



## **Description**

1. Novel design, reasonable, unique structure, light weight, rapid opening and closing.
2. The operating torque is small, convenient operation, labor saving dexterity.
3. Can be in any position installation, convenient repair.
4. The sealing material aging resistance, corrosion resistance, long life and other characteristics.

## **Selection of possible applications**

Widely used in food, pharmaceutical, cosmetics, clean steam, liquor, beverage, chemical industry process control.

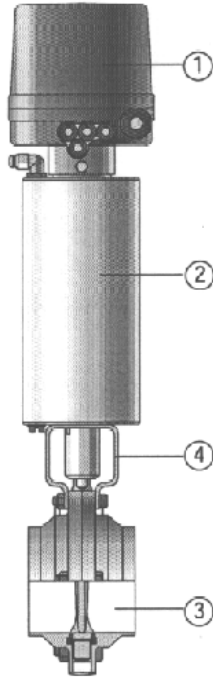
## **Selection of possible flow media**

Water, Steam, air, etc.

## Design

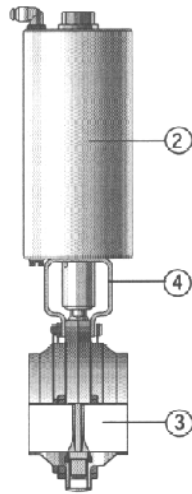
### Actuated Valve with Control Module

1. Control Module
2. Actuator AS or AA
3. Valve Disc
4. Mounting Bracket



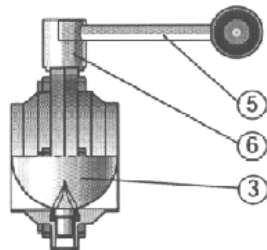
### Compact Actuated Valve

2. Actuator AS or AA
3. Valve Disc
4. Mounting Bracket



### Manual Valve

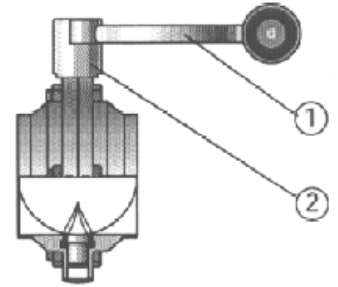
5. Hand Lever
6. Stressing Tube
3. Valve Disc



## Functional Description

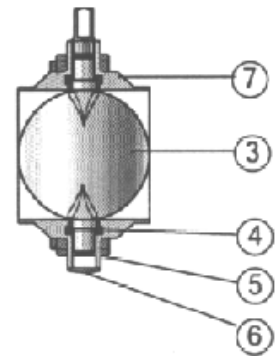
### Manual Actuator M

To open close the Butterfly Valve, the hand lever (1) is unlocked with a light pull and turned 90°. When the lever is released, it locks into place in the bore hole provided. The valve positions can be detected by proximity switches mounted at the stressing tube (2) of the manual actuator.



### Butterfly Valve

The valve disc (3) is mounted in a gasket (4) and held between two flanges (5,6). On the disc there are two bearings (7). The position of the disc in the pipe and hence the degree the flow path in the pipe is opened, is controlled by the actuator. When the blade of the disc is parallel to the center axis of the pipe, the Butterfly valve is completely open and allows maximum flow. In the closed position, the disc shuts off the flow of the butterfly valve.



## Valve Types

Type:	Description:
BFV/ECV/M	Butterfly valve with Manual Actuator.
BFV/ECV/AS/00	Butterfly valve with compact Air to Spring Actuator.
BFV/ECV/AS/CM	Butterfly Valve with Air to Spring Actuator type 110 control module.
BFV/ECV/AA/00	Butterfly valve with compact Air to Air actuator.
BFV/ECV/AA/CM	Butterfly valve with Air to Air Actuator with Type 110 Control Module

## Safety regulations for butterfly valves

### DANGER

In the event of malfunctions, set the butterfly valve out of operation (disconnect it from the power and the air supply) and secure it against reactivation. Eliminate the fault immediately.

When the butterfly valve is switching, never put your hands into the pipe or the mounting bracket (actuator types TMS/TMI, KM). Your fingers can be squeezed or cut off.

Prior to all maintenance and repair work de-energize the butterfly valve and secure it against accidental reactivation.

Only allow a qualified electrician to perform work at the electrical supply system.

