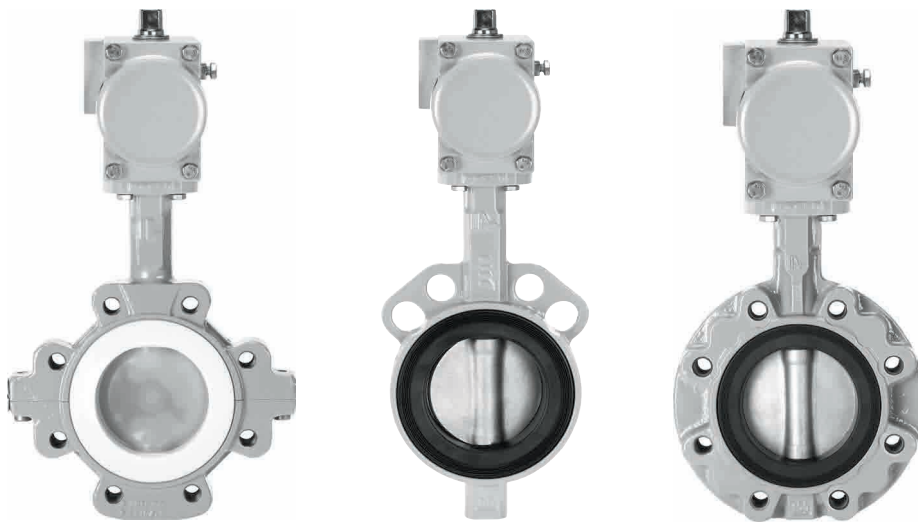


# Butterfly valves for every application

**FESTO**



## Reliable shut-off!

### Highlights

- Modular, versatile range
- Highly functional, sturdy, wear resistant, reliable, non-corroding
- Optimised system solutions through effective joint venture
- Everything from a single source
- Vast global sales and service network
- Many approvals, e.g. for drinking water, FDA

**Butterfly valves the way you want them to be: highly functional, sturdy, wear resistant, reliable and non-corroding. Making our solutions for you even more impressive. Together with the top-quality drives from Festo, the result is excellent shut-off solutions for all industrial applications with an extremely wide range of media.**

### Two types available for selection

The correct shut-off cap for each application, e.g. when safety-relevant applications are involved. For neutral or slightly aggressive liquids and gases in industrial applications, in building systems or for water treatment: VZAV. When more aggressive media is used, VZAF is the shut-off cap of choice.

### Technically superb, numerous variants

The manufacturer's expertise and many years of experience can be seen. Their primary features are high quality and a wide range variants for all possible applications.

### Sales and service worldwide

Wherever in the world you use solutions with butterfly valves, we are close at hand. Our vast sales and service network can support you in over 190 countries and is fast, knowledgeable and reliable.

# When safety is of the essence: butterfly valve VZAF

Ideal for liquid and gas applications which are very corrosive or aggressive. Also for clean rooms, such as in the semiconductor industry or for life sciences applications. The superior design and the Ultraflon® liner ensure maximum operational reliability. Typical applications include:

- Corrosive chemical applications
- Food and beverage industry
- Petrochemical industry
- Biotech/pharmaceutical industry
- Semiconductor industry/ultrapure water
- Mining



## Advantages at a glance

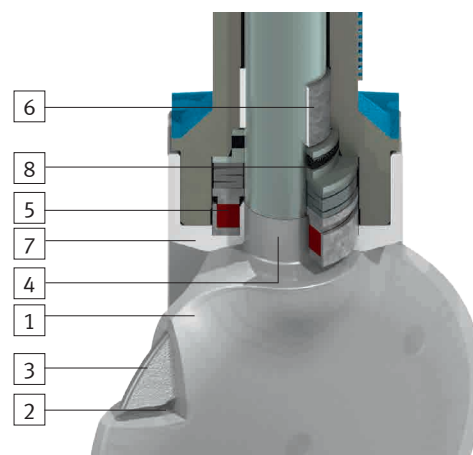
- Gas-tight, high diffusion resistance
- Pipeline insulation maintained by long shaft collar
- Long service life due to low wear of PFA on PTFE
- Lasting sealing due to self-adjusting shaft seal
- Good flow rates due to profiled disc
- Chambered liner to prevent cold flow
- Bonded PFA on the disc
- Conductive design
- Low torque actuation
- Designed, manufactured, assembled and tested in Switzerland
- Optional clean-room-compliant packaging
- Quick delivery, even in the large sizes
- Special designs with ATEX conformity

