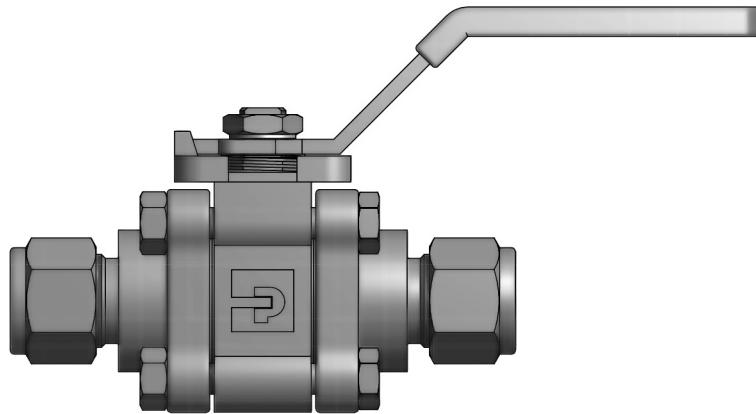


Introduction

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.



SWB

Model Shown: 8Z-SWB8L-RT-BN-SS

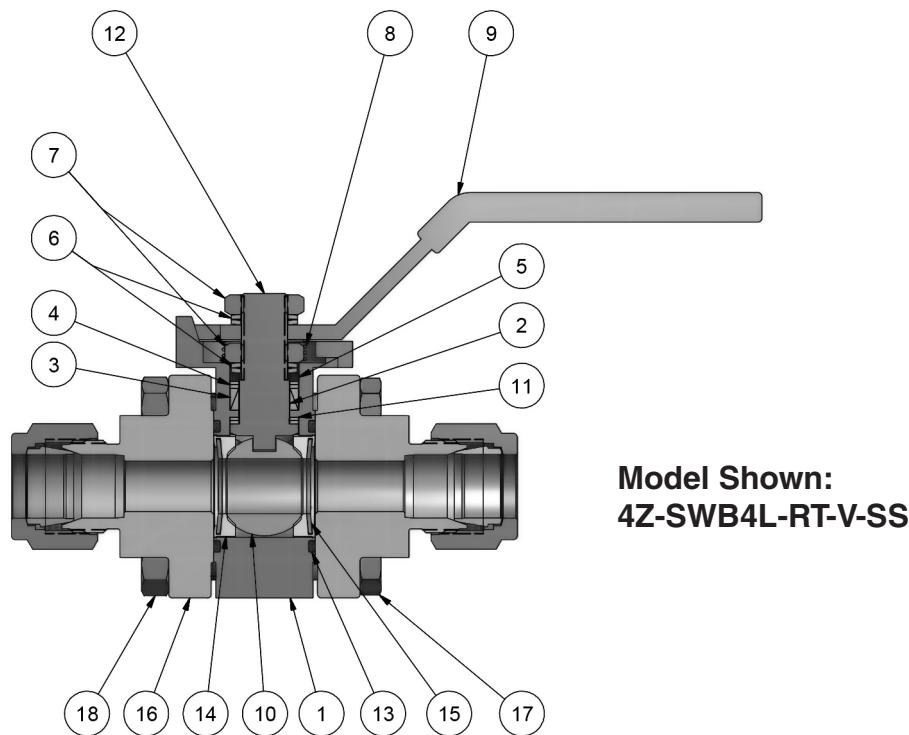
Features

- ▶ Ultra low internal volume
- ▶ 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

Specifications

Body Materials	Stainless Steel
Seat Materials	Reinforced PTFE PEEK
Seal Materials	Nitrile Rubber Ethylene Propylene Rubber Fluorocarbon Rubber PTFE Grafoil®
Flow Data	C_v : 1.1 to 35.0
Pressure Ratings	2500 psig (172 bar) 1500 psig (103 bar) SWB16 with PEEK Seats
Temperature Ratings — Seats	
Reinforced PTFE Seats	-65°F to 450°F (-54°C to 232°C)
PEEK Seats	-65°F to 600°F (-54°C to 316°C)
Temperature Ratings — Seals	
Nitrile Rubber Seals	-40°F to 250°F (-40°C to 121°C)
Ethylene Propylene Rubber Seals	-65°F to 300°F (-54°C to 149°C)
Fluorocarbon Rubber Seals	-15°F to 400°F (-26°C to 204°C)
PTFE Seals	-65°F to 350°F (-54°C to 177°C)
Grafoil® Seals	-65°F to 600°F (-54°C to 316°C)