Check the electrical equipment of the butterfly valve at regular intervals. Immediately reestablish loose connections and replace molten cables.

If work at live parts is necessary, a second person must be involved who will operate the main switch in case of emergency.

## Weights

### Type SS

	Butterfly Valve with Actuator [kg]		
	BFV/ECV/M	BFV/ECV/AS/00 BFV/ECV/AA/00	BFV/ECV/AS/CM BFV/ECV/AA/CM
DN25/1"	1.515	5.495	6.805
DN40/1.5"	1.685	5.665	6.975
DN50/2"	2.055	6.035	7.345
DN65/2.5"	2.470	6.450	7.760
DN80/3"	3.430	7.390	8.700
DN100/4"	4.790	8.750	10.060
DN125	6.540	10.500	11.810

### Type VV

	Butterfly Valve with Actuator [kg]		
	BFV/ECV/M	BFV/ECV/AS/00 BFV/ECV/AA/00	BFV/ECV/AS/CM BFV/ECV/AA/CM
DN25/1"	2.735	6.715	8.025
DN40/1.5"	3.170	7.150	8.460
DN50/2"	3.825	7.805	9.115
DN65/2.5"	4.785	8.765	10.075
DN80/3"	5.455	9.415	10.725
DN100/4"	7.805	11.765	13.075
DN125	11.756	15.716	17.026

## Transport

### DANGER

For transport of the package units/butterfly valves only use suitable lifting gears and slings. Observe the instruction symbols on the package and on the Butterfly valve.

### Storage

Store the butterfly valve in a dry place and protect it against external conditions.

### Checking the consignment

On receipt of the butterfly valves check whether the equipment is complete and all components are in good order.

