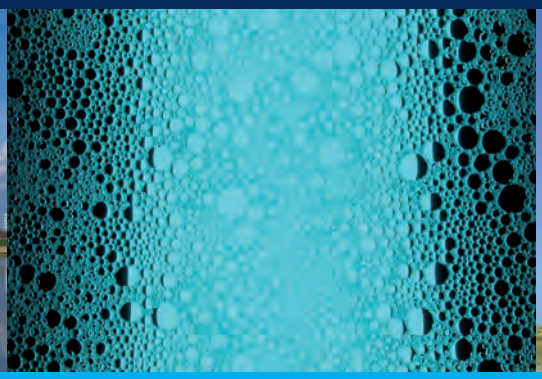

# BUTTERFLY VALVES

Multiplex ENGINEERING

In partnership with

ARMATURY Group

VEXVE ARMATURY GROUP

**Multiplex Engineering**
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-
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Derbyshire, S41 7JD

ARMATURY® Group

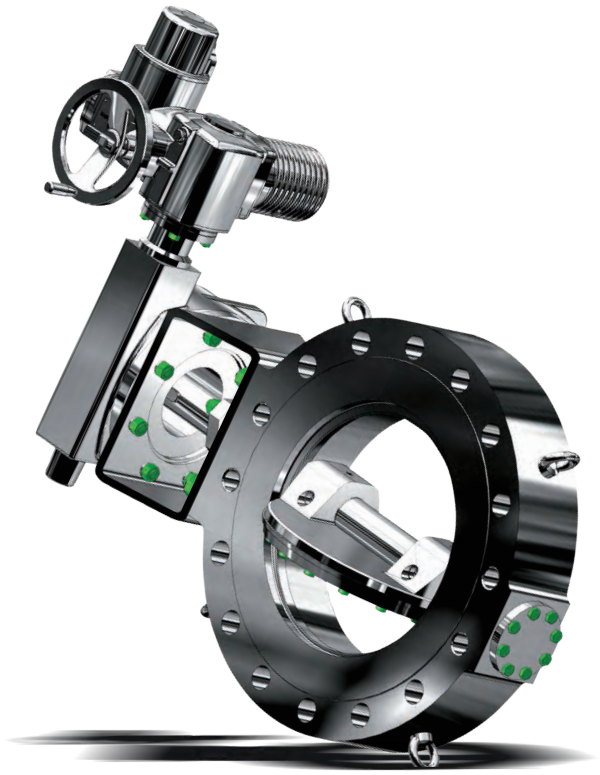
# COMPANY PROFILE

The company ARMATURY Group a.s. is a leading Czech manufacturer and distributor of industrial valves, fittings and control systems for valves. The annual production is of more than 100 000 valves and 500 000 metallurgical stock items.

The company was established January 1, 2000. The tradition of our dynamically developing company is closely linked with the more than fifty-years' history of valve production in the Hlučín Region.

## Our products have been supplied to local and foreign customers for the following industries:

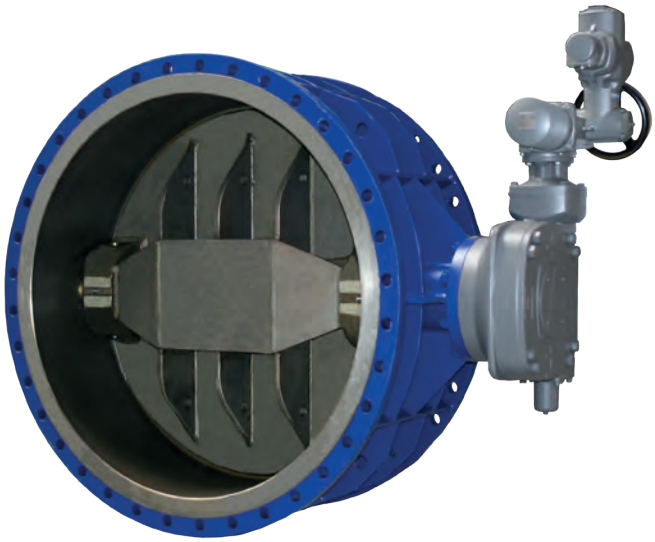
- power engineering, nuclear power
- chemical and petrochemical
- gas supply
- metallurgical industry
- water supply



# CONTENT

## Application

Single-eccentric butterfly valves are industrial valves, which are designed to fully open or close a passage of the working medium flowing through a pipeline. They can also be used for flow-control purposes. However, a 100% tightness of the valve cannot be guaranteed in a long-term use for control purposes.



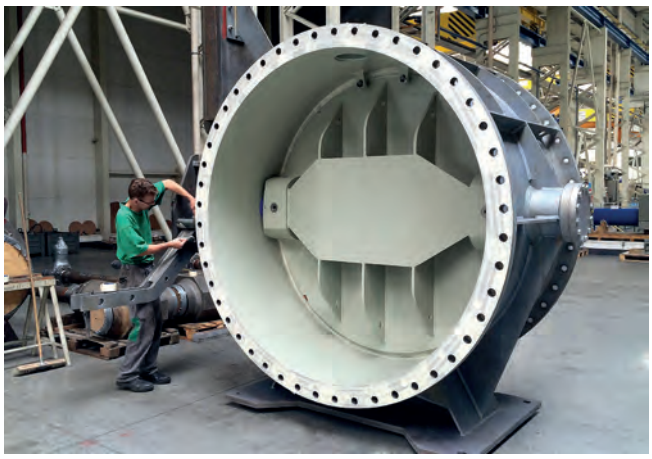
## Working medium

- waste and service water
- drinking water
- hot water
- steam
- non-aggressive liquids and gases (natural gas, CO-gas, petroleum products, etc.)

Butterfly valve is possible to deliver with surface protection which is done by coverage with plastic material (rilsan, halar). This surface protection together with the use of stainless steel material is widening the usage of butterfly valves for chemically aggressive or abrasive media and sea water.

## Maximum working temperature

Maximum working temperature of the butterfly valve depends on the packing material used.



## Technical description

**Single eccentricity** (Fig. A) - the operating shaft axis is eccentric to the packing axis
- easy replacement of gasket
- gasket is not interrupted on the circumference by shaft

**Disc** is clamped on the operating shaft and pivot, which are pivoted in self-lubricated friction bearings (Fig. B).
**Shaft** is sealed by O-ring (Fig. B).
**The pivot** is sealed by flat gasket (Fig. C).
**The sealing** bears on the conical area of the seat, and is together with the disc pushed by the media pressure onto the conical seat, and by this is an absolute tightness reached (Fig. C). To see the tightness grade in the opposite direction please contact manufacturer.

Fig. A

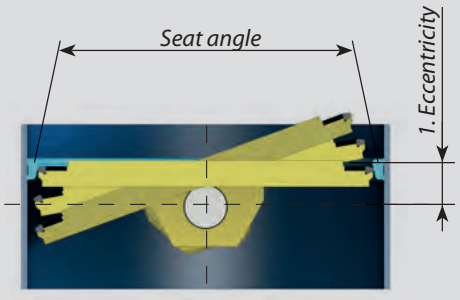



Fig. B

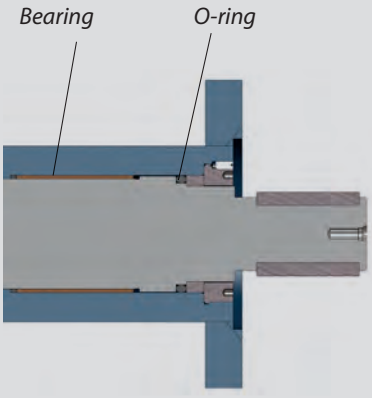
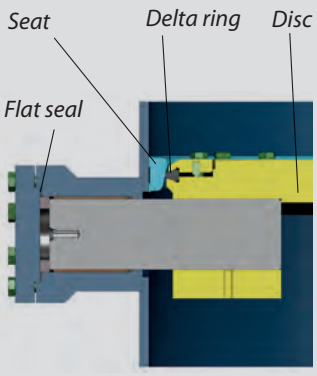



Fig. C



## Operation

- manual gear-box
- electric actuator
- pneumatic or hydraulic actuator
- lever with a counterweight for closing the valve
- hydraulic cylinder for opening the valve

## Testing

The valves are tested according to EN 12 266-1/ISO 5208.

## Connection to piping

- **flanged ends** acc. to EN 1092-1, DIN 2501,
  face to face dimensions acc. to EN 558-1, Series 14
- **wafer Type** acc. to EN 1092-1, DIN 2501,
  face to face dimensions acc. to EN 558-1, Series 16
- **welded ends** acc. to EN 12 627, eventually acc.
  to the customer´s requirement
  face to face dimension acc. to EN 12 982, Series 14

Other face to face and connecting dimensions are acc. to the customer´s requierement, e.g. ANSI, GOST.

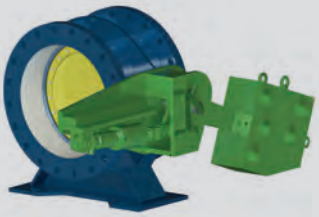
## Installation

The butterfly valves can be mounted into horizontal, vertical or inclined pipeline so that the arrow stamped on the valve body corresponds with the direction of the tightness (arrow points from higher pressure to lower when the disc is closed), and the rotating axe of the disc is in a horizontal position. The bolt Type at the pivot area is also very important. When there is a butterfly valve with electric actuator it is important to abide the actuator's manufacturer.

*Flanged ends with manual gear-box*

*Flanged ends with pneumatic actuator*

*Welded ends with electric actuator*



*Flanged ends with hydraulic cylinder and lever with counterweight*

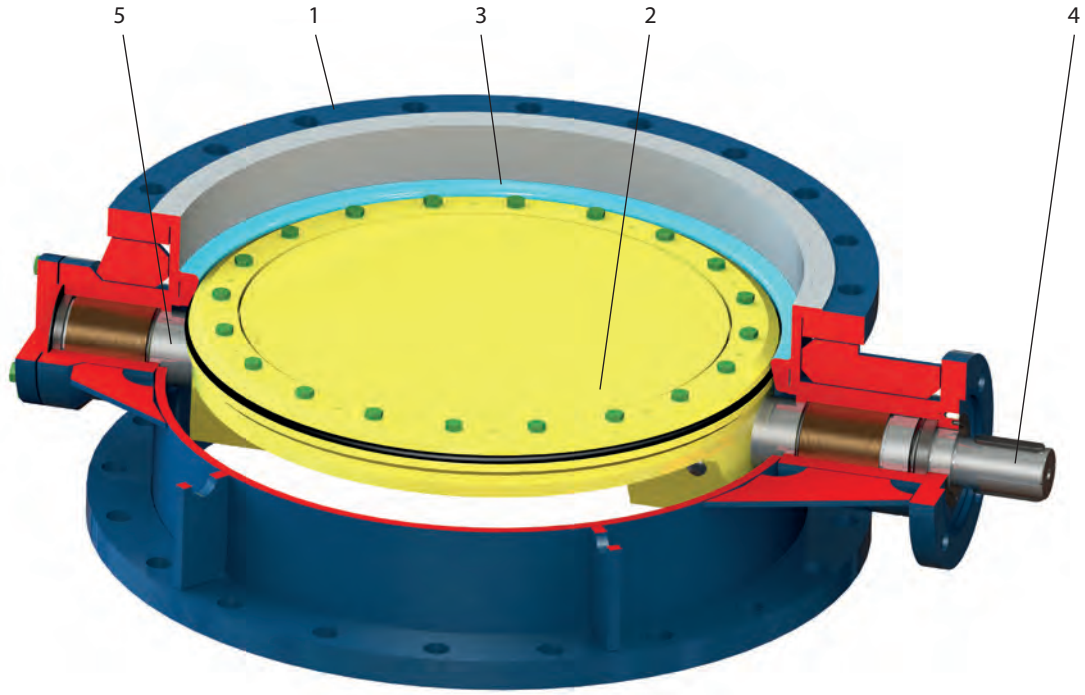
### Production range

| DN | Flanged ends | | | | | Wafer type | | | | | Welded ends | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PN | | | | | PN | | | | | PN | | | | |
| | 2,5 | 6 | 10 | 16 | 25 | 2,5 | 6 | 10 | 16 | 25 | 2,5 | 6 | 10 | 16 | 25 |
| 150 | | • | • | • | • | | • | • | • | • | | • | • | • | • |
| 200 | | • | • | • | • | | • | • | • | • | | • | • | • | • |
| 250 | | • | • | • | • | | • | • | • | • | | • | • | • | • |
| 300 | | • | • | • | • | | • | • | • | • | | • | • | • | • |
| 350 | | • | • | • | • | | • | • | • | • | | • | • | • | • |
| 400 | | • | • | • | • | | • | • | • | • | | • | • | • | • |
| 500 | | • | • | • | • | | • | • | • | • | | • | • | • | • |
| 600 | | • | • | • | • | | • | • | • | • | | • | • | • | • |
| 700 | | • | • | • | • | | • | • | • | • | | • | • | • | • |
| 800 | | • | • | • | • | | • | • | • | • | | • | • | • | • |
| 1000 | | • | • | • | • | | • | • | • | • | | • | • | • | • |
| 1200 | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| 1400 | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| 1600 | • | • | • | • | | • | • | • | • | | • | • | • | • | |
| 2000 | • | • | • | | | • | • | • | | | • | • | • | | |
| 2200 | • | • | | | | | | | | | | | | | |
| 2400 | • | • | | | | | | | | | | | | | |

Other dimensions (up to DN 3500) can be offered upon request.

**DN 150-2400 • PN 2,5-25 • Tmax 180 °C**

**Connection:** EN 1092-1 FLANGED ENDS
EN 12 627 WELDED ENDS
EN 1092-1 WAFER TYPE




## Material

| Position | Component | Standard acc. to EN | EN | | ASTM | | |
|---|---|---|---|---|---|---|---|
| | | Carbon steel | | Stainless steel | Carbon steel | | Stainless steel |
| | | -29 °C - +180 °C* | -40 °C - +180 °C* | -40 °C - +180 °C* | -29 °C - +180 °C* | -40 °C - +180 °C* | -40 °C - +180 °C* |
| 1 | Body | 1.0577,1.0425 | 1.0566 | 1.4541 | A105 | A350 LF2 | A182 F316 |
| 2 | Disc | 1.0577,1.0425 | 1.0566 | 1.4541 | A105 | A350 LF2 | A182 F316 |
| 3 | Seat | 1.4541, 1.4301 | 1.4541, 1.4301 | 1.4541 | A182 F304 | A182 F304 | A182 F316 |
| 4 | Shaft | 1.4021 + QT700 | 1.4021 + QT700 | 1.4541 | A182 F6 | A182 F6 | A182 F316 |
| 5 | Pivot | 1.4021 + QT700 | 1.4021 + QT700 | 1.4541 | A182 F6 | A182 F6 | A182 F316 |

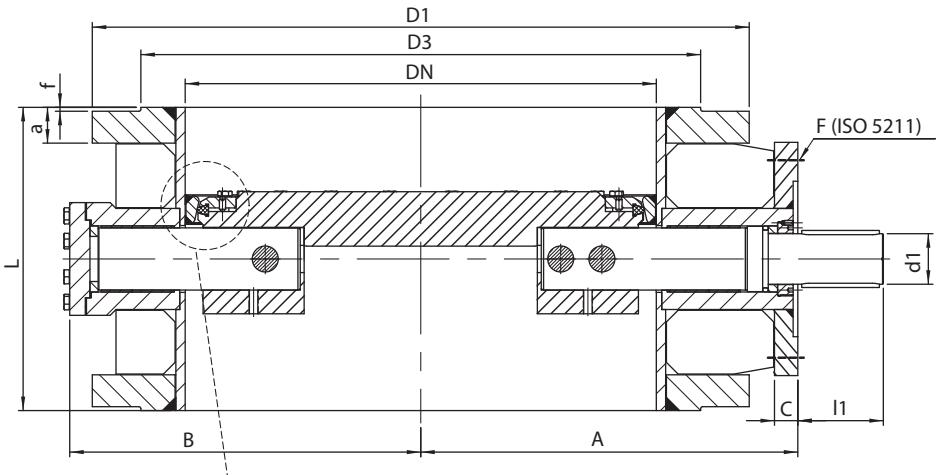
* The thermal use of the valve depends on the pressure-temperature characteristic of the material - see further information in this catalog.

