

# Swing-Out Ball Valves (SWB Series)

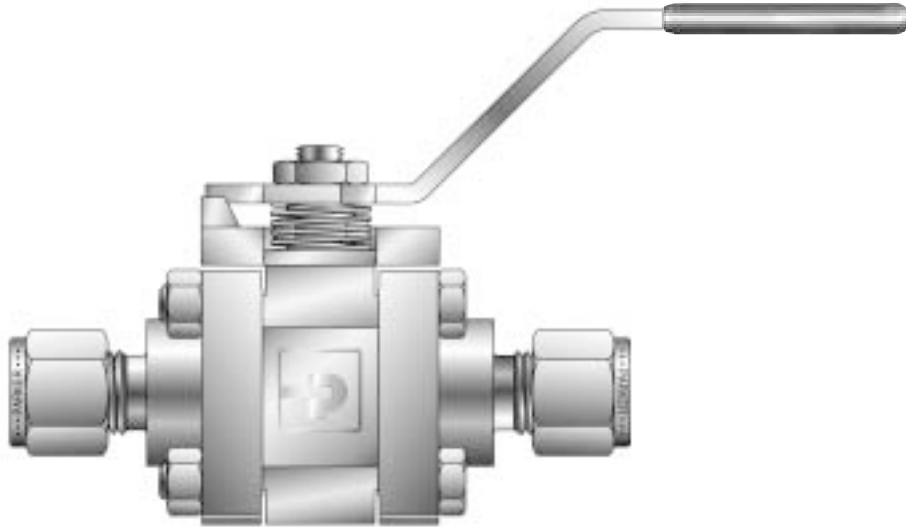
Catalog 4125-SWB  
February 2003



# SWB Series Ball Valves

## 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.



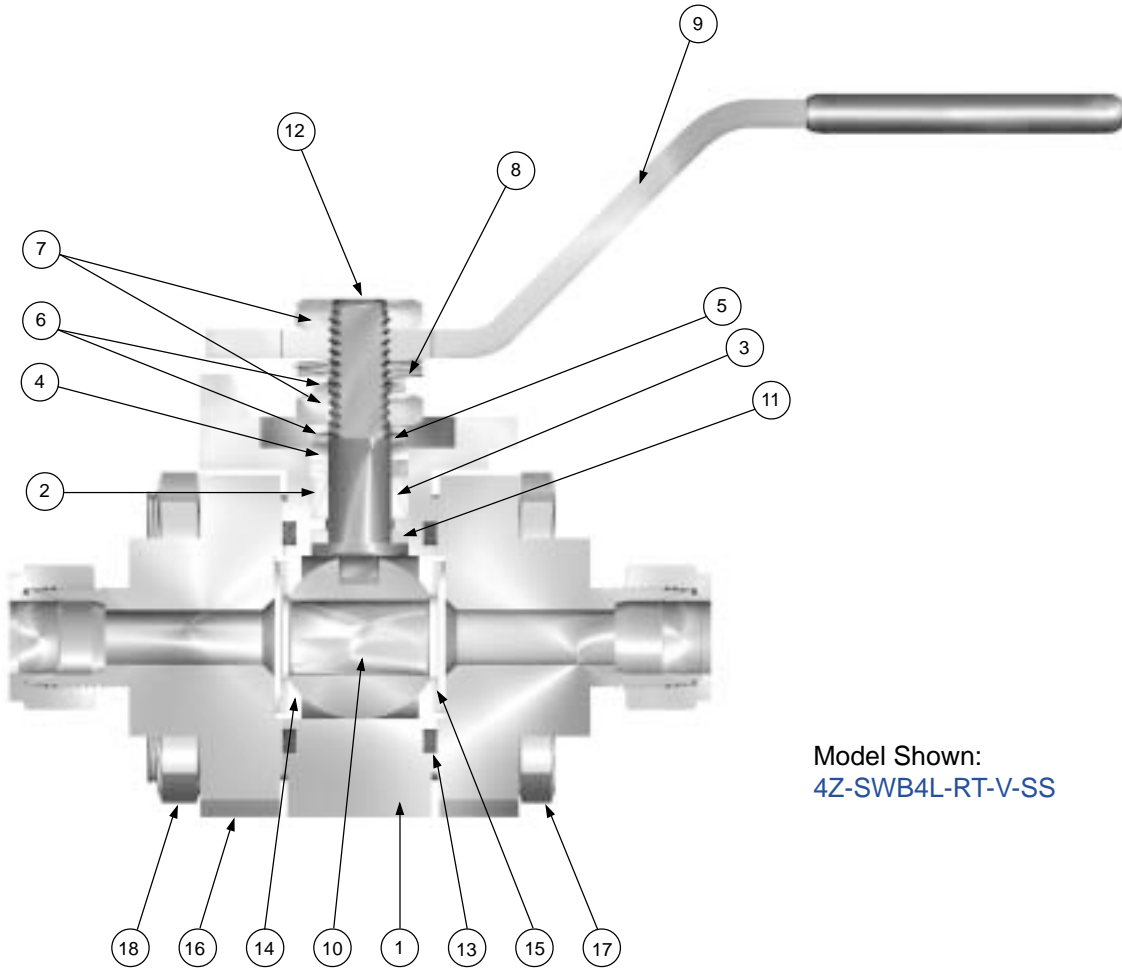
Model Shown: [8Z-SWB8L-RT-BN-SS](#)

