



61/62 Series 3 & 4 Way Ball Valve

INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS.

The following instructions refer to Habonim 61/62 Series 3 & 4 way ball valves.

RECEPTION

Prior to installation, inspect the valve for shipping damage. Keep protective covers in place until installation of valve to pipe line. Valves with screwed ends should be treated as a single unit, and should not be dismantled when installing to pipeline. Regular joining material in correct quantities should be used. When "back-welding" is required on screwed valves, they must be dismantled and treated as weld-end valves. Please refer to the Bulletin "Habonim Welding Instructions".

PRIOR TO INSTALATION

The installation procedure for ball valves is critical to ensure long life and satisfactory performance. Valves stored on site awaiting installation should be kept in their original packing, in dry conditions, where damage will not occur. Before carrying out the installation, it is important to follow the basic procedures described below:

1. Read all the literature and note any special warning tags or plates attached to the valve.
2. Carefully unpack the valve and check for identification tags.
3. Check the valve for any indication of flow direction to install the valve in the proper flow orientation.
4. Inspect the valve interior through the end ports to determine whether it is clean and free from foreign matter.
5. Before installation cycle the valve and inspect its functionality. Do not leave the valve in the partially open position.
6. The valve should be screwed on to the pipeline using a standard pipe wrench or spanner. Avoid excessive tightening.

OPERATION

Valve operation works by operating the valve handle 90° or 180° turn. On manually operated valves the handle resembles the flow direction in the pipeline.

MAINTENANCE

HABONIM valves have a long and trouble free life, and maintenance is seldom required. When maintenance is necessary, valves can be refurbished on site.

To extend valve performance and reduce possible plant problems, the following procedures should be followed.

Handle all parts carefully and clean before reassemble. Check ball, stem, and body bolts for wear, corrosion or damage.

PRIOR TO DISMANTLING VALVE

If leakage is noticed at the stem area, tighten the gland nut 1/12 turn at a time, until leakage ceases.

Should the leakage continue, the valve body would require to be disassembled to replace faulty stem seals.



Valves that exhibit through seat leakage or high operating torques may be damaged. The media flowing through a pipeline may be toxic, corrosive, flammable or of a contaminant nature. Utmost care has to be taken when there is harmful media flowing through the valve. The following safety precautions are recommended when dismantling valves with hazardous media:

SAFETY PRECAUTIONS:

1. Always wear eye shield.
2. Always wear protective headgear.
3. Always wear protective clothing & gloves.
4. Wear protective footwear.
5. Have available running water.
6. Have a suitable fire extinguisher when media is flammable.

REFURBISHING

When a valve requires refurbishing rather than servicing, only HABONIM authorized spare parts should be used.

Refurbishing kits from Habonim consist of the following:

- 1) Seat ring x 4
- 2) Gland packing x 2 or 3
- 3) Stem thrust ring x 1
- 4) Body seals x 4
- 5) Seat retainer seals x 4

In addition to refurbishing or maintenance kits, spare parts available from Habonim are:

Valve balls, stems, glands, bolts, screws and nuts. Should additional parts be required, it is generally recommended that the complete valve be replaced.

When ordering repair kits, give the valve size, the seat ring material required.

Follow the instructions below:

1. Cycle the valve with the line pressure fully relieved before attempting to remove the valve from the pipeline, to insure pressure has also been discharged from the valve cavity.
2. Remove the body screws from all end connectors.
3. Remove the body from between the end connectors taking care not to let the seat retainers fall out.
4. Remove and discard of the seat retainer rings.
5. Remove the seat retainers from the body discard of the seats and body seals.
6. Remove the ball out of the body taking care not to let it fall. Set the ball aside in clean secure area for reuse.
7. Stem assembly - remove the wrench nut, serrated washer, handle, locking clip, gland nut, disk springs, gland and gland packing. Care being taken not to scratch or nick the packing bore area of the body.
8. Place all components removed, in clean secure area.
9. Push the stem down into the body and remove it to a clean secure area.
10. Discard of the stem thrust ring and stem seals.
11. Clean the stem and packing bore area, taking care not to damage them.
12. Lubricate the new stem thrust ring and packing, with appropriate lubricant (Molycote 33 - thin smear).
13. Place the stem thrust ring on the stem and insert the stem up into the center body.
14. Insert the new packing over the stem and into the body bore. Place the gland and two disk springs onto the stem. The first spring concave side down and the second spring concave side up.



15. Thread the gland nut onto the stem. Tighten the gland nut to the torque figures (table 1).
16. Place the locking clip on the gland nut by adjusting the orientation of the nut (in the clockwise direction).
17. Place the handle, serrated washer and thread the wrench nut on the stem.
18. Bring the handle to the closed position to insert the ball.
19. Place the ball in the center body until the stem tang is engaged.
20. Place two opposing seat retainers with the seats and body seals into the body bore.
21. Place the seat retainer seals in the seat retainer groove.
22. Place the other two seat retainers with the seats and body seals into the body bore.
23. Place the seat retainer seals in the seat retainer groove.
24. Place the body with the 4 retainers between the end connectors, taking care not to drop the seals and thread the body screws to the body.
25. Tighten two opposing ends to the torque figures (table 2). Make sure that the ball is aligned to the valve center bore. Tighten the screws diagonally in a criss-cross pattern to assure correct alignment of the end to the seat retainer.
26. Tighten the remaining other two opposing ends to the torque figures (table 2) in the same manner.
27. Leave the valve in the open position for flushing the line.

Gland Nut Tightening Torque's (table 1)

Valve size	Thread	Torque	
		N.m	In.Lb
1/2" - 3/4"	3/8" - 24 UNF	6	□□
1" - 1 1/4"	7/16" - 20 UNF	9	□□
1 1/2" - 2"	9/16" - 18 UNF	13	□□□

Body Bolt Tightening Torque's (table 2)

Valve size	Bolt	Torque C/S		Torque S/S	
		N.m	In.lb	N.m	In.lb
1/2" - 3/4"	M6	10	88.6	9	80
1" - 1 1/4"	M8	22	195	19	168
1 1/2" - 2"	M10	45	399	39	345