ECON BUTTERFLY VALVES Fig. 4620, 4630, 5720, 5730, 5820, 5830, 6020, 6030, 6120 and 6130

Fig. 4620-4630

Fig. 5720-5730

Fig. 5820-5830

Fig. 6020-6030-6120-6130

Content

1. ERIKS operating companies

ECON butterfly valves are being delivered by several ERIKS operating companies on a worldwide basis. In this manual these will be referred to as 'ERIKS', the individual terms of delivery of the ERIKS operating company having executed the order are applicable.

2. Product description

The ECON butterfly valves are designed according the information in our latest catalogue or see our website www.eriks.com and should be used in accordance with the applicable pressure-temperature rating as stated on this website. ECON butterfly valves are provided with casted markings according to EN 19. The marking makes the identification of the valve easier and contains:

- size (DN)
- pressure rating class
- body material marking
- heat numbers (when required)
- CE marking when applicable
- ECON logo

3. Requirements for maintenance staff

The staff assigned to assembly, operating and maintenance tasks should be qualified to carry out such jobs and in any circumstance, ensure personal safety.

4. Transport and storage

ECON butterfly valves must be stored dry and dust free. In humid rooms, a drying material or heating must be used to avoid condensation. The valve is supplied with the disc in a slightly open position. This will have to remain until the installation is complete. (Fig.1) . The paint is a base coat to protect against corrosion during transportation and storage. Do not damage the paint protection.

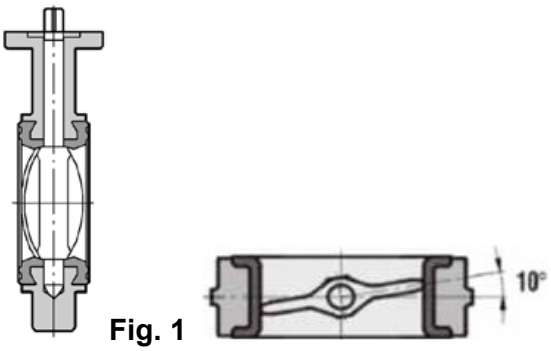

Fig. 1

5. Function

ECON butterfly valves are designed for interruption or restriction of the flow of liquids and gases. The valve is closed by turning the lever clockwise; please don't use tools to increase the torque on the lever.

6. Application

The ECON butterfly valves can be used in general industrial and maritime systems for media such as (ballast) water, gases, hydrocarbons and light corrosive media up to a maximum of 16 bar. The valves are designed for standard operating conditions. For the use of extreme conditions e.g. aggressive or abrasive media, it is recommended to mention this at the ordering stage, to verify whether the valve is suitable. The installation designer is responsible for the valve selection, suitable for the working conditions. The valves are unsuitable, without written permission of an ERIKS company, to apply for hazardous media as referred into Regulation (EC) No 1272/2008.

7. Installation

During the assembly of the ECON butterfly valves, the following rules should be observed:

- Make sure that the to be installed butterfly valve is suitable for the operating conditions (pressure / temp.) and is suitable for installation between the flanges.
- Never use a medium which could attack/damage the inside of the valve.
- Remove flange covers if present.
- The interior of valve and pipeline must be free from foreign particles.
- Preparing installation & Positioning: When installed in a horizontal pipeline it is recommended that the butterfly valve is to be mounted with the valve stem in horizontal position, as such that the bottom of the disc will open in the direction of the flow. This prevents sludging of the flow and accumulation of dirt. (Fig. 2). Gasket: Do not use a gasket or grease. (Fig. 3).
- Avoid damage to the rubber liner/seat during handling, storage and installation.
- The contact surfaces of the flanges must be smooth and clean and must have a smooth finish of Ra 3,2 to 12,5 micro meter.

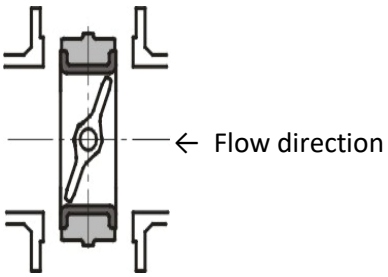

Fig. 2

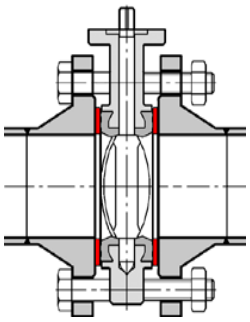

Fig. 3

- ERIKS recommends to mount rubber lined butterfly valves between flanges, which have the same inner diameter as the valves. This will extend the lifetime of the liner/seat and it will also create an optimal flange sealing. Flanges according to EN1092-1 type 11 do meet these requirements. Other types might cause difficulties. Flanges with a smaller bore than the valve itself, might damage the disc. Please use spacers when necessary. (Fig. 4). Under no circumstances should the valve be installed between non-parallel flanges. The axes of the pipeline and the butterfly valve must be aligned. The disc of an eccentrically mounted butterfly valve can be damaged (Fig. 5). It is also not allowed to weld the pipeline if the valve is mounted between the flanges. This could permanently damage the valve. The flanges should have sufficient opening so that the valve can easily be placed between the flanges. The disc should be slightly open (Fig. 6). If the opening

between flanges is too close the lining could be damaged. Insert the flange bolts while the disc is still a bit open and tighten the bolts by hand (Fig. 7). If the bolts are tightened while the valve is closed, the liner will be incorrectly tensioned. This will increase the torque and the valve can leak. Open the butterfly valve now completely (Fig. 8) and make sure the pipeline is aligned properly. Tighten the bolts evenly crosswise.

