

Jamesbury™ flanged ball valves equipped with KEROTEST™ handle assemblies for: Series 7000, Model A, Standard Bore, Class 150 & 300, 3" - 6" (DN 80 - 150)

Installation, maintenance and
operating instructions

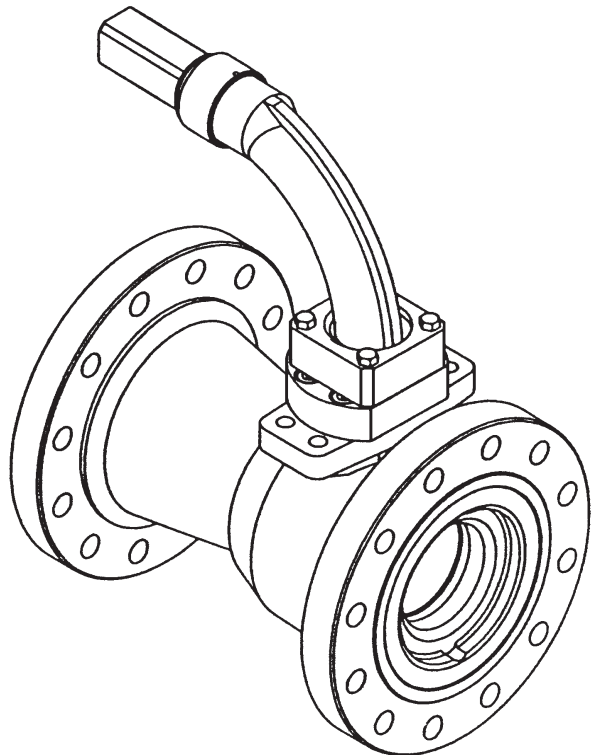


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READ THESE INSTRUCTIONS FIRST!

These instructions provide information about safe handling and operation of the valve.

If you require additional assistance, please contact the manufacturer or manufacturer's representative.

SAVE THESE INSTRUCTIONS!

Addresses and phone numbers are printed on the back cover.

1. GENERAL

This instruction manual contains important information regarding the installation, maintenance, and troubleshooting of Jamesbury™ Standard Bore Series 7150, 730S, and 7300 Flanged Ball Valves equipped with *Kerotest* Handles. Please read the instructions carefully and save them for future reference.

WARNING:

AS THE USE OF THE VALVE IS APPLICATION SPECIFIC, A NUMBER OF FACTORS SHOULD BE TAKEN INTO ACCOUNT WHEN SELECTING A VALVE FOR A GIVEN APPLICATION. THEREFORE, SOME OF THE SITUATIONS IN WHICH THE VALVES ARE USED ARE OUTSIDE THE SCOPE OF THIS MANUAL. IF YOU HAVE ANY QUESTIONS CONCERNING THE USE, APPLICATION OR COMPATIBILITY OF THE VALVE WITH THE INTENDED SERVICE, CONTACT VALMET FOR MORE INFORMATION.

1.1 SAFETY PRECAUTIONS

WARNING:

DO NOT EXCEED THE VALVE PERFORMANCE LIMITATIONS!

EXCEEDING THE PRESSURE OR TEMPERATURE LIMITATIONS MARKED ON THE VALVE IDENTIFICATION PLATE MAY CAUSE DAMAGE AND LEAD TO UNCONTROLLED PRESSURE RELEASE, DAMAGE OR PERSONAL INJURY MAY RESULT.

WARNING:

SEAT AND BODY RATINGS!

THE PRACTICAL AND SAFE USE OF THIS PRODUCT IS DETERMINED BY BOTH THE SEAT AND BODY RATINGS. READ THE IDENTIFICATION PLATE AND CHECK BOTH RATINGS. THIS PRODUCT IS AVAILABLE WITH A VARIETY OF SEAT MATERIALS. SOME OF THE SEAT MATERIALS HAVE PRESSURE RATINGS THAT ARE LESS THAN THE BODY RATINGS. ALL OF THE BODY AND SEAT RATINGS ARE DEPENDENT ON VALVE TYPE AND SIZE, SEAT MATERIAL, AND TEMPERATURE. DO NOT EXCEED THESE RATINGS!

WARNING:

BEWARE OF BALL MOVEMENT!