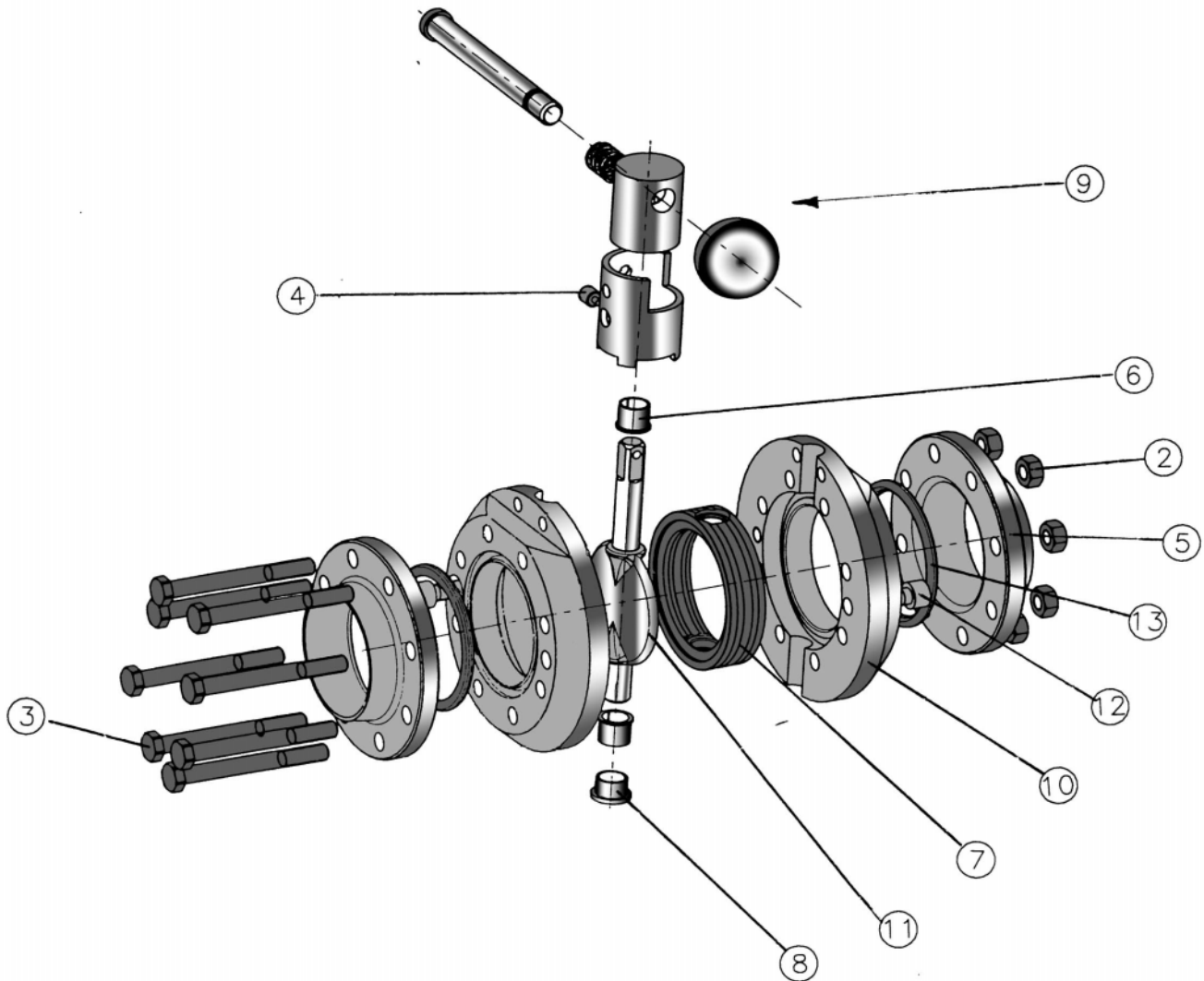
## Designated use

The butterfly valve is used for opening and shutting off pipe sections fully or in part. Using the butterfly valve for any other purpose is considered contrary to its designated use.

## Transport and Storage

Handle the butterfly valve with care to avoid damage caused by shock or careless on- and unloading.

Butterfly Valve type VV (Between Flanges).



### Assembly

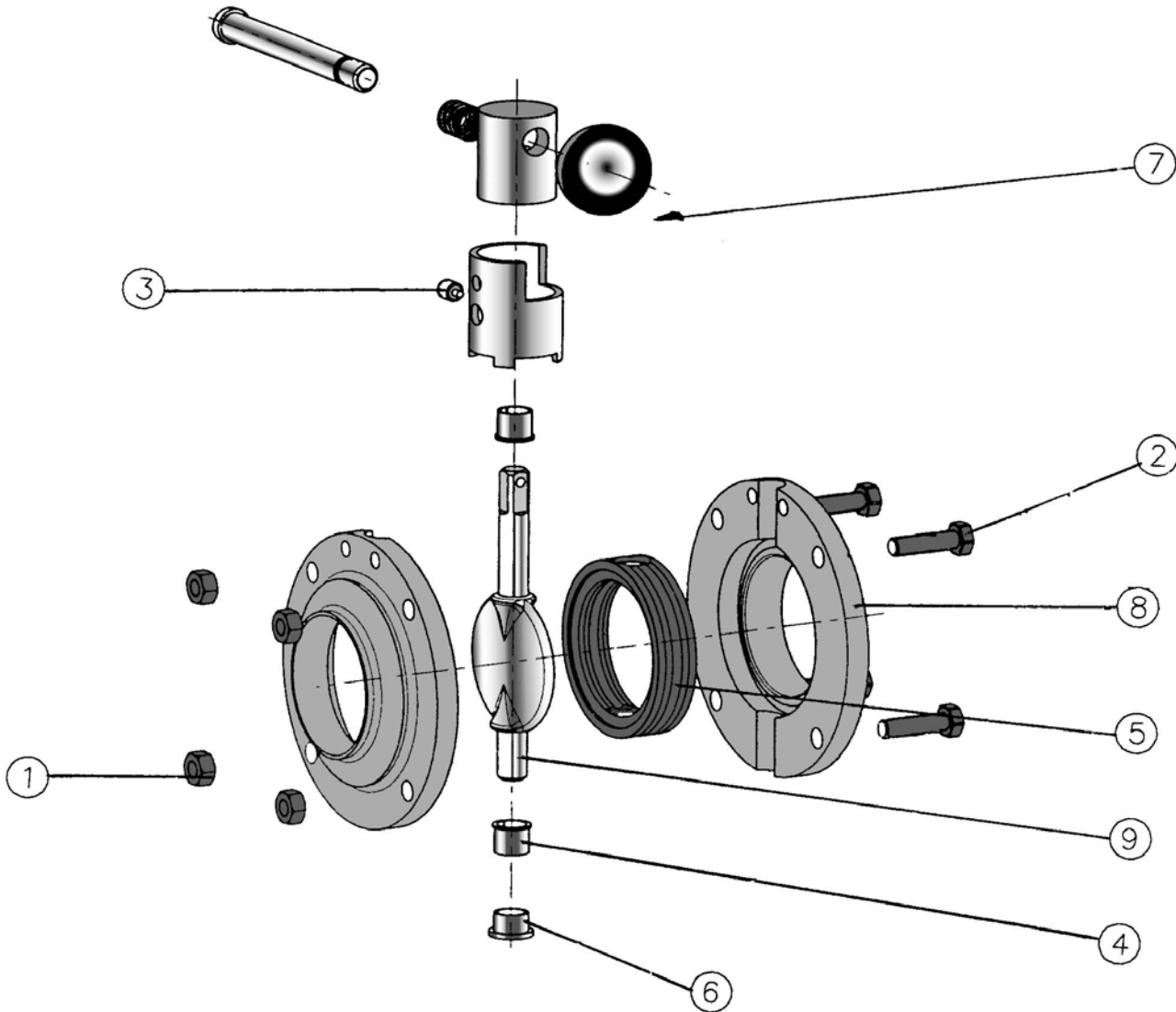
1. Grease shafts of flap disc (11) slightly with PARALIQUE GTE 703
2. Put long shaft of flap disc (11) into borehole of seal (7).
3. Draw seal (7) over short shaft of flap disc (11) and put into borehole of seal (7).
4. Center seal (7) around flap disc (11) and put flap disc (11) into open position.
5. Mount bearings (6) on both shafts of flap disc (11).
6. Put flap disc (11) with seal (7) and bearings (6) in housing flange (10) and adjust shaft of flap disc (11) onto center of diagonal boreholes.
7. Put on housing flange (10) and join together parallel.
8. Screw in cylindrical screws (12) manual.
9. Tighten cylindrical screws (12)
10. Mount o-ring (13) to both housing flanges (10).
11. Put on Varivent counter flanges (5) and screw in manual.
12. Mount manual actuator (9)\* parallel to flap disc
13. Screw in cylindrical screw (4).
14. Press in plastic plug (8).
15. Start functional test.

