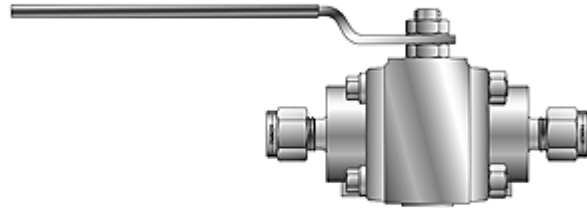


### SWB Series Swing-Out Ball Valve



#### MAXIMUM WORKING PRESSURE AND TEMPERATURE

Valve Size	Maximum Pressure and Temperature	Maximum Temperature and Pressure
SWB4	2500 psig at 70 °F 17.2 MPa at 21 °C	0 psig at 450 °F 0 MPa at 232°C

Always consult your authorized Parker representative if questions arise.

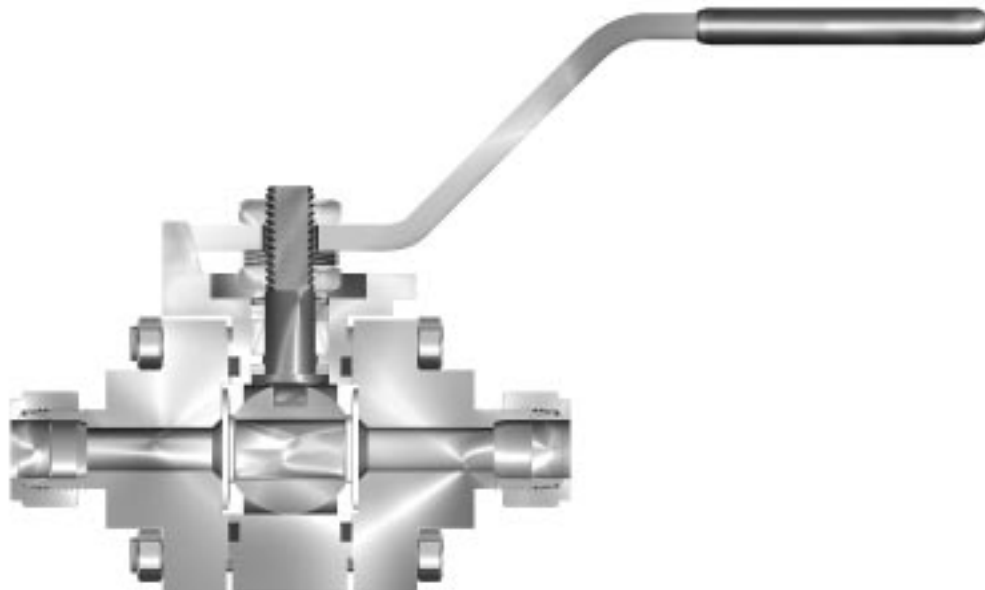


Figure 1: SWB Series Swing-Out Ball Valve Cross Sectional View

**DISASSEMBLY**

**WARNING: MAKE CERTAIN THE SYSTEM IN WHICH THE VALVE IS INSTALLED IS DRAINED AND/OR EX-HAUSTED OF ALL PRESSURE BEFORE STARTING VALVE REMOVAL OR DISASSEMBLY. FAILURE TO DO SO CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.**

Verify that the Maintenance Kit being used is appropriate for the Valve's service requirements. Always contact your authorized Parker representative if any questions arise.

1. Turn the Valve handle to place the Valve in the open position.
2. Remove three (3) flange bolts and hex nuts. Loosen the fourth. Swing the body from between the end flanges.
3. Turn the Valve handle to place the ball in the closed position. Remove the seats, seat springs, o-rings and ball.
4. Remove the upper stem hex nut handle, ground spring and stem springs.
5. Remove the lower stem hex nut. Then remove the stem and thrust washers through the body cavity.
6. Remove the lower packing, upper packing, packing support, packing gland and stem springs from the packing cavity of the body.

