

BUTTERFLY VALVE

Resilient-seated | series K

Advantages

Centric valve disc with firm, clearance-free disc/stem connection

Very service-friendly:

Very quick change of the seat ring due to the two-piece body design

Complete body is lined with elastomer with the seat ring as a multifunctional sealing element

Can be used for almost all media, from use with acids to the sensitive food and pharmaceutical industries

Control and regulation of processes without hysteresis

Corresponds to the norm EN 593



TECHNICAL FEATURES

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Efficient and safe automation with the interchangeable flange GEFA-MULTITOP



1 Automation

- Standard mounting flange according to EN ISO 5211
- Direct actuator mounting without interruption of the stem
- Variable and exchangeable for any actuator size
- Actuator protection against leakage

2 Two-piece body

Standard face-to-face dimension, very servicefriendly, simple exchange of internal parts only possible because of the two-piece body design.

3 Bearing bush with O-ring seal

4 Primary sealing

Integrated in the seat ring, guarantees the cavity-free and pressure-resistant sealing to the outside, additional labyrinth layout.

5 Seat ring

Multifunctional sealing element, easy to replace, maintenance-free, long service life, tight sealing in the seat, to the flanges and at the stem passage; secure locking in the dovetail, embedded in the body without edge protruding over the flange area.

6 Valve disc and stem

One-piece design, absolutely clearance-free, large free cross-section, minimal pressure loss.

THE TYPES

Butterfly valve | resilient-seated | series K



Type KG 9
DN 50 – DN 300

Technical data

Wafer type butterfly valve for installation between flanges EN 1092, PN 10/16, ASME class 150. Two-piece body, self-centring, one-piece disc and stem, bubble-tight up to 16 bar, vacuum-tight.

Face-to-face dimension

DIN EN 558 line 20
API 609 table 1

Mounting flange

DIN EN ISO 5211

Test

DIN EN 12266 P10 P11 P12
Leakage rate A



Type KG 7
DN 50 – DN 300

Technical data

Lug type butterfly valve for installation between flanges EN 1092, DN 50 - DN 150: PN 10/16, DN 200 - DN 300: PN 10, DN 200 - DN 300: PN 16, ASME class 150. Two-piece body with threaded cams for a firm flange connection from both sides. The pipeline can be removed from the flange on one side, vacuum-tight.

Face-to-face dimension

DIN EN 558 line 20
API 609 table 1
The pipeline can be removed from the flange on one side, vacuum-tight.

Face-to-face dimension

DIN EN 558 line 20
API 609 table 1

Mounting flange

DIN EN ISO 5211

Test

DIN EN 12266 P10 P11 P12
Leakage rate A



Type K 19
DN 350 – DN 500

Technical data

Wafer type butterfly valve for installation between flanges EN 1092, PN 10/16, ASME class 150. Two-piece body, self-centring, one-piece disc and stem, bubble-tight up to 16 bar, vacuum-tight.

Face-to-face dimension

DIN EN 558 line 20
API 609 table 1

Mounting flange

DIN EN ISO 5211

Test

DIN EN 12266 P10 P11 P12
Leakage rate A



Type K 17
DN 350 – DN 500

Technical data

Lug type butterfly valve for installation between flanges EN 1092, PN 10, ASME class 150. Two-piece body with threaded cams for a firm flange connection from both sides. One-piece disc and stem, bubble-tight up to 16 bar and vacuum-tight. The pipeline can be removed from the flange on one side.

Face-to-face dimension

DIN EN 558 line 20
API 609 table 1

Mounting flange

DIN EN ISO 5211

Test

DIN EN 12266 P10 P11 P12
Leakage rate A



Type K 07
DN 600 – DN 1000

Technical data
Double flanged butterfly valve for installation between flanges EN 1092, PN 6/10. One-piece body in double flange design, suitable for dead-end service. Continuous valve stem, internally connected with the valve disc by dowel pins. The connection is shielded from the medium. Changeable seat ring with additional steel support ring as firm rubber-metal connection in compliance with a solid elastomer thickness of approx. 15 – 17 mm.

Face-to-face dimension
DIN EN 558 line 20
API 609 table 1

Mounting flange
DIN EN ISO 5211

Test
DIN EN 12266 P10 P11 P12
Leakage rate A



Type K 08
DN 600 – DN 1200

Technical data
Wafer type butterfly valve for installation between flanges EN 1092-1, PN 6/10/16. One-piece body. Continuous valve stem, internally connected with the valve disc by dowel pins. The connection is shielded from the medium. Changeable seat ring with additional steel support ring as firm rubber-metal connection in compliance with a solid elastomer thickness of approx. 15 – 17 mm.

