plastic collet, remove -MG suffix.

**TEB - Tube Elbow Barb Connector**

GRAY ACETAL	WHITE POLYPROPYLENE	NATURAL KYNAR	TUBE STEM O.D.	TUBE I.D.	M	N	D THRU HOLE MIN.
A4TEB4	PP4TEB4	F4TEB4	1/4	1/4	0.89	1.00	.140
A6TEB6	PP6TEB6	F6TEB6	3/8	3/8	1.34	1.21	.250
A8TEB8			1/2	1/2	1.30	1.30	.390

D

**ST - Straight Thread**

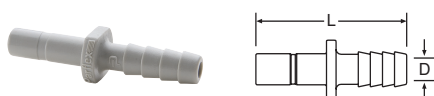
Tube-to-Male O-Ring Boss

GRAY ACETAL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.	UNF-2B THD SIZE	C HEX	L OVERALL LENGTH	D THRU HOLE MIN.
A6ST9-MG		F6ST9 (+)	3/8	9/16-18	13/16	1.39	.250

For nonstandard plastic collet, remove -MG suffix.

**TPL - Plug**

GRAY ACETAL	WHITE POLYPROPYLENE	NATURAL KYNAR	FITTING SIZE	L OVERALL LENGTH
A4TPL	PP4TPL	F4TPL	1/4	0.88
A6TPL	PP6TPL	F6TPL	3/8	1.45
A8TPL	PP8TPL		1/2	1.50

**TCB - Tube-to-Barb Connector**

GRAY ACETAL	WHITE POLYPROPYLENE	NATURAL KYNAR	TUBE STEM O.D.	TUBE I.D.	L OVERALL LENGTH	D THRU HOLE MIN.
A4TCB4	PP4TCB4	F4TCB4	1/4	1/4	1.67	.140
A6TCB4		F6TCB4	3/8	1/4	1.82	.140
A6TCB6	PP6TCB6	F6TCB6	3/8	3/8	1.98	.250
A8TCB6			1/2	3/8	2.10	.250
A8TCB8			1/2	1/2	2.10	.375

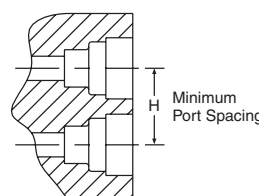
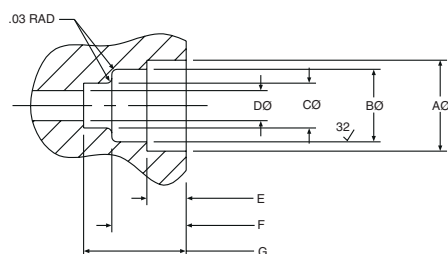
NOTE: PPL refers to Polypropylene. FCB refers to Fluorocarbon.



## TSC - Cartridge Insert

PART NUMBER WITH EPDM SEAL	NOM. TUBE O.D.	A* DIAMETER ±.002	B DIAMETER ±.003	C DIAMETER ±.003	D DIAMETER MINIMUM	E DEPTH ±.002	F DEPTH ±.002	G DEPTH ±.002	H* CENTERLINE OF PORTS MINIMUM
ATSC4-MG	1/4	.528	.421	.260	.19	.230	.435	.600	.670
ATSC6-MG	3/8	.632	.545	.385	.31	.280	.455	.705	.790
ATSC8-MG	1/2	.774	.668	.510	.41	.315	.510	.810	1.250

D



### Parker TrueSeal™ Cartridge Inserts:

Allow you to machine or mold a tube connection into your equipment or components. By using cartridge inserts, you will reduce your material and assembly costs, reduce potential leak paths, and give your equipment a new, clean profile by eliminating the need for threaded connections. TSC Cartridge Inserts consist of 1 o-ring, 1 cartridge, and 1 collet.

\*Cartridge inserts are rated at 300 psi in ports dimensioned as above and having Noryl as the receiving material. Other materials may have different ratings and require different port dimensions. Consult the Brass Products Division when using polypropylene, unfilled polypropylene, ABS or Nylon.

NORYL® is a registered trademark of the General Electric Co.

### Assembly Instructions:

**Step 1**—Machine or mold the receiving orifice as per the above dimensions.

**Step 2**—Place the cartridge insert squarely onto the prepared port opening making sure that the barbs of the cartridge are going into the hole and the lettering on the face of the cartridge is visible.

**Step 3**—Using a rubber mallet or press, insert the cartridge into the first gland orifice until its face is flush with the top surface of the port.

**Step 4**—Insert the o-ring into the cartridge and seat it evenly into the second gland orifice.

**Step 5**—Insert the collet into the cartridge opening.

**Step 6**—Insert tubing.

## TrueSeal Check Valves

Push-to-Connect check valves that ensures protection against reversal of flow. The valves have an arrow molded into the body to indicate the direction of flow. Valves are designed for connection with either thermoplastic or soft metal tubing and are intended for use with liquids only.

### Materials of Construction

Body: Acetal

O-ring: EPDM

Metal Grip Edge: 300 Stainless

### Working Pressure

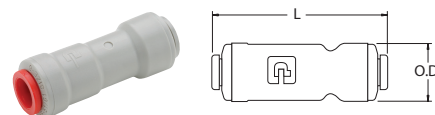
Up to 150 PSI depending on tubing being used

### Temperature Range

+34°F (1° C) to +150°F (65°C)

### Cracking Pressure

1/3 PSI



## VC – Check Valve

PART NO.	TUBE SIZE	L	O.D.
A4VC4-MG	1/4	2.00	.66
A5VC5-MG	5/16	2.10	.70
A6VC6-MG	3/8	2.15	.80

NOTE: PPL refers to Polypropylene. FCB refers to Fluorocarbon.



# Polypropylene Ball Valves

For proven leak-free performance, specify **Polypropylene Ball Valves**. Their corrosion-resistant, all-plastic design makes them ideal for water filtration units, coffee and beverage machines and a wide variety of other fluid applications. Polypropylene material meets all FDA and NSF-51 requirements for food contact.

## Features/Benefits:

- Precision molded, all-plastic design is leak free and corrosion resistant.
- Polypropylene material offers a wider chemical acceptance range, as well as a wide temperature range.
- Bi-directional flow maximizes productivity.
- Full flow design reduces pressure drop across the valve.
- Special o-ring seal ensures a reliable leak-tight connection.
- TrueSeal™ connection reduces potential leaks.

## Specifications:

- Temperature range: 0°F to 225°F (-18°C to 107°C).
- O-ring seal material: Nitrile.
- NSF-51 listed.
- Pressure rated to 150 PSI with a 600 PSI burst pressure. Actual working pressures will be lower at elevated temperatures.

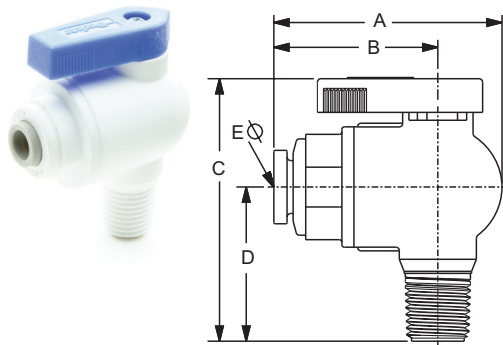
## Advantages:

- Reduce costs—Built-in TrueSeal™ connection eliminates the need for a secondary fitting.
- Save space—Low-profile design allows for easy assembly and access where space is at a premium.

## Assembly Instructions:

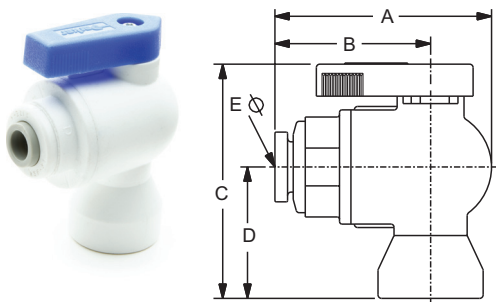
1. Inspect the mating threads for debris or damage. Remove any old fluoropolymer tape or sealant on previously used threads. If threads are damaged, replace with new adapter before proceeding.
2. Apply 2 to 3 wraps of fluoropolymer tape, Parker TrueSealant™ or an NSF/FDA approved silicon sealant. Do not use Plumbers Putty or Pipe Dope. These chemically react with plastic materials and could cause a failure.
3. Align ball valve to mating thread to ensure cross threading does not occur.
4. Screw ball valve onto mating thread 3 to 5 turns. This should be sufficient to properly seal the threads.
5. Pressurize system and check for leaks.

## VME - Valve Male Elbow



PART NUMBER	NOM. TUBE O.D.	NPTF THREAD SIZE	A	B	C	D	ØE THRU HOLE MIN.
PP4VME2-MG (+)	1/4	1/8	1.74	1.21	2.00	1.10	.19
PP4VME4-MG	1/4	1/4	1.74	1.21	2.18	1.28	.19
PP4VME6-MG	1/4	3/8	1.74	1.21	2.18	1.28	.19
PP4VME8-MG (+)	1/4	1/2	1.74	1.21	2.37	1.47	.19
PP6VME2-MG (+)	3/8	1/8	1.85	1.32	2.00	1.10	.25
PP6VME4-MG	3/8	1/4	1.85	1.32	2.18	1.28	.25
PP6VME6-MG	3/8	3/8	1.85	1.32	2.18	1.28	.25
PP6VME8-MG	3/8	1/2	1.85	1.32	2.37	1.47	.25

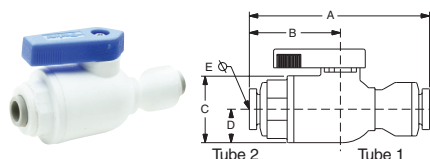
## VFE - Valve Female Elbow



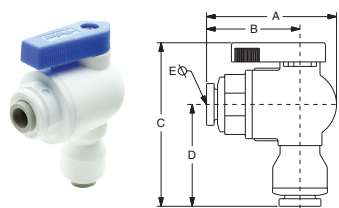
PART NUMBER	NOM. TUBE O.D.	NPTF THREAD SIZE	A	B	C	D	ØE THRU HOLE MIN.
PP4VFE2-MG (+)	1/4	1/8	1.74	1.21	1.82	0.92	.19
PP4VFE4-MG	1/4	1/4	1.74	1.21	2.05	1.15	.19
PP4VFE6-MG	1/4	3/8	1.74	1.21	2.18	1.28	.19
PP6VFE2-MG (+)	3/8	1/8	1.85	1.32	1.82	0.92	.25
PP6VFE4-MG	3/8	1/4	1.85	1.32	2.05	1.15	.25
PP6VFE6-MG	3/8	3/8	1.85	1.32	2.18	1.28	.25

(+) Non Standard.

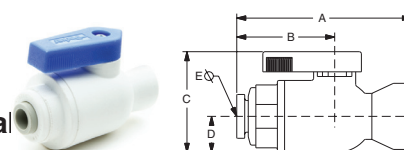
NOTE: PPL refers to Polypropylene. FCB refers to Fluorocarbon.

**VUC - Valve Union Connector**

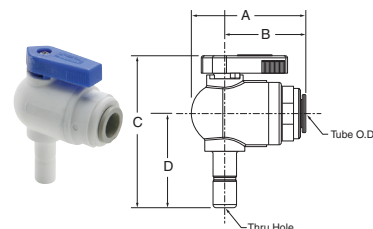
PART NUMBER	1 TUBE SIZE	2 TUBE SIZE	A	B	C	D	ØE THRU HOLE MIN.
PP4VUC4-MG	1/4	1/4	2.55	1.22	1.0	0.5	.19
PP4VUC6-MG	1/4	3/8	2.55	1.22	1.0	0.5	.19
PP6VUC4-MG	3/8	1/4	2.57	1.30	1.0	0.5	.19
PP6VUC6-MG	3/8	3/8	2.67	1.32	1.4	0.5	.25

**VEU - Valve Elbow Union**

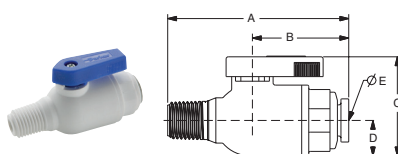
PART NUMBER	1 TUBE SIZE	2 TUBE SIZE	A	B	C	D	ØE THRU HOLE MIN.
PP4VEU4-MG	1/4	1/4	1.75	1.22	2.33	1.42	.19
PP4VEU6-MG	1/4	3/8	1.75	1.22	2.33	1.42	.11
PP6VEU4-MG	3/8	1/4	1.83	1.30	2.32	1.40	.19
PP6VEU6-MG	3/8	3/8	1.85	1.32	2.34	1.44	.25

**VFC - Valve Female Connector**

PART NUMBER	NOM. TUBE O.D.	NPTF THREAD SIZE	A	B	C	D	ØE THRU HOLE MIN.
PP4VFC2-MG	1/4	1/8	2.04	1.21	1.4	0.5	.19
PP4VFC4-MG	1/4	1/4	2.27	1.21	1.4	0.5	.19
PP4VFC6-MG	1/4	3/8	2.40	1.21	1.4	0.5	.19
PP6VFC2-MG	3/8	1/8	2.15	1.32	1.4	0.5	.25
PP6VFC4-MG	3/8	1/4	2.38	1.32	1.4	0.5	.25
PP6VFC6-MG	3/8	3/8	2.51	1.32	1.4	0.5	.25

**VTEU - Valve Tube Elbow Union**

PART NUMBER	NOM. TUBE O.D.	STEM	A	B	C	D	ØE THRU HOLE MIN.
PP4VTEU6-MG	1/4	3/8	1.75	1.22	2.43	1.50	.17
PP6VTEU6-MG	3/8	3/8	1.83	1.30	2.43	1.50	.25

**VMC - Valve Male Connector**

PART NUMBER	NOM. TUBE O.D.	NPTF THREAD SIZE	A	B	C	D	ØE THRU HOLE MIN.
PP4VMC2-MG (+)	1/4	1/8	2.22	1.21	1.4	0.5	.19
PP4VMC4-MG	1/4	1/4	2.40	1.21	1.4	0.5	.19
PP4VMC6-MG	1/4	3/8	2.40	1.21	1.4	0.5	.19
PP4VMC8-MG (+)	1/4	1/2	2.59	1.21	1.4	0.5	.19
PP6VMC2-MG (+)	3/8	1/8	2.33	1.32	1.4	0.5	.25
PP6VMC4-MG	3/8	1/4	2.51	1.32	1.4	0.5	.25
PP6VMC6-MG	3/8	3/8	2.51	1.32	1.4	0.5	.25
PP6VMC8-MG (+)	3/8	1/2	2.70	1.32	1.4	0.5	.25

NOTE: PPL refers to Polypropylene. FCB refers to Fluorocarbon.

## Cold Water Supply Valve

(Patent No. 6,213,149)

Parker's water supply valve is intended for use with Point Of Use water appliances requiring a cold water supply such as POU faucets, instant hot water faucets, reverse osmosis systems and water filtration systems. The Parker TrueSeal™ Cold Water Supply Valve is designed for temporary cold water shut-off to a POU appliance to change filters, tanks or when servicing the appliance — all while maintaining full water flow to the sink or water basin above. When the POU system is removed from service, the Parker TrueSeal™ Cold Water Supply Valve is to be removed also.

TrueSeal™ Cold Water Supply Valves are for cold water service at temperatures above freezing to 125°F ambient. Not for use in hot water service applications.

### Features/Benefits:

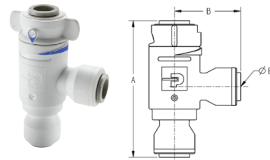
- Fast, easy installation.
- No pierced lines or saddle hookups.
- Optimum flow to the faucet - full flow porting.
- No need to pierce the supply line.
- Connects 3/8" OD tubing directly to valve.
- 1/2" NPT connections available.
- Excellent resistance to chlorine and other chemicals.
- Integrated handle for easy on/off operation.
- Visual indicator shows open/closed position.

### Specifications:

- NSF Standard 51 listed.
- Pressure rating: 150 PSI with a 600 PSI burst pressure.
- Design factor: 4:1
- O-ring seal material: EPDM.
- Meets the pressure integrity test of NSF-53 and NSF-58.

### Applications:

- Reverse osmosis systems.
- Under sink filtration systems.
- POU faucets.
- Water supply valves are intended for cold water service at temperatures from above freezing to 125°F ambient.
- NOT for use in hot water service applications.



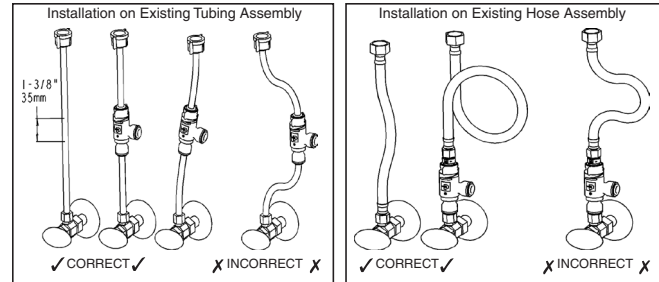
## VTU - Water Supply Valve

WHITE POLYPROPYLENE	NOM. TUBE O.D.	A	B	D THRU HOLE MIN.
PP6VTU6-MG	3/8	2.92	1.3	.30

(+) Non Standard.

NOTE: PPL refers to Polypropylene. FCB refers to Fluorocarbon.

## TrueSeal™ Cold Water Supply Valve Assembly Instructions



### For Installation with 3/8" Plastic Tubing:

1. Shut off water at the chrome or brass valve.
2. Disconnect existing tube assembly.
3. Cut out a 1-3/8" (35 mm) section near the center of the existing tubing. Cut the tube squarely and remove any burrs.
4. Place an insertion depth mark 3/4" (19 mm) from the end of each cut on the tubing to be reused. Refer to "TrueSeal Assembly Instructions," Steps 2 and 3, for tubing assembly (reverse side).
5. Reconnect tube assembly with new valve.
6. Make sure new valve is closed before opening water valve. Open valve in Step 1 and check for leaks.
7. Insert 3/8" tubing from water appliance into side port.
8. Open new valve by turning pointer to large end of flow indicator.

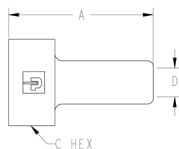
### For Installation with Flexible Hose:

1. Shut off water at the chrome or brass valve.
2. Disconnect one end of existing hose assembly.
3. Place the appropriate adapters on the chrome or brass valve and the hose end.
4. Tighten adapter on chrome or brass valve finger tight plus 1/2 turn. Do not over tighten.
5. Push tube portion of adapters into top and bottom of valve until bottomed out. Hose should not be kinked. A longer hose assembly might be required if a gently loop cannot be made.
6. Make sure new valve is closed before opening water valve. Pointer will be at the small end of triangle flow indicator. Open valve in Step 1 and check for leaks.
7. Insert 3/8" tubing from water appliance into side port.
8. Open new valve by turning pointer to large end of flow indicator.



## Water Supply Valve Kits

PART NO.	CONNECTS TO:	KIT CONTAINS
WSV4-KIT	1/4" COMPRESSION VALVE	AW6TAF7-MG, AW6TFA7-MG, PP6VTU6-MG
WSV6-KIT	3/8" COMPRESSION VALVE	AW6TAF9-MG, AW6TFA9-MG, PP6VTU6-MG
WSV8-KIT	1/2" NPSM FAUCET STEM	AW6TAF8-MG, AW6TFA8-MG, PP6VTU6-MG



## TFA - Tube Faucet Adapter

(Female Thread)

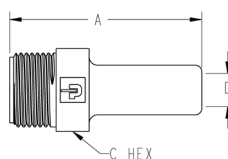
WHITE ACETAL	TUBE STEM O.D.	THREAD SIZE	A	C HEX	D MIN.
AW6TFA7-MG	3/8	7/16-24	1.25	.69	.17
AW6TFA8-MG	3/8	1/2-14 NPSM	1.45	1.06	.22
AW6TFA9-MG	3/8	9/16-24	1.25	.75	.22



## TS - Tube Supports

NYLON PART NUMBER	POLYPROPYLENE PART NUMBER
N4TS3	P4TS3
N5TS3	P5TS3
N6TS4	P6TS4
N8TS6	P8TS6

To be used with soft durometer tubing.



## TAF - Tube Faucet Adapter

(Male Thread)

WHITE ACETAL	TUBE STEM O.D.	THREAD SIZE	A	C HEX	D MIN.
AW6TAF7-MG	3/8	7/16-24	1.41	.50	.22
AW6TAF8-MG	3/8	1/2-14 NPSM	1.65	.88	.22
AW6TAF9-MG	3/8	9/16-24	1.45	.63	.22

## AQRT - Quick Release Tool



Makes disconnection of tube adapters and tubing a breeze.

## SC - Safety Clip

(Patent No. 6,065,779)



PART NUMBER	PART NUMBER	FOR NOMINAL TUBE O.D.
SC-4	SC-4-B	1/4
SC-5	SC-5-B	5/16
SC-6	SC-6-B	3/8
SC-8	SC-8-B	1/2

NOTE: PPL refers to Polypropylene. FCB refers to Fluorocarbon.



# Fast & Tite Thermoplastic Fittings

MATERIALS OF CONSTRUCTION	
BODIES:	WHITE POLYPROPYLENE, BLACK POLYPROPYLENE, WHITE NYLON
NUT & SPACERS:	WHITE POLYPROPYLENE, BLACK POLYPROPYLENE, WHITE NYLON
GRAB RING:	302 STAINLESS STEEL
O-RING:	NITRILE

AIR-OIL-WATER PRESSURE IN PSI			
TUBE O. D., IN.	UP TO 75°F	76° TO 125°F	126° TO 175°F
1/4	300	300	300
5/16	300	300	300
3/8	250	250	150
1/2	200	200	150
5/8	150	100	50

TEMPERATURE RANGE	
BLACK / WHITE POLYPROPYLENE:	0°F (-18°C) TO +212°F (+100°C)
WHITE NYLON:	-40°F (-40°C) TO +200°F (+93°C)

APPLICABLE TUBE	
TUBE MATERIAL:	THERMOPLASTIC TUBING, GLASS, SOFT METAL
TUBE O.D.:	1/4, 5/16, 3/8, 1/2, 5/8

SPECIFICATIONS	
OPERATING FLUID:	WATER, AIR, OTHER FLUIDS COMPATIBLE WITH MATERIALS OF CONSTRUCTION
NOTE:	FOR OTHER TYPES OF FLUIDS OR GASSES, PLEASE CONSULT FACTORY

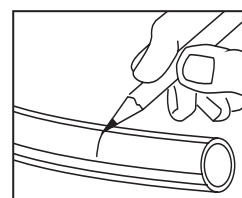
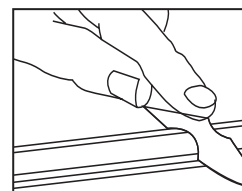
INSERTION LENGTH		
TUBE O.D. (IN.)	INSERTION LENGTH WITH TUBE SUPPORT (IN.)	INSERTION LENGTH WITHOUT TUBE SUPPORT (IN.)
1/4	5/8	9/16
5/16	5/8	9/16
3/8	13/16	3/4
1/2	7/8	13/16
5/8	1	15/16



A compression style fitting that installs in seconds without tools and provides a tight, sure, leak proof seal without clamps or adjustments. A unique grab ring for tube retention, coupled with a Nitrile O-ring creates a positive seal and assures good tube retention with only hand tight assembly. Fast & Tite™ fittings meet FDA and NSF-51 requirements for food contact.

## Assembly Instructions

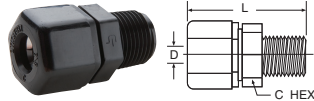
1. Cut the tube squarely and remove any burrs.
2. Mark from end of tube the length of insertion. If using a tube support, insert fully into tube and then mark from end of tube support length of insertion. (See insertion length table left)
3. Loosen nut on fitting until three threads are visible. Fittings for glass tubes must be disassembled and the grab ring removed. If the fitting has been disassembled the components are to be placed in the following order: fitting body, o-ring, spacer, grab ring and nut. Assemble the nut until three threads are showing on the body before inserting tube.
4. Moisten end of the tube with water. Push the tube Straight into fitting until it bottoms on the fitting's shoulder. Tighten nut by hand. Additional tightening should not be necessary, but 1/4 additional turn may be added if desired. Do not overtighten nut as the threads will strip and the fitting will not function properly. A proper assembly will not show the insertion mark extending beyond the nut. If the insertion mark is visible, then steps 1 thru 4 must be repeated.



Note: Provide adequate fail-safe mechanisms such as leakage detection sensors, automatic shut-off controls or other industry and code appropriate fail-safe devices in the design of your water-handling appliance to protect against personal injury and property damage. Plastic fittings containing an o-ring have a finite life depending on the environment, media and severity of the application. Frequent inspections and replacement of the fitting when anomalies are found is recommended.

**MC - Male Connector**

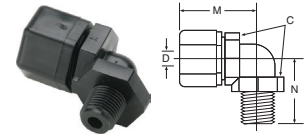
Tube to male pipe



WHITE PPL PART NUMBER	BLACK PPL PART NUMBER	WHITE NYLON PART NUMBER	NOM TUBE O.D.	NPTF THREAD SIZE	C HEX	L OVERALL LENGTH	D THRU HOLE MIN.
W4MC4	P4MC4	N4MC4	1/4	1/4	11/16	1.51	.170
W4MC6 (+)	P4MC6 (+)	N4MC6 (+)	1/4	3/8	11/16	.148	.170
W5MC2 (+)	P5MC2	N5MC2	5/16	1/8	11/16	1.38	.170
W5MC4 (+)	P5MC4	N5MC4	5/16	1/4	11/16	1.50	.250
W6MC2 (+)	P6MC2	N6MC2	3/8	1/8	13/16	1.50	.170
W6MC4	P6MC4	N6MC4	3/8	1/4	13/16	1.67	.250
W6MC6	P6MC6	N6MC6	3/8	3/8	13/16	1.67	.250
W6MC8 (+)	P6MC8	N6MC8	3/8	1/2	1	1.78	.250
W6MC12	P6MC12	N6MC12	3/8	3/4	1	1.84	.250
W8MC2 (+)	P8MC2	N8MC2	1/2	1/8	1	1.61	.170
W8MC4 (+)	P8MC4	N8MC4	1/2	1/4	1	1.74	.250
W8MC6	P8MC6	N8MC6	1/2	3/8	1	1.74	.375
W8MC8	P8MC8	N8MC8	1/2	1/2	1	1.87	.375
W8MC12 (+)	P8MC12	N8MC12	1/2	3/4	1	1.89	.375
W10MC2 (+)	P10MC2	N10MC2	5/8	1/8	1-18	1.75	.170
W10MC4 (+)	P10MC4	N10MC4	5/8	1/4	1-18	1.90	.250
W10MC6 (+)	P10MC6	N10MC6	5/8	3/8	1-18	1.90	.375
W10MC8 (+)	P10MC8	N10MC8	5/8	1/2	1-18	2.01	.500
W10MC12 (+)	P10MC12	N10MC12	5/8	3/4	1-18	2.04	.500

**ME - Male Elbow**

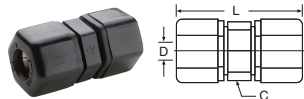
Tube to male pipe



WHITE PPL PART NUMBER	BLACK PPL PART NUMBER	WHITE NYLON PART NUMBER	NOM TUBE O.D.	NPTF THD SIZE	C HEX	M	N	D THRU HOLE MIN.
W4ME2	P4ME2	N4ME2	1/4	1/8	3/4	1.06	0.81	.170
W4ME4	P4ME4	N4ME4	1/4	1/4	3/4	1.06	1.02	.170
W4ME6	P4ME6	N4ME6	1/4	3/8	3/4	1.06	1.02	.170
W5ME2 (+)	P5ME2	N5ME2	5/16	1/8	3/4	1.06	0.81	.193
W5ME4 (+)	P5ME4	N5ME4	5/16	1/4	3/4	1.06	1.02	.193
W5ME6 (+)	P5ME6	N5ME6	5/16	3/8	3/4	1.06	1.02	.193
W6ME4	P6ME4	N6ME4	3/8	1/4	7/8	1.28	1.12	.250
W6ME6	P6ME6	N6ME6	3/8	3/8	7/8	1.28	1.12	.250
W6ME8	P6ME8	N6ME8	3/8	1/2	1	1.28	1.34	.250
W6ME12 (+)	P6ME12	N6ME12	3/8	3/4	1-3/16	1.59	1.40	.250
W8ME4 (+)	P8ME4	N8ME4 (+)	1/2	1/4	1-1/16	1.48	1.22	.250
W8ME6	P8ME6	N8ME6	1/2	3/8	1-1/16	1.56	1.21	.375
W8ME8	P8ME8	N8ME8	1/2	1/2	1-1/16	1.56	1.34	.375
W8ME12 (+)	P8ME12 (+)	N8ME12 (+)	1/2	3/4	1-1/8	1.50	1.40	.375
W10ME8 (+)	P10ME8	N10ME8	5/8	1/2	1-3/16	1.72	1.40	.500

**UC - Union Connector**

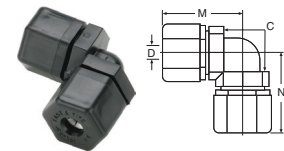
Tube to tube



WHITE PPL PART NUMBER	BLACK PPL PART NUMBER	WHITE NYLON PART NUMBER	NOM. TUBE O.D.	C HEX	L OVERALL LENGTH	D THRU HOLE MIN.
W4UC4	P4UC4	N4UC4	1/4	11/16	1.62	.170
W5UC4 (+)	P5UC4	N5UC4	5/16-1/4	11/16	1.62	.170
W5UC5 (+)	P5UC5	N5UC5	5/16	11/16	1.62	.190
W6UC4	P6UC4	N6UC4	3/8-1/4	13/16	1.80	.170
W6UC5 (+)	P6UC5	N6UC5	3/8-5/16	13/16	1.80	.190
W6UC6	P6UC6	N6UC6	3/8	13/16	1.92	.250
W8UC6	P8UC6	N8UC6	1/2-3/8	1	1.95	.250
W8UC8	P8UC8	N8UC8	1/2	1	2.03	.375
W10UC6 (+)	P10UC6	N10UC6	5/8-3/8	1-18	2.19	.250
W10UC8 (+)	P10UC8	N10UC8	5/8-1/2	1-1/8	2.24	.375
W10UC10 (+)	P10UC10	N10UC10	5/8	1-1/8	2.40	.500

**EU - Elbow Union**

Tube to tube



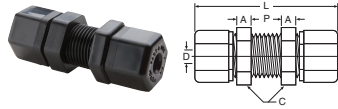
WHITE PPL PART NUMBER	BLACK PPL PART NUMBER	WHITE NYLON PART NUMBER	NOM. TUBE O.D.	C HEX	M	N	D THRU HOLE MIN.
W4EU4	P4EU4	N4EU4	1/4	3/4	1.06	1.06	.170
W5EU4 (+)	P5EU4	N5EU4	5/16-1/4	3/4	1.06	1.06	.170
W5EU5 (+)	P5EU5	N5EU5	5/16	3/4	1.06	1.06	.193
W6EU4	P6EU4	N6EU4	3/8-1/4	7/8	1.06	1.28	.170
W6EU5 (+)	P6EU5	N6EU5	3/8-5/16	7/8	1.06	1.28	.170
W6EU6	P6EU6	N6EU6	3/8	7/8	1.28	1.28	.250
W8EU6	P8EU6	N8EU6	1/2-3/8	1-1/16	1.37	1.56	.250
W8EU8	P8EU8	N8EU8	1/2	1-1/16	1.56	1.56	.375
W10EU10 (+)	P10EU10	N10EU10	5/8	1-3/16	1.72	1.72	.500

NOTE: PPL refers to Polypropylene. FCB refers to Fluorocarbon.



**BU - Bulkhead Union**

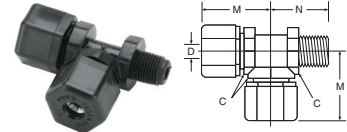
Tube to tube



WHITE PPL PART NUMBER	BLACK PPL PART NO.	WHITE NYLON PART NO.	NOM TUBE O.D.	A REF.	C HEX	L OVERALL LENGTH	P MAX	D THRU HOLE MIN.	BLKHD HOLE DRILL SIZE
W4BU4	P4BU4	N4BU4	1/4	1/4	13/16	2-11/64	3/8	.170	21/32
W5BU5 (+)	P5BU5	N5BU5	5/16	1/4	13/16	2-11/64	3/8	.187	21/32
W6BU6	P6BU6	N6BU6	3/8	9/32	15/16	2-39/64	1/2	.250	25/32
W8BU8	P8BU8	N8BU8	1/2	5/16	1-5/32	2-3/4	1/2	.375	31/32

**MR - Male Run Tee**

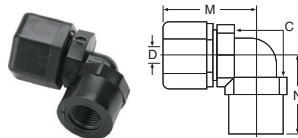
Tube to male pipe



WHITE PPL PART NUMBER	BLACK PPL PART NUMBER	WHITE NYLON PART NUMBER	NOM TUBE O.D.	NPTF THD SIZE	C HEX	M	N	D THRU HOLE MIN.
W4MR2	P4MR2	N4MR2	1/4	1/8	11/16	1.09	0.89	.170
W6MR4	P6MR4	N6MR4	3/8	1/4	13/16	1.30	1.17	.250
W8MR6	P8MR6	N8MR6	1/2	3/8	1	1.46	1.28	.375
W10MR8 (+)	P10MR8	N10MR8	5/8	1/2	1-1/8	1.68	1.50	.500

**FE - Female Elbow**

Tube to female pipe



WHITE PPL PART NUMBER	BLACK PPL PART NUMBER	WHITE NYLON PART NUMBER	NOM TUBE O.D.	NPTF THD SIZE	C HEX	M	N	D THRU HOLE MIN.
W4FE2	P4FE2	N4FE2	1/4	1/8	11/16	1.10	0.84	.170
W4FE4	P4FE4	N4FE4	1/4	1/4	11/16	1.10	0.94	.170
W5FE2 (+)	P5FE2	N5FE2	5/16	1/8	11/16	1.10	0.84	.193
W6FE4	P6FE4	N6FE4	3/8	1/4	13/16	1.30	1.06	.250
W6FE6	P6FE6	N6FE6	3/8	3/8	13/16	1.30	1.03	.250
W8FE6 (+)	P8FE6	N8FE6	1/2	3/8	1	1.50	1.16	.375
W8FE8	P8FE8	N8FE8	1/2	1/2	1	1.50	1.27	.375
W10FE8 (+)	P10FE8	N10FE8	5/8	1/2	1-1/8	1.70	1.34	.500

**TU - Tee Union**

Tube to tube



WHITE PPL PART NUMBER	BLACK PPL PART NUMBER	WHITE NYLON PART NUMBER	NOM. TUBE O.D.	C HEX	M	N	D THRU HOLE MIN.
W4TU4	P4TU4	N4TU4	1/4	11/16	1.09	1.09	.170
W5TU5 (+)	P5TU5	N5TU5	5/16	11/16	1.09	1.09	.187
W6TU6	P6TU6	N6TU6	3/8	13/16	1.30	1.30	.250
W8TU6 (+)	P8TU6	N8TU6	1/2-3/8	1	1.46	1.39	.250
W8TU8	P8TU8	N8TU8	1/2	1	1.46	1.46	.375
W10TU6 (+)	P10TU6	N10TU6	5/8-3/8	1-1/8	1.68	1.46	.250
W10TU10 (+)	P10TU10	N10TU10	5/8	1-3/16	1.68	1.68	.500

**FC - Female Connector**

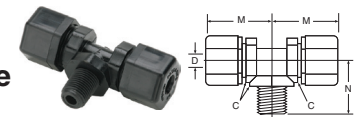
Tube to female pipe



WHITE PPL PART NUMBER	BLACK PPL PART NUMBER	WHITE NYLON PART NUMBER	NOM TUBE O.D.	NPTF THREAD SIZE	C HEX	M	N	D THRU HOLE MIN.
W4FE2	P4FE2	N4FE2	1/4	1/8	11/16	1.10	0.84	.170
W4FE4	P4FE4	N4FE4	1/4	1/4	11/16	1.10	0.94	.170
W5FE2 (+)	P5FE2	N5FE2	5/16	1/8	11/16	1.10	0.84	.193
W6FE4	P6FE4	N6FE4	3/8	1/4	13/16	1.30	1.06	.250
W6FE6	P6FE6	N6FE6	3/8	3/8	13/16	1.30	1.03	.250
W8FE6 (+)	P8FE6	N8FE6	1/2	3/8	1	1.50	1.16	.375
W8FE8	P8FE8	N8FE8	1/2	1/2	1	1.50	1.27	.375
W10FE8 (+)	P10FE8	N10FE8	5/8	1/2	1-1/8	1.70	1.34	.500

**MT - Male Branch Tee**

Tube to male pipe



WHITE PPL PART NUMBER	BLACK PPL PART NUMBER	WHITE NYLON PART NUMBER	NOM. TUBE O.D.	NPTF THD SIZE	C HEX	M	N	D THRU HOLE MIN.
W4MT2	P4MT2	N4MT2	1/4	1/8	11/16	1.09	0.89	.170
W4MT4	P4MT4	N4MT4	1/4	1/4	11/16	1.09	1.06	.170
W5MT2 (+)	P5MT2	N5MT2	5/16	1/8	11/16	1.09	0.89	.170
W5MT4 (+)	P5MT4	N5MT4	5/16	1/4	11/16	1.09	1.06	.187
W6MT4	P6MT4	N6MT4	3/8	1/4	13/16	1.30	1.12	.250
W6MT6	P6MT6	N6MT6	3/8	3/8	13/16	1.30	1.10	.250
W8MT6	P8MT6	N8MT6	1/2	3/8	1	1.46	1.22	.375
W8MT8	P8MT8	N8MT8	1/2	1/2	1	1.46	1.43	.375
W10MT8 (+)	P10MT8	N10MT8	5/8	1/2	1-1/8	1.68	1.41	.500

NOTE: PPL refers to Polypropylene. FCB refers to Fluorocarbon.

**GR - Grab Ring**

(Stainless or Plastic)



STAINLESS GRAB RING PART NUMBER	PLASTIC GRAB RING PART NUMBER	FOR NOM. TUBE O.D.
4GR	4GRP	1/4
5GR	5GRP	5/16
6GR	6GRP	3/8
8GR	8GRP	1/2
10GR	10GRP	5/8

**D****NS - Nut and Spacer Sets**

WHITE POLYPROPYLENE PART NUMBER	BLACK POLYPROPYLENE PART NUMBER	WHITE NYLON PARTNUMBER	FOR NOM. TUBE O.D.
W4NS	P4NS	N4NS	1/4
W5NS	P5NS	N5NS	5/16
W6NS	P6NS	N6NS	3/8
W8NS	P8NS	N8NS	1/2
W10NS	P10NS	N10NS	5/8

**TS - Tube Support**

POLYPROPYLENE PART NUMBER	NYLON PART NUMBER	FOR TUBE PART NUMBER
P4TS3	N4TS3	PV43
P5TS3	N5TS3	PV53
P6TS4	N6TS3	PV64
P8TS6	N8TS6	PV86
P10TS8	N10TS8	PV108

**OR - O-Ring**

O-RING PART NUMBER	FOR NOM. TUBE O.D.
4OR	1/4
5OR	5/16
6OR	3/8
8OR	1/2
10OR	5/8

NOTE: PPL refers to Polypropylene. FCB refers to Fluorocarbon.



# Par-Barb® Thermoplastic Fittings

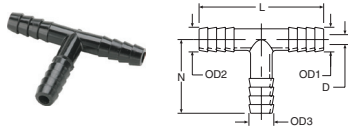
MATERIALS OF CONSTRUCTION	
BODIES:	BLACK HIGH DENSITY POLYETHYLENE, WHITE NYLON

NOMENCLATURE	
EXAMPLE: P4TUB2	ATTRIBUTE:
P	POLYETHYLENE
4	I. D. OF TUBING ON STEM IN SIXTEENTHS OF AN IN.
TU	STYLE TEE UNION (TU)
B	BARB
2	I. D. OF TUBING ON STEM IN SIXTEENTHS OF AN IN.

SPECIFICATIONS	
PRESSURE RANGE	UP TO 125 PSI.
TEMPERATURE RANGE	BLACK POLYETHYLENE: -65°F (-54°C) TO +190°F (+88°C.) WHITE NYLON: -40°F (-40°C) TO +200°F (+93°C.)
TUBE MATERIAL:	VINYL, POLYURETHANE, RUBBER HOSE
TUBE I.D.:	1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4
OPERATING FLUID:	AIR, WATER, OTHER FLUIDS COMPATIBLE WITH MATERIALS OF CONSTRUCTION
NOTE:	FOR OTHER TYPES OF FLUIDS OR GASSES, PLEASE CONSULT FACTORY



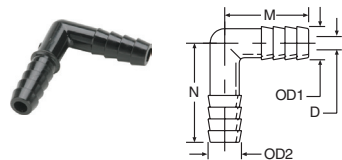
Par-Barb® fittings are injection molded from high strength, chemically inert, thermoplastic materials. These fittings meet FDA and NSF-51 specifications for food contact. The four barb design generates the maximum gripping and sealing power when combined with a hose clamp.



### TUB - Tee Union

BLACK HIGH DENSITY LINEAR POLYETHYLENE PART NUMBER	WHITE NYLON PART NUMBER	TUBE OR HOSE I.D. 1&2	TUBE OR HOSE I.D. 3	O.D. 1&2	O.D. 3	L	N	D FLOW DIA.
P2TUB2	N2TUB2	1/8	1/8	.141	.141	1.203	0.594	.078
P3TUB3	N3TUB3	3/16	3/16	.245	.245	1.941	1.256	.106
P4TUB3 (+)	N4TUB3	1/4	3/16	.308	.245	2.004	1.256	.106
P4TUB4	N4TUB4	1/4	1/4	.308	.308	2.004	1.256	.153
P5TUB5	N5TUB5	5/16	5/16	.361	.361	2.058	1.256	.215
P6TUB3 (+)	N6TUB3 (+)	3/8	3/16	.425	.245	1.941	1.256	.106
P6TUB4	N6TUB4	3/8	1/4	.425	.308	2.121	1.256	.153
P6TUB6	N6TUB6	3/8	3/8	.425	.425	2.134	1.256	.247
P6TUB8	N6TUB8	3/8	1/2	.425	.550	2.121	1.256	.247
P8TUB4 (+)	N8TUB4 (+)	1/2	1/4	.550	.308	2.246	1.256	.153
P8TUB6	N8TUB6	1/2	3/8	.550	.425	2.248	1.256	.247
P8TUB8	N8TUB8	1/2	1/2	.550	.550	2.248	1.256	.372
P10TUB8	N10TUB8	5/8	1/2	.644	.550	2.340	1.256	.372
P10TUB10	N10TUB10	5/8	5/8	.644	.644	2.340	1.256	.465

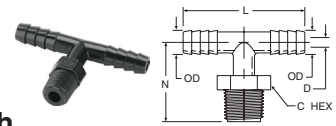
\*P2UCB2, P2TUB2, P12HPN6 are not FDA compliant.



### EUB - Elbow Union

BLACK HIGH DENSITY LINEAR POLYETHYLENE PART NUMBER	WHITE NYLON PART NUMBER	TUBE OR HOSE I.D.		O.D. 1	O.D. 2	M	N	D FLOW DIA.
		1	2					
P4EUB4	N4EUB4	1/4	1/4	.308	.308	1.002	1.256	.153
P6EUB6	N6EUB6	3/8	3/8	.425	.425	1.060	1.256	.247
P8EUB4	N8EUB4	1/2	1/4	.550	.308	1.002	1.256	.153
P8EUB6	N8EUB6	1/2	3/8	.550	.425	1.060	1.256	.247
P8EUB8	N8EUB8	1/2	1/2	.550	.550	1.123	1.256	.372
P10EUB10	N10EUB10	5/8	5/8	.644	.644	1.170	1.256	.465
P12EUB12	N12EUB12	3/4	3/4	.788	.788	1.242	1.256	.606

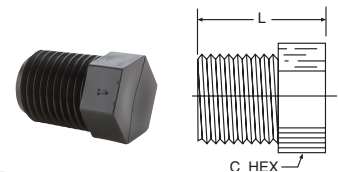
NOTE: PPL refers to Polypropylene. FCB refers to Fluorocarbon.



### MTB - Tee Male Branch

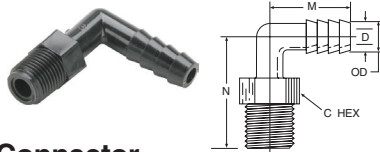
BLACK HIGH DENSITY LINEAR PEL PART NUMBER	WHITE NYLON PART NUMBER	TUBE OR HOSE I.D.	NPTF PIPE THD SIZE	O.D.	C HEX	L	N	D FLOW DIA.
P3MTB2	N3MTB2	3/16	1/8	.245	7/16	1.941	1.187	.106
P3MTB4	N3MTB4	3/16	1/4	.245	9/16	1.941	1.406	.106
P4MTB2	N4MTB2	1/4	1/8	.308	7/16	2.004	1.187	.153
P4MTB4	N4MTB4	1/4	1/4	.308	9/16	2.004	1.406	.153
P4MTB6	N4MTB6	1/4	3/8	.308	11/16	2.004	1.436	.153
P6MTB4	N6MTB4	3/8	1/4	.425	9/16	2.121	1.406	.247
P6MTB6	N6MTB6	3/8	3/8	.425	11/16	2.121	1.436	.247
P6MTB8	N6MTB8	3/8	1/2	.425	7/8	2.121	1.626	.247
P8MTB4	N8MTB4	1/2	1/4	.550	9/16	2.246	1.406	.281
P8MTB6	N8MTB6	1/2	3/8	.550	11/16	2.246	1.436	.372
P8MTB8	N8MTB8	1/2	1/2	.550	7/8	2.246	1.626	.372
P12MTB12	N12MTB12 (+)	3/4	3/4	.788	1-1/8	2.484	1.636	.606

\*PEL refers to Polyethylene

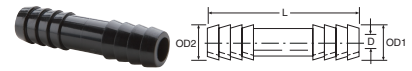


### HPL - Hex Head Pipe Plug

BLACK HIGH DENSITY LINEAR POLYETHYLENE PART NUMBER	WHITE NYLON PART NUMBER	NPTF PIPE THREAD SIZE	C HEX	L OVERALL LENGTH
P2HPL	N2HPL	1/8	7/16	0.660
P4HPL	N4HPL	1/4	9/16	0.880
P6HPL	N6HPL	3/8	11/16	0.905
P8HPL	N8HPL	1/2	7/8	1.092
P12HPL	N12HPL	3/4	1-1/8	1.115

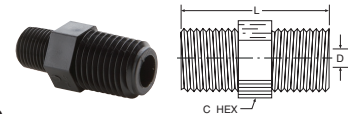
**MEB - Male Elbow Connector**

BLACK HIGH DENSITY LINEAR POLYETHYLENE PART NUMBER	WHITE NYLON PART NUMBER	TUBE OR HOSE I.D.	NPTF PIPE THD SIZE	O.D.	C HEX	M	N	D FLOW DIA.
P3MEB2	N3MEB2	3/16	1/8	.245	7/16	1.971	1.186	.106
P3MEB4	N3MEB4	3/16	1/4	.245	9/16	1.971	1.406	.106
P4MEB2	N4MEB2	1/4	1/8	.308	7/16	1.002	1.186	.153
P4MEB4	N4MEB4	1/4	1/4	.308	9/16	1.002	1.406	.153
P4MEB6	N4MEB6	1/4	3/8	.308	11/16	1.002	1.436	.153
P4MEB8	N4MEB8	1/4	1/2	.308	7/8	1.002	1.626	.153
P4MEB12	N4MEB12	1/4	3/4	.308	1-1/8	1.002	1.636	.153
P6MEB2	N6MEB2	3/8	1/8	.425	7/16	1.060	1.186	.247
P6MEB4	N6MEB4	3/8	1/4	.425	9/16	1.060	1.406	.247
P6MEB6	N6MEB6	3/8	3/8	.425	11/16	1.060	1.436	.247
P6MEB8	N6MEB8	3/8	1/2	.425	7/8	1.060	1.626	.247
P6MEB12	N6MEB12	3/8	3/4	.425	1-1/8	1.060	1.636	.247
P8MEB4	N8MEB4	1/2	1/4	.550	9/16	1.123	1.406	.372
P8MEB6	N8MEB6	1/2	3/8	.550	11/16	1.123	1.436	.372
P8MEB8	N8MEB8	1/2	1/2	.550	7/8	1.123	1.626	.372
P8MEB12	N8MEB12	1/2	3/4	.550	1-1/8	1.123	1.636	.372
P10MEB6	N10MEB6	5/8	3/8	.644	11/16	1.170	1.436	.465
P10MEB8	N10MEB8	5/8	1/2	.644	7/8	1.170	1.626	.465
P10MEB12	N10MEB12	5/8	3/4	.644	1-1/8	1.170	1.636	.465
P12MEB8	N12MEB8	3/4	1/2	.788	7/8	1.242	1.626	.606

**UCB - Union Connector**

BLACK HIGH DENSITY LINEAR POLYETHYLENE PART NUMBER	WHITE NYLON PART NUMBER	TUBE OR HOSE I.D. 1&2	TUBE OR HOSE I.D. 3	O.D. 1&2	O.D. 3	L	D FLOW DIA.
P2UCB2	N2UCB2	1/8	1/8	.152	.152	.625	.090
P3UCB3	N3UCB3	3/16	3/16	.245	.245	1.750	.106
P4UCB3	N4UCB3	1/4	3/16	.308	.245	1.750	.106
P4UCB4	N4UCB4	1/4	1/4	.308	.308	1.750	.153
P5UCB5	N5UCB5	5/16	5/16	.361	.361	1.750	.215
P6UCB4	N6UCB4	3/8	1/4	.425	.308	1.750	.153
P6UCB6	N6UCB6	3/8	3/8	.425	.425	1.733	.247
P8UCB4	N8UCB4	1/2	1/4	.550	.308	1.750	.153
P8UCB6	N8UCB6	1/2	3/8	.550	.425	1.750	.247
P8UCB8	N8UCB8	1/2	1/2	.550	.550	1.750	.372
P10UCB6	N10UCB6	5/8	3/8	.644	.425	1.750	.247
P10UCB8	N10UCB8	5/8	1/2	.644	.550	1.750	.372
P10UCB10	N10UCB10	5/8	5/8	.644	.644	1.750	.465

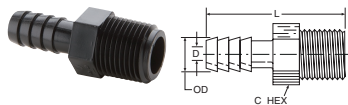
\*P2UCB2, P2TUB2, P12HPN6 are not FDA compliant.

**HPN - Hex Pipe Nipple**

BLACK HIGH DENSITY LINEAR POLYETHYLENE PART NUMBER	WHITE NYLON PART NUMBER	SIDE 1	SIDE 2	C HEX	L	D1 DIA.	D2 DIA.
P2HPN2	N2HPN2	1/8	1/8	7/16	1.062	.187	.187
P4HPN2	N4HPN2	1/4	1/8	9/16	1.281	.286	.187
P4HPN4	N4HPN4	1/4	1/4	9/16	1.469	.285	.285
P6HPN2	N6HPN2	3/8	1/8	11/16	1.332	.406	.187
P6HPN4	N6HPN4	3/8	1/4	11/16	1.488	.406	.285
P6HPN6	N6HPN6	3/8	3/8	11/16	1.500	.406	.406
P8HPN2	N8HPN2	1/2	1/8	7/8	1.485	.618	.187
P8HPN4	N8HPN4	1/2	1/4	7/8	1.687	.618	.285
P8HPN6	N8HPN6	1/2	3/8	7/8	1.687	.618	.406
P8HPN8	N8HPN8	1/2	1/2	7/8	1.875	.618	.618
P12HPN6	N12HPN6	3/4	3/8	1-1/8	1.703	.750	.408
P12HPN8	N12HPN8	3/4	1/2	1-1/8	1.891	.750	.618
P10HPN12	N10HPN12	3/4	3/4	1-1/8	1.932	.750	.750

\*P2UCB2, P2TUB2, P12HPN6 are not FDA compliant.

NOTE: PPL refers to Polypropylene. FCB refers to Fluorocarbon.



## MCB - Male Connector Adapter

BLACK HIGH DENSITY LINEAR POLYETHYLENE PART NUMBER	WHITE NYLON PART NUMBER	TUBE OR HOSE I.D.	NPTF PIPE THD SIZE	O.D.	C HEX	L	D FLOW DIA.
P3MCB2	N3MCB2	3/16	1/8	.245	7/16	1.530	.106
P3MCB4	N3MCB4	3/16	1/4	.245	9/16	1.750	.106
P3MCB8	N3MCB8	3/16	1/2	.245	7/8	1.970	.106
P4MCB2	N4MCB2	1/4	1/8	.308	7/16	1.530	.153
P4MCB4	N4MCB4	1/4	1/4	.308	9/16	1.750	.153
P4MCB6	N4MCB6	1/4	3/8	.308	11/16	1.780	.153
P4MCB8	N4MCB8	1/4	1/2	.308	7/8	1.970	.153
P4MCB12	N4MCB12	1/4	3/4	.308	1-1/8	1.980	.153
P5MCB2	N5MCB2	5/16	1/8	.361	7/16	1.530	.215
P5MCB4	N5MCB4	5/16	1/4	.361	9/16	1.750	.215
P5MCB6	N5MCB6	5/16	3/8	.361	11/16	1.780	.215
P6MCB2	N6MCB2	3/8	1/8	.425	7/16	1.530	.187
P6MCB4	N6MCB4	3/8	1/4	.425	9/16	1.750	.247
P6MCB6	N6MCB6	3/8	3/8	.425	11/16	1.780	.247
P6MCB8	N6MCB8	3/8	1/2	.425	7/8	1.970	.247
P6MCB12	N6MCB12	3/8	3/4	.425	1-1/8	1.980	.247
P8MCB4	N8MCB4	1/2	1/4	.550	9/16	1.750	.372
P8MCB6	N8MCB6	1/2	3/8	.550	11/16	1.780	.372
P8MCB8	N8MCB8	1/2	1/2	.550	7/8	1.970	.372
P8MCB12	N8MCB12	1/2	3/4	.550	1-1/8	1.980	.372
P10MCB6	N10MCB6	5/8	3/8	.644	11/16	1.780	.465
P10MCB8	N10MCB8	5/8	1/2	.644	7/8	1.970	.465
P10MCB12	N10MCB12	5/8	3/4	.644	1-1/8	1.980	.465
P12MCB8	N12MCB8	3/4	1/2	.788	7/8	1.970	.606
P12MCB12	N12MCB12	3/4	3/4	.788	1-1/8	1.980	.606

NOTE: PPL refers to Polypropylene. FCB refers to Fluorocarbon.





# Flare Fittings



## **SAE 45° Flare**

*Resists Mechanical Pull-out  
Meets SAE Functional  
Requirements  
Resists Vibration  
UL Listed*



## **Inverted Flare**

*Steel Nut option  
Economical  
UL Listed*



## **Access Valves**

*Finger Tight Quick Seal Cap  
Machined to ARI Standards  
Teflon Seal on Valve core*



E

Flare to Male NPT	48F Male Connector  Page E7	48IFHD Male Connector  Page E12	AVU1 Male Connector  Page E15	149F/249F Male Elbow  Page E8	249IFHD/249IF Male Elbow  Page E13	AVE1 Male Elbow  Page E15
	145F Branch Tee  Page E8	245IFHD Branch Tee  Page E13	151F Run Tee  Page E9	251IFHD Run Tee  Page E13	AVT3 Run Tee  Page E15	159H/259F 45° Male Elbow  Page E9
256F Adapter Tee  Page E10	Flare to Flare	42F Union  Page E6	42IFHD Union  Page E12	AVU2 Union  Page E15	144F Union Tee  Page E8	244IFHD Union Tee  Page E12
AVT2 Union Tee  Page E15		155F Union Elbow  Page E9	255IFHD Union Elbow  Page E13	660FHD Flare Union  Page E10	147F Cross  Page E8	AVC1 Cross  Page E15
Flare to Female NPT	46F Female Connector  Page E7	46IFHD Female Connector  Page E12	AVUR3 Female Connector  Page E16	150F Female Elbow  Page E9	250IFHD Female Elbow  Page E13	252IFHD Branch Tee  Page E13
	Flare to Metric Straight Thread	48F-MI Male Connector  Page E7	149F-MI Male Elbow  Page E9	159F-MI 45° Male Elbow  Page E10	Flare to Straight Thread	AVU1F1 Male Connector  Page E15
1495F Male Elbow  Page E9		1595F 45° Male Elbow  Page E10	Swivels	14FSV Swivel Nut Connector  Page E5		US5 Flare Adapter  Page E5
AVUS4D Swivel Connector  Page E16	AVTS4 Swivel Run Tee  Page E16	AVTS6 Swivel Branch Tee  Page E16				

<b>Adapters</b>	<b>1F</b> Refrigerant Drum  Page E5	<b>66IFHD</b> Reducer  Page E10	<b>664FHD</b> Female Flare to Pipe  Page E10	<b>88AC</b> Refrigerant Adapter  Page E16	<b>880AC</b> Refrigerant Adapter  Page E16	<b>881AC</b> Refrigerant Adapter  Page E16
	<b>AVU2BH</b> Bulkhead Union  Page E15	<b>AVUS3BH</b> Solder Union  Page E15	<b>Flare to Solder</b>	<b>43F</b> Connector  Page E6	<b>AVUSE</b> Extended Copper Tube  Page E15	<b>AVTS</b> Solder tee  Page E15
<b>AVTSL</b> Extended Solder Tee  Page E15	<b>AVUS3-40</b> 3 Way Solder  Page E16	<b>AVUS3-49</b> 9 Way Solder  Page E16				
<b>Auxiliary</b>	<b>14FL</b> Long Forged Nut  Page E5	<b>14FSX</b> Short Forged Nut  Page E5	<b>14FS</b> Forged Reducing Nut  Page E5	<b>41FL</b> Long Nut  Page E6	<b>41FS/41FX</b> Shorter Nut  Page E6	<b>41IF</b> Inverted Flare Nut  Page E12
	<b>41IFS</b> Inverted Flare Nut Steel  Page E12	<b>41IFF</b> Inverted Flare Piloted Nut  Page E12	<b>639F</b> Seal Plug  Page E10	<b>640F</b> CAP NUT  Page E10	<b>640QSFC</b> Seal Cap with Chain  Page E16	<b>640QSFCR</b> Seal Cap with Core Remover  Page E16
<b>3GF</b> Seal Bonnet  Page E5	<b>CR</b> Core Remover  Page E16	<b>VC</b> Valve Core  Page E16				





# 45° Flare Fittings

E

MATERIALS OF CONSTRUCTION	
BODIES:	BRASS
NUTS:	BRASS
O-RINGS:	VITON

NOMENCLATURE	
EXAMPLE: 149F-6-4	ATTRIBUTE:
1 (2)	FORGING (1) EXTRUSION (2)
49	FLARE TO EXTERNAL PIPE, 90° ELBOW
F	FLARE FITTING
6	3/8 TUBE O.D.
4	1/4 PIPE THREAD

APPLICABLE TUBE	
TUBE MATERIAL:	COPPER, BRASS, ALUMINUM, WELDED STEEL HYDRAULIC TUBING THAT CAN BE FLARED.
TUBE O.D.:	1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 7/8

PRESSURE RANGE		
PSI	TUBE O.D. (IN.)	TUBE WALL (IN.)
2800	1/8	.030
1900	3/16	.030
1400	1/4	.030
1200	5/16	.032
1000	3/8	.032
750	1/2	.032
650	5/8	.035
550	3/4	.035

SPECIFICATIONS	
TEMPERATURE RANGE	FROM -65° TO +250°F
OPERATING FLUID:	WATER, AIR, INERT AND NON-COMBUSTIBLE GASSES, FLAMMABLE LIQUID, FREON,
NOTE:	FOR OTHER TYPES OF FLUID OR GASSES, PLEASE CONSULT FACTORY



Economical fitting that resists mechanical pullout. Can be assembled and disassembled repeatedly. Listed with Underwriter's Laboratories for flammable liquid, marine, refrigeration and gas applications. Meets functional requirements of SAE J512 and J513.

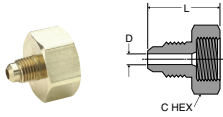
## Assembly Instructions

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.

Flare fittings are easy to disassemble and may be reassembled repeatedly, for a leak-proof connection.

