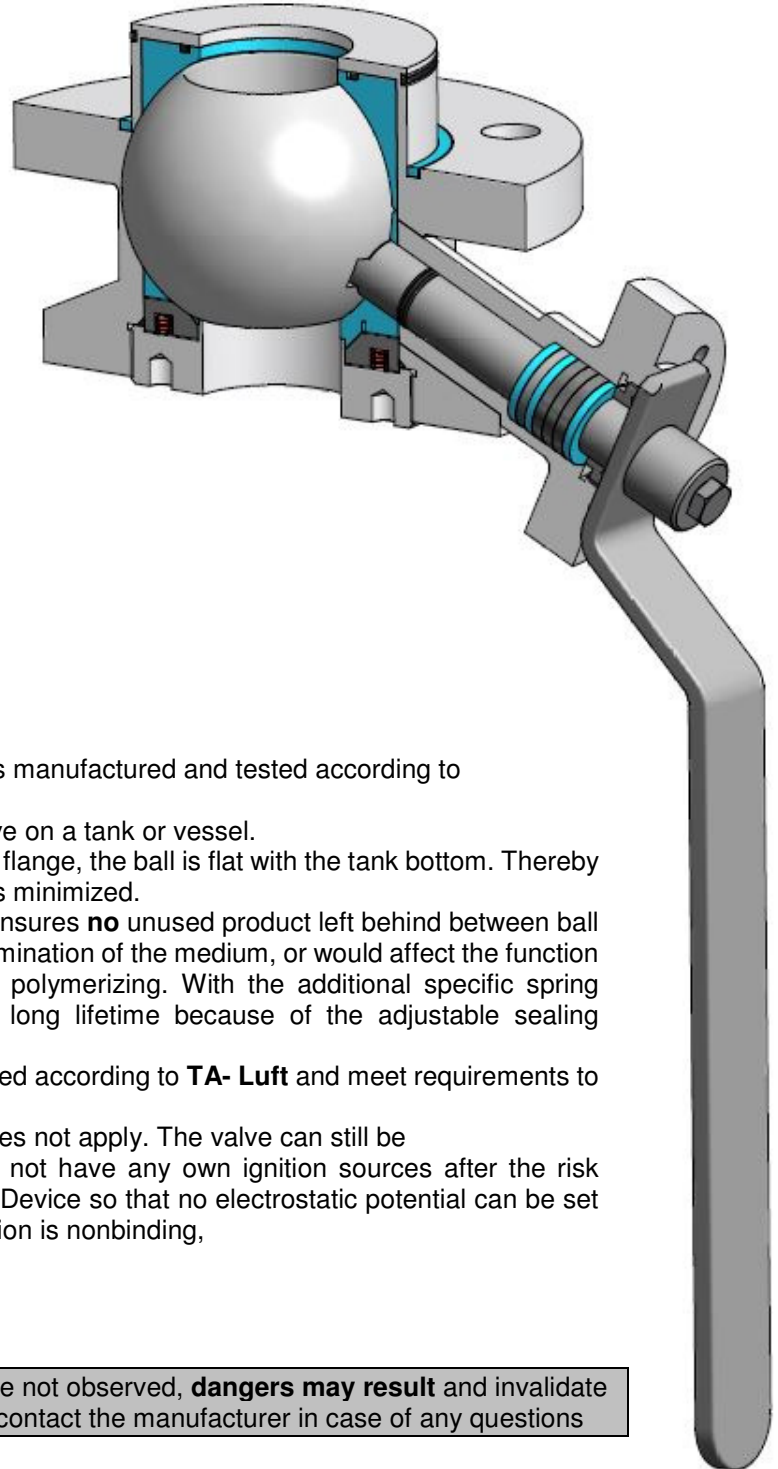


## OPERATING MANUAL

### Bottom outlet ball-valve Type BS

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### 1 General Information

#### 1.1 Introduction

The Bottom outlet ball valve Type BS is manufactured and tested according to DIN EN 12266-1.

It suits very well as a bottom outlet valve on a tank or vessel.

After insertion of the valve into the tank flange, the ball is flat with the tank bottom. Thereby the low sump area at the tank bottom is minimized.

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.

The shaft tightness system is constructed according to **TA- Luft** and meet requirements to **VDI 2440**.

**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 valve has a electrostatic Device so that no electrostatic potential can be set free. 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 befor checking the assembly according to Pressure Equipment Directive (PED) 97/23/EG**

### 1.2 Application Area

Bottom outlet ball valves Type BS are applied for uncritical mediums as such stainless steel and PTFE are resistant. In special cases Hastelloy and PTFE-Derivatives are used.

