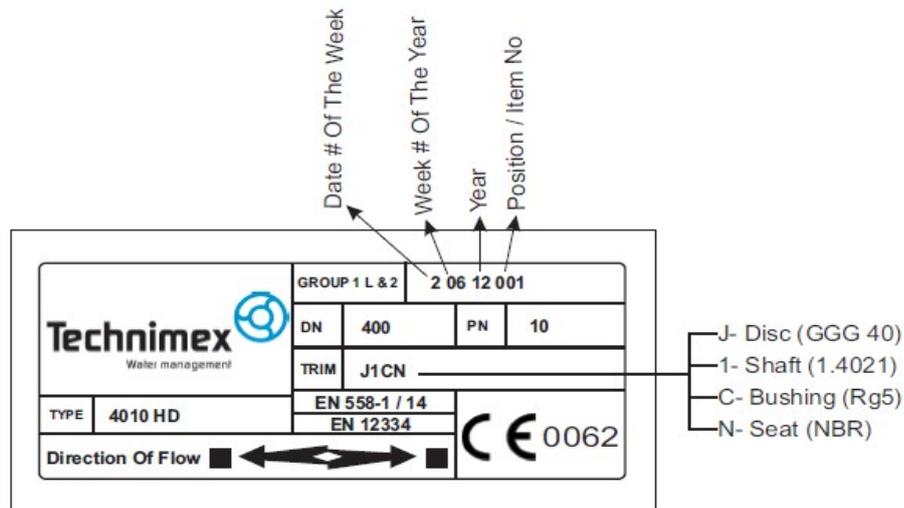


TYPE 4010 DOUBLE FLANGED DOUBLE ECCENTRIC CHECK VALVE WITH COUNTERWEIGHT INSTALLATION & MAINTENANCE MANUAL

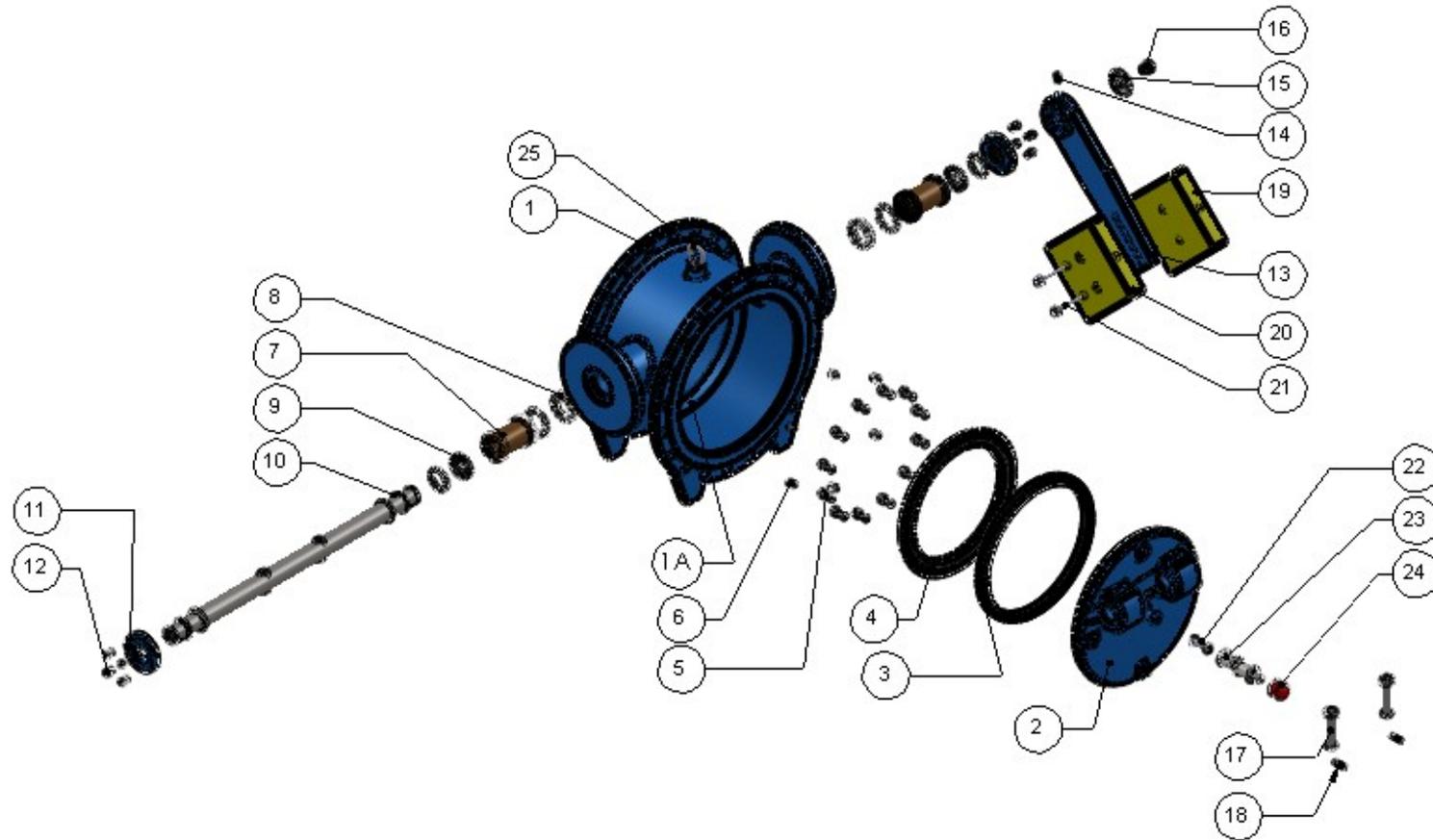
1-Product Description

Type 4010 is a unidirectional resilient seated check valve with double eccentric design. The valve disc is double offset to a very high degree and is opened by the upstream flow. Closing of the valve happens as a result of the opposite movement caused by the counter weight and the weight of the disc.

2-Identification



3- Part list



P.NO	PART NAME	MATERIAL
1	Body	GGG 40-50
1A	Body seat	Stainless Steel With Welding
2	Disc	GGG 40-50
3	Disc Seat	EPDM-NBR
4	Retaining ring	St 37,AISI 304, AISI 316
5	Bolt	AISI 304
6	Setscrew	AISI 304
7	Front - Back Bushing	Bronze, Delrin
8	O-ring	NBR
9	O-ring	NBR
10	Shaft	AISI 420
11	Front - Back cover	St 37
12	Bolt	8.8
13	Weight lever	St 37
14	Setscrew	8.8
15	Washer	AISI 1050