**Refrigerant Drum Adapter 1F**

Ref. SAE 010165



PART NO.	TUBE O.D.	PIPE THREAD	C HEX	L	FLOW DIA. D
1F-4-8	1/4	1/2	1-1/8	1.12	.189
1F-4-12*	1/4	3/4	1-1/4	1.12	.189
1F-6-12*	3/8	3/4	1-1/4	1.24	.282
1F-8-12*	1/2	3/4	1-1/4	1.37	.407

Gasket Furnished with each 1F adapter

**Copper Flare Gasket 2GF**

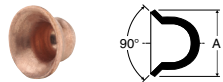
Ref. SAE 010113



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**

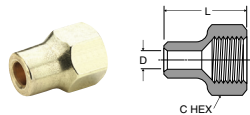
Ref. SAE 010114



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 Forged Nut 14FL**

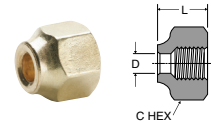
Ref. SAE 010167



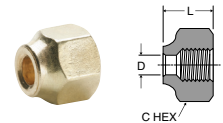
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	D	L
14FL-4	1/4	7/16-20	5/8	.257	.94
14FL-6	3/8	5/8-18	13/16	.382	1.06
14FL-8	1/2	3/4-16	15/16	.507	1.19
14FL-10	5/8	7/8-14	1-1/16	.632	1.44

**Short Forged Nut 14FSX**

Ref. SAE 010166



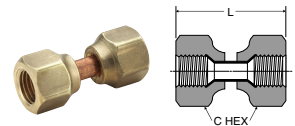
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	D	L
14FSX-4	1/4	7/16-20	5/8	.257	.63
14FSX-5	5/16	1/2-20	11/16	.320	.67
14FSX-6	3/8	5/8-18	13/16	.382	.74
14FSX-8	1/2	3/4-16	15/16	.507	.86
14FSX-10	5/8	7/8-14	1-1/16	.632	.97
14FSX-12	3/4	1-1/16-14	1-5/16	.757	1.17

**Short Forged Reducing Nuts 14FS**

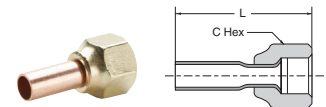
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	D	L
14FS-6-4	3/8 TO 1/4	5/8-18	13/16	.257	.74
14FS-8-6	1/2 TO 3/8	3/4-16	15/16	.382	.86
14FS-10-8	5/8 TO 1/2	7/8-14	1-1/16	.507	.99

**Swivel Nut Valve Connector 14FSV**

Ref. SAE 010108



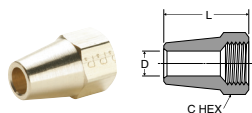
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	L MIN.
14FSV-4	1/4	7/16-20	5/8	1.31
14FSV-6	3/8	5/8-18	13/16	1.50
14FSV-8	1/2	3/4-16	15/16	1.75
14FSV-10	5/8	7/8-14	1-1/16	2.00

**Flare Adapter US5**

PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	L
US5-4	1/4	7/16-20	5/8	1.50
US5-6	3/8	5/8-18	13/16	1.58
US5-8	1/2	3/4-16	15/16	1.80
US5-10	5/8	7/8-14	1-1/16	2.18

**Long Nut 41FL**

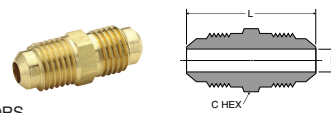
REF. SAE 010111



PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	D	L 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

**Union 42F**

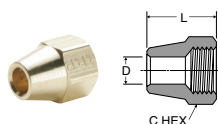
REF. SAE 010101 \*THREAD PROTECTORS



PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	L	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

**Short Nut 41FS / Shorter Nut 41FX**

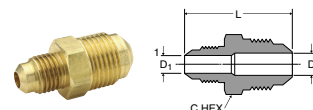
REF. SAE 010110



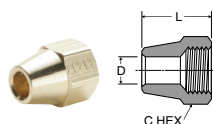
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	D	L L
41FS-2	1/8	5/16-24	3/8	.132	.50
41FS-3	3/16	3/8-24	7/16	.195	.62
41FS-4	1/4	7/16-20	9/16	.257	.75
41FS-5	5/16	1/2-20	5/8	.320	.88
41FS-6	3/8	5/8-18	3/4	.382	1.00
41FX-6	3/8	5/8-18	3/4	.382	.91
41FS-8	1/2	3/4-16	7/8	.507	1.12
41FX-8	1/2	3/4-16	7/8	.507	1.00
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 Reducers 42F**

REF. SAE 010101



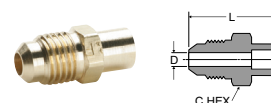
PART NO.	1 TUBE SIZE	2 TUBE SIZE	1 STRAIGHT THREAD	2 STRAIGHT THREAD	C HEX	L	FLOW DIA. D1	FLOW DIA. D2
42F-6-4	1/4	3/8	7/16-20	5/8-18	5/8	1.36	.189	.282
42F-6-5	5/16	3/8	1/2-20	5/8-18	5/8	1.42	.220	.282
42F-8-4	1/4	1/2	7/16-20	3/4-16	3/4	1.54	.189	.407
42F-8-6	3/8	1/2	5/8-18	3/4-16	3/4	1.67	.282	.407
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

**Reducing Nuts 41FS**

PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	D	L
41FS-6-4	3/8 TO 1/4	5/8-18	3/4	.257	1.00
41FS-8-6	1/2 TO 3/8	3/4-16	7/8	.382	1.09
41FS-10-8	5/8 TO 1/2	7/8-14	1-1/16	.507	1.25

**Flare to Solder 43F**

REF. SAE 010104



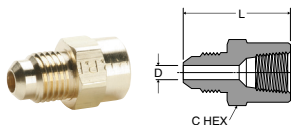
PART NO.	TUBE SIZE	SOLDER OD	STRAIGHT THREAD	C HEX	L	FLOW DIA. D
43F-4-4	1/4	1/4	7/16-20	7/16	.98	.189
43F-4-5	1/4	5/16	7/16-20	7/16	.98	.189
43F-4-6	1/4	3/8	7/16-20	1/2	.98	.189
43F-6-4	3/8	1/4	5/8-18	5/8	1.17	.189
43F-6-5	3/8	5/16	5/8-18	5/8	1.17	.252
43F-6-6	3/8	3/8	5/8-18	5/8	1.17	.282
43F-6-8	3/8	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-10-14*	5/8	7/8	7/8-14	1	1.98	.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



## Female Connector 46F

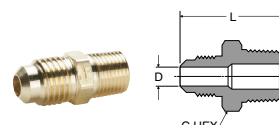
REF. SAE 010103



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

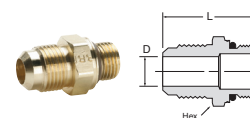
## Male Connector 48F

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 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

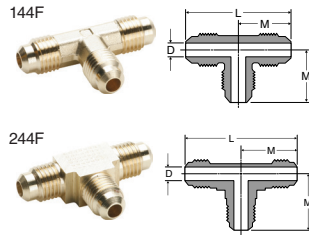
Note: Fluorocarbon o-ring is standard

## Flare to SAE Straight Thread 485F



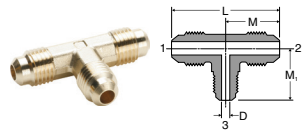
PART NO.	TUBE SIZE	STRAIGHT THREAD	STRAIGHT THREAD TUBE	HEX	L	FLOW DIA. D
485F-12-8*	3/4	3/4-16	1 1/16-14	1 1/16	1.80	.397
485F-12-12*	3/4	1 1/16-12	1 1/16-14	1 1/4	2.03	.615

\*Comes standard with thread protectors

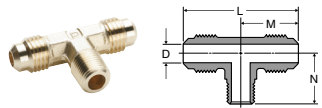
**Union Tee 144F-244F**

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
244F-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

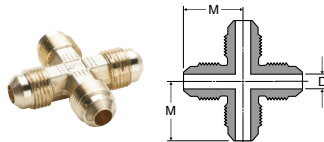
**Union Tee 144F-244F combination sizes**

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**

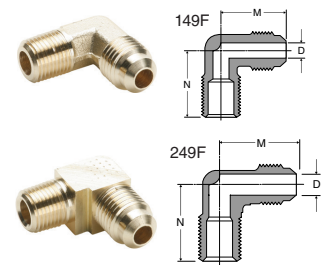
REF. SAE 010425

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

**Cross 147F**

REF. SAE 010501

PART NO.	TUBE SIZE	STRAIGHT THREAD	M	FLOW DIA. D
147F-6	3/8	5/8-18	1.04	.282

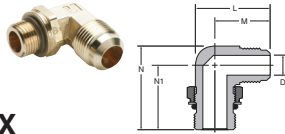
**Male Elbow 149F-249F**

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	.75	.75	.125
249F-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
249F-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
249F-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
249F-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
249F-5-2	5/16	1/8	1/2-20	.89	.77	.220
149F-5-4	5/16	1/4	1/2-20	.95	.95	.220
249F-5-4	5/16	1/4	1/2-20	.95	.92	.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
249F-6-2	3/8	1/8	5/8-18	1.01	.89	.220
149F-6-4	3/8	1/4	5/8-18	1.01	1.05	.282
249F-6-4	3/8	1/4	5/8-18	.98	1.04	.282
149F-6-6	3/8	3/8	5/8-18	1.04	1.07	.282
249F-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
249F-6-8	3/8	1/2	5/8-18	1.14	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
249F-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
249F-8-8	1/2	1/2	3/4-16	1.26	1.36	.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
249F-10-8	5/8	1/2	7/8-14	1.39	1.36	.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
149F-14-12*	7/8	3/4	1-1/4-12	1.73	1.67	.751

\*Comes standard with thread protectors

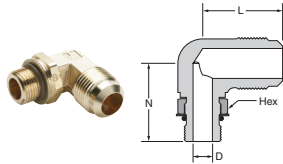
### Flare Elbow to SAE Metric Straight Thread 149F-X-MIX



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

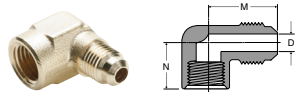


PART NO.	TUBE SIZE	STRAIGHT THREAD	STRAIGHT THREAD TUBE	HEX	L	N	FLOW DIA. D
1495F-12-8*	3/4	3/4-16	1 1/16-14	7/8	1.60	1.60	.398
1495F-12-12*	3/4	1-1/16-12	1 1/16-14	1 1/4	1.59	2.12	.616

Note: Fluorocarbon o-ring is standard

### Female Elbow 150F

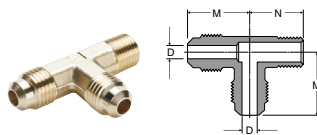
REF. SAE 010203



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

### Male Run Tee 151F

REF. SAE 010424

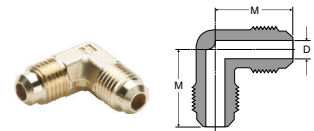


PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	M	N	FLOW DIA. D
151F-4-2	1/4	1/8	7/16-20	.86	.76	.189
151F-4-4	1/4	1/4	7/16-20	.89	.92	.189
151F-5-4	5/16	1/4	1/2-20	.95	.92	.220
151F-6-4	3/8	1/4	5/8-18	1.04	1.04	.282
151F-6-6	3/8	3/8	5/8-18	1.00	.98	.282
151F-6-8	3/8	1/2	5/8-18	1.16	1.26	.282
151F-8-6	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

\*Comes standard with thread protectors

### Union Elbow 155F

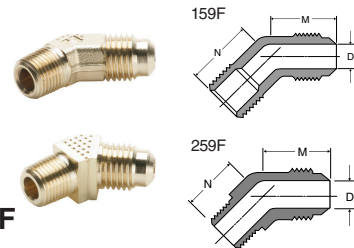
REF. SAE 010201



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

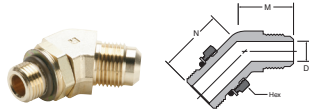
### 45° Elbow 159F-259F

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	.78	.56	.189
259F-4-2	1/4	1/8	7/16-20	.65	.62	.189
159F-4-4	1/4	1/4	7/16-20	.75	.84	.189
259F-4-4	1/4	1/4	7/16-20	.73	.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
259F-6-4	3/8	1/4	5/8-18	.91	.86	.282
159F-6-6	3/8	3/8	5/8-18	.91	.93	.282
259F-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	1.06	.95	.407
259F-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
259F-10-6	5/8	3/8	7/8-14	1.20	1.15	.501
159F-10-8	5/8	1/2	7/8-14	1.21	1.16	.501
259F-10-8	5/8	1/2	7/8-14	1.21	.98	.501
159F-12-8*	3/4	1/2	1-1/16-14	1.28	1.16	.560

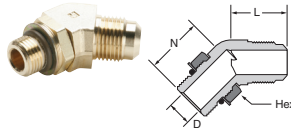
### 45° Flare Elbow to SAE Metric Straight Thread 159F-X-MIX



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

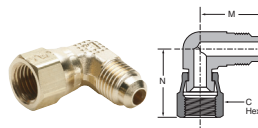
### 45° Flare to SAE Straight Thread 1595F



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

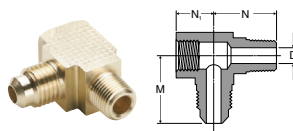
Note: Fluorocarbon o-ring is standard

### 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

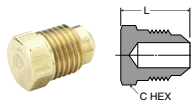
### Adapter Tee 256F



PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	M	N	N1	FLOW DIA. D
256F-4-2	1/4	1/8	7/16-20	.86	.77	.47	.220

### Flared Seal Plug 639F

REF. SAE 010109

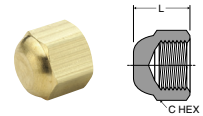


PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	L
639F-4	1/4	7/16-20	7/16	.69
639F-5	5/16	1/2-20	1/2	.78
639F-6	3/8	5/8-18	5/8	.88
639F-8	1/2	3/4-16	3/4	1.06
639F-10	5/8	7/8-14	7/8	1.19

\*Comes standard with thread protectors  
+Should be used with 2GF flare gasket

### Cap Nut 640F

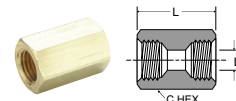
REF. SAE 010112



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

### Flared Union-Female Flare to Female Flare 660FHD

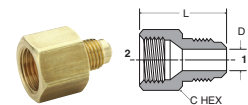
REF. SAE 010107



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

### Reducer-Male Flare to Female Flare 661FHD

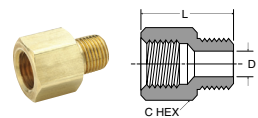
REF. SAE 010105



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

### 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



# Inverted Flared Fittings

MATERIALS OF CONSTRUCTION	
FITTINGS:	BRASS
NUTS:	BRASS AND ZINC CHROMATE STEEL

NOMENCLATURE	
EXAMPLE: 48IFHD-4-2	ATTRIBUTE:
48	HALF UNION
IF	INVERTED FLARE
HD	HEAVY DUTY
6	3/8 TUBE O.D.
4	1/4 PIPE THREAD

APPLICABLE TUBE	
TUBE MATERIAL:	COPPER, BRASS, ALUMINUM, WELDED STEEL HYDRAULIC TUBING THAT CAN BE FLARED.
TUBE O.D.:	1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4

PRESSURE RANGE		
PSI	TUBE O.D. (IN.)	TUBE WALL (IN.)
2800	1/8	.030
1900	3/16	.030
1400	1/4	.030
1200	5/16	.032
1000	3/8	.032
750	1/2	.032
650	5/8	.035
550	3/4	.035

SPECIFICATIONS	
TEMPERATURE RANGE	FROM -65° TO +250°F
OPERATING FLUID:	WATER, AIR, INERT AND NON-COMBUSTIBLE GASSES COMPATIBLE WITH MATERIALS OF CONSTRUCTION
NOTE:	FOR OTHER TYPES OF FLUIDS OR GASSES, PLEASE CONSULT FACTORY



Built to resist mechanical pullout this fitting can be assembled and disassembled repeatedly. Listed with Underwriter's Laboratories for flammable liquid and gas. Meets functional requirements of SAE J512.

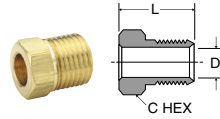
## Assembly Instructions

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. On thin wall copper, welded or brazed tubing, use double flare to prevent pinch-off or cracked flares.
4. Clamp tube flare between nut and flare seat of body by screwing nut on finger-tight. Tighten with a wrench an additional 1/4 turn for a metal-to-metal seal.

Note: The seat dimensions are predicated on practical threading limitations and use of these fittings with double flared tubing.

**Nut 411F**

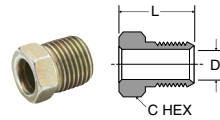
REF. SAE 040110



PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	L	D
411F-2	1/8	5/16-28	5/16	.52	.133
411F-3	3/16	3/8-24	3/8	.56	.196
411F-4	1/4	7/16-24	7/16	.56	.259
411F-5	5/16	1/2-20	1/2	.62	.321
411F-6	3/8	5/8-18	5/8	.66	.384
411F-8	1/2	3/4-18	3/4	.74	.508

**Steel Nut-Zinc Chromate 411FS**

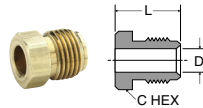
REF. SAE 040110



PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	L	D
411FS-3	3/16	3/8-24	3/8	.56	.196
411FS-4	1/4	7/16-24	7/16	.56	.259
411FS-5	5/16	1/2-20	1/2	.62	.321
411FS-6	3/8	5/8-18	5/8	.66	.384
411FS-8	1/2	3/4-18	3/4	.74	.508
411FS-10	5/8	7/8-18	7/8	.80	.633
411FS-12	3/4	1-1/16-16	1-1/16	.88	.759

**Piloted Nut 411FF for Single Flared Tubing**

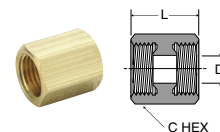
REF. SAE 040110



PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	L	D
411FF-2	1/8	5/16-28	5/16	.52	.133
411FF-3	3/16	3/8-24	3/8	.56	.196
411FF-4	1/4	7/16-24	7/16	.56	.259
411FF-5	5/16	1/2-20	1/2	.62	.321
411FF-6	3/8	5/8-18	5/8	.66	.384
411FF-8	1/2	3/4-18	3/4	.74	.508

**Union 421FHD**

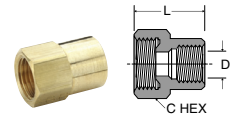
REF. SAE 040101



PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	L	D D
421FHD-2	1/8	5/16-28	13/32	.60	.078
421FHD-3	3/16	3/8-24	15/32	.63	.125
421FHD-4	1/4	7/16-24	17/32	.63	.189
421FHD-5	5/16	1/2-20	19/32	.71	.220
421FHD-6	3/8	5/8-18	3/4	.81	.282
421FHD-8	1/2	3/4-18	29/32	.92	.407

**Female Connector 461FHD**

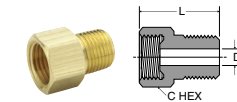
REF. SAE 040103



PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	C HEX	L	FLOW DIA. D
461FHD-3-2	3/16	1/8	3/8-24	1/2	.76	.125
461FHD-4-2	1/4	1/8	7/16-24	17/32	.78	.189
461FHD-5-2	5/16	1/8	1/2-20	19/32	.79	.220
461FHD-6-4	3/8	1/4	5/8-18	3/4	1.04	.282
461FHD-8-6	1/2	3/8	3/4-18	29/32	1.10	.407

**Male Connector 481FHD**

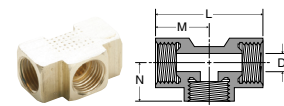
REF. SAE 040102



PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	C HEX	L	FLOW DIA. D
481FHD-2-2	1/8	1/8	5/16-28	13/32	.63	.078
481FHD-3-2	3/16	1/8	3/8-24	15/32	.70	.125
481FHD-4-2	1/4	1/8	7/16-24	17/32	.74	.189
481FHD-4-4	1/4	1/4	7/16-24	9/16	.89	.189
481FHD-5-2	5/16	1/8	1/2-20	19/32	.79	.220
481FHD-5-4	5/16	1/4	1/2-20	19/32	.98	.220
481FHD-6-2	3/8	1/8	5/8-18	3/4	.89	.220
481FHD-6-4	3/8	1/4	5/8-18	3/4	1.03	.282
481FHD-6-6	3/8	3/8	5/8-18	3/4	1.03	.282
481FHD-8-4	1/2	1/4	3/4-18	29/32	1.07	.346
481FHD-8-6	1/2	3/8	3/4-18	29/32	1.07	.407
481FHD-8-8	1/2	1/2	3/4-18	29/32	1.26	.407
481FHD-10-8	5/8	1/2	7/8-18	1-1/16	1.32	.533
481FHD-12-12	3/4	3/4	1-1/16-16	1 1/4	1.38	.626

**Union Tee 2441FHD**

REF. SAE 040401



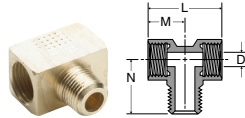
PART NO.	TUBE SIZE	STRAIGHT THREAD	L	M	N	FLOW DIA. D
2441FHD-3	3/16	3/8-24	1.10	.55	.39	.125
2441FHD-4	1/4	7/16-24	1.13	.56	.42	.189
2441FHD-5	5/16	1/2-20	1.26	.63	.45	.220
2441FHD-6	3/8	5/8-18	1.48	.74	.56	.282
2441FHD-8*	1/2	3/4-18	1.76	.88	.67	.407

\*Does not meet UL or SAE.



**Male Branch Tee 245IFHD**

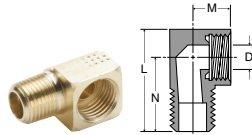
REF. SAE 040425



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

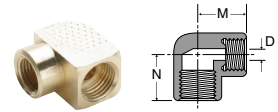


PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	L	M	N	FLOW DIA. D
249IFHD-2-2	1/8	1/8	5/16-28	.79	.25	.58	.078
249IFHD-3-2	3/16	1/8	3/8-24	.85	.27	.61	.125
249IFHD-4-2	1/4	1/8	7/16-24	.92	.33	.65	.189
249IFHD-4-4	1/4	1/4	7/16-24	1.10	.28	.82	.189
249IFHD-5-2	5/16	1/8	1/2-20	.98	.47	.68	.220
249IFHD-5-4	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-8-6	1/2	3/8	3/4-18	1.48	.59	1.02	.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	.533
249IFHD-10-8	5/8	1/2	7/8-18	1.82	.67	1.29	.533

†Light Duty Series

**Female Elbow 250IFHD**

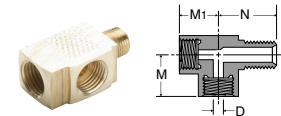
REF. SAE 040203



PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	M	N	FLOW DIA. D
250IFHD-3-2	3/16	1/8	3/8-24	.50	.49	.125
250IFHD-4-2	1/4	1/8	7/16-24	.53	.53	.189
250IFHD-5-2	5/16	1/8	1/2-20	.59	.59	.220
250IFHD-6-4	3/8	1/4	5/8-18	.67	.68	.282

**Male Run Tee 251IFHD**

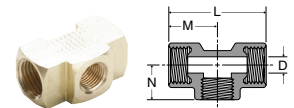
REF. SAE 040424



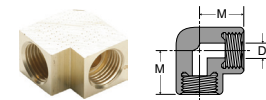
PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	M	M1	N	FLOW DIA. D
251IFHD-3-2	3/16	1/8	3/8-24	.39	.53	.72	.125
251IFHD-5-2	5/16	1/8	1/2-20	.45	.62	.85	.220
251IFHD-6-4	3/8	1/4	5/8-18	.56	.75	1.08	.282

**Female Branch Tee 252IFHD**

REF. SAE 040427



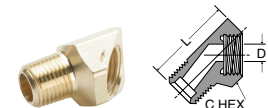
PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	L	M	N	FLOW DIA. D
252IFHD-5-2	5/16	1/8	1/2-20	1.26	.63	.45	.220
252IFHD-6-4	3/8	1/4	5/8-18	1.48	.74	.56	.282

**Union Elbow 255IFHD**

PART NO.	TUBE SIZE	STRAIGHT THREAD	M	FLOW DIA. D
255IFHD-4	1/4	7/16-24	.55	.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



# Access Valves

E

MATERIALS OF CONSTRUCTION	
STRAIGHT BODIES:	CA360, CA345
SHAPE BODIES:	CA377

NOMENCLATURE	
EXAMPLE: XAVT1-2	ATTRIBUTE:
X	PACKAGED
AV	ACCESS VALVE
T1	MALE BRANCH TEE
-2	1/8 PIPE THREAD

SPECIFICATIONS	
PRESSURE RANGE:	UP TO 500 PSI
TEMPERATURE RANGES:	-20° TO +220°F
OPERATING FLUID:	FLOROCARBON REFRIGERANTS
VALVE CORE:	MEETS ARI STANDARD 720



Designed to offer convenient low cost access ports for refrigeration service. All fittings feature 1/4" SAE male flare access ports and are furnished with a finger tight quick seal cap. Access valves with pipe connections have internal ODS solder cups.

Access Valves may be installed in any position on either high or low side for quick testing, pressure checking, purging or charging.

### Extended Copper Tube AVUSE



PART NO.	CONNECTION SIZE
AVUSE-2	1/8" O.D. TUBE
AVUSE-3	3/16" O.D. TUBE
AVUSE-4	1/4" O.D. TUBE
AVUSE-5	5/16" O.D. TUBE
AVUSE-6	3/8" O.D. TUBE
AVUSE-8	1/2" O.D. TUBE
AVUSE-9	1/8" O.D. TUBE; ADDITIONAL STEPS ON BODY FOR 3/16" 1/4", 5/16", 3/8" O.D. TUBE. 3/16", 1/4" OR 5/16" SOLDER FITTING/SWAGED TUBE.
AVUSE-11	3/16" O.D. TUBE; ADDITIONAL STEPS ON BODY FOR 1/4" OR 3/8" SOLDER FITTINGS/SWAGED TUBES 5/16" O.D. TUBE.

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

### Solder Tee AVTS



PART NO.	CONNECTION SIZE
AVTS-4	1/4" O.D. TUBE OR 3/8" SOLDER FITTING/SWAGED TUBE
AVTS-5	5/16" 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 OR 5/8" SOLDER FITTING/SWAGED TUBE

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

### Extended Solder Tee AVTSL



PART NO.	CONNECTION SIZE
AVTSL-6	3/8" O.D. TUBE/SOLDER 5/16", 3/8" & 7/16" TUBE

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

### Bulkhead Union AVU2BH



PART NO.	CONNECTION SIZE
AVU2BH-4	1/4" BULKHEAD ACCESS X 1/4" SAE WITH FORGED NUT

### 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.

### Forged Union Tee AVT2



PART NO.	CONNECTION SIZE
AVT2-4	1/4" ACCESS ALL ENDS WITH 2 FORGED FLARE NUTS AND ONE CORE AND CAP

### 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.

### Access Valve Assembly AVUIFI



PART NO.	CONNECTION SIZE
AVUIFI-4	7/16-20 SAE STRAIGHT THREAD O-RING PORT

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

Note: Standard o-ring is neoprene. Consult Brass Products Division for optional o-rings

### 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.

### 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

### 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

### Swivel Cross AVCS4D-4



PART NO.	CONNECTION SIZE
AVCS4D-4	1/4" FORGED FEMALE FLARE SWIVEL WITH DEPRESSOR X 1/4" ACCESS ON ALL FLARE ENDS WITH ONE CORE AND CAP



### Female Connector AVUR3

PART NO.	CONNECTION SIZE
AVUR3-4	1/4" FEMALE FLARE WITH COPPER GASKET



### 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.



### 9 Way Solder Connector AVUS3

PART NO.	CONNECTION SIZE
AVUS3-49	FOR 3/16", 1/4", 5/16", 3/8" OR 1/2" O.D. TUBE. ALSO FITS 3/16", 1/4" AND 5/16" SOLDER FITTING/SWAGED TUBE OR 1/8" HOLE MAY BE PUNCHED IN LARGER SIZE TUBE

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-45	5/16" O.D. TUBE OR 1/2" 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.



### 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

### 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



### 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



### Quick Seal Cap with Core Remover 640QSFCR

PART NO.	CONNECTION SIZE
640QSFCR-4	1/4" SAE SEAL CAP CORE REMOVER WITH INTERNAL SEAL GASKET



### Core Remover CR

PART NO.	CONNECTION SIZE
CR-001	STANDARD CORE REMOVER



### Valve Cores VC

PART NO.	CONNECTION SIZE
VC-001	REPLACEMENT VALVE CORES FOR ALL 1/4" ACCESS VALVES



### Refrigerant adapter 88AC

PART NO.	CONNECTION SIZE
88AC-8-2	1/8" MALE PIPE TO SAE J2197 ACME THREADED MALE CONNECTOR



### 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





# Adapters



## Pipe Fittings

*Forgings & Extrusions  
Dryseal Threads  
SAE Standards*



## Metric Adapters

*Forgings & Extrusions  
Economical  
Reusable*



## ISO Port Adapters

*Meets SAE 2244-3 Requirements  
Meets ISO 6149-3 Requirements  
Viton O-rings Standard*



## Garden Hose Fittings
















*Heavy Duty Construction  
Use with Hose Clamp  
Coupler option*



F

Industrial Pipe Fittings	<b>207ACBH</b> Anchor Coupling	<b>207P</b> Pipe Coupling	<b>208P</b> Reducer Coupling	<b>209P</b> Pipe Bushing	<b>210P</b> Lock Nut	<b>211P</b> Square-head Plug	
							
	Page F5	Page F5	Page F5	Page F5	Page F5	Page F5	
	<b>212P</b> Union	<b>213P</b> Cap	<b>215PN</b> Close Nipple	<b>215PNL</b> Long Nipple	<b>216P</b> Hex Nipple	<b>218P</b> Hex-Head Plug	<b>219P</b> Countersunk Plug
							
	Page F5	Page F6	Page F6	Page F6	Page F6	Page F6	Page F6
<b>220P</b> Slotted-Head Plug	<b>222P</b> Adapter	<b>1200P-2200P</b> Union Elbow	<b>1202P-2202P</b> Street Elbow	<b>1203P-2203P</b> Union Tee	<b>1204P</b> Male Elbow	<b>2224P</b> Male Branch Tee	
							
Page F7	Page F7	Page F7	Page F7	Page F7	Page F7	Page F8	
<b>2225P</b> Street Tee	<b>2200PDE</b> Drop-Ear Elbow	<b>2201P</b> 45° Female Elbow	<b>2205P</b> Cross	<b>2214P</b> 45° Street Elbow	Metric Straight Thread Adapters	<b>222P-MI</b> Adapter	
							
Page F8	Page F8	Page F8	Page F8	Page F8		Page F11 & E14	
<b>M16M22F8UHA8UB</b> Union	<b>48F-MI</b> Flare Adapter	<b>149F-MI</b> Flare Adapter	<b>159F-MI</b> Flare Adapter	<b>68HB-MI</b> Hose Barb Adapter	<b>169HB-MI</b> Hose Barb Adapter	<b>68NTA-MI</b> NTA Adapter	
							
Page F11 & E14	Page F14	Page F14	Page F14	Page F14	Page F14	Page F14	
<b>179HB-MI</b> Hose Barb Adapter	BSP Adapters	<b>CD43</b> Street Elbow	<b>DD44</b> Elbow	<b>F3HF</b> Hex Nipple NPTF-BSPT	<b>F3HG</b> Adapter-Male BSPT	<b>FF33</b> BSPT Hex Nipple	
							
Page F14		Page F10	Page F10	Page F10	Page F10	Page F10	
<b>FF44</b> BSPP Hex Nipple	<b>FG43</b> Adapter-Male BSPT	<b>FHG4</b> Female-BSPP	<b>GG44</b> Coupling BSPP	<b>HHP3</b> BSPT Plug	<b>HP3</b> BSPT Plug	<b>KMM004</b> BSPP Cross	
							
Page F11	Page F11	Page F11	Page F11	Page F11	Page F12	Page F12	
<b>MMO444</b> BSPP Tee	<b>MMS443</b> Branch Tee	<b>MRO434</b> Run Tee	<b>PTR34</b> Pipe Reducer	<b>WGG44</b> Bulkhead Union			
							
Page F12	Page F12	Page F12	Page F12	Page F12			



Garden Hose Fittings	<b>50GHSV</b> Swivel Connector	<b>53GH, 54GH, 55GH</b> Hose Barb	<b>69GH, 70GH, 71GH</b> Male Pipe	<b>75GH</b> Connector	<b>78GH, 79GH, 80GH, 81GH</b> Female Pipe	<b>82GH, 83GH</b> Female Hose	
							
	Page F16	Page F16	Page F16	Page F16	Page F16	Page F16	
	<b>84GH</b> Filter Adapter	<b>88GH</b> Swivel Connector	<b>90GH</b> Swivel Connector	<b>94GH</b> Hose Nut	<b>95GH</b> Hose Nut Reducer	<b>96GH</b> Hose Cap	<b>98GH, 99GH</b> Hose to Pipe
							
	Page F16	Page F16	Page F16	Page F16	Page F17	Page F17	Page F17
	<b>98GHSV, 99GHSV</b> Swivel Connector	<b>101GHSV</b> Swivel Nut Connector	<b>1163-60-BPD</b> Coupler	<b>1163-61-BPD</b> Nipple	Auxiliary	<b>112</b> Copper Ring	<b>901GH</b> Rubber Washer
							
Page F17	Page F17	Page F17	Page F17	Page F12		Page F17	



# Pipe Fittings

F

MATERIALS OF CONSTRUCTION	
FITTINGS:	CA345, CA360, CA377

NOMENCLATURE	
EXAMPLE: 2214P-2-2	ATTRIBUTE:
2	EXTRUSION
1 (NOT SHOWN)	FORGING
214	45° STREET ELBOW
P	PIPE
2	1/8" PIPE THREAD
2	1/8" PIPE THREAD

APPLICABLE TUBE	
TUBE MATERIAL:	COPPER, BRASS, IRON PIPE
THREAD SIZE:	1/8, 1/4, 3/8, 1/2, 3/4, 1

SPECIFICATIONS	
PRESSURE RANGE:	UP TO 1,000 PSI
TEMPERATURE RANGES:	-65° TO +250°F

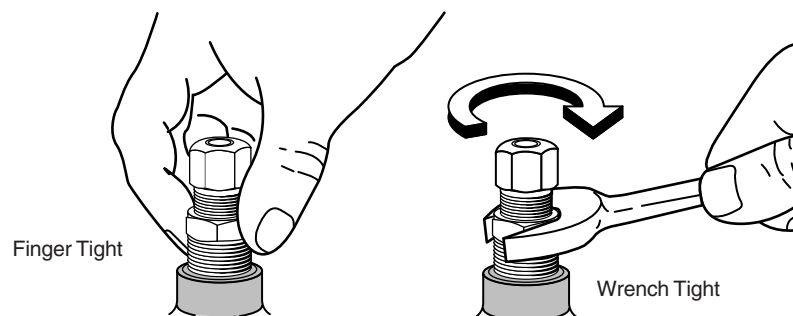


All pipe fittings meet functional requirements of SAE J530 and SAE J531. Threads are made to Dryseal standards.

## Pipe thread assembly guide (turns method) for Dryseal threads with pre-applied Vibra Seal

### Straight Fittings

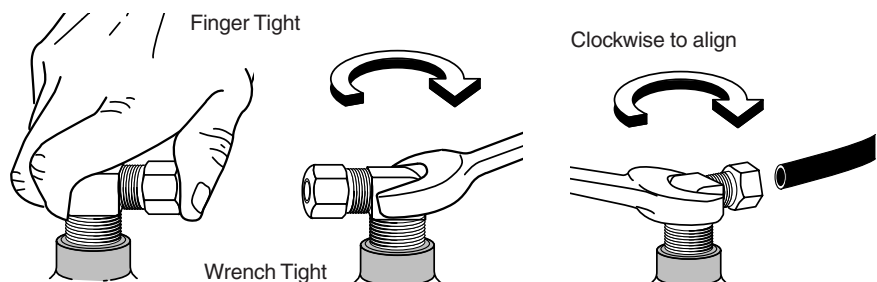
1. Tighten external thread into the internal thread.
1. Tighten an additional 2 revolutions with a wrench up to 1/2 in. male pipe thread. Above 1/2 in., 1 1/2 to 2 1/2 revolutions.

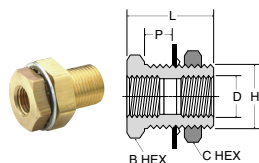


### Elbow or Tee Fittings

2. Tighten external thread into the internal thread.
3. Tighten an additional 1 to 1 1/2 revolutions with a wrench.
4. 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.

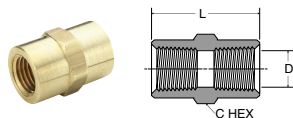




### Anchor Coupling 207ACBH

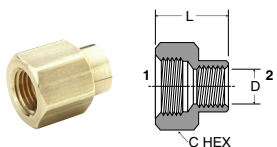
PART NO.	FEAMLE PIPE THREAD	STRAIGHT THREAD	MAX. BULK HEAD P	B HEX	C HEX	L	BLKHD HOLE DIA. H	FLOW DIA. D
207ACBH-2	1/8	5/8-18	.89	7/8	15/16	1.50	5/8	.339
207ACBHS-2	1/8	5/8-18	.35	7/8	15/16	.96	5/8	.339
207ACBH-4	1/4	3/4-16	.81	1	1-1/8	1.50	3/4	.441
207ACBHS-4	1/4	3/4-16	.26	1	1	.94	3/4	.441
207ACBH-6	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



### Coupling 207P

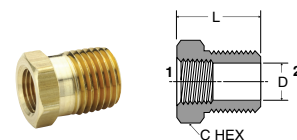
PART NO.	PIPE THREAD	C HEX	L	FLOW DIA. D
207P-2	1/8	9/16	.75	.339
207P-4	1/4	3/4	1.12	.441
207P-6	3/8	7/8	1.12	.571
207P-8	1/2	1-1/16	1.50	.703
207P-12	3/4	1-3/8	1.53	.906



### Reducer Coupling 208P

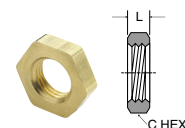
PART NO.	1 PIPE THREAD	2 PIPE THREAD	C HEX	L	FLOW DIA. D
208P-4-2	1/4	1/8	3/4	.97	.339
208P-6-4	3/8	1/4	7/8	1.16	.441
208P-8-4	1/2	1/4	1-1/16	1.28	.441
208P-8-6	1/2	3/8	1-1/16	1.38	.571
208P-12-6	3/4	3/8	1-3/8	1.32	.571
208P-12-8	3/4	1/2	1-3/8	1.50	.703

### Bushing 209P



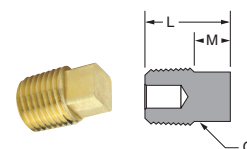
PART NO.	1 PIPE THREAD	2 PIPE THREAD	C HEX	L	FLOW DIA. D
209P-4-2	1/8	1/4	9/16	.75	.339
209P-6-2	1/8	3/8	11/16	.75	.339
209P-6-4	1/4	3/8	3/4	.75	.441
209P-8-2	1/8	1/2	7/8	1.00	.339
209P-8-4	1/4	1/2	7/8	1.00	.441
209P-8-6	3/8	1/2	7/8	1.00	.571
209P-12-2	1/8	3/4	1-1/8	1.00	.339
209P-12-4	1/4	3/4	1-1/8	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

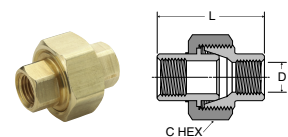


PART NO.	PIPE THREAD	C HEX	L
210P-2	1/8 NPSL	11/16	.19
210P-4	1/4 NPSL	7/8	.25
210P-6	3/8 NPSL	1	.25
210P-8	1/2 NPSL	1-1/8	.25

### Square-Head Plug 211P



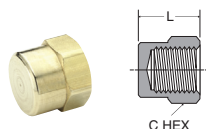
PART NO.	PIPE THREAD	C	L	M
211P-2	1/8	9/32	.59	.25
211P-4	1/4	3/8	.80	.29
211P-6	3/8	7/16	.83	.32
211P-8	1/2	9/16	1.07	.39
211P-12	3/4	5/8	1.14	.45



### Union 212P

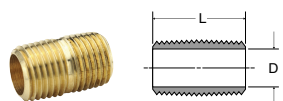
PART NO.	PIPE THREAD	C HEX	L	D
212P-4	1/4	1-3/16	1.54	.441
212P-6	3/8	1-1/4	1.76	.571

## Cap 213P



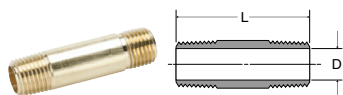
PART NO.	PIPE THREAD	C HEX	L
213P-2	1/8	9/16	.50
213P-4	1/4	11/16	.63
213P-6	3/8	13/16	.63
213P-8	1/2	1-1/16	.87
213P-12	3/4	1-1/4	.89

## Close Nipple 215PN



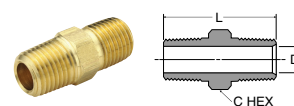
PART NO.	PIPE THREAD	L	FLOW DIA. D
215PN-2	1/8	.75	.281
215PN-4	1/4	.88	.375
215PN-6	3/8	1.00	.500
215PN-8	1/2	1.13	.625
215PN-12	3/4	1.31	.750

## Long Nipple 215PNL



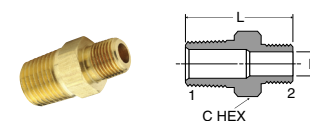
PART NO.	PIPE THREAD	L	FLOW DIA. D
215PNL-2-15	1/8	1-1/2	.250
215PNL-4-15	1/4	1-1/2	.375
215PNL-6-15	3/8	1-1/2	.500
215PNL-8-15	1/2	1-1/2	.625
215PNL-2-20	1/8	2	.250
215PNL-4-20	1/4	2	.375
215PNL-6-20	3/8	2	.500
215PNL-8-20	1/2	2	.625
215PNL-2-25	1/8	2-1/2	.250
215PNL-4-25	1/4	2-1/2	.375
215PNL-6-25	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



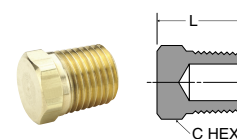
PART NO.	PIPE THREAD	C HEX	L	FLOW DIA. D
216P-2	1/8	7/16	.97	.220
216P-4	1/4	9/16	1.38	.314
216P-6	3/8	11/16	1.41	.440
216P-8	1/2	7/8	1.81	.564
216P-12	3/4	1-1/16	1.81	.752

## Hex Nipple Reducers 216P



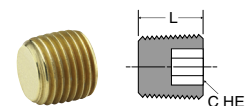
PART NO.	1 PIPE THREAD	2 PIPE THREAD	C HEX	L	FLOW DIA. D
216P-4-2	1/4	1/8	9/16	1.19	.220
216P-6-2	3/8	1/8	11/16	1.22	.220
216P-6-4	3/8	1/4	11/16	1.41	.314
216P-8-4	1/2	1/4	7/8	1.62	.314
216P-8-6	1/2	3/8	7/8	1.62	.440
216P-12-8	3/4	1/2	1-1/16	1.80	.564

## Hex-Head Plug 218P



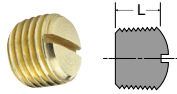
PART NO.	PIPE THREAD	C HEX	L
218P-2	1/8	7/16	.560
218P-4	1/4	9/16	.747
218P-6	3/8	11/16	.780
218P-8	1/2	7/8	.970
218P-12	3/4	1-1/16	1.054

## Countersunk Hex-Head Plug 219P



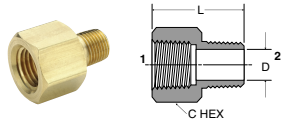
PART NO.	PIPE THREAD	C HEX	L
219P-2	1/8	3/16	.30
219P-4	1/4	1/4	.46
219P-6	3/8	5/16	.46
219P-8	1/2	3/8	.61
219P-12	3/4	9/16	.62

## Slotted-Head Plug 220P



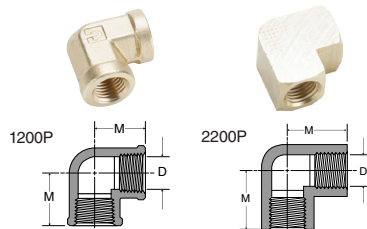
PART NO.	PIPE THREAD	L
220P-2	1/8	.31
220P-4	1/4	.42
220P-6	3/8	.43

## Adapter 222P



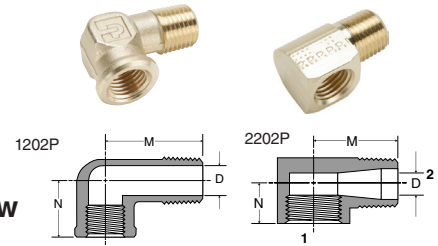
PART NO.	1 PIPE THREAD	2 PIPE THREAD	C HEX	L	FLOW DIA. D
222P-2-2	1/8	1/8	9/16	.88	.220
222P-4-2	1/4	1/8	3/4	1.06	.220
222P-4-4	1/4	1/4	3/4	1.25	.314
222P-6-2	3/8	1/8	7/8	1.10	.220
222P-6-4	3/8	1/4	7/8	1.25	.314
222P-6-6	3/8	3/8	7/8	1.25	.440
222P-8-4	1/2	1/4	1	1.47	.314
222P-8-6	1/2	3/8	1-1/16	1.47	.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-2200P



PART NO.	PIPE THREAD	M	FLOW DIA. D
1200P-2-2	1/8	.56	.329
2200P-2-2	1/8	.55	.339
1200P-4-4	1/4	.81	.441
2200P-4-4	1/4	.78	.441
1200P-6-6	3/8	.84	.571
2200P-6-6	3/8	.84	.571
2200P-8-8	1/2	1.07	.703

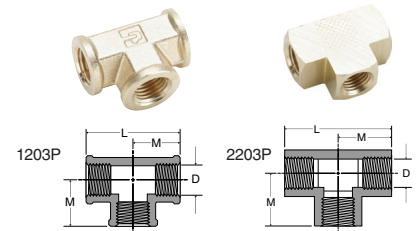
## 90° Street Elbow 1202P-2202P



PART NO.	1 PIPE THREAD	2 PIPE THREAD	M	N	FLOW DIA. D
1202P-2-2	1/8	1/8	.81	.56	.22
2202P-2-2	1/8	1/8	.62	.48	.22
2202PA-2-2*	1/8	1/8	.66	.48	.22
2202P-4-2	1/4	1/8	.72	.45	.23
1202P-4-4	1/4	1/4	1.08	.69	.31
2202P-4-4	1/4	1/4	.91	.45	.34
2202PA-4-4*	1/4	1/4	.91	.72	.31
2202P-4-6	1/4	3/8	.97	.78	.43
1202P-6-4	3/8	1/4	1.25	.78	.31
1202P-6-6	3/8	3/8	1.25	.78	.42
2202P-6-6	3/8	3/8	.98	.54	.41
2202PA-6-6*	3/8	3/8	.97	.78	.43

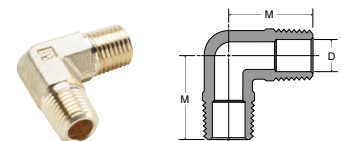
\*Meets SAE Dimensions

## Union Tee 1203P-2203P

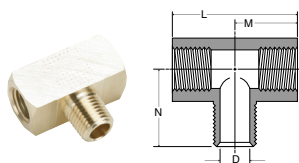


PART NO.	PIPE THREAD	L	M	FLOW DIA. D
1203P-2	1/8	1.12	.56	.339
2203P-2	1/8	1.06	.53	.339
1203P-4	1/4	1.38	.69	.441
2203P-4	1/4	1.52	.76	.441
2203P-6	3/8	1.68	.84	.571
1203P-8	1/2	2.14	1.07	.703
2203P-8	1/2	2.14	1.07	.703
2203P-12	3/4	2.28	1.14	.906

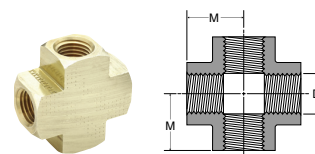
## Male Elbow 1204P



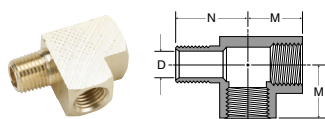
PART NO.	PIPE THREAD	M	FLOW DIA. D
1204P-2	1/8	.71	.220
1204P-4	1/4	1.09	.312
1204P-6	3/8	1.09	.408
1204P-8	1/2	1.41	.502

**Male Branch Tee 2224P**

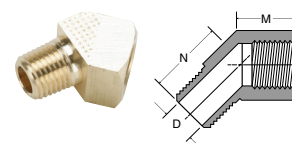
PART NO.	PIPE THREAD	L	M	N	FLOW DIA. D
2224P-2	1/8	1.06	.53	.66	.220
2224P-4	1/4	1.52	.76	.91	.314
2224P-6	3/8	1.68	.84	.97	.440
2224P-8	1/2	2.18	1.09	1.25	.564
2224P-12	3/4	2.32	1.16	1.38	.752

**Cross 2205P**

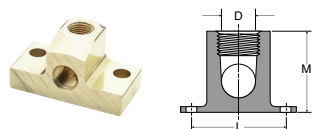
PART NO.	PIPE THREAD	M	FLOW DIA. D
2205P-2	1/8	.53	.339
2205P-4	1/4	.75	.441
2205P-6	3/8	.81	.571
2205P-8	1/2	1.07	.703
2205P-12	3/4	1.14	.906

**Street Tee 2225P**

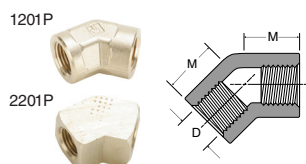
PART NO.	PIPE THREAD	M	N	DIA. D
2225P-2	1/8	.53	.66	.220
2225P-4	1/4	.76	.91	.314
2225P-6	3/8	.84	.98	.440
2225P-8	1/2	1.07	1.26	.564
2225P-12	3/4	1.14	1.38	.752

**45° Street Elbow 2214P**

PART NO.	PIPE THREAD	M	N	FLOW DIA. D
2214P-2-2	1/8	.38	.50	.220
2214P-4-4	1/4	.54	.70	.314
2214P-6-6	3/8	.56	.78	.440
2214P-8-8	1/2	.73	1.00	.564

**Drop-ear 90° Elbow 2200PDE**

PART NO.	PIPE THREAD	L	M	FLOW DIA. D
2200PDE-2	1/8	1.38	1.00	.339

**45° Female Elbow 1201P-2201P**

PART NO.	PIPE THREAD	M	FLOW DIA. D
2201P-2-2	1/8	.43	.339
1201P-8-8	1/2	.89	.703





# Brass Metric Adapters

MATERIALS OF CONSTRUCTION	
ADAPTERS:	BRASS

APPLICABLE TUBE	
TUBE MATERIAL:	COPPER, BRASS, IRON PIPE
NPT:	1/8, 1/4, 3/8, 1/2
BSPT:	1/8, 1/4, 3/8, 1/2, 3/4, 1
BSPP:	1/8, 1/4, 3/8, 1/2, 3/4, 1

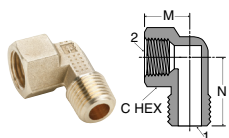
SPECIFICATIONS	
PRESSURE RANGE:	UP TO 1,000 PSI
TEMPERATURE RANGES:	-65° TO +250°F



A comprehensive range of adapters for NPT, BSPT and BSPP pipe threads. Produced in both forgings and extrusions. Parker brass adapters are produced from forgings and extrusions to meet exacting requirements. The hot forging process increases the density of the material, refines the grain structure and improves material strength.

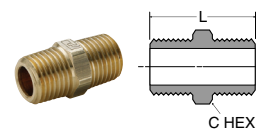


### CD43 90° Elbow Male-Female BSPT-BSPP



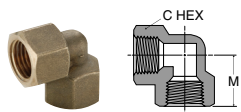
PART NO.	BSPT 1	BSPP 2	C HEX	M	N
1/8CD43B	1/8	1/8	14	14	20
1/4CD43B	1/4	1/4	17	18	25
3/8CD43B	3/8	3/8	22	19	29
1/2CD43B	1/2	1/2	27	24	37

### FF33 Pipe Nipples BSPT



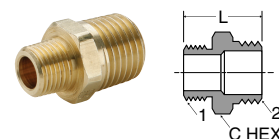
PART NO.	BSPT	C HEX	L
1/8FF33B	1/8	10	19
1/4FF33B	1/4	14	27
3/8FF33B	3/8	17	28
1/2FF33B	1/2	22	36
3/4FF33B	3/4	27	40
1FF33B	1	36	46

### DD44 Pipe 90° Elbow BSPP



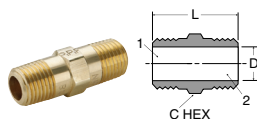
PART NO.	BSPP	C HEX	M
1/8DD44B	1/8	14	15
1/4DD44B	1/4	17	18
3/8DD44B	3/8	22	22
1/2DD44B	1/2	27	29

### FF33 Unequal Pipe Nipples BSPT



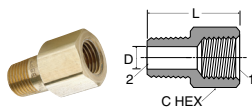
PART NO.	BSPT 1	BSPT 2	C HEX	L
1/8X1/4FF33B	1/8	1/4	14	23
1/8X3/8FF33B	1/8	3/8	17	24
1/8X1/2FF33B	1/8	1/2	22	28
1/4X3/8FF33B	1/4	3/8	17	28
1/4X1/2FF33B	1/4	1/2	22	31
3/8X1/2FF33B	3/8	1/2	22	32
3/8X3/4FF33B	3/8	3/4	27	35
1/2X3/4FF33B	1/2	3/4	27	38
3/4X1FF33B	3/4	1	36	43

### F3HF Hex Nipple NPTF BSPT



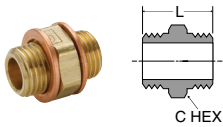
PART NO.	NPTF 1	BSPT 2	C HEX	L	FLOW D
1/8F3HF-B	1/8	1/8	7/16	1.07	.22
1/4F3HF-B	1/4	1/4	9/16	1.58	.31
3/8F3HF-B	3/8	3/8	11/16	1.61	.44
1/2F3HF-B	1/2	1/2	7/8	2.01	.56

### F3HG Adapter NPTF Male BSPT



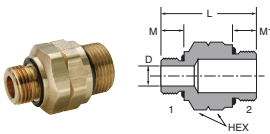
PART NO.	NPTF 1	BSPT 2	C HEX	L	FLOW D
1/8F3HG-B	1/8	1/8	9/16	0.93	.22
1/4F3HG-B	1/4	1/4	3/4	1.35	.31
3/8F3HG-B	3/8	3/8	7/8	1.35	.44
1/2F3HG-B	1/2	1/2	1-1/16	1.76	.56

## FF44 Pipe Nipples BSPP



PART NO.	BSPP	C HEX	L
1/8FF44B	1/8	14	19
1/4FF44B	1/4	17	22
3/8FF44B	3/8	22	24
1/2FF44B	1/2	27	31

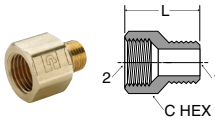
## Metric Straight Thread Union M16M22F8UHA8UB



PART NUMBER	METRIC THD 1	METRIC THD 2	L (MM)	HEX (MM)	M (MM)	M1 (MM)	D (MM)
M16M22F8UHA8UB	M16X1.5	M22X1.5	43	27	10	12.5	9.0

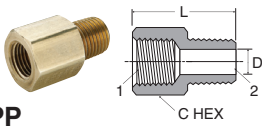
Note: Fluorocarbon o-ring is standard

## FG43 Reducing Connector Female-Male BSPP-BSPT



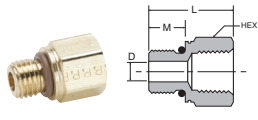
PART NO.	BSPT 1	BSPP 2	C HEX	L
1/4X1/8FG43B	1/8	1/4	17	23
3/8X1/8FG43B	1/8	3/8	22	25
3/8X1/4FG43B	1/4	3/8	22	28
1/2X1/8FG43B	1/8	1/2	27	29
1/2X1/4FG43B	1/4	1/2	27	32
1/2X3/8FG43B	3/8	1/2	27	31
3/4X1/2FG43B	1/2	3/4	32	39
1X3/4FG43B	3/4	1	41	38

## FHG4 Adapter Male NPTF BSPP



PART NO.	BSPP 1	NPTF 2	C HEX	L	FLOW D
1/8FHG4-B	1/8	1/8	0.562	0.87	.22
1/4FHG4-B	1/4	1/4	0.750	1.33	.31
3/8FHG4-B	3/8	3/8	0.875	1.44	.44
1/2FHG4-B	1/2	1/2	1.062	1.74	.56

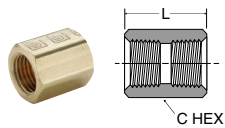
## Pipe to Metric Adaptor 222P-X-MIX



PART NUMBER	NPTF	METRIC THREAD	HEX	L	M	D
222P-2-MI10	1/8-27	M10 X 1.0	9/16	.75	.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

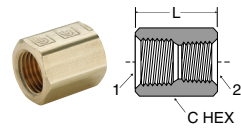
Note: Fluorocarbon o-ring is standard

## GG44 Pipe Connector BSPP



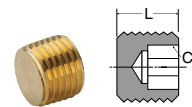
PART NO.	BSPP	C HEX	L
1/8GG44B	1/8	14	16
1/4GG44B	1/4	17	20
3/8GG44B	3/8	22	24
1/2GG44B	1/2	27	28
3/4GG44B	3/4	32	32
1GG44B	1	41	36

## GG44 Unequal Pipe Connector BSPP



PART NO.	BSPP 1	BSPP 2	C HEX	L
1/8X1/4GG44B	1/8	1/4	17	18
1/8X3/8GG44B	1/8	3/8	22	20
1/8X1/2GG44B	1/8	1/2	27	22
1/4X3/8GG44B	1/4	3/8	22	22
1/4X1/2GG44B	1/4	1/2	27	24
3/8X1/2GG44B	3/8	1/2	17	26

## HHP3 Hollow Hex Head Plug BSPT



PART NO.	BSPT	C HEX	L
1/8HHP3B	1/8	5	8
1/4HHP3B	1/4	6	10
3/8HHP3B	3/8	8	11
1/2HHP3B	1/2	10	13



### HP3 Hex Plug BSPT

PART NO.	BSPT	C HEX	L
1/8HP3B	1/8	10	12
1/4HP3B	1/4	14	16
3/8HP3B	3/8	17	17
1/2HP3B	1/2	22	21
3/4HP3B	3/4	27	24
1HP3B	1	36	27



### KMMOO4 Pipe Cross BSPP

PART NO.	BSPP	C HEX	L	M
1/8KMMOO4B	1/8	14	29	14.5
1/4KMMOO4B	1/4	17	36	18.0
3/8KMMOO4B	3/8	22	44	22.0
1/2KMMOO4B	1/2	27	58	29.0



### MMO444 Pipe Tee BSPP

PART NO.	BSPP	C HEX	L	M
1/8MMO444B	1/8	14	29	14.5
1/4MMO444B	1/4	17	36	18.0
3/8MMO444B	3/8	22	44	22.0
1/2MMO444B	1/2	27	58	29.0
3/4MMO444B	3/4	32	62	31.0
1MMO444B	1	40	85	42.5



### MMS443 Branch Tee Female-Male-Female BSPP-BSPT-BSPP

PART NO.	BSPP 1	BSPT 2	L	M	N
1/8MMS443B	1/8	1/8	29	14.5	17
1/4MMS443B	1/4	1/4	36	18.0	22
3/8MMS443B	3/8	3/8	48	24.0	25
1/2MMS443B	1/2	1/2	62	31.0	32



### MRO434 Run Tee Female-Female-Male BSPP-BSPP-BSPT

PART NO.	BSPP 1	BSPT 2	C HEX	L	M	N
1/8MRO434B	1/8	1/8	14	32	15	17
1/4MRO434B	1/4	1/4	17	40	18	22
3/8MRO434B	3/8	3/8	24	49	24	25
1/2MRO434B	1/2	1/2	30	63	31	32



### PTR34 Pipe Thread Reducer Male-Female BSPT-BSPP

PART NO.	BSPT 1	BSPP 2	C HEX	L
1/4X1/8PTR34B	1/4	1/8	14	16
3/8X1/8PTR34B	3/8	1/8	17	17
3/8X1/4PTR34B	3/8	1/4	17	17
1/2X1/8PTR34B	1/2	1/8	22	22
1/2X1/4PTR34B	1/2	1/4	22	22
1/2X3/8PTR34B	1/2	3/8	22	22
3/4X3/8PTR34B	3/4	3/8	27	23
3/4X1/2PTR34B	3/4	1/2	27	23
1X1/2PTR34B	1	1/2	36	27
1X3/4PTR34B	1	3/4	36	27



### WGG44 Bulkhead Female Union BSPP

PART NO.	BSPP	STRAIGHT THREAD	C HEX	C4	L	W
1/8WGG44B	1/8	M16X1.5	19	22	21.5	12
1/4WGG44B	1/4	M20X1.5	24	24	22.0	12
3/8WGG44B	3/8	M23X1.5	27	27	24.0	12
1/2WGG44B	1/2	M27X1.5	32	32	28.0	14
3/4WGG44B	3/4	M34X1.5	41	41	31.0	13
1WGG44B	1	M45X2	55	55	36.0	12



### 112 Copper Rings for BSPP

PART NO.	BSPP	A	B	C
112-5-10	1/8	16.0	9.9	1.5
112-8-13	1/4	19.0	13.5	1.5
112-12-17	3/8	24.0	16.9	1.5
112-15-21	1/2	27.0	21.2	2.0



# ISO Port Adapters

MATERIALS OF CONSTRUCTION	
ADAPTERS:	BRASS
O-RING:	FLUOROCARBON

NOMENCLATURE	
EXAMPLE: 159F-10MI-27	ATTRIBUTE:
1	FORGING
59	45° MALE ELBOW
F	45° FLARE
10	5/8 TUBE SIZE
MI	METRIC ISO PORT
27	27 MM PORT THREAD

APPLICABLE TUBE	
TUBE MATERIAL:	COPPER, BRASS, J844 TYPE A & B NYLON TUBING

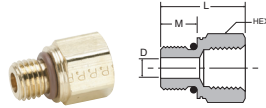
PRESSURE AND TEMPERATURE RANGE	
NOTE:	DEPENDENT ON TUBING OR HOSE END CONNECTION



Adapters meet dimensional requirements of ISO 6149-3 and SAE 2244-3 end configurations include NPTF, flare, hose barb and NTA.



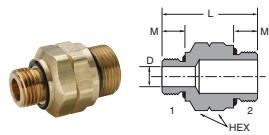
## Pipe to Metric Adaptor 222P-X-MIX



PART NUMBER	NPTF	METRIC THREAD	HEX	L	M	D
222P-2-MI10	1/8-27	M10 X 1.0	9/16	.75	.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-4-MI14	1/4-18	M14 X 1.5	3/4	1.09	.43	.30
222P-6-MI16	3/8-18	M16 X 1.5	7/8	1.16	.45	.35
222P-6-MI22	3/8-18	M22 X 1.5	1 1/16	1.05	.51	.47
222P-8-MI27	1/2-14	M27 X 2.0	1 1/4	1.32	.63	.60

Note: Fluorocarbon o-ring is standard  
For working pressure and Temperature see Metric Adapters Section

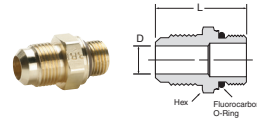
## Metric Straight Thread Union M16M22F8UHA8UB



PART NUMBER	METRIC THD 1	METRIC THD 2	L (MM)	HEX (MM)	M (MM)	M1 (MM)	D (MM)
M16M22F8UHA8UB	M16X1.5	M22X1.5	43	27	10	12.5	9.0

Note: Fluorocarbon o-ring is standard  
For working pressure and Temperature see Metric Adapters Section

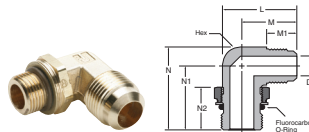
## Flare to Metric Adaptor 48F-X-MIX



PART NUMBER	TUBE SIZE	METRIC THREAD	HEX	L	D
48F-8-MI16	1/2	M16 X 1.5	7/8	1.60	.35
48F-10-MI27	5/8	M27 X 2.0	1 1/4	1.87	.50
48F-12-MI27	3/4	M27 X 2.0	1 1/4	1.99	.63

Note: Fluorocarbon o-ring is standard  
For working pressure and Temperature see SAE Flare Section

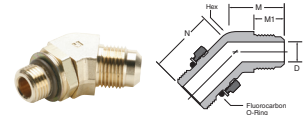
## Flare Elbow to Metric Adaptor 149F-X-MIX



PART NUMBER	TUBE SIZE	METRIC THREAD	HEX	L	M	M1	N	N1	N2	D
149F-10-MI27	5/8	M27 X 2.0	7/8	1.95	1.46	.88	2.12	1.63	1.09	.50

Note: Fluorocarbon o-ring is standard  
For working pressure and Temperature see SAE Flare Section

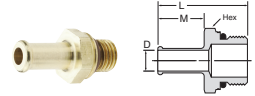
## 45° Flare Elbow to Metric Adaptor 159F-X-MIX



PART NUMBER	TUBE SIZE	METRIC THREAD	HEX	M	M1	N	D
159F-8-MI16	1/2	M16 X 1.5	13/16	1.10	.75	1.16	.36
159F-10-MI27	5/8	M27 X 2.0	1 1/8	1.21	.88	1.50	.50

Note: Fluorocarbon o-ring is standard  
For working pressure and Temperature see SAE Flare Section

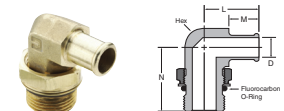
## Hose Barb to Metric Adaptor 68HB-X-MIX



PART NUMBER	TUBE SIZE	METRIC THREAD	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	.30
68HB-8-MI12	1/2	M12 X 1.5	11/16	1.50	.78	.24
68HB-10-MI27	5/8	M27 X 2.0	1 1/4	1.77	.78	.50

Note: Fluorocarbon o-ring is standard  
For working pressure and Temperature see Hose Barb Section

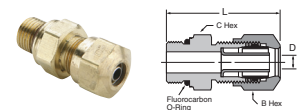
## Beaded Elbow to Metric Adaptor 169HB-X-MIX



PART NUMBER	HOSE SIZE	METRIC THREAD	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

Note: Fluorocarbon o-ring is standard  
For working pressure and Temperature see Hose Barb Section

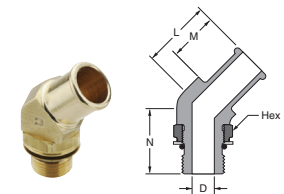
## NTA to Metric Adaptor 68NTA-X-MIX



PART NUMBER	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  
For working pressure and Temperature see Air Brake-NTA Section

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



PART NUMBER	HOSE SIZE	METRIC THREAD	HEX	L	M	N	D
179HB-12-MI18	3/4	M18 X 1.5	13/16	1.15	.78	1.16	.44
179HB-16-MI27	1	M27 X 2.0	1 1/16	1.51	.97	1.71	.71

Note: Fluorocarbon o-ring is standard





# Garden Hose Fittings

MATERIALS OF CONSTRUCTION	
FITTINGS:	BRASS
WASHER:	RUBBER

NOMENCLATURE	
EXAMPLE: 50GHSV-6-12	ATTRIBUTE:
50	FLARE TO FEMALE HOSE
GH	GARDEN HOSE
SV	SWIVEL CONNECTOR
6	3/8" TUBE O.D.
12	3/4" HOSE THREAD

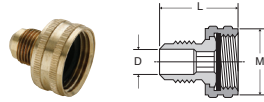
SPECIFICATIONS	
PRESSURE RANGE:	UP TO 150 PSI
TEMPERATURE RANGE:	+35°F TO +100°F AT 75 PSI
NOTE:	90GH IS INTENDED FOR USE WITH THE 97HC HOSE CLAMP OR CRIMPED FERRULE ALL FEMALE CONNECTOR ENDS SHOULD HAVE A RUBBER WASHER (901GH-12) INSERTED PRIOR TO USAGE.



Connect garden hose to other garden hose, to pipe, or to tubing with these solid brass fittings. Hose-end threads are 3/4" garden hose thread. Swivel connectors allow hose to twist without kinking.

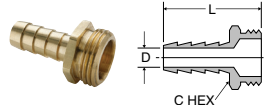
F

### Swivel Connector SAE Flare to Female Hose Thread 50GHSV



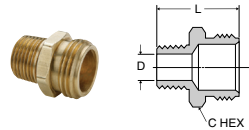
PART NO.	TUBE SIZE	HOSE THREAD	L	M	FLOW DIA. D
50GHSV-6-12	3/8	3/4	1.25	1.15	.297
50GHSV-8-12	1/2	3/4	1.34	1.15	.406

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



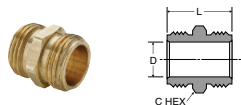
PART NO.	I.D. HOSE SIZE	HOSE THREAD	C HEX	L	FLOW DIA. D
53GH-8-12	1/2	3/4	1-1/16	1.88	.375
54GH-10-12	5/8	3/4	1-1/16	1.88	.500
55GH-12-12	3/4	3/4	1-1/16	1.88	.625

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



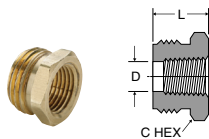
PART NO.	HOSE THREAD	PIPE THREAD	C HEX	L	FLOW DIA. D
69GH-12-4	3/4	1/4	1-1/16	1.25	.410
69GH-12-6	3/4	3/8	1-1/16	1.25	.406
70GH-12-8	3/4	1/2	1-1/16	1.39	.531
71GH-12-12	3/4	3/4	1-1/16	1.41	.750

### Male Hose to Male Hose 75GH



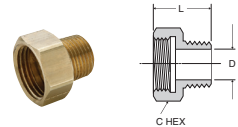
PART NO.	HOSE THREAD	C HEX	L	FLOW DIA. D
75GH-12	3/4	1-1/16	1.25	.750

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



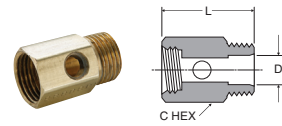
PART NO.	HOSE THREAD	PIPE THREAD	C HEX	L	FLOW DIA. D
78GH-12-4	3/4	1/4	1-1/16	.75	.422
79GH-12-6	3/4	3/8	1-1/16	.75	.562
80GH-12-8	3/4	1/2	1-1/16	.75	.687
81GH-12-12	3/4	3/4	1-3/16	1.28	.719

### Female Hose to Male Pipe 82GH & 83GH



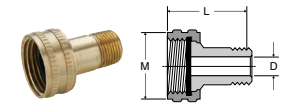
PART NO.	HOSE THREAD	PIPE THREAD	C HEX	L	FLOW DIA. D
82GH-12-8	3/4	1/2	1-3/16	1.20	.562
83GH-12-12	3/4	3/4	1-3/16	1.22	.750

### Special Filter Adapter 84GH



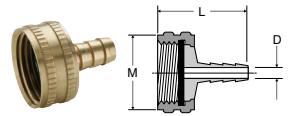
PART NO.	HOSE THREAD	PIPE THREAD	C HEX	L	FLOW DIA. D
84GH-8-8	1/2	1/2	15/16	1.53	.530

### 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

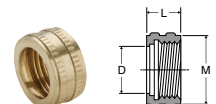
### Swivel Connector Female Garden Hose to Hose Barb 90GH



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

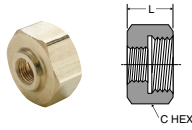
\*Denotes hex body

### Knurled Hose Nut 94GH



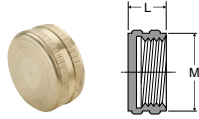
PART NO.	HOSE THREAD	L	M	FLOW DIA. D
94GH-12	3/4	.57	1.15	.808

### Hose Nut Reducer 95GH



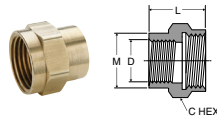
PART NO.	HOSE THREAD	PIPE THREAD	C HEX	L
95GH-12-2	3/4	1/8	1-1/8	.63

### Hose Cap Nut 96GH



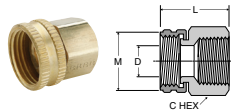
PART NO.	HOSE THREAD	L	M
96GH-12	3/4	.50	1.15

### Female Hose to Female Pipe 98GH & 99GH



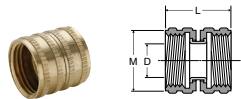
PART NO.	HOSE THREAD	PIPE THREAD	C HEX	L	M	FLOW DIA.D
98GH-12-8	3/4	1/2	1-3/16	1.14	1.01	.687
99GH-12-12	3/4	3/4	1-3/16	1.25	1.17	.750

### 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 901GH



PART NO.	HOSE THREAD
901GH-12	3/4

NOTE: All female connector ends should have this rubber washer

## 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.

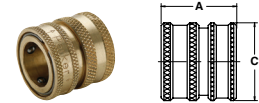
### Features

- 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.

