

Valves

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Just because it's not in our catalog doesn't mean you can't get it. To find exactly what you need, contact your local

Parker distributor today. We can often provide 24-hour delivery direct from our factories to over 12,000 distribution locations worldwide. Our business is keeping you on the move.

General Description: Parker manually, pneumatically, and electrically actuated two-way B Series Ball Valves provide quick 1/4 turn on-off control of fluids utilized in process and instrumentation applications. A broad selection of valve body, seat, and seal materials provide a wide range of pressures and temperatures at which the valve may be used.

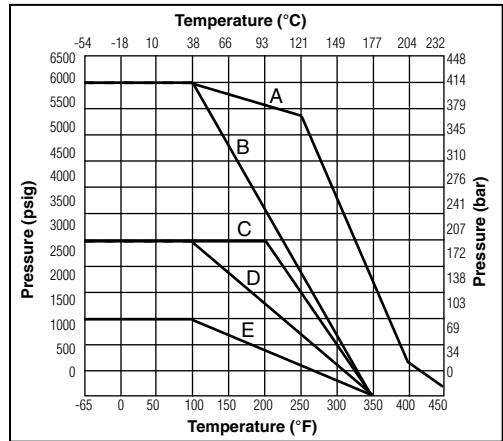
- Features:**
- Free floating ball design provides seat wear compensation.
 - Available in 316 stainless steel and brass construction.
 - Micro-finished ball provides a positive seal.
 - Straight through flow path for minimum pressure drop.
 - Bi-directional flow.
 - 90 degree actuation.
 - Panel mountable.
 - Adjustable PTFE stem seal can be maintained in-line.
 - Handle indicates flow direction.
 - Low operating torques.
 - Optional pneumatic and electric actuation.
 - Optional live-loaded PTFE stem seals.
 - Optional non-adjustable O-ring stem seals.

SPECIFICATIONS:

Pressure Ratings:

Material	CWP	with PTFE Seats
316 Stainless Steel	6000 psig*	1500 psig
Brass	3000 psig	1500 psig

* B6 Series: 6000 psig rating or 4400 psig CWP
B8 Series: 6000 psig rating or 4000 psig CWP



Legend: A – PEEK Seats B – PCTFE Seats C – Selector Valves
D – Brass Valves E – PTFE Seats

Note: To determine MPa, multiply bar by 0.1

Note: This Pressure vs. Temperature chart reflects the maximum temperature range of indicated materials.

When combining seat and seal materials, the most restrictive temperature rating of the seats or seals becomes the limiting factor on valve temperature range.

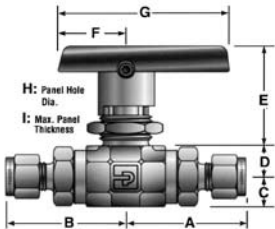
Elastomeric stem packing and seals are recommended if the application subjects the valve to thermal cycling.

Temperature Ratings:

- | | |
|--|----------------|
| PTFE: | -65°F to 350°F |
| PCTFE: | -65°F to 350°F |
| PEEK: | -65°F to 450°F |
| Nitrile Rubber: | -40°F to 250°F |
| Fluorocarbon Rubber: | -15°F to 450°F |
| Ethylene Propylene Rubber: | -65°F to 300°F |
| Highly Fluorinated Fluorocarbon Rubber | -15°F to 200°F |

BALL VALVES

TWO-WAY B SERIES



Model Shown: 4A-B6LJ-SSP

Port Size Part No.		Flow Data			End Connections		Dimensions (in.)								
		Orifice (in.)	C _v	X _T *	Port 1	Port 2	A†	B†	C	D	E	F	G	H	I
1A	B2L	0.052	0.06	0.45	1/16" A-LOK®		1.30	1.30	0.33	0.33	0.94	0.75	1.88	0.58	0.13
1Z		0.052	0.06	0.45	1/16" CPI™		1.30	1.30							
2A		0.093	0.21	0.47	1/8" A-LOK®		1.36	1.36							
2Z		0.093	0.21	0.47	1/8" CPI™		1.36	1.36							
2F		0.165	0.93	0.43	1/8" Female NPT		1.07	1.07							
2M		0.165	0.93	0.43	1/8" Male NPT		1.18	1.18							
4A		0.165	0.93	0.43	1/4" A-LOK®		1.48	1.48							
4Z		0.165	0.93	0.43	1/4" CPI™		1.48	1.48							
4M		0.165	0.93	0.43	1/4" Male NPT		1.35	1.35							
4A	B6L	0.187	1.04	0.42	1/4" A-LOK®		1.74	1.74	0.42	0.47	1.53	1.00	2.50	0.77	0.25
4Z		0.187	1.04	0.42	1/4" CPI™		1.74	1.74							
4F		0.250	2.34	0.29	1/4" Female NPT		1.51	1.51							
4M		0.250	2.34	0.29	1/4" Male NPT		1.62	1.62							
4Q		0.180	1.03	0.42	1/4" UltraSeal		1.51	1.51							
4V		0.188	1.04	0.42	1/4" VacuSeal		1.75	1.75							
6A		0.250	2.34	0.29	3/8" A-LOK®		1.80	1.80							
6Z		0.250	2.34	0.29	3/8" CPI™		1.80	1.80							
6M		0.250	2.34	0.29	3/8" Male NPT		1.62	1.62							
6Q	B8L	0.250	2.34	0.29	3/8" UltraSeal		1.51	1.51	0.69	0.70	1.74	1.50	4.00	0.90	0.38
6F		0.406	6.42	0.37	3/8" Female NPT		1.95	1.95							
8F		0.406	6.42	0.37	1/2" Female NPT		2.15	2.15							
8A		0.406	6.42	0.37	1/2" A-LOK®		2.34	2.34							
8Z		0.406	6.42	0.37	1/2" CPI™		2.34	2.34							
8M		0.406	6.42	0.37	1/2" Male NPT		2.22	2.22							
8Q		0.375	5.57	0.37	1/2" UltraSeal		1.92	1.92							
8V		0.406	6.42	0.37	1/2" VacuSeal		2.21	2.21							
12A		0.406	6.42	0.37	3/4" A-LOK®		2.33	2.33							
12Z	0.406	6.42	0.37	3/4" CPI™		2.33	2.33								
12F		0.406	6.42	0.37	3/4" Female NPT		2.25	2.25							

* Tested in accordance with ISA S75.02. Gas flow will be choked when $P_1 - P_2 / P_1 = X_T$
† For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position

General Description: Parker manually, pneumatically, and electrically actuated three-way B Series Ball Valves may be used as diverting or selecting valves for fluids utilized in process and instrumentation applications. The standard three-way diverter valve is designed to accept media through the bottom port and direct it out of two outlet ports. When equipped with spring-loaded seats, the three-way valve may be used as a selector valve, alternately accepting media from either of two inlet sources (side ports) and directing it through a single outlet (bottom port).

- Features:**
- Available in 316 stainless steel and brass construction.
 - Micro-finished ball provides a positive seal.
 - 180 degree actuation.
 - Panel mountable.
 - Adjustable PTFE stem seal can be maintained in-line.
 - Handle indicates flow direction.
 - Low operating torques.
 - Optional pneumatic and electric actuation.
 - Optional live-loaded PTFE stem seals.
 - Optional non-adjustable O-ring stem seals.

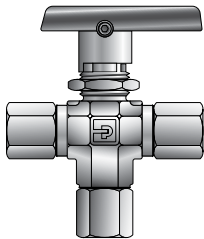
DIVERTER VALVE SPECIFICATIONS

Pressure Ratings with bottom port as inlet:

Material	CWP	with PTFE Seats
316 Stainless Steel	6000 psig*	1500 psig
Brass	3000 psig	1500 psig

* B6 Series: 6000 psig rating or 4400 psig CWP
B8 Series: 6000 psig rating or 4000 psig CWP

Pressure Ratings with side ports as inlet:
150 psig



Model Shown:
4F-B6XJ2-BP

SELECTOR VALVE SPECIFICATIONS

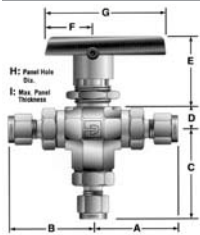
Pressure Rating with bottom port as inlet:
(Spring Loaded – B6 and B8 models only)

Material	CWP
316 Stainless Steel	6000 psig*
Brass	3000 psig

Pressure Rating with side ports as inlet:
316 Stainless Steel and Brass - 3000 psig CWP

BALL VALVES

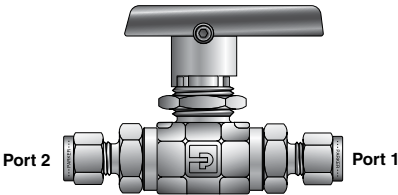
THREE-WAY B SERIES



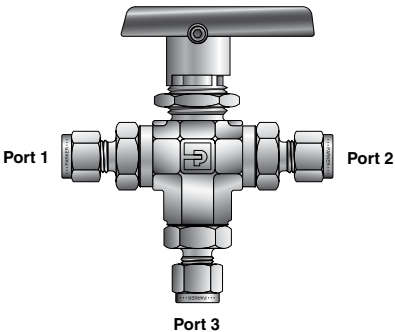
Model Shown:
4Z-B6XSPKR-V-SSP

Port Size	Part No.	Flow Data			End Connections			Dimensions (in.)								
		Orifice (in.)	C _v	X _T *	Port 1	Port 2	Port 3	A†	B†	C	D	E	F	G	H	I
1A	B2X	0.052	0.06	0.56	1/16" A-LOK®			1.30	1.30	1.39	0.33	0.94	0.75	1.88	0.58	0.13
1Z		0.052	0.06	0.56	1/16" CPI™			1.30	1.30	1.39						
2A		0.093	0.21	0.64	1/8" A-LOK®			1.36	1.36	1.45						
2Z		0.093	0.21	0.64	1/8" CPI™			1.36	1.36	1.45						
2F		0.165	0.63	0.59	1/8" Female NPT			1.07	1.07	1.15						
2M		0.165	0.63	0.59	1/8" Male NPT			1.18	1.18	1.26						
4A		0.165	0.63	0.59	1/4" A-LOK®			1.48	1.48	1.56						
4Z		0.165	0.63	0.59	1/4" CPI™			1.48	1.48	1.56						
4M	B6X	0.165	0.63	0.59	1/4" Male NPT			1.35	1.35	1.43	0.47	1.53	1.00	2.50	0.77	0.25
4A		0.187	0.70	0.69	1/4" A-LOK®			1.74	1.74	1.88						
4Z		0.187	0.70	0.69	1/4" CPI™			1.74	1.74	1.88						
4F		0.196	0.87	0.74	1/4" Female NPT			1.51	1.51	1.65						
4M		0.196	0.87	0.74	1/4" Male NPT			1.62	1.62	1.76						
4Q		0.180	0.68	0.67	1/4" UltraSeal			1.51	1.51	1.65						
4V		0.188	0.70	0.69	1/4" VacuSeal			1.75	1.75	1.89						
6A		0.196	0.87	0.74	3/8" A-LOK®			1.80	1.80	1.94						
6Z	B8X	0.196	0.87	0.74	3/8" CPI™			1.80	1.80	1.94	0.70	1.74	1.50	4.00	0.90	0.38
6M		0.196	0.87	0.74	3/8" Male NPT			1.62	1.62	1.76						
6Q		0.196	0.87	0.74	3/8" UltraSeal			1.52	1.52	1.65						
6F		0.406	3.62	0.64	3/8" Female NPT			1.95	1.95	2.29						
8A		0.406	3.62	0.64	1/2" A-LOK®			2.34	2.34	2.68						
8Z		0.406	3.62	0.64	1/2" CPI™			2.34	2.34	2.68						
8F		0.406	3.62	0.64	1/2" Female NPT			2.15	2.15	2.49						
8M		0.406	3.62	0.64	1/2" Male NPT			2.22	2.22	2.59						
8Q		0.375	3.46	0.62	1/2" UltraSeal			1.93	1.93	2.27						
8V		0.406	3.62	0.64	1/2" VacuSeal			2.21	2.21	2.55						
12A		0.406	3.62	0.64	3/4" A-LOK®			2.33	2.33	2.68						
12Z		0.406	3.62	0.64	3/4" CPI™			2.33	2.33	2.68						
12F		0.406	6.42	0.37	3/4" Female NPT			2.25	2.25	2.59						

* Tested in accordance with ISA S75.02. Gas flow will be choked when $P_1 - P_2 / P_1 = x_T$
† For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position



Model Shown:
6A-B6LJ2-SSP



Model Shown:
6A-B6XJ2-SSP

Port 1	Port 2	Port 3	Valve Series	Seat Material	Seal Material	Body Material
1A 1Z 2A 2Z 2F 2M 4A 4Z 4M	1/16" A-LOK® 1/16" CPI™ 1/8" A-LOK® 1/8" CPI™ 1/8" Female NPT 1/8" Male NPT 1/4" A-LOK® 1/4" CPI™ 1/4" Male NPT		B2L B2X	J PTFE J2 PCTFE	(Blank) PTFE V Fluorocarbon Rubber EPR Ethylene Propylene Rubber BN Nitrile Rubber KZ Highly Fluorinated Fluorocarbon Rubber LT Live-Loaded PTFE Packing with PTFE Seals	SSP 316 Stainless Steel BP Brass
4A 4Z 4F 4M 4Q 4V 6A 6Z 6M 6Q	1/4" A-LOK® 1/4" CPI™ 1/4" Female NPT 1/4" Male NPT 1/4" UltraSeal 1/4" VacuSeal 3/8" A-LOK® 3/8" CPI™ 3/8" Male NPT 3/8" UltraSeal		B6L B6X	J PTFE J2 PCTFE S2 Spring-Loaded PCTFE PKR PTFE Lubricated PEEK SPKR Spring-Loaded PTFE Lubricated PEEK	VLT Live-Loaded PTFE Packing with Fluorocarbon Rubber Seals EPRLT Live-Loaded PTFE Packing with Ethylene Propylene Rubber Seals BNLT Live-Loaded PTFE Packing with Nitrile Rubber Seals KZLT Live-Loaded PTFE Packing with Highly Fluorinated Fluorocarbon Rubber Seals	
6F 8A 8Z 8F 8M 8Q 8V 12A 12Z 12F	3/8" Female NPT 1/2" A-LOK® 1/2" CPI™ 1/2" Female NPT 1/2" Male NPT 1/2" UltraSeal 1/2" VacuSeal 3/4" A-LOK® 3/4" CPI™ 3/4" Female NPT		B8L B8X	J PTFE J2 PCTFE S2 Spring-Loaded PCTFE PKR PTFE Lubricated PEEK SPKR Spring-Loaded PTFE Lubricated PEEK		

Notes: 1. Panel Mounting Nut supplied with each valve. Various port combinations are available.
2. See How to Order.
3. VacuSeal and UltraSeal are not available in Brass.
4. 12F (3/4" Female NPT) not panel mountable.

General Description: Parker High Pressure HB4 Series Ball Valves provide reliable shut-off or switching functions. The upper and lower trunnion bearings enhance the resistance of the trunnions against seizure, and increase the valve life in extreme applications. The compact and rugged design employs spring-loaded seats for high cycle life and low operating torques at pressures up to 10,000 psig.

- Features:**
- PEEK trunnion bearings for longer cycle life
 - Two-way and three-way designs
 - Compact FNPT version for tight work areas
 - Blow-out resistant two-piece ball/stem
 - Full operating pressure at any port
 - Low operating torque
 - Manual, electric or pneumatic actuation
 - Panel mountable to 3/8" thickness
 - No packing to adjust
 - Handle indicates direction of flow
 - Top of stem marked to indicate flow direction
 - Heat code traceability

SPECIFICATIONS:

- Pressure rating: 10,000 psig CWP with PEEK (PKR) Seats; 6,000 psig CWP with PCTFE (K) Seats
- Temperature rating: -65°F to 400°F
- Body material: Stainless steel
- Body configurations: Two-way and three-way
- Port connections: Tube compression (CPI™ / A-LOK®); short and long female NPT
- Port size: 1/8" – 1/2"

FLOW DATA

- Two-way HB4L: $C_v = 1.02$; $x_T = 0.42$; orifice = 0.188"
- Three-way HB4X: $C_v = 0.62$; $x_T = 0.71$; orifice = 0.188"

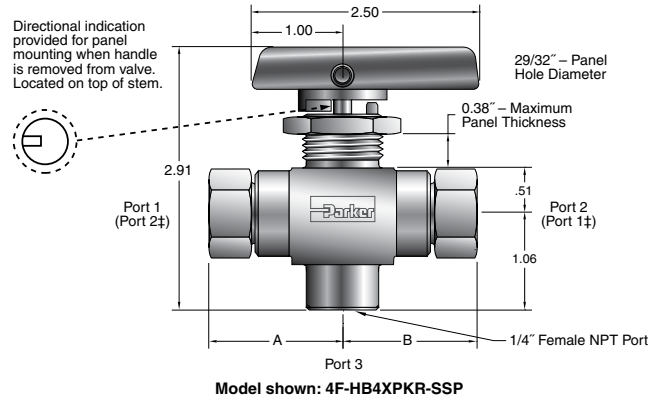
Tested in accordance with ISA S75.02. Gas flow will be choked when $P_1 - P_2 / P_1 = x_T$.

TESTING

Standard production testing – valves are 100% factory tested with nitrogen at 1,000 psig for leakage at the seats and body seals. Both areas are required to have less than 0.1 SCCM leakage. Optional testing is available upon request. Consult your authorized Parker Instrumentation Distributor for further information.

BALL VALVES

HB SERIES



‡ For two-way valves, Port 1 is the inlet port and Port 2 is the outlet port.

Part No. *	Pressure Rating @100°F psig	End Connection		Dimensions	
		Port 1	Port 2	A†† in.	B†† in.
2F-HB4	10,000	1/8" Female NPT		1.47	1.47
4F-HB4**	10,000	1/4" Female NPT		1.47	1.47
4FL-HB4	10,000	1/4" Female NPT		1.97	1.97
4A-HB4	10,000	1/4" A-LOK® Compression		2.07	2.07
4Z-HB4	10,000	1/4" CPI™ Compression		2.07	2.07
6A-HB4	6,600†	3/8" A-LOK® Compression		2.19	2.19
6Z-HB4	6,600†	3/8" CPI™ Compression		2.19	2.19
8A-HB4	6,300†	1/2" A-LOK® Compression		2.30	2.30
8Z-HB4	6,300†	1/2" CPI™ Compression		2.30	2.30

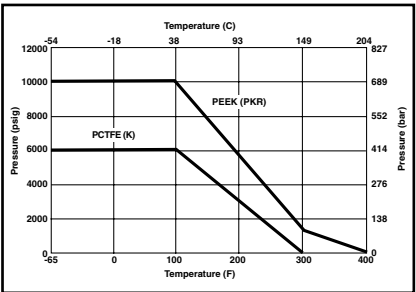
* Flow configurations are two-way (HB4L) and three-way (HB4X); Seat materials are PEEK (Polyetheretherketone) and PCTFE (Polychlorotrifluoroethylene).

** Designed with shorter end-to-end dimensions than the 4FL model to save space.

† Reduced pressure rating is determined by the maximum rated pressure of the tubing. The working pressure ratings are limited by the seat material: PCTFE – 6,000 psig maximum and PEEK – 10,000 psig and the temperature of the application.

†† For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position.

PRESSURE VS. TEMPERATURE



Note: To determine MPa, multiply bar by 0.1

This pressure vs. temperature chart reflects the maximum temperature range of indicated materials.

When combining seat and seal materials, the most restrictive temperature rating of the seats or seals becomes the limiting factor on valve temperature range.

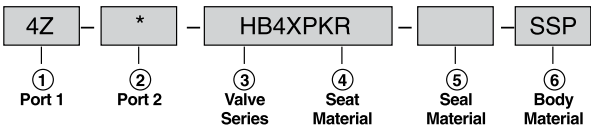
Temperature Ratings:

Buna-N (Nitrile) Rubber: -40°F to 250°F
Ethylene Propylene Rubber: -65°F to 300°F
Fluorocarbon Rubber: -15°F to 400°F

HOW TO ORDER

The correct part number is easily derived by following the circled number sequence. The six product characteristics required are coded as shown.

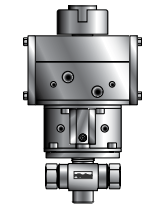
*Note: If ports 1 and 2 are the same, eliminate the port 2 designator.



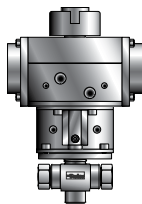
Describes a HB4X, three-way ball valve with 1/4" CPI™ compression end connections for ports 1 and 2, PEEK seats and fluorocarbon rubber seals, stainless steel body construction, and a panel mounting nut. Port 3 is always a 1/4" FNPT port.

① Port 1	② Port 2	③ Valve Series	④ Seat Material	⑤ Seal Material	⑥ Body Material
2F 1/8" Female NPT	2F 1/8" Female NPT	HB4L (2-way)	PKR (PEEK– Polyether– etherketone)	Blank– (Fluorocarbon Rubber)	
4F 1/4" Female NPT	4F 1/4" Female NPT				
4FL 1/4" Female NPT (Long)	4FL 1/4" Female NPT (Long)				
4A 1/4" A-LOK® Compression	4A 1/4" A-LOK® Compression				
4Z 1/4" CPI™ Compression	4Z 1/4" CPI™ Compression				
6A 3/8" A-LOK® Compression	6A 3/8" A-LOK® Compression	HB4X (3-way)	K– (PCTFE, Poly– chloro– trifluoro– ethylene)	BN (Buna-N Rubber)	SSP (Stainless Steel with Panel Nut)
6Z 3/8" CPI™ Compression	6Z 3/8" CPI™ Compression				
8A 1/2" A-LOK® Compression	8A 1/2" A-LOK® Compression				
8Z 1/2" CPI™ Compression	8Z 1/2" CPI™ Compression				
M6A 6 mm A-LOK® Compression	M6A 6 mm A-LOK® Compression				
M6Z 6 mm CPI™ Compression	M6Z 6 mm CPI™ Compression		EPR (Ethylene Propylene Rubber)		
M8A 8 mm A-LOK® Compression	M8A 8 mm A-LOK® Compression				
M8Z 8 mm CPI™ Compression	M8Z 8 mm CPI™ Compression				
M10A 10 mm A-LOK® Compression	M10A 10 mm A-LOK® Compression				
M10Z 10 mm CPI™ Compression	M10Z 10 mm CPI™ Compression				
M12A 12 mm A-LOK® Compression	M12A 12 mm A-LOK® Compression				
M12Z 12 mm CPI™ Compression	M12Z 12 mm CPI™ Compression				

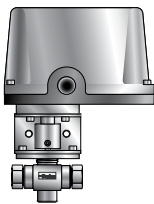
ACTUATOR OPTIONS



Double Acting (61AD)
Pneumatic Actuator



Spring Return (61AC & AO)
Pneumatic Actuator



70 and 80 Series
Electric Actuator

General Description: Parker MB Series Ball Valves, with their rugged compact design, offer positive shut off or directional control of fluids in process, power and instrumentation applications. The unique one-piece seat/packing design ensures excellent sealing characteristics while accommodating a superior temperature range and cycle life.

These valves are available in 2-way and 3-way configurations, brass and stainless steel construction, with a wide variety of port connections. Also, all ports are suitable as inlets to full operating pressure of the valve.

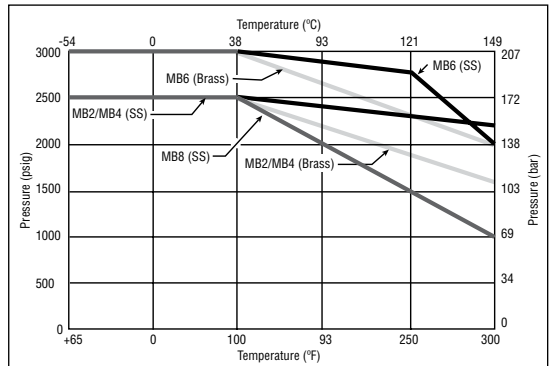
- Features:**
- One-piece seat/packaging design
 - Broad temperature range
 - Coated metal inserts
 - One-piece stem/ball
 - Panel mountable to 1/4" thickness
 - Bi-directional flow
 - Handle indicates direction of flow
 - Full operating pressure at any port
 - Vent option
 - Manual, electric or pneumatic actuation
 - Leak-tight center-off position on 3-way valves

SPECIFICATIONS:

Pressure Rating:	3000 psig* CWP - MB6 2500 psig* CWP - MB2/MB4/MB8
Temperature Rating:	-65°F to 300°F
Orifice:	.052" to .406"
C_v:	.05 to 6.96
Body Materials:	Stainless Steel and Brass
Body Configurations:	2-way (in-line and angle), 3-way, 4-way and 5-way
Port Connections:	Tube compression (CPI™/A-LOK®) NPT (Male / Female) BSP, VacuSeal™ and UltraSeal™
Port Size:	1/16" to 3/4"
Seat/Packing:	PFA-Perfluoroalkoxy

* Preset from factory to 1000 psig bubble tight service. Packing nut must be tightened to achieve higher pressures.
Packing in vented MB Series Ball Valves is factory adjusted for the maximum valve pressure rating of 500 psig.

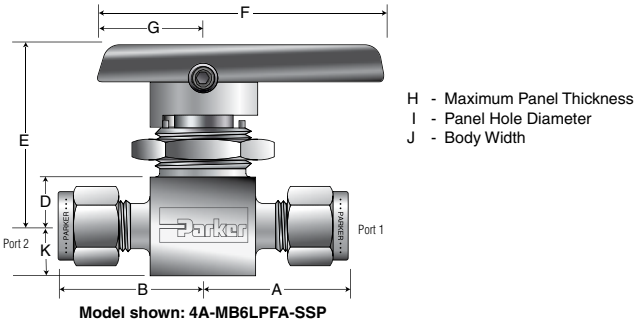
PRESSURE VS. TEMPERATURE



Note: To determine MPa, multiply bar by 0.1

2-WAY IN-LINE

MB SERIES

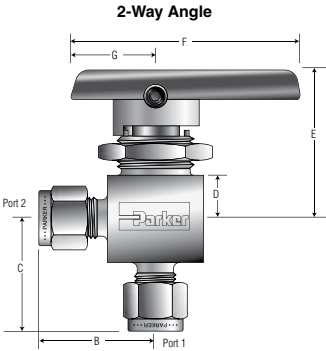


Port Size	Part No.	Flow Data			End Connections		Dimensions (in.)										
		Orifice (in.)	C _v	X _T *	Port 1	Port 2	A**	B**	D	E	F	G	H	I	J	K	
1Z	MB2L	0.052	0.03	0.46	1/16" CPI™		0.84	0.84	0.34	1.31	1.88	0.75	0.25	0.58	0.58	0.28	
1A		1/16" A-LOK®		0.84	0.84												
2Z		1/8" CPI™		1.00	1.00												
2A		1/8" A-LOK®		1.00	1.00												
2F	MB4L	0.125	0.44	0.34	1/8" Female NPT		0.81	0.81	0.34	1.31	1.88	0.75	0.25	0.58	0.58	0.28	
4Z		1/4" CPI™		1.12	1.12												
4A		1/4" A-LOK®		1.12	1.12												
2Z	MB6L	0.093	0.18	0.55	1/8" CPI™		1.09	1.09	0.44	1.56	2.37	0.88	0.25	0.77	0.80	0.38	
2A		1/8" A-LOK®		1.09	1.09												
2F		1/8" Female NPT		1.00	1.00												
4M		1/4" Male NPT		1.00	1.00												
4Z		1/4" CPI™		1.19	1.19												
4A		1/4" A-LOK®		1.19	1.19												
4F		1/4" Female NPT		1.03	1.03												
4M4Z		1/4" Male NPT	1/4" CPI™	1.00	1.19												
4M4A		1/4" Male NPT	1/4" A-LOK®	1.00	1.19												
4V		1/4" VacuSeal		1.03	1.03												
6Z		3/8" CPI™		1.31	1.31												
6A	3/8" A-LOK®		1.31	1.31													
8A	MB8L	0.406	10.7	0.16	1/2" A-LOK®		1.94	1.94	0.69	2.39	4.50	1.50	0.38	1.50	1.50	0.69	
8Z		1/2" CPI™		1.94	1.94												
8F		1/2" FNPT		1.56	1.56												
12A		3/4" A-LOK®		1.94	1.94												
12Z		3/4" CPI™		1.94	1.94												

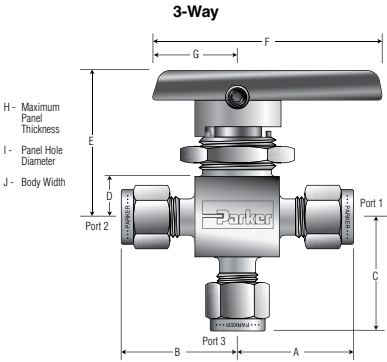
* Tested in accordance with ISA S75.02. Gas flow will be choked when $P_1 - P_2 / P_1 = X_T$.
** For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position.

2-WAY ANGLE AND 3-WAY

MB SERIES



Model shown: 4A-MB6APFA-SSP



Model shown: 4A-MB6XPFA-SSP

Port Size		Part No.	Flow Data		End Connections			Dimensions (in.)																
			Orifice (in.)	C _v	X _T †	Port 1	Port 2	Port 3*	A**	B**	C**	D	E	F	G	H	I	J						
1Z	MB2A MB2X	0.052	0.02	0.58	1/16" CPI™			0.84	0.84	0.81	0.34	1.31	1.88	0.75	0.25	0.58	0.58							
1A		0.052	0.02	0.58	1/16" A-LOK®			0.84	0.84	0.81														
2Z		0.093	0.18	0.48	1/8" CPI™			1.00	1.00	0.97														
2A	MB4A MB4X	0.093	0.18	0.48	1/8" A-LOK®			1.00	1.00	0.97	0.34	1.31	1.88	0.75	0.25	0.58	0.58							
2F		0.125	0.34	0.45	1/8" Female NPT			0.81	0.81	0.81														
4Z		0.125	0.34	0.45	1/4" CPI™			1.12	1.12	1.12														
4A	MB6A MB6X	0.125	0.34	0.45	1/4" A-LOK®			1.12	1.12	1.12	0.44	1.56	2.37	0.88	0.25	0.77	0.80							
4V		0.187	0.70	0.58	1/4" VacuSeal			1.03	1.03	1.03														
4Z					1/4" CPI™			1.19	1.19	1.15														
4A					1/4" A-LOK®			1.19	1.19	1.15														
4F					1/4" Female NPT			1.03	1.03	1.03														
4Z4Z4M					1/4" CPI™	1/4" CPI™	1/4" Male NPT	1.19	1.19	1.03														
4A4A4M					1/4" A-LOK®	1/4" A-LOK®	1/4" Male NPT	1.19	1.19	1.03														
6Z	MB8A MB8X				3/8" CPI™			1.31	1.31	1.23	0.69	2.39	4.50	1.50	0.38	1.50	1.50							
6A					3/8" A-LOK®			1.31	1.31	1.23														
8A	MB8A MB8X	0.406	5.4	0.36	1/2" A-LOK®			1.75	1.75	1.75								0.69	2.39	4.50	1.50	0.38	1.50	1.50
8Z		0.406	5.4	0.36	1/2" CPI™			1.75	1.75	1.75														
8F		0.406	5.0	0.33	1/2" FNPT			1.56	1.56	1.56														
12A		0.406	4.9	0.39	3/4" A-LOK®			1.75	1.75	1.75														
12Z		0.406	4.9	0.39	3/4" CPI™			1.75	1.75	1.75														

* Not applicable to the 2-Way Angle pattern.

** For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position.

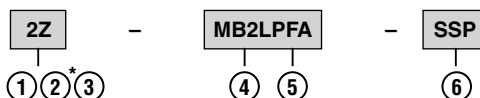
† Tested in accordance with ISA S75.02. Gas flow will be choked when $P_1 - P_2 / P_1 = x_T$.

2-WAY INLINE, 2-WAY ANGLE AND 3-WAY PATTERNS

HOW TO ORDER

The correct part number is easily derived from the following circled number sequence.

Example:



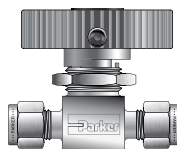
Describes an MB Series, 2-way, in-line pattern ball valve with 1/8" CPI™ compression end connections for Ports 1 and 2 Inline Body Styler, PFA seat and packing, stainless steel body construction, and a panel mounting nut.

①	②	③	④	⑤	⑥
Port 1	Port 2	Port 3	Valve Series	Seat Material	Body Material
1Z – 1/16" CPI™			MB2L MB2A MB2X	PFA – Perfluoroalkoxy	SSP – Stainless Steel (Stainless Steel with Panel Nut) BP – Brass (Brass with Panel Nut) (Only Available in MB 2, 4, 6)
1A – 1/16" A-LOK®					
2Z – 1/8" CPI™					
2A – 1/8" A-LOK®			MB4L MB4A MB4X		
2F – 1/8" Female NPT					
4Z – 1/4" CPI™					
4A – 1/4" A-LOK®			MB6L MB6A MB6X		
4V – 1/4" VacuSeal					
2Z – 1/8" CPI™					
2A – 1/8" A-LOK®					
2F – 1/8" Female NPT					
4Z – 1/4" CPI™					
4A – 1/4" A-LOK®					
4F – 1/4" Female NPT					
4M – 1/4" Male NPT					
6Z – 3/8" CPI™					
6A – 3/8" A-LOK®					
8Z – 1/2" CPI™				MB8A MB8L MB8X	
8A – 1/2" A-LOK®					
8F – 1/2" Female NPT					
12Z – 3/4" CPI™					
12A – 3/4" A-LOK®					

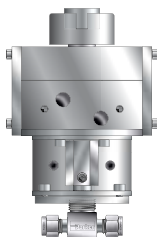
Lock-Out Device Option



Oval Handle Option



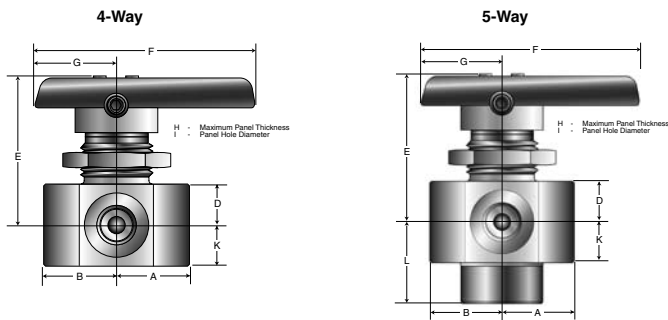
Pneumatic Actuator Option



* Valves with identical port connections for port 1 and port 2 require only one designator.

4-WAY & 5-WAY PATTERNS

MB SERIES



Port Size	Part No.	Flow Data			End Connections		Dimensions (in.)									
		Orifice (in.)	C _v	X _T *	Port 1	Port 2	A	B	D	E	F	G	H	I	K	L
2A7	MB6X4	0.063	0.17	0.16	1/8" Female A-LOK®		0.97	0.97								
2Z7		0.063	0.17	0.16	1/8" Female CPI™		0.97	0.97								
2F		0.063	0.17	0.16	1/8" Female NPT		0.78	0.78	0.44	1.57	2.37	0.88	0.25	0.77	0.44	
2A7	MB6X5	0.063	0.17	0.16	1/8" Inverted A-LOK®		0.97	0.97								0.97
2Z7		0.063	0.17	0.16	1/8" Inverted CPI™		0.97	0.97								0.97
2F		0.063	0.17	0.16	1/8" Female NPT		0.78	0.78								0.88

HOW TO ORDER

The correct part number is easily derived from the following the circled number sequence.

Example: **2Z7** - **MB6X4PFA** - **SSP**

① ② ③ ④

This example describes an MB Series 4-way pattern ball valve with 1/8" female CPI™ compression end connections for all ports, PFA seat and packing, stainless steel body construction, and a panel mounting nut.

① End Connection	② Valve Series	③ Seat Material	④ Body Material
2F - 1/8" Female NPT 2Z7 - 1/8" CPI™ 2A7 - 1/8" A-LOK®	MB6X4 MB6X5	PFA - Perfluoroalkoxy	SSP - Stainless Steel (Stainless Steel with Stainless Steel Panel Nut)

General Description: Parker's three-piece SWB Series Ball Valves are durable valves that can handle the pressure and piping loads. The center section can swing out to quickly and easily replace seats, seals and the ball without major disruption to the piping system.

- Features:**
- Free floating ball design allows for seat wear compensation
 - Self-compensating stem seal
 - Spring-loaded seats
 - Blow out resistant stem
 - Fully enclosed body bolting
 - Four bolt construction
 - ISO-type actuator mounting design
 - Pneumatic and electric actuation options
 - 100% factory tested

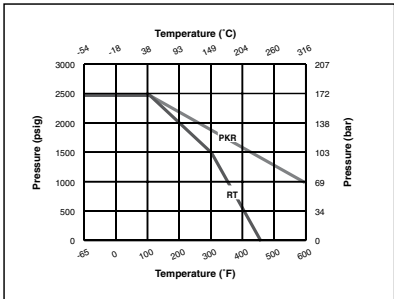
BALL VALVES

SWB SERIES

Specifications:

Body Materials:	Stainless Steel
Seat Materials:	Reinforced PTFE / PEEK
Seal Materials:	Buna-N Rubber Ethylene Propylene Rubber Fluorocarbon Rubber PTFE Grafoil®
Flow Data:	Cv: 1.1 to 35.0
Pressure Ratings:	2500 psig
Temperature Ratings — Seats:	
Reinforced PTFE Seats	-65°F to 450°F
PEEK Seats	-65°F to 600°F
Temperature Ratings — Seals:	
Buna-N Rubber Seals	-40°F to 250°F
Ethylene Propylene Rubber Seals	-65°F to 300°F
Fluorocarbon Rubber Seals	-15°F to 400°F
PTFE Seals	-65°F to 350°F
Grafoil® Seals	-65°F to 600°F

PRESSURE VS. TEMPERATURE



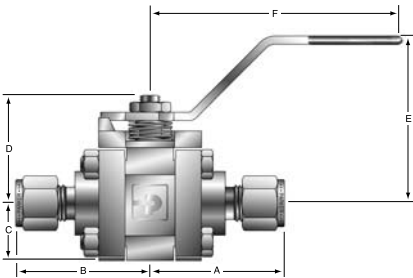
- Notes:
- This Pressure vs. Temperature chart reflects the use of indicated seat materials in Stainless Steel valves without consideration of seal materials. When combining seat and seal materials, the most restrictive temperature rating of the seats or seals becomes the limiting factor on temperature range.
 - Elastomeric seals are recommended if the application subjects the valve to thermal cycling.

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BALL VALVES

SWB SERIES



Part No.	Flow Data			Dimensions					
	Orifice	C _v	X _T *	A†	B†	C	D	E	F
	in.			in.	in.				
4Z(A)-SWB4L	0.19	1.1	0.19	1.59	1.59	0.68	1.28	2.00	3.00
4F-SWB4L	0.28	2.9	0.29	1.09	1.09				
6Z(A)-SWB4L	0.28	4.5	0.19	1.59	1.59				
6F-SWB8L	0.44	8.2	0.35	1.29	1.29	0.89	1.54	2.36	3.94
8Z(A)-SWB8L	0.41	6.4	0.35	2.03	2.03				
8F-SWB8L	0.44	8.2	0.26	1.29	1.29				
8W-SWB8L	0.41	6.4	0.35	1.29	1.29				
8PBW1-SWB8L	0.44	8.2	0.26	1.35	1.35	1.06	1.81	2.59	3.94
8PSW-SWB12L	0.52	13.5	0.34	1.35	1.35				
12Z(A)-SWB12L	0.56	14.7	0.28	2.03	2.03				
12F-SWB12L	0.56	14.7	0.28	1.39	1.39				
12W-SWB12L	0.56	14.7	0.28	1.39	1.39				
12PBW1-SWB12L	0.56	14.7	0.28	1.37	1.37	1.25	2.30	3.00	5.71
12PSW-SWB16L	0.88	35.0	0.29	1.95	1.95				
16Z(A)-SWB16L	0.88	35.0	0.29	2.68	2.68				
16F-SWB16L	0.88	35.0	0.29	1.79	1.79				
16W-SWB16L	0.88	35.0	0.29	1.79	1.79				
16PBW1-SWB16L	0.88	35.0	0.29	1.81	1.81				

* Tested in accordance with ISA S75.02. Gas flow will be choked when $P_1 - P_2 / P_1 = X_T$.

† For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position.

SWB SERIES

HOW TO ORDER

The correct part number is easily derived from the following number sequence. The seven product characteristics required are coded as shown below.

Example:

8A	*	SWB8L	RT	BN	SS
----	---	-------	----	----	----

① ② ③ ④ ⑤ ⑥ ⑦

Describes a SWB8L Two-Way Ball Valve with 1/2" A-LOK® end connections for ports 1 and 2, reinforced PTFE seats, Buna-N rubber body seals, and stainless steel construction.

*Note: If ports 1 and 2 are the same, eliminate the port 2 designator.

	①	②		③		④		⑤		⑥		⑦
8	A	*	-	SWB8		L	-	RT	-	BN	-	SS
Port Size	Port 1	Port 2		Valve Series		Valve Configuration		Seat Material		Seal Material		Body Material
4	Z - CPI™ Tube			SWB4		L - 2 Way		PKR - PTFE		T - PTFE		SS - Stainless Steel
6	A - A-LOK® Tube			SWB8				Reinforced PEEK		BN - Buna-N Rubber		
8	F - Female NPT			SWB12						EPR - Ethylene Propylene Rubber		
12	W - Tube Socket Weld			SWB16				RT - Glass		V - Fluorocarbon Rubber		
16	PSW - Pipe Socket Weld							Reinforced PTFE		G - Grafoil® Gasket		
	PBW1 - Pipe Butt weld (Schedule 10)											

Note: Upper and Lower PTFE packing is replaced with PEEK when valves are ordered with Grafoil® Seals.

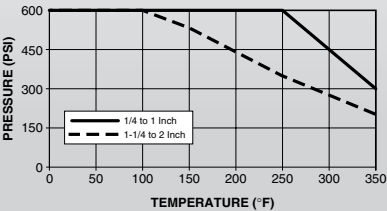
Grafoil® is a registered trademark of UCAR Carbon Technology Corporation

Applications: 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.

- Features:**
- Highly inert PTFE seats and seals provide resistance to chemical corrosion.
 - Blow-out proof stem.
 - Chrome plated brass ball.
 - Specially designed handle enables increased turning leverage for ease of opening and closing.
 - Machined from CA 377 forgings.
 - Available in female pipe sizes.

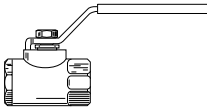
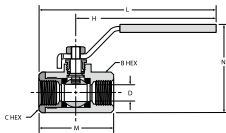
Working Pressure and Temperature Range:

Saturated steam service up to 150 PSI and 400°F. Vacuum, 29 inches of Mercury. Vented up to 250 PSI.



BRASS BALL VALVES SERIES 500 - HEXAGON

FEMALE-FEMALE PIPE ENDS XV500P

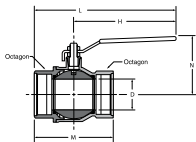


Part No.	Pipe Thread (PTF)	B Hex	C Hex	H	L	M	N	Flow Dia. D
XV500P-4	1/4	15/16	15/16	3.96	4.90	2.03	2.47	.375
XV500P-6	3/8	15/16	15/16	3.96	4.90	2.03	2.47	.375
XV500P-8	1/2*	1-1/16	1-1/16	3.96	5.00	2.20	2.58	.500
XV500P-12+	3/4**	1-1/4	1-5/16	3.96	5.25	2.42	2.81	.685
XV500P-16+	1**	1-1/2	1-9/16	3.96	5.34	2.75	3.08	.875

+ Available in Full Flow Panel Mount see XV508P Series. * PTF special short. ** PTF special extra short.