Face-to-face dimension
DIN EN 558 line 20
API 609 table 1

Mounting flange
DIN EN ISO 5211

Test
DIN EN 12266 P10 P11 P12
Leakage rate A



Type K 11
DN 25 – DN 150

Technical data
Wafer type butterfly valve for installation between flanges EN 1092, PN 10/16, ASME class 150. Two-piece stainless steel body with centring lugs. In compliance with all the advantages of the basic series KG9, this completely stainless steel version is offered for all areas, which also demand a corrosion-free use of the external components. This is the case in the food/ beverage industry and in the area of pharmacy, as well as in chemistry and in case of seawater applications.

Face-to-face dimension
DIN EN 558 line 20
API 609 table 1

Mounting flange
DIN EN ISO 5211

Test
DIN EN 12266 P10 P11 P12
Leakage rate A



Type KS
DN 80 – DN 500
Seat ring inflatable

Technical data
Wafer type butterfly valve or lug type butterfly valve for installation between flanges EN 1092 PN 10/16 or ASME class 150. Secure shut-off of solids without friction in the seat. Due to the pneumatic pressurisation of the seat ring in position CLOSED, the valve switches without friction and without preload between seat and valve disc. Signs of wear are avoided in this way.

Face-to-face dimension
DIN EN 558 line 20
API 609 table 1

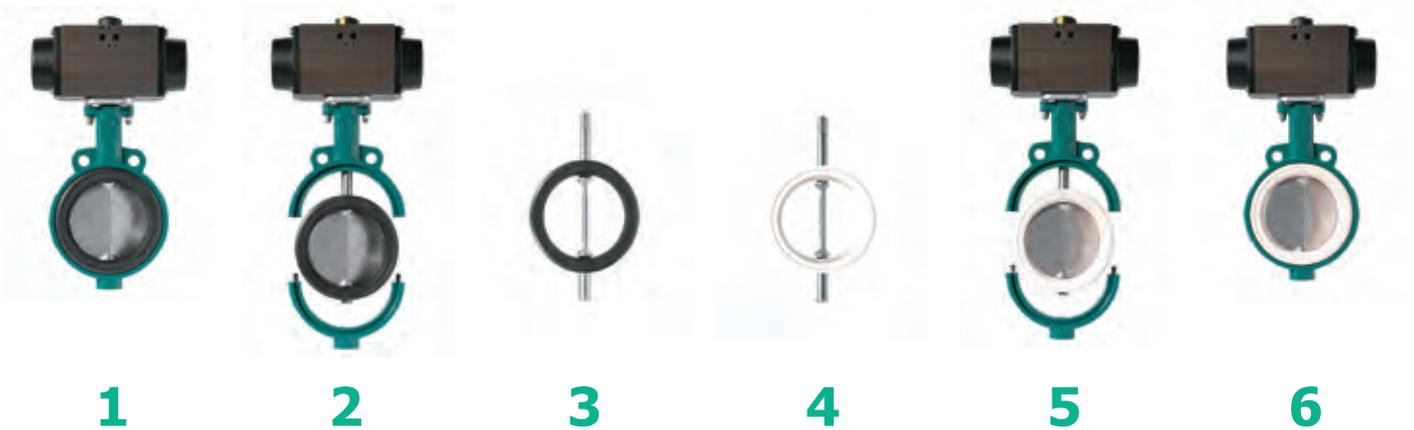
Mounting flange
DIN EN ISO 5211

Test
DIN EN 12266 P10 P11 P12
Leakage rate A

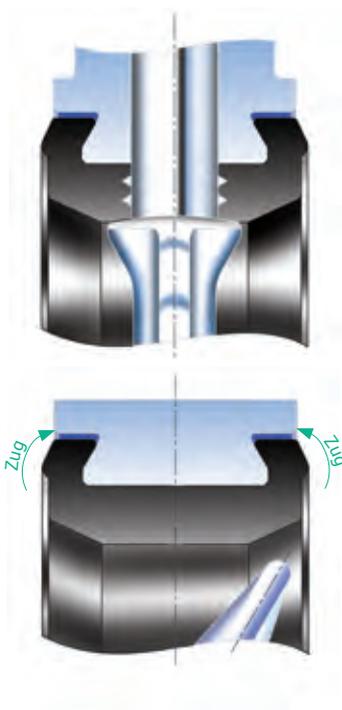
DETAILED SOLUTIONS

Butterfly valve | resilient-seated | series K

Seat ring change



1 The actuator remains installed at the upper part of the body. **2** After loosening the two body screws, the lower part of the body is pulled out downwards together with the internal parts. **3** Simply pull the seat ring from the valve disc. **4** Pull the new seat ring onto the valve disc – this is very simple! **5** Press the lower part of the body together with the internal parts and tighten the two body screws. **6 Finished!**