### Specifications

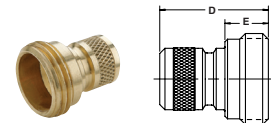
- Body Size 3/4"
- Rated Pressure (PSI) 200
- Rated Flow (GPM) 28
- Temperature Range (std seals) -40°F to +250°F

### 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



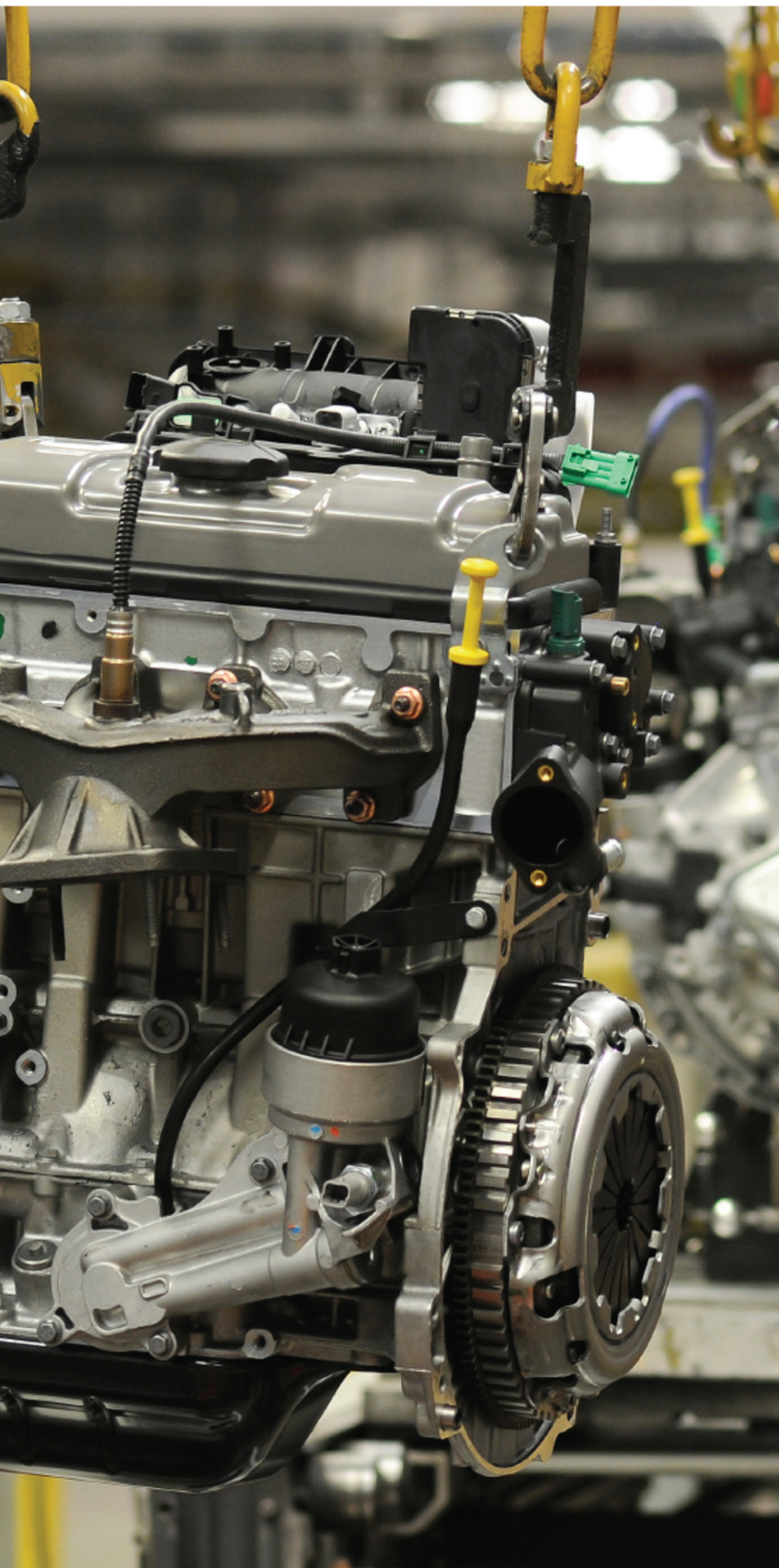
PART NO.	BODY SIZE	THREAD SIZE NH	D	E
1163-61-BPD	3/4	3/4-11 1/2	1.25	.5

## Notes

**F**



# Barbed Fittings



## Dubl-Barb Fittings

*Use with Polyethylene Tubing*

*Economical*

*One-piece*

*Compact*

*Reusable*



## Hose Barb Fittings

*Beaded & Standard Hose Barbs*

*Straight and Metric Threads*

*All Brass Construction*

*Use with Hose Clamp*

*Reusable*





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	125HB Male Connector  Page G8	125HBL Male Connector  Page G8	125HBLSV Swivel Connector  Page G9	127HB Ball-End Adapter  Page G9	129HB Male Elbow  Page G9	139HB 45° Male Elbow  Page G10
179HB 45° Male Elbow  Page G10	269HB Male Elbow  Page G11	279HB 45° Male Elbow  Page G11	Barb to Female NPT	26 Female Connector  Page G4	230 Female Elbow  Page G6	237 Female Tee  Page G6
126HBL Female Connector  Page G9	Barb to Barb	22 Union  Page G4		224 Union Tee  Page G5	225 Union Elbow  Page G5	122HBL Hose Mender  Page G8
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1725HB Tee  Page G10	1795HB 45° Elbow  Page G10		Auxiliary	20 Plug  Page G4	97HC Clamp  Page G8	





# Dubl-Barb® Fittings

MATERIALS OF CONSTRUCTION	
FITTINGS:	CA345, CA360

NOMENCLATURE	
EXAMPLE: 231-8-6	ATTRIBUTE:
231	RUN TEE
8	1/2 TUBE O.D.
6	3/8 PIPE THREAD

PRESSURE AND TEMPERATURE RANGE	
SIZES 1/4 TO 3/8:	UP TO 150 PSI -65° TO +90°F
SIZE 1/2:	UP TO 100 PSI -65° TO +75°F

APPLICABLE TUBE	
TUBE MATERIAL:	POLYETHYLENE
TUBE O.D.:	1/8, 5/32, 1/4, 3/8, 1/2



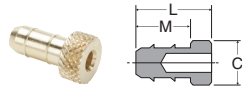
A compact one piece, push-on hose barbed fitting for a quick, economical way to connect polyethylene tubing.

Because of the many available variations in qualities of polyethylene tubing, Dubl-Barb® fittings are recommended for use with Parker Parflex® polyethylene tubing (or an equal grade). Parker Parflex® tubing is highly resistant to environmental stress cracking which is necessary for long life when coupled with expansion fittings.

## Assembly Instructions

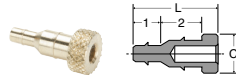
Cut tube squarely and simply push tube over the two barbs

## Plug 20



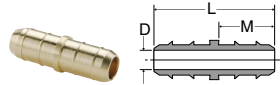
PART NO.	TUBE O.D.	TUBE I.D.	C DIA.	L	M
20-4	1/4	.170	.290	.56	.41
20-6	3/8	.250	.390	.68	.44
20-8	1/2	.377	.577	.81	.56

## Plug Adapter 20



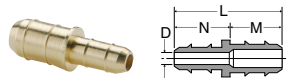
PART NO.	TUBE O.D. 1	TUBE I.D. 1	TUBE O.D. 2	TUBE I.D. 2	C DIA.	L
20-4-5/32	5/32	.096	1/4	.170	.290	.65

## Union 22



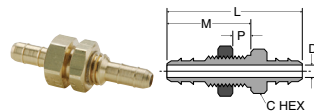
PART NO.	TUBE O.D.	TUBE I.D.	L	M	FLOW DIA. D
22-5/32	5/32X5/32	.096X.096	.59	.28	.062
22-4	1/4X1/4	.170X.170	.84	.41	.120
22-6	3/8X3/8	.250X.250	.94	.44	.187
22-8	1/2X1/2	.375X.375	1.19	.56	.312

## 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

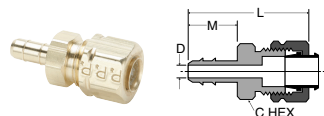
## Bulkhead Union 22BH



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

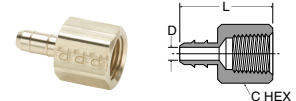
## Bulkhead Union 22CABH

Tube to Compress-Align



PART NO.	TUBE O.D.	TUBE I.D.	CA TUBE	ST. THD.	C HEX	P MAX.	L	M	FLW 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 THREAD	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

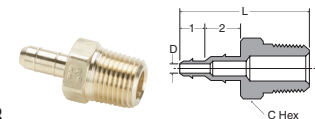
## Male Connector 27



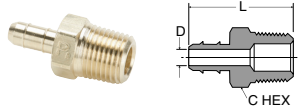
PART NO.	TUBE O.D.	TUBE I.D.	STRAIGHT THREAD	C HEX	L	FLOW DIA. D
27-1*	1/8	.062	10-32	1/4	.61	.052
27-2*	1/4	.125	10-32	1/4	.74	.093

\*For vinyl tubing only.

## Barb-to-Pipe Adapter 28

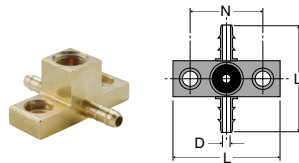


PART NO.	TUBE O.D. 1	TUBE I.D. 1	TUBE O.D. 2	TUBE I.D. 2	PIPE THD.	C HEX	L	FLOW DIA. D
28-4-5/32-2	5/32	.096	1/4	.170	1/8	7/16	1.07	.062

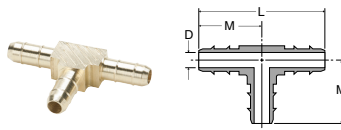
**Male Connector 28**

PART NO.	TUBE O.D.	TUBE I.D.	PIPE THREAD	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

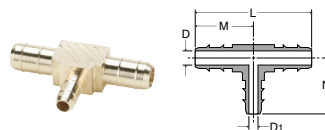
\*Straight thread

**Adapter Tee 220**

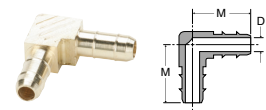
PART NO.	TUBE O.D.	TUBE I.D.	PIPE THREAD	L	N	FLOW DIA. D
220-4-2	1/4	.170	1/8	1.50	1.00	.120

**Union Tee 224**

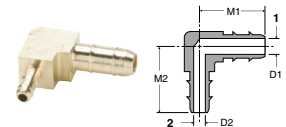
PART NO.	TUBE O.D.	TUBE I.D.	L	M	FLOW DIA. D
224-5/32	5/32	.096	1.00	.50	.062
224-4	1/4	.170	1.25	.63	.120
224-6	3/8	.250	1.38	.69	.187
224-8	1/2	.375	1.63	.81	.312

**Union Tee 224  
Combination Sizes**

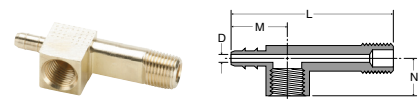
PART NO.	TUBE O.D.	TUBE I.D.	L	M	N	FLOW DIA. D	FLOW DIA. D1
224-4-4-5/32	1/4X5/32	.170X.096	1.25	.63	.50	.120	.062
224-6-6-5/32	3/8X5/32	.250X.096	1.38	.69	.50	.187	.062
224-6-6-4	3/8X1/4	.250X.170	1.38	.69	.62	.187	.120
224-8-8-4	1/2X1/4	.375X.170	1.62	.81	.65	.312	.120
224-8-8-6	1/2X3/8	.375X.250	1.62	.81	.69	.312	.187

**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	.69	.187
225-8-8	1/2	.375	.81	.312

**Union Elbow 225  
Combination Size**

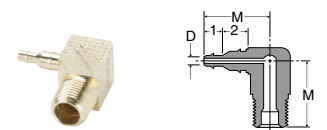
PART NO.	TUBE O.D. 1	TUBE O.D. 2	TUBE I.D. 1	TUBE I.D. 2	M1	M2	FLOW DIA. D1	FLOW DIA. D2
225-4-5/32	1/4	5/32	.170	.096	.63	.50	.120	.062

**Gauge Tee 228**

PART NO.	TUBE O.D.	TUBE I.D.	PIPE THREAD	L	M	N	FLOW DIA. D
228-4-2	1/4	.170	1/8	1.91	.66	.44	.120

**Male Elbow 229**

PART NO.	TUBE O.D.	TUBE I.D.	PIPE THREAD	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 THREAD	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 THREAD	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



### Female Branch Tee 237

PART NO.	TUBE O.D.	TUBE I.D.	PIPE THREAD	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



### Male Run Tee 231

PART NO.	TUBE O.D.	TUBE I.D.	PIPE THREAD	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



### 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



### Male Branch Tee 232

PART NO.	TUBE O.D.	TUBE I.D.	PIPE THREAD	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



### Tee 233

PART NO.	TUBE O.D.	TUBE I.D.	COMB. TUBE	L	M	N	FLOW DIA. D
233-4-4-4	1/4	.170	1/4	.73	.53	.74	.120
233-6-6-4	1/4	.170	3/8	.87	.59	.80	.120



# Hose Barb Fittings

MATERIALS OF CONSTRUCTION	
FITTINGS:	BRASS
O-RING:	FLUOROCARBON

NOMENCLATURE	
EXAMPLE: 125HBL-6-4	ATTRIBUTE:
125	HOSE BARB TO MALE PIPE
HBL	HOSE BARB
6	3/8 HOSE I.D.
4	1/4 NPTF/PTF

APPLICABLE TUBE	
TUBE MATERIAL:	RUBBER HOSE, GPH HOSE
HOSE I.D.:	1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 1

SPECIFICATIONS	
PRESSURE RANGE:	UP TO 150 PSI
TEMPERATURE RANGES:	-40° TO +160°F
NOTE:	THESE FITTINGS ARE INTENDED FOR USE WITH 97HC HOSE CLAMPS, SIMILAR TYPE CLAMP OR A CRIMPED FERRULE.

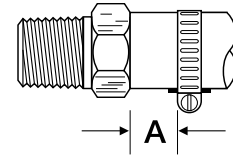


Manufactured in both regular hose barb and beaded hose barb styles. Thread ends include NPTF, SAE straight thread and metric threads.

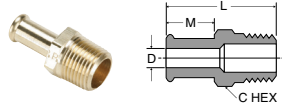
## Assembly Instructions

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

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"

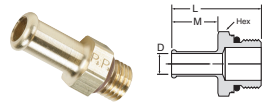


### Beaded Hose Barb to Male Pipe 68HB



PART NO.	I.D. HOSE SIZE	PIPE THREAD	C HEX	L	M	FLOW DIA. D
68HB-6-6	3/8	3/8	11/16	1.53	.78	.281
68HB-8-4	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	1.73	.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

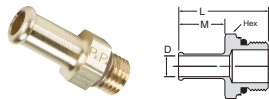
### Beaded Hose Barb to SAE Straight Thread 685HB



PART NO.	I.D. HOSE SIZE	STRAIGHT THREAD	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

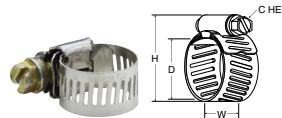
### Hose Barb to Metric Adaptor 68HB-X-MIX



PART NUMBER	TUBE SIZE	METRIC THREAD	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	.30
68HB-8-MI12	1/2	M12 X 1.5	11/16	1.50	.78	.24

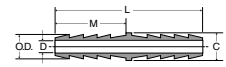
Note: Fluorocarbon o-ring is standard

### Stainless Steel Worm Drive Clamp 97HC



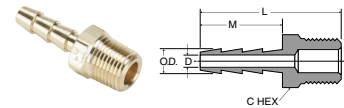
PART NO.	D MAX.	D MIN.	C HEX	C MAX.	W
97HC-3	.62	.25	.25	1.00	.31
97HC-6	.87	.38	.31	1.40	.50
97HC-8	1.00	.44	.31	1.53	.50
97HC-12	1.25	.50	.31	1.80	.50

### Hose Mender 122HBL



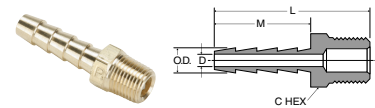
PART NO.	I.D. HOSE SIZE	C DIA.	L	M	O.D.	FLOW DIA. D
122HB-3	3/16	5/16	1.44	.69	.227	.125
122HBL-4	1/4	3/8	2.00	.97	.290	.187
122HBL-5	5/16	7/16	2.00	.97	.353	.250
122HBL-6	3/8	1/2	2.00	.97	.415	.281
122HBL-8	1/2	5/8	2.00	.97	.530	.375
122HBL-12	3/4	7/8	2.00	.97	.790	.562

### Hose Barb to Male Pipe 125HB



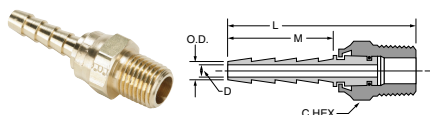
PART NO.	I.D. HOSE SIZE	PIPE THREAD	C HEX	L	M	O.D.	FLOW DIA. D
125HB-2-2	1/8	1/8	7/16	1.07	.50	.185	.093
125HB-3-2	3/16	1/8	7/16	1.25	.69	.227	.125
125HB-3-4	3/16	1/4	9/16	1.44	.69	.227	.125

### Hose Barb to Male Pipe 125HBL



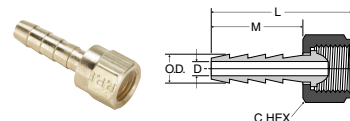
PART NO.	I.D. HOSE SIZE	PIPE THREAD	C HEX	L	M	O.D.	FLOW DIA. D
125HBL-4-2	1/4	1/8	7/16	1.54	.97	.290	.187
125HBL-4-4	1/4	1/4	9/16	1.72	.97	.290	.187
125HBL-4-6	1/4	3/8	11/16	1.77	.97	.290	.187
125HBL-5-2	5/16	1/8	7/16	1.54	.97	.353	.250
125HBL-5-4	5/16	1/4	9/16	1.72	.97	.353	.250
125HBL-5-6	5/16	3/8	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





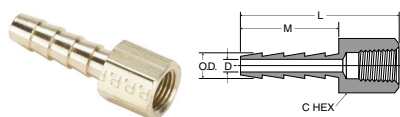
### Male Swivel Hose Barb 125HBLSV

PART NO.	I.D. HOSE SIZE	PIPE THREAD	C HEX	L	M	O.D.	FLOW DIA. D
125HBLSV-4-4	1/4	1/4	11/16	2.14	.97	.290	.187
125HBLSV-6-4	3/8	1/4	11/16	2.14	.97	.415	.250
125HBLSV-6-6	3/8	3/8	11/16	2.14	.97	.415	.250
125HBLSV-8-8	1/2	1/2	7/8	2.48	.97	.530	.375



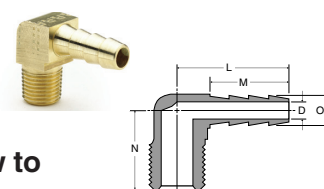
### Hose Barb to Swivel Female Ball-End 128HBLSV

PART NO.	I.D. HOSE SIZE	FEMALE N.P.S.M. THREAD	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



### Hose Barb to Female Pipe 126HBL

PART NO.	I.D. HOSE SIZE	PIPE THREAD	C HEX	L	M	O.D.	FLOW DIA. D
126HBL-4-2	1/4	1/8	1/2	1.47	.97	.290	.187
126HBL-4-4	1/4	1/4	11/16	1.58	.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	1.58	.97	.415	.281
126HBL-6-6	3/8	3/8	13/16	1.63	.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

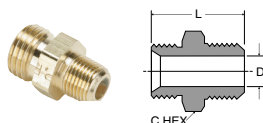


### Hose Barb 90° Elbow to Male Pipe 129HB

PART NO.	I.D. HOSE SIZE	PIPE THREAD	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	.86	.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	.94	.415	.281
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

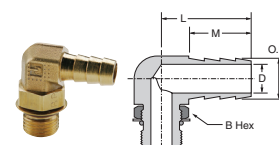
### Ball-End Joint Adapter to Male Pipe 127HB

For use with 128HBLSV



PART NO.	MALE N.P.S.M. THREAD	MALE N.P.T. THREAD	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

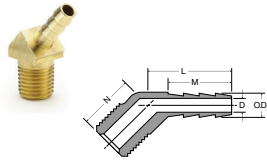
### Hose Barb Elbow to SAE Straight Thread 1295HB



PART NO.	I.D. HOSE SIZE	STRAIGHT THREAD	B HEX	L	M	O.D.	FLOW DIA. D
1295HB-6-6	3/8	9/16-18	11/16	1.10	1.11	.410	.270

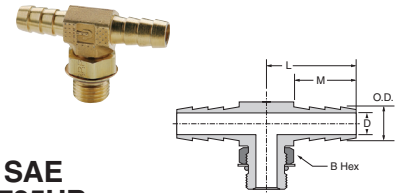
Note: Fluorocarbon o-ring is standard

### Hose Barb 45° Elbow to Male Pipe 139HB



PART NO.	I.D. HOSE SIZE	PIPE THREAD	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

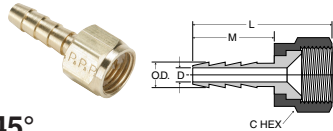
### Hose Barb Tee to SAE Straight Thread 1725HB



PART NO.	I.D. HOSE SIZE	STRAIGHT THREAD	B HEX	L	M	O.D.	FLOW DIA. D
1725HB-6-6	3/8	9/16-18	11/16	1.10	.76	.420	.280

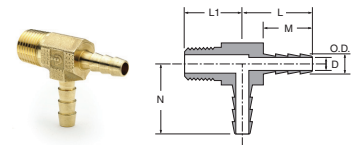
Note: Fluorocarbon o-ring is standard

### Hose Barb to Swivel 45° Female Flare 146HBLFSV



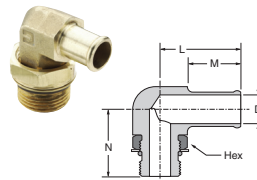
PART NO.	I.D. HOSE SIZE	STRAIGHT THREAD	C HEX	L	M	O.D.	FLOW DIA. D
146HBLFSV-4-4	1/4	7/16-20	9/16	1.55	.97	.290	.187
146HBLFSV-4-6	1/4	5/8-18	3/4	1.72	.97	.290	.187
146HBLFSV-6-6	3/8	5/8-18	3/4	1.72	.97	.415	.281

### Hose Barb Tee to Male Pipe 171HB



PART NO.	I.D. HOSE SIZE	PIPE THREAD	L	L1	M	N	O.D.	FLOW DIA. D
171HB-4-4	1/4	1/4	1.10	.85	.76	1.10	.290	.187

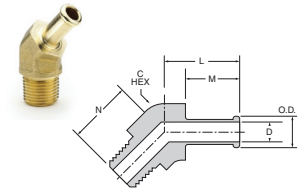
### Beaded Hose Barb Elbow to SAE Straight Thread 1695HB



PART NUMBER	HOSE SIZE	STRAIGHT THREAD	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	1.47	.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

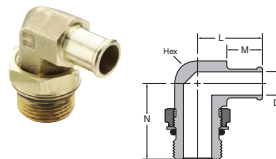
Note: Fluorocarbon o-ring is standard

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



PART NO.	I.D. HOSE SIZE	NPTF THREAD	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

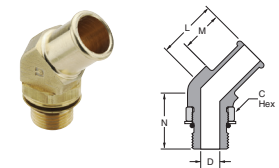
### Beaded Elbow to Metric Adaptor 169HB-X-MIX



PART NUMBER	HOSE SIZE	METRIC THREAD	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

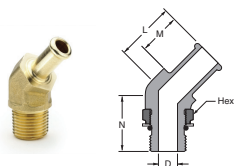
### Beaded Hose Barb 45° Elbow Tube to Straight Thread 1795HB



PART NO.	I.D. HOSE SIZE	STRAIGHT THREAD	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
1795HB-16-14	1	1 3/16-12	1 3/8	1.25	.97	1.80	.720

Note: Fluorocarbon o-ring is standard

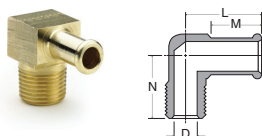
### Beaded Hose Barb 45° Elbow to Metric Thread 179HB-X-MIX



PART NUMBER	HOSE SIZE	METRIC THREAD	HEX	L	M	N	D
179HB-12-M18	3/4	M18 X 1.5	13/16	1.15	.78	1.16	.44
179HB-16-M127	1	M27 X 2.0	1 1/16	1.51	.97	1.71	.71

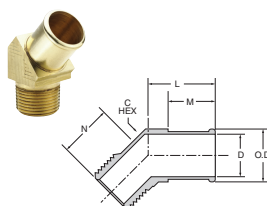
Note: Fluorocarbon o-ring is standard

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



PART NO.	I.D. HOSE SIZE	PIPE THREAD	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

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



PART NO.	I.D. HOSE SIZE	NPTF THREAD	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

## Notes

G



# Compression Style Transportation



## **Air Brake Fittings**

*Meets D.O.T. FMVSS 571.106*

*Meets SAE J246 & J1131*

*Use with Copper Tubing*

*Reusable*



## **NTA Fittings**

*Meets D.O.T. FMVSS 571.106*

*Meets SAE J246 & J1131*

*Staked in Tube Support*

*Pre-applied Sealant*



## **Transmission Fittings**

*For Use in Pressure*

*Protected Applications*

*Slotted Sleeve Prevents*

*Over Torque*

*Use with SAE J844 Tubing*



## **Air Brake Hose Ends**

*Meets D.O.T. FMVSS 571.106*

*Use with SAE J1402 Air Brake*

*Hose*



## **Vibra-Lok**

*Excellent Vibration Resistance*







































*Viton Sleeve for High Temp*

*Wide Range of Tubing*

*Elastomeric Seal*





Tube to Male NPTF	<b>VS68AB</b> Male Connector	<b>VS68NTA</b> Male Connector	<b>68TF</b> Male Connector	<b>68RB</b> Male Connector	<b>68RB</b> Male Connector Body Only	<b>68RBSG</b> Male Connector w/ Spring Guard	
							
	Page H11	Page H6	Page H9	Page H14	Page H14	Page H14	
	<b>76RB</b> Adapter	<b>VS176NTA</b> Adapter Tee	<b>68VL</b> Male Connector	<b>682VL</b> Tank Fitting	<b>VS269AB</b> Male Elbow	<b>VS269NTA</b> Male Elbow	<b>269TF</b> Male Elbow
							
	Page H14	Page H6	Page H17	Page H18	Page H12	Page H7	Page H9
<b>169VL</b> Male Elbow	<b>171VL</b> Male Run Tee	<b>172VL</b> Male Branch Tee	<b>VS271AB</b> Male Run Tee	<b>VS271NTA</b> Male Run Tee	<b>VS272AB</b> Male Branch Tee	<b>VS272NTA</b> Male Branch Tee	
							
Page H18	Page H18	Page H18	Page H12	Page H7	Page H12	Page H7	
<b>VS279AB</b> 45° Male Elbow	<b>VS279NTA</b> 45° Male Elbow	<b>179VL</b> 45° Male Elbow	Tube to Female NPTF	<b>66AB</b> Female Connector	<b>66NTA</b> Female Connector	<b>66RBSV</b> Female Connector	
							
Page H12	Page H7	Page H18		Page H11	Page H6	Page H14	
<b>66VL</b> Female Connector	<b>270AB</b> Female Elbow	<b>270NTA</b> Female Elbow	<b>170VL</b> Female Elbow	<b>207ACBH</b> Anchor Coupling	Tube to Tube	<b>62AB</b> Union	
							
Page H17	Page H12	Page H7	Page H18	Page H12		Page H11	
<b>62NTA</b> Union	<b>62TF</b> Union	<b>62RB</b> Union	<b>62VL</b> Union	<b>264AB</b> Union Tee	<b>264NTA</b> Union Tee	<b>164VL</b> Union Tee	
							
Page H5	Page H9	Page H14	Page H17	Page H11	Page H6	Page H18	
<b>265AB</b> Union Elbow	<b>265NTA</b> Union Elbow	Bulkhead Unions	<b>62ABH</b> Bulkhead Union	<b>62ANBH</b> Bulkhead Union	<b>62NBH</b> Bulkhead Union	<b>62NFBH</b> Bulkhead Union	
							
Page H11	Page H6		Page H11	Page H5	Page H5	Page H5	
<b>66NBH</b> Bulkhead Union	Tube to Straight Thread	<b>685VLV</b> Male Connector	<b>1695VLV</b> Male Elbow	Tube to Metric Straight Thread	<b>68NTA-MI</b> Adapter		
							
Page H5		Page H17	Page H18		Page H6		



Auxiliary	<div>61AB Nut</div> <div></div> <div>Page H11</div>	<div>61NTA Nut</div> <div></div> <div>Page H5</div>	<div>61TF Nut</div> <div></div> <div>Page H9</div>	<div>61RB Nut</div> <div></div> <div>Page H14</div>	<div>61RBSG Spring Guard Nut</div> <div></div> <div>Page H14</div>	<div>67RBSG Nut &amp; Spring</div> <div></div> <div>Page H14</div>	
	<div>61VL Nut</div> <div></div> <div>Page H17</div>	<div>60AB Sleeve</div> <div></div> <div>Page H11</div>	<div>60NTA Sleeve</div> <div></div> <div>Page H5</div>	<div>60TF Sleeve</div> <div></div> <div>Page H9</div>	<div>60RB Sleeve</div> <div></div> <div>Page H14</div>	<div>60VL Sleeve</div> <div></div> <div>Page H17</div>	<div>60VLV Viton Sleeve</div> <div></div> <div>Page H17</div>
	<div>56RBSG Spring</div> <div></div> <div>Page H14</div>	<div>63NTA Tube Support</div> <div></div> <div>Page H5</div>					





# Air Brake-NTA® Fittings

MATERIALS OF CONSTRUCTION	
FITTINGS:	BRASS
NUTS:	BRASS
SLEEVE:	BRASS
THREAD SEALANT:	LOCTITE VIBRA-SEAL 516

NOMENCLATURE	
EXAMPLE: VS68NTA-10-8	ATTRIBUTE:
VS	LOCITE VIBRA SEAL 516
68	MALE CONNECTOR
NTA	NYLON TUBE AIR BRAKE FITTING
10	5/8" (10/16) TUBE SIZE
8	1/2" (8/16) PIPE THREAD

APPLICABLE TUBE	
TUBE MATERIAL:	SAE J844 TYPE A & B NYLON TUBING
TUBE O.D.:	3/16, 1/4, 3/8, 1/2, 5/8, 3/4

SPECIFICATIONS	
PRESSURE RANGE:	UP TO 150 PSI
TEMPERATURE RANGES:	-40° TO +200°F

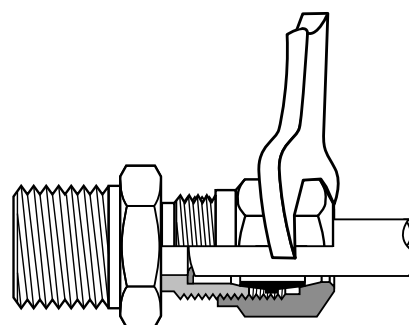
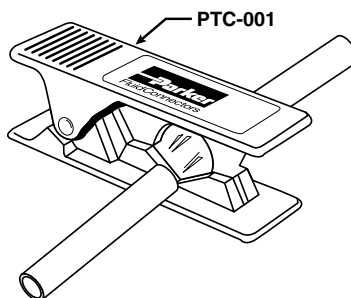
## Assembly Instructions

1. Cut tubing squarely—maximum of 15° angle allowable. (Use of Parker tube cutter PTC-001 is recommended.)
2. Check that port or mating part is clean and free of debris.
3. Insert tubing into fitting 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 the 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



Fittings meet D.O.T. FMVSS 571.106 air brake specifications. Fittings utilize a ribbed sleeve for compression and positive grip. Fittings are pre-applied with thread sealant. Meets functional requirements of the SAE automotive tube fitting standards: SAE J246 and SAE J1131. Electroless nickel plated bodies can be used with bio-diesel.



**Sleeve 60NTA**

REF. SAE 100115

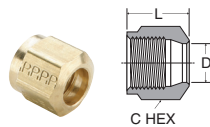


PART NO.	TUBE SIZE	A	D	L
60NTA-3*	3/16	.255	.194	.23
60NTA-4	1/4	.359	.256	.30
60NTA-6	3/8	.479	.384	.39
60NTA-8	1/2	.624	.509	.43
60NTA-10	5/8	.746	.634	.49
60NTA-12	3/4	.922	.760	.54

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

**Nut 61NTA**

REF. SAE 100110

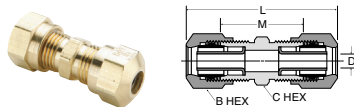


PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	D	L
61NTA-3*	3/16	5/16-24	7/16	.194	.40
61NTA-4	1/4	7/16-24	9/16	.256	.45
61NTA-6	3/8	17/32-24	5/8	.384	.63
61NTA-8	1/2	11/16-20	13/16	.509	.72
61NTA-10	5/8	13/16-18	15/16	.634	.77
61NTA-12	3/4	1-18	1-1/8	.760	.81

\*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

**Stainless Steel Insert 63NTA**

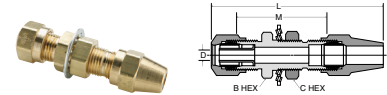
(FOR SAE J844 TUBING)



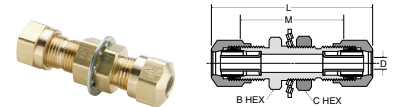
PART NO.	TUBE SIZE	L	O.D.
63NTA-4	1/4	.53	.163
63NTA-6	3/8	.64	.245
63NTA-8	1/2	.81	.370
63NTA-10	5/8	.86	.434
63NTA-12	3/4	1.04	.559

**Bulkhead Union 62ANBH**

(NTA® &amp; AIR BRAKE)

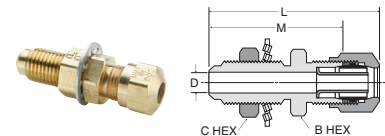


PART NO.	TUBE SIZE	STRAIGHT THREAD	B HEX	C HEX	L	M	FLOW DIA. D	BULKHEAD HOLE DIA.
62ANBH-4	1/4	7/16-24	9/16	9/16	2.28	1.38	.137	7/16
62ANBH-6	3/8	17/32-24	11/16	3/4	2.97	1.62	.217	17/32
62ANBH-8	1/2	11/16-20	13/16	1	3.36	1.88	.338	11/16

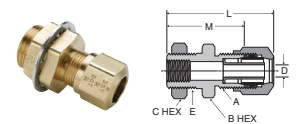
**Bulkhead Union 62NBH**

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	STGHT THD	B HEX	C HEX	L	M	FLOW DIA. D	BKHD HOLE DIA.
62NFBH-4	1/4	1/4	7/16-24	9/16	9/16	2.04	1.38	.137	7/16
62NFBH-6	3/8	3/8	17/32-24	11/16	3/4	2.54	1.62	.217	5/8
62NFBH-8	1/2	1/2	11/16-20	13/16	1	2.92	1.88	.338	3/4
62NFBH-10	5/8	5/8	13/16-18	15/16	1	3.04	2.02	.398	7/8
62NFBH-10-8	5/8	1/2	13/16-18	7/8	7/8	2.90	2.40	.400	3/4

**Bulkhead Union 66NBH**

PART NO.	TB SZ	PIPE THD	A STGHT THD	E STGHT THD	B HEX	C HEX	L	M	FLOW DIA. D	BKHD 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

## 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

## 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

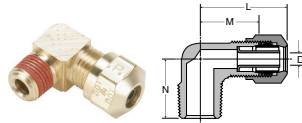
## Union Elbow 265NTA

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

## Male Elbow VS269NTA

REF. SAE 100202 BA

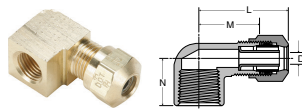


PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	L	M	N	FLOW DIA. D
VS269NTA-3-2*	3/16	1/8	5/16-24	.90	.60	.67	.087
VS269NTA-3-4*	3/16	1/4	5/16-24	.91	.62	.87	.087
VS269NTA-4-2	1/4	1/8	7/16-24	.95	.62	.66	.137
VS269NTA-4-4	1/4	1/4	7/16-24	1.00	.68	.87	.137
VS269NTA-4-6	1/4	3/8	7/16-24	1.16	.73	.86	.137
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	1.10	.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	.400
VS269NTA-12-8	3/4	1/2	1-18	1.70	1.19	1.33	.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

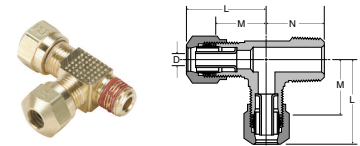


PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	L	M	N	FLOW DIA. D
270NTA-3-2*	3/16	1/8	5/16-24	.96	.67	.52	.087
270NTA-4-2	1/4	1/8	7/16-24	1.02	.69	.52	.137
270NTA-4-4	1/4	1/4	7/16-24	1.11	.78	.71	.137
270NTA-6-2	3/8	1/8	17/32-24	1.29	.83	.59	.217
270NTA-6-4	3/8	1/4	17/32-24	1.35	.89	.77	.217
270NTA-6-6	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.

## Male Run Tee VS271NTA

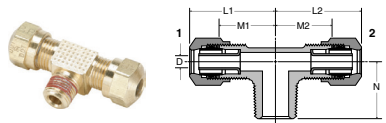
REF. SAE 100424 BA



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	.79	.92	.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

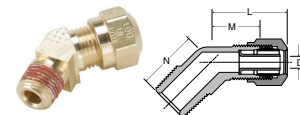


PART NO.	TB 1	TB 2	PIPE THD	STGHT THD	L1	L2	M1	M2	N	FLOW DIA. D
VS272NTA-3-2*	3/16	3/16	1/8	7/16-24	.90	.90	.61	.61	.66	.087
VS272NTA-4-2	1/4	1/4	1/8	7/16-24	.95	.95	.62	.62	.66	.137
VS272NTA-4-4	1/4	1/4	1/4	7/16-24	1.00	1.00	.68	.68	.87	.137
VS272NTA-6-2	3/8	3/8	1/8	17/32-24	1.18	1.18	.72	.72	.75	.217
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	1.30	1.30	.84	.84	.91	.217
VS272NTA-8-4	1/2	1/2	1/4	11/16-20	1.41	1.41	.89	.89	.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.

## 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	.49	.63	.137
VS279NTA-4-4	1/4	1/4	7/16-24	.93	.60	.85	.137
VS279NTA-6-2	3/8	1/8	17/32-24	1.17	.71	.68	.217
VS279NTA-6-4	3/8	1/4	17/32-24	1.17	.71	.85	.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



# Transmission Fittings

MATERIALS OF CONSTRUCTION	
FITTINGS:	BRASS
SLEEVE:	BRASS
NUTS:	BRASS

NOMENCLATURE	
EXAMPLE: 68TF-2-2	ATTRIBUTE:
68	MALE CONNECTOR
TF	TRANSMISSION FITTING
2	1/8" TUBE SIZE
2	1/8" PIPE THREAD

APPLICABLE TUBE	
TUBE MATERIAL:	SAE J844 TYPE A & B NYLON TUBING
TUBE O.D.:	1/8, 5/32

SPECIFICATIONS	
PRESSURE RANGE:	UP TO 150 PSI
TEMPERATURE RANGES:	-40° TO +220°F



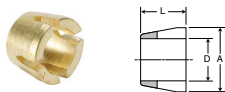
## Assembly Instructions

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

Fitting utilizes a specially designed slotted sleeve to help eliminate notch stress related to over-torque. The fitting design is ideally suited for use in pressure protected air transmission applications. Electroless nickel plated bodies can be used with bio-diesel.

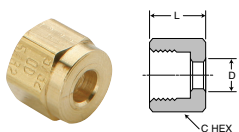


### Sleeve 60TF



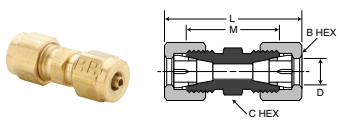
PART NO.	TUBE SIZE	A	D	L
60TF-2	1/8	.235	.130	0.17
60TF-5/32	5/32	.251	.165	0.18

### Nut 61TF



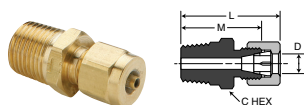
PART NO.	TUBE SIZE	D	L	STRT THD	C HEX
61TF-2	1/8	.133	.32	5/16-24	3/8
61TF-5/32	5/32	.163	.32	5/16-24	3/8

### Union 62TF



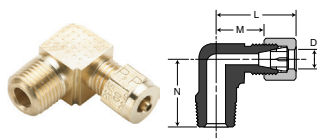
PART NO.	TUBE SIZE	D	L	STRT THD	M	C HEX	B HEX
62TF-2	1/8	0.109	1.04	5/16-24	.68	5/16	3/8
62TF-5/32	5/32	0.068	1.04	5/16-24	.68	5/16	3/8

### Male Connector 68TF



PART NO.	TUBE SIZE	PIPE THREAD	D	L	STRT 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 THREAD	D	L	STRT 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



# Air Brake – AB Fittings

MATERIALS OF CONSTRUCTION	
FITTINGS:	BRASS
NUTS:	BRASS
SLEEVES:	BRASS

NOMENCLATURE	
EXAMPLE: VS68AB-10-8	ATTRIBUTE:
VS	LOCITE VIBRA SEAL® 516
68	MALE CONNECTOR
AB	AIR BRAKE
10	5/8 TUBE SIZE
8	1/2 PIPE THREAD

APPLICABLE TUBE	
TUBE MATERIAL:	COPPER, SAE J844 TYPE A & B NYLON TUBING (WITH ADDITION OF NTA TUBE SUPPORT)
TUBE O.D.:	1/4, 3/8, 1/2, 5/8, 3/4

SPECIFICATIONS	
OPERATING FLUID:	WATER, AIR, INERT AND NON-COMBUSTIBLE GASSES COMPATIBLE WITH MATERIALS OF CONSTRUCTION
PRESSURE RANGE:	UP TO 400 PSI
TEMPERATURE RANGES:	FROM -65° TO +250°F.



Fittings meet D.O.T. FMVSS 571.106 performance specifications when assembled with 63NTA tube support and SAE J844 nylon tubing. Fittings meet functional requirements of SAE J246. Electroless nickel plated bodies can be used with bio-diesel.

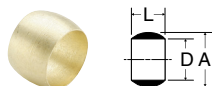
## Assembly Instructions

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 below (This will allow a number of remakes):

TUBE SIZE	TURNS REQUIRED TO SEAL FROM HAND-TIGHT
1/4, 3/8, 1/2	2
5/8, 3/4	3

**Sleeve 60AB**

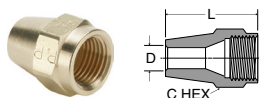
REF. SAE 120115



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**

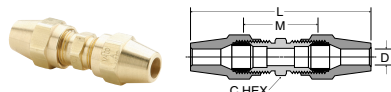
REF. SAE 120111



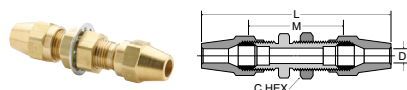
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	D	L
61AB-4	1/4	7/16-24	9/16	.256	.75
61AB-6	3/8	17/32-24	5/8	.384	1.13
61AB-8	1/2	11/16-20	13/16	.509	1.25
61AB-10	5/8	13/16-18	15/16	.634	1.38
61AB-12	3/4	1-18	1-1/8	.760	1.56

**Union 62AB**

REF. SAE 120101 BA



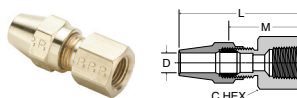
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	L	M	FLOW DIA. D
62AB-4	1/4	7/16-24	7/16	1.98	.83	.189
62AB-6	3/8	17/32-24	9/16	2.87	1.08	.314
62AB-8	1/2	11/16-20	11/16	3.21	1.29	.405
62AB-10	5/8	13/16-18	13/16	3.59	1.41	.531
62AB-12	3/4	1-18	1	4.08	1.59	.656

**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**

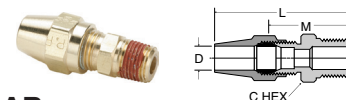
REF. SAE 120103 BA



PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	C HEX	L	M	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

**Male Connector VS68AB**

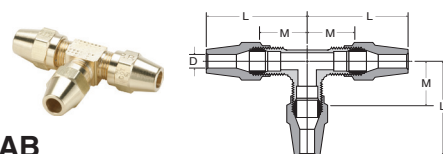
REF. SAE 120102 BA



PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	C HEX	L	M	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**

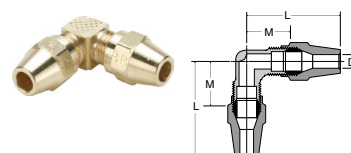
REF. SAE 120401 BA



PART NO.	TUBE SIZE	STRAIGHT THREAD	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

**Union Elbow 265AB**

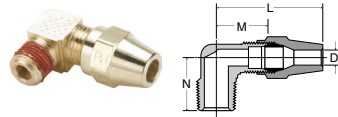
REF. SAE 120201 BA



PART NO.	TUBE SIZE	STRAIGHT THREAD	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**

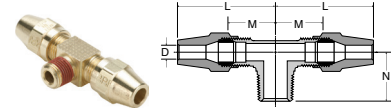
REF. SAE 120202 BA



PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	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

**Male Branch Tee VS272AB**

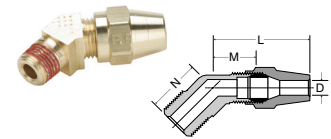
REF. SAE 120425 BA



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**

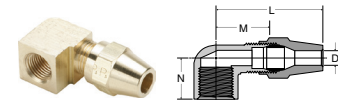
REF. SAE 120302 BA



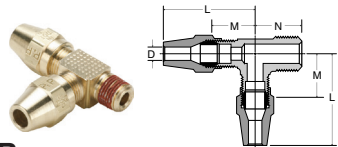
PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	L	M	N	FLOW DIA. D
VS279AB-4-2	1/4	1/8	7/16-24	1.07	.49	.63	.189
VS279AB-4-4	1/4	1/4	7/16-24	1.18	.60	.85	.189
VS279AB-6-2	3/8	1/8	17/32-24	1.60	.71	.68	.189
VS279AB-6-4	3/8	1/4	17/32-24	1.64	.71	.85	.314
VS279AB-6-6	3/8	3/8	17/32-24	1.64	.75	.94	.314
VS279AB-6-8	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

**Female Elbow 270AB**

REF. SAE 120203 BA

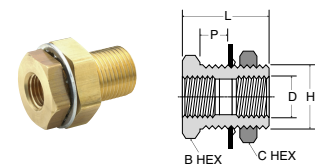


PART NO.	TUBE SIZE	PIPE THREAD	STRAIGHT THREAD	L	M	N	FLOW DIA. D
270AB-4-2	1/4	1/8	7/16-24	1.27	.69	.52	.189
270AB-4-4	1/4	1/4	7/16-24	1.36	.78	.71	.189
270AB-6-2	3/8	1/8	17/32-24	1.72	.83	.59	.314
270AB-6-4	3/8	1/4	17/32-24	1.78	.89	.77	.314
270AB-6-6	3/8	3/8	17/32-24	1.82	.93	.77	.314
270AB-8-6	1/2	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 THREAD	STRAIGHT THREAD	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

**Anchor Coupling 207ACBH**

PART NO.	FEMALE PIPE THREAD	STRAIGHT THREAD	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

\*Lock Washer not Available



# Air Brake Hose Ends Fittings

MATERIALS OF CONSTRUCTION	
FITTINGS:	BRASS
NUTS:	BRASS
SLEEVES:	BRASS

NOMENCLATURE	
EXAMPLE: 68RBSG-6-8	ATTRIBUTE:
68	MALE CONNECTOR
RB	AIR BRAKE HOSE END
SG	SPRING GUARD
6	3/8 HOSE I.D.
8	1/2 PIPE THREAD

APPLICABLE TUBE	
HOSE MATERIAL:	PARKER 271
HOSE SIZE:	3/8, 1/2

SPECIFICATIONS	
PRESSURE RANGE:	UP TO 225 PSI
TEMPERATURE RANGES:	-50° TP +212°F

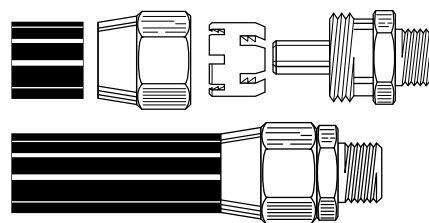


Fittings will meet D.O.T. FMVSS 571.106 standards when used with SAE J1402 air brake hose.

## 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.



## Parker 271

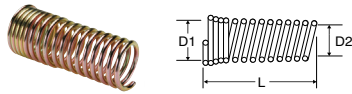
MEETS OR EXCEEDS THE REQUIREMENTS OF SAE J1402 TABLE A, AND DEPT. OF TRANSPORTATION FMVSS 106-74, TYPE A2.

SPECIFICATIONS	
CONSTRUCTION	TUBE - SYNTHETIC RUBBER. REINFORCEMENT - ONE OR MORE FABRIC BRAIDS OR SPIRALS. COVER - ABRASION, OIL AND AGE RESISTANT SYNTHETIC RUBBER.
IDENTIFICATION	PARKER, PART NUMBER, AND APPROPRIATE SAE AND DOT MARKINGS.
APPLICATION	AIR BRAKE SYSTEMS.
TEMPERATURE RANGE	-50°F THRU +212°F (-46°C THRU +100°C)

PART NO.	HOSE SIZE	HOSE I.D.	HOSE O.D.	MIN. BURST PRESS.	MAX. WORKING PRESS.	MIN. BEND RADIUS	APPROX. WT. LBS./FT.
271-6	-6	3/8	.750	900	225	1.75	.200
271-8	-8	1/2	.875	900	225	2.00	.260

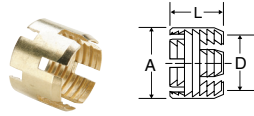


## Spring 56RBSG



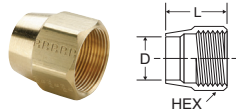
PART NO.	HOSE SIZE	L	D1	D2
56RBSG-6	3/8	2.75	.84	.78
56RBSG-8	1/2	3.00	1.03	.91

## Sleeve 60RB



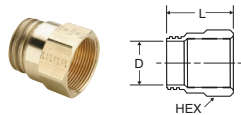
PART NO.	HOSE SIZE	L	A	D
60RB-6	3/8	.69	.90	.78
60RB-8	1/2	.69	1.03	.92

## Nut 61RB



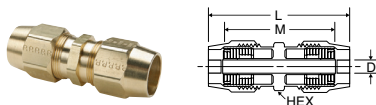
PART NO.	HOSE SIZE	STRAIGHT THREAD	HEX	L	D
61RB-6	3/8	31/32-20	1-1/16	1.12	.80
61RB-8	1/2	1-3/32-20	1-1/4	1.12	.93

## Spring Guard Nut 61RBSG



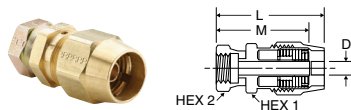
PART NO.	HOSE SIZE	STRAIGHT THREAD	HEX	L	D
61RBSG-6	3/8	31/32-20	1-1/16	1.22	.80
61RBSG-8	1/2	1-3/32-20	1-1/4	1.19	.92

## Union 62RB



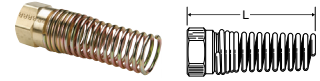
PART NO.	HOSE SIZE	STRAIGHT THREAD	HEX	L	M	D
62RB-6	3/8	31/32-20	31/32	2.98	2.56	.281
62RB-8	1/2	1-3/32-20	1-1/8	2.99	2.55	.390

## Female Swivel Connector 66RBSV



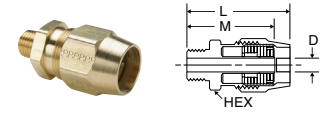
PART NO.	HOSE SIZE	STRAIGHT THREAD	HEX1	HEX2	L	M	D
66RBSV-6-3/4	3/8	3/4-20	31/32	7/8	2.30	2.09	.281
66RBSV-8-7/8	1/2	7/8-20	1-1/8	1"	2.36	2.14	.390

## Air Brake Hose Nut &amp; Attached Spring 67RBSG



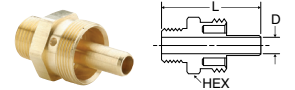
PART NO.	L
67RBSG-6	3.50
67RBSG-8	3.75

## Male Connector 68RB



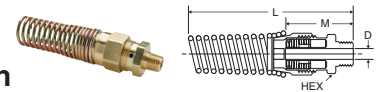
PART NO.	HOSE SIZE	STRAIGHT THREAD	PIPE THREAD	HEX	L	M	D
68RB-6-4	3/8	31/32-20	1/4	31/32	2.24	1.91	.281
68RB-6-6	3/8	31/32-20	3/8	31/32	2.24	1.91	.281
68RB-6-8	3/8	31/32-20	1/2	31/32	2.38	2.06	.281
68RB-8-6	1/2	1-3/32-20	3/8	1-1/8	2.24	1.91	.390
68RB-8-8	1/2	1-3/32-20	1/2	1-1/8	2.29	2.07	.390

## Male Connector Body Only 68RB



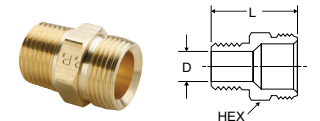
PART NO.	HOSE SIZE	STRAIGHT THREAD	PIPE THREAD	HEX	L	D
68RB-6-4B	3/8	31/32-20	1/4	31/32	1.91	.281
68RB-6-6B	3/8	31/32-20	3/8	31/32	1.91	.281
68RB-6-8B	3/8	31/32-20	1/2	31/32	2.06	.281
68RB-8-6B	1/2	1-3/32-20	3/8	1-1/8	1.91	.390
68RB-8-8B	1/2	1-3/32-20	1/2	1-1/8	2.07	.390

## Male Connector with Spring Guard 68RBSG



PART NO.	HOSE SIZE	PIPE THREAD	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 THREAD	STRAIGHT THREAD	HEX	L	D
76RB-3/4-4	1/4	3/4-20	3/4	1.06	.31
76RB-3/4-6	3/8	3/4-20	3/4	1.12	.31
76RB-7/8-6	3/8	7/8-20	7/8	1.25	.44
76RB-7/8-8	1/2	7/8-20	7/8	1.47	.50





# Vibra-Lok Fittings

MATERIALS OF CONSTRUCTION	
FITTING BODIES:	BRASS
NUTS:	BRASS
SLEEVES:	BUNA N, FLUOROCARBON

NOMENCLATURE	
EXAMPLE: 68VLV-4-2	ATTRIBUTE:
68	MALE CONNECTOR
VL	VIBRA-LOK
V	FLUOROCARBON SLEEVE
4	1/4" (4/16) TUBE O.D.
2	1/8" (2/16) PIPE THREAD

APPLICABLE TUBE	
TUBE MATERIAL:	COPPER, ALUMINUM, STEEL (BUNDY), STAINLESS STEEL, GLASS
TUBE O.D.:	1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4

SPECIFICATIONS	
OPERATING FLUID:	WATER, AIR, GASOLINE, OIL, DIESEL FUEL, LUBRICANTS
NOTE:	FOR OTHER TYPES OF FLUIDS OR GASSES, PLEASE CONSULT FACTORY

TEMPERATURE RANGE	
-15° TO +450°F	WITH FLUOROCARBON SLEEVE. SLEEVE IS MARKED WITH RED STRIPE
-30° TO +275°F	WITH BUNA N SLEEVE. SLEEVE IS MARKED WITH GREEN STRIPE

PRESSURE CHART			
CONDITION	TUBE O.D.	TUBE NOT BELLED	TUBE BELLED OR FLARED
STATIC PRESSURE	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	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	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.



Fitting provides a positive reliable seal under vibration conditions, mechanical shock or tube movement. The sleeve cushions the tubing permitting the tube to flex back and forth in the fitting. Positive nut stop bottoms nut on body requiring only visual inspection.

SAE J1926 straight threads and NPTF pipe threads are standard. Optional threads include ISO 6149 straight threads and British pipe threads.

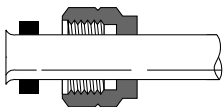
## Assembly Instructions

1. Cut the tube cleanly and squarely removing all burrs.
2. Slip tube nut and sleeve over tube.
3. Insert tubing in fitting body as far as it will go 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.

## Assembly Instructions for Higher Pressure Applications

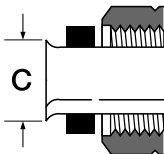
4. Consult pressure chart to determine if tubing should be belled for your particular application.
5. Slip the nut and sleeve over tubing. The sleeve should be positioned near end of tubing just behind the surface to be belled.
6. Bell tubing with standard 45° flaring tool or 90° punch. The size of bell should be approximately that shown.

Sleeve Position



Recommended Size of Bell

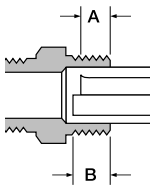
TUBE O.D.	BELL DIA. C
1/8"	.190-.160
3/16"	.255-.225
1/4"	.318-.288
5/16"	.381-.351
3/8"	.444-.414
1/2"	.569-.539
5/8"	.694-.664
3/4"	.819-.789
7/8"	.944-.914



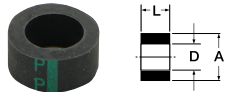
Tube Length Calculator

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"	

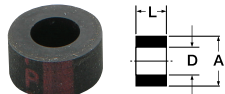


## Sleeve 60VL



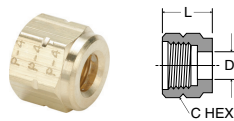
PART NO.	TUBE SIZE	A	D	L
60VL-2	1/8	.306	.100	.20
60VL-3	3/16	.359	.156	.20
60VL-4	1/4	.422	.219	.21
60VL-5	5/16	.484	.281	.24
60VL-6	3/8	.547	.344	.25
60VL-8	1/2	.688	.469	.36
60VL-10	5/8	.875	.594	.48
60VL-12	3/4	1.000	.720	.59

## Sleeve (Fluorocarbon) 60VLV



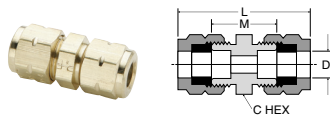
PART NO.	TUBE SIZE	A	D	L
60VLV-3	3/16	.359	.156	.20
60VLV-4	1/4	.422	.219	.21
60VLV-5	5/16	.484	.281	.24
60VLV-6	3/8	.547	.344	.25
60VLV-8	1/2	.688	.469	.36
60VLV-10	5/8	.875	.594	.48
60VLV-12	3/4	1.000	.720	.59

## Nut 61VL



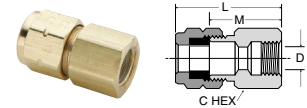
PART NO.	TUBE SIZE	STRAIGHT THREAD	C HEX	D	L
61VL-2	1/8	3/8-24	7/16	.156	.44
61VL-3	3/16	7/16-24	1/2	.218	.47
61VL-4	1/4	1/2-24	9/16	.281	.50
61VL-5	5/16	9/16-24	5/8	.344	.53
61VL-6	3/8	5/8-24	3/4	.406	.53
61VL-8	1/2	1 1/8-18	1 1/2	.531	.67
61VL-10	5/8	1 1/2-18	1 3/4	.656	.88
61VL-12	3/4	1 3/4-18	2	.781	.98

## Union 62VL



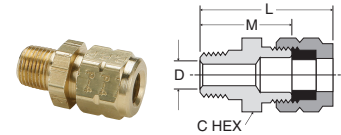
PART NO.	TUBE SIZE	C HEX	L	M	FLOW DIA. D
62VL-4	1/4	9/16	1.39	.77	.188
62VL-5	5/16	5/8	1.49	.81	.250
62VL-6	3/8	11/16	1.49	.80	.312
62VL-8	1/2	7/8	1.90	.94	.437

## Female Connector 66VL



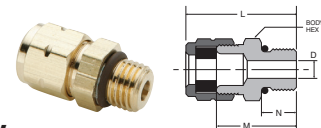
PART NO.	TUBE SIZE	PIPE THREAD	C HEX	L	M	FLOW DIA. D
66VL-4-2	1/4	1/8	9/16	1.09	.78	.188
66VL-5-4	5/16	1/4	11/16	1.32	.97	.250

## Male Connector 68VL



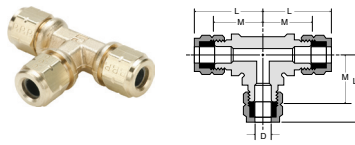
PART NO.	TUBE SIZE	PIPE THREAD	C HEX	L	M	FLOW DIA. D
68VL-2-2	1/8	1/8	7/16	1.12	.81	.093
68VL-3-2	3/16	1/8	1/2	1.10	.81	.125
68VL-4-2	1/4	1/8	9/16	1.15	.84	.188
68VL-4-4	1/4	1/4	9/16	1.34	1.03	.188
68VL-5-4	5/16	1/4	5/8	1.41	1.06	.250
68VL-6-2	3/8	1/8	11/16	1.22	.87	.235
68VL-6-4	3/8	1/4	11/16	1.41	1.06	.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



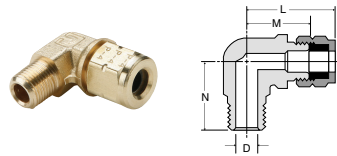
PART NO.	TUBE SIZE	STRAIGHT THREAD	BODY HEX	L	M	N	D
685VLV-4-4	1/4	7/16-20	9/16	1.14	.83	.36	.18
685VLV-5-4	5/16	7/16-20	5/8	1.18	.83	.36	.18
685VLV-6-4	3/8	7/16-20	11/16	1.18	.83	.36	.18
685VLV-6-6	3/8	9/16-18	11/16	1.25	.90	.39	.30
685VLV-8-8	1/2	3/4-16	7/8	1.52	1.04	.44	.39
685VLV-10-10	5/8	7/8-14	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 &amp; o-ring standard



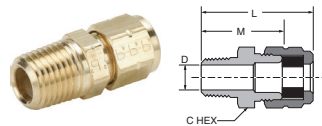
### Union Tee 164VL

PART NO.	TUBE SIZE	B 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



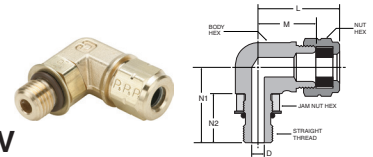
### Male Elbow 169VL

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



### Straight Through Tank Fitting 682VL

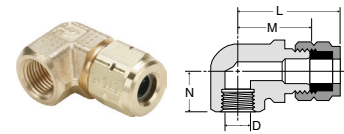
PART NO.	TUBE SIZE	PIPE THREAD	C HEX	L	M	FLOW DIA. D
682VL-4-2	1/4	1/8	9/16	1.15	.84	.265
682VL-4-4	1/4	1/4	9/16	1.34	1.03	.265
682VL-5-4	5/16	1/4	5/8	1.41	1.06	.328
682VL-6-6	3/8	3/8	11/16	1.41	1.06	.406



### Male Elbow 1695VL

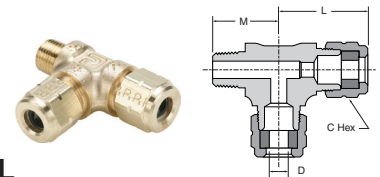
PART NO.	TUBE SIZE	STRAIGHT THREAD	NUT HEX	BODY HEX	JAM NUT HEX	L	M	N1	N2	D
1695VLV-4-4	1/4	7/16-20	9/16	9/16	9/16	1.15	.84	1.07	.71	.18
1695VLV-5-4	5/16	7/16-20	5/8	9/16	9/16	1.16	.81	1.07	.71	.18
1695VLV-6-4	3/8	7/16-20	3/4	5/8	9/16	1.19	.84	1.10	.71	.18
1695VLV-6-6	3/8	9/16-18	3/4	5/8	11/16	1.29	.94	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



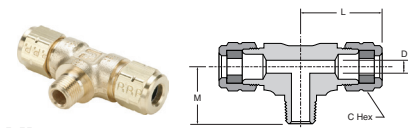
### Female Elbow 170VL

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



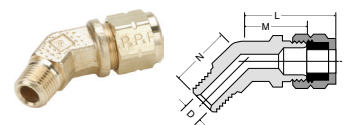
### Male Run Tee 171VL

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
171VL-4-4	1/4	1/4	9/16	1.12	1.03	.188



### Male Run 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





# Push to Connect Transportation



## **Prestomatic**

*Stainless Steel Tube support*

*Meets D.O.T. FMVSS 571.106*

*Meets SAE J2494*



## **PTC**

*Composite Light Weight Bodies*

*Meets D.O.T. FMVSS 571.106*

*Meets SAE J2494 – 3*

*Brass componentry*



## **Metric Prestomatic**

*Sizes 6mm and above Meets*

*DIN 74324. Product only meets*

*FMVSS 571.106 when used with*

*SAE J844 metric tubing.*

*If product is used with DIN*

*tubing, it will not meet the*

*FMVSS 571.106 performance*

*requirements.*

*Meets DOT FMVSS 571.106*

*when used with SAE J844 tubing*































*Use with DIN 73378 virgin nylon*

*or SAE J844 Tubing*











*Universal Stud Design*

*and Brass Body*



Tube to Male NPT	<b>68PMT</b> Male Connector  Page I6	<b>169PMT</b> Male Elbow Swivel  Page I7	<b>169PMTL</b> Male Elbow Long  Page I7	<b>169PMTR</b> Male Elbow Swivel 90°  Page I7	<b>169PMTNS</b> Male Elbow  Page I7	<b>171PMT</b> Run Tee Swivel  Page I8	
	<b>171PMTNS</b> Male Run Tee  Page I8	<b>172PMT</b> Branch Tee Swivel  Page I8	<b>172PMTNS</b> Branch Tee  Page I8	<b>179PMT</b> 45° Elbow Swivel  Page I9	<b>179PMTNS</b> 45° Elbow  Page I9	<b>179PMTR</b> Male Elbow Swivel 45°  Page I9	<b>189PMTR</b> Dual Port Elbow  Page I9
	<b>369PTC</b> Male Elbow Swivel 90°  Page I11	<b>371PTC</b> Male Run Tee Swivel  Page I12	<b>372PTC</b> Male Branch Tee Swivel  Page I12	<b>379 PTC</b> Male Elbow Swivel 45°  Page I12	<b>368PTC</b> Union Y  Page I11		
Tube to Female NPT	<b>66PMT</b> Female Connector  Page I5	<b>170PMT</b> Female Elbow Swivel  Page I8	<b>170PMTNS</b> Female Elbow Swivel  Page I8	<b>370PTC</b> Female Elbow Swivel 90°  Page I11	<b>377PTC</b> Branch Tee  Page I12		
	<b>62PMT</b> Union  Page I5	<b>164PMT</b> Union Tee  Page I6	<b>165PMT</b> Union Elbow  Page I6	<b>32PTC</b> Union  Page I11	<b>362PTC</b> Union Y  Page I11	<b>364PTC</b> Union Tee  Page I11	
Tube to Tube	<b>365PTC</b> Union Elbow  Page I11	<b>369PTCSP</b> Plug-In Elbow  Page I12					
Bulkhead Unions	<b>62PMTBH</b> Bulkhead Union  Page I5	<b>62PMTBHR</b> Bulkhead Union  Page I5	<b>66PMTBH</b> Bulkhead Female  Page I6	<b>68PMTBH</b> Bulkhead Male  Page I6	<b>165PMTBH</b> Bulkhead Elbow  Page I6	<b>169PMTBH</b> Bulkhead Male Elbow  Page I7	
	<b>ERHD</b> External Retainer  Page I5	<b>ES</b> External Seal  Page I5	<b>639PM/639PMT</b> Plug  Page I9				
Auxiliary							



Metric Tube to Male NPT	<b>F2PMTB</b> Male Connector  Page I14	<b>C2PMTB</b> Male Elbow  Page I15	Metric Tube to Metric Tube	<b>HPMTB</b> Metric Union  Page I14	<b>JPMTB</b> Metric Union Tee  Page I14	
	<b>F8UPMTB</b> Male Connector  Page I14	<b>C8UPMTB</b> Male Elbow  Page I15				
	<b>F3PMTB</b> Male Connector  Page I14	<b>C3PMTB</b> Male Elbow  Page I15				
	<b>169PMTNS-X-M</b> Male Elbow  Page I7	<b>68PMT-X-M</b> Male Connector  Page I6				



# Prestomatic<sup>†</sup> Air Brake Push-In Fittings

MATERIALS OF CONSTRUCTION	
FITTING BODIES:	BRASS
COLLET:	BRASS
TUBE SUPPORT:	STAINLESS STEEL
O-RING:	BUNA N

NOMENCLATURE	
EXAMPLE: 68PMT-6-4	ATTRIBUTE:
68	MALE CONNECTOR
PMT	AIR BRAKE PUSH-IN FITTING
6	3/8" (6/16) TUBE SIZE
4	1/4" (4/16) PIPE THREAD

APPLICABLE TUBE	
TUBE MATERIAL:	SAE J844 TYPE A & B NYLON TUBING
TUBE O.D.:	1/8, 5/32, 3/16, 1/4, 3/8, 1/2, 5/8, 3/4

SPECIFICATIONS	
PRESSURE RANGE:	UP TO 250 PSI
TEMPERATURE RANGES:	-40° TO +200°F

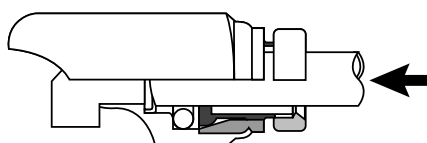
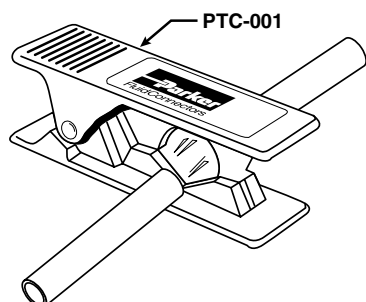


Patented design of sizes 5/32" and above meet SAE J2494 and D.O.T. FMVSS 571.106 air brake performance specifications. Stainless steel tube support in sizes 1/4" and above assures maximum flow and performance requirements of SAE J2494-3.

