

# Automatic or Manual Butterfly Valve

## **Concept**

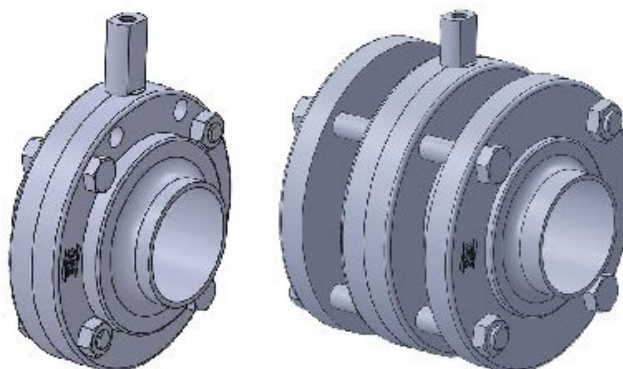
The butterfly valve is a simple regulating valve. The butterfly valve that can be used for the on-off control of low-pressure pipeline media refers to a valve whose closing part (disc or butterfly) is a disc, which rotates around the valve shaft to achieve opening and closing. It mainly plays the role of cutting off and throttling on the pipeline. The butterfly valve opening and closing part is a disc-shaped butterfly plate, which rotates around its own axis in the valve body to achieve the purpose of opening and closing or adjustment.

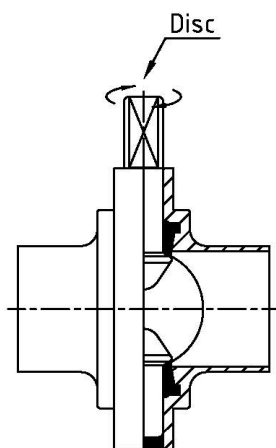
## **Working principle**

The butterfly valve is a valve that uses a disc-type opening and closing member to reciprocate about 90° to open, close or adjust the flow of the medium. The butterfly valve is not only simple in structure, small in size, light in weight, low in material consumption, small in installation size, small in driving torque, simple and fast in operation, but also has good flow regulation and closing and sealing characteristics at the same time. It has been developed in the past ten years. One of the fastest valve varieties. The use of butterfly valves is very extensive. The variety and number of its use continues to expand, and it is developing towards high temperature, high pressure, large diameter, high sealing performance, long life, excellent adjustment characteristics, and one valve with multiple functions. Its reliability and other performance indicators have reached a high level.

## **Standard design :**

Mainly composed of valve body, valve stem, butterfly plate and oil seal. The valve body is cylindrical with short axial length and built-in discs.





#### Surface Finish :

ID  $Ra \leq 0.8 \mu m$  (32  $\mu in$ ) , OD  $Ra \leq 1.6 \mu m$  (63  $\mu in$ ) , by Machining Finish .  
ID  $Ra \leq 0.51 \mu m$  (20  $\mu in$ ) , OD  $Ra \leq 1.6 \mu m$  (63  $\mu in$ ) , by Electrical Polish .

#### Instruction :

- 1, Butterfly valve can be equipped with manual handle design or pneumatic control to open and close.
- 2, Manual handle design and pneumatic type can be interchangeable.
- 3, The volume of the fluid can be adjustable through different manual angle controls.

### TECHNICAL DATA

#### Valve

Max. product pressure : ..... 1000 kPa (10 bar)  
Min. product pressure : ..... Full vacuum  
Temperature range : .....  $10^{\circ}C$  to  $+95^{\circ}C$   
max. temperature if val

#### Actuator 汽動頭

Max. air pressure: ..... 700 kPa (7 bar)  
Min. air pressure, NC and NO: ..... 400 kPa (4 bar)

Temperature range: .....  $-25^{\circ}C$  to  $+90^{\circ}C$

Air consumption (litres free air) -  $\varnothing 85$

mm: .....  $0.24 \times p$  (bar)

Air consumption (litres free air) -  $\varnothing 133$

mm: .....  $0.95 \times p$  (bar)

Weight: ..... -  $\varnothing 85$  mm: 3 kg  
-  $\varnothing 133$  mm: 12 kg

### PHYSICAL DATA

#### Valve bodies

duct wetted steel parts ..... 1.4301 ((304) or 1.4404 (316L)

