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MIRAB CO.

Manufacturer of Industrial Valves
and Relevant Equipment

Installation, operation and maintenance Manual

Soft sealing Gate valves



Product Description:

The Soft sealing Gate valve is used to open and close the flow.

Mirab Company produces this type of valve from size 50 to 400 mm and for working pressures up to 16 Bar.

The components of this product (based on Mirab normal production) are presented on page 4.

Application :

-Basically, this type of valve is designed to isolate the flow, and if it is used for control of flow, it will cause the phenomenon of cavitation and as a result, damage to the body and internal components. Therefore, it is necessary to consider parameters such as upstream and downstream pressure, flow rate, fluid velocity, and cavitation index when selecting the valve. Mirab Company does not recommend using this type of valve for control applications.

-Suitable for raw water, drinking water, sewage, oil, compressed air as well as all neutral gases.

Working Temperature for Coatings	
Coating	Temperature (°C)
RAL 5005 (Epoxy Powder)	Up to 70
RAL 7001 (Epoxy Powder)	Up to 110
RAL 9001 (ZINGA)	Up to 150
RAL 9001 (SILICONE ACRYLIC)	Up to 250

Types of Sealing Ring	
NR	Up to 50°C
NBR	Up to 70°C
EPDM	Up to 120°C
EPDM (Hi Temp.)	Up to 150°C

Manufacturing Standards:

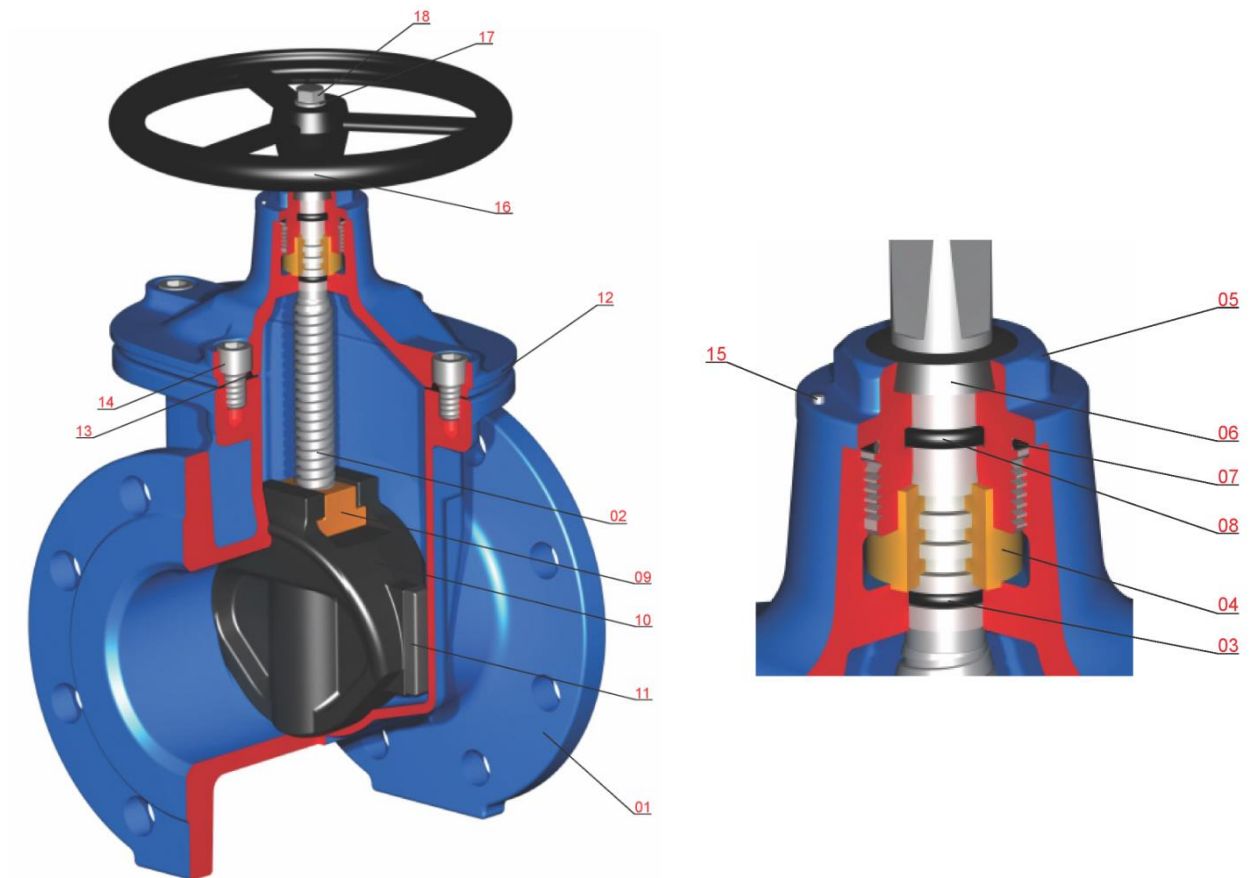
For all valves acc. to Mirab normal production, the manufacturing standards are as follows:

