

Jamesbury™ flanged ball valves

Series 7000, Model A, Standard bore,
Class 150 & 300, 3" - 6" (DN 80 - 150)

Installation, maintenance and
operating instructions

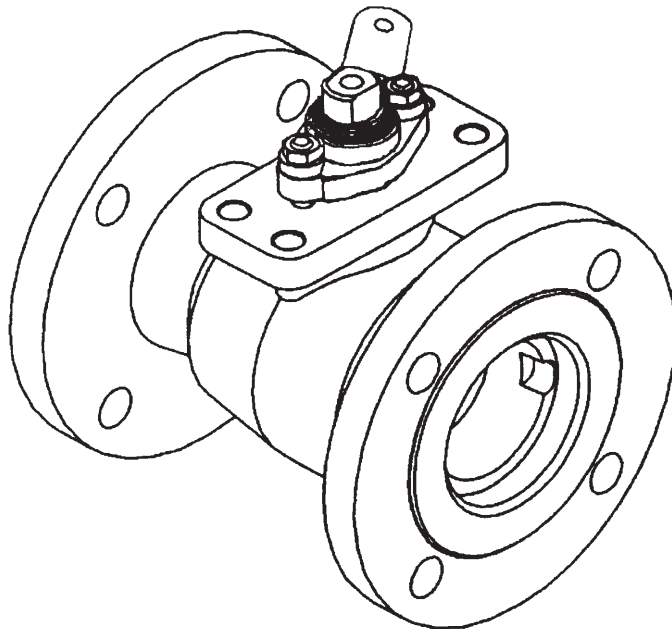


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READ THESE INSTRUCTIONS FIRST!

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, operation and maintenance of the Jamesbury™ 3", 4" & 6" (DN 80, 100 & 150) Class 150 & 300 Standard Bore Series 7150, 730S & 7300 Flanged Ball Valves. Please read these instructions carefully and save them for further 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.

2. INSTALLATION

Refer to the **MAINTENANCE** Section for packing/v-ring set adjustment.

If there is weepage past the packing/v-ring set upon installation, it means the valve may have been subject to wide temperature variations in shipment. Leak-tight performance will be restored by a simple packing adjustment described in the **MAINTENANCE** Section.

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!

3. 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.

Routine maintenance consists of tightening the bonnet stud nuts (**Item 18 in Figure 5**) periodically to compensate for stem seal wear.

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.

Overhaul maintenance consists of replacing seats and seals. A standard repair kit consisting of these parts may be obtained through your Valmet Distributor.

NOTE: Repair kits include thrust bearing (70), secondary stem seal (71), two seats (7), body gasket (65), packing/v-ring set (69), and spring (36).

TABLE 1 – REPAIR KITS*

Seat Material	Valve Size				
	3" (DN 80) 7150/7300	4" (DN 100) 7150	4" (DN 100) 7300	6" (DN 150) 7150	6" (DN 150) 7300
PTFE	RKN-174 TTT	RKN-175TTT	RKN-176TTT	RKN-196TTT	RKN-197TTT
FILLED PTFE	RKN-174 MTT	RKN-175MTT	RKN-176MTT	RKN-196MTT	RKN-197MTT
PEEK	RKN-174 LGG	RKN-175LGG	RKN-176LGG	RKN-196LGG	RKN-197LGG
PFEP	RKN-174 FTT	RKN-175FTT	RKN-176FTT	RKN-196FTT	RKN-197FTT
PFA SEATS & SEALS	RKN-174 BPT	RKN-175BPT	RKN-176BPT	RKN-196BPT	RKN-197BPT
XTREME®	RKN-174 XTZ	RKN-175XTZ	RKN-176XTZ	RKN-196XTZ	RKN-197XTZ
* For grounded valves, grounding washers listed below are also needed when ordering. (One per valve)					
	3" (DN 80)	4" (DN 100)	6" (DN 150)		
Class 150	004 0847 60	004 0847 60	004 0848 60		
Class 300	004 0847 60	004 0848 60	004 0849 60		

3.1 DISASSEMBLY

Tools needed to disassemble *Jamesbury* valves such as the "insert field wrench" mentioned in step 5 and shown in **(Figure 6)**, may be ordered as (MA0026426) for 3" & 4" (DN 80 & 100) Series 7000, and (MA0126468) 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)**.

1. Follow the steps in the **WARNING** Section before performing any work on the valve.
2. Open the valve.
3. Remove the handle screw (35), holding the handle to the stem.
4. Remove the handle (31).
5. The insert design requires that the insert be unthreaded in a counterclockwise motion using the following method using the insert field wrench: 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.
6. 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.