BRASS BALL VALVES SERIES 500 - OCTAGON

FEMALE-FEMALE PIPE ENDS XV500P-20, XV500P-24, XV500P-32

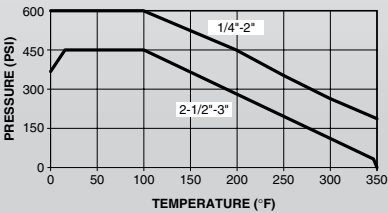


Part No.	Pipe Thread (NPT)	Octagon	H	L	M	N	Flow Dia. D
XV500P-20	1-1/4	1.93	6.22	8.05	3.66	3.01	1.18
XV500P-24	1-1/2	2.13	6.22	8.23	4.02	3.25	1.50
XV500P-32	2	2.69	6.22	8.58	4.76	3.52	1.89

Applications: 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 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.

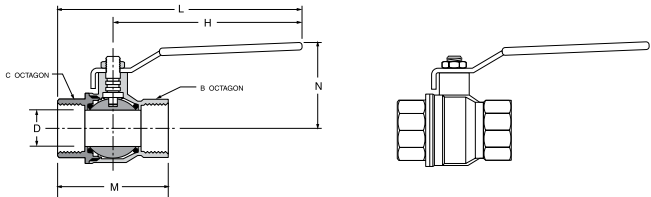
- Features:**
- Two Viton O-Rings at the stem provide maximum safety with no maintenance.
 - Highly inert PTFE seats and seals provide resistance to chemical corrosion.
 - Blow-out proof stem.
 - Chrome plated brass ball.
 - Specially designed handle enables increased turning leverage for ease of opening and closing.
 - Available in female pipe sizes.

Working Pressure and Temperature Range: 600 PSI 0°F to +350°F. Saturated steam service up to 150 PSI and 350°F. Vacuum, 29 inches of Mercury.



BRASS BALL VALVES SERIES 520 - OCTAGON

BRASS BALL VALVE XV520P



Part No.	Pipe Thread	B Octagon	C Octagon	H	L	M	N	D Flow Ø
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

Applications:

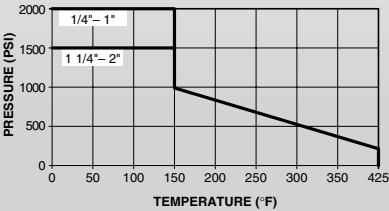
Parker's industrial ball valve product line is intended for general purpose use. Please be aware that ball valves are intended for use in the fully open or closed positions. Depending on application conditions, throttling of the valve may result in premature seal failure and/or inability to turn the 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.

Features:

- Hex shaped body for easy installation.
- Highly inert PTFE seats and seals combined with an external phosphate coating provide superior corrosion resistance.
- Blow-out proof stem.
- Specially designed handle enables increased turning leverage for ease of opening and closing.
- Available in female pipe sizes.

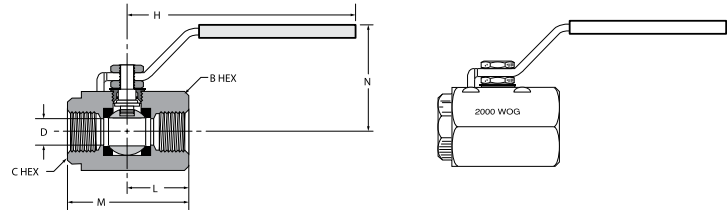
**Working Pressure
and Temperature
Range:**

Saturated steam service up to 150 PSI.



CARBON STEEL BALL VALVES SERIES 500CS

FEMALE-FEMALE PIPE ENDS XV500CS

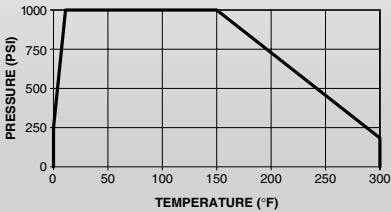


Part No.	Pipe Thread	B Hex	C Hex	H	L	M	N	D Flow Ø
XV500CS-4	1/4	1-1/16	15/16	3.78	1.00	2.00	1.63	.400
XV500CS-6	3/8	1-1/16	15/16	3.78	1.00	2.00	1.63	.400
XV500CS-8	1/2	1-1/4	1-1/16	3.78	1.25	2.37	1.73	.540
XV500CS-12	3/4	1-5/8	1-3/8	5.10	1.50	2.90	2.08	.680
XV500CS-16	1	2	1-5/8	5.10	1.76	3.41	2.30	.880

Applications: 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. They are ideal for corrosive environments such as chemical plants and refineries.

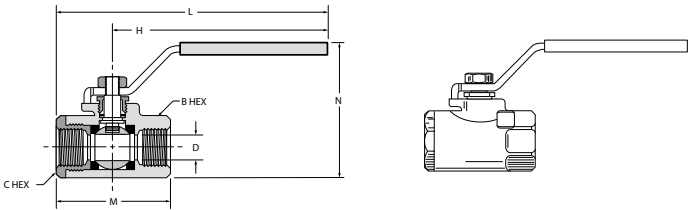
- Features:**
- Meets material requirements of NACE MR-01-75.
 - Cast body is manufactured from CF-8M stainless steel, the cast equivalent of 316 stainless steel.
 - Reinforced PTFE seats and seals.
 - Blow-out proof stem.
 - 316 stainless ball.

Working Pressure and Temperature Range: Saturated steam service rating up to 150 PSI and 400°F.



STAINLESS STEEL BALL VALVES SERIES 502SS

FEMALE PIPE ENDS, PANEL MOUNT XV502SS

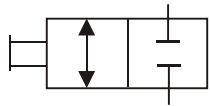


Part No.	Pipe Thread (NPT)	B/C Hex	F	G	H	I Thread	L	M	N	Flow Dia. D	Panel Hole Dia.
XV502SS-4	1/4	15/16	.500	1.125	4.00	10-24 UNC	5.03	2.07	2.52	.380	1.125
XV502SS-6	3/8	15/16	.500	1.125	4.00	10-24 UNC	5.03	2.07	2.52	.380	1.125
XV502SS-8	1/2	1-1/16	.500	1.125	4.00	10-24 UNC	5.13	2.27	2.65	.500	1.125
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

General Description: Series BVAH are 414 Bar (6000 PSI) ball valves with ports from 1 1/4" to 2". Series BVAH are 2-way shut-off valves to use in those applications with large ports.

HIGH PRESSURE BALL VALVES

SERIES BVAH

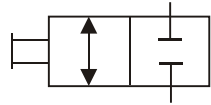


Part No.	Description	Size	Material	Press. Rating (PSI)	Flow (GPM)	Weight (lbs.)
BVAH20NSS1N	Ball Valve	1 1/4" NPT	Steel	6000	Full port	7.000
BVAH24NSS1N	Ball Valve	1 1/2" NPT	Steel	6000	Full port	10.000
BVAH32NSS1N	Ball Valve	2" NPT	Steel	6000	Full port	23.000
BVAH20SSS1N	Ball Valve	#20 SAE	Steel	6000	Full port	7.000
BVAH24SSS1N	Ball Valve	#24 SAE	Steel	6000	Full port	10.000
BVAH32SSS1N	Ball Valve	#32 SAE	Steel	6000	Full port	23.000

General Description: Series BVHP valves are used for shut-off applications and are rated at 414 Bar (6000 PSI). The wide variety of porting options plus the wide range of accessories make the BVHP the choice for high pressure systems with ports up to 1".

HIGH PRESSURE BALL VALVES

SERIES BVHP



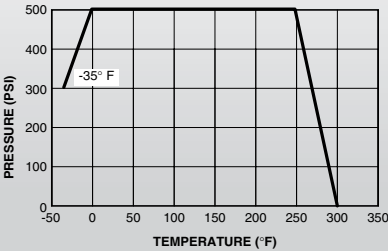
Part No.	Description	Size	Material	Press. Rating (PSI)	Flow (GPM)	Weight (lbs.)
BVHP04NSS1N	Ball Valve	1/4" NPT	Steel	6000	Full port	1.000
BVHP06NSS1N	Ball Valve	3/8" NPT	Steel	6000	Full port	1.500
BVHP08NSS1N	Ball Valve	1/2" NPT	Steel	6000	Full port	2.000
BVHP12NSS1N	Ball Valve	3/4" NPT	Steel	6000	Full port	4.000
BVHP16NSS1N	Ball Valve	1" NPT	Steel	6000	Full port	5.000
BVHP04SSS1N	Ball Valve	#4 SAE	Steel	6000	Full port	1.000
BVHP06SSS1N	Ball Valve	#6 SAE	Steel	6000	Full port	1.500
BVHP08SSS1N	Ball Valve	#8 SAE	Steel	6000	Full port	2.000
BVHP12SSS1N	Ball Valve	#12 SAE	Steel	6000	Full port	4.000
BVHP16SSS1N	Ball Valve	#16 SAE	Steel	6000	Full port	5.000

Applications: The Parker Micro-Valve is to be used in confined and hard to reach applications. This miniature 2-way valve has a barstock body for extended service life and is offered with either male/female or female/female pipe ends.

Features:

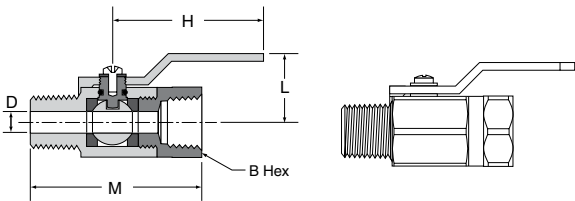
- MV708/709 valves include chrome plate ball, PTFE seats, nitrile stem seal and a low profile chrome plated handle.

Working Pressure and Temperature Range: These valves are designed and built for use at pressures and temperatures within the stated ranges. Consult the factory for any use outside of these ranges.



MICRO BALL VALVES SERIES 708/709

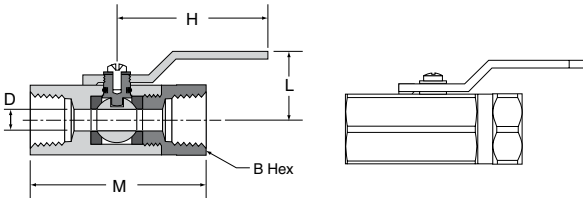
MALE-FEMALE PIPE ENDS, MINI BALL VALVE MV708



Part No.	Pipe Thread	B Hex	H	L	M	Flow Dia. D
MV708-4	1/4	11/16	1.52	.70	1.57	.210

MICRO BALL VALVES SERIES 708/709

FEMALE PIPE ENDS, MINI BALL VALVE MV709

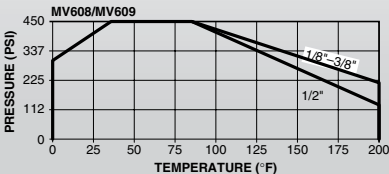
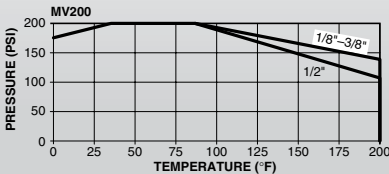


Part No.	Pipe Thread	B Hex	H	L	M	Flow Dia. D
MV709-4	1/4	11/16	1.52	.70	1.57	.210

Applications: The Parker Mini-Valve is to be used in confined and hard to reach applications. The brass extruded body allows for extended service life and is chrome plated as standard.

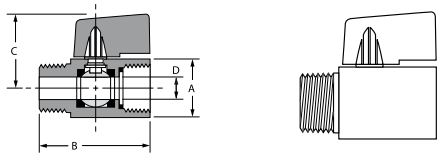
- Features:**
- MV608/609 valves include blowout proof stem, hard plate chrome ball, PTFE seats, Viton stem seals and standard yellow handle.
 - MV200 valve features a black lever handle.

Working Pressure and Temperature Range: These valves are designed and built for use at pressures and temperatures within the stated ranges. Consult the factory for any use outside of these ranges.



MINI BALL VALVES SERIES 608/609

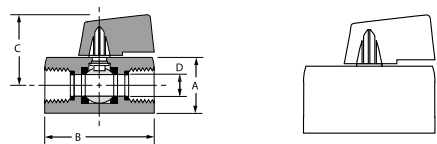
MALE-FEMALE PIPE ENDS, COMPACT HANDLE, MINI BALL VALVE MV608



Part No.	Pipe Thread	A Hex	B	C	Flow Dia. D
MV608-2	1/8	.83	1.72	1.12	.240
MV608-4	1/4	.83	1.72	1.12	.300
MV608-6	3/8	.83	1.72	1.12	.315
MV608-8	1/2	.98	2.11	1.20	.380

MINI BALL VALVES SERIES 200/608/609

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	1.72	1.12	.240
MV609-4	1/4	.83	1.72	1.12	.300
MV609-6	3/8	.83	1.72	1.12	.300
MV609-8	1/2	.98	2.11	1.20	.380

General Description: Parker BV Series Bleed Valves are designed for use on products such as multi-valve manifolds or gauge/root valves. Functionally, the valve vents line pressure either to atmosphere or to containment when used with the optional barbed vent tube. Generally, bleed valves are used whenever an instrument is removed from a system or to assist in the calibration of control devices. The BV Series is also recommended for use in bleeding hydraulic systems.

- Features:**
- Available in stainless steel
 - Vent tube directs excess gas or liquid from system lines
 - Chrome plated stem provides extended cycle life with improved sealability
 - Positive stop/vent tube design prevents accidental removal of the stem
 - Compact design
 - Wrench actuation
 - Available in a variety of end configurations including male pipe and SAE ports
 - 100% factory tested
 - Barbed vent tube option enables containment of vented media
 - Optional T-bar handle for wrench-less actuation

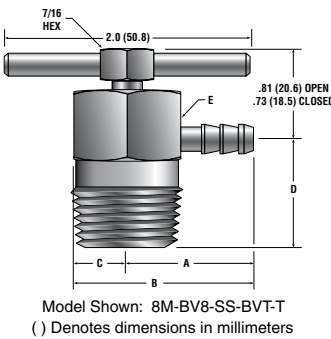
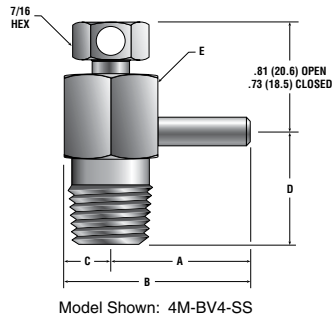
Pressure Rating: 10,000 psig CWP

Temperature Rating: Stainless Steel: -65°F to 850°F

Caution: These valves do not have a stem seal. It is imperative to open the valve slowly and direct the vent tube away from persons operating or near the valve. Because of the absence of a stem seal, small amounts of media will flow through the stem thread area when the valves are opened.

BLEED VALVES

BV SERIES



Part No.	Inlet	Outlet	A (in.)	B (in.)	C (in.)	D (in.)	E (HEX) (in.)
2M-BV4	1/8" Male NPT	3/16" O.D. Tube Stub	0.94	1.24	0.31	0.75	0.63
4M-BV4	1/4" Male NPT		0.94	1.24	0.31	0.75	0.63
6M-BV8	3/8" Male NPT		1.03	1.49	0.44	0.88	0.88
8M-BV8	1/2" Male NPT		1.03	1.49	0.44	0.88	0.88

HOW TO ORDER

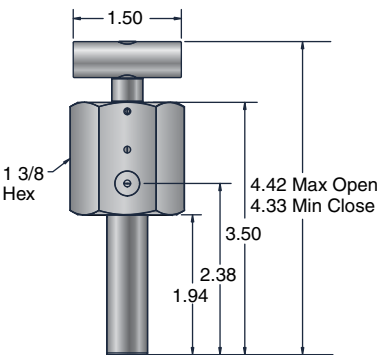
The correct part number is easily derived by following the circled number sequence. The five product characteristics required are coded as shown below.

Example: **4M** - **BV4** - **SS** - **BVT** -
① ② ③ ④ ⑤

Describes a stainless steel BV4 Bleed Valve with a 1/4" male NPT inlet and a barbed vent tube outlet.

End Connection ①	Valve Series ②	Material ③	Vent Selection ④	Handle Option ⑤
2M 4M	BV4	SS - Stainless Steel	Blank - Vent Tube BVT - Barbed Vent Tube	Blank - No Handle T - Tee Bar Handle
6M 8M	BV8			

MPI™ BLEED VALVE



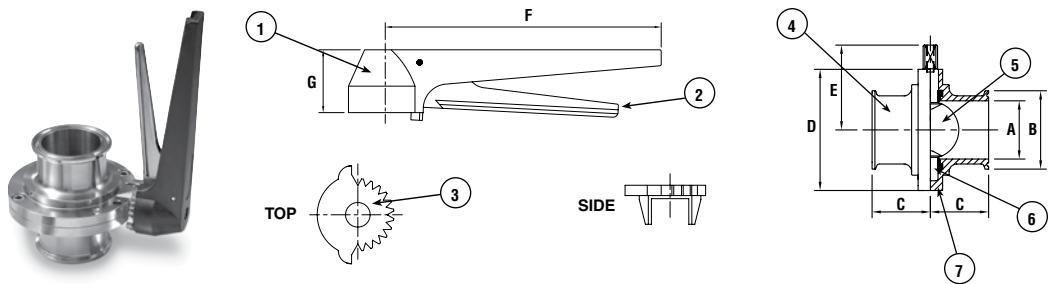
Part No.	PSI	Connection
9T7-MPBV-V-SS	15,000	9/16" Tube Stub
9HM-MPBV-V-SS	30,000	9/16" High Pressure Male

General Description: Parker Performance Stainless sanitary Butterfly Valves have been built to exacting production specifications. These valves will perform reliably in the most hostile production environments.

Our Butterfly Valves are built for uncompromising quality and functionality, and come standard with a 12 position handle design for multiple flow options. Valves can also be supplied with optional single and double acting air actuation.

Valves are precision CNC machined from 316L stainless steel and feature an I.D. finish of less than 0.6. µm RA.

- Features:**
- **Material & Elastomers:** 316 stainless steel (wetted parts), platinum cured silicon seats (others available)
 - **Available Sizes:** 1.00", 1.50", 2.00", 2.50", 3.00", 4.00"
 - **Surface Finish:** Less than 0.6µm (RA) Mechanical Sanitary Polish
 - **Connections:** Sanitary Clamp
 - **Actuation:** A variety of actuation options are available
 - **Max Pressure:** 1.0" - 4.0" to 145psi at 68°F
 - **Maintenance:** No special tools required
 - **Temperature/Vacuum:** Vacuum to 14.2psi at 68°F, temperature rating: 15°F to 200°F
 - **Other Features:** USDA approved design, 12 position nylon reinforced handle, Derlin bushings



PART LIST

No.	Description	Units	Material
1	Upper Handle	1	Reinforced Nylon
2	Lower Handle	1	Stainless
3	12 Pos. Notchplate	1	Stainless
4	Body	1	316L S.S.
5	Disk	1	316L S.S.
6	Silicon Seat	1	Silicone
7	Screw Bolt	1	Stainless

DIMENSIONS

Size	Part No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	Torque
1.0	BFLY-1.0-C-316-PX	22.1	50.5	44.5	79	61	167	38	< 1 m / kg
1.5	BFLY-1.5-C-316-PX	34.8	50.5	44.5	85	64.3	167	38	< 1 m / kg
2.0	BFLY-2.0-C-316-PX	47.5	64.0	47.6	105	74.3	167	38	1.3 m / kg
2.5	BFLY-2.5-C-316-PX	60.2	77.5	48.4	112	77.6	167	38	1.5 m / kg
3.0	BFLY-3.0-C-316-PX	72.2	91.0	51.5	125	84.3	167	38	2.0 m / kg
4.0	BFLY-4.0-C-316-PX	97.6	119.0	51.5	157	101.6	167	38	3.1 m / kg

General Description: Series AVF (Hydraulic) adjustable velocity fuses are designed to provide automatic hydraulic line rupture shut-off, as well as the ability to isolate a problem circuit on parallel circuit applications. Use of the fuses limits oil spillage and potential component damage. The fuses feature an adjustable flow for easy set-up and operation. A set screw in the body is provided to "lock in" the selected flow.

CHECK VALVES

SERIES AVF – HYDRAULIC



Part No.	Description	Size	Material	Press. Rating (PSI)	Flow (GPM)	Weight (lbs.)
AVF-1/4-S28	Line Rupture Valve	1/4" NPT	Steel	5000	4	0.800
AVF-3/8-S28	Line Rupture Valve	3/8" NPT	Steel	5000	8	1.200
AVF-1/2-S28	Line Rupture Valve	1/2" NPT	Steel	5000	12	2.400
AVF-3/4-S28	Line Rupture Valve	3/4" NPT	Steel	5000	18	3.800
AVF-106-S28	Line Rupture Valve	#6 SAE	Steel	5000	4	1.200
AVF-108-S28	Line Rupture Valve	#8 SAE	Steel	5000	8	2.400
AVF-110-S28	Line Rupture Valve	#10 SAE	Steel	5000	12	3.100
AVF-112-S28	Line Rupture Valve	#12 SAE	Steel	5000	18	3.800
AVF-116-S28	Line Rupture Valve	#16 SAE	Steel	5000	27	6.100

General Description: Series AVF (Pneumatic) adjustable velocity fuses are designed to provide automatic air line shut-off if a line should rupture or break. The use of fuses limits the possibility of personal injury or damage to equipment from whipping hoses. The fuses are field adjustable for easy setup and operation. A set screw in the body allows the selected setting to be locked.

CHECK VALVES

SERIES AVF – PNEUMATIC



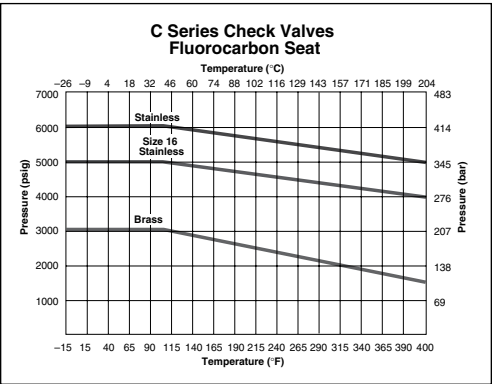
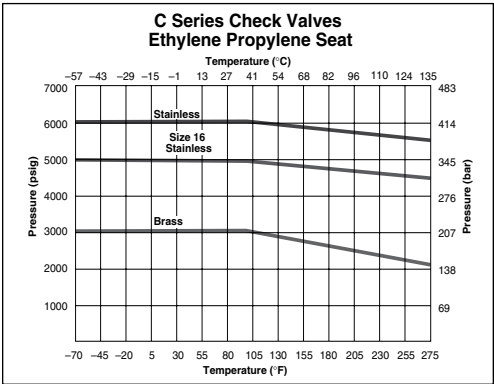
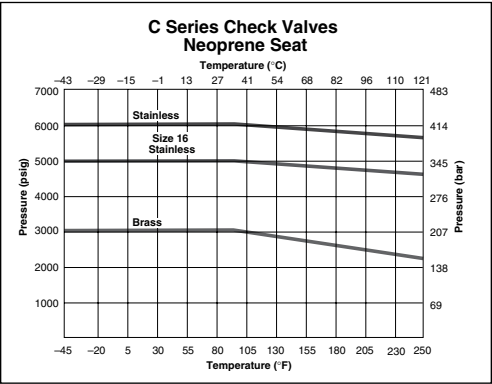
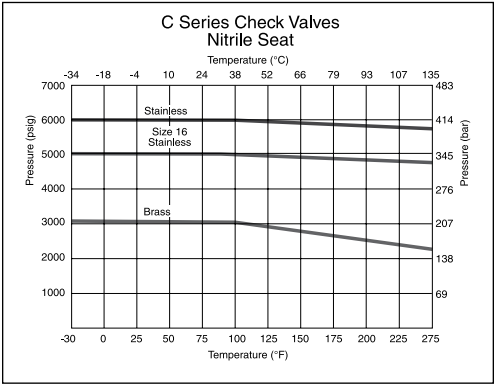
Part No.	Description	Size	Material	Press. Rating (PSI)	Flow (GPM)	Weight (lbs.)
AVF-1/4-B2	Line Rupture Valve	1/4" NPT	Brass	2000	30 SCFM	0.800
AVF-1/2-B2	Line Rupture Valve	1/2" NPT	Brass	2000	60 SCFM	2.400
AVF-3/4-B2	Line Rupture Valve	3/4" NPT	Brass	2000	60 SCFM	3.800

General Description: Parker C Series Check Valves are designed for uni-directional flow control of fluids and gases in industries such as chemical processing, oil and gas production and transmission, pharmaceutical, pulp and paper, power and utilities.

- Features:**
- Resilient, custom molded, blow-out resistant seat design
 - Back stopped poppet minimizes spring stress
 - 100% factory tested for both crack and reseal
 - Cracking pressures include: 1/3, 1, 5, 10, 25, 50, 75, and 100 psi.

Specifications:	Pressure Rating:	
	316 SS—1/8" to 3/4":	6000 psig CWP
	1":	5000 psig CWP
	All sizes with PTFE Seats:	4000 psig CWP
	Brass—1/8" to 1"	3000 psig CWP
	Temperature Rating:	
	Fluorocarbon Rubber	-15°F to +400°F
	Nitrile	-30°F to +275°F
	Ethylene Propylene Rubber	-70°F to +275°F
	Neoprene Rubber	-45°F to +250°F
	PTFE	-65°F to +400°F
	Highly Fluorinated Fluorocarbon Rubber	-15°F to +200°F
	Orifice:	.078" to .656"
	C_v:	.18 to 6.56

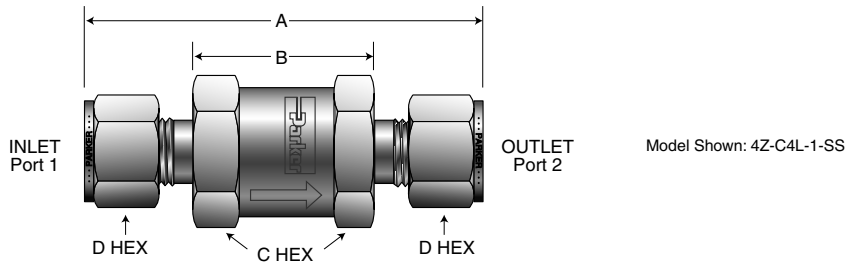
PRESSURE VS. TEMPERATURE



Note: To determine MPa, multiply bar by 0.1

Check Valves

C Series



Part No.	End Connections		Flow Data			Dimensions			
	Inlet (Port 1)	Outlet (Port 2)	Orifice (in.)	C _v	x _r ‡	A† (in.)	B (in.)	C (in.)	D (in.)
2A-C2L	1/8" A-LOK® Compression	1/8" A-LOK® Compression	.093	.22	0.46	2.29	1.09	.625	.438
2F-C2L	1/8" Female NPT	1/8" Female NPT	.125	.31	0.52	1.86	-	.625	-
2M-C2L	1/8" Male NPT	1/8" Male NPT	.125	.31	0.52	1.77	1.01	.625	-
2Z-C2L	1/8" CPI™ Compression	1/8" CPI™ Compression	.093	.22	0.46	2.29	1.09	.625	.438
2M2A-C2L	1/8" Male NPT	1/8" A-LOK® Compression	.093	.22	0.46	2.03	1.05	.625	.438
2M2F-C2L	1/8" Male NPT	1/8" Female NPT	.125	.31	0.52	1.81	1.43	.625	-
2M2Z-C2L	1/8" Male NPT	1/8" CPI™ Compression	.093	.22	0.46	2.03	1.05	.625	.438
4A-C4L	1/4" A-LOK® Compression	1/4" A-LOK® Compression	.187	.75	0.53	2.42	1.03	.750	.563
4F-C4L	1/4" Female NPT	1/4" Female NPT	.187	.75	0.53	2.40	-	.750	-
4M-C4L	1/4" Male NPT	1/4" Male NPT	.187	.75	0.53	2.18	1.04	.750	-
4Q-C4L	1/4" UltraSeal	1/4" UltraSeal	.180	.72	0.53	1.97	1.04	.750	-
4V-C4L	1/4" VacuSeal	1/4" VacuSeal	.187	.75	0.53	2.22	.98	.750	-
4Z-C4L	1/4" CPI™ Compression	1/4" CPI™ Compression	.187	.75	0.53	2.42	1.03	.750	.563
4M4A-C4L	1/4" Male NPT	1/4" A-LOK® Compression	.187	.75	0.53	2.29	1.02	.750	.563
4M4F-C4L	1/4" Male NPT	1/4" Female NPT	.187	.75	0.53	2.29	1.72	.750	-
4M4Z-C4L	1/4" Male NPT	1/4" CPI™ Compression	.187	.75	0.53	2.29	1.02	.750	.563
6A-C6L	3/8" A-LOK® Compression	3/8" A-LOK® Compression	.281	2.09	0.74	3.27	1.75	1.000	.688
6F-C6L	3/8" Female NPT	3/8" Female NPT	.359	2.26	0.77	3.03	-	1.000	-
6M-C6L	3/8" Male NPT	3/8" Male NPT	.359	2.26	0.77	2.96	1.82	1.000	-
6Q-C6L	3/8" UltraSeal	3/8" UltraSeal	.250	2.02	0.73	2.75	1.80	1.000	-
6Z-C6L	3/8" CPI™ Compression	3/8" CPI™ Compression	.281	2.09	0.74	3.27	1.75	1.000	.688
6M6A-C6L	3/8" Male NPT	3/8" A-LOK® Compression	.281	2.09	0.74	3.09	1.76	1.000	.688
6M6F-C6L	3/8" Male NPT	3/8" Female NPT	.359	2.26	0.77	2.95	2.38	1.000	-
6M6Z-C6L	3/8" Male NPT	3/8" CPI™ Compression	.281	2.09	0.74	3.09	1.76	1.000	.688
8A-C8L	1/2" A-LOK® Compression	1/2" A-LOK® Compression	.423	3.30	0.77	4.08	2.34	1.250	.875
8F-C8L	1/2" Female NPT	1/2" Female NPT	.453	3.53	0.81	3.56	-	1.250	-
8M-C8L	1/2" Male NPT	1/2" Male NPT	.453	3.53	0.81	3.56	2.05	1.250	-
8Q-C8L	1/2" UltraSeal	1/2" UltraSeal	.375	2.93	0.71	3.28	2.33	1.250	-
8V-C8L	1/2" VacuSeal	1/2" VacuSeal	.406	3.17	0.75	3.56	2.05	1.250	-

(continued on next page)

Part No.	End Connections		Flow Data			Dimensions			
	Inlet (Port 1)	Outlet (Port 2)	Orifice (in.)	C _v	x _t ‡	A† (in.)	B (in.)	C (in.)	D (in.)
8Z-C8L	1/2" CPI™ Compression	1/2" CPI™ Compression	.423	3.30	0.77	4.08	2.34	1.250	.875
8M8A-C8L	1/2" Male NPT	1/2" A-LOK® Compression	.423	3.30	0.77	3.82	2.19	1.250	.875
8M8F-C8L	1/2" Male NPT	1/2" Female NPT	.453	3.53	0.81	3.56	2.80	1.250	-
8M8Z-C8L	1/2" Male NPT	1/2" CPI™ Compression	.423	3.30	0.77	3.82	2.19	1.250	.875
12A-C12L	3/4" A-LOK® Compression	3/4" A-LOK® Compression	.594	6.01	0.38	4.34	2.60	1.375	1.125
12F-C12L	3/4" Female NPT	3/4" Female NPT	.594	6.01	0.38	4.09	-	1.375	-
12M-C12L	3/4" Male NPT	3/4" Male NPT	.594	6.01	0.38	4.09	2.58	1.375	-
12Q-C12L	3/4" UltraSeal	3/4" UltraSeal	.500	5.63	0.37	3.78	2.64	1.375	-
12V-C12L	3/4" VacuSeal	3/4" VacuSeal	.594	6.01	0.38	4.64	2.64	1.375	-
12Z-C12L	3/4" CPI™ Compression	3/4" CPI™ Compression	.594	6.01	0.38	4.34	2.60	1.375	1.125
12M12A-C12L	3/4" Male NPT	3/4" A-LOK® Compression	.594	6.01	0.38	4.22	2.59	1.375	1.125
12M12F-C12L	3/4" Male NPT	3/4" Female NPT	.594	6.01	0.38	4.09	3.34	1.375	-
12M12Z-C12L	3/4" Male NPT	3/4" CPI™ Compression	.594	6.01	0.38	4.22	2.59	1.375	1.125
16A-C16L	1" A-LOK® Compression	1" A-LOK® Compression	.656	6.56	0.27	4.63	2.53	1.625	1.500
16F-C16L	1" Female NPT	1" Female NPT	.656	6.56	0.27	4.84	-	1.625	-
16M-C16L	1" Male NPT	1" Male NPT	.656	6.56	0.27	4.52	2.63	1.625	-
16Z-C16L	1" CPI™ Compression	1" CPI™ Compression	.656	6.56	0.27	4.63	2.53	1.625	1.500
16M16A-C16L	1" Male NPT	1" A-LOK® Compression	.656	6.56	0.27	4.58	2.59	1.625	1.500
16M16F-C16L	1" Male NPT	1" Female NPT	.656	6.56	0.27	4.68	3.73	1.625	-
16M16Z-C16L	1" Male NPT	1" CPI™ Compression	.656	6.56	0.27	4.58	2.59	1.625	1.500

†For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position.
‡Tested in accordance with ISA S75.02. Gas flow will be choked when $P_1 - P_2 / P_1 = x_t$.

HOW TO ORDER

The correct part number is easily derived from the following sequence. The six product characteristics required are coded as shown below.

*Note: If the inlet and outlet ports are the same, eliminate the outlet port designator.

Inlet Port	Outlet Port*	Body Size	Crack Pressure	Seal Material	Body Material
2A, 2F, 2M, 2Z	2A, 2F, 2M, 2Z	C2L		Blank — Fluorocarbon Rubber	
4A, 4F, 4M, 4Q, 4V, 4Z	4A, 4F, 4M, 4Q, 4V, 4Z	C4L	1/3 psi	BN — Nitrile	
6A, 6F, 6M, 6Q, 6Z	6A, 6F, 6M, 6Q, 6Z	C6L	1 psi	EPR — Ethylene Propylene Rubber	B — Brass
8A, 8F, 8M, 8Q, 8V, 8Z	8A, 8F, 8M, 8Q, 8V, 8Z	C8L	5 psi	NE — Neoprene Rubber	SS — 316 Stainless Steel
12A, 12F, 12M, 12Q, 12V, 12Z	12A, 12F, 12M, 12Q, 12V, 12Z	C12L	10 psi	25 psi	
			50 psi	75 psi	
			100 psi	*T — PTFE	
16A, 16F, 16M, 16Z	16A, 16F, 16M, 16Z	C16L		**KZ — Highly Fluorinated Fluorocarbon Rubber	

* Only available with stainless steel valves. ** Not available on C2 series.

Part Number Example:

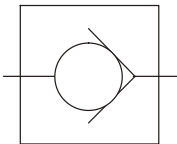
12Z	*	C12L	5	BN	B
Inlet Port	Outlet Port*	Body Size	Crack Pressure	Seal Material	Body Material

Describes a C series check valve with 3/4" OPI™ compression inlet and outlet ports, a 5 psi cracking pressure, nitrile seal and brass body construction.

General Description: Series C check valves permit free flow in one direction, and dependable shut-off in the reverse direction.

CHECK VALVES

SERIES C

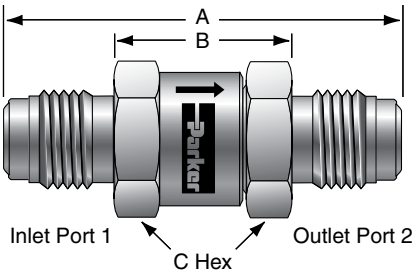


Part No.	Description	Size	Material	Press. Rating (PSI)	Flow (GPM)	Weight (lbs.)
C200S	Check Valve	1/8" NPT	Steel	5000	3	0.100
C400S	Check Valve	1/4" NPT	Steel	5000	5	0.400
C600S	Check Valve	3/8" NPT	Steel	5000	8	0.500
C620S	Check Valve	#6 SAE	Steel	5000	5	0.500
C800S	Check Valve	1/2" NPT	Steel	5000	15	1.300
C820S	Check Valve	#8 SAE	Steel	5000	8	0.700
C1020S	Check Valve	#10 SAE	Steel	5000	15	1.300
C1200S	Check Valve	3/4" NPT	Steel	5000	25	2.000
C1220S	Check Valve	#12 SAE	Steel	5000	25	2.000
C1600S	Check Valve	1" NPT	Steel	3000	40	3.300
C1620S	Check Valve	#16 SAE	Steel	3000	40	3.300
C2000S	Check Valve	1 1/4" NPT	Steel	3000	70	6.200
C2020S	Check Valve	#20 SAE	Steel	3000	70	6.200
C2400S	Check Valve	1 1/2" NPT	Steel	3000	100	8.400
C2420S	Check Valve	#24 SAE	Steel	3000	100	8.400
C3200S	Check Valve	2" NPT	Steel	3000	150	15.400
C3220S	Check Valve	#32 SAE	Steel	3000	150	15.400
C200B	Check Valve	1/8" NPT	Brass	2000	3	0.100
C400B	Check Valve	1/4" NPT	Brass	2000	5	0.400
C600B	Check Valve	3/8" NPT	Brass	2000	8	0.500
C800B	Check Valve	1/2" NPT	Brass	2000	15	1.300
C1200B	Check Valve	3/4" NPT	Brass	2000	25	2.000
C1600B	Check Valve	1" NPT	Brass	500	40	3.300

General Description: Parker CO Series Check Valves are designed for uni-directional flow control of fluids and gases in industries such as chemical processing, oil and gas production and transmission, pharmaceutical, pulp and paper, power and utilities. The CO Series Check Valve is particularly suitable for applications requiring high integrity leak rates and re-sealing capabilities.

- Features:**
- Seal integrity across the seat and to atmosphere is tested to 4×10^{-9} std atm-cc/sec (4×10^{-10} kPa – L/sec) for the CO4L with fluorocarbon rubber seals. All other sizes and seal materials are tested to 1×10^{-5} std atm-cc/sec (1×10^{-6} kPa – L/sec).
 - Special seat seal design provides a repeatable high integrity seal and accurate cracking pressures
 - 100% factory tested.
 - Cracking pressures include: 1/3, 1, 5, 10, 25, 50, 75, and 100 psi.
 - Valves are available with Male and Female NPT, CPI™, A-LOK®, UltraSeal, Male and Female VacuSeal, and Tube Adapter
 - Heat code traceability
 - Color coded identification labels indicate seal material

Specifications	Pressure Rating: 6000 psig CWP	
	Temperature Rating:	
	Fluorocarbon Rubber	-15 °F to 400 °F
	Buna-N Rubber	-30 °F to 250 °F
	Ethylene Propylene Rubber	-70 °F to 275 °F
	Highly Fluorinated Fluorocarbon Rubber	-15 °F to 200 °F
	Orifice:	.156" to .406"
	Cv:	.43 to 2.65



Model Shown: 4V-CO4L-5-KZ-SS

Label Color Cross Reference

Label Color	Seal Material
Brown	Fluorocarbon Rubber
Black	Buna-N Rubber
Purple	Ethylene Propylene Rubber
Green	All others

Testing: All valves are 100% tested for crack, re-seal, and helium leakage.

D = Hex of nuts where applicable.

CHECK VALVES

CO SERIES

Part No.	End Connections		Flow Data Orifice			Dimensions			
	Inlet (Port 1)	Outlet (Port 2)	(in.)	C _v	x _t ‡	A † (in.)	B (in.)	C (in.)	D (in.)
4A-CO4L-***-SS	1/4" A-LOK® Compression	1/4" A-LOK® Compression	.187	.62	.73	2.39	1.00	.750	.563
4F-CO4L-***-SS	1/4" Female NPT	1/4" Female NPT	.187	.62	.73	2.38	-	.750	-
4M-CO4L-***-SS	1/4" Male NPT	1/4" Male NPT	.187	.62	.73	2.09	.95	.750	-
4Q-CO4L-***-SS	1/4" UltraSeal	1/4" UltraSeal	.180	.58	.72	1.91	.98	.750	-
4V-CO4L-***-SS	1/4" VacuSeal	1/4" VacuSeal	.187	.62	.73	2.22	.98	.750	-
4V1-CO4L-***-SS	1/4" Female VacuSeal	1/4" Female VacuSeal	.182	.59	.75	2.67	.98	.750	.750
4Z-CO4L-***-SS	1/4" CPI™ Compression	1/4" CPI™ Compression	.187	.62	.73	2.39	1.00	.750	.563
4M4A-CO4L-***-SS	1/4" Male NPT	1/4" A-LOK® Compression	.187	.62	.73	2.25	.98	.750	.563
4M4F-CO4L-***-SS	1/4" Male NPT	1/4" Female NPT	.187	.62	.73	2.26	1.69	.750	-
4M4Z-CO4L-***-SS	1/4" Male NPT	1/4" CPI™ Compression	.187	.62	.73	2.25	.98	.750	.563
6A-CO6L-***-SS	3/8" A-LOK® Compression	3/8" A-LOK® Compression	.281	1.70	.73	3.17	1.65	1.00	.688
6F-CO6L-***-SS	3/8" Female NPT	3/8" Female NPT	.328	1.85	.69	3.03	-	1.00	-
6M-CO6L-***-SS	3/8" Male NPT	3/8" Male NPT	.328	1.85	.69	2.78	1.64	1.00	-
6Z-CO6L-***-SS	3/8" CPI™ Compression	3/8" CPI™ Compression	.281	1.70	.73	3.17	1.65	1.00	.688
8V-CO6L-***-SS	1/2" VacuSeal	1/2" VacuSeal	.328	1.85	.69	3.57	2.06	1.00	-
8V1-CO6L-***-SS	1/2" Female VacuSeal	1/2" Female VacuSeal	.328	1.85	.69	3.57	1.65	1.00	1.062
8A-CO8L-***-SS	1/2" A-LOK® Compression	1/2" A-LOK® Compression	.406	2.65	.75	3.37	1.63	1.25	.875
8F-CO8L-***-SS	1/2" Female NPT	1/2" Female NPT	.406	2.65	.75	3.60	-	1.25	-
8M-CO8L-***-SS	1/2" Male NPT	1/2" Male NPT	.406	2.65	.75	3.16	1.65	1.25	-
8Q-CO8L-***-SS	1/2" UltraSeal	1/2" UltraSeal	.375	2.55	.78	3.01	2.05	1.25	-
8V-CO8L-***-SS	1/2" VacuSeal	1/2" VacuSeal	.406	2.65	.75	3.56	2.05	1.25	-
8V1-CO8L-***-SS	1/2" Female VacuSeal	1/2" Female VacuSeal	.375	2.55	.78	3.65	1.73	1.25	1.062
8Z-CO8L-***-SS	1/2" CPI™ Compression	1/2" CPI™ Compression	.406	2.65	.75	3.37	1.63	1.25	.875

*Cracking Pressure **Seal Designator

†For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position.

‡Tested in accordance with ISA S75.02. Gas flow will be choked when P₁ - P₂ / P₁ = x_t.

HOW TO ORDER

The correct part number is easily derived by following the circled number sequence.
The six product characteristics required are coded as shown below.

*Note: If both the inlet and outlet ports are the same, eliminate the outlet port designator.

