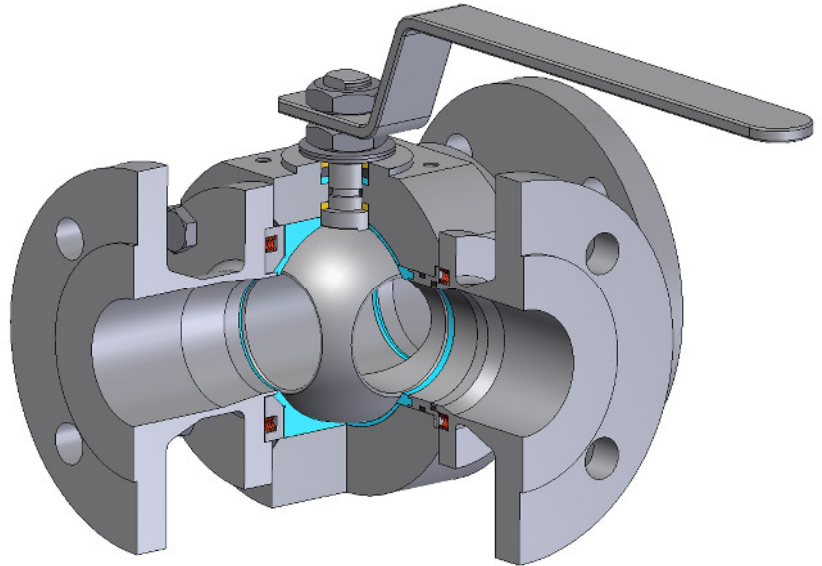


OPERATING MANUAL

Multiway ball-valve Type MW

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1 General Information

1.1 Introduction

The Multiway ball-valve type MW is manufactured and tested according to DIN EN 12266-1.

It suits very well as a ball-valve on a tube system.

The cavity free ball-valve construction insures **no** unused product left behind between ball and housing which would lead to contamination of the medium, or would affect the function of the valve through crystallizing and polymerizing. With the additional specific spring loaded sealing system it achieves a long lifetime because of the adjustable sealing pressure.

ATEX directive **94/9/EG**: The ATEX does not apply. The valve can still be used in the EX-Area because it does not have any own ignition sources after the risk analysis.

The Data in the assembly instruction is nonbinding, changes reserved.



If the following notices and warnings are not observed, **dangers may result** and invalidate the manufacturer's guarantee. Please contact the manufacturer in case of any questions



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Advice:

We explicitly advice that the installation is not allowed before checking the assembly according to Pressure Equipment Directive (PED) 97/23/EG

1.2 Application Area

Multiway ball-valve type MW are used for uncritical mediums where stainless steel and PTFE are resistant. In special cases Hastelloy and PTFE-Derivatives are used.

2 Safeties

2.1 Warning notice



In this instruction very important advices are marked with the Hazard symbol; following warnings are not observed, dangers may result

2.2 Safety notice

ATEC –Products are highly sophisticated. By non observance of the application-oriented criteria like functionality, medium, pressure, temperature, selected materials etc. dangers may result. The Multiway ball-valve type MW has the function to close off or to change the flow-direction. It is not applied for throttling or regulating because the ball valve is not in its end position. Installation area is to be shut down after slightest leakage by valves or other pipeline components. The leakage can lead to harm on people, environment and installation. The following maintenance, repair or disassembly only with protective clothing to be performed.

3 Packing, Handling, Storing

3.1 General handling and storing terms

Handling and storing of Multiway ball-valve type MW only in original-packing.

Following storage conditions are binding

- Dry and dust free surroundings
- Closed room, protect from UV- Light
- Moderate temperature of max. 30°C