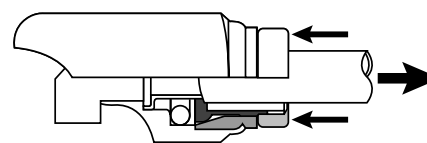
## Assembly Instructions

1. Cut tubing squarely—maximum of 15° angle allowable.
  - Use of Parker tube cutter PTC-001 is recommended.
2. Check that port or mating part is clean and free of debris.
3. Insert tubing into fitting until it bottoms.
  - Push twice to verify that tubing is inserted past collet and O-Ring.
4. Pull on tubing to verify it is fully inserted.
5. To disassemble, simply press release button, hold against body, and pull tubing out of fitting.

Note: in order to pass hot pull requirements of SAE FMVSS 571.106 and SAE J2494-3 a tube support must be present in the end of the fitting before final fitting assembly.



Insert tubing until it bottoms



Depress button to remove tubing

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

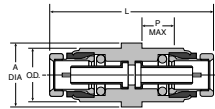
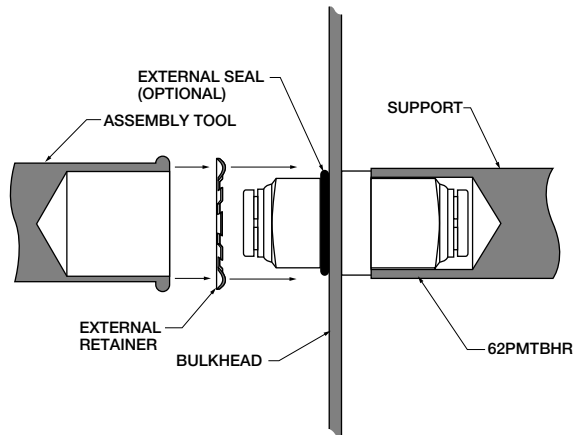
## Prestomatic<sup>†</sup> Retaining Ring Bulkhead Unions

Prestomatic<sup>†</sup> retaining ring bulkhead unions feature a unique design that provides the user with an economical method to install and assemble a union connection through a bulkhead.

The retaining ring bulkhead unions feature a smaller envelope size than standard bulkhead union connectors and do not require a wrench to mount or assemble in cramped areas.

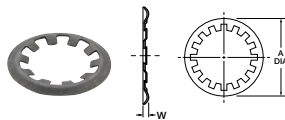
The external seal feature provides a moisture barrier and can also prevent external contamination from entering into an enclosed area.

To install, simply support the bulkhead union from behind and apply the external seal. Then push the external retainer against the external seal with an assembly tool and you have a reliable bulkhead connection in a confined area.



## Retaining Ring Bulkhead 62PMTBHR

PART NO.	TUBE SIZE	O.D.	REC. HOLE SIZE	L	P MAX	A DIA
62PMTBHR-4	1/4	.500	.512	1.53	.26	.625
62PMTBHR-6	3/8	.750	.762	1.92	.36	.875
62PMTBHR-8	1/2	.875	.887	2.15	.43	1.000
62PMTBHR-10	5/8	1.000	1.012	2.54	.62	1.250

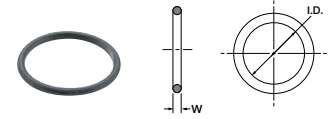


## External Retainer ERHD\*

PART NO.	TUBE SIZE	BULKHEAD UNION O.D.	A DIA.	W
ERHD-50	1/4	.500	.83	.05
ERHD-75	3/8	.750	1.08	.05
ERHD-87	1/2	.875	1.20	.05
ERHD-100	5/8	1.000	1.33	.05

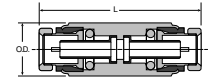
\*Material Carbon Spring Steel

## External Seal ES\*



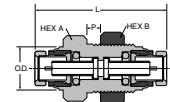
PART NO.	TUBE SIZE	BULKHEAD UNION O.D.	I.D.	W
ES-50	1/4	.500	.489	.07
ES-75	3/8	.750	.739	.07
ES-87	1/2	.875	.864	.07

\*Material is Nitrile (Buna N), 70 Durometer



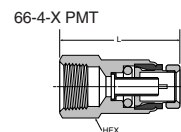
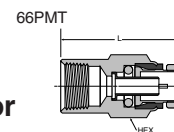
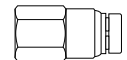
## Union 62PMT

PART NO.	TUBE SIZE	L	O.D.
62PMT-5/32	5/32	1.45	.38
62PMT-4	1/4	1.48	.50
62PMT-4-2	1/4-1/8	1.48	.50
62PMT-6	3/8	1.87	.75
62PMT-6-4	3/8-1/4	1.68	.75
62PMT-8	1/2	2.03	.88
62PMT-10	5/8	2.42	1.00



## Bulkhead Union 62PMTBH

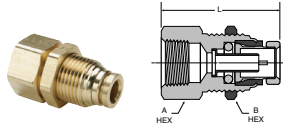
PART NO.	TUBE SIZE	O.D.	L	P MAX	HEX A	HEX B	BULKHEAD HOLE DIA.
62PMTBH-4	1/4	.56	1.69	.25	11/16	3/4	9/16
62PMTBH-6	3/8	.88	1.93	.44	1-1/16	1-1/16	7/8
62PMTBH-8	1/2	1.00	2.02	.58	1-1/4	1-1/4	1
62PMTBH-10	5/8	1.12	2.92	.81	1-1/4	1-3/8	1-1/8



## Female Connector 66PMT

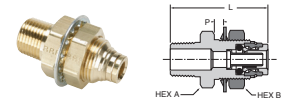
PART NO.	TUBE SIZE	PIPE THREAD	L	HEX
66PMT-4-2	1/4	1/8	1.22	9/16
66PMT-4-4	1/4	1/4	1.43	11/16
66PMT-6-2	3/8	1/8	1.37	3/4
66PMT-6-4	3/8	1/4	1.58	3/4
66PMT-6-6	3/8	3/8	1.62	13/16
66PMT-8-4	1/2	1/4	1.69	7/8
66PMT-8-6	1/2	3/8	1.68	7/8
66PMT-8-8	1/2	1/2	1.91	1

### Bulkhead Female Connector 66PMTBH



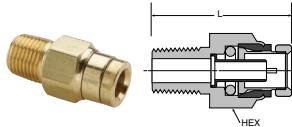
PART NO.	TUBE SIZE	PIPE THREAD	L	HEX A	HEX B	BULKHEAD HOLE DIA.
66PMTBH-4-4	1/4	1/4	1.62	11/16	3/4	9/16
66PMTBH-6-6	3/8	3/8	1.87	1.06	1.06	7/8
66PMTBH-8-8	1/2	1/2	2.02	1-1/4	1-1/4	1

### Bulkhead Male Connector 68PMTBH



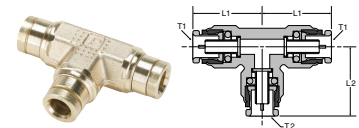
PART NO.	TUBE SIZE	PIPE THREAD	L	P MAX	HEX A	HEX B	BULKHEAD HOLE DIA.
68PMTBH-6-8	3/8	1/2	2.37	.33	1-1/4	1-1/4	1
68PMTBH-8-8	1/2	1/2	2.38	.33	1-1/4	1-1/4	1

### Male Connector 68PMT



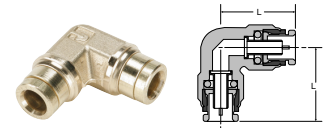
PART NO.	TUBE SIZE	PIPE THREAD	L	HEX
68PMT-5/32-1	5/32	1/16	.85	3/8
68PMT-5/32-2	5/32	1/8	.89	7/16
68PMT-4-2	1/4	1/8	1.06	1/2
68PMT-4-4	1/4	1/4	1.19	9/16
68PMT-4-6	1/4	3/8	1.27	3/4
68PMT-6-2	3/8	1/8	1.37	3/4
68PMT-6-4	3/8	1/4	1.43	3/4
68PMT-6-6	3/8	3/8	1.33	3/4
68PMT-6-8	3/8	1/2	1.38	7/8
68PMT-8-4	1/2	1/4	1.72	7/8
68PMT-8-6	1/2	3/8	1.52	7/8
68PMT-8-8	1/2	1/2	1.44	7/8
68PMT-10-6	5/8	3/8	1.88	1
68PMT-10-8	5/8	1/2	1.88	1
68PMT-12-8	3/4	1/2	2.03	1 3/16
68PMT-12-12	3/4	3/4	2.03	1 1/8

### Union Tee 164PMT



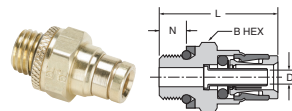
PART NO.	TUBE 1 SIZE	TUBE 2 SIZE	L1	L2
164PMT-4	1/4	1/4	.85	.85
164PMT-6	3/8	3/8	1.21	1.21
164PMT-6-6-4	3/8	1/4	1.21	.93
164PMT-8	1/2	1/2	1.27	1.27
164PMT-10	5/8	5/8	1.63	1.62

### Union Elbow 165PMT



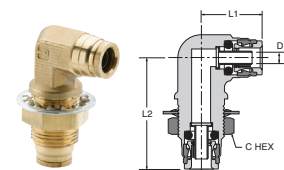
PART NO.	TUBE SIZE	L
165PMT-4	1/4	.85
165PMT-6	3/8	1.11
165PMT-8	1/2	1.24
165PMT-10	5/8	1.57

### Male Connector to Metric Adapter 68PMT-X-M

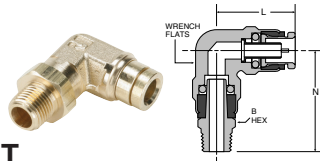


PART NO.	TUBE SIZE	METRIC THREAD	L	B HEX	N
68PMT-4-M12	1/4	M12X1.5	1.19	11/16	.29
68PMT-4-M16	1/4	M16X1.5	1.29	7/8	.39
68PMT-6-M12	3/8	M12X1.5	1.40	3/4	.29
68PMT-6-M16	3/8	M16X1.5	1.35	7/8	.39
68PMT-6-M22	3/8	M22X1.5	1.23	1 1/16	.40
68PMT-8-M12	1/2	M12X1.5	1.45	7/8	.29
68PMT-8-M16	1/2	M16X1.5	1.52	7/8	.39
68PMT-8-M22	1/2	M22X1.5	1.31	1 1/16	.37
68PMT-10-M16	5/8	M16X1.5	1.78	1	.39

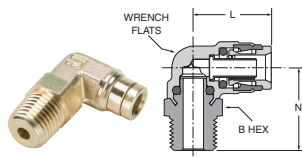
### Union Bulkhead Elbow 165PMTBH



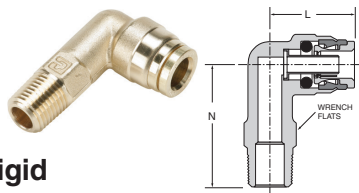
PART NO.	TUBE SIZE	L1	L2	C HEX	FLOW DIA. D	BULKHEAD HOLE DIA.
165PMTBH-8	1/2	1.29	2.45	1 1/4	.34	1

**Male Elbow 90° 169PMT**

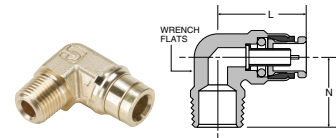
PART NO.	TUBE SIZE	PIPE THREAD	L	N	WRENCH FLATS	B HEX
169PMT-4-2	1/4	1/8	.84	1.01	1/2	9/16
169PMT-4-4	1/4	1/4	.84	1.23	1/2	9/16
169PMT-4-6	1/4	3/8	.84	1.23	1/2	11/16
169PMT-6-2	3/8	1/8	1.11	1.18	9/16	11/16
169PMT-6-4	3/8	1/4	1.11	1.30	9/16	11/16
169PMT-6-6	3/8	3/8	1.11	1.33	9/16	11/16
169PMT-6-8	3/8	1/2	1.11	1.54	9/16	7/8
169PMT-8-4	1/2	1/4	1.27	1.73	11/16	5/8
169PMT-8-6	1/2	3/8	1.27	1.81	11/16	3/4
169PMT-8-8	1/2	1/2	1.27	1.96	11/16	7/8
169PMT-10-6	5/8	3/8	1.53	2.03	7/8	3/4
169PMT-10-8	5/8	1/2	1.53	2.18	7/8	7/8

**Male Elbow Positional 90° 169PMTR**

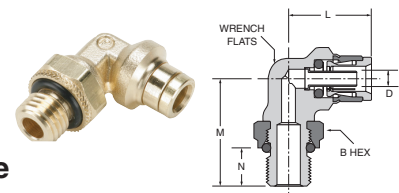
PART NO.	TUBE SIZE	PIPE THREAD	B HEX	L	N	WRENCH FLATS
169PMTR-4-4	1/4	1/4	9/16	0.84	1.13	1/2
169PMTR-6-6	3/8	3/8	3/4	1.12	1.19	9/16
169PMTR-10-8	5/8	1/2	7/8	1.54	1.50	7/8

**Male Elbow Long Rigid 90° 169PMTL**

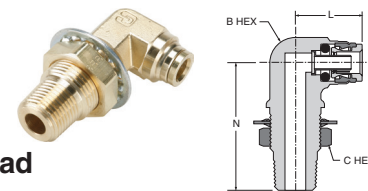
PART NO.	TUBE SIZE	PIPE THREAD	L	N	WRENCH FLATS
169PMTL-6-4	3/8	1/4	1.06	1.63	9/16
169PMTL-6-8	3/8	1/2	1.19	2.50	7/8
169PMTL-6-6	3/8	3/8	1.19	2.50	7/8
169PMTL-8-8	1/2	1/2	1.22	2.50	7/8
169PMTL-10-8	5/8	1/2	1.46	2.50	7/8

**Male Elbow Rigid 90° 169PMTNS/269PMT**

PART NO.	TUBE SIZE	PIPE THREAD	L	N	WRENCH FLATS
269PMT-5/32-1	5/32	1/16	.85	.66	7/16
269PMT-5/32-2	5/32	1/8	.85	.66	7/16
169PMTNS-4-2	1/4	1/8	.84	.72	1/2
169PMTNS-4-4	1/4	1/4	.84	.90	1/2
169PMTNS-4-6	1/4	3/8	.84	1.06	1/2
169PMTNS-6-2	3/8	1/8	1.05	.75	9/16
169PMTNS-6-4	3/8	1/4	1.05	.94	9/16
169PMTNS-6-6	3/8	3/8	1.05	.94	3/4
169PMTNS-6-8	3/8	1/2	1.12	1.26	11/16
169PMTNS-8-4	1/2	1/4	1.17	1.06	11/16
169PMTNS-8-6	1/2	3/8	1.22	1.06	11/16
169PMTNS-8-8	1/2	1/2	1.22	1.26	11/16
169PMTNS-10-6	5/8	3/8	1.46	1.11	7/8
169PMTNS-10-8	5/8	1/2	1.46	1.32	7/8
169PMTNS-12-8	3/4	1/2	1.81	1.44	1

**Male Elbow to Metric Adjustable 169PMTNS-X-M**

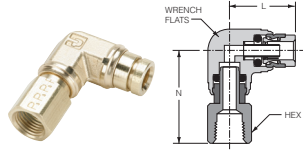
PART NO.	TUBE SIZE	METRIC THREAD	WRENCH FLATS (MM)	HEX (MM)	L	M	N
169PMTNS-4-M12	1/4	M12X1.5	10	17	.84	1.11	.37
169PMTNS-4-M16	1/4	M16X1.5	11	24	.96	1.27	.41
169PMTNS-4-M22	1/4	M22X1.5	19	30	1.09	1.53	.41
169PMTNS-6-M12	3/8	M12X1.5	16	17	1.10	1.15	.66
169PMTNS-6-M16	3/8	M16X1.5	19	24	1.23	1.27	.41
169PMTNS-8-M12	1/2	M12X1.5	16	17	1.21	1.31	.37
169PMTNS-8-M16	1/2	M16X1.5	16	24	1.26	1.34	.41
169PMTNS-8-M22	1/2	M22X1.5	19	30	1.26	1.59	.41
169PMTNS-12-M22	3/4	M22X1.5	27	30	1.77	1.59	.41

**Male Elbow Bulkhead 169PMTBH**

PART NO.	TUBE SIZE	PIPE THREAD	L	N	B HEX	C HEX	BULKHEAD HOLE DIA.
169PMTBH-6-8	3/8	1/2	1.19	2.50	1-1/4	7/8	1
169PMTBH-8-8	1/2	1/2	1.29	2.50	1-1/4	7/8	1

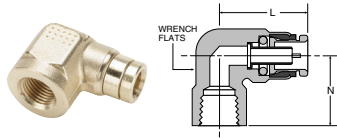
### Female Elbow Swivel 90° 170PMT

PART NO.	TUBE SIZE	PIPE THREAD	L	N	HEX	WRENCH FLATS
170PMT-4-2	1/4	1/8-27	.84	1.06	1/2	1/2



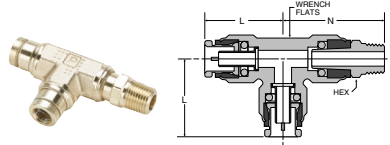
### Female Elbow Rigid 90° 170PMTNS

PART NO.	TUBE SIZE	PIPE THREAD	L	N	WRENCH FLATS
170PMTNS-4-2	1/4	1/8	.84	.56	11/16
170PMTNS-4-4	1/4	1/4	1.00	.67	11/16
170PMTNS-6-2	3/8	1/8	1.12	.64	9/16
170PMTNS-6-4	3/8	1/4	1.25	1.00	11/16
170PMTNS-6-6	3/8	3/8	1.25	1.00	13/16
170PMTNS-8-4	1/2	1/4	1.25	.75	11/16
170PMTNS-8-6	1/2	3/8	1.32	.88	11/16
170PMTNS-8-8	1/2	1/2	1.70	.98	1



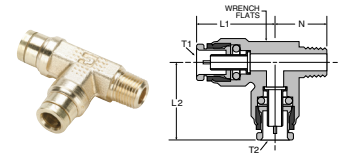
### Male Run Tee Swivel 171PMT

PART NO.	TUBE SIZE	PIPE THREAD	L	N	HEX	WRENCH FLATS
171PMT-4-2	1/4	1/8	.85	1.01	9/16	1/2
171PMT-4-4	1/4	1/4	.85	1.23	9/16	1/2
171PMT-4-6	1/4	3/8	.85	1.23	11/16	1/2
171PMT-6-4	3/8	1/4	1.21	1.42	11/16	5/8
171PMT-6-6	3/8	3/8	1.21	1.45	11/16	5/8
171PMT-8-4	1/2	1/4	1.27	1.74	5/8	7/8
171PMT-8-6	1/2	3/8	1.27	1.83	3/4	7/8
171PMT-8-8	1/2	1/2	1.27	1.99	7/8	7/8



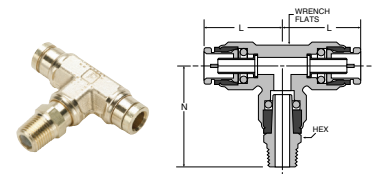
### Male Run Tee Rigid 171PMTNS

PART NO.	TUBE 1 SIZE	TUBE 2 SIZE	PIPE THREAD	L1	L2	N	WRENCH FLATS
171PMTNS-4-2	1/4	1/4	1/8	.91	.91	.77	15/32
171PMTNS-4-4	1/4	1/4	1/4	.91	.91	.94	15/32
171PMTNS-4-6-4	1/4	3/8	1/4	.93	1.21	.97	5/8
171PMTNS-6-4	3/8	3/8	1/4	1.21	1.21	.97	5/8
171PMTNS-6-4-4	3/8	1/4	1/4	1.21	.93	.97	5/8
171PMTNS-6-4-6	3/8	1/4	3/8	1.22	.97	.93	5/8
171PMTNS-6-6	3/8	3/8	3/8	1.21	1.21	.97	5/8
171PMTNS-6-8	3/8	3/8	1/2	1.17	1.17	1.26	5/8
171PMTNS-8-4	1/2	1/2	1/4	1.28	1.28	1.06	7/8



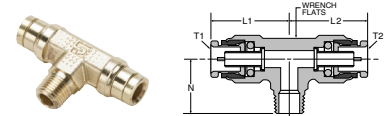
### Male Branch Tee Swivel 172PMT

PART NO.	TUBE SIZE	PIPE THREAD	L	N	HEX	WRENCH FLATS
172PMT-4-2	1/4	1/8	.85	1.01	9/16	1/2
172PMT-4-4	1/4	1/4	.85	1.23	9/16	1/2
172PMT-6-2	3/8	1/8	1.22	1.30	11/16	5/8
172PMT-6-4	3/8	1/4	1.22	1.42	11/16	5/8
172PMT-6-6	3/8	3/8	1.22	1.45	11/16	5/8
172PMT-8-4	1/2	1/4	1.27	1.73	5/8	7/8
172PMT-8-6	1/2	3/8	1.27	1.79	3/4	7/8
172PMT-8-8	1/2	1/2	1.27	1.97	7/8	7/8



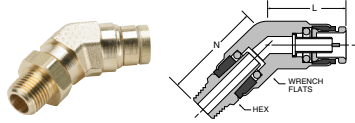
### Male Branch Tee Rigid 172PMTNS

PART NO.	TUBE 1 SIZE	TUBE 2 SIZE	PIPE THREAD	L1	L2	N	WRENCH FLATS
172PMTNS-4-2	1/4	1/4	1/8	.91	.91	.78	1/2
172PMTNS-6-4	3/8	3/8	1/4	1.21	1.21	.97	5/8
172PMTNS-6-4-4	3/8	1/4	1/4	1.21	.93	.97	5/8
172PMTNS-6-6	3/8	3/8	3/8	1.21	1.21	.97	5/8
172PMTNS-6-8	3/8	3/8	1/2	1.17	1.17	1.26	7/8
172PMTNS-8-6	1/2	1/2	3/8	1.28	1.28	1.06	7/8
172PMTNS-8-6-8	1/2	3/8	1/2	1.25	1.25	1.25	7/8
172PMTNS-8-8	1/2	1/2	1/2	1.34	1.34	1.25	7/8



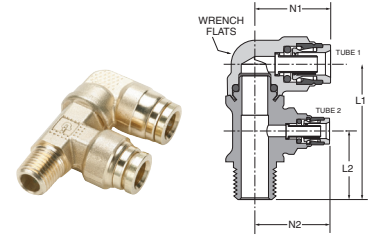


### Male Elbow Swivel 45° 179PMT



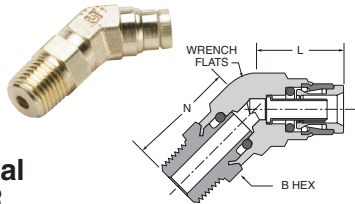
PART NO.	TUBE SIZE	PIPE THREAD	L	N	HEX	WRENCH FLATS
179PMT-4-2	1/4	1/8	.79	.92	9/16	9/16
179PMT-4-4	1/4	1/4	.79	1.14	9/16	9/16
179PMT-6-2	3/8	1/8	.99	1.02	11/16	3/4
179PMT-6-4	3/8	1/4	.99	1.14	11/16	3/4
179PMT-6-6	3/8	3/8	.99	1.17	11/16	3/4
179PMT-8-4	1/2	1/4	1.20	1.70	5/8	7/8
179PMT-8-6	1/2	3/8	1.20	1.78	3/4	7/8
179PMT-8-8	1/2	1/2	1.20	1.93	7/8	7/8

### Dual port 90 Male Elbow Positional 189PMTR



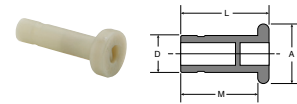
PART NO.	TUBE 1 SIZE	TUBE 2 SIZE	PIPE THREAD	L1	L2	N1	N2	WRENCH FLATS
189PMTR6-4-6	3/8	1/4	3/8	2.12	1.05	1.21	1.19	11/16
189PMTR6-6-4	3/8	3/8	1/4	2.06	.98	1.12	1.20	9/16
189PMTR6-6-6	3/8	3/8	3/8	2.06	.98	1.12	1.20	9/16
189PMTR10-4-6	5/8	1/4	3/8	2.18	1.05	1.54	1.19	7/8
189PMTR10-6-6	5/8	3/8	3/8	2.31	1.12	1.54	1.18	7/8

### Male Elbow Positional Swivel 45° 179PMTR



PART NO.	TUBE SIZE	PIPE THREAD	B HEX	L	N	WRENCH FLATS
179PMTR-4-4	1/4	1/4	9/16	0.79	1.18	9/16
179PMTR-8-8	1/2	1/2	7/8	1.17	1.35	7/8

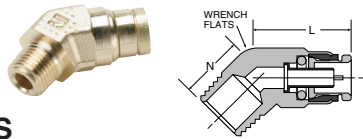
### Push-To-Connect Fitting Plug 639PM/639PMT



PART NO.	TUBE SIZE	L	M	A	D
639PM-5/32BL	5/32	1.09	1.00	.39	.156
639PMT-4	1/4	1.14	.96	.48	.250
639PMT-6	3/8	1.33	1.15	.67	.375
639PMT-8	1/2	1.33	1.15	.81	.500

Specify color when ordering Black (BL) or Blue (BU), example 639PMT-4BU  
Note: use appropriate PM/PMT style connection as determined by part number.

### Male Elbow Rigid 45° 179PMTNS



PART NO.	TUBE SIZE	PIPE THREAD	L	N	WRENCH FLATS
179PMTNS-4-2	1/4	1/8	.80	.56	9/16
179PMTNS-4-4	1/4	1/4	.80	.75	9/16
179PMTNS-6-2	3/8	1/8	.99	.55	3/4
179PMTNS-6-4	3/8	1/4	.99	.73	3/4
179PMTNS-6-6	3/8	3/8	.99	.73	3/4
179PMTNS-8-4	1/2	1/4	1.28	.81	13/16
179PMTNS-8-6	1/2	3/8	1.28	.81	13/16
179PMTNS-8-8	1/2	1/2	1.28	1.06	13/16
179PMTNS-10-6	5/8	3/8	1.22	.88	7/8
179PMTNS-10-8	5/8	1/2	1.22	1.00	7/8
179PMTNS-12-8	3/4	1/2	1.41	1.25	1



# PTC Composite Push-In Air Brake Fittings

MATERIALS OF CONSTRUCTION	
FITTING BODY:	COMPOSITE
COLLET:	BRASS
TUBE SUPPORT:	STAINLESS STEEL
O-RING:	BUNA N
THREADS:	BRASS

NOMENCLATURE	
EXAMPLE: 369PTC-6-4	ATTRIBUTE:
396	MALE ELBOW 90°
PTC	COMPOSITE PUSH-IN AIR BRAKE FITTING
6	3/8" (6/16) TUBE SIZE
4	1/4" (4/16) PIPE THREAD

APPLICABLE TUBE	
TUBE MATERIAL:	SAE J844 TYPE A & B NYLON TUBING
TUBE O.D.:	1/4, 3/8, 1/2, 5/8, 3/4

SPECIFICATIONS	
PRESSURE RANGE:	UP TO 250 PSI
TEMPERATURE RANGES:	-40° TO +200°F

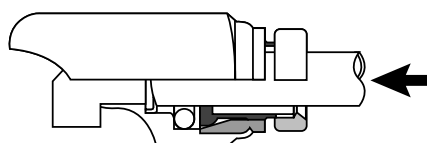
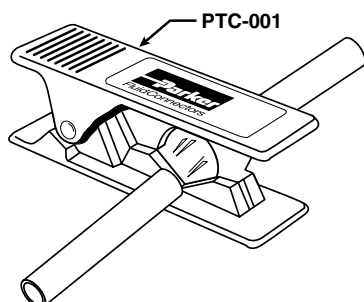


Design of the PTC composite air brake fitting complies with the performance requirements of D.O.T. FMVSS 571.106, SAE J1131 and SAE J2494-3. Tube support design assures maximum flow.

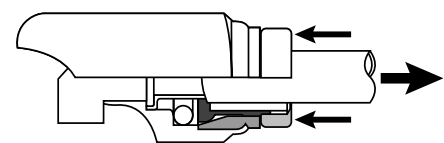
## Assembly Instructions

1. Cut tubing squarely—maximum of 15° angle allowable.
  - Use of Parker tube cutter PTC-001 is recommended.
2. Check that port or mating part is clean and free of debris.
3. Insert tubing into fitting until it bottoms.
  - Push twice to verify that tubing is inserted past collet and O-Ring.
4. Pull on tubing to verify it is fully inserted.
5. To disassemble, simply press release button, hold against body, and pull tubing out of fitting.

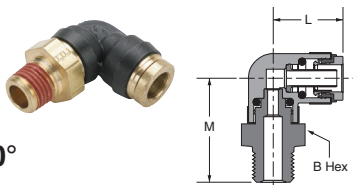
Note: in order to pass hot pull requirements of SAE FMVSS 571.106 and SAE J2494-3 a tube support must be present in the end of the fitting before final fitting assembly.



Insert tubing until it bottoms

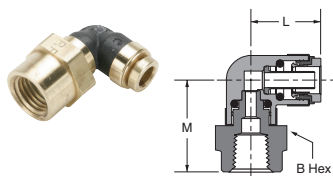


Depress button to remove tubing



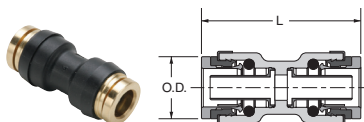
### Male Elbow Swivel 90° 369PTC

PART NO.	TUBE SIZE	PIPE THREAD	B HEX	L	M
369PTC-4-2	1/4	1/8	9/16	.69	1.05
369PTC-4-4	1/4	1/4	9/16	.69	1.20
369PTC-4-6	1/4	3/8	3/4	.69	1.20
369PTC-6-2	3/8	1/8	3/4	.99	1.13
369PTC-6-4	3/8	1/4	3/4	.99	1.28
369PTC-6-6	3/8	3/8	3/4	.99	1.28
369PTC-6-8	3/8	1/2	7/8	.99	1.47
369PTC-8-4	1/2	1/4	15/16	1.11	1.39
369PTC-8-6	1/2	3/8	15/16	1.11	1.39
369PTC-8-8	1/2	1/2	15/16	1.11	1.58
369PTC-10-6	5/8	3/8	1-1/16	1.33	1.60
369PTC-10-8	5/8	1/2	1-1/16	1.33	1.79
369PTC-12-8	3/4	1/2	1-3/16	1.52	1.89
369PTC-12-12	3/4	3/4	1-3/16	1.52	1.99



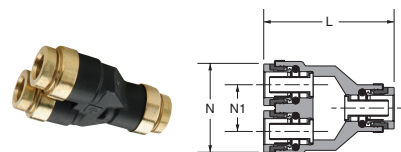
### Female Elbow Swivel 90° 370PTC

PART NO.	TUBE SIZE	PIPE THREAD	B HEX	L	M
370PTC-4-2	1/4	1/8	5/8	.69	.89
370PTC-4-4	1/4	1/4	3/4	.69	1.05
370PTC-6-2	3/8	1/8	3/4	.99	.90
370PTC-6-4	3/8	1/4	3/4	.99	1.13
370PTC-6-6	3/8	3/8	13/16	.99	1.19
370PTC-8-6	1/2	3/8	15/16	1.11	1.30
370PTC-8-8	1/2	1/2	1-1/16	1.11	1.49
370PTC-10-8	5/8	1/2	1-1/16	1.33	1.67



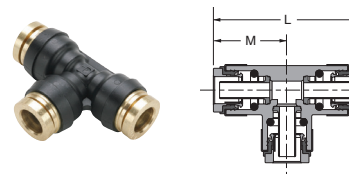
### Union 32PTC

PART NO.	TUBE SIZE	L	O.D.
32PTC-6	3/8	1.61	.73
32PTC-8	1/2	1.75	.88
32PTC-10	5/8	2.15	1.02
32PTC-12	3/4	2.50	1.17



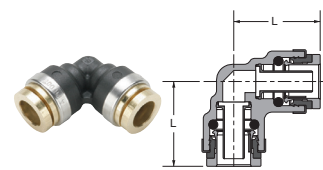
### Union Y 362PTC

PART NO.	TUBE SIZE	L	N	N1
362PTC-4	1/4	1.49	1.03	.50
362PTC-6	3/8	1.99	1.41	.68
362PTC-8	1/2	2.18	1.72	.84



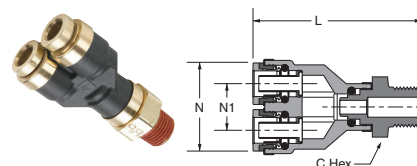
### Union Tee 364PTC

PART NO.	TUBE SIZE	L	M
364PTC-4	1/4	1.42	.71
364PTC-6	3/8	1.99	.99
364PTC-8	1/2	2.25	1.13



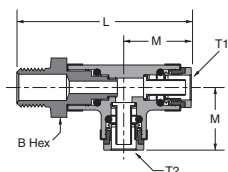
### Union Elbow 365PTC

PART NO.	TUBE SIZE	L
365PTC-6	3/8	.99
365PTC-8	1/2	1.11



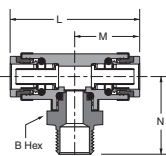
### Union Y Male Connector 368PTC

PART NO.	TUBE SIZE	PIPE THREAD	L	C HEX	N	N1
368PTC-4-2	1/4	1/8	1.96	9/16	1.03	.50
368PTC-4-4	1/4	1/4	2.12	9/16	1.03	.50
368PTC-6-4	3/8	1/4	2.56	3/4	1.41	.68
368PTC-8-6	1/2	3/8	2.85	15/16	1.71	.84
368PTC-8-8	1/2	1/2	3.08	15/16	1.72	.84



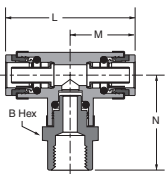
### Male Run Tee Swivel 371PTC

PART NO.	TUBE SIZE 1	TUBE SIZE 2	PIPE THREAD	B HEX	L	M
371PTC-4-2	1/4	1/4	1/8	9/16	1.93	.71
371PTC-4-4	1/4	1/4	1/4	9/16	2.08	.71
371PTC-4-6	1/4	1/4	3/8	3/4	2.08	.71
371PTC-6-4	3/8	3/8	1/4	3/4	2.27	.99
371PTC-6-4-4	3/8	1/4	1/4	3/4	2.27	1.08
371PTC-6-6	3/8	3/8	3/8	3/4	2.27	.99
371PTC-8-4	1/2	1/2	1/4	15/16	2.55	1.13
371PTC-8-6	1/2	1/2	3/8	15/16	2.55	1.13
371PTC-8-8	1/2	1/2	1/2	15/16	2.74	1.13
371PTC-10-8	5/8	5/8	1/2	1-1/16	3.22	1.41



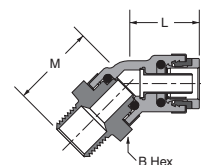
### Male Branch Tee Swivel 372PTC

PART NO.	TUBE SIZE	PIPE THREAD	B HEX	L	M	N
372PTC-4-2	1/4	1/8	9/16	1.42	.73	1.22
372PTC-4-4	1/4	1/4	9/16	1.42	.71	1.37
372PTC-4-6	1/4	3/8	3/4	1.42	.71	1.37
372PTC-6-2	3/8	1/8	3/4	1.99	.99	1.17
372PTC-6-4	3/8	1/4	3/4	1.99	.99	1.32
372PTC-6-6	3/8	3/8	3/4	1.99	.99	1.32
372PTC-8-4-8	1/2X1/4	1/2	15/16	2.28	1.14	1.58
372PTC-8-6	1/2	3/8	15/16	2.25	1.13	1.39
372PTC-8-8	1/2	1/2	15/16	2.25	1.13	1.58
372PTC-10-8	5/8	1/2	1-1/16	2.82	1.41	1.81



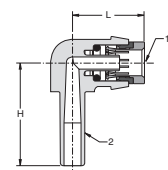
### Female Branch Tee Swivel 377PTC

PART NO.	TUBE SIZE	PIPE THREAD	B HEX	L	M	N
377PTC-4-4	1/4	1/4	3/4	1.48	0.74	1.27



### Male Elbow Swivel 45° 379PTC

PART NO.	TUBE SIZE	PIPE THREAD	B HEX	L	M
379PTC-4-2	1/4	1/8	9/16	.64	.97
379PTC-4-4	1/4	1/4	9/16	.64	1.12
379PTC-4-6	1/4	3/8	3/4	.64	1.12
379PTC-6-2	3/8	1/8	3/4	.87	1.01
379PTC-6-4	3/8	1/4	3/4	.87	1.16
379PTC-6-6	3/8	3/8	3/4	.87	1.16
379PTC-8-4	1/2	1/4	15/16	1.01	1.20
379PTC-8-6	1/2	3/8	15/16	1.01	1.20
379PTC-8-8	1/2	1/2	15/16	1.01	1.39
379PTC-10-6	5/8	3/8	1-1/16	1.18	1.42
379PTC-10-8	5/8	1/2	1-1/16	1.18	1.61
379PTC-12-8	3/4	1/2	1-3/16	1.35	1.69
379PTC-12-12	3/4	3/4	1-3/16	1.35	1.79



### Plug-In Elbow 369PTCSP

PART NO.	TUBE SIZE 1	TUBE SIZE 2	H	L
369PTCSP-4-4	1/4	1/4	0.74	1.06
369PTCSP-4-6	1/4	3/8	0.74	1.20
369PTCSP-6-6	3/8	3/8	0.96	1.32
369PTCSP-8-8	1/2	1/2	1.12	1.50



# Metric Prestomatic Air Brake Push-In Fittings

MATERIALS OF CONSTRUCTION	
FITTING BODIES:	BRASS
COLLET:	BRASS
TUBE SUPPORT:	STAINLESS STEEL
O-RING:	BUNA N

NOMENCLATURE	
EXAMPLE: F8UPMTB8M22	ATTRIBUTE:
F	STRAIGHT MALE CONNECTOR
8	METRIC PARALLEL
U	UNIVERSAL STUD
PMTB	AIR BRAKE PUSH-IN FITTING-BRASS BODY
8	8MM TUBE SIZE
M22	22MM PORT THREAD

APPLICABLE TUBE	
TUBE MATERIAL:	DIN 73378 VIRGIN NYLON, SAE J844 TUBING
TUBE O.D. (MM):	6, 8, 10, 12, 16

SPECIFICATIONS	
PRESSURE RANGE:	UP TO 250 PSI
TEMPERATURE RANGES:	-40° TO +200°F

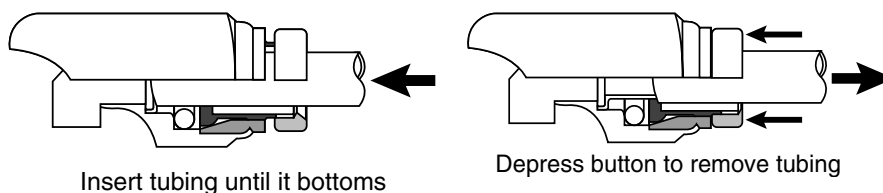
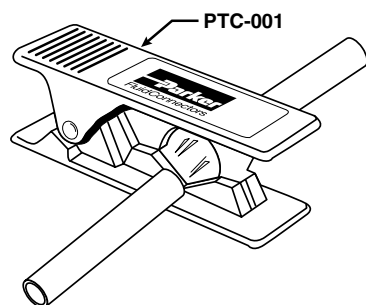


Patented design of sizes 6mm and above meet DIN 74324 and D.O.T. FMVSS 571.106 air brake performance specifications. Just bottom the tubing in the fitting body for a positive seal.

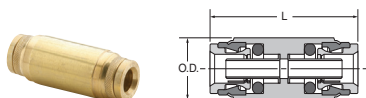
## Assembly Instructions

1. Cut tubing squarely—maximum of 15° angle allowable.
  - Use of Parker tube cutter PTC-001 is recommended.
2. Check that port or mating part is clean and free of debris.
3. Insert tubing into fitting until it bottoms.
  - Push twice to verify that tubing is inserted past collet and O-Ring.
4. Pull on tubing to verify it is fully inserted.
5. To disassemble, simply press release button, hold against body, and pull tubing out of fitting.

Note: in order to pass hot pull requirements of SAE FMVSS 571.106 and SAE J2494-3 a tube support must be present in the end of the fitting before final fitting assembly.

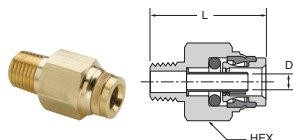


## Union HPMTB



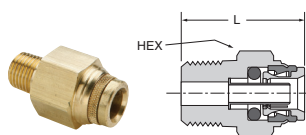
PART NO.	TUBE SIZE (MM)	L (MM)	O.D. (MM)
HPMTB6	6	45.2	15.9
HPMTB8	8	45.3	17.5
HPMTB10	10	51.7	22.2
HPMTB12	12	51.7	22.2

## Male Connector F2PMTB



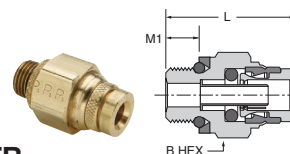
PART NO.	TUBE (MM)	PIPE THREAD	L (MM)	HEX (MM)	FLOW DIA. D(MM)
F2PMTB8-1/8	8	1/8	33.79	19	4.90
F2PMTB8-1/4	8	1/4	38.38	19	4.90
F2PMTB10-1/4	10	1/4	36.83	20	6.35

## Male Connector BSPT F3PMTB



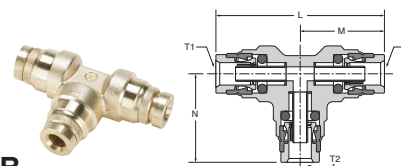
PART NO.	TUBE (MM)	BSPT THREAD	L (MM)	HEX (MM)
F3PMTB8-1/2	8	1/2	35.1	22
F3PMTB10-1/4	10	1/4	39.9	22
F3PMTB10-3/8	10	3/8	36.2	22
F3PMTB10-1/2	10	1/2	39.6	22
F3PMTB12-1/4	12	1/4	40.6	22
F3PMTB12-3/8	12	3/8	40.4	22
F3PMTB12-1/2	12	1/2	40.4	22

## Male Connector Metric Straight Thread F8UPMTB



PART NO.	TUBE SIZE (mm)	METRIC THREAD	L (mm)	B HEX (MM)	M1 (MM)
F8UPMTB6-M10	6	M10X1	29.7	17	6.4
F8UPMTB6-M12	6	M12X1.5	29.1	17	7.5
F8UPMTB6-M14	6	M14X1.5	29.1	22	7.5
F8UPMTB6-M16	6	M16X1.5	31.6	22	10.0
F8UPMTB6-M22	6	M22X1.5	29.7	27	9.5
F8UPMTB8-M10	8	M10X1	31.4	22	6.4
F8UPMTB8-M12	8	M12X1.5	33.0	22	7.5
F8UPMTB8-M14	8	M14X1.5	33.0	22	7.5
F8UPMTB8-M16	8	M16X1.5	31.0	22	10.0
F8UPMTB8-M22	8	M22X1.5	28.8	27	9.5
F8UPMTB10-M10	10	M10X1	34.8	22	6.4
F8UPMTB10-M12	10	M12X1.5	36.9	22	7.5
F8UPMTB10-M14	10	M14X1.5	36.8	22	7.5
F8UPMTB10-M16	10	M16X1.5	37.5	22	10.0
F8UPMTB10-M22	10	M22X1.5	31.1	27	9.5
F8UPMTB12-M12	12	M12X1.5	37.3	22	7.5
F8UPMTB12-M14	12	M14X1.5	36.8	22	7.5
F8UPMTB12-M16	12	M16X1.5	39.7	22	10.0
F8UPMTB12-M22	12	M22X1.5	33.4	27	9.5
F8UPMTB16-M16	16	M16X1.5	39.7	27	10.0
F8UPMTB16-M22	16	M22X1.5	33.3	27	9.5

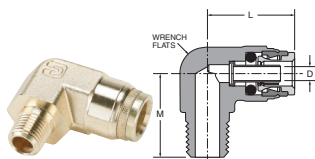
## Union Tee JPMTB



PART NO.	TUBE 1 (MM)	TUBE 2 (MM)	L (MM)	M (MM)	N (MM)
JPMTB6	6	6	51.3	25.6	26.7
JPMTB8	8	8	53.2	26.6	26.7
JPMTB10	10	10	60.4	30.2	31.4
JPMTB12	12	12	63.3	31.7	35.0
JPMTB12-12-6	12	6	63.3	31.7	28.1

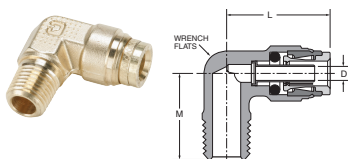


### Male Elbow Non-Swivel BSPT C3PMTB



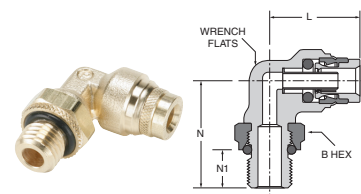
TUBE PART NO.	SIZE (MM)	WRENCH BSPT THREAD	FLATS (MM)	L (MM)	M (MM)
C3PMTB6-1/4	6	1/4	11	27.9	23.1
C3PMTB10-1/4	10	1/4	17	31.8	25.4
C3PMTB12-1/4	12	1/4	22	34.3	28.5
C3PMTB12-1/2	12	1/2	22	34.3	33.5

### Male Elbow Non-Swivel C2PMTB



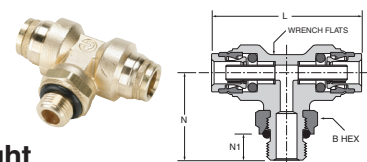
TUBE PART NO.	SIZE (MM)	WRENCH PIPE THREAD	FLATS (MM)	L (MM)	M (MM)	FLOW DIA. (MM)
C2PMTB8-1/4	8	1/4	16	28.5	26.9	4.83

### Male Elbow Metric Straight Thread C8UPMTB



PART NO.	WRENCH TUBE SIZE (MM)	B METRIC THREAD	FLATS (MM)	HEX (MM)	L (MM)	N (MM)	N1 (MM)
C8UPMTB6-M10	6	M10X1	10	14	24.8	26.0	7.5
C8UPMTB6-M12	6	M12X1.5	10	17	24.8	28.2	9.5
C8UPMTB6-M16	6	M16X1.5	11	24	25.0	34.0	10.5
C8UPMTB6-M22	6	M22X1.5	19	30	28.1	41.4	10.5
C8UPMTB8-M12	8	M12X1.5	16	17	27.5	33.0	9.5
C8UPMTB8-M14	8	M14X1.5	16	19	26.7	33.5	9.5
C8UPMTB8-M16	8	M16X1.5	16	24	27.5	34.0	10.5
C8UPMTB8-M22	8	M22X1.5	19	30	32.0	40.4	10.5
C8UPMTB10-M16	10	M16X1.5	19	24	30.3	33.5	10.5
C8UPMTB10-M22	10	M22X1.5	19	30	32.0	38.4	10.5
C8UPMTB12-M16	12	M16X1.5	16	24	31.2	35.6	10.5
C8UPMTB12-M22	12	M22X1.5	16	30	32.9	38.4	10.5
C8UPMTB16-M16	16	M16X1.5	19	24	30.6	36.4	10.5
C8UPMTB16-M22	16	M22X1.5	25	30	31.7	40.4	10.5

### Male Branch Tee Swivel Metric Straight Thread S8UPMTB



PART NO.	TUBE SIZE (MM)	METRIC THREAD	WRENCH FLATS (MM)	HEX (MM)	L (MM)	N (MM)	N1 (MM)
S8UPMTB12-M16	12	M16X1.5	19	24	65.9	37.6	10.5
S8UPMTB12-M22	12	M22X1.5	23	30	65.9	35.6	10.5
S8UPMTB16-M22	16	M22X1.5	16	24	64.3	40.1	10.5

## Notes

[illegible]



# Cartridges & Manifolds



## SAE Encapsulated Cartridge

*Meets Performance Requirements  
of D.O.T. FMVSS 571.106*

*Meets Dimensional Standards of  
SAE J2494-4 in 6061-T6 Aluminum*

*Eliminate the space and labor  
costs associated with pipe threads.*

*Weight Reduction*

*3 barb design*






## Manifolds

*Push to Connect Ports*

*Light Weight Body*

*O-ring Seal*



Cartridges	<div>PMTCE SAE Encapsulated</div> <div></div> <div>Page J4</div>					
	<div>255MP Brass Manifold</div> <div></div> <div>Page J5</div>	<div>24M Composite Manifold</div> <div></div> <div>Page J6</div>				
Manifolds						

J



# Prestomac SAE Encapsulated Cartridges

MATERIALS OF CONSTRUCTION	
CARTRIDGE:	BRASS
TUBE SUPPORT:	BRASS
O-RING:	BUNA N

NOMENCLATURE	
EXAMPLE: PMTCE-4	ATTRIBUTE:
PMTCE	PRESTO SAE CARTRIDGE
4	1/4 TUBE SIZE

PRESSURE AND TEMPERATURE RANGE	
PRESSURE RANGE:	UP TO 250 PSI
TEMPERATURE RANGES:	-40° TO +200°F



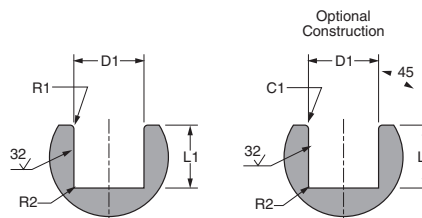
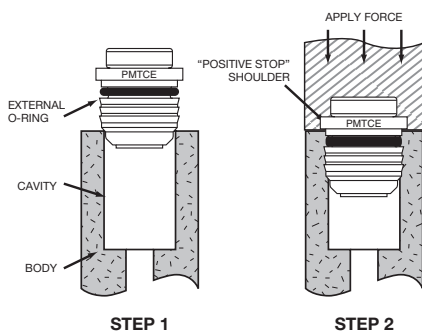
The SAE Encapsulated cartridge allows the user to eliminate the space and labor required to install and assemble a conventional pipe thread fitting connection. The cartridge is retained in the cavity by 3 barbs versus the normal 2 barbs for better performance over a wider diameter tolerance range.

## Cavity Specifications

Dimensions are per the proposed SAE Standard J2494-4. The SAE Encapsulated Cartridge is thoroughly tested to meet or exceed the performance requirements of D.O.T. FMVSS 571.106 and SAE J2231 and the proposed dimensional standards of SAE J2494-4 in 6061-T6 aluminum. Cavity dimensions specified by SAE J2494-4 need to be adjusted slightly for optimum performance in material other than 6061-T6.

## Installation

Apply force evenly over the top surface of the cartridge body until the cartridge shoulder bottoms out on the top of the cavity. The amount of force required will vary depending on the cartridge size and the material of the cavity.



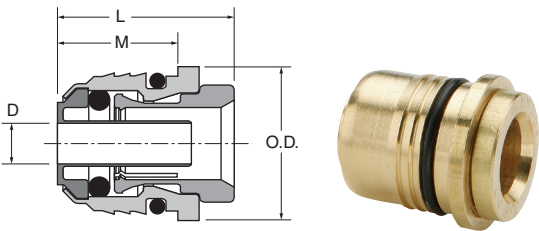
† U.S. Patent No. 5,683,120

NOMINAL TUBE OD (IN)	D1 (MM) ±.05	D1 (IN) ±.002	L1 (MM) MIN	L1 (IN) MIN	R1 (MM) ±.05	R1 (IN) ±.002	R2 (MM) ±.05	R2 (IN) ±.002	C1 (MM) ±.05	C1 (IN) ±.002
5/32	8.8	0.346	11.4	0.45	0.5	0.02	0.5	0.02	0.5	0.02
1/4	12.8	0.504	12.7	0.5	0.5	0.02	0.5	0.02	0.5	0.02
3/8	16.5	0.65	16.5	0.65	0.5	0.02	0.5	0.02	0.5	0.02
1/2	19.7	0.775	19.8	0.78	0.5	0.02	0.5	0.02	0.5	0.02
5/8	23.5	0.925	22.4	0.88	0.8	0.03	0.5	0.02	0.8	0.03
3/4	27.1	1.067	23.9	0.94	0.8	0.03	0.5	0.02	0.8	0.03

Cavity material is to be 6061 T6 aluminum

Prestomatic SAE Encapsulated Cartridge PMCE/PMTCE

PART NO.	TUBE SIZE	CAVITY SIZE ±.002	L	M	O.D.	FLOW DIA. D
PMCE-5/32	5/32	.346	.57	.43	.44	.125
PMTCE-4	1/4	.504	.64	.44	.56	.140
PMTCE-4-8	1/4	.775	.66	.42	.87	.140
PMTCE-6	3/8	.650	.84	.64	.75	.217
PMTCE-6-8	3/8	.775	.84	.64	.87	.217
PMTCE-8	1/2	.775	.98	.77	.87	.338



† U.S. Patent No. 5,683,120





# Brass Manifold

NOMENCLATURE	
EXAMPLE: 255MP-6-4-2	ATTRIBUTE:
2	2 ENDS
5	5 TOP PORTS
5	5 SIDE PORTS
M	MANIFOLD
P	PIPE THREAD
6	3/8" END PORTS
4	1/4" TOP PORTS
2	1/8" SIDE PORTS

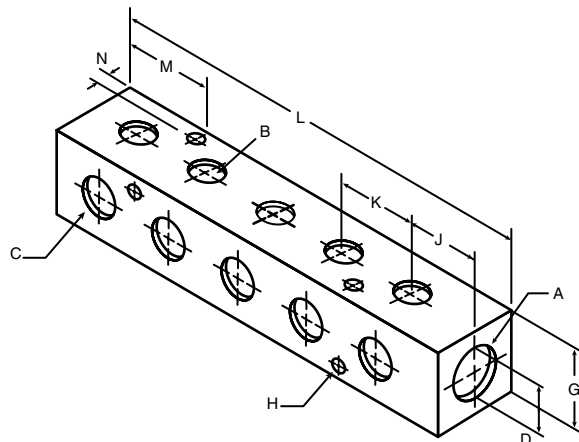
SPECIFICATIONS	
PRESSURE RANGE:	UP TO 1,000 PSI
TEMPERATURE RANGES:	-65° TO +250°F
OPERATING FLUID:	AIR, WATER, HYDRAULIC FLUIDS



This brass manifold provides a convenient junction for the hook-up of multi-branch distribution lines. Porting is easy with five 1/8" and five 1/4" side ports. Two 3/8" inlet ports allow for maximum flow.

## Brass Manifold 255M

PART NO.	PIPE THREAD A	PIPE THREAD B	PIPE THREAD C	G	MOUNTING HOLE DIA. H	J	K	L	M	N	D
255MP-6-4-2	3/8	1/8	1/4	1.25	.22	.88	1.13	6.25	1.45	.25	.25





# Presto Manifold

MATERIALS OF CONSTRUCTION	
MANIFOLD BODY:	GLASS FILLED NYLON
COLLET:	BRASS
O-RING:	BUNA N

NOMENCLATURE	
EXAMPLE: 24M-6-4	ATTRIBUTE:
24M	PRESTO MANIFOLD
6	INLET TUBE 6/16
4	OUTLET TUBE 4/16

SPECIFICATIONS	
PRESSURE RANGE:	UP TO 150 PSI
TEMPERATURE RANGES:	-40° TO +200°F

APPLICABLE TUBE	
TUBE MATERIAL:	NYLON, SAE J844 TYPE A & B NYLON TUBING
TUBE O.D.:	1/4, 3/8, 1/2



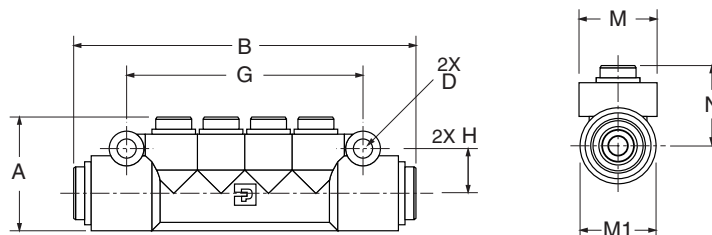
The Presto manifold provides a convenient junction to connect multiple tubing lines.

## Assembly Instructions

1. Cut tubing squarely with Parker tube cutter PTC-001. Be certain that Manifold ports are clean and free of debris.
2. Insert tubing into port until it bottoms. Pull on tubing to verify that it is properly retained in the manifold.
3. To disassemble, simply hold release button against the manifold body and remove the tubing.
4. To reassemble, make certain that the Manifold ports are clean and free of debris and lubricate leading end of the tubing with light oil or petroleum jelly.

## Presto Manifold 24M

PART NO.	TUBE O.D. INLET	TUBE O.D. OUTLET	A	B	D	G	H	M	M1	N
24M-4-4	1/4	1/4	1.33	3.98	.21	2.75	.53	.90	.88	.89
24M-6-4	3/8	1/4	1.33	4.00	.21	2.75	.53	.90	.88	.89
24M-6-6	3/8	3/8	1.65	6.49	.22	4.55	.60	1.02	1.02	1.33
24M-8-8	1/2	1/2	1.65	6.49	.22	4.55	.60	1.02	1.02	1.33
24M-8-6446	1/2	3/8 - 1/4	1.65	6.49	.22	4.55	.64	1.02	1.02	1.17





# Valves

## Ball Valves

*Brass, Carbon Steel & Stainless Steel  
Padlocking & Vented Options  
Handle Options  
Inch & Metric  
UL Listed  
90° Valves  
Actuators*



## Needle Valves

*Fine Threaded for control and  
positive seal  
All Brass construction  
Metal to Metal Seats*



## Truck Valves

*All Brass construction  
Metal to Metal Seats  
-30° to +250° F*






































## Ground Plug Shutoff / Drain Cocks

*External & Internal Seat  
Metal to Metal Seats  
Economical*



Brass Ball Valves	XV500P Female-Female  Page K5	XV501P Male-Female  Page K8	XV502P Panel Mount  Page K10	XV506P Straight Thread  Page K12	XV509P Solder End  Page K13	XV510P Straight Thread  Page K15	
	XV520P Economy Series  Page K16	XV533P 3-Female Pipe Ends  Page K18	XV540P 4-Female Pipe Ends  Page K18	XV590/591P 90° Ball Valve  Page K20	XV500HB Hose Barb  Page K21	XV600P/XV633P 6 Port Diversion  Page K23	XV502P-ACT Actuator  Page K35
	XV502P-SUB Sub Assembly  Page K36	MV708 Micro Valve  Page K46	MV709 Micro Valve  Page K46	MV200 Mini Valve  Page K51	MV608 Mini Valve  Page K51	MV609 Mini Valve  Page K51	
Carbon Steel Valves	XV500/502CS Female-Female  Page K25	XV506CS Straight Thread  Page K27	XV500HP/506HP /507HP High Pressure  Page K29	Stainless Steel Valves			
	XV502SS-SUB Sub Assembly  Page K36	Metric Ball Valves	BVGC Female-Female  Page K38	BVGL Female Long  Page K40	BVGLOCK Padlocking  Page K42	MBVG Compact  Page K44	
Auxiliary	ACT-P-KIT Brass Actuator Kit  Page K36	ACT-SS-Kit Stainless Actuator Kit  Page K36	STX Stem Extension  Page K48				
	PV607 Male-Male  Page K53	PV608 Male-Female  Page K53	PV609 Female-Female  Page K53	PVMB Mounting Bracket  Page K53			



Needle Valves	<b>NV101F</b> Flare-Male Pipe  Page K55	<b>NV102F</b> Flare-Flare  Page K55	<b>NV103F</b> Flare-Male Pipe  Page K55	<b>HV104C</b> Humidifier Valve  Page K55	<b>HV104C-Kit</b> Humidifier Kit  Page K55	<b>SPC104C-Kit</b> Self Piercing  Page K55
	<b>NV104C/ NV104CA</b> Comp-Pipe  Page K55	<b>NV105C/ NV105CA</b> Comp-Comp  Page K55	<b>NV106C/ NV106CA</b> Comp-Pipe  Page K56	<b>NV107P</b> Pipe-Pipe  Page K56	<b>NV108P</b> Female-Male  Page K56	<b>NV109P</b> Female-Female  Page K56
<b>NV312P</b> Poly-Tite/Pipe  Page K56	Truck Valves	<b>V404P</b> Hose-Pipe  Page K56	<b>V404PH</b> Hose-Pipe  Page K56	<b>SV404P</b> Hose-Pipe  Page K57	<b>V405P</b> Female-Male  Page K57	<b>V408NTA</b> Tube-Pipe  Page K57
<b>V409F</b> Flare - Pipe  Page K57		<b>V410NTA</b> Tube-Pipe  Page K57	<b>V412F</b> Tube-Pipe  Page K57	<b>LV91</b> Lanyard Valve  Page K57	Drain Cocks	<b>DCR601</b> Internal Seal  Page K60
<b>DC603</b> Internal Seal  Page K60	<b>DC604</b> External Seal  Page K60	<b>DC606</b> External Seal  Page K60	<b>DC607</b> Bib Drain  Page K60	Shutoff Valves		<b>V203F</b> Flare-Flare  Page K59
<b>V303C/V303CA</b> Comp-Comp  Page K59	<b>V304C/V304CA</b> Comp-Pipe  Page K59	<b>V401P</b> Pipe-Pipe  Page K59	<b>V402P</b> Female-Male  Page K59		<b>V403P</b> Female-Female  Page K59	<b>V406P</b> 3-Way  Page K59
<b>DC601</b> Pipe  Page K59						



# Brass Ball Valves Series 500

MATERIALS OF CONSTRUCTION	
VALVE BODY:	FORGED BRASS
BALL:	CHROME PLATED BRASS
SEATS / SEALS:	PTFE
HANDLE:	STEEL

STYLE	TYPE	MATERIAL	SIZE	OPTIONS
V	500	P	-4	-00
STYLE	<ul style="list-style-type: none"> <li>V-VALVE</li> <li>VP-VALVE, PADLOCKING HANDLE</li> <li>VV-VALVE, VENTED</li> <li>VVP-VALVE, VENTED, PADLOCKING HANDLE</li> </ul>			
TYPE	500-FEMALE/FEMALE PTF PORTS			
MATERIAL	P- BRASS PN-NICKEL PLATED			
SIZE	4-1/4", 6-3/8", 8-1/2", 12-3/4", 16-1", 20-1 1/4", 24-1 1/2", 32-2"			
OPTIONS	<ul style="list-style-type: none"> <li>01-STAINLESS STEEL BALL &amp; STEM</li> <li>02-STAINLESS STEEL HANDLE &amp; NUT</li> <li>03-STAINLESS STEEL BALL, STEM, HANDLE &amp; NUT</li> <li>04-TEE HANDLE</li> <li>08-UNMARKED YELLOW VINYL HANDLE COVER</li> <li>21-OVAL HANDLE</li> </ul>			

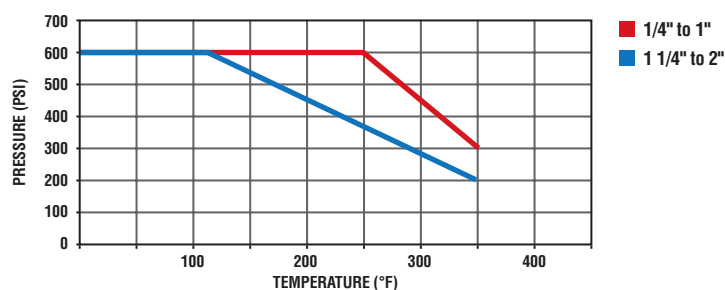
SPECIFICATIONS	
OPERATING INSTRUCTIONS:	QUARTER TURN IS "ON" OR "OFF" (PROVIDES POSITIVE STOP ACTION FOR FULL SHUTOFF.)
PRESSURE RANGE:	<ul style="list-style-type: none"> <li>600 WOG, COLD NON-SHOCK</li> <li>SATURATED STEAM UP TO 150 PSI AND 400°F</li> <li>VACUUM SERVICE TO 29 INCHES HG.</li> <li>VENTED UP TO 250 PSI</li> </ul>
TEMPERATURE RANGES:	0° TO +350°F
NOTE:	PERIODICALLY CHECK THE ADJUSTABLE PACKING NUT AND TIGHTEN AS REQUIRED.

FLOW DATA	
VALVE SIZE	CV
1/4	4.0
3/8	5.8
1/2	12.0
3/4	25.0
1	35.0
1-1/4	57.0
1-1/2	92.0
2	224.0



Parker's industrial ball valve product line is intended for general purpose use. Please be aware that ball valves are intended for use in the fully open or closed positions. Depending on application conditions, throttling of the valve may result in premature seal failure and/or inability to turn the valve handle.

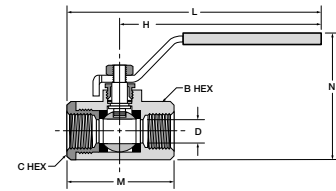
For use as fuel line shutoffs for gasoline and diesel powered over the highway, off highway, and construction equipment vehicles. Water and air service lines on capital equipment and plant design plumbing that require total shutoff capability.