7. Remove the tool and lift out the insert.
8. Place the valve in the vertical position with the insert end up.
9. Lift out the body gasket (65), seat (7), and ball (3). 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 (5) and ball (3), 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.
10. Carefully remove the bottom seat (7) out of the body, **BEING CAREFUL NOT TO SCRATCH THE BODY SEALING SURFACE BEHIND THE SEAT**.
11. Remove the retaining ring (34), spring (33), and the indicator stop (32).
12. Remove the bonnet stud nuts (18), stop bushing (37), compression plate (9).
13. Push the stem (5) from the top into the valve body and remove it through the insert end of the body.
14. Remove and discard the thrust bearings (70), and secondary stem seal (71), **BEING CAREFUL NOT TO SCRATCH ANY SEALING SURFACES IN THE BODY**.
15. Remove the packing/v-ring set (69), **BEING CAREFUL NOT TO SCRATCH ANY SEALING SURFACE INSIDE THE STEM BORE**.

16. If the valve is to be grounded, clean packing bore with crocus cloth or equivalent, to a bare metal surface.

3.2 ASSEMBLY

It is advisable to replace seats and seals if complete disassembly and reassembly become necessary. Refer to the Repair Kit chart **(Table 1)**. A good lubricant compatible with the flow medium **MUST** be applied to the insert threads to prevent galling during assembly.

1. Clean all valve components.
2. Inspect all components for damage before reassembling the valve. Look for damage to the seating 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 sealing 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 (7) 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 (3), being careful not to cut or scratch the seat.
6. From the inside, insert the thrust bearing (70), secondary stem seal (71), and the second of two thrust bearings into the stem bore.
7. Insert the stem (5) 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. Holding the stem in place from the bottom, insert the packing/v-ring set (69) **(See Figure 3 for proper v-ring orientation)**, over the stem (5). If valve is to be statically grounded, remove one middle v-ring, replace the header ring and place grounding washer on top.
8. Place compression Plate (9) over studs (14). Place a stop bushing (37) and a bonnet stud nut (18) on each bonnet stud and tighten nuts alternately so that the compression plate (9) remains parallel with the body bonnet. Tighten down the nuts until the packing/v-ring set is fully seated, then tighten the nuts an additional 1/4 turn.
9. 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.
10. 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 (5). Insert the ball (3) rotating it onto the stem (5) 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 4.)**

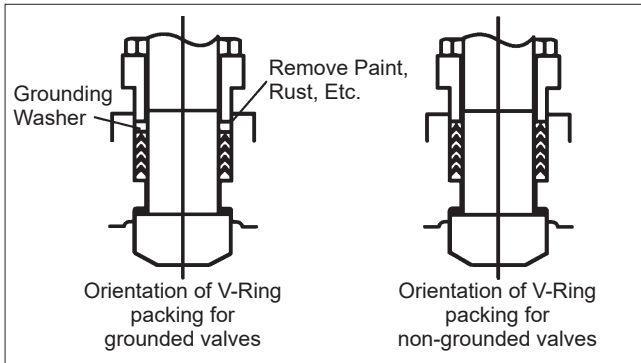
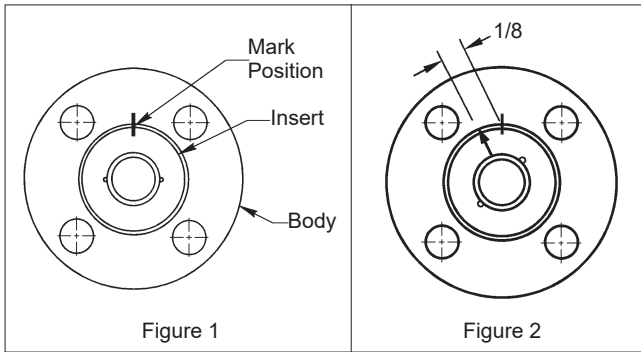