3.2 Storage time

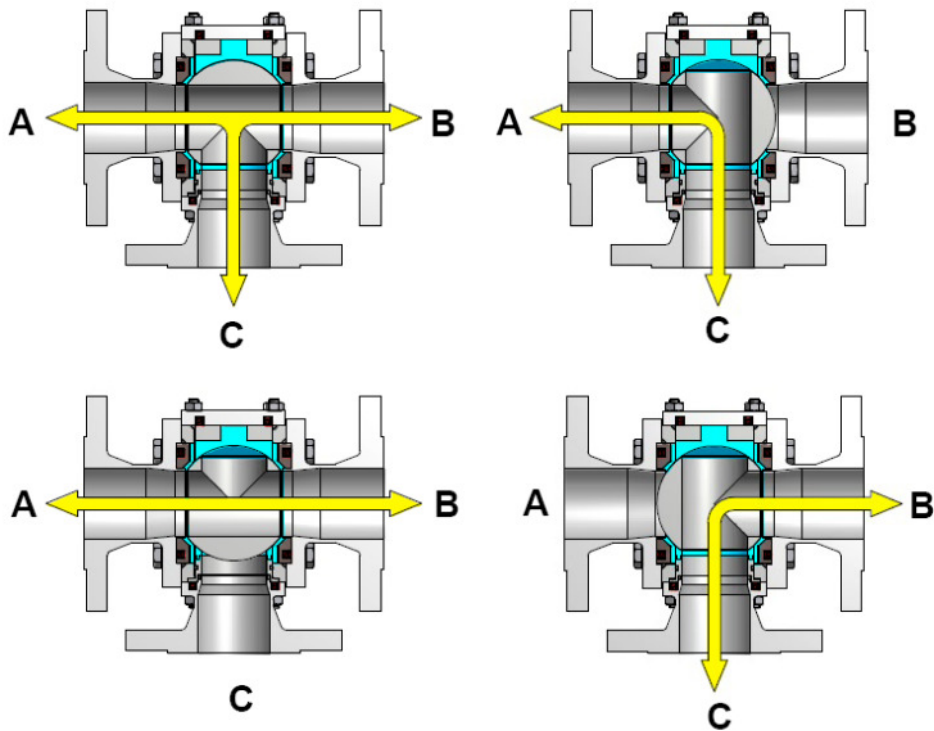
Generally the storage time if handled under 3.1 is unlimited

4 Product description

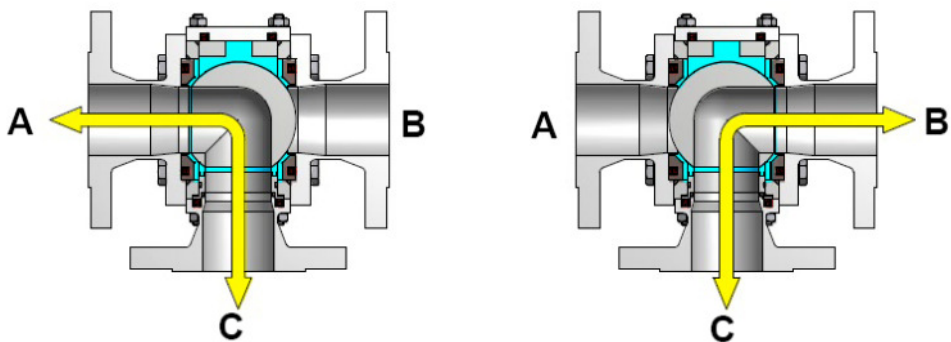
4.1 Function

Multiway ball-valve type MW can be connected horizontal and vertical.

Positions with T-ball



Positions with L-ball

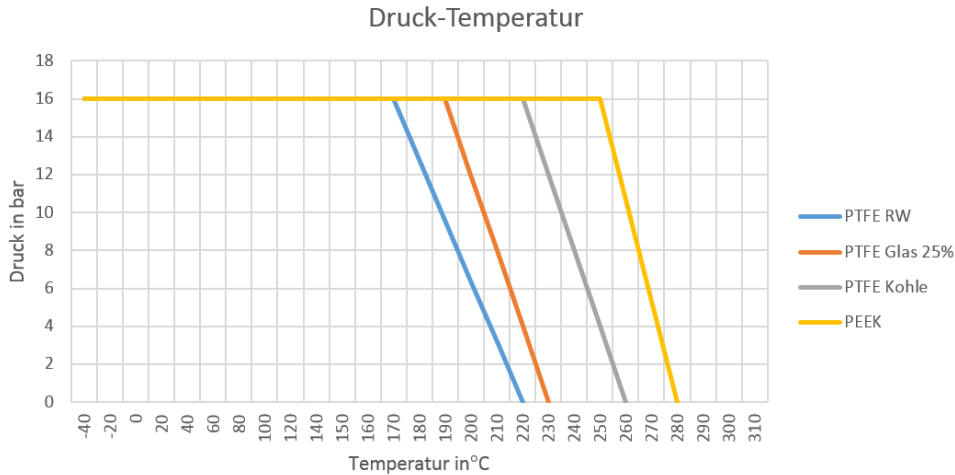


4.2 Characteristics

The general characteristics of the Multiway ball-valve type MW are shown in the data sheet. It is to be made sure, that the nominal pressure (stamped in valve housing) is not exceeded. The maximum temperature is -60°C to $+260^{\circ}\text{C}$ depending on the sealing material. By not mentioned special conditions is consultation with the manufacturer needed.