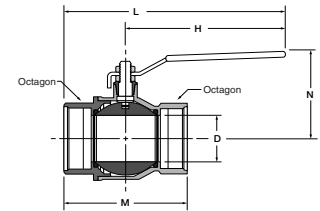
## Female-Female Pipe Ends XV500P

PART NO.	PIPE THREAD	B HEX	C HEX	H	L	M	N	FLOW DIA. D
XV500P-4	1/4	15/16	15/16	3.96	4.90	2.03	2.47	.375
XV500P-6	3/8	15/16	15/16	3.96	4.90	2.03	2.47	.375
XV500P-8	1/2*	1-1/16	1-1/16	3.96	5.00	2.20	2.58	.500
XV500P-12	3/4**	1-1/4	1-5/16	3.96	5.25	2.42	2.81	.685
XV500P-16	1**	1-1/2	1-9/16	3.96	5.34	2.75	3.08	.875



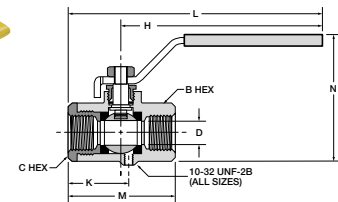
## Female-Female Pipe Ends XV500P-20, XV500P-24, XV500P-32

PART NO.	PIPE THREAD [NPT]	OCTAGON	H	L	M	N	FLOW DIA. D
XV500P-20	1-1/4	1.93	6.22	8.05	3.66	3.01	1.18
XV500P-24	1-1/2	2.13	6.22	8.23	4.02	3.25	1.50
XV500P-32	2	2.69	6.22	8.58	4.76	3.52	1.89



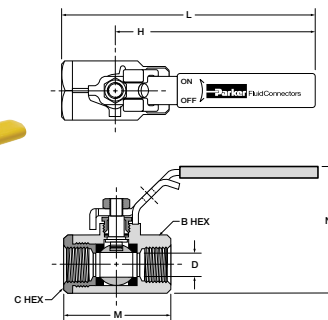
## Vented, Female Pipe Ends XVV500P

PART NO.	PIPE THREAD	B HEX	C HEX	K	H	L	M	N	D FLOW Ø
XVV500P-4	1/4	15/16	15/16	1.11	3.96	4.90	2.03	2.47	.375
XVV500P-6	3/8	15/16	15/16	1.11	3.96	4.90	2.03	2.47	.375
XVV500P-8	1/2*	1-1/16	1-1/16	1.23	3.96	5.00	2.20	2.58	.500
XVV500P-12	3/4**	1-1/4	1-5/16	1.45	3.96	5.25	2.42	2.81	.685
XVV500P-16	1**	1-1/2	1-9/16	1.58	3.96	5.34	2.75	3.08	.875



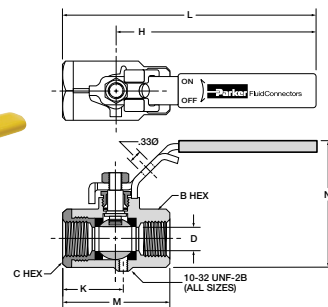
## Locking Handle, Female Pipe Ends XVP500P

PART NO.	PIPE THREAD	B HEX	C HEX	H	L	M	N	D FLOW Ø
XVP500P-4	1/4	15/16	15/16	3.96	4.90	2.03	2.47	.375
XVP500P-6	3/8	15/16	15/16	3.96	4.90	2.03	2.47	.375
XVP500P-8	1/2*	1-1/16	1-1/16	3.96	5.00	2.20	2.58	.500
XVP500P-12	3/4**	1-1/4	1-5/16	3.96	5.25	2.42	2.81	.685
XVP500P-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; .330								
XVP500P-20	1-1/4	1-15/16	1-15/16	6.22	8.05	3.66	4.04	1.180
XVP500P-24	1-1/2	2-1/8	2-1/8	6.22	8.23	4.02	4.52	1.500
XVP500P-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; .310								



## OSHA 29 CFR Part 1910 Vented, Locking Handle, Female Pipe Ends XVVP500P

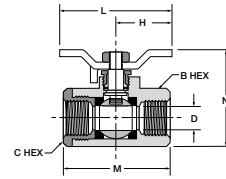
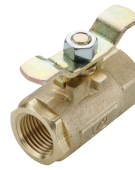
PART NO.	PIPE THD	B HEX	C HEX	K	H	L	M	N	D FLOW Ø
XVVP500P-4	1/4	15/16	15/16	1.11	3.96	4.90	2.03	2.47	.375
XVVP500P-6	3/8	15/16	15/16	1.11	3.96	4.90	2.03	2.47	.375
XVVP500P-8	1/2"	1-1/16	1-1/16	1.23	3.96	5.00	2.20	2.58	.500
XVVP500P-12	3/4**	1-1/4	1-5/16	1.45	3.96	5.25	2.42	2.81	.685
XVVP500P-16	1**	1-1/2	1-9/16	1.58	3.96	5.34	2.75	3.08	.875
FOR USE WITH 5/16" Ø SHANK LOCK									



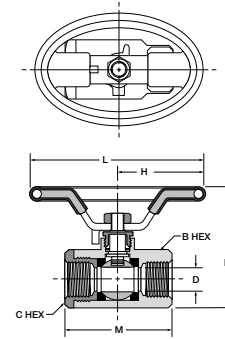
\*PTF Special Short. \*\*PTF Special Extra Short

**Tee Handle, Female Pipe Ends XV500P-X-04**

PART NO.	PIPE THREAD	B HEX	C HEX	H	L	M	N	D FLOW Ø
XV500P-4-04	1/4	15/16	15/16	1.25	2.50	2.03	1.87	.375
XV500P-6-04	3/8	15/16	15/16	1.25	2.50	2.03	1.87	.375
XV500P-8-04	1/2*	1-1/16	1-1/16	1.25	2.50	2.20	1.98	.500
XV500P-12-04	3/4**	1-1/4	1-5/16	1.25	2.50	2.42	2.20	.685
XV500P-16-04	1**	1-1/2	1-9/16	1.25	2.50	2.75	2.48	.875

**Oval Handle, Female Pipe Ends XV500P-X-21**

PART NO.	PIPE THREAD	B HEX	C HEX	H	L	M	N	D FLOW Ø
XV500P-4-21	1/4	15/16	15/16	1.74	3.49	2.03	2.38	.375
XV500P-6-21	3/8	15/16	15/16	1.74	3.49	2.03	2.38	.375
XV500P-8-21	1/2*	1-1/16	1-1/16	1.74	3.49	2.20	2.49	.500
XV500P-12-21	3/4**	1-1/4	1-5/16	1.74	3.48	2.42	2.71	.685
XV500P-16-21	1**	1-1/2	1-9/16	1.74	3.48	2.75	2.99	.875





# Male /Female Brass Ball Valves Series 501

MATERIALS OF CONSTRUCTION	
VALVE BODY:	FORGED BRASS
BALL:	CHROME PLATED BRASS
SEATS / SEALS:	PTFE
HANDLE:	STEEL

STYLE	TYPE	MATERIAL	SIZE	OPTIONS
V	501	P	-4	-00
STYLE	<ul style="list-style-type: none"> <li>V-VALVE</li> <li>VP-VALVE, PADLOCKING HANDLE</li> <li>VV-VALVE, VENTED</li> <li>VVP-VALVE, VENTED, PADLOCKING HANDLE</li> </ul>			
TYPE	501-MALE/FEMALE PTFE PORTS			
MATERIAL	P- BRASS PN-NICKEL PLATED			
SIZE	4-1/4", 6-3/8", 8-1/2", 12-3/4", 16-1"			
OPTIONS	<ul style="list-style-type: none"> <li>01-STAINLESS STEEL BALL &amp; STEM</li> <li>02-STAINLESS STEEL HANDLE &amp; NUT</li> <li>03-STAINLESS STEEL BALL, STEM, HANDLE &amp; NUT</li> <li>04-TEE HANDLE</li> <li>08-UNMARKED YELLOW VINYL HANDLE COVER</li> <li>21-OVAL HANDLE</li> </ul>			

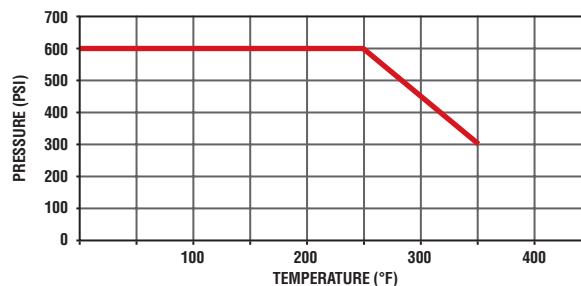


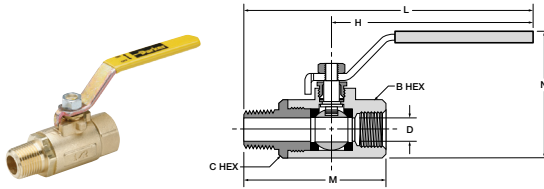
SPECIFICATIONS	
OPERATING INSTRUCTIONS:	QUARTER TURN IS "ON" OR "OFF" (PROVIDES POSITIVE STOP ACTION FOR FULL SHUTOFF.)
PRESSURE RANGE:	<ul style="list-style-type: none"> <li>600 WOG, COLD NON-SHOCK</li> <li>SATURATED STEAM UP TO 150 PSI AND 400°F</li> <li>VACUUM SERVICE TO 29 INCHES HG.</li> <li>VENTED UP TO 250 PSI</li> </ul>
TEMPERATURE RANGES:	0° TO +350°F
NOTE:	PERIODICALLY CHECK THE ADJUSTABLE PACKING NUT AND TIGHTEN AS REQUIRED.

Parker's industrial ball valve product line is intended for general purpose use. Please be aware that ball valves are intended for use in the fully open or closed positions. Depending on application conditions, throttling of the valve may result in premature seal failure and/or inability to turn the valve handle.

For use as fuel line shutoffs for gasoline and diesel powered over highway, off highway, and construction equipment vehicles. Water and air service lines on capital equipment and plant design plumbing that require total shutoff capability.

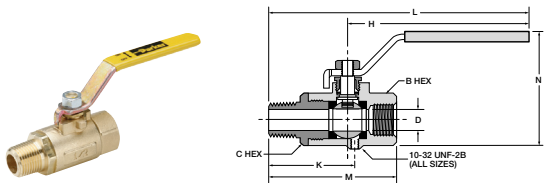
FLOW DATA	
VALVE SIZE	CV
1/4	6.3
3/8	5.7
1/2	10.0
3/4	25.0
1	35.0





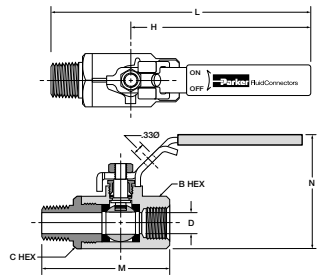
## Male-Female Pipe Ends XV501P

PART NO.	FEMALE PIPE THRD [PTF]	MALE PIPE THRD [NPTF]	B HEX	C HEX	H	L	M	N	D FLOW Ø
XV501P-4	1/4	1/4	15/16	15/16	3.96	5.46	2.59	2.47	.344
XV501P-6	3/8	3/8	15/16	15/16	3.96	5.46	2.59	2.47	.375
XV501P-8	1/2*	1/2	1-1/16	1-1/16	3.96	5.75	2.94	2.58	.500
XV501P-12	3/4**	3/4*	1-1/4	1-5/16	3.96	5.83	3.00	2.81	.685
XV501P-16	1**	1*	1-1/2	1-9/16	3.96	6.19	3.60	3.08	.875



## Vented, Male-Female Pipe Ends XVV501P

PART NO.	FEMALE PIPE THRD [PTF]	MALE PIPE THRD [NPTF]	B HEX	C HEX	K	H	L	M	N	D FLOW Ø
XVV501P-4	1/4	1/4	15/16	15/16	1.67	3.96	5.46	2.59	2.47	.344
XVV501P-6	3/8	3/8	15/16	15/16	1.67	3.96	5.46	2.59	2.47	.375
XVV501P-8	1/2*	1/2	1-1/16	1-1/16	1.98	3.96	5.75	2.95	2.58	.500
XVV501P-12	3/4**	3/4*	1-1/4	1-5/16	2.03	3.96	5.83	3.00	2.81	.685
XVV501P-16	1**	1*	1-1/2	1-9/16	2.43	3.96	6.19	3.60	3.08	.875



## Locking Handle, Male-Female Pipe Ends XVP501P

PART NO.	FEMALE PIPE THRD [PTF]	MALE PIPE THRD [NPTF]	B HEX	C HEX	H	L	M	N	D FLOW Ø
XVP501P-4	1/4	1/4	15/16	15/16	3.96	5.46	2.59	2.47	.344
XVP501P-6	3/8	3/8	15/16	15/16	3.96	5.46	2.59	2.47	.375
XVP501P-8	1/2*	1/2	1-1/16	1-1/16	3.96	5.75	2.95	2.58	.500
XVP501P-12	3/4**	3/4*	1-1/4	1-5/16	3.96	5.83	3.00	2.81	.685
XVP501P-16	1**	1*	1-1/2	1-9/16	3.96	6.19	3.60	3.08	.875

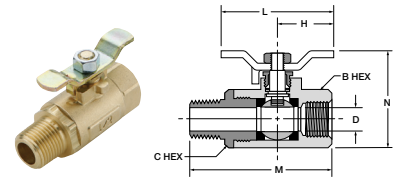
For use with 5/16" Ø shank lock

\*PTF Special Short. \*\*PTF Special Extra Short

## OSHA 29 CFR Part 1910 Vented, Locking Handle, Male-Female Pipe Ends XVVP501P

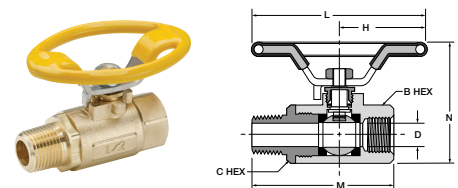
PART NO.	FEMALE PIPE THRD [PTF]	MALE PIPE THRD [NPTF]	B HEX	C HEX	K	H	L	M	N	D FLOW Ø
XVVP501P-4	1/4	1/4	15/16	15/16	1.67	3.96	5.46	2.59	2.47	.344
XVVP501P-6	3/8	3/8	15/16	15/16	1.67	3.96	5.46	2.59	2.47	.375
XVVP501P-8	1/2*	1/2	1-1/16	1-1/16	1.98	3.96	5.75	2.95	2.58	.500
XVVP501P-12	3/4**	3/4	1-1/4	1-5/16	2.03	3.96	5.83	3.00	2.81	.685
XVVP501P-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



## Tee Handle, Male-Female Pipe Ends XV501P-X-04

PART NO.	FEMALE PIPE THRD [PTF]	MALE PIPE THRD [NPTF]	B HEX	C HEX	H	L	M	N	D FLOW Ø
XV501P-4-04	1/4	1/4	15/16	15/16	1.25	2.50	2.59	1.87	.344
XV501P-6-04	3/8	3/8	15/16	15/16	1.25	2.50	2.59	1.87	.375
XV501P-8-04	1/2*	1/2	1-1/16	1-1/16	1.25	2.50	2.95	1.98	.500
XV501P-12-04	3/4**	3/4	1-1/4	1-5/16	1.25	2.50	3.00	2.20	.685
XV501P-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 XV501P-X-21

PART NO.	FEMALE PIPE THRD [PTF]	MALE PIPE THRD [NPTF]	B HEX	C HEX	H	L	M	N	D FLOW Ø
XV501P-4-21	1/4	1/4	15/16	15/16	1.74	3.49	2.59	2.38	.344
XV501P-6-21	3/8	3/8	15/16	15/16	1.74	3.49	2.59	2.38	.375
XV501P-8-21	1/2*	1/2	1-1/16	1-1/16	1.74	3.49	2.95	2.49	.500
XV501P-12-21	3/4**	3/4	1-1/4	1-5/16	1.74	3.48	3.00	2.71	.685
XV501P-16-21	1**	1	1-1/2	1-9/16	1.74	3.48	3.60	2.99	.875



# Panel Mount Ball Valves Series 502

MATERIALS OF CONSTRUCTION	
VALVE BODY:	FORGED BRASS
BALL:	CHROME PLATED BRASS
SEATS / SEALS:	PTFE
HANDLE:	STEEL

STYLE	TYPE	MATERIAL	SIZE	OPTIONS
V	502	P	-4	-00
STYLE	<ul style="list-style-type: none"> <li>V-VALVE</li> <li>VP-VALVE, PADLOCKING HANDLE</li> <li>VV-VALVE, VENTED</li> <li>VVP-VALVE, VENTED, PADLOCKING HANDLE</li> </ul>			
TYPE	502-FEMALE/FEMALE PTFE PORTS			
MATERIAL	P- BRASS PN-NICKEL PLATED			
SIZE	4-1/4", 6-3/8", 8-1/2", 12-3/4", 16-1"			
OPTIONS	<ul style="list-style-type: none"> <li>01-STAINLESS STEEL BALL &amp; STEM</li> <li>02-STAINLESS STEEL HANDLE &amp; NUT</li> <li>03-STAINLESS STEEL BALL, STEM, HANDLE &amp; NUT</li> <li>04-TEE HANDLE</li> <li>08-UNMARKED YELLOW VINYL HANDLE COVER</li> <li>21-OVAL HANDLE</li> </ul>			

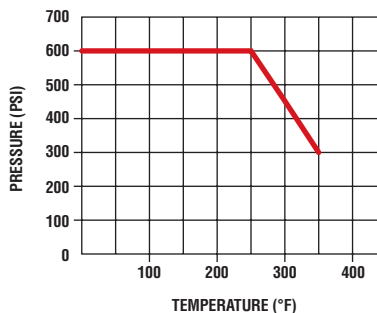


SPECIFICATIONS	
OPERATING INSTRUCTIONS:	QUARTER TURN IS "ON" OR "OFF" (PROVIDES POSITIVE STOP ACTION FOR FULL SHUTOFF.)
PRESSURE RANGE:	<ul style="list-style-type: none"> <li>600 WOG, COLD NON-SHOCK</li> <li>SATURATED STEAM UP TO 150 PSI AND 400°F</li> <li>VACUUM SERVICE TO 29 INCHES HG.</li> <li>VENTED UP TO 250 PSI</li> </ul>
TEMPERATURE RANGES:	0° TO +350°F
NOTE:	PERIODICALLY CHECK THE ADJUSTABLE PACKING NUT AND TIGHTEN AS REQUIRED.

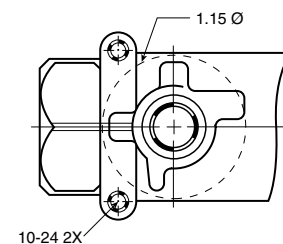
Parker's industrial ball valve product line is intended for general purpose use. Please be aware that ball valves are intended for use in the fully open or closed positions. Depending on application conditions, throttling of the valve may result in premature seal failure and/or inability to turn the valve handle.

For use as fuel line shutoffs for gasoline and diesel powered over the highway, off highway, and construction equipment vehicles. Water and air service lines on capital equipment and plant design plumbing that require total shutoff capability.

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



### Female-Female Pipe Ends, Panel Mount XV502P

PART NO.	PIPE THD.	B HEX	C HEX	F	G	H	L	M	N	FLOW DIA. D
XV502P-4	1/4	15/16	15/16	.50	1.12	3.96	4.90	2.03	2.47	.375
XV502P-6	3/8	15/16	15/16	.50	1.12	3.96	4.90	2.03	2.47	.375
XV502P-8	1/2"	1-1/16	1-1/16	.50	1.12	3.96	5.00	2.20	2.58	.500
XV502P-12†	3/4**	1-1/4	1-5/16	.87	1.37	3.96	5.25	2.42	2.81	.685
XV502P-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 XVV502P

PART NO.	PIPE THD.	B HEX	C HEX	F	G	K	H	L	M	N	D FLOW Ø
XVV502P-4	1/4	15/16	15/16	.50	1.12	1.11	3.96	4.90	2.03	2.47	.375
XVV502P-6	3/8	15/16	15/16	.50	1.12	1.11	3.96	4.90	2.03	2.47	.375
XVV502P-8	1/2"	1-1/16	1-1/16	.50	1.12	1.23	3.96	5.00	2.20	2.58	.500
XVV502P-12	3/4**	1-1/4	1-5/16	.87	1.37	1.45	3.96	5.25	2.42	2.81	.685
XVV502P-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 XVP502P

PART NO.	PIPE THD.	B HEX	C HEX	F	G	H	L	M	N	D FLOW Ø
XVP502P-4	1/4	15/16	15/16	.50	1.12	3.96	4.90	2.03	2.47	.375
XVP502P-6	3/8	15/16	15/16	.50	1.12	3.96	4.90	2.03	2.47	.375
XVP502P-8	1/2"	1-1/16	1-1/16	.50	1.12	3.96	5.00	2.20	2.58	.500
XVP502P-12	3/4**	1-1/4	1-5/16	.87	1.37	3.96	5.25	2.42	2.81	.685
XVP502P-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 Special Extra Short

### OSHA 29 CFR Part 1910 Vented, Locking Handle, Female Pipe Ends, Panel Mount XVVP502P

PART NO.	PIPE THD.	B HEX	C HEX	F	G	K	H	L	M	N	D FLOW Ø
XVVP502P-4	1/4	15/16	15/16	.50	1.12	1.11	3.96	4.90	2.03	2.47	.375
XVVP502P-6	3/8	15/16	15/16	.50	1.12	1.11	3.96	4.90	2.03	2.47	.375
XVVP502P-8	1/2"	1-1/16	1-1/16	.50	1.12	1.23	3.96	5.00	2.20	2.58	.500
XVVP502P-12	3/4**	1-1/4	1-5/16	.87	1.37	1.45	3.96	5.25	2.42	2.81	.685
XVVP502P-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 XV502P-X-04

PART NO.	PIPE THD.	B HEX	C HEX	F	G	H	L	M	N	D FLOW Ø
XV502P-4-04	1/4	15/16	15/16	.50	1.12	1.25	2.50	2.03	1.87	.375
XV502P-6-04	3/8	15/16	15/16	.50	1.12	1.25	2.50	2.03	1.87	.375
XV502P-8-04	1/2"	1-1/16	1-1/16	.50	1.12	1.25	2.50	2.20	1.98	.500
XV502P-12-04	3/4**	1-1/4	1-5/16	.87	1.37	1.25	2.50	2.42	2.20	.685
XV502P-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 XV502P-X-21

PART NO.	PIPE THD.	B HEX	C HEX	F	G	H	L	M	N	D FLOW Ø
XV502P-4-21	1/4	15/16	15/16	.50	1.12	1.74	3.49	2.03	2.38	.375
XV502P-6-21	3/8	15/16	15/16	.50	1.12	1.74	3.49	2.03	2.38	.375
XV502P-8-21	1/2"	1-1/16	1-1/16	.50	1.12	1.74	3.49	2.20	2.49	.500
XV502P-12-21	3/4**	1-1/4	1-5/16	.87	1.37	1.74	3.48	2.42	2.71	.685
XV502P-16-21	1**	1-1/2	1-9/16	.87	1.37	1.74	3.48	2.75	2.99	.875

K





# Female/Female Straight Thread Brass Ball Valve Series 506

MATERIALS OF CONSTRUCTION	
VALVE BODY:	FORGED BRASS
BALL:	CHROME PLATED BRASS
SEATS / SEALS:	PTFE
HANDLE:	STEEL

STYLE	TYPE	MATERIAL	SIZE	OPTIONS
V	506	P	-4	-00
STYLE	<ul style="list-style-type: none"> <li>V-VALVE</li> <li>VP-VALVE, PADLOCKING HANDLE</li> </ul>			
TYPE	506 FEMALE/FEMALE			
MATERIAL	P- BRASS			
SIZE	4-1/4", 6-3/8", 8-1/2", 12-3/4", 16-1", 20-1 1/4", 24-1 1/2", 32-2"			
OPTIONS	<ul style="list-style-type: none"> <li>01-STAINLESS STEEL BALL &amp; STEM</li> <li>02-STAINLESS STEEL HANDLE &amp; NUT</li> <li>03-STAINLESS STEEL BALL, STEM, HANDLE &amp; NUT</li> <li>04-TEE HANDLE</li> <li>08-UNMARKED YELLOW VINYL HANDLE COVER</li> <li>21-OVAL HANDLE</li> </ul>			

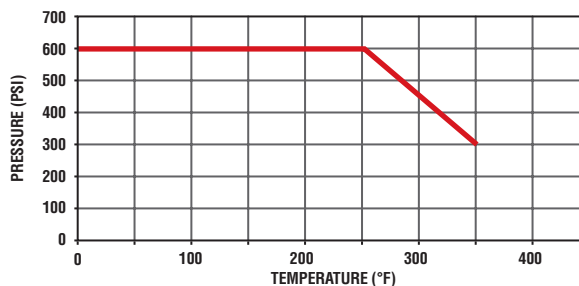
SPECIFICATIONS	
PRESSURE RANGE:	<ul style="list-style-type: none"> <li>600 WOG, COLD NON-SHOCK</li> <li>SATURATED STEAM UP TO 150 PSI AND 400°F</li> <li>VACUUM SERVICE TO 29 INCHES HG.</li> </ul>
TEMPERATURE RANGES:	0° TO +350°F
OPERATING INSTRUCTIONS	QUARTER TURN IS "ON" OR "OFF". (PROVIDES POSITIVE STOP ACTION FOR FULL SHUTOFF.)
NOTE:	PERIODICALLY CHECK THE ADJUSTABLE PACKING NUT AND TIGHTEN AS REQUIRED.

FLOW DATA	
VALVE SIZE	CV
1/4	4.0
3/8	5.8
1/2	12.0
3/4	25.0
1	35.0
1-1/4	57.0
1-1/2	92.0
2	224.0



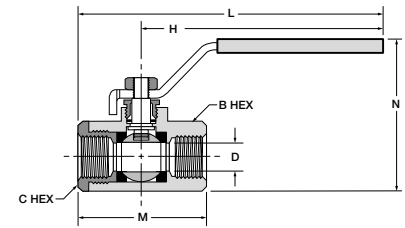
Parker's industrial ball valve product line is intended for general purpose use. Please be aware that ball valves are intended for use in the fully open or closed positions. Depending on application conditions, throttling of the valve may result in premature seal failure and/or inability to turn the valve handle.

For use on construction equipment, chemical processing, plastic and rubber manufacturing, pumps and specialized industrial machinery requiring total shut-off capability.



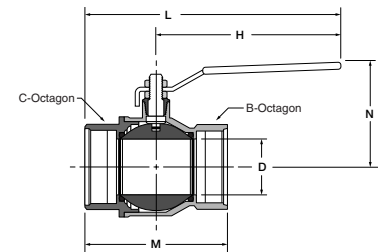
### Female/Female, Straight Thread O-Ring Port XV506P

PART NO.	STRT. THREAD	B HEX	C HEX	H	L	M	N	D FLOW Ø
XV506P-4	7/16-20	15/16	15/16	3.96	5.01	2.20	2.47	.375
XV506P-6	9/16-18	15/16	15/16	3.96	5.07	2.26	2.47	.375
XV506P-8	3/4-16	1-1/16	1-1/16	3.96	5.18	2.42	2.60	.500
XV506P-12	1-1/16-12	1-1/4	1-5/16	3.96	5.87	3.46	2.81	.685
XV506P-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 XV506P-20, XV506P-24, XV506P-32

PART NO.	STRT. THREAD	B OCT	C OCT	H	L	M	N	D FLOW Ø
XV506P-20	1 5/8-12	1.93	1.93	6.22	8.05	3.66	3.01	1.18
XV506P-24	1 7/8-12	2.13	2.13	6.22	8.23	4.02	3.25	1.50
XV506P-32	2 1/2-12	2.85	2.85	6.22	8.60	4.76	3.52	1.89





# Solder End Ball Valves Series 509

MATERIALS OF CONSTRUCTION	
VALVE BODY:	FORGED BRASS
BALL:	CHROME PLATED BRASS
SEATS / SEALS:	PTFE
HANDLE:	STEEL

PRESSURE AND TEMPERATURE RANGE	
PRESSURE RANGE	600 WOG, COLD NON-SHOCK SATURATED STEAM UP TO 150 PSI AND 400°F
TEMPERATURE RANGE	0° TO +350°F SOLDER TEMPERATURE NOT TO EXCEED 470°F

STYLE	TYPE	MATERIAL	SIZE
V	509	P	-4
STYLE	V-VALVE		
TYPE	509-SOLDER ENDS		
MATERIAL	P-BRASS		
SIZE	8-1/2", 12-3/4", 16-1", 20-1 1/4", 24-1 1/2", 32-2"		

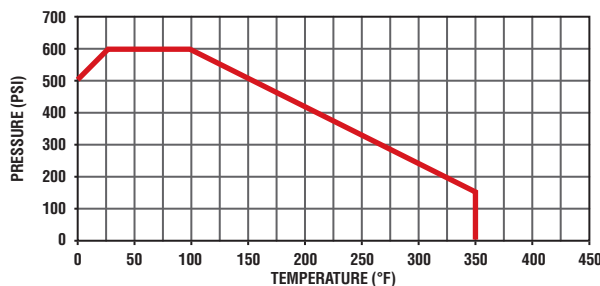
	MELTING RANGE	WORKING TEMP.	MAX. WORKING PRESSURE (PSI)	
JOINING MATERIAL	°F	°F	SIZE 1/2" - 1"	SIZE 1-1/4" - 2"
50-50 TIN-LEAD SOLDER	361-421	100	200	175
		150	150	125
		200	100	90
		250	85	75
95-5 TIN ANTIMONY SOLDER	450-464	100	400	400
		150	400	350
		200	300	250
		250	200	175

SPECIFICATIONS	
OPERATING INSTRUCTIONS	QUARTER TURN IS "ON" OR "OFF". (PROVIDES POSITIVE STOP ACTION FOR FULL SHUTOFF.)



Parker's industrial ball valve product line is intended for general purpose use. Please be aware that ball valves are intended for use in the fully open or closed positions. Depending on application conditions, throttling of the valve may result in premature seal failure and/or inability to turn the valve handle.

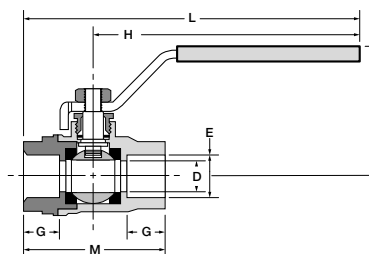
These valves are ideal for water and air service lines on capital equipment and plant design plumbing that require total shut-off capability. Use with ASTM B88 copper water tubing.



FLOW DATA	
VALVE SIZE	CV
1/2"	26
3/4"	69
1"	91
1 1/4"	127
1 1/2"	299
2"	425

## Solder Cup Ends XV509P

PART NO.	TUBE SIZE	E	G	H	L	M	N	FLOW DIA. D
XV509P-8	1/2	.630	.49	3.94	5.00	2.24	1.69	.55
XV509P-12	3/4	.877	.75	4.72	6.10	2.85	1.97	.75
XV509P-16	1	1.128	.90	4.72	6.40	3.35	2.13	.94
XV509P-20	1 1/4	1.378	.96	6.22	8.13	3.82	3.01	1.18
XV509P-24	1 1/2	1.628	1.10	6.22	8.46	4.49	3.25	1.50
XV509P-32	2	2.128	1.34	6.22	8.94	5.43	3.52	1.89





# Male/Female Straight Thread Ball Valves Series 510

MATERIALS OF CONSTRUCTION	
VALVE BODY:	FORGED BRASS
BALL:	CHROME PLATED BRASS
SEATS / SEALS:	PTFE
HANDLE:	STEEL

STYLE	TYPE	MATERIAL	SIZE	OPTIONS
V	510	P	-4	-00
STYLE	<ul style="list-style-type: none"> <li>• V-VALVE</li> <li>• VP-VALVE, PADLOCKING HANDLE</li> </ul>			
TYPE	510 MALE/FEMALE STRAIGHT THREAD O-RING			
MATERIAL	P- BRASS			
SIZE	4-1/4", 6-3/8", 8-1/2", 12-3/4", 16-1"			
OPTIONS	<ul style="list-style-type: none"> <li>• 01-STAINLESS STEEL BALL &amp; STEM</li> <li>• 02-STAINLESS STEEL HANDLE &amp; NUT</li> <li>• 03-STAINLESS STEEL BALL, STEM, HANDLE &amp; NUT</li> <li>• 04-TEE HANDLE</li> <li>• 08-UNMARKED YELLOW VINYL HANDLE COVER</li> <li>• 21-OVAL HANDLE</li> </ul>			

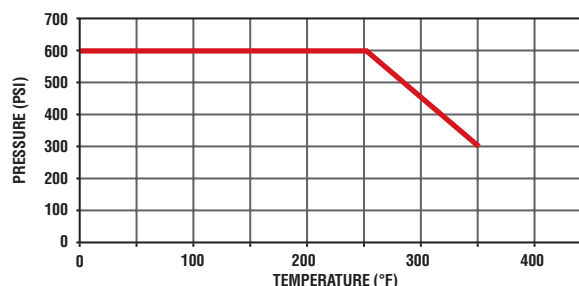
SPECIFICATIONS	
PRESSURE RANGE:	<ul style="list-style-type: none"> <li>• 600 WOG, COLD NON-SHOCK</li> <li>• SATURATED STEAM UP TO 150 PSI AND 400°F</li> <li>• VACUUM SERVICE TO 29 INCHES HG.</li> <li>• VENTED UP TO 250 PSI</li> </ul>
TEMPERATURE RANGES:	0° TO +350°F
OPERATING INSTRUCTIONS	QUARTER TURN IS "ON" OR "OFF". (PROVIDES POSITIVE STOP ACTION FOR FULL SHUTOFF.)
NOTE:	PERIODICALLY CHECK THE ADJUSTABLE PACKING NUT AND TIGHTEN AS REQUIRED.

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



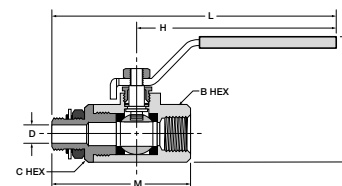
Parker's industrial ball valve product line is intended for general purpose use. Please be aware that ball valves are intended for use in the fully open or closed positions. Depending on application conditions, throttling of the valve may result in premature seal failure and/or inability to turn the valve handle.

For use on construction equipment, chemical processing, plastic and rubber manufacturing, pumps and specialized industrial machinery requiring total shut-off capability.



### Male-Female, Straight Thread O-Ring Port XV510P

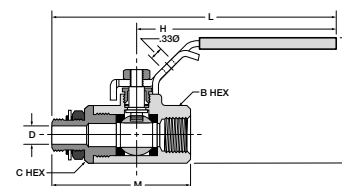
PART NO.	STRT. THREAD	B HEX	C HEX	H	L	M	N	D FLOW Ø
XV510P-4	7/16-20	15/16	15/16	3.96	5.61	2.85	2.47	.188
XV510P-6	9/16-18	15/16	15/16	3.96	5.68	2.92	2.47	.281
XV510P-8	3/4-16	1-1/16	1-1/16	3.96	5.88	3.17	2.58	.422
XV510P-10	7/8-14	1-1/4	1-5/16	3.96	6.31	3.90	2.81	.500
XV510P-12	1-1/16-12	1-1/4	1-5/16	3.96	6.44	4.03	2.81	.656
XV510P-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 XVP510P

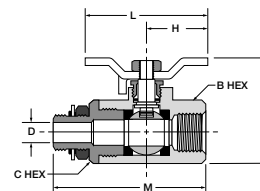
PART NO.	STRT. THREAD	B HEX	C HEX	H	L	M	N	D FLOW Ø
XVP510P-4	7/16-20	15/16	15/16	3.96	5.61	2.85	2.47	.188
XVP510P-6	9/16-18	15/16	15/16	3.96	5.68	2.92	2.47	.281
XVP510P-8	3/4-16	1-1/16	1-1/16	3.96	5.88	3.17	2.58	.422
XVP510P-10	7/8-14	1-1/4	1-5/16	3.96	6.31	3.90	2.81	.500
XVP510P-12	1-1/16-12	1-1/4	1-5/16	3.96	6.44	4.03	2.81	.656

For use with 5/16" Ø shank lock



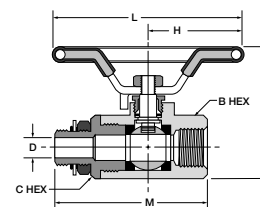
### Tee Handle, Straight Thread O-Ring Port XV510P-X-04

PART NO.	STRT. THREAD	B HEX	C HEX	H	L	M	N	D FLOW Ø
XV510P-4-04	7/16-20	15/16	15/16	1.25	2.50	2.85	1.87	.188
XV510P-6-04	9/16-18	15/16	15/16	1.25	2.50	2.92	1.87	.281
XV510P-8-04	3/4-16	1-1/16	1-1/16	1.25	2.50	3.17	1.98	.422
XV510P-10-04	7/8-14	1-1/4	1-5/16	1.25	2.50	3.90	2.20	.500
XV510P-12-04	1-1/16-12	1-1/4	1-5/16	1.25	2.50	4.03	2.20	.656
XV510P-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 XV510P-X-21

PART NO.	STRT. THREAD	B & C HEX	H	L	M	N	D FLOW Ø
XV510P-4-21	7/16-20	15/16	1.74	3.49	2.85	2.38	.188
XV510P-6-21	9/16-18	15/16	1.74	3.49	2.92	2.38	.281
XV510P-8-21	3/4-16	1 1/16	1.74	3.49	3.17	2.49	.422
XV510P-12-21	1-1/16-12	1-1/4 (B)	1.75	3.49	4.03	2.71	.656
		1-5/16 (C)					



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# Brass Ball Valves Series 520

MATERIALS OF CONSTRUCTION	
VALVE BODY:	FORGED BRASS
BALL:	CHROME PLATED BRASS
SEATS / SEALS:	PTFE
STEM O-RINGS:	VITON
HANDLE:	STEEL

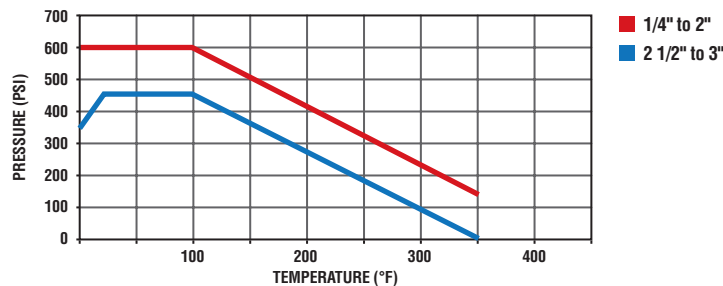
STYLE	TYPE	MATERIAL	SIZE	OPTIONS
V	520	P	-4	-00
STYLE	V-VALVE			
TYPE	520-FEMALE/FEMALE PTF PORTS			
MATERIAL	P- BRASS			
SIZE	4-1/4", 6-3/8", 8-1/2", 12-3/4", 16-1", 20-1 1/4", 24-1 1/2", 32-2"			
OPTIONS	04-TEE HANDLE			

SPECIFICATIONS	
OPERATING INSTRUCTIONS:	QUARTER TURN IS "ON" OR "OFF" (PROVIDES POSITIVE STOP ACTION FOR FULL SHUTOFF.)
PRESSURE RANGE:	<ul style="list-style-type: none"> <li>• 600 WOG, COLD NON-SHOCK – SIZES 1/4" – 2"</li> <li>• 450 WOG, COLD NON-SHOCK – SIZES 2 1/2" – 3"</li> <li>• SATURATED STEAM UP TO 150 PSI AND 350°F</li> <li>• VACUUM SERVICE TO 29 INCHES HG.</li> </ul>
TEMPERATURE RANGES:	0° TO +350°F
NOTE:	PERIODICALLY CHECK THE ADJUSTABLE PACKING NUT AND TIGHTEN AS REQUIRED.

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

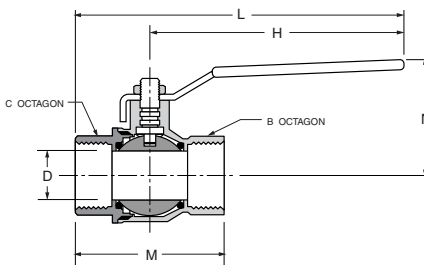


Parker's industrial ball valve product line is intended for general purpose use. Please be aware that ball valves are intended for use in the fully open or closed positions. Depending on application conditions, throttling of the valve may result in premature seal failure and/or inability to turn the valve handle. For use as shutoffs for highway, off highway, and construction equipment vehicles. Water and air service lines on capital equipment and plant design plumbing that require total shutoff capability.



## Brass Ball Valve XV520P

PART NO.	PIPE THREAD	B OCTAGON	C OCTAGON	H	L	M	N	D FLOW Ø
XV520P-4	1/4-18	.79	.79	3.94	4.83	1.77	1.50	.310
XV520P-6	3/8-18	.79	.79	3.94	4.83	1.77	1.50	.400
XV520P-8	1/2-14	.98	.98	3.94	5.10	2.32	1.69	.600
XV520P-12	3/4-14	1.22	1.22	4.72	5.98	2.52	1.97	.790
XV520P-16	1-11.5	1.57	1.57	4.72	6.32	3.19	2.13	1.000
XV520P-20	1-1/4	1.93	1.93	6.22	8.05	3.66	2.82	1.250
XV520P-24	1-1/2	2.13	2.13	6.22	8.23	4.02	3.06	1.570
XV520P-32	2	2.69	2.69	6.22	8.58	4.76	3.33	2.000
XV520P-40	2-1/2	3.35	3.35	10.04	13.11	6.14	5.20	2.520
XV520P-48	3	3.89	3.89	10.04	13.52	6.97	5.51	3.000







## Brass Ball Valves Series 533

### 3-Way Diversion / Series 540 4-Way

MATERIALS OF CONSTRUCTION	
VALVE BODY:	FORGED BRASS
BALL:	CHROME PLATED BRASS
SEATS / SEALS:	PTFE
HANDLE:	STEEL

STYLE	TYPE	MATERIAL	SIZE	OPTIONS
V	533	P	-4	-00
STYLE	V-VALVE			
TYPE	533 3-WAY DIVERSION, 540 4-WAY			
MATERIAL	P- BRASS			
SIZE	4-1/4", 6-3/8", 8-1/2", 12-3/4", 16-1", 20-1 1/4", 24-1 1/2", 32-2"			
OPTIONS	<ul style="list-style-type: none"> <li>02-STAINLESS STEEL HANDLE &amp; NUT</li> <li>08-UNMARKED YELLOW VINYL HANDLE COVER</li> </ul>			

SPECIFICATIONS	
PRESSURE RANGE:	<ul style="list-style-type: none"> <li>400 PSI</li> <li>VACUUM SERVICE TO 29 INCHES HG.</li> </ul>
TEMPERATURE RANGES:	0° TO +250°F
NOTE:	DIVERSION VALVES DO NOT HAVE OFF POSITIONS, THEREFORE, THE CENTER PORT CAN NOT BE USED FOR SHUT-OFF PURPOSES.
NOTE:	PERIODICALLY CHECK THE ADJUSTABLE PACKING NUT AND TIGHTEN AS REQUIRED.

XV540P FLOW INFORMATION	
POINTER OVER	FLOW PATH
A	A TO E
OFF	CLOSED
C	C TO E
D	D TO E

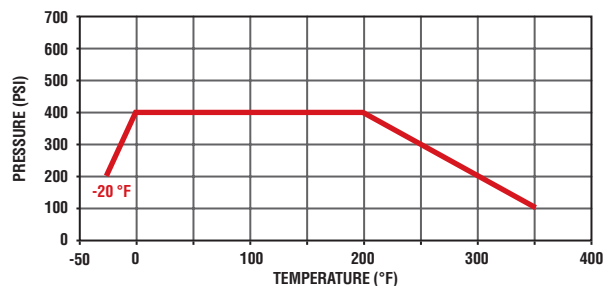
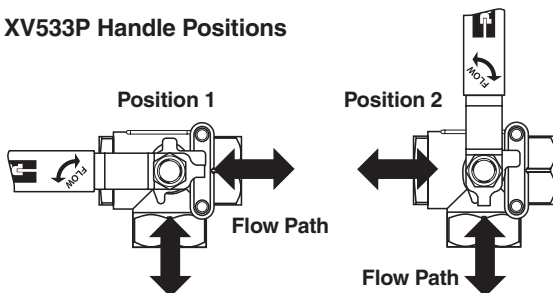


Designed for applications requiring flow diversion making tank selection and fluid transfer easy. For use on construction equipment, chemical processing, pumps and specialized industrial machinery.

**NOTE:** 3-way diversion valves do not have off positions, therefore, the center port can not be used for shut-off purposes.

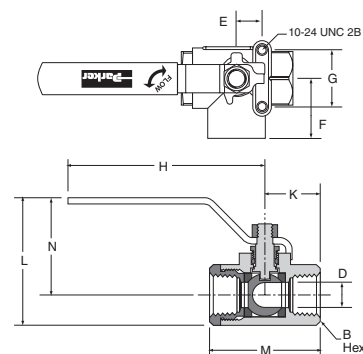
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#### XV533P Handle Positions



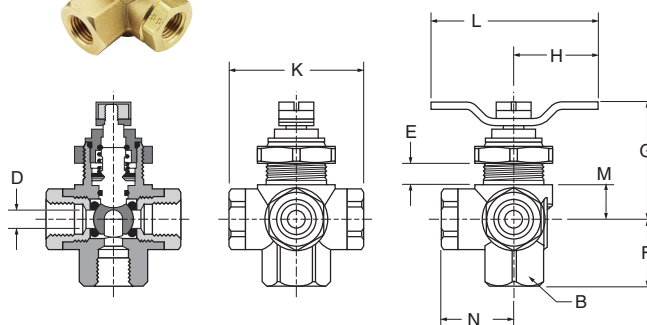
## Female-Female-Female Pipe Ends XV533P

PART NO.	PIPE THD (PTF)	B HEX	E	F	G	H	K	L	M	N	FLOW DIA. D
XV533P-4	1/4	15/16	.50	1.08	1.12	3.96	1.03	2.47	2.03	1.94	.375
XV533P-6	3/8	15/16	.50	1.08	1.12	3.96	1.03	2.47	2.03	1.94	.375
XV533P-8	1/2	1-1/16	.50	1.18	1.12	3.96	1.11	2.58	2.20	1.98	.500
XV533P-12	3/4	1-1/4	.87	1.43	1.37	3.96	1.42	2.90	2.83	2.17	.685
XV533P-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 XV540P

PART NO.	PIPE THD (PTF)	B HEX	E	F	G	H	K	L	M	N	FLOW DIA. D
XV540P-4	1/4	7/8	.32	1.00	1.76	1.25	1.98	2.49	.52	1.07	.250





## 90° Ball Valves Series 590/591

MATERIALS OF CONSTRUCTION	
VALVE BODY:	FORGED BRASS
BALL:	CHROME PLATED BRASS
SEATS / SEALS:	PTFE
HANDLE:	STEEL

STYLE	TYPE	MATERIAL	SIZE	OPTIONS
V	590	P	-8	-00
STYLE	V-VALVE			
TYPE	590-90 MALE/FEMALE 591-90 MALE/MALE			
MATERIAL	P- BRASS			
SIZE	4-1/4", 6-3/8", 8-1/2"			
OPTIONS	<ul style="list-style-type: none"> <li>• 04-LEVER HANDLE</li> <li>• 08-UNMARKED YELLOW VINYL HANDLE COVER</li> </ul>			

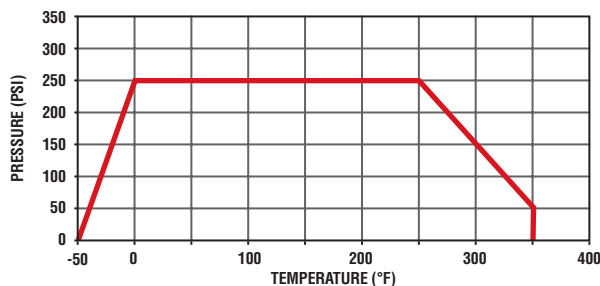
SPECIFICATIONS	
PRESSURE RANGE:	<ul style="list-style-type: none"> <li>• 250 PSI</li> <li>• SATURATED STEAM UP TO 150 PSI AND 400°F</li> <li>• VACUUM SERVICE TO 29 INCHES HG.</li> </ul>
TEMPERATURE RANGES:	0° TO +350°F
OPERATING INSTRUCTIONS	QUARTER TURN IS "ON" OR "OFF". (PROVIDES POSITIVE STOP ACTION FOR FULL SHUT-OFF.)
NOTE:	PERIODICALLY CHECK THE ADJUSTABLE PACKING NUT AND TIGHTEN AS REQUIRED.



Note: 90° Ball Valve Series 590/591 has a tee handle as standard. A Lever Handle is available as option 04.

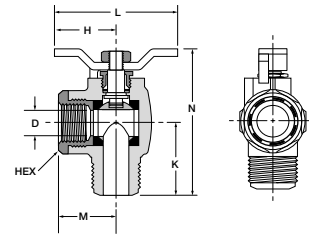
Parker's industrial ball valve product line is intended for general purpose use. Please be aware that ball valves are intended for use in the fully open or closed positions. Depending on application conditions, throttling of the valve may result in premature seal failure and/or inability to turn the valve handle.

For use as fuel line shutoffs for gasoline and diesel powered over the highway, off highway and construction equipment vehicles. Water and air service lines on capital equipment and plant design plumbing that require total shut-off capability.

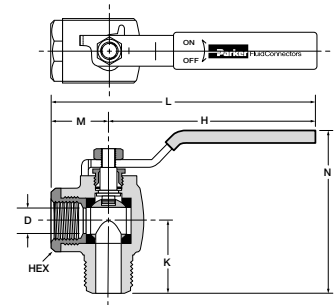


**90° Flow, Male-Female Pipe Ends XV590P**

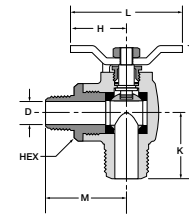
PART NO.	PIPE PTF THREAD	HEX	H	K	L	M	N	D FLOW Ø
XV590P-4	1/4	15/16	1.25	1.08	2.50	1.00	2.42	.375
XV590P-6	3/8	15/16	1.25	1.09	2.50	1.00	2.43	.375
XV590P-8	1/2*	1-1/16	1.25	1.30	2.50	1.08	2.67	.500
XV590P-16	1	1-9/16"	1.30	1.90	2.60	1.38	3.62	.750

**Lever Handle, 90° Flow, Male-Female Pipe Ends XV590P-X-04**

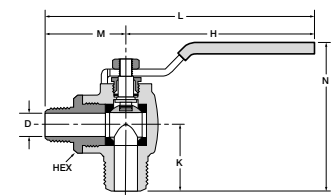
PART NO.	PIPE PTF THREAD	HEX	H	K	L	M	N	D FLOW Ø
XV590P-4-04	1/4	15/16	3.96	1.08	4.96	1.00	3.02	.375
XV590P-6-04	3/8	15/16	3.96	1.09	4.96	1.00	3.03	.375
XV590P-8-04	1/2*	1-1/16	3.80	1.30	4.88	1.08	2.95	.500
XV590P-16-04	1	1-9/16"	3.96	1.90	5.34	1.38	4.17	.750

**90° Flow, Male-Male Pipe Ends XV591P**

PART NO.	PIPE THREAD	HEX	H	K	L	M	N	D FLOW Ø
XV591P-4	1/4	15/16	1.25	1.08	2.50	1.56	2.42	.375
XV591P-6	3/8	15/16	1.25	1.09	2.50	1.56	2.43	.375
XV591P-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 XV591P-X-04**

PART NO.	PIPE THREAD	HEX	H	K	L	M	N	D FLOW Ø
XV591P-4-04	1/4	15/16	3.96	1.08	5.52	1.56	3.02	.375
XV591P-6-04	3/8	15/16	3.96	1.09	5.52	1.56	3.03	.375
XV591P-8-04	1/2	1-1/16	3.80	1.30	5.64	1.84	2.95	.500

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\*PTF Special Short.



# Brass Hose Barb Ball Valves Series 500HB

MATERIALS OF CONSTRUCTION	
VALVE BODY:	FORGED BRASS
BALL:	CHROME PLATED BRASS
SEATS / SEALS:	PTFE
HANDLE:	STEEL

SPECIFICATIONS	
PRESSURE RANGE:	<ul style="list-style-type: none"> <li>• 150 PSI WOG, COLD NON-SHOCK</li> <li>• SATURATED STEAM UP TO 150 PSI AND 350°F</li> <li>• VACUUM SERVICE TO 29 INCHES HG.</li> </ul>
TEMPERATURE RANGES:	0° TO +350°F
OPERATING INSTRUCTIONS	QUARTER TURN IS "ON" OR "OFF" (PROVIDES POSITIVE STOP ACTION FOR FULL SHUTOFF.)
NOTE:	PERIODICALLY CHECK THE ADJUSTABLE PACKING NUT AND TIGHTEN AS REQUIRED.



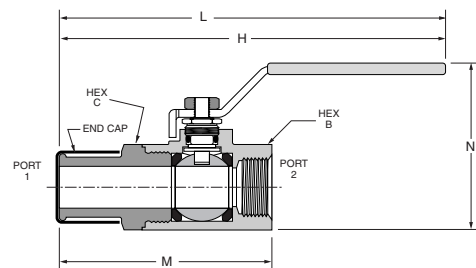
Parker's industrial ball valve product line is intended for general purpose use. Please be aware that ball valves are intended for use in the fully open or closed positions. Depending on application conditions, throttling of the valve may result in premature seal failure and/or inability to turn the valve handle. For use on construction equipment, chemical processing, plastic and rubber manufacturing, pumps, power units, and specialized industrial machinery requiring total shut-off capability.

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## Brass Hose Barb Ball Valve XV500P-HB

PART NO.	PORT 1	PORT 2 PTF	B HEX	C HEX	H	L	M	N	FLOW DIA. D
XV500P-12-16HB	1	3/4*	1-1/4	1-5/16	3.96	6.25	3.41	2.81	.685

\*PTF special extra short





# Brass Ball Valves Series 600 Six Port Diversion

MATERIALS OF CONSTRUCTION	
VALVE BODY:	FORGED BRASS
BALL:	CHROME PLATED BRASS
SEATS / SEALS:	PTFE
O-RINGS:	VITON
HANDLE:	STEEL

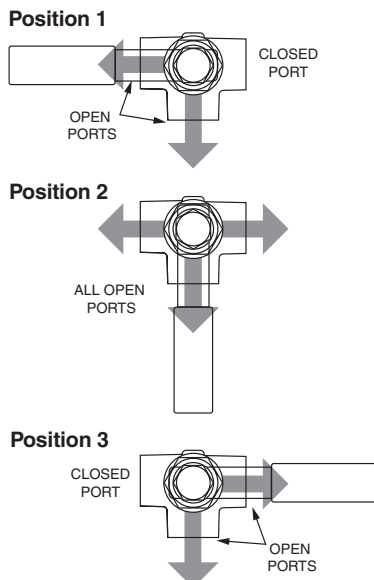
STYLE	TYPE	MATERIAL	SIZE	OPTIONS
V	600	P	-8	-00
STYLE	V-VALVE			
TYPE	600 - THREE POSITION 633 - TWO POSITION			
MATERIAL	P- BRASS			
SIZE	8-1/2"			

SPECIFICATIONS	
PRESSURE RANGE:	<ul style="list-style-type: none"> <li>• 150 PSI</li> <li>• VACUUM SERVICE TO 29 INCHES HG.</li> </ul>
TEMPERATURE RANGES:	0° TO +250°F
OPERATING INSTRUCTIONS	POSITION HANDLE IN QUARTER-TURN INCREMENTS TO DESIRED FLOW CONFIGURATION. DETENT MECHANISM ASSISTS IN ACCURATELY POSITIONING HANDLE.

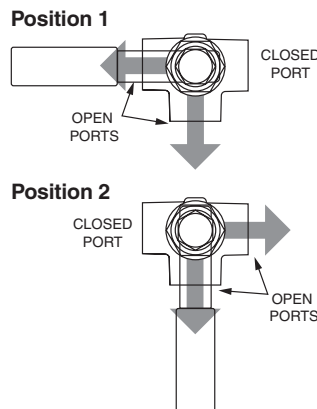


This valve can be used on applications where a fluid return or spillback is required. For use on construction equipment, chemical processing, diesel engines, filter banks, pumps and specialized industrial machinery.

## Series 600 Handle Positions



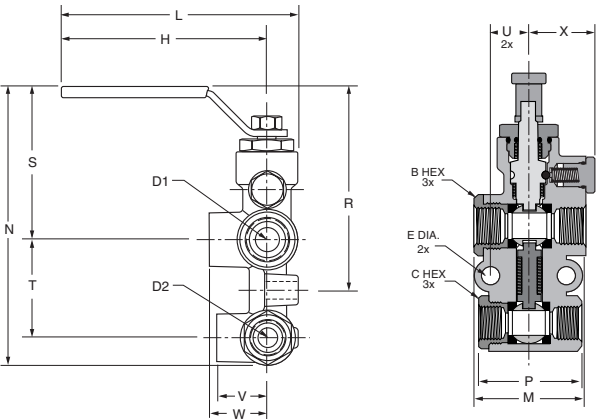
## Series 633 Handle Positions



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

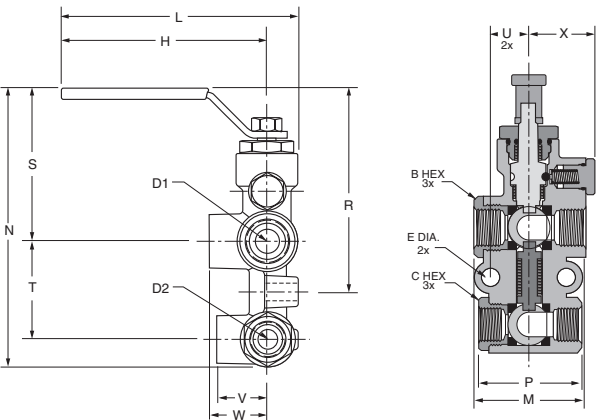
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Six Port Diversion Brass Valve XV600P

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
XV600P-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 XV633P

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
XV633P-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



\*PTF Special Short. \*\*PTF Special Extra Short



# Carbon Steel Ball Valves Series 500CS/502CS

MATERIALS OF CONSTRUCTION	
VALVE BODY:	CARBON STEEL PHOSPHATE COATED
BALL:	STEEL
SEATS / SEALS:	PTFE
HANDLE:	STEEL

STYLE	TYPE	MATERIAL	SIZE	OPTIONS
V	500	CS	-4	-00
STYLE	<ul style="list-style-type: none"> <li>V-VALVE</li> <li>VP-VALVE, PADLOCKING HANDLE</li> </ul>			
TYPE	500 FEMALE/FEMALE PTF PORTS			
MATERIAL	CS-CRARBON STEEL			
SIZE	4-1/4", 6-3/8", 8-1/2", 12-3/4", 16-1", 20-1 1/4", 24-1 1/2", 32-2"			
OPTIONS	<ul style="list-style-type: none"> <li>04-TEE HANDLE</li> <li>21-OVAL HANDLE</li> </ul>			

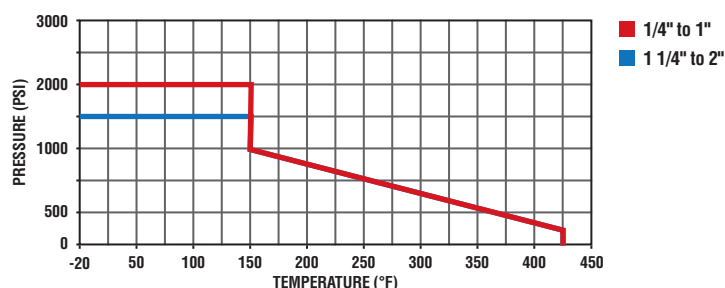
SPECIFICATIONS	
PRESSURE RANGE:	<ul style="list-style-type: none"> <li>2,000 PSI SIZES: 1/4" – 1"</li> <li>1,500 PSI SOZES: 1 1/4" – 2"</li> <li>SATURATED STEAM UP TO 150 PSI</li> </ul>
TEMPERATURE RANGES:	0° TO +425°F
OPERATING INSTRUCTIONS	QUARTER TURN IS "ON" OR "OFF". (PROVIDES POSITIVE STOP ACTION FOR FULL SHUTOFF.)
NOTE:	PERIODICALLY CHECK THE ADJUSTABLE PACKING NUT AND TIGHTEN AS REQUIRED.

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



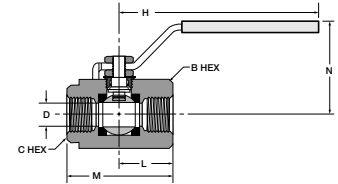
Parker's industrial ball valve product line is intended for general purpose use. Please be aware that ball valves are intended for use in the fully open or closed positions. Depending on application conditions, throttling of the valve may result in premature seal failure and/or inability to turn the valve handle.

For use as fuel line shutoffs for gasoline and diesel powered over the highway, off highway, and construction equipment vehicles. Hydraulic and general industrial applications on capital equipment and plant design plumbing that require total shutoff capability.



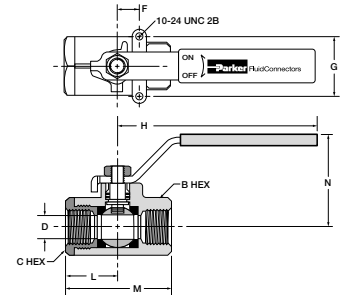
## Female-Female Pipe Ends XV500CS

PART NO.	PIPE THREAD	B HEX	C HEX	H	L	M	N	D FLOW Ø
XV500CS-4	1/4	1-1/16	15/16	3.78	1.00	2.00	1.63	.400
XV500CS-6	3/8	1-1/16	15/16	3.78	1.00	2.00	1.63	.400
XV500CS-8	1/2	1-1/4	1-1/16	3.78	1.25	2.37	1.73	.540
XV500CS-12	3/4	1-5/8	1-3/8	5.10	1.50	2.90	2.08	.680
XV500CS-16	1	2	1-5/8	5.10	1.76	3.41	2.30	.880



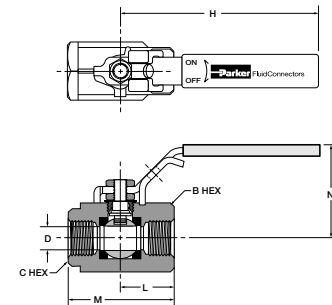
## Female-Female Pipe Ends, Panel Mount XV502CS

PART NO.	PIPE THD	B HEX	C HEX	F	G	H	L	M	N	FLOW DIA. D
XV502CS-20	1-1/4	2	2-1/4	.94	1.50	6.10	1.87	3.80	2.76	1.000
XV502CS-24	1-1/2	2-5/16	2-1/2	.94	1.50	6.10	2.27	4.55	2.98	1.250
XV502CS-32	2	2-3/4	3	1.03	2.00	8.60	2.42	4.83	3.54	1.500



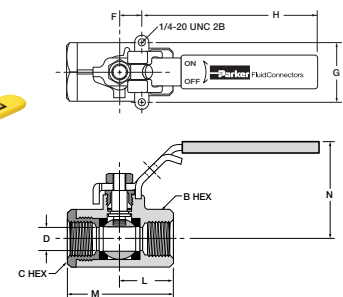
## Locking Handle, Female Pipe Ends XVP500CS

PART NO.	PIPE THD	B HEX	C HEX	H	L	M	N	D FLOW Ø
XVP500CS-4	1/4	1-1/16	15/16	4.13	1.00	2.00	2.23	.400
XVP500CS-6	3/8	1-1/16	15/16	4.13	1.00	2.00	2.23	.400
XVP500CS-8	1/2	1-1/4	1-1/16	4.13	1.25	2.37	2.33	.540
XVP500CS-12	3/4	1-5/8	1-3/8	5.00	1.50	2.90	2.80	.680
XVP500CS-16	1	2	1-5/8	5.00	1.76	3.41	2.97	.880



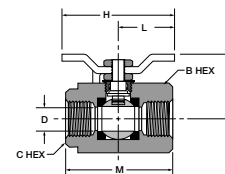
## Locking Handle, Female Pipe Ends, Panel Mount XVP502CS

PART NO.	PIPE THD	B HEX	C HEX	F	G	H	L	M	N	FLOW DIA. D
XVP502CS-20	1-1/4	2	2-1/4	.94	1.50	7.50	1.87	3.80	3.15	1.000
XVP502CS-24	1-1/2	2-5/16	2-1/2	.94	1.50	7.50	2.27	4.55	3.37	1.250
XVP502CS-32	2	2-3/4	3	1.03	2.00	8.75	2.42	4.83	3.46	1.500



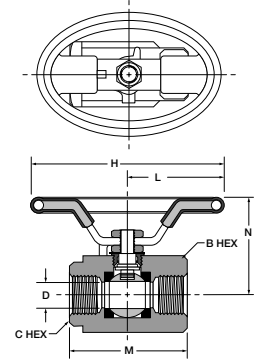
## Tee Handle, Female Pipe Ends XV500CS-X-04

PART NO.	PIPE THD	B HEX	C HEX	H	L	M	N	D FLOW Ø
XV500CS-4-04	1/4	1-1/16	15/16	2.16	1.08	2.00	1.41	.400
XV500CS-6-04	3/8	1-1/16	15/16	2.16	1.08	2.00	1.41	.400
XV500CS-8-04	1/2	1-1/4	1-1/16	2.90	1.45	2.37	1.66	.540
XV500CS-12-04	3/4	1-5/8	1-3/8	3.63	1.81	2.90	2.06	.680
XV500CS-16-04	1	2	1-5/8	3.63	1.81	3.41	2.23	.880

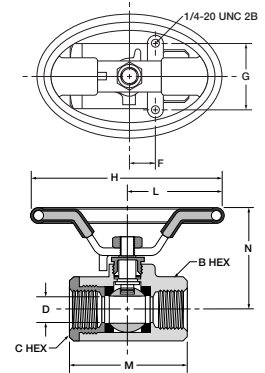


**Oval Handle, Female Pipe Ends XV500CS-X-21**

PART NO.	PIPE THD	B HEX	C HEX	H	L	M	N	D FLOW Ø
XV500CS-4-21	1/4	1-1/16	15/16	3.50	1.00	2.00	1.66	.400
XV500CS-6-21	3/8	1-1/16	15/16	3.50	1.00	2.00	1.66	.400
XV500CS-8-21	1/2	1-1/4	1-1/16	3.50	1.13	2.37	1.76	.540
XV500CS-12-21	3/4	1-5/8	1-3/8	5.00	1.46	2.90	2.13	.680
XV500CS-16-21	1	2	1-5/8	5.00	1.58	3.41	2.29	.880

**Oval Handle, Female Pipe Ends, Panel Mount XV502CS-X-21**

PART NO.	PIPE THD	B HEX	C HEX	F	G	H	L	M	N	FLOW DIA. D
XV502CS-20-21	1-1/4	2	2-1/4	.94	1.50	5.07	2.53	3.80	3.04	1.000
XV502CS-24-21	1-1/2	2-5/16	2-1/2	.94	1.50	5.07	2.53	4.55	3.26	1.250
XV502CS-32-21	2	2-3/4	3	1.03	2.00	6.50	3.25	4.83	3.57	1.500





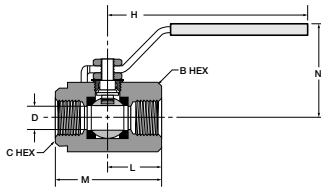
# Carbon Steel Ball Valves Series 506CS

MATERIALS OF CONSTRUCTION	
VALVE BODY:	CARBON STEEL PHOSPHATE COATED
BALL:	STEEL
SEATS / SEALS:	PTFE
HANDLE:	STEEL

STYLE	TYPE	MATERIAL	SIZE	OPTIONS
V	506	CS	-4	-00
STYLE	<ul style="list-style-type: none"> <li>V-VALVE</li> <li>VP-VALVE, PADLOCKING HANDLE</li> </ul>			
TYPE	506-FEMALE/FEMALE SAE STRAIGHT THREAD PORTS			
MATERIAL	CS-CARBON STEEL			
SIZE	4-1/4", 6-3/8", 8-1/2", 12-3/4", 16-1"			

SPECIFICATIONS	
PRESSURE RANGE:	<ul style="list-style-type: none"> <li>3,000 PSI</li> <li>SATURATED STEAM UP TO 150 PSI</li> </ul>
TEMPERATURE RANGES:	0° TO +425°F
OPERATING INSTRUCTIONS	QUARTER TURN IS "ON" OR "OFF". (PROVIDES POSITIVE STOP ACTION FOR FULL SHUTOFF.)

