

Maintenance

Series 26s Ball Valve



Fig. 1 – Series 26s Ball valve Series 31a Quarter-Turn Actuator

0. Introduction

These instructions are intended to support the user in the assembly and repair of ball valves of the Series 26s.

Technical details, as a result of the further development of the valves mentioned in these instructions, are subject to alteration.

The text and illustrations do not necessarily display the scope of supply or an eventual order of spare parts. Drawings and graphics are not to scale.

Customer-related special designs, which are not in accordance with our standard offer, are not shown.

The transfer of these instructions to third parties is only allowed with the written approval of Pfeiffer Chemie-Armaturen-bau GmbH.

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The equipment may only be dismantled and disassembled by skilled staff who are familiar with the assembly, the start-up and the operation of this product.

Skilled staff in the sense of these repair and assembly instructions are persons who, as a result of their training, their knowledge and their experience, as well as their knowledge of the relevant standards, are able to judge the tasks assigned to them and are able to recognize possible dangers.

1. Design, operation and dimensions

Design, operation and dimensions as well as all further details and technical data may be found in the **data sheet** < **TB 26s_EN** >.

2. Installation, start-up and maintenance

Guidelines for the installation, start-up and maintenance are to be found in the **operating instructions** < **BA 26a-01_EN** > for pneumatic ball valves, resp. < **BA 26a-02_EN** > for hand-operated ball valves.

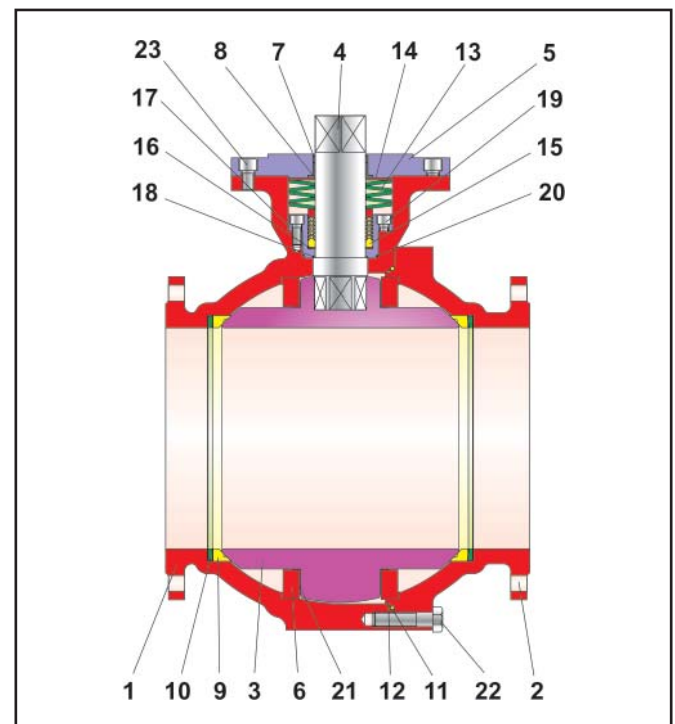


Fig. 2 – Cross-section through a Series 26s Ball Valve => for parts list see table 1 on page 2