16	Bolt	8.8
17	Pin	EN 1.4021
18	Coater Pin	Stainless Steel
19	Weight	St 37
20	Weight	St 37
21	Bolt	8.8
22	Setscrew	AISI 304
23	Stopper	EN 1.4401
24	Stopper	Vulkalon
25	Lifting eye	ASTM A105

Seat selection

<i>ELASTOMER TYPE</i>	<i>CODE</i>	<i>APPLICATION AREAS</i>
EPDM	E	Air, water, ethyl alcohol, sugar industry, Ammonium weak acids, Hot water (-30°C +130°C)
HEAT EPDM	E1	Hot water steam (Refer to EPDM) (-30°C +145°C)
NEOPRENE	C	Alkali acids, Acids base (-40°C +95°C)
NBR / BUNA-N®	N	Gasoline, Diesel oil, Vegetable oils, Machine oils, Natural gas Sea Water, Synthetic thinner (-30°C +90°C)
VITON® / FKM	V	Acid, Detergant, Water, Steam, Vegetable oils (-30°C +200°C)
HYPALON	H	Petroleum, Hidroxides, Alcohol, Alkali (-30°C + 135°C)
SILICONE	S	Vegetable oils, Water, Steam (-55°C +175°C)
Natural Rubber / NR	R	Abrasion resistance, cement, sand, lime stone etc. (-25°C +85°C)

Note: These temperatures are displayed only for the valve seat.

