

PRODUCT INFORMATION

In accordance with Directive PED/DGRL 2014/68/EU

1. Labeling of ball valves and valves

The application of the PED (Pressure Equipment Directive) has been man-datory since 29.5.2002.

Our partner holds certification that includes compliance with DIN EN ISO 9001 and correspondence with Directive PED/DGRL 2014/68/EU, including Module H1.

Valves that are destined for use within the European Economic Area are classified in categories I to III in accordance with increasing potential hazard.

The nominal diameter, pressure and fluid group 1 + 2 (hazardous or non-hazardous fluids) are taken into account for the classification.

Fluid group 1 includes hazardous fluids in accordance with Article 3 of Directive PED/DGRL 2014/68/EU.

- Potentially explosive
- Extremely flammable
- Highly flammable
- Flammable (if the max. permitted temperature is above the flash point)
- Toxic
- Oxidizing

Fluid group 2 includes all fluids that do not have any of the characteristics in fluid group 1.

Ball valves with a nominal diameter of more than DN25 for fluid group 1 must be labeled as CE1637. Ball valves for fluids in fluid group 2 are not labeled with a CE mark. The buyer is obliged to inform the manufacturer/supplier if ball valves are destined for application in fluid group 1. If no information is provided on the medium for use it is assumed that fluids from fluid group 2 will be used.

The ball valve and seal materials are selected by the manufacturer in accordance with customer information such as medium, pressure, temperature and other use-specific requirements. If the conditions of use vary from the information provided then the lifespan of the ball valve may be reduced or the ball valve may malfunction. The material combinations and conditions for use that are specified based on the design can be found in the following labeling on the ball valve.



exmar 71	supplier, material 71=1.4571
HKM-G1.4	article denomination (type, connection, size)
PN500/DN6	nominal pressure/ nominal diameter
04/22 (xx/yy)	manufacture period x = calendar week/y = year

2. General

Ball valves are pressurized for the transportation, shutting off or redirection of media flow. Standard design is not recommended for use in a vacuum application, please consult MHA for valve assistance. Hazards are presented by fittings in the high-pressure area if there is a case of improper or incorrect use or if the safety notes in these operating instructions are not observed.

The customer must take the operating pressures (pressure surges/impulse pressures) into account during the planning and design of ball valves. Pressure information in the catalog refers to static loads. The corresponding pressure reductions must be taken into account for pulsating or changing loads.

Ball valves are only suitable for installation in piping systems with connections at the same pressure load and corresponding connections or between flanges of the same pressure load and the same flange connection. Two-way ball valves open and close by turning the selector shaft by 90°. A flow display shows the position the ball valve is switched to. The ball valve can be switched using a hand lever or drive. The design of the drive must be suited to the conditions of use of the ball valve.

The operating instructions of the corresponding manufacturer are valid for drive parts, e.g. for drives and position switches. Please observe machinery directive 2006/42/EG for fittings and drives.

3. Installation notes

Prior to installation checks must be carried out to test whether the ball valve design corresponds to the required design and is suitable for the intended use. The installation of ball valves may only be carried out by qualified personnel and while the ball valve and pipe system are unpressurized. The pipelines must be introduced to the fittings without tension.

The valve valves must be inspected for damage and contamination before installation. Damaged ball valves must not be installed.

All the pipelines must be rinsed before the ball valves are installed. Residue in the pipelines can damage internal parts and this can result in malfunction or complete failure of the ball valve.

Please ensure during installation of the ball valves that no external tensions or vibrations are transferred to the ball valve.

When the piping is screwed in the screw on the ball valve must be held with a suitable tool. The ball valve connections must not be subjected to any additional torsional moment that would change their installation position and thus prevent provision of function.

Overheating of the seals must be prevented on ball valves with welded ends by using suitable measures. When welding is carried out it must also be ensured that no welding particles enter the internal space. Welding residue must be removed.

Ball valves with flange connections must be centered by screwing the counterflange before all the screws on the flange connection are tightened crosswise. An undamaged seal must be used between the flanges as prescribed in the norm. The spacer bolts or connecting screws must be selected in accordance with the flange types. With thread holes it must be ensured that the maximum screwing depth is not exceeded.

Switching must be carried out as a function test after the ball valve has been installed. No parts of the ball valve (e.g. cover, connecting piece) may be released or screwed down. In the case of media that are hazardous to health, flammable or explosive it must be ensured that the pipe system and ball valve are completely emptied.

Watch out for any residue flowing through. Appropriate protective clothing must be worn. The fitting may need to be placed in the piping using lifting gear.

