GENERAL INSTALLATION & OPERATING INSTRUCTIONS FOR BALL VALVES

1. INTRODUCTION

In order to ensure fault-free operation for WESA ball valves and to prevent damage, it is essential to read and observe these installation and operating instructions. All WESA ball valves are individually tested for leak-tightness and to ensure that they are functioning. WESA-Armaturen GmbH is not liable for damage caused by not observing these installation and operating instructions, improper handling, wear, calcification, deposits and / or corrosion.

2. STORAGE

Ball valves are stored in the open or closed position. Ensure that the ball valve is completely opened or completely closed to prevent single-sided cold forming on the PTFE seal seats. Protect the ball valves from dust and dirt.

3. PLANNING

When planning and designing the ball valves, working pressures that may occur (pressure shocks/pulse pressures) must be included. Pressure specifications in the catalogue, the data sheets and on the ball valves refer to static pressures. If the loads cycle or change, include appropriate pressure reductions. Special application or ambient conditions (dampness, vibrations, switching frequency, electromagnetic fields, potentially explosive atmospheres, antistatic, etc.) must be defined clearly when planning/ordering ball valves. Ball valves are only to be used for the specified fluids.

4. INSTALLATION AND ASSEMBLY

Before installation, check whether the ball valve complies with the required version and the legal regulations, and is suitable and approved for the intended use. Ensure that the ball valve intended for installation meets the operating conditions/operating circumstances (pressure, temperature, fluid, etc.). If you require support, please contact us or your wholesaler. The ball valve can be fitted in any flow direction and in all installation locations. The pipework must be accurately sized and must be laid according to the generally accepted engineering standards, in order that no mechanical stresses are able to act on the ball valve. Work on ball valves must take place free of strain, in order to ensure that they function faultlessly!

Only qualified personnel may install ball valves and this may only be carried out when the ball valve and the pipe system are depressurised. The pipes must be free of strain when they are lead to the fitting to be installed. Check the ball valves for transport damage before installing. Damaged ball valves must not be installed.

In order to ensure correct installation, please use a suitable tool!

Apply the correctly sized open-ended spanner / pliers spanner / fittings spanner to the sleeve on the pipe or fitting side. Attach the pipe / fitting using a suitable tool and screw it into or onto the ball valve thread. When working, observe any possible difference in thread types (DIN EN ISO 228/1 and EN 10226, formerly DIN 2999) and avoid over-sealing using excessive sealing material at the sleeve. We recommend Loctite fluid Teflon or Teflon tape to screw the sleeves into the pipework. Attention! Using excessive hemp or too much Teflon damages the threads and could cause the threaded sleeves to break.

5. COMMISSIONING

Before commissioning for the first time, read and observe all operating instructions and check all operating conditions and assembly work again. To prevent the ball seats and/or the balls becoming damaged by dirt particles when the ball valve is actuated, rinse the system before commissioning (also do this on older systems after carrying out maintenance work). We recommend installing domestic water filters in accordance with DIN EN 13443 Part 1. Ensure that the nature of the fluids and the combination of materials do not cause corrosion. For more information, see DIN 1988-7, VDI 2035 Sheet 2, ÖNORM H 5195-1 or similar. A system may only be commissioned by qualified staff. If the ball valve has been stored or stopped in a switched position for an extended period, the torque during the first switching operation is significantly higher than the actual torque (break-away torque). The pipe system must be bled before commissioning. Air bubbles in the pipe system can cause explosions if pressure builds up suddenly. Therefore, increase the pressure slowly and in stages.

If ball valves are installed in the pipe system as end fittings, unused ball valve connections must be blocked off by an expert, as there is a danger of death due to parts breaking off if there are application errors.

6. OPERATION / MAINTENANCE

The ball valve closes in a clockwise direction and opens in an anticlockwise direction. The angle of rotation is 90°. If the handle points in the direction of the pipe, the ball valve is open. If it runs crosswise to the pipe, the ball valve is closed. The shift handle can only be adjusted 180°.

The ball valve may only be operated when it is completely opened or completely closed. Intermediate positions (control function) are not permitted and damage the ball seal.

This can cause the ball seal to slip out and result in leaks on the shut-off function. If the ball valve is fitted with a packing gland, then this can be re-tightened in the event of any leaks appearing at the spindle. According to DIN 1988 and EnEV (Energy Saving Ordinance) Section 10, ball valves must be maintained and inspected at regular intervals. If the load is extreme, the inspection must be carried out at shorter time intervals. Ball valves must be actuated regularly on a 3-monthly basis in order to ensure that actuation moves freely and to prevent any deposits that may occur on the ball. This therefore guarantees that it will function safely on a continuous basis! Open and close the ball valve slowly, in order to avoid pressure shocks in the line system. Do not load the ball valve with additional weight. Avoid impacts and shocks at the ball valve. Do not carry out any installation work whilst the system is operational and pressurised.

Caution: Aggressive fluids and water additives such as inhibitors can affect the Teflon seals, O-rings or Loctite bonding.

