

MAB Series Ball Valves with MPI™ Style Connections

Pressures to 15,000 psi (1034 bar)

Parker MAB series 2-way and 3-way ball valves are in a class by themselves... Our single trunnion style Ball/Stem does not allow the separation that is common to slotted ball type designs. Our PEEK™ ball seats are re-torqueable if necessary unlike other shoulder stop designs. Valve options include thru-bore sizes that are unmatched in flow capability.

When sizing ball valves, options permit selection of both the bore size AND the connection size to maximize your process conditions and reduce pressure drop. The MPI™ Double Ferrule connection delivers fast, easy make-up and reliable bubble-tight performance in either liquid or gas service.

MPI™ tube connection sizes from 1/4" to 1" can be mated to up to 3 different bore size valves. Ball Valves can be either electrically or pneumatically actuated. See pages 61-69 for a complete selection for any valve style/size

Features and Benefits

- One-piece trunnion style ball/stem design eliminates shear failure and reduces side loading found in two-piece designs
- Re-Torqueable PEEK™ Seat Glands for longer life
- CW 316 Stainless Steel Material is Standard, 2507 Annealed Super Duplex as option
- Full Port flow path minimizes pressure drop
- Low friction, pressure assisted graphite filled PTFE stem seal increases cycle life and reduces operating torque
- Temperature range from 0°F (-18°C) to 400°F (204°C) standard, to 500°F (260°F) as option
- Viton™ Fluoroelastomer/FKM o-rings are standard, see ordering chart for options
- 2-way Bi-Directional and and 3-Way (Switching or Diverter Styles) available



Pneumatic and Electric Actuators

Pneumatic ball valve actuators are found on pages 62-63 and are available for every bore/size option we offer (90° or 180° as needed). Our standard housing is corrosion resistant anodized aluminum and other materials are available. Position identification and NAMUR VDI/VDE 3845 and ISO 5211 mounting configuration for NAMUR solenoid valves, limit switches, or positioners is standard.

Electric actuators (pages 64-69) are available in Weatherproof or Explosionproof styles depending on location. Both varieties come standard with two (open/closed) position switches (SPDT) and additional switches can be added. Explosionproof version includes an external handwheel for manual operation. Most valves have 24VDC, 120VAC, or 220VAC options.

How to Order 2-way and 3-way MAB Series Ball Valves

When ordering Parker MPI™ Ball valves, consider first the bore size to verify that it is large enough for the flow rate needed, then choose the end connection. We have flow and pressure options not found anywhere else. The correct part number is easily derived from the following example and ordering chart. The ten product characteristics required are coded as shown in the chart.

The following example describes an MAB Series, three-way diverter ball valve with a .375" orifice, fluorocarbon rubber seals, 1/4" MPI™ medium pressure inverted connections on all ports, stainless steel body and the optional lock out device.

Typical part number example: **4MP7-MAB6XPKD-V-SSP-LD** (part number is created based on customer selection of product parameters, see below for example)

4	MP7	-	MAB	6	X	PK	D	-	V	-	SSP	-	LD
Inlet/Outlet Connection Size	Connection Type		Valve Series	Orifice Size	Valve Type	Seat Material	3 Way Valve Type		Seat Gland Seal Material		Body Material		Options
4 = 1/4" 6 = 3/8" 8 = 1/2" 9 = 9/16" 12 = 3/4" 16 = 1"	MP7= Parker MPI™		MAB	3 = 3/16" ² 4 = 1/4" ¹ 6 = 3/8" 8 = 1/2" 12 = 3/4" ¹	L= 2 Way X= 3 Way	PK= PEEK	Blank= Selector D= Diverter		V***= Fluorocarbon Rubber KZ**= FFKM Highly Fluorinated Fluorocarbon Rubber BN= Nitrile Rubber EPR= Ethylene Propylene Rubber C**= PTFE U-Cup		SSP= Stainless Steel 2507= Super Duplex		LD= Lock Out Device XF= High Strength Ferrules for 2507 SD sizes 12 & 16 only Actuator Options (see pages 61-69)
										** Limited size availability - see O-ring options below *** Standard o-ring material			

¹ Only Available with 2-Way Valves

² Only Available with 3-Way Valves

Note: Critical gas applications such as hydrogen or helium are not recommended. Consult factory with application details for assistance.