FLOW DATA	
VALVE SIZE	CV
1/4	6.0
3/8	12.0
1/2	15.0
3/4	34.0
1	54.0

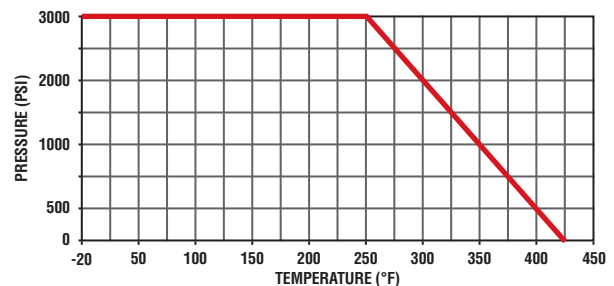


Parker's industrial ball valve product line is intended for general purpose use. Please be aware that ball valves are intended for use in the fully open or closed positions. Depending on application conditions, throttling of the valve may result in premature seal failure and/or inability to turn the valve handle.

For use as fuel line shutoffs for gasoline and diesel powered over the highway, off highway, and construction equipment vehicles. Hydraulic and general industrial applications on capital equipment and plant design plumbing that require total shutoff capability.

## Female-Female SAE Straight Thread Ports XV506CS

PART NO.	STRAIGHT THREAD	B HEX	C HEX	H	L	M	N	D FLOW Ø
XV506CS-4	7/16-20	1-1/16	15/16	3.78	1.00	2.00	1.63	.400
XV506CS-6	9/16-18	1-1/16	15/16	3.78	1.00	2.00	1.63	.400
XV506CS-8	3/4-16	1-5/8	1-1/4	4.78	1.32	2.84	2.16	.500
XV506CS-12	1-1/16-12	1-7/8	1-5/8	4.78	1.66	3.71	2.35	.750
XV506CS-16	1-5/16-12	2-1/2	2-1/8	6.10	1.88	4.15	2.85	1.000





# High Pressure Carbon Steel Ball Valves Series 500HP, 506HP, 507HP

MATERIALS OF CONSTRUCTION	
VALVE BODY:	CARBON STEEL
BALL:	STEEL
SEATS:	DELTRIN WITH MOLYBDENUM DISULPHIDE
STEM SEALS:	NITRILE O-RINGS
HANDLE:	STEEL

SPECIFICATIONS	
PRESSURE RANGE:	6,000 PSI
TEMPERATURE RANGES:	-10° TO +210°F
OPERATING INSTRUCTIONS	QUARTER TURN IS "ON" OR "OFF" (PROVIDES POSITIVE STOP ACTION FOR FULL SHUTOFF.)

STYLE	TYPE	MATERIAL	SIZE
V	590	HP	-4
STYLE	V-VALVE VP-VALVE, PADLOCKING HANDLE		
TYPE	500-FEMALE/FEMALE NPT PORTS		
MATERIAL	HP-HIGH PRESSURE CARBON STEEL		
SIZE	4-1/4", 6-3/8", 8-1/2", 12-3/4", 16-1", 20-1 1/4", 24-1 1/2", 32-2"		

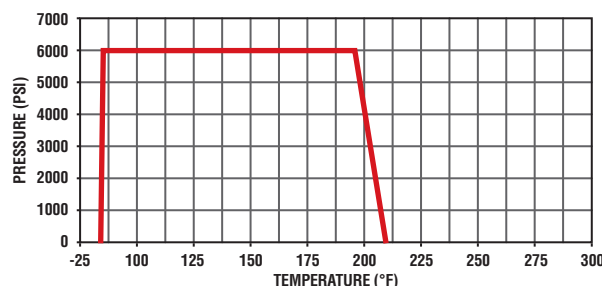
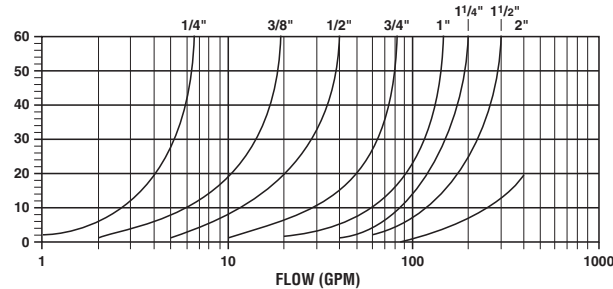
STYLE	TYPE	MATERIAL	SIZE
V	506	HP	-4
STYLE	V-VALVE VP-VALVE, PADLOCKING HANDLE		
TYPE	506-FEMALE/FEMALE SAE STRAIGHT THREAD PORTS		
MATERIAL	HP-HIGH PRESSURE CARBON STEEL		
SIZE	4-1/4", 6-3/8", 8-1/2", 12-3/4", 16-1", 20-1 1/4", 24-1 1/2", 32-2"		

STYLE	TYPE	MATERIAL	SIZE
V	507	HP	-M18
STYLE	V-VALVE		
TYPE	507-FEMALE / FEMALE ISO 6149 PORTS		
MATERIAL	HP-HIGH PRESSURE CARBON STEEL		
SIZE	M18X1.5, M27X2		



Parker's industrial ball valve product line is intended for general purpose use. Please be aware that ball valves are intended for use in the fully open or closed positions. Depending on application conditions, throttling of the valve may result in premature seal failure and/or inability to turn the valve handle.

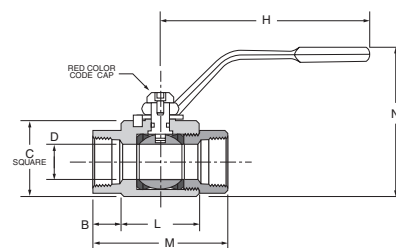
## Pressure Drop (PSI)



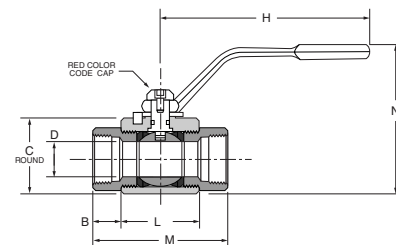


**6000 PSI Female-Female Pipe Ends XV500HP-X**

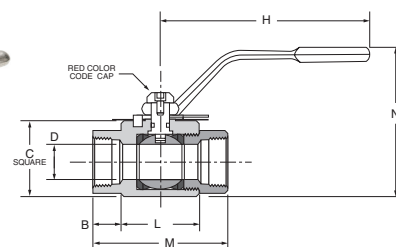
PART NO.	PIPE THREAD [NPT]	B	C	H	L	M	N	FLOW DIA. D
XV500HP-4	1/4-18	.69	1.38	4.50	1.44	2.75	2.94	.240
XV500HP-6	3/8-18	.56	1.50	4.50	1.69	2.88	3.06	.390
XV500HP-8	1/2-14	.75	1.63	4.50	1.88	3.38	3.19	.510
XV500HP-12	3/4-14	.69	2.25	7.00	2.41	3.81	4.69	.790
XV500HP-16	1-11.5	.94	2.50	7.00	2.56	4.50	4.94	.950

**6000 PSI Female-Female Pipe Ends XV500HP-X (LARGE)**

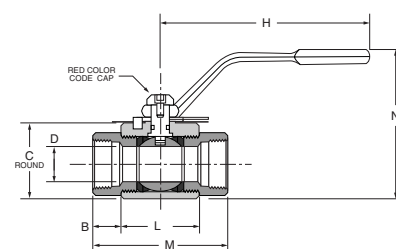
PART NO.	PIPE THREAD [NPT]	B	C	H	L	M	N	FLOW DIA. D
XV500HP-20	1 1/4-11.5	.85	3.25	10.00	3.15	4.84	6.31	1.26
XV500HP-24	1 1/2-11.5	.99	3.75	10.00	3.35	5.33	6.76	1.50
XV500HP-32	2-11.5	1.30	4.50	10.00	3.94	6.54	7.42	1.89

**6000 PSI Locking-Female-Female Pipe Ends XVP500HP-X**

PART NO.	PIPE THREAD [NPT]	B	C	H	L	M	N	FLOW DIA. D
XVP500HP-4	1/4-18	.69	1.38	4.50	1.44	2.75	2.94	.240
XVP500HP-6	3/8-18	.56	1.50	4.50	1.69	2.88	3.06	.390
XVP500HP-8	1/2-14	.75	1.63	4.50	1.88	3.38	3.19	.510
XVP500HP-12	3/4-14	.69	2.25	7.00	2.41	3.81	4.69	.790
XVP500HP-16	1-11.5	.94	2.50	7.00	2.56	4.50	4.94	.950

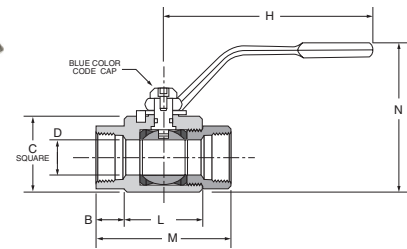
**6000 PSI Locking-Female-Female Pipe Ends XVP500HP-X (LARGE)**

PART NO.	PIPE THREAD [NPT]	B	C	H	L	M	N	FLOW DIA. D
XVP500HP-20	1 1/4-11.5	.85	3.25	10.00	3.15	4.84	6.31	1.26
XVP500HP-24	1 1/2-11.5	.99	3.75	10.00	3.35	5.33	6.76	1.50
XVP500HP-32	2-11.5	1.30	4.50	10.00	3.94	6.54	7.42	1.89



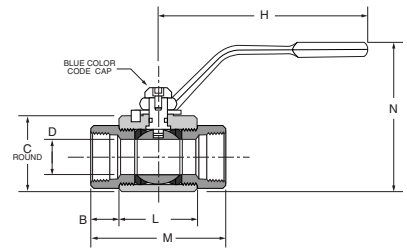
### 6000 PSI Female-Female Straight Thread Ends XV506HP-X

PART NO.	SAE J1926-1 THREAD	B	C	H	L	M	N	FLOW DIA. D
XV506HP-4	7/16-20 UNF	.69	1.38	4.50	1.44	2.75	2.94	.240
XV506HP-6	9/16-18 UNF	.56	1.50	4.50	1.69	2.88	3.06	.390
XV506HP-8	3/4-16 UNF	.75	1.63	4.50	1.88	3.38	3.19	.510
XV506HP-12	1 1/16-12 UNF	.69	2.25	7.00	2.41	3.81	4.69	.790
XV506HP-16	1 5/16-12 UNF	.94	2.50	7.00	2.56	4.50	4.94	.950



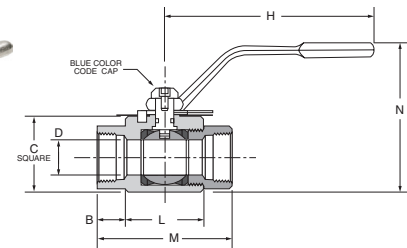
### 6000 PSI Female-Female Straight Thread Ends XV506HP-X (LARGE)

PART NO.	SAE J1926-1 THREAD	B	C	H	L	M	N	FLOW DIA. D
XV506HP-20	1 5/8-12 UNF	.85	3.25	10.00	3.15	4.84	6.31	1.26
XV506HP-24	1 7/8-12 UNF	.99	3.75	10.00	3.35	5.33	6.76	1.50
XV506HP-32	2 1/2-12 UNF	1.30	4.50	10.00	3.94	6.54	7.42	1.89



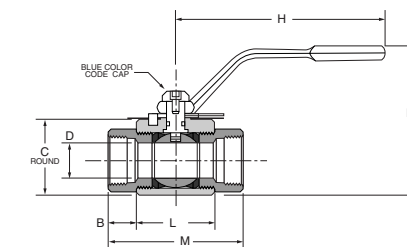
### 6000 PSI Locking-Female-Female Straight Thread Ends XVP506HP-X

PART NO.	SAE J1926-1 THREAD	B	C	H	L	M	N	FLOW DIA. D
XVP506HP-4	7/16-20 UNF	.69	1.38	4.50	1.44	2.75	2.94	.240
XVP506HP-6	9/16-18 UNF	.56	1.50	4.50	1.69	2.88	3.06	.390
XVP506HP-8	3/4-16 UNF	.75	1.63	4.50	1.88	3.38	3.19	.510
XVP506HP-12	1 1/16-12 UNF	.69	2.25	7.00	2.41	3.81	4.69	.790
XVP506HP-16	1 5/16-12 UNF	.94	2.50	7.00	2.56	4.50	4.94	.950



### 6000 PSI Locking-Female-Female Straight Thread Ends XVP506HP-X (LARGE)

PART NO.	SAE J1926-1 THREAD	B	C	H	L	M	N	FLOW DIA. D
XVP506HP-20	1 5/8-12 UNF	.85	3.25	10.00	3.15	4.84	6.31	1.26
XVP506HP-24	1 7/8-12 UNF	.99	3.75	10.00	3.35	5.33	6.76	1.50
XVP506HP-32	2 1/2-12 UNF	1.30	4.50	10.00	3.94	6.54	7.42	1.89





# Stainless Steel Ball Valves Series 501SS

MATERIALS OF CONSTRUCTION	
VALVE BODY:	CF-8M STAINLESS STEEL
BALL:	STAINLESS STEEL
SEATS / SEALS:	PTFE
HANDLE:	STAINLESS STEEL

PRESSURE AND TEMPERATURE RANGE	
PRESSURE RANGE	2,000 PSI SIZES: 1/4" – 1"
TEMPERATURE RANGE	0° TO +400°F

STYLE	TYPE	MATERIAL	SIZE	OPTIONS
V	501	SS	-4	-00
STYLE	V-VALVE			
TYPE	501-MALE/FEMALE NPT PORTS			
MATERIAL	SS-STAINLESS STEEL			
SIZE	4-1/4", 6-3/8", 8-1/2", 12-3/4", 16-1"			

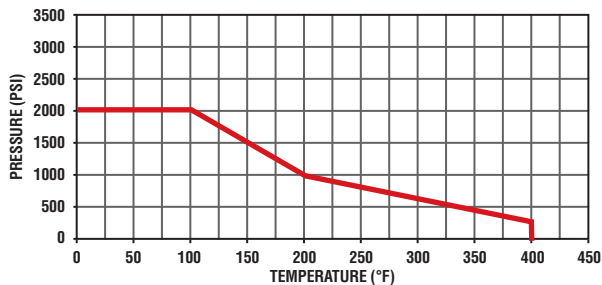
APPROVALS	
MEETS MATERIAL REQUIREMENTS OF NACE MR-01-75	

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



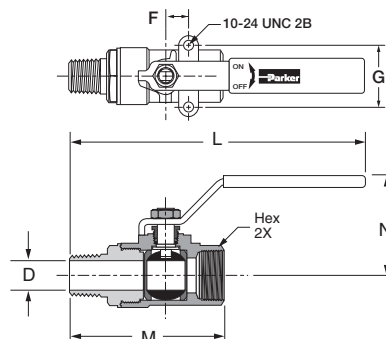
Parker's industrial ball valve product line is intended for general purpose use. Please be aware that ball valves are intended for use in the fully open or closed positions. Depending on application conditions, throttling of the valve may result in premature seal failure and/or inability to turn the valve handle.

Applications include chemical plants, refineries, steel mills, industrial fuel lines and agricultural equipment. Meets material requirements of NACE MR-01-75.



## Male-Female Pipe Ends XV501SS

PART NO.	PIPE THREAD [NPT]	HEX	F	G	L	M	N	D FLOW Ø
XV501SS-4	1/4	15/16	.50	1.12	5.60	2.65	1.97	.280
XV501SS-6	3/8	15/16	.50	1.12	5.60	2.65	1.97	.375
XV501SS-8	1/2	1-1/16	.50	1.12	5.85	3.05	2.00	.500
XV501SS-12	3/4	1-3/8	.88	1.37	7.27	3.85	2.55	.720
XV501SS-16	1	1-5/8	.88	1.37	7.48	4.25	2.68	.940



FLOW DATA	
VALVE SIZE	CV
1/4	4.0
3/8	6.0
1/2	14.0
3/4	35.0
1	54.0



# Stainless Steel Ball Valves Series 502SS

MATERIALS OF CONSTRUCTION	
VALVE BODY:	CF-8M STAINLESS STEEL
BALL:	STAINLESS STEEL
SEATS / SEALS:	PTFE
HANDLE:	STAINLESS STEEL

PRESSURE AND TEMPERATURE RANGE	
PRESSURE RANGE	2,000 PSI SIZES: 1/4" – 1" 1,500 PSI SIZES: 1-1/4" – 2"
TEMPERATURE RANGE	0° TO +400°F

STYLE	TYPE	MATERIAL	SIZE	OPTIONS
V	502	SS	-4	-00
STYLE	V-VALVE VP-VALVE, PADLOCKING HANDLE			
TYPE	502-PANEL MOUNT FEMALE/FEMALE PTF PORTS			
MATERIAL	SS-STAINLESS STEEL			
SIZE	4-1/4", 6-3/8", 8-1/2", 12-3/4", 16-1", 20-1-1/4", 24-1-1/2", 32-2"			
OPTIONS	20-SHORT HANDLE 21-OVAL HANDLE 35-WELDED RETAINER NUT			

APPROVALS
MEETS MATERIAL REQUIREMENTS OF NACE MR-01-75

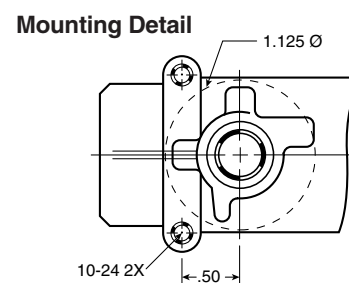
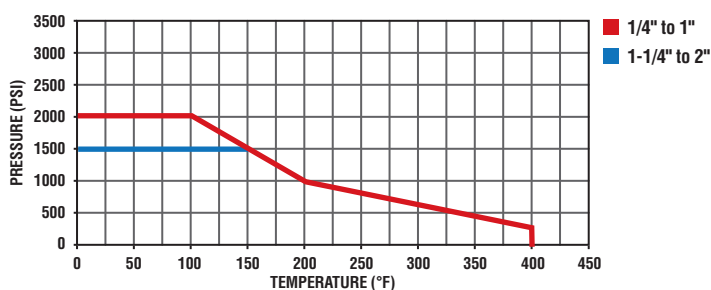
FLOW DATA	
VALVE SIZE	CV
1/4	4.0
3/8	6.0
1/2	14.0
3/4	35.0
1	54.0
1 1/4	74.0
1 1/2	120.0
2	226.0

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



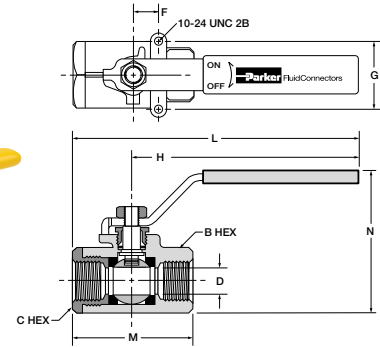
Parker's industrial ball valve product line is intended for general purpose use. Please be aware that ball valves are intended for use in the fully open or closed positions. Depending on application conditions, throttling of the valve may result in premature seal failure and/or inability to turn the valve handle.

Applications include chemical plants, refineries, steel mills, industrial fuel lines and agricultural equipment. Meets material requirements of NACE MR-01-75.



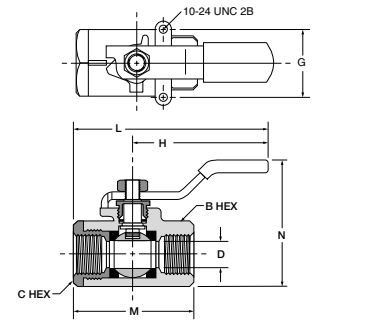
## Female Pipe Ends, Panel Mount XV502SS

PART NO.	PIPE THD (NPT)	B/C HEX	F	G	H	I THD	L	M	N	PANEL FLOW DIA. D	HOLE DIA.
XV502SS-4	1/4	15/16	.500	1.125	4.00	10-24 UNC	5.03	2.07	2.52	.380	1.125
XV502SS-6	3/8	15/16	.500	1.125	4.00	10-24 UNC	5.03	2.07	2.52	.380	1.125
XV502SS-8	1/2	1-1/16	.500	1.125	4.00	10-24 UNC	5.13	2.27	2.65	.500	1.125
XV502SS-12	3/4	1-3/8	.875	1.375	5.00	10-24 UNC	6.67	3.35	3.46	.790	1.500
XV502SS-16	1	1-5/8	.875	1.375	5.00	10-24 UNC	6.77	3.54	3.74	1.000	1.500
XV502SS-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
XV502SS-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
XV502SS-32	2	3	1.000	1.500	7.00	1/4-20 UNC	9.75	5.50	5.68	2.000	2.000



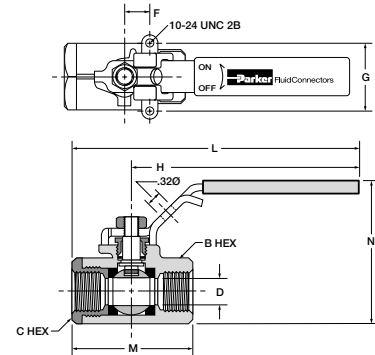
## Short Handle, Female Pipe Ends, Panel Mount XV502SS-X-20

PART NO.	PIPE THREAD (NPT)	B/C HEX	G	H	L	M	N	FLOW DIA. D
XV502SS-4-20	1/4	15/16	1.12	2.28	3.32	2.07	2.53	.375
XV502SS-6-20	3/8	15/16	1.12	2.28	3.32	2.07	2.53	.375
XV502SS-8-20	1/2	1-1/16	1.12	2.22	3.37	2.25	2.63	.500



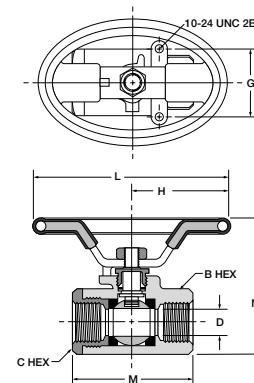
## Locking Handle, Female Pipe Ends, Panel Mount XVP502SS

PART NO.	PIPE THD (NPT)	B/C HEX	F	G	H	I THREAD	L	M	N	PANEL FLOW DIA. D	HOLE DIA.
XVP502SS-4	1/4	15/16	.500	1.125	4.00	10-24 UNC	5.03	2.07	2.52	.380	1.125
XVP502SS-6	3/8	15/16	.500	1.125	4.00	10-24 UNC	5.03	2.07	2.52	.380	1.125
XVP502SS-8	1/2	1-1/16	.500	1.125	4.00	10-24 UNC	5.13	2.27	2.65	.500	1.125
XVP502SS-12	3/4	1-3/8	.875	1.375	5.00	10-24 UNC	6.67	3.35	3.46	.790	1.500
XVP502SS-16	1	1-5/8	.875	1.375	5.00	10-24 UNC	6.77	3.54	3.74	1.000	1.500
XVP502SS-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
XVP502SS-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
XVP502SS-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 XV502SS-X-21

PART NO.	PIPE THD (NPT)	B/C HEX	G	H	L	I THREAD	M	N	PANEL FLOW DIA. D	HOLE DIA.
XV502SS-4-21	1/4	15/16	1.125	1.74	3.48	10-24 UNC	2.07	2.43	.380	1.125
XV502SS-6-21	3/8	15/16	1.125	1.74	3.48	10-24 UNC	2.07	2.43	.380	1.125
XV502SS-8-21	1/2	1-1/16	1.125	1.74	3.48	10-24 UNC	2.27	2.54	.500	1.125
XV502SS-12-21	3/4	1-3/8	1.375	2.68	5.36	10-24 UNC	3.35	3.45	.790	1.500
XV502SS-16-21	1	1-5/8	1.375	2.68	5.36	10-24 UNC	3.54	3.74	1.000	1.500
XV502SS-20-21	1-1/4	2	1.500	3.27	6.53	1/4-20 UNC	4.00	4.54	1.250	2.000
XV502SS-24-21	1-1/2	2-3/8	1.500	3.27	6.53	1/4-20 UNC	4.38	4.93	1.500	2.000
XV502SS-32-21	2	3	1.500	3.27	6.53	1/4-20 UNC	5.50	5.67	2.000	2.000





# Rotary Actuator Ball Valves Series ACT

PRESSURE AND TEMPERATURE RANGE	
PRESSURE RANGE	150 PSI maximum air pressure to actuator
TEMPERATURE RANGE	Ambient temperature -40° to +180°F



## 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

- 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.

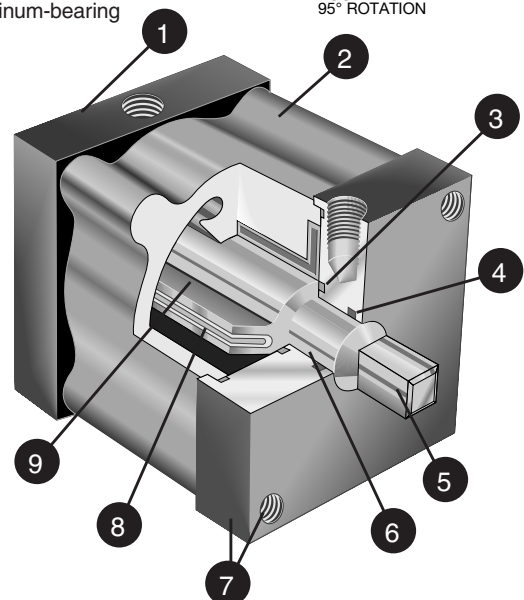
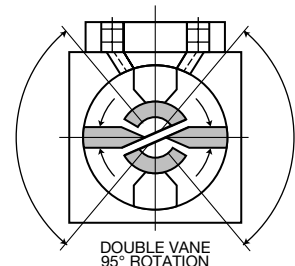
**5. Shaft** - stainless steel provides high strength and corrosion resistance for the most demanding applications.

**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.

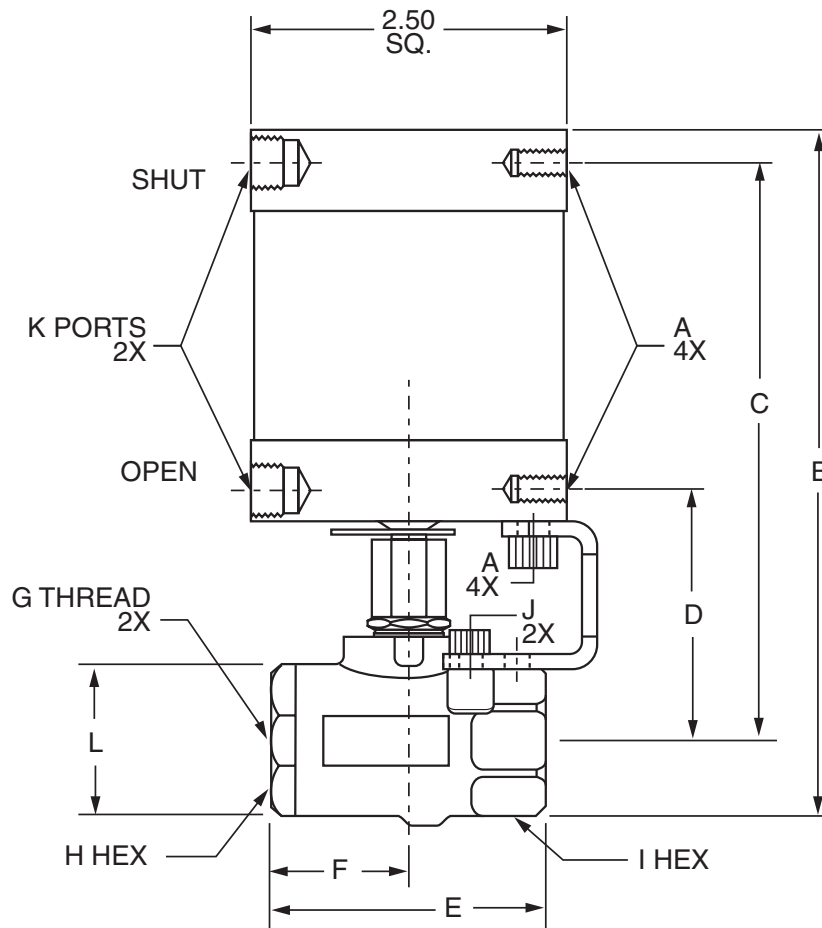
**7. Mounting** - combination face and base mounting offer flexibility in application and design.

**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.







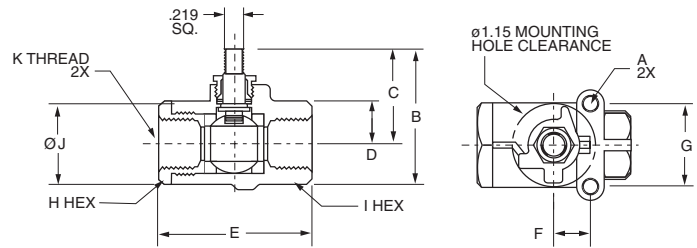
### Rotary Actuator, Female Pipe Ends XV502P-X-ACT

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)
XV502P-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
XV502P-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
XV502P-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
XV502P-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
XV502P-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 XV502SS-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
XV502SS-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
XV502SS-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
XV502SS-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

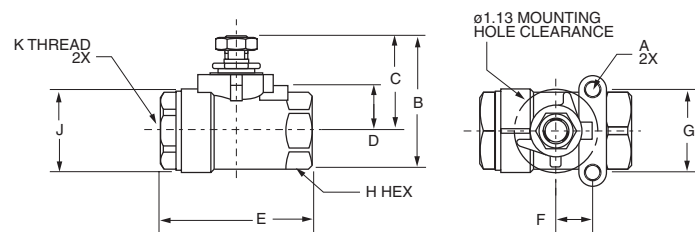


### Actuator Sub-Assembly XV502P-X-SUB

PART NO	SIZE	A UNC	B	C	D	E	F	G	H HEX	I HEX	J	K
XV502P-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
XV502P-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
XV502P-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*
XV502P-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**
XV502P-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**

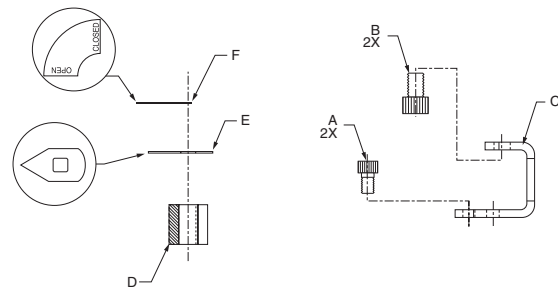
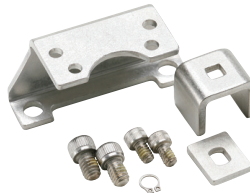
\* PTF Special Short

\*\* PTF Special Extra Short



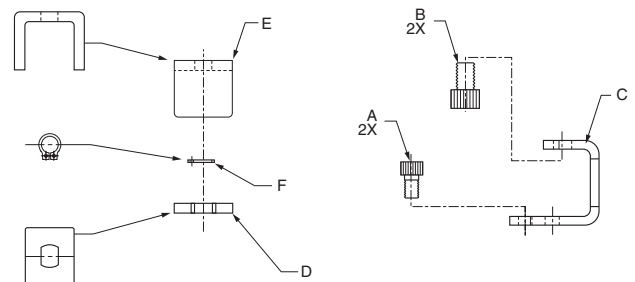
### Actuator Sub-Assembly XV502SS-X-SUB

PART NO	SIZE	A UNC	B	C	D	E	F	G	H HEX	J	K
XV502SS-4-SUB	1/4	10-24	1.88	1.32	.63	2.07	.50	1.12	15/16	1.10	1/4-18 NPT
XV502SS-6-SUB	3/8	10-24	1.88	1.32	.63	2.07	.50	1.12	15/16	1.10	3/8-18 NPT
XV502SS-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



### ACT-P-X-KIT

PART NO.	FOR USE WITH	A	B	C	D	E	F
ACT-P-1-KIT	XV502P-4, 6, 8-ACT	10-24 UNC	1/4-20 UNC	BRACKET	.60 LONG COUPLING	POSITION INDICATOR	POSITION LABEL
ACT-P-2-KIT	XV502P-12, 16-ACT	10-24 UNC	1/4-20 UNC	BRACKET	.55 LONG COUPLING	POSITION INDICATOR	POSITION LABEL



### ACT-SS-X-KIT

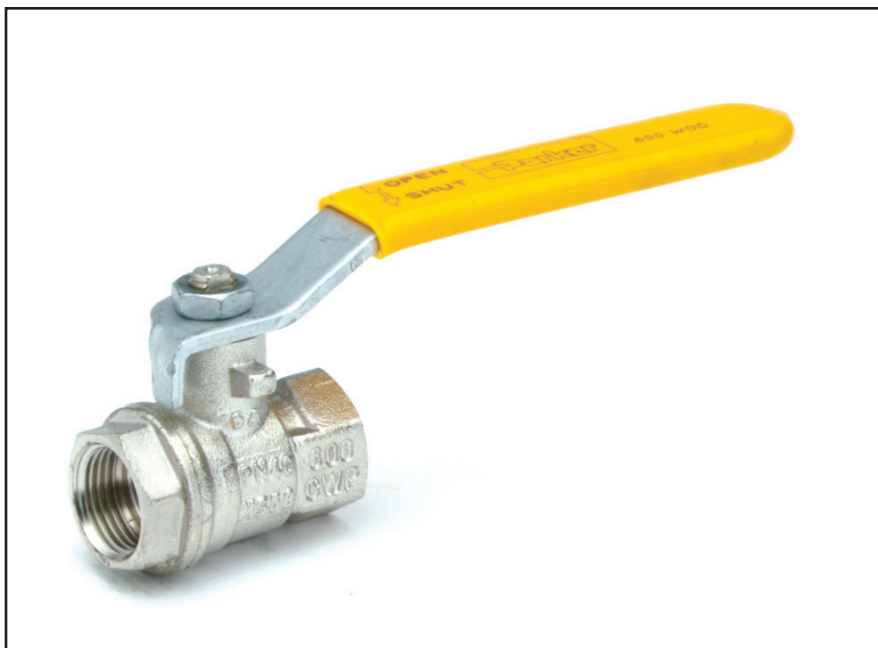
PART NO.	FOR USE WITH	A	B	C	D	E	F
ACT-SS-1-KIT	XV502SS-4, 6, 8-ACT	10-24 UNC	1/4-20 UNC	BRACKET	CLIP	HANDLE YOKE	SNAP RING



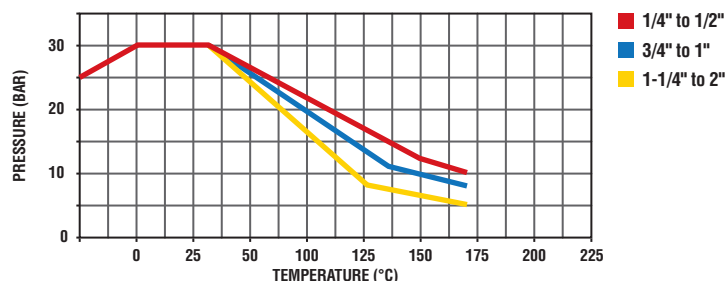
# Parker Metric Ball Valve Series BVGC

MATERIALS OF CONSTRUCTION	
VALVE BODY:	BRASS NICKEL PLATED TO DIN 17660 AND UNI 5705
BALL:	BRASS CHROME PLATED
SEATS / SEALS:	PTFE WITH SILICONE FREE LUBRICANT
PACKING GLAND:	PTFE
HANDLE:	LEVER – CARBON STEEL COMPACT – ALUMINUM

SPECIFICATIONS	
FEMALE BSPP SHORT THREADS MANUFACTURED IN ACCORDANCE TO ISO 228 / DIN 259	

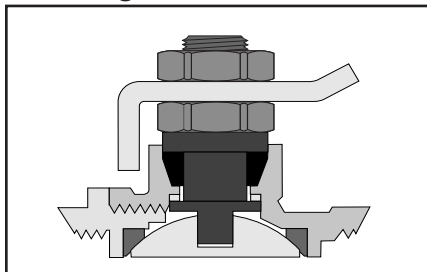


## Operating pressures and temperatures



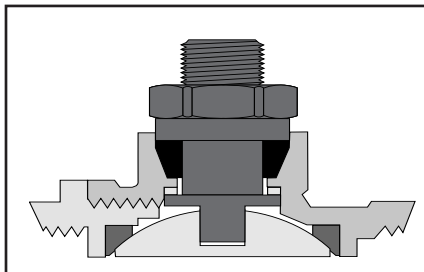
N.B. This chart gives general information. Only testing under operating conditions will finally determine which valve should be selected.

## Advantages



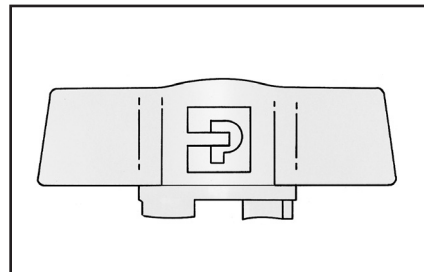
### Adjustable packing

The PTFE packing gland and adjustable washer are designed to give longer service life and lower operating torques.



### Anti extrusion stem

The BVGC series ball valves are fitted with an anti-extrusion stem to prevent blow out in the case of pressure peaks.

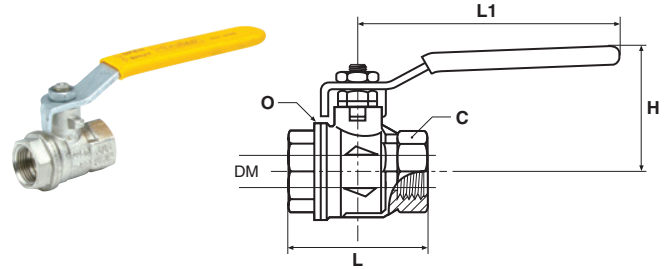


### Compact handle

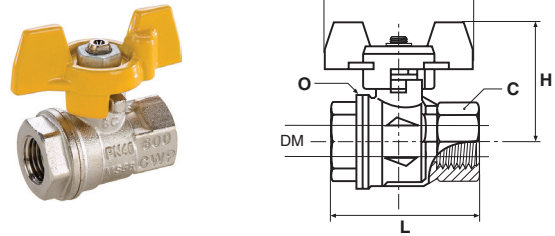
For applications where space is at a premium, the BVGC series valve is available with a compact handle in sizes up to 1".

**BVGC BSPP Female/Female Valve With Lever Handle**

PART NO.	DN MM	THREAD BSPP	C	H	L	L1	O
BVG4-1/4C	8	1/4	20	39.5	39	82	25.0
BVG4-3/8C	10	3/8	20	39.5	39	82	25.0
BVG4-1/2C	15	1/2	25	44.0	50	100	32.5
BVG4-3/4C	20	3/4	31	50.0	54	120	39.0
BVG4-1C	25	1	38	54.0	67	120	47.5
BVG4-1.1/4C	32	1.1/4	48	76.5	77	158	59.0
BVG4-1.1/2C	40	1.1/2	54	82.5	90	158	71.5
BVG4-2C	50	2	66	89.5	106	158	86.0

**BVGT4 BSPP Female/Female Valve with Compact Handle**

PART NO.	DN MM	THREAD BSPP	C	H	L	L1	O
BVGT4-1/4C	8	1/4	20	40	39	50	25.0
BVGT4-3/8C	10	3/8	20	40	39	50	25.0
BVGT4-1/2C	15	1/2	25	44	50	50	32.5
BVGT4-3/4C	20	3/4	31	49	54	60	39.0
BVGT4-1C	25	1	38	53	67	60	47.5

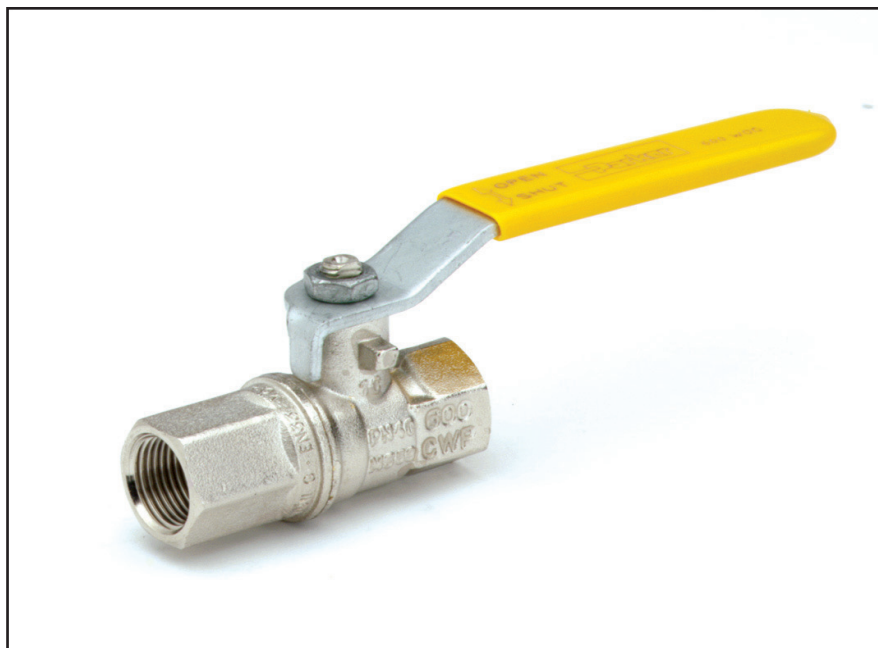




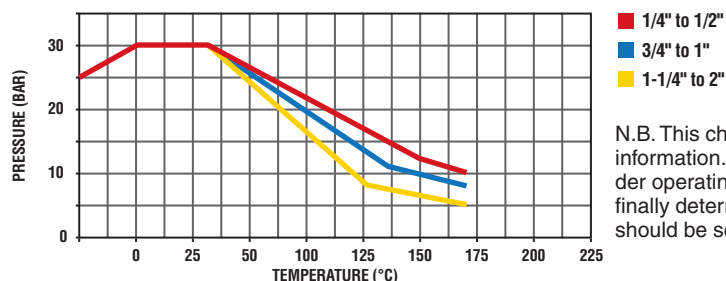
# Parker Metric Ball Valve Series BVGL

MATERIALS OF CONSTRUCTION	
VALVE BODY:	BRASS NICKEL PLATED TO DIN 17660 AND UNI 5705
BALL:	BRASS CHROME PLATED
SEATS / SEALS:	PTFE WITH SILICONE FREE LUBRICANT
STEM SEAL:	VITON O-RINGS
HANDLE:	LEVER – CARBON STEEL COMPACT – ALUMINUM

SPECIFICATIONS	
FEMALE THREADS MANUFACTURED IN ACCORDANCE TO DIN 2999/ISO 228.	

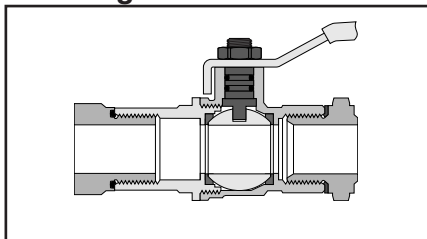


## Operating pressures and temperatures



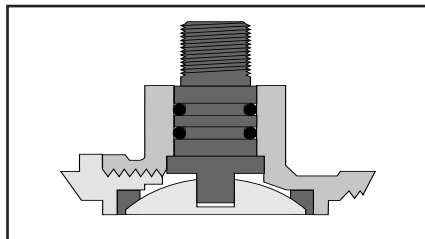
N.B. This chart gives general information. Only testing under operating conditions will finally determine which valve should be selected.

## Advantages



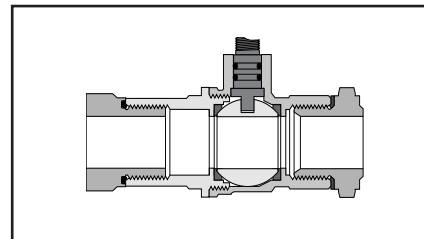
### Long female threads

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, Metru-Lok 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.

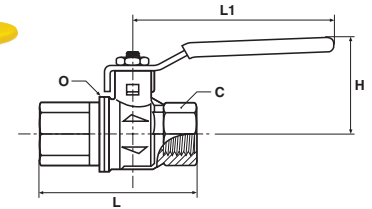
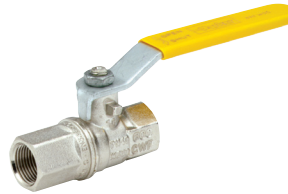


### Full flow

All BVGL series valves are full-flow. This limits the turbulence created by the passage of fluid across the valve, minimizing pressure drop.

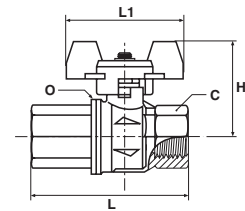
### BVGL BSPP Female/Female Valve with Lever Handle

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







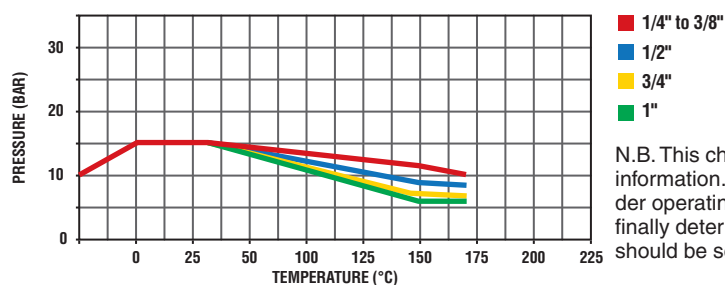
# Parker Metric Ball Valve Series BVGLOCK

MATERIALS OF CONSTRUCTION	
VALVE BODY:	BRASS NICKEL PLATED TO DIN 17660 AND UNI 5705
BALL:	BRASS CHROME PLATED
SEATS / SEALS:	PTFE WITH SILICONE FREE LUBRICANT
PACKING GLAND:	PTFE
HANDLE:	CARBON STEEL

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.	



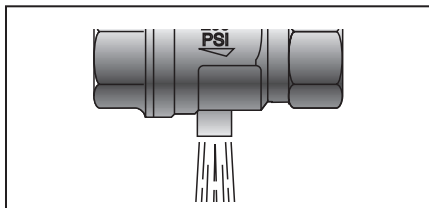
## Operating pressures and temperatures



N.B. This chart gives general information. Only testing under operating conditions will finally determine which valve should be selected.

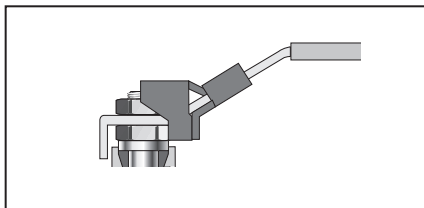
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## Advantages



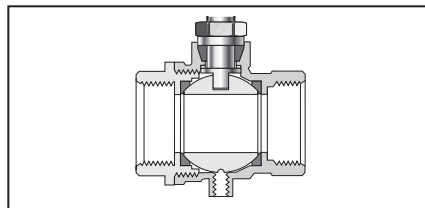
### Threaded Exhaust

BVGPLOCK 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.



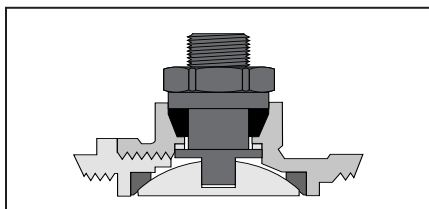
### Lockable Handle

The BVGPLOCK 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. Sizes 1.1/4 and larger can be locked in both the open and closed positions.



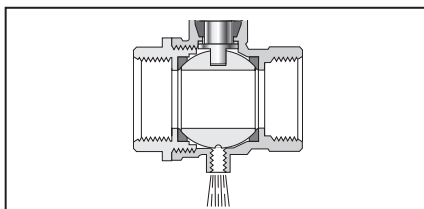
### DIN 2999 / ISO 228 Female Threads

BVGPLOCK series valves are manufactured with long female threads in accordance to DIN2999/ISO228. This enables the valves to be used with Prestolok, Metrulok and brass adaptors but also Parker's range of steel hydraulic fittings and EO-fittings form "A" or "C" to DIN 3852.



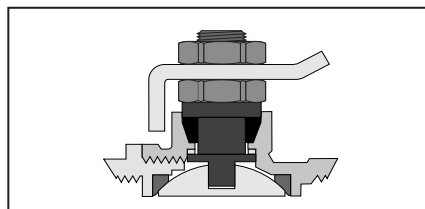
### Anti Extrusion Stem

The BVGPLOCK series ball valves are fitted with an anti-extrusion stem to prevent blow out in the case of pressure peaks.



### Full Flow

All BVGPLOCK series valves are full-flow. This limits the turbulence created by the passage of fluid across the valve, minimizing pressure drop.

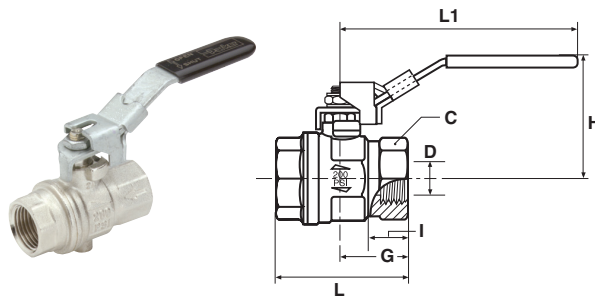


### Adjustable Packing

The PTFE packing gland and adjustable washer are designed to give longer service life and lower operating torques.

## BVG4PLOCK BSPP Female/Female, Vented, Locking Handle

PART NO.	D FLOW Ø	THREAD BSPP	C	G	H	I	L	L1
BVG4P-1/4 LOCK	8.0	1/4	20	22.5	47.5	12.0	45	96
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
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



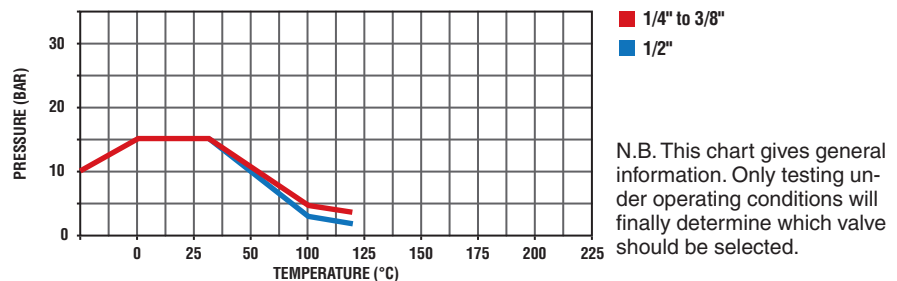


# Parker Metric Ball Valve Series MBVG

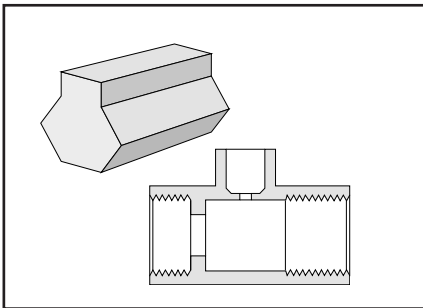
MATERIALS OF CONSTRUCTION	
VALVE BODY:	BRASS CHROMIUM PLATED
BALL:	BRASS CHROME PLATED
SEATS/SEALS:	PTFE
STEM SEAL:	VITON
HANDLE:	POLYAMIDE



## Operating pressures and temperatures

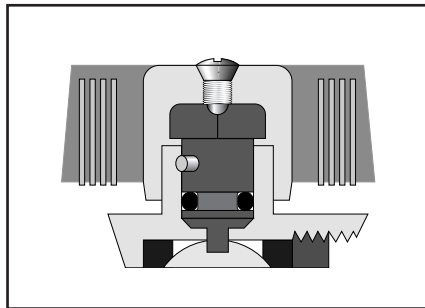


## Advantages



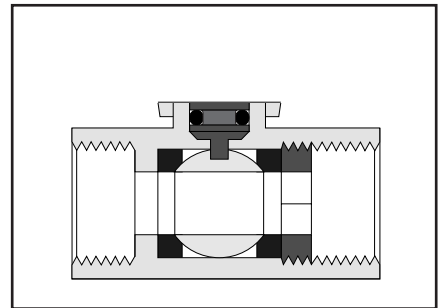
### Design of the body

The valve is manufactured from a solid section which incorporates the stem housing in the body. This design allows excellent guidance of the stem, which increases its lifespan.



### Stem tightness

A Fluorocarbon O-Ring assembled under compression automatically compensates for minute friction wear. Thus a high standard of seal is attained.

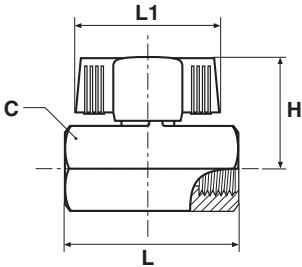


### Tightness of the seals

The perfect tightness of the seals on the casing is obtained by the preset force of the nut, adjusted during assembly.

MBVG BSPP Female/Female Valve

PART NO.	DN MM	THREAD BSPP	C	H	L	L1
MBVG4-1/4	8	1/4	21	31.5	41.5	39
MBVG4-3/8	8	3/8	21	31.5	41.5	39
MBVG4-1/2	10	1/2	25	33.5	48.0	39





## Micro Ball Valves Series 708/709

MATERIALS OF CONSTRUCTION	
VALVE BODY:	BRASS
BALL:	BRASS CHROME PLATED
SEATS/SEALS:	PTFE
STEM SEAL:	NITRILE
HANDLE:	CHROME PLATED STEEL

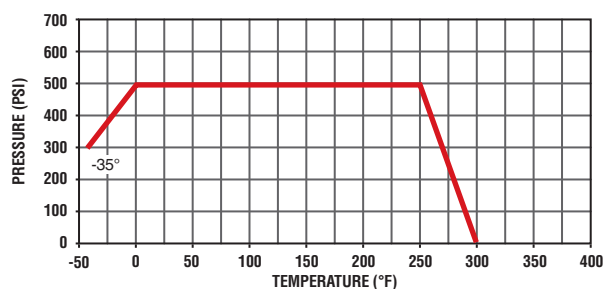
SPECIFICATIONS	
PRESSURE RANGE	UP TO 500 PSI VACUUM SERVICE TO 29" OF HG
TEMPERATURE RANGE	-35° TO +300°F
OPERATING INSTRUCTIONS	Quarter turn is "ON" or "OFF". (Provides positive stop action for full shutoff.)

STYLE	TYPE	SIZE
MV	708 / 709	-4
STYLE	MV-MICRO VALVE	
TYPE	708 - MALE / FEMALE 709 - FEMALE / FEMALE	
SIZE	4-1/4"	

FLOW DATA		
VALVE SIZE	MV708 CV	MV709 CV
1/4	.95	.95

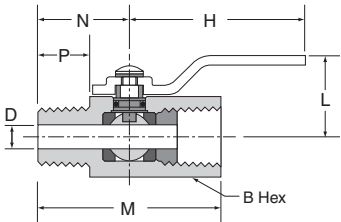


Parker's industrial ball valve product line is intended for general purpose use. Please be aware that ball valves are intended for use in the fully open or closed positions. Depending on application conditions, throttling of the valve may result in premature seal failure and / or inability to turn the valve handle.



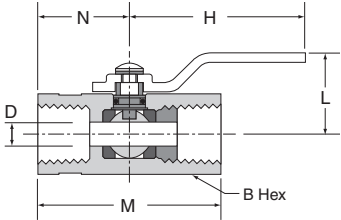
Male-Female Pipe Ends, Mini Ball Valve MV708

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





## 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
<b>XV500P (501,502,506,510,590,591)</b>								
-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	—
<b>XV501SS &amp; XV502SS</b>								
-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
-20	—		2566-00134	—	2566-00110	—	—	2566-00185
-24	—		2566-00134	—	2566-00110	—	—	2566-00185
-32	—		2566-00134	—	2566-00110	—	—	2566-00185
<b>XV500CS &amp; XV502CS</b>								
-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	2566-00159			2566-00172	2566-00167		2566-00163	
-16	2566-00159			2566-00172	2566-00167		2566-00163	
-20	2566-00160				2566-00168		2566-00164	
-24	2566-00160				2566-00168		2566-00164	
-32	2566-00161				2566-00169		2566-00165	
<b>XV506CS</b>								
-4	2566-00158				2566-00166		2566-00162	
-6	2566-00158				2566-00166		2566-00162	
-8							2566-00234	
-12	—						2566-00235	
-16	—						2566-00236	

## Replacement Handle Nuts

Valve	Plated Steel	Stainless Steel
XV500P-4	2567-00020	2567-00023
XV500P-6	2567-00020	2567-00023
XV500P-8	2567-00020	2567-00023
XV500P-12	2567-00055	2567-00057
XV500P-16	2567-00055	2567-00057
XV500P-20	2567-00051	2567-00052
XV500P-24	2567-00051	2567-00052
XV500P-32	2567-00051	2567-00052

## Replacement Handle Covers

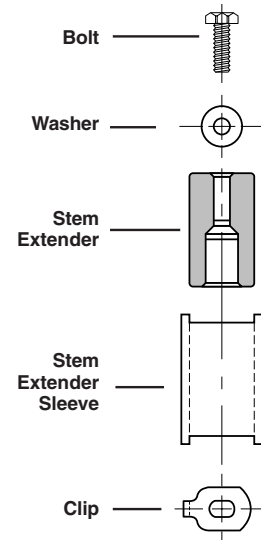
Valve	Lever	Short Lever	Tee
XV500P-4	2569-00108		2569-00155
XV500P-6	2569-00108		2569-00155
XV500P-8	2569-00108		2569-00155
XV500P-12	2569-00296		2569-00155
XV500P-16	2569-00296		2569-00155
XV500P-20	2569-00229	2569-00234	
XV500P-24	2569-00229	2569-00234	
XV500P-32	2569-00229	2569-00234	
XV502SS-4		2569-00203	
XV502SS-6		2569-00203	
XV502SS-8		2569-00203	

<b>STX</b>	Stem Extension Kit
<b>P</b>	For use on Brass Ball Valves
<b>1</b>	1: 1/4" thru 1/2" valves 2: 3/4" thru 1" valves
<b>125</b>	125: 1-1/4" extension length 225: 2-1/4" extension length

<b>STX</b>	Stem Extension Kit
<b>SS</b>	For use on Stainless Steel Ball Valves
<b>1</b>	1: 1/4" thru 1/2" valves 2: 3/4" thru 1" valves 3: 1-1/4"-2" valves
<b>125</b>	125: 1-1/4" extension length 225: 2-1/4" extension length

All stem extension kit componentry is made from high quality, corrosion resistant stainless steel

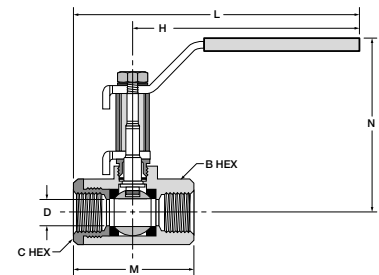
Note: Stem extensions cannot be used with series 509 and series 520.



### 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

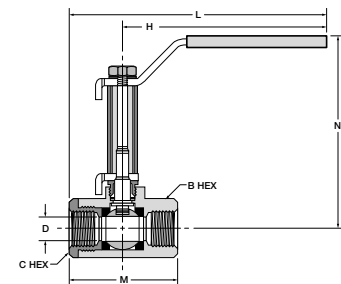


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### Brass Valve Extension Dimensions STX-P-1-225

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

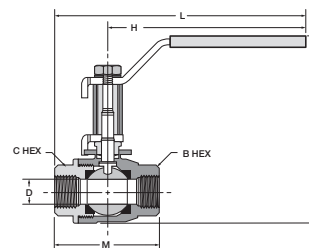
Note: Drawing shows STX-P assembled to XV500P series-not included



## Stainless Steel Valve Extension Dimensions STX-SS-1-X

PART NO.	VALVE SIZE	B HEX	C HEX	H	L	M	N	D FLOW Ø
STX-SS-1-125	1/4	15/16	15/16	4.00	5.04	2.07	3.78	.375
STX-SS-1-125	3/8	15/16	15/16	4.00	5.04	2.07	3.78	.375
STX-SS-1-125	1/2	1-1/16	1-1/16	4.00	5.17	2.27	3.90	.500
STX-SS-1-225	1/4	15/16	15/16	4.00	5.04	2.07	4.78	.375
STX-SS-1-225	3/8	15/16	15/16	4.00	5.04	2.07	4.78	.375
STX-SS-1-225	1/2	1-1/16	1-1/16	4.00	5.17	2.27	4.90	.500

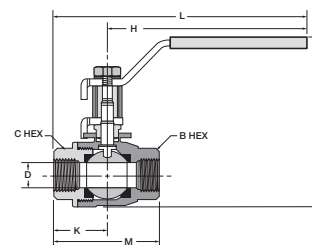
Note: Drawing shows STX-SS assembled to XV502SS series-not included



## Stainless Steel Valve Extension Dimensions STX-SS-2-X

PART NO.	VALVE SIZE	B/C HEX	H	K	L	M	N	D FLOW Ø
STX-SS-2-125	3/4	1-1/16	4.94	1.52	6.40	2.98	4.66	.787
STX-SS-2-125	1	1-5/8	4.94	1.88	6.69	3.62	5.14	1.000
STX-SS-2-225	3/4	1-1/16	4.94	1.52	6.40	2.98	5.66	.787
STX-SS-2-225	1	1-5/8	4.94	1.88	6.69	3.62	6.14	1.000

Note: Drawing shows STX-SS assembled to XV502SS series-not included

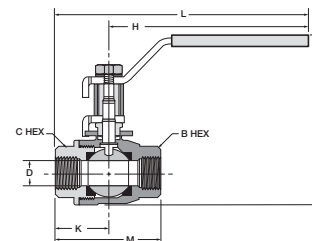


## Stainless Steel Valve Extension Dimensions STX-SS-3-X

PART NO.	VALVE SIZE	B/C OCT	H	K	L	M	N	D FLOW Ø
STX-SS-3-125	1-1/4	2*	6.94	2.00	8.95	4.00	5.71	1.25
STX-SS-3-125	1-1/2	2-3/8	6.94	2.22	9.21	4.49	6.05	1.50
STX-SS-3-125	2	2-3/4	6.94	2.73	9.65	5.43	7.01	2.00
STX-SS-3-225	1-1/4	2*	6.94	2.00	8.95	4.00	6.71	1.25
STX-SS-3-225	1-1/2	2-3/8	6.94	2.22	9.21	4.49	7.05	1.50
STX-SS-3-225	2	2-3/4	6.94	2.73	9.65	5.43	8.01	2.00

\*Hex bolt

Note: Drawing shows STX-SS assembled to XV502SS series-not included





# Mini Ball Valves Series 200/608/609

MATERIALS OF CONSTRUCTION	
VALVE BODY:	BRASS CHROME PLATED
BALL:	BRASS CHROME PLATED
SEATS/SEALS:	PTFE
STEM SEAL:	VITON
HANDLE:	608/609 – POLYAMIDE WEDGE 200 – POLYAMIDE LEVER

MV200 PRESSURE AND TEMPERATURE RANGE	
PRESSURE RANGE	200 PSI
TEMPERATURE RANGE	0° TO +200°F

MV 608/609 PRESSURE AND TEMPERATURE RANGE	
PRESSURE RANGE	450 PSI
TEMPERATURE RANGE	0° TO +200°F



STYLE	TYPE	SIZE
MV	608 / 609	-2
STYLE	MV-MINI VALVE	
TYPE	608 - MALE / FEMALE 609 - FEMALE / FEMALE	
HANDLE COLOR	MV200 FEATURES A BLACK LEVER HANDLE MV608/MV609 FEATURES-YELLOW WEDGE HANDLES	
SIZE	2-1/8", 4-1/4", 6-3/8", 8-1/2"	

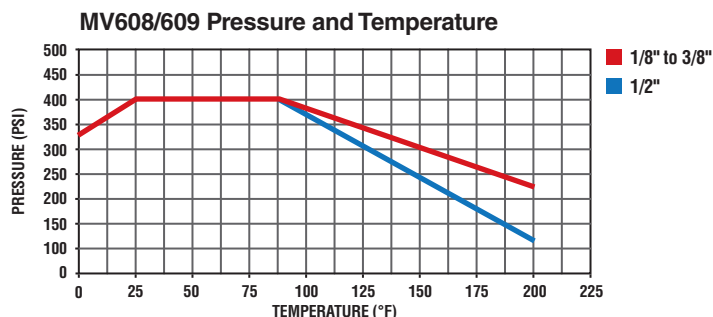
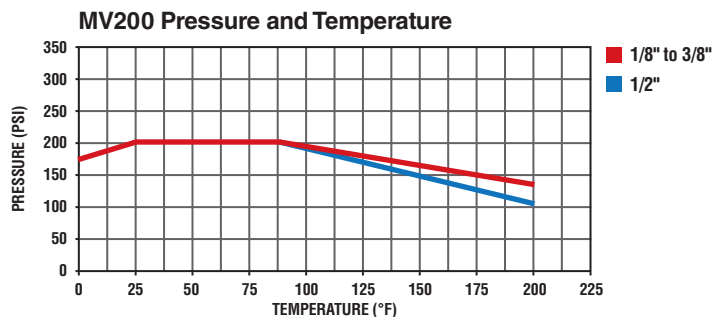
STYLE	TYPE	SIZE
MV	200	-2
STYLE	MV-MINI VALVE	
TYPE	200 - FEMALE / FEMALE LEVER HANDLE	
SIZE	2-1/8", 4-1/4", 6-3/8", 8-1/2"	

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

SPECIFICATIONS	
OPERATING INSTRUCTIONS	QUARTER TURN IS "ON" OR "OFF" (PROVIDES POSITIVE STOP ACTION FOR FULL SHUTOFF.)

