

BALL VALVES (DN10-100): INSTRUCTION FOR INSTALLATION, OPERATION AND MAINTENANCE





1. Overview

Read these instructions carefully before starting the valve installation and start-up work. Safe keep the instructions in the proximity of the valve for easy access by the valve operators.

Maper OY takes no responsibility for any damage caused by the valve's incorrect transportation, handling, installation or use.

2. Factors to be considered prior to installation and commissioning.

During the receiving inspection, check that the valve and its accessories are free from any transportation-induced damage. During storage the valve must be exposed to dirt, rain, prolonged sunshine or sub-zero temperatures.

Always make sure before installation that the valve is suitable for the medium.

Stainless steel materials are suitable for use in process piping and compressed air lines, with acids, bases, raw water and oxygen-rich water, i.e. in applications that require good corrosion resistance.

Valves operation with flammable/combustible liquids is denied.

3. Installation.

3.1 Welding

The pipe work should be carefully cleaned before the valve is fitted. Remove any foreign matter that may have got into the valve during transportation or storing.

Test the proper operation by opening and shutting the valve.

Maper recommend the use of electric welding methods.

If gas welding cannot be avoided, always cool the valve with wet rags during welding.

Make sure the chamfering of the piping is suitable for welding of the valve.

Do not remove the protective covers of the connections until just before installation.



Welding to be performed by a qualified welder.

The valve shall be completely open when welded into horizontal piping.

When welding the valve into vertical piping, the valve shall be open when the upper seam is welded.

If the valve is closed when the upper seam is welded, it must be filled with water.

In gas welding the valve shall be closed when welding the bottom seam.

Excessive heating of the valve must be avoided during the welding. The valve must be cooled down using e.g. a damp cloth, cooling paste etc. Resume work using shorter welding times.

It is recommended that the handle be removed from the valve for installation.

Do not turn the ball until the valve is completely cooled after welding.

After installation, flush out the pipe work through, and leave the valve either fully open or fully closed.

During designing and construction of valve elements, uncontrolled thermal expansion of the pipeline media has to be prevented.

3.2 Pressure test

Perform a pressure test at $1.1 \times PN$ with the valve connected into the network and in closed position.

Perform a pressure test at $1.5 \times PN$ with the valve completely or partly open. Check the valve against leaks.

3.3 Valve support

Typically support methods used with piping are employed. With valves smaller than DN 50 no special supports are needed, but for valves larger than DN 50 local support instructions shall be complied with.



4. Operation

A valve designed for use as a shut-off valve may only be used in the open/closed position.

Avoid unnecessarily fast closing of the valve due to pressure shocks.

In applications where the valve remains in the same position for most of the time, it can be opened or closed a few times during the year to avoid seizing of the valve.

In exceptionally corrosive applications, special protection of the valve body and connections should be employed.

If the valve is the only pressure-bearing component at the end of the line, the valve must be plugged with a flange, plug or by some corresponding means.

The valves can be operated using the handle or an actuator.

5. Maintenance

The valves require no maintenance in normal conditions. However, the seal kit including the seals of the ball can be replaced.

More detailed instructions will be given by the valve manufacturer.

The valve shall be depressurized for maintenance, if it is not disconnected from the line.

The valve must be depressurized before it is removed from the piping.

Protective gear shall be worn when replacing seal kits.

Do not open the valve until all the required components have been replaced.