KEEP HANDS, OTHER PARTS OF THE BODY, TOOLS AND OTHER OBJECTS OUT OF THE OPEN FLOW PORT. LEAVE NO FOREIGN OBJECTS INSIDE THE PIPELINE. WHEN THE VALVE IS ACTUATED, THE BALL FUNCTIONS AS A CUTTING DEVICE. DISCONNECT ANY PNEUMATIC SUPPLY LINES, ANY ELECTRICAL POWER SOURCES AND MAKE SURE SPRINGS IN SPRINGRETURN ACTUATORS ARE IN THE FULL EXTENDED/ RELAXED STATE BEFORE PERFORMING ANY VALVE MAINTENANCE. FAILURE TO DO THIS MAY RESULT IN DAMAGE OR PERSONAL INJURY!

WARNING:

WHEN HANDLING THE VALVE OR VALVE/ACTUATOR ASSEMBLY, TAKE ITS WEIGHT INTO ACCOUNT! REFERENCE THE APPLICABLE TECHNICAL BULLETIN FOR VALVE WEIGHTS.

NEVER LIFT THE VALVE OR VALVE/ACTUATOR ASSEMBLY BY THE ACTUATOR, POSITIONER, LIMIT SWITCH OR THEIR PIPING. PLACE LIFTING DEVICES SECURELY AROUND THE VALVE BODY. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN DAMAGE OR PERSONAL INJURY FROM FALLING PARTS.

1.2 INSTALLATION

Flow through this *Jamesbury* valve can be in either direction. It is recommended, however, that the valve be installed with the insert facing upstream.

WARNING:

THE VALVE SHOULD BE TIGHTENED BETWEEN FLANGES USING APPROPRIATE GASKETS AND FASTENERS COMPATIBLE WITH THE APPLICATION, AND IN COMPLIANCE WITH APPLICABLE PIPING CODES AND STANDARDS. CENTER THE FLANGE GASKETS CAREFULLY WHEN FITTING THE VALVE BETWEEN FLANGES. DO NOT ATTEMPT TO CORRECT PIPELINE MISALIGNMENT BY MEANS OF FLANGE BOLTING!

2. MAINTENANCE

Although *Jamesbury* valves are designed to work under severe conditions, proper preventative maintenance can significantly help to prevent unplanned downtime and in real terms reduce the total cost of ownership. Valmet recommends inspecting valves at least every five (5) years. The inspection and maintenance frequency depends on the actual application and process condition.

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.

2.1 KEROTEST HANDLE DISASSEMBLY

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

1. When performing any work on this valve, use normal safety precautions to protect yourself against residual fluid or trapped pressure in the line.
2. Depressurize and drain the line. CYCLE THE VALVE SEVERAL TIMES BEFORE DOING ANY WORK. This will relieve any pressure still inside the valve.
3. Remove the valve from the line and cycle the valve several times again leaving in the closed position.
4. Place the valve in the open position.
5. Disassembly of *Kerotest* Handle.
 - A. Remove set screw (28) loosen handle (11). **DO NOT REMOVE.**
 - B. Loosen four cover fasteners (22). **DO NOT REMOVE.**
 - C. Remove handle (11) from the housing (9).
 - D. Remove bearing (25) from housing and remove gasket (27) from the handle.
 - E. Remove four fasteners (22). **NOTE:** With weld-on bonnets remove the four nuts (23) as well.
 - F. Slip cover (8) over housing (9) and remove.
 - G. Remove housing (9) from bellows (7). Remember that the I.D. of the housing mates with O-ring (16) of the bonnet to provide an O-ring seal.
 - H. Remove bearing (18) from cover (8).

- I. Remove bellows screws (21).
- J. Remove bellows (7). Take care not to scratch or kink bellows.
- K. Remove bearing (26) from end of handle stem (4).
- L. Remove handle stem (4).
- M. Remove housing seal O-ring (16) from bonnet hub.
- N. Remove bearing (18) from bonnet.
- O. Remove bellows seal O-ring (15) from bonnet face.
- P. Remove handle bearing (14) from bonnet bore.
- Q. **NOTE:** With bolt-on bonnet extensions, remove the four bonnet screws (20), the bonnet extension (10) and the bonnet seal (17).