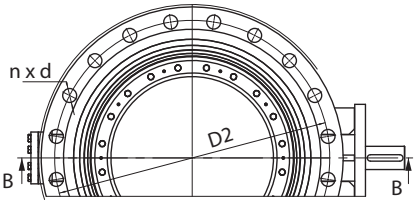
## Recommended seal resistance

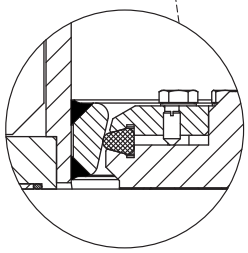
| Elastomer | Identification | Working medium | Working temperature |
|---|---|---|---|
| Nitrile-butadien rubber | NBR | Water, air, engine and gear oils, petrol, mineral oils, heating gases, non-aggressive gases | from -20 °C to +80 °C |
| Ethylene-propylene rubber | EPDM | Drinking water, hot water, steam, diluted acids and alkalis, air; unsuitable for oils and fats | from -40 °C to +130 °C |
| Fluorine rubber | FPM | Mineral oils, petroleum products, coke and blast furnace gas, the highest chemical resistance of all elastomers (rubber); unsuitable for hot steam and water | from -20 °C to +140 °C |
| | VITON GF | Hot water and steam | from -20 °C to +180 °C |

**DN 150-2400 • PN 2,5-25 • Tmax 180 °C**

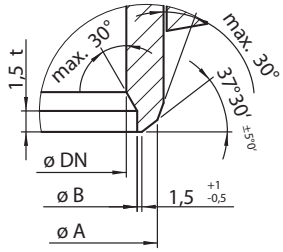
**Connection:** EN 1092-1 FLANGED ENDS
EN 12 627 WELDED ENDS



*Welded ends*




*ø A - acc. to EN 12 627*
*ø B - inner pipe diameter (upon customer´s request)*
*t - pipe thickness (upon customer´s request)*

**PN 2,5**

| DN | A | B | C | L* | F | d1 | l1 | Flanged ends | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | D1 | D2 | D3 | a | f | d | n | kg |
| 1200 | 810 | 780 | 30 | 630 | 25 | 65 | 110 | 1375 | 1320 | 1280 | 40 | 2 | 30 | 32 | 1100 |
| 1400 | 910 | 890 | 30 | 710 | 25 | 65 | 110 | 1575 | 1520 | 1480 | 44 | 2 | 30 | 36 | 1300 |
| 1600 | 1110 | 1080 | 30 | 790 | 30 | 100 | 130 | 1790 | 1730 | 1690 | 48 | 2 | 30 | 40 | 2400 |
| 2000 | 1325 | 1290 | 35 | 950 | 35 | 140 | 165 | 2190 | 2130 | 2090 | 54 | 2 | 30 | 48 | 4670 |
| 2200 | 1650 | 1450 | 40 | 1030 | 40 | 150 | 200 | 2405 | 2340 | 2295 | 58 | 2 | 33 | 52 | 9000 |
| 2400 | 1770 | 1600 | 40 | 1110 | 40 | 160 | 200 | 2605 | 2540 | 2495 | 62 | 2 | 33 | 56 | 11900 |

**PN 6**

| DN | A | B | C | L* | F | d1 | l1 | Flanged ends | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | D1 | D2 | D3 | a | f | d | n | kg |
| 150 | 150 | 142 | 15 | 210 | 10 | 25 | 40 | 265 | 225 | 202 | 20 | 2 | 18 | 8 | 27 |
| 200 | 185 | 175 | 15 | 230 | 10 | 25 | 40 | 320 | 280 | 258 | 22 | 2 | 18 | 8 | 37 |
| 250 | 240 | 210 | 20 | 250 | 12 | 30 | 40 | 375 | 335 | 312 | 24 | 2 | 18 | 12 | 54 |
| 300 | 255 | 245 | 20 | 270 | 12 | 30 | 50 | 440 | 395 | 365 | 24 | 2 | 22 | 12 | 72 |
| 350 | 290 | 260 | 20 | 290 | 12 | 35 | 50 | 490 | 445 | 415 | 26 | 2 | 22 | 12 | 110 |
| 400 | 320 | 295 | 20 | 310 | 12 | 35 | 50 | 540 | 495 | 465 | 28 | 2 | 22 | 16 | 155 |
| 500 | 380 | 365 | 25 | 350 | 14 | 40 | 65 | 645 | 600 | 570 | 30 | 2 | 22 | 20 | 230 |
| 600 | 480 | 450 | 25 | 390 | 16 | 50 | 70 | 755 | 705 | 670 | 32 | 2 | 26 | 20 | 300 |
| 700 | 500 | 470 | 25 | 430 | 16 | 50 | 70 | 860 | 810 | 775 | 32 | 2 | 26 | 24 | 470 |
| 800 | 575 | 530 | 25 | 470 | 16 | 50 | 80 | 975 | 920 | 880 | 34 | 2 | 30 | 24 | 650 |
| 1000 | 690 | 660 | 30 | 550 | 25 | 80 | 110 | 1175 | 1120 | 1080 | 36 | 2 | 30 | 28 | 1040 |
| 1200 | 810 | 780 | 30 | 630 | 30 | 80 | 110 | 1405 | 1340 | 1295 | 40 | 2 | 33 | 32 | 1240 |
| 1400 | 920 | 890 | 30 | 710 | 35 | 100 | 110 | 1630 | 1560 | 1510 | 44 | 2 | 36 | 36 | 2200 |
| 1600 | 1110 | 1080 | 35 | 790 | 35 | 140 | 145 | 1830 | 1760 | 1710 | 48 | 2 | 36 | 40 | 2800 |
| 2000 | 1330 | 1290 | 35 | 950 | 40 | 140 | 165 | 2265 | 2180 | 2125 | 54 | 2 | 42 | 48 | 4750 |
| 2200 | 1700 | 1450 | 40 | 1030 | 40 | 160 | 200 | 2475 | 2390 | 2335 | 60 | 2 | 42 | 52 | 9700 |
| 2400 | 1810 | 1600 | 40 | 1110 | 48 | 178 | 240 | 2685 | 2600 | 2545 | 70 | 2 | 42 | 56 | 12500 |

* face to face dimensions for welded ends are in compliance with flange connections (can be different upon customer's request)
Pipe dimensions øD x t (øD – outside pipe diameter; t – the pipe thickness) for welding are given by customer.

**DN 150-2400 • PN 2,5-25 • Tmax 180 °C**

**Connection: EN 1092-1 FLANGED ENDS**
**EN 12 627 WELDED ENDS**

## PN 10

| DN | A | B | C | L* | F | d1 | l1 | Flanged ends | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | D1 | D2 | D3 | a | f | d | n | kg |
| 150 | 150 | 142 | 15 | 210 | 10 | 25 | 40 | 285 | 240 | 212 | 24 | 2 | 22 | 8 | 30 |
| 200 | 185 | 175 | 15 | 230 | 10 | 25 | 40 | 340 | 295 | 268 | 24 | 2 | 22 | 8 | 45 |
| 250 | 240 | 210 | 20 | 250 | 12 | 30 | 40 | 395 | 350 | 320 | 26 | 2 | 22 | 12 | 60 |
| 300 | 255 | 245 | 20 | 270 | 12 | 30 | 50 | 445 | 400 | 370 | 26 | 2 | 22 | 12 | 80 |
| 350 | 290 | 265 | 20 | 290 | 12 | 35 | 50 | 505 | 460 | 430 | 28 | 2 | 22 | 16 | 100 |
| 400 | 320 | 295 | 20 | 310 | 12 | 35 | 50 | 565 | 515 | 482 | 32 | 2 | 26 | 16 | 140 |
| 500 | 380 | 365 | 25 | 350 | 14 | 40 | 65 | 670 | 620 | 585 | 38 | 2 | 26 | 20 | 235 |
| 600 | 430 | 410 | 25 | 390 | 16 | 50 | 80 | 780 | 725 | 685 | 42 | 2 | 30 | 20 | 365 |
| 700 | 535 | 485 | 25 | 430 | 16 | 65 | 80 | 895 | 840 | 800 | 42 | 2 | 30 | 24 | 505 |
| 800 | 595 | 575 | 25 | 470 | 25 | 70 | 90 | 1015 | 950 | 905 | 44 | 2 | 33 | 24 | 700 |
| 1000 | 700 | 680 | 30 | 550 | 30 | 80 | 110 | 1230 | 1160 | 1110 | 44 | 2 | 36 | 28 | 1090 |
| 1200 | 790 | 760 | 30 | 630 | 30 | 100 | 130 | 1455 | 1380 | 1330 | 46 | 2 | 39 | 32 | 1280 |
| 1400 | 1040 | 980 | 40 | 710 | 40 | 140 | 145 | 1675 | 1590 | 1535 | 48 | 2 | 42 | 36 | 2500 |
| 1600 | 1380 | 1080 | 40 | 790 | 40 | 140 | 165 | 1915 | 1820 | 1760 | 58 | 2 | 48 | 40 | 3600 |
| 2000 | 1580 | 1350 | 40 | 950 | 40 | 160 | 200 | 2325 | 2230 | 2170 | 64 | 2 | 48 | 48 | 4900 |

## PN 16

| DN | A | B | C | L* | F | d1 | l1 | Flanged ends | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | D1 | D2 | D3 | a | f | d | n | kg |
| 150 | 150 | 142 | 15 | 210 | 10 | 25 | 40 | 285 | 240 | 212 | 24 | 2 | 22 | 8 | 30 |
| 200 | 185 | 175 | 15 | 230 | 10 | 25 | 40 | 340 | 295 | 268 | 26 | 2 | 22 | 12 | 42 |
| 250 | 240 | 210 | 20 | 250 | 12 | 30 | 50 | 405 | 355 | 320 | 29 | 2 | 26 | 12 | 65 |
| 300 | 255 | 245 | 20 | 270 | 12 | 35 | 50 | 460 | 410 | 378 | 32 | 2 | 26 | 12 | 90 |
| 350 | 290 | 265 | 20 | 290 | 12 | 40 | 50 | 520 | 470 | 438 | 35 | 2 | 26 | 16 | 120 |
| 400 | 330 | 310 | 25 | 310 | 14 | 40 | 60 | 580 | 525 | 490 | 38 | 2 | 30 | 16 | 165 |
| 500 | 395 | 370 | 25 | 350 | 16 | 50 | 80 | 715 | 650 | 610 | 46 | 2 | 33 | 20 | 245 |
| 600 | 480 | 445 | 30 | 390 | 25 | 65 | 90 | 840 | 770 | 725 | 52 | 2 | 36 | 20 | 425 |
| 700 | 520 | 490 | 30 | 430 | 25 | 70 | 110 | 910 | 840 | 795 | 52 | 2 | 36 | 24 | 530 |
| 800 | 595 | 570 | 30 | 470 | 25 | 85 | 110 | 1025 | 950 | 900 | 54 | 2 | 39 | 24 | 650 |
| 1000 | 710 | 700 | 30 | 550 | 30 | 100 | 130 | 1255 | 1170 | 1115 | 54 | 2 | 42 | 28 | 1205 |
| 1200 | 830 | 805 | 35 | 630 | 35 | 100 | 160 | 1485 | 1390 | 1330 | 58 | 2 | 48 | 32 | 1580 |
| 1400 | 1040 | 980 | 40 | 710 | 40 | 140 | 200 | 1685 | 1590 | 1530 | 58 | 2 | 48 | 36 | 3100 |
| 1600 | 1380 | 1080 | 40 | 790 | 40 | 160 | 200 | 1930 | 1820 | 1750 | 64 | 2 | 56 | 40 | 3920 |

