

# Guidelines: Long-term storage for Jamesbury™ valves and valves with actuators

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. OBJECTIVE

This instruction manual contains important information regarding 'long-term' storage requirements for Jamesbury bare-stem valves, valves with manual gears or levers, and valves with pneumatic or electric actuators including actuator accessories.

## **WARNING:**

IT IS THE PURCHASER'S RESPONSIBILITY TO TAKE THE NECESSARY PRECAUTIONS FOR THE PROTECTION OF VALVES IN STORAGE.

The following are recommendations for storage to maintain product integrity during periods of storage up to five (5) years when stored in an area as described in **Section 2**, and periodically inspected as described in **Section 4**.

## **WARNING:**

ONCE REMOVED FROM STORAGE, ALL VALVES SHOULD BE FULLY RETESTED PRIOR TO INSTALLING IN PIPELINE.

# 2. LOCATION

We recommend the units are stored in a clean, dry, secure warehouse. Units should not be stored on the floor. In storage the units are to be protected from any harmful effects listed below.

- Sunlight
- Ozone
- Moisture (rain, flood, humidity, etc.)
- Pests (mammal, insects, etc.)
- Dirt, dust, sand, etc.
- Mold and/or mildew
- Temperatures below 32° Fahrenheit, or above 100° Fahrenheit.
- Flames
- Radiation
- Vibration
- Chemicals
- Mechanical damage caused by crushing or dropping

**Note:** The major source of equipment deterioration encountered in 'long-term' storage is from condensation within the units. Should a reliable means be unavailable to preclude this condensation within the unit, the purchaser should consider the addition of heat source in electrical enclosures during storage. Humidity indicator cards, or equivalent, may also be used as an indicator of moisture levels present in the storage area.

# 3. EQUIPMENT ORIENTATION

1. Valves may be stored in the vertical or horizontal position.
2. Missing or damaged end covers should be replaced immediately in order to prevent contamination.
3. Valves or valve assemblies should be placed on a skid and covered to prevent dust, sand, dirt, or moisture from entering into the valve. Pneumatic and electrical conduit openings should be plugged.
4. For storage of valve assemblies containing electric actuators the preferred storage position is with the valve stem and motor shaft in the horizontal position. It is acceptable to position the valve stem vertical, with the motor shaft horizontal.

## **WARNING:**

VALVES MUST BE STORED IN THE FULLY OPEN OR FULLY CLOSED POSITION. LONG-TERM STORAGE IN THE PARTIALLY OPEN POSITION MAY PERMANENTLY DAMAGE THE SEATS.

5. Valves may be stored as shipped, provided the storage location and equipment orientation instructions in this manual are followed.
6. If valve shipping condition must be altered for receiving inspection reattach flange covers promptly and repackage valve or assembly.

# 4. STORAGE INSPECTION AND MAINTENANCE

1. Create and maintain a storage record log.
2. Check the valve and any accompanying devices for damage that may have occurred during shipping.
3. Any deficiencies noted should be immediately corrected. All maintenance activity should be recorded in the log.
4. Visual inspections should be performed on a semi-annual basis. As a minimum, the condition of the packaging, humidity indicator cards (if used), and the integrity of all plugs and covers shall be checked.
5. Steps should be taken to protect any un-painted exterior surfaces on the valve and actuators. Light rust on the exterior of the valves is permissible. This will have little or no effect on their performance. Heavy internal rust however, may be harmful and must be corrected.
6. Maintenance shall consist of correcting deficiencies noted during inspection. All maintenance activity shall be recorded in the log.

7. Valves should be cycled quarterly. Cycles should be full open to full close; do not make partial cycles. Return valve to either the full open or full closed position. Record the operation of the valve in the log.
8. For storage of valve assemblies containing pneumatic actuators stroke the unit quarterly on a yearly basis. Replace the plugs and record the strokes in the log.
9. For storage of valve assemblies containing electric actuators the preferred storage position is with the valve stem and motor shaft in the horizontal position. It is acceptable to position the valve stem vertical, with the motor shaft horizontal.
10. Rubber hoses require particular attention during routine inspections. Check rubber hoses for deterioration from the element as well as damage from pests. Replace any damaged hoses and record the replacement in the log.