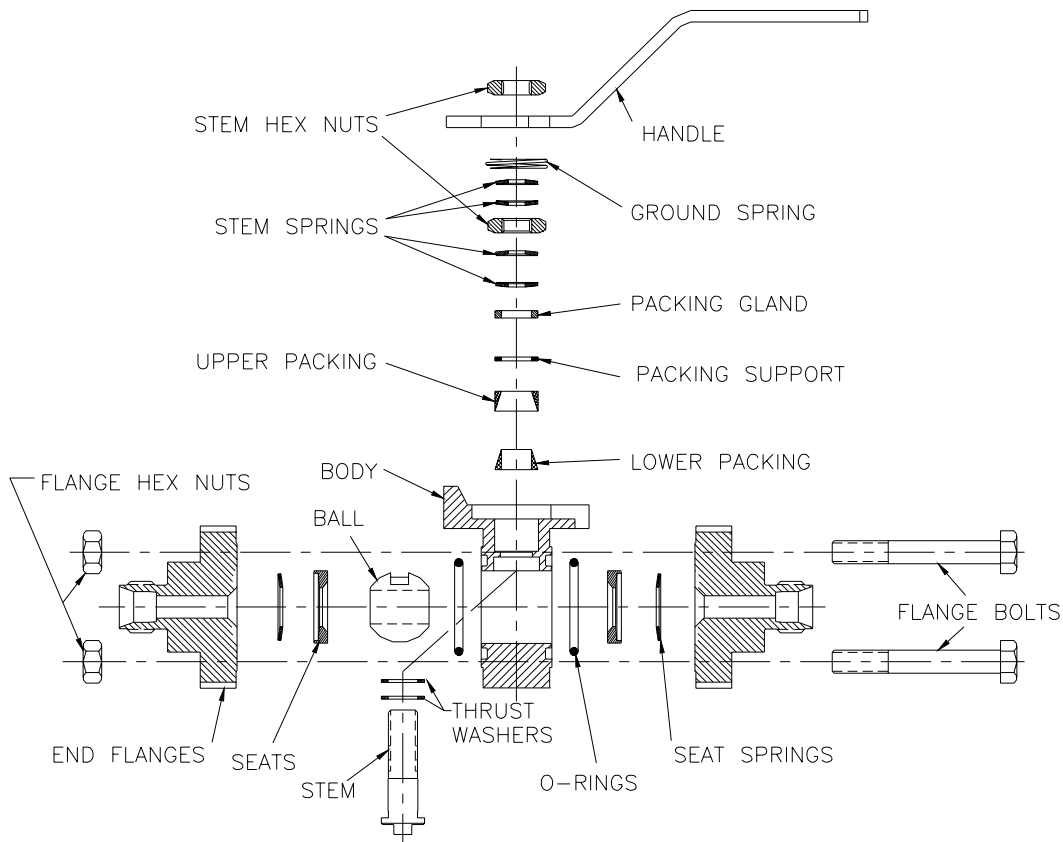


Figure 2: Exploded View of the SB Series Ball Valve

## REASSEMBLY

1. Make certain all parts are free of dirt or other contamination before starting reassembly of the Valve.
2. Lubricate the seats, o-rings, lower and upper packings and hex nut threads with an appropriate lubricant. Always consult your authorized Parker representative if questions arise.
3. Install two (2) packing thrust washers on the stem.
4. Insert the stem with the two (2) thrust washers through the body hole and into the lower body cavity.
5. While holding the stem firmly in place in the body place the following new components onto the stem in the order shown:

- Lower Packing
- Upper Packing
- Packing Support
- Packing Gland
- Two (2) Stem Springs (concave side facing each other)

6. Thread a Stem Hex Nut onto the stem and torque the stem hex nut to:

SWB4	20 In-lbs +2/-2 In-lbs (2.2 N-m +.23/- .23 N-m)
------	--

7. Place two (2) new Stem Springs (concave side facing each other) onto the stem, followed by ground spring and handle
8. Thread a Stem Hex Nut onto the stem and torque the stem hex nut to:

SWB4	37 In-lbs +3/-3 In-lbs (4.17 N-m +.34/- .34 N-m)
------	---

9. Turn the Handle fully clockwise and insert the ball into the body assuring that the slot on the top of the ball is aligned with the tang on the stem. Turn the Handle fully counter-clockwise.
10. Place the two (2) o-rings into the o-ring grooves of the body.
11. Place the seats against the ball with the countersinks which fit the seat springs facing out.
12. Place the seat springs against the seats and into the seat countersink with the concave face of the springs facing out.
13. Swing the flanges into alignment with the body and insert the three (3) flange bolts, which had been removed, through the flanges and body.
14. Thread the three (3) flange hex nuts, which had been removed, onto the flange bolts. Torque all four (4) flange bolts and flange hex nuts to:

SWB4	106 In-lbs +10/-10 In-lbs (12.0 N-m +1.13/-1.13 N-m)
------	---

## VALVE CONNECTOR MAKE-UP INSTRUCTIONS

### MALE AND FEMALE PIPE PORTS

Wrench flats are provided on the Valve Body. It is recommended a smooth-jawed wrench or vise be used to grip the Valve Body.