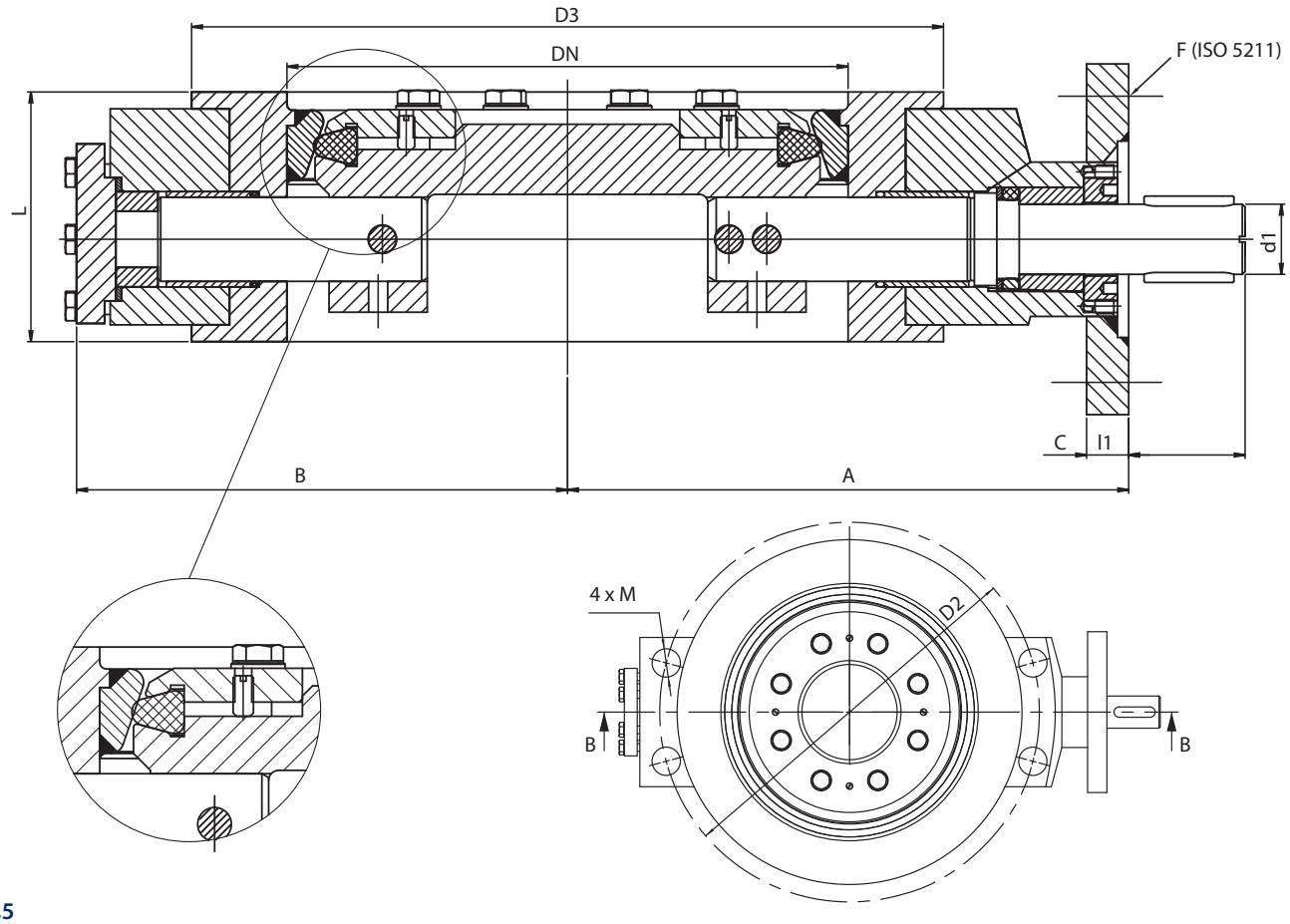
## PN 25

| DN | A | B | C | L* | F | d1 | l1 | Flanged ends | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | D1 | D2 | D3 | a | f | d | n | kg |
| 150 | 150 | 142 | 15 | 210 | 10 | 25 | 50 | 300 | 250 | 218 | 30 | 2 | 26 | 8 | 34 |
| 200 | 210 | 185 | 20 | 230 | 12 | 25 | 50 | 360 | 310 | 278 | 32 | 2 | 26 | 12 | 55 |
| 250 | 230 | 220 | 20 | 250 | 12 | 30 | 50 | 425 | 370 | 335 | 35 | 2 | 30 | 12 | 71 |
| 300 | 270 | 250 | 20 | 270 | 14 | 35 | 50 | 485 | 430 | 395 | 38 | 2 | 30 | 16 | 109 |
| 350 | 320 | 295 | 25 | 290 | 14 | 40 | 60 | 555 | 490 | 450 | 42 | 2 | 33 | 16 | 155 |
| 400 | 350 | 330 | 25 | 310 | 16 | 50 | 80 | 620 | 550 | 505 | 46 | 2 | 36 | 16 | 208 |
| 500 | 425 | 395 | 30 | 350 | 25 | 55 | 110 | 730 | 660 | 615 | 56 | 2 | 36 | 20 | 285 |
| 600 | 485 | 455 | 30 | 390 | 25 | 65 | 110 | 845 | 770 | 720 | 68 | 2 | 39 | 20 | 525 |
| 700 | 530 | 505 | 30 | 430 | 25 | 85 | 110 | 960 | 875 | 820 | 68 | 2 | 42 | 24 | 640 |
| 800 | 610 | 580 | 30 | 470 | 30 | 100 | 130 | 1085 | 990 | 930 | 70 | 2 | 48 | 24 | 860 |
| 1000 | 840 | 790 | 35 | 550 | 35 | 120 | 160 | 1320 | 1210 | 1140 | 70 | 2 | 56 | 28 | 1500 |
| 1200 | 915 | 875 | 40 | 630 | 40 | 140 | 200 | 1530 | 1420 | 1350 | 70 | 2 | 56 | 32 | 2300 |
| 1400 | 1040 | 980 | 40 | 710 | 40 | 160 | 200 | 1755 | 1640 | 1560 | 76 | 2 | 62 | 36 | 3600 |

* face to face dimensions for welded ends are in compliance with flange connections (can be different upon customer's request) Pipe dimensions øD x t (øD – outside pipe diameter; t – the pipe thickness) for welding are given by customer.

**DN 150-2000 • PN 2,5-25 • Tmax 180 °C**

**Connection: EN 1092-1 WAFER TYPE**




## PN 2,5

| DN | A | B | C | L | F | D2 | D3 | d1 | M | l1 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1200 | 810 | 780 | 30 | 350 | 25 | 1320 | 1280 | 65 | M27 | 110 | 900 |
| 1400 | 920 | 890 | 30 | 390 | 25 | 1520 | 1480 | 65 | M27 | 110 | 1050 |
| 1600 | 1110 | 1080 | 35 | 440 | 30 | 1730 | 1690 | 100 | M27 | 130 | 2000 |
| 2000 | 1330 | 1290 | 35 | 540 | 35 | 2130 | 2090 | 140 | M27 | 165 | 4200 |

## PN 6

| DN | A | B | C | L | F | D2 | D3 | d1 | M | l1 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 150 | 169 | 144 | 15 | 76 | 10 | 225 | 202 | 25 | - | 40 | 16 |
| 200 | 195 | 170 | 15 | 89 | 10 | 280 | 258 | 25 | - | 40 | 27 |
| 250 | 240 | 200 | 20 | 114 | 12 | 335 | 312 | 30 | M16 | 40 | 52 |
| 300 | 270 | 235 | 20 | 114 | 12 | 395 | 365 | 30 | M20 | 50 | 65 |
| 350 | 330 | 265 | 20 | 127 | 12 | 445 | 415 | 35 | M20 | 50 | 89 |
| 400 | 370 | 310 | 20 | 140 | 12 | 495 | 465 | 35 | M20 | 50 | 110 |
| 500 | 375 | 355 | 25 | 152 | 14 | 600 | 570 | 40 | M20 | 65 | 195 |
| 600 | 430 | 410 | 25 | 178 | 16 | 705 | 670 | 50 | M24 | 70 | 280 |
| 700 | 480 | 460 | 25 | 229 | 16 | 810 | 775 | 50 | M24 | 70 | 390 |
| 800 | 575 | 530 | 25 | 241 | 16 | 920 | 880 | 50 | M27 | 80 | 550 |
| 1000 | 690 | 555 | 30 | 300 | 25 | 1120 | 1080 | 80 | M27 | 110 | 820 |
| 1200 | 810 | 780 | 30 | 350 | 30 | 1340 | 1295 | 80 | M30 | 110 | 1240 |
| 1400 | 930 | 900 | 30 | 390 | 35 | 1560 | 1510 | 100 | M33 | 110 | 2000 |
| 1600 | 1110 | 1080 | 35 | 440 | 35 | 1760 | 1710 | 140 | M33 | 145 | 2710 |
| 2000 | 1330 | 1290 | 50 | 540 | 40 | 2180 | 2125 | 140 | M39 | 165 | 5130 |

Depth of the thread (“M“) in the body is corresponds to the thread dimension.

**DN 150-2000 • PN 2,5-25 • Tmax 180 °C**

**Connection: EN 1092-1 WAFER TYPE**

### PN 10

| DN | A | B | C | L | F | D2 | D3 | d1 | M | l1 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 150 | 169 | 144 | 15 | 76 | 10 | 240 | 212 | 25 | - | 40 | 17 |
| 200 | 200 | 175 | 15 | 89 | 10 | 295 | 268 | 25 | - | 40 | 48 |
| 250 | 240 | 210 | 20 | 114 | 12 | 350 | 320 | 30 | M20 | 40 | 54 |
| 300 | 270 | 235 | 20 | 114 | 12 | 400 | 370 | 30 | M20 | 50 | 68 |
| 350 | 330 | 265 | 20 | 127 | 12 | 460 | 430 | 35 | M20 | 50 | 92 |
| 400 | 370 | 310 | 20 | 140 | 12 | 515 | 482 | 35 | M24 | 50 | 115 |
| 500 | 375 | 355 | 25 | 152 | 14 | 620 | 585 | 40 | M24 | 65 | 200 |
| 600 | 430 | 410 | 25 | 178 | 16 | 725 | 685 | 50 | M27 | 80 | 290 |
| 700 | 530 | 485 | 25 | 229 | 16 | 840 | 800 | 65 | M27 | 80 | 415 |
| 800 | 595 | 575 | 25 | 241 | 25 | 950 | 905 | 70 | M30 | 90 | 640 |
| 1000 | 700 | 680 | 30 | 300 | 30 | 1160 | 1110 | 80 | M33 | 110 | 835 |
| 1200 | 790 | 760 | 30 | 350 | 30 | 1380 | 1330 | 100 | M36 | 130 | 1260 |
| 1400 | 1070 | 980 | 40 | 390 | 40 | 1590 | 1535 | 140 | M39 | 145 | 2300 |
| 1600 | 1400 | 1080 | 40 | 440 | 40 | 1820 | 1760 | 140 | M45 | 165 | 2720 |
| 2000 | 1430 | 1350 | 40 | 540 | 40 | 2230 | 2170 | 160 | M45 | 200 | 4310 |

### PN 16

| DN | A | B | C | L | F | D2 | D3 | d1 | M | l1 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 150 | 169 | 144 | 15 | 76 | 10 | 240 | 212 | 25 | - | 40 | 17 |
| 200 | 200 | 175 | 15 | 89 | 10 | 295 | 268 | 25 | M20 | 40 | 51 |
| 250 | 240 | 210 | 20 | 114 | 12 | 355 | 320 | 30 | M24 | 50 | 57 |
| 300 | 270 | 245 | 20 | 114 | 12 | 410 | 378 | 35 | M24 | 50 | 72 |
| 350 | 300 | 275 | 20 | 127 | 12 | 470 | 438 | 40 | M24 | 50 | 95 |
| 400 | 370 | 310 | 25 | 140 | 14 | 525 | 490 | 40 | M27 | 60 | 120 |
| 500 | 420 | 370 | 25 | 152 | 16 | 650 | 610 | 50 | M30 | 80 | 215 |
| 600 | 480 | 450 | 30 | 178 | 25 | 770 | 725 | 65 | M33 | 90 | 310 |
| 700 | 515 | 485 | 30 | 229 | 25 | 840 | 795 | 70 | M33 | 110 | 435 |
| 800 | 600 | 565 | 30 | 241 | 25 | 950 | 900 | 85 | M36 | 110 | 600 |
| 1000 | 715 | 695 | 30 | 300 | 30 | 1170 | 1115 | 100 | M39 | 130 | 1100 |
| 1200 | 830 | 805 | 30 | 350 | 35 | 1390 | 1330 | 100 | M45 | 160 | 1300 |
| 1400 | 1070 | 980 | 40 | 390 | 40 | 1590 | 1535 | 140 | M45 | 200 | 2800 |
| 1600 | 1400 | 1080 | 40 | 440 | 40 | 1820 | 1760 | 160 | M52 | 200 | 4400 |

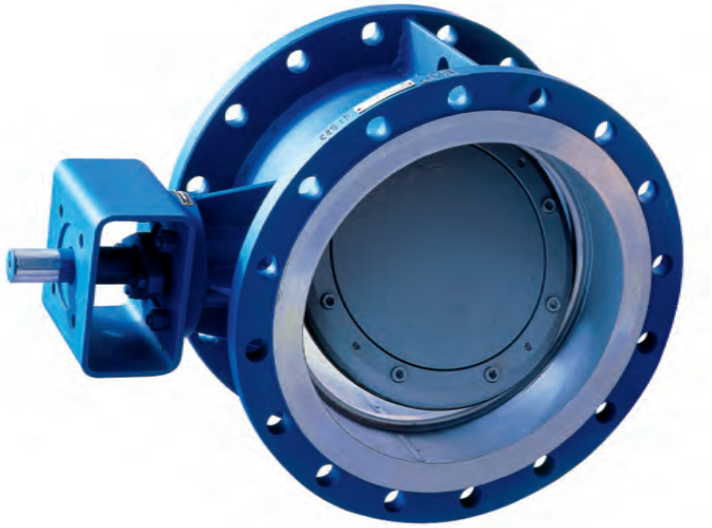
### PN 25

| DN | A | B | C | L | F | D2 | D3 | d1 | M | l1 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 150 | 169 | 144 | 15 | 76 | 10 | 250 | 218 | 25 | - | 50 | 19 |
| 200 | 215 | 185 | 20 | 89 | 12 | 310 | 278 | 25 | M24 | 50 | 56 |
| 250 | 260 | 220 | 20 | 114 | 12 | 370 | 335 | 30 | M27 | 50 | 62 |
| 300 | 280 | 250 | 20 | 114 | 14 | 430 | 395 | 35 | M27 | 50 | 80 |
| 350 | 325 | 295 | 25 | 127 | 14 | 490 | 450 | 40 | M30 | 60 | 110 |
| 400 | 380 | 325 | 25 | 140 | 16 | 550 | 505 | 50 | M33 | 80 | 170 |
| 500 | 420 | 380 | 30 | 152 | 25 | 660 | 615 | 55 | M33 | 110 | 260 |
| 600 | 500 | 460 | 30 | 178 | 25 | 770 | 720 | 65 | M36 | 110 | 380 |
| 700 | 540 | 505 | 30 | 229 | 25 | 875 | 820 | 85 | M39 | 110 | 500 |
| 800 | 645 | 610 | 30 | 241 | 30 | 990 | 930 | 100 | M45 | 130 | 770 |
| 1000 | 870 | 800 | 35 | 300 | 35 | 1210 | 1140 | 120 | M52 | 160 | 1390 |
| 1200 | 940 | 880 | 40 | 350 | 40 | 1420 | 1350 | 140 | M52 | 200 | 1480 |
| 1400 | 1070 | 980 | 40 | 390 | 40 | 1640 | 1560 | 160 | M56 | 200 | 3100 |

Depth of the thread (“M“) in the body is corresponds to the thread dimension.

## Application

Double-eccentric butterfly valves are industrial valves, which are designed to fully open or close the passage of the working medium flowing through a pipeline. They can also be used for flow-control purposes. However, a 100% tightness of the valve cannot be guaranteed in a long-term use for control purposes.



## Working medium

- waste and service water
- drinking water
- hot water
- steam
- non-aggressive liquids and gases (natural gas, CO-gas, petroleum products, etc.)

Butterfly valve is possible to deliver with surface protection which is done by coverage with plastic material (rilsan, halar). This surface protection together with the use of stainless steel material is widening the usage of butterfly valves for chemically aggressive or abrasive media and sea water.

## Maximum working temperature

**A maximum working temperature** of the butterfly valve depends on the packing material used.

## Technical description

**Double eccentricity** (Fig. A)
1. the operating shaft axis is eccentric to the packing axis of the disc
2. the operating shaft axis is eccentric to the flow axe

**Disc** is clamped on the operating shaft and pivot, which are pivoted in self-lubricated friction bearings (Fig. B).
**The shaft** is sealed by gland packing (Fig. B).
**The pivot** is sealed by flat gasket.
**The gasket** bears on the conical area of the stainless steel seat, and is together with the disc pushed by the media pressure onto the conical seat, and by this is an absolute tightness reached (Fig. C). The tightness is restricted when the media flow is from the opposite side. To see the tightness grade is upon request.
**For DN 80-125** is the major packing ring attached in the body by the thrust ring. In the „closed" position, the disc is pushed against the seat by its conical area due to the pressure caused by the working medium, which ensures a total tightness in that direction (Fig. D). For all the valve variants, however, the valve tightness is limited in the opposite flow direction. For the leakage class in opposite direction please contact manufacturer.

Fig. A

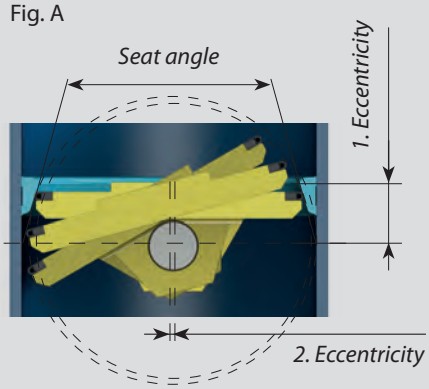



Fig. B

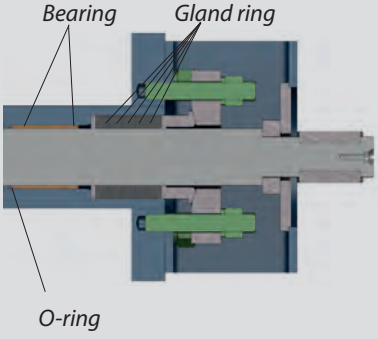



Fig. C

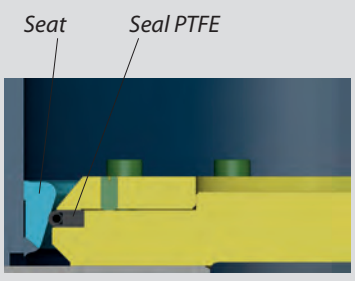
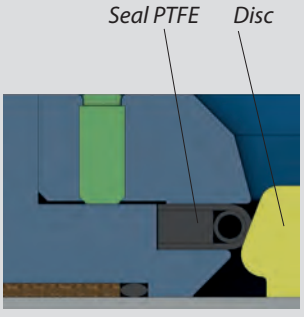



Fig. D



## Operation

- manual gear-box
- electric actuator
- pneumatic or hydraulic actuator
- remote control from stand
- lever with a counterweight for closing the valve
- hydraulic cylinder for opening the valve

## Testing

The valves are tested according to EN 12 266-1/ISO 5208.