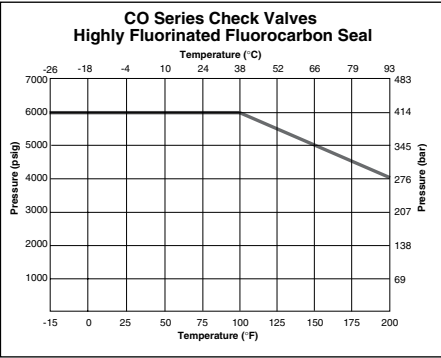
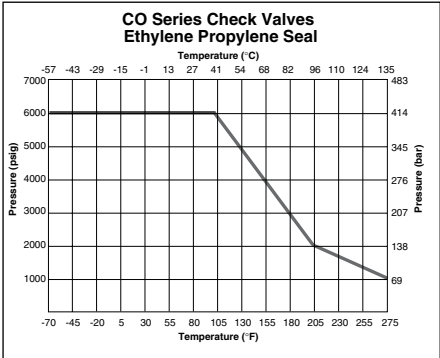
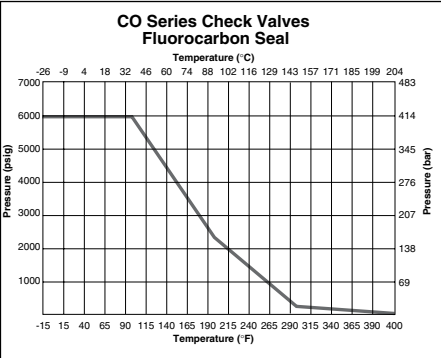
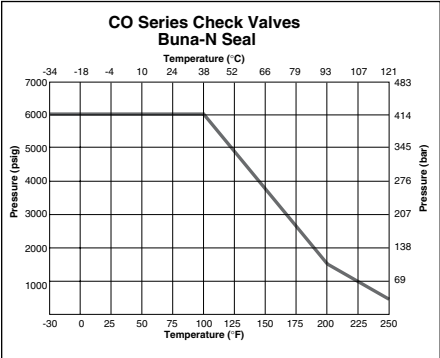
Example: **4M** - **4F** - **CO4L** - **1** - **V** - **SS**

① Inlet Port ② Outlet Port ③ Body Size ④ Crack Pressure ⑤ Seal Material ⑥ Body Material

Describes a CO Series Check Valve with 1/4" male NPT inlet and a 1/4" female NPT outlet,
1 psig cracking pressure, fluorocarbon rubber seals, and stainless steel body construction.

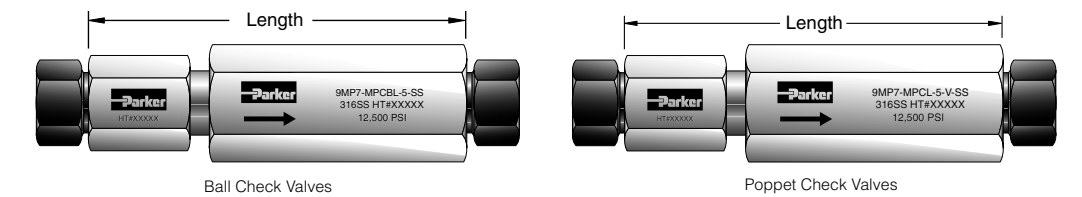
① Inlet Port	② Outlet Port	③ Body Size	④ Crack Pressure	⑤ Seat & Seal Material	⑥ Body Material
4A, 4F, 4M, 4Q, 4V, 4V1, 4Z	4A, 4F, 4M, 4Q, 4V, 4V1, 4Z	CO4L	1/3 psi 1 psi 5 psi 10 psi 25 psi 50 psi 75 psi 100 psi	V—Fluorocarbon Rubber BN—Buna-N Rubber EPR—Ethylene Propylene Rubber KZ—Highly Fluorinated Fluorocarbon Rubber	SS—316 Stainless Steel
6A, 6F, 6M, 6Z, 8V, 8V1	6A, 6F, 6M, 6Z, 8V, 8V1	CO6L			
8A, 8F, 8M, 8Q, 8V1, 8Z	8V, 8A, 8F, 8M, 8Q, 8V, 8V1, 8Z	CO8L			

PRESSURE VS. TEMPERATURE



Note: To determine MPa, multiply bar by 0.1

MPI™CHECK VALVES – BALL & POPPET



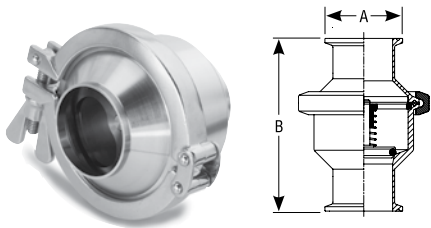
Tubing	Ball Check Valve Part No.	Poppet Check Valve Part No.	PSI	Connection	Orifice (in.)	Length (in.)	Th'k (in.)
1/4" O.D.	4MP7-MPCBL-5-SS	4MP7-MPCL-5-V-SS	15,000	1/4" MPI	0.125	3.75	1.00
3/8" O.D.	6MP7-MPCBL-5-SS	6MP7-MPCL-5-V-SS	15,000	3/8" MPI	0.219	3.75	1.00
1/2" O.D.	8MP7-MPCBL-5-SS	8MP7-MPCL-5-V-SS	15,000	1/2" MPI	0.359	4.50	1.38
9/16" O.D.	9MP7-MPCBL-5-SS	9MP7-MPCL-5-V-SS	15,000	9/16" MPI	0.359	4.50	1.38
3/4" O.D.	12MP7-MPCBL-5-SS	12MP7-MPCL-5-V-SS	15,000	3/4" MPI	0.438	5.13	1.75
1" O.D.	16MP7-MPCBL-5-SS	16MP7-MPCL-5-V-SS	12,500	1" MPI	0.563	6.50	2.50

General Description: Parker sanitary check valves are utilized within processing systems to to avoid product return. The disk opens when the pressure under the disc is greater than that existing in the upper part of the valve. The valve closes when the pressures are balanced. A greater counter pressure will allow the valve to close.

These valves are made from high-grade 316L heat traceable stainless steel. When properly installed, these valves are fully drainable and meet 3A standards. Valves can be easily disassembled and re-assembled for cleaning or maintenance.

Standard configuration is sanitary clamp with EPDM seal and 32 RA sanitary polish. Weld and threaded versions are available upon special request.

Features:	• Material:	316L Stainless steel (construction from forged parts)		
	• Seal Material:	EPDM (other materials on demand)		
	• Surface Finish:	32 RA Mechanical Sanitary Polish		
	• Connections:	Sanitary Clamp (standard), weld connection available		
	• Working Temperature:	Maximum: 121°C. (EPDM) For higher temperatures other seals will be required		
	• Max Pressure:	145 PSI		
	• Opening Pressure:	1.0" 4.35 PSI	1.5" 2.9 PSI	2.0"/4.0" 1.45 PSI



Size	Part No.	A (in.)	B (in.)
1.0	PDCV-1.0-C-316L-(Specify Elastomer)	0.87	5.125
1.5	PDCV-1.5-C-316L-(Specify Elastomer)	1.37	5.125
2.0	PDCV-2.0-C-316L-(Specify Elastomer)	1.87	5.125
2.5	PDCV-2.5-C-316L-(Specify Elastomer)	2.37	6.375
3.0	PDCV-3.0-C-316L-(Specify Elastomer)	2.87	7.50
4.0	PDCV-4.0-C-316L-(Specify Elastomer)	3.84	8.125

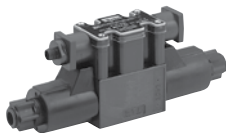
AVAILABLE ELASTOMERS	
EPDM	Standard
PTFE	PTFE
UI	Buna
PX	Platinum Cured Silicone
SFY	Viton

Part No. Breakdown Example	
PDCV-2.0-C-316L-E*	
PDCV	- Disk Check Valve
2.0	- 2"
C	- Clamp Connection
316L	- 316L Stainless Steel
E*	- (EDPM Elastomers standard)

General Description: The D1VW series directional control valves are high-performance, 4-chamber, direct operated, wet armature, solenoid controlled, 3 or 4-way valves. They are available in 2 or 3-position and conform to NFPA's D03/CETOP 3 mounting patterns.

DIRECTIONAL CONTROL VALVES

SERIES D1VW



Part No.	Description	Hydraulic Interface	Electrical Interface	Function	Center Condition	Coil Volts	In-rush (Amps)	Holding (Amps)	Max Pressure P,A,B ports (PSI)	Max Pressure T port (PSI)	Max Flow at 3000 PSI (GPM)	Max Flow at 5000 PSI (GPM)
D1VW002CNYCF5	Directional control valve	D03	DIN connector	3 Pos-4 Way	Open	110-120 AC	1.6	0.49	5000	1500	22	22
D1VW001CNYCF5	Directional control valve	D03	DIN connector	3 Pos-4 Way	Closed	110-120 AC	1.6	0.49	5000	1500	22	22
D1VW004CNYCF5	Directional control valve	D03	DIN connector	3 Pos-4 Way	Motor	110-120 AC	1.6	0.49	5000	1500	13	12.5
D1VW009CNYCF5	Directional control valve	D03	DIN connector	3 Pos-4 Way	Tandem	110-120 AC	1.6	0.49	5000	1500	15	15
D1VW002CNKWM	Directional control valve	D03	DIN connector	3 Pos-4 Way	Open	12 VDC	-	2.5	5000	1500	21	19
D1VW001CNKWM	Directional control valve	D03	DIN connector	3 Pos-4 Way	Closed	12 VDC	-	2.5	5000	1500	22	22
D1VW004CNKWM	Directional control valve	D03	DIN connector	3 Pos-4 Way	Motor	12 VDC	-	2.5	5000	1500	10	10
D1VW009CNKWM	Directional control valve	D03	DIN connector	3 Pos-4 Way	Tandem	12 VDC	-	2.5	5000	1500	15	15
D1VW002CNJWM	Directional control valve	D03	DIN connector	3 Pos-4 Way	Open	24 VDC	-	1.2	5000	1500	21	19
D1VW001CNJWM	Directional control valve	D03	DIN connector	3 Pos-4 Way	Closed	24 VDC	-	1.2	5000	1500	22	22
D1VW004CNJWM	Directional control valve	D03	DIN connector	3 Pos-4 Way	Motor	24 VDC	-	1.2	5000	1500	10	10
D1VW009CNJWM	Directional control valve	D03	DIN connector	3 Pos-4 Way	Tandem	24 VDC	-	1.2	5000	1500	15	15

SERIES D1VW Quick Reference Data

Model	Spool Symbol	Maximum Flow, L/M (GPM) 350 Bar (5000 PSI) w/o Malfunction	Model	Spool Symbol	Maximum Flow, L/M (GPM) 350 Bar (5000 PSI) w/o Malfunction
D1V*1		83 (22)	D1V*8		45 (12)
D1V*2		83 (22)	D1V*9		57 (15)
D1V*4		45 (12)			

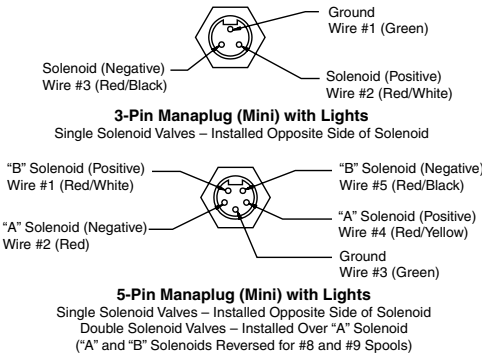
Center or De-energized position is indicated by A, B, P & T port notation.



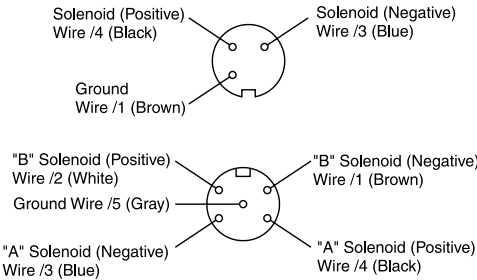
SERIES D1VW ACCESSORIES

Manaplug (Options 6, 56, 1A & 1C)

- Interface – Brad Harrison Plug
- 3-Pin for Single Solenoid
 - 5-Pin for Double Solenoid



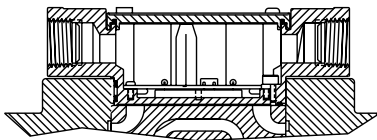
Micro Connector Options (7A, 7B, 1B & 1D)



Pins are as seen on valve (male pin connectors).

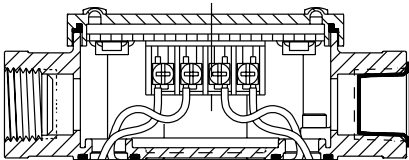
Conduit Box (Standard/Plug-In; Option G)

Meets Nema 4/IP67

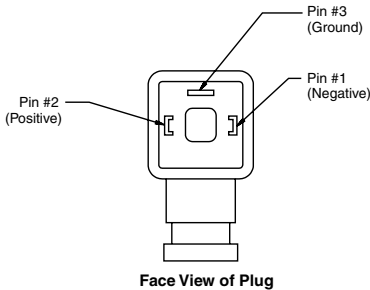


Signal Lights (Option 5)

- LED Interface

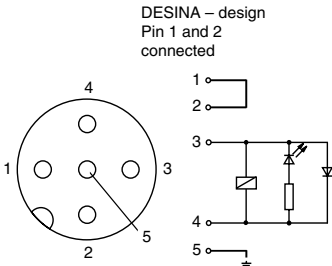


Hirschmann Plug with Lights (Option P5)
ISO 4400/DIN 43650 Form "A"



DESINA Connector (Option D)
M12 pin assignment
Standard

- 1 = Not used
2 = Not used
3 = 0V
4 = Signal (24 V)
5 = Earth Ground



Pins are as seen on valve (male pin connectors).

DIRECTIONAL CONTROL VALVES

HOW TO ORDER

Series D1VW Subplates

SP
Subplate

D2
Valve
Model

**Port Size and
Thread Type**

**Port
Location**

Material

35
Design
Series
Required
when ordering.

Code	Description
D2*	NFPA D03, NG6, CETOP3

* Consult factory for D03
subplates requiring pilot
ports with D1VP.

Code	Description
2N	.25 – 18 NPTF
3N	.38 – 18 NPTF
3S	-6 SAE
4N	.50 – 14 NPTF
4S	-8 SAE
6N	.75 – 14 NPTF
6S	-12 SAE

Code	Description
Omit	Bottom
A	Side

Code	Description
Omit	Aluminum, 210 Bar (3000 PSI)
S	Ductile Iron, 345 Bar (5000 PSI)

Note: 35 Design Series subplates conform to NFPA mounting
pattern specifications, but may be dimensionally different from
previous design series.

Mounting Bolt Kits

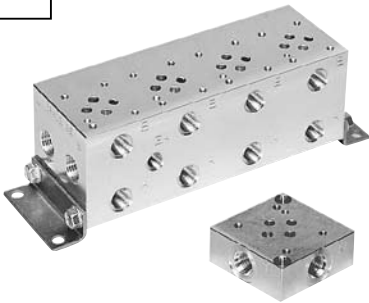
UNC Bolt Kits for use with D1V
Directional Control Valves & Manapaks/Cartpaks
(D1V*-75 Design, Solenoid Operated)

	Number of Manapaks/Cartpaks @ 1.58" (40mm) thickness				
	0	1	2	3	4
D1V-75	BK209 1.25"	BK243 2.88"	BK225 4.38"	BK244 6.00"	BK245 7.50"
D1V-75 Plus Tapping Plate	BK176 2.25"	BK56 3.81"	BK212 5.38"	BK107 7.00"	BK106 8.50"

Note: All bolts are SAE grade 8, 10-24 UNC-2A thread, torque to
5.6 N.m. (50 in.-lbs.)

Series D1VW Subplates and Accessories

Part No.	Description	Hydraulic Interface
SPD24SS35	SUBPLATE - bottom ports - 3/4"-16 SAE	D03
SPD22NS35	SUBPLATE - bottom ports - 1/4" NPT	D03
SPD24SAS35	SUBPLATE - side ports - 3/4"-16 SAE	D03
692914	DIN PLUG - Black	
692915	DIN PLUG - Grey	
BK209	Bolt Kit for CETOP-3 Valves	



Mounting Hardware
supplied with subplate includes:

Subplates	Mounting Hardware	Qty.
SPD22N**	.25-20 UNC x .88 LG. SHCS	2
SPD23N**	.25-20 UNC x .88 LG. SHCS	2
SPD23S**	.25-20 UNC x .88 LG. SHCS	2
SPD24N**	.25-20 UNC x 1.5 LG. SHCS	2
SPD24S**	.25-20 UNC x 1.5 LG. SHCS	2
SPD26N*	.38-16 UNC x 1.50 LG. SHCS	2
SPD26S*	.38-16 UNC x 1.50 LG. SHCS	2
SPD26NA*	.38-16 UNC x 1.75 LG. SHCS	2
SPD26SA*	.38-16 UNC x 1.75 LG. SHCS	2

Valve mounting threads:
#10-24 UNC x 0.63 DP.
Used for SAE and NPTF ports.
Metric M5-0.8mm ISO 6H x 16 DP.
Used for BSPP, BSPT and ISO ports.

DIRECTIONAL CONTROL VALVES

HOW TO ORDER

Series D1VW Manifolds

SP
Manifold

Number of Stations

D2
Valve Model

Port Size and Thread Type

Material

35
Design Series
Required when ordering.

Code	Description
1	No. of Stations
2	No. of Stations
3	No. of Stations
4	No. of Stations
5	No. of Stations
6	No. of Stations
7	No. of Stations
8	No. of Stations
9	No. of Stations
10	No. of Stations
11	No. of Stations
12	No. of Stations
13	No. of Stations
14	No. of Stations
15	No. of Stations
16	No. of Stations

Code	Description
D2*	NFPA D03, NG6, CETOP3

* Consult factory for D03 manifolds requiring pilot ports with D1VP.

Code	Description
Omit	Aluminum, 210 Bar (3000 PSI)
S	Ductile Iron, 345 Bar (5000 PSI)

Port Size				
Code	Description	P & T	A & B	Gage
N*	NPTF	.50	.38	.25
S**	SAE	-10	-8	-6

* 0.25-18 NPTF LSPP gage port plug included.
** -6 SAE gage port plug included.

Note: 35 Design Series manifolds conform to NFPA mounting pattern specifications, but may be dimensionally different from previous design series.

Mounting Bolt Kits

UNC Bolt Kits for use with D1V Directional Control Valves & Manapaks/Cartpaks (D1V*-75 Design, Solenoid Operated)					
	Number of Manapaks/Cartpaks @ 1.58" (40mm) thickness				
	0	1	2	3	4
D1V-75	BK209 1.25"	BK243 2.88"	BK225 4.38"	BK244 6.00"	BK245 7.50"
D1V-75 Plus Tapping Plate	BK176 2.25"	BK56 3.81"	BK212 5.38"	BK107 7.00"	BK106 8.50"

Note: All bolts are SAE grade 8, 10-24 UNC-2A thread, torque to 5.6 N.m. (50 in.-lbs.)

Mounting hardware supplied with manifold includes:
(2) steel brackets
For SAE and NPTF ports: (8) 5/16-18 UNC x .63 hex washer cap screws.
Valve mounting threads:
#10-24 UNC x 0.63 DP. Used for SAE and NPTF ports.

No. Stations	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Wgt., Alum, kg (lbs.)	1.4 (3)	1.8 (4)	2.7 (6)	3.6 (8)	4.1 (9)	5.0 (11)	5.4 (12)	6.4 (14)	7.3 (16)	8.2 (18)	9.1 (20)	9.6 (21)	10.1 (22)	11.0 (24)	11.9 (26)	12.3 (27)
Wgt., Iron, kg (lbs.)	2.3 (5)	4.1 (9)	5.9 (13)	7.7 (17)	9.5 (21)	11.8 (26)	13.6 (30)	15.4 (34)	17.4 (38)	19.2 (42)	21.5 (47)	23.3 (51)	25.1 (55)	27.0 (59)	28.8 (63)	31.1 (68)

General Description: The D3W series directional control valves are high-performance, 4-chamber, direct operated, wet armature, solenoid controlled, 3 or 4-way valves. They are available in 2 or 3-position and conform to NFPA's D05/CETOP 5 mounting patterns.

DIRECTIONAL CONTROL VALVES

SERIES D3W



Part No.	Description	Hydraulic Interface	Electrical Interface	Function	Center Condition	Coil Volts	In-rush (Amps)	Holding (Amps)	Max Pressure P, A, B ports (PSI)	Max Pressure T port (PSI)	Max Flow at 3000 PSI (GPM)	Max Flow at 5000 PSI (GPM)
D3W2ENYC5	Directional control valve	D05	conduit box	3 Pos-4 Way	Open	110-120 AC	3.2	0.86	5000	1500	30	30
D3W1CNYC5	Directional control valve	D05	conduit box	3 Pos-4 Way	Closed	110-120 AC	3.2	0.86	5000	1500	28	5
D3W4CNYC5	Directional control valve	D05	conduit box	3 Pos-4 Way	Motor	110-120 AC	3.2	0.86	5000	1500	17	5
D3W9CNYC5	Directional control valve	D05	conduit box	3 Pos-4 Way	Tandem	110-120 AC	3.2	0.86	5000	1500	12	-

SERIES D3W Quick Reference Data

Model	Spool Symbol	Maximum Flow, L/M (GPM) 350 Bar (5000 PSI) w/o Malfunction	
		D3W	D3W*F ¹
D3*1		150 (40)	78 (20)
D3*2		150 (40)	78 (20)
D3*4		150 (40)	59 (15)
D3*8		50* (13)	59* (15)
D3*9		39 (10)	59* (15)

Center or De-energized position is indicated by A, B, P & T port notation.
*3000 PSI Max. *4300 PSI Max. *1500 PSI Max.

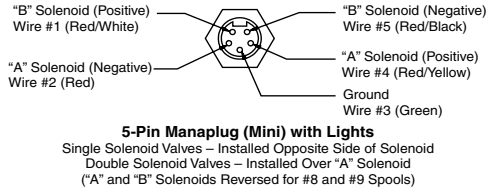
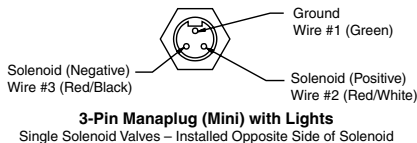
SERIES D3W ACCESSORIES

Conduit Box
(connection option K)

- Interface
- 152.4 cm (6.0 inch) lead wires, 18 awg.
 - Meets NEMA 4 and IP67

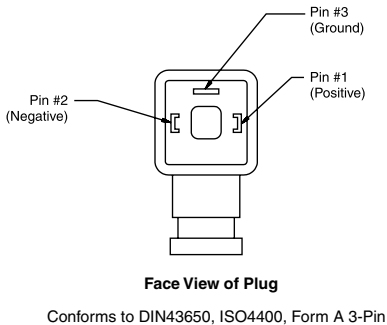
Manaplug
(valve variations 6, 56, 1A, 1C)

- Interface
- Brad Harrison Plug
 - 3-Pin for Single Solenoid
 - 5-Pin for Double Solenoid

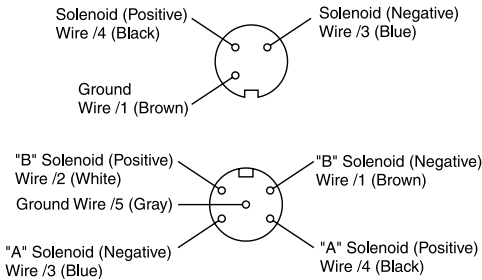


Pins are as seen on valve (male pin connectors).

Hirschmann Plug with Lights (P5)



Manaplug - Micro Connector
(valve variations 7, 57, 1B, 1D)

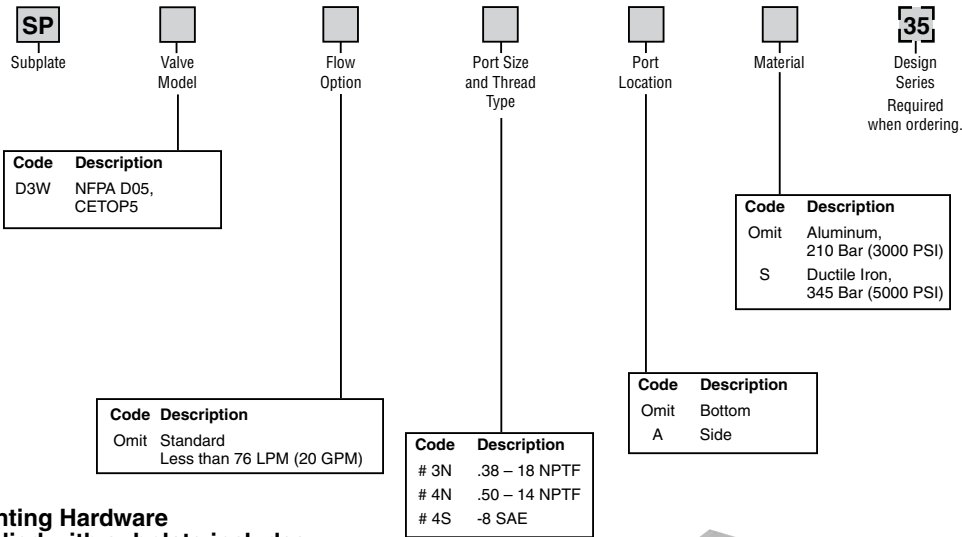


Pins are as seen on valve (male pin connectors).

DIRECTIONAL CONTROL VALVES

HOW TO ORDER

Series D3W Subplates



Mounting Hardware
supplied with subplate includes:

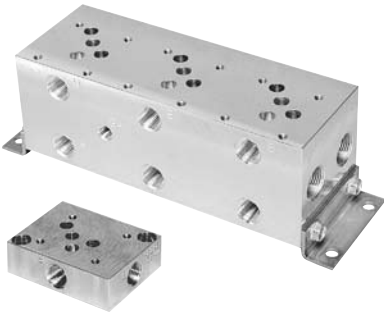
Subplates	Mounting Hardware	Qty.
SPD33N**	.38-16 UNC x 1.25 LG. SHCS	2
SPD34N**	.38-16 UNC x 1.25 LG. SHCS	2
SPD34S**	.38-16 UNC x 1.25 LG. SHCS	2
SPD31*6N**	.38-16 UNC x 1.75 LG. SHCS	2
SPD31*6S**	.38-16 UNC x 1.75 LG. SHCS	2
SPD3H6N**	.38-16 UNC x 1.75 LG. SHCS	2
SPD3H6S**	.38-16 UNC x 1.75 LG. SHCS	2

Valve mounting threads:
0.25-20 UNC x 0.75 DP.
Used for SAE and NPTF ports.

Note: 35 Design Series subplates conform to NFPA mounting pattern specifications, but may be dimensionally different from previous design series.

Series D3W Subplates and Accessories

Part No.	Description	Hydraulic Interface
SPD34SS35	SUBPLATE - bottom ports - 3/4"-16 SAE	D05
SPD34NS35	SUBPLATE - bottom ports - 1/2" NPT	D05
SPD34SAS35	SUBPLATE - side ports - 3/4"-16 SAE	D05
BK98	Bolt Kit for CETOP-5 Valves	



Mounting Bolt Kits

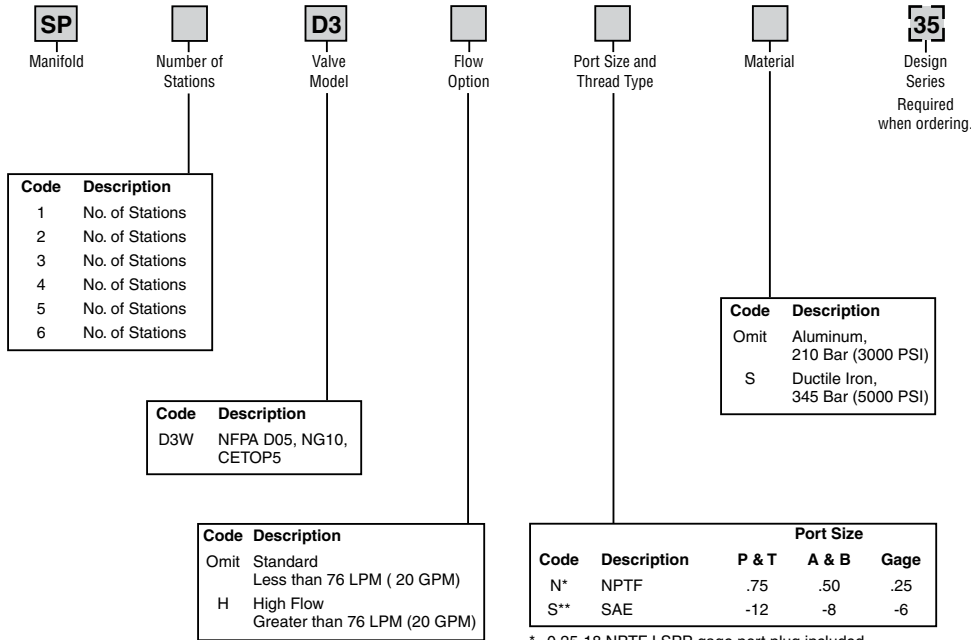
UNC Bolt Kits for use with D3W Directional Control Valves & Manapaks/Cartpaks				
	Number of Manapaks/Cartpaks @ 2.00" (50mm) thickness			
	0	1	2	3
D3-30	BK98 1.625"	BK141 3.50"	BK142 5.50"	BK143 7.50"
D3-30 Plus Tapping Plate	BK166 2.50"	BK167 4.50"	BK168 6.50"	BK169 8.50"

Note: All bolts are SAE grade 8, 1/4-20 UNC-2A thread, torque to 16 N.m. (12 f6.-lbs.)

DIRECTIONAL CONTROL VALVES

HOW TO ORDER

Series D3W Manifolds



Mounting hardware supplied with manifold includes:
(2) steel brackets
For SAE and NPTF ports:
(8) 5/16-18 UNC x .63 hex washer cap screws

Valve mounting threads:
0.25-20 UNC x 0.75 DP.
Used for SAE and NPTF ports.

* 0.25-18 NPTF LSPP gage port plug included.
** -6 SAE gage port plug included.

Mounting Bolt Kits

Note: 35 Design Series manifolds conform to NFPA mounting pattern specifications, but may be dimensionally different from previous design series.

No. Stations	01	02	03	04	05	06
Wgt., Alum, kg (lbs.)	1.8 (4)	3.7 (8)	5.0 (11)	6.4 (14)	7.8 (17)	9.6 (21)
Wgt., Iron, kg (lbs.)	4.1 (9)	7.8 (17)	11.9 (26)	15.6 (34)	19.7 (43)	23.3 (51)

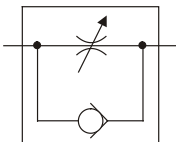
UNC Bolt Kits for use with D3W Directional Control Valves & Manapaks/Cartpaks				
	Number of Manapaks/Cartpaks @ 2.00" (50mm) thickness			
	0	1	2	3
D3-30	BK98 1.625"	BK141 3.50"	BK142 5.50"	BK143 7.50"
D3-30 Plus Tapping Plate	BK166 2.50"	BK167 4.50"	BK168 6.50"	BK169 8.50"

Note: All bolts are SAE grade 8, 1/4-20 UNC-2A thread, torque to 16 N.m. (12 f6.-lbs.)

General Description: Series F flow control valves provide precise control of flow and shut-off in one direction, and automatically permit full flow in the opposite direction.

FLOW CONTROL VALVES

SERIES F

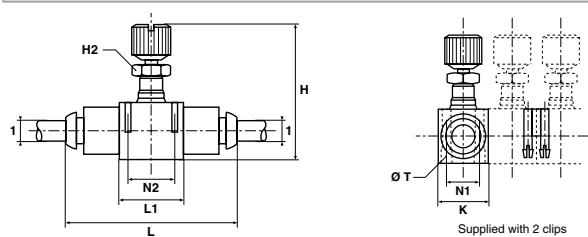


Part No.	Description	Size	Material	Press. Rating (PSI)	Flow (GPM)	Weight (lbs.)
F200S	Flow Control Valve	1/8" NPT	Steel	5000	3	0.300
F400S	Flow Control Valve	1/4" NPT	Steel	5000	5	0.500
F420S	Flow Control Valve	#4 SAE	Steel	5000	3	0.500
F600S	Flow Control Valve	3/8" NPT	Steel	5000	8	0.700
F620S	Flow Control Valve	#6 SAE	Steel	5000	5	0.600
F800S	Flow Control Valve	1/2" NPT	Steel	5000	15	1.500
F820S	Flow Control Valve	#8 SAE	Steel	5000	8	1.000
F1020S	Flow Control Valve	#10 SAE	Steel	5000	15	1.800
F1200S	Flow Control Valve	3/4" NPT	Steel	3000	25	2.600
F1220S	Flow Control Valve	#12 SAE	Steel	3000	25	2.600
F1600S	Flow Control Valve	1" NPT	Steel	3000	40	5.100
F1620S	Flow Control Valve	#16 SAE	Steel	3000	40	5.100
F2000S	Flow Control Valve	1 1/4" NPT	Steel	3000	70	8.100
F2020S	Flow Control Valve	#20 SAE	Steel	3000	70	8.100
F2400S	Flow Control Valve	1 1/2" NPT	Steel	3000	100	10.200
F2420S	Flow Control Valve	#24 SAE	Steel	3000	100	10.200
F3200S	Flow Control Valve	2" NPT	Steel	3000	150	17.400
F3220S	Flow Control Valve	#32 SAE	Steel	3000	150	17.400
F200B	Flow Control Valve	1/8" NPT	Brass	2000	3	0.300
F400B	Flow Control Valve	1/4" NPT	Brass	2000	5	0.500
F600B	Flow Control Valve	3/8" NPT	Brass	2000	8	0.700
F800B	Flow Control Valve	1/2" NPT	Brass	2000	15	1.500
F1200B	Flow Control Valve	3/4" NPT	Brass	2000	25	2.600
F1600B	Flow Control Valve	1" NPT	Brass	500	40	5.100

Description:	Parker In-Line Flow Controls are unidirectional flow control valves. In-Line Flow Control Valves are designed to mount on the piping between the directional valve and the cylinder or can be mounted on the control panel next to the other control units. They can be added to the existing circuitry, simply splice it into the cylinder port line.
Features:	• Full flow in both directions • Assembly in banks • Panel mounting • Allows other function fittings to be mounted on a cylinder • Space saving • Weight saving • Flexibility
Valve Specifications:	Maximum Working Pressure: 145 PSI Operating Temperature: +5° to +150°F Body Material: High resistance polyamide Adjustment Screw Material: Brass

IN-LINE FLOW CONTROL VALVES

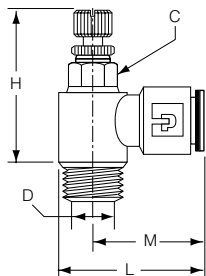
IN-LINE FLOW CONTROL WITH PUSH-IN CONNECTION FC800



Part No.	1 OD	H Min.	H Max.	L	L1	K	N1	N2	T	Orifice	H2 (MM)
FC800-5/32	5/32	1.15	1.31	1.52	.59	.47	.31	.43	.09	.12	5
FC800-4	1/4	1.54	1.74	2.11	.90	.66	.43	.66	.12	.16	8
FC800-6	3/8	2.03	2.38	2.96	1.29	.94	.62	1.01	.16	.31	14

MINI RIGHT ANGLE FLOW CONTROL VALVES

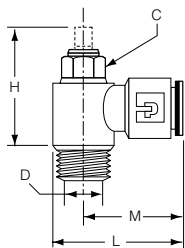
MINATURE EXHAUST FLOW CONTROL FCM701



Part No.	Tube Size	Thread Size	C Hex (MM)	H Closed	H Open	L	M	Flow Dia. D
FCM701-5/32-2	5/32	1/8	7	1.000	1.083	.935	.708	.100
FCM701-4-2	1/4	1/8	7	1.000	1.083	.957	.730	.100

MINI RIGHT ANGLE FLOW CONTROL VALVES

KNOBLESS MINATURE EXHAUST FLOW CONTROL FCM703



Part No.	Tube Size	Thread Size	C Hex (MM)	H Closed	H Open	L	M	Flow Dia. D
FCM703-5/32-2	5/32	1/8	6	.708	.860	.935	.708	.100
FCM703-4-2	1/4	1/8	7	.708	.860	.956	.730	.100

Description:

Parker flow controls are designed for mounting directly onto the cylinder ports to provide precise control of piston rod speed. Due to their compactness, they are particularly suitable for applications where space is at a premium.

Features:

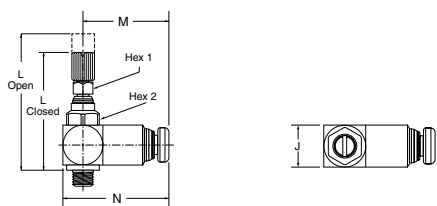
- Direct Mounting
- Compact
- Positional
- Optimum flow control
- Swivel outlet for use where access is restricted

Valve Specifications:

Maximum Working Pressure: 145 PSI
Operating Temperature: -10° to 200°F
Body Material: Brass black epoxy coated
Bolt Material: Brass

RIGHT ANGLE FLOW CONTROL VALVES

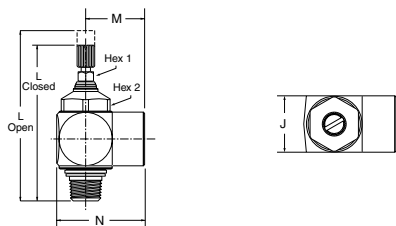
FLOW CONTROL WITH PUSH-IN CONNECTION FC701



Part No.	Tube Size	Thread Size	Hex 1	Hex 2	L Open	L Closed	N	M	J
FC701-4-2	1/4	1/8	5/16	5/8	2.181	2.000	1.361	0.992	0.679
FC701-4-4	1/4	1/4	5/16	5/8	2.566	2.318	1.381	1.011	0.679
FC701-6-4	3/8	1/4	5/16	5/8	2.566	2.318	1.507	1.138	0.679
FC701-6-6	3/8	3/8	5/16	13/16	3.157	2.696	1.677	1.177	0.984

RIGHT ANGLE FLOW CONTROL VALVES

FLOW CONTROL WITH THREADED CONNECTION FC702

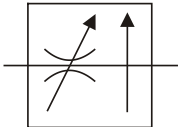


Part No.	Male Pipe	Female Pipe	Hex 1	Hex 2	L Open	L Closed	N	M	J
FC702-4	1/4	1/4	5/16	5/8	2.566	2.318	1.274	0.905	0.679
FC702-6	3/8	3/8	5/16	13/16	3.157	2.696	1.535	1.043	0.984

General Description: Series PCM and PCCM pressure compensated flow control valves are designed to regulate flow at a selected rate, within 5%, regardless of fluctuations in inlet and outlet pressure.

PRESSURE COMPENSATED VALVES

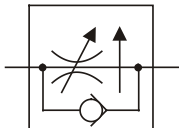
SERIES PCM



Part No.	Description	Size	Material	Press. Rating (PSI)	Flow (GPM)	Weight (lbs.)
PCM400S	Press. Comp. Flow Control	1/4" NPT	Steel	3000	3	1.800
PCM600S	Press. Comp. Flow Control	3/8" NPT	Steel	3000	6	2.300
PCM620S	Press. Comp. Flow Control	#6 SAE	Steel	3000	3	1.800
PCM800S	Press. Comp. Flow Control	1/2" NPT	Steel	3000	15	3.700
PCM820S	Press. Comp. Flow Control	#8 SAE	Steel	3000	6	3.100
PCM1200S	Press. Comp. Flow Control	3/4" NPT	Steel	3000	25	8.000
PCM1220S	Press. Comp. Flow Control	#12 SAE	Steel	3000	25	8.000
PCM1600S	Press. Comp. Flow Control	1" NPT	Steel	3000	50	14.500

PRESSURE COMPENSATED VALVES

SERIES PCCM



Part No.	Description	Size	Material	Press. Rating (PSI)	Flow (GPM)	Weight (lbs.)
PCCM400S	Press. Comp. Flow Control	1/4" NPT	Steel	3000	3	1.800
PCCM600S	Press. Comp. Flow Control	3/8" NPT	Steel	3000	6	2.300
PCCM620S	Press. Comp. Flow Control	#6 SAE	Steel	3000	3	1.800
PCCM800S	Press. Comp. Flow Control	1/2" NPT	Steel	3000	15	3.700
PCCM820S	Press. Comp. Flow Control	#8 SAE	Steel	3000	6	3.100
PCCM1200S	Press. Comp. Flow Control	3/4" NPT	Steel	3000	25	8.000
PCCM1220S	Press. Comp. Flow Control	#12 SAE	Steel	3000	25	8.000
PCCM1600S	Press. Comp. Flow Control	1" NPT	Steel	3000	50	14.500

General Description: The Series CM Manapak check valves provide an integral, full flow check valve in the pressure 'P' port, 'A' port, 'B' port, or the tank 'T' port of the directional valve. Reverse flow is blocked. The CM2 and CM3 sizes offer a combination P&T check version.

- Features:**
- Valve bodies are manufactured from steel which provides extra strength and durability for longer life. Internal hardened steel components also provide longer life.
 - Positive shut-off is provided by a fully guided poppet and allows full flow in the unchecked position.
 - Parker Manapak CM sandwich style check valves can be used either on the 'P', 'A', 'B', 'T' ports or combinations.
 - Large internal flow paths allow high flow at low pressure drop.

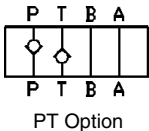
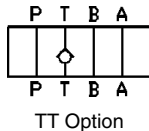
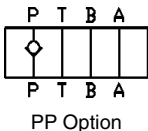
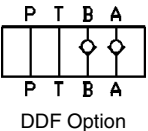
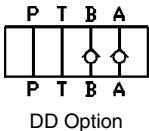
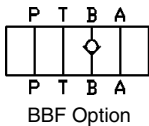
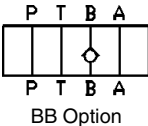
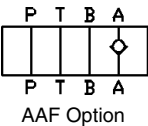
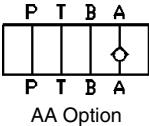
MANAPAK SANDWICH VALVES

SERIES CM



Part No.	Description	Size	Material	Press. Rating (PSI)	Flow (GPM)	Weight (lbs.)
CM2AAN	A Port Check - free flow from load	NFPA D03, CETOP 3, NG 6	Steel	5000	20	1.7
CM2BBN	B Port Check - free flow from load	NFPA D03, CETOP 3, NG 6	Steel	5000	20	1.7
CM2PPN	P Port Check - free flow to load	NFPA D03, CETOP 3, NG 6	Steel	5000	20	1.7
CM2TTN	T Port Check - free flow from load	NFPA D03, CETOP 3, NG 6	Steel	5000	20	1.7
CM3AAN	A Port Check - free flow from load	NFPA D05, CETOP 5, NG 10	Steel	5000	30	3.9
CM3BBN	B Port Check - free flow from load	NFPA D05, CETOP 5, NG 10	Steel	5000	30	3.9
CM3PPN	P Port Check - free flow to load	NFPA D05, CETOP 5, NG 10	Steel	5000	30	3.9
CM3TTN	T Port Check - free flow from load	NFPA D05, CETOP 5, NG 10	Steel	5000	30	3.9

Schematics



General Description: The CPOM series of double pilot operated check valves blocks leakage from the actuator ports to tank when the directional valve is in the center position.

NOTE: For max. response and shut off, a directional valve with both cylinder ports drained to tank in the center position is recommended for use with Manapak double pilot operated check valves.

- Features:**
- Parker Manapak CPOM sandwich style, p.o. check valves can be provided in either single or double configurations.
 - The p.o. checks may be positioned in 'A' port or 'B' port; or both 'A' and 'B' ports.
 - Valve bodies are manufactured from steel providing extra strength and durability for longer life. Internal hardened steel components also provide longer life.
 - Positive shut-off is provided by a hardened poppet and cage assembly.
 - Large internal flow paths allow high flow at low pressure drop.

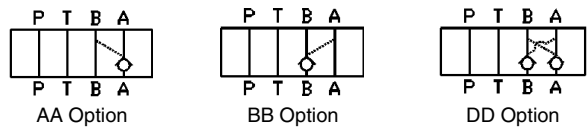
MANAPAK SANDWICH VALVES

SERIES CPOM



Part No.	Description	Size	Material	Press. Rating (PSI)	Flow (GPM)	Weight (lbs.)
CPOM2AAN	A Port PO Check	NFPA D03, CETOP 3, NG 6	Steel	5000	20	1.7
CPOM2BBN	B Port PO Check	NFPA D03, CETOP 3, NG 6	Steel	5000	20	1.7
CPOM2DDN	A & B Port Check	NFPA D03, CETOP 3, NG 6	Steel	5000	20	1.7
CPOM3AAN	A Port PO Check	NFPA D05, CETOP 5, NG 10	Steel	5000	20	9.6
CPOM3BBN	B Port PO Check	NFPA D05, CETOP 5, NG 10	Steel	5000	20	9.6
CPOM3DDN	A & B Port Check	NFPA D05, CETOP 5, NG 10	Steel	5000	20	9.6

Schematics



- General Description:** The FM double Manapak flow control valves permit free flow from the directional valve to the actuator and adjustable independent flow regulation in each return line from the actuator (meter-out). The FM2 and FM3 have a seal plate and can be inverted for meter-in applications.
- Features:**
- Manapak style FM flow control valves can be provided in either single or double configurations.
 - The flow controls may be positioned in 'A' port, 'B' port, both 'A' and 'B' ports or 'P' port.
 - Valve bodies are manufactured from steel providing extra strength and durability for longer life. Internal hardened steel components also provide longer life.
 - Two step needles provide fine adjustment for the first few turns and coarse adjustment for the last few turns. Standard and fine adjustment needles available.
 - Large bypass checks allow high flow at a low pressure drop.
 - Valve is reversible (invert 180°) for meter-in or meter-out applications (FM2 and FM3 only).
 - Adjustment options include Allen hex or hand knob.