By application under -10°C and over +80°C please use pressure-/ temperature chart



By ignoring these limit values, improper use of the compact- valve is the consequence and could lead to failure of the valve function.



Attention!
The resistance of the materials to the agent is to be verified!

5 Preparations, Assembly

5.1 Assembly preparation

Make sure, the Multiway ball-valve type MW complies with the operating conditions like medium, pressure and temperature.

5.2 Assembly

The protection sheet is to be removed.

The Multiway ball-valve type MW is screwed together between or at the end of the pipeline with its pipe flanges.



The tightening of screws must be done cross-over. It has to be made sure; the torque on all screws is the same. If this instruction is not followed the valve can be distorted.



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5.2.1 Usage of flange gasket

Through the use of flat gaskets on both sides of the valve, a flange gasket is not necessary.

5.2.2 General guidelines and assembly

Pipe flanges and sealings are to be cleaned to obtain a good sealing.



**The customer pipelines must be in line and have no displacement to avoid restrain after assembly of the valve. Assembly restrain could have negative effect of the ball valve function.
The actuation of a valve causes reactionments of the attached pipeline.
Therefore it is necessary to support the outflow pipe.**

5.2.3 Mounting, Torque, Flange screws

The mounting of Multiway ball-valve type MW should always be done with a torque wrench.

5.3 Assembly accessories

For the assembly of the Multiway ball-valve type MW is no other tooling besides a torque wrench necessary.

5.4 Removal

The valve has to be removed as follows:

- Securing the vessel is empty
- If hazardous residues, attend internal instructions
- Open ball valve
- Remove flange screws and remove Multiway ball-valve type MW carefully.

6 Commissioning

6.1 Before first time commissioning

Before first time commissioning the whole pipeline and vassal is to be flushed.
If necessary a pressure test is to be conducted.
The Multiway ball-valve type MW has to be 100% in open position.

Important: contamination and residues have to be removed through flushing.

6.2 At first time commissioning

At the first time commissioning following functional tests to be carried out again:

- Unhampered turning of ball into both end positions
- Ball valve check on leakage
- check proper open and closed position of accessory like actuator etc.



At first commissioning future operator and end-user should be briefed.



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6.3 commissioning with manual operation

For the manual operation are hand lever and manual drive in use.

6.4 Automation with pneumatic and electric actuator

The automation is only with original ATEC adapter set safe. All parts on the ball valve stem have to be in line otherwise transverse force occur which could lead to a breakdown of the ball valve. Is the automation not carried out at ATEC we cannot give any guarantee for the function of the valve.

7 Handling

For correct handling following information malpractice by handling the compact valve can lead to damage of other system components.
Valves belong often to the safety devices of an installation in critical cases safety instructions to the attached on to the valve
Valves should only be operated by trained personal.

8 Attendances, Maintenance

8.1 Attendance

Multiway ball-valve type MW need no attendance if used normally

8.2 Maintenance

By correct designed pipeline systems is no maintenance necessary that is.
- Corrosion and abrasion resistant valve material used.

8.3 Spares inventory

At corrosive or abrasive operating conditions it is necessary to replace wear parts like ball seal, housing seal, stem seal and seal spring.



we point out that only original ATEC spareparts can be used

For all future repairs please contact the supplier of the ATEC valve with the information of valve type, size and serial number of housing

8.4 Return to manufacturer

Before returning a ball valve for repair or analysis of objections approval of the manufacturer is needed. By dangerous product a safety data sheet has to be filled in. The valves are to be cleaned before dispatch.

9 Inspections

At preventive inspections following point to be checked

- difficult open/closed function
- leakage on pipe connections
- corroded area on valve housing
- wear on ball seal and ball



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10 Overhauling

10.1 Breakdown, causes, elimination

By disruption in operation (for instance leakage or blockage) the unit must be shutdown and the manufacturer informed for assistance the delivery date, size and serial number is needed

10.2 External burning

After an extreme impact of heat threw fire near the valve a leak tightness check has to be made.

11 Disposals

Fluoric-plastics like PTFE permitted to be burned.
Internal disposal guidelines to be followed.