## Connection to piping

- **flanged ends** acc. to EN 1092-1,
  face to face dimensions acc. to EN 558-1, Series 14
- **wafer type** acc. to EN 1092-1,
  face to face dimensions acc. to EN 558-1, Series 16
- **welded ends** acc. to EN 12 627, eventually acc. to the customer´s requirement,
  face to face dimension acc. to EN 12 982, Series 14

Other face to face and connecting dimensions are acc. to the customer´s requierement, e.g. ANSI, GOST.

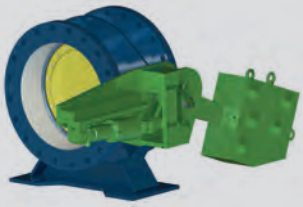
## Installation

The butterfly valves can be mounted into horizontal, vertical or inclined pipeline so that the arrow stamped on the valve body corresponds with the direction of the tightness (arrow points from higher pressure to lower when the disc is closed), and the rotating axe of the disc is in a horizontal position. The bolt type at the pivot area is also very important. When there is a butterfly valve with electric actuator it is important to abide the actuator's manufacturer.

*Flanged ends with manual gear-box*

*Flanged ends with pneumatic actuator*

*Welded ends with electric actuator*



*Flanged ends with hydraulic cylinder and lever with counterweight*

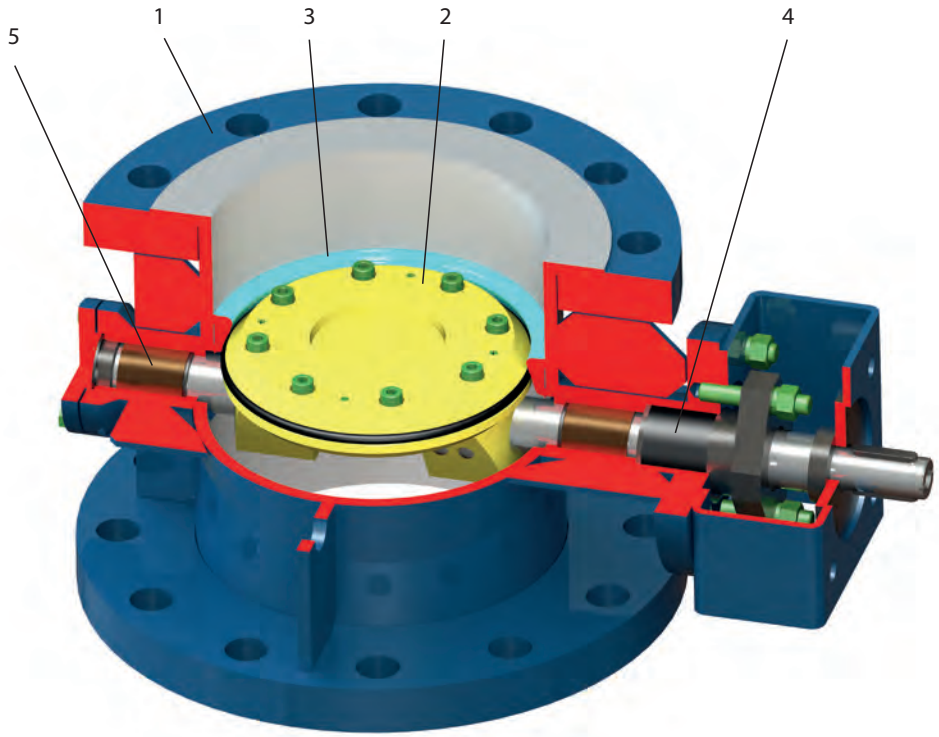
### Production range

| DN | Flanged ends | | | | | | Welded ends | | | | | | Wafer type | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PN | | | | | | PN | | | | | | PN | | | | | |
| | 2,5 | 6 | 10 | 16 | 25 | 40 | 2,5 | 6 | 10 | 16 | 25 | 40 | 2,5 | 6 | 10 | 16 | 25 | 40 |
| 80 | | | | | | | | | | | | | | • | • | • | • | • |
| 100 | | | | | | | | | | | | | | • | • | • | • | • |
| 125 | | | | | | | | | | | | | | • | • | • | • | • |
| 150 | | • | • | • | • | • | | • | • | • | • | • | | • | • | • | • | • |
| 200 | | • | • | • | • | • | | • | • | • | • | • | | • | • | • | • | • |
| 250 | | • | • | • | • | • | | • | • | • | • | • | | • | • | • | • | • |
| 300 | | • | • | • | • | • | | • | • | • | • | • | | • | • | • | • | • |
| 350 | | • | • | • | • | • | | • | • | • | • | • | | • | • | • | • | • |
| 400 | | • | • | • | • | • | | • | • | • | • | • | | • | • | • | • | • |
| 500 | | • | • | • | • | • | | • | • | • | • | • | | • | • | • | • | • |
| 600 | | • | • | • | • | • | | • | • | • | • | • | | • | • | • | • | • |
| 700 | | • | • | • | • | • | | • | • | • | • | • | | • | • | • | • | • |
| 800 | | • | • | • | • | • | | • | • | • | • | • | | • | • | • | • | • |
| 1000 | | • | • | • | • | | | • | • | • | • | | | • | • | • | • | |
| 1200 | • | • | • | • | • | | • | • | • | • | • | | • | • | • | • | • | |
| 1400 | • | • | • | • | • | | • | • | • | • | • | | • | • | • | • | • | |
| 1600 | • | • | • | • | | | • | • | • | • | | | • | • | • | • | | |
| 2000 | • | • | • | | | | • | • | • | | | | • | • | • | | | |

**Rubber sealed butterfly valves with double-eccentricity type L32.7 are produced in the same production range as type L32.6.**

**DN 150-2000 • PN 2,5-40 •Tmax +250 °C**
**Design: PTFE seal**

**Connection:** EN 1092-1 FLANGED ENDS
EN 12 627 WELDED ENDS
EN 1092-1 WAFER TYPE




## Material

| Position | Component | Standard acc. to EN | EN | | ASTM | | |
|---|---|---|---|---|---|---|---|
| | | Carbon steel | | Stainless steel | Carbon steel | | Stainless steel |
| | | -29 °C - +250 °C* | -46 °C - +250 °C* | -50 °C - +250 °C* | -29 °C - +250 °C* | -46 °C - +250 °C* | -50 °C - +250 °C* |
| 1 | Body | 1.0577,1.0425 | 1.0566 | 1.4541 | A105 | A350 LF2 | A182 F316 |
| 2 | Disc | 1.0577,1.0425 | 1.0566 | 1.4541 | A105 | A350 LF2 | A182 F316 |
| 3 | Seat | 1.4541, 1.4301 | 1.4541 | 1.4541 | A182 F304 | A182 F304 | A182 F316 |
| 4 | Shaft | 1.4021 + QT700 | 1.4021 + QT700 | 1.4541 | A182 F6A | A182 F6A | A182 F316 |
| 5 | Pivot | 1.4021 + QT700 | 1.4021 + QT700 | 1.4541 | A182 F6A | A182 F6A | A182 F316 |

* The thermal use of the valve depends on the pressure-temperature characteristic of the material - see further information in this catalog.

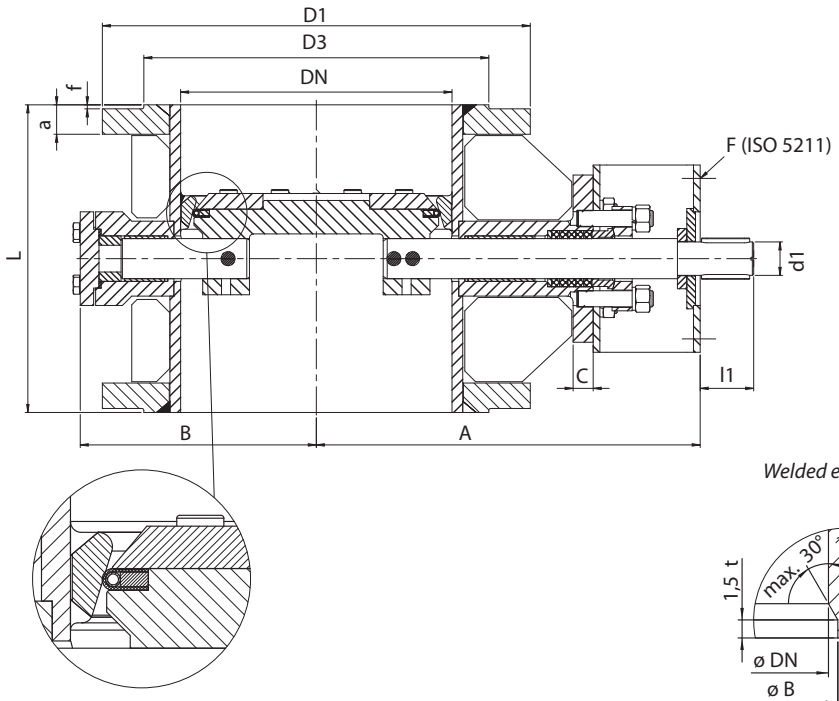
## Recommended seal resistance

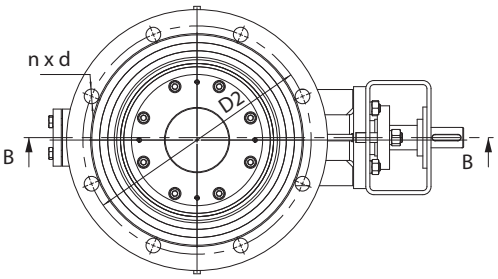
| Elastomer | Identification | Identification | Working temperature |
|---|---|---|---|
| Teflon | PTFE | Wastewater and service water, seawater, hot water and steam, non-aggressive liquids and gases | from -50 °C to +250 °C |
| Nitrile-butadien rubber * | NBR | Water, air, engine and gear oils, petrol, mineral oils, heating gases, non-aggressive gases | from -20 °C to +80 °C |
| Ethylene-propylene rubber * | EPDM | Drinking water, hot water, steam, diluted acids and alkalis, air; unsuitable for oils and fats | from -40 °C to +130 °C |
| Fluorine rubber * | FPM | Mineral oils, petroleum products, coke and blast furnace gas, the highest chemical resistance of all elastomers (rubber); unsuitable for hot steam and water | from -20 °C to +140 °C |
| | VITON GF | Hot water and steam | from -20 °C to +180 °C |

* Butterfly valves with rubber seal for double eccentricity type L32.7 are manufactured in the same production range as L32.6 and dimension tables are identical with type L32.6.

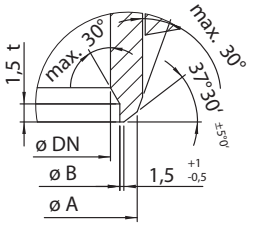
**DN 150-2000 • PN 2,5-40 •Tmax +250 °C**
**Design: PTFE seal**

**Connection:** EN 1092-1 FLANGED ENDS
EN 12 627 WELDED ENDS




*Welded ends*




*ø A - acc. to EN 12 627*
*ø B - inner pipe diameter*
*(upon customer´s request)*
*t - pipe thickness (upon customer´s request)*

## PN 2,5

| DN | A | B | C | L* | F | d1 | l1 | Flanged ends | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | D1 | D2 | D3 | a | f | d | n | kg |
| 1200 | 1180 | 800 | 30 | 630 | 25 | 65 | 110 | 1375 | 1320 | 1280 | 40 | 2 | 30 | 32 | 1250 |
| 1400 | 1150 | 890 | 30 | 710 | 30 | 80 | 125 | 1575 | 1520 | 1480 | 44 | 2 | 30 | 36 | 1640 |
| 1600 | 1270 | 1100 | 30 | 790 | 35 | 100 | 165 | 1790 | 1730 | 1690 | 48 | 2 | 30 | 40 | 2840 |
| 2000 | 1500 | 1300 | 35 | 950 | 40 | 140 | 200 | 2190 | 2130 | 2090 | 54 | 2 | 30 | 48 | 4680 |

## PN 6

| DN | A | B | C | L* | F | d1 | l1 | Flanged ends | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | D1 | D2 | D3 | a | f | d | n | kg |
| 150 | 253 | 146 | 15 | 210 | 10 | 25 | 40 | 265 | 225 | 202 | 20 | 2 | 18 | 8 | 39 |
| 200 | 290 | 180 | 15 | 230 | 10 | 25 | 40 | 320 | 280 | 258 | 22 | 2 | 18 | 8 | 45 |
| 250 | 320 | 210 | 20 | 250 | 12 | 30 | 50 | 375 | 335 | 312 | 24 | 2 | 18 | 12 | 54 |
| 300 | 335 | 230 | 20 | 270 | 12 | 30 | 50 | 440 | 395 | 365 | 24 | 2 | 22 | 12 | 82 |
| 350 | 360 | 260 | 20 | 290 | 12 | 35 | 50 | 490 | 445 | 415 | 26 | 2 | 22 | 12 | 118 |
| 400 | 400 | 295 | 20 | 310 | 12 | 35 | 50 | 540 | 495 | 465 | 28 | 2 | 22 | 16 | 164 |
| 500 | 510 | 360 | 25 | 350 | 14 | 40 | 60 | 645 | 600 | 570 | 30 | 2 | 22 | 20 | 240 |
| 600 | 560 | 415 | 25 | 390 | 16 | 50 | 80 | 755 | 705 | 670 | 30 | 2 | 26 | 20 | 370 |
| 700 | 600 | 460 | 25 | 430 | 16 | 50 | 80 | 860 | 810 | 775 | 32 | 2 | 26 | 24 | 520 |
| 800 | 770 | 530 | 25 | 470 | 25 | 60 | 95 | 975 | 920 | 880 | 34 | 2 | 30 | 24 | 710 |
| 1000 | 830 | 660 | 30 | 550 | 30 | 80 | 110 | 1175 | 1120 | 1080 | 36 | 2 | 30 | 28 | 1090 |
| 1200 | 1030 | 800 | 30 | 630 | 30 | 80 | 123 | 1405 | 1340 | 1295 | 40 | 2 | 33 | 32 | 1310 |
| 1400 | 1150 | 890 | 30 | 710 | 35 | 100 | 165 | 1630 | 1560 | 1510 | 44 | 2 | 36 | 36 | 1700 |
| 1600 | 1300 | 1100 | 35 | 790 | 40 | 140 | 200 | 1830 | 1760 | 1710 | 48 | 2 | 36 | 40 | 3100 |
| 2000 | 1500 | 1300 | 35 | 950 | 48 | 160 | 250 | 2265 | 2180 | 2125 | 54 | 2 | 42 | 48 | 4800 |

* face to face dimensions for welded ends are in compliance with flange connections (can be different upon customer's request)

Pipe dimensions øD x t (øD – outside pipe diameter; t – the pipe thickness) for welding are given by customer.