## 5. PRE-INSTALLATION

1. Do not remove the flow port covers or plugs until installing the valve or valve assembly.
2. Move the unit(s) to its intended location just before installation into the pipeline.
3. Re-torque all fasteners prior to installing the units into the pipeline. See valve, actuator and or valve accessory installation, maintenance and operating instructions for guidance.

## 6. SERVICE KITS/SPARE PARTS

We recommend that all maintenance work performed on Jamesbury valves, actuators and accessories be performed only by trained individuals. Alternatively, we recommend that Jamesbury valves, actuators and accessories be directed to Valmet Service Centers for maintenance.

The Valmet Service Centers are equipped to provide rapid turnaround at reasonable cost and offer new component warranty with all reconditioned units.

For further information or assistance on repair kits and spare parts visit our website at [www.valmet.com/flowcontrol](http://www.valmet.com/flowcontrol).

# 7. GENERAL SAFETY WARNINGS AND DISCLAIMERS

## General safety warnings

### Lifting

1. Always use a lifting plan created by a qualified person to lift this equipment. Lifting guidance is provided in this IMO (Installation, Maintenance and Operation manual) to assist in lifting plan development. Think about the center of gravity (CG) of the equipment being lifted. Make sure the CG is always under the central lifting point.
2. Valves may be equipped with lifting threads on the body or on the flanges. These are intended to be used with the lifting plan.
3. Use only correct and approved lifting devices. Ensure that lifting devices and straps are securely attached to the equipment prior to lifting.
4. Check, that lifting devices are not damaged and in good condition with a valid check stamp prior to use.
5. Workers must be trained for lifting and handling valves.
6. Never lift an assembly by the instrumentation (solenoid, positioner, limit switch, etc.) or by the instrumentation piping. Straps and lifting devices should be fitted to prevent damage to instrumentation and instrumentation piping. Failure to follow the lifting guidance provided may result in damage and personal injury from falling objects.

### Work activities on the valve

1. Wear your personal safety equipment. Personal safety equipment includes but is not limited to protective shoes, protective clothing, safety glasses, helmet, hearing protection and working gloves.
2. Always follow the local safety instructions in addition to the Valmet instructions. If Valmet instructions conflict with local safety instructions, stop work and contact Valmet for more information.
3. Before beginning service on the equipment, make sure that the actuator is disconnected from any kind of power source (pneumatic, hydraulic, and/or electric), and no stored energy is applied on the actuator (compressed spring, compressed air volumes, etc.). Do not attempt to remove a spring return actuator unless the stop screw is carrying the spring force.
4. Make sure that there is a LOTOTO (Lock Out / Tag Out / Try Out) procedure in place for the system in which the valve is installed and strictly follow it.
5. Always make sure that the pipeline is depressurized and in ambient temperature condition before maintenance work is started.
6. Keep hands and other body parts out of the flow port when the valve is being serviced and the actuator is connected to the valve. There is a high risk of serious injury to hands and/or fingers due to malfunction if the valve suddenly starts to operate.
7. Beware of Trim (Disc, Ball or Plug) movement even when the valve is disassembled. Trim may move simply due to the weight of the part or change in position of the valve. Keep hands or other body parts away from locations where they may be injured by movement of the trim. Do not leave objects near or in the valve port which may fall in and need to be retrieved.