## 2 Safety

### 2.1 Warning notice



In this instruction very important advices are marked with the hazard symbol. If 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 bottom outlet ball valve has the function to close off. It is not applied for throttling or regulating because the ball valve is not in its end position. Installation area 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 ATEC Bottom outlet ball valves 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

The bottom-outlet ball valve Type BS is a 90°- close off turning valve. The ball- valve closes clockwise and opens the opposite way. In the position “open” the hand lever is in line with the pipeline. In the position “closed” the hand lever position is 90° to the pipeline. The valve can be operated manual by hand lever or automated with electric and pneumatic actuator

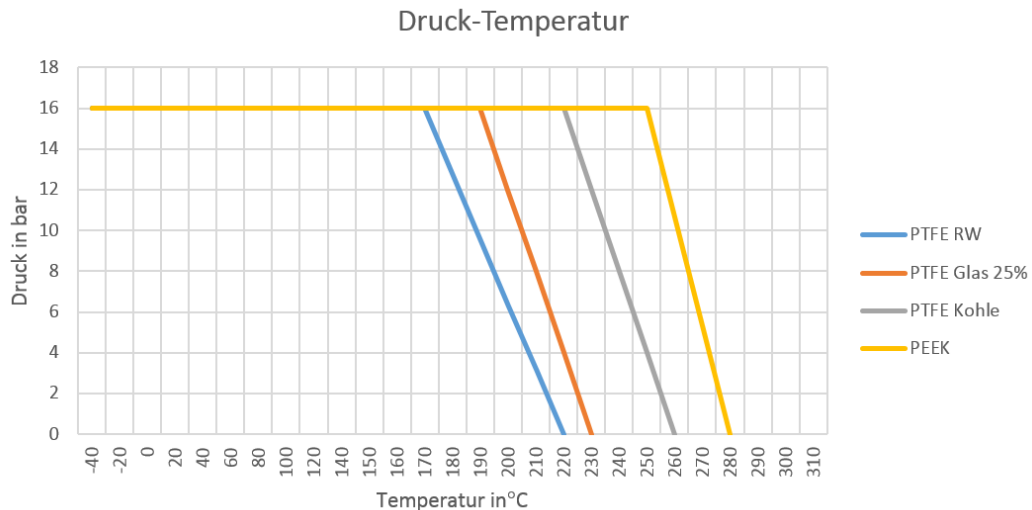
### 4.2 Characteristics

The general characteristics of the ATEC Bottom outlet ball valve 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°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**

Pressure and Temperature chart:



By ignoring these limit values, improper use of the bottom- 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 Preparation, Assembly

### 5.1 Assembly preparation

Make sure, the bottom outlet ball valve Type BS complies with the operating conditions like medium, pressure and temperature.

### 5.2 Assembly

The protection sheet is to be removed.

The bottom outlet ball valve is to be mounted with the smallest outside diameter into the pad-flange of the vessel and bolted together with a flange into the vessel.



**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.**

#### 5.2.1 Usage of flange gasket

Through the use of O-Rings on both sides of the valve a flange gasket is not necessary.

#### 5.2.2 General guidelines and assembly

Pad-flange of vessel to be cleaned in sealing area to obtain a good sealing.

The Atec bottom ball valve is designed for the installation in pad-flange to DIN 28117 or to customer requirements.



**The customer pipelines must be in line and have no displacement to avoid restraint after assembly of the valve. Assembly restraint could have negative effect of the ball valve function.**

**The actuation of a valve causes [terminal reactions](#) of the attached pipeline. Therefore it is necessary to support the outflow-pipe.**

#### 5.2.3 Mounting, Torque, Flange screws

The mounting of the ATEC bottom outlet ball valve should always be done with a torque wrench.

Anzugsdrehmomente der Blockflanschschrauben in [Nm]:

DN	15	20	25	40	50	65	80	100	125	150
PN	16	16	16	16	16	16	16	16	16	16
Nm	22	28	34	56	95	95	100	105	110	110

### 5.3 Assembly accessories

For the assembly of the bottom ball valve Type BS is no other tooling besides a torque wrench necessary.



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#### 5.4 Removal

The valve has to be removed as follows:

- Securing the vessel is empty
- If hazardous residues, attend internal instructions
- close ball valve
- remove flange screws and remove bottom valve carefully.

### 6 Commissioning

#### 6.1 Before first time commissioning

Before first time commissioning the whole pipeline and vessel is to be flushed. If necessary a pressure test is to be conducted.

The bottom valve 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.

#### 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 bottom valve can lead to damage of other system components.

Valves belong often to the safety devices of a installation in critical cases safty

instructions to the attached on to the valve

Valves should only be operated by trained personal.



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## **8 Attendance, Maintenance**

### 8.1 Attendance

Bottom outlet ball valve Type BS need no attendance if used normaly

### 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 wearparts like ballseal, housingseal, stemseal and sealspring.

**we point out that only original ATEC spareparts can be used**

for all future repair 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 Inspection**

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

## **10 Overhauling**

### 10.1 Break-down, 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 a extreme impact of heat threw fire near the valve a leak tightness check has to be made.

## **11 Disposal**

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