



### Before installation!!!

- ✓ Read carefully the assembly and safety instructions.
- ✓ Installation of the ball valves can be only done by well **qualified personnel**.
- ✓ Check whether the product meets the requirement and if it has been damaged during transport.
- ✓ **Ensure that valve is suitable for installation, required pressure, connection, flow characteristic and is compatible with the medium used.**
- ✓ **Before installation clean up hose and pipes.**
- ✓ Check that line temperature work within permitted limits.
- ✓ **Verify that the application pressure is equal or less than the maximum working pressure of the valve.**



### Start-up!!

- ✓ Installation of ball valves can be only done if the circuit is depressurized. **1**
- ✓ Make sure the energy supply is disconnected.
- ✓ Always wear protective clothing.
- ✓ **Remember to bleed and drain the pipe system** before starting the installation. Air bubbles can cause explosions by pressurizing abruptly again.
- ✓ **For connecting the valve during installation, always fix the thread adapter through a wrench.** **4**
- ✓ **Make sure to work always within permitted limits on pressure and temperature.** **5**
- ✓ **The valve is opened when the handle is in longitudinal position** (parallel to the line). Valve is closed when the handle is in perpendicular position (right angle to the line). Switch the handle always 90° to reach the limit for opening or closing the flow.
- ✓ **Ball valves can be installed** in angle, vertical and horizontal position.
- ✓ **Run always a test** after installation.



### Storage!!!

**All our ball valves are brought through a surface treatment to improve its conservation. We recommend:**

- Store in cool, dry, and high places above the ground.
- Keep away from heat sources or direct impact of the sunlight.
- Review periodically the valves whether these have signs of corrosion, cracks and/or visible damages.

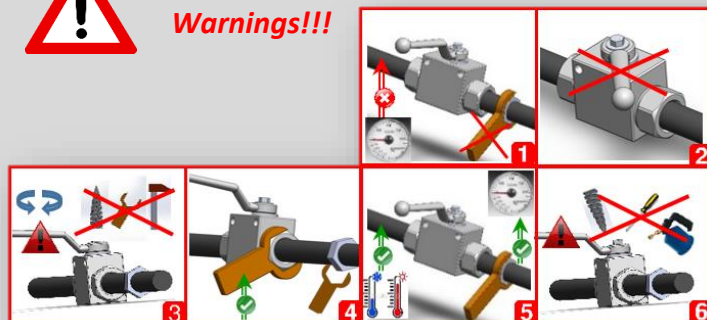


### Maintenance

- The ball valves should never be manipulated or unassembled. We warn to not use any kind of sealant.
- To avoid unexpected damages, **run regularly inspections**. If during inspection or first runs following conditions are detected, system should be turned off and the product replaced:
  - ✓ Malfunction
  - ✓ Presence of leakage
  - ✓ Visible damages, cracks and or corrosion
  - ✓ Difficulties by switching handle
  - ✓ System contamination
- The maintenance period should be defined by the end user depending on the type of application and operating conditions.
- After a long storing period or a long breakdown in operating position, the torque is higher than the force on impulse.



### Warnings!!!



- ✗ The ball valves are **not approved for controlling the flow constriction**. Intermediate positions can cause damages on the ball seats. This leads to leakages. Flow constriction causes also an important increase of temperature. **2**
- ✗ **Do never use inappropriate tool** e.g. clamp tools, hammers, key tools. It can damage the stem and valve body. **3**
- ✗ **Do never tight or loose the extremes of the ball valve, this leads to a torque increase and leakages.**
- ✗ **When installing the valve in a circuit, do always hold it from the end ports with a hexagonal key spanner**. Holding the valve from the body or handle will loosen the torque, causing leakages.
- ✗ **Avoid contaminating the hydraulic system**. Contaminated mediums can damage internal sealing components.
- ✗ **Operating over and under the permitted working pressure and temperature limits, leads to deterioration and leakages of the ball valve.**
- ✗ In case of malfunction, ball valve must be replaced by qualified personnel. First depressurize and drain the system. If necessary, out of service.
- ✗ **Repairs and reworks can be only done by the manufacturer or qualified and authorized personnel.**
- ✗ **If our ball valves are dismantled improperly without authorization, any warranty and damage claim against the manufacturer are null and void.**
- ✗ **Any changes on design or reworks on ball valve e.g. drilling fixing holes, welding plates are strictly prohibited without previous consultation with the manufacturer.** **6**
- ✗ This manual is not intended to replace any national regulation on accident prevention and local safety regulations of the operating company, which on this should be considered a priority.

**INTEVA and its distributors are not responsible for damages caused on people or machines for an improper use or incorrect maintenance of the products.**

**The product selection, installation, maintenance and use, is under end users responsibility.**

**The distributor must ensure that that all product requirements are met and must inform the end user about the product use and maintenance.**



### Elimination!!!

In compliance with the laws of each country on the disposal of industrial waste, the valves in disuse must be eliminated taking into account that all components can be recycled.

Consider that:

- Elimination and removal must be done by qualified personnel only.
- Before extraction, depressurize pipes and circuit. Ball valve must relieve pressure from its cavity as well.