- Design Standard: DIN EN 3352 – Part 4
- Flange to Flange Standard:
DIN EN 558-1 Series 14 (DIN 3202-F4) & DIN EN 558-1 Series 15 (DIN 3202-F5)
- Flange drilling: DIN EN 1092-2 (DIN 2501)

Product Technical Features:

- By clockwise rotation of the handwheel, the valve closes.
- Due to the elastomeric surface of the wedge, a suitable sealing is achieved by applying minimal torque.
- The valve bonnet to body connection is by hexagonal bolts, and the valve can be easily serviced in the line.
- Stem rotates around its axis and does not come out of the body. (Non-Rising)
- The stem nut is made of special brass and is wear-resistant.
- Teflon guides are made of special polymer which reduces wear on the body and reduces the required torque.
- It is possible to equip the valve with an electrical and pneumatic actuator by Mirab Company.
- Proper sealing is done on both sides equally and appropriately.
- Stem sealing is done by O'ring.

Introduction and Technical Specifications of Valve Components:



No.	Parts Name	Material	1	2
1	Body	EN 1563/ EN-GJS-400-15		
2	Stem	DIN EN 10088-3/1.4021	•	
3	O-ring	NBR	•	•
4	Bush	Brass		
5	Luck nut	EN 1563/ EN-GJS-400-15		
6	Dust seal	EPDM	•	•
7	O-ring	NBR	•	•
8	O-ring	NBR	•	•
9	Stem nut	DIN EN 12163/2.0540	•	
10	Wedge	EN 1563/ EN-GJS-400-15 Fully Covered with EPDM	•	•
11	Wedge Aligner	POM	•	
12	Bonnet	EN 1563/ EN-GJS-400-15		
13	Washer	EPDM	•	•
14	Socket head screw	DIN ISO 898-1 Property Class 8.8, Zinc Plated		
15	Pin	1.2210	•	•
16	Hand wheel	EN 1563/ EN-GJS-400-15		
17	Washer	DIN ISO 898-2 Property Class 8, Zinc Plated		
18	Hexagonal Bolt	DIN ISO 898-1 Property Class 8.8, Zinc Plated		

1. Recommended spare parts
2. Depreciable parts

Column 1: Includes the proposed spare parts that are recommended to the customer, but some of these parts depend on the installation and maintenance conditions as well as the conditions of service and operation.

Column 2: Includes depreciable spare parts, which often include elastomeric sealing parts. These parts must be prepared by the customer and replaced within a specified time. Of course, the conditions of installation, performance, and service affect the replacement schedule, but in general, Mirab's recommendation is to replace these parts within 5 years.

Installation and operation Notes for Soft sealing Gate valves:



Before starting to install and operate this product, please read all the notes in the General manual for the installation, operation, and maintenance of Mirab Co. products.