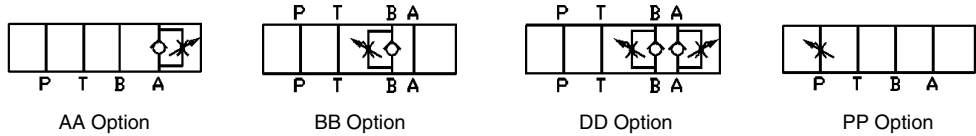
MANAPAK SANDWICH VALVES

SERIES FM



Part No.	Description	Size	Material	Press. Rating (PSI)	Flow (GPM)	Weight (lbs.)
FM2AAKN	A Port Flow Control	NFPA D03, CETOP 3, NG 6	Steel	5000	20	3.8
FM2BBKN	B Port Flow Control	NFPA D03, CETOP 3, NG 6	Steel	5000	20	3.8
FM2DDKN	A & B Port Flow Control	NFPA D03, CETOP 3, NG 6	Steel	5000	20	3.8
FM2PPKN	P Port Flow Control	NFPA D03, CETOP 3, NG 6	Steel	5000	20	3.8
FM3AAKN	A Port Flow Control	NFPA D05, CETOP 5, NG 10	Steel	5000	30	5.2
FM3BBKN	B Port Flow Control	NFPA D05, CETOP 5, NG 10	Steel	5000	30	5.2
FM3DDKN	A & B Port Flow Control	NFPA D05, CETOP 5, NG 10	Steel	5000	30	5.2
FM3PPKN	P Port Flow Control	NFPA D05, CETOP 5, NG 10	Steel	5000	30	5.2

Schematics



General Description: Series PRDM are direct operated pressure reducing valves that are used to regulate pressure in one area of a hydraulic circuit at a predetermined level below normal system pressure. Additionally, an integral pressure relieving function for the secondary reduced pressure circuit is incorporated into the design.

- Features:**
- PRDM Manapak sandwich valves may be selected to reduce pressure in the 'P' port, 'A' port or 'B' port.
 - The direct operated, cushioned piston design results in fast response, low leakage and minimal hysteresis.
 - Up to four pressure adjustment ranges are available with maximum pressure settings of 25, 64, 160 and 210 Bar (363, 928, 2320, 3045 PSI).
 - Adjustment options include: internal hex screw, hand knob or internal hex with keylock.
 - Fluorocarbon seals are standard for multi-fluid compatibility.
 - Available gage port connections include: SAE, NPT, BSPP Metric and ISO 6149.

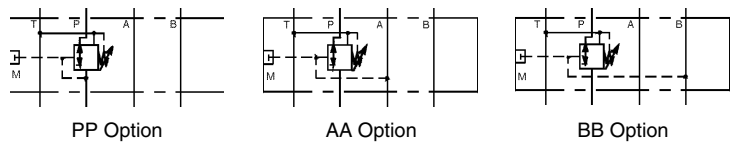
MANAPAK SANDWICH VALVES

SERIES PRDM



Part No.	Description	Size	Material	Press. Rating (PSI)	Flow (GPM)	Weight (lbs.)
PRDM2PP35KN	P Port Pressure Reducing Valve	NFPA D03, CETOP 3, NG 6	Steel	5000	10.5	2.9
PRDM2AA35KN	A Port Pressure Reducing Valve	NFPA D03, CETOP 3, NG 6	Steel	5000	10.5	2.9
PRDM2BB35KN	B Port Pressure Reducing Valve	NFPA D03, CETOP 3, NG 6	Steel	5000	10.5	2.9
PRDM3PP35KN	P Port Pressure Reducing Valve	NFPA D05, CETOP 5, NG 10	Steel	5000	21	5.8
PRDM3AA35KN	A Port Pressure Reducing Valve	NFPA D05, CETOP 5, NG 10	Steel	5000	21	5.8
PRDM3BB35KN	B Port Pressure Reducing Valve	NFPA D05, CETOP 5, NG 10	Steel	5000	21	5.8

Schematics



General Description: RM Series relief valves limit system pressure by opening to tank when system pressure reaches the valve setting. With D03 size, they can also be configured to limit the 'A' or 'B' work port pressures independently.

- Features:**
- Parker Manapak RM sandwich style relief valves can be used to limit pressure in the 'P' port, 'A' port, or 'B' port.
 - Valve bodies are manufactured from steel which provides extra strength and durability for longer life. Internal hardened steel components also provide longer life.
 - Three pressure adjustment options are available: slotted screw, knob and locking knob.

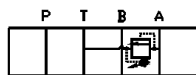
MANAPAK SANDWICH VALVES

SERIES RM

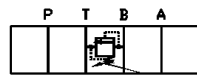


Part No.	Description	Size	Material	Press. Rating (PSI)	Flow (GPM)	Weight (lbs.)
RM2PT35SN	P -> T Relief Valve	NFPA D03, CETOP 3, NG 6	Steel	5000 PSI	14	2.1
RM2AT35SN	A -> T Relief Valve	NFPA D03, CETOP 3, NG 6	Steel	5000 PSI	14	2.1
RM2BT35SN	B -> T Relief Valve	NFPA D03, CETOP 3, NG 6	Steel	5000 PSI	14	2.1
RM3PT35SN	P -> T Relief Valve	NFPA D05, CETOP 5, NG 10	Steel	5000 PSI	20	6.6
RM3AT35SN	A -> T Relief Valve	NFPA D05, CETOP 5, NG 10	Steel	5000 PSI	20	6.6
RM3BT35SN	B -> T Relief Valve	NFPA D05, CETOP 5, NG 10	Steel	5000 PSI	20	6.6

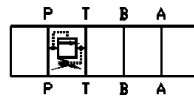
Schematics



AT Option



SUBPLATE SIDE
BT Option



PT Option

General Description:

Parker HR Series Metering Valves provide the highest degree of precision metering for moderate pressure applications. A choice of seven precision ground, tapered flat, non-rotating and non-rising valve stems enable repeatable metering at flow capacities as low as 0.0004 C_v. With 15 stem turns, this valve offers the ultimate in precision flow control. This series also features shut-off capability not found in most metering valves.

Features:

- Bubble tight shut-off
- Special fine pitch thread with 15 turn resolution is isolated from contact with process fluids
- Non-rotating/non-rising valve stem design provides smooth, non-reversing flow characteristics
- Seven optional valve stem tapers
- Special orifice liner assures long life
- Panel or in-line mounting
- Angle or in-line patterns
- Brass or 316 SS forged body construction
- 100% function tested for actuation and shut-off

METERING VALVES

SPECIFICATIONS

	Flow Data						
	H0	H1	H2	H3	H4	H5	H6
Orifice	0.000002 IN ²	0.000083 IN ²	0.000168 IN ²	0.000241 IN ²	0.000674 IN ²	0.002325 IN ²	0.006227 IN ²
In-line Pattern	C _v = 0.0004 X _T = 0.85	C _v = 0.0070 X _T = 0.85	C _v = 0.0140 X _T = 0.85	C _v = 0.0200 X _T = 0.85	C _v = 0.0300 X _T = 0.85	C _v = 0.0470 X _T = 0.85	C _v = 0.1180 X _T = 0.85
Angle Pattern	C _v = 0.0004 X _T = 0.66	C _v = 0.0070 X _T = 0.66	C _v = 0.0140 X _T = 0.66	C _v = 0.0210 X _T = 0.66	C _v = 0.0320 X _T = 0.66	C _v = 0.0490 X _T = 0.66	C _v = 0.1550 X _T = 0.66

Pressure Rating at all temperatures:

250 psig CWP

Turns to open:

15 +/- 1

Valve / Seal Temperature Ratings:

Buna-N Rubber:

-50 °F to 300 °F

Ethylene Propylene Rubber:

-50 °F to 300 °F

Neoprene Rubber:

-50 °F to 300 °F

Fluorocarbon Rubber*:

-25 °F to 400 °F

Highly Fluorinated Fluorocarbon Rubber:

-25 °F to 200 °F

*Note: The Turns Counter Handle (TC) requires the HT option for use at temperatures above 300° F.

Flow tested in accordance with ISA S75.02. Gas flow will be choked when $P_1 - P_2 / P_1 = x_T$.



METERING VALVES

HR SERIES



Panel Hole Diameter:
0.65
Max Panel Thickness:
0.28

Model Shown: M6A-H6L-KZ-SS-TC

Part No.	End Connections		Dimensions			
	Inlet (Port 1)	Outlet (Port 2)	A† (In.)	B† (In.)	C (In.)	D (In.)
1A-H#A	1/16" Compression A-LOK®		0.92	0.92	0.41	0.73
1Z-H#A	1/16" Compression CPI™		0.92	0.92	0.41	0.73
2A-H#L	1/8" Compression A-LOK®		1.03	1.03	0.41	0.85
2A-H#A	1/8" Compression A-LOK®		1.03	1.03	0.41	0.73
2F-H#L	1/8" Female NPT		0.93	0.93	0.41	0.85
2F-H#A	1/8" Female NPT		0.93	1.03	0.41	0.73
2Z-H#L	1/8" Compression CPI™		1.03	1.03	0.41	0.85
2Z-H#A	1/8" Compression CPI™		1.03	1.03	0.41	0.73
4A-H#L	1/4" Compression A-LOK®		1.11	1.11	0.41	0.85
4A-H#A	1/4" Compression A-LOK®		1.11	1.11	0.41	0.73
4F-H#L	1/4" Female NPT		0.97	0.97	0.41	0.85
4F-H#A	1/4" Female NPT		0.97	0.97	0.41	0.73
4M-H#L	1/4" Male NPT		0.93	0.93	0.41	0.85
4M-H#A	1/4" Male NPT		0.93	0.93	0.41	0.73
4Z-H#L	1/4" Compression CPI™		1.11	1.11	0.41	0.85
4Z-H#A	1/4" Compression CPI™		1.11	1.11	0.41	0.73

K Handle Dimensions:

PATTERN	E (in.)	F (in.)	G (in.)
IN-LINE	2.35	2.35	0.78
ANGLE	2.23	2.23	0.78

TC Handle Dimensions:

PATTERN	E (in.)	F (in.)	G (in.)
IN-LINE	2.88	2.88	1.12
ANGLE	2.76	2.76	1.12

NS Handle Dimensions:

PATTERN	E (in.)	F (in.)	G (in.)
IN-LINE	2.33	2.33	0.25
ANGLE	2.21	2.21	0.25

† For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position.

HOW TO ORDER

The correct part number is easily derived from the following number sequence. The six product characteristics required are coded as shown below. *Note: If the inlet and outlet ports are the same, eliminate the outlet port designator.

Example: **4Z** ***** **-** **H3L** **-** **V** **-** **SS** **-** **TC**

① Inlet Port ② Outlet Port ③ Valve/Stem Series ④ Seal Material ⑤ Body Material ⑥ Handle Type

① Inlet Port	② Outlet Port	③ Valve/stem Series	④ Seal Material	⑤ Body Material	⑥ Handle Type
1A, 1Z		H#A	BN-Buna-N Rubber EPR-Ethylene Propylene Rubber	SS-Stainless Steel	K-Knurled
		H#A H#L	NE-Neoprene Rubber V-Fluorocarbon Rubber KZ-Highly Fluorinated Fluorocarbon Rubber		TC-Turns Counter NS-No Handle (Slotted Stem)

HANDLE OPTIONS

Knurled (K)



Knurled ABS molded handle provides ease of actuation

Turns Counter (TC)



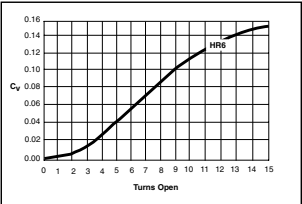
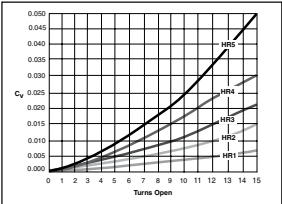
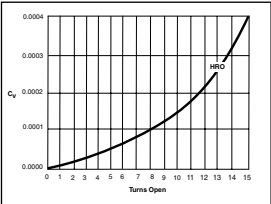
Graduated black-anodized aluminum alloy handle provides a readable count of turns open

Slotted Stem (NS)

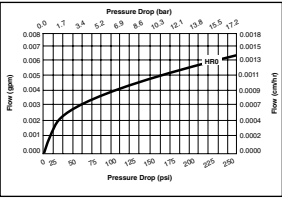
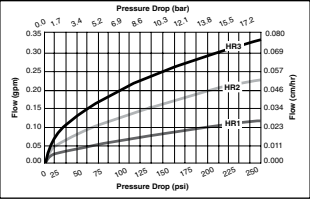
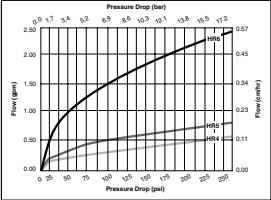


Screwdriver slot on top of stem may be used for inaccessible locations or tamper resistance

C_v vs. Turns Open



WATER FLOW DATA



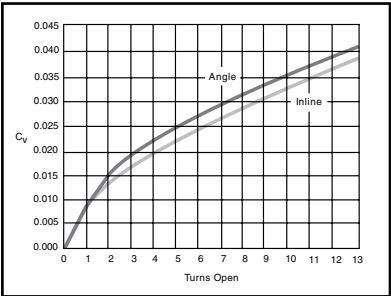
General Description: The Parker NS Series of metering valves are designed to provide accurate and stable control of flow rates in analytical, instrumentation, and research applications. A variety of connection sizes, body patterns and materials of construction provide considerable application versatility. For higher flow rates, refer to the NM and NL Series of metering valves.

- Features:**
- Precision tapered valve stem accurately controls flow
 - Brass or 316 SS forged body construction
 - Panel or in-line mounting
 - Positive handle stop prevents overtightening
 - Angle or in-line patterns
 - Valve stem threads not in contact with process fluid
 - 100% function tested
 - Optional stem seals and handles

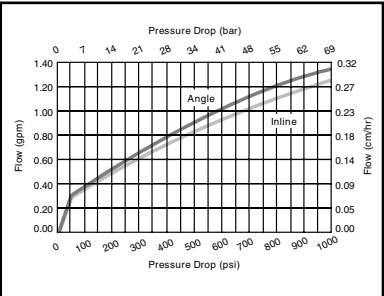
- Specifications:**
- Pressure Rating at all temperatures: 2000 psig CWP
 - Flow Data:
 - Orifice: 0.03"
 - In-line pattern: $C_v = 0.039$; $X_T = 0.64$
 - Angle pattern: $C_v = 0.042$; $X_T = 0.53$
 - Stem Taper: 1°
 - Turns to open: 13 +/- 1

- Valve / Seal**
- Temperature Ratings:**
- | | |
|---|----------------|
| Buna-N Rubber: | -50°F to 300°F |
| Ethylene Propylene Rubber: | -50°F to 300°F |
| Neoprene Rubber: | -50°F to 300°F |
| Fluorocarbon Rubber: | -25°F to 400°F |
| Highly Fluorinated Fluorocarbon Rubber: | -25°F to 200°F |

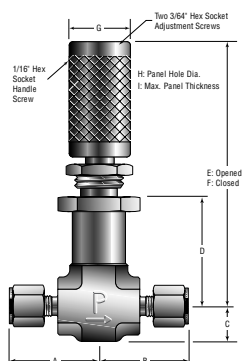
NS Series – C_v vs. Turns Open



NS Series – Water Flow Data



NS SERIES



E = 2.97", F = 2.74"
G = 0.84", H = 0.46"
I = 0.16"

Model Shown: **2A-NSL-BN-SS-F**

Part No.	End Connections		Dimensions			
	(Inlet) Port 1	(Outlet) Port 2	A* (In.)	B* (In.)	C (In.)	D (In.)
1A-NSL	1/16" Compression A-LOK®		0.78	0.78	0.31	0.94
1A-NSA	1/16" Compression A-LOK		0.82	0.82	0.31	0.94
1Z-NSL	1/16" Compression CPI™		0.78	0.78	0.31	0.94
1Z-NSA	1/16" Compression CPI™		0.82	0.82	0.31	0.94
2A-NSL	1/8" Compression A-LOK®		0.95	0.95	0.31	0.94
2A-NSA	1/8" Compression A-LOK®		1.01	1.01	0.31	0.94
2M-NSL	1/8" Male NPT		0.88	0.88	0.31	0.94
2M-NSA	1/8" Male NPT		0.88	0.88	0.31	0.94
2Z-NSL	1/8" Compression CPI™		0.95	0.95	0.31	0.94
2Z-NSA	1/8" Compression CPI™		1.01	1.01	0.31	0.94
4A-NSL	1/4" Compression A-LOK®		1.02	1.02	0.31	0.94
4A-NSA	1/4" Compression A-LOK®		1.02	1.02	0.31	0.94
4V-NSL	1/4" VacuSeal		1.03	1.03	0.53	0.94
4Z-NSL	1/4" Compression CPI™		1.02	1.02	0.31	0.94
4Z-NSA	1/4" Compression CPI™		1.02	1.02	0.31	0.94

* For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position.

General Description: The Parker NM and NL Series of metering valves provide higher flow rates than the NS Series of metering valves and retain most of the features found in the NS Series.

Features:

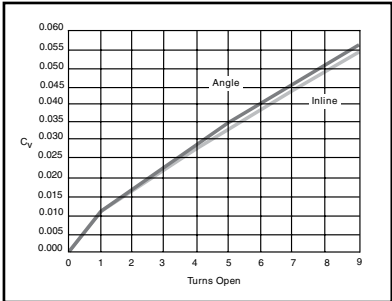
- Precisely tapered valve stem accurately controls flow
- Brass or 316 SS forged body construction
- Panel or in-line mounting
- Angle or in-line patterns
- Valve stem threads not in contact with process fluid
- 100% function tested
- Optional stem seals and handles

Specifications:	Pressure Rating at all temperatures:	1000 psig CWP
	NM Specifications:	NL Specifications:
	Flow Data:	Flow Data:
	Orifice: 0.06"	Orifice: 0.13"
	In-line pattern: $C_v = 0.055; X_T = 0.41$	In-line pattern: $C_v = 0.207; X_T = 0.71$
	Angle pattern: $C_v = 0.057; X_T = 0.38$	Angle pattern: $C_v = 0.299; X_T = 0.60$
	Stem Taper: 3°	Stem Taper: 5°
	Turns to open: 9 +/- 1	Turns to open: 10 +/- 1

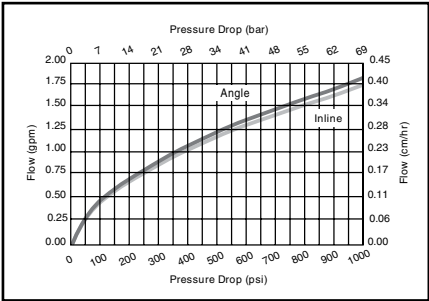
Valve/Seal

Temperature Ratings: Buna-N Rubber:	-50°F to 300°F
Ethylene Propylene Rubber:	-50°F to 300°F
Neoprene Rubber:	-50°F to 300°F
Fluorocarbon Rubber:	-25°F to 400°F
Highly Fluorinated Fluorocarbon Rubber:	-25°F to 200°F

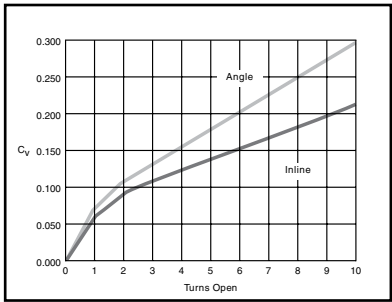
NM Series – C_v vs. Turns Open



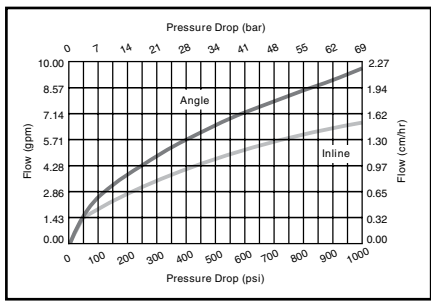
NM Series – Water Flow Data



NL Series – C_v vs. Turns Open

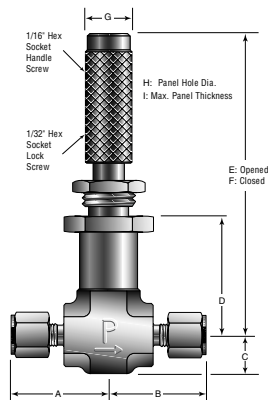


NL Series – Water Flow Data



METERING VALVES

NM SERIES



Model Shown: M3A-NML-V-SS-K

Note:

For K & KS Handles on in-line pattern valves:

E = 3.22", F = 2.99"
G = 0.50", H = 0.58"
I = 0.19"

For K & KS Handles on angle pattern valves:

E = 2.82", F = 2.59"
G = 0.50", H = 0.58"
I = 0.27"

For V Handles on in-line pattern valves:

E = 3.63", F = 3.40"
G = 0.84", H = 0.58"
I = 0.19"

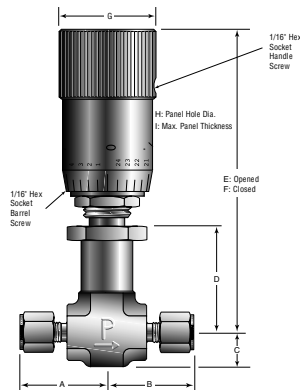
For V Handles on angle pattern valves:

E = 3.23", F = 3.00"
G = 0.84", H = 0.58"
I = 0.27"

Part No.	End Connections		Dimensions			
	(Inlet) Port 1	(Outlet) Port 2	A* (In.)	B* (In.)	C (In.)	D (In.)
2A-NML	1/8" Compression A-LOK®		1.03	1.03	0.41	1.56
2A-NMA	1/8" Compression A-LOK®		1.03	1.03	0.41	1.07
2F-NML	1/8" Female NPT		0.93	0.93	0.41	1.56
2F-NMA	1/8" Female NPT		0.93	0.93	0.41	1.07
2Z-NML	1/8" Compression CPI™		1.03	1.03	0.41	1.56
2Z-NMA	1/8" Compression CPI™		1.03	1.03	0.41	1.07
4A-NML	1/4" Compression A-LOK®		1.11	1.11	0.41	1.56
4A-NMA	1/4" Compression A-LOK®		1.11	1.11	0.41	1.07
4M-NML	1/4" Male NPT		0.93	0.93	0.41	1.56
4M-NMA	1/4" Male NPT		0.93	0.93	0.41	1.07
4V-NML	1/4" VacuSeal		1.03	1.03	0.53	1.56
4Z-NML	1/4" Compression CPI™		1.11	1.11	0.41	1.56
4Z-NMA	1/4" Compression CPI™		1.11	1.11	0.41	1.07

* For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position.

METERING VALVES
NL SERIES



Model Shown: 6A-NLL-EPR-B-V

Note:

For K & KS Handles on in-line pattern valves:
E = 2.92", F = 2.67"
G = 0.50", H = 0.58"
I = 0.19"

For K & KS Handles on angle pattern valves:
E = 2.83", F = 2.58"
G = 0.50", H = 0.58"
I = 0.27"

For V Handles on in-line pattern valves:
E = 3.33", F = 3.08"
G = 0.84", H = 0.58"
I = 0.19"

For V Handles on angle pattern valves:
E = 3.24", F = 2.99"
G = 0.84", H = 0.58"
I = 0.27"

Part No.	End Connections		Dimensions			
	(Inlet) Port 1	(Outlet) Port 2	A* (In.)	B* (In.)	C (In.)	D (In.)
2F-NLL	1/8" Female NPT		0.93	0.93	0.41	1.56
2F-NLA	1/8" Female NPT		0.93	0.93	0.41	1.07
4A-NLL	1/4" Compression A-LOK®		1.16	1.16	0.41	1.56
4A-NLA	1/4" Compression A-LOK®		1.16	1.16	0.41	1.07
4M-NLL	1/4" Male NPT		0.93	0.93	0.41	1.56
4M-NLA	1/4" Male NPT		0.93	0.93	0.41	1.07
4V-NLL	1/4" VacuSeal		1.03	1.03	0.53	1.56
4Z-NLL	1/4" Compression CPI™		1.16	1.16	0.41	1.56
4Z-NLA	1/4" Compression CPI™		1.16	1.16	0.41	1.07
6A-NLL	3/8" Compression A-LOK®		1.24	1.24	0.41	1.56
6Z-NLL	3/8" Compression CPI™		1.24	1.24	0.41	1.07

* For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position.

HOW TO ORDER

The correct part number is easily derived from the following circled number sequence. The six product characteristics required are coded as shown below.

Example:

4Z	*	-	NLL	-	V	-	SS	-	V
①	②		③		④		⑤		⑥
Inlet Port	Outlet Port		Valve Series		Seal Material		Body Material		Handle Type

① Inlet Port	② Outlet Port	③ Valve Series	④ Seal Material	⑤ Body Material	⑥ Handle Type
1A, 1Z, 2A, 2M, 2Z, 4A, 4V, 4Z		NSA NSL	BN – Buna-N Rubber		K – Knurled
2A, 2F, 2Z, 4A, 4M, 4V, 4Z		NMA NML	EPR – Ethylene Propylene Rubber	SS – Stainless Steel	KS – Knurled with Slot
			NE – Neoprene Rubber	B – Brass	V – Vernier
2F, 4A, 4M, 4V, 4Z, 6A, 6Z		NLA NLL	V – Fluorocarbon Rubber		F – Precision Adjustment**
			KZ – Highly Fluorinated Fluorocarbon Rubber		

* If the inlet and outlet ports are the same, eliminate the outlet port designator.
** F Handle available only on NS Series.

Optional Handles



**Knurled (K) and
Knurled with Slot (KS)**

- Knurled K handle for ease of actuation
- Knurled with Slot (KS) adds a screw-driver slot across the top for locations where handle access is difficult



Vernier (V)

- Precision graduated aluminum alloy permits repeatable flow settings
- Resolution to 1/25th turn



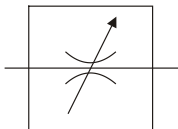
**Precision
Adjustment (F)**

- Adjustable torque handle for precise positioning
- Knurled metal with two top mounted adjustment screws
- NS Series only

General Description: Series MV high-precision metering and shut-off valves allow extremely close control of fluids used in actuating and governing equipment.

METERING VALVES

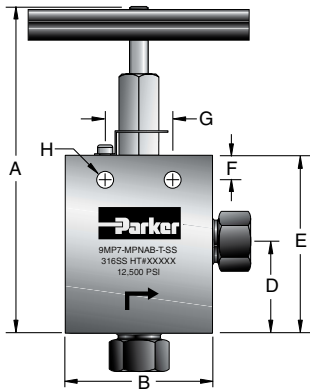
SERIES MV



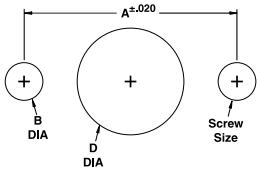
Part No.	Description	Size	Material	Press. Rating (PSI)	Flow (GPM)	Weight (lbs.)
MV200S	Metering Valve	1/8" NPT	Steel	5000	3	0.300
MV400S	Metering Valve	1/4" NPT	Steel	5000	5	0.700
MV600S	Metering Valve	3/8" NPT	Steel	5000	8	1.200
MV800S	Metering Valve	1/2" NPT	Steel	5000	15	2.100
MV1200S	Metering Valve	3/4" NPT	Steel	5000	25	3.500
MV1600S	Metering Valve	1" NPT	Steel	3000	40	4.200

General Description: Parker MPN series valves are designed for multi-turn control of media regulation and shutoff up to 20,000 psi. Additional packing materials are available for application temperatures from -300° to +800° F. Standard critical service design features, such as the packing below the thread and the non-rotating lower stem ensure longer valve life in rugged applications.

TWO WAY ANGLE VALVES



Panel Hole Sizes
Medium Pressure Needle Valve Panel Mount

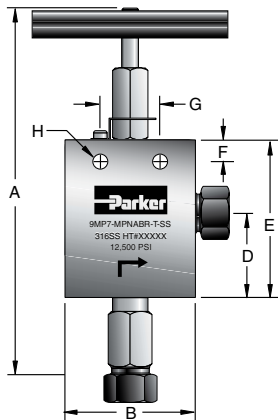


Valve Size	A	B	Screw Size	D
4 & 6	1.25	.219	10 - 32	.75
8 & 9	1.375	.219	10 - 32	1.00
12	1.75	.219	10 - 32	1.19
16	2.50	.219	10 - 32	1.63

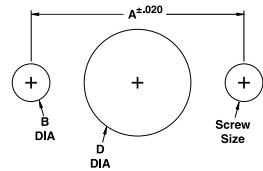
Tubing Size	Part No.	PSI	Connection	Orifice (in.)	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	G (in.)	H (in.)	Thk (in.)
1/4" O.D.	4MP7-MPNAB-T-SS	15,000	1/4" MPI	0.125	5.02	2.50	-	1.38	2.57	0.38	1.25	0.22	1.00
3/8" O.D.	6MP7-MPNAB-T-SS	15,000	3/8" MPI	0.203	5.02	2.50	-	1.38	2.57	0.38	1.25	0.22	1.00
1/2" O.D.	8MP7-MPNAB-T-SS	15,000	1/2" MPI	0.313	6.84	3.00	-	1.83	3.58	0.50	1.38	0.34	1.38
9/16" O.D.	9MP7-MPNAB-T-SS	15,000	9/16" MPI	0.313	6.84	3.00	-	1.83	3.58	0.50	1.38	0.34	1.38
3/4" O.D.	12MP7-MPNAB-T-SS	15,000	3/4" MPI	0.438	7.50	3.00	-	2.00	4.25	0.63	1.75	0.44	1.38
3/4" O.D.	12MP7-MPNABH-T-SS	10,000	3/4" MPI	0.516	7.50	3.00	-	2.00	4.25	0.63	1.75	0.44	1.38
1" O.D.	16MP7-MPNAB-T-SS	12,500	1" MPI	0.563	9.38	4.13	-	2.56	5.44	1.13	2.50	0.56	1.75
1" O.D.	16MP7-MPNABH-T-SS	10,000	1" MPI	0.688	9.38	4.13	-	2.56	5.44	1.13	2.50	0.56	1.75

Pipe Size	Part No.	PSI	Connection	Orifice (in.)	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	G (in.)	H (in.)	Thk (in.)
1/8" NPT	2F-MPNAB-T-SS	15,000	1/8" NPTF	0.203	4.81	2.00	-	1.25	2.44	0.38	1.25	0.22	0.75
1/4" NPT	4F-MPNAB-T-SS	15,000	1/4" NPTF	0.203	4.81	2.00	-	1.25	2.44	0.38	1.25	0.22	0.75
3/8" NPT	6F-MPNAB-T-SS	15,000	3/8" NPTF	0.312	6.50	2.50	-	1.50	3.25	0.50	1.38	0.34	1.00
1/2" NPT	8F-MPNAB-T-SS	15,000	1/2" NPTF	0.312	6.50	2.63	-	1.50	3.25	0.50	1.38	0.34	1.50
3/4" NPT	12F-MPNAB-T-SS	10,000	3/4" NPTF	0.687	9.00	4.13	-	2.31	5.13	1.13	2.50	0.56	1.75
1" NPT	16F-MPNAB-T-SS	10,000	1" NPTF	0.687	9.00	4.13	-	2.31	5.13	1.13	2.50	0.56	1.75

TWO WAY ANGLE VALVES (REPLACEABLE SEAT)



Panel Hole Sizes
Medium Pressure Needle Valve Panel Mount

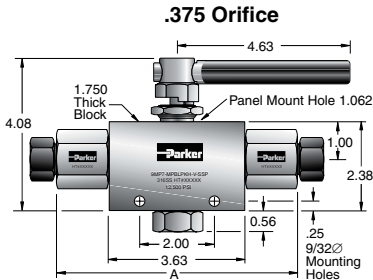
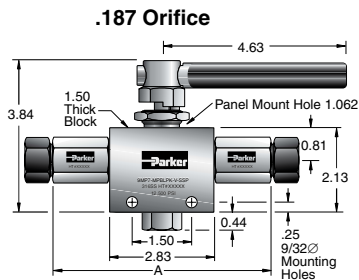


Valve Size	A	B	Screw Size	D
4 & 6	1.25	.219	10 - 32	.75
8 & 9	1.375	.219	10 - 32	1.00
12	1.75	.219	10 - 32	1.19
16	2.50	.219	10 - 32	1.63

Tubing Size	Part No.	PSI	Connection	Orifice (in.)	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	G (in.)	H (in.)	Th'k (in.)
1/4" O.D.	4MP7-MPNABR-T-SS	15,000	1/4" MPI	0.125	5.87	2.50	-	1.38	2.57	0.38	1.25	0.22	1.00
3/8" O.D.	6MP7-MPNABR-T-SS	15,000	3/8" MPI	0.203	5.87	2.50	-	1.38	2.57	0.38	1.25	0.22	1.00
1/2" O.D.	8MP7-MPNABR-T-SS	15,000	1/2" MPI	0.313	8.25	3.00	-	2.00	3.63	0.50	1.38	0.34	1.38
9/16" O.D.	9MP7-MPNABR-T-SS	15,000	9/16" MPI	0.313	8.25	3.00	-	2.00	3.63	0.50	1.38	0.34	1.38
3/4" O.D.	12MP7-MPNABR-T-SS	15,000	3/4" MPI	0.438	8.88	3.00	-	2.00	4.25	0.63	1.75	0.44	1.38
3/4" O.D.	12MP7-MPNABRH-T-SS	10,000	3/4" MPI	0.516	8.88	3.00	-	2.00	4.25	0.63	1.75	0.44	1.38
1" O.D.	16MP7-MPNABR-T-SS	12,500	1" MPI	0.563	11.13	4.13	-	2.56	5.44	1.13	2.50	0.56	1.75
1" O.D.	16MP7-MPNABRH-T-SS	10,000	1" MPI	0.688	11.13	4.13	-	2.56	5.44	1.13	2.50	0.56	1.75

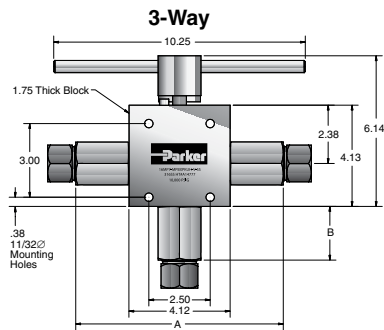
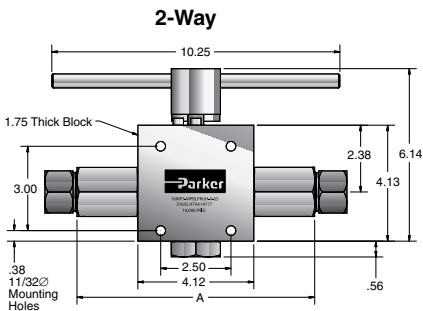
General Description: Parker MPB series manually, pneumatically and electrically actuated 2-way and 3-way ball valves are designed for 1/4 and 1/2 turn media shutoff or switching applications up to 20,000 psi. Our trunnion style ball design and spring loaded seats make the MPB series ideal for severe service applications. The end connector design enables a variety of end connections and combinations for specific customer applications.

TWO WAY BALL VALVES

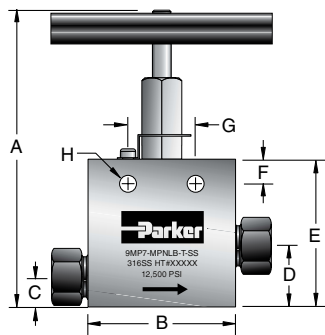


Tubing Size	Part No.	PSI	Connection	Orifice (in.)	Minimum Orifice (in.)	C _v (in.)	A (in.)
1/8" O.D.	2F-MPBLPK-V-SSP	15,000	1/8" NPT	0.187	0.187	1.45	4.63
1/4" O.D.	4F-MPBLPK-V-SSP	15,000	1/4" NPT	0.187	0.187	1.45	4.63
1/4" O.D.	4MP7-MPBLPK-V-SSP	15,000	1/4" MPI	0.187	0.125	0.45	5.00
3/8" O.D.	6F-MPBLPK-V-SSP	15,000	3/8" NPT	0.187	0.187	1.45	4.65
3/8" O.D.	6MP7-MPBLPK-V-SSP	15,000	3/8" MPI	0.187	0.187	1.45	5.00
1/2" O.D.	8MP7-MPBLPK-V-SSP	15,000	1/2" MPI	0.187	0.187	1.45	5.50
9/16" O.D.	9MP7-MPBLPK-V-SSP	15,000	9/16" MPI	0.187	0.187	1.45	5.50
1/2" O.D.	8F-MPBLPKH-V-SSP	15,000	1/2" NPT	0.375	0.375	6.08	5.63
1/2" O.D.	8MP7-MPBLPKH-V-SSP	15,000	1/2" MPI	0.375	0.359	5.82	6.44
9/16" O.D.	9MP7-MPBLPKH-V-SSP	15,000	9/16" MPI	0.375	0.359	5.82	6.44
3/4" O.D.	12MP7-MPBLPKH-V-SSP	15,000	3/4" MPI	0.375	0.375	6.08	6.67
1" O.D.	16MP7-MPBLPKH-V-SSP	12,500	1" MPI	0.375	0.375	6.08	7.45
3/4" O.D.	12MP7-MPBLPKUH-V-SSP	10,000	3/4" MPI	0.500	0.469	7.60	6.86
1" O.D.	16MP7-MPBLPKUH-V-SSP	10,000	1" MPI	0.500	0.500	8.80	8.48

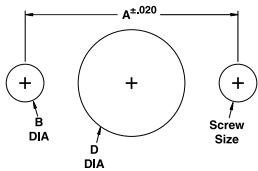
.500 Orifice



TWO WAY INLINE VALVES



Panel Hole Sizes
Medium Pressure Needle Valve Panel Mount

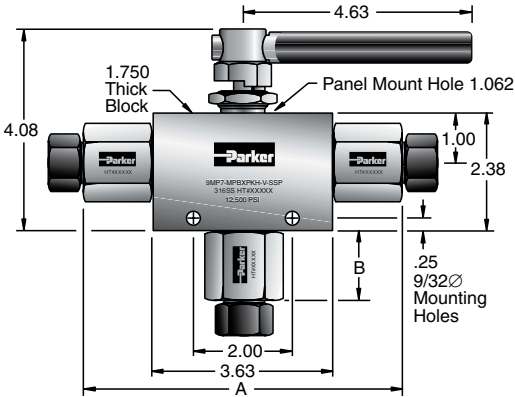
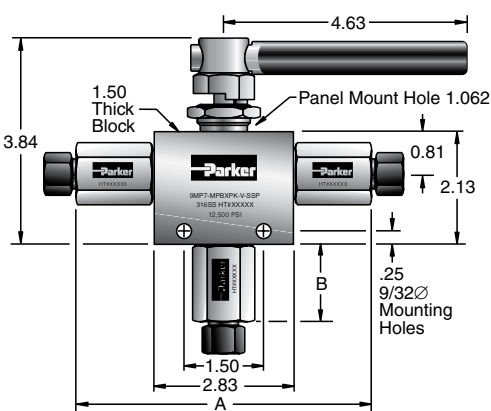


Valve Size	A	B	Screw Size	D
4 & 6	1.25	.219	10 - 32	.75
8 & 9	1.375	.219	10 - 32	1.00
12	1.75	.219	10 - 32	1.19
16	2.50	.219	10 - 32	1.63

Tubing Size	Part No.	PSI	Connection	Orifice (in.)	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	G (in.)	H (in.)	Th'k (in.)
1/4" O.D.	4MP7-MPNLB-T-SS	15,000	1/4" MPI	0.125	4.50	2.50	0.50	0.94	2.13	0.38	1.25	0.22	1.00
3/8" O.D.	6MP7-MPNLB-T-SS	15,000	3/8" MPI	0.203	4.50	2.50	0.50	0.94	2.13	0.38	1.25	0.22	1.00
1/2" O.D.	8MP7-MPNLB-T-SS	15,000	1/2" MPI	0.313	6.26	3.00	0.63	1.25	3.00	0.50	1.38	0.34	1.38
9/16" O.D.	9MP7-MPNLB-T-SS	15,000	9/16" MPI	0.313	6.26	3.00	0.63	1.25	3.00	0.50	1.38	0.34	1.38
3/4" O.D.	12MP7-MPNLB-T-SS	15,000	3/4" MPI	0.438	7.00	3.00	0.75	1.50	3.75	0.63	1.75	0.44	1.38
3/4" O.D.	12MP7-MPNLBH-T-SS	10,000	3/4" MPI	0.516	7.00	3.00	0.75	1.50	3.75	0.63	1.75	0.44	1.38
1" O.D.	16MP7-MPNLB-T-SS	12,500	1" MPI	0.563	8.42	4.13	0.88	1.81	4.63	1.13	2.50	0.56	1.75
1" O.D.	16MP7-MPNLBH-T-SS	10,000	1" MPI	0.688	8.42	4.13	0.88	1.81	4.63	1.13	2.50	0.56	1.75

Pipe Size	Part No.	PSI	Connection	Orifice (in.)	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	G (in.)	H (in.)	Th'k (in.)
1/8" NPT	2F-MPNLB-T-SS	15,000	1/8" NPTF	0.203	4.38	2.00	0.38	0.81	2.00	0.38	1.25	0.22	0.75
1/4" NPT	4F-MPNLB-T-SS	15,000	1/4" NPTF	0.203	4.38	2.00	0.38	0.81	2.00	0.38	1.25	0.22	0.75
3/8" NPT	6F-MPNLB-T-SS	15,000	3/8" NPTF	0.312	6.13	2.50	0.50	1.13	2.88	0.50	1.38	0.34	1.00
1/2" NPT	8F-MPNLB-T-SS	15,000	1/2" NPTF	0.312	6.38	2.63	0.75	1.38	3.13	0.50	1.38	0.34	1.50
3/4" NPT	12F-MPNLB-T-SS	10,000	3/4" NPTF	0.687	8.50	4.13	0.88	1.81	4.63	1.13	2.50	0.56	1.75
1" NPT	16F-MPNLB-T-SS	10,000	1" NPTF	0.687	8.50	4.13	0.88	1.81	4.63	1.13	2.50	0.56	1.75