2.2 DISASSEMBLY OF VALVE

Tools needed to disassemble *Jamesbury* valves such as the "insert field wrench" mentioned in step 2 and shown in (**Figure 6**), may be ordered as (kit MA0026426) for 3" & 4" (DN 80 & 100) Series 7000, and (kit MA0185235) for 6" (DN 150) Series 7000 from your local Valmet distributor.

NOTE: If complete disassembly becomes necessary, replacement of all seats and seals is recommended. Refer to the Repair Kit chart (**See Table 1 in IMO-299**).

1. Follow the steps in the **WARNING** sections before performing any work on the valve.
2. The insert design requires that the insert be unthreaded in a counterclockwise motion using the following method using the insert field: Assemble the field wrench as follows, (**refer to Figure 6**):
 - A. Place driver (A) into the insert slots.
 - B. Put the plate (C) on top of the driver (A).
 - C. Place the studs (E) through the plate (C) and flange holes. Thread the nuts (F) onto the stud below the flange.
 - D. On the top side of the plate (C) put a flat washer (G), die spring (H), flat washer (G) and nut (F). Tighten to slightly compress springs.
3. Place a pipe or rod that will tightly fit thru the hole in the driver (A) and loosen the insert by turning counterclockwise. Ensure the pipe or rod is of sufficient strength so as not yield or break during the loosening operation.

NOTE: Use caution when loosening the insert, especially during the initial break.

4. Remove the tool and lift out the insert.
5. Place the valve in the vertical position with the insert end up.
6. Lift out the body gasket (12), seat (6) and ball (5). Rotate the stem so that the ball is in the closed position for removal. The spring (36), which is between the bottom of the stem (3) and ball (5), may fall out at this time. If the spring does fall out with the ball, remove it from the stem to prevent it from being lost.
7. Carefully remove the bottom seat (6) out of the body, **BEING CAREFUL NOT TO SCRATCH THE BODY SEALING SURFACE BEHIND THE SEAT.**
8. Push the stem (3) from the top into the valve body and remove it through the insert end of the body.

9. Remove and discard the thrust bearings (70) and secondary stem seal (13), **BEING CAREFUL NOT TO SCRATCH ANY SEALING SURFACE IN THE BODY.**

2.3 ASSEMBLY

A good lubricant compatible with the flow medium **MUST** be applied to the insert threads to prevent galling during assembly. A good lubricant compatible with the flow medium should be applied to all seats, seals and the ball to facilitate assembly and for initial operation.

1. Clean all valve components.
2. Inspect all components for damage before reassembling the valve. Look for damage to the sealing areas, stem, body and body cap, and look for wear in the bearing areas. Replace any damaged parts.
3. Carefully clean and polish the ball seating surface. It should be free of all scratches and grooves.
4. If the ball is slightly damaged, it may be possible to smooth the sealing surface with crocus cloth or equivalent. If deep scratches are present, replace the ball.
5. Slide one valve seat (6) sideways into the body (1) to below the stem bore, and tilt it into place so that the proper surface (see Figure 4) will be adjacent to the ball (5), being careful not to cut or scratch the seat.
6. From the inside, insert the thrust bearing (70), secondary stem seal (13), and the second of two thrust bearings into the stem bore.
7. Insert the stem (3) through the insert end of the body (1), being careful not to scratch the thrust bearing, and press it gently up into the stem bore until resistance is felt from the thrust bearing.

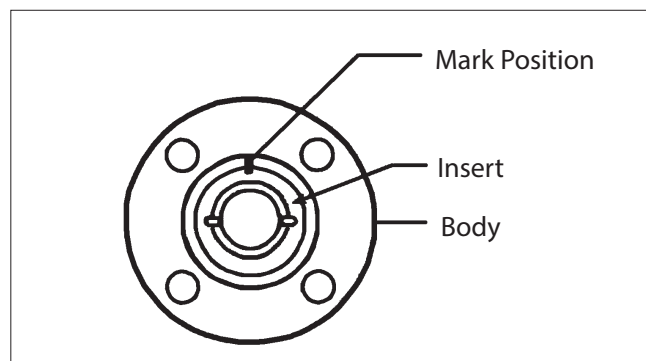


Figure 1.