Options

Standard valve has Fluorocarbon Rubber o-rings [0 °F (-18 °C) to 400 °F (204 °C) maximum].

KZ - Standard valve with FFKM Highly Fluorinated Fluorocarbon Rubber o-rings [30°F to 500°F (0° to 260°C)].

NOTE: Not available with 3/4" orifice 2-way valves

C - Standard valve with PTFE U-Cup Seal [0° to 500°F (-18° to 260°C)].

NOTE: Only available with 3/4" orifice 2-way valves

BN - Standard valve with Buna-N (Nitrile) Rubber o-rings [-20° to 250°F (-29° to 121°C)].

EPR - Standard valve with Ethylene Propylene Rubber o-rings [-20° to 250°F (-29° to 121°C)].

LD - Standard valve with factory-installed lock out device.

MPI™ Medium Pressure Valves

MAB Series Valves

(Replaces MPB Series Ball Valves)

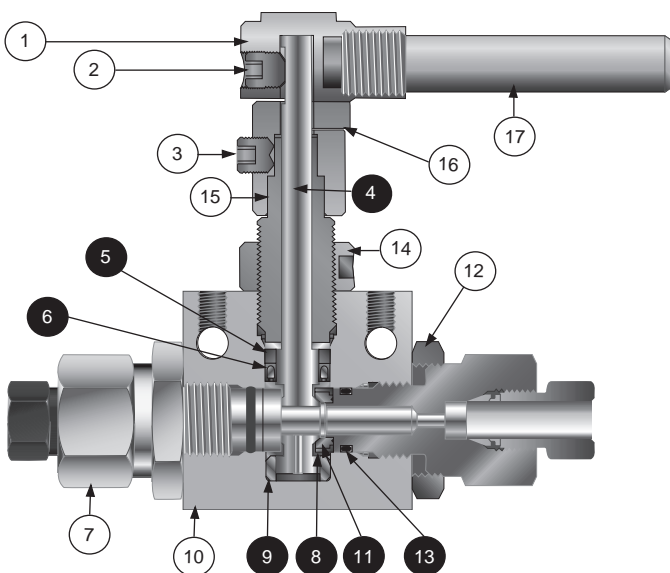
Parker MAB series manual, pneumatic and electrically actuated two-way and three-way ball valves are designed for quarter and half-turn media shutoff or switching applications up to 15,000 psi. Our single-piece trunnion style ball design and re-torqueable seats make the MAB series ideal for severe service applications. The end connector design enables a variety of end connections and combinations for specific customer applications. Please see Parker Autoclave Engineers Ball Valve Literature for additional connection options.

2 Way Ball Valves

Orifice Size	Part Number	MAWP PSI	Connection	Inches			Repair Kits
				Minimum Valve Orifice	Cv	Overall Length	
1/4"	4MP7-MAB4LPK-V-SSP	15,000	1/4" MPI	0.125	0.25	4.19	R2B4S
	6MP7-MAB4LPK-V-SSP	15,000	3/8" MPI	0.250	1.51	4.19	
	8MP7-MAB4LPK-V-SSP	15,000	1/2" MPI	0.250	1.51	5.34	
	9MP7-MAB4LPK-V-SSP	15,000	9/16" MPI	0.250	1.51	5.34	
3/8"	8MP7-MAB6LPK-V-SSP	15,000	1/2" MPI	0.312	3.24	6.27	R2B6S
	9MP7-MAB6LPK-V-SSP	15,000	9/16" MPI	0.375	5.20	6.27	
1/2"	12MP7-MAB8LPK-V-SSP	15,000	3/4" MPI	0.500	10.20	10.85	R2B8S
	16MP7-MAB8LPK-V-SSP	12,500	1" MPI	0.500	10.20	10.85	
3/4"	12MP7-MAB12LPK-V-SSP	15,000	3/4" MPI	0.531	11.80	9.18	R2B12S
	16MP7-MAB12LPK-V-SSP	12,500	1" MPI	0.688	21.00	9.18	

