









Size	OAL
1/2"	3.50
3/4"	3.98
1"	4.49
1-1/2"	5.51
2"	6.14
2-1/2"	7.76
3"	9.02
4"	9.57
	1/2" 3/4" 1" 1-1/2" 2" 2-1/2" 3"

Disassembly Instructions

- 1) Remove the nut and washer (items 9 & 10), slide of the manual handle (item 11).
- 2) Place the handle (item 11) back on the stem (item 13) and turn the handle to close the valve.
- 3) Remove the handle (item 11) and gland hex nut (item 8), then tip the valve upside down to retrieve the stem packing (item 15).
- 4) Remove the bolt nuts and washers (items 16 & 17). Pull off the flange tail pieces (item 1).
- 5) Rotate and push the ball towards the ball seats (item 3), creating some movement on the seats. Once one of the ball seats (item 3) moves out of the valve body (item 4), press the ball seat out of the valve body with your fingers.
- 6) The ball (item 5) should now fall out of the body. Push the remaining ball seat (item 3) out of the valve from the open end.
- 7) Push the stem (item 13) down from the top into the valve, and remove it along with the thrust washer (item 14)
- 8) The valve is now fully disassembled.

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Manual Ball Valves









Assembly Instructions

- 1) Slide the thrust washer (item 14) over the stem (item 13). Holding the stem threads up, guide the stem from inside the body (item 4) up through the center hole. Turn the stem to align the key along the flow direction.
- 2) Drop the stem packing washers (item 15), then the gland hex nut (item 8) onto the stem from the top. Hand-tighten the gland hex nut (item 8) while making sure the stem key remains in position.
- 3) Slide the ball (item 5) into the valve, making sure the slot on the ball centers on the stem key. Press one ball seat (item 3) into the body. Place the Teflon™ gasket (item 2) on the body (item 4).
- 4) Align the first valve flange tail piece (item 1) with the bolt holes of the valve body, on the same side that the ball seat (item 3) was inserted in step 3.
- 5) Flip the sub assembly over, placing the clamp face of the first flange tail piece (item 1) down on a flat surface. Slide the opposite side ball seat (item 3) into the valve body. Place the Teflon™ gasket (item 2) on the body (item 4)
- 6) Align the opposite valve flange tail piece (item 1) with the bolt holes of the valve body (item 4). Slide the bolts (item 6) through the top valve flange to the bottom flange. Handtighten the washers and nuts (items 17 & 18) onto the bolts (item 6).
- 7) Tighten down the gland hex nut (item 8) and bolts (item 6).
- 8) Drop the handle (item 11) down onto the stem. Thread in the stopper pin (item 7) onto the mounting pad of the valve. Drop the washer (item 9) on the stem over the handle, then thread the hex nut (item 10) onto the stem (item 13).
- 9) Turn the handle and inspect the ball to ensure the proper open and close positions. The handle should hit the stopper pin (item 7) in fully open and fully closed positions.