## Design details for high operational reliability and sealing

- Shaft and disc are one single piece; profiled disc core for high Kv values
- Encapsulation of the disc and of the shaft in the sealing area has minimum thickness of 3 mm to prevent corrosion
- Chambered liner prevents cold flow
- Ultraflon® liner to prevent permeation, cold flow and abrasion, for maximum operational reliability

### Design

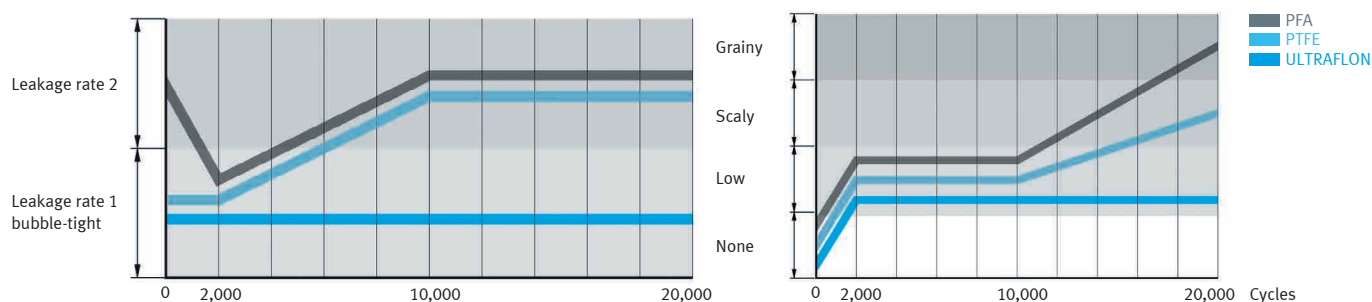
- 1 Encapsulation (minimum thickness 3 mm)
- 2 Encapsulation is mechanically bonded on the disc
- 3 Profiled core allows high Kv values
- 4 Encapsulation of the shaft in the sealing area
- 5 Shaft sealing thanks to preloaded safety packing
- 6 Self-lubricating shaft bearing
- 7 Chambered liner prevents cold flow
- 8 Optional TA-Luft VDI 2440S packing (compliant with German clean air regulations)



| Features                          |                                                                                                                                                                                                                 |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Body types and nominal size range | Wafer DN 32-600<br>Lug DN 32-400<br>U shape DN 450-900                                                                                                                                                          |
| Installation length               | To ISO 5752/20, EN 558-1/20                                                                                                                                                                                     |
| Top flange                        | To EN ISO 5211                                                                                                                                                                                                  |
| Max. operating pressure           | 2.5 bar (DN750)<br>6 bar (DN350-900)<br>10 bar (DN200-300)<br>16 bar (DN32-150)                                                                                                                                 |
| Ratings                           | PN10<br>PN16<br>ANSI cl. 150<br>Additional connection ratings on request                                                                                                                                        |
| Temperature range                 | -20 °C ... 200 °C according to operating conditions, other temperatures on request                                                                                                                              |
| Materials                         | Body EN-GJS-400-18-LT and 1.4409<br>Discs: stainless steel, PFA-encapsulated and special materials<br>Liner: PTFE, Ultraflon®, standard and conductive versions                                                 |
| Factory testing                   | Porosity test of the disc encapsulation and liner according to DIN EN 60243-1.<br>Test certificates on request. Leak test according to EN 12266-1/P12, leakage rate A.<br>The torque of each valve is recorded. |
| Safety features                   | The butterfly valves VZAF meet the safety requirements of the Pressure Equipment Directive 97/23/EC (PED) Annex 1 for fluids of groups 1 and 2.                                                                 |
|                                   | The butterfly valves VZAF are suitable for use in safety systems according to IEC 61508/61511, safety integrity level SIL 2                                                                                     |
| ATEX                              | Special designs of the butterfly valve VZAF may be used in potentially explosive atmospheres.<br>Please enquire.                                                                                                |
| TA-Luft                           | VDI 2440 as an option                                                                                                                                                                                           |



#### Endurance test for gas permeability and sealing: a comparison of materials



# For standard applications with neutral or mildly aggressive liquids and gases: VZAV

The basic model of the balanced butterfly valve for shut-off and control comes in a wide variety of materials, so it can be used in most industrial applications, as well as in building services engineering and water treatment. Typical areas of application are neutral or mildly aggressive liquids and gases, water treatment and water supply.