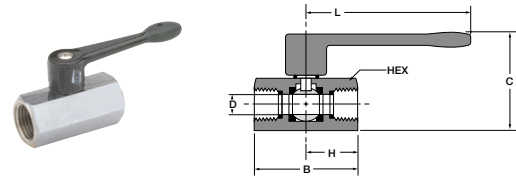
Parker's industrial ball valve product line is intended for general purpose use. Please be aware that ball valves are intended for use in the fully open or closed positions. Depending on application conditions, throttling of the valve may result in premature seal failure and/or inability to turn the valve handle.

For use on water and air service lines on capital equipment and plant design plumbing that require total shutoff capability.



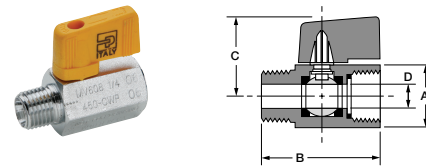
### Female Pipe Ends, Lever Handle, Mini Ball Valve MV200

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



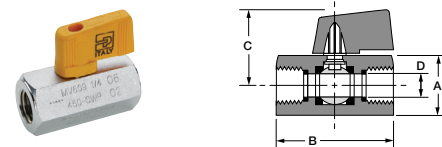
### Male-Female Pipe Ends, Compact Handle, Mini Ball Valve MV608

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





# Plug Valves Series PV

MATERIALS OF CONSTRUCTION	
FITTING:	BRASS
NUT:	BRASS
FERRULE:	BRASS

NOMENCLATURE	
EXAMPLE: PV607-2-OPTIONS	ATTRIBUTE:
PV	PLUG VALVE
607	MALE TO MALE
2	1/8" MALE
N (NOT SHOWN)	NEOPRENE (BROWN)
V (NOT SHOWN)	FLOROCARBON (RED)

SPECIFICATIONS	
PRESSURE RANGE	UP TO 250 PSI
TEMPERATURE RANGE	-40° TO +175°F



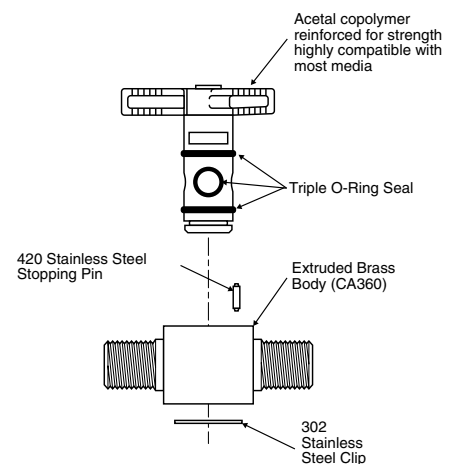
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## Installation Instructions

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.

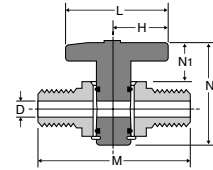
## Valve Components



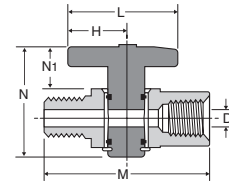


**Male Pipe to Male Pipe Plug Valve PV607**

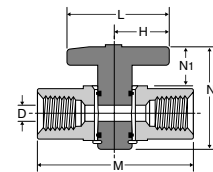
PART NO.	PIPE THREAD	H	L	M	N	N1	FLOW DIA. D
PV607-2	1/8	.67	1.34	1.66	1.38	.51	.200
PV607-4	1/4	.67	1.34	2.02	1.38	.51	.200

**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

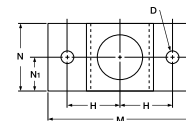
**Female Pipe to Female Pipe Plug Valve PV609**

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	L	M	N	N1	D
PVMB-001	.68	.75	1.86	.90	.45	.135

Note: 1" diameter hole required in panel when using mounting bracket





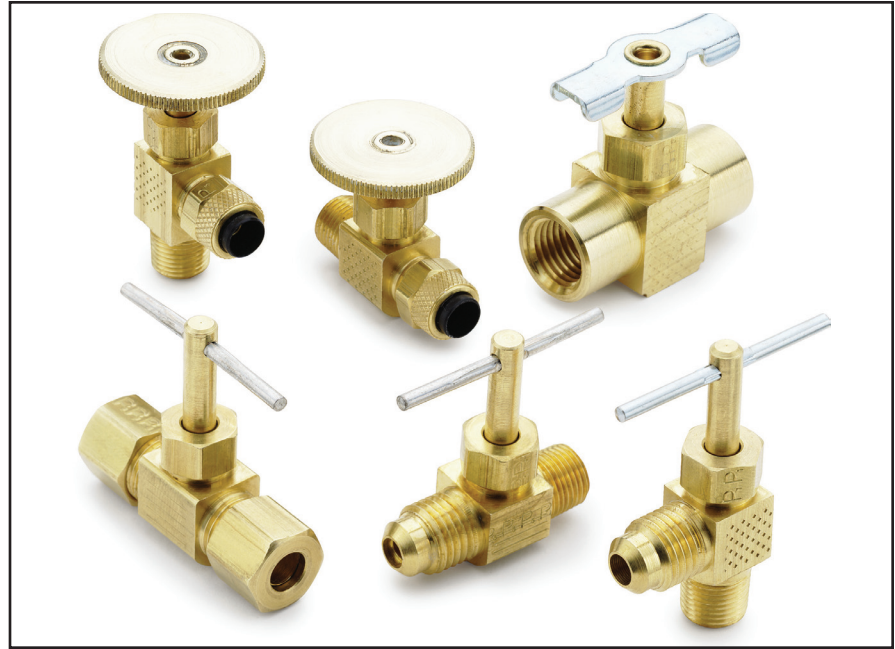
# Needle Valves, Truck Valves, Lanyard Valve

MATERIALS OF CONSTRUCTION	
VALVE BODY:	BRASS
STEM:	BRASS

NEEDLE/TRUCK VALVE NOMENCLATURE	
EXAMPLE: NV101F-4-2	ATTRIBUTE:
NV	NEEDLE VALVE
101	ANGLE NEEDLE VALVE
F	FLARED TO MALE PIPE
4	1/4" TUBE O.D.
2	1/8" PIPE THREAD

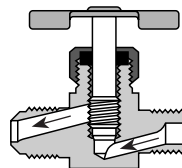
LANYARD VALVE NOMENCLATURE	
EXAMPLE: LV91-4-060	ATTRIBUTE:
LV91	LANYARD VALVE
4	1/4" PIPE THREAD
060	LENGTH OF CABLE IN INCHES

SPECIFICATIONS	
PRESSURE RANGE	VALVES UP TO 150 PSI UNLESS OTHERWISE NOTED
TEMPERATURE RANGE	SEE SPECIFIC PART NUMBER FOR TEMPERATURE RANGE



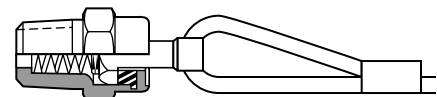
Needle and truck valves have metal-to-metal seats with fine thread screwdown. The lanyard valves' compact design is ideally suited for releasing condensate from air tanks. Brass construction with specially formulated low temperature seal which remains elastic to temperature as low -40°F.

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## 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.



## Lanyard Valve Operating Instructions

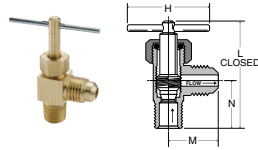
A pulling action exerted on the cable cocks the stem, allowing condensate to pass through the valve. Releasing the cable resets the stem which returns the valve to its closed position.

## Angle Needle Valve NV101F

Flare to Male Pipe

Temperature Range: -45° to +250° F

PART NO.	TUBE SIZE	PIPE THREAD	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

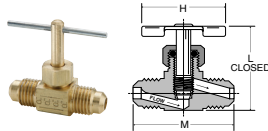


## Needle Valve NV102F

Flare to Flare \*Provided with Pin Handle

Temperature Range: -45° to +250° F

PART NO.	TUBE SIZE	H	L	M
NV102F-4*	1/4	1.50	1.34	1.50
NV102F-6	3/8	1.38	1.55	1.86

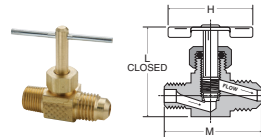


## Needle Valve NV103F

Flare to Male Pipe \*Provided with Pin Handle

Temperature Range: -45° to +250° F

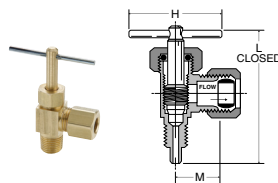
PART NO.	TUBE SIZE	PIPE THREAD	H	L	M
NV103F-4-2*	1/4	1/8	1.50	1.33	1.35
NV103F-6-4	3/8	1/4	1.38	1.56	1.73



## Humidifier Valve HV104C

Temperature Range: -45° to +250° F

PART NO.	TUBE SIZE	PIPE THREAD	H	L	M
HV104C-4-2	1/4	1/8	1.50	1.89	.53

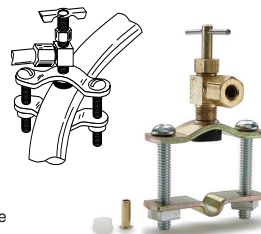


## Humidifier Valve clamp kit HV104C-kit

Temperature Range: -30° to +250° F

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 THREAD
HV104C-4-2 KIT	1/4	1/8



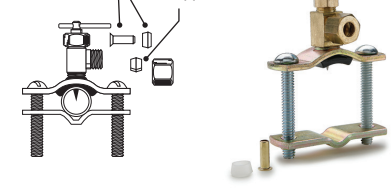
## Self-Piercing Humidifier Valve clamp kit SPV104C-kit

Temperature Range: -30° to +250° F

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 THREAD
SPV104C 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

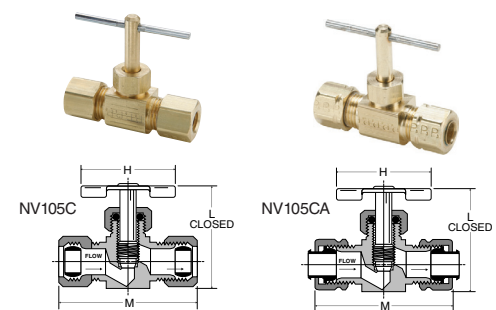
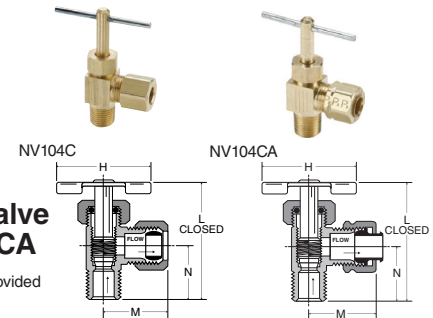


## Angle Needle Valve NV104C-NV104CA

Compression to Male Pipe \*Provided with Pin Handle

Temperature Range: -45° to +250° F

PART NO.	TUBE SIZE	PIPE THREAD	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



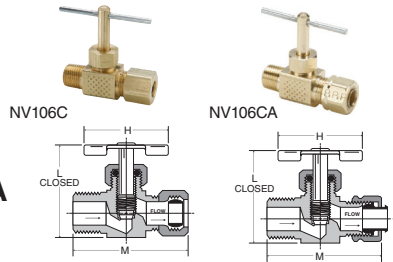
## Needle Valve NV105C-NV105CA

Compression to Compression

\*Provided with Pin Handle

Temperature Range: -45° to +250° F

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

PART NO.	TUBE SIZE	PIPE THREAD	H	L	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

PART NO.	PIPE THREAD	H	L	M
NV107P-2*	1/8	1.50	1.35	1.25
NV107P-4	1/4	1.38	1.54	1.65

### Needle Valve NV108P

Female Pipe to Male Pipe  
\*Provided with Pin Handle  
Temperature Range: -45° to +250° F

PART NO.	PIPE THREAD	H	L	M
NV108P-2*	1/8	1.50	1.36	1.25
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

PART NO.	PIPE THREAD	H	L	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

PART NO.	TUBE SIZE	PIPE THREAD	H	L	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

PART NO.	TUBE SIZE	PIPE THREAD	H	L	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

### Truck Valve V404P

Hose to Male Pipe  
Temperature Range: -30° to +250° F

PART NO.	HOSE I.D.	PIPE THREAD	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	1.15

### Truck Valve V404PH

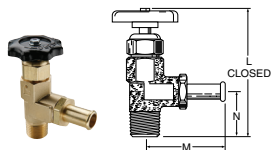
Hose to Male Pipe with Pin Handle  
Temperature Range: -30° to +250° F

PART NO.	HOSE I.D.	PIPE THREAD	FLOW	L	M	N
V404PH-10-6	5/8	3/8	.406	2.47	1.31	1.09

## Truck Valve SV404P

Hose to Male Pipe

Temperature Range: -30° to +250° F

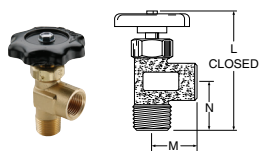


PART NO.	HOSE I.D.	PIPE THREAD	FLOW	L	M	N
SV404P-10-8	5/8	1/2	.468	3.71	2.31	1.34
SV404P-12-6	3/4	3/8	.438	3.73	2.31	1.34
SV404P-12-8	3/4	1/2	.562	3.73	2.31	1.34

## Truck Valve V405P

Female Pipe to Male Pipe

Temperature Range: -30° to +250° F

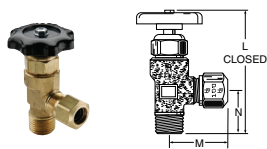


PART NO.	FEMALE PIPE THREAD	MALE PIPE THREAD	FLOW	L	M	N
V405P-6-6	3/8	3/8	.406	2.72	.91	1.19
V405P-6-8	3/8	1/2	.406	2.95	.91	1.31
V405P-8-8	1/2	1/2	.562	3.15	1.17	1.34

## Truck Valve V408NTA

Tube to Male Pipe

Temperature Range: -30° to +250° F

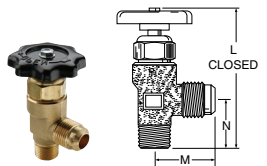


PART NO.	TUBE SIZE	PIPE THREAD	FLOW	L	M	N
V408NTA-8-8	1/2	1/2	.328	3.28	1.15	1.19

## Truck Valve V409F

Flare to Male Pipe

Temperature Range: -30° to +250° F

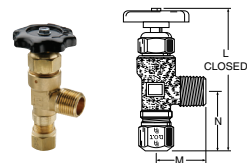


PART NO.	TUBE SIZE	PIPE THREAD	FLOW	L	M	N
V409F-8-6	1/2	3/8	.406	3.07	1.31	1.00
V409F-8-8	1/2	1/2	.406	3.28	1.31	1.19
V409F-10-8	5/8	1/2	.500	3.47	1.50	1.25
V409F-12-8	3/4	1/2	.562	3.70	2.31	1.34

## Truck Valve V410NTA

Tube to Male Pipe

Temperature Range: -30° to +250° F

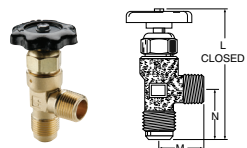


F PART NO.	TUBE SIZE	PIPE THREAD	FLOW	L	M	N
V410NTA-8-8	1/2	1/2	.328	3.58	1.38	1.31

## Truck Valve V412F

Tube to Male Pipe

Temperature Range: -30° to +250° F



PART NO.	TUBE SIZE	PIPE THREAD	FLOW	L	M	N
V412F-10-8	5/8	1/2	.500	3.60	1.38	1.31

LV91HF-4-SUB



## Lanyard Valve LV91

Temperature Range: -40° to +200° F



PART NO.	PIPE THREAD	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	--



# Drain Cocks/ Ground Plug Shutoff

DRAIN COCK NOMENCLATURE	
EXAMPLE: DC604-2	ATTRIBUTE:
DC	DRAIN COCK
604	EXTERNAL SEAT
2	1/8 PIPE THREAD

GROUND PLUG SHUTOFF NOMENCLATURE	
EXAMPLE: V204F-4-2	ATTRIBUTE:
V	VALVE
204	FLARED TO MALE PIPE
F	FLARED
4	1/4 TUBE O.D.
2	1/8 PIPE THREAD

SPECIFICATIONS	
GROUND PLUG SHUTOFF:	30 PSI
DRAIN COCKS	150 PSI
TEMPERATURE RANGES:	SEE SPECIFIC PART NUMBER FOR TEMPERATURE RANGE
OPERATING FLUID:	AIR, WATER, GAS AND CERTAIN OTHER FLUIDS.
NOTE:	LUBRICANT MAY NOT BE COMPATIBLE WITH SOME FLUIDS, CONTACT FACTORY FOR SPECIAL FLUID REQUIREMENTS



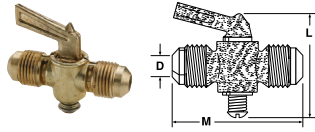
Drain cocks are manufactured in both external and internal seats. Ground plug shutoffs are manufactured from castings or forged bodies for extra strength. Hand tightening provides a metal - to - metal seal.



### Ground Plug Shutoff V203F

Flare to Flare

Temperature Range: +32° to +125° F

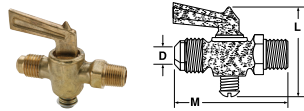


PART NO.	TUBE SIZE	L	M	FLOW DIA. D
V203F-6-6	3/8	2.26	2.13	.220
V203F-8-8	1/2	2.26	2.50	.281

### Ground Plug Shutoff V204F

Flare to Male Pipe

Temperature Range: +32° to +125° F

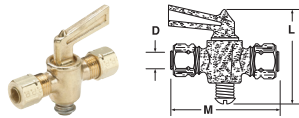


PART NO.	TUBE SIZE	PIPE THREAD	L	M	FLOW DIA. D
V204F-4-2	1/4	1/8	1.85	2.00	.188
V204F-6-4	3/8	1/4	1.85	2.18	.218

### Ground Plug Shutoff V303C / V303CA

Compression to Compression

Temperature Range: +32° to +125° F

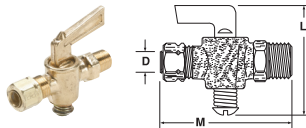


PART NO.	TUBE SIZE	L	M	FLOW DIA. D
V303C-4-4	1/4	1.88	2.33	.188
V303CA-4-4	1/4	1.90	1.75	.188
V303C-6-6	3/8	2.26	2.45	.218
V303CA-6-6	3/8	1.76	1.60	.218

### Ground Plug Shutoff V304C / V304CA

Compression to Male Pipe

Temperature Range: +32° to +125° F

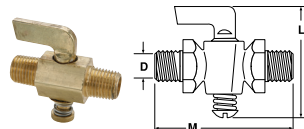


PART NO.	TUBE SIZE	PIPE THREAD	L	M	FLOW DIA. D
V304C-4-2	1/4	1/8	1.90	2.29	.188
V304CA-4-2	1/4	1/8	1.88	2.00	.188
V304C-4-4	1/4	1/4	1.90	2.15	.188
V304CA-4-4	1/4	1/4	1.86	2.08	.188
V304C-6-4	3/8	1/4	1.83	2.24	.218
V304CA-6-4	3/8	1/4	1.83	2.11	.218

### Ground Plug Shutoff V401P

Male Pipe to Male Pipe

Temperature Range: +32° to +125° F

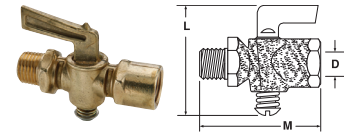


PART NO.	PIPE THREAD	L	M	FLOW DIA. D
V401P-2-2	1/8	1.90	2.25	.188
V401P-4-4	1/4	1.90	1.98	.188

### Ground Plug Shutoff V402P

Female Pipe to Male Pipe

Temperature Range: +32° to +125° F

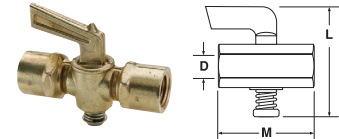


PART NO.	FEMALE PIPE THREAD	PIPE THREAD	L	M	FLOW DIA. D
V402P-2-2	1/8	1/8	1.85	1.78	.218
V402P-4-4	1/4	1/4	1.86	2.26	.218
V402P-6-6	3/8	3/8	2.34	2.21	.245

### Ground Plug Shutoff V403P

Female Pipe to Female Pipe

Temperature Range: +32° to +125° F



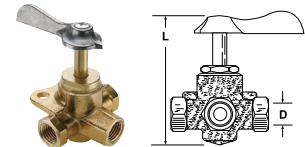
PART NO.	FEMALE PIPE THREAD	L	M	FLOW DIA. D
V403P-2-2	1/8	1.90	1.51	.218
V403P-4-4	1/4	1.90	1.65	.188
V403P-6-6*	3/8	2.25	2.00	.250

\*Made from extruded bar stock

### Three-way valve V406P

Female Pipe three ends

Temperature Range: -40° to +180° F

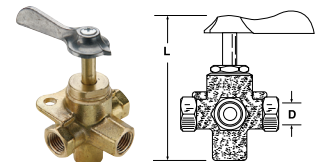


PART NO.	PIPE THREAD	L	FLOW DIA. D
V406P-4	1/4	3.10	.281

### Four-way valve V407P

Female Pipe four ends

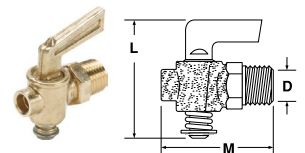
Temperature Range: -40° to +180° F



PART NO.	PIPE THREAD	L	FLOW DIA. D
V407P-4	1/4	3.30	.281

### Ground Plug Shutoff DC601

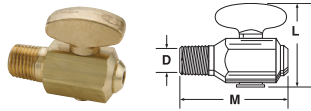
Temperature Range: +32° to +125° F



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**

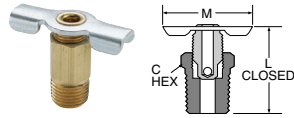
Temperature Range: -30° to +250° F



PART NO.	PIPE THREAD	L	M	FLOW DIA. D
DCR601-4	1/4	1.41	1.73	.156

**Internal Seal Drain Cock DC602**

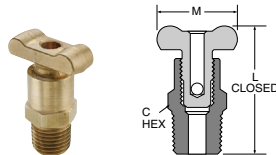
Temperature Range: -65° to +250° F



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

**Drain Cock DC603**

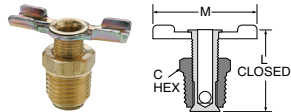
Temperature Range: -65° to +250° F



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: -25° to +250° F

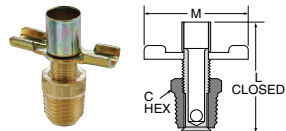


PART NO.	PIPE THREAD	C HEX	L	M
DC604-2*	1/8	7/16	.85	1.25
DC604-4	1/4	9/16	1.00	1.38
DC604-6*	3/8	11/16	1.22	1.68

\*When assembled handle wings are down facing

**External Seal Drain Cock DC606**

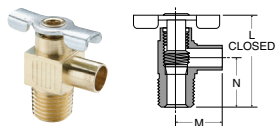
Temperature Range: -65° to +250° F



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



PART NO.	HOSE SIZE	PIPE THREAD	FLOW	L	M	N
DC607-4	3/8	1/4	.31	1.32	.67	.71

K



# Tube Fabricating Equipment



## Tube Fabricating Equipment

*Testing & Service Tools*

*Flaring Tool Kits*

*Tube Benders*










*Swaging Tools*

*Deburring Tool*

*Flaring Tools*

*Tube cutters*



Tube Cutters	<b>Tube Cutters</b> Sizes 2 to 64  Page L3	<b>Kloskut Cutters</b> Sizes 2 to 32  Page L3	<b>PTC-001</b> Plastic Tube Cutter  Page L3			
	<b>Hand Benders</b>  Page L4	<b>Spring Type</b>  Page L4				
	<b>Combination Tools</b>  Page L5	<b>Rolo-Flair</b>  Page L5	<b>Metric Flaring</b>  Page L5			
<b>Deburring Tools</b>  Page L5						




	PART NO.	DESCRIPTION
<b>Tube Cutters</b>		
For hard or soft copper, aluminum, brass, thin wall steel, stainless steel, monel, titanium and other metal tubing		
 	<b>TC-1000-BPD</b>	Rollers have flare cut-off groove, fold away reamer and spare cutting wheel.  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.
	<b>S75015-BPD</b>	Standard cutting wheel
	<b>S75046-BPD</b>	Cutting wheel for stainless steel and hard temper tubing
	<b>TC-1050-BPD</b>	For 1/8" to 5/8" (4 to 15 mm) O.D. tubing, (1/8" to 1/2" nom.) Requires only 1 1/4" swing radius. (Requires only 1 3/8" swing radius with 5/8" tube.)  Repositioned rollers to bottom of tool allows for easier cutter engagement on tubing. Enclosed feed-screw minimized contamination, assuring continued free operation. Redesigned feed mechanism improves overall cutting action.  Size: 1 3/4" x 1 1/4" x 1/2" Weight: 2 1/2 oz.
	<b>S32633-BPD</b>	Cutting wheel for TC-1050-BPD
	<b>174-F-BPD</b>	For 3/8" to 1 1/8" (10 to 28 mm) O.D. tubing, (1/4" to 1" nom.). Requires only 1 15/16" swing radius. (Requires only 2 1/4" swing radius with 1 1/8" tube.)  Size: 2 11/16" x 2 1/32" x 1 1/8" Weight: 5 oz.
	<b>S75015-BPD</b>	Cutting wheel
	<b>S75046-BPD</b>	Cutting wheel for stainless steel and hard temper tubing

## Kloskut® 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.

 218B-BPD	<b>218B-BPD</b>	<b>Medium Kloskut</b> For tubing sizes -2 (1/8" O.D.) to -18(1 1/8" O.D.)  Weight: 11 oz.
 	<b>PTC-001</b>	<b>Plastic Tube Cutter</b> May be used with polyethylene, Polypropylene, nylon and other thermoplastic tubing. For tube O.D. sizes 1/8" to 1/2"
	<b>PTC-001RB</b>	Replacement blades

## PART NO.

## DESCRIPTION

**Tube Benders, Lever Type**

For soft copper, aluminum, brass, steel and other metal tubing

**367-FH-BPD****368-FH-BPD****Triple Header Benders**

Calibrated markings for making accurate left-hand, right-hand and offset bends. Ninety degree start requires less effort - making bending fast and easy.

For 1/8", 3/16" and 1/4" (3, 4, and 6 mm) O.D. tubing, 9/16" radius to center of tube.

For 1/4", 5/16" and 3/8" (6 and 8 mm) O.D. tubing, 15/16" radius to center of tube.

**Metric Tube Benders****367-FH-BPD****368-FH-BPD****Triple Header Benders**

For annealed copper, aluminum, steel, stainless steel and hard copper tubing of bending temper.

Lever type, multiple size benders. Calibrated markings for making accurate left-hand, right-hand, and offset bends. Ninety degree start requires less effort; makes bending fast and easy.

**BENDING RANGE**

Tube O.D. (Inches)(mm)	Radius to Center of Tube		
	(Inches)	(mm)	
367-FH-BPD	1/8, 3/16, 1/4	3, 4, 6	9/16 14.2
368-FH-BPD	1/4, 5/16, 3/8	6, 8	15/16 17.5

**Tube Benders, Spring Type**

For soft copper and aluminum tubing




**102-F-04-BPD****102-F-06-BPD****102-F-08-BPD****102-F-10-BPD****For 1/4" to 5/8" O.D. tubing.**

Tools allow hand bending of soft tubing to any shape without collapsing walls. Special spring steel, nickel finished. End belled for quick tube removal.



**BENDER**

TUBE O.D. (INCHES)	LENGTH (INCHES)	WEIGHT (OZ.)
1/4	10	3
3/8	10	4
1/2	12	6 1/2
5/8	12	8



	PART NO.	DESCRIPTION
	525-F-BPD	<p>Flares and burnishes 3/16" to 5/8" (5 to 16 mm) O.D. tubing.</p> <p>Unique, self-adjusting, tube holding mechanism permits use in tight quarters. Faceted, hard chrome finished cone rolls out and burnishes perfect 45° flare above the tube holding mechanism.</p> <p>Weight: 1 3/4 lbs.</p>
	93-FB-BPD	<p>For 3/16", 1/4", 5/16", 3/8" and 1/2" O.D. tubing. Recommended for Bundy, GM and other brazed or welded soft steel tubing (wall thickness to .035"). Also makes single or double flares in soft copper or aluminum tubing. Forged steel yoke; swivel-type hard chrome-finished flaring cone.</p> <p>Weight: 3 lbs.</p>
	945TH-BPD	<p><b>Rolo-flair® Manual Rotary Flaring Tool</b></p> <p>For soft metal tubing. Precision burnished 45° flares in tube sizes from 2 (1/8" O.D.) to 12 (3/4" O.D.) with an easy turn of the handle. For copper and aluminum alloy.</p> <p>Weight: 2 1/2 lbs.</p>

In-Ex® Tube Deburring Tool

	226-BPD	<p>A quick twist of the wrist will deburr either the O.D. or the I.D. of the tube end. Parker's In-Ex deburrer can be used on annealed steel, stainless steel, copper and aluminum, for tube sizes 1/8" to 1 5/8" O.D.</p> <p>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. See bulletin 4391-B226 for details.</p> <p>Weight: 10 oz.</p>
	226RB-BPD	<p>Replacement Blades</p>
	208-FSS-BPD	<p>Reamer for aircraft grade stainless steel tubing. Black finish</p> <p>Weight: 10 oz.</p>



## Notes

[illegible]



## Bins

Prime cold rolled steel  
construction  
Compartment and  
drawer style  
Durable gray powder  
coat finish



## Bags

Clear Polyethylene  
Zip-lock style  
Reusable



## Copper Tubing

*Refrigeration Service  
Meets A.S.T.M. B-280  
50 ft. coils*



### 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 NUMBER	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 NUMBER	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 NUMBER	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 NUMBER	DIMENSIONS (IN.)		
	WIDTH	DEPTH	HEIGHT
4CB-SR	20	15.75	15





### LSR-Stand

- Sturdy all steel construction
- Raises units 15 inches off the floor
- Legs attach easily using fasteners provided
- Durable gray powder finish

PART NUMBER	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 NUMBER	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 NUMBER	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 NUMBER	DIMENSIONS (IN.)			BIN DIMENSIONS (IN.)		
	WIDTH	DEPTH	HEIGHT	WIDTH	DEPTH	HEIGHT
24B-CABINET	33.75	12	23.875	5.375	11.875	5.5



## 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 NUMBER	DIMENSIONS (IN.)			BIN DIMENSIONS (IN.)		
	WIDTH	DEPTH	HEIGHT	WIDTH	DEPTH	HEIGHT
40B-CABINET	33.75	12	23.875	4	11.875	4.5



## 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 NUMBER	DIMENSIONS (IN.)			DRAWERS
	WIDTH	DEPTH	HEIGHT	
PNEU-CAB	22.1875	28.5	39.5	5-3" AND 1-9"



## Clear Plastic Shipping Bags PSB

Reusable, clear polyethylene, zip-lock style bags with panels for marking part number, quantity, and availability information. Features easy visual part identification. Ideal for custom packaging of less than box quantities.

PART NO.	SIZE
4X6PSB	4" X 6"
6X8PSB	6" X 8"



## Copper Tubing

Copper tubing meets A.S.T.M. specification B-280 (copper tube for refrigeration field service)

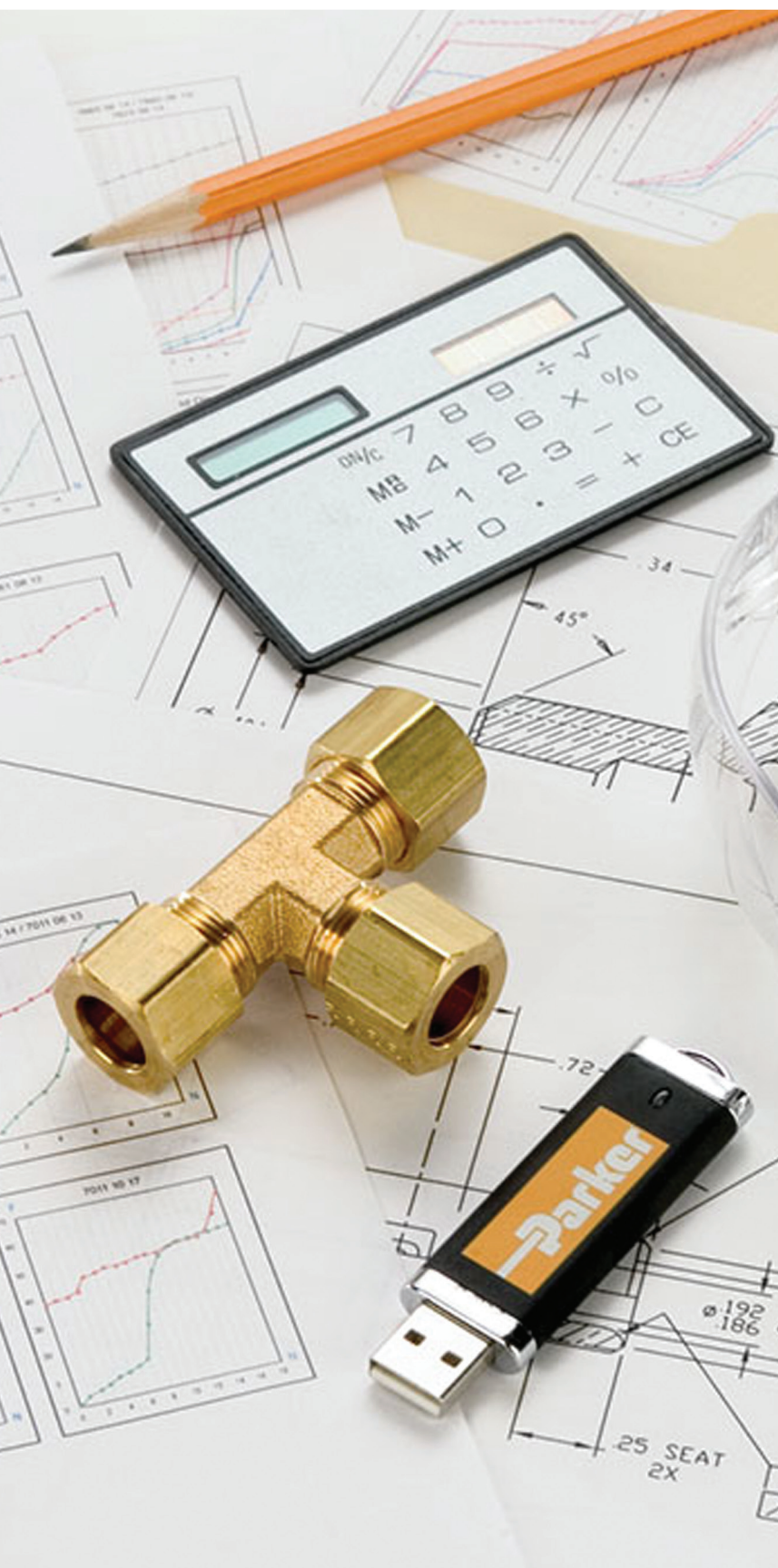
PART NO.	TUBE O.D.	TUBE I.D.	WALL THICKNESS	FEET PER COIL
X50CT-2-30	1/8	.065	.030	50
X50CT-3-30	3/16	.128	.030	50
X50CT-4-30	1/4	.190	.030	50
X50CT-5-32	5/16	.249	.032	50
X50CT-6-32	3/8	.311	.032	50
X50CT-8-32	1/2	.436	.032	50







# General Technical



## 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)

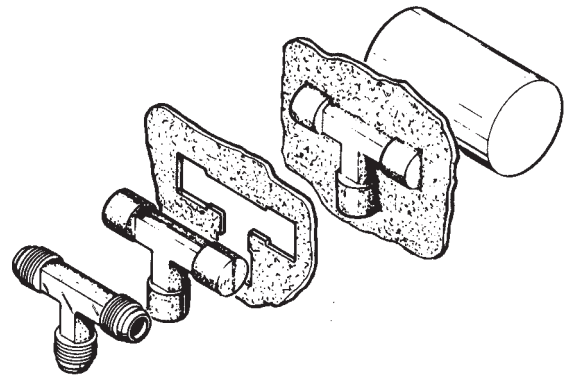
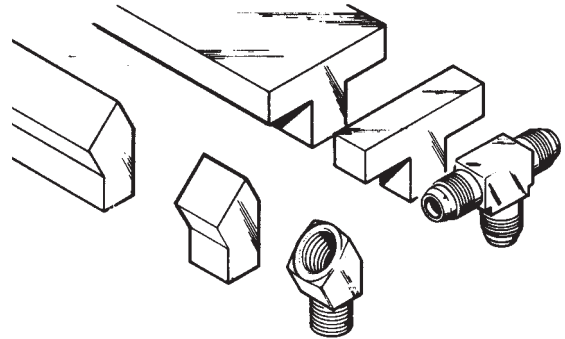
Straight bodies:	barstock CA 360 or CA 345
Shape bodies:	extruded barstock CA 360
Shape bodies:	forged CA 377
Nuts:	barstock CA 360
Nuts:	forged CA 377

### 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.***



# Tubing Compatibility Chart

Soft metal tubing			Parflex Thermoplastic Tubing										PS = Plastic sleeve & tube support recommended TS = Tube support is recommended BS = Brass sleeve recommended CL = Clamp required	
Copper	Aluminum	Steel	Industrial Tubing Series (Outside Diameter Shown)											
			Polyethylene E & EB Inch (4,5,6,8,10) Metric (6,8,10,12)	Polyethylene PE Inch (2,2.5,3,4,5,6,8)	Polyethylene FRPE 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)	Polypropylene PP & PPB Inch (2,3,4,5,6,8,10)	Polyurethane U (90 - 95 Shore A) Inch (2,3,4,6,8,9,12) Metric (4,6,8,10,12)	Product Sizes (inch)		
BS			PS TS	PS TS	PS TS	PS TS	PS TS	PS TS	PS TS	PS TS		Compression - Inch (2,3,4,5,6,7,8,10,12,14)	Compression & Flare	
			TS	TS	TS	TS	TS	TS	TS	TS		Compress-Align - Inch (2,3,4,5,6,8,10,12,14,16)		
			TS	TS	TS	TS	TS	TS	TS	TS		Metru-Lok - Metric (4,6,8,10,12,14,16,18,22)		
BS							BS	BS	BS	BS		Poly-Tite - Inch (2,3,4,5,6,8)		
			TS	TS	TS	TS	TS	TS	TS	TS		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 (2,3,4,5,6,8,10,12,14)		
											TS	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 Brass - Inch (2,2.5,3,4,5,6,8) Metric (4,5,6,8,10,12,14)		
												Prestolok Composite Inch (2,2.5,3,4,5,6,8) Metric (4,5,6,8,10,12,14)		
												Prestoweld - Inch (4,5,6,8)		
												Global Connect - Inch (2,2.5,3,4,5,6,8) Metric (4,6,8,10,12)		
												Liquifit - Inch (4,6,8)		
											TS	TrueSea - Inch (4,5,6,8)		
											CL	Par-Barb - Inch (2,3,4,5,6,8,10,12)	Barb	
												Dubl-Barb - Inch (2,5,4,6,8)		
												Hose Barb - Inch (2,3,4,5,6,8,10,12,16) Inside Diameter		
												Garden Hose		
												NTA - Inch (3,4,6,8,10,12)	DOT Transportation	
												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 (2,2.5,3,4,6,8,10,12) Metric (6,8,10,12,16)		
												PTC - Inch (4,6,8,10,12)		
												SAE Cartridges - Inch (2.5,4,6,8,10,12)		
												Manifolds - Inch (4,6,8)		

PS = Plastic sleeve & tube support recommended  
 TS = Tube support is recommended  
 BS = Brass sleeve recommended  
 CL = Clamp required

# Tubing Compatibility Chart

PS = Plastic sleeve & tube support recommended  
 TS = Tube support is recommended  
 BS = Brass sleeve recommended  
 CL = Clamp required

Product Sizes (inch)		Parflex Thermoplastic Tubing								IHP/HPD Hose		Parflex/Atlantic Fluoropolymer Tubing	
		Industrial Tubing Series (Outside Diameter Shown)				Transportation Tubing				GPH General Purpose Inch (3,4,6,8,12) Inside Diameter	Parker 271 hose (SAE J1402) Inch (6,8) Inside Diameter	PFA Fluoropolymer Inch (3/32" - 1") Metric (4mm - 12mm)	FEP Fluoropolymer Inch (1/8" - 1") Metric (3mm - 12mm)
		Polyurethane HU & HUM (>95 Shore A) Inch (2,2.5,4,6,8,12) Metric (4,6,8,10,12)	Polyurethane LU (<90 Shore A) Inch (2,2.5,4,5)	Polyurethane FR (Weld Tubing) Inch (4,5,6,8)	Clear Vinyl Inch (1/8" - 2 1/2")	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				
Compression & Flare	Compression - Inch (2,3,4,5,6,7,8,10,12,14)											PS TS	PS TS
	Compress-Align - Inch (2,3,4,5,6,8,10,12,14,16)											TS	TS
	Metru-Lok - Metric (4,6,8,10,12,14,16,18,22)												
	Poly-Tite - Inch (2,3,4,5,6,8)												
	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 (2,3,4,5,6,8,10,12,14)												
Push-to-Connect	Fast & Tite - Inch (4,5,6,8,10)	TS	TS		TS								
	Flow Controls - Inch (2,2.5,4,5,6,8) Metric (4,6,8,10,12)												
	Prestolok Brass - Inch (2,2.5,3,4,5,6,8) Metric (4,5,6,8,10,12,14)												
	Prestolok Composite Inch (2,2.5,3,4,5,6,8) Metric (4,5,6,8,10,12,14)												
	Prestoweld - Inch (4,5,6,8)												
	Global Connect - Inch (2,2.5,3,4,5,6,8) Metric (4,6,8,10,12)												
	Liquifit - Inch (4,6,8)												
Barb	TrueSea - Inch (4,5,6,8)	TS			TS								
	Par-Barb - Inch (2,3,4,5,6,8,10,12)		CL		CL								
	Dubl-Barb - Inch (2.5,4,6,8)												
	Hose Barb - Inch (2,3,4,5,6,8,10,12,16) Inside Diameter				CL					CL			
DOT Transportation	Garden Hose				CL					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 (2,2.5,3,4,6,8,10,12) Metric (6,8,10,12,16)												
	PTC - Inch (4,6,8,10,12)												
	SAE Cartridges - Inch (2.5,4,6,8,10,12)												
	Manifolds - Inch (4,6,8)												

## Tubing Compatibility Chart

Parflex/Atlantic Fluoropolymer Tubing		Polyflex Tubing			Product Sizes (inch)	
PTFE Fluoropolymer Inch (3/32" - 1") Metric (3mm - 16mm)	PVDF Fluoropolymer Inch (2, 3, 4, 5, 6, 8, 10, 12, 16)	TPU Polyurethane (52 shore D) Inch (2, 2.5, 3, 4, 5, 6, 8) Metric (3, 4, 6, 8, 10, 16)	Polyamide (Nylon) Inch (2, 3, 4, 5, 6, 8, 10, 12) Metric (3mm - 22mm)	Polyethylene Inch (2, 4, 6, 8, 10) Metric (4, 6, 8, 10, 12, 16)		
PS TS	PS TS		PS TS	PS TS	Compression - Inch (2, 3, 4, 5, 6, 7, 8, 10, 12, 14)	Compression & Flare
TS	TS		TS	TS	Compress-Align - Inch (2, 3, 4, 5, 6, 8, 10, 12, 14, 16)	
			TS	TS	Metru-Lok - Metric (4, 6, 8, 10, 12, 14, 16, 18, 22)	
			BS		Poly-Tite - Inch (2, 3, 4, 5, 6, 8)	
			TS	TS	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, 14)	
					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 Brass - Inch (2, 2.5, 3, 4, 5, 6, 8) Metric (4, 5, 6, 8, 10, 12, 14)	
					Prestolok Composite Inch (2, 2.5, 3, 4, 5, 6, 8) Metric (4, 5, 6, 8, 10, 12, 14)	
					Prestoweld - Inch (4, 5, 6, 8)	
					Global Connect - Inch (2, 2.5, 3, 4, 5, 6, 8) Metric (4, 6, 8, 10, 12)	
					Liquifit - Inch (4, 6, 8)	
					TrueSea - Inch (4, 5, 6, 8)	
					Par-Barb - Inch (2, 3, 4, 5, 6, 8, 10, 12)	Barb
					Dubl-Barb - Inch (2, 5, 4, 6, 8)	
					Hose Barb - Inch (2, 3, 4, 5, 6, 8, 10, 12, 16) Inside Diameter	
					Garden Hose	
					NTA - Inch (3, 4, 6, 8, 10, 12)	DOT Transportation
					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 (2, 2.5, 3, 4, 6, 8, 10, 12) Metric (6, 8, 10, 12, 16)	
					PTC - Inch (4, 6, 8, 10, 12)	
					SAE Cartridges - Inch (2, 5, 4, 6, 8, 10, 12)	
					Manifolds - Inch (4, 6, 8)	

PS = Plastic sleeve & tube support recommended  
 TS = Tube support is recommended  
 BS = Brass sleeve recommended  
 CL = Clamp required

## 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.)

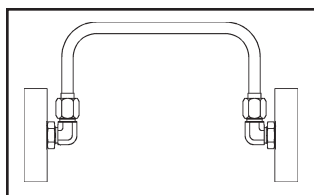


Fig. A14 — Correct Routing

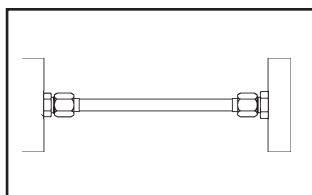


Fig. A15 — Incorrect Routing

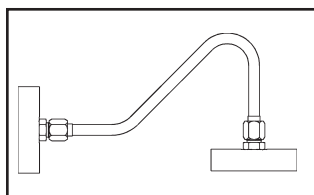


Fig. A16 — Correct Routing

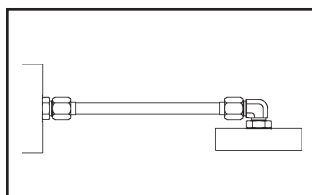


Fig. A17 — Incorrect Routing

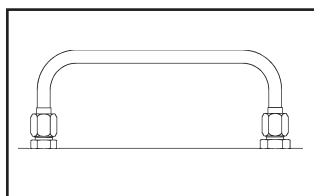


Fig. A18 — Correct Routing

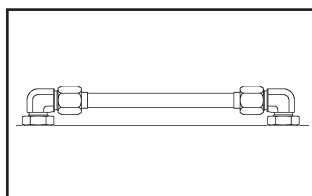


Fig. A19 — Incorrect Routing

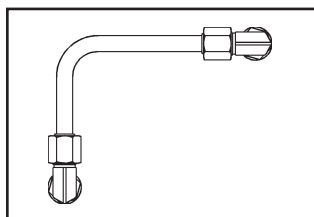


Fig. A20 — Correct Routing

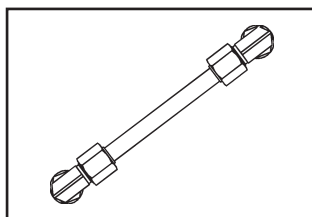


Fig. A21 — Incorrect Routing

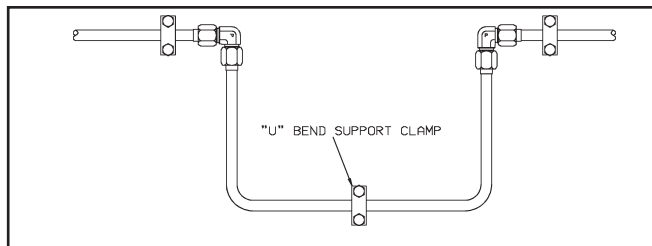


Fig. A22 — U-Bend Allowing Expansion and Contraction

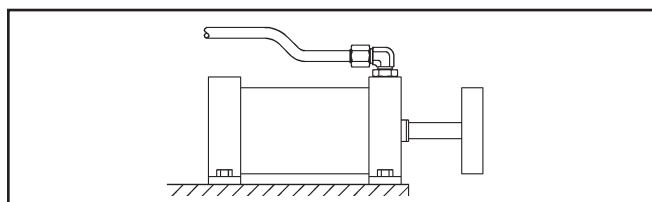


Fig. A23 — Bent Tube Allowing for Motion Under Load

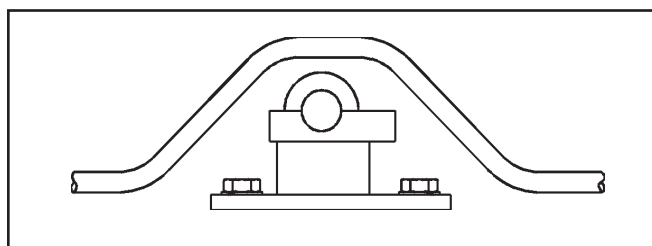


Fig. A24 — Correct

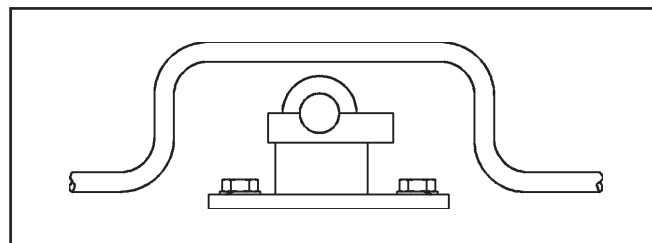


Fig. A25 — Incorrect

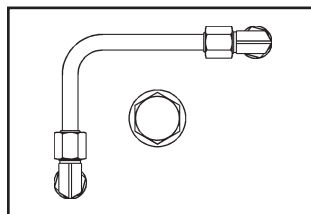


Fig. A26 — Correct

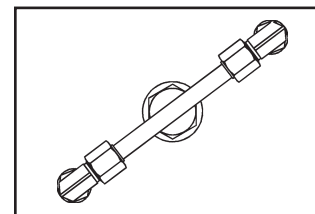


Fig. A27 — Incorrect

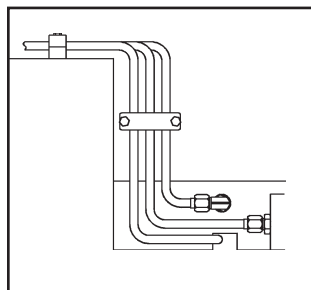


Fig. A28 — Correct

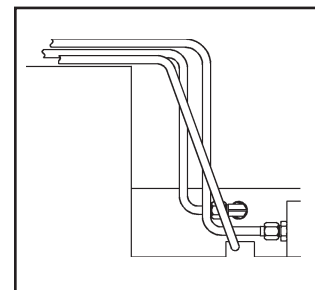


Fig. A29 — Incorrect



## 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.

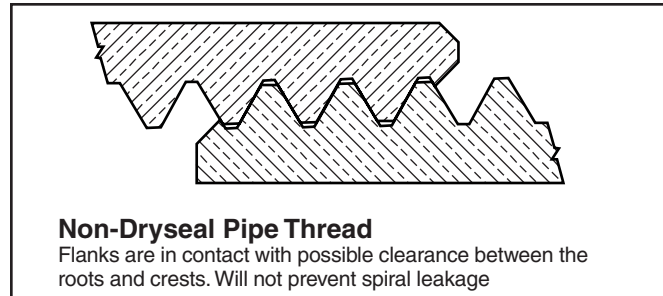
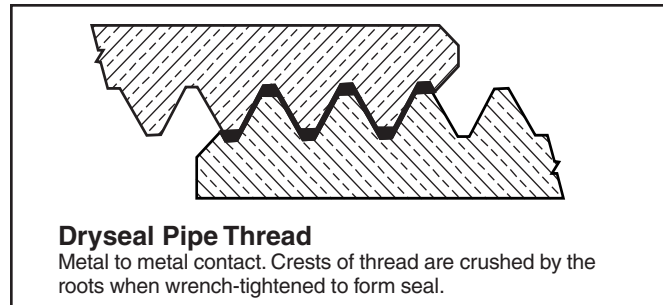
### Non-Dryseal Pipe Threads

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 available for all standard product fittings. Plating will increase male pitch diameters and decrease female pitch diameters of threads. This will affect the assembly characteristics on standard products.

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:

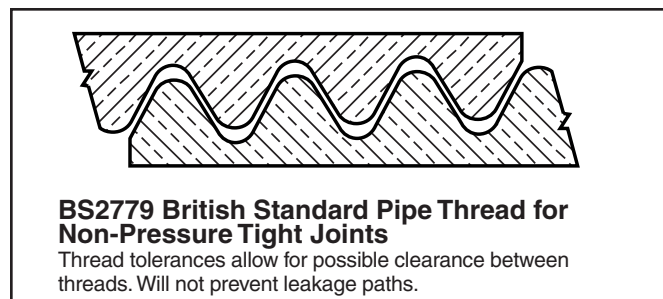
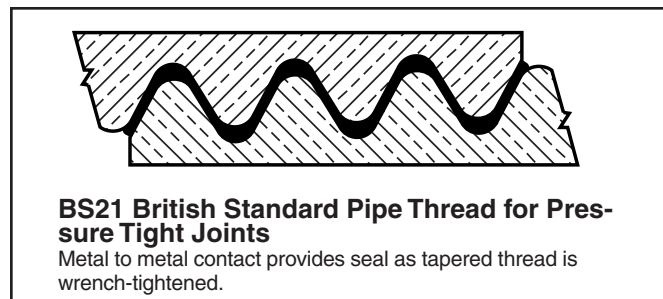
- Rp: Internal parallel
- Rc: Internal taper
- Rs: Special external parallel
- R: External taper

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



## 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

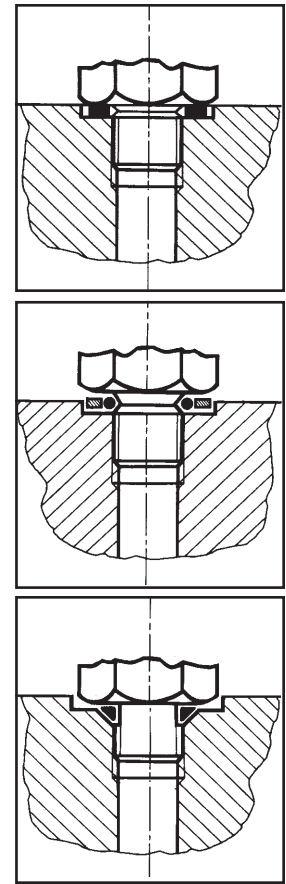
## Flat seals

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.

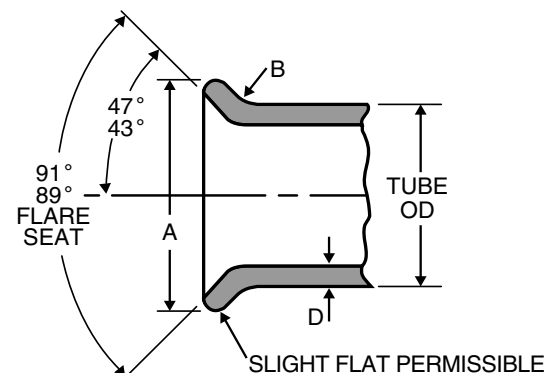
### 3) FLARE TUBING:

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	in		in	in
	Max.	Min.	≥ 0.01	Max.
1/8	0.181	0.171	0.02	0.035
3/16	0.249	0.239	0.02	0.035
1/4	0.325	0.315	0.02	0.049
5/16	0.404	0.388	0.02	0.049
3/8	0.487	0.471	0.02	0.065
7/16	0.561	0.545	0.02	0.065
1/2	0.623	0.607	0.02	0.083
9/16	0.676	0.660	0.02	0.083
5/8	0.748	0.732	0.02	0.095
3/4	0.916	0.900	0.02	0.109
7/8	1.041	1.025	0.02	0.109
1	1.157	1.141	0.02	0.120



## Thread Designations and Standards for Threads Used in Fluid Connectors

Abbreviation	Description	Applicable Std.
<b>Straight Pipe</b>		
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
<b>Taper Pipe</b>		
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 <sup>1)</sup>	Dryseal Special Short Taper Pipe Threads	ANSI B1.20.3
PTF — SPL Extra Short <sup>1)</sup>	Dryseal Special Extra Short Taper Pipe Threads	ANSI B1.20.3
<b>Unified Threads</b>		
UN	Unified Constant Pitch Threads (standard series: 4, 6, 8, 12, 16, 20, 28, 32)	ANSI B1.1 FED-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

Table A48 — Thread Designations and Standards for Threads Used in Fluid Connectors (continued on the next page)

1) Used in some pneumatic components where shortened thread depth is required because of lack of enough material due to component size limitations.

Abbreviation	Description	Applicable Std.
<b>Metric Threads</b>		
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
<b>British Standard Pipe Threads</b>		
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
<b>Japanese Standard Pipe Threads</b>		
PF <sup>1)</sup>	JIS Parallel Pipe Threads	JIS B202 ISO 228/1
PT <sup>1)</sup>	JIS Taper Pipe Threads	JIS B203 ISO 7/1
PS	JIS Parallel Internal Pipe Threads (to mate with PT threads)	JIS B203

Table A48 (Cont'd) — Thread Designations and Standards for Threads Used in Fluid Connectors

1) 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
<b>SAE 45° Flared</b>	5/16 -24	3/8 -24	7/16 -20	1/2 -20	5/8 -18	11/16 -16	3/4 -16	7/8 -14	1-1/16 -14	1-1/4 -12	-
<b>Inverted Flared</b>	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	-
<b>Air Brake/NTA</b>	-	-	7/16 -24	-	17/32 -24	-	11/16 -20	13/16 -18	1 -18	-	1 1/4 -16
<b>Std. Comp./ Compress-Align</b>	5/16 -24	3/8 -24	7/16 -24	1/2 -24	9/16 -24	5/8 -24	11/16 -20	13/16 -18	1 -18	1-1/8 -18	1 1/4 -18
<b>Poly-Tite</b>	5/16 -24	3/8 -24	3/8 -24	7/16 -24	1/2 -24	-	11/16 -20	-	-	-	-
<b>Vibra-Lok</b>	3/8 -24	7/16 -24	1/2 -24	9/16 -24	5/8 -24	-	13/16 -18	1 -18	1-1/8 -18	-	-
<b>V510 Ball Valves</b>	-	-	7/16 -20	-	9/16 -18	-	3/4 -16	7/8 -14	1-1/16 -12	-	1-5/16 -12
<b>Hi-Duty Flareless Tube Fittings</b>	5/16 -24	3/8 -24	7/16 -24	1/2 -20	9/16 -20	-	11/16 -16	7/8 -18	-	-	-

## S.A.E. Part Index

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SAE 010103 .....	E8	SAE 010401 .....	E9	SAE 060110 .....	A6	SAE 100424 BA .....	H9
SAE 010104 .....	E7	SAE 010424 .....	E11	SAE 060111 .....	A6	SAE 100425 BA .....	H10
SAE 010105 .....	E13	SAE 010425 .....	E9	SAE 060115 .....	A6	SAE 120101 BA .....	H14
SAE 010106 .....	E13	SAE 010501 .....	E9	SAE 060201 BA .....	A9	SAE 120102 BA .....	H15
SAE 010107 .....	E13	SAE 040101 .....	E15	SAE 060202 BA .....	A10	SAE 120103 BA .....	H14
SAE 010108 .....	E6	SAE 040102 .....	E16	SAE 060203 BA .....	A10	SAE 120111 .....	H14
SAE 010109 .....	E13	SAE 040103 .....	E15	SAE 060401 BA .....	A9	SAE 120115 .....	H14
SAE 010110 .....	E6	SAE 040110 .....	E15	SAE 060424 BA .....	A10	SAE 120201 BA .....	H15
SAE 010111 .....	E6	SAE 040201 .....	E17	SAE 060425 BA .....	A11	SAE 120202 BA .....	H15
SAE 010112 .....	E13	SAE 040202 .....	E16	SAE 100101 BA .....	H6	SAE 120203 BA .....	H16
SAE 010113 .....	E5	SAE 040203 .....	E17	SAE 100102 BA .....	H8	SAE 120302 BA .....	H16
SAE 010114 .....	E5	SAE 040302 .....	E17	SAE 100103 BA .....	H7	SAE 120401 BA .....	H15
SAE 010165 .....	E5	SAE 040401 .....	E16	SAE 100110 .....	H6	SAE 120424 BA .....	H16
SAE 010166 .....	E5	SAE 040424 .....	E17	SAE 100115 .....	H6	SAE 120425 BA .....	H16
SAE 010167 .....	E5	SAE 040425 .....	E16	SAE 100201 BA .....	H9		
SAE 010201 .....	E11	SAE 040427 .....	E17	SAE 100202 BA .....	H9		
SAE 010202 .....	E10	SAE 060101 BA .....	A7	SAE 100203 BA .....	H9		

## 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 Brass Products Division's fittings have been listed by the Underwriter's Laboratory. The listings fall under 1 of 5 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. Fittings requiring gas listing must be stamped with the identification symbol **G** and our trademark.

### FLAMMABLE LIQUID APPLICATION MARINE APPLICATION

All cartons containing U.L. approved fittings for flammable liquid and marine applications will be labeled with the appropriate U.L. listing at no extra charge. The fitting will not be stamped with the UL or **G** symbols.

### GAS – MANUFACTURED, NATURAL AND L.P. (LIQUEFIED PETROLEUM) REFRIGERATION APPLICATION

U.L. listed fittings for gas or refrigeration application will be furnished only when specified on purchase order. Fittings will be stamped with the **G** symbol and cartons will be labeled with the appropriate U.L. listing.

### ORDERING INSTRUCTIONS FOR U.L. LISTINGS

The Brass Division labels all cartons with the appropriate U.L. listing. The gas identification symbol **G** will be stamped on each fitting only when the listing is required and specified on the purchase order.