8. Screw the insert (2) into the body until it is fully seated and then mark its position as shown in **Figure 1**. Counting the number of turns, remove the insert.
9. Place the valve in a vertical position, insert end up, on a clean surface such as a folded rag or a piece of cardboard. Place the spring (36) in the hole in the bottom of the stem (3). Insert the ball (5) rotating it onto the stem (3) in the closed position, being careful not to dislodge the spring from the stem. If necessary, turn the stem blade to align with the ball slot. Make certain that the stem blade is in the middle of the ball slot, i.e., equal distance from the ends of the slot. Rotate the ball if necessary (see Figure 3).

10. Place the second seat (6) into the insert (2) with the proper surface adjacent to the ball.
11. Insert the body gasket (12) into the body, and gently press it into the groove.
12. Apply a lubricant compatible with the flowing medium to the insert threads and screw the insert (2) into the body. The tightening of the insert should be done using the insert field wrench. The insert must be tightened the same number of turns as in Step 5, insuring that the marks are no more than 1/8" (3.2 mm) apart, as shown in (Figure 2).

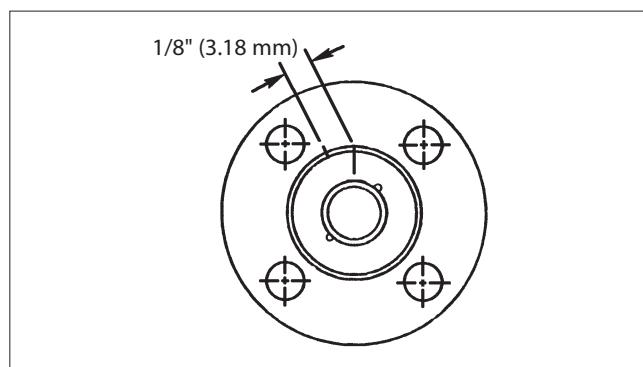


Figure 2.

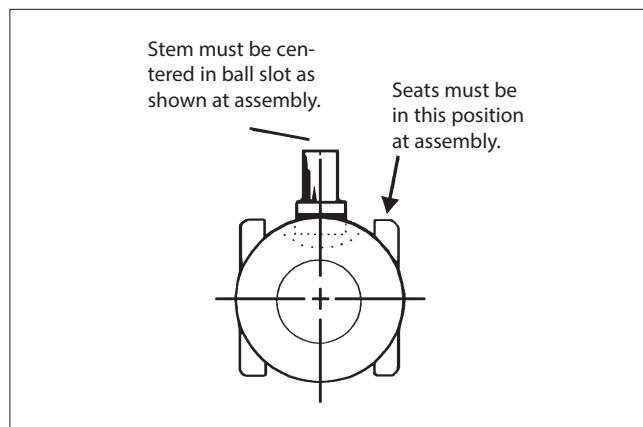


Figure 3.

13. Assembly of *Kerotest* Handle Assembly to Valve.

NOTE: With bolt-on bonnet extensions assemble bonnet seal (17) to the valve bonnet prior to bolting the bonnet extension (10) to the valve with the four bonnet screws (20). Tighten to 7.5 lb.-ft. (10 Nm) using a cross pattern.

- A. Assemble bearing (18) to bonnet hub.
- B. Assemble housing seal O-ring (16) into the groove in the bonnet hub.
- C. Assemble bellows seal O-ring (15) to bonnet face groove.
- D. Insert handle bearing (14) into the bonnet bore.
- E. Insert the blade end of the handle stem (4) through the bonnet bore until it fully engages the slot in the inner stem (3).
- F. Push the bearing (26) onto the end of the stem.
- G. Slip the bellows (7) over the installed handle stem (4). Align the leak off hole in the bellows flange with the leak off hole in the bonnet face.