## 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

## Specifications

- Body Materials:
  - Stainless Steel
- Seat Materials:
  - Reinforced PTFE
  - PEEK
- Seal Materials:
  - Buna-N Rubber
  - Ethylene Propylene Rubber
  - Fluorocarbon Rubber
  - PTFE
  - Grafoil®
- Flow Data:
  - $C_v$ : 1.1 to 35.0
- Pressure Ratings:
  - 2500 psig (172 bar)
- 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)
  - Seals:
    - Buna-N 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)



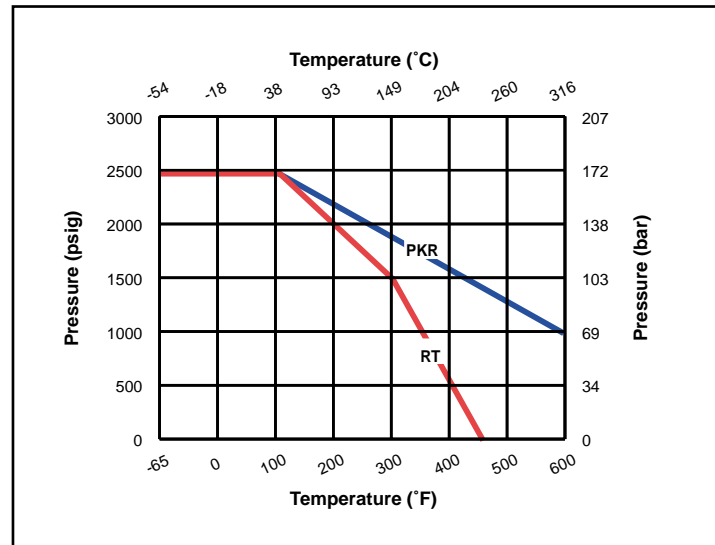
Model Shown:  
4Z-SWB4L-RT-V-SS

## Materials of Construction

Item #	Part	Qty	Material
1	Body	1	ASTM A 351 Grade CF3M
2	Lower Packing	1	PTFE
3	Upper Packing	1	PTFE
4	Packing Support	2	PEEK
5	Packing Gland	1	ASTM A 276 Type 304
6	Stem Spring	4	ASTM A 176 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*
14	Seat	2	Reinforced PTFE, PEEK
15	Seat Spring	2	ASTM A 176 Type 301
16	End Flanges	2	ASTM A 351 Grade CF3M
17	Body Bolts	4	ASTM A 193 Grade B8
18	Body Bolt Nuts	4	ASTM A 194 Grade 8

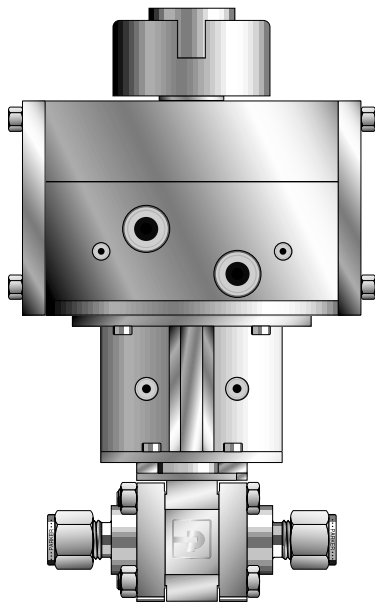
\*Optional body seal materials are described in the How to Order section.