One-piece disc/stem connection – without clearance and hysteresis, cavity-free and cleanable in a sterile way. Bacteria formation due to cavities and all other disadvantages of the “plugged” stem connections can be excluded. The valve disc is implemented in a spherical form for the primary sealing of the stem passage through the seat ring. This ensures a uniform contact pressure of the valve disc sealing surface to the seat ring and thus a more secure surface sealing. A second sealing function is achieved via the additional labyrinth function between the valve disc stem and the seat ring.

Stable, thick-walled dimensioning of the seat ring in the sealing area on the inside and to the edges. The edge-free, rounded passage to the dovetail guide (clamping zone to the flanges) ensures a secure locking with high tear resistance. High flow velocities, crust formations and abrasive media are perfectly under control. No formation of bulges on the inside because the seat ring is pulled outwards through the flange clamping into the dovetail.

TECHNICAL DATA

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Pressure and temperature range diagram

Control range

20° – 60° opening angle

Vacuum-tight up to 10^{-2} mbar

Valves from DN 200

In case of a differential pressure of more than 13 bar, it is necessary to use seat rings with a higher Shore hardness

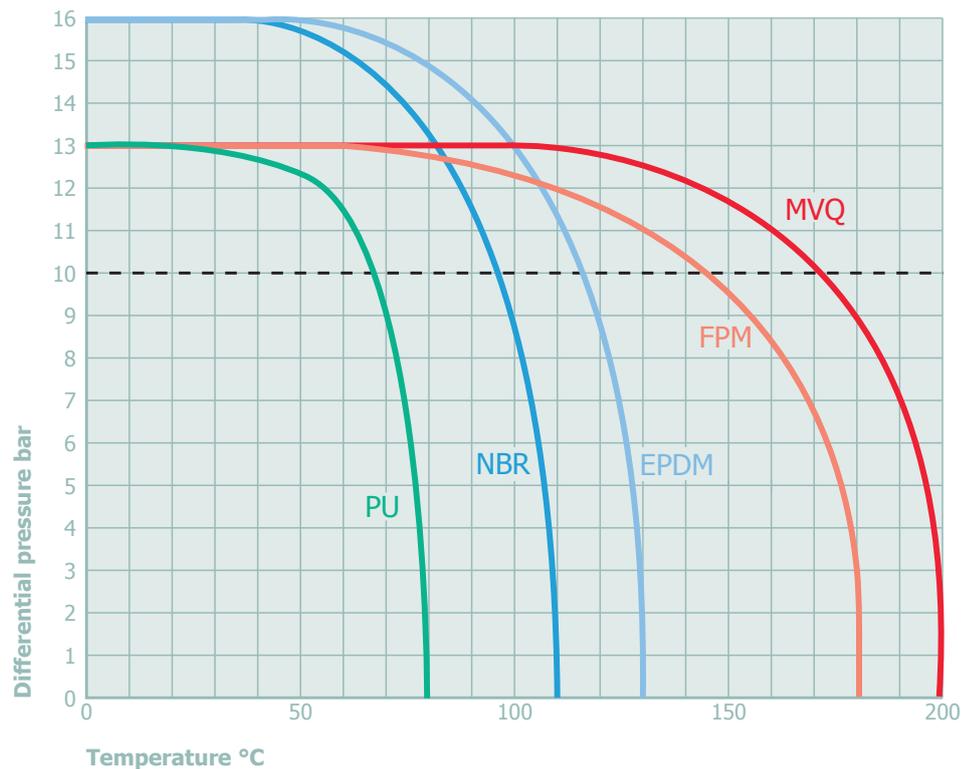
Valves from DN 600

max. differential pressure 10 bar, available seat ring materials: EPDM and NBR

Lug style body

If it is removed from the flange on one side, max. differential pressure 6 bar

The pressure and temperature range diagram shows the application limits of the different seat ring materials. These limits apply to the intended use. Process variables and characteristics of the medium can influence the values of the diagram. Temperatures below 0 °C upon request.