**DN 150-2000 • PN 2,5-40 •Tmax +250 °C**
**Design: PTFE seal**

**Connection:** EN 1092-1 FLANGED ENDS
EN 12 627 WELDED ENDS

## PN 10

| DN | A | B | C | L* | F | d1 | l1 | Flanged ends | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | D1 | D2 | D3 | a | f | d | n | kg |
| 150 | 253 | 146 | 15 | 210 | 10 | 25 | 40 | 285 | 240 | 212 | 24 | 2 | 22 | 8 | 40 |
| 200 | 290 | 180 | 15 | 230 | 10 | 25 | 40 | 340 | 295 | 268 | 24 | 2 | 22 | 8 | 45 |
| 250 | 320 | 210 | 20 | 250 | 12 | 30 | 50 | 395 | 350 | 320 | 26 | 2 | 22 | 12 | 60 |
| 300 | 335 | 230 | 20 | 270 | 12 | 30 | 50 | 445 | 400 | 370 | 26 | 2 | 22 | 12 | 80 |
| 350 | 360 | 260 | 20 | 290 | 12 | 35 | 50 | 505 | 460 | 430 | 28 | 2 | 22 | 16 | 100 |
| 400 | 400 | 295 | 20 | 310 | 14 | 40 | 60 | 565 | 515 | 482 | 32 | 2 | 26 | 16 | 140 |
| 500 | 510 | 360 | 25 | 350 | 16 | 50 | 80 | 670 | 620 | 585 | 38 | 2 | 26 | 20 | 235 |
| 600 | 560 | 415 | 25 | 390 | 25 | 60 | 95 | 780 | 725 | 685 | 42 | 2 | 30 | 20 | 365 |
| 700 | 620 | 485 | 25 | 430 | 25 | 65 | 110 | 895 | 840 | 800 | 42 | 2 | 30 | 24 | 505 |
| 800 | 700 | 550 | 25 | 470 | 25 | 70 | 110 | 1015 | 950 | 905 | 44 | 2 | 33 | 24 | 700 |
| 1000 | 850 | 680 | 30 | 550 | 30 | 80 | 125 | 1230 | 1160 | 1110 | 44 | 2 | 36 | 28 | 1090 |
| 1200 | 940 | 760 | 30 | 630 | 35 | 100 | 165 | 1455 | 1380 | 1330 | 46 | 2 | 39 | 32 | 1280 |
| 1400 | 1280 | 980 | 40 | 710 | 40 | 140 | 200 | 1675 | 1590 | 1535 | 48 | 2 | 42 | 36 | 2790 |
| 1600 | 1620 | 1080 | 40 | 790 | 48 | 160 | 200 | 1915 | 1820 | 1760 | 58 | 2 | 48 | 40 | 3690 |
| 2000 | 1820 | 1350 | 40 | 950 | 60 | 178 | 310 | 2325 | 2230 | 2170 | 64 | 2 | 48 | 48 | 3990 |

## PN 16

| DN | A | B | C | L* | F | d1 | l1 | Flanged ends | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | D1 | D2 | D3 | a | f | d | n | kg |
| 150 | 253 | 146 | 15 | 210 | 10 | 25 | 40 | 285 | 240 | 212 | 24 | 2 | 22 | 8 | 46 |
| 200 | 265 | 175 | 15 | 230 | 10 | 25 | 40 | 340 | 295 | 268 | 26 | 2 | 22 | 12 | 46 |
| 250 | 315 | 205 | 20 | 250 | 12 | 30 | 50 | 405 | 355 | 320 | 29 | 2 | 26 | 12 | 62 |
| 300 | 350 | 245 | 20 | 270 | 12 | 35 | 50 | 460 | 410 | 378 | 32 | 2 | 26 | 12 | 95 |
| 350 | 380 | 275 | 20 | 290 | 14 | 40 | 60 | 520 | 470 | 438 | 35 | 2 | 26 | 16 | 127 |
| 400 | 455 | 310 | 25 | 310 | 16 | 50 | 80 | 580 | 525 | 490 | 38 | 2 | 30 | 16 | 174 |
| 500 | 520 | 375 | 25 | 350 | 16 | 50 | 80 | 715 | 650 | 610 | 46 | 2 | 33 | 20 | 255 |
| 600 | 620 | 435 | 30 | 390 | 25 | 60 | 95 | 840 | 770 | 725 | 52 | 2 | 36 | 20 | 392 |
| 700 | 670 | 490 | 30 | 430 | 30 | 70 | 110 | 910 | 840 | 795 | 52 | 2 | 36 | 24 | 550 |
| 800 | 750 | 565 | 30 | 470 | 30 | 80 | 125 | 1025 | 950 | 900 | 54 | 2 | 39 | 24 | 745 |
| 1000 | 865 | 700 | 30 | 550 | 35 | 100 | 165 | 1255 | 1170 | 1115 | 54 | 2 | 42 | 28 | 1260 |
| 1200 | 1000 | 810 | 35 | 630 | 40 | 120 | 180 | 1485 | 1390 | 1330 | 58 | 2 | 48 | 32 | 1700 |
| 1400 | 1280 | 980 | 40 | 710 | 48 | 160 | 200 | 1685 | 1590 | 1530 | 58 | 2 | 48 | 36 | 2890 |
| 1600 | 1620 | 1080 | 40 | 790 | 60 | 178 | 310 | 1930 | 1820 | 1750 | 64 | 2 | 56 | 40 | 3275 |

## PN 25

| DN | A | B | C | L* | F | d1 | l1 | Flanged ends | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | D1 | D2 | D3 | a | f | d | n | kg |
| 150 | 253 | 146 | 15 | 210 | 10 | 25 | 40 | 300 | 250 | 218 | 30 | 2 | 26 | 8 | 53 |
| 200 | 290 | 185 | 20 | 230 | 12 | 30 | 50 | 360 | 310 | 278 | 32 | 2 | 26 | 12 | 55 |
| 250 | 325 | 225 | 20 | 250 | 14 | 35 | 50 | 425 | 370 | 335 | 35 | 2 | 30 | 12 | 71 |
| 300 | 350 | 250 | 20 | 270 | 14 | 40 | 60 | 485 | 430 | 395 | 38 | 2 | 30 | 16 | 109 |
| 350 | 440 | 295 | 25 | 290 | 16 | 50 | 80 | 555 | 490 | 450 | 42 | 2 | 33 | 16 | 155 |
| 400 | 475 | 330 | 25 | 310 | 16 | 50 | 80 | 620 | 550 | 505 | 46 | 2 | 36 | 16 | 208 |
| 500 | 535 | 395 | 30 | 350 | 25 | 60 | 95 | 730 | 660 | 615 | 56 | 2 | 36 | 20 | 298 |
| 600 | 660 | 460 | 30 | 390 | 30 | 70 | 110 | 845 | 770 | 720 | 68 | 2 | 39 | 20 | 525 |
| 700 | 690 | 505 | 30 | 430 | 30 | 80 | 125 | 960 | 875 | 820 | 68 | 2 | 42 | 24 | 640 |
| 800 | 805 | 580 | 30 | 470 | 35 | 100 | 130 | 1085 | 990 | 930 | 70 | 2 | 48 | 24 | 860 |
| 1000 | 1000 | 800 | 35 | 550 | 40 | 120 | 180 | 1320 | 1210 | 1140 | 70 | 2 | 56 | 28 | 1500 |
| 1200 | 1150 | 910 | 40 | 630 | 48 | 140 | 200 | 1550 | 1420 | 1350 | 70 | 2 | 56 | 32 | 2290 |
| 1400 | 1280 | 980 | 40 | 710 | 60 | 178 | 310 | 1755 | 1640 | 1560 | 76 | 2 | 62 | 36 | 3690 |

* face to face dimensions for welded ends are in compliance with flange connections (can be different upon customer's request)

Pipe dimensions øD x t (øD – outside pipe diameter; t – the pipe thickness) for welding are given by customer.

**DN 150-2000 • PN 2,5-40 •Tmax +250 °C**
**Design: PTFE seal**

**Connection: EN 1092-1 FLANGED ENDS**
**EN 12 627 WELDED ENDS**

**PN 40**

| DN | A | B | C | L* | F | d1 | l1 | Flanged ends | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | D1 | D2 | D3 | a | f | d | n | kg |
| 150 | 200 | 150 | 20 | 210 | 12 | 27 | 45 | 300 | 250 | 218 | 28 | 2 | 26 | 8 | 87 |
| 200 | 230 | 205 | 25 | 230 | 12 | 35 | 50 | 375 | 320 | 285 | 34 | 2 | 30 | 12 | 102 |
| 250 | 270 | 255 | 25 | 250 | 14 | 40 | 60 | 450 | 385 | 345 | 38 | 2 | 33 | 12 | 133 |
| 300 | 305 | 280 | 25 | 270 | 16 | 50 | 80 | 515 | 450 | 410 | 42 | 2 | 33 | 16 | 205 |
| 350 | 355 | 315 | 25 | 290 | 16 | 50 | 80 | 580 | 510 | 465 | 46 | 2 | 36 | 16 | 275 |
| 400 | 380 | 340 | 30 | 310 | 25 | 60 | 95 | 660 | 585 | 535 | 50 | 2 | 39 | 16 | 400 |
| 500 | 450 | 425 | 30 | 350 | 30 | 70 | 110 | 755 | 670 | 615 | 57 | 2 | 42 | 20 | 530 |
| 600 | 535 | 510 | 35 | 390 | 35 | 85 | 130 | 890 | 795 | 735 | 72 | 2 | 48 | 20 | 940 |
| 700 | 580 | 550 | 35 | 430 | 35 | 100 | 165 | 995 | 900 | 840 | 76 | 2 | 48 | 24 | 1150 |
| 800 | 715 | 670 | 35 | 470 | 40 | 120 | 180 | 1140 | 1030 | 960 | 79 | 2 | 56 | 24 | 1550 |

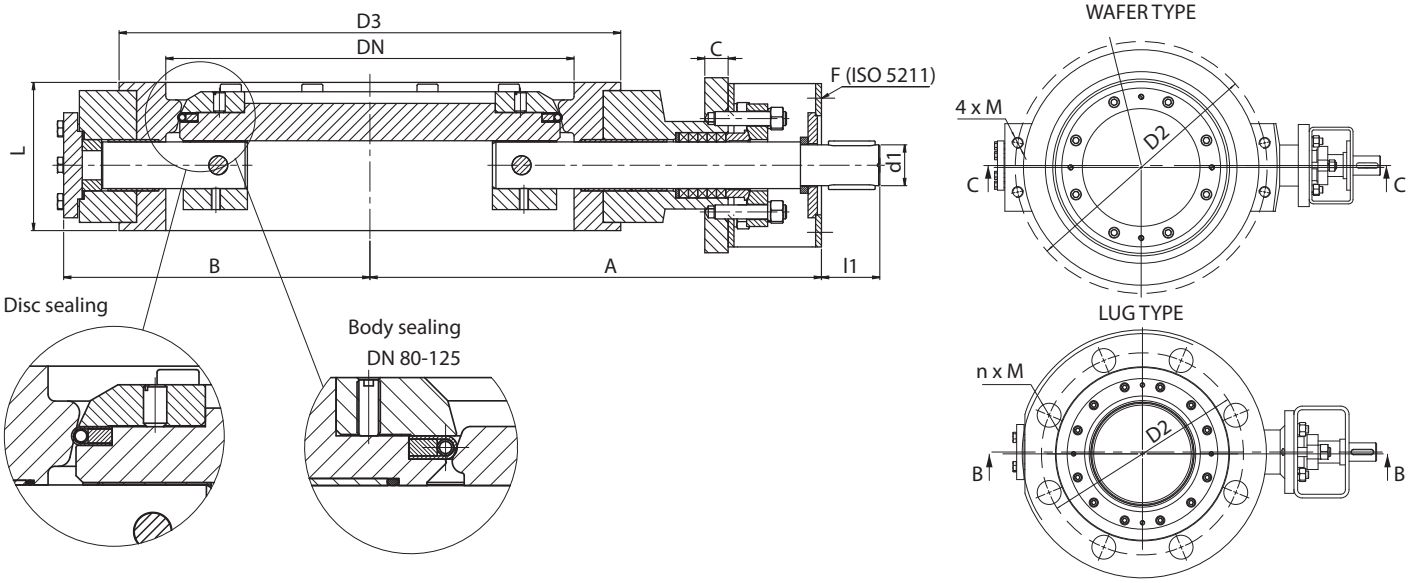
* face to face dimensions for welded ends are in compliance with flange connections (can be different upon customer's request)

Pipe dimensions øD x t (øD – outside pipe diameter; t – the pipe thickness) for welding are given by customer.

*Butterfly valve L32.7 DN 3500 - install in the hydropower plant in Rendalen in Norway.*

**DN 80-2000 • PN 2,5-40 •Tmax +250 °C**
**Design: PTFE seal**

**Connection: EN 1092-1 WAFER TYPE**




## PN 2,5

| DN | A | B | C | L | F | D2 | D3 | d1 | n | M | l1 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1200 | 1210 | 800 | 30 | 350 | 25 | 1320 | 1280 | 65 | 32 | M27 | 110 | 1050 |
| 1400 | 1180 | 890 | 30 | 390 | 30 | 1520 | 1480 | 65 | 36 | M27 | 110 | 1400 |
| 1600 | 1300 | 1100 | 35 | 440 | 35 | 1730 | 1690 | 100 | 40 | M27 | 145 | 2500 |
| 2000 | 1530 | 1300 | 35 | 540 | 40 | 2130 | 2090 | 140 | 48 | M27 | 165 | 4200 |

## PN 6

| DN | A | B | C | L | F | D2 | D3 | d1 | n | M | l1 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 190 | 105 | - | 64 | 07 | 160 | 138 | 16 | 4 | M16 | 30 | 16 |
| 100 | 200 | 115 | - | 64 | 07 | 180 | 158 | 16 | 4 | M16 | 30 | 18 |
| 125 | 235 | 140 | - | 70 | 07 | 210 | 188 | 20 | 8 | M16 | 30 | 22 |
| 150 | 253 | 146 | 15 | 76 | 10 | 225 | 202 | 25 | 8 | - | 40 | 53 |
| 200 | 290 | 200 | 15 | 89 | 10 | 280 | 258 | 25 | 8 | - | 40 | 60 |
| 250 | 320 | 210 | 20 | 114 | 12 | 335 | 312 | 30 | 12 | M16 | 50 | 64 |
| 300 | 335 | 230 | 20 | 114 | 12 | 395 | 365 | 30 | 12 | M20 | 50 | 70 |
| 350 | 360 | 260 | 20 | 127 | 12 | 445 | 415 | 35 | 12 | M20 | 50 | 89 |
| 400 | 400 | 295 | 20 | 140 | 12 | 495 | 465 | 35 | 16 | M20 | 50 | 110 |
| 500 | 495 | 355 | 25 | 152 | 14 | 600 | 570 | 40 | 20 | M20 | 60 | 195 |
| 600 | 550 | 410 | 25 | 178 | 16 | 705 | 670 | 50 | 20 | M24 | 80 | 280 |
| 700 | 600 | 460 | 25 | 229 | 16 | 810 | 775 | 50 | 24 | M24 | 80 | 390 |
| 800 | 770 | 530 | 25 | 241 | 25 | 920 | 880 | 60 | 24 | M27 | 95 | 550 |
| 1000 | 830 | 660 | 30 | 300 | 30 | 1120 | 1080 | 80 | 28 | M27 | 110 | 820 |
| 1200 | 920 | 750 | 30 | 350 | 30 | 1340 | 1295 | 80 | 32 | M30 | 125 | 1240 |
| 1400 | 1180 | 890 | 30 | 390 | 35 | 1560 | 1510 | 100 | 36 | M33 | 165 | 2600 |
| 1600 | 1300 | 1100 | 35 | 440 | 40 | 1760 | 1710 | 140 | 40 | M33 | 200 | 2800 |
| 2000 | 1530 | 1300 | 50 | 540 | 48 | 2180 | 2125 | 160 | 48 | M39 | 250 | 4350 |

* these apply only for lug type connection

Depth of the thread ("M") in the body is corresponds to the thread dimension.