If draining the pipe system, e.g., if there is a risk of frost of when cleaning, the ball valves must also be drained. This is performed in a 45° switching position in order to empty the housing cavity. Once draining is complete, ensure that the ball valve is returned to a completely open or completely closed position. Ball valves must not be disassembled. All types of makeshift seal are prohibited. Tools (such as pliers, hammers, open ended spanners, extensions, etc.) are not permitted to be used to switch the ball valves. Using these types of tools can cause damage to the switching elements and the housing.

Ball valves are not permitted to be switched using violence.

Viscous, hardening or abrasive fluids are not permitted to be used. When the specialist is carrying out pressure testing, check to ensure that the ball valve is correctly installed and not leaking. For the usability of our ball valves with respect to pressure, temperature and media, please refer to the corresponding product datasheets.

7. GUARANTEE

All WESA ball valves come with a 24-month guarantee from the date of delivery. This is only valid if used in accordance with the installation instructions and the technical applications. Irrespective of this, correct storage is also essential. **Any structural change to the ball valve, especially drilling holes and welding objects on to it (plates, brackets, etc.) is strictly prohibited and leads to the guarantee becoming invalid.** Repairs may only be carried out by the manufacturer! If the ball valve is dismantled without authorisation by unqualified staff, all guarantee claims and claims for damages to WESA-Armaturen GmbH become invalid.

8. SPECIAL CASES

Ball valves for drinking water installations:

According to DIN EN 806, DIN EN 1717 and DIN 1988, the WESA ball valves with item numbers 750, 753, 755, 7501, 7531, 888, 852, 862, 1223, 1540, 9380, 9381, 9390, 9391, 9396 and 9397 are tested and approved according to the technical regulations. Only these WESA parts satisfy the special requirements applicable to drinking water installations. As a result, the design and material construction of these ball valves is compliant with EN 13828 (testing and requirements), they are heat-treated (thermally destressed) and have a thread compliant with DIN ISO 228/1 or EN10226. The installation must be planned, designed, maintained and operated in accordance with DIN 1988 and DIN EN 806.

The test ordinance DIN EN 13828 for ball valves that are used in drinking water areas requires ease of replacement of the ball valve, without a change to the line routing, and is facilitated through the installation of threaded connections in the immediate vicinity of the ball valve.

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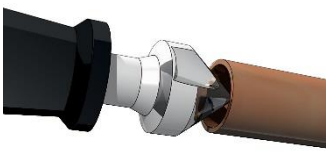
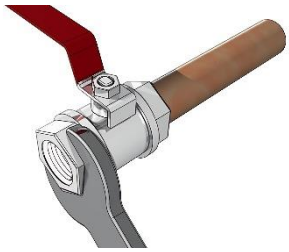
1.
Before you screw the thread in, check for contamination and/or damage. Contamination and/or damage can cause damage to the seals, resulting in leaks.

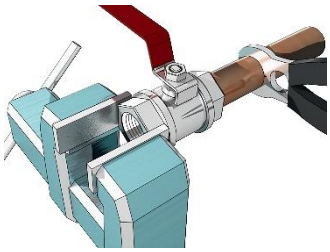
2.
Before using pipes and fittings, check them for contamination, burrs and damage.



3.
Remove all burrs on the threads and pipes. Burrs can cause leaks and damage the thread on the ball valve.



WRONG



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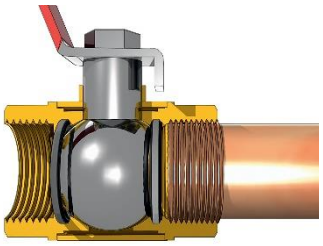

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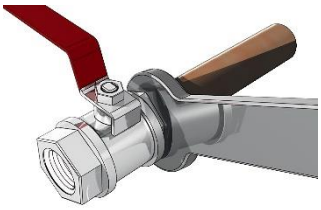

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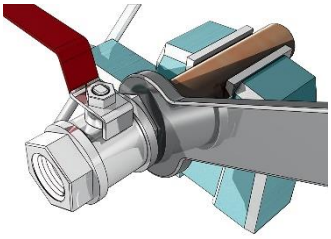
4.
Apply a correctly sized open-ended spanner / pliers spanner / fittings spanner to the sleeve on the pipe or fitting side. Attach the pipe / fitting using a suitable tool and screw it into or onto the ball valve thread.
Do not use any pipe tongs on the ball valve.



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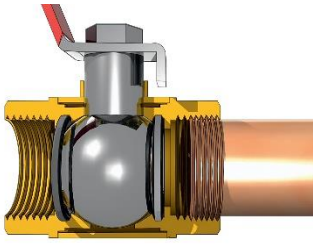
5.
To prevent damage on the ball valve, never clamp it in a vice. Fix the pipe or the fitting into a vice and screw the ball valve onto the pipe.



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6.
Pay attention to different thread types (ISO 228-1 and EN 10226) and ensure that the threads are not screwed in until they reach the stop on the threaded sleeves. Otherwise, the ball is compressed and the ball valve damaged.