Available materials

Code	Body
22	Grey cast iron GG25, EN GJL-250
44	Cast steel GS-C25, EN GP 240 H+N
24	Ductile iron GGG40.3 EN-GJS-400-18-LT
66	Stainless steel 1.4408

Code	Seat ring
E	EPDM
Ew	EPDM white
B	NBR
S	MVQ (silicone)
V	FPM
PU	PU (polyurethane)
H	CSM

Code	Valve disc
66	Stainless steel 1.4517
31	Stainless steel 1.4517, polished
13	Bronze
69	Stainless steel 1.4529
77	PTFE-lined
78	E-CTFE-coated
79	EPDM-rubber lined
93	Alloy C 22
94	Titanium

EPDM (Ethylene-Propylene-Terpolymer)
Operating temperature: -20 °C to +130 °C

NBR (nitrile rubber)
Operating temperature: -20 °C to +110 °C

MVQ (silicone rubber)
Operating temperature: -30 °C to +200 °C

FPM (fluorine elastomer)
Einsatztemperatur: -10 °C to +180 °C

PU (polyurethane)
Operating temperature: -20 °C to +80 °C

CSM (chlorosulfonated polyethylene)
Operating temperature: -10 °C to +130 °C

BUTTERFLY VALVE

With inflatable seat ring | type KS9 | KS7

Advantages

Low-wear function

Secure shut-off of solids without friction in the seat

The valve opens and closes without seat compression

Very service-friendly: Very quick change of seat ring due to the two-piece body design

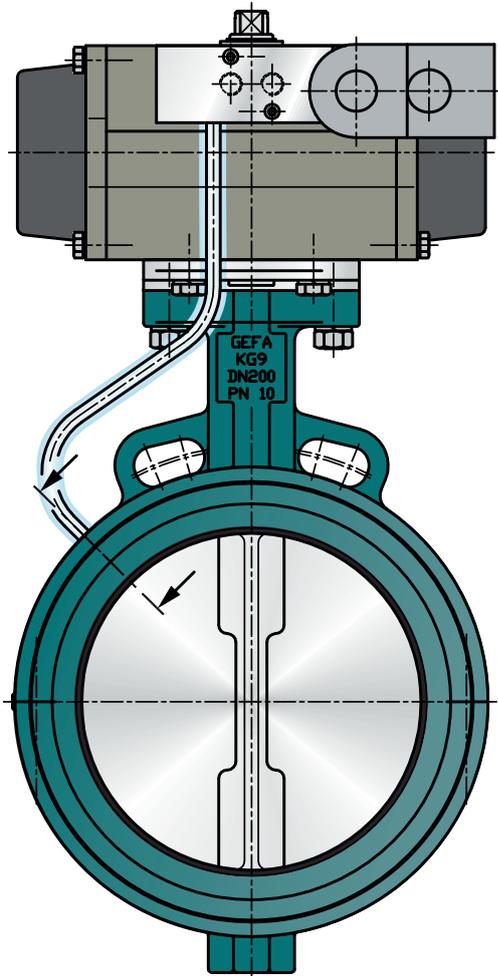
Long service life of the seat ring due to stable thick-walled dimensioning of the elastomer

The valves are available as wafer version (type KS 9) and as lug version (type KS 7)



DETAILED SOLUTIONS

Butterfly valve | with inflatable seat ring | type KS9 | KS7

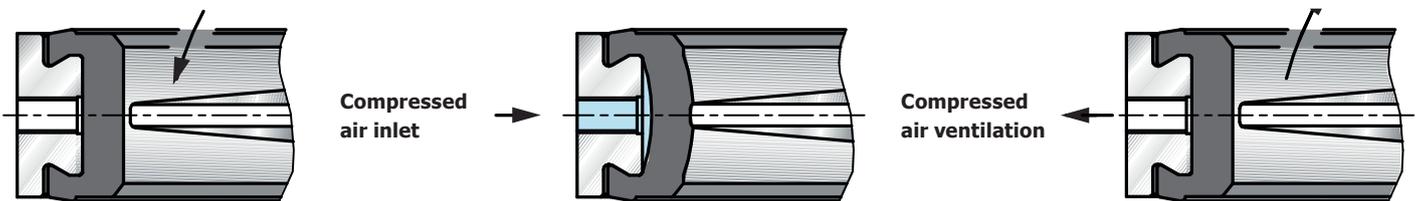


The butterfly valves with inflatable seat ring are preferably used for the shut-off, discharge and dosing of abrasive bulk materials.

Due to the pneumatic pressurisation of the seat ring in position CLOSED, the valve switches without friction and without preload between seat and valve disc. Signs of wear are avoided in this way.

The actuator is designed according to the low running torques of the valve in unloaded condition.

Gentle handling of sensitive media between disc and collar.



Valve closes without seat compression

Valve closed seat ring pneumatically preloaded and bubble-tight

Valve opens without friction when the seat is unloaded