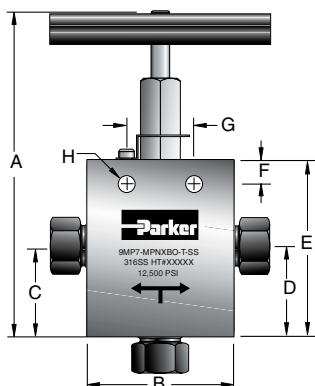
THREE WAY BALL VALVES



Tubing Size	3-Way 90 Degrees	3-way 180 Degrees	PSI	Connection	Orifice (in.)	Minimum Orifice (in.)	C _v (in.)	A (in.)	B (in.)
1/8" O.D.	2F-MPBXPKD-V-SSP	2F-MPBXPK-V-SSP	15,000	1/8" NPT	0.187	0.187	0.71	4.63	0.50
1/4" O.D.	4F-MPBXPKD-V-SSP	4F-MPBXPK-V-SSP	15,000	1/4" NPT	0.187	0.187	0.71	4.63	1.06
1/4" O.D.	4MP7-MPBXPKD-V-SSP	4MP7-MPBXPK-V-SSP	15,000	4MP7	0.187	0.125	0.18	5.00	1.18
3/8" O.D.	6F-MPBXPKD-V-SSP	6F-MPBXPK-V-SSP	15,000	3/8" NPT	0.187	0.187	0.71	4.65	1.06
3/8" O.D.	6MP7-MPBXPKD-V-SSP	6MP7-MPBXPK-V-SSP	15,000	6MP7	0.187	0.187	0.71	5.00	1.18
1/2" O.D.	8MP7-MPBXPKD-V-SSP	8MP7-MPBXPK-V-SSP	15,000	8MP7	0.187	0.187	0.71	5.50	1.44
9/16" O.D.	9MP7-MPBXPKD-V-SSP	9MP7-MPBXPK-V-SSP	15,000	9MP7	0.187	0.187	0.71	5.50	1.44
1/2" O.D.	8F-MPBXPKDH-V-SSP	8F-MPBXPKH-V-SSP	15,000	1/2" NPT	0.375	0.375	2.40	5.63	1.06
1/2" O.D.	8MP7-MPBXPKDH-V-SSP	8MP7-MPBXPKH-V-SSP	15,000	8MP7	0.375	0.359	2.30	6.44	1.37
9/16" O.D.	9MP7-MPBXPKDH-V-SSP	9MP7-MPBXPKH-V-SSP	15,000	9MP7	0.375	0.359	2.30	6.44	1.37
3/4" O.D.	12MP7-MPBXPKDH-V-SSP	12MP7-MPBXPKH-V-SSP	15,000	12MP7	0.375	0.375	2.40	6.67	1.18
1" O.D.	16MP7-MPBXPKDH-V-SSP	16MP7-MPBXPKH-V-SSP	12,500	16MP7	0.375	0.375	2.40	7.45	1.99
3/4" O.D.	12MP7-MPBXPKDUH-V-SSP	12MP7-MPBXPKUH-V-SSP	10,000	3/4" MPI	0.500	0.469	3.20	6.86	1.37
1" O.D.	16MP7-MPBXPKDUH-V-SSP	16MP7-MPBXPKUH-V-SSP	10,000	1" MPI	0.500	0.500	3.80	8.48	2.18

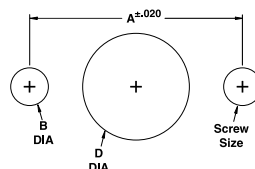
Locking devices - Add suffix "-LD" to the end of the part number.
Example: 9MP7-MPBLPKDH-V-SS-LD

THREE WAY/ONE PRESSURE CONNECTION



Panel Hole Sizes

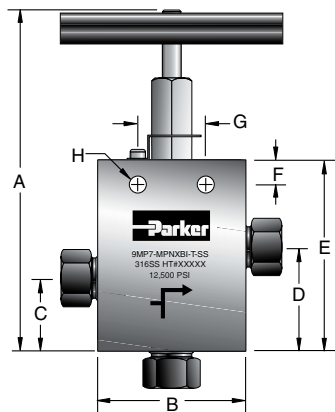
Medium Pressure Needle Valve Panel Mount



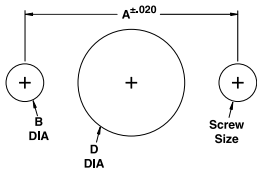
Valve Size	A	B	Screw Size	D
4 & 6	1.25	.219	10 - 32	.75
8 & 9	1.375	.219	10 - 32	1.00
12	1.75	.219	10 - 32	1.19
16	2.50	.219	10 - 32	1.63

tubing Size	Part No.	PSI	Connection	Orifice (in.)	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	G (in.)	H (in.)	Th'k (in.)
1/4" O.D.	4MP7-MPNXB0-T-SS	15,000	1/4" MPI	0.125	5.02	2.50	1.38	1.38	2.57	0.38	1.25	0.22	1.00
3/8" O.D.	6MP7-MPNXB0-T-SS	15,000	3/8" MPI	0.203	5.02	2.50	1.38	1.38	2.57	0.38	1.25	0.22	1.00
1/2" O.D.	8MP7-MPNXB0-T-SS	15,000	1/2" MPI	0.313	6.84	3.00	1.88	1.88	3.63	0.50	1.38	0.34	1.38
9/16" O.D.	9MP7-MPNXB0-T-SS	15,000	9/16" MPI	0.313	6.84	3.00	1.88	1.88	3.63	0.50	1.38	0.34	1.38
3/4" O.D.	12MP7-MPNXB0-T-SS	15,000	3/4" MPI	0.438	7.50	3.00	2.00	2.00	4.25	0.63	1.75	0.44	1.38
3/4" O.D.	12MP7-MPNXB0H-T-SS	10,000	3/4" MPI	0.516	7.50	3.00	2.00	2.00	4.25	0.63	1.75	0.44	1.38
1" O.D.	16MP7-MPNXB0-T-SS	12,500	1" MPI	0.563	9.38	4.13	2.63	2.63	5.44	1.13	2.50	0.56	1.75
1" O.D.	16MP7-MPNXB0H-T-SS	10,000	1" MPI	0.688	9.38	4.13	2.63	2.63	5.44	1.13	2.50	0.56	1.75

THREE WAY/TWO PRESSURE CONNECTIONS



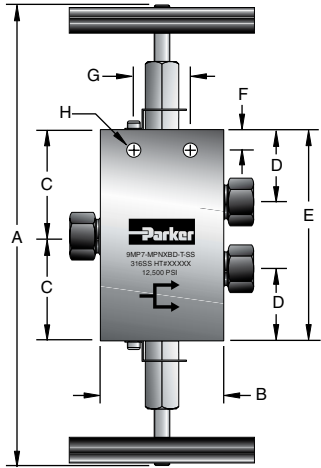
Panel Hole Sizes
Medium Pressure Needle Valve Panel Mount



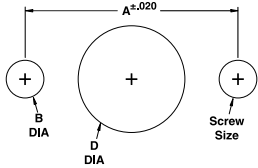
Valve Size	A	B	Screw Size	D
4 & 6	1.25	.219	10 - 32	.75
8 & 9	1.375	.219	10 - 32	1.00
12	1.75	.219	10 - 32	1.19
16	2.50	.219	10 - 32	1.63

Tubing Size	Part No.	PSI	Connection	Orifice (in.)	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	G (in.)	H (in.)	Th'k (in.)
1/4" O.D.	4MP7-MPNXBI-T-SS	15,000	1/4" MPI	0.125	5.21	2.50	1.21	1.65	2.84	0.38	1.25	0.22	1.00
3/8" O.D.	6MP7-MPNXBI-T-SS	15,000	3/8" MPI	0.203	5.21	2.50	1.21	1.65	2.84	0.38	1.25	0.22	1.00
1/2" O.D.	8MP7-MPNXBI-T-SS	15,000	1/2" MPI	0.313	7.09	3.00	1.50	2.12	3.88	0.50	1.38	0.34	1.38
9/16" O.D.	9MP7-MPNXBI-T-SS	15,000	9/16" MPI	0.313	7.09	3.00	1.50	2.12	3.88	0.50	1.38	0.34	1.38
3/4" O.D.	12MP7-MPNXBI-T-SS	15,000	3/4" MPI	0.438	7.88	3.00	2.63	2.38	4.63	0.63	1.75	0.44	1.38
3/4" O.D.	12MP7-MPNXBIIH-T-SS	10,000	3/4" MPI	0.516	7.88	3.00	2.63	2.38	4.63	0.63	1.75	0.44	1.38
1" O.D.	16MP7-MPNXBI-T-SS	12,500	1" MPI	0.563	9.75	4.13	2.13	3.06	5.88	1.13	2.50	0.56	1.75
1" O.D.	16MP7-MPNXBIIH-T-SS	10,000	1" MPI	0.688	9.75	4.13	2.13	3.06	5.88	1.13	2.50	0.56	1.75

THREE WAY/TWO STEM CONNECTIONS



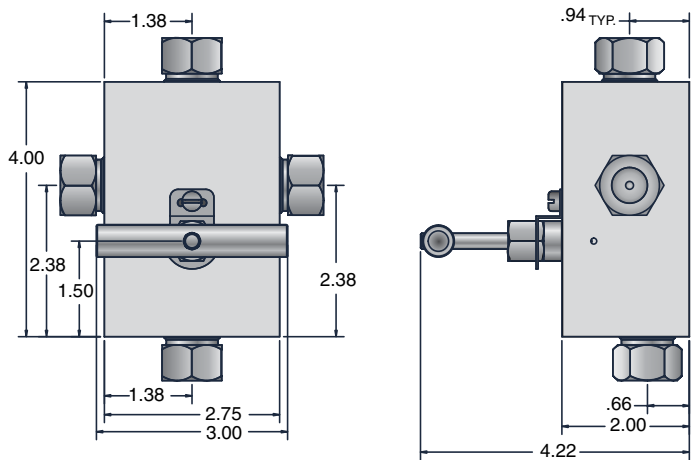
Panel Hole Sizes
Medium Pressure Needle Valve Panel Mount



Valve Size	A	B	Screw Size	D
4 & 6	1.25	.219	10 - 32	.75
8 & 9	1.375	.219	10 - 32	1.00
12	1.75	.219	10 - 32	1.19
16	2.50	.219	10 - 32	1.63

Tubing Size	Part No.	PSI	Connection	Orifice (in.)	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	G (in.)	H (in.)	Th'k (in.)
1/4" O.D.	4MP7-MPNXBD-T-SS	15,000	1/4" MPI	0.125	5.75	2.50	1.70	1.19	3.38	0.38	1.25	0.22	1.00
3/8" O.D.	6MP7-MPNXBD-T-SS	15,000	3/8" MPI	0.203	5.75	2.50	1.70	1.19	3.38	0.38	1.25	0.22	1.00
1/2" O.D.	8MP7-MPNXBD-T-SS	15,000	1/2" MPI	0.313	8.38	3.00	2.56	1.75	5.13	0.50	1.38	0.34	1.38
9/16" O.D.	9MP7-MPNXBD-T-SS	15,000	9/16" MPI	0.313	8.38	3.00	2.56	1.75	5.13	0.50	1.38	0.34	1.38
3/4" O.D.	12MP7-MPNXBD-T-SS	15,000	3/4" MPI	0.438	9.75	3.00	3.25	2.25	6.50	0.63	1.75	0.44	1.38
3/4" O.D.	12MP7-MPNXBDH-T-SS	10,000	3/4" MPI	0.516	9.75	3.00	3.25	2.25	6.50	0.63	1.75	0.44	1.38
1" O.D.	16MP7-MPNXBD-T-SS	12,500	1" MPI	0.563	12.19	4.13	4.13	2.81	8.25	1.13	2.50	0.56	1.75
1" O.D.	16MP7-MPNXBDH-T-SS	10,000	1" MPI	0.688	12.19	4.13	4.13	2.81	8.25	1.13	2.50	0.56	1.75

GAUGE VALVE



Part No.	PSI	Connection
9MP7-MPGV-V-SS	15,000	9/16" MPI™
9HF-MPGV-V-SS	30,000	9/16" High Pressure Female

General Description: Parker MPR series relief valves are offered in preset pressure relief ranges from 1500 to 20,999 psi. Relief valves are tagged with the proper factory preset pressures.



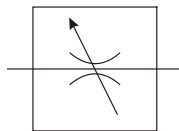
RELIEF VALVES (FACTORY SET)

Part No.	Pressure Rating	Connection	Orifice	Max. Flow Capacity (GPM)
8M8F-MPRA-****-SS	1,500 to 2,999	1/2" M X F NPT	0.250	13
8M8F-MPRA-****-SS	3,000 to 10,999	1/2" M X F NPT	0.250	25
9HF8F-MPRA-****-SS	11,000 to 20,999	9HF X 1/2" NPTF	0.188	20

General Description: Series N needle valves are ideal as speed controls on hydraulic and pneumatic systems where a reverse flow check is not needed. They provide excellent control and a reliable shut-off in a very small envelope.

NEEDLE VALVES

SERIES N



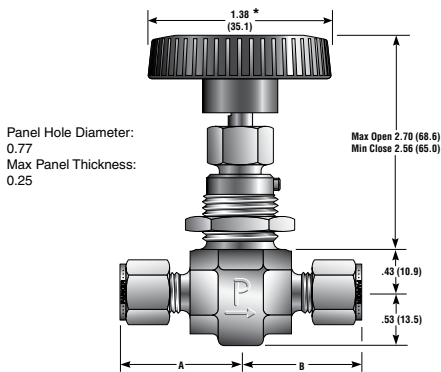
Part No.	Description	Size	Material	Press. Rating (PSI)	Flow (GPM)	Weight (lbs.)
N200S	Needle Valve	1/8" NPT	Steel	5000	3	0.300
N400S	Needle Valve	1/4" NPT	Steel	5000	5	0.500
N420S	Needle Valve	#4 SAE	Steel	5000	3	0.400
N600S	Needle Valve	3/8" NPT	Steel	5000	8	0.900
N620S	Needle Valve	#6 SAE	Steel	5000	5	0.500
N800S	Needle Valve	1/2" NPT	Steel	5000	15	1.400
N820S	Needle Valve	#8 SAE	Steel	5000	8	0.900
N1020S	Needle Valve	#10 SAE	Steel	5000	15	1.300
N1200S	Needle Valve	3/4" NPT	Steel	5000	25	2.300
N1220S	Needle Valve	#12 SAE	Steel	5000	25	2.300
N1600S	Needle Valve	1" NPT	Steel	3000	40	4.700
N1620S	Needle Valve	#16 SAE	Steel	3000	40	4.700
N2000S	Needle Valve	1 1/4" NPT	Steel	3000	70	6.400
N2020S	Needle Valve	#20 SAE	Steel	3000	70	6.400
N200B	Needle Valve	1/8" NPT	Brass	2000	3	0.300
N400B	Needle Valve	1/4" NPT	Brass	2000	5	0.500
N600B	Needle Valve	3/8" NPT	Brass	2000	8	0.900
N800B	Needle Valve	1/2" NPT	Brass	2000	15	1.400
N1200B	Needle Valve	3/4" NPT	Brass	2000	25	2.300
N1600B	Needle Valve	1" NPT	Brass	500	40	4.700

General Description:	Parker NP6 Needle Valves are designed with packing below the stem threads and a two-piece stem. The packing below the threads protects the flow stream from thread lubricant contamination or washout and also protects the stem threads from potential damaging effects of the media. The two-piece stem produces a non-rotating lower stem for superior, repeatable sealing and reduced packing wear.		
Features:	• Packing below power threads protects thread lubricants from media and isolates the media from the lubricant for severe service applications • O-ring dust seal in bonnet protects stem threads from external contamination • Choice of two non-rotating stem types: - R-Stem – All metal, blunt stem tip - K-Stem – PCTFE stem tip • Non rotating lower stem extends packing and valve life		
Specifications:	• Pressure Rating: • Temperature Rating:	6000 psig CWP	
	PTFE Packing:	-65 °F to 450 °F	
	PCTFE:	-65 °F to 350 °F	
	Buna-N Rubber:	-30 °F to 250 °F	
	Ethylene Propylene Rubber:	-70 °F to 275 °F	
	Fluorocarbon Rubber:	-15 °F to 400 °F	
	Grafoil®:	-70 °F to 700 °F	

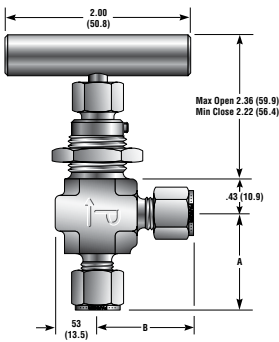
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NEEDLE VALVES

NP6 SERIES



Model Shown: 4Z-NP6LK-SSP



Model Shown: 4Z-NP6AR-G-SSP

* Note: Handle diameter for R Stem NP6 Series Valves is 1.81

Part No.		End Connections		Stem Type	Flow Data					Dimensions	
Inline	Angle	Inlet (Port 1)	Outlet (Port 2)		Orifice (in.)	Inline C_t	Angle X_t^*	Angle C_t	Angle X_t^*	A (in.)	B (in.)
4A-NP6LR	4A-NP6AR	1/4" Compression A-LOK®		Blunt	0.177	0.60	0.50	0.67	0.39	1.20	1.20
4A-NP6LK	4A-NP6AK	1/4" Compression A-LOK®		PCTFE	0.177	0.51	0.55	0.65	0.52	1.20	1.20
4F-NP6LR	4F-NP6AR	1/4" Female NPT		Blunt	0.177	0.60	0.50	0.67	0.39	1.00	1.00
4F-NP6LK	4F-NP6AK	1/4" Female NPT		PCTFE	0.177	0.51	0.55	0.65	0.52	1.00	1.00
4M-NP6LR	4M-NP6AR	1/4" Male NPT		Blunt	0.177	0.60	0.50	0.67	0.39	1.03	1.03
4M-NP6LK	4M-NP6AK	1/4" Male NPT		PCTFE	0.177	0.51	0.55	0.65	0.52	1.03	1.03
4Z-NP6LR	4Z-NP6AR	1/4" Compression CPI™		Blunt	0.177	0.60	0.50	0.67	0.39	1.20	1.20
4Z-NP6LK	4Z-NP6AK	1/4" Compression CPI™		PCTFE	0.177	0.51	0.55	0.65	0.52	1.20	1.20
6A-NP6LR	6A-NP6AR	3/8" Compression A-LOK®		Blunt	0.177	0.60	0.50	0.67	0.39	1.23	1.23
6A-NP6LK	6A-NP6AK	3/8" Compression A-LOK®		PCTFE	0.177	0.51	0.55	0.65	0.52	1.23	1.23
6Z-NP6LR	6Z-NP6AR	3/8" Compression CPI™		Blunt	0.177	0.60	0.50	0.67	0.39	1.23	1.23
6Z-NP6LK	6Z-NP6AK	3/8" Compression CPI™		PCTFE	0.177	0.51	0.55	0.65	0.52	1.23	1.23

* Tested in accordance with ISA S75.02. Gas flow will be choked when $P_2/P_1 = x_c$.
† For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position.

HOW TO ORDER

The correct part number is easily derived from the following number sequence. The six product characteristics required are coded as shown below. *Note: If the inlet and outlet ports are the same, eliminate the outlet port designator.

EXAMPLE: 4Z * - NP6A K - BN - SSP

1

2

3

4

5

6

Inlet Port

Outlet Port

Valve Series

Stem Type

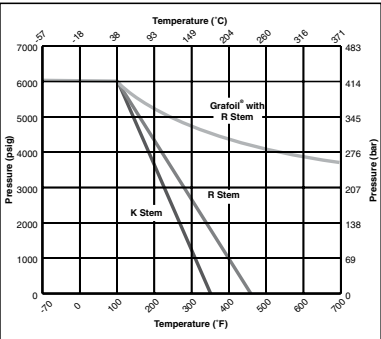
Stem Seal

Body Material

Describes an angle pattern NP6 Series needle valve equipped with 1/4" CPI™ compression inlet and outlet ports, a PCTFE tipped stem, Buna-N seals, and stainless steel construction with panel mounting nut.

1	2	3	4	5	6
Inlet Port	Outlet Port	Valve Series	Stem Type	Stem Seal Material	Body Material
4A, 4F, 4M, 4Z 6A, 6Z		NP6L NP6A	R - Blunt K -PCTFE	Blank - PTFE BN - Buna-N Rubber EPR - Ethene Propylene Rubber V Fluorocarbon Rubber G - Grafoil®	SSP - Stainless Steel with Panel Nut

PRESSURE VS. TEMPERATURE



Note: To determine MPa, multiply bar by 0.1

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Applications and pressure range:

Parker Needle Valves have metal-to-metal seats, with fine-thread screwdown. This enables positive seating up to the capacity of the valve. Valves are designed to withstand 150 PSI working pressure, unless otherwise noted.

Temperature Range:

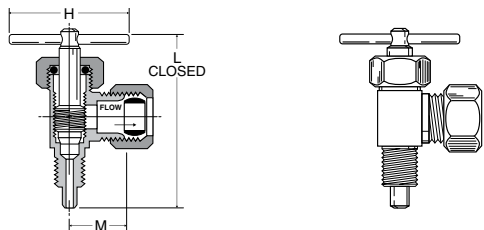
-45° to +250°F

Installation Instructions:

Series NV valves should always be installed with the pressure against the seat. Refer to drawing to determine correct direction of flow.

NEEDLE VALVES

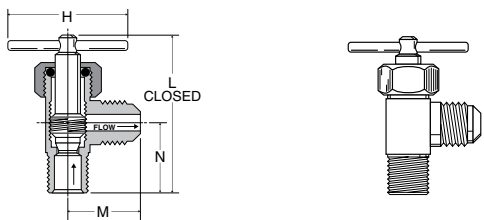
HUMIDIFIER VALVE HV104F



Part No.	Tube Size	Pipe Thread	H	L	M
HV104C-4-2	1/4	1/8	1.50	1.89	.53

NEEDLE VALVES

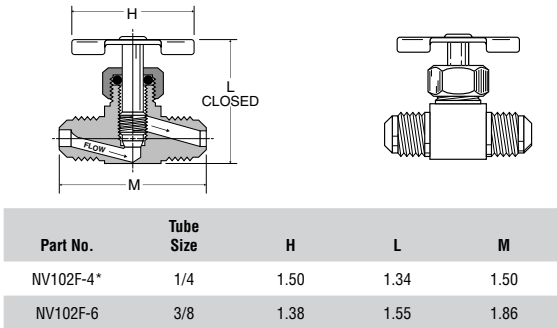
ANGLE NEEDLE VALVE NV101F



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 VALVES

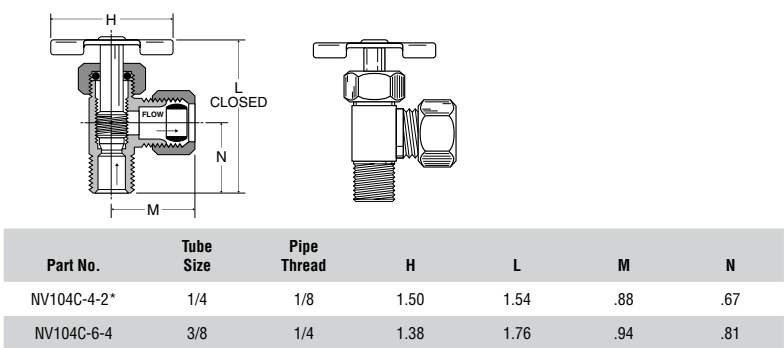
NEEDLE VALVE NV102F



* Provided with Pin Handle.

NEEDLE VALVES

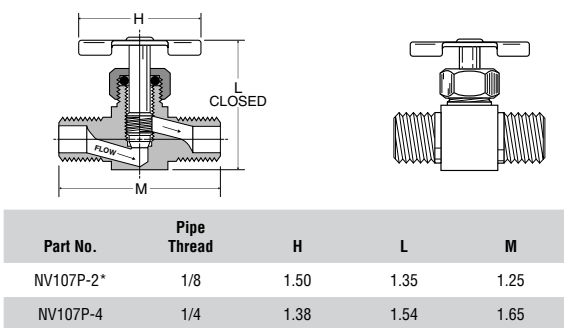
ANGLE NEEDLE VALVE NV104C



* Provided with Pin Handle.

NEEDLE VALVES

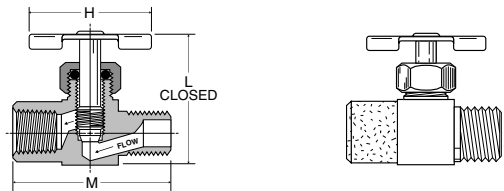
NEEDLE VALVE NV107P



* Provided with Pin Handle.

NEEDLE VALVES

NEEDLE VALVE NV108P

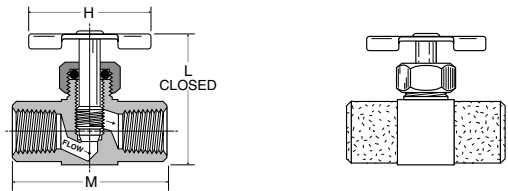


Part No.	Pipe Thread	H	L	M
NV108P-2*	1/8	1.50	1.36	1.25
NV108P-4	1/4	1.38	1.56	1.61

* Provided with Pin Handle.

NEEDLE VALVES

NEEDLE VALVE NV109P



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

* Provided with Pin Handle.

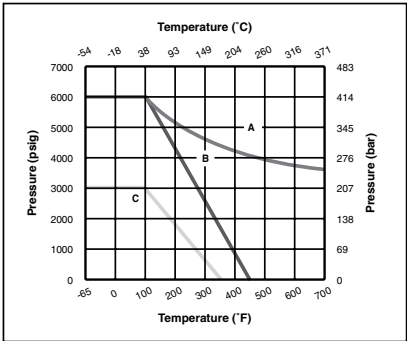
General Description: Parker compact SN6 Needle Valves provide shut-off and coarse regulation of liquids and gases utilized in process and instrumentation applications. These rugged valves are manufactured from stainless steel barstock and are integral bonnet designs with packing above the stem threads.

- Features:**
- Integral bonnet design
 - 316 stainless steel construction
 - Choice of two stem types:
 - R-Stem** – All metal, blunt stem tip
 - K-Stem** – PCTFE stem tip
 - Choice of PTFE or Grafoil® packing
 - Inline and angle patterns
 - 100% factory tested

Specifications:

Pressure Rating		Temperature Rating		
R-Stem	K-Stem	PTFE Packing	PCTFE Stem Tip	Grafoil® (G) Packing
6000 psig CWP	3000 psig CWP	-65° F to 450° F	-65° F to 350° F	-65° F to 700° F

Pressure vs. Temperature



Legend: A - Grafoil® packing with R stem; B - PTFE packing with R stem; C - PTFE packing with K stem.

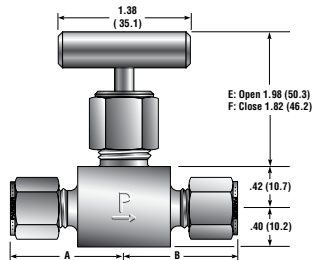
Note: To determine MPa, multiply bar by 0.1

Note: When combining seat and seal materials, the most restrictive temperature rating becomes the limiting factor on temperature range.

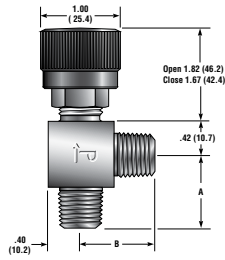
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NEEDLE VALVES

SN6 SERIES



Model Shown: 4Z-SN6LR-G-SS



Model Shown: 4M-SN6AK-SS

Part No.		End Connections		Stem Type	Flow Data					Dimensions	
Inline	Angle	Inlet (Port 1)	Outlet (Port 2)		Orifice (in.)	Inline C _t	Inline X _t *	Angle C _t	Angle X _t *	A (in.)	B (in.)
4A-SN6LR	4A-SN6AR	1/4" Compression A-LOK®		Blunt	0.125	0.29	0.56	0.34	0.55	1.17	1.17
4A-SN6LK	4A-SN6AK	1/4" Compression A-LOK®		PCTFE	0.125	0.23	0.63	0.27	0.58	1.17	1.17
4F-SN6LR	4F-SN6AR	1/4" Female NPT		Blunt	0.125	0.29	0.56	0.34	0.55	0.94	0.94
4F-SN6LK	4F-SN6AK	1/4" Female NPT		PCTFE	0.125	0.23	0.63	0.27	0.58	0.94	0.94
4M-SN6LR	4M-SN6AR	1/4" Male NPT		Blunt	0.125	0.29	0.56	0.34	0.55	0.99	0.99
4M-SN6LK	4M-SN6AK	1/4" Male NPT		PCTFE	0.125	0.23	0.63	0.27	0.58	0.99	0.99
4Z-SN6LR	4Z-SN6AR	1/4" Compression CPI™		Blunt	0.125	0.29	0.56	0.34	0.55	1.17	1.17
4Z-SN6LK	4Z-SN6AK	1/4" Compression CPI™		PCTFE	0.125	0.23	0.63	0.27	0.58	1.17	1.17
4M4A-SN6LR	4M4A-SN6AR	1/4" Male NPT	1/4" A-LOK®	Blunt	0.125	0.29	0.56	0.34	0.55	0.99	1.17
4M4A-SN6LK	4M4A-SN6AK	1/4" Male NPT	1/4" A-LOK®	PCTFE	0.125	0.23	0.63	0.27	0.58	0.99	1.17
4M4F-SN6LR	4M4F-SN6AR	1/4" Male NPT	1/4" Female NPT	Blunt	0.125	0.29	0.56	0.34	0.55	0.99	0.94
4M4F-SN6LK	4M4F-SN6AK	1/4" Male NPT	1/4" Female NPT	PCTFE	0.125	0.23	0.63	0.27	0.58	0.99	0.94
4M4Z-SN6LR	4M4Z-SN6AR	1/4" Male NPT	1/4" CPI™	Blunt	0.125	0.29	0.56	0.34	0.55	0.99	1.17
4M4Z-SN6LK	4M4Z-SN6AK	1/4" Male NPT	1/4" CPI™	PCTFE	0.125	0.23	0.63	0.27	0.58	0.99	1.17

* Tested in accordance with ISA S75.02. Gas flow will be choked when $P_1 \cdot P_2 / P_3 = X_t$.

† For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position

HOW TO ORDER

The correct part number is easily derived from the following number sequence. Eliminate the Stem Packing product characteristic if PTFE Packing is ordered. The six product characteristics required are coded as shown below.

*Note: If the inlet and outlet ports are the same, eliminate the outlet port designator.

Example: **4Z** ***** - **SN6L** **K** - **G** - **SS**

 ① ② ③ ④ ⑤ ⑥

 Inlet Outlet Valve Stem Stem Body

 Port Port Series Type Packing Material

Describes an in-line pattern SN6 Series needle valve equipped with 1/4" CPI™ compression inlet and outlet ports, a PCTFE tipped stem, Grafoil® packing, and stainless steel construction.

Note: This valve is not panel mountable.

Grafoil® is a registered trademark of UCAR Carbon Technology Corporation.

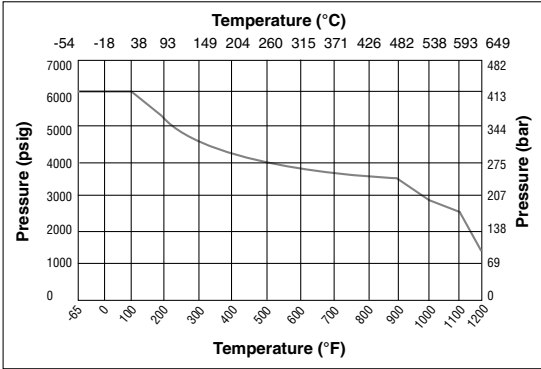
General Description: Parker U Series Union Bonnet Valves have been engineered for use at pressures up to 6,000 psi and temperatures as high as 1,200° F. A non-rotating lower stem helps to extend packing life by removing rotation from the packing area. Stem packing below the threads isolates the thread lubricant from the flow, ensuring adequate lubrication regardless of the media.

- Features:**
- Union bonnet design ensures high integrity seal under severe service applications
 - Packing below the power threads protects thread lubricants from media and isolates the lubricants from the media
 - Dust seal in the packing nut protects stem threads from external contamination
 - Stem swivel above the packing eliminates entrapment area and increases packing life
 - Choice of Grafoil® or PTFE packing
 - Choice of Regulating or Blunt stem types. Blunt stem type helps combat wire draw which may occur when two phase flow is present (i.e. steam service)
 - 316 stainless steel construction

Specifications:

Pressure	Temperature Rating			Orifice (in.)	Cv
	PTFE Packing	Grafoil® (G) Packing	Grafoil® (G) Packing with HT Option		
6000 psig CWP	-65° F to 450° F	-65° F to 700° F	-65° F to 1200° F	.177" to .437	.53 to 3.55

PRESSURE VS. TEMPERATURE

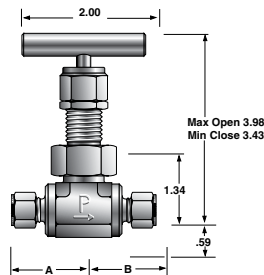


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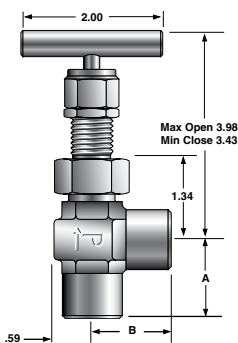
NEEDLE VALVES

U6 SERIES



Model Shown: 4Z-U6LB-T-SS

Panel Hole Diameter:
0.65
Max Panel Thickness:
0.42



Model Shown: 4F-U6AR-T-SS

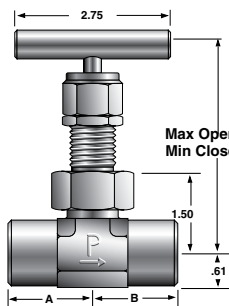
Part No.		End Connections			Flow Data					Dimensions	
Inline	Angle	Inlet (Port 1)	Outlet (Port 2)	Stem Type	Orifice (in.)	Inline		Angle		A† (in.)	B† (in.)
						C _v	X _T * C _v	C _v	X _T * C _v		
2F-U6LR	2F-U6AR	1/8" Female NPT		Regulating	0.188	0.58	0.83	0.77	0.70	1.00	1.00
2F-U6LB	2F-U6AB	1/8" Female NPT		Blunt	0.188	0.69	0.50	0.91	0.42	1.00	1.00
4A-U6LR	4A-U6AR	1/4" Compression A-LOK®		Regulating	0.177	0.53	0.80	0.70	0.67	1.38	1.38
4A-U6LB	4A-U6AB	1/4" Compression A-LOK®		Blunt	0.177	0.65	0.48	0.86	0.40	1.38	1.38
4F-U6LR	4F-U6AR	1/4" Female NPT		Regulating	0.228	0.78	0.95	1.04	0.80	1.03	1.03
4F-U6LB	4F-U6AB	1/4" Female NPT		Blunt	0.228	0.82	0.59	1.09	0.50	1.03	1.03
4M-U6LR	4M-U6AR	1/4" Male NPT		Regulating	0.177	0.53	0.80	0.70	0.67	1.09	1.09
4M-U6LB	4M-U6AB	1/4" Male NPT		Blunt	0.177	0.65	0.48	0.86	0.40	1.09	1.09
4W-U6LR	4W-U6AR	1/4" Socket Weld		Regulating	0.177	0.53	0.80	0.70	0.67	.91	.91
4W-U6LB	4W-U6AB	1/4" Socket Weld		Blunt	0.177	0.65	0.48	0.86	0.40	.91	.91
4Z-U6LR	4Z-U6AR	1/4" Compression CPI™		Regulating	0.177	0.53	0.80	0.70	0.67	1.38	1.38
4Z-U6LB	4Z-U6AB	1/4" Compression CPI™		Blunt	0.177	0.65	0.48	0.86	0.40	1.38	1.38

* Tested in accordance with ISA S75.02. Gas flow will be choked when $P_1 - P_2 / P_1 = X_{Tc}$.

† For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position

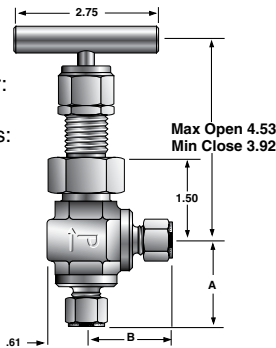
NEEDLE VALVES

U12 SERIES



Model Shown: 6F-U12LB-G-SS-HT

Panel Hole Diameter:
0.83
Max Panel Thickness:
0.61



Model Shown: M12A-U12AB-T-SS

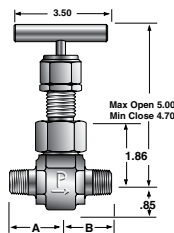
Part No.		End Connections		Stem Type	Flow Data					Dimensions	
Inline	Angle	Inlet (Port 1)	Outlet (Port 2)		Orifice (in.)	Inline C _v	Angle X _t * X _t *	C _v	X _t *	A† (in.)	B† (in.)
4A-U12LR	4A-U12AR	1/4" Compression A-LOK®		Regulating	0.125	0.44	0.57	0.60	0.49	1.39	1.39
4A-U12LB	4A-U12AB	1/4" Compression A-LOK®		Blunt	0.125	0.51	0.40	0.68	0.33	1.39	1.39
4F-U12LR	4F-U12AR	1/4" Female NPT		Regulating	0.250	0.94	0.65	1.25	0.55	1.13	1.13
4F-U12LB	4F-U12AB	1/4" Female NPT		Blunt	0.250	1.03	0.60	1.37	0.51	1.13	1.13
4Z-U12LR	4Z-U12AR	1/4" Compression CPI™		Regulating	0.125	0.44	0.57	0.60	0.49	1.39	1.39
4Z-U12LB	4Z-U12AB	1/4" Compression CPI™		Blunt	0.125	0.51	0.40	0.68	0.33	1.39	1.39
6A-U12LR	6A-U12AR	3/8" Compression A-LOK®		Regulating	0.187	0.69	0.61	0.92	0.52	1.60	1.60
6A-U12LB	6A-U12AB	3/8" Compression A-LOK®		Blunt	0.187	0.77	0.50	1.02	0.42	1.60	1.60
6F-U12LR	6F-U12AR	3/8" Female NPT		Regulating	0.312	1.19	0.78	1.58	0.66	1.30	1.30
6F-U12LB	6F-U12AB	3/8" Female NPT		Blunt	0.312	1.31	0.80	1.74	0.68	1.30	1.30
6W-U12LR	6W-U12AR	3/8" Tube Socket Weld		Regulating	0.228	0.85	0.64	1.13	0.54	1.13	1.13
6W-U12LB	6W-U12AB	3/8" Tube Socket Weld		Blunt	0.228	0.94	0.57	1.25	0.48	1.13	1.13
6Z-U12LR	6Z-U12AR	3/8" Compression CPI™		Regulating	0.187	0.69	0.61	0.92	0.52	1.60	1.60
6Z-U12LB	6Z-U12AB	3/8" Compression CPI™		Blunt	0.187	0.77	0.50	1.02	0.42	1.60	1.60
8A-U12LR	8A-U12AR	1/2" Compression A-LOK®		Regulating	0.250	0.94	0.65	1.25	0.55	1.49	1.49
8A-U12LB	8A-U12AB	1/2" Compression A-LOK®		Blunt	0.250	1.03	0.60	1.37	0.51	1.49	1.49
8F-U12LR	8F-U12AR	1/2" Female NPT		Regulating	0.312	1.19	0.78	1.58	0.66	1.50	1.50
8F-U12LB	8F-U12AB	1/2" Female NPT		Blunt	0.312	1.31	0.80	1.74	0.68	1.50	1.50
8W-U12LR	8W-U12AR	1/2" Tube Socket Weld		Regulating	0.312	1.19	0.78	1.58	0.66	1.25	1.25
8W-U12LB	8W-U12AB	1/2" Tube Socket Weld		Blunt	0.312	1.31	0.80	1.74	0.68	1.25	1.25
8Z-U12LR	8Z-U12AR	1/2" Compression CPI™		Regulating	0.250	0.94	0.65	1.25	0.55	1.49	1.49
8Z-U12LB	8Z-U12AB	1/2" Compression CPI™		Blunt	0.250	1.03	0.60	1.37	0.51	1.49	1.49

* Tested in accordance with ISA S75.02. Gas flow will be choked when P₂ / P₁ = X_c.

† For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position

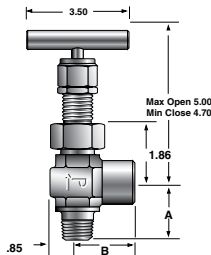
NEEDLE VALVES

U16 SERIES



Panel Hole Diameter:
1.02
Max Panel Thickness:
0.62

Model Shown: 16M-U16LR-G-SS



Model Shown: 16M16F-U16AB-T-SS

Part No.		End Connections		Stem Type	Flow Data					Dimensions	
Inline	Angle	Inlet (Port 1)	Outlet (Port 2)		Orifice (in.)	Inline C _v	Inline X _T [*]	Angle C _v	Angle X _T [*]	A† (in.)	B† (in.)
8A-U16LR	8A-U16AR	1/2" Compression A-LOK®		Regulating	0.394	1.59	0.73	2.11	0.62	1.97	1.97
8A-U16LB	8A-U16AB	1/2" Compression A-LOK®		Blunt	0.394	1.90	0.95	2.53	0.81	1.97	1.97
8F-U16LR	8F-U16AR	1/2" Female NPT		Regulating	0.437	1.82	0.72	2.42	0.61	1.56	1.56
8F-U16LB	8F-U16AB	1/2" Female NPT		Blunt	0.437	2.67	0.80	3.55	0.68	1.56	1.56
8M-U16LR	8M-U16AR	1/2" Male NPT		Regulating	0.437	1.82	0.72	2.42	0.61	1.92	1.92
8M-U16LB	8M-U16AB	1/2" Male NPT		Blunt	0.437	2.67	0.80	3.55	0.68	1.92	1.92
8PSW-U16LR	8PSW-U16AR	1/2" Pipe Socket Weld		Regulating	0.437	1.82	0.72	2.42	0.61	1.56	1.56
8PSW-U16LB	8PSW-U16AB	1/2" Pipe Socket Weld		Blunt	0.437	2.67	0.80	3.55	0.68	1.56	1.56
8W-U16LR	8W-U16AR	1/2" Tube Socket Weld		Regulating	0.394	1.59	0.73	2.11	0.62	1.69	1.69
8W-U16LB	8W-U16AB	1/2" Tube Socket Weld		Blunt	0.394	1.90	0.95	2.53	0.81	1.69	1.69
8Z-U16LR	8Z-U16AR	1/2" Compression CPI™		Regulating	0.394	1.59	0.73	2.11	0.62	1.97	1.97
8Z-U16LB	8Z-U16AB	1/2" Compression CPI™		Blunt	0.394	1.90	0.95	2.53	0.81	1.97	1.97
12A-U16LR	12A-U16AR	3/4" Compression A-LOK®		Regulating	0.437	1.82	0.72	2.42	0.61	1.97	1.97
12A-U16LB	12A-U16AB	3/4" Compression A-LOK®		Blunt	0.437	2.67	0.80	3.55	0.68	1.97	1.97
12F-U16LR	12F-U16AR	3/4" Female NPT		Regulating	0.437	1.82	0.72	2.42	0.61	1.63	1.63
12F-U16LB	12F-U16AB	3/4" Female NPT		Blunt	0.437	2.67	0.80	3.55	0.68	1.63	1.63
12M-U16LR	12M-U16AR	3/4" Male NPT		Regulating	0.437	1.82	0.72	2.42	0.61	1.63	1.63
12M-U16LB	12M-U16AB	3/4" Male NPT		Blunt	0.437	2.67	0.80	3.55	0.68	1.63	1.63
12PSW-U16LR	12PSW-U16AR	3/4" Pipe Socket Weld		Regulating	0.437	1.82	0.72	2.42	0.61	1.56	1.56
12PSW-U16LB	12PSW-U16AB	3/4" Pipe Socket Weld		Blunt	0.437	2.67	0.80	3.55	0.68	1.56	1.56
12W-U16LR	12W-U16AR	3/4" Tube Socket Weld		Regulating	0.437	1.82	0.72	2.42	0.61	1.56	1.56

* Tested in accordance with ISA S75.02. Gas flow will be choked when $P_1 - P_2 / P_1 = x_T$.