Figure 3

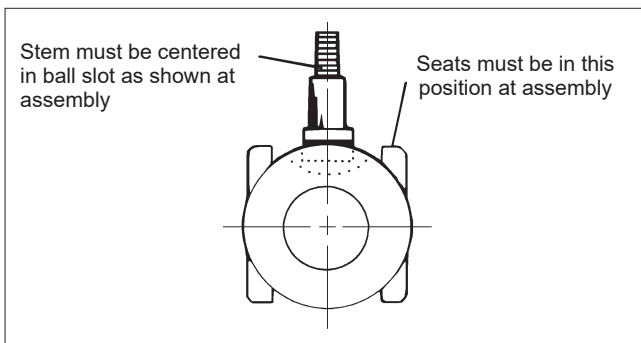


Figure 4

11. Place the second seat (7) into the insert (2) with the proper surface adjacent to the ball.
12. Insert the body gasket (65) into the body, and gently press it into the groove.
13. 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 9, insuring that the marks are no more than 1/8" (3.18 mm) apart, as shown in **(Figure 2)**.
14. Place the indicator stop (32) over the stem (5) and down flush with the compression plate (9).
15. Place the spring (33) over the stem (5) on top of the indicator stop (32). Secure the spring and indicator stop by placing the retaining ring (34) over the stem (5) until it is flush with the shoulder on the stem.

16. Place the handle (31) on the stem and fasten with the handle screw (35) securely.
17. Cycle the valve slowly with a gentle back and forth motion to build gradually to the full quarter turn. By cycling slowly, the seat lips will seat against the ball. Take care to avoid scratching the ball O.D.
18. If the valve is to be grounded, test as follows:
 - A. Using an ohmmeter accurate to $\pm 10\%$, check continuity between top of the stem and body base metal. Also check between the ball and the body base metal. Take care to avoid scratching the ball O.D.
 - B. Resistance in either the open, half open, or closed position should not exceed 10 ohms using a source not exceeding 12 volts.

4. ACTUATOR MOUNTING

When these valves are equipped with an actuator, and the actuator is removed to service the valve, proper alignment of the actuator driver and valve stem is essential when the actuator is remounted. In case of valves and actuators connected with a split no-play (clamped) coupling, tighten the coupling bolts before final tightening of the valve bracket bolts.

5. SERVICE/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 5**, the ballooned part number, part name and quantity required.

6. WELDING WARNING

WARNING:

WELDING AND/OR GRINDING OF STAINLESS STEEL AND OTHER ALLOY STEELS CONTAINING CHROMIUM METAL MAY CAUSE THE RELEASE HEXAVALENT CHROMIUM. HEXAVALENT CHROMIUM, CHROMIUM(VI) OR CR(VI), IS KNOWN TO CAUSE CANCER. BE SURE TO USE ALL APPROPRIATE PPE WHEN WELDING METALS CONTAINING CHROMIUM. IF YOU HAVE ANY QUESTIONS CONSULT YOUR SUPERVISOR.

