

Please carefully and completely read these instructions prior to assembly and commissioning of the metering ball valve. They contain important information on how to avoid bodily injury and material damage.

Instruction manual

Metering ball valve type 523



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1. Intended use

Metering ball valves of type 523 are exclusively intended to block or convey media within the allowed pressure and temperature limits or regulate the flow of fluid after installation into a piping system. The valve is intended to be used within the chemical stability of the entire valve and all its components.

2. Related Documents

You may obtain the Planning Fundamentals as further information from your Georg Fischer representative or from Georg Fischer Piping Systems Ltd. CH-8201 Schaffhausen Switzerland
Info.ps@georgfischer.com or
www.piping.georgfischer.com

3. Safety and responsibility

- Only use metering ball valve as intended
- Only have installation, operation, maintenance, and repairs executed by qualified personnel
- Regularly train personnel regarding all applicable issues of the locally effective regulations for occupational health and safety, environmental protection, and most of all for pressure-retaining piping systems
- Make sure that personnel is familiar with the operating instructions and its contents, that they understand them and follow them.

The same safety regulations apply to ball valves as to the piping system.
The maximum operating duration is 25 years.

NOTICE

Observe operating instructions

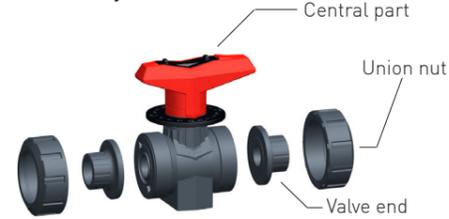
The operating instructions are part of the product and an important part of the safety concept. Nonobservance may lead to severe injuries or death.

- Read and follow operating instructions.
- Always keep operating instructions available in proximity to the product.
- Repeat operating instructions to all subsequent users of the product.

4. Transport and storage

- Transport and store metering ball valve in its original packaging with care
- Protect from damaging influences such as dust, dirt, moisture as well as thermal and UV radiation
- Prevent connecting parts from damage by either mechanical or other influences
- Store metering ball valve in open lever position.

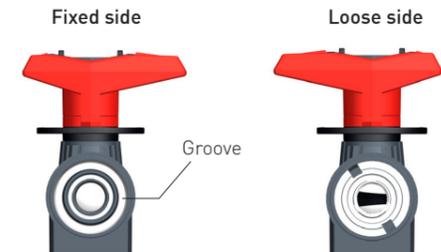
5. Assembly



WARNING Confusion of fixed and loose side

Nonobservance may lead to severe injuries or death.

- With housings one distinguishes between fixed and a loose side. The fixed side is the side into which the ball cannot be inserted.
- Carefully read operating instructions for assembly.



Fixed side: The fixed side has a deep groove, which separates the large outer diameter from a smaller diameter.

Loose side: The loose side shows the union bush, which is marked by two grooves at the outer edge. The grooves are the counterpart for the stems on the lever, which are intended for unscrewing the union bush.

6. Commissioning

Pressure test



CAUTION Overstraining due to exceeded maximum pressure

The test pressure of an assembly may not exceed 1.5 x PN (maximum of PN + 5 bar). The component with the lowest PN determines the maximum allowed test pressure in the performance section.

- Prior to and during the pressure test, the assemblies and connectors must be checked for leak-tightness. Record result.

For the pressure test of ball valves, the same instructions apply as for the piping system. For detailed information, please refer to the GF Planning Fundamentals, chapter Processing and Installation.

In addition, the following applies:

- Make sure that all assemblies are in the correct open and closed position.
- Fill the piping system and carefully de-aerate it.

7. Maintenance

Ball valves do not require maintenance with normal operation. However, the following provisions must be taken:

- Periodic inspection to make sure that there is no leakage of media to the outside.
- Operate ball valves that are always in the same position 1-2 x per year in order to check their functionality.

8. Mounting and dismantling

8.1 Dismount ball valve from pipe



CAUTION Central part as replacement part

Exchanging single components from the central part can have serious consequences.

- When exchanging the ball valve type 523, only use the central part as a replacement.
- When mounting / dismantling the ball valve, always follow the steps of these operating instructions.
- Execute functional test prior to commissioning.

NOTICE

Observe changes with variations

In comparison to type 323, type 523 has different installation dimensions, valve ends, and union nuts. Using different components and installation dimensions (than required for type 523) may damage the piping system.

- Align installation dimensions and installation descriptions in the technical documentation with the available components.



WARNING Risk of injury due to uncontrolled evasion of the medium

If the pressure was not relieved completely, the medium can evade uncontrolled. Depending on the type of medium, risk of injury may exist.

- Completely relieve pressure in the pipes prior to dismantling.
- Completely empty and rinse pipe prior to dismantling in connection with harmful, flammable, or explosive media. Pay attention to potential residues.
- Provide for safe collection of the medium by implementing appropriate actions (e.g. connection of a collection container). After dismantling, the ball valve should be stored or disassembled.
- Partially open the dismantled ball valve [45° position] and let drain in vertical position. Collect the medium.