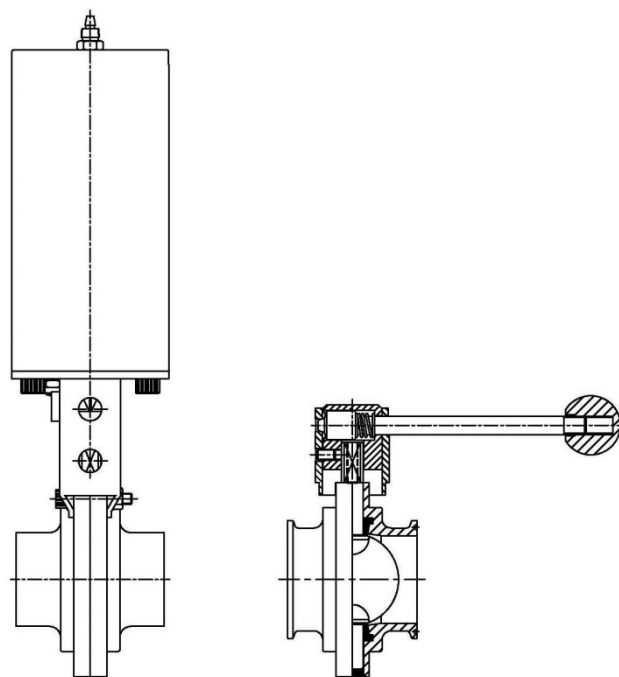
Disc:..... 1.4301 (304) or 1.4404 (316L)

Other steel parts:..... 1.4301 (304)

Rubber grades: ..... Q, EPDM, FPM, HNBR or PFA

Bushes for valve disc:..... PVDF

Finish: ..... Semi-bright



#### Actuator

Actuator body: ..... 1.4307 (304L)

Piston:..... Light alloy (for  $\varnothing 85$  mm Bronze) Air/air version

Seals:..... NBR

### Standard design

Butterfly valve is available in three versions clamp end 、weld end 、male end, for 3A 、BS 、DIN 、SMS 、RJT 、

IDF tubes.

The valve consists of two valve body halves, valve disc, bushes for the disc stem and seal ring.

The valve is assembled by means of screws and nuts.

The actuator is fitted onto the valve by means of a bracket and screws. (The actuator can also be fitted onto ball valves by means of special brackets).

The handle for manual operation is fitted onto the valve by means of a cap/block system and a screw.

The valve has welding ends as standard, also be supplied with fittings.

**Note!**

For further details, see also ESE02446.

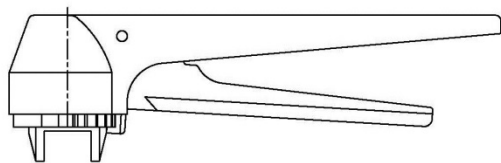


Fig. Lockable Multiposition Handle with padlock. . Padlock

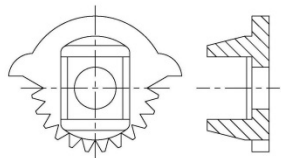
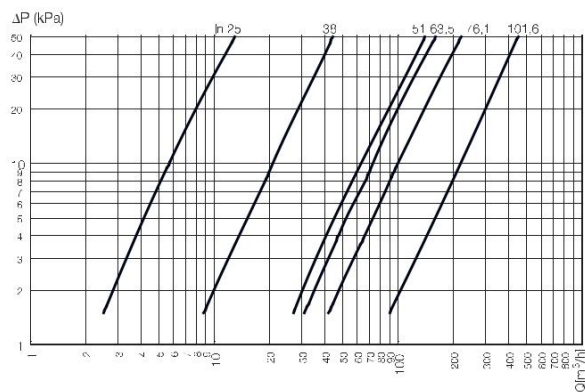


Fig. . Positioning cap

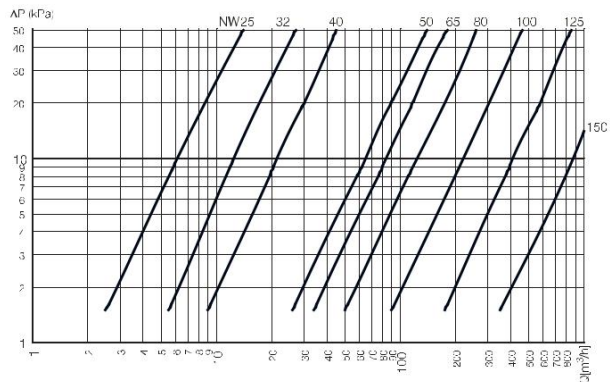
1. On/Off

2. Multi positioning

## Capacity/Pressure drop diagrams



LKB and LKB-F fully open



LKB-2 and LKB-F fully open

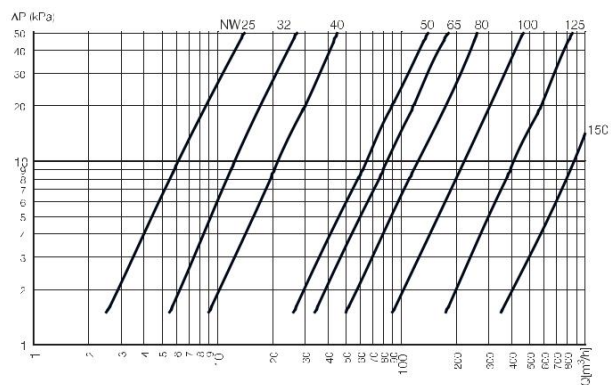
### NOTE!

