

Declaration of Conformity as per Directive 97/23/EC

The manufacturer	Pfeiffer Chemie-Armaturenbau GmbH, 47906 Kempen, Germany
declares that:	Rotary plug valve Series 23a, Series 23b, Series 23k and Series 23s, with PTFE seat seal <ul style="list-style-type: none"> • with worm gear and handwheel • with lever for 90° operation
<p>1. The valves are pressure accessories within the meaning of the Pressure Equipment Directive 97/23/EC and conform with the requirements of this Directive,</p> <p>2. They may only be operated observing the operating instructions <BA23a-02_EN> delivered together with the valve.</p> <p><i>(For rotary plug valves which are intended for dead-end service, see section 2.3).</i></p>	

Applied standards:

AD 2000 Regulations	Regulations for pressurized valve body parts
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Type designation and technical features:

Pfeiffer data sheets <TB23a_EN, TB23b_EN, TB23k_EN and TB23s_EN> <i>NOTE: This Manufacturer's Declaration applies to all valve types listed in this catalog.</i>
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Applied conformity assessment procedure:

Conforming to Annex II of the Pressure Equipment Directive 97/23/EC, Module H
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Name of notified body:

Identification number of the notified body:

TÜV Rheinland Service GmbH Am Grauen Stein 51101 Köln Germany	0035
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These Declarations become invalid when modifications are made to the rotary plug valves that affect the technical data of the rotary plug valve or the <Intended use> described in section 1 of the operating instructions, and considerably change the valve.

Kempen, 1. December 2006

Lorenz Stolzenberg, Managing Director

These Declaration of Conformity and operating instructions have been generated electronically and are legally binding without signature

Operating instructions


Rotary plug valve manually operated

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0 Introduction


These instructions are designed to assist the user during installation, operation and maintenance of rotary plug valves from the Series 23a, Series 23b, Series 23k and Series 23s.

 Note	The WARNING and CAUTION notes must be strictly adhered to. Otherwise this may lead to personal injury and equipment damage and the manufacturer's warranty may become void. Please contact the manufacturer if you have any queries, see section 8 for contact address.
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1 Intended use

After installing the valve in the pipeline, these rotary plug valves are designed exclusively for shutting off or controlling media within the permissible pressure and temperature ranges.

The permissible pressure and temperature ranges for these rotary plug valves are specified in the data sheets <TB23a_EN, TB23b_EN, TB23k_EN or TB23s_EN>.

 Danger	Do not operate a rotary plug valve when its permissible pressure/temperature rating is not sized for the operating conditions specified in the data sheets <TB23a_EN, TB23b_EN, TB23k_EN or TB23s_EN>. Failure to follow these safety precautions may result in personal injury and can damage equipment installed in the pipeline.
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Interpretation of declaration to the Directive 94/9/EC

 Note	Pfeiffer valves have no own potential ignition source after testing the hazardous ignition in accordance to DIN EN 13463-1:2002. Therefore Pfeiffer valves do not come under the directive 94/9/EC. Relating to this directive a CE-marking is not permissible. The valve could be incorporated into potential compensation of plants independent of the directive, valid for metallic parts in hazardous areas.
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Observe the limitations in the above mentioned data sheets if the rotary plug valve is intended for throttling services.

Observance of section 2 <Safety instructions> is presumed for the Intended use.

2 Safety instructions


2.1 General safety instructions

For rotary plug valves, the same safety regulations apply as for the pipelines in which they are installed. These instructions only specify those safety instructions which need to be additionally observed concerning rotary plug valves.

2.2 Safety instructions for the operator

The manufacturer does not assume any responsibility. Therefore, on using the rotary plug valve, make sure the following instructions are observed:

⇒ The valve is to be used only for its intended use as described in section 1.

 Warning	Preventing misuse of the rotary plug valve: It is especially important to make sure that the selected materials for wetted parts in the rotary plug valve are suitable for the media used as well as the prevailing pressures and temperatures. Failure to follow these safety precautions may result in personal injury and can damage equipment installed in the pipeline. The manufacturer does not assume any final responsibility.
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⇒ Make sure that the pipeline has been installed correctly and is checked at regular intervals. The valve body wall thickness must be designed to take into account an additional load F_z in the usual order ($F_z = \pi/4 \cdot DN^2 \cdot PS$) for a correctly sized pipeline.






⇒ Make sure the usual flow velocities are not exceeded in continuous service in this pipeline. Exceptional operating conditions such as oscillations, water hammering, cavitation and large proportions of solid matter in the process medium, especially abrasive, must be clarified beforehand with the manufacturer.

⇒ The valve needs to be connected correctly to the pipeline.

⇒ Rotary plug valves that are operated at temperatures greater than +50°C or lower than -20°C must be protected, together with the pipeline connections, against being touched.

⇒ The valve should only be operated and serviced by personnel appropriately qualified for pressurized pipelines.