## General disclaimers

### Receiving, handling and unpacking.

1. Respect the safety warnings above!
2. Valves are critical components for pipelines to control high pressure fluids and must therefore be handled with care.
3. Store valves and equipment in a dry and protected area until the equipment is installed.
4. Do not exceed the maximum storage temperatures given in the IMO (installation, maintenance, and operating instructions).
5. Keep the original packaging on the valve as long as possible to avoid environmental contamination by dust, water, dirt, etc.
6. Remove the valve endcaps just before mounting into the pipeline.
7. FOR YOUR SAFETY IT IS IMPORTANT TO FOLLOW THESE PRECAUTIONS BEFORE REMOVAL OF THE VALVE FROM THE PIPELINE OR ANY DISASSEMBLY:
  - Be sure you know what flow medium is in the pipeline. If there is any doubt, confirm with the proper supervisor.
  - Wear any personal protective equipment (PPE) required for working with the flow medium involved in addition to any other PPE normally required.
  - Depressurize the pipeline, bring to ambient temperature, and drain the pipeline flow medium.
  - Cycle the valve to relieve any residual pressure in the body cavity.
  - After removal but before disassembly, cycle the valve again until no evidence of trapped pressure remains.
  - The valves with offset shaft (Butterfly, eccentric rotary plug) have greater trim area on one side of the shaft. This will cause the valve to open when pressurized from the preferred direction without a locking handle or an actuator installed.
  - **WARNING:** DO NOT PRESSURIZE THE ECCENTRIC VALVE WITHOUT A HANDLE OR AN ACTUATOR MOUNTED ON IT!
  - **WARNING:** DO NOT REMOVE A HANDLE OR AN ACTUATOR FROM AN ECCENTRIC VALVE WHILE PRESSURIZED!
  - Before installing the eccentric valve in or remove it from the pipeline, cycle the valve closed. Eccentric valves must be in the closed position to bring the trim within the face to face of the valve. Failure to follow these instructions will cause damage to the valve and may result in personal injury.

### Operating

8. The identification plate (ID-plate, type plate, nameplate, or engraved markings) on the valve gives the information of max. process conditions to the valve.
9. (For soft seats) The practical and safe use of this product is determined by both the temperature and pressure ratings of the seat and body. Read the identification plate and check both ratings. This product is available with a variety of seat materials. Some seat materials have pressure ratings that are lower than the body ratings. All body and seat ratings are dependent on the valve type, size and material of the body and seat. Never exceed the marked rating.

