

Installation and Operating Instructions for Ball Valves

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Technical data



For technical data please refer to the label and the declaration of conformity. You can find additional information (e.g. data sheets, operating instructions and certificates) on our website at www.von-scheven.de.

Operation and handling



Open



Closed

To open and close the valve move the lever by 90° (which is all the way). Never operate valves in an intermediate position (throttle setting) because this will damage the seals.



Warnings

Hazard source	Impact	Action
Escaping Media, falling and flying around parts	Irritation and burns of the skin, respiratory tracts and eyes; injuries to limbs	Always wear appropriate personal protective equipment during assembly, commissioning, maintenance and repair as well as disassembly
Excess pressure and temperature stress caused by operation	Internal and external leaks; valve may be blocked and crack	Do not exceed maximum permissible operating pressure and operating temperature
Excess pressure due to limited thermal expansion	Internal and external leaks; valve may crack	Take suitable safety precautions to prevent excessive pressure
Stress on pressure-bearing wall material due to aggressive media	Internal and external leaks; valve may crack	Follow instructions in resistance table
Stress on pressure-bearing wall material due to corrosion	Internal and external leaks; valve may crack	If erosion can be expected, monitor the unit to make sure it is in good working order by performing inspections and wall thickness measurements on a regular basis
Stress on pressure-bearing wall material due to erosion	Internal and external leaks; valve may crack	Reduce flow rates. If erosion can be expected, perform inspections and wall thickness measurements on a regular basis to ensure the unit is in good working order.
Impact from facility environment	External leaks; cracks in connections	Limit reaction forces from wires, fasteners, fill weights, wind, and earthquakes. Install bumpers for above-ground or earth-covered installation.
Impact in event of fire	Internal and external leaks; valve may break	Protect pressure-bearing walls by ensuring a safety distance, fire protection insulation, etc.
Valves with release of media into the atmosphere	Risk of injury from leaking media if handled improperly	Install safety features to prevent uncontrolled opening; maintain safety distance; have unit operated by authorized and trained personnel only
When working in the pipe system with automated valves, additional hazards through uncontrolled activation	Unintentional release or blocking of the medium	Switch off the control power of the drives and follow the operating instructions for add-on parts.

Installation

- Valves must be installed by trained personnel only
- If there is a flow direction error  on the ball valve, install in this direction only
- Add-on parts must be installed by trained personnel only. Follow the operating instructions, declarations of conformity and manufacturer's warnings for add-on parts and accessories (drives, limit switches, etc.)
- For below-ground aluminum housings, such as those used for pneumatic actuators, use a steel cover to prevent ignition hazards due to friction, blows or sparks.
- The ball valve cannot tolerate any reaction forces from for example pipe loads.



Remove protective cover



Install valve when open

Ball valves with threaded connection

The threaded connections on the ball valves have wrench flats on both sides. To keep the threaded connections from rotating, they must be tightened using an open-end wrench or another suitable tool when screwing into pipe.

Ball valves with welded connection

The ball valves are suitable for gas and electric arc welding. After each welding process, the ball valve must be cooled down to room temperature. The pipe system must be flushed before startup operation and the valve must be checked with regard to pressure and functional ability. Functional ability can be guaranteed only if all welding is done properly.

Ball valves with fixed butt welds:

Insert ball valves into the pipe using 3 weld points. During the welding process, do not exceed a temperature of 150°C in a range of 20 mm in front of the housing. Check the temperature using temperature indicating crayons and cool down sufficiently if required.

Ball valves with loose butt welds:

Insert ball valves into the pipe using 3 weld points. Loosen butt weld union nuts and dismantle the ball valve. Weld the butt welds into the pipe. Before installation, the butt welds must be cooled down to room temperature and the ball valve must be inserted into the pipe using the union nuts.

Ball valves with flanged connection

Tighten ball valves evenly using the appropriate screws and seals until manufacturer's specifications have been reached.

Ball valves with plug-in connection

Grease the O-rings on the plug-in connections with a media-compatible installation lubricant and carefully plug them into the pipe system without using force. Secure using the appropriate safety clips.

Start-up operation

- Remove all foreign objects and contamination from the pipe system and flush the entire system if necessary.
- disposal of any leaked media in accordance with waste and environmental regulations
- Perform start-up operation with trained personnel only.
- Perform pressure and function checks
- Perform start-up operation of any add-on parts with trained personnel only and in compliance with operating instructions, declarations of conformity and warnings issued by manufacturers regarding add-on parts and accessories (drives, end switches, etc.).
- Operate valve only when fully opened or fully closed
- If used in areas with explosion hazards, protect the valves from overheating and sun exposure by taking adequate protective measures
- The ball valve is designed to tolerate 1 x PN in closed and 1,5 x PN in half-open position

Medium

The ball valves are not designed for unstable gases. Before using with an unstable gas as a medium, please contact the manufacturer. Use can be checked for individual cases.

Maintenance and repairs

- Valve maintenance is not required
- All maintenance, repairs and dismantling of add-on parts must be carried out in accordance with the manufacturer's operating instructions
- Repairs and dismantling of the ball valve must be performed at the manufacturer's plant only
- Damaged components must be replaced immediately by trained personnel

Dismantling from the equipment

- Discharge pressure and lower media temperature to room temperature
- Move ball valve to open position
- Dismantle from equipment with trained personnel only
- During dismantling, secure threaded connections against rotation using a tightening tool

We reserve the right to make technical changes.