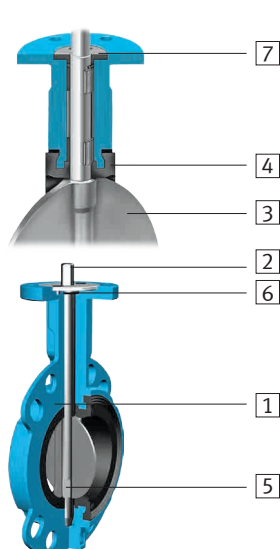
- Mining
- Paper and pulp industry
- Variants free of PWIS substances, e.g. for the automotive industry
- Free of grease, e.g. for oxygen or ultrapure water applications
- Shipbuilding
- Pneumatic transport of powders and granulates



## Advantages at a glance

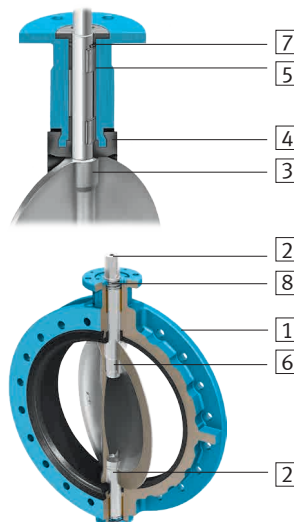
- Suitable for most shut-off applications
- Large variety of materials and coatings for disc and liner
- Highly resistant to corrosion due to excellent body coating
- One-piece shaft ( $\leq$ DN400): corrosion-proof because there is no pinned shaft-disc connection
- Reliable blowout protection
- Ultralene Coating™ for outstanding resistance to wear, shock resistance, high chemical resistance and non-stick properties
- Replaceable liner for long life
- Modular actuation system

## Design



### DN 25 - 400

- 1 Body
- 2 One-piece shaft with visual position indication
- 3 Disc
- 4 Liner
- 5 Square disc drive
- 6 External shaft sealing with O-ring
- 7 Retaining washer (blowout protection)



### DN 450 - 1600

- 1 Body
- 2 Two-piece shaft with visual position indication
- 3 Disc
- 4 Liner
- 5 Shaft bearing
- 6 Square disc drive
- 7 External shaft sealing with O-ring
- 8 Retaining washer (blowout protection)

| Features                |                                                                                                                                                               |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Body types              | Wafer DN 25-1000<br>Lug DN 25-600<br>U shape DN 150-1600                                                                                                      |
| Installation length     | To ISO 5752/20, EN 558-1/20                                                                                                                                   |
| Top flange              | To EN ISO 5211                                                                                                                                                |
| Max. operating pressure | 16 bar with selected materials                                                                                                                                |
| Ratings                 | PN6<br>PN10<br>PN16<br>ANSI cl. 150<br>Additional ratings on request                                                                                          |
| Temperature range       | -60°C .... 210°C depending on material                                                                                                                        |
| Materials               | Body EN-GJL-250 or EN-JGS-400-15<br>Discs: ductile cast iron, stainless steel and special materials<br>Liner: EPDM, NBR, FPM and further available on request |
| Leak test               | To EN 12266-1/P12, leakage rate A, test medium: water                                                                                                         |
| Safety features         | The butterfly valves VZAV meet the safety requirements of the Pressure Equipment Directive 97/23/EC (PED) Annex 1 for fluids of groups 1 and 2.               |
| SIL                     | The butterfly valves VZAV are suitable for use in safety systems according to IEC 61508/61511, safety integrity level SIL 2.                                  |



# Stable and sturdy even with aggressive and abrasive media

Festo has formed an effective cooperation with InterApp with the aim of expanding its valve range and ensuring outstanding system solutions – all to the advantage of our customers.

We build on these advantages by offering these shut-off solutions from a single source. The result is maximised process reliability and industrial safety for shut-off and control, as well as safe operation. Your design, purchasing and logistics process will benefit as you now need only one contact for expert assistance for the entire system, as well as for support with commissioning and training.

## Certifications included

The butterfly valves have several certifications for safe use and resistance to various influences, including drinking water approval, ATEX or the safety requirements of directive 97/23/EC, porosity testing and leak testing.

### Key features at a glance

- PN and ANSI ratings
- Wide temperature range from -40 to 200°C
- Maximum operating pressure up to 20 bar
- Leak testing according to EN 1266-1/P12, leakage rate A with water as test medium
- For use in safety systems according to IEC 61508/61511 SIL 2

### Versatility at a glance

#### Body types and materials

- Wafer, Lug, U shape
- Grey cast iron, ductile cast iron, cast steel in various coatings
- Very resilient, corrosion-resistant coatings

#### Valve discs

- Ductile cast iron
- Different steels and stainless steels
- Aluminium bronze
- Ultralene Coating™, min. 3 mm, for particularly abrasive media