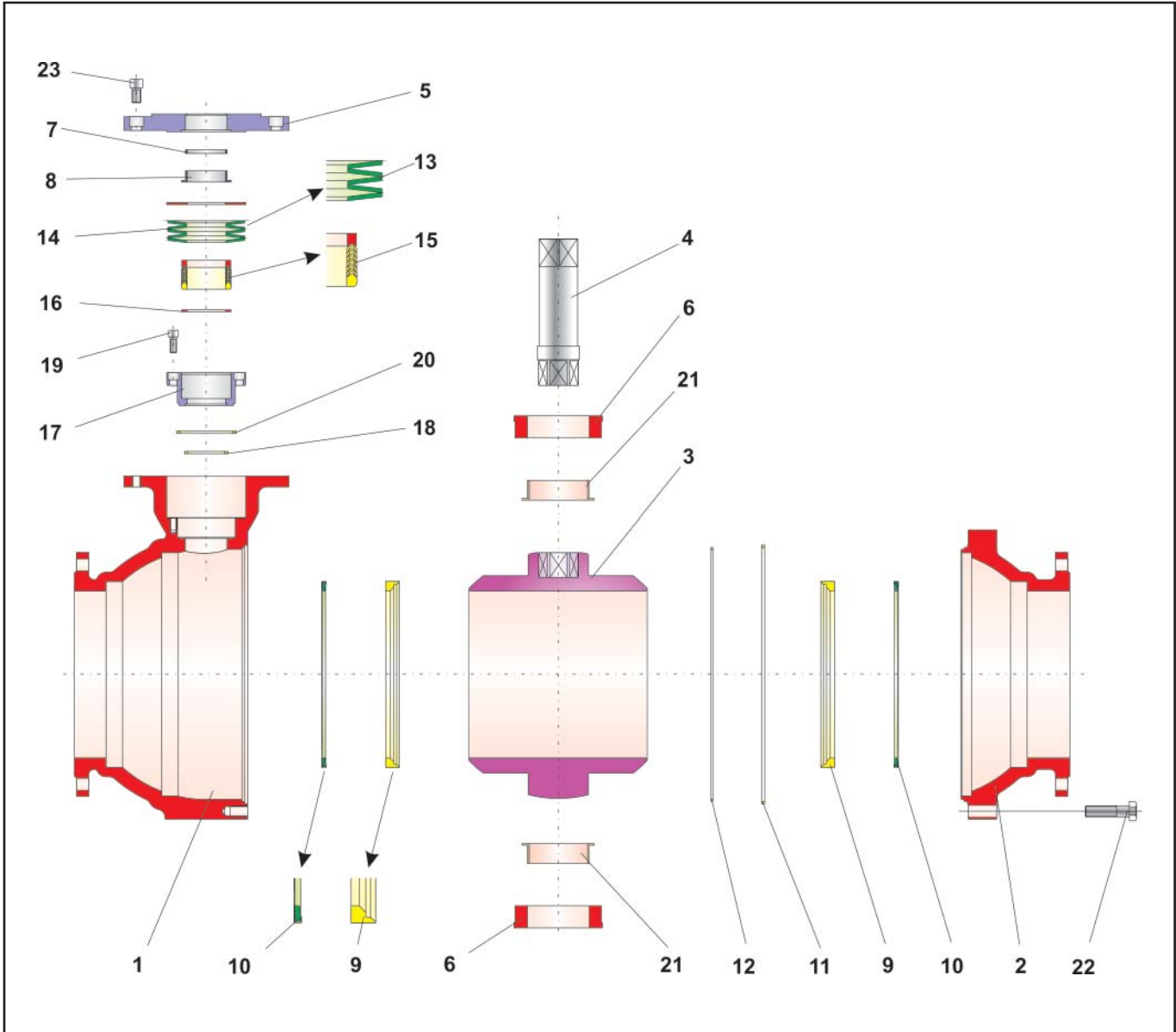


Fig. 3 – Detail drawing of Series 26s Ball Valve

Item	Description	Material
1	Main body	1.4408
2	Side body	1.4408
3	Ball	1.4408
4	Control shaft	1.4462
5	Stuffing box flange	1.4571
6	Bearing	1.4571
7	Bearing bushing	PTFE with carbon
8	Bearing bushing	PTFE with carbon
9	Sealing ring	TFM
10	Spring washer	1.4401
11	Ring	PTFE
12	Ring	PTFE

Item	Description	Material
13	Set of spring washers	1.8159 / Delta Tone
14	Thrust washer	1.4305
15	V-ring packing	PTFE / 1.4305
16	Thrust washer	1.4571
17	Bushing	1.4571
18	Ring	PEEK
19	Screw	A2-70
20	Ring	PTFE
21	Bearing bushing	MP6
22	Screw	A2-70
23	Screw	A2-70

Table 1 – Parts list and materials of construction

3. Assembly of the ball valve

3.1 Preparation for the assembly

In order to assemble the ball valve, all the parts must be prepared, i.e. the parts are carefully cleaned and placed on a soft surface (rubber mat or similar).