### De-assembly

In reverse order of operations.

Butterfly Valve type SS (Buttweld).

8. Screw in hexagonal screws (2) and hexagonal nuts (1) manually.



### Assembly

1. Grease shafts of flap disc (9) slightly with PARALIQUE GTE 703
2. Put long shaft of flap disc (9) into borehole of seal (5).
3. Draw seal (5) over short shaft of flap disc (9) and put into borehole of seal (5).
4. Center seal (5) around flap disc (9) and put flap disc (9) into open position.
5. Mount bearings (4) on both shafts of flap disc (9).
6. Put flap disc (9) with seal (5) and bearings (4) in housing flange (8) and adjust shaft of flap disc (9) onto center of diagonal boreholes.
7. Put on housing flange (8) and join together parallel.

9. Tighten hexagonal screws (2) and hexagonal nuts (1) crosswise.
10. Mount manual actuator (7)\* parallel to flap disc (9).
11. Screw in cylindrical screw (3).
12. Press in plastic plug (6).
13. Start functional test.

### De-assembly

In reverse order of operations.

## Assembly & Installation

### pneumatic Actuator to a Butterfly Valve

#### Assembly:

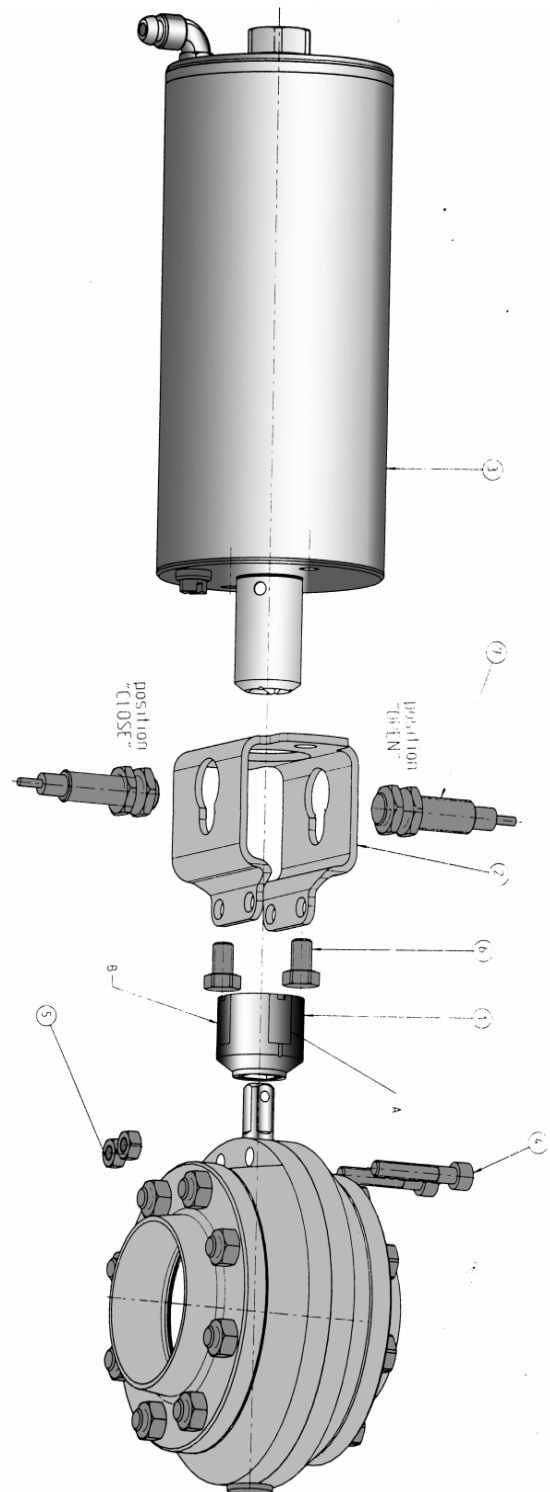
1. Set the Butterfly valve into position “close” for function NC, “open” for function NO.
2. Put on position indicator (1) on the square of the flap disc - the actuator works anti-clockwise – the contact “B” must be in front of the hole of the bracket.
3. Mount bracket (2) on the housing of the butterfly valve.
4. Screw in cylindrical screws (4) and hexagonal nuts (5) manually.
5. Mount actuator (3).
6. Screw in hexagonal screws (6) manually.
7. Turn actuator (3) in position so that the disc is in the middle of the seal.
8. Tighten cylindrical screws (4) and hexagonal nuts (5).
9. Tighten hexagonal screws (6).
10. Start functional test.

#### Optional

11. Mount sensor (7) through the hole of the holder (2) (distance to contact 0.5mm) and tighten the counter nut.
12. Start functional test.

#### De-Assembly:

In reverse of the above operations.



## Technical Data

Size	DN25 to DN125 1" to 4" OD
Weight	1.52 to 17.03 kg (depending on size and equipment)
Material of product contact part	Stainless Steel AISI 304/316L. Check corrosion Resistance with respect to media and detergents
Ambient Temperatures Valve	0 to 45°C, Standard < 0°C: use control air with low dew point. Protect valve stems against freezing.
Proximity Switch	-20 to +80°C
Product Temperature (operating temperature)	-40 to +200°C
Product Pressure	10 bar for DN25 to DN125
Control air pressure	min 4.8 bar Max 8.0 bar
Control air	acc. to DIN/ISO 8573.1 Solid particle content: quality class 3 Particle size max. 5µm Particle density max. 5mg/m <sup>3</sup> Water content: quality class 4 Max dew point +2°C
Air hose	material HD-PE Outside dia. 6mm Inside dia. 4mm
Air consumption (dep. on operational pressure)	2 to 3.8L for DN25 to DN125

The resistance of the sealing material depends on the type and temperature of the medium conveyed.

Medium	Sealing material EPDM (Standard)	FPM (VITON) (optional)	HNBR (optional)
Product	-40...+135°C	-10...+200°C	-40 to +100°C
Caustics at 2...5%	Up to 80°C	Up to 40°C	Resistant
Strong Caustics	Sufficiently resistant	Not resistant	Not resistant
Acids at 2...5%	Up to 80°C	Up to 100°C	Resistant
Strong Acids	Not resistant	Not resistant	Not resistant
Saturated steam	Resistant	Conditionally resistant	Good resistance
Fuels/hydrocarbons	Resistant	Conditionally resistant	Good resistance
Oils/Fats	Not Resistant	Very good resistance	Good resistance