† For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position

Part No.		End Connections		Stem Type	Flow Data					Dimensions	
Inline	Angle	Inlet (Port 1)	Outlet (Port 2)		Orifice (in.)	Inline		Angle		A† (in.)	B† (in.)
						C _v	X _T *	C _v	X _T *		
12W-U16LB	12W-U16AB	3/4" Tube Socket Weld		Blunt	0.437	2.67	0.80	3.55	0.68	1.56	1.56
12Z-U16LR	12Z-U16AR	3/4" Compression CPI™		Regulating	0.437	1.82	0.72	2.42	0.61	1.97	1.97
12Z-U16LB	12Z-U16AB	3/4" Compression CPI™		Blunt	0.437	2.67	0.80	3.55	0.68	1.97	1.97
16A-U16LR	16A-U16AR	1" Compression A-LOK®		Regulating	0.437	1.82	0.72	2.42	0.61	1.97	1.97
16A-U16LB	16A-U16AB	1" Compression A-LOK®		Blunt	0.437	2.67	0.80	3.55	0.68	1.97	1.97
16F-U16LR	16F-U16AR	1" Female NPT		Regulating	0.437	1.82	0.72	2.42	0.61	1.81	1.81
16F-U16LB	16F-U16AB	1" Female NPT		Blunt	0.437	2.67	0.80	3.55	0.68	1.81	1.81
16M-U16LR	16M-U16AR	1" Male NPT		Regulating	0.437	1.82	0.72	2.42	0.61	1.81	1.81
16M-U16LB	16M-U16AB	1" Male NPT		Blunt	0.437	2.67	0.80	3.55	0.68	1.81	1.81
16Z-U16LR	16Z-U16AR	1" Compression CPI™		Regulating	0.437	1.82	0.72	2.42	0.61	1.97	1.97
16Z-U16LB	16Z-U16AB	1" Compression CPI™		Blunt	0.437	2.67	0.80	3.55	0.68	1.97	1.97

* Tested in accordance with ISA S75.02. Gas flow will be choked when $P_1 - P_2 / P_1 = X_T$.
† For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position

HOW TO ORDER

The correct part number is easily derived from the following number sequence. The six product characteristics required are coded as shown below. *Note: If the inlet and outlet ports are the same, eliminate the outlet port designator.

EXAMPLE: 4Z * - U6A R - G - SS

① ② ③ ④ ⑤ ⑥

Inlet Port Outlet Port Valve Series Stem Type Packing Body Material

Describes an angle pattern U6 Series needle valve equipped with 1/4" CPI™ compression inlet and outlet ports, a regulating stem type, Grafoil® packing, stainless steel construction.

①	②	③	④	⑤	⑥
Inlet Port	Outlet Port	Valve Series	Stem Type	Packing	Body Material
2F, 4A, 4F, 4M, 4W, 4Z		U6A U6L			
4A, 4F, 4Z, 6A, 6F, 6W, 6Z, 8A, 8F, 8W, 8Z, 10A, 10Z, 12A, 12Z		U12A U12L	R - R Blunt K - PCTFE	T - PTFE G - Grafoil®	SS - Stainless Steel
8A, 8F, 8M, 8PSW, 8W, 8Z, 12A, 12F, 12M, 12PSW, 12W, 12Z, 16A, 16F, 16M, 16Z		U16A U16L			

High Temperature: Add the suffix -HT to the end of the part number to receive valves with a 316 stainless steel lower stem and stainless steel handle. Example: 4M-U6LB-G-SS-HT.

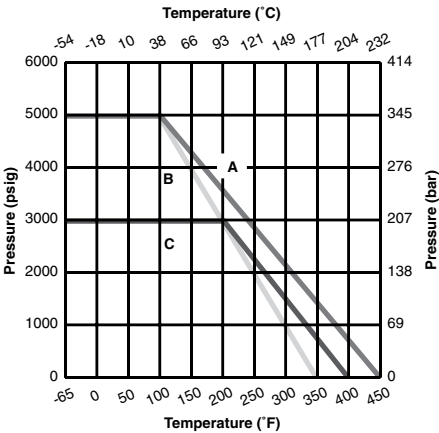
Grafoil® is a registered trademark of UCAR Carbon Technology Corporation



General Description:	Parker V Series Needle Valves are designed for positive leak tight shut-off and regulation of fluids in process, power, and instrumentation applications. With a wide variety of port sizes and styles, temperature capabilities ranging from -65° F to 450° F and pressures to 5000 psig, V Series Needle Valves provide the user with the utmost in flexibility when designing miniaturized tubing or piping systems.		
Features:	• Choice of three stem types: - R-Stem – All metal, blunt stem tip - N-Stem – All metal, tapered needle stem tip - K-Stem – PCTFE stem tip • Differential hardness between the strain hardened stem and cold formed body threads provides improved cycle life • Choice of PTFE packing or elastomeric O-ring stem seals • 316 Stainless Steel and Brass • Inline and angle patterns		
Specifications:	• Pressure Ratings: 316 Stainless Steel: 5000 psig CWP - Brass: 3000 psig CWP • Orifice: 0.078" to 0.312" • Cv: 0.12 to 1.90 • Port size: 1/8" to 3/4" • Temperature Ratings: - Stainless Steel: -65° F to 450° F - Brass: -65° F to 400° F - PTFE Packing: -65° F to 450° F - PCTFE Stem Tip: -65° F to 350° F - Buna-N Rubber Stem Seal: -30° F to 250° F - Fluorocarbon Rubber Stem Seal: -15° F to 400° F - Ethylene Propylene Rubber Stem Seal: -70° F to 275° F		

Note: When combining body, seat and seal materials, the most restrictive temperature rating becomes the limiting factor on temperature range

PRESSURE VS. TEMPERATURE



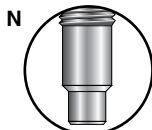
Legend: A - Stainless Steel with N or R stems; B - Stainless Steel with K stem; C - Brass with N or R stems.
Note: To determine MPa, multiply bar by 0.1

NEEDLE VALVES

STEM TYPES



PCTFE tipped



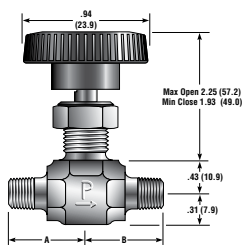
Needle (2 1/2°)



Blunt (30°)

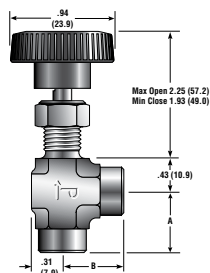
NEEDLE VALVES

V2 SERIES



Model Shown: 2M-V2LN-B

Panel Hole Diameter:
0.45
Max Panel Thickness:
0.25



Model Shown: 2F-V2AR-V-SS

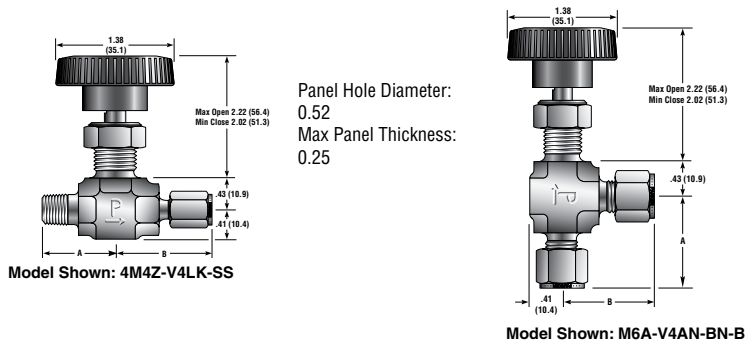
Part No.		End Connections		Stem Type	Flow Data					Dimensions	
Inline	Angle	Inlet (Port 1)	Outlet (Port 2)		Orifice (in.)	C _v	X _T *	Angle		A† (in.)	B† (in.)
2A-V2LR	2A-V2AR	1/8" Compression A-LOK®		Blunt	0.078	0.12	0.78	0.14	0.67	1.01	1.01
2A-V2LN	2A-V2AN	1/8" Compression A-LOK®		Needle	0.078	0.12	0.80	0.14	0.63	1.01	1.01
2A-V2LK	2A-V2AK	1/8" Compression A-LOK®		PCTFE	0.078	0.13	0.83	0.14	0.63	1.01	1.01
2F-V2LR	2F-V2AR	1/8" Female NPT		Blunt	0.093	0.13	0.61	0.16	0.49	0.94	0.94
2F-V2LN	2F-V2AN	1/8" Female NPT		Needle	0.093	0.12	0.66	0.18	0.39	0.94	0.94
2F-V2LK	2F-V2AK	1/8" Female NPT		PCTFE	0.093	0.12	0.73	0.17	0.54	0.94	0.94
2M-V2LR	2M-V2AR	1/8" Male NPT		Blunt	0.093	0.13	0.61	0.16	0.49	0.75	0.75
2M-V2LN	2M-V2AN	1/8" Male NPT		Needle	0.093	0.12	0.66	0.18	0.39	0.75	0.75
2M-V2LK	2M-V2AK	1/8" Male NPT		PCTFE	0.093	0.12	0.73	0.17	0.54	0.75	0.75
2Z-V2LR	2Z-V2AR	1/8" Compression CPI™		Blunt	0.078	0.12	0.78	0.14	0.67	1.01	1.01
2Z-V2LN	2Z-V2AN	1/8" Compression CPI™		Needle	0.078	0.12	0.80	0.14	0.63	1.01	1.01
2Z-V2LK	2Z-V2AK	1/8" Compression CPI™		PCTFE	0.078	0.13	0.83	0.14	0.63	1.01	1.01
4A-V2LR	4A-V2AR	1/4" Compression A-LOK®		Blunt	0.078	0.12	0.78	0.14	0.67	1.09	1.09
4A-V2LN	4A-V2AN	1/4" Compression A-LOK®		Needle	0.078	0.12	0.80	0.14	0.63	1.09	1.09
4A-V2LK	4A-V2AK	1/4" Compression A-LOK®		PCTFE	0.078	0.13	0.83	0.14	0.63	1.09	1.09
4Z-V2LR	4Z-V2AR	1/4" Compression CPI™		Blunt	0.078	0.12	0.78	0.14	0.67	1.09	1.09
4Z-V2LN	4Z-V2AN	1/4" Compression CPI™		Needle	0.078	0.12	0.80	0.14	0.63	1.09	1.09
4Z-V2LK	4Z-V2AK	1/4" Compression CPI™		PCTFE	0.078	0.13	0.83	0.14	0.63	1.09	1.09

* Tested in accordance with ISA S75.02. Gas flow will be choked when $P_1 - P_2 / P_1 = X_T$.

† For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position

NEEDLE VALVES

V4 SERIES

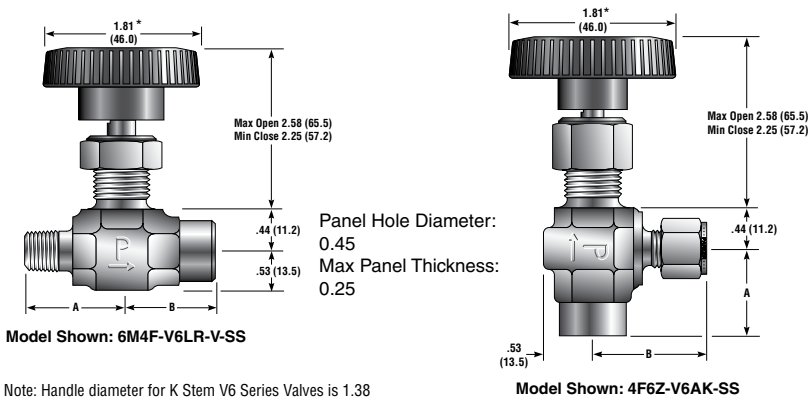


Part No.		End Connections		Stem Type	Flow Data					Dimensions	
Incline	Angle	Inlet (Port 1)	Outlet (Port 2)		Orifice (in.)	C _v	X _t *	C _v	X _t *	A† (in.)	B† (in.)
2A-V4LR	2A-V4AR	1/8" Compression A-LOK®		Blunt	0.078	0.12	0.52	0.15	0.64	1.10	1.10
2A-V4LN	2A-V4AN	1/8" Compression A-LOK®		Needle	0.078	0.12	0.68	0.15	0.59	1.10	1.10
2A-V4LK	2A-V4AK	1/8" Compression A-LOK®		PCTFE	0.078	0.14	0.66	0.17	0.49	1.10	1.10
2F-V4LR	2F-V4AR	1/8" Female NPT		Blunt	0.176	0.43	0.77	0.55	0.63	0.81	0.81
2F-V4LN	2F-V4AN	1/8" Female NPT		Needle	0.176	0.43	0.69	0.55	0.63	0.81	0.81
2F-V4LK	2F-V4AK	1/8" Female NPT		PCTFE	0.176	0.45	0.55	0.58	0.68	0.81	0.81
2M-V4LR	2M-V4AR	1/8" Male NPT		Blunt	0.125	0.28	0.67	0.36	0.55	0.81	0.81
2M-V4LN	2M-V4AN	1/8" Male NPT		Needle	0.125	0.28	0.63	0.36	0.51	0.81	0.81
2M-V4LK	2M-V4AK	1/8" Male NPT		PCTFE	0.125	0.29	0.51	0.37	0.59	0.81	0.81
2Z-V4LR	2Z-V4AR	1/8" Compression CPI™		Blunt	0.078	0.12	0.52	0.15	0.64	1.10	1.10
2Z-V4LN	2Z-V4AN	1/8" Compression CPI™		Needle	0.078	0.12	0.68	0.15	0.59	1.10	1.10
2Z-V4LK	2Z-V4AK	1/8" Compression CPI™		PCTFE	0.078	0.14	0.66	0.17	0.49	1.10	1.10
4A-V4LR	4A-V4AR	1/4" Compression A-LOK®		Blunt	0.176	0.43	0.85	0.55	0.63	1.15	1.15
4A-V4LN	4A-V4AN	1/4" Compression A-LOK®		Needle	0.176	0.43	0.77	0.55	0.63	1.15	1.15
4A-V4LK	4A-V4AK	1/4" Compression A-LOK®		PCTFE	0.176	0.45	0.69	0.58	0.68	1.15	1.15
4M-V4LR	4M-V4AR	1/4" Male NPT		Blunt	0.176	0.43	0.85	0.55	0.63	0.94	0.94
4M-V4LN	4M-V4AN	1/4" Male NPT		Needle	0.176	0.43	0.77	0.55	0.63	0.94	0.94
4M-V4LK	4M-V4AK	1/4" Male NPT		PCTFE	0.176	0.45	0.69	0.58	0.68	0.94	0.94
4Z-V4LR	4Z-V4AR	1/4" Compression CPI™		Blunt	0.176	0.43	0.85	0.55	0.63	1.15	1.15
4Z-V4LN	4Z-V4AN	1/4" Compression CPI™		Needle	0.176	0.43	0.77	0.55	0.63	1.15	1.15
4Z-V4LK	4Z-V4AK	1/4" Compression CPI™		PCTFE	0.176	0.45	0.69	0.58	0.68	1.15	1.15
6A-V4LR	6A-V4AR	3/8" Compression A-LOK®		Blunt	0.176	0.43	0.85	0.55	0.63	1.17	1.17
6A-V4LN	6A-V4AN	3/8" Compression A-LOK®		Needle	0.176	0.43	0.77	0.55	0.63	1.17	1.17
6A-V4LK	6A-V4AK	3/8" Compression A-LOK®		PCTFE	0.176	0.45	0.69	0.58	0.68	1.17	1.17
6Z-V4LR	6Z-V4AR	3/8" Compression CPI™		Blunt	0.176	0.43	0.85	0.55	0.63	1.17	1.17
6Z-V4LN	6Z-V4AN	3/8" Compression CPI™		Needle	0.176	0.43	0.77	0.55	0.63	1.17	1.17
6Z-V4LK	6Z-V4AK	3/8" Compression CPI™		PCTFE	0.176	0.45	0.69	0.58	0.68	1.17	1.17

* Tested in accordance with ISA S75.02. Gas flow will be choked when $P_2 - P_1 / P_1 = X_t$.
† For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position.

NEEDLE VALVES

V6 SERIES



* Note: Handle diameter for K Stem V6 Series Valves is 1.38

NEEDLE VALVES

V6 SERIES

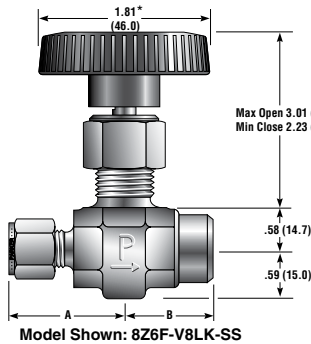
Part No.		End Connections			Flow Data					Dimensions	
Inline	Angle	Inlet (Port 1)	Outlet (Port 2)	Stem Type	Orifice (in.)	C _v	X _t [*]	C _v	X _t [*]	A† (in.)	B† (in.)
4F-V6LR	4F-V6AR	1/4" Female NPT		Blunt	0.228	0.73	0.90	1.23	0.50	0.94	0.94
4F-V6LN	4F-V6AN	1/4" Female NPT		Needle	0.228	0.55	0.61	0.92	0.62	0.94	0.94
4F-V6LK	4F-V6AK	1/4" Female NPT		PCTFE	0.228	0.80	0.87	1.23	0.56	0.94	0.94
6A-V6LR	6A-V6AR	3/8" Compression A-LOK®		Blunt	0.228	0.73	0.90	1.23	0.50	1.29	1.29
6A-V6LN	6A-V6AN	3/8" Compression A-LOK®		Needle	0.228	0.55	0.61	0.92	0.62	1.29	1.29
6A-V6LK	6A-V6AK	3/8" Compression A-LOK®		PCTFE	0.228	0.80	0.87	1.23	0.56	1.29	1.29
6M-V6LR	6M-V6AR	3/8" Male NPT		Blunt	0.228	0.73	0.90	1.23	0.50	1.03	1.03
6M-V6LN	6M-V6AN	3/8" Male NPT		Needle	0.228	0.55	0.61	0.92	0.62	1.03	1.03
6M-V6LK	6M-V6AK	3/8" Male NPT		PCTFE	0.228	0.80	0.87	1.23	0.56	1.03	1.03
6Z-V6LR	6Z-V6AR	3/8" Compression CPI™		Blunt	0.228	0.73	0.90	1.23	0.50	1.29	1.29
6Z-V6LN	6Z-V6AN	3/8" Compression CPI™		Needle	0.228	0.55	0.61	0.92	0.62	1.29	1.29
6Z-V6LK	6Z-V6AK	3/8" Compression CPI™		PCTFE	0.228	0.80	0.87	1.23	0.56	1.29	1.29
8A-V6LR	8A-V6AR	1/2" Compression A-LOK®		Blunt	0.228	0.73	0.90	1.23	0.50	1.40	1.40
8A-V6LN	8A-V6AN	1/2" Compression A-LOK®		Needle	0.228	0.55	0.61	0.92	0.62	1.40	1.40
8A-V6LK	8A-V6AK	1/2" Compression A-LOK®		PCTFE	0.228	0.80	0.87	1.23	0.56	1.40	1.40
8Z-V6LR	8Z-V6AR	1/2" Compression CPI™		Blunt	0.228	0.73	0.90	1.23	0.50	1.40	1.40
8Z-V6LN	8Z-V6AN	1/2" Compression CPI™		Needle	0.228	0.55	0.61	0.92	0.62	1.40	1.40
8Z-V6LK	8Z-V6AK	1/2" Compression CPI™		PCTFE	0.228	0.80	0.87	1.23	0.56	1.40	1.40

* Tested in accordance with ISA S75.02. Gas flow will be choked when $P_1 - P_2 / P_1 = x_c$.

† For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position.

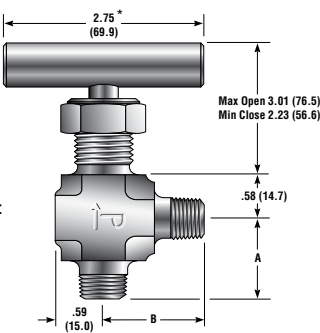
NEEDLE VALVES

V8 SERIES



Panel Hole Diameter:
0.77
Max Panel Thickness:
0.40

* Note: Handles for N or R Stem V8 Series Valves are a T-bar



Model Shown: 8M-V8AN-EPR-SS

NEEDLE VALVES

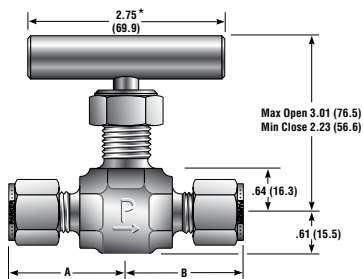
V8 SERIES

Part No.		End Connections			Flow Data					Dimensions	
		Inlet (Port 1)	Outlet (Port 2)	Stem Type	Orifice (in.)	Inline		Angle		A† Inch	B† Inch
Inline	Angle					C _v	X _t *	C _v	X _t *		
6F-V8LR	6F-V8AR	3/8" Female NPT		Blunt	0.312	1.23	0.87	1.66	0.72	1.34	1.34
6F-V8LN	6F-V8AN	3/8" Female NPT		Needle	0.312	1.05	0.83	1.28	0.80	1.34	1.34
6F-V8LK	6F-V8AK	3/8" Female NPT		PCTFE	0.312	1.29	0.91	1.90	0.76	1.34	1.34
8A-V8LR	8A-V8AR	1/2" Compression A-LOK®		Blunt	0.312	1.23	0.87	1.66	0.72	1.53	1.53
8A-V8LN	8A-V8AN	1/2" Compression A-LOK®		Needle	0.312	1.05	0.83	1.28	0.80	1.53	1.53
8A-V8LK	8A-V8AK	1/2" Compression A-LOK®		PCTFE	0.312	1.29	0.91	1.90	0.76	1.53	1.53
8M-V8LR	8M-V8AR	1/2" Male NPT		Blunt	0.312	1.23	0.87	1.66	0.72	1.34	1.34
8M-V8LN	8M-V8AN	1/2" Male NPT		Needle	0.312	1.05	0.83	1.28	0.80	1.34	1.34
8M-V8LK	8M-V8AK	1/2" Male NPT		PCTFE	0.312	1.29	0.91	1.90	0.76	1.34	1.34
8Z-V8LR	8Z-V8AR	1/2" Compression CPI™		Blunt	0.312	1.23	0.87	1.66	0.72	1.53	1.53
8Z-V8LN	8Z-V8AN	1/2" Compression CPI™		Needle	0.312	1.05	0.83	1.28	0.80	1.53	1.53
8Z-V8LK	8Z-V8AK	1/2" Compression CPI™		PCTFE	0.312	1.29	0.91	1.90	0.76	1.53	1.53

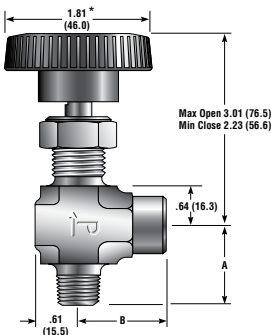
* Tested in accordance with ISA S75.02. Gas flow will be choked when $P_1 - P_2 / P_1 = x_c$.
† For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position.

NEEDLE VALVES

V12 SERIES



Model Shown: 10Z-V12LN-B



Model Shown: 8M8F-V12AK-BN-SS

* Note: Handles for N or R Stem V12 Series Valves are a T-bar

Part No.		End Connections			Flow Data					Dimensions	
Inline	Angle	Inlet (Port 1)	Outlet (Port 2)	Stem Type	Orifice (in.)	Inline C_v	Angle X_r^*	Angle C_v	Angle X_r^*	A† (in.)	B† (in.)
8F-V12LR	8F-V12AR	1/2" Female NPT		Blunt	0.312	1.23	0.87	1.66	0.72	1.38	1.38
8F-V12LN	8F-V12AN	1/2" Female NPT		Needle	0.312	1.05	0.83	1.28	0.80	1.38	1.38
8F-V12LK	8F-V12AK	1/2" Female NPT		PCTFE	0.312	1.29	0.91	1.90	0.76	1.38	1.38
10A-V12LR	10A-V12AR	5/8" Compression A-LOK®		Blunt	0.312	1.23	0.87	1.66	0.72	1.52	1.52
10A-V12LN	10A-V12AN	5/8" Compression A-LOK®		Needle	0.312	1.05	0.83	1.28	0.80	1.52	1.52
10A-V12LK	10A-V12AK	5/8" Compression A-LOK®		PCTFE	0.312	1.29	0.91	1.90	0.76	1.52	1.52
10Z-V12LR	10Z-V12AR	5/8" Compression CPI™		Blunt	0.312	1.23	0.87	1.66	0.72	1.52	1.52
10Z-V12LN	10Z-V12AN	5/8" Compression CPI™		Needle	0.312	1.05	0.83	1.28	0.80	1.52	1.52
10Z-V12LK	10Z-V12AK	5/8" Compression CPI™		PCTFE	0.312	1.29	0.91	1.90	0.76	1.52	1.52
12A-V12LR	12A-V12AR	3/4 Compression A-LOK®		Blunt	0.312	1.23	0.87	1.66	0.72	1.52	1.52
12A-V12LN	12A-V12AN	3/4 Compression A-LOK®		Needle	0.312	1.05	0.83	1.28	0.80	1.52	1.52
12A-V12LK	12A-V12AK	3/4 Compression A-LOK®		PCTFE	0.312	1.29	0.91	1.90	0.76	1.52	1.52
12Z-V12LR	12Z-V12AR	3/4 Compression CPI™		Blunt	0.312	1.23	0.87	1.66	0.72	1.52	1.52
12Z-V12LN	12Z-V12AN	3/4 Compression CPI™		Needle	0.312	1.05	0.83	1.28	0.80	1.52	1.52
12Z-V12LK	12Z-V12AK	3/4 Compression CPI™		PCTFE	0.312	1.29	0.91	1.90	0.76	1.52	1.52

* Tested in accordance with ISA S75.02. Gas flow will be choked when $P_1 - P_2 / P_1 = x_r$.

† For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position.

HOW TO ORDER

The correct part number is easily derived from the following number sequence. The six product characteristics required are coded as shown below. *Note: If the inlet and outlet ports are the same, eliminate the outlet port designator.

EXAMPLE: **4Z** ***** - **V4A** **K** - **BN** - **SS**
 (1) (2) (3) (4) (5) (6)
 Inlet Outlet Valve Stem Stem Body
 Port Port Series Type Seal Material

Describes an angle pattern V4 Series needle valve equipped with 1/4" CPI™ compression inlet and outlet ports, a PCTFE tipped stem, Buna-N seals, and stainless steel construction.

(1)	(2)	(3)	(4)	(5)	(6)
Inlet Port	Outlet Port	Valve Series	Stem Type	Stem Seal	Body Material
2A, 2F, 2M, 2Z, 4A, 4Z		V2			
2A, 2F, 2M, 2Z, 4A, 4M, 4Z, 6A, 6Z		V4		Blank - PTFE	SS - Stainless Steel
			R - Blunt (30°)	BN - Buna-N Rubber	
4A, 4F, 4M, 4Z, 6A, 6M, 6Z, 8A, 8Z		V6	N - Needle (2 1/2°)	EPR - Ethylene Propylene Rubber	
			K - PCTFE	V - Fluorocarbon Rubber	B - Brass
4F, 6A, 6F, 6Z, 8A, 8M, 8Z		V8			
8F, 10A, 10Z, 12A, 12Z		V12			

General Description: Parker VQ Series Needle Valves are the right combination of performance and value for manual or pneumatic on-off control in moderate pressure and temperature applications. The manual version employs a toggle handle for quick action at pressures up to 300 psig. Compact double acting, normally closed, and normally open pneumatically actuated versions of this valve are ideal for automatic control at pressures up to 600 psig.

MANUAL TOGGLE

Features:

- Quick acting
- Inline and angle patterns
- Available with CPI™, A-LOK®, male and female NPT end connections
- Panel mountable
- 316 stainless steel and brass body construction
- Stem seal materials -
 - Fluorocarbon Rubber
 - Buna-N Rubber
 - Ethylene Propylene Rubber
 - Highly Fluorinated Fluorocarbon Rubber

Specifications: Pressure Ratings at all Temperatures: 300 psig CWP
Temperature Ratings: PTFE Stem Tip: -20° F to 200° F
PCTFE Stem Tip: -65° F to 200° F

ACTUATED VALVE

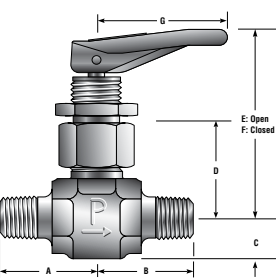
Features:

- Available in normally open, normally closed, and double acting models
- Inline and angle patterns
- Available with CPI™, A-LOK®, male and female NPT end connections
- Mounting bracket standard
- 316 stainless steel and brass body construction
- Stem seal materials -
 - Fluorocarbon Rubber
 - Buna-N Rubber
 - Ethylene Propylene Rubber
 - Highly Fluorinated Fluorocarbon Rubber
- 100% factory tested

Specifications: Pressure Rating at all temperatures:
Size V4 Normally Closed: 600 psig CWP
Size V6 Normally Closed: 500 psig CWP
Normally Open: 450 psig CWP
Double Acting: 450 psig CWP
Temperature Ratings -
PTFE Stem Tip: -20 °F to 200 °F
PCTFE Stem Tip: -65 °F to 200 °F

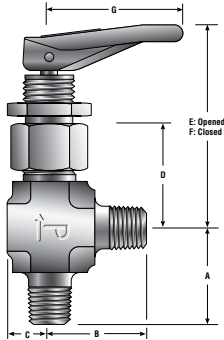
NEEDLE VALVES

VQ SERIES - V4



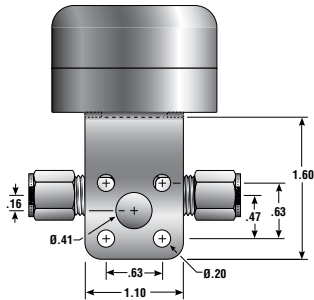
Model Shown: 4M-V4LQ-SSP

Panel Hole
Diameter:
V4: 0.52
Max. Panel
Thickness:
V4: 0.25



Model Shown: 4M-V4AQ-EPR-SSP

V4 VALVE MOUNTING BRACKET



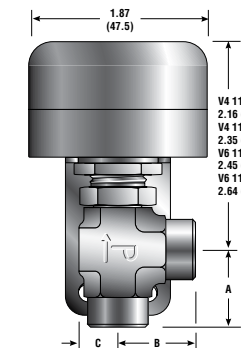
End Connections			Flow Data			Dimensions						
Part No.	Inlet (Port 1)	Outlet (Port 2)	Orifice (in.)	C _v	X _T [*]	A [†] (in.)	B [†] (in.)	C (in.)	D (in.)	E (in.)	F (in.)	G (in.)
2A-V4LQ	1/8" Compression A-LOK®		0.078	0.14	0.52	1.10	1.10	0.41	0.93	2.88	1.84	1.25
2A-V4AQ	1/8" Compression A-LOK®		0.078	0.15	0.50	1.10	1.10	0.41	0.93	2.88	1.84	1.25
2F-V4LQ	1/8" Female NPT		0.176	0.36	0.71	0.81	0.81	0.41	0.93	2.88	1.84	1.25
2F-V4AQ	1/8" Female NPT		0.176	0.49	0.64	0.81	0.81	0.41	0.93	2.88	1.84	1.25
2M-V4LQ	1/8" Male NPT		0.125	0.30	0.50	0.81	0.81	0.41	0.93	2.88	1.84	1.25
2M-V4AQ	1/8" Male NPT		0.125	0.35	0.55	0.81	0.81	0.41	0.93	2.88	1.84	1.25
2Z-V4LQ	1/8" Compression CPI™		0.078	0.14	0.52	1.10	1.10	0.41	0.93	2.88	1.84	1.25
2Z-V4AQ	1/8" Compression CPI™		0.078	0.15	0.50	1.10	1.10	0.41	0.93	2.88	1.84	1.25
4A-V4LQ	1/4" Compression A-LOK®		0.176	0.36	0.71	1.15	1.15	0.41	0.93	2.88	1.84	1.25
4A-V4AQ	1/4" Compression A-LOK®		0.176	0.49	0.64	1.15	1.15	0.41	0.93	2.88	1.84	1.25
4M-V4LQ	1/4" Male NPT		0.176	0.36	0.71	0.94	0.94	0.41	0.93	2.88	1.84	1.25
4M-V4AQ	1/4" Male NPT		0.176	0.49	0.64	0.94	0.94	0.41	0.93	2.88	1.84	1.25
4Z-V4LQ	1/4" Compression CPI™		0.176	0.36	0.71	1.15	1.15	0.41	0.93	2.88	1.84	1.25
4Z-V4AQ	1/4" Compression CPI™		0.176	0.49	0.64	1.15	1.15	0.41	0.93	2.88	1.84	1.25
6A-V4LQ	3/8" Compression A-LOK®		0.176	0.36	0.71	1.17	1.17	0.41	0.93	2.88	1.84	1.25
6A-V4AQ	3/8" Compression A-LOK®		0.176	0.49	0.64	1.17	1.17	0.41	0.93	2.88	1.84	1.25
6Z-V4LQ	3/8" Compression CPI™		0.176	0.36	0.71	1.17	1.17	0.41	0.93	2.88	1.84	1.25
6Z-V4AQ	3/8" Compression CPI™		0.176	0.49	0.64	1.17	1.17	0.41	0.93	2.88	1.84	1.25

* Tested in accordance with ISA S75.02. Gas flow will be choked when $P_1 - P_2 / P_2 = X_T$.

† For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position.

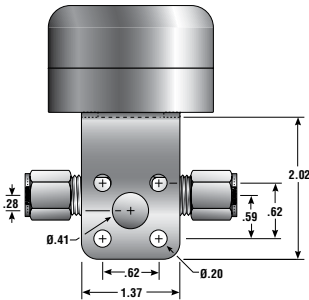
NEEDLE VALVES

VQ SERIES - V6



Panel Hole Diameter:
V6: 0.65
Max. Panel Thickness:
V6: 0.35

V6 VALVE MOUNTING BRACKET

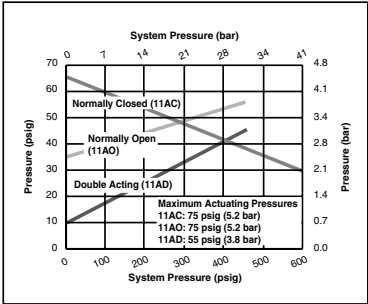


Model Shown: 4F-V6AQ-11AOA-B

End Connections			Flow Data			Dimensions						
Part No.	Inlet (Port 1)	Outlet (Port 2)	Orifice (in.)	C _v	X _T [*]	A† (in.)	B† (in.)	C (in.)	D (in.)	E (in.)	F (in.)	G (in.)
4F-V6LQ	1/4" Female NPT		0.250	0.83	0.70	1.00	1.00	0.53	1.07	3.45	2.13	1.60
4F-V6AQ	1/4" Female NPT		0.250	0.92	0.68	1.00	1.00	0.53	1.07	3.45	2.13	1.60
6A-V6LQ	3/8" Compression A-LOK®		0.250	0.83	0.70	1.29	1.29	0.53	1.07	3.45	2.13	1.60
6A-V6AQ	3/8" Compression A-LOK®		0.250	0.92	0.68	1.29	1.29	0.53	1.07	3.45	2.13	1.60
6Z-V6LQ	3/8" Compression CPI™		0.250	0.83	0.70	1.29	1.29	0.53	1.07	3.45	2.13	1.60
6Z-V6AQ	3/8" Compression CPI™		0.250	0.92	0.68	1.29	1.29	0.53	1.07	3.45	2.13	1.60
8A-V6LQ	1/2" Compression A-LOK®		0.250	0.83	0.70	1.37	1.37	0.53	1.07	3.45	2.13	1.60
8A-V6AQ	1/2" Compression A-LOK®		0.250	0.92	0.68	1.37	1.37	0.53	1.07	3.45	2.13	1.60
8Z-V6LQ	1/2" Compression CPI™		0.250	0.83	0.70	1.37	1.37	0.53	1.07	3.45	2.13	1.60
8Z-V6AQ	1/2" Compression CPI™		0.250	0.92	0.68	1.37	1.37	0.53	1.07	3.45	2.13	1.60

^{*} Tested in accordance with ISA S75.02. Gas flow will be choked when $P_2 - P_3 / P_1 = X_T$.
[†] For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position

MINIMUM ACTUATING PRESSURES



MANUAL TOGGLE VALVES

HOW TO ORDER

VQ SERIES

The correct part number is easily derived from the following number sequence. The six product characteristics required are coded as shown below. *Note: If the inlet and outlet ports are the same, eliminate the outlet port designator.

EXAMPLE:

4Z

*

-

V4LQ

-

K

-

BN

-

SSP

①

Inlet
Port

②

Outlet
Port

③

Valve
Series

④

Stem
Tip

⑤

Stem
Seal

⑥

Body
Material

Describes a V4 Series inline pattern toggle valve equipped with 1/4" CPITM compression inlet and outlet ports, PCTFE stem tip, Buna-N rubber stem seal, and stainless steel construction with panel mounting nut.

① Inlet Port	② Outlet Port	③ Valve Series	④ Stem Tip	⑤ Stem Seal	⑥ Body Material
2A, 2F, 2M, 2Z, 4A, 4M, 4Z, 6A, 6Z		V4LQ V4AQ	Blank - PTFE	Blank - Fluorocarbon Rubber BN - Buna-N Rubber EPR - Ethylene Propylene Rubber KZ - Highly Fluorinated Fluorocarbon Rubber	SSP - Stainless Steel with Panel Nut
4F, 6A, 6Z, 8A, 8Z		V6LQ V6AQ	K - PCTFE		BP - Brass with Panel Nut

ACTUATED VALVES

HOW TO ORDER

VQ SERIES

The correct part number is easily derived from the following number sequence. The seven product characteristics required are coded as shown below. *Note: If the inlet and outlet ports are the same, eliminate the outlet port designator.

EXAMPLE:

4M

4A

-

V4AQ

-

-

11AC

-

B

①

Inlet
Port

②

Outlet
Port

③

Valve
Series

④

Stem
Tip

⑤

Stem
Seal

⑥

Actuator
Type

⑦

Body
Material

Describes a V4 Series pneumatically actuated (normally closed) angle pattern valve equipped with a 1/4" MNPT inlet port, a 1/4" A-LOK® compression outlet port, PTFE stem tip, Fluorocarbon rubber stem seal, brass construction with mounting bracket.

① Inlet Port	② Outlet Port	③ Valve Series	④ Stem Tip	⑤ Stem Seal	⑥ Actuator Type	⑦ Body Material
2A, 2F, 2M, 2Z, 4A, 4M, 4Z, 6A, 6Z		V4LQ V4AQ	Blank - PTFE	Blank - Fluorocarbon Rubber BN - Buna-N Rubber EPR - Ethylene Propylene Rubber KZ - Highly Fluorinated Fluorocarbon Rubber	11AC - Normally Closed 11AD - Normally Open 11AD - Double Acting	SSP - Stainless Steel
4F, 6A, 6Z, 8A, 8Z		V6LQ V6AQ	K - PCTFE			BP - Brass



**Applications,
temperature and
pressure range:**

Parker plug valves feature a 1/4 turn shutoff allowing for ease of operation. All plug valves are 100% leak tested and are certified to be leak free to one SCCM. Temperature and working pressure ranges from -40° to +175°F at 250 PSI maximum.

Features:

- Internal Nitrile seals and a one-piece extruded CA 360 brass body, offering compatibility with a wide range of media.
- One-piece stem/handle constructed of glass reinforced acetal copolymer.
- Nitrile O-Rings (other compounds available).
- Stop Pin: 420SS
- Spiral Ring: 302SS

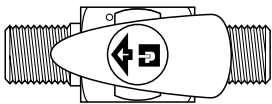
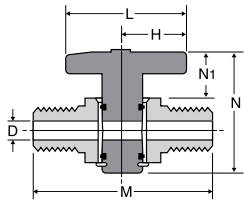
Installation

Instructions:

The valve must be installed so that the flow media travels in the direction of the arrow on the valve handle.

PLUG VALVES SERIES PV

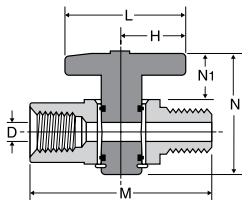
MALE PIPE TO MALE PIPE PLUG VALVE PV607



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

PLUG VALVES SERIES PV

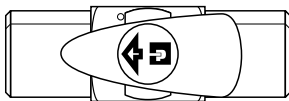
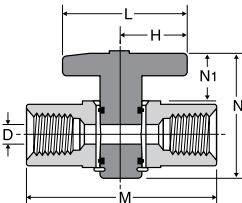
FEMALE PIPE TO MALE PIPE PLUG VALVE PV608



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

PLUG VALVES SERIES PV

FEMALE PIPE TO FEMALE PIPE PLUG VALVE PV609



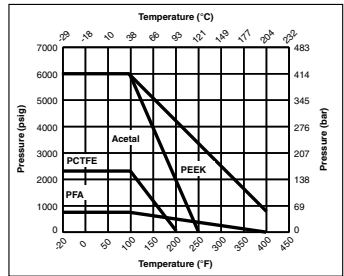
Part No.	Pipe Thread	H	L	M	N	N1	Flow Dia. D
PV609-2	1/8	.67	1.34	1.68	1.38	.51	.200
PV609-4	1/4	.67	1.34	2.10	1.38	.51	.200

General Description: Parker Rising Plug and Gauge/Root Valves are available with a variety of seat and seal materials. They are screwed bonnet designs featuring bonnet lock plates. The PV and PVG Series of valves provide a straight-through flow path in two orifice sizes. The valves utilize a non-wetted upper stem and a non-rotating lower stem in conjunction with a tapered seat for positive shut-off and long seat life, even in particulated media.

- Features:**
- Roddable, straight through flow path
 - Bonnet lock plate resists accidental bonnet disengagement
 - Stem dust seal helps protect stem from external contamination
 - Rugged 316 stainless steel barstock construction
 - Panel mounting option
 - Gauge port option
 - 100% factory tested

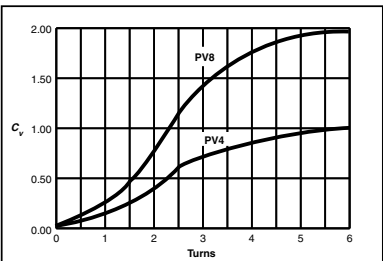
- Specifications:**
- Pressure Rating:
Acetal Seat (DE): 6000 psig CWP
PEEK Seat (PK): 6000 psig CWP
PCTFE Seat (K): 2200 psig CWP
PFA Seat (PFA): 750 psig CWP
 - Temperature Rating:
Seats -
Acetal: -20 °F to 250 °F
PEEK and PFA: -20 °F to 400 °F
PCTFE: -20 °F to 200 °F
Stem Seals -
Buna-N Rubber (BN), Silicone Rubber (SI), and
Ethylene Propylene Rubber (EPR): -20 °F to 250 °F
Fluorocarbon Rubber (V): -20 °F to 400 °F
Highly Fluorinated Fluorocarbon Rubber (KZ): -20 °F to 200 °F

PRESSURE VS. TEMPERATURE



Note: To determine MPa, multiply bar by 0.1

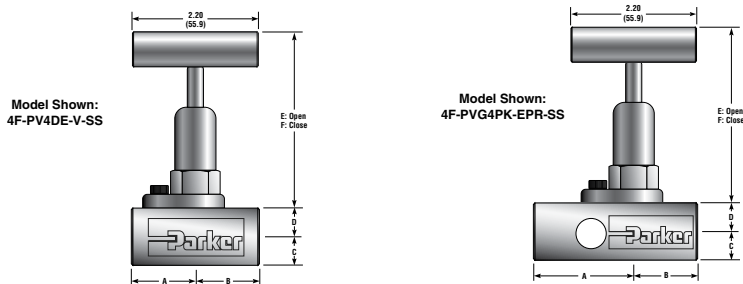
FLOW CHARACTERISTICS



Note: When combining seat and seal materials, the most restrictive temperature rating becomes the limiting factor on temperature range.

