1 Safety

Depending on the customer’s plant, a depression may occur in the valve during the closing procedure which can be prevented by mounting sufficiently dimensioned air admission valves next to the butterfly valve.

2 Description of Product and Range of Application

ERHARD Butterfly Valves  PN10 >= DN 700  Product No.  5074
ERHARD Butterfly Valves  PN16 >= DN 700  Product No.  5075
ERHARD Butterfly Valves  PN25 >= DN 150  Product No.  5016
ERHARD Butterfly Valves  PN40 >= DN 80   Product No.  5017

for special actuator

Valve design: DIN EN 593
with double offset shaft bearing
resilient-seated, tightly closing
of ductile cast iron SG GGG
with flanges

Depending on the position of installation of the ERHARD Butterfly Valves and the available space at the location of installation and due to the performance of the actuator resulting thereof, clockwise and anticlockwise closing of the disc is admissible. For one travel (OPEN-CLOSED) the disc has to perform a 90° rotary movement only.
The special actuator is described in another operating instructions.

3 Design Features – Technical Data

DN 80...DN 125 to drawing 4E102801
The valve disc (8) is fully rubber-coated. The body seat (3) of austenitic CrNi steel. Positive fitting connection of the valve disc (8) with the shaft (11) by means of taper pin (9).

DN 150 and larger to drawing 4.111221
The rubber elastic profile ring (6) is supported in a profile groove around the valve disc (10) and is efficiently fixed and adjustable by means of a clamping ring (7).

Body seat (2) according to the type:
50..95.. rolled-in solid ring of austenitic CrNi-steel
50..72.. ERHARD vitreous enamel
Positive fitting connection of the valve disc (10) with the shaft (11) by means of keys (12).
The shafts are borne by large surface, maintenance-free PTFE compound bearings (3). The driving shaft passage is sealed by two O-rings (4) arranged in series. The blank cover flange (18) is sealed by means of an enclosed O-ring (17). In the closed limit position, the surface of the valve disc is moved into the mating seat with the given sealing pressure (offset bearing). In the closed limit position, a completely tight seating is achieved (at nominal pressure or specified working pressure, DIN EN 1074, leakage rate A).

4 Installation into the Pipeline - Mounting

Remove all packing material from the valve. Prior to installation, check the pipeline for impurities and foreign matters and clean it if necessary.

ATTENTION:

For valves with an arrow showing the flow direction, this direction must be observed!
For valves with weight-loaded hydraulic actuator, observe actuator location!
For valves with foot plate, this plate only serves as a support of the valve!

It is important that all around the valve there is free access for operation and maintenance. For outdoor installation, the customer has to protect the valve against the direct effects of the weather.

During installation of the valve, the distance between the pipe flanges should exceed the valve face-to-face dimension by at least 20 mm. Thus, the raised faces will not be damaged and the gaskets can be inserted. Steel-reinforced rubber seals to DIN 2690 are recommended for use as flange gaskets, for slip-on flanges they are absolutely necessary (consider resistance to flow medium and temperature).
The mating pipe flanges must be plain-parallel and concentric.

Tighten the connecting bolts evenly (without distortion) and crosswise. The pipeline mustn't by any means be pulled up to the valve.

In opened position, the valve disc extends beyond the valve face-to-face dimension. Observe the required distance to other equipment installed in the pipeline, as e.g. check valve, drawing No. 4E 98300.

5 Initial Operation

After installation, the valve must be checked for smooth operation: move the actuator over the total travel, adhere to the operating instructions for the special actuator.

Under operation conditions, the pipeline is pressurized and filled.

Operating the valve (opening or closing) may considerably affect the plant in which the valve is installed (water hammers on filling, closing, air admission or release, etc.)

Therefore, only trained staff is allowed to operate the valve.

6 Operation and Application

The valve is operated by means of the actuator, without applying excessive forces. Adhere to the operating instructions of the special actuator!

Inadmissible Modes of Operation

Installation behind elbows or similar disturbing installation parts is to be avoided. Long-time operation in throttled position leads to higher wear. Do not exceed limit values of the flow medium. Do not exceed limit values of the working pressure. Closed valve may only be charged up to the nominal pressure. Pneumatic actuators must not be operated without exhaust-air throttle. For EPDM profile rings and seals: rubber parts must not get in touch with mineral oil or grease (EPDM swells).
7 Maintenance

7.1 Maintenance

ERHARD Butterfly Valves are equipped with maintenance-free plain bearings. Gearbox stem and gearbox bearing are provided with a permanent lubrication. Control of the performance and tightness is to be done regularly in intervals of <= 4 years according to the DVGW print W392.

Before carrying out work at the valve, the inspection valve must be closed and the pipe section must be depressurized.

Adhere to the operating instructions for the special actuator.

7.2 Inspection

Check outside condition of the valve inclusively actuator.
If necessary, clean the valve and patch the coating.
Check tightness at flanges.
Check well-running of the valve and the actuator.
Manually move over the whole travel.
Check seat tightness: close the valve.
Check pressure drop behind and in front of the valve.

7.3 Readjustment of the profile ring to drawing 4.111221

ERHARD Butterfly Valves from DN 150 are equipped with a re-adjustable sealing system. The profile ring (6) can be readjusted in closed position of the valve disc. For this purpose, loosen the counterpins (9) and tighten the tensioning screws (8) with the same strength. Afterwards tighten the counterpins (9) by turning them in clockwise direction.

7.4 Replacement of the profile ring to drawing 4.111221

Slightly turn the valve disc off the body seat.
Mount from valve side "B".
Counterpins (9) rest in their position.
Loosen and screw off tensioning screws (8).
Lift off clamping ring (7) and profile ring (6) from the valve disc (10).
Clean profile groove in valve disc and clamping ring, apply new corrosion protection if necessary.
Insert new profile ring into profile groove of the valve disc.
Mount clamping ring (7), screw in and tighten set screws (8) until reaching the limit stop of the counterpins.
Slightly grease the new profile ring in the sealing zone (comply with grease recommendation).

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ATTENTION:

The valve has to be installed in such a way that the weight-loaded lever of the ERHARD Check Valve is located on the left seen in flow direction, and the gearbox of the ERHARD Butterfly Valve on the right in flow direction. Thus, there is no collision of weight-loaded lever and gearbox.

ERHARD GMBH & CO
D-89522 HEIDENHEIM AN DER BRENZ

ERHARD-ARMATUREN

SUGGESTED INSTALLATION

ERHARD TILTING-DISC CHECK VALVE - ERHARD BUTTERFLY VALVE

CAD

DIENE ZEICHUNG DARF NUR AM BILDSTAB GEANDERT WERDEN

22.05.1995 MB/LUTZ HP 2

ERSETZT FUR BLATT GLEICHER NUMMER V. 14.10.1981

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All dimensions in mm