## List of U.L. Fittings

### No **G** Marking Required

FITTINGS, FLAMMABLE LIQUID				
1F	60C	151F	176C	264CA
2GF	61C	155F	176CA	265C
3GF	61CA	159F	177C	265CA
14FL	61CL	164C	177CA	269C
14FSV	62C	164CA	244F	269CA
14FSX	62CA	165C	244IFHD	270C
41FL	62CABH	165CA	245IFHD	270CA
41FS	62CBH	168C	249F	639C
41FX	66C	168CA	249IF	639CA
41IF	66CA	169C	249IFHD	639F
41IFS	68C	169CA	250IFHD	640F
42F	68CA	170C	251IFHD	660FHD
42IFHD	144F	170CA	252IFHD	661FHD
46F	145F	171C	256IF	664FHD
46IFHD	147F	171CA	259IFHD	
48F	149F	172C	264C	
48IFHD	150F	172CA		
FITTINGS, FUEL EQUIPMENT, MARINE				
2GF	46F	147F	155F	660FHD
3GF	48F	149F	159F	661FHD
14FL	144F	150F	639F	664FHD
42F	145F	151F	640F	
SHUT-OFF VALVES, FLAMMABLE LIQUIDS, LP GAS AND COMPRESS GAS				
XV520P-4	XV520P-32			
XV520P-6	XV520P-40			
XV520P-8	XV520P-48			
XV520P-12	XV500P-20			
XV520P-16	XV500P-24			
XV520P-20	XV500P-32			
XV520P-24				

### **G** Marking Required

FITTINGS, REFRIGERATION		
1F	48F	159F
2GF	144F	244F
3GF	145F	249F
14FL	147F	639F
14FS	149F	640F
14FSV	150F	660FHD
42F	151F	661FHD
46F	155F	664FHD
FITTINGS, GAS		
1F	48F	249F
2GF	48IFHD	249IFHD
3GF	144F	250IFHD
14FL	145F	251IFHD
14FS	147F	252IFHD
14FSV	149F	255IFHD
14FSX	150F	259IFHD
41IF	151F	639F
41IFS	155F	640F
42F	159F	660FHD
42IFHD	244F	661FHD
46F	244IFHD	664FHD
46IFHD	245IFHD	



## Flow Curves

87 psi



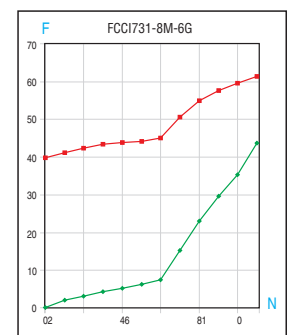
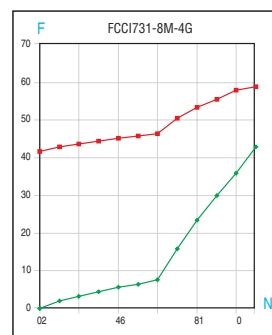
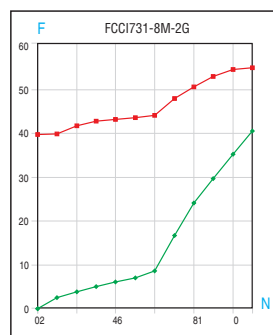
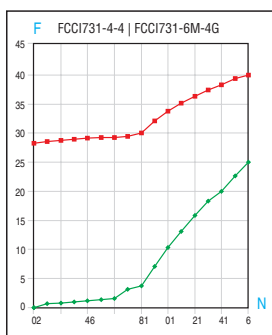
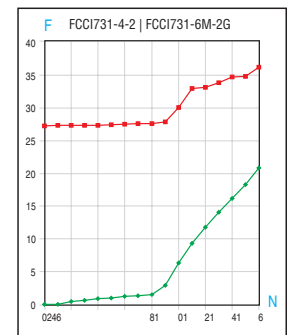
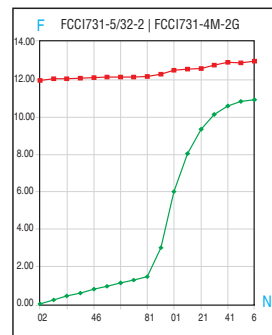
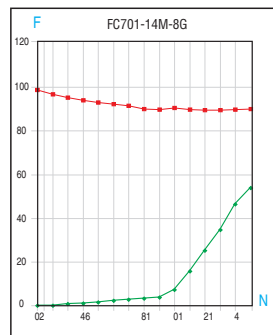
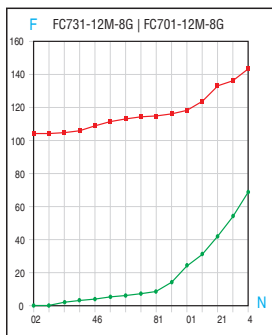
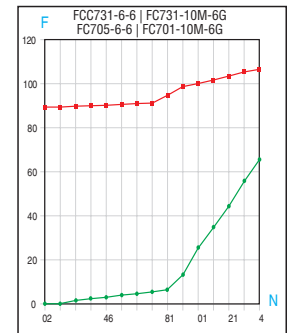
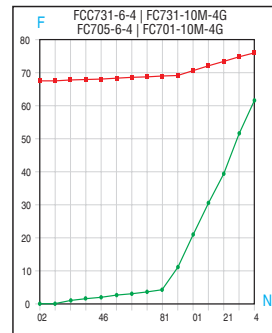
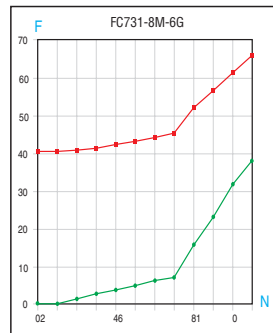
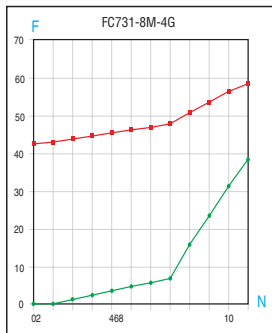
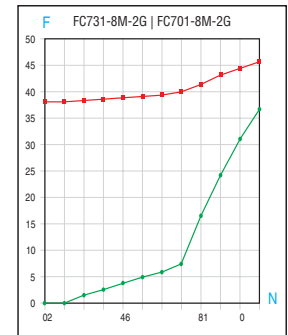
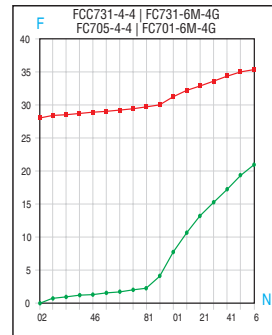
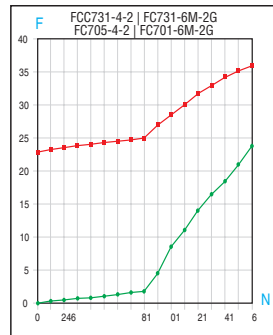
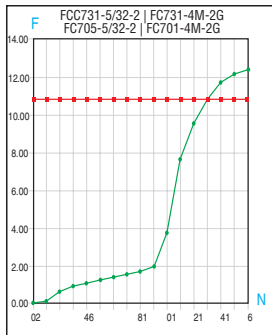
Return Direction



Controlled Direction

N = Number of Turns

F = Flow in SCFM



N

## Flow Curves

87 psi



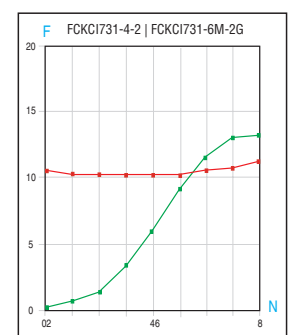
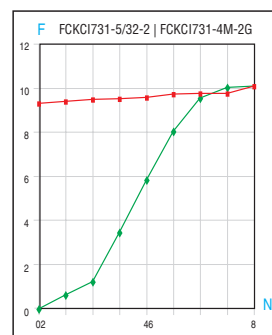
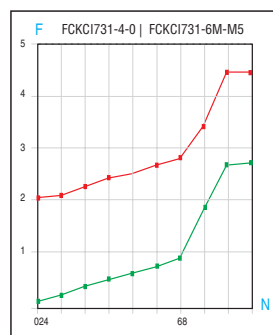
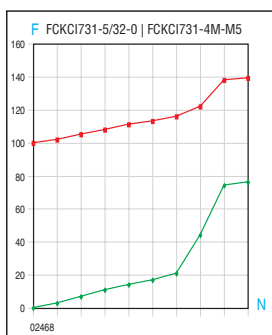
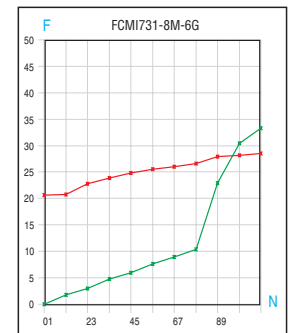
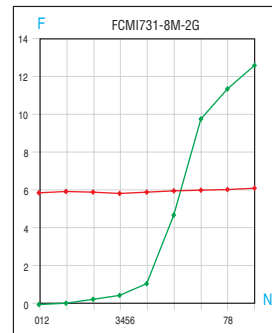
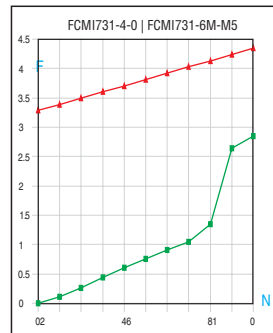
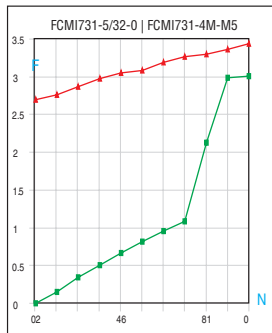
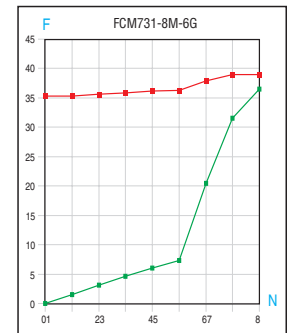
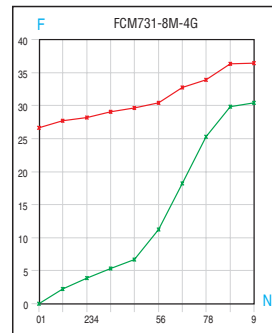
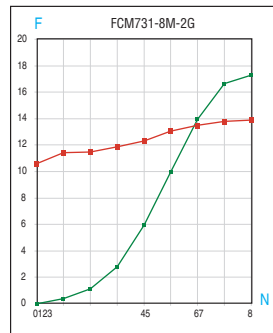
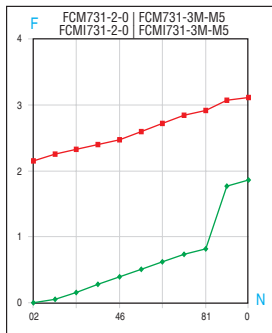
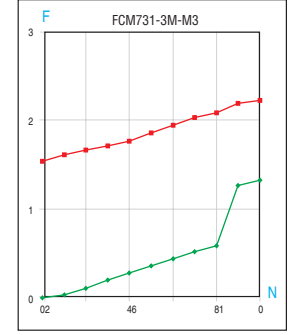
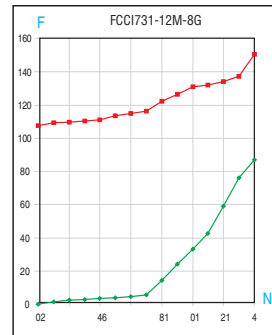
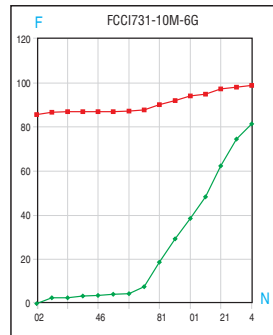
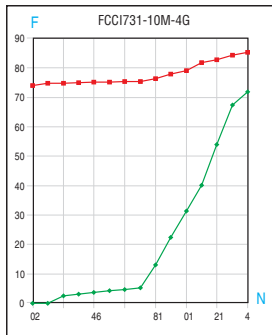
Return Direction



Controlled Direction

N = Number of Turns

F = Flow in SCFM



N

## Flow Curves

87 psi



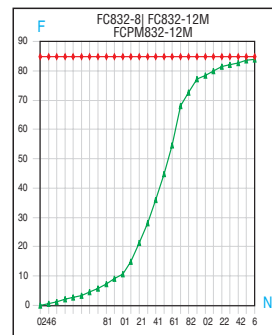
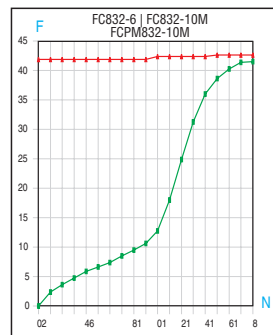
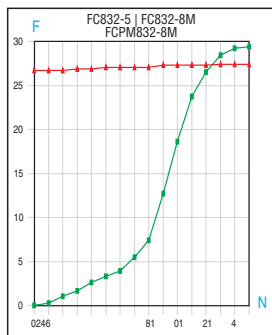
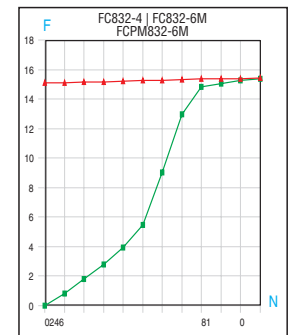
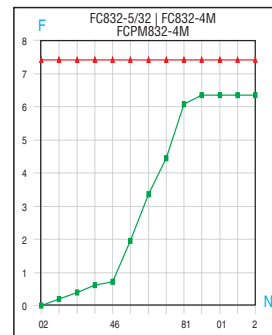
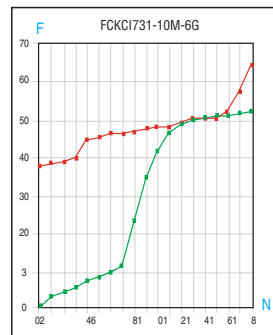
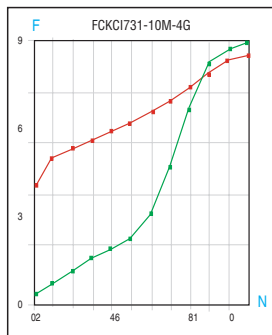
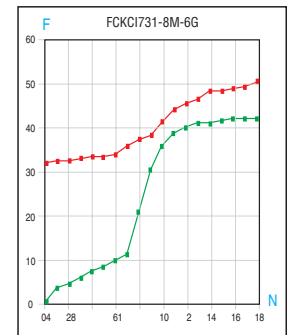
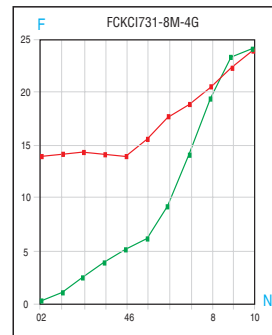
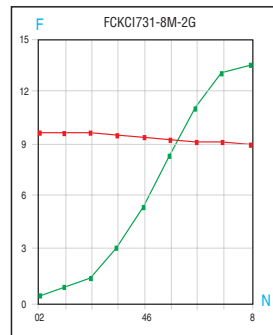
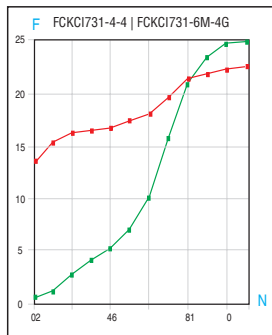
Return Direction



Controlled Direction

N = Number of Turns

F = Flow in SCFM



N

## Flow Curves

87 psi



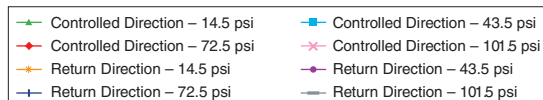
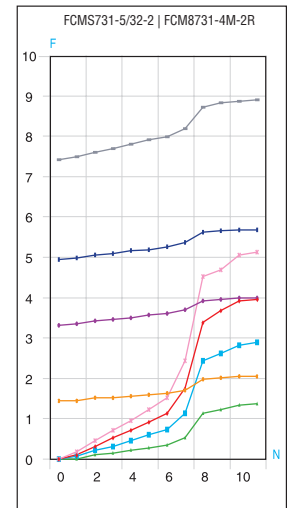
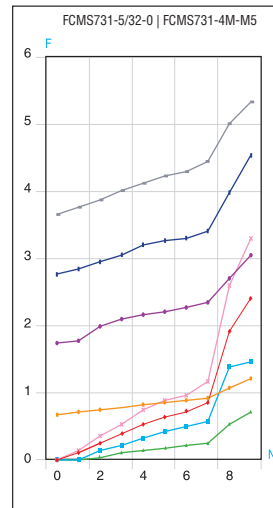
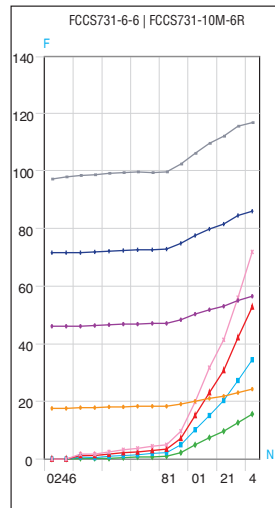
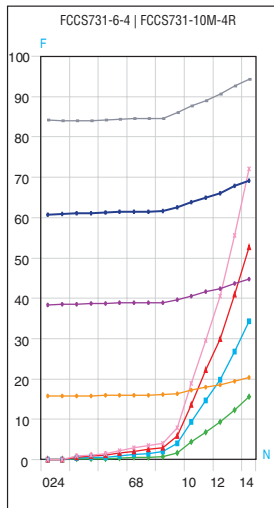
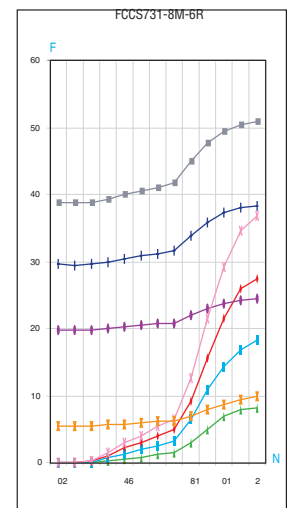
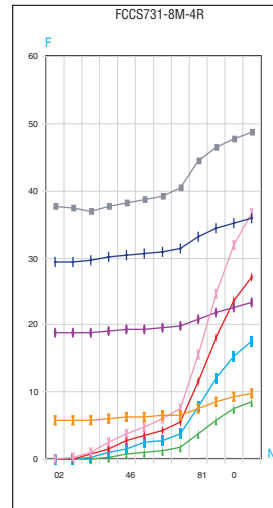
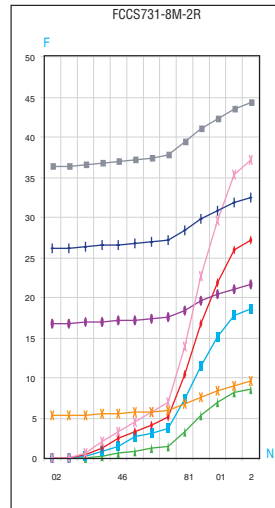
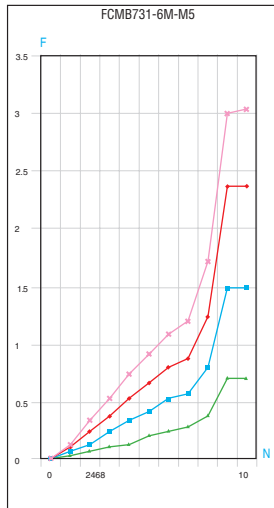
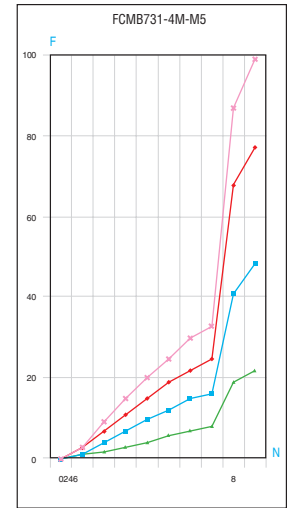
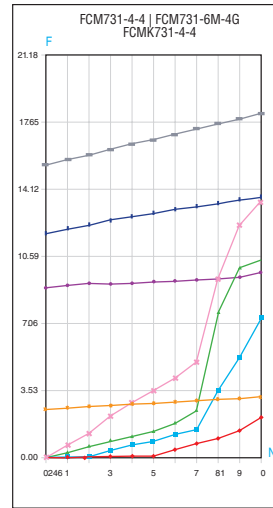
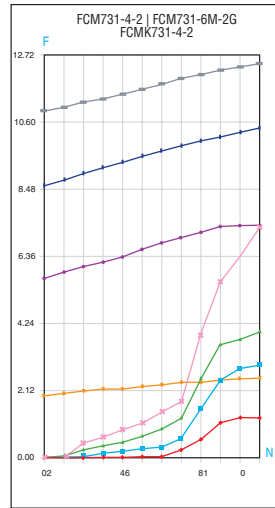
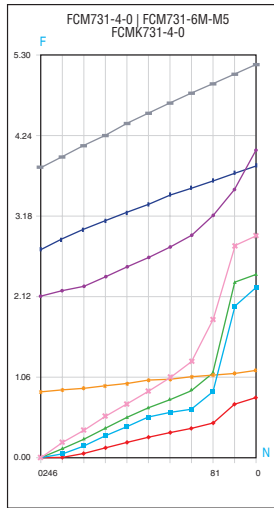
Return Direction



Controlled Direction

N = Number of Turns

F = Flow in SCFM



N

# Flow Curves

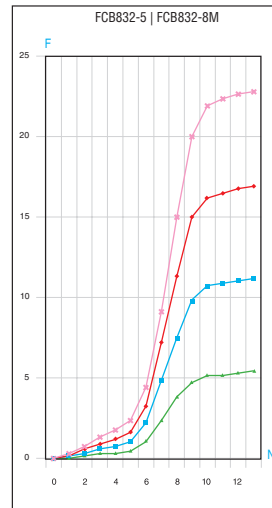
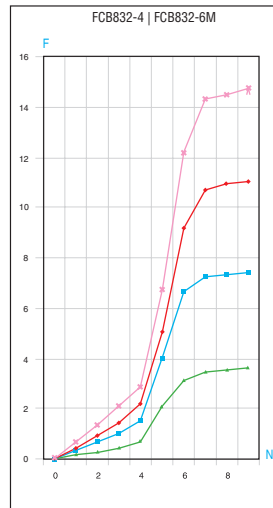
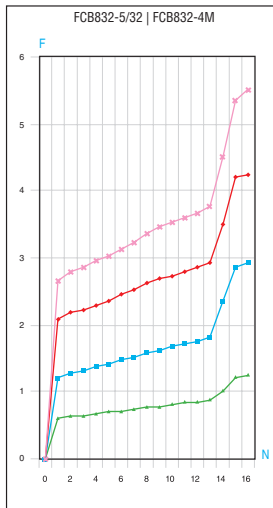
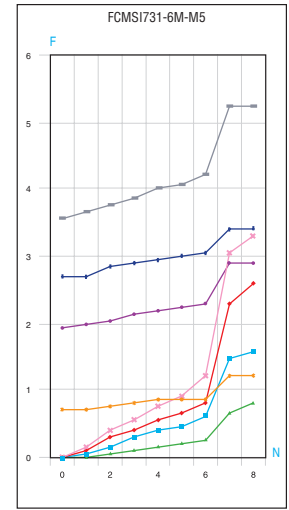
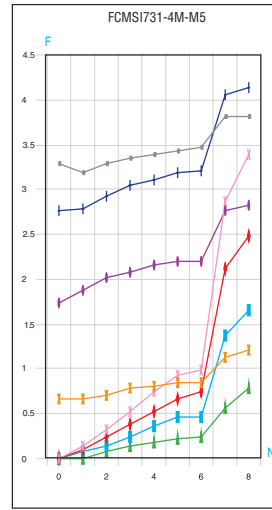
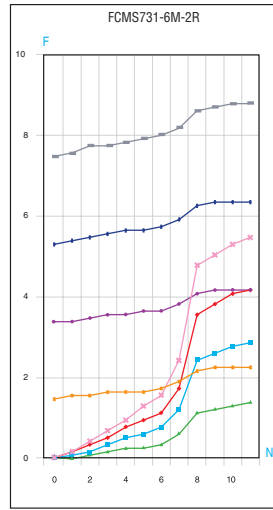
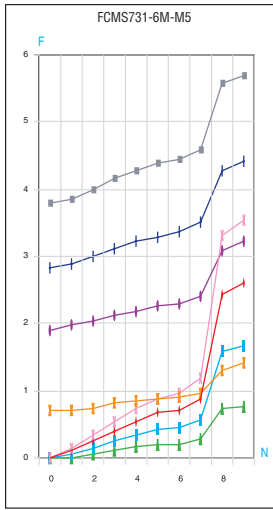
87 psi

Return Direction

Controlled Direction

N = Number of Turns

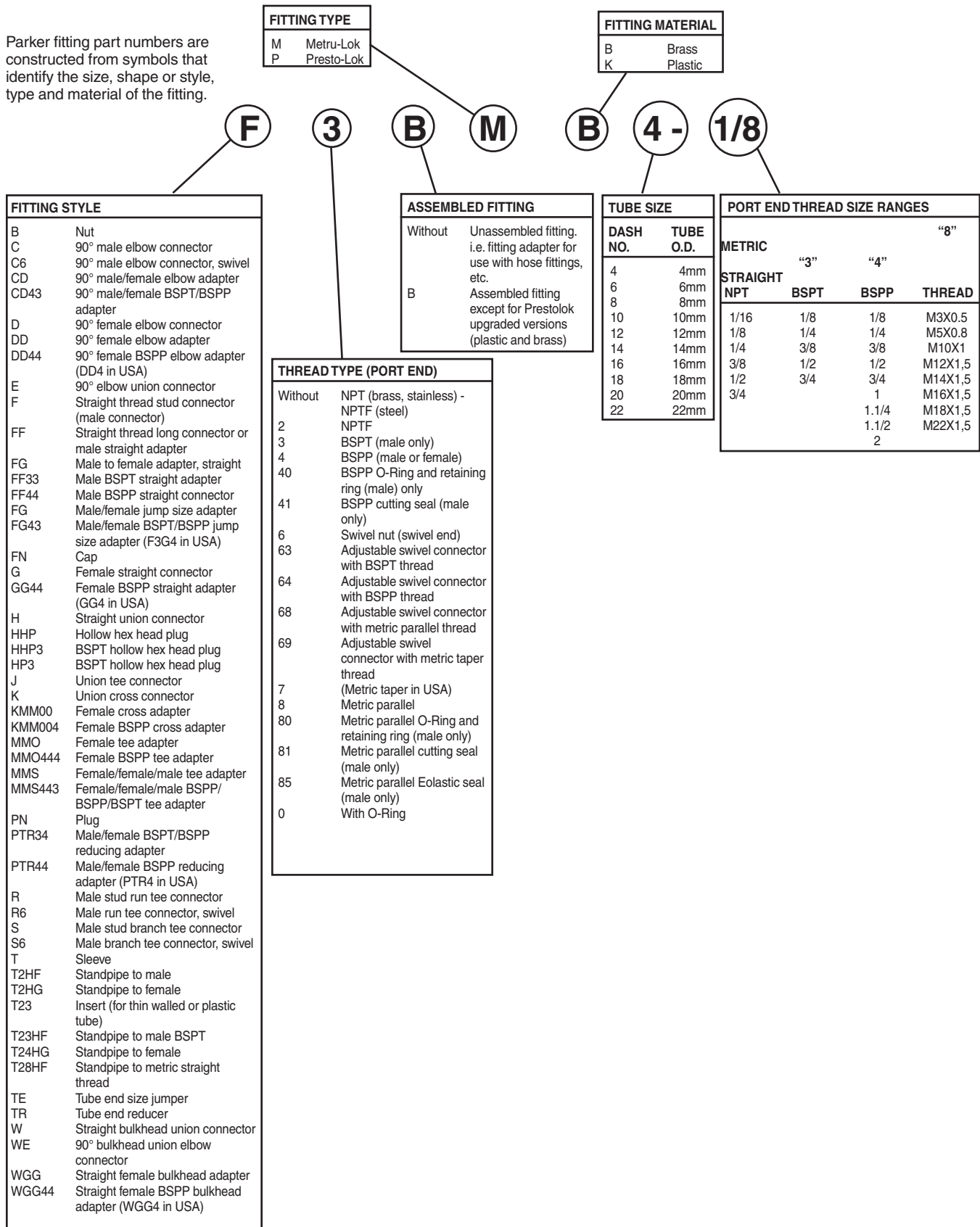
F = Flow in SCFM



N

# Metric Fitting Nomenclature

Parker fitting part numbers are constructed from symbols that identify the size, shape or style, type and material of the fitting.

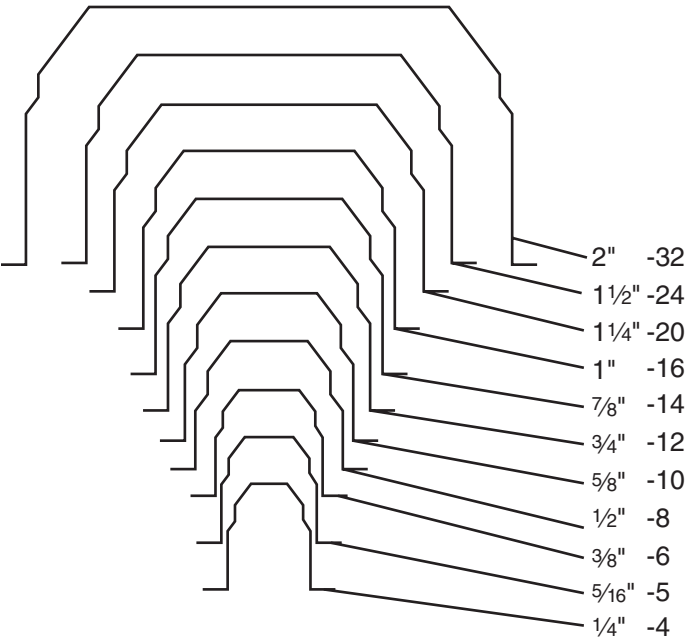




Flare and Thread Profiles

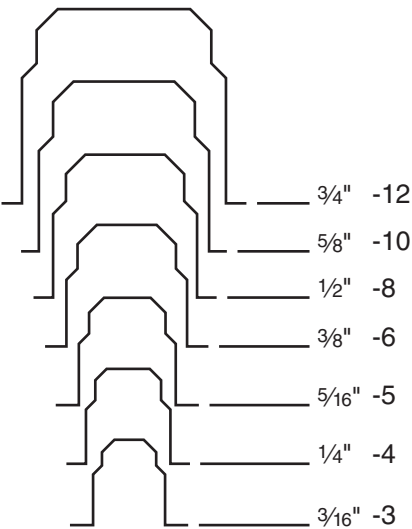
SAE (JIC) 37° Flare Nose Sizes

Actual Size

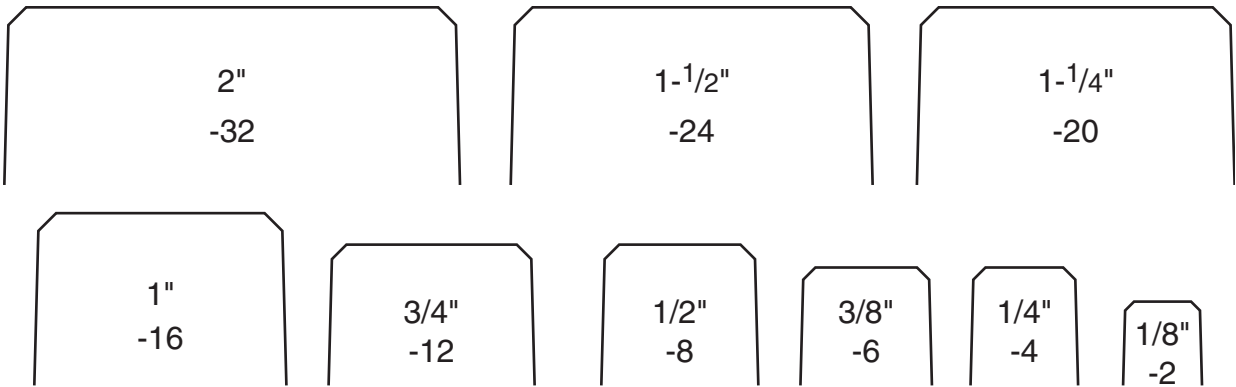


SAE 45° Flare Nose Sizes

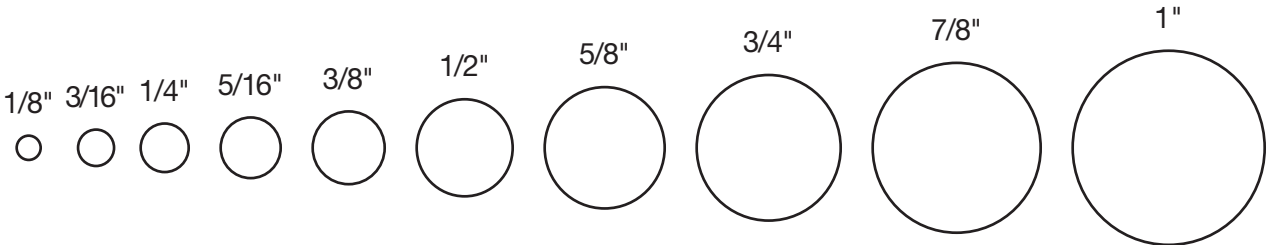
Actual Size



Male Pipe Thread Sizes



Actual Outside Diameters of Tubing



## Pressure Conversions

Kilopascals (KPa)	Megapascals (MPa)	Bar (bar)	Kilograms Per Square Centimeter (Kgf/cm <sup>2</sup> )	Pounds Per Square Inch(psi)	Pounds Per Square Inch(psi)	Kilopascals (KPa)	Megapascals (MPa)	Bar (bar)	Kilograms Per Square Centimeter (Kgf/cm <sup>2</sup> )
100	1.0	1	1.02	14.50	10	68.90	0.07	0.70	0.70
200	0.2	2	2.04	29.00	20	137.90	0.14	1.41	1.41
300	0.3	3	3.06	43.50	30	206.80	0.21	2.10	2.11
400	0.4	4	4.08	58.00	40	275.80	0.28	2.80	2.81
500	0.5	5	5.10	72.50	50	344.70	0.34	3.40	3.52
600	0.6	6	6.12	87.00	60	413.70	0.41	4.10	4.22
700	0.7	7	7.14	101.50	70	482.60	0.48	4.80	4.92
800	0.8	8	8.16	116.00	80	551.60	0.55	5.50	5.63
900	0.9	9	9.18	130.50	90	620.50	0.62	6.20	6.33
1000	1.0	10	10.20	145.00	100	689.00	0.70	6.90	7.00
2000	2.0	20	20.40	290.10	200	1379.00	1.40	13.80	14.10
3000	3.0	30	30.60	435.10	300	2068.00	2.10	20.70	21.10
4000	4.0	40	40.80	580.20	400	2758.00	2.80	27.60	28.10
5000	5.0	50	51.00	725.20	500	3447.00	3.40	34.50	35.20
6000	6.0	60	61.20	870.20	600	4137.00	4.10	41.40	42.20
7000	7.0	70	71.40	1015.30	700	4826.00	4.80	48.30	49.20
8000	8.0	80	81.60	1160.30	800	5516.00	5.50	55.20	56.30
9000	9.0	90	91.80	1305.30	900	6205.00	6.20	62.10	63.30
10000	10.0	100	102.00	1450.00	1000	6895.00	6.90	68.90	70.30
20000	20.0	200	204.00	2901.00	2000	13790.00	13.80	137.90	140.70
30000	30.0	300	306.00	4351.00	3000	20684.00	20.70	206.80	211.00
40000	40.0	400	408.00	5802.00	4000	27579.00	27.60	275.80	281.30
50000	50.0	500	510.00	7252.00	5000	34474.00	34.50	344.70	351.60
60000	60.0	600	612.00	8702.00	6000	41369.00	41.40	413.70	421.90
70000	70.0	700	714.00	10153.00	7000	48263.00	48.30	482.60	492.30
80000	80.0	800	816.00	11603.00	8000	55158.00	55.20	551.60	562.60
90000	90.0	900	918.00	13053.00	9000	62053.00	62.10	620.50	632.90
100000	100.0	1000	1020.00	14504.00	10000	68948.00	68.90	689.00	703.00
200000	100.0	2000	2040.00	29008.00	20000	137895.00	137.90	1379.00	1406.00
300000	300.0	3000	3060.00	43511.00	30000	206843.00	206.80	2068.00	2110.00
					40000	275790.00	275.80	2758.00	2813.00

## 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		mm	Inches		mm	Inches		mm	Inches	
	Fraction	Decimal		Fraction	Decimal		Fraction	Decimal		Fraction	Decimal
0.3969	1/64	0.0156	6.7469	17/64	0.2656	13.0969	33/64	0.5156	19.4469	49/64	0.7656
0.7938	1/32	0.0312	7.1438	9/32	0.2812	13.4938	17/32	0.5312	19.8438	25/32	0.7812
1.1906	3/64	0.0468	7.5406	19/64	0.2968	13.8906	35/61	0.5468	20.2406	51/64	0.7968
1.5875	1/16	0.0625	7.9375	5/16	0.3125	14.2875	9/16	0.5625	20.2375	13/16	0.8125
1.9844	5/64	0.0781	8.3344	21/64	0.3281	14.6844	37/64	0.5781	21.0344	53/64	0.8281
2.3812	3/32	0.0937	8.7312	11/32	0.3437	15.0812	19/32	0.5937	21.4312	27/32	0.8437
2.7781	7/64	0.1093	9.1281	23/64	0.3593	14.4781	39/64	0.6093	21.8281	55/64	0.8593
3.1750	1/8	0.1250	9.5250	3/8	0.3750	15.8750	5/8	0.6250	22.2250	7/8	0.8750
3.5719	9/64	0.1406	9.9219	25/64	0.3906	16.2719	41/64	0.6406	22.6219	57/64	0.8906
3.9688	5/32	0.1562	10.3188	13/32	0.4062	16.6688	21/32	0.6562	23.0188	29/32	0.9062
4.3656	11/64	0.1718	10.7156	27/64	0.4218	17.0656	43/64	0.6718	23.4156	59/64	0.9218
4.7625	3/16	0.1875	11.1125	7/16	0.4375	17.4625	11/16	0.6875	23.8125	15/16	0.9375
5.1594	13/64	0.2031	11.5094	29/64	0.4531	17.8594	45/64	0.7031	24.2094	61/64	0.9531
5.5562	7/32	0.2187	11.9062	15/32	0.4687	18.2562	23/32	0.7187	24.6062	31/32	0.9687
5.9531	15/64	0.2343	12.3031	31/64	0.4843	18.6531	47/64	0.7343	25.0031	63/64	0.9843
6.3500	1/4	0.2500	12.7000	1/2	0.5000	19.0500	3/4	0.7500	25.4000	1	1.0000

## 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		
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		

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
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	E	
AMMONIUM HYDROXIDE CONC.	U	P	G	P	E	E	E	E	E	
AMMONIUM MONOSULFATE			E				E	E		
AMMONIUM NITRATE	U	U	E	E	E	E	E	E	E	U
AMMONIUM OXALATE 5%			E				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 NAPHTHALENE				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
AROCOLOR 1248	G	U	U	U	U	G	E			
AROCOLOR 1254	G	U	U	U	U	G	E			
AROCOLOR 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	
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	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		

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
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		
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	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	U	G	G	G	G	E	
CARBONATED WATER	G	G	E	E	E	E	E	E	E	
CASEIN	P		G	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		E	E		
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		
CHLORPHENOL				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		
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	

E-EXCELLENT

G-GOOD

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U-UNSATISFACTORY



FLUID	BRASS	CARBON STEEL	316 S.S.	BUNA N (NITRILE)	NEOPRENE	EPR	FLUORO-CARBON	PTFE	ACETAL	NYLON
COCA-COLA SYRUP			E	G	G		G	E		
COCONUT OIL	G	P	E	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, WATER EMULSIONS	E	G	E	E	G		E	E	E	
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			
DIACETONE ALCOHOL	E	E	E	U	P			E		
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		
DIOCTYL 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	E			
ETHYL SILICATE	G		G	G	P	G	G	E		
ETHYL SULFATE			G	G	G	P	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
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	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
FERROUS AMMONIUM CITRATE			G				E	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
FLUORINE, DRY	U		U	U					E	
FLUOROSILICIC ACID	G	U	G	P	P	P	P	E		U
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	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	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	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	E	G	U	E			
GULF-FR FLUID G			E	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		
HYDRAULIC OIL, PETROLEUM BASE	G	E	E	E	G	U	E	E	E	
HYDRAZINE	U	U	G	P	P	G	U	E		
HYDRIGEN 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	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	

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
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		
ODOFORM	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		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		
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	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	

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
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			
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			
NAPHTHA	G	G	G	G	P		E	E	E	
NAPHTHALENE	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		
NITROUS GASES	U	G	E					E		
NITROUS OXIDE	G	G	G	G	G		E	E		
NOCOTINIC ACID	E	G	E	U	U	U	G	E		
OCTYL ALCOHOL	E	E	E	G	G		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	
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	E	
OLEUM SPIRITS	U		G	P	U	U	E	E	E	
OLIVE OIL	P	G	E	E	G	G	E	E	E	
ORTHO-DICHLOROBENZENE	G	G	G	U	U	U	E	E	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		

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
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		
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			G	E		E
POTASSIUM BICHROMATE			E	G	G		E	E	G	
POTASSIUM BISULFATE			E	G				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 FERROCYNIDE	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		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	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	

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
PROPANE GAS	E	G	G	E	G	U	E	E	E	
PROPYL ACETATE	U	E	E	U	U	G	U			
PROPYL ALCOHOL	E	G	E	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			
PYROGALIC ACID	G	G	G	E	E		E	E	E	
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	E	E	E	G	E	E	E	
SALICYLIC ACID	P	U	G	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 IRUS 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
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		

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 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	
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		
TRICHLOROETHYLENE	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			E	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		E	

E-EXCELLENT

G-GOOD

P-POOR

U-UNSATISFACTORY

U-UNSATISFACTORY

1F.....E5	48IFHD.....E12	62PBH.....A25	68PLCK.....C23
2GF.....E5	50GHSV.....F16	62PCA.....A11, A25	68PLCKI.....C23
3GF.....E5	53GH.....F16	62PCABH.....A11, A25	68PLPR.....B9
4CB-SR.....M2	54GH.....F16	62PLP.....B7	68PLPSP.....B23
9-DC.....M3	55GH.....F16	62PLPBH.....B7	68PLP-X-0.....B8
14FL.....E5	56PSG.....A24	62PMT.....I5	68PMT.....I6
14FS.....E5	56RBSG.....H14	62PMTBH.....I5	68PMTBH.....I6
14FSV.....E5	59CA.....A11	62PMTBHR.....I5	68PMT-X-M.....I6
14FSX.....E5	59HD.....A33	62PTBH.....A25	68RB.....H14
16-CB.....M2	59P.....A24	62PW.....B38	68RBSG.....H14
18-DC.....M3	60AB.....H11	62PWBH.....B38	68TF.....H9
20.....G4	60C.....A6	62RB.....H14	68VL.....H17
22.....G4	60NTA.....H5	62TF.....H9	69GH.....F16
22BH.....G4	60P.....A24	62VL.....H17	70GH.....F16
22CA.....G4	60PB.....A24	63NTA.....H5	71GH.....F16
22CABH.....G4	60PT.....A6	63PLP.....B33	75GH.....F16
24B-CABINET.....M3	60RB.....H14	63PT.....A7, A11, A25	76RB.....H14
24-CB.....M2	60TF.....H9	66AB.....H11	78GH.....F16
24M.....J6	60VL.....H17	66BJB.....B27	79GH.....F16
24PLP.....B30	60VLV.....H17	66C.....A7	80GH.....F16
24PLPD.....B31	61AB.....H11	66CA.....A12	81GH.....F16
26.....G4	61C.....A6	66HD.....A31	82GH.....F16
27.....G4	61CA.....A11	66NBH.....H5	83GH.....F16
28.....G4, G5	61CL.....A6	66NTA.....H6	84GH.....F16
32PLCK.....C22	61HD.....A31	66P.....A25	88AC.....E16
32PLP.....B28	61NTA.....H5	66PLP.....B8	88GH.....F16
32PLPBH.....B30	61P.....A24	66PLPBH.....B7	90GH.....F16
32PLPBHP.....B36	61PB.....A24	66PMT.....I5	93-FB-BPD.....L5
32PLPDJ.....B27	61PN.....A24	66PMTBH.....I6	94GH.....F16
32PLPDJB.....B26	61PSGN.....A24	66PW.....B38	95GH.....F17
32PLPDRC.....B35	61RB.....H14	66PWBH.....B38	96GH.....F17
32PLPRC.....B35	61RBSG.....H14	66RBSV.....H14	97HC.....G8
32PLPSP.....B34	61TF.....H9	66VL.....H17	97P.....A26
32PTC.....I11	61VL.....H17	67PLP.....B34	98GH.....F17
40B-CABINET.....M4	62AB.....H11	67RBSG.....H14	98GHSV.....F17
41FL.....E6	62ABH.....H11	68BJB.....B26	99GH.....F17
41FS.....E6	62ANBH.....H5	68BJBD.....B27	99GHSV.....F17
41FX.....E6	62C.....A6	68BJBT.....B27	101GHSV.....F17
41IF.....E12	62CA.....A11	68C.....A7	102-F-XX-BPD.....L4
42F.....E6	62CABH.....A11	68CA.....A12	112.....F12
42IFHD.....E12	62CBH.....A7	68HB.....G8	122HBL.....G8
43F.....E6	62HD.....A31	68HB-X-MI.....F14	125HB.....G8
46F.....E7	62HDBH.....A31	68HB-X-MIX.....G8	125HBL.....G8
46IFHD.....E12	62NBH.....H5	68HD.....A32	125HBLSV.....G9
48F.....E7	62NFBH.....H5	68NTA-X-MI.....F14	126HBL.....G9
48F-X-MI.....F14	62NTA.....H5	68NTA-X-MIX.....H6	127HB.....G9
48F-X-MIX.....E7	62P.....A24, A25	68P.....A26	128HBLSV.....G9

129HB .....	G9	169VL .....	H18	212P .....	F5	269CA .....	A13
139HB .....	G10	170C .....	A9	213P .....	F6	269HB .....	G11
144F .....	E8	170CA .....	A13	215PN .....	F6	269P .....	A28
145F .....	E8	170HD .....	A32	215PNL .....	F6	269PMT .....	I7
146HBLFSV .....	G10	170P .....	A29	216P .....	F6	269TF .....	H9
147F .....	E8	170PMT .....	I8	218B-BPD .....	L3	270AB .....	H12
149F .....	E8	170PMTNS .....	I8	218P .....	F6	270C .....	A9
149F-X-MI .....	F14	170VL .....	H18	219P .....	F6	270CA .....	A13
149F-X-MIX .....	E9	171C .....	A9	220 .....	G5	270NTA .....	H7
150F .....	E9	171CA .....	A13	220P .....	F7	271 .....	H13
151F .....	E9	171HB .....	G10	222P .....	F7	279HB .....	G11
155F .....	E9	171HD .....	A32	222P-X-MI .....	F14	322PLPSP .....	B35
159F .....	E9	171P .....	A29	222P-X-MIX .....	F11	347PLP .....	B31
159F-X-MI .....	F14	171PMT .....	I8	224 .....	G5	362PLP .....	B29
159F-X-MIX .....	E10	171PMTNS .....	I8	225 .....	G5	362PLPD .....	B30
164C .....	A8	171VL .....	H18	226-BPD .....	L5	362PLPDSP .....	B33
164CA .....	A12	172C .....	A9	226RB-BPD .....	L5	362PLPSP .....	B33
164HD .....	A31	172CA .....	A13	228 .....	G5	362PTC .....	I11
164P .....	A28	172HD .....	A32	229 .....	G5	364PLP .....	B29
164PLP .....	B10	172P .....	A29	230 .....	G6	364PTC .....	I11
164PMT .....	I6	172PMT .....	I8	231 .....	G6	365PLP .....	B28, B29
164PW .....	B38	172PMTNS .....	I8	232 .....	G6	365PLPBH .....	B30
164VL .....	H18	172VL .....	H18	233 .....	G6	365PTC .....	I11
165C .....	A8	174-F-BPD .....	L3	237 .....	G6	367-FH-BPD .....	L4
165CA .....	A12	176C .....	A9	238 .....	G6	368-FH-BPD .....	L4
165HD .....	A31	176CA .....	A14	244F .....	E8	368PLP .....	B24
165PLP .....	B10	177C .....	A9	244IFHD .....	E12	368PLPD .....	B25
165PMT .....	I6	177CA .....	A14	245IFHD .....	E13	368PTC .....	I11
165PMTBH .....	I6	177HD .....	A33	249F .....	E8	369PLP .....	B19
165PW .....	B38	177P .....	A29	249IF .....	E13	369PLPBJ .....	B26
166FSV .....	E10	179C .....	A9	250IFHD .....	E13	369PLPBJB .....	B26
168C .....	A8	179CA .....	A14	251IFHD .....	E13	369PLPSP .....	B31
168CA .....	A13	179HB .....	G10	252IFHD .....	E13	369PLPSPX .....	B32
169C .....	A8	179HB-X-MI .....	F14, G11	255IFHD .....	E13	369PLPTJ .....	B27
169CA .....	A13	179HD .....	A32	255M .....	J5	369PLPTJB .....	B26
169HB-X-MI .....	F14	179PMT .....	I9	256F .....	E10	369PLPX .....	B20
169HB-X-MIX .....	G10	179PMTNS .....	I9	259F .....	E9	369PLPXSP .....	B32
169HD .....	A32	179PMTR .....	I9	259IFHD .....	E13	369PTC .....	I11
169LP .....	A28	179VL .....	H18	264AB .....	H11	369PTCSP .....	I12
169P .....	A28	189PMTR .....	I9	264C .....	A8	370PLP .....	B25
169PMT .....	I7	207ACBH .....	F5, H12	264CA .....	A12	370PTC .....	I11
169PMTBH .....	I7	207P .....	F5	264NTA .....	H6	371PLP .....	B23
169PMTL .....	I7	208-FSS-BPD .....	L5	265AB .....	H11	371PLPSP .....	B32, B33
169PMTNS .....	I7	208P .....	F5	265C .....	A8	371PTC .....	I12
169PMTNS-X-M .....	I7	209P .....	F5	265CA .....	A12	372PLP .....	B22
169PMTR .....	I7	210P .....	F5	265NTA .....	H6	372PLPSP .....	B32
169PS .....	A28	211P .....	F5	269C .....	A8	372PTC .....	I12

376PLPBJ .....B27	1163-60-BPD.....F17	BMB.....A21	EU .....D5, D16
377PLP .....B22	1163-61-BPD.....F17	BTMB .....A21	EUB .....D20
377PTC .....I12	1200P .....F7	BU .....D8, D17	F2PMTB .....I14
379PLP.....B20	1201P .....F8	BVG4PLOCK.....K42	F3BMB .....A16
379PLPSP.....B32	1202P .....F7	BVGC .....K38	F3HF .....F10
379PTC .....I12	1203P .....F7	BVGL .....K40	F3HG .....F10
391P .....A26	1204P .....F7	BVGTC .....K38	F3PB .....B9, B39
391PSS .....A26	1295HB .....G9	BVGTL .....K40	F3PMTB .....I14
392P .....A26	1495F .....E9	C2PMTB.....I15	F4BMB .....A16
392PSS .....A26	1595F .....E10	C3BMB.....A18	F4PB .....B9
393P .....A26	1695HB .....G10	C3PB .....B13	F8BMB .....A16
393PD .....A27	1695VLV .....H18	C3PMTB.....I15	F8PB .....B10
393PDSS.....A27	1725HB .....G10	C6PB .....B12	F8UPMTB.....I14
393PSS .....A26	1795HB .....G10	C8BMB.....A18	F23PB .....B10
394P .....A27	2200P .....F7	C8UPMTB .....I15	F28PB .....B10
394PD .....A27	2200PDE.....F8	C63LPB .....B13	FA .....D7
394PDSS.....A27	2201P .....F8	C63PB .....B12, B40	FBMB .....A16
394PSS .....A27	2202P .....F7	C64PB .....B12	FC.....D7, D17
398P .....A27	2203P .....F7	C64SPB.....B12	FC601.....C25
398PD .....A28	2205P .....F8	C68PB .....B12	FC602.....C25
398PDSS.....A28	2214P .....F8	C68SPB.....B13	FC608.....C25
398PSS .....A27	2224P .....F8	CAP .....D8	FC701.....C20
411FF .....E12	2225P .....F8	CBMB .....A17	FC702.....C20
411FS.....E12	2491FHD .....E13	CD43 .....F10	FC705.....C20
485F .....E7	ACT-P-X-KIT .....K36	COPPER TUBING.....M4	FC708.....C20
525-F-BPD .....L5	ACT-SS-X-KIT .....K36	COR4BMB.....A19	FC731.....C5
639C .....A9	ADJ-CB .....M2	COR4PB.....B15	FC832.....C17
639CA .....A14	AQRT .....D14	COR4PBD.....B16	FC836.....C18
639F .....E10	AVC1 .....E15	COR8PB.....B15	FC908.....C27
639PLP.....B34, B35	AVCS4D-4 .....E16	COR8PBD.....B16	FCB832 .....C17
639PM .....I9	AVE1 .....E15	CORPB.....B15	FCC731 .....C5
639PMT .....I9	AVT2 .....E15	CORPBD.....B15	FCCB731.....C6
640F .....E10	AVT3.....E15	CR-001 .....E16	FCCI731 .....C5
640QSF .....E16	AVTS .....E15	CU .....D7	FCCS731.....C12, C13
640QSFCR.....E16	AVTS4 .....E16	DB .....B38	FCCSI731.....C12
660FHD .....E10	AVTS6 .....E16	DC601 .....K59	FCCSP731 .....C15
661FHD .....E10	AVTSL .....E15	DC602 .....K60	FCCSPI731 .....C15
664FHD .....E10	AVU1 .....E15	DC603 .....K60	FCI701.....C20
682C .....A9	AVU2 .....E15	DC604 .....K60	FCI702.....C20
682CA .....A14	AVU2BH .....E15	DC606 .....K60	FCIC908.....C27
682VL .....H18	AVUIFI .....E15	DC607 .....K60	FCK701C.....C7
685HB .....G8	AVUR3.....E16	DCR601.....K60	FCKC731.....C6
685VLV .....H17	AVUS.....E16	DD44 .....F10	FCKCB731 .....C7
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## This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.



## Parker Safety Guide for Selecting and Using Hose, Tubing, Fittings and Related Accessories

Parker Publication No. 4400-B.1

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**WARNING: Failure or improper selection or improper use of hose, tubing, fittings, assemblies 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.
- 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. Only Hose from Parker's Stratoflex Products Division is approved for in flight aerospace applications, and no other Hose can be used for such in flight applications.

### 1.0 GENERAL INSTRUCTIONS

- 1.1 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. All assemblies made with Hose are called "Hose Assemblies". All products commonly called "fittings" or "couplings" are called "Fittings". All related accessories (including crimping and swaging machines and tooling) are called "Related Accessories". 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.
- 1.2 Fail-Safe:** Hose, and Hose 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 or Hose Assembly or Fitting will not endanger persons or property.
- 1.3 Distribution:** Provide a copy of this safety guide to each person that is responsible for selecting or using Hose and Fitting products. Do not select or use Parker Hose or Fittings without thoroughly reading and understanding this safety guide as well as the specific Parker publications for the products considered or selected.
- 1.4 User Responsibility:** Due to the wide variety of operating conditions and applications for Hose and Fittings, Parker and its distributors do not represent or warrant that any particular Hose 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 Hose and Fitting.
  - Assuring that the user's requirements are met and that the application presents no health or safety hazards.
  - Providing all appropriate health and safety warnings on the equipment on which the Hose and Fittings are used.
  - Assuring compliance with all applicable government and industry standards.

- 1.5 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 product being considered or used, or call 1-800-CPARKER, or go to [www.parker.com](http://www.parker.com), for telephone numbers of the appropriate technical service department.

### 2.0 HOSE AND FITTING 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 Fitting and the Hose/Fitting interface to be sufficiently conductive to drain off static electricity. Extreme care must be exercised when selecting Hose and Fittings for these or any other applications in which electrical conductivity or nonconductivity is a factor.
- The electrical conductivity or nonconductivity of Hose 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 these 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 and Fittings that are selected are proper for the application. Do not use any Parker Hose or Fitting for any such application requiring nonconductive Hose, including but not limited to applications near high voltage electric lines, 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 and Fitting 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.
- Parker manufactures a special Hose for certain compressed natural gas ("CNG") applications where static electricity buildup may occur. Parker CNG Hose assemblies comply with AGA

Requirements 1-93, "Hoses for Natural Gas Vehicles and Fuel Dispensers". 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 at a maximum temperature of 180°F. Parker CNG Hose should not be used in confined spaces or unventilated areas or areas exceeding 180°F. Final assemblies must be tested for leaks. CNG Hose Assemblies should be tested on a monthly basis for conductivity per AGA 1-93.

- 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 selection must be made so that the published maximum recommended working pressure of the Hose is equal to or greater than the maximum system pressure. Surge pressures or peak transient pressures in the system must be below the published maximum working pressure for the Hose. 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. Temperatures below and above the recommended limit can degrade Hose to a point where a failure may occur and release fluid. 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 Assembly selection must assure compatibility of the Hose tube, cover, reinforcement, and Fittings 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 that is chemically compatible with a particular fluid must be assembled using Fittings and adapters containing likewise compatible seals.
- 2.6 Permeation:** Permeation (that is, seepage through the Hose) will occur from inside the Hose to outside when Hose 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 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 even though the fluid compatibility is acceptable without considering the potential hazardous effects that can result from permeation through the Hose Assembly.
- Permeation of moisture from outside the Hose to inside the Hose will also occur in Hose 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.
- 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).

- 2.9 Environment:** Care must be taken to insure that the Hose 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 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. 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.
- 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 establishing a proper Hose length, motion absorption, Hose length changes due to pressure, and Hose and machine tolerances and movement must be considered.
- 2.14 Specifications and Standards:** When selecting Hose and Fittings, government, industry, and Parker specifications and recommendations must be reviewed and followed as applicable.
- 2.15 Hose Cleanliness:** Hose components may vary in cleanliness levels. Care must be taken to insure that the Hose 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 require use of the same type of Hose as used with petroleum base fluids. Some such fluids require a special Hose, while a few fluids will not work with any Hose at all. See instructions 2.5 and 1.5. The wrong Hose 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 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.
- 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 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.
- 2.19 Atomic Radiation:** Atomic radiation affects all materials used in Hose assemblies. Since the long-term effects may be unknown, do not expose Hose assemblies to atomic radiation.
- 2.20 Aerospace Applications:** The only Hose 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 couplings with disconnect sleeves can unintentionally disconnect if they are dragged over obstructions or if the sleeve is bumped or moved enough to cause disconnect. Threaded couplings should be considered where there is a potential for accidental uncoupling.
- 3.0 HOSE AND FITTING 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. 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](http://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 Reusable/Permanent:** Do not reuse any field attachable (reusable) 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.
- 4.0 HOSE AND FITTING MAINTENANCE AND REPLACEMENT INSTRUCTIONS**
- 4.1** 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. A maintenance program must be established and followed by the user and, at minimum, must include instructions 4.2 through 4.7.
- 4.2 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.
- 4.3 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.
- 4.4 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.
- 4.5 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.
- 4.6 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.
- 4.7 Elastomeric seals:** Elastomeric seals will eventually age, harden, wear and deteriorate under thermal cycling and compression set. Elastomeric seals should be inspected and replaced.
- 4.8 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.
- 4.9 Compressed natural gas (CNG):** Parker CNG Hose Assemblies should be tested after installation and before use, and at least on a monthly basis per AGA 1-93 Section 4.2 "Visual Inspection Hose/Fitting". The recommended procedure is to pressurize the Hose and check for leaks and to visually inspect the Hose for damage.
- 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.

## OFFER OF SALE

The items described in this document and other documents and descriptions provided by Parker Hannifin Corporation, its subsidiaries and its authorized distributors ("Seller") are hereby offered for sale at prices to be established by Seller. This offer and its acceptance by any customer ("Buyer") shall be governed by all of the following Terms and Conditions. Buyer's order for any item described in its document, when communicated to Seller verbally, or in writing, shall constitute acceptance of this offer. All goods or work described will be referred to as "Products".

1. **Terms and Conditions.** Seller's willingness to offer Products, or accept an order for Products, to or from Buyer is expressly conditioned on Buyer's assent to these Terms and Conditions and to the terms and conditions found on-line at [www.parker.com/sale-terms/](http://www.parker.com/sale-terms/). Seller objects to any contrary or additional term or condition of Buyer's order or any other document issued by Buyer.

2. **Price Adjustments; Payments.** Prices stated on the reverse side or preceding pages of this document are valid for 30 days. After 30 days, Seller may change prices to reflect any increase in its costs resulting from state, federal or local legislation, price increases from its suppliers, or any change in the rate, charge, or classification of any carrier. The prices stated on the reverse or preceding pages of this document do not include any sales, use, or other taxes unless so stated specifically. Unless otherwise specified by Seller, all prices are F.O.B. Seller's facility, and payment is due 30 days from the date of invoice. After 30 days, Buyer shall pay interest on any unpaid invoices at the rate of 1.5% per month or the maximum allowable rate under applicable law.

3. **Delivery Dates; Title and Risk; Shipment.** All delivery dates are approximate and Seller shall not be responsible for any damages resulting from any delay. Regardless of the manner of shipment, title to any products and risk of loss or damage shall pass to Buyer upon tender to the carrier at Seller's facility (i.e., when it's on the truck, it's yours). Unless otherwise stated, Seller may exercise its judgment in choosing the carrier and means of delivery. No deferment of shipment at Buyers' request beyond the respective dates indicated will be made except on terms that will indemnify, defend and hold Seller harmless against all loss and additional expense. Buyer shall be responsible for any additional shipping charges incurred by Seller due to Buyer's changes in shipping, product specifications or in accordance with Section 13, herein.

4. **Warranty.** Seller warrants that the Products sold hereunder shall be free from defects in material or workmanship for a period of twelve months from the date of delivery to Buyer or 2,000 hours of normal use, whichever occurs first. This warranty is made only to Buyer and does not extend to anyone to whom Products are sold after purchased from Seller. The prices charged for Seller's products are based upon the exclusive limited warranty stated above, and upon the following disclaimer: **DISCLAIMER OF WARRANTY: THIS WARRANTY COMPRISES THE SOLE AND ENTIRE WARRANTY PERTAINING TO PRODUCTS PROVIDED HEREUNDER. SELLER DISCLAIMS ALL OTHER WARRANTIES, EXPRESS AND IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

5. **Claims; Commencement of Actions.** Buyer shall promptly inspect all Products upon delivery. No claims for shortages will be allowed unless reported to the Seller within 10 days of delivery. No other claims against Seller will be allowed unless asserted in writing within 60 days after delivery or, in the case of an alleged breach of warranty, within 30 days after the date within the war-

ranty period on which the defect is or should have been discovered by Buyer. Any action based upon breach of this agreement or upon any other claim arising out of this sale (other than an action by Seller for any amount due to Seller from Buyer) must be commenced within thirteen months from the date of tender of delivery by Seller or, for a cause of action based upon an alleged breach of warranty, within thirteen months from the date within the warranty period on which the defect is or should have been discovered by Buyer.

6. **LIMITATION OF LIABILITY.** UPON NOTIFICATION, SELLER WILL, AT ITS OPTION, REPAIR OR REPLACE A DEFECTIVE PRODUCT, OR REFUND THE PURCHASE PRICE. IN NO EVENT SHALL SELLER BE LIABLE TO BUYER FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR AS THE RESULT OF, THE SALE, DELIVERY, NON-DELIVERY, SERVICING, USE OR LOSS OF USE OF THE PRODUCTS OR ANY PART THEREOF, OR FOR ANY CHARGES OR EXPENSES OF ANY NATURE INCURRED WITHOUT SELLER'S WRITTEN CONSENT, EVEN IF SELLER HAS BEEN NEGLIGENT, WHETHER IN CONTRACT, TORT OR OTHER LEGAL THEORY. IN NO EVENT SHALL SELLER'S LIABILITY UNDER ANY CLAIM MADE BY BUYER EXCEED THE PURCHASE PRICE OF THE PRODUCTS.

7. **Contingencies.** Seller shall not be liable for any default or delay in performance if caused by circumstances beyond the reasonable control of Seller.

8. **User Responsibility.** The user, through its own analysis and testing, is solely responsible for making the final selection of the system and Product and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application and follow applicable industry standards and Product information. If Seller provides Product or system options, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the Products or systems.

9. **Loss to Buyer's Property.** Any designs, tools, patterns, materials, drawings, confidential information or equipment furnished by Buyer or any other items which become Buyer's property, may be considered obsolete and may be destroyed by Seller after two consecutive years have elapsed without Buyer placing an order for the items which are manufactured using such property. Seller shall not be responsible for any loss or damage to such property while it is in Seller's possession or control.



10. **Special Tooling.** A tooling charge may be imposed for any special tooling, including without limitation, dies, fixtures, molds and patterns, acquired to manufacture Products. Such special tooling shall be and remain Seller's property notwithstanding payment of any charges by Buyer. In no event will Buyer acquire any interest in apparatus belonging to Seller which is utilized in the manufacture of the Products, even if such apparatus has been specially converted or adapted for such manufacture and notwithstanding any charges paid by Buyer. Unless otherwise agreed, Seller shall have the right to alter, discard or otherwise dispose of any special tooling or other property in its sole discretion at any time.

11. **Buyer's Obligation; Rights of Seller.** To secure payment of all sums due or otherwise, Seller shall retain a security interest in the goods delivered and this agreement shall be deemed 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 its security interest. Seller shall have a security interest in, and lien upon, any property of Buyer in Seller's possession as security for the payment of any amounts owed to Seller by Buyer.

12. **Improper use and Indemnity.** Buyer shall indemnify, defend, and hold Seller harmless from any claim, liability, damages, lawsuits, and costs (including attorney fees), whether for personal injury, property damage, patent, trademark or copyright infringement or any other claim, brought by or incurred by Buyer, Buyer's employees, or any other person, arising out of: (a) improper selection, improper application or other misuse of Products purchased by Buyer from Seller; (b) any act or omission, negligent or otherwise, of Buyer; (c) Seller's use of patterns, plans, drawings, or specifications furnished by Buyer to manufacture Product; or (d) Buyer's failure to comply with these terms and conditions. Seller shall not indemnify Buyer under any circumstance except as otherwise provided.

13. **Cancellations and Changes.** Orders shall not be subject to cancellation or change by Buyer 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. Seller may change product features, specifications, designs and availability with notice to Buyer.

14. **Limitation on Assignment.** Buyer may not assign its rights or obligations under this agreement without the prior written consent of Seller.

15. **Entire Agreement.** This agreement contains the entire agreement between the Buyer and Seller and constitutes the final, complete and exclusive expression of the terms of the agreement. All prior or contemporaneous written or oral agreements or negotiations with respect to the subject matter are herein merged.

16. **Waiver and Severability.** Failure to enforce any provision of this agreement will not waive that provision nor will any such failure prejudice Seller's right to enforce that provision in the future. Invalidation of any provision of this agreement by legislation or other rule of law shall not invalidate any other provision herein. The remaining provisions of this agreement will remain in full force and effect.

17. **Termination.** This agreement may be terminated by Seller for any reason and at any time by giving Buyer thirty (30) days written notice of termination. In addition, Seller may by written notice immediately terminate this agreement for the following: (a) Buyer commits a breach of any provision of this agreement (b) the appointment of a trustee, receiver or custodian for all or any part of Buyer's property (c) the filing of a petition for relief in bankruptcy of the other Party on its own behalf, or by a third party (d) an assignment for the benefit of creditors, or (e) the dissolution or liquidation of the Buyer.

18. **Governing Law.** This agreement and the sale and delivery of all Products hereunder shall be 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 this agreement. Disputes between the parties shall not be settled by arbitration unless, after a dispute has arisen, both parties expressly agree in writing to arbitrate the dispute.

19. **Indemnity for Infringement of Intellectual Property Rights.** Seller shall have no liability for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights except as provided in this Section. Seller will defend and indemnify Buyer against allegations of infringement of U.S. patents, U.S. trademarks, copyrights, trade dress and trade secrets ("Intellectual Property Rights"). 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 an allegation that a Product sold pursuant to this Agreement infringes the Intellectual Property Rights of a third party. Seller's obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of such allegations of infringement, and Seller having sole control over the defense of any allegations or actions including all negotiations for settlement or compromise. If a Product is subject to a claim that it infringes the Intellectual Property Rights of a third party, Seller may, at its sole expense and option, procure for Buyer the right to continue using the Product, replace or modify the Product so as to make it noninfringing, or offer to accept return of the Product and return the purchase price less a reasonable allowance for depreciation. Notwithstanding the foregoing, Seller shall have no liability for claims of infringement based on information provided by Buyer, or directed to Products delivered hereunder for which the designs are specified in whole or part by Buyer, or infringements resulting from the modification, combination or use in a system of any Product sold hereunder. The foregoing provisions of this Section shall constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for infringement of Intellectual Property Rights.

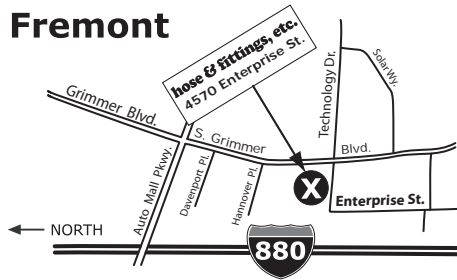
20. **Taxes.** Unless otherwise indicated, all prices and charges are exclusive of excise, sales, use, property, occupational or like taxes which may be imposed by any taxing authority upon the manufacture, sale or delivery of Products.

21. **Equal Opportunity Clause.** For the performance of government contracts and where dollar value of the Products exceed \$10,000, the equal employment opportunity clauses in Executive Order 11246, VEVRAA, and 41 C.F.R. §§ 60-1.4(a), 60-741.5(a), and 60-250.4, are hereby incorporated.



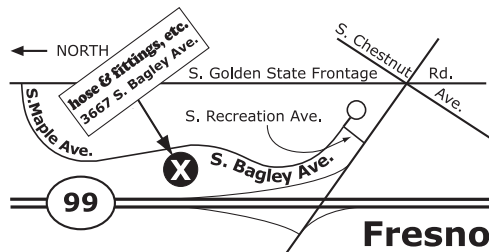
# Five convenient locations - same great service

## Fremont



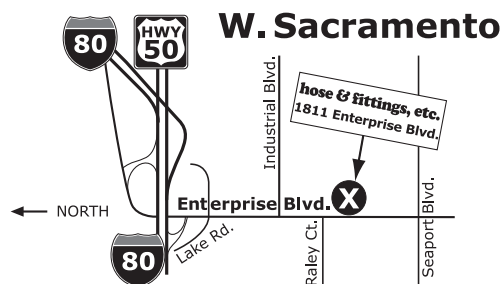
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Fremont, CA 94538  
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Hours: 7 a.m. - 5 p.m. (M-F)

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Fresno, CA 93725  
Phone: 559.495.1220  
Hours: 7 a.m. - 5 p.m. (M-F)

### QR Code

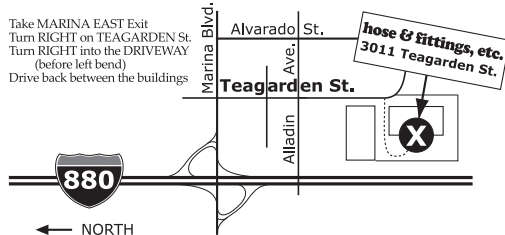


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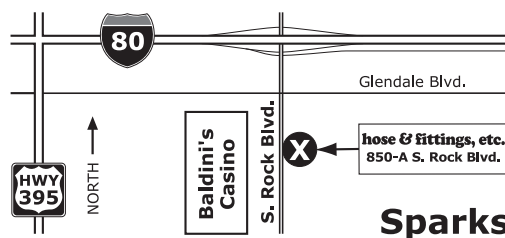


## San Leandro



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