RIISING STEM PLUG VALVES

PV SERIES



Part No.	End Connections		A† (in.)	B† (in.)	C (in.)	D (in.)	E (in.)	F (in.)
	Inlet (Port 1)	Outlet (Port 2)						
4A-PV4	1/4" Compression A-LOK®	1/4" Compression A-LOK®	1.73	1.73	0.50	0.50	3.04	2.93
4F-PV4	1/4" Female NPT	1/4" Female NPT	1.13	1.13	0.50	0.50	3.04	2.93
4F-PVG4	1/4" Female NPT	1/4" Female NPT	1.75	1.13	0.50	0.50	3.04	2.93
4M4F-PV4	1/4" Male NPT	1/4" Female NPT	1.78	1.13	0.50	0.50	3.04	2.93
4Z-PV4	1/4" Compression CPI™	1/4" Compression CPI™	1.73	1.73	0.50	0.50	3.04	2.93
6A-PV4	3/8" Compression A-LOK®	3/8" Compression A-LOK®	1.79	1.79	0.50	0.50	3.04	2.93
6Z-PV4	3/8" Compression CPI™	3/8" Compression CPI™	1.79	1.79	0.50	0.50	3.04	2.93
8M4F-PV4	1/2" Male NPT	1/4" Female NPT	1.90	1.13	0.50	0.50	3.04	2.93
8M4F-PVG4	1/2" Male NPT	1/4" Female NPT	3.13	1.75	0.50	0.50	3.04	2.93
6M6F-PVG8	3/8" Male NPT	3/8" Female NPT	3.33	2.25	0.56	0.56	3.04	2.93
8A-PV8	1/2" Compression A-LOK®	1/2" Compression A-LOK®	1.91	1.91	0.56	0.56	3.04	2.93
8F-PV8	1/2" Female NPT	1/2" Female NPT	1.33	1.33	0.56	0.56	3.04	2.93
8M8F-PV8	1/2" Male NPT	1/2" Female NPT	2.17	1.33	0.56	0.56	3.04	2.93
8M8F-PVG8	1/2" Male NPT	1/2" Female NPT	3.33	2.25	0.56	0.56	3.04	2.93
8Z-PV8	1/2" Compression CPI™	1/2" Compression CPI™	1.91	1.91	0.56	0.56	3.04	2.93
12M8F-PV8	3/4" Male NPT	1/2" Female NPT	2.17	1.33	0.56	0.56	3.04	2.93

† For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position.

HOW TO ORDER

The correct part number is easily derived from the following number sequence. The six product characteristics required are coded as shown below. *Note: If the inlet and outlet ports are the same, eliminate the outlet port designator.

Example: **4Z** ***** - **PV4** **K** - **BN** - **SS**
1 Inlet Port 2 Outlet Port 3 Valve Series 4 Seat Type 5 Stem Seal 6 Body Material

Describes a PV4 Series rising stem plug valve equipped with 1/4" CPI™ compression inlet and outlet ports, a PCTFE seat, Buna-N stem seals, and stainless steel construction.

① Inlet Port	② Outlet Port	③ Valve Series	④ Seat Material	⑤ Stem Seal Material	⑥ Body Material
4A, 4F, 4M, 4Z, 6A, 6Z, 8M		PV4 PVG4	DE - Acetal K - PCTFE PK - PEEK PFA - PFA	V - Fluorocarbon Rubber BN - Buna-N Rubber SI - Silicone Rubber EPR - Ethylene Propylene Rubber KZ - Highly Fluorinated Fluorocarbon Rubber	SS - Stainless Steel SSP - Stainless Steel with Panel Mounting Option
6M, 6F, 8A, 8F, 8Z, 12M		PV8 PVGB			



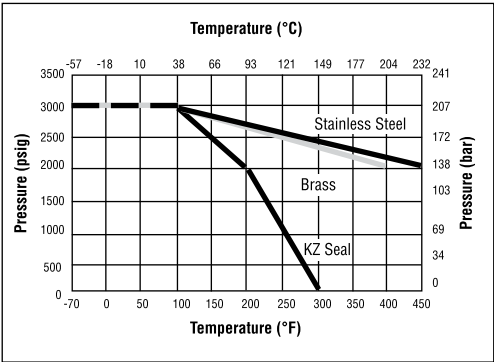
General Description: Parker PR Series Plug Valves provide positive leak tight shut-off, high flow capacity, and quick quarter-turn operation in a compact attractive package. The patented blow-out resistant seat design offers reliable sealing technology at all operating pressures. In addition to on-off actuation, the plug design allows forward flow throttling. A selection of valve seat and seal materials may be chosen for media compatibility and performance over a broad range of temperatures. The pressure balanced atmospheric seals are backed by PTFE rings to enhance their performance and increase cycle life.

- Features:**
- Patented blow-out resistant seat design
 - Pressures up to 3,000 psig CWP
 - Quarter-turn operation
 - Reliable simple design
 - Straight-through flow
 - Stainless steel and brass construction
 - Nitrile, ethylene propylene, fluorocarbon, and highly fluorinated fluorocarbon rubber seats and seals
 - PTFE back-up rings on atmospheric seals
 - Low operating torque
 - Minimum pressure drop
 - Throttling capability
 - Easy to service

SPECIFICATIONS:

Pressure Ratings: Normal Flow Direction: 3000 psig CWP
Reverse Flow Direction: 150 psig
Downstream Vent Option: 150 psig

PRESSURE VS. TEMPERATURE



Note: To determine MPa, multiply bar by 0.1

Note: This Pressure vs. Temperature chart reflects the maximum temperature range of indicated body materials.

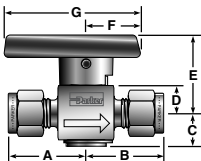
The temperature rating of the elastomer seals becomes the limiting factor on temperature range.

• Temperature Ratings:

- Buna-N Rubber: -30 °F to 225 °F
- Fluorocarbon Rubber: -10 °F to 450 °F
- Highly Fluorinated Fluorocarbon Rubber: -10 °F to 300 °F
- Ethylene Propylene Rubber: -70 °F to 275 °F

ROTARY PLUG

PR SERIES



Model Shown: 4A-PR4-VT-B

Port Size	Part No.	Flow Data			End Connections		A [†] (in.)	B [†] (in.)	C (in.)	D (in.)	E (in.)	F (in.)	G (in.)
		Orifice (in.)	C _v	X _T [*]	Port 1	Port 2							
2F	PR4	0.193	1.24	0.39	1/8" Female NPT		0.89	0.89	0.46	0.38	1.07	0.75	1.88
2M		0.172	1.02	0.39	1/8" Male NPT		0.77	0.77					
2A		0.093	0.22	0.48	1/8" A-LOK®		1.00	1.00					
2Z		0.093	0.22	0.48	1/8" CPI™		1.00	1.00					
4F		0.193	1.24	0.39	1/4" Female NPT		1.05	1.05					
4M		0.193	1.24	0.39	1/4" Male NPT		0.96	0.96					
4A		0.187	1.18	0.41	1/4" A-LOK®		1.09	1.09					
4Z		0.187	1.18	0.41	1/4" CPI™		1.09	1.09					
4Q		0.187	1.18	0.41	1/4" UltraSeal		0.85	0.85					
4V		0.187	1.18	0.41	1/4" VacuSeal		1.02	1.02					
6M		0.193	1.24	0.39	3/8" Male NPT		0.94	0.94					
6A		0.193	1.24	0.39	3/8" A-LOK®		1.14	1.14					
6Z		0.193	1.24	0.39	3/8" CPI™		1.14	1.14					
4F	PR6	0.281	3.19	0.28	1/4" Female NPT		1.19	1.19	0.67	0.56	1.49	0.99	2.40
6A		0.281	3.19	0.28	3/8" A-LOK®		1.33	1.33					
6Z		0.281	3.19	0.28	3/8" CPI™		1.33	1.33					
8F		0.281	3.19	0.28	1/2" Female NPT		1.44	1.44					
8M		0.281	3.19	0.28	1/2" Male NPT		1.32	1.32					
8A		0.281	3.19	0.28	1/2" A-LOK®		1.44	1.44					
8Z		0.281	3.19	0.28	1/2" CPI™		1.44	1.44					

[†] For CPI™ and A-LOK® dimensions are measured with nuts in the finger tight position.

[‡] Tested in accordance with ISA S75.02. Gas flow will be choked when $P_i - P_2 / P_i = x_T$.

HOW TO ORDER

The correct part number is easily derived from the following number sequence. The six product characteristics required are coded as shown below. *Note: If the inlet and outlet ports are the same, eliminate the outlet port designator.

Example:

4Z

*

-

PR4

-

BN

-

T

-

SS

①

②

③

④

⑤

⑥

Inlet
Port

Outlet
Port

Valve
Series

Seal
Material

Back-Up
Rings

Body
Material

Describes a PR Series rotary plug valve equipped with 1/4" CPI™ compression inlet and outlet ports, Buna-N seals, PTFE back-up rings, and stainless steel construction.

① Inlet Port	② Outlet Port	③ Valve Series	④ Seal Material	⑤ Back-Up Rings	⑥ Body Material
2F, 2M, 2A, 2Z, 4F, 4M, 4A, 4Z, 4Q, 4V, 6M, 6A, 6Z		PR4	V - Fluorocarbon Rubber KZ - Highly Fluorinated	T - PTFE	SS - Stainless Steel
4F, 6A, 6Z, 8F, 8M, 8A, 8Z		PR6	Fluorocarbon Rubber EPR - Ethylene Propylene Rubber BN - Buna-N Rubber		B - Brass

3/2, SINGLE SOLENOID, NC, AIR RETURN/SPRING ASSIST

B SERIES



Part No.	Mounting	Port Size	Electrical Interface	Function	Voltage	W / VA	Max Pressure	Flow (Cv)
B5V1ADB49C	Inline	1/4	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	3-Way, 2-Position NC	24DC	4.8 w	145	1.4
B5V1ADB53C	Inline	1/4	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	3-Way, 2-Position NC	120AC	6.3 va	145	1.4
B5V1BB549C	Inline	1/4	15mm 3-PIN DIN 43560C (Male Only)	3-Way, 2-Position NC	24DC	1.2 w	145	1.4
B5V1BB553C	Inline	1/4	15mm 3-PIN DIN 43560C (Male Only)	3-Way, 2-Position NC	120AC	1.6 va	145	1.4
B6V2ADB49A	Inline	3/8	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	3-Way, 2-Position NC	24DC	4.8 w	145	2.7
B6V2ADB53A	Inline	3/8	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	3-Way, 2-Position NC	120AC	6.3 va	145	2.7
B7V3ADB49A	Inline	1/2	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	3-Way, 2-Position NC	24DC	4.8 w	145	5.9
B7V3ADB53A	Inline	1/2	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	3-Way, 2-Position NC	120AC	6.3 va	145	5.9
B8V4ADB49A	Inline	3/4	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	3-Way, 2-Position NC	24DC	4.8 w	145	7
B8V4ADB53A	Inline	3/4	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	3-Way, 2-Position NC	120AC	6.3 va	145	7

5/2, SINGLE SOLENOID, AIR RETURN/SPRING ASSIST

B SERIES



Part No.	Mounting	Port Size	Electrical Interface	Function	Voltage	W/VA	Max Pressure	Flow (Cv)
B3E0BB553C	Inline	1/8	15mm 3-PIN DIN 43560C (Male Only)	4-Way, 2-Position	120AC	6.3 va	145	0.75
B5E1ADB53C	Inline	1/4	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	4-Way, 2-Position	120AC	6.3 va	145	1.4
B5E1BB549C	Inline	1/4	15mm 3-PIN DIN 43560C (Male Only)	4-Way, 2-Position	24DC	4.8 w	145	1.4
B5E1BB553C	Inline	1/4	15mm 3-PIN DIN 43560C (Male Only)	4-Way, 2-Position	120AC	1.6 va	145	1.4
B6E2ADB49A	Inline	3/8	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	4-Way, 2-Position	24DC	4.8 w	145	2.7
B6E2ADB53A	Inline	3/8	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	4-Way, 2-Position	120AC	6.3 va	145	2.7
B7E3ADB49A	Inline	1/2	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	4-Way, 2-Position	24DC	4.8 w	145	5.9
B7E3ADB53A	Inline	1/2	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	4-Way, 2-Position	120AC	6.3 va	145	5.9
B8E4ADB49A	Inline	3/4	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	4-Way, 2-Position	24DC	4.8 w	145	7
B8E4ADB53A	Inline	3/4	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	4-Way, 2-Position	120AC	6.3 va	145	7

5/2, SINGLE REMOTE PILOT

B SERIES



Part No.	Mounting	Port Size	Electrical Interface	Function	Voltage	W/VA	Max Pressure	Flow (Cv)
B3F000XXC	Inline	1/8	REMOTE PILOT VALVE	4-Way, 2-Position	N/A		145	0.75
B6F2000XXA	Inline	3/8	REMOTE PILOT VALVE	4-Way, 2-Position	N/A		145	2.7

5/2, DOUBLE SOLENOID VALVE

B SERIES



Part No.	Mounting	Port Size	Electrical Interface	Function	Voltage	W/WA	Max Pressure	Flow (Cv)
B320BB549C	Inline	1/8	15mm 3-PIN DIN 43560C (Male Only)	4-Way, 2-Position	24DC	1.2 w	145	0.75
B320BB553C	Inline	1/8	15mm 3-PIN DIN 43560C (Male Only)	4-Way, 2-Position	120AC	1.6 va	145	0.75
B521ADB49C	Inline	1/4	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	4-Way, 2-Position	24DC	4.8 w	145	1.4
B521ADB53C	Inline	1/4	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	4-Way, 2-Position	120AC	6.3 va	145	1.4
B521BB549C	Inline	1/4	15mm 3-PIN DIN 43560C (Male Only)	4-Way, 2-Position	24DC	4.8 w	145	1.4
B521BB553C	Inline	1/4	15mm 3-PIN DIN 43560C (Male Only)	4-Way, 2-Position	120AC	6.3 va	145	1.4
B622ADB49A	Inline	3/8	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	4-Way, 2-Position	24DC	4.8 w	145	2.7
B622ADB53A	Inline	3/8	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	4-Way, 2-Position	120AC	6.3 va	145	2.7
B723ADB49A	Inline	1/2	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	4-Way, 2-Position	24DC	4.8 w	145	5.9
B723ADB53A	Inline	1/2	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	4-Way, 2-Position	120AC	6.3 va	145	5.9
B3E0BB549C	Inline	1/8	15mm 3-PIN DIN 43560C (Male Only)	4-Way, 2-Position	24DC	1.2 w	145	0.75
B5E1ADB49C	Inline	1/4	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	4-Way, 2-Position	24DC	4.8 w	145	1.4

5/2, DOUBLE REMOTE PILOT VALVE

B SERIES



Part No.	Mounting	Port Size	Electrical Interface	Function	Voltage	Max Pressure	Flow (Cv)
B3F0000XXC	Inline	1/8	REMOTE PILOT VALVE	4-Way, 2-Position	N/A	145	0.75
B6F2000XXA	Inline	3/8	REMOTE PILOT VALVE	4-Way, 2-Position	N/A	145	2.7

5/3, DOUBLE SOLENOID, APB/CE

B SERIES



Part No.	Mounting	Port Size	Electrical Interface	Function	Voltage	W / VA	Max Pressure	Flow (Cv)
B350BB549C	Inline	1/8	15mm 3-PIN DIN 43560C (Male Only)	4-Way, 3-Position	24DC	1.2 w	145	0.75
B350BB553C	Inline	1/8	15mm 3-PIN DIN 43560C (Male Only)	4-Way, 3-Position	120AC	1.6 va	145	0.75
B551ADB49C	Inline	1/4	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	4-Way, 3-Position	24DC	4.8 w	145	1.4
B551ADB53C	Inline	1/4	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	4-Way, 3-Position	120AC	6.3 va	145	1.4
B551BB549C	Inline	1/4	15mm 3-PIN DIN 43560C (Male Only)	4-Way, 3-Position	24DC	1.2 w	145	1.4
B551BB553C	Inline	1/4	15mm 3-PIN DIN 43560C (Male Only)	4-Way, 3-Position	120AC	1.6 va	145	1.4
B652ADB49A	Inline	3/8	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	4-Way, 3-Position	24DC	4.8 w	145	2.7
B652ADB53A	Inline	3/8	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	4-Way, 3-Position	120AC	6.3 va	145	2.7
B360BB549C	Inline	1/8	15mm 3-PIN DIN 43560C (Male Only)	4-Way, 3-Position	24DC	1.2 w	145	0.75
B360BB553C	Inline	1/8	15mm 3-PIN DIN 43560C (Male Only)	4-Way, 3-Position	120AC	1.6 va	145	0.75
B561ADB49C	Inline	1/4	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	4-Way, 3-Position	24DC	4.8 w	145	1.4
B561ADB53C	Inline	1/4	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	4-Way, 3-Position	120AC	6.3 va	145	1.4
B561BB549C	Inline	1/4	15mm 3-PIN DIN 43560C (Male Only)	4-Way, 3-Position	24DC	1.2 w	145	1.4
B561BB553C	Inline	1/4	15mm 3-PIN DIN 43560C (Male Only)	4-Way, 3-Position	120AC	1.6 va	145	1.4
B662ADB49A	Inline	3/8	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	4-Way, 3-Position	24DC	4.8 w	145	2.7
B662ADB53A	Inline	3/8	22mm RECTANGLER 3-PIN, TYPE B INDUSTRIAL	4-Way, 3-Position	120AC	6.3 va	145	2.7

STD. SERVICE, INTERNAL PILOTED INLINE POPPET VALVE

N355 SERIES



Part No.	Mounting	Port Size	Electrical Interface	Function	Voltage	W / VA	Max Pressure
N3553904549	Inline	3/8	Junction Box w / 1/2" Conduit LMO w / Light	3-Way, 2-Position NC	24DC	9 w	140
N3553904553	Inline	3/8	Junction Box w / 1/2" Conduit LMO w / Light	3-Way, 2-Position NC	120AC	12 w	140
N3555904549	Inline	1/2	Junction Box w / 1/2" Conduit LMO w / Light	3-Way, 2-Position NC	24DC	9 w	140
N3555904553	Inline	1/2	Junction Box w / 1/2" Conduit LMO w / Light	3-Way, 2-Position NC	120AC	12 w	140
N3557904549	Inline	1	Junction Box w / 1/2" Conduit LMO w / Light	3-Way, 2-Position NC	24DC	9 w	140
N3557904553	Inline	1	Junction Box w / 1/2" Conduit LMO w / Light	3-Way, 2-Position NC	120AC	12 w	140

STD. SERVICE INTERNAL PILOTED INLINE POPPET VALVE

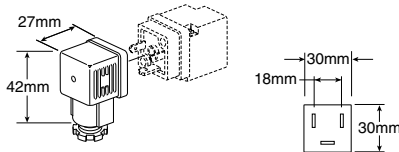
N365 SERIES



Part No.	Mounting	Port Size	Electrical Interface	Function	Voltage	W / VA	Max Pressure	Flow (Cv)
N3659904549	Inline	1-1/2	Junction Box w / 1/2" Conduit LMO w / Light	3-Way, 2-Position NC	24DC	8 w	140	
N3659904553	Inline	1-1/2	Junction Box w / 1/2" Conduit LMO w / Light	3-Way, 2-Position NC	120AC	18.5 w	140	

SQUARE 3-PIN - ISO 4400, DIN 43650A

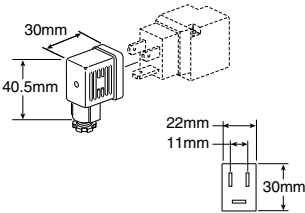
PS SERIES



Part No.	Description	Size	Cable	LED/Surge	Voltage
PS2028BP	Square 3-Pin - ISO 4400, Din 43650A	30mm	N/A	N/A	All

RECTANGULAR 3-PIN DIN

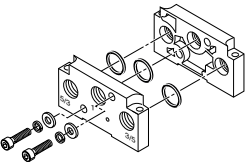
PS SERIES



Part No.	Size	Cable	LED/Surge	Voltage
PS2429JBP	22mm	6 ft.	N/A	All
PS2429BP	22mm	N/A	N/A	All

B5 SERIES MANIFOLD END PLATE KIT

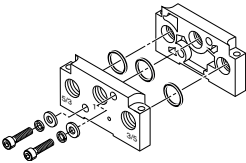
PS SERIES



Part No.	description
PS2815P	B5 Series Manifold End Plate Kit

B3 SERIES MANIFOLD BASE KIT

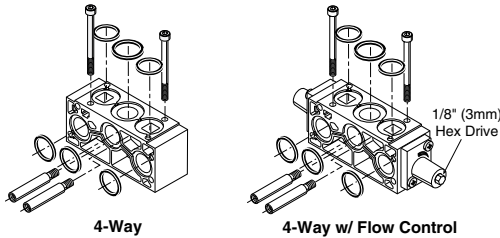
PS SERIES



Part No.	description
PS2915P	B3 Series Manifold End Plate Kit

B5 SERIES MANIFOLD BASE KIT

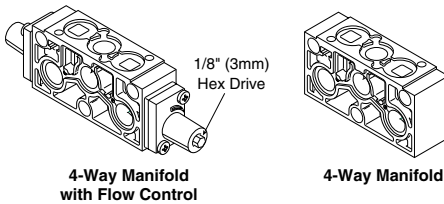
PS SERIES



Part No.	description
PS2817P	B5 Series Manifold Base Kit
PS2818P	B5 Series Manifold Base Kit w / Flow Control

B3 SERIES MANIFOLD BASE KIT

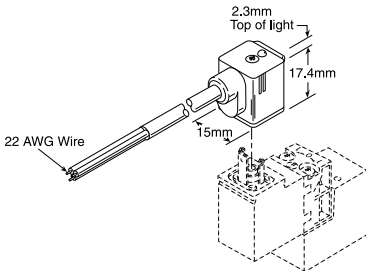
PS SERIES



Part No.	description
PS2917P	B3 Series Manifold Base Kit
PS2918P	B3 Series Manifold Base Kit w / Flow Control

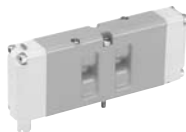
3-PIN DIN 4352C

PS SERIES



Part No.	Port Size	Electrical Interface	Function	Voltage
PS2932JBP	15mm	6 ft.	N/A	All
PS2932BP	15mm	N/A	N/A	All

5/2, SINGLE SOLENOID, AIR RETURN VALVE



Part No.	Mounting	Electrical Interface	Function	Voltage	W / VA	Max Pressure	Flow (Cv)	ISO Size
HA1VXBG023A	Valve Less Base	Plugin Valve	4-Way, 2-Position	120AC	2 va	145	1.1	18mm
HA1VXBG0G9A	Valve Less Base	Plugin Valve	4-Way, 2-Position	24DC	1 w	145	1.1	18mm

5/2, SINGLE REMOTE PILOT, AIR RETURN VALVE

Part No.	Mounting	Electrical Interface	Function	Voltage	Max Pressure	Flow (Cv)	ISO Size
HA3VX000XXA	Valve Less Base	N/A	4-Way, 2-Position	N/A	145	1.1	18mm

5/2, SINGLE SOLENOID, AIR RETURN VALVE



Part No.	Mounting	Electrical Interface	Function	Voltage	W / VA	Max Pressure	Flow (Cv)	ISO Size
HA2VXBG023A	Plugin Valve	4-Way, 2-Position	120AC	2 va	145	1.1	18mm	26mm
HA2VXBG0G9A	Plugin Valve	4-Way, 2-Position	24DC	1 w	145	1.1	18mm	26mm

5/2, SINGLE REMOTE PILOT, AIR RETURN VALVE

Part No.	Mounting	Electrical Interface	Function	Voltage	W / VA	Max Pressure	Flow (Cv)	ISO Size
HB3VX000XXA	5/2	Valve Less Base	N/A	4-Way, 2-Position	N/A	145	0.55	26mm

5/2, DOUBLE SOLENOID VALVE



Part No.	Mounting	Electrical Interface	Function	Voltage	W / VA	Max Pressure	Flow (Cv)	ISO Size
HA2VXBG023A	Valve Less Base	Plugin Valve	4-Way, 2-Position	120AC	2 va	145	1.1	18mm
HA2VXBG0G9A	Valve Less Base	Plugin Valve	4-Way, 2-Position	24DC	1 w	145	1.1	18mm

5/2, DOUBLE REMOTE PILOT VALVE

Part No.	Mounting	Electrical Interface	Function	Voltage	W / VA	Max Pressure	Flow (Cv)	ISO Size
HA4VX000XXA	5/2	Valve Less Base	N/A	4-Way, 2-Position	N/A	145	1.1	18mm

5/2, DOUBLE SOLENOID VALVE



Part No.	Mounting	Electrical Interface	Function	Voltage	W / VA	Max Pressure	Flow (Cv)	ISO Size
HB2VXBG023A	Valve Less Base	Plugin Valve	4-Way, 2-Position	120AC	2 va	145	0.55	26mm
HB2VXBG0G9A	Valve Less Base	Plugin Valve	4-Way, 2-Position	24DC	1 w	145	0.55	26mm

5/2, DOUBLE REMOTE PILOT VALVE

Part No.	Mounting	Electrical Interface	Function	Voltage	Max Pressure	Flow (Cv)	ISO Size
HB4VX000XXA	Valve Less Base	N/A	4-Way, 2-Position	N/A	145	0.55	26mm

5/2, SINGLE REMOTE PILOT, AIR RETURN VALVE



Part No.	Mounting	Electrical Interface	Function	Voltage	Max Pressure	Flow (Cv)	ISO Size
H13WX000XXC	Valve Less Base	N/A	4-Way, 2-Position	N/A	145	1.5	1
H23WX000XXC	Valve Less Base	N/A	4-Way, 2-Position	N/A	145	3	2
H33WX000XXC	Valve Less Base	N/A	4-Way, 2-Position	N/A	145	6	3

5/2, SINGLE SOLENOID, AIR RETURN/SPRING ASSIST VALVE

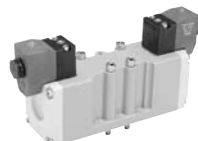
Part No.	Mounting	Electrical Interface	Function	Voltage	W / VA	Max Pressure	Flow (Cv)	ISO Size
H1EVXBG023C	Valve Less Base	Plugin Valve	4-Way, 3-Position	120AC	4.5 va	145	1.5	1
H2EVXBG023C	Valve Less Base	Plugin Valve	4-Way, 3-Position	120AC	4.5 va	145	3	2
H3EVXBG023C	Valve Less Base	Plugin Valve	4-Way, 3-Position	120AC	4.5 va	145	6	3

5/2, SINGLE SOLENOID, AIR RETURN/SPRING ASSIST VALVE



Part No.	Mounting	Electrical Interface	Function	Voltage	W / VA	Max Pressure	Flow (Cv)	ISO Size
H1EWXBBL49C	Valve Less Base	30mm, 3-Pin DIN 43650A	4-Way, 3-Position	24DC	2.7 w	145	1.5	1
H1EWXBBL53C	Valve Less Base	30mm, 3-Pin DIN 43650A	4-Way, 3-Position	120AC	4.1 va	145	1.5	1
H2EWXBBL49C	Valve Less Base	30mm, 3-Pin DIN 43650A	4-Way, 3-Position	24DC	2.7 w	145	3	2
H2EWXBBL53C	Valve Less Base	30mm, 3-Pin DIN 43650A	4-Way, 3-Position	120AC	4.1 va	145	3	2
H3EWXBBL49C	Valve Less Base	30mm, 3-Pin DIN 43650A	4-Way, 3-Position	24CD	2.7 w	145	6	3
H3EWXBBL53C	Valve Less Base	30mm, 3-Pin DIN 43650A	4-Way, 3-Position	120AC	4.1 va	145	6	3

5/2, SINGLE SOLENOID, AIR RETURN/SPRING ASSIST VALVE



Part No.	Mounting	Electrical Interface	Function	Voltage	W / VA	Max Pressure	Flow (Cv)	ISO Size
H12VXBG023C	Valve Less Base	Plugin Valve	4-Way, 2-Position	120AC	4.5 va	145	1.5	1
H22VXBG023C	Valve Less Base	Plugin Valve	4-Way, 2-Position	120AC	4.5 va	145	3	2
H32VXBG023C	Valve Less Base	Plugin Valve	4-Way, 2-Position	120AC	4.5 va	145	6	3

5/2, DOUBLE REMOTE PILOT VALVE

Part No.	Mounting	Electrical Interface	Function	Voltage	Max Pressure	Flow (Cv)	ISO Size
H14WX000XC	Valve Less Base	N/A	4-Way, 2-Position	N/A	145	1.5	1
H24WX000XC	Valve Less Base	N/A	4-Way, 2-Position	N/A	145	3	2
H34WX000XC	Valve Less Base	N/A	4-Way, 2-Position	N/A	145	6	3

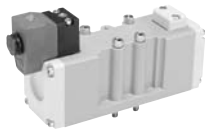
5/3, DOUBLE SOLENOID, APB VALVE

Part No.	Mounting	Electrical Interface	Function	Voltage	W / VA	Max Pressure	Flow (Cv)	ISO Size
H15VXBG023C	Valve Less Base	Plugin Valve	4-Way, 3-Position	120AC	4.5 va	145	1.5	1
H25VXBG023C	Valve Less Base	Plugin Valve	4-Way, 3-Position	120AC	4.5 va	145	3	2
H35VXBG023C	Valve Less Base	Plugin Valve	4-Way, 3-Position	120AC	4.5 va	145	6	3

5/3, DOUBLE REMOTE PILOT VALVE

Part No.	Mounting	Electrical Interface	Function	Voltage	Max Pressure	Flow (Cv)	ISO Size
H18WX000XC	Valve Less Base	N/A	4-Way, 3-Position	N/A	145	1.5	1
H28WX000XC	Valve Less Base	N/A	4-Way, 3-Position	N/A	145	3	2
H38WX000XC	Valve Less Base	N/A	4-Way, 3-Position	N/A	145	6	3

5/2, DOUBLE SOLENOID VALVE



Part No.	Mounting	Electrical Interface	Function	Voltage	W / VA	Max Pres- sure	Flow (Cv)	ISO Size
H12WXBBL49C	Valve Less Base	30mm, 3-Pin DIN 43650A	4-Way, 2-Position	24DC	2.7 w	145	1.5	1
H12WXBBL53C	Valve Less Base	30mm, 3-Pin DIN 43650A	4-Way, 2-Position	120AC	4.1 va	145	1.5	1
H22WXBBL49C	Valve Less Base	30mm, 3-Pin DIN 43650A	4-Way, 2-Position	24DC	2.7 w	145	3	2
H22WXBBL53C	Valve Less Base	30mm, 3-Pin DIN 43650A	4-Way, 2-Position	120AC	4.1 va	145	3	2
H32WXBBL49C	Valve Less Base	30mm, 3-Pin DIN 43650A	4-Way, 2-Position	24DC	2.7 w	145	6	3
H32WXBBL53C	Valve Less Base	30mm, 3-Pin DIN 43650A	4-Way, 2-Position	120AC	4.1 va	145	6	3

5/3, DOUBLE SOLENOID, APB VALVE

Part No.	Mounting	Electrical Interface	Function	Voltage	W / VA	Max Pres- sure	Flow (Cv)	ISO Size
H15WXBBL49C	Valve Less Base	30mm, 3-Pin DIN 43650A	4-Way, 3-Position	24DC	2.7 w	145	1.5	1
H15WXBBL53C	Valve Less Base	30mm, 3-Pin DIN 43650A	4-Way, 3-Position	120AC	4.1 va	145	1.5	1
H25WXBBL49C	Valve Less Base	30mm, 3-Pin DIN 43650A	4-Way, 3-Position	24DC	2.7 w	145	3	2
H25WXBBL53C	Valve Less Base	30mm, 3-Pin DIN 43650A	4-Way, 3-Position	120AC	4.1 va	145	3	2
H35WXBBL49C	Valve Less Base	30mm, 3-Pin DIN 43650A	4-Way, 3-Position	24DC	2.7 w	145	6	3
H35WXBBL53C	Valve Less Base	30mm, 3-Pin DIN 43650A	4-Way, 3-Position	120AC	4.1 va	145	6	3

3/2 VALVE BODY, NNP



Part No.	Mounting	Port Size	Function	Max Pressure	Flow (Cv)
PXBB3911	uses mounting ring	5/32 Instant Straight	3-Way, 2-Position NC	115	0.08
PXBB3911	uses mounting ring	5/32 Instant Straight	3-Way, 2-Position NC	115	0.08

ROLLER OPERATED LIMIT SWITCH



Part No.	Mounting	Port Size	Operator	Return	Function	Max Pressure	Flow (Cv)
PXCK2110041	Inline	5/32 Instant Straight	Roller-Delrin	Spring	3-Way, 2-Position NC	115	0.3
PXCK2110043	INLINE	5/32 Instant Straight	Roller-Delrin	Spring	3-Way, 2-Position NC	115	0.3

MINI LIMIT SWITCH



Part No.	Mounting	Port Size	Operator	Return	Function	Max Pressure	Flow (Cv)
PXCM521	Inline	5/32 Instant Straight	Roller-Delrin	Spring	3-Way, 2-Position NC	115	0.4

TWO HAND CONTROL MODULE



Part No.	Mounting	Port Size	Operator	Return	Function	Max Pressure	Flow (Cv)
PXPC111	Inline	5/32 Instant Straight	Roller-Delrin	Spring	Dual, 3-Way, 2-Position NC	115	0.3

FLUSH BLACK PUSH BUTTON



Part No.	Mounting	Port Size	Return	Function	Max Pressure	Flow (Cv)
ZB4BA2	uses mounting ring	N/A	Spring	Spring Return	N/A	N/A

BLACK 40MM PUSH BUTTON



Part No.	Mounting	Port Size	Return	Function	Max Pressure	Flow (Cv)
ZB4BC2	uses mounting ring	N/A	Spring	Spring Return	N/A	N/A
ZB4BT2	uses mounting ring	N/A	Latching	Push/Pull	N/A	N/A

SELECTOR SWITCH



Part No.	Mounting	Port Size	Return	Function	Max Pressure	Flow (Cv)
ZB4BD2	uses mounting ring	N/A	Maintained	2-Position	N/A	N/A

KEY OPERATED SELECTOR SWITCH



Part No.	Mounting	Port Size	Return	Function	Max Pressure	Flow (Cv)
ZB4BG2	uses mounting ring	N/A	Maintained	2-Position	N/A	N/A

FLUSH BLACK PUSH/PULL BUTTON



Part No.	Mounting	Port Size	Return	Function	Max Pressure	Flow (Cv)
ZB4BH03	uses mounting ring	N/A	Detented	2-Position	N/A	N/A

BLACK LATCHING PUSH/PULL BUTTON



Part No.	Mounting	Port Size	Return	Function	Max Pressure	Flow (Cv)
ZB4BT2	uses mounting ring	N/A	Latching	Push/Pull	N/A	N/A

MOUNTING RING



Part No.
ZB4BZ009

HAND/CAM POPPET VALVE



Part No.	Mounting	Port Size	Operator	Return	Function	Max Pressure	Flow (Cv)
'081870139	Inline	1/4	Button	Spring	3-Way, 2-Position NC	150	0.94

BLEED VALVE



Part No.	Mounting	Port Size	Operator	Return	Function	Max Pressure	Flow (Cv)
'315139000	Inline	1/4	Button	Spring	2-way	150	N/A

MANUAL/MECHANICAL VALVE

Part No.	Mounting	Port Size	Operator	Return	Function	Max Pressure	Flow (Cv)
414111000	Inline	1/8	Plunger	Spring	3-Way, 2-Position NC	150	0.2
414211000	Inline	1/8	Roller-Delrin	Spring	3-Way, 2-Position NC	150	0.2
414411000	Inline	1/8	Button	Spring	3-Way, 2-Position NC	150	0.2
414931000	Inline	1/8	Button	Manual	3-Way, 2-Position NC	150	0.2
414711000	Inline	1/8	Lever	Spring	3-Way, 2-Position NC	150	0.2
414811000	Inline	1/8	Toggle	Spring	3-Way, 2-Position NC	150	0.2
410111000	Inline	1/8	Plunger	Spring	4-Way, 2-Position	150	0.2
410211000	Inline	1/8	Roller-Delrin	Spring	4-Way, 2-Position	150	0.2
410411000	Inline	1/8	Roller-Delrin	Spring	4-Way, 2-Position	150	0.2
410931000	Inline	1/8	Button	Manual	4-Way, 2-Position	150	0.2
410711000	Inline	1/8	Lever	Spring	4-Way, 2-Position	150	0.2
410811000	Inline	1/8	Toggle	Spring	4-Way, 2-Position	150	0.2
524411000	Inline	1/4	Button	Spring	3-Way, 2-Position NC	150	0.83
524431000	Inline	1/4	Button	Manual	3-Way, 2-Position NC	150	0.83
524211000	Inline	1/4	Roller-Delrin	Spring	3-Way, 2-Position NC	150	0.83
524811000	Inline	1/4	Lever	Spring	3-Way, 2-Position NC	150	0.83
524831000	Inline	1/4	Lever	Manual	3-Way, 2-Position NC	150	0.83
524711000	Inline	1/4	Pedal	Spring	3-Way, 2-Position NC	150	0.83
520411000	Inline	1/4	Button	Spring	4-Way, 2-Position	150	0.83
520431000	Inline	1/4	Button	Manual	4-Way, 2-Position	150	0.83
520711000	Inline	1/4	Pedal	Spring	4-Way, 2-Position	150	0.83
520931000	Inline	1/4	Treadle	Manual	4-Way, 2-Position	150	0.83
520211000	Inline	1/4	Roller-Delrin	Spring	4-Way, 2-Position	150	0.83
520811000	Inline	1/4	Lever	Spring	4-Way, 2-Position	150	0.83
520831000	Inline	1/4	Lever	Manual	4-Way, 2-Position	150	0.83
521811000	Inline	1/4	Lever	Spring	4-way, 3-Position APB	150	0.83
529811000	Inline	1/4	Lever	Spring	4-way, 3-Position CE	150	0.83
521831000	Inline	1/4	Lever	Manual	4-way, 3-Position APB	150	0.83
529831000	Inline	1/4	Lever	Manual	4-way, 3-Position CE	150	0.83
520718001							
520838004							

DETENTED LEVER OPERATED VALVE

42 SERIES



Part No.	Mounting	Port Size	Operator	Return	Function	Max Pressure	Flow (Cv)
422CR021W	Inline	3/8	Lever	Manual	4-Way, 2-Position	150	2.9

LEVER OPERATED SPRING RETURN VALVE

42 SERIES



Part No.	Mounting	Port Size	Operator	Return	Function	Max Pressure	Flow (Cv)
422CR021K	Inline	3/8	Lever	Spring	4-Way, 2-Position	150	2.9

LEVER OPERATED 4-WAY, 3-POSITION VALVE

42 SERIES



Part No.	Mounting	Port Size	Operator	Return	Function	Max Pressure	Flow (Cv)
422CR023W	Inline	3/8	Lever	Manual	4-way, 3-Position APB	150	1.3

MANUAL OPERATED DETENTED VALVE M054 SERIES

M054 SERIES



Part No.	Mounting	Port Size	Operator	Return	Function	Max Pressure	Flow (Cv)
M05432448	Inline	3/8	Knob	Manual	3-way, 2-position Detent	225	3.2
M05435448	Inline	3/8	Knob	Manual	4-way, 2-Position, Detent	225	3.4
M05442448	Inline	1/2	Knob	Manual	3-way, 2-position Detent	215	5
M05445448	Inline	1/2	Knob	Manual	4-way, 2-Position, Detent	215	5.2
M05462448	Inline	3/4	Knob	Manual	3-way, 2-position Detent	200	9.5
M05465448	Inline	3/4	Knob	Manual	4-way, 2-Position, Detent	200	8.7

MANUAL OPERATED SPRING RETURN VALVE

M097 SERIES



Part No.	Mounting	Port Size	Operator	Return	Function	Max Pressure	Flow (Cv)
M09761848	Inline	3/4	Knob	Light Spring	3-way, 2-position	200	9.5
M09744648	Inline	1/2	Knob	Light Spring	4-way, 2-Position	215	5.2
M09731848	Inline	3/8	Knob	Light Spring	3-way, 2-position	225	3.2
M09734648	Inline	3/8	Knob	Light Spring	4-way, 2-Position	225	3.4
M09741848	Inline	1/2	Knob	Light Spring	3-way, 2-position	215	5
M09764648	Inline	3/4	Knob	Light Spring	4-way, 2-Position	200	8.7

HAND LEVER VALVE



Part No.	Mounting	Port Size	Operator	Return	Function	Max Pressure	Flow (Cv)
M09761848	Inline	3/4	Knob	Light Spring	3-way, 2-position	200	9.5
M09744648	Inline	1/2	Knob	Light Spring	4-way, 2-Position	215	5.2
M09731848	Inline	3/8	Knob	Light Spring	3-way, 2-position	225	3.2
M09734648	Inline	3/8	Knob	Light Spring	4-way, 2-Position	225	3.4
M09741848	Inline	1/2	Knob	Light Spring	3-way, 2-position	215	5
M09764648	Inline	3/4	Knob	Light Spring	4-way, 2-Position	200	8.7

HAND OPERATED VALVE



Part No.	Mounting	Port Size	Operator	Return	Function	Max Pressure	Flow (Cv)
PL25	Inline	1/4	Lever	Manual	4-way, 3-Position APB	150	2.5
PL37	Inline	3/8	Lever	Manual	4-way, 3-Position APB	150	3
PL50	Hnline	1/2	Lever	Manual	4-way, 3-Position APB	150	6.2

LOCKOUT VALVE



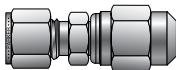
Part No.	Mounting	Port Size	Operator	Return	Function	Max Pressure	Flow (Cv)
LV3NA8	Inline	3/8	Knob	Manual	3-way, 2-position	250	4
LV4NA8	Inline	1/2	Knob	Manual	3-way, 2-position	250	6
LV6NA8	Inline	3/4	Knob	Manual	3-way, 2-position	250	9
LV8NA8	Inline	1	Knob	Manual	3-way, 2-position	250	12
LVANA8	Inline	1-1/4	Knob	Manual	3-way, 2-position	250	14

SHUTTLE VALVE

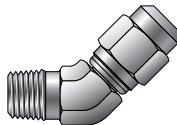
Part No.	Mounting	Port Size	Max Pressure	Flow (Cv)
N1641001	Inline	1/8	200	0.32
N1642003	Inline	1/4	200	1.65
N1643003	Inline	3/8	200	2.02

General Description:	Parker PG Series Purge Valves may be utilized as either bleed, purge, or drain valves. The compact valve requires only a quarter turn with a wrench from finger-tight to ensure a leak-tight seal on the first make-up. Additional wrenching ensures a leak-tight seal up to the rated pressure.		
Features:	• A 0.055 inch diameter vent hole in the cap bleeds, drains, or purges system pressure • Hex cap permits finger-tight or wrench assisted closure • Crimped cap resists accidental disassembly • A variety of body styles offers system design flexibility, reduced space requirements, and helps to eliminate leak paths • Available in a variety of end configurations including: CPI™, A-LOK®, male and female NPT, SAE, and Tube Adapter connections • 100% factory tested • Optional PTFE Ball requires only finger-tight torque to achieve a leak-tight seal		
Temperature Rating:	Stainless Steel:	-65°F to 600°F	
	Brass:	-65°F to 400°F	
	PTFE Ball Option:	-65°F to 350°F	
Pressure Rating:	Stainless Steel:	4000 psig CWP	
	Brass:	3000 psig	
	PTFE Ball Option:	200 psig	
Caution:	These valves do not have a cap thread seal. It is imperative to open the valve slowly and direct the vent hole away from persons operating or near the valve. Because of the absence of a cap seal, small amounts of media will flow through the cap thread area when the valves are opened.		
PTFE Ball Option:	Purge Valves with the PTFE ball option require only finger-tight operation for leak-tight shut-off and are designed with a removable cap for ball replacement.		