Materials of Construction



SWB

Materials of Construction

Item #	Part	Qty	Material
1	Body	1	ASTM A 351 Grade CF3M
2	Lower Packing	1	PTFE ¹
3	Upper Packing	1	PTFE ¹
4	Packing Support	2	PEEK
5	Packing Gland	1	ASTM A 276 Type 304
6	Stem Spring	4 ³	ASTM A 666 Type 301
7	Stem Hex Nut	2	ASTM A 276 Type 304
8	Grounding Spring	1	ASTM A 276 Type 304
9	Handle Assembly	1	ASTM A 276 Type 304; Vinyl Covered
10	Ball	1	ASTM A 276 Type 316
11	Thrust Washer	2	PEEK
12	Stem	1	ASTM A 276 Type 316
13	Body Seal	2	Fluorocarbon Rubber ²
14	Seat	2	Reinforced PTFE, PEEK ¹
15	Seat Spring ⁴	2	ASTM A 666 Type 301
16	End Flanges	2	ASTM A 351 Grade CF3M
17	Body Bolts	4	ASTM A 193 Grade B8M Class 2
18	Body Bolt Nuts	4	ASTM A 194 Grade 8M

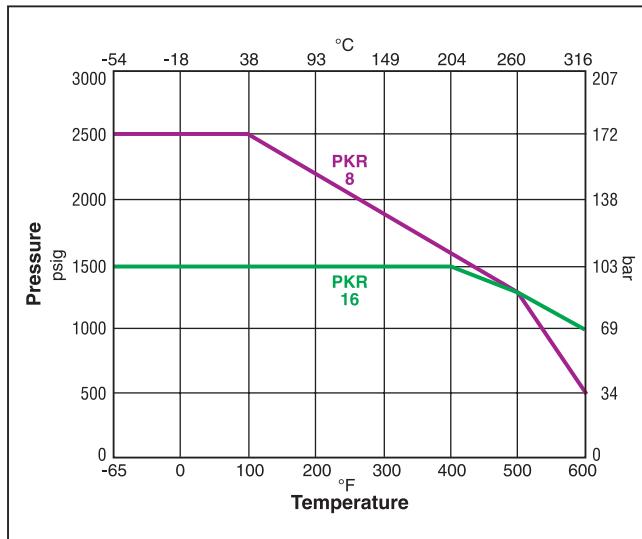
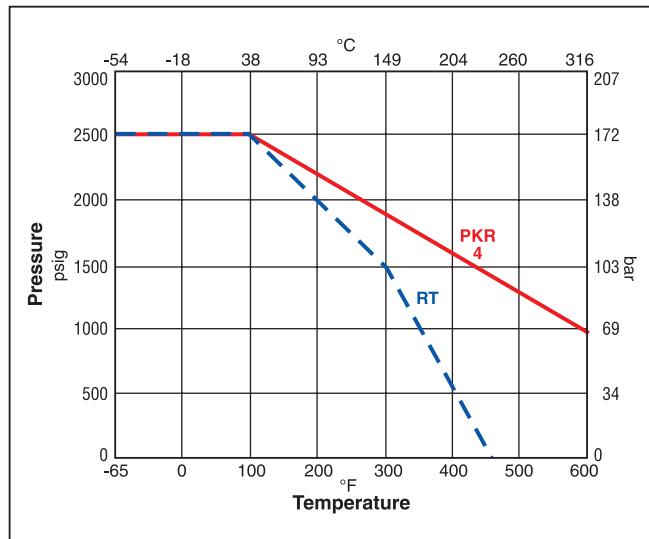
1 Optional Seat and Packing Seal materials are described in the How to Order section.