For 2507 Super Duplex option, replace **-SS** with **-2507** and use **-XF** ferrule sets for sizes 12 and 16 and increase MAWP to 15,000 psi. Standard Repair Kits include Viton (Fluorocarbon rubber) orings - use MAB option codes for different material requirements. Dimensions in inches are for reference only, subject to change. Note: Ball Valves are not recommended for critical gas applications such as Hydrogen, Helium, or other small molecular gases. Consult Factory for assistance.

Material of Construction

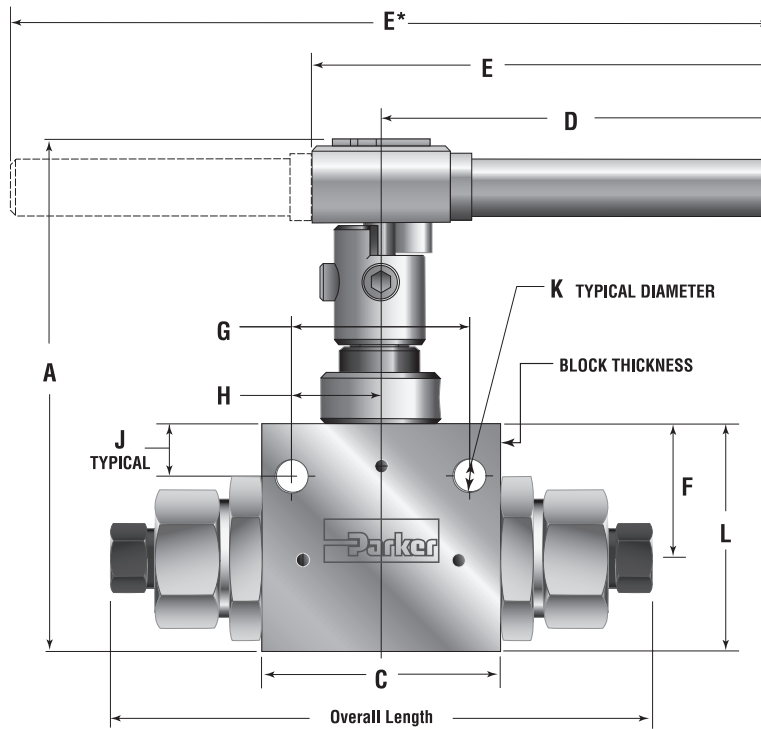


Item#	Description	Material
1	Handle Hub	316 SS
2	Set Screw	Stainless
3	Set Screw	Stainless
4	One Piece Ball and Stem	316 SS
5	Thrust Washer	Ampco 45
6	Spring Energized Seal	Graphite/Carbon PTFE
7	Seat Gland	316 CW SS
8	Seat Retainer	316 CW SS
9	Bottom Bearing	PEEK
10	Body	316 SS
11	Seat	PEEK
12	Locknut	316 SS
13	O-ring	Viton
14	Locking Piece	316 SS
15	Packing Gland	316 CW SS
16	Stopping Device	316 SS
17	Handle	304 SS