7. EXPLODED VIEWS AND PART LIST

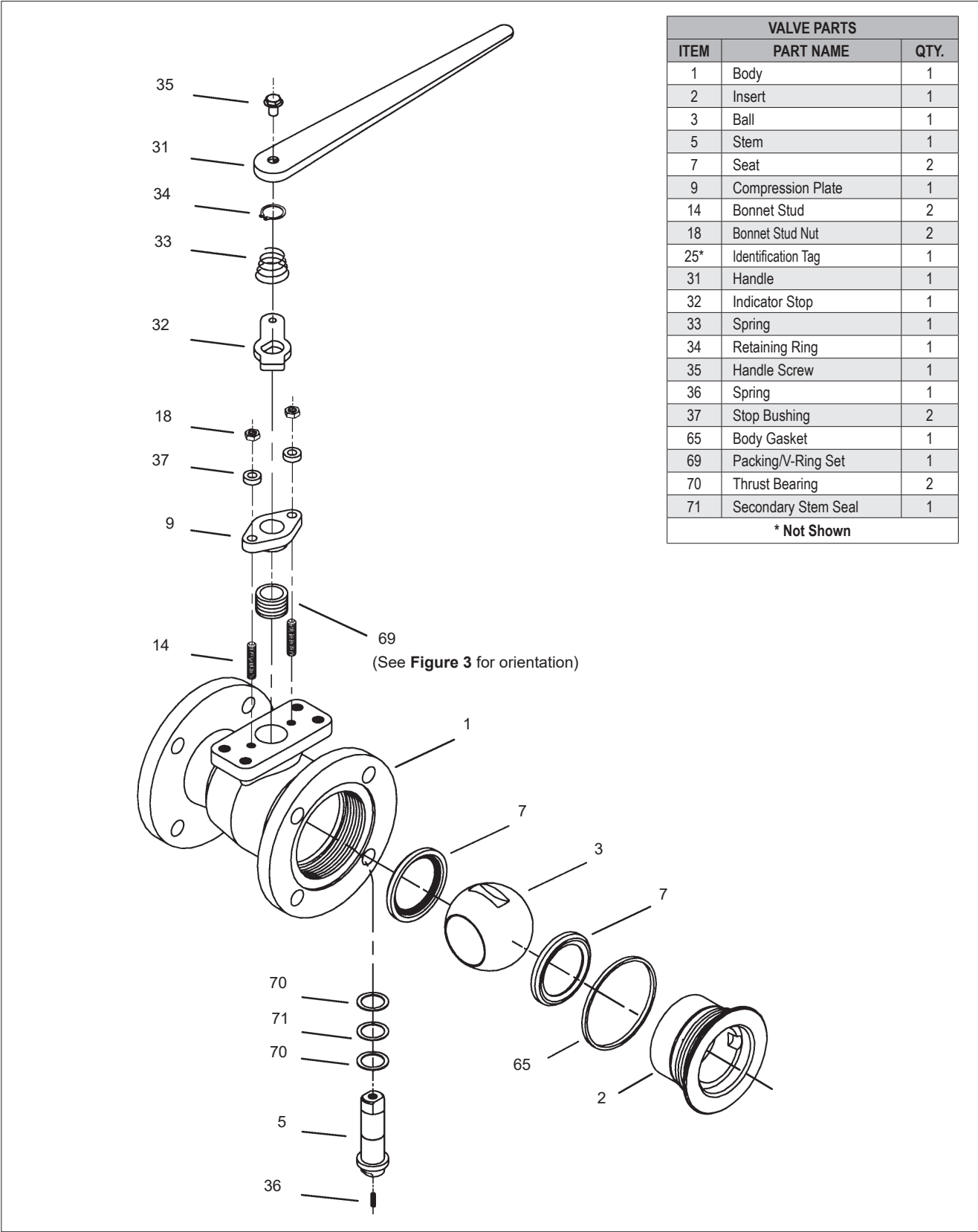
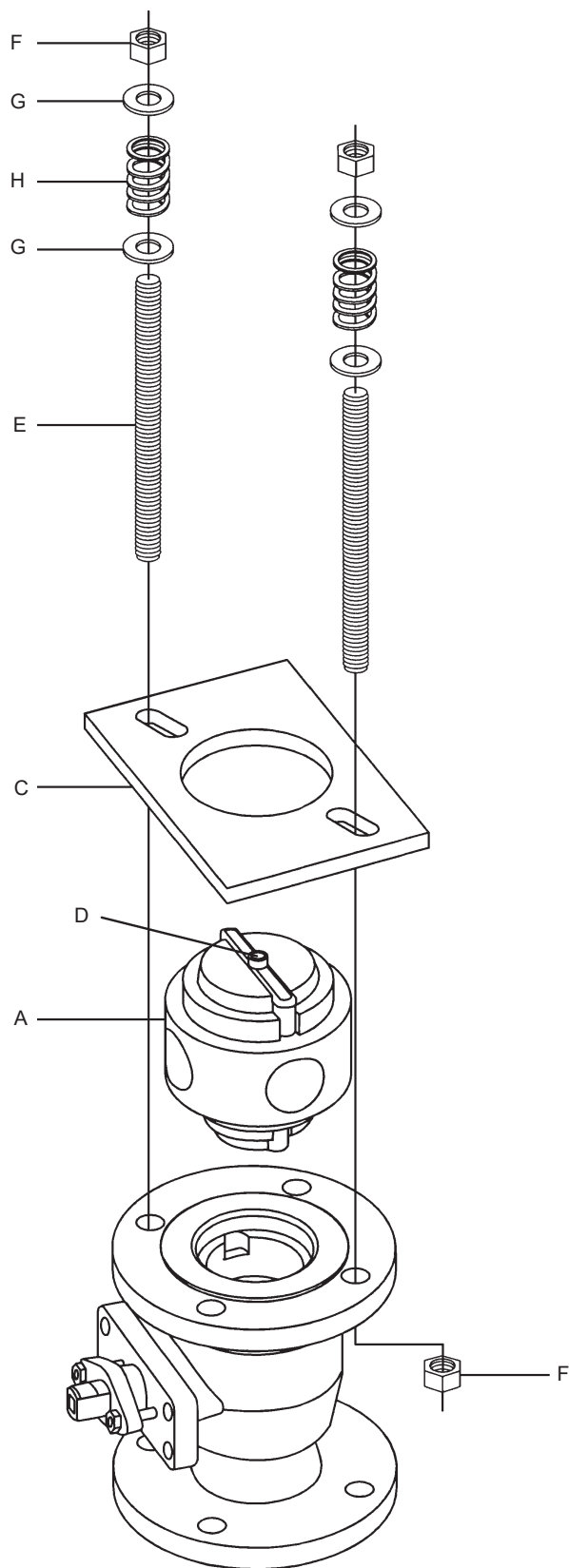