2 Optional Seal materials are described in the How To Order Section.

3 Size 8 SWB Series Ball Valves only require 3 Stem Springs.

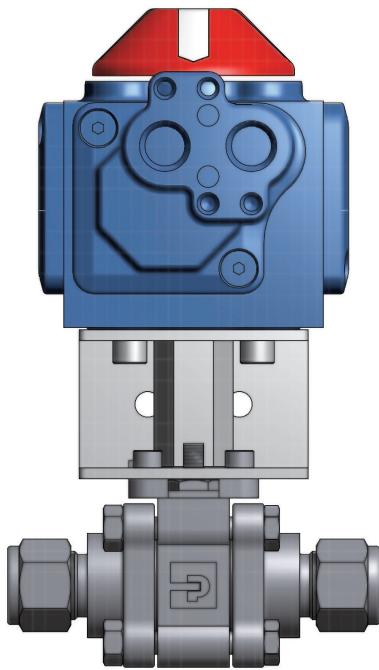
4 PEEK seated SWB Series Ball Valves do not have Seat Springs.

Pressure vs. Temperature

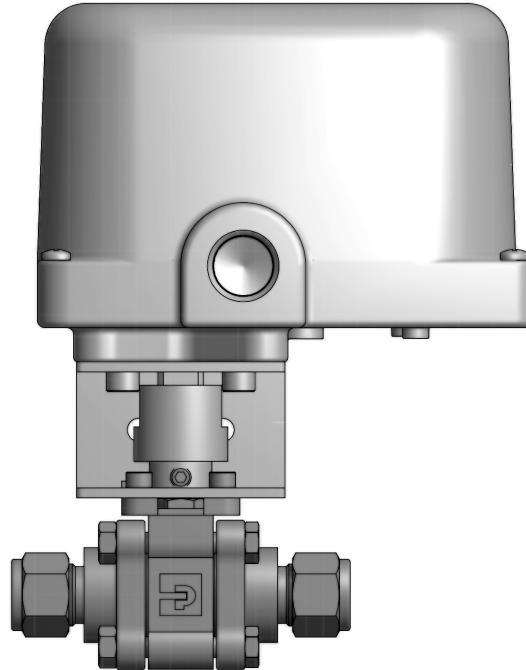


SWB

Note: This Pressure versus 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. Please refer to [page 24](#) for seal temperature ranges.