**DN 80-2000 • PN 2,5-40 •Tmax +250 °C**
**Design: PTFE seal**

**Connection: EN 1092-1 WAFER TYPE**

**PN 10**

| DN | A | B | C | L | F | D2 | D3 | d1 | n | M | l1 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 190 | 105 | - | 64 | 07 | 160 | 138 | 16 | 8 | M16 | 30 | 16 |
| 100 | 200 | 115 | - | 64 | 07 | 180 | 158 | 16 | 8 | M16 | 30 | 18 |
| 125 | 235 | 140 | - | 70 | 07 | 210 | 188 | 16 | 8 | M16 | 30 | 22 |
| 150 | 253 | 146 | 15 | 76 | 10 | 240 | 212 | 25 | 8 | - | 40 | 50 |
| 200 | 290 | 200 | 15 | 89 | 10 | 295 | 268 | 25 | 8 | - | 40 | 60 |
| 250 | 320 | 210 | 20 | 114 | 12 | 350 | 320 | 30 | 12 | M20 | 50 | 64 |
| 300 | 335 | 230 | 20 | 114 | 12 | 400 | 370 | 30 | 12 | M20 | 50 | 68 |
| 350 | 360 | 260 | 20 | 127 | 12 | 460 | 430 | 35 | 16 | M20 | 50 | 92 |
| 400 | 400 | 295 | 20 | 140 | 14 | 515 | 482 | 40 | 16 | M24 | 60 | 115 |
| 500 | 495 | 355 | 25 | 152 | 16 | 620 | 585 | 50 | 20 | M24 | 80 | 200 |
| 600 | 550 | 410 | 25 | 178 | 25 | 725 | 685 | 60 | 20 | M27 | 95 | 290 |
| 700 | 620 | 485 | 25 | 229 | 25 | 840 | 800 | 65 | 24 | M27 | 110 | 415 |
| 800 | 700 | 550 | 25 | 241 | 25 | 950 | 905 | 70 | 24 | M30 | 110 | 640 |
| 1000 | 850 | 680 | 30 | 300 | 30 | 1160 | 1110 | 80 | 28 | M33 | 125 | 835 |
| 1200 | 940 | 760 | 30 | 350 | 35 | 1380 | 1330 | 100 | 32 | M36 | 165 | 1260 |
| 1400 | 1300 | 980 | 40 | 390 | 40 | 1590 | 1535 | 140 | 36 | M39 | 200 | 2600 |
| 1600 | 1670 | 1080 | 40 | 440 | 48 | 1820 | 1760 | 160 | 40 | M45 | 200 | 2800 |
| 2000 | 1850 | 1350 | 40 | 540 | 60 | 2230 | 2170 | 178 | 48 | M45 | 310 | 4400 |

**PN 16**

| DN | A | B | C | L | F | D2 | D3 | d1 | n | M | l1 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 190 | 105 | - | 64 | 07 | 160 | 138 | 16 | 8 | M16 | 30 | 16 |
| 100 | 200 | 115 | - | 64 | 07 | 180 | 158 | 16 | 8 | M16 | 30 | 18 |
| 125 | 235 | 140 | - | 70 | 07 | 210 | 188 | 20 | 8 | M16 | 30 | 22 |
| 150 | 253 | 150 | 15 | 76 | 10 | 240 | 212 | 25 | 8 | - | 40 | 50 |
| 200 | 280 | 190 | 15 | 89 | 10 | 295 | 268 | 25 | 12 | M20 | 40 | 60 |
| 250 | 320 | 225 | 20 | 114 | 12 | 355 | 320 | 30 | 12 | M24 | 50 | 64 |
| 300 | 335 | 260 | 20 | 114 | 12 | 410 | 378 | 35 | 16 | M24 | 50 | 72 |
| 350 | 360 | 295 | 20 | 127 | 14 | 470 | 438 | 40 | 16 | M24 | 60 | 95 |
| 400 | 455 | 320 | 25 | 140 | 16 | 525 | 490 | 50 | 20 | M27 | 80 | 120 |
| 500 | 495 | 390 | 25 | 152 | 16 | 650 | 610 | 50 | 20 | M30 | 80 | 215 |
| 600 | 615 | 460 | 30 | 178 | 25 | 770 | 725 | 60 | 24 | M33 | 95 | 310 |
| 700 | 640 | 505 | 30 | 229 | 30 | 840 | 795 | 70 | 24 | M33 | 110 | 435 |
| 800 | 750 | 580 | 30 | 241 | 30 | 950 | 900 | 80 | 28 | M36 | 125 | 600 |
| 1000 | 860 | 800 | 30 | 300 | 35 | 1170 | 1115 | 100 | 32 | M39 | 165 | 1100 |
| 1200 | 980 | 890 | 35 | 350 | 40 | 1390 | 1330 | 120 | 36 | M45 | 180 | 1325 |
| 1400 | 1300 | 980 | 40 | 390 | 48 | 1590 | 1530 | 160 | 40 | M45 | 200 | 2900 |
| 1600 | 1700 | 1080 | 40 | 440 | 60 | 1820 | 1750 | 178 | 48 | M52 | 310 | 3275 |

* these apply only for lug type connection

Depth of the thread (“M“) in the body is corresponds to the thread dimension.

**DN 80-2000 • PN 2,5-40 •Tmax +250 °C**
**Design: PTFE seal**

**Connection:** **EN 1092-1 WAFER TYPE**

### PN 25

| DN | A | B | C | L | F | D2 | D3 | d1 | n | M | l1 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 195 | 110 | - | 64 | 07 | 160 | 138 | 16 | 8 | M16 | 30 | 17 |
| 100 | 210 | 120 | - | 64 | 07 | 190 | 162 | 20 | 8 | M20 | 30 | 19 |
| 125 | 240 | 145 | - | 70 | 10 | 220 | 188 | 25 | 8 | M24 | 40 | 25 |
| 150 | 253 | 150 | 15 | 76 | 10 | 250 | 218 | 25 | 8 | - | 50 | 55 |
| 200 | 290 | 190 | 20 | 89 | 12 | 310 | 278 | 30 | 12 | M24 | 50 | 60 |
| 250 | 325 | 225 | 20 | 114 | 14 | 370 | 335 | 35 | 12 | M27 | 50 | 65 |
| 300 | 370 | 260 | 20 | 114 | 14 | 430 | 395 | 40 | 16 | M27 | 60 | 85 |
| 350 | 445 | 295 | 25 | 127 | 16 | 490 | 450 | 50 | 16 | M30 | 80 | 115 |
| 400 | 510 | 330 | 25 | 140 | 16 | 550 | 505 | 50 | 16 | M33 | 80 | 170 |
| 500 | 565 | 395 | 30 | 152 | 25 | 660 | 615 | 60 | 20 | M33 | 95 | 260 |
| 600 | 630 | 460 | 30 | 178 | 30 | 770 | 720 | 70 | 20 | M36 | 110 | 380 |
| 700 | 690 | 505 | 30 | 229 | 30 | 875 | 820 | 80 | 24 | M39 | 125 | 610 |
| 800 | 805 | 580 | 30 | 241 | 35 | 990 | 930 | 100 | 24 | M45 | 130 | 770 |
| 1000 | 980 | 800 | 35 | 300 | 40 | 1210 | 1140 | 120 | 28 | M52 | 180 | 1390 |
| 1200 | 1170 | 910 | 40 | 350 | 48 | 1420 | 1350 | 140 | 32 | M52 | 200 | 1500 |
| 1400 | 1300 | 980 | 40 | 390 | 60 | 1640 | 1560 | 178 | 36 | M56 | 310 | 3100 |

### PN 40

| DN | A | B | C | L | F | D2 | D3 | d1 | n | M | l1 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 195 | 110 | - | 64 | 07 | 160 | 138 | 20 | 8 | M16 | 30 | 17 |
| 100 | 210 | 120 | - | 64 | 07 | 190 | 162 | 20 | 8 | M20 | 30 | 19 |
| 125 | 240 | 145 | - | 70 | 10 | 220 | 188 | 25 | 8 | M24 | 40 | 25 |
| 150 | 250 | 150 | 20 | 76 | 12 | 250 | 218 | 27 | 8 | - | 45 | 58 |
| 200 | 250 | 205 | 25 | 89 | 12 | 320 | 285 | 35 | 12 | M27 | 50 | 66 |
| 250 | 290 | 255 | 25 | 114 | 14 | 385 | 345 | 40 | 12 | M30 | 60 | 74 |
| 300 | 320 | 280 | 25 | 114 | 16 | 450 | 410 | 50 | 16 | M30 | 80 | 97 |
| 350 | 380 | 315 | 25 | 127 | 16 | 510 | 465 | 50 | 16 | M33 | 80 | 130 |
| 400 | 410 | 340 | 30 | 140 | 25 | 585 | 535 | 60 | 16 | M36 | 95 | 190 |
| 500 | 470 | 425 | 30 | 152 | 30 | 670 | 615 | 70 | 20 | M39 | 110 | 280 |
| 600 | 550 | 510 | 35 | 178 | 35 | 795 | 735 | 85 | 20 | M45 | 130 | 430 |
| 700 | 600 | 550 | 35 | 229 | 35 | 900 | 840 | 100 | 24 | M45 | 165 | 690 |
| 800 | 720 | 670 | 35 | 241 | 40 | 1030 | 960 | 120 | 24 | M52 | 180 | 860 |

* these apply only for lug type connection

Depth of the thread (“M“) in the body is corresponds to the thread dimension.

## Application

Triple-eccentric butterfly valves are industrial valves, which designed to fully open or close the passage of the working medium flowing through a pipeline. They can also be used for flow-control purposes. However, the tightness of the valve cannot be guaranteed in a long-term use for control purposes.

## Working medium

- waste and service water
- drinking water
- hot water
- steam
- non-aggressive liquids and gases (natural gas, co-gas, petroleum products, etc.).

## Maximum working temperature

A maximum working temperature of the butterfly valve is +500 °C, by agreement up to +550 °C and depends on the body material used.

## Technical description

**Triple eccentricity - Fig. A**

1. the operating shaft axe is eccentric to the packing axis
2. the operating shaft axe is eccentric to the axis of the flow
3. the axe of the seat cone is eccentric to the axis of the flow

Triple eccentricity assures, that the packing stays out of sealing surface of the body except for the closed position, which results in long life-time of the packing (sealing) and lots of cycles. The triple eccentricity design immediately divides the disc from the sealing surface and when closing the valve the disc touches sealing surface just before closure. By this is the closing and opening torque lower and the opening and closing of the valve is done by very little friction. This makes the valves life-time longer. Butterfly valve is both-side tight. The arrow stamped on the valve body corresponds with the direction of the long-term tightness.

Stems of the butterfly valves manufactured according to TA-Luft standard or in compliance with Fugitive Emission are tightened through the Quick set seal from Garlock company.

The butterfly valves are produced of wrought or cast material.

Seal material is metal x metal or metal x graphite seal ring.

## Operation

- manual gear-box
- electric actuator
- pneumatic or hydraulic actuator
- remote control from stand

## Testing

The valves are tested according to

- EN 12 266-1
- EN 12 266-2
- EN 13 3060-2

## Connection to piping

- **wafer type** acc. to EN 1092-1, face to face dimensions acc. to EN 558-1, Series 16, 20, 25
- **flanged ends** acc. to EN 1092-1, face to face dimensions acc. to EN 558-1, Series 13, 14, 16
- **welded ends** acc. to ČSN 13 1075, EN 12 627, face to face dimensions acc. to EN 558-1, Series 14

Other face to face and connecting dimensions are acc. to the customer´s requierement, e.g. GOST, ANSI.

## Installation

The butterfly valves can be mounted into horizontal, vertical or inclined pipeline so that the arrow stamped on the valve body corresponds with the direction of the tightness (arrow points from higher pressure to lower when the disc is closed), and the rotating axe of the disc is in a horizontal position. The bolt type at the pivot area is also very important. When there is a butterfly valve with electric actuator it is important to abide the actuator's manufacturer.

Fig. A

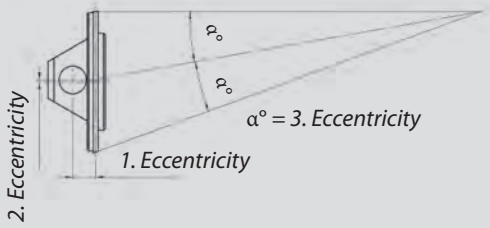



Fig. B

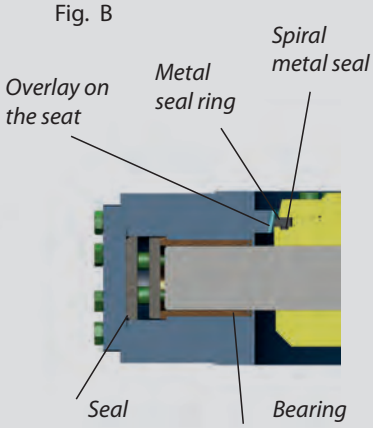
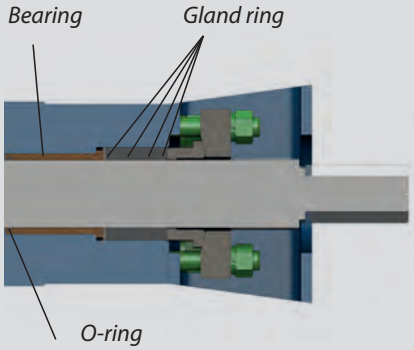
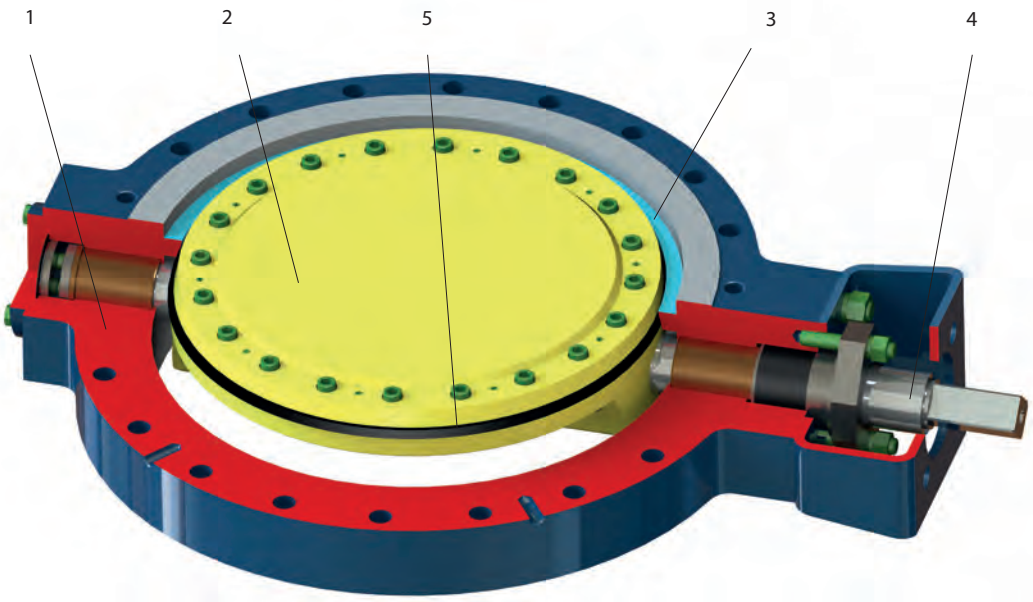



Fig. C



**DN 150-1000 • PN 6-63 • Tmax +500 °C**
**Design: wrought**

**Connection:** EN 1092-1 FLANGED ENDS
EN 12 627 WELDED ENDS
EN 1092-1 WAFER TYPE




## Material

| Position | Component | EN | | | | ASTM | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Carbon + alloy steel | | | Stainless steel | Carbon + alloy steel | | | Stainless steel |
| | | +400 °C* | -46 °C to +400 °C* | +500 °C* | +500 °C* | +400 °C* | -46 °C to +400 °C* | +500 °C* | +500 °C* |
| 1 | Body | 1.0577, 1.0425 | 1.0566 | 1.7335 | 1.4541 | A105 | A350 LF2 | A182 F12 | A182 F316 |
| 2 | Disc | 1.0577, 1.0425 | 1.0566 | 1.7335 | 1.4541 | A105 | A350 LF2 | A182 F12 | A182 F316 |
| 3 | Seat | 13%Cr, stellite | stellite | stellite | stellite | 13%Cr, stellite | stellite | stellite | stellite |
| 4 | Shaft | 1.4021+QT700 | 1.4021+QT700 | 1.4923 | 1.4541 | A182 F6A | A182 F6A | A479 XM19 | A182 F316 |

