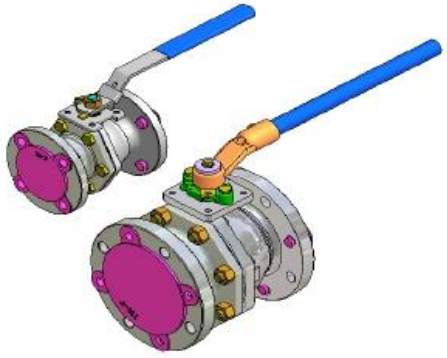
BOSS 203B CLASS 150 Flanged Ball Valves ½”~6”

INSTALLATION, MAINTENANCE AND OPERATING INSTRUCTIONS



Design Features：

1. Lock Device, Stop Pin - for fixing the handle.
2. Stem：Anti-blowout design for preventing ejection.
3. Anti-static devices for ball-stem-body.
4. ISO 5211 Mounting Pad - available for operating actuator.
5. Firesafe Design (Firesafe Approved up ½” - 1”)

WARNING

FOR YOUR SAFETY, IT IS IMPORTANT THAT THE FOLLOWING PRECAUTIONS BE TAKEN PRIOR TO REMOVAL OF THE VALVE FROM THE LINE OR BEFORE ANY DISASSEMBLY.

1. WEAR ANY PROTECTIVE CLOTHING OR EQUIPMENT NORMALLY REQUIRED WHEN WORKING WITH THE FLUID INVOLVED.
2. DEPRESSURIZE THE LINE AND CYCLE THE VALVE AS FOLLOWS：
   - A. PLACE THE VALVE IN THE OPEN POSITION AND DRAIN THE LINE
   - B. CYCLE THE VALVE TO RELIEVE RESIDUAL PRESSURE IN THE BODY CAVITY BEFORE REMOVAL FROM THE LINE.
   - C. AFTER REMOVAL AND BEFORE ANY DISASSEMBLY, CYCLE THE VALVE AGAIN SEVERAL TIMES.
3. THIS VALVE IS NOT USED FOR UNSTABLE GASES, H_2SO_4, HF, HCL AND OTHER DANGEROUS (FLUID) (ANY PROBLEM ABOUT THE FLUID IN USE, PLEASE CONTACT THE MANUFACTURER.)

INSTALLATION

The valve maybe installed for flow in either direction. Use standard piping practices when installing valves with flange parts. Adjust packing prior to installation.

OPERATION

1. The valve can be used under the temperature between -10℃ and 160℃ and shall not be applied under an environment of lower and higher temperature.
2. The valve pressure rating casts on the valve body; user shall make sure the fluid pressure does not exceed valve rated pressure.
3. Any inappropriate operation will cause leakage or other problems; in case of emergency, must release the fluid inside the pipeline and then follow the procedures.
4. Operating torques shall not exceed the data shown on Table 1. Otherwise, it may be over-torque to make the stem bent, and also cause the failure of operational structure.
5. Remote operation will be in accordance with IOM instructions for the relevant actuator.

MAINTENANCE

Periodically observe the valve to be sure of proper performance. More frequent observation is recommended under extreme operating conditions.

Routine maintenance consists of tightening the nut 1/4 turn periodically to compensate for the wear caused by the stem's turning against the resilient RTFE seal.

DISASSEMBLY

A. Disassembly of ½"、¾"、1"、1½"、2"

NOTE：If complete disassembly becomes necessary, replacement of all seats and seals is recommended.

1. Unscrew the lock nut (28) , remove the handle (30) , stop plate (32) , lock pin (39) , See Figure 2.
2. Unscrew the cap bolt (42) , remove the body cap (3) , Take out the seat (11) , ball (7) and body seal (14).
3. Unscrew the gland (26) , Remove the stem packing (15). Then press the stem (8) from the top into the valve body (1) and remove it through the body.
4. Remove the stem seal (12) from stem (8).

B. Disassembly of 2½"、3"、4"、6"

NOTE：If complete disassembly becomes necessity, replacement of all seats and seals is recommended.

1. Unscrew the bolt (43) and handle bolt(45), remove the shakeproof washer (24) , plate washer (21) , handle (30) , pipe (31) , snap ring (36) , stopper (32) ,See Figure 3.
2. Unscrew the stud bolt (42) and nut (29) , remove the body cap (3) , Take out the seat (11) , ball (7) and body seal (14).
3. Unscrew the gland bolt (44) , Remove the gland (26) , stem packing (15). Then press the stem (8) from the top into the valve body (1) and remove it through the body.
4. Remove the stem seal (12) from stem (8).

ASSEMBLY：

The following instructions are for in-line assembly. For bench assembly, which may be more convenient.