10. Temperatures and pressures must never exceed values marked on the valve. Exceeding these values may cause uncontrolled release of pressure and process medium. Damage or personal injury may result.
11. The operating torque of the valve may rise over time due to wear, particles or other damage of the seat. Never exceed the actuator torque preset values (air supply, position). Application of excessive torque may cause damage to the valve.
12. Valmet valves typically are designed to be used in atmospheric conditions. Do not use valves under external pressurized conditions unless specifically designed and explicitly marked for this service.
13. Avoid Pressure shocks or water hammer. Systems with high pressure valves should be equipped with a bypass to reduce the differential pressure before opening the valve to avoid pressure shock.
14. Avoid thermal shock. High temperature, Low temperature and cryogenic valves should be operated in a way that limits the rate of increase or decrease in temperature. The valve should be thermally stabilized before being pressurized.
15. Materials of the valve are carefully selected for the process conditions. Changes to the process media can have a major impact on function and safety of the valve. Always confirm the materials are suitable for the service prior to installation.
16. As the use of the valve is application specific, several factors should be considered when selecting a valve for a given application. Therefore, some situations in which the valves are used are outside the scope of this manual.
17. It is the end user's responsibility to confirm compatibility of the valve materials with the intended service, however if you have questions concerning the use, application, or compatibility of the valve for the intended service, contact Valmet for more information.
18. Never use a valve with enriched or pure oxygen if the valve is not explicitly designed and cleaned for oxygen. Selected materials and design have a major impact on the safety to operate the valve with oxygen.
19. Valves intended for use in or with explosive atmospheres must be equipped with a grounding device and marked according ATEX (or equivalent international standards).
20. Manual handles are available for specific butterfly valve sizes and maximum line pressures. Do not operate a valve with a handle or wrench outside the size and pressure limits stated in the IMO. High line pressure may create a large enough force to pull the handle from the operator's hands. Damage or personal injury may result.
25. Always check the position of the valve before starting maintenance work. Follow the Lock out /tag out (LOTO) rules at the site before starting any maintenance activity.
  - See IMO for the correct stem position.
  - Consider that the positioner may give the wrong signals.
26. Sealing materials (soft sealing parts) should be changed when the valve in maintenance. Always use original equipment manufacturers (OEM) spare parts to ensure proper performance of the repaired valve.
27. All pressure containing parts must be inspected visually for damage or corrosion. Damaged parts must be replaced.
28. Valve pressure retaining parts and all internals must be inspected for corrosion or erosion which may result in reduced wall thickness on pressure retaining parts. Damaged pressure retaining parts must be replaced with original equipment manufacturer's (OEM) replacement parts or repaired to factory specifications by an authorized Valmet service partner in order to maintain the warranty.
29. Do not use sharp tools, grinding machines, or files to work on functional surfaces such as sealing, seating or bearing surfaces as this can damage these surfaces.
30. Check the condition of sealing surfaces on the seats, trim (disc, ball, plug, etc.), body and body cap. Replace parts if there are significant wear, scratches, or damage.
31. Check the wear of bearings and bearing contact surfaces on the shaft and replace damaged parts if necessary.
32. Do not weld on pressure retaining parts without an ASME and PED qualified procedure and personnel.
33. Pressure retaining parts of valves in high temperature applications must be carefully examined for the effects of material creep and fatigue.
34. Make sure that the valve is positioned in the correct flow direction into the pipeline.
35. If the valves are marked to be suitable for explosive atmospheres, the correct function of the discharging device must be tested before returning to service.
36. Always work in a clean environment. Avoid getting particles inside the valve due to machining, grinding, or welding nearby.
37. Never store a valve in maintenance without flow port protection.
38. When pressure testing valve seats, never exceed the maximum operating pressure of the system or the maximum shut-off pressure marked on the valve identification plate.
39. Actuator mounting and unmounting:
  - Before installing the actuator on to the valve, be sure the actuator is properly indicating the valve position. Failure to assemble these to indicate correct valve position may result in damage or personal injury.
  - When installing or removing a linkage kit, best practice is to remove the entire linkage assembly, including couplings which may fall off the valve during lifting or when position changes.
  - Mounting sets have been designed to support the weight of the Valmet actuator and recommended accessories either as is or with additional actuator support. Use of the linkage to support additional equipment or additional weight such as people, ladders, etc. may result in equipment damage or personal injury.

## **Maintenance**

21. Respect the safety warnings above!
22. Plan service and maintenance actions, that spare parts, lifting devices and service personnel is available.
23. Maintain the valve within the recommended minimum maintenance intervals or within the recommended maximum operating cycles.
24. Always make sure that the valve and the pipeline is depressurized before starting any kind of maintenance work at a valve.

40. The valve should be installed between flanges using appropriate gaskets and fasteners that are compatible with the application, and in compliance with applicable piping codes and standards. Center the gaskets carefully when fitting the valve between the flanges. Do not attempt to correct pipeline misalignment by means of the flange bolting.
41. Repairs on valves for special service like Oxygen, Chlorine, and Peroxide, have special requirements.
  - Parts must be cleaned appropriate to the service and protected from contamination prior to assembly.
  - Assembly areas and tools must be clean and dry to prevent contamination of the parts during assembly.
  - Test equipment must be clean and dry to prevent contamination during testing. This includes the test equipment internals that may allow particles or other contamination into the test medium during the test.
  - Lubrication shall be used only if specifically required in the instructions. Where lubrication is required, the lubricant must be approved for the service by the end user.

Subject to change without prior notice.

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