1. On the male threaded part of the connection, apply a high quality pipe joint compound or PTFE tape made for this purpose. When PTFE tape is used, it is recommended two full turns of tape be applied. PTFE tape should not be overhanging or covering the first thread
2. Engage the Valve and the other component part together, until hand-tight.
3. With a proper wrench, holding both the Valve and the component part, continue to tighten to achieve a leak-tight joint.

### ULTRASEAL CONNECTIONS

1. Insert the proper O-Ring into the UltraSeal fitting's O-Ring groove. Position the UltraSeal gland sealing face against the O-Ring, and then advance the Nut to a finger-tight position.
2. A positive seal is obtained by advancing the Nut no less than 1/4 turn from the finger-tight position. Proper UltraSeal make-up is achieved when a sharp rise in required application torque occurs, which indicates proper seal face contact and O-Ring seal compression into the UltraSeal groove.

### VACUSEAL CONNECTIONS

1. A positive seal is obtained by advancing the Nut 1/8 turn from the finger-tight position.
2. A new gasket should be installed upon each fitting re-make to insure system pressure integrity.

### TUBE FITTING CONNECTIONS

1. Insert the tube into the Valve port until the tube bottoms out in the Valve Body. Care should be exercised to insure the tube is properly aligned with the Valve Body and port.
2. Normal make-up for US Customary port sizes 1 thru 3 (1/16 thru 3/16 inch) and SI port sizes 2 thru 4 (2 thru 4 mm) is 3/4 turn from finger tight. Normal make-up for US Customary port sizes 4 thru 16 (1/4 thru 1 inch) and SI port sizes 5 thru 25 (5 thru 25 mm) is 1 1/4 turn from finger tight. For larger port sizes consult Parker Ferrule Presetting Tool Instructions.

**PLEASE FOLLOW THE ABOVE DIRECTIONS FOR COUNTING THE NUMBER OF TURNS FOR PROPER FITTING MAKE-UP. DO NOT MAKE-UP TUBE FITTINGS BY TORQUE OR "FEEL". VARIABLES SUCH AS TUBING AND FITTING TOLERANCES, TUBE WALL THICKNESS, AND THE LUBRICITY OF NUT LUBRICANTS CAN RESULT IN AN IMPROPERLY ASSEMBLED TUBE FITTING CONNECTION.**

**A** -Two ferrule A-LOK<sup>®</sup> compression port



**Z** -Single ferrule CPI<sup>™</sup> compression port



**F** -ANSI/ASME B1.20.1 Internal pipe threads



**V** -VacuSeal face seal port



**Q** -UltraSeal face seal port



**M** -ANSI/ASME B1.20.1 External pipe threads



---

## WARNING

**FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.**

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

**ALL PARKER VALVES MUST PASS A RIGID OPERATIONAL AND LEAKAGE TEST BEFORE LEAVING THE FACTORY. IT IS RECOMMENDED AFTER ANY REASSEMBLY, THE VALVE SHOULD BE TESTED BY THE USER FOR OPERATION AND LEAKAGE. IF THESE INSTRUCTIONS ARE NOT FULLY COMPLIED WITH, THE REPAIRED PRODUCT MAY FAIL AND CAUSE DAMAGE TO PROPERTY OR INJURY TO PERSONS. PARKER HANNIFIN CANNOT ASSUME RESPONSIBILITY FOR PERFORMANCE OF A CUSTOMER SERVICED VALVE.**



MI-112 Revision -

**Parker Hannifin Corporation**  
Instrumentation Valve Division  
2651 Alabama Highway 21 North  
Jacksonville, AL 36265-9681  
USA  
Phone: (256) 435-2130  
Fax: (256) 435-7718  
[www.parker.com/IVD](http://www.parker.com/IVD)