- H. Secure the bellows (7) to the bonnet using the bellows screws (21). Tighten the bellows screws to 2 in.-lbs. (33 Nm) using a cross pattern.
- I. Slip the housing (9) over the installed bellows (7). Take care to avoid damaging the housing seal O-ring (16).
- J. Install the second bearing (18) into the cover (8).
- K. Slip the cover (8) with the bearing (18) installed, over the housing (9) making sure that the housing rib lines up with the cover stop.
- L. Fasten the cover (8) to the bonnet flange using the cover screws (22) and cover nut (23), (weld on bonnet only). Tighten to 20 lb.-ft. (27 Nm) using a cross pattern. Cycle the valve several times during the fastening process to eliminate any binding of the valves' moving parts.
- M. Push the bearing (25) onto the end of the installed bellows (7). The bearing should protrude about 1/8" (3.2 mm) from the end of the housing (9).
- N. Slip the gasket (27) over the protruding bearing (25).
- O. Screw the handle (11) on to the housing (9). Tighten with a Strap Wrench to 25 lb-ft minimum.
- P. Secure the handle (11) to the housing (9) with the set screw (28).
- Q. Open the valve.
- R. Torque the cover screws (22) to 64 lb-ft using a cross pattern. Cycle the valve to be sure that no moving parts bind.

3. REPAIR KITS/SPARE PARTS

We recommend that valves be directed to our service centers for maintenance. The service centers are equipped to provide rapid turn-around at a reasonable cost and offer new valve warranty with all reconditioned valves.

NOTE: When sending goods to the service center for repair, do not disassemble them. Clean the valve carefully and flush the valve internals. Include the material safety datasheet(s) (MSDS) for all media flowing through the valve. Valves sent to the service center without MSDS datasheet(s) will not be accepted. Send valves to the service center in the half open position.

For further information on spare parts and service or assistance visit our web-site at www.valmet.com/flowcontrol/valves.

NOTE: When ordering spare parts, always include the following information:

- a. Valve catalog code from identification plate,
- b. If the valve is serialized – the serial number (from identification plate)
- c. From **Figure 4**, the ballooned part number, part name and quantity required.

