

General installation and operating manual for valves





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1. General information

This manual gives instructions on installation of the valves together with maintenance instructions and shall be read carefully before installation is started.

It is in the responsibility of the installer to ensure that the work is carried out in a satisfactory manner, approved materials are used and that the installation meets applicable rules and regulations. Regional safety requirements must be applied and observed both at installation and maintenance as well as in repair work.

It is the installer/owners responsibility to define responsibility and competence of personnel for the installation and maintenance of the valves. In case of problems which cannot be solved from information in this manual the supplier of the valves shall be contacted.

The manufacturer reserves the right to introduce technical modifications at any time.

2. Storage and transport

- The valves are delivered with plastic protection covers in both flange ends. The covers shall not be removed until the installation.
- Protect valve and other equipment against external forces.
Valve hand wheels are not designed to take external forces e.g. they must not be used for as climbing aids or as connection of lifting gear.
- Lifting to be carried out by using suitable handling equipment.
- Weights of valves to be taken from data sheet.
- If the covers have been removed inspect the internals carefully for dirt before installation.
- The valves must be stored indoors well protected from dust and moisture.
- Long time storing must be done in warm warehouses to avoid corrosion attack on unprotected areas inside the valve.
- Do not damage the external coating during transportation and storing.

3. Installation

- Remove protecting covers for valve flanges.
- Check and compare pressure marked on valve with system pressure.
- Check flanges of valve and piping so that they match.
- Protect valve from dirt during the whole installation procedure.
- Check for dirt and foreign particles in valves and pipelines.
- Note installation positions with reference to flow and marking arrow on valve.
- Use only counter flanges and screws with correct dimensions.
- Centre gaskets between flanges.
- Avoid damaging forces on valve when pipeline is installed.
- Valve hand wheels and actuators are not designed to take external forces e.g. they must not be used for as climbing aids or as connection of lifting gear.
- Do not use tools to increase the torque on the hand wheel.
- Lifting to be carried out by using suitable handling equipment.
- Weight of equipment is to be taken from data sheet.
- Installation of the valve with stem vertical is preferable, but alternate positions can be accepted due to the type of valve.
- Keep stem threads and shaft free from paint.
- The valve is not designed for installation in heavy vibrating pipe lines (close to main engines and generator engines). If this must be the case all precautions must be taken to prevent the valve from these vibrations.
- Touching valves operating at high media temperatures $>50^{\circ}\text{C}$ can cause injury. Affix warning notice or protective insulation as appropriate.
- Before putting a new plant into operation or restarting after repairs or modifications, always make sure that all works has been completed for the valves and other depending systems.
- Operate the valve manually from Full Close to Full Open and Full open to Full Close. Ensure that there is no undue resistance or friction when operating.

4. Maintenance instruction

Never use hammer or similar action on valve for any reason.

For any assistance, please contact Meson AB or your supplier.

The valve is maintenance free but we recommend following to be checked at regular intervals.

Checkpoint	Checking Method	Weekly	When Overhaul
Leakage from Gland, Body, Flange gaskets	Ocular	X	
Noise / Vibrations while operating the valve	Listen and Feel	X	
Clean area around stem from dirt	Ocular	X	
Check for damages on stem surface	Ocular	X	
Check condition of Disc Seat and Body Seat Ring	Ocular		X
Check condition and wear of threads	Ocular		X

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5. Trouble shooting

Occurance	Probable Reason	Action
Leakage through valve when fully closed	<p>a. By-pass connection open (if provided)</p> <p>b. Object between Body Ring and Disc Seat</p> <p>c. Worn out, Deformed or damaged seat ring</p>	<p>a. Close By-pass valve</p> <p>b. Try to flush away the object by opening and closing the valve to create flow flushing. If this not succeeds, open flanged joint to reach the object and remove it manually.</p> <p>c. Replace valve</p>
Leakage through Gland	<p>a. Gland packing is loose</p> <p>b. Old Gland packing rings, due for replacements</p>	<p>a. Tighten the Gland gradually and uniformly</p> <p>b. Replace the gland packing</p>
Leakage through Body-Bonnet gasket	<p>a. Bolts of Body-Bonnet fastening are loose</p> <p>b. Old gaskets due for replacement</p>	<p>a. Tighten the fasteners gradually and uniformly.</p> <p>b. Replace the gaskets</p>
Leakage through side flanges	<p>a. Inadequate tightening of flanged joint</p> <p>b. Damaged gasket</p> <p>c. Parallel / Angular gap between valve and pipe flanges</p>	<p>a. Re-tighten the flanged joint</p> <p>b. Replace gasket</p> <p>c. Adjust gap between valve and pipe flanges</p>
Noise / Vibrations while opening or closing the valve	Inadequately supported / Inadequately fixed piping / valve	Support / Fix upstream / downstream piping and valve (foundations bolt preferable)

6. Repair

6.1 Dismantling

The following points must be observed before dismantling the valve:

- Pressure less pipe system.
- Medium and valve must cool.
- Plant must be drained.
- Cleaning of the piping system in case of dangerous media.

6.2 Putting valve into operation after repair

Before the valve is put into operation, check that it is the right valve in its right position (material, pressure, temperature and direction of flow).

Residues in piping and valves (dirt, weld beads, etc.) inevitable lead to leakage.

Check remote control system function and operation directly on valve.

Regional safety instruction must be adhered to.

Touching valves operating at high media temperatures $>50^{\circ}\text{C}$ can cause injury.

Affix warning notice or protective insulation as appropriate.

Before putting a new plant into operation or restarting after repairs or modifications, always make sure that:

- All works has been completed for the valves and other depending systems.

7. Contacts

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