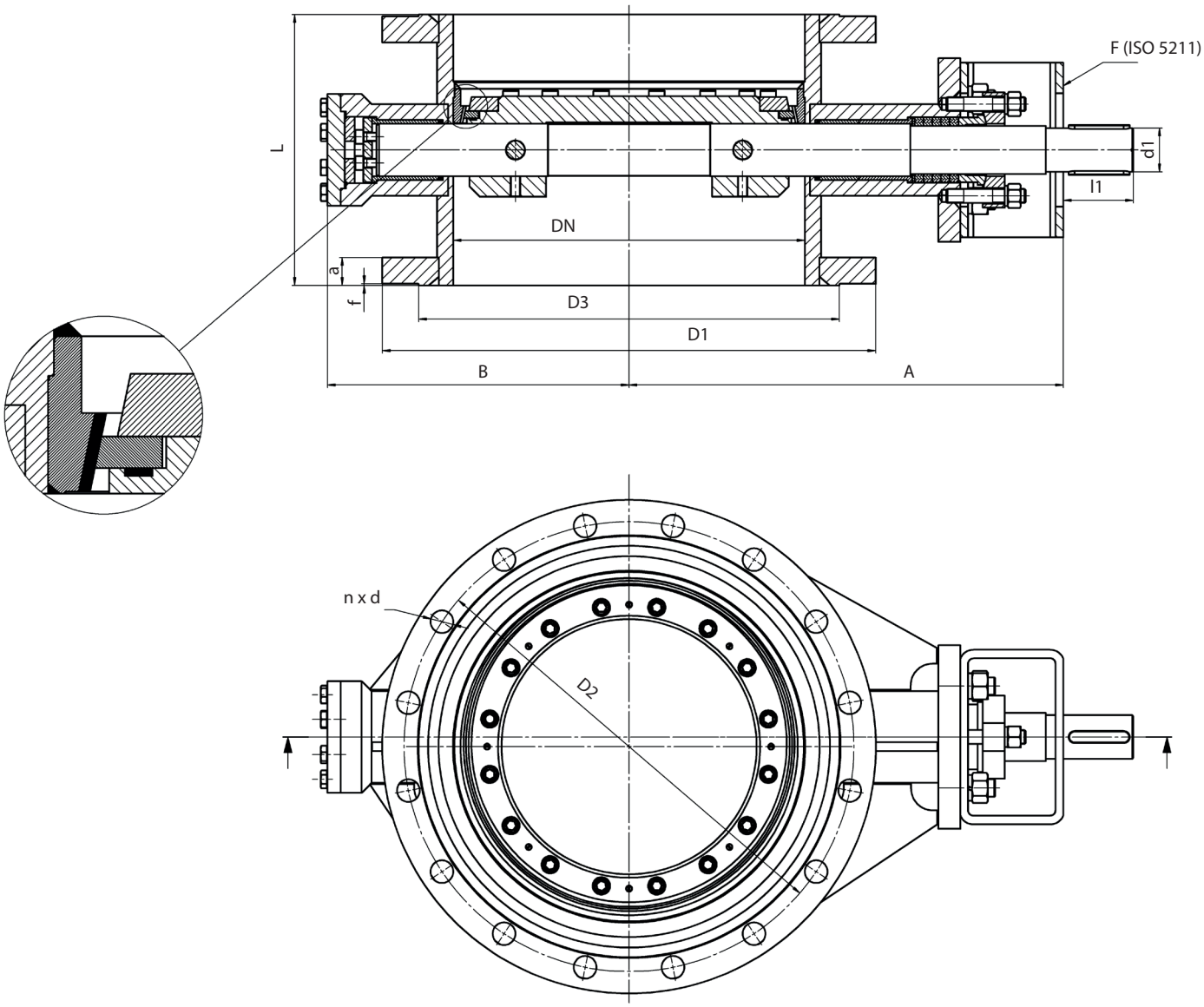
* The thermal use of the valve depends on the pressure-temperature characteristic of the material - see further information in this catalog. Design for temperature higher than 500 °C is possible after agreement with the manufacturer.

## Production range

| DN | Flanged ends | | | | | Wafer type | | | | | | Welded ends | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PN | | | | | PN | | | | | | PN | | | | | |
| | 6 | 10 | 16 | 25 | 40 | 6 | 10 | 16 | 25 | 40 | 63 | 6 | 10 | 16 | 25 | 40 | 63 |
| 150 | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| 200 | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| 250 | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| 300 | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| 350 | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| 400 | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| 450 | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| 500 | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| 600 | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| 700 | • | • | • | • | • | • | • | • | • | • | | • | • | • | • | • | |
| 800 | • | • | • | • | • | • | • | • | • | • | | • | • | • | • | • | |
| 900 | • | • | • | | • | • | • | • | • | • | | • | • | • | • | | |
| 1000 | • | • | • | | • | • | • | • | • | • | | • | • | • | • | | |

**DN 150-1000 • PN 6-40 • Tmax 500 °C**
**Design: wrought**

**Connection: EN 1092-1 FLANGED ENDS**




**PN 6**

| DN | A* | B | L | F | D1 | D2 | D3 | d1 | a | f | d | n | l1 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 150 | 275 | 170 | 210 | 10 | 265 | 225 | 202 | 30 | 20 | 2 | 18 | 8 | 40 | 39 |
| 200 | 315 | 205 | 230 | 10 | 320 | 280 | 258 | 30 | 22 | 2 | 18 | 8 | 40 | 47 |
| 250 | 345 | 240 | 250 | 12 | 375 | 335 | 312 | 30 | 24 | 2 | 18 | 12 | 40 | 57 |
| 300 | 395 | 265 | 270 | 12 | 440 | 395 | 365 | 30 | 24 | 2 | 22 | 12 | 50 | 95 |
| 350 | 475 | 320 | 290 | 14 | 490 | 445 | 415 | 40 | 26 | 2 | 22 | 12 | 60 | 150 |
| 400 | 500 | 350 | 310 | 14 | 540 | 495 | 465 | 40 | 28 | 2 | 22 | 16 | 60 | 184 |
| 500 | 545 | 405 | 350 | 14 | 645 | 600 | 570 | 45 | 30 | 2 | 22 | 20 | 70 | 255 |
| 600 | 695 | 475 | 390 | 16 | 755 | 705 | 670 | 55 | 32 | 2 | 26 | 20 | 80 | 395 |
| 700 | 715 | 565 | 430 | 25 | 860 | 810 | 775 | 60 | 32 | 2 | 26 | 24 | 80 | 570 |
| 800 | 815 | 630 | 470 | 25 | 975 | 920 | 880 | 70 | 34 | 2 | 30 | 24 | 100 | 810 |
| 1000 | 970 | 765 | 500 | 30 | 1175 | 1120 | 1080 | 90 | 36 | 2 | 30 | 28 | 120 | 1190 |

* The value applies to temperatures up to +400 ° C.

**DN 150-1000 • PN 6-40 • Tmax 500 °C**
**Design: wrought**

**Connection: EN 1092-1 FLANGED ENDS**

## PN 10

| DN | A* | B | L | F | D1 | D2 | D3 | d1 | a | f | d | n | l1 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 150 | 275 | 170 | 210 | 10 | 285 | 240 | 212 | 30 | 24 | 2 | 22 | 8 | 40 | 42 |
| 200 | 315 | 205 | 230 | 10 | 340 | 295 | 268 | 30 | 24 | 2 | 22 | 8 | 40 | 53 |
| 250 | 345 | 240 | 250 | 12 | 395 | 350 | 320 | 30 | 26 | 2 | 22 | 12 | 50 | 67 |
| 300 | 395 | 265 | 270 | 12 | 445 | 400 | 370 | 35 | 26 | 2 | 22 | 12 | 50 | 102 |
| 350 | 475 | 320 | 290 | 14 | 505 | 460 | 430 | 40 | 30 | 2 | 22 | 16 | 60 | 158 |
| 400 | 500 | 350 | 310 | 16 | 565 | 515 | 482 | 50 | 32 | 2 | 26 | 16 | 70 | 205 |
| 500 | 555 | 415 | 350 | 16 | 670 | 620 | 585 | 55 | 38 | 2 | 26 | 20 | 80 | 285 |
| 600 | 695 | 475 | 390 | 25 | 780 | 725 | 685 | 60 | 42 | 2 | 30 | 20 | 80 | 435 |
| 700 | 715 | 565 | 430 | 30 | 895 | 840 | 800 | 70 | 42 | 2 | 30 | 24 | 100 | 620 |
| 800 | 815 | 630 | 470 | 30 | 1015 | 950 | 905 | 80 | 44 | 2 | 33 | 24 | 110 | 880 |
| 1000 | 970 | 765 | 500 | 35 | 1230 | 1160 | 1110 | 100 | 44 | 2 | 36 | 28 | 130 | 1270 |

## PN 16

| DN | A* | B | L | F | D1 | D2 | D3 | d1 | a | f | d | n | l1 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 150 | 275 | 170 | 210 | 10 | 285 | 240 | 212 | 30 | 24 | 2 | 22 | 8 | 40 | 42 |
| 200 | 315 | 205 | 230 | 10 | 340 | 295 | 268 | 30 | 26 | 2 | 22 | 12 | 50 | 54 |
| 250 | 345 | 240 | 250 | 12 | 405 | 355 | 320 | 35 | 29 | 2 | 26 | 12 | 50 | 71 |
| 300 | 395 | 265 | 270 | 14 | 460 | 410 | 378 | 40 | 32 | 2 | 26 | 12 | 60 | 105 |
| 350 | 475 | 320 | 290 | 16 | 520 | 470 | 438 | 45 | 35 | 2 | 26 | 16 | 70 | 171 |
| 400 | 500 | 350 | 310 | 16 | 580 | 525 | 490 | 55 | 38 | 2 | 30 | 16 | 80 | 235 |
| 500 | 555 | 415 | 350 | 25 | 715 | 650 | 610 | 70 | 46 | 2 | 33 | 20 | 100 | 335 |
| 600 | 695 | 475 | 390 | 30 | 840 | 770 | 725 | 80 | 52 | 2 | 36 | 20 | 110 | 455 |
| 700 | 715 | 565 | 430 | 30 | 910 | 840 | 795 | 90 | 52 | 2 | 36 | 24 | 120 | 645 |
| 800 | 825 | 640 | 470 | 35 | 1025 | 950 | 900 | 100 | 54 | 2 | 39 | 24 | 130 | 935 |
| 1000 | 980 | 775 | 500 | 40 | 1255 | 1170 | 1115 | 120 | 54 | 2 | 42 | 28 | 180 | 1345 |

## PN 25

| DN | A* | B | L | F | D1 | D2 | D3 | d1 | a | f | d | n | l1 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 150 | 285 | 175 | 210 | 10 | 300 | 250 | 218 | 30 | 30 | 2 | 26 | 8 | 50 | 45 |
| 200 | 315 | 205 | 230 | 12 | 360 | 310 | 278 | 35 | 32 | 2 | 26 | 12 | 50 | 62 |
| 250 | 345 | 240 | 250 | 14 | 425 | 370 | 335 | 40 | 35 | 2 | 30 | 12 | 60 | 80 |
| 300 | 395 | 265 | 270 | 16 | 485 | 430 | 395 | 45 | 38 | 2 | 30 | 16 | 70 | 118 |
| 350 | 475 | 320 | 290 | 16 | 555 | 490 | 450 | 55 | 42 | 2 | 33 | 16 | 80 | 185 |
| 400 | 500 | 350 | 310 | 25 | 620 | 550 | 505 | 60 | 48 | 2 | 36 | 16 | 80 | 245 |
| 500 | 555 | 415 | 350 | 25 | 730 | 660 | 615 | 70 | 58 | 2 | 36 | 20 | 100 | 355 |
| 600 | 695 | 475 | 390 | 30 | 845 | 770 | 720 | 80 | 68 | 2 | 39 | 20 | 110 | 465 |
| 700 | 715 | 565 | 430 | 35 | 960 | 875 | 820 | 90 | 68 | 2 | 42 | 24 | 120 | 670 |
| 800 | 825 | 640 | 470 | 35 | 1085 | 990 | 930 | 110 | 70 | 2 | 48 | 24 | 170 | 975 |
| 1000 | 990 | 785 | 500 | 48 | 1320 | 1210 | 1140 | 140 | 70 | 2 | 56 | 28 | 200 | 1445 |

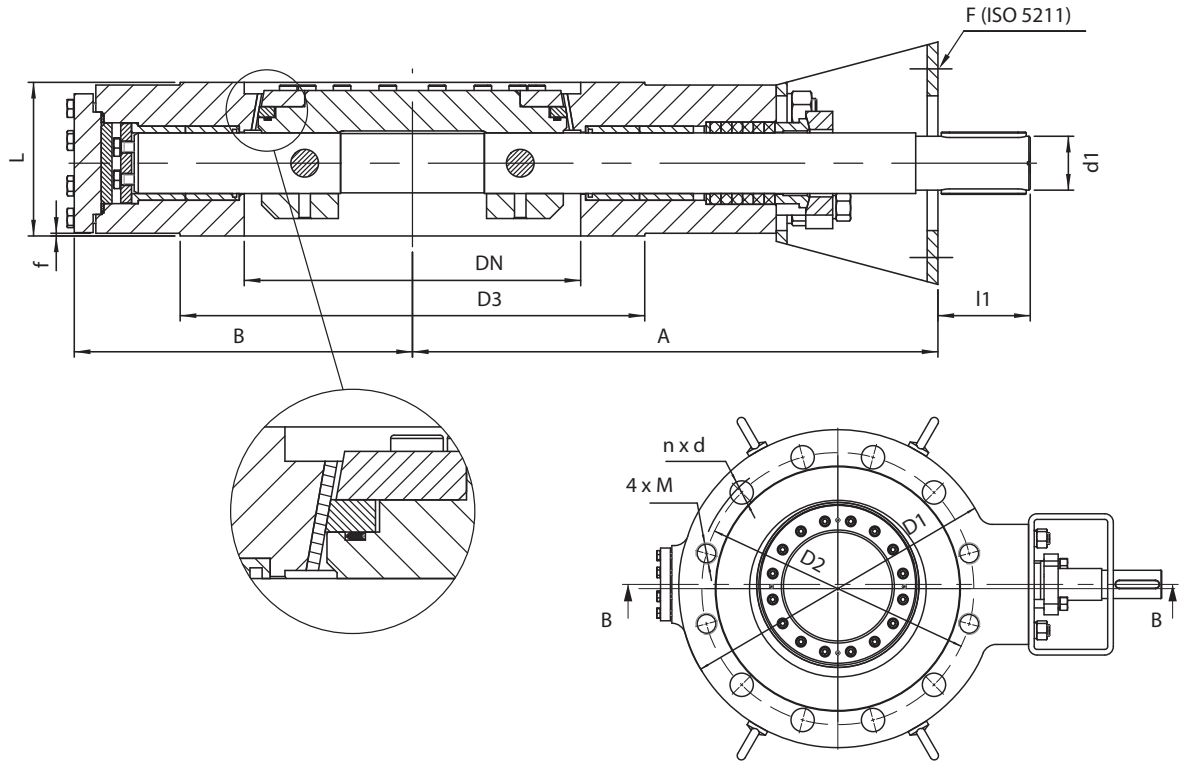
## PN 40

| DN | A* | B | L | F | D1 | D2 | D3 | d1 | a | f | d | n | l1 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 150 | 285 | 175 | 210 | 12 | 300 | 250 | 218 | 30 | 30 | 2 | 26 | 8 | 50 | 75 |
| 200 | 315 | 205 | 230 | 14 | 375 | 320 | 285 | 40 | 36 | 2 | 30 | 12 | 60 | 80 |
| 250 | 390 | 255 | 250 | 14 | 450 | 385 | 345 | 40 | 42 | 2 | 33 | 12 | 70 | 145 |
| 300 | 420 | 290 | 270 | 16 | 515 | 450 | 410 | 50 | 42 | 2 | 33 | 16 | 70 | 225 |
| 350 | 500 | 320 | 290 | 25 | 580 | 510 | 465 | 60 | 46 | 2 | 36 | 16 | 80 | 255 |
| 400 | 525 | 350 | 310 | 25 | 660 | 585 | 535 | 70 | 50 | 2 | 39 | 16 | 100 | 410 |
| 500 | 605 | 425 | 350 | 30 | 755 | 670 | 615 | 80 | 57 | 2 | 42 | 20 | 110 | 540 |
| 600 | 745 | 525 | 390 | 35 | 890 | 795 | 735 | 110 | 72 | 2 | 48 | 20 | 170 | 940 |
| 700 | 810 | 615 | 430 | 40 | 995 | 900 | 840 | 110 | 76 | 2 | 48 | 24 | 170 | 1150 |
| 800 | 930 | 690 | 470 | 40 | 1140 | 1030 | 960 | 140 | 79 | 2 | 56 | 24 | 200 | 1550 |

* The value applies to temperatures up to +400 ° C.