Typical spare parts found in Repair Kit

MPI™ Medium Pressure Valves

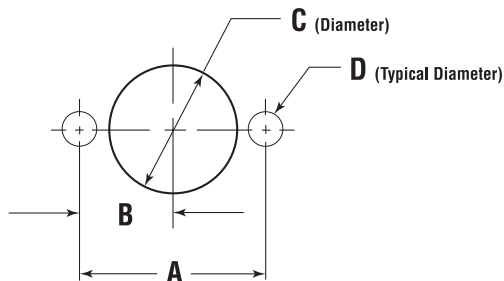
Dimensions



Orifice Size	Inches (mm)										
	A	C	D	E	F	G	H	J	K	L	Block Th'k
1/4"	4.33 (109.99)	2.00 (50.80)	3.37 (85.55)	3.83 (97.28)	1.13 (28.58)	1.50 (38.10)	0.75 (19.05)	0.44 (11.18)	0.28 (7.11)	1.91 (48.41)	1.00 (25.40)
3/8"	4.99 (126.75)	3.00 (76.20)	4.99 (126.75)	5.45 (138.43)	1.38 (34.92)	2.00 (50.80)	1.00 (25.40)	0.41 (10.31)	0.28 (7.11)	2.50 (63.50)	1.38 (34.92)
1/2"	6.43 (163.32)	4.13 (104.78)	5.12 (130.05)	10.24* (260.10)	1.76 (44.70)	3.00 (76.20)	1.50 (38.10)	0.50 (12.70)	0.28 (7.11)	3.55 (90.17)	1.75 (44.45)
3/4"	10.13 (257.30)	4.50 (114.30)	11.00 (279.40)	22.00* (558.80)	2.47 (62.70)	3.25 (82.60)	1.63 (41.40)	0.69 (17.50)	0.41 (10.40)	4.50 (114.30)	3.00 (76.20)

Dimensions in inches are for reference only, subject to change.

Panel Hole Sizes



Orifice Size	Inches (mm)				Body Mounting
	A	B	C	D	
1/4"	1.50 (38.10)	0.75 (19.05)	1.06 (26.92)	0.28 (7.11)	1/4" - 20 Thread
3/8"	2.00 (50.80)	1.00 (25.40)	1.50 (38.10)	0.28 (7.11)	
1/2"	3.00 (76.20)	1.50 (38.10)	1.88 (47.63)	0.28 (7.11)	
3/4"	3.25 (82.60)	1.63 (41.40)	2.38 (60.30)	0.41 (10.40)	3/8" - 16 Thread

Dimensions in inches are for reference only, subject to change.