## Pressure vs. Temperature

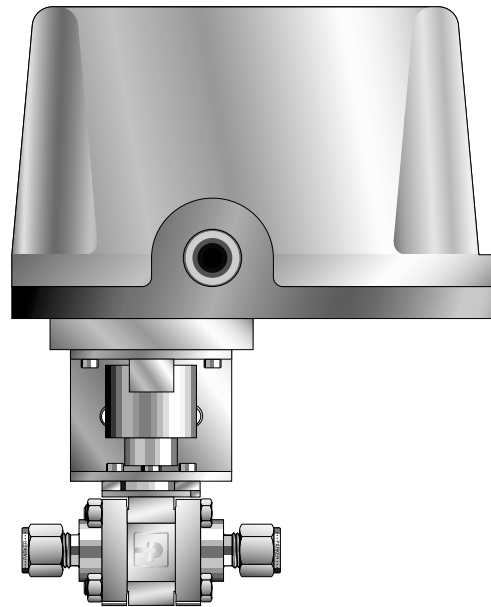


### Notes:

- 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 2 for seal temperature ranges.
- Elastomeric seals are recommended if the application subjects the valve to thermal cycling.



Pneumatic Actuated Model Shown:  
8Z-SWB8L-RT-V-SS-62AD

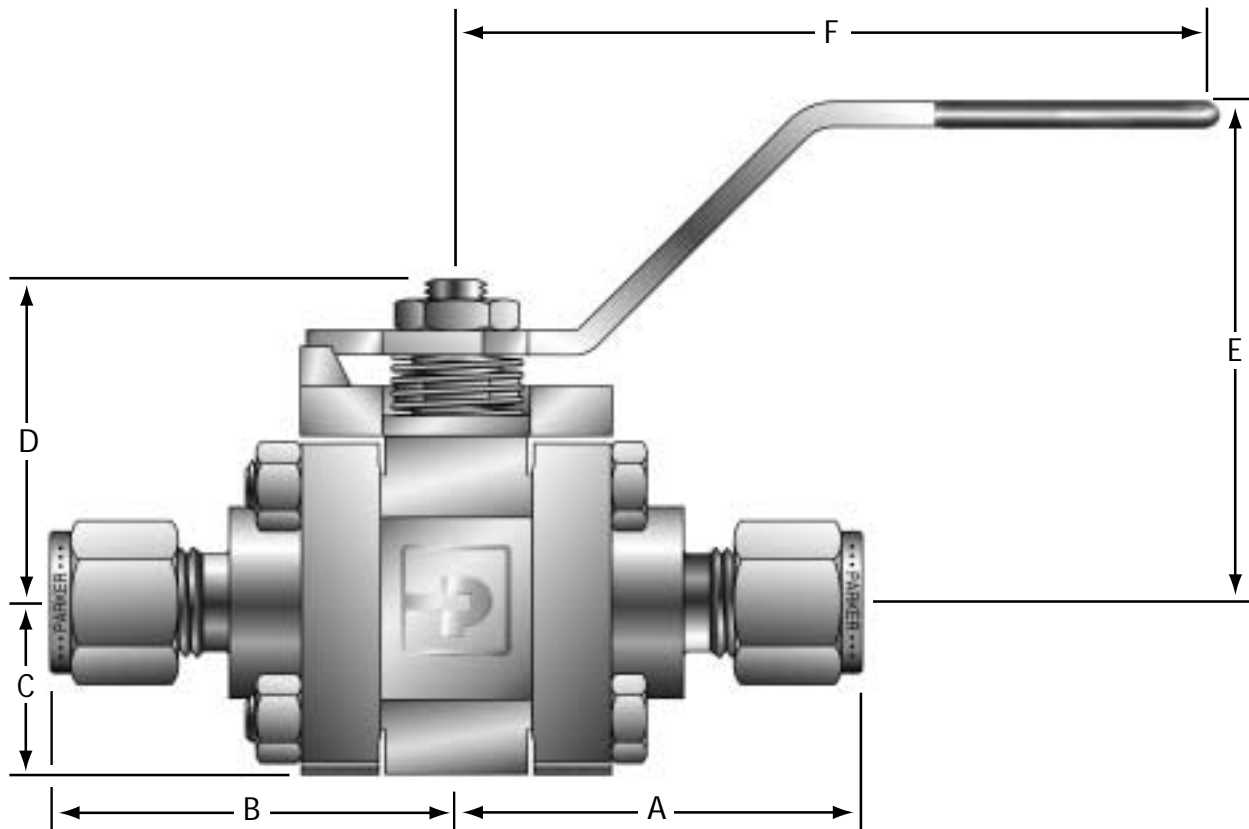


Electric Actuated Model Shown:  
8A-SWB8L-PKR-G-SS-71

## Dimensions / Flow Data

Basic Part Number	Flow Data				Dimensions											
	Orifice		$C_v$	$\chi_T^*$	A†		B†		C		D		E		F	
	Inch	mm			Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm
4Z(A)-SWB4L	0.19	4.8	1.1	0.19	1.59	40.4	1.59	40.4								
4F-SWB4L	0.28	7.1	2.9	0.29	1.09	27.7	1.09	27.7	0.68	17.3	1.28	32.5	2.00	50.8	3.00	76.2
6Z(A)-SWB4L	0.28	7.1	4.5	0.19	1.59	40.4	1.59	40.4								
6F-SWB8L	0.44	11.2	8.2	0.35	1.29	32.8	1.29	32.8								
8Z(A)-SWB8L	0.41	10.4	6.4	0.35	2.03	51.6	2.03	51.6								
8F-SWB8L	0.44	11.2	8.2	0.26	1.29	32.8	1.29	32.8	0.89	22.6	1.54	39.1	2.36	59.9	3.94	100.1
8W-SWB8L	0.41	10.4	6.4	0.35	1.29	32.8	1.29	32.8								
8PBW1-SWB8L	0.44	11.2	8.2	0.26	1.35	34.3	1.35	34.3								
8PSW-SWB12L	0.52	13.2	13.5	0.34	1.35	34.3	1.35	34.3								
12Z(A)-SWB12L	0.56	14.2	14.7	0.28	2.03	51.6	2.03	51.6								
12F-SWB12L	0.56	14.2	14.7	0.28	1.39	35.3	1.39	35.3	1.06	26.9	1.81	46.0	2.59	65.8	3.94	100.1
12W-SWB12L	0.56	14.2	14.7	0.28	1.39	35.3	1.39	35.3								
12PBW1-SWB12L	0.56	14.2	14.7	0.28	1.37	34.8	1.37	34.8								
12PSW-SWB16L	0.88	22.4	35.0	0.29	1.95	49.5	1.95	49.5								
16Z(A)-SWB16L	0.88	22.4	35.0	0.29	2.68	68.1	2.68	68.1								
16F-SWB16L	0.88	22.4	35.0	0.29	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	1.79	45.5	1.79	45.5								
16PBW1-SWB16L	0.88	22.4	35.0	0.29	1.81	46.0	1.81	46.0								

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



# SWB Series Ball Valves

## 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)                    (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.

Port Size	1 Port 1	2 Port 2	3 Valve Series	4 Valve Configuration	5 Seat Material	6 Seal Material	7 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		RT - Glass	EPR - Ethylene	