A. Assembly of ½"、¾"、1"、1½"、2"

1. Air-blasting the valve body (1). Insert the spring (33), plunger (35) , stem seal (12) into the stem (8). Put seat (11) in the body (1).
2. Then insert the stem (8) into the stem bore and up out the top of the valve.
3. Place a wrench through the body on the bottom of the stem blade to hold the stem stationary. Then, install the stem packing (15) , gland (26) into the stem (8) and tighten the gland (26) until snug.
4. Align the stem blade inside the valve body (1) with the ball (7). Insert the ball (7) and rotate the stem (8) to the fully closed position.
5. Place a seat (11) into the valve body (1). Push the seat (11) snugly against the closed ball (7).
6. Place a body seal (14) into the machined sealing groove of the body (1). Be certain the groove and seal are clean.
7. Swing the entire body assembly back into the properly aligned and interlocked the body cap (3), being careful not to scratch the body seal (14). The body cap (3) may have to be spread slightly to accept the valve body (1).
8. Turn the ball (7) a round at least.
9. Install lock pin (39) into the body (1) and place the stop plate (32) and handle (30) over the stem (8). Insert the lock nut (28) into the stem (8). Tighten the lock nut (28) until snug.
10. Cycle the valve slowly twice to endure permanent position of the ball between the two seats.

B. Assembly of 2½"、3"、4"、6"

1. Air-blasting the valve body (1). Insert the spring (33) , plunger (35) , stem seal (12) into the stem (8). Put seat (11)in the body (1) .
2. Then insert the stem (8) into the stem bore and up out the top of the valve.
3. Place a wrench through the body on the bottom of the stem blade to hold the stem stationary. Then, install the stem packing (15) , gland (26) into the stem (8). Insert the gland bolt (44) into the gland (26) and tighten the gland bolt (44) until snug.
4. Align the stem blade inside the valve body (1) with the ball (7). Insert the ball (7) and rotate the stem (8) to the fully closed position.
5. Place a seat (11) into the valve body (1). Push the seat (11) snugly against the closed ball (7).
6. Place a body seal (14) into the machined sealing groove of the body (1). Be certain the groove and seal are clean.
7. Swing the entire body assembly back into the properly aligned and interlocked the body cap

(3) , being careful not to scratch the body seal (14).,bolt the valve together with cap bolts (42), and cap nuts (29). The body cap (3) may have to be spread slightly to accept the valve body (1).

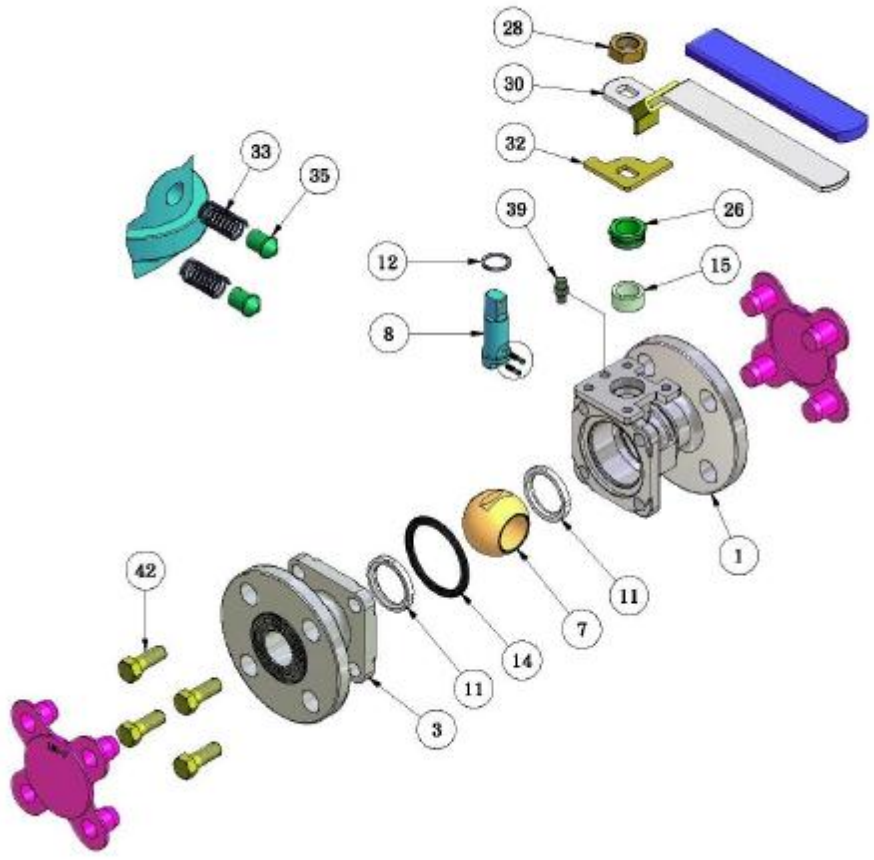
8. Turn the ball (7) a round at least.
9. Install the stopper (32), snap ring (36), handle (30), plate washer (21) and shakeproof washer (24) over the stem (8). Insert the bolt (43) into the stem (8). Tighten the bolt (43) until snug.
10. Cycle the valve slowly twice to endure permanent position of the ball between the two seats.