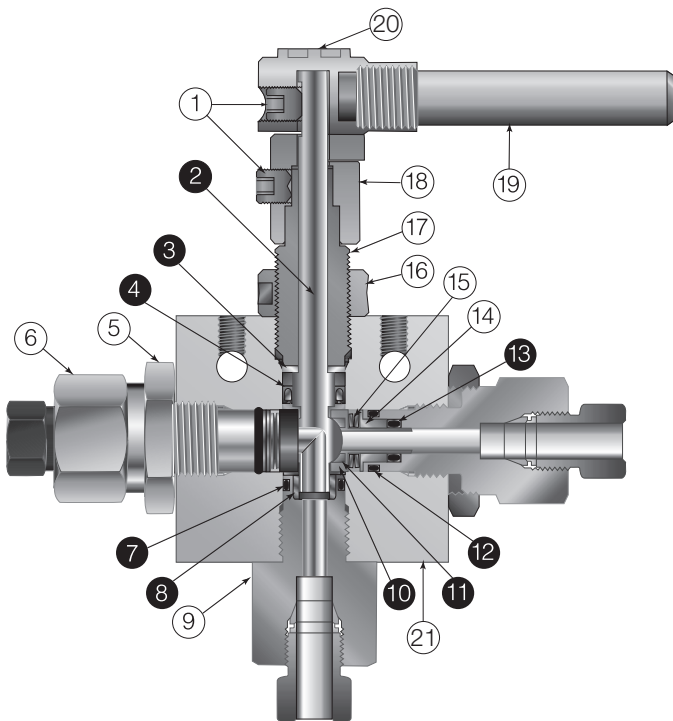
3 Way Ball Valves

Orifice Size	Part Number 3 Way 90° Diverter	Part Number 3 Way 180° Selector	MAWP PSI	Connection	Inches					Repair Kit	
					Minimum Valve Orifice	Cv	Overall Length	A	M	Diverter	Selector
3/16"	4MP7-MAB3XPKD-V-SSP	4MP7-MAB3XPK-V-SSP	15,000	1/4" MPI	0.125	0.33	4.72	5.66	0.97	R3BD3S	R3B3S
	6MP7-MAB3XPKD-V-SSP	6MP7-MAB3XPK-V-SSP	15,000	3/8" MPI	0.188	0.50	4.72	5.66	0.97		
	8MP7-MAB3XPKD-V-SSP	8MP7-MAB3XPK-V-SSP	15,000	1/2" MPI	0.188	0.50	5.84	6.23	1.54		
	9MP7-MAB3XPKD-V-SSP	9MP7-MAB3XPK-V-SSP	15,000	9/16" MPI	0.188	0.50	5.84	6.23	1.54		
3/8"	6MP7-MAB6XPKD-V-SSP	6MP7-MAB6XPK-V-SSP	15,000	3/8" MPI	0.250	1.50	6.28	6.90	1.54	R3BD6S	R3B6S
	8MP7-MAB6XPKD-V-SSP	8MP7-MAB6XPK-V-SSP	15,000	1/2" MPI	0.312	2.00	6.28	6.90	1.54		
	9MP7-MAB6XPKD-V-SSP	9MP7-MAB6XPK-V-SSP	15,000	9/16" MPI	0.328	2.10	6.28	6.90	1.54		
1/2"	12MP7-MAB8XPKD-V-SSP	12MP7-MAB8XPK-V-SSP	10,000	3/4" MPI	0.500	4.40	10.85	8.35	2.22	R3BD8S	R3B8S
	16MP7-MAB8XPKD-V-SSP	16MP7-MAB8XPK-V-SSP	10,000	1" MPI	0.500	4.40	10.85	8.35	2.22		

For 2507 Super Duplex option, replace **-SS** with **-2507** and use **-XF** ferrule sets for sizes 12 and 16.
 Standard Repair Kits include Viton (Fluorocarbon rubber) orings - use MAB option codes for different material requirements.
 3/16" Side inlet pressure = 15,000 psi max, 3/8" Side inlet pressure = Not Recommended, 1/2" Side inlet pressure = 10,000 psi max
 Note: Ball Valves are not recommended for critical gas applications such as Hydrogen, Helium, or other small molecular gases. Consult Factory for assistance.