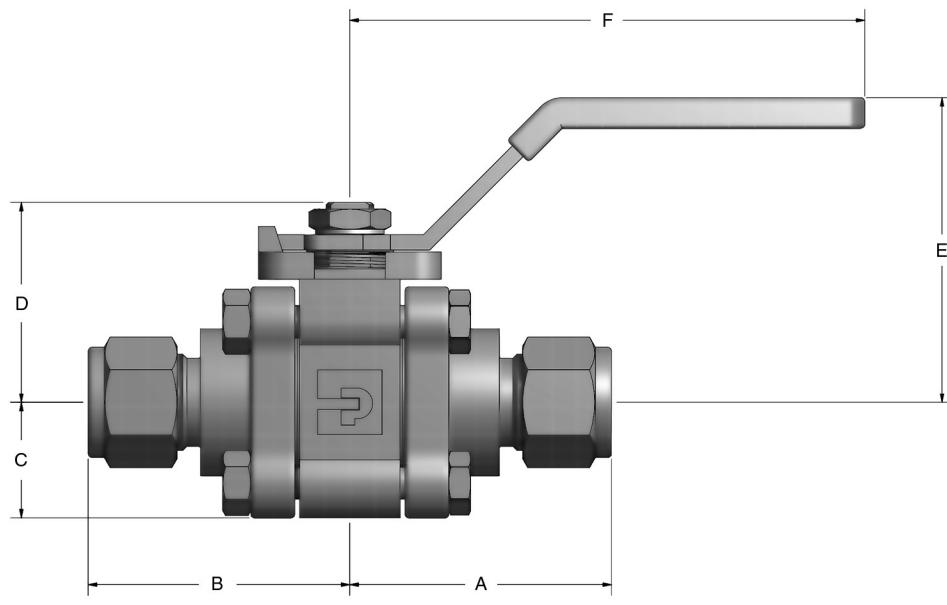


Pneumatic Actuated Model Shown:
8Z-SWB8L-RT-V-SS-51AD



Electric Actuated Model Shown:
8A-SWB8L-RT-V-SS-71

Dimensions / Flow Data



SWB

Basic Part Number	Flow Data				End Connections		Dimensions																			
	Orifice		Cv	X _T *			Port 1		Port 2		A†		B†		C		D		E		F					
	Inch	mm								Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm							
4Z-SWB4L	0.19	4.8	1.1	0.19	CPI™ Tube		1.59	40.4	1.59	40.4	0.68	17.3	1.28	32.5	2.00	50.8	3.00	76.2								
4A-SWB4L																										
4F-SWB4L	0.28	7.1	2.9	0.29	A-LOK® Tube		1.09	27.7	1.09	27.7	0.89	22.6	1.54	39.1	2.36	59.9	3.94	100.1								
6Z-SWB4L	0.28	7.1	4.5	0.19	Female NPT		1.59	40.4	1.59	40.4																
6A-SWB4L					CPI™ Tube																					
6F-SWB8L	0.44	11.2	8.2	0.35	A-LOK® Tube		1.29	32.8	1.29	32.8	1.06	26.9	1.81	46.0	2.59	65.8	3.94	100.1								
8Z-SWB8L	0.41	10.4	6.4	0.35	Female NPT		2.03	51.6	2.03	51.6																
8A-SWB8L					CPI™ Tube																					
8F-SWB8L	0.44	11.2	8.2	0.26	A-LOK® Tube		1.29	32.8	1.29	32.8	1.25	31.8	2.30	58.4	3.00	76.2	5.71	145.0								
8W-SWB8L	0.41	10.4	6.4	0.35	Female NPT		1.29	32.8	1.29	32.8																
8PBW8-SWB8L	0.44	11.2	8.2	0.26	Tube Socket Weld		1.35	34.3	1.35	34.3	1.25	31.8	2.30	58.4	3.00	76.2	5.71	145.0								
8PSW-SWB12L	0.52	13.2	13.5	0.34	Pipe Butt weld (Schedule 80)		1.35	34.3	1.35	34.3																
12Z-SWB12L	0.56	14.2	14.7	0.28	Pipe Socket Weld		2.03	51.6	2.03	51.6	1.06	26.9	1.81	46.0	2.59	65.8	3.94	100.1								
12A-SWB12L					CPI™ Tube																					
12F-SWB12L	0.56	14.2	14.7	0.28	A-LOK® Tube		1.39	35.3	1.39	35.3	1.25	31.8	2.30	58.4	3.00	76.2	5.71	145.0								
12W-SWB12L	0.56	14.2	14.7	0.28	Female NPT		1.39	35.3	1.39	35.3																
12PBW8-SWB12L	0.56	14.2	14.7	0.28	Tube Socket Weld		1.37	34.8	1.37	34.8	1.25	31.8	2.30	58.4	3.00	76.2	5.71	145.0								
12PSW-SWB16L	0.88	22.4	35.0	0.29	Pipe Butt weld (Schedule 80)		1.95	49.5	1.95	49.5																
12Z-SWB16L	0.56	14.2	14.7	0.28	Pipe Socket Weld		2.50	63.5	2.50	63.5	1.25	31.8	2.30	58.4	3.00	76.2	5.71	145.0								
12A-SWB16L					CPI™ Tube																					
16Z-SWB16L	0.88	22.4	35.0	0.29	A-LOK® Tube		2.68	68.1	2.68	68.1	1.25	31.8	2.30	58.4	3.00	76.2	5.71	145.0								
16A-SWB16L					CPI™ Tube																					
16F-SWB16L	0.88	22.4	35.0	0.29	Female NPT		1.79	45.5	1.79	45.5	1.25	31.8	2.30	58.4	3.00	76.2	5.71	145.0								
16W-SWB16L	0.88	22.4	35.0	0.29	Tube Socket Weld		1.79	45.5	1.79	45.5																
16PBW8-SWB16L	0.88	22.4	35.0	0.29	Pipe Butt weld (Schedule 80)		1.81	46.0	1.81	46.0	1.25	31.8	2.30	58.4	3.00	76.2	5.71	145.0								

* 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.