2.3 Particular hazards

 Danger	Prior to removing the rotary plug valve from the pipeline or unscrewing the bolts at the bonnet flange, relieve pressure entirely in the pipeline to ensure the process medium cannot escape uncontrollably from the pipeline.
 Warning	Should it be necessary to remove a rotary plug valve from the pipeline, process medium may escape from the pipe or out of the rotary plug valve. In the case of process media that can damage health or are dangerous, drain the pipeline completely before removing the rotary plug valve from the pipeline. Take special care concerning any remaining media that may still be in the pipeline or have collected in the cavities of the valve.
 Warning	Only unscrew or loosen any screws or bolts connecting the body parts after the valve has been removed from the pipeline. Tighten the screws on reassembly with a torque wrench according to repair instructions <EB23a_EN, EB23b_EN, EB23k_EN or EB23s_EN>.
 Warning	<i>For rotary plug valves intended for dead-end service:</i> During standard operation, in particular, with gases or hot and/or dangerous media, mount a blank flange at the free end connection or ensure that the rotary plug valve is properly protected against unauthorized operation.
 Warning	If a rotary plug valve used for dead-end service must be opened in a pressurized pipeline, special care must be taken to ensure that any process media escaping under pressure do not cause any damage.

2.4 Designation of the rotary plug valve

The designation of the rotary plug valve includes the following details:

Details	Designation	Comments																									
Manufacturer	Pfeiffer	Address, see section 8 <Information>																									
Valve type	BR (and number)	e.g. BR 23b = Series 23b, see Pfeiffer catalog																									
Body material	e.g.: 1.4571	Material number acc. to DIN EN 10272																									
Size	DN (and number)	Value in mm, e.g. DN50																									
Maximum pressure	PN (and number)	Value in bar at room temperature																									
Perm. temperature	TS (and number)	PS and TS are associated values at maximum permissible operating temperature and maximum permissible operating pressure.																									
Perm. pressure	PS (and number)																										
Serial no.	e.g.: 2030153/001/001	<table border="0"> <tr> <td>203</td> <td>0153</td> <td>/001</td> <td>/001</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>Valve No. into the Item</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>Item in Commission</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>Commission</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>year of manufacture (e.g. 203=2003)</td> </tr> </table>	203	0153	/001	/001						Valve No. into the Item					Item in Commission					Commission					year of manufacture (e.g. 203=2003)
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				Valve No. into the Item																							
				Item in Commission																							
				Commission																							
				year of manufacture (e.g. 203=2003)																							
year of manufacture	e.g.: 2003	On request of customer the year of manufacture is stamped on the valve.																									
Conformity	CE	Conformity is certified separately by the manufacturer																									
Identification no.	0035	Notified body as per EU Directive = TÜV Anlagentechnik GmbH																									
Direction of flow	➔	Note: see note in section 4.2 <Installation instructions>																									

Table 1 – Designation of the rotary plug valve

Keep the labeling on the valve body and on the nameplate to ensure that the valve can be identified at all times.

3 Transport and storage


Rotary plug valves must be carefully handled, transported and stored:

- ⇒ Store the valve with its protective packing and/or with its protective caps in place in the end connections. Store and transport the rotary plug valves that weigh over approx. 10 kg on pallets (or a similar type of support) right up to the point of installation. The packing is intended to protect the internal valve parts from being damaged.
- ⇒ Store the valve in a closed room before it is installed. Protect it against damaging influences such as dirt or moisture.
- ⇒ Make sure, in particular, that the end connections intended to connect the valve to the pipeline are not damaged through mechanical or other influences. Do not stack rotary plug valves after removing the packaging!
- ⇒ As a rule, rotary plug valves are delivered in the completely open position. Store the valves in the condition they were delivered in. Do not activate the lever/gear.


4 Installation in the pipeline

4.1 General

The same instructions apply for installing the rotary plug valves in the pipeline as for connecting pipes and similar pipeline equipment. The following instructions additionally apply for rotary plug valves. Also observe section 3 for transporting the rotary plug valve to the point of installation.


 Note	The mating flanges must have smooth facings Contact the manufacturer if you intend to use other flange forms.
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The following warnings are to be observed for Series 23k Rotary Plug Valves including a seat with metal sealing:


 Caution	To avoid that the seat seal is damaged, make sure the pipeline upstream and downstream of the place of installation is carefully cleaned from all hard and abrasive foreign material prior to installation of the butterfly valve.
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4.2 Installation instructions

- ⇒ Transport the valve in its original packaging right up to the point of installation. Remove packaging first at the point of installation.
- ⇒ Check valve for signs of damage that may have occurred during transportation. Do not install a damaged rotary plug valve.
- ⇒ Prior to installation, carry out a function check. The valve must open and close properly. Any function errors that are recognized must be remedied before commissioning. See also section 7 <Troubleshooting>.
- ⇒ Make sure that only rotary plug valves are installed when their pressure rating, end connections (flow rate) and face to face dimensions match the conditions of application. See the designation of the rotary plug valve.