Please check also the temperature for other valve parts of the valve plus actuator

4-Safety Instructions

The same safety requirements apply both for the valve and the actuator as well as for the pipeline in which the valve is installed. The instructions in this manual provide safety instructions only for the valves.

The customer must not change or modify the valve or mounting parts/fittings that are supplied with the valve. The manufacturer is not liable for any damage when the valve is not installed according this instruction.

The valves should be used according to general accepted technical rules. No valve should be in operation at temperatures or pressures which differ from the valve's specification. The valve specifications, such as operating temperatures and pressures, are described in the quality documentation or may be written in the order confirmation.

The manufacturer may give approval to using the valve in other conditions after thorough consultation and or testing.

The customer should be aware that all parts of the valve coming in contact with the medium are suitable for that medium. The manufacturer will not be liable for damages resulting from corrosion caused by the medium, see above mentioned 'selection seat table'.

Access to the moving area of the counterweight and hydraulic damper should be limited. Protective guards need to be installed.

5-Transportation and Storage

Check valves have to be handled, transported, and stored carefully:

- The check valves need to be transported and stored with the disc in closed position.
- The check valve has to be transported and stored in its protective package until the valve is installed.
- The valves should be stored in indoor setting and need to be protected against contaminations, solar radiation or moisture. The valves must be protected against dirt and damagings on the building site. The sealing ring should not be exposed to direct light and the disc seat should also kept clean from debris. The valve (disc and seat) should be cleaned before installation.
- Valves should not rub together or should not come into contact with metal surfaces during transportation. This should be taken into account when the valves are packed for transport.
- Damages occurred during transportation, loading and unloading of the valves are not covered by the warranty.

6- Installation to the line

- Before the installation, remove all packing material. Please leave enough space for easy installation and maintenance. The customer should protect the valve against the effects of the weather conditions in case of outdoor installation.
- Supply connection flanges matching to valve pressure ratings.
- For flange gaskets we advise steel reinforced elastomer gaskets, type 8000 from Asteknik.
- Weld the flanges appropriately to the face to face dimensions of the valve but parallel to the pipeline.
- Install the check valve between the two flanges according to the flow direction.
- Please check the flow direction on the valve type shield.
- Put the gasket, with suitable flange connection, between the flanges and tighten them by bolts.
- These check valves should not be installed directly upstream or downstream in the pipeline, while the valve disc extends beyond the body flanges. The disc could hit to these parts or the flow could be disturbed because the disc does not open completely. A dismantling joint is required.
- Before filling the pipeline with water, check the valve for easy operation. Operate the counter weight over the total travel (90°). Do not drop the counter weight.

7- Maintenance

Type 4010 is equipped with maintenance free bearings. Before starting to work on the valve, the valve should be closed and the pipe section should be unpressurized.

The elastomer disc seat can be replaced by taking off the retaining ring.

Consider to have the disc seat and some shaft O-rings as spare parts.

- Check external condition of the valve including the counterweight and the hydraulic system.
- If necessary clean the valve and check tightness at the flanges.
- Check the operation of the valve.
- Close the valve and check seat tightness.
- Check the pressure drop upstream and downstream of the valve.

If you detect leakage from the valve stem after operating some time:

- a) Support the disc (number 2) from bottom or suspend the disc with a lift device.
- b) Loosen the bolts (number 12) and take off the back and front covers (number 11) by pulling the bolts.
- c) Take off the shaft (number 10), and the bushings (number 7) by pulling the bolts.
- d) Change the O-rings (number 8 and number 9).
- e) Follow the second and third steps vice versa.

If the valve is not tight at closing position:

- 1) Tighten the corresponding bolts (number 5).
- 2) If the leakage still continues, change the disc seat (number 3) and take the following actions:
 - a. Turn disc (number 2) to semi-closed position.
 - b. Loosen the bolts (number 5) and take off the retaining ring (number 4).
 - c. Replace the disc seat (number 3) with a new one and put on the retaining ring (number 4).
 - d. Place the bolts (number 5) and tighten them.