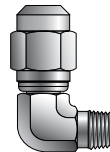
AVAILABLE PURGE VALVE MODELS



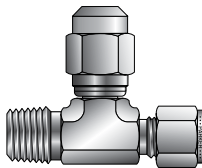
Straight (L)



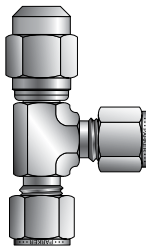
45° Elbow (E)



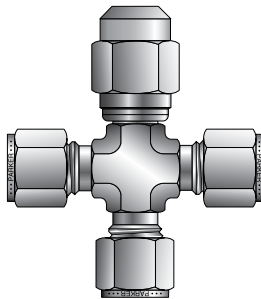
90° Elbow (A)



Inline Tee (TL)

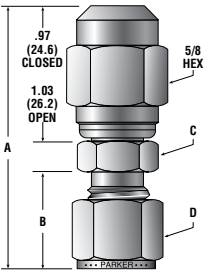


Angle Tee (TA)



Union (U)

DIMENSIONS



End Connections	A* (Closed) (in.)	B* (in.)	C (hex) (in.)	D (hex) (in.)
2A - 1/8" A-LOK® Compression	1.79	0.60	0.50	0.44
2Z - 1/8" CPI™ Compression	1.79	0.60	0.50	0.44
2M - 1/8" Male NPT	1.56	0.38	0.50	-
2F - 1/8" Female NPT	1.50	0.53	0.56	-
4A - 1/4" A-LOK® Compression	1.88	0.70	0.50	0.56
4Z - 1/4" CPI™ Compression	1.88	0.70	0.50	0.56
4M - 1/4" Male NPT	1.76	0.56	0.56	-
4F - 1/4" Female NPT	1.69	0.72	0.75	-
6A - 3/8" A-LOK® Compression	1.98	0.76	0.63	0.69
6Z - 3/8" CPI™ Compression	1.98	0.76	0.63	0.69
6M - 3/8" Male NPT	1.78	0.56	0.69	-
6F - 3/8" Female NPT	1.75	0.78	0.88	-
8A - 1/2" A-LOK® Compression	2.12	0.87	0.81	0.88
8Z - 1/2" CPI™ Compression	2.12	0.87	0.81	0.88
8M - 1/2" Male NPT	2.03	0.75	0.88	-
8F - 1/2" Female NPT	1.94	0.97	1.06	-

* For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position.

HOW TO ORDER

The correct part number is easily derived from the following number sequence. The seven product characteristics required are coded as shown below. Note: If the ports are the same, only specify one end connection.

Example: **2M** - **PG4** **A** - **SS** - **T**
① ② ③ ④ ⑤ ⑥ ⑦

Describes a stainless steel, 90° angle body PG4 Purge Valve with a 1/8" male NPT port configuration and a PTFE Ball.

End Connection ① ② ③	Valve Series ④	Body Type ⑤	Material ⑥	Ball ⑦
2A, 2Z, 2F, 2M	PG4	L - Straight	SS - Stainless Steel	Blank- Stainless Steel
4A, 4Z, 4F, 4F5*, 4M		A - 90° Elbow		
6A, 6Z, 6F, 6M		E - 45° Elbow	B - Brass	T- PTFE
8A, 8Z, 8F, 8M		TL - Tee with inline flow TA - Tee with angle flow U - Union	S - Carbon Steel	

* NOTE: Male SAE port will be supplied with a fluorocarbon rubber O-ring seal by adding O after F5; i.e., 4F5O.
Oxygen cleaning: Add the suffix -C3 to the end of the part number to receive valves cleaned for oxygen service per IVD Specification ES8003.



ANGLE BODY VALVES

SERIES 810 NORMALLY CLOSED, FLOW DIRECTION UNDER SEAT

Recommended for liquids and water-hammer application needs



Bronze Body Valves

Part No.	Port Size	Orifice Size DN (in.) (mm)		Flow Coefficient (Cv) (Kv) (m³/h) Min.			Operating Pressure						Pilot Pressure (PSI) (bar)		Actuator (mm) (port) (dia) (bsp)	
							Air, Inert Gas (PSI) (bar)		Water, Liquids (PSI) (bar)		Steam (PSI) (bar)					
810VBN08T320BH000	1/2	0.59	15	4.1	3.6	0	232	16.0	232	16.0	–	–	51-145	3.5-10	50	1/8
810VBN12T320BH000	3/4	0.78	20	9.2	8.0	0	190	13.0	190	13.0	–	–	65-145	4.5-10	50	1/8
810VBN16T320BH000	1	1.00	25	17.3	15.0	0	85	5.8	85	5.8	–	–	65-145	4.5-10	50	1/8

316L Stainless Steel Valves

Part No.	Port Size	Orifice Size DN (in.) (mm)		Flow Coefficient (Cv) (Kv) (m³/h) Min.			Operating Pressure						Pilot Pressure (PSI) (bar)		Actuator (mm) (port) (dia) (bsp)	
							Air, Inert Gas (PSI) (bar)		Water, Liquids (PSI) (bar)		Steam (PSI) (bar)					
810VSN08T320BH000	1/2	0.59	15	4.1	3.6	0	320	22.0	320	22.0	–	–	51-145	3.5-10	50	1/8
810VSN12T320BH000	3/4	0.78	20	9.2	8.0	0	190	13.0	190	13.0	–	–	65-145	4.5-10	50	1/8
810VSN16T320BH000	1	1.00	25	17.3	15.0	0	85	5.8	85	5.8	–	–	65-145	4.5-10	50	1/8

Pressure ratings reflect standard product offering. Higher pressure ratings are available. Consult Parker.

ANGLE BODY VALVES

SERIES 810 NORMALLY CLOSED, FLOW DIRECTION OVER SEAT

Recommended for steam and most gases



Bronze Body Valves

Part No.	Port Size	Orifice Size DN (in.) (mm)		Flow Coefficient (Cv) (Kv) (m³/h) Min.			Operating Pressure			Pilot Pressure (PSI) (bar)	Actuator (mm) (port) (dia) (bsp)
							Air, Inert Gas (PSI) (bar)	Water, Liquids (PSI) (bar)	Steam (PSI) (bar)		
810VBN08T120BH000	1/2	0.59	15	4.1	3.6	0	232 16.0	– –	210 14.5	40-145 2.8-10	50 1/8
810VBN12T120BH000	3/4	0.78	20	9.2	8.0	0	232 16.0	– –	210 14.5	40-145 2.8-10	50 1/8
810VBN16T120BH000	1	1.00	25	17.3	15.0	0	232 16.0	– –	210 14.5	40-145 2.8-10	50 1/8
810VBN24T130BH000	1-1/2	1.56	40	40.4	35.0	0	232 16.0	– –	210 14.5	16-145 1.1-10	80 1/4

316L Stainless Steel Valves

Part No.	Port Size	Orifice Size DN (in.) (mm)		Flow Coefficient (Cv) (Kv) (m³/h) Min.			Operating Pressure			Pilot Pressure (PSI) (bar)	Actuator (mm) (port) (dia) (bsp)
							Air, Inert Gas (PSI) (bar)	Water, Liquids (PSI) (bar)	Steam (PSI) (bar)		
810VSN08T120BH000	1/2	0.59	15	4.1	3.6	0	580 40.0	– –	210 14.5	40-145 2.8-10	50 1/8
810VSN12T120BH000	3/4	0.78	20	9.2	8.0	0	535 36.8	– –	210 14.5	40-145 2.8-10	50 1/8
810VSN16T120BH000	1	1.00	25	17.3	15.0	0	290 20.0	– –	210 14.5	40-145 2.8-10	50 1/8
810VSN24T130BH000	1-1/2	1.56	40	40.4	35.0	0	335 23.1	– –	210 14.5	16-145 1.1-10	80 1/4

Pressure ratings reflect standard product offering. Higher pressure ratings are available. Consult Parker.

General Description: Parker RH4 Relief Valves are designed such that when the upstream pressure exceeds the closing force exerted by the spring, the lower stem opens, permitting flow through the valve. Flow through the valve increases proportionately to the increase in upstream pressure.

- Features:**
- Pressure settings are externally adjustable while the valve is in operation. Eight different spring ranges provide greater system sensitivity and enhanced performance.
 - Captured molded seat design is blow-out and chip resistant.
 - Manual Override option with positive stem retraction is available for pressures up to 1500 psig. This option permits the user to relieve upstream pressure while maintaining the predetermined cracking pressure.
 - Color coded springs and labels indicate spring cracking range.
 - Lock wire feature secures a given pressure setting.
 - Optional stainless steel and extended handles.

SPECIFICATIONS:

Working Pressure

Up to 6000 psig CWP.

Up to 8000 psig during relief with no internal seal damage.

Cracking Pressure

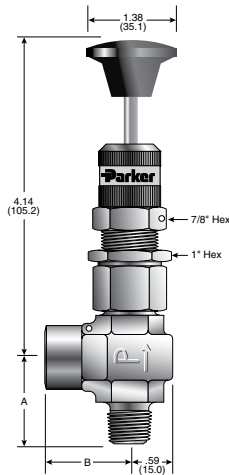
Eight springs, from 50 psig to 6000 psig in the following ranges: 50-350 psig, 350-750 psig, 750-1500 psig, 1500-2250 psig, 2250-3000 psig, 3000-4000 psig, 4000-5000 psig, 5000-6000 psig.

Temperature Rating

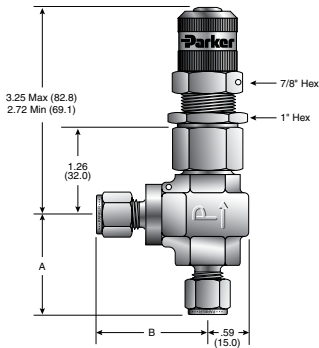
Buna-N Rubber	-30°F to +225°F
Highly Fluorinated Fluorocarbon Rubber	-20°F to +200°F
Ethylene Propylene Rubber	-70°F to +275°F
Fluorocarbon Rubber	-10°F to +400°F
Neoprene Rubber	-45°F to +250°F

RELIEF VALVES

RH4 SERIES



() Denotes dimensions in millimeters



Model Shown: 4M4F-RH4A-VT-SS-MN-K2

Model Shown: 4A-RH4A-BNT-SS-K1

Part No.	End Connections		Orifice (in.)	Flow Data		Dimensions†	
	(Inlet) Port 1	(Outlet) Port 2		C _v	x _T ‡	A (in.)	B (in.)
4A-RH4A	1/4" A-LOK® Compression	1/4" A-LOK® Compression	0.14	0.41	0.67	1.44	1.60
4Z-RH4A	1/4" CPI™ Compression	1/4" CPI™ Compression				1.44	1.60
4M4A-RH4A	1/4" Male NPT	1/4" A-LOK® Compression				1.19	1.60
4M4Z-RH4A	1/4" Male NPT	1/4" CPI™ Compression				1.19	1.60
4M4F-RH4A	1/4" Male NPT	1/4" Female NPT				1.19	1.17

† For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position.

‡ Tested in accordance with ISA S75.02. Gas flow will be choked when $P_1 - P_2 / P_1 = x_T$.

SPRING KITS

Part No.	Cracking Pressure Range (psig)	Color Code
KIT-RH4SP-50-350	50-350	Gray
KIT-RH4SP-350-750	350-750	Red
KIT-RH4SP-750-1500	750-1500	Orange
KIT-RH4SP-1500-2250	1500-2250	Yellow
KIT-RH4SP-2250-3000	2250-3000	Light Green
KIT-RH4SP-3000-4000	3000-4000	Light Blue
KIT-RH4SP-4000-5000	4000-5000	Violet
KIT-RH4SP-5000-6000	5000-6000	Lemon Yellow

Spring Kit Contains:

- Spring
- Coded label
- PTFE washers
- Locking wire / lead seal
- Installation Instructions



HOW TO ORDER

The correct part number is easily derived from the following number sequence. The eight product characteristics required are coded as shown below.

***Note:** If the inlet and outlet ports are the same, eliminate the outlet port designator.

Inlet Port	Outlet Port	Valve Series	Seals	Back-Up Rings	Body Material	Actuation	Spring Kit
4M Male NPT 4F Female NPT 4A A-LOK® Compression 4Z CPI™ Compression		RH4A	V Fluorocarbon Rubber EPR Ethylene Propylene Rubber BN Nitrile Rubber KZ Highly Fluorinated Fluorocarbon Rubber NE Neoprene Rubber	T PTFE	SS Stainless Steel	(blank) Standard MN Manual Override	K1 50 - 350 psig K2 350 - 750 psig K3 750 - 1500 psig K4 1500 - 2250 psig K5 2250 - 3000 psig K6 3000 - 4000 psig K7 4000 - 5000 psig K8 5000 - 6000 psig
Notes: To order valve with an elastomer back-up ring, eliminate Back-Up Rings code. To order only the valve without a spring kit, eliminate Spring Kit code.							

Examples:

4Z	*	RH4A	BN	T	SS		K6
Inlet Port	Outlet Port	Valve Series	Seals	Back-Up Rings	Body Material	Actuation	Spring Kit

Describes an RH4A Series externally adjustable relief valve equipped with 1/4" CPI™ compression inlet and outlet ports, Nitrile seals, PTFE back-up ring, stainless steel construction, and a 3000 to 4000 psig spring kit.

General Description: Parker RL4 Relief Valves are designed such that when the upstream pressure exceeds the closing force exerted by the spring, the lower stem opens, permitting flow through the valve. Flow through the valve increases proportionately to the increase in upstream pressure.

- Features:**
- Pressure settings are externally adjustable while the valve is in operation. Seven different spring ranges provide greater system sensitivity and enhanced performance.
 - Manual override option with positive stem retraction is available for the full working pressures range. This option permits the user to relieve upstream pressure while maintaining the predetermined cracking pressure.
 - Color coded springs and labels indicate spring cracking range.
 - Back pressure has minimum effect on cracking pressure.
 - Lock wire feature secures a given pressure setting.

RELIEF VALVE

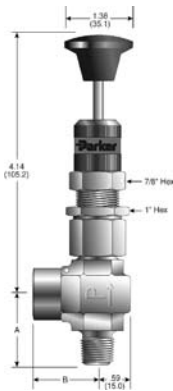
RL4 SERIES

SPECIFICATIONS

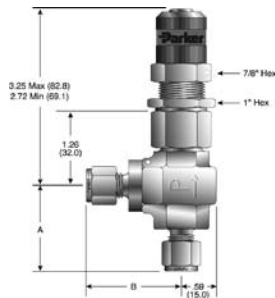
Working Pressure	Cracking Pressure Seven springs with the following ranges:	Temperature Rating
Up to 400 psig CWP Up to 600 psig during relief with no internal seal damage.	10-25 psig	Nitrile Rubber -30°F to 225°F Highly Fluorinated Fluorocarbon Rubber -20°F to 200°F Ethylene Propylene Rubber -70°F to 275°F Fluorocarbon Rubber -10°F to 400°F Neoprene Rubber -45°F to 250°F
	25-50 psig	
	50-100 psig	
	100-150 psig	
	150-225 psig	
	225-400 psig	
	10-225 psig	

RL4 SERIES RELIEF VALVE

FLOW DATA AND DIMENSIONS



Model Shown:
4M4F-RL4A-VT-SS-MN-KD



Model Shown:
4A-RL4A-BNT-SS-KC

Part No.	End Connections		Flow Data			Dimensions †	
	Inlet (Port 1)	Outlet (Port 2)	Orifice (in.)	C _v	x ₁ ‡	A (in.)	B (in.)
4A-RL4A	1/4" A-LOK® Compression	1/4" A-LOK® Compression	0.203	0.75	0.70	1.44	1.60
4Z-RL4A	1/4" CPI™ Compression	1/4" CPI™ Compression				1.44	1.60
4M4A-RL4A	1/4" Male NPT	1/4" A-LOK® Compression				1.19	1.60
4M4Z-RL4A	1/4" Male NPT	1/4" CPI™ Compression				1.19	1.60
4M4F-RL4A	1/4" Male NPT	1/4" Female NPT				1.19	1.17

† For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position.

‡ Tested in accordance with ISA S75.02. Gas flow will be choked when $P_1 \cdot P_2 / P_1 = x_1$.

SPRING KITS

Part No.	Cracking Pressure Range (psig)	Color Code
KIT-RL4SP-10-25	10-25	Magenta
KIT-RL4SP-25-50	25-50	Brown
KIT-RL4SP-50-100	50-100	Purple
KIT-RL4SP-100-150	100-150	Dark Green
KIT-RL4SP-150-225	150-225	Dark Blue
KIT-RL4SP-225-400	225-400	White
KIT-RL4SP-10-225	10-225	None

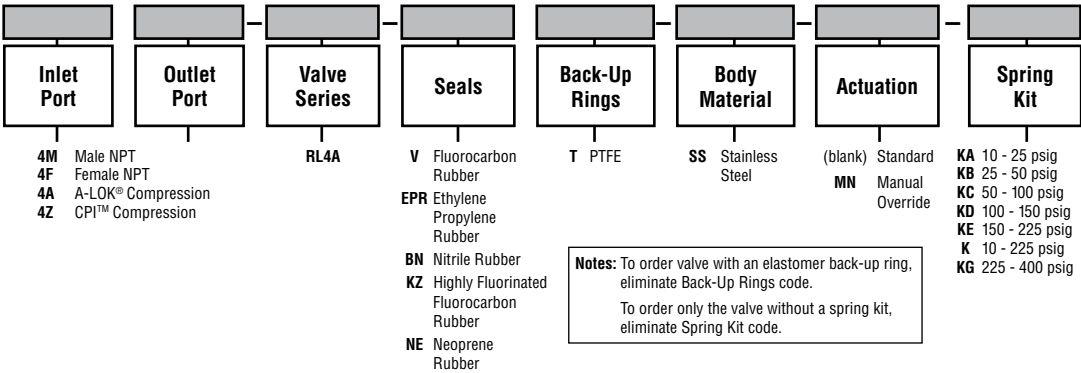


Spring Kit Contains:
Spring
Coded label
PTFE washers
Locking wire/lead seal
Installation Instructions

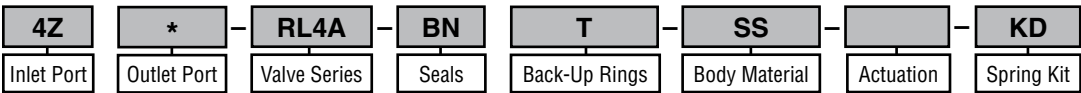
RL4 SERIES RELIEF VALVE

HOW TO ORDER

The correct part number is easily derived from the following number sequence. The eight product characteristics required are coded as shown below.
*Note: If the inlet and outlet ports are the same, eliminate the outlet port designator.



EXAMPLES



Describes a RL4A Series externally adjustable relief valve equipped with 1/4" CPI™ compression inlet and outlet ports, Nitrile seals, PTFE back-up ring, stainless steel construction, and a 100 to 150 psig spring kit.

COILS

GOLD RING™



Gold Ring™	Voltage	1/2" NPT Conduit*	DIN
CHART 1 6 watts, Class F	24/60	AF4C01	AFPH01
	120/60, 110/50	AF4C05	AFPH05
	240/60, 220/50	AF4C15	AFPH15



Gold Ring™	Voltage	1/2" NPT Conduit*	DIN
CHART 2 11 watts, Class F	24/60	CF4C01	CFPH01
	120/60, 110/50	CF4C05	CFPH05
	240/60, 220/50	CF4C15	CFPH15
CHART 3 11.5 watts, Class F	12VDC	3F4C75	3FPH75
	24VDC	3F4C80	3FPH80
CHART 4 16 watts, Class F	24/60	DF4C01	DFPH01
	120/60, 110/50	DF4C05	DFPH05
	240/60, 220/50	DF4C15	DFPH15

*18" Lead Wires, Nema 1, 2, 3, 4, 4X

COILS

SKINNER VALVE™

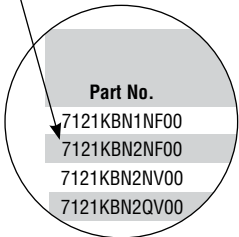


Skinner Valve™	Voltage	1/2" NPT Conduit*	DIN
CHART 5 10 watts, Class F	24/60	C111B2	D100B2
	120/60, 110/50	C111P3	D100P3
	240/60, 220/50	CF111Q3	D100Q3
	12VDC	C111C1	D100C1
	24VDC	C111C2	D100C2
CHART 6 10 watts, Class H	24/60	C222B2	D200B2
	120/60, 110/50	C222P3	D200P3
	240/60, 220/50	C222Q3	–
	12VDC	C222C1	–
	24VDC	C222C2	–
CHART 7 22 watts, Class H	24/60	C322B2	–
	120/60, 110/50	C322P3	–
	12VDC	C322C1	–

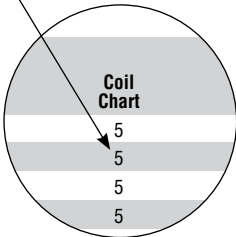
*18" Lead Wires, Nema 1, 2, 3, 4, 4X

HOW TO ORDER

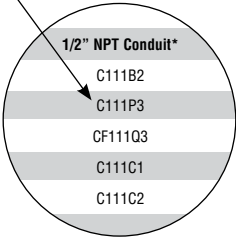
1 Choose your Pressure Vessel.



2 Choose your Coil Reference Number from the Coil Chart.



3 Find your Coil Reference Number from the Coil Charts (left).



4 Place Order for Pressure Vessel and Coil as separate items.

2 WAY BRASS

NORMALLY CLOSED DIRECT ACTING



AC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp. °F	Power Consumption (Watt)	Seal
						Air, Inert Gas (PSI)	Water (PSI)	Lt. Oil 300 SSU (PSI)			
7121KBN1NF00	5	1/8	1/8	.31	0	365	365	365	165	10	PCTFE
7121KBN2NF00	5	1/4	1/8	.31	0	365	365	365	165	10	PCTFE
7121KBN2NV00	5	1/4	1/8	.31	0	145	145	145	185	10	FKM
7121KBN2QV00	5	1/4	5/32	.52	0	120	120	120	185	10	FKM
7121KBN2SV00	5	1/4	13/64	.76	0	80	80	80	185	10	FKM

DC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp. °F	Power Consumption (Watt)	Seal
						Air, Inert Gas (PSI)	Water (PSI)	Lt. Oil 300 SSU (PSI)			
7121KBN1NF00	5	1/8	1/8	.31	0	125	125	125	165	10	PCTFE
7121KBN2NF00	5	1/4	1/8	.31	0	125	125	125	165	10	PCTFE
7121KBN2NV00	5	1/4	1/8	.31	0	125	125	125	185	10	FKM
7121KBN2QV00	5	1/4	5/32	.52	0	60	60	60	185	10	FKM
7121KBN2SV00	5	1/4	13/64	.52	0	30	30	30	185	10	FKM

2 WAY STAINLESS STEEL

NORMALLY CLOSED DIRECT ACTING



AC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp.°F	Power Consumption (Watt)	Seal
						Air, Inert Gas (PSI)	Water (PSI)	Lt. Oil 300 SSU (PSI)			
71216SN1GL00	5	1/8	1/16	.07	0	1250	1250	1250	185	10	Nylon
71215SN1KN00	5	1/8	3/32	.18	0	275	275	275	185	10	NBR
71215SN1MN00	5	1/8	1/8	.28	0	200	200	200	185	10	NBR
71216SN2BL00	5	1/4	1/32	.02	0	3000	3000	3000	185	10	Nylon
71215SN2EN00	5	1/4	3/64	.06	0	450	450	450	185	10	NBR
71216SN2FU00	5	1/4	3/64	.037	0	1500	1500	1500	185	10	PTFE
71215SN2GN00	5	1/4	1/16	.10	0	350	350	350	185	10	NBR
71215SN2KN00	5	1/4	3/32	.18	0	275	275	275	185	10	NBR
71215SN2MN00	5	1/4	1/8	.28	0	200	200	200	185	10	NBR
71215SN2QN00	5	1/4	5/32	.40	0	110	110	110	185	10	NBR
71215SN2SN00	5	1/4	3/16	.50	0	80	80	80	185	10	NBR
71215SN2VN00	5	1/4	1/4	.75	0	40	40	40	185	10	NBR
71215SN21N00	5	1/4	5/16	1.1	0	20	20	20	185	10	NBR
06F20C6118BDF	4	3/8	9/32	.85	0	90	80	80	200	16	NBR
71215SN33NHPP	5	3/8	3/8	2.0	5	11	11	11	185	10	NBR
71215SN33N00	5	3/8	3/8	2.0	0	6	6	6	185	10	NBR

DC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp.°F	Power Consumption (Watt)	Seal
						Air, Inert Gas (PSI)	Water (PSI)	Lt. Oil 300 SSU (PSI)			
71216SN1GL00	5	1/8	1/16	.07	0	500	500	500	185	10	Nylon
71216SN1GL00	7	1/8	1/16	.07	0	1000	1000	1000	185	22	Nylon
71215SN1KN00	5	1/8	3/32	.18	0	275	275	275	185	10	NBR
71215SN1MN00	5	1/8	1/8	.28	0	150	150	150	185	10	NBR
71215SN2EN00	5	1/4	3/64	.06	0	450	450	450	185	10	NBR
71216SN2BL00	5	1/4	1/32	.02	0	2500	2500	2500	185	10	Nylon
71216SN2BL00	7	1/4	1/32	.02	0	3000	3000	3000	185	22	Nylon
71216SN2FU00	5	1/4	3/64	.037	0	1000	1000	1000	185	10	PTFE
71216SN2FU00	7	1/4	3/64	.037	0	1500	1500	1500	185	22	PTFE
71215SN2GN00	5	1/4	1/16	.10	0	350	350	350	185	10	NBR
71215SN2KN00	5	1/4	3/32	.18	0	275	275	275	185	10	NBR
71215SN2MN00	5	1/4	1/8	.28	0	150	150	150	185	10	NBR
71215SN2QN00	5	1/4	5/32	.40	0	60	60	60	185	10	NBR
71215SN2SN00	5	1/4	3/16	.50	0	25	25	25	185	10	NBR
71215SN2VN00	5	1/4	1/4	.75	0	10	10	10	185	10	NBR
71215SN21N00	5	1/4	5/16	1.1	0	3	3	3	185	10	NBR
71215SN33N00	7	3/8	3/8	2.0	0	5	5	5	185	22	NBR

2 WAY BRASS

NORMALLY OPEN DIRECT ACTING



AC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp. °F	Power Consumption (Watt)	Seal
						Air, Inert Gas (PSI)	Water (PSI)	Lt. Oil 300 SSU (PSI)			
04F2001106ACF	2	1/4	3/32	.17	0	300	250	230	180	11	NBR
04F2001108ACF	2	1/4	1/8	.35	0	130	110	100	180	11	NBR
04F2002118ACF	2	1/4	9/32	.96	0	30	25	20	180	11	NBR
08F2002128ADF	4	1/2	7/16	2.8	0	15	15	–	200	16	NBR

2 WAY STAINLESS STEEL

NORMALLY OPEN DIRECT ACTING



AC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp. °F	Power Consumption (Watt)	Seal
						Air, Inert Gas (PSI)	Water (PSI)	Lt. Oil 300 SSU (PSI)			
71295SN2KNJ1	5	1/4	3/32	.15	0	250	250	250	185	10	NBR

DC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp. °F	Power Consumption (Watt)	Seal
						Air, Inert Gas (PSI)	Water (PSI)	Lt. Oil 300 SSU (PSI)			
71295SN2KNJ1	5	1/4	3/32	.15	0	250	250	250	185	10	NBR

2 WAY BRASS

NORMALLY CLOSED PILOT OPERATED



AC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp. °F	Power Consumption (Watt)	Seal
						Air, Inert Gas (PSI)	Water (PSI)	Lt. Oil 300 SSU (PSI)			
04F25C2122CAF	1	1/4	11/32	1.2	5	300	300	300	180	6	NBR
73216BN2MT00	5	1/4	1/4	.76	5	1500	1500	1500	210	10	PTFE
7321KBN2RN00	5	1/4	7/16	2.0	3	150	150	150	185	10	NBR
7321KBN3SN00	5	3/8	7/16	2.5	3	150	150	150	185	10	NBR
73212BN3SN00	5	3/8	1/2	2.4	5	300	300	300	185	10	NBR
06F22C2140AAF	1	3/8	5/8	3.0	5	200	135	135	180	6	NBR
06F23C2140ACF	2	3/8	5/8	4.0	0	150	150	150	180	11	NBR
73212BN4TN00	5	1/2	1/2	2.8	5	300	300	300	185	10	NBR
08F22C2140AAF	1	1/2	5/8	4.0	5	200	135	135	180	6	NBR
08F22C2140ADF	4	1/2	5/8	4.0	5	300	300	300	175	16	NBR
72218BN4UN00	5	1/2	5/8	4.0	0	100	100	100	185	10	NBR
73218BN4UN00	5	1/2	5/8	4.0	5	150	150	150	185	10	NBR
08F23C2140ACF	2	1/2	5/8	4.0	0	150	150	150	180	11	NBR
72218BN5VN00	5	3/4	3/4	5.0	0	100	100	100	185	10	NBR
12F22C2148AAF	1	3/4	3/4	5.0	5	125	125	125	180	6	NBR
73218BN5VN00	5	3/4	3/4	5.0	5	150	150	150	185	10	NBR
12F24C2148AAF	1	3/4	3/4	6.5	5	250	150	100	180	6	NBR
73212BN52N00	5	3/4	3/4	7.3	5	300	300	300	185	10	NBR
12F23C2148ACF	2	3/4	3/4	5.0	5	150	150	150	180	11	NBR
16F24C2164AAF	1	1	1	13.0	5	150	150	100	180	6	NBR
7221GBN64N00	5	1	1	11.7	0	230	230	230	185	10	NBR
73212BN63N00	5	1	1	11.0	5	300	300	300	185	10	NBR
73218BN64N00	5	1	1-1/16	13.5	5	125	125	125	185	10	NBR
20F24C2172AAF	1	1-1/4	1-1/8	15.0	5	150	125	100	180	6	NBR
24F24C2180AAF	1	1-1/2	1-1/4	22.5	5	150	125	100	180	6	NBR
7321GBN99N00	5	2	1-9/16	38.6	5	230	230	230	185	10	NBR

2 WAY BRASS

NORMALLY CLOSED PILOT OPERATED



DC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (in.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp. °F	Power Consumption (Watt)	Seal
						Air, Inert Gas (PSI)	Water (PSI)	Lt. Oil 300 SSU (PSI)			
73216BN2MT00	5	1/4	1/4	.76	5	800	800	800	210	10	PTFE
7321KBN2RN00	5	1/4	7/16	2.0	3	60	60	60	185	10	NBR
04F25C2122C3F	3	1/4	11/32	1.2	5	275	275	275	150	11.5	NBR
7321KBN3SN00	5	3/8	7/16	2.5	3	60	60	60	185	10	NBR
73212BN3SN00	5	3/8	1/2	2.4	5	300	300	300	185	10	NBR
06F22C2140A3F	3	3/8	5/8	3.0	5	100	100	100	150	11.5	NBR
72218BN4UN00	7	1/2	5/8	4.0	0	40	40	40	185	22	NBR
73218BN4UN00	5	1/2	5/8	4.0	5	150	150	150	185	10	NBR
73212BN4TN00	5	1/2	1/2	2.8	5	300	300	300	185	10	NBR
12F22C2148A3F	3	3/4	3/4	5.0	5	90	90	75	150	11.5	NBR
72218BN5VN00	7	3/4	3/4	5.0	0	40	40	40	185	22	NBR
73218BN5VN00	5	3/4	3/4	5.0	5	150	150	150	185	10	NBR
73212BN52N00	5	3/4	3/4	7.3	5	300	300	300	185	10	NBR
16F24C2164A3F	3	1	1	13.0	5	125	125	125	150	11.5	NBR
7221GBN64N00	7	1	1	11.7	0	85	85	85	185	22	NBR
73212BN63N00	5	1	1	11.0	5	300	300	300	185	10	NBR
73218BN64N00	5	1	1-1/16	13.5	5	125	125	125	185	10	NBR
20F24C2172A3F	3	1-1/4	1-1/8	15.0	5	125	125	125	150	11.5	NBR

2 WAY STAINLESS STEEL

NORMALLY CLOSED PILOT OPERATED



AC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp.°F	Power Consumption (Watt)	Seal
						Air, Inert Gas (PSI)	Water (PSI)	Lt. Oil 300 SSU (PSI)			
06F23C6140ACF	2	3/8	5/8	3.0	0	150	150	150	180	11	NBR
08F23C6140ACF	2	1/2	1/2	4.0	0	150	150	150	180	11	NBR
12F23C6148ACF	2	3/4	3/4	5.0	0	150	150	150	180	11	NBR

2 WAY BRASS

NORMALLY OPEN PILOT OPERATED



AC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp.°F	Power Consumption (Watt)	Seal
						Air, Inert Gas (PSI)	Water (PSI)	Lt. Oil 300 SSU (PSI)			
06F2302140ACF	2	3/8	5/8	3.0	0	150	150	150	180	11	NBR
08F2302140ACF	2	1/2	5/8	4.0	0	150	150	150	180	11	NBR
16F2402164ACF	2	1	1	13.0	5	125	125	125	180	11	NBR
24F2402180ACF	2	1-1/2	1-1/4	22.5	5	125	125	125	180	11	NBR

DC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp.°F	Power Consumption (Watt)	Seal
						Air, Inert Gas (PSI)	Water (PSI)	Lt. Oil 300 SSU (PSI)			
08F2302140A3F	3	1/2	5/8	4.0	0	125	125	80	150	11.5	NBR
12F23021480A3F	3	3/4	3/4	5.5	0	125	125	80	150	11.5	NBR

2 WAY STAINLESS STEEL

NORMALLY OPEN PILOT OPERATED



AC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp.°F	Power Consumption (Watt)	Seal
						Air, Inert Gas (PSI)	Water (PSI)	Lt. Oil 300 SSU (PSI)			
12F2306148ACF	2	3/4	3/4	5.5	0	150	150	150	180	11	NBR

2 WAY BRASS

NORMALLY CLOSED STEAM AND HOT WATER



AC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp. °F	Power Consumption (Watt)	Seal
						Steam (PSI)	Hot Water (PSI)	Lt. Oil 300 SSU (PSI)			
06FS5C2432ACH	below	3/8	1/2	3.0	1	125	–	–	353	11	PTFE
08FS5C2432ACH	below	1/2	1/2	3.6	1	125	–	–	353	11	PTFE
08FS3C2340ACF	2	1/2	5/8	4.0	0	50	150	–	300	11	EDPM
73218BN4UTS0	6	1/2	5/8	4.0	3	125	–	–	353	10	PTFE
12FS3C2348ACF	2	3/4	3/4	5.0	0	50	150	–	300	11	EDPM
73218BN5VTS0	6	3/4	5/8	4.5	3	125	–	–	353	10	PTFE
72218BN5VE00	5	3/4	5/8	5.0	0	–	100	–	210	10	EDPM
12FS5C2448ACF	2	3/4	3/4	7.4	1	80	–	–	320	11	PTFE
16FS5C2464ACH	below	1	1	12.2	1	125	–	–	353	11	PTFE
24FS4C2380AAF	1	1-1/2	1-1/2	22.5	5	50	150	–	300	6	EDPM



Gold Ring™	Voltage	1/2" NPT Conduit*	DIN
11 Watts Class H	24/60	CH4C01	CHPH01
	120/60	CH4C05	CHPH05
	240/60	CH4C15	CHPH15

*18" Lead Wires, Nema 1, 2, 3, 4, 4X

3 WAY BRASS

NORMALLY CLOSED DIRECT ACTING



AC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor		Min.	Max Pressure Differential			Fluid Temp.°F	Power Consumption (Watt)	Seal
							Air, Inert Gas (PSI)	Water (PSI)	Lt. Oil 300 SSU (PSI)			
7131KBN2JV00	5	1/4	5/64 3/32	.17	.24	0	1150	1150	150	185	10	FKM
7131TBN2JV00	5	1/4	5/64 1/8	.17	.31	0	150	150	150	185	10	FKM
7131TBN2LV00	5	1/4	3/32 9/64	.24	.38	0	110	110	110	185	10	FKM

DC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor		Min.	Max Pressure Differential			Fluid Temp.°F	Power Consumption (Watt)	Seal
							Air, Inert Gas (PSI)	Water (PSI)	Lt. Oil 300 SSU (PSI)			
7131KBN2JV00	5	1/4	5/64 3/32	.17	.24	0	150	150	150	185	10	FKM
7131TBN2JV00	5	1/4	5/64 1/8	.17	.31	0	150	150	150	185	10	FKM
7131TBN2LV00	5	1/4	3/32 9/64	.24	.38	0	110	110	110	185	10	FKM

3 WAY STAINLESS STEEL

NORMALLY CLOSED DIRECT ACTING



AC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp.°F	Power Consumption (Watt)	Seal
						Air, Inert Gas (PSI)	Water (PSI)	Lt. Oil 300 SSU (PSI)			
71315SN1GNJ1	5	1/8	1/16 1/16	.11 .095	0	200	200	200	185	10	NBR
71315SN2ENJ1	5	1/4	3/64 3/16	.062 .095	0	250	250	250	185	10	NBR
71315SN2GNJ1	5	1/4	1/16 1/16	.11 .095	0	200	200	200	185	10	NBR
71315SN2KNJ1	5	1/4	3/32 3/32	.17 .17	0	125	125	125	185	10	NBR
71315SN2MNJ1	5	1/4	1/8 3/32	.23 .17	0	90	90	90	185	10	NBR
71315SN2VNJ1	5	1/4	1/4 3/32	.67 .17	0	VAC	VAC	VAC	185	10	NBR

DC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp.°F	Power Consumption (Watt)	Seal
						Air, Inert Gas (PSI)	Water (PSI)	Lt. Oil 300 SSU (PSI)			
71315SN1GNJ1	5	1/8	1/16 1/16	.11 .095	0	200	200	200	185	10	NBR
71315SN2ENJ1	5	1/4	3/64 3/16	.062 .095	0	250	250	250	185	10	NBR
71315SN2GNJ1	5	1/4	1/16 1/16	.11 .095	0	200	200	200	185	10	NBR
71315SN2KNJ1	5	1/4	3/32 3/32	.17 .17	0	125	125	125	185	10	NBR
71315SN2MNJ1	5	1/4	1/8 3/32	.23 .17	0	90	90	90	185	10	NBR
71315SN2VNJ1	5	1/4	1/4 3/32	.67 .17	0	VAC	VAC	VAC	185	10	NBR

3 WAY STAINLESS STEEL

NORMALLY OPEN DIRECT ACTING



AC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor		Min.	Max Pressure Differential			Fluid Temp.°F	Power Consumption (Watt)	Seal
							Air, Inert Gas (PSI)	Hot Water (PSI)	Lt. Oil 300 SSU (PSI)			
71395SN2ENJ1	5	1/4	1/16 3/64	.10	.05	0	250	250	250	185	10	NBR
71395SN2GNJ1	5	1/4	1/8 1/16	.28	.10	0	150	150	150	185	10	NBR

DC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor		Min.	Max Pressure Differential			Fluid Temp.°F	Power Consumption (Watt)	Seal
							Air, Inert Gas (PSI)	Hot Water (PSI)	Lt. Oil 300 SSU (PSI)			
71395SN2ENJ1	5	1/4	1/16 3/64	.10	.05	0	250	250	250	185	10	NBR
71395SN2GNJ1	5	1/4	1/8 1/16	.28	.10	0	150	150	150	185	10	NBR

3 WAY BRASS

MULTIPURPOSE DIRECT ACTING



AC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp.°F	Power Consumption (Watt)	Seal
						Air, Inert Gas (PSI)	Hot Water (PSI)	Lt. Oil 300 SSU (PSI)			
7133TBN2JV00	5	1/4	5/64	.17	0	100	100	100	185	10	FKM

DC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp.°F	Power Consumption (Watt)	Seal
						Air, Inert Gas (PSI)	Hot Water (PSI)	Lt. Oil 300 SSU (PSI)			
7133TBN2JV00	5	1/4	5/64	.17	0	100	100	100	185	10	FKM

3 WAY STAINLESS STEEL

MULTIPURPOSE DIRECT ACTING



AC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp.°F	Power Consumption (Watt)	Seal
						Air, Inert Gas (PSI)	Hot Water (PSI)	Lt. Oil 300 SSU (PSI)			
71335SN2ANJ1	5	1/4	1/32 1/32	.024 .024	0	400	400	400	185	10	NBR
71335SN2ENJ1	5	1/4	3/64 3/64	.052 .052	0	180	180	180	185	10	NBR
71335SN2GNJ1	5	1/4	1/16 1/16	.095 .095	0	115	115	115	185	10	NBR
71335SN2KNJ1	5	1/4	3/32 3/32	.17 .17	0	80	80	80	185	10	NBR

DC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp.°F	Power Consumption (Watt)	Seal
						Air, Inert Gas (PSI)	Hot Water (PSI)	Lt. Oil 300 SSU (PSI)			
71335SN2ANJ1	5	1/4	1/32 1/32	.024 .024	0	400	400	400	185	10	NBR
71335SN2ENJ1	5	1/4	3/64 3/64	.052 .052	0	180	180	180	185	10	NBR
71335SN2GNJ1	5	1/4	1/16 1/16	.095 .095	0	115	115	115	185	10	NBR
71335SN2KNJ1	5	1/4	3/32 3/32	.17 .17	0	80	80	80	185	10	NBR

3 WAY BRASS

NORMALLY CLOSED PILOT OPERATED



AC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp.°F	Power Consumption (Watt)	Seal
						Air, Inert Gas (PSI)	Water (PSI)	Lt. Oil 300 SSU (PSI)			
73317BN2PN00	5	1/4	1/4	1.20	30	150	–	–	167	10	NBR
73312BN3RNJO	5	3/8	3/8	2.1	10	180	180	180	185	10	NBR
73312BN4UNJO	5	1/2	1/2	3.60	10	180	180	180	185	10	NBR
73312BN52NJO	5	3/4	3/4	7.3	10	180	180	180	185	10	NBR

DC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp.°F	Power Consumption (Watt)	Seal
						Air, Inert Gas (PSI)	Water (PSI)	Lt. Oil 300 SSU (PSI)			
73317BN2PN00	5	1/4	1/4	1.20	30	150	–	–	167	10	NBR
73312BN3RNJO	5	3/8	3/8	2.1	10	180	180	180	185	10	NBR
73312BN4UNJO	5	1/2	1/2	3.60	10	180	180	180	185	10	NBR
73312BN52NJO	5	3/4	3/4	7.3	10	180	180	180	185	10	NBR

4 WAY BRASS

SINGLE SOLENOID DIRECT ACTING



AC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp.°F	Power Consumption (Watt)	Seal
						Air, Inert Gas (PSI)	Water (PSI)	Lt. Oil 300 SSU (PSI)			
71417BN2SN00	below	1/4	3/16	.75	0	125	125	125	160	24	NBR
04F48S2106ACF	2	1/4	1/16 3/32	.09 .09	10	150	150	150	180	11	NBR

DC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp.°F	Power Consumption (Watt)	Seal
						Air, Inert Gas (PSI)	Water (PSI)	Lt. Oil 300 SSU (PSI)			
04F48S2106A3F	3	1/4	1/16 3/32	.09 .09	10	100	100	100	104	11.5	NBR



Skinner Valve™	Voltage	1/2" NPT Conduit*
71417BN2SN00 24 Watts, Class H	110/50, 120/60	C8GLP3
	220/50, 240/60	C8GLQ3

*18" Lead Wires, Nema 1, 2, 3, 4, 4X

4 WAY ALUMINUM

SINGLE SOLENOID PILOT-OPERATED



AC & DC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp.°F	Power Consumption (Watt)	Seal
						Air, Inert Gas (PSI)	Hot Water (PSI)	Lt. Oil 300 SSU (PSI)			
73417AKDKN00	5	NAMUR	11/64	.55	30	150	–	–	167	10	NBR
73417AKDKN7A	5	NAMUR	11/64	.55	30	150	–	–	167	10	NBR
73419AN2NNM0	5	1/4	1/4	1.0	15	150	–	–	165	10	NBR
73419AN2NN00	5	1/4	1/4	1.0	15	150	–	–	165	10	NBR

4 WAY BRASS

SINGLE SOLENOID PILOT-OPERATED



AC & DC Voltage

Part No.	Coil Chart	Pipe Size (NPT)	Orifice Size (In.)	CV Flow Factor	Min.	Max Pressure Differential			Fluid Temp.°F	Power Consumption (Watt)	Seal
						Air, Inert Gas (PSI)	Hot Water (PSI)	Lt. Oil 300 SSU (PSI)			
73417BKEPN00	5	NAMUR	1/4	1.2	30	150	–	–	167	10	NBR
73417BN2PN00	5	1/4	1/4	1.2	30	150	–	–	167	10	NBR