- Flexible gaskets are not allowed between butterfly body flange and counter flange..
- The butterfly valve must be installed in open position if possible, but the disc should not protrude beyond the housing.

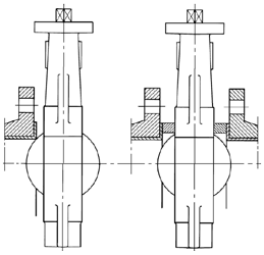

Fig. 4

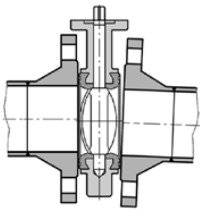

Fig. 5

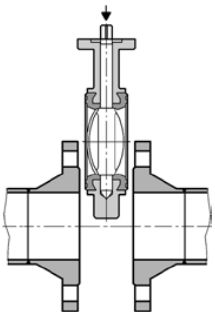

Fig. 6

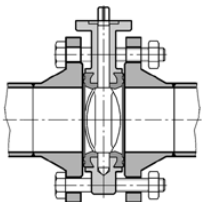

Fig. 7

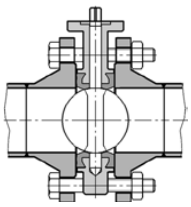

Fig. 8

- Make sure that the weight of the butterfly valve, does not bend the pipeline which causes pipe stress. If necessary extra pipe supports need to be made.
- To prevent damage to the body of the valve due to reaction forces from the piping, no line tension may be transmitted to the valve.
- In the event of an underground installation it must always be taken into account that there is a good support of the area, due to load forces from above.
- If mounted outside, the danger of snow and ice load could affect the operability of the valve, the user is responsible for proper precautions to prevent this from taking place
- Planners/construction companies or operators are responsible for positioning and installing products.
- Apply the normal tightening torque on the bolts. The rubber must be compressed completely until the counter flange and body flange make metal to metal contact.
- Function test: It is recommended to perform a functional test before the butterfly valve is used for final operation. Hereby, the valve must be fully opened and closed to determine whether the valve runs smoothly and the flanges do not leak. If the pipe will be submitted to a pressure test the test pressure must not exceed the allowable operating pressure of the valve. Too high pressure may damage the valve.
- Valve mountings such as actuators, worm gears or levers must not be used to take external forces, e.g. they are not to be used as climbing aids, or as connecting points for lifting gear.
- Before plant startup, especially after repairs carried out, flash out the pipeline.
- Don’t open or close the valve too quickly, this can result in water hammer.
- We recommend to operate the valve at least once a month and the valves with EPDM-KIWA rubber at least once a day.

8. Maintenance

The ECON butterfly valves have been designed and manufactured to obtain the maximum life and efficiency at minimum wear.
Before starting any service jobs, make sure that the medium supply to the pipeline is cut off, pressure was decreased to ambient pressure, the pipeline is completely cleaned and ventilated and the plant is cooled down. Always keep safety instructions in mind and take all personal safety precautions.

No periodic lubrication or maintenance is required.

During maintenance, the following rules should be observed:

- always keep personal safety precautions in mind and always use appropriate protection e.g. clothing, masks, gloves etc.
- be alert that the temperature still can be very high or low and can cause burns.
- check the valve on all possible leaking possibilities.
- check if all bolts and nuts, are still fastened.
- dust, grease and medium residual, must be frequently cleaned of the valve body and all moving parts, such as stem to maintain all operating functions.

9. Service and repair

All service and repair jobs should be carried out by authorized staff, using suitable tools and user shall use, bolt and nut of the same size and material as the original one.

- welding (repair) and drilling of the butterfly valve is forbidden.
- repair of the butterfly valve is not possible, because of the pinned disc and vulcanised seat construction. Please replace the valve if damaged.
- during replacement of the butterfly valve, tighten the hexagon flange bolts (and nuts) evenly in crosswise order.
- after replacement of the butterfly valve, it is necessary to check the valve operation and tightness of all connections. A tightness test should be carried out.
- after installation, the valve should be checked and maintained periodically at least every 3 months, depending on the medium.

10. Troubleshooting

It is essential that the safety regulations are observed when identifying the fault.

Problem	Possible cause	Corrective measures
No flow	Flange dust caps were not removed	Remove dust caps
Little flow	Valve not completely open	Open valve completely
	Piping system clogged	Check piping system
Valve is impossible or difficult to open or close	Service conditions (e.g. medium, temperature) outside permissible limits.	Replace valve. Consult supplier.
	Power failure.	Check power supply.
	Wrong direction of rotation.	Turn in correct direction. (clockwise for opening)
	Fouling of the disc and/or seat	Remove fouling on the disc and/or seat
Valve leaking	Valve not properly closed	Close valve properly or readjust limit switch/stop screw.
	Seat damaged by foreign particles	Replace valve
	Medium contaminated	Clean valve and install dirt screen
Valve with locking device cannot be opened.	Locking device tightened	Slacken locking device.

11. Removal

All dismantled and rejected valves cannot be disposed with household waste. The valves are made of materials which can be re-used and should be delivered to designated recycling centres.

General warning:

General note for products which may be used for seawater:

Although our products can be used in seawater systems it should always be noted that, in case of installation in a piping system made of materials which are frequently used because of their excellent seawater resistance (e.g. Cunifer), large potential differences may occur possibly causing corrosion which could permanently damage the proper functioning and integrity of our product.
A combination of different materials should always be mentioned prior to the purchase of our products in order for us to give the best possible advice on a safe functioning.