- It is recommended that the valve be installed at least 3 to 5 times the diameter of the pipeline from the installation point of the elbow, tee, and strainer.
- Open and close the valve once before installation to make sure that it is working properly .
- Mirab gate valve can be installed in the pipeline from both sides.
- The valve can be installed in the pipeline at any position and angle.
- Place the sealing gasket on the surface of the valve flange and secure it with gasket adhesive.
- Place the valve between two pipeline flanges pass a few bolts of the appropriate length through the holes at the bottom of the flange and tighten slightly.
- Pass the other bolts and tighten their nut slightly. Finally, tighten the bolts crosswise. The amount of protrusion at the ends of all bolts should be approximately the same.
- Use special pipe wrenches and Flat wrenches.
- After the valve is fully installed, wash the pipeline with the fully open valve according to the instructions for the operation of the water supply lines.
- The valve should be easily opened and closed. Open and close the valve completely several times.
- The valve is ready for operation at this time.
- After you have placed the valve in the fully open position, turn the valve about a quarter of a turn in the direction of closing (clockwise) so that the internal parts of the valve, including the stem nut, are not under stress and pressure.

Maintenance and repair notes for Soft sealing gate valve:

- To replace the spare parts of the Soft sealing gate valve, there is no need to remove the valve from the pipeline and the steps can be done according to the following descriptions.
- Before performing any repairs, it is necessary to drain the pressure of the pipeline. As long as the valve is under fluid pressure, opening the valve will not be allowed. Also, the couplings and fittings should not be opened under pressure.
- After the completion of the service and repairs and before restarting the line, all the connections should be inspected and tightened.

Replacing spare parts:

• If the valve leaks from the inlet of the stem to the bonnet:

1. Rotate the hexagonal nut in a counterclockwise direction with the appropriate wrench to shear the pin connecting the nut to the bonnet.
2. By turning the stem through the valve, remove it from the body of the valve.
3. Replace the body washer and the O-rings carefully.

• If there is a leak from the Body to the Bonnet area:

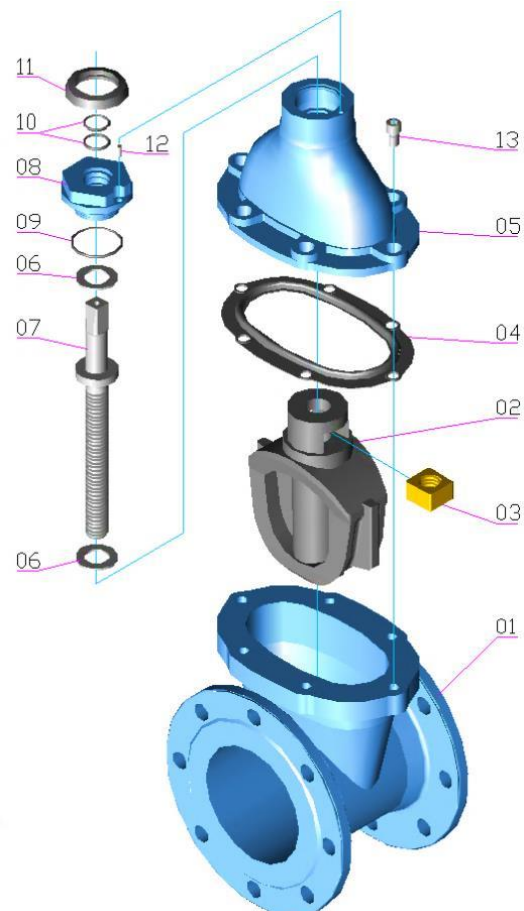
1. Unscrew the bolts which connect the bonnet to the body.
2. Remove the bonnet, stem and wedge together.
3. Replace the sealing washer between the bonnet and the body after cleaning its location.

• Replacing other spare parts:

1. Check the appearance of stem and stem nuts and replace them if they are corroded or damaged.
2. The Teflon guides of the wedge should also be replaced if they are damaged.
3. Check the seating area of the wedge on the inner surface of the body. If there is a lot of corrosion and damage in this place, it is recommended to remove the valve from the pipeline and send it to Mirab Company for repairs.

Gate Valve Assembly: After replacing the spare parts, assemble the valve in the order of item numbers according to the image and table.

01	Body
02	Cast iron Wedge Fully Covered with EPDM
03	Stem Nut
04	Washer
05	Bonnet
06	Washer
07	Stem
08	Lock nut
09	O-Ring
10	O-Ring
11	Dust seal
12	Pin
13	Socket head screw





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