#### Nominal sizes

- DN25 to DN1600

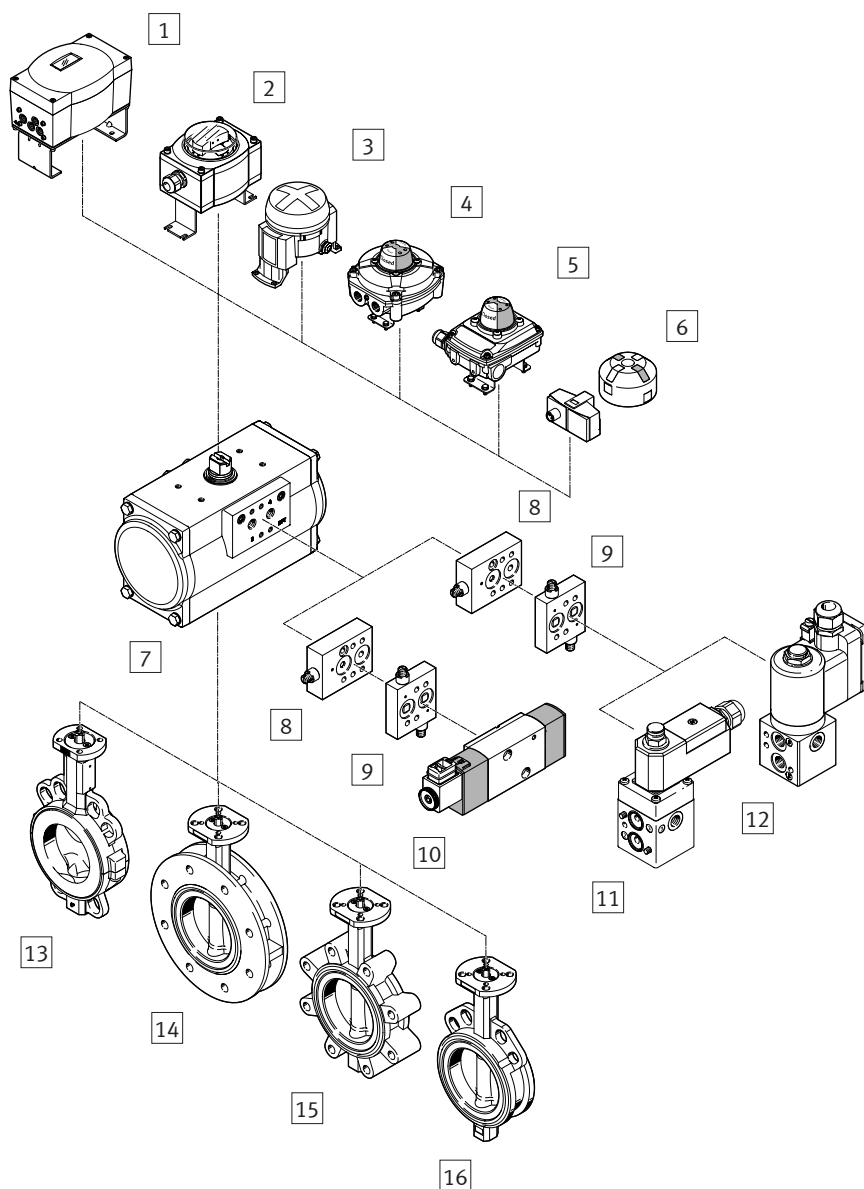
#### Sealing materials

- Different EPDM variants
- NBR
- FPM/FKM

## Comprehensive range for the complete automation of process valves

Festo can offer the right solution for just about every application. And our strengths in the area of process valves are outstanding. An extensive and matching range of quarter turn actuators, pilot valves and sensor boxes suitable for use even in potentially explosive areas and safety-related applications round off the portfolio. Everything from a single source.

**Ask our experts!**



- 1 Positioner CMSX
- 2 Sensor box SRAP
- 3 Limit switch attachment DAPZ
- 4 Sensor box SRBE
- 5 Sensor box SRBC
- 6 Sensor box SRBG
- 7 Quarter turn actuator DFPD
- 8 Flow control plate VABF-S7-F1B5P1-F  
(for single-acting actuators)
- 9 Flow control plate VABF-S7-F1B1P2-F  
(for double-acting actuators)
- 10 Solenoid valve VSNC
- 11 Solenoid valve VOFC
- 12 Solenoid valve VOFD
- 13 Butterfly valve VZAF
- 14 Butterfly valve VZAV-U
- 15 Butterfly valve VZAV-L
- 16 Butterfly valve VZAV-C

**Convinced? We look forward to hearing from you!**  
Please contact your Festo sales engineer.



# Productivity

## **Maximum productivity is a question of ambition**

Do you share this attitude? We will be glad to help you achieve this goal – through our four outstanding qualities:

- Security • Efficiency • Simplicity • Competency

We are the engineers of productivity.

Discover new dimensions for your company:

→ [www.festo.com/whyfesto](http://www.festo.com/whyfesto)