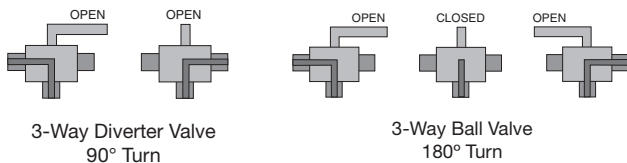
MPI™ Medium Pressure Valves

Material of Construction

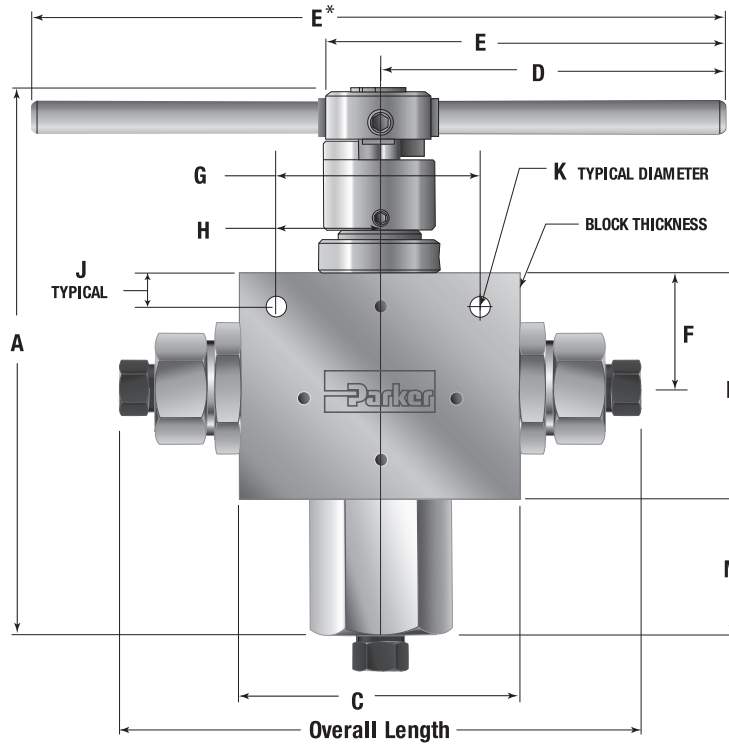


Item#	Description	Material
1	Set Screw	Stainless
2	One Piece Ball and Stem	316 SS
3	Thrust Washer	Ampco 45
4	Spring Energized Seal	Graphite/Carbon PTFE
5	Locknut	316 SS
6	Seat Gland	316 CW SS
7	O-ring	Fluorocarbon Rubber
8	Bearing	AMPCO 45
9	Bottom Gland	316 CW SS
10	Seat Retainer	316 CW SS
11	Carbon Filled Peek Seats	Arlon 1260
12	O-ring	Fluorocarbon Rubber
13	O-ring	Fluorocarbon Rubber
14	Belleville Backup	316 CW SS
15	Belleville Washers	302 SS
16	Locking Piece	316 SS
17	Packing Gland	316 CW SS
18	Stopping Device	316 SS
19	Stainless Steel Handle	304 SS
20	Handle Hub	316 SS
21	Body	316 CW SS

Ⓜ Typical spare parts found in Repair Kit



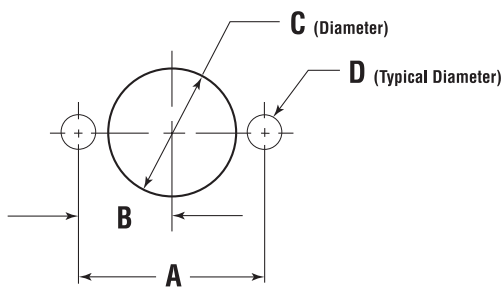
Dimensions



Orifice Size	Inches (mm)									
	C	D	E	F	G	H	J	K	L	Block Th'k
3/16"	2.50 (63.50)	3.37 (85.55)	3.90 (99.02)	1.12 (28.45)	1.50 (38.10)	0.75 (19.05)	0.43 (10.92)	0.28 (7.11)	2.26 (57.40)	1.00 (25.40)
3/8"	3.00 (76.20)	4.99 (126.82)	5.52 (140.32)	1.38 (34.93)	2.00 (50.80)	1.00 (25.40)	0.41 (10.31)	0.28 (7.11)	2.88 (73.03)	1.38 (34.92)
1/2"	4.13 (104.78)	5.09 (129.29)	10.18* (258.57)	1.66 (42.16)	3.00 (76.20)	1.50 (38.10)	0.50 (12.70)	0.28 (7.11)	3.34 (84.94)	1.75 (44.45)

Dimensions in inches are for reference only, subject to change.

Panel Hole Sizes



Orifice Size	Inches (mm)				Body Mounting
	A	B	C	D	
3/16"	1.50 (38.10)	0.75 (19.05)	1.06 (26.92)	0.28 (7.11)	1/4" - 20 Thread
3/8"	2.00 (50.80)	1.00 (25.40)	1.50 (38.10)	0.28 (7.11)	
1/2"	3.00 (76.20)	1.50 (38.10)	1.88 (47.63)	0.28 (7.11)	

Dimensions in inches are for reference only, subject to change.