Figure 5



**Insert Field Wrench
Parts List**
3" & 4" (DN 80 & 100) =
Kit# MA0026426,
6" (DN 150) =
Kit# MA0185235

ITEM	PART NAME	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 6

8. CE AND ATEX MARKING

When applicable, the valve meets the requirements of the European Directive 2014/68/EU relating to pressure equipment, and has been marked according to the Directive.

When applicable, the valve meets the requirements of the European Directive 2014/34/EU relating to equipment and protective systems intended for use in potentially explosive atmospheres, and has been marked according to the Directive.

Refer to EU Declaration of Conformity below, for product details.

9. EU DECLARATION OF CONFORMITY



EU DECLARATION OF CONFORMITY

for ATEX approved valves



Manufacturer:
Valmet Flow Control Inc.
Shrewsbury, MA 01545-8044
USA

*Valmet Flow Control (Jiaxing) Co., Ltd.
Jiaxing, China

*) Also manufactures certain series

EU Authorised Representative: Valmet Flow Control Oy, Vanha Porvoontie 229, 01380
Vantaa, Finland. Contact details: [+358 10 417 5000](tel:+358104175000)

This declaration of conformity is issued under the sole responsibility of the manufacturer.

This declaration of conformity is issued under the sole responsibility of the manufacturer.			
Product:	Jamesbury Threaded/Welded End & Flanged Ball valves		
Type:	1/4" – 2" 4000 & Eliminator Series (**) 1/2" – 24" 7000 & 9000 Series (**)		
ATEX group and category:  II 2 GD, II 3 GD			
Ex GAS: Ex h IIC 85°C...Tmax Gb/Gc			
Ex DUST: Ex h IIIC T85°C...T(Tmax) Db/Dc			
Tmax= valve max. temperature in name plate			

(** Dependent on valve code designation.

Manufacturer's certificates:

Standard / Directive	Notified Body and NoBo number	Certificate No.
ISO 9001:2015	LRQA (Certification body)	10531829
PED 2014/68/EU Module H	DNV Business Assurance Italy S.r.l. 0496	142306-2013-CE-FIN-ACCREDIA
ATEX 2014/34/EU Annex IV	DNV Product Assurance AS Norway 2460	Presafe 18 ATEX 91983Q Issue 6

ATEX 2014/34/EU Annex VIII technical files are archived by Notified Body number 0537

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

PED 2014/68/EU	Valve
ATEX 2014/34/EU	Non-electrical equipment

Main components:

Valve:
The valve is suitable for service up to PED Cat III
Valve design standard: ASME B16.34

Installation, Maintenance and Operating instructions manual (IMO) must be followed before installation in order to ensure proper and safe mounting and usage of equipment.

The product above is manufactured in compliance with the applicable European directives and technical specifications/standards EN10204:3.1. The product is in conformity with the customer order.

Instrumentation and accessories having equal protection concept, level and performance specification with the original can be presumed to be in conformity with this Declaration of Conformity.

Protection from e.g. static electricity caused by the process or connected equipment must be considered by the user (EN 60079-14 § 6). EN 60079-19 applies for modifications.

Non-electrical equipment is according EN 80079-37:2016 and EN 80079-36:2016. The actual surface temperature of non-electrical equipment is depended on the process and ambient conditions (EN 80079-36:2016 § 6.2.5 and 6.2.7). The protection from high or low temperature must be considered by the end user before put into service.

The product does not possess any residual risk according to hazard analysis conducted under the applicable directives providing that the procedures stated by the IMO are followed and the product is used under conditions mentioned in the technical specifications.

Documents with digital and/or e-signature conveyed by Valmet Flow Control conform to the Regulation (EU) No 910/2014 as well as the national code on e-signatures. In order to secure the integrity of the document, the authenticity of the sender, and indisputableness of the dispatch the identification is covered by individual ID codes, passwords, and by regularly changing passwords. The authorization to sign documents is based on organizational position and/or is task related. The impartial third party in the company bestows the access right with predefined authorities to particular databases.

Shrewsbury 10.9.2024

Juha Virolainen, Global Quality Director

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