

I. INSTALLATION

1. Storage until installation

If valves are to be stored for a longer period of time, the following must be observed:

- Always store with completely open ball position.
- Use covered dry rooms (room temperature).
- Protect from contamination; the valves must be covered.

2. Preparation for installation

- Prior to installation, check whether sufficient substructure.
- Ball valves are supplied in position "OPEN". They should be installed into pipeline in this condition and should not to be actuated until pipe has been cleaned, in order to protect ball from damages as a result of dirt, rust and residues from installation of pipes.
- Protection cap to be removed just before installation (picture 1).

3. Installation into pipeline

3.1 Installation with flanged joint

- Clean pipeline (remove any contamination resulting from construction).
- Remove protection cap and clean sealing surface of valve flange and pipe flange (both sides).
- When installing the ball valve into the pipeline, attention must be paid that there is sufficient support.
- Fit ball valve to one side of pipe flange.
- After checking correct gasket, tighten flange bolt diagonally and evenly (picture 2).
- When connecting the other pipe flange proceed analogously.
- Both flange joints must be checked for security (if necessary retighten screws).

3.1 Installation with welding joint

- Before welding the ball valve to the pipeline check material combinations. Welding should be carried out by an experienced welder only.
- Clean pipeline (remove any contamination resulting from construction).
- Remove protection cap.
- Insert ball valve, whilst ensuring perfect alignment between pipe and valve.
- After alignment, ensure sufficient and secure support for ball valve and then weld it in.

4. Dismantling from pipeline

- Prior to dismantling, actuate valve once more under pressure. This will flush out any solid elements lodged between ball and sealing.
- Reduce pressure in pipes.
- After pressure has been released in pipes, actuate valve again in order to let any trapped pressure escape.
- Dismantle ball valve in reverse sequence as with installation.

II. OPERATION

1. Putting into operation

- Flush pipeline with suitable agents, clean and if necessary allow to dry – DO NOT actuate the ball valve at this time (danger of damage to valve surface and sealings by dirt passing through).
- Re-check flanged welding joints for tightness, if necessary, retighten screws.
- Check resistance and tightness of entire pipeline.
- Only then should ball valve be actuated. When opening and closing out 90° rotating motion speedily and without interruption.
- Attention: no halting in intermediate positions; damping effect is likely to cause damage to ball sealings by dirt particles passing through.

2. Actuation

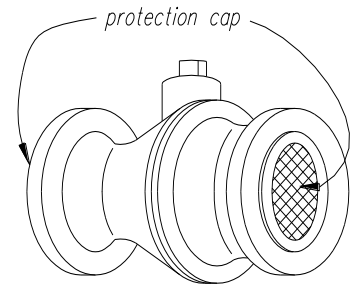
- Actuation of ball valve is normally in line of vision to lever → clockwise "CLOSED" and anticlockwise "OPEN".
- Position of through-hole in ball should be seen from position of lever or pointer in ball valves for underground installation:
ball valve open → lever (pointer) parallel to pipeline (picture 3)
ball valve closed → lever (pointer) at a right angle to pipeline (picture 4)
- Actuation of ball valve to "OPEN" or "CLOSED" positions must be carried out speedily and without jerking. Turning movement must be carried through to stop. Actuation of ball valve in intermediate positions for reduction of pressure or control of quantity will cause premature wear and tear of soft sealings.

3. Inadmissible working conditions

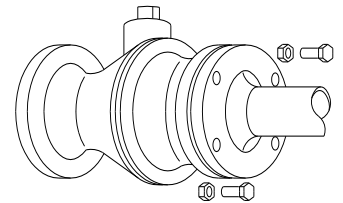
- Do not work with a medium not complying with technical specifications.
- Medium temperature and pressure must be kept within limits of technical specifications.
- Do not work with pressures other than the specified operating pressures.

III. MAINTENANCE

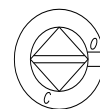
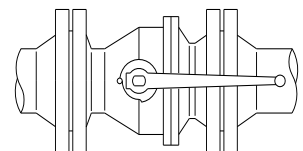
For long life and uninterrupted operating safety it is, however, advisable to carry out visual examinations of ball valves. Actuation of ball valve from "OPEN" to "CLOSED" position is advisable at the very least once a month.



Picture 1

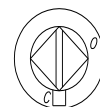
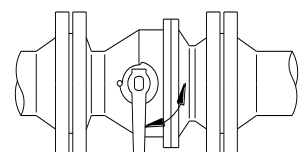


Picture 2



OPEN

Picture 3



CLOSED

Picture 4