Please, pay attention! Plastic parts are nearly always soft and very sensitive, and particularly the sealing surfaces should not be damaged.



Caution:

In order to prevent a cold welding of the screws in the bodies, a high-performance grease paste is employed during manufacturing (e.g. Gleitmo 805. from Fuchs).

For valves employed in oxygen environments, this agent may not be used. For grease-free valves, especially when employed in an oxygen environment, a suitable lubricant is to be chosen.



Note: The position and arrangement of the individual parts shown in the detail drawing (Fig. 3) are to be observed during assembly.

3.2 Assembling the ball valve

Fit the PTFE jackets onto the disc springs (9) such that the long side of the jackets can be placed on the body and their short side can be placed on the seat ring; otherwise tight shut-off cannot be ensured.

Insert the encapsulated disc springs into the appropriate chambers in the main body (1) and body (2) such that the washers rest inside the chamber near the bore. For details on the mounting position of the disc springs refer to the exploded drawing (Fig. 3).

Place the seat rings (9) onto the disc springs.

Insert the bearing bushings (21, with recess) into the bearings (6).

The bearings with the bushings are to be pressed or hammered (using a plastic hammer) onto the spigots of the ball (3).



Note!

Make sure the bearings fit straightly and do not get jammed.

Fasten the ball (3) into the main body (1) at the four thread bores for the bearings (6) using ring bolts.



Note!

Do not lower the ball onto the body wall. Make sure the bearings (6) are arranged evenly inside the body chamber.

Pull the seals (11 and 12) of the body parts over the centre of the body (2) and place them on the main body (1).



Note!

Be careful not to damage the seals (11 and 12) while mounting them.

Slightly fasten all screws (22) of the body parts evenly. Use the shaft (4) to align the ball (3) inside the ball valve. Firmly fasten all screws (22).

Push the ring (18) onto the shaft. Insert the seal (20) into the bushing (17). Insert the metal washer (16) and the V-ring packing (15) into the bushing (17). For details on the arrangement of the V-rings refer to the exploded drawing (Fig. 3).

Carefully push the bushing (17) over the shaft (4) into the main body (1).

Fasten the bushing with the screws (19). Stack the Belleville spring washers (13) onto the metal washer of the V-ring packing (15). For details on the arrangement of the spring washers refer to the exploded drawing (Fig. 3).

Place the thrust washer (14) onto the Belleville spring washers and insert the packing flange (5) including the bearing bushings (7 and 8).



Note!

Make sure the thrust washer (14) slides into the body without getting jammed when tightening the screws (23).

Assembly of the ball valve is now completed.

4. Malfunctions and their elimination

Assistance in the case of malfunctions is provided in the **operating instructions**

< BA 26a-01_EN > for automatic control ball valves, resp.

< BA 26a-02_EN > for manually-operated ball valves under section 7.

5. Repair of the ball valve

5.1 Exchange of the packing

If a leak is detected at the stuffing box, the PTFE rings of the packing (15) may be defect. It is recommendable to check the condition of the packing.

To remove the packing, the valve is disassembled in the reverse order to that described in chapter 3.

The PTFE rings of the packing are, together with all plastic parts, checked for damage and, in case of doubt, exchanged.

5.2 Exchange of the sealing unit and the ball

If the ball valve is untight in the bore, the sealing ring set (9a and 9b) and the ball (4) may be defect. It is recommendable to check the condition of these components.

To remove the sealing rings and the ball, the valve is disassembled in the reverse order to that described in chapter 3.

The sealing rings and the ball are, together with all plastic parts, checked for damage and, in case of doubt, exchanged.

5.3 Further repair work

In case of further more serious damage, we recommend the repair work to be carried out by Pfeiffer.

6. Queries to the manufacturer

(in case of queries please provide following information)

1. Order number (embossed on the type plate)
2. Type, product number, nominal diameter and design of ball valve
3. Pressure and temperature of the flow medium
4. Flow rate in m³/h
5. Drawing of installation, if possible