12	W - Tube Socket Weld		SWB16			Propylene Rubber	
16	PSW - Pipe Socket Weld					Reinforced PTFE	
	PBW1 - Pipe Butt weld (Schedule 10)				G - Grafoil® Gasket		

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

## How to Order Options

**Lever Lock-Out Devices** – Add the suffix **-LD** to the end of the part number to order directly on the valve.

**Example:** 4F-SWB8L-RT-V-SS-LD. For field installation, substitute the correct valve series number after LD.

**Example:** LD-SWB8L

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

**Example:** 6F-SWB8L-PKR-V-SS-S-LD. For field installation, substitute the correct valve series number after LD.

**Example:** S-LD-SWB8L

**Handle Extensions** – Add the suffix **-EXT#**, where # is the length in inches, to the end of the part number to order directly on the valve. **Example:** 6F-SWB8L-PKR-G-SS-EXT4.

**Pneumatic Actuators** – For detailed actuator information, refer to Catalog 4123-PA. For factory assembly, add the actuator part number as the suffix to the valve part number. **Example:** 8F-SWB8L-RT-BN-SS-61AC-2. For field installation, specify the the actuator desired. **Example:** 61AC-2. The appropriate mounting hardware may be obtained by adding the valve series and actuator size to the prefix **MK-**. **Example:** MK-SWB8L-61

**Electric Actuators** – For detailed actuator information, refer to Catalog 4123-EA. For factory assembly, add the actuator part number as the suffix to the valve part number. **Example:** 8A-SWB8L-PKR-EPR-SS-71A. For field installation, specify the actuator desired. **Example:** 71A. The appropriate mounting hardware may be obtained by adding the valve series and actuator series to the prefix **MK-**. **Example:** MK-SWB8L-70.

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11/98-P



Catalog 4125-SWB, 10M, CG, 02/03

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