8.2 Mount ball valve to pipe



CAUTION Risk of injury due to false mounting of the ball valve to the pipe

Nonobservance may lead to severe injuries or death.

- The ball valve must always be installed in open position.

It is recommended to only remove the ball valve from its original packaging immediately prior to installation.

Ball valve and pipe must be aligned so that the assembly is unobstructed by mechanical demands. To mount to the pipe, specific connection regulations for cemented, welded, or screw joints must be followed. Please find further information in the "Georg Fischer Planning Fundamentals".



WARNING Material damage due to nonobservance of the insertion depth

Not observing the thread reaches can cause damage of the ball valve.

- The pressure load of a damaged housing can cause breakage.
- When using the integrated fastening in the foot of the ball valve, always observe the requirements regarding the maximum insertion depth of the screws.

Maximum insertion depth of the screws into the ball valve

DN	15/10
Screw	M6
Thread reach H (mm)	15



WARNING Damage due to usage of pliers or similar tools

Pliers or similar tools may damage the material of the union nuts. If other tools such as pliers are used, the union nuts could be damaged. There is also the danger of damaging the thread if they are tightened too strongly.

- Tighten the union nuts of the ball valves only handtight without the use of additional tools.

NOTICE

Longitudinal or lateral forces

Due to temperature changes, longitudinal or lateral forces may occur if thermal expansion is constrained. Operation of a valve causes reactive forces which could damage the valve.

- Mount the ball valve as a fixed point with the designated fastener or reinforce the piping directly before and after the ball valve with suitable supporters.



WARNING Incorrect mounting of the ball valve

Incorrect mounting can cause death or severe injuries upon contact in connection with harmful, aggressive, flammable, or explosive materials. Further commissioning is prohibited.

- Following the mounting, the torque must be checked
- A functional test – manually closing and opening the ball valve – must be executed
- Ball valves with identifiable functional disorder may not be installed.

8.3 Mounting of scale and lever

1. Insert the scale into the housing.

The round notch on the crown must point into the direction of the marking.



CAUTION Pay attention to arrows on scale

Rotating the scale will impair the functionality. This can cause incorrect setting of the ball position.

- Pay attention to the arrows on the scale. These must always point into the direction of the fixed side.

2. Mount the display element to the lever.



3. Attach the standard lever with the stem to the crown of the housing. The ball valve is now ready for use. The display must read zero on both sides.

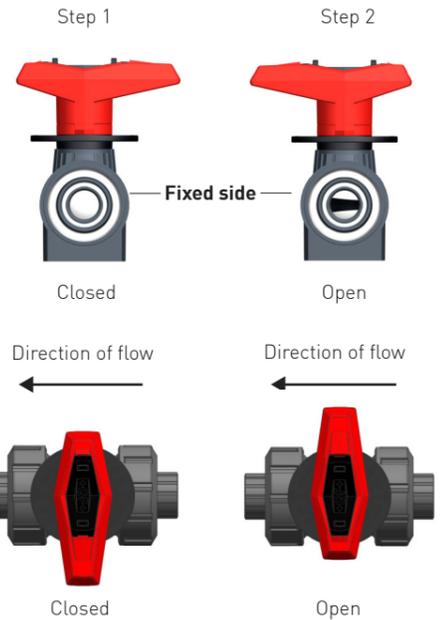
9. Functional test

Step 1:

Turn the lever clockwise as far as it will go. To check whether the ball is closed, take a quick look into the fixed side.

Step 2:

Turn the lever counter-clockwise (approx. 180°) as far as it will go. To check whether the ball is open, take a look into the fixed side.



10. Troubleshooting

To troubleshoot, please refer to chapter "Troubleshooting" in the Planning Fundamentals as well as to the warnings contained in this document. You may obtain the Planning Fundamentals on the Internet or request them from your Georg Fischer representative.

11. EC declaration of conformity

The manufacturer Georg Fischer Piping Systems Ltd., 8201 Schaffhausen (Switzerland) declares that ball valves of type 523 comply with the harmonized design norm EN-ISO 16135

1. pressure-retaining armatures in terms of the EG pressurizer regulation 97/23/EG and correspond with such requirements of this regulation regarding the assemblies,
2. and comply with the requirements of the building product regulation 89/106/EG pertaining to the assemblies.

The commissioning of this ball valve is prohibited until the conformity of the entire system, which the ball valve is integrated into, has been declared in accordance with one of the mentioned EG regulations. Modifications to the ball valve, which impact the specified technical data and the intended use, void the manufacturer's declaration. Additional information may be found in the "Georg Fischer Planning Fundamentals".

Schaffhausen, 28.02.2012

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