TABLE 1

Valve size	Maximum Operating Torque (in- lbf)
½"	100
¾"	150
1"	250
1½"	400
2"	500
2½"	900
3"	1200
4"	1400
6"	3000

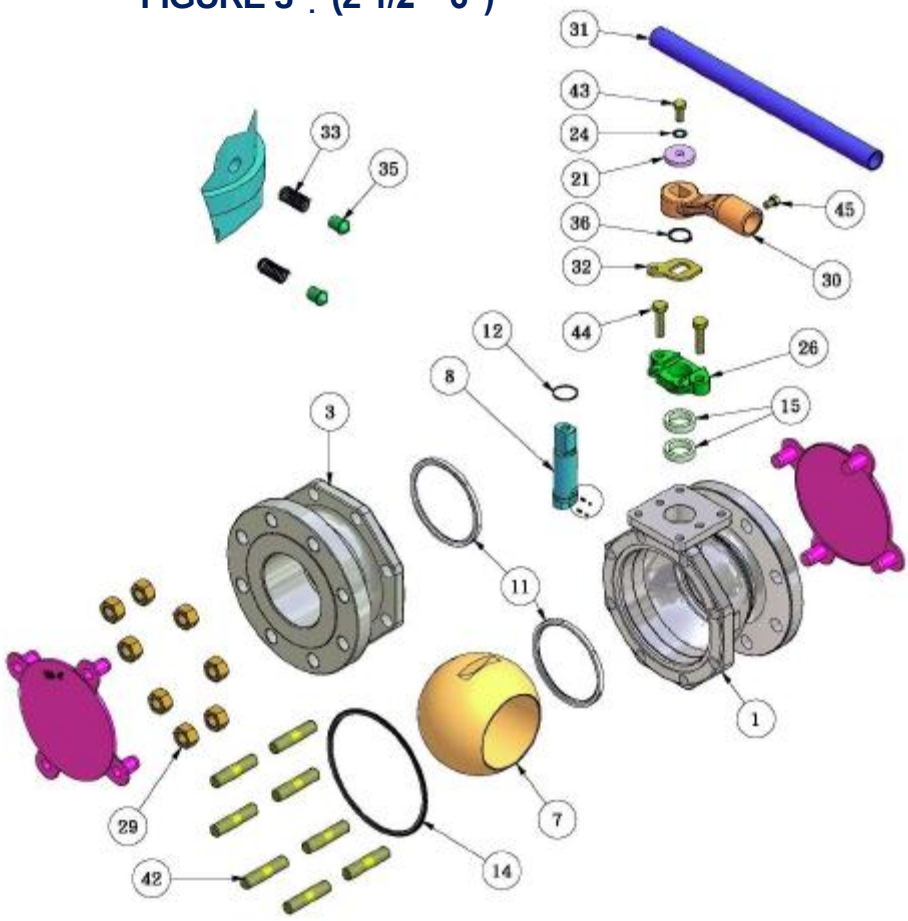
ITEM	PART NAME	Q'TY
1	BODY	1
3	BODY CAP	1
7	BALL	1
8	STEM	1
11	SEAT	2
12	STEM SEAL	1
14	BODY SEAL	1
15	STEM PACKING	1 SET
26	GLAND	1
28	LOCK NUT	1
30	HANDLE	1
32	STOP PLATE	1
33	SPRING	2
35	PLUNGER	2
39	LOCK PIN	1
42	CAP BOLT	1 SET

FIGURE 2 : 1/2"~2"



ITEM	PART NAME	Q'TY
1	BODY	1
3	BODY CAP	1
7	BALL	1
8	STEM	1
11	SEAT	2
12	STEM SEAL	1
14	BODY SEAL	1
15	STEM PACKING	1 SET
21	PLATE WASHER	1
24	SHAKEPROOF WASHER	1
26	GLAND	1
29	NUT	1 SET
30	HANDLE	1
31	PIPE	1
32	STOPPER	1
33	SPRING	2
35	PLUNGER	2
36	SNAP RING	1
42	STUD BOLT	1 SET
43	BOLT	1
44	GLAND BOLT	2
45	HANDLE BOLT	1

FIGURE 3 : (2 1/2"~6")



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