Please observe the switch position of the ball valve according to the piping plan. Pressure stage, connection and construction length of the piping system must correspond to the ball valve. The operating instructions of the relevant manufacturer must be taken into account with regard to system parts

4. Initial operation

All operating instructions must be read and observed prior to initial operation and assembly work must be inspected. Initial operation of a system may only be carried out by qualified personnel. The piping system must be bled prior to initial operation. Air bubbles in the piping system can cause explosions in the event of a sudden increase of pressure. This is why the operating pressure should be increased in stages.

If the ball valve is stored for a long period, or if it is at a standstill for a longer period in one switch position, then the torsional moment for the first switching process is substantially above the actual torsional moment (pull-off moment).

If ball valves are installed in the piping system as end fittings, there is particular risk of death from parts sheering off. Professional execution is absolutely essential in this case.

Automated ball valves

When actuating the valves using electrical, pneumatic or hydraulic rotary actuators, they should be designed according to the torque tables provided. In general, the operating instructions of the actuator manufacturers must be observed for use. At pneumatic actuators, unless otherwise specified, a supply pressure of min. 6 bar needs to be ensured.

5. Maintenance / Inspection

When the piping system is drained the ball valves must be drained via a switch position of 45°. Ball valves may only be dismantled and maintained by trained, specialist personnel. No makeshift seals of any kind are permitted. Ball valves must be inspected at regular intervals for leaks, malfunction and damage. The maintenance intervals depend on the conditions of use of the fitting.

In order to retain functionality the ball valve must be switched at least every six months in the event of longer standstill periods. If discrepancies to the desired status are discovered during this maintenance work, measures must be undertaken immediately to ensure safe operating conditions (exchange or repair).

6. Removal notes

The removal of ball valves may only be carried out by qualified personnel and while the ball valve and piping are not under pressure. The ball valve must be set to a semi-open position in order to prevent pressure from being trapped.

If media are used that are hazardous to health, flammable or explosive, the piping and the ball valve must be completely drained. Watch out for any residues flowing through. Appropriate protective clothing must be worn.

7. Warning notes

Please take note of these operating instructions. The manufacturer of the ball valves does not accept any liability if these operating instructions are not heeded. Ball valves must only be used for the purpose stated by the manufacturer.

The manufacturer will also not accept liability in the event of damage caused by the incorrect installation and use of ball valves or by incorrect use by unqualified personnel.

Ball valves must always be switched fully in principle. They may only be used in the switch positions fully closed or fully open.

Ball valves are not suitable for the restriction or regulation of flow quantities and are not approved for this use. Indifferent switching positions lead to damage to the seals in the ball area, which result in leaks or altered torsional moments that can be accompanied by temperature rises at the surface.

Tools (e.g. pliers, hammers, open-end wrenches, extensions etc.) may not be used to switch the ball valves. The use of such tools can lead to damage to switching elements and casings. Ball valves may not be switched by force.

Particular usage or environmental conditions (moisture, vibrations, switching frequency, electromagnetic field, potentially explosive area or anti-statics etc.) must be clearly defined when the ball valves are ordered in order to ensure functional design. Ball valves may only be used for suitable media.

No viscous or hardenable media may be used. Contamination is to be avoided. Contaminated media lead to damage to sealing elements. This creates leaks that lead to the failure of the ball valve. The temperature limits that are provided for the fitting must be upheld in order to prevent early failure of the ball valve.

Ball valves must be stored in a dry and clean condition as delivered. Protective caps must only be removed just before actual installation.

Unpacked ball valves must be protected from direct UV and/or sunlight.

In potentially explosive areas the switches on the ball valves must be limited to a maximum of 10 per minute in order to avoid self-warming. Exceeding the operating pressure quoted or operating at temperatures outside the quoted range may lead to leaks or destruction of the ball valve.

Caution: Danger to human life!

Specific warning notes, e.g. regarding the wearing of gloves for switching, must be heeded (the ball valves take on the temperature of the medium). Any structural modification to the ball valve, particularly the addition of drill holes and the welding on of objects (plates, mounts etc.) is strictly prohibited.

In the event of malfunctions the ball valve must be exchanged by qualified personnel with the pipe system in an unpressurized and drained condition. Systems must be switched off before the ball valve is dismantled.

Only the manufacturer is permitted to carry out repairs. If the ball valve is dismantled without permission and by unqualified personnel this will render any warranty or damage claim made against the manufacturer null and void. National regulations on accident prevention and the local safety regulations of the operator are not replaced by these operating instructions and must always be regarded as overriding.

The following must be ensured before any repair work:

- On automated fittings the power supply to the drives must be suspended prior to repair and maintenance work.

- It must be ensured that no third party can start up the system.
- The pipelines must be drained and pressure cushions relieved.
- Information must be collected regarding possible hazards that could be caused by residue operating material and protective gloves, goggles etc. must be worn if necessary.
- Leave fittings to cool. Do not exceed limits with regard to pressure, temperature or media



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