 Danger	Do not install a rotary plug valve if its permissible pressure/temperature ranges do not apply to the operating conditions. The limits of application are marked on the valve, see section 2.4 <Designation>. The permissible range is determined in section 1 <Intended use>. Failure to follow these safety precautions may result in personal injury and can damage equipment installed in the pipeline.
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- ⇒ Make sure the end connections of the pipeline are aligned with the rotary plug valve's end connections and their ends have parallel planes.
- ⇒ Prior to installation, carefully clean the valve and the connecting section of the pipeline from dirt, especially hard foreign material.
- ⇒ The valve can be installed in any position. However, if possible, the gear should not be located directly underneath the rotary plug valve.
- ⇒ Make sure the arrow on the valve body corresponds with the direction of flow in the pipeline.

 Note	In special cases, it may be necessary for the valve to be tightly shut against the direction of flow. The installation in such special cases must be determined by the operator of the pipeline (e.g. to protect a pump).
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- ⇒ On inserting the valve (and any flange gaskets) into a ready mounted pipeline, keep a certain clearance between the pipeline ends to ensure that all facings (and gaskets) remain undamaged.

5 Pressure check in pipeline section



The pressure check of valves has already been carried out by the manufacturer. To check the pressure of a section of pipeline with installed valves, the following points must be observed:

- ⇒ Carefully flush newly installed pipes to remove any foreign material.
- ⇒ **Valve OPEN:** The test pressure should not exceed the value **1.5 x PN** (see nameplate).
- ⇒ **Valve CLOSED:** The test pressure should not exceed the value **1.1 x PN** (see nameplate).

If a valve leaks, see section 7 <Troubleshooting>.

6 Standard operation and maintenance

Normal manual force is sufficient to operate the manual operation. Turn the handwheel clockwise to close the valve. It is not permissible to use extensions to increase the operating torque.

 Note	<i>Rotary plug valves with lever:</i> The lever's position indicates the position of the valve: Lever at an 90° angle to the pipeline: Valve CLOSED , Lever parallel to the pipeline: Valve OPEN .
 Danger	Do not open and close the valve with sudden movements, but quick enough to prevent pressure surges and/or temperature shocks occurring in the pipeline. Failure to follow these safety precautions may result in personal injury and can damage equipment installed in the pipeline.


The plug stem is sealed with a PTFE / carbon-graphite packing preloaded with a set of spring washers and does not require any maintenance.

Regular maintenance work on the rotary plug valves is not necessary. Rotary plug valves with double packing (standard version of Series 23k valve, special version of Series 23a, Series 23b and Series 23s valves) are fitted with a leak-off connection in the packing flange. Open the connection to check whether the V-ring packing is leaking.

If a valve leaks, proceed as described in section 7 <Troubleshooting>.

7 Troubleshooting

Observe the safety instructions listed in section 2 on troubleshooting.

 Warning	<i>To remove a valve from a pipeline containing dangerous media and to take it out of the plant:</i> Decontaminate the valves properly first.
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Type of fault	Action to be taken	Comment
Leak at the connection to the pipeline	Tighten flange bolts. <i>If it still leaks:</i> Replace the flange gasket and/or valve (observing the instructions in section 2.3 <Particular hazards>).	
Leak at the connection between valve body parts	Tighten bolts/screws with a torque wrench, see Pfeiffer repair instructions <EB23a_EN, EB23b_EN, EB23k_EN or EB23s_EN <i>If the valve still leaks:</i> Remove the valve (observing the instructions in section 2.3 <Particular hazards>) and replace the gaskets. Contact Pfeiffer for spare parts and necessary instructions.	Note 1: <i>When ordering spare parts, include all the specifications listed in the valve designation. Only use original parts from Pfeiffer.</i>
Leak at the stem packing	Remove the valve (observing the instructions in section 2.3 <Particular hazards>), dismantle the valve and replace the shaft packing. Contact Pfeiffer for spare parts and necessary instructions.	Note 2: <i>If, after removing the valve from the pipeline, it is found that the body and/or internal parts are not sufficiently resistant to the process medium, select parts made of a suitable material.</i>
No tight shut-off when the valve is closed	Remove the valve (observing the instructions in section 2.3 <Particular hazards>) and check it. <i>If the valve is damaged:</i> If it must be repaired, remove the valve, observing section 2.3 <Particular hazards>. Contact Pfeiffer for spare parts and necessary instructions	
Malfunction	Remove the valve (observing the instructions in section 2.3 <Particular hazards>) and check it. <i>If the valve is damaged:</i> If it must be repaired, remove the valve, observing section 2.3 <Particular hazards>. Contact Pfeiffer for spare parts and necessary instructions.	

8 Further information

Contact the address below for the listed <Data sheets> and <Repair instructions> as well as further information.

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