For the diagrams the following applies:

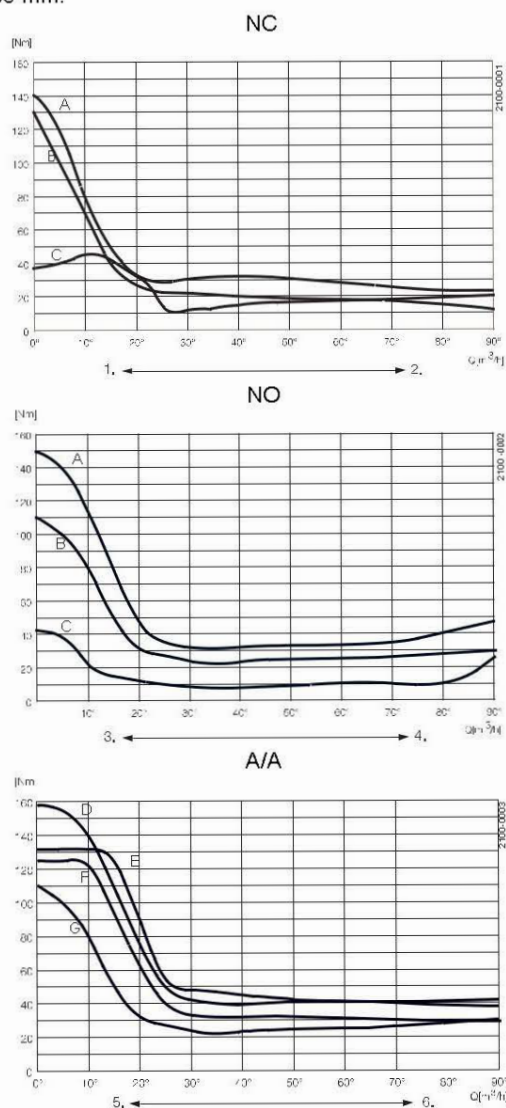
Medium: Water (20°C)(68°F)

Measurement: In accordance with VDI 2173. VDI 2173 °

## Torque diagrams - Actuator



LKLA  $\varnothing 85$  mm:



A = 6 bar air pressure

B = 5 bar air pressure

C = Closing/opening with spring

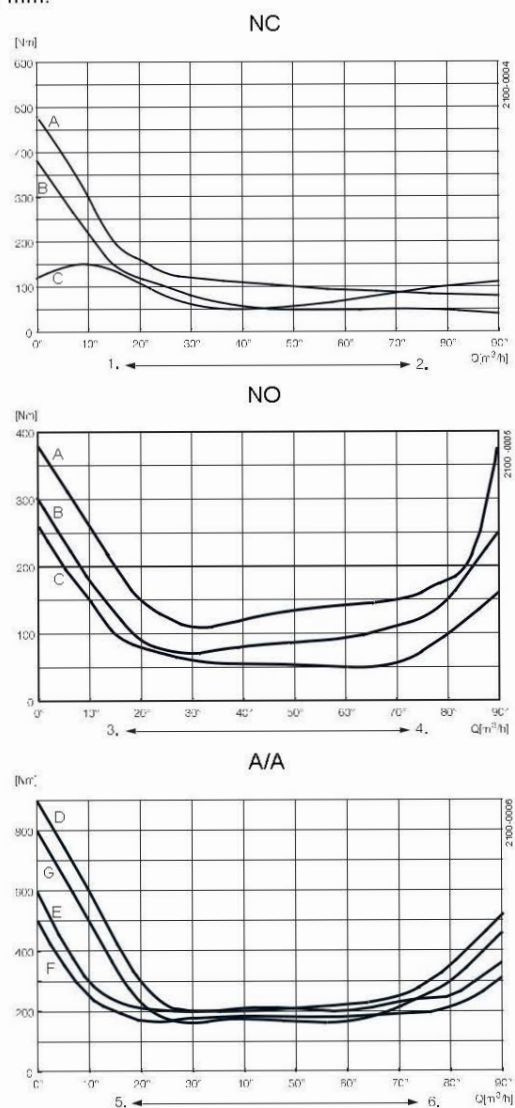
D = 6 bar air pressure connection on top

E = 6 bar air pressure connection on bottom

F = 5 bar air pressure connection on top

G = 5 bar air pressure connection on bottom

LKLA  $\varnothing 133$  mm:



Angular motion of actuator:

1. Closing - Spring activated
2. Opening - Air activated
3. Closing - Air activated
4. Opening - Spring activated
5. Closing
6. Opening