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

How to Order

The correct part number is easily derived from the following example and ordering chart. The four product characteristics required are coded as shown in the chart.

The example below describes a SWB8L Two-Way Ball Valve with 1/2" A-LOK® end connections for ports 1 and 2, reinforced PTFE seats, Nitrile rubber body seals, and stainless steel construction.

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

Example:

8A	-	SWB8L	-	RT	-	BN	-	SS
	-		-		-		-	
Port Size	Port 1*	Port 2*	Valve Series	Valve Configuration	Seat Material			
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 Virgin PEEK ¹	T PTFE	SS Stainless Steel	
6	A A-LOK® Tube		SWB8		RT Glass Reinforced PTFE	BN Nitrile Rubber		
8	F Female NPT		SWB12			EPR Ethylene Propylene Rubber		
12	W Tube Socket Weld		SWB16			V Fluorocarbon Rubber		
16	PSW Pipe Socket Weld					G Grafoil® Gasket ^{1,2}		
	PBW8 Pipe Butt weld (Schedule 80)							

1 Not available in size 12.

2 Grafoil® Seals only available with PEEK Seats.

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

How to Order Options

Examples

Lever Lock-Out Devices –

Add the suffix -LD to the end of the part number to order directly on the valve.
For field installation, order part number as shown in the example.

4F-SWB8L-RT-V-SS-LD
SWB8/12-HANDLE-LOCKING

Oval Handles – Add the suffix -S to the end of the part number.

8A-SWB8L-RT-T-SS-S

Oval Handle Lock-Out Devices –

Add the suffix -LD to the end of the part number to order directly on the valve.
For field installation, order part number as shown in the example.

6F-SWB8L-RT-V-SS-S-LD
SWB8/12-HANDLE-OVAL-LOCKING

Pneumatic Actuators – For detailed actuator information, refer to the Pneumatic Actuators section of this catalog.

For factory assembly, add the actuator part number as the suffix to the valve part number.
For field installation, specify the the actuator desired.
The appropriate mounting hardware may be obtained by adding the valve series and actuator size to the prefix MK-.

8F-SWB8L-RT-BN-SS-61AC-2
61AC-2
MK-SWB8L-61

Electric Actuators – For detailed actuator information, refer to the Electric Actuators section of this catalog.

For factory assembly, add the actuator part number as the suffix to the valve part number.
For field installation, specify the actuator desired.
The appropriate mounting hardware may be obtained by adding the valve series and actuator series to the prefix MK-.

8A-SWB8L-RT-EPR-SS-71A
71A
MK-SWB8L-70.

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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"	MP7= Parker MPI™		MAB	3 = 3/16"² 4 = 1/4"¹	L= 2 Way	PK= PEEK	Blank= Selector		V***= Fluorocarbon Rubber		SSP= Stainless Steel		LD= Lock Out Device
6 = 3/8"				6 = 3/8"	X= 3 Way		D= Diverter		KZ**= FFKM Highly Fluorinated Fluorocarbon Rubber		2507= Super Duplex		XF= High Strength Ferrules for 2507 SD sizes 12 & 16 only
8 = 1/2"				8 = 1/2"					BN= Nitrile Rubber				Actuator Options (see pages 61-69)
9 = 9/16"				12 = 3/4"¹					EPR= Ethylene Propylene Rubber				
12 = 3/4"									C**= PTFE U-Cup				
16 = 1"									** 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.

MAB

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.