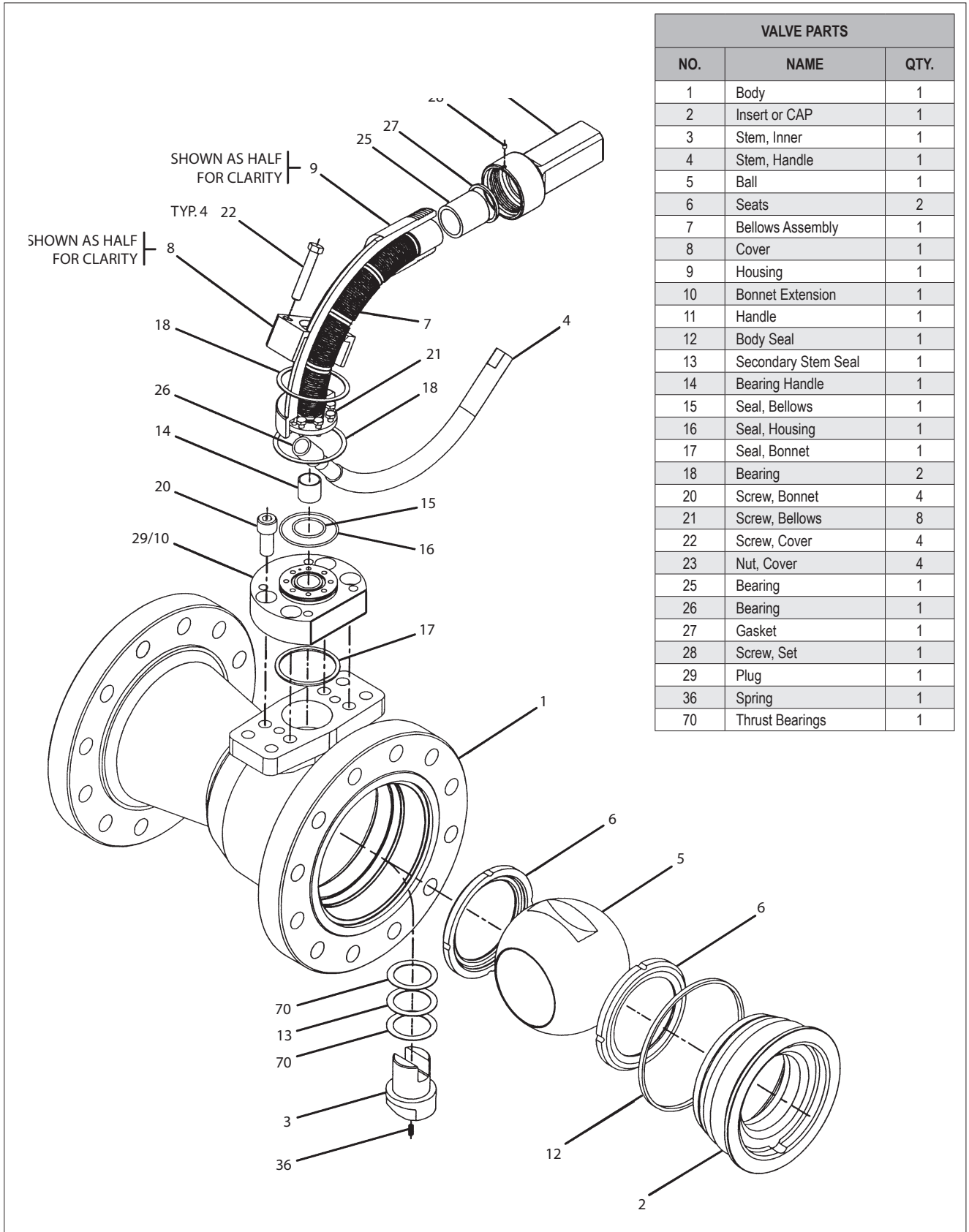
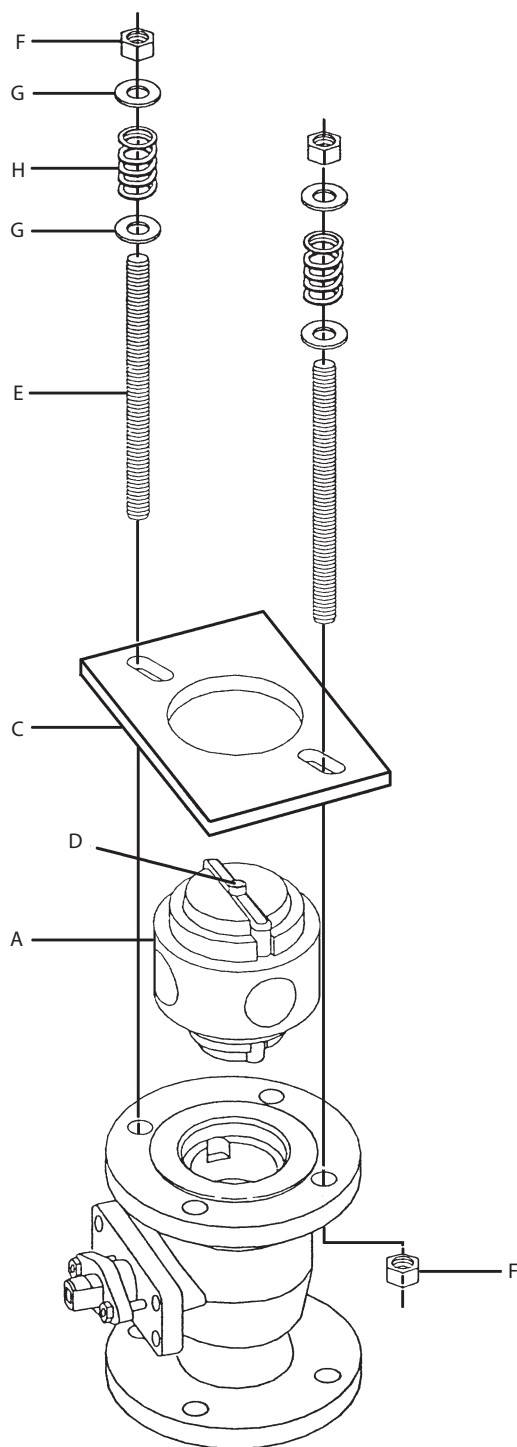


Figure 4.



INSERT FIELD WRENCH PARTS LIST

3" & 4" (DN 80 & 100) =

Kit # MA0026426

6" (DN 150) =

Kit # MA0185235

ITEM	DESCRIPTION	QTY.
A	Driver	1
C	Plate	1
D	Socket-Head Cap Screw	2
E	Threaded Rod	2
F	Hex Nut	4
G	Flat Washer	4
H	Die Spring	2

Figure 5.

Subject to change without prior notice.

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