**DN 150-1000 • PN 6-63 • Tmax +500 °C**
**Design: wrought**

**Connection: EN 1092-1 WAFER TYPE**




**PN 6**

| DN | A* | B | L | F | D1 | D2 | D3 | d1 | n x d | M | l1 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 150 | 285 | 175 | 76 | 10 | 265 | 225 | 202 | 30 | 4 x 18 | M16 | 40 | 35 |
| 200 | 310 | 200 | 89 | 10 | 320 | 280 | 258 | 30 | 4 x 18 | M16 | 40 | 63 |
| 250 | 345 | 235 | 114 | 12 | 375 | 335 | 312 | 30 | 8 x 18 | M16 | 40 | 85 |
| 300 | 395 | 265 | 114 | 12 | 440 | 395 | 365 | 30 | 8 x 22 | M20 | 50 | 140 |
| 350 | 425 | 300 | 127 | 14 | 490 | 445 | 415 | 40 | 8 x 22 | M20 | 60 | 164 |
| 400 | 485 | 330 | 140 | 14 | 540 | 495 | 465 | 40 | 12 x 22 | M20 | 60 | 205 |
| 500 | 510 | 385 | 152 | 14 | 645 | 600 | 570 | 45 | 16 x 22 | M20 | 70 | 370 |
| 600 | 680 | 470 | 178 | 16 | 755 | 705 | 670 | 55 | 16 x 26 | M24 | 80 | 460 |
| 700 | 710 | 555 | 229 | 25 | 860 | 810 | 775 | 60 | 20 x 26 | M24 | 80 | 595 |
| 800 | 810 | 620 | 241 | 25 | 975 | 920 | 880 | 70 | 20 x 30 | M27 | 100 | 910 |
| 1000 | 970 | 760 | 300 | 30 | 1175 | 1120 | 1080 | 90 | 24 x 30 | M27 | 120 | 1300 |

**PN 10**

| DN | A* | B | L | F | D1 | D2 | D3 | d1 | n x d | M | l1 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 150 | 285 | 175 | 76 | 10 | 285 | 240 | 212 | 30 | 4 x 22 | M20 | 40 | 37 |
| 200 | 310 | 200 | 89 | 10 | 340 | 295 | 268 | 30 | 4 x 22 | M20 | 40 | 65 |
| 250 | 345 | 235 | 114 | 12 | 395 | 350 | 320 | 30 | 8 x 22 | M20 | 50 | 87 |
| 300 | 395 | 265 | 114 | 12 | 445 | 400 | 370 | 35 | 8 x 22 | M20 | 50 | 142 |
| 350 | 425 | 300 | 127 | 14 | 505 | 460 | 430 | 40 | 12 x 22 | M20 | 60 | 170 |
| 400 | 485 | 330 | 140 | 16 | 565 | 515 | 482 | 50 | 12 x 26 | M24 | 70 | 210 |
| 500 | 555 | 415 | 152 | 16 | 670 | 620 | 585 | 55 | 16 x 26 | M24 | 80 | 375 |
| 600 | 680 | 470 | 178 | 25 | 780 | 725 | 685 | 60 | 16 x 30 | M27 | 80 | 505 |
| 700 | 710 | 555 | 229 | 30 | 895 | 840 | 800 | 70 | 20 x 30 | M24 | 100 | 610 |
| 800 | 810 | 620 | 241 | 30 | 1015 | 950 | 905 | 80 | 20 x 33 | M30 | 110 | 925 |
| 1000 | 970 | 760 | 300 | 35 | 1230 | 1160 | 1110 | 100 | 24 x 36 | M33 | 130 | 1320 |

* The value applies to temperatures up to +400 ° C.

**DN 150-1000 • PN 6-63 • Tmax +500 °C**
**Design: wrought**

**Connection: EN 1092-1 WAFER TYPE**

## PN 16

| DN | A* | B | L | F | D1 | D2 | D3 | d1 | n x d | M | l1 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 150 | 285 | 175 | 76 | 10 | 285 | 240 | 212 | 30 | 4 x 22 | M20 | 40 | 39 |
| 200 | 310 | 200 | 89 | 10 | 340 | 295 | 268 | 30 | 8 x 22 | M20 | 50 | 67 |
| 250 | 345 | 235 | 114 | 12 | 405 | 355 | 320 | 35 | 8 x 26 | M24 | 50 | 105 |
| 300 | 395 | 265 | 114 | 14 | 460 | 410 | 378 | 40 | 8 x 26 | M24 | 60 | 145 |
| 350 | 425 | 300 | 127 | 16 | 520 | 470 | 438 | 45 | 12 x 26 | M24 | 70 | 179 |
| 400 | 485 | 330 | 140 | 16 | 580 | 525 | 490 | 55 | 12 x 30 | M27 | 80 | 220 |
| 500 | 555 | 415 | 152 | 25 | 715 | 650 | 610 | 70 | 16 x 33 | M30 | 100 | 380 |
| 600 | 680 | 470 | 178 | 30 | 840 | 770 | 725 | 80 | 16 x 36 | M33 | 110 | 550 |
| 700 | 710 | 555 | 229 | 30 | 910 | 840 | 795 | 90 | 20 x 36 | M33 | 120 | 680 |
| 800 | 820 | 630 | 241 | 35 | 1025 | 950 | 900 | 100 | 20 x 39 | M36 | 130 | 960 |
| 1000 | 980 | 770 | 300 | 40 | 1255 | 1170 | 1115 | 120 | 24 x 42 | M39 | 180 | 1370 |

## PN 25

| DN | A* | B | L | F | D1 | D2 | D3 | d1 | n x d | M | l1 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 150 | 285 | 175 | 76 | 10 | 300 | 250 | 218 | 30 | 4 x 26 | M24 | 50 | 45 |
| 200 | 310 | 200 | 89 | 12 | 360 | 310 | 278 | 35 | 8 x 26 | M24 | 50 | 68 |
| 250 | 345 | 235 | 114 | 14 | 425 | 370 | 335 | 40 | 8 x 30 | M27 | 60 | 105 |
| 300 | 395 | 265 | 114 | 16 | 485 | 430 | 395 | 45 | 12 x 30 | M27 | 70 | 135 |
| 350 | 425 | 300 | 127 | 16 | 555 | 490 | 450 | 55 | 12 x 33 | M30 | 80 | 185 |
| 400 | 485 | 355 | 140 | 25 | 620 | 550 | 505 | 60 | 12 x 36 | M33 | 80 | 250 |
| 500 | 555 | 415 | 152 | 25 | 730 | 660 | 615 | 70 | 16 x 36 | M33 | 100 | 390 |
| 600 | 680 | 470 | 178 | 30 | 845 | 770 | 720 | 80 | 16 x 39 | M36 | 110 | 575 |
| 700 | 715 | 565 | 229 | 35 | 960 | 875 | 820 | 90 | 20 x 42 | M39 | 120 | 690 |
| 800 | 825 | 640 | 241 | 35 | 1085 | 990 | 930 | 110 | 20 x 48 | M45 | 170 | 1060 |
| 1000 | 990 | 785 | 300 | 48 | 1320 | 1210 | 1140 | 140 | 24 x 56 | M52 | 200 | 1440 |

## PN 40

| DN | A* | B | L | F | D1 | D2 | D3 | d1 | n x d | M | l1 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 150 | 285 | 175 | 76 | 12 | 300 | 250 | 218 | 30 | 4 x 26 | M24 | 50 | 45 |
| 200 | 310 | 200 | 89 | 14 | 375 | 320 | 285 | 40 | 8 x 30 | M27 | 60 | 71 |
| 250 | 390 | 255 | 114 | 14 | 450 | 385 | 345 | 40 | 8 x 33 | M30 | 70 | 125 |
| 300 | 415 | 290 | 114 | 16 | 515 | 450 | 410 | 50 | 12 x 33 | M30 | 70 | 155 |
| 350 | 470 | 320 | 127 | 25 | 580 | 510 | 465 | 60 | 12 x 36 | M33 | 80 | 188 |
| 400 | 485 | 355 | 140 | 25 | 660 | 585 | 535 | 70 | 12 x 39 | M36 | 100 | 300 |
| 500 | 570 | 425 | 152 | 30 | 755 | 670 | 615 | 80 | 16 x 42 | M39 | 110 | 425 |
| 600 | 755 | 550 | 178 | 35 | 890 | 795 | 735 | 110 | 16 x 48 | M45 | 170 | 610 |
| 700 | 820 | 625 | 229 | 40 | 995 | 900 | 840 | 110 | 20 x 48 | M45 | 170 | 755 |
| 800 | 930 | 690 | 241 | 40 | 1140 | 1030 | 960 | 140 | 20 x 56 | M52 | 200 | 1180 |
| 1000 | 1070 | 820 | 300 | 48 | 1360 | 1250 | 1180 | 180 | 24 x 56 | M52 | 240 | 1540 |

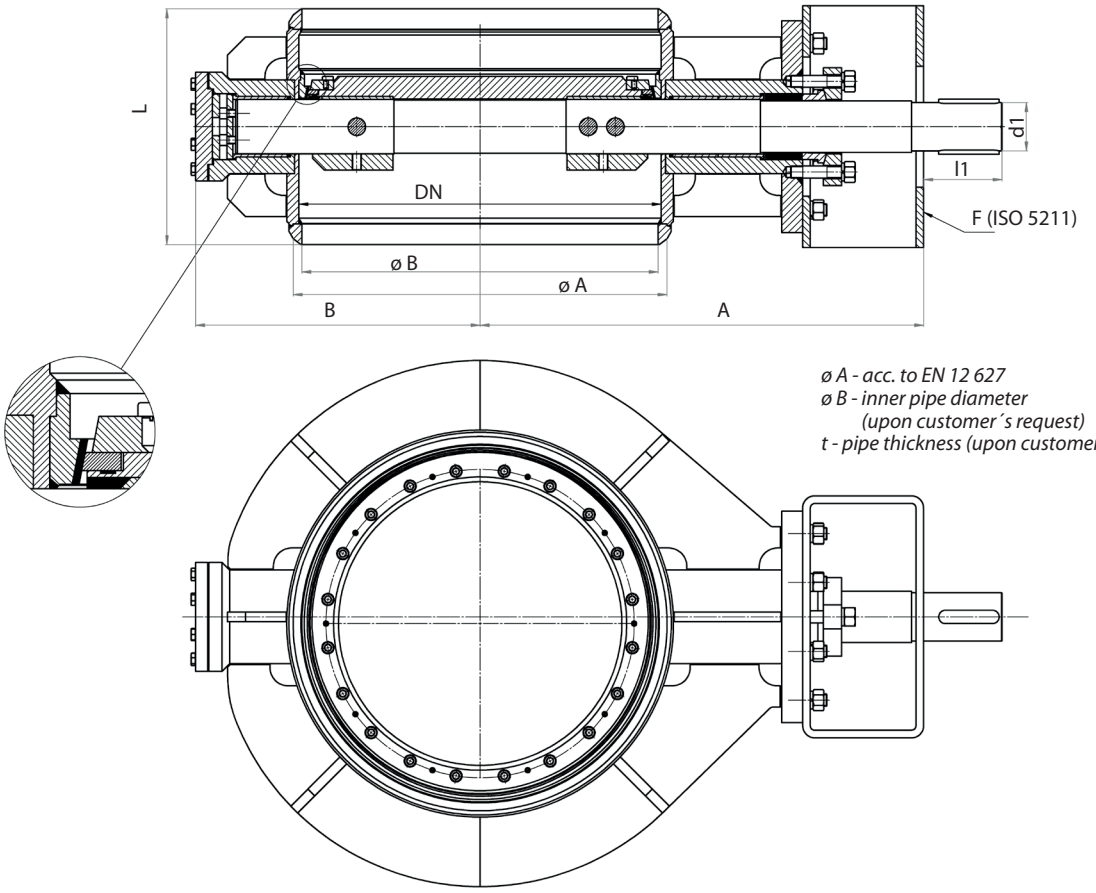
## PN 63

| DN | A* | B | L | F | D1 | D2 | D3 | d1 | n x d | M | l1 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 150 | 320 | 210 | 140 | 14 | 345 | 280 | 218 | 35 | 4 x 33 | M30 | 60 | 79 |
| 200 | 360 | 250 | 152 | 16 | 415 | 345 | 285 | 45 | 8 x 36 | M33 | 70 | 115 |
| 250 | 435 | 255 | 165 | 25 | 470 | 400 | 345 | 55 | 8 x 36 | M33 | 80 | 210 |
| 300 | 460 | 340 | 178 | 25 | 530 | 460 | 410 | 60 | 12 x 36 | M33 | 80 | 245 |
| 350 | 530 | 360 | 190 | 30 | 600 | 525 | 465 | 80 | 12 x 39 | M36 | 110 | 310 |
| 400 | 565 | 390 | 216 | 35 | 670 | 585 | 535 | 90 | 12 x 42 | M39 | 120 | 450 |
| 500 | 640 | 470 | 229 | 35 | 800 | 705 | 615 | 100 | 16 x 48 | M45 | 130 | 630 |
| 600 | 775 | 550 | 267 | 40 | 930 | 820 | 735 | 110 | 16 x 56 | M52 | 170 | 860 |

* The value applies to temperatures up to +400 ° C.

**DN 150-1000 • PN 6-63 • Tmax 500 °C**
**Design: wrought**

**Connection: EN 12 627 WELDED ENDS**




*ø A - acc. to EN 12 627*
*ø B - inner pipe diameter*
*(upon customer´s request)*
*t - pipe thickness (upon customer´s request)*

**PN 6**

| DN | A* | B | L | F | d1 | l1 | kg |
|---|---|---|---|---|---|---|---|
| 150 | 275 | 170 | 210 | 10 | 30 | 40 | 31 |
| 200 | 315 | 205 | 230 | 10 | 30 | 40 | 38 |
| 250 | 345 | 240 | 250 | 12 | 30 | 40 | 44 |
| 300 | 395 | 265 | 270 | 12 | 30 | 50 | 77 |
| 350 | 475 | 320 | 290 | 14 | 40 | 60 | 128 |
| 400 | 500 | 350 | 310 | 14 | 40 | 60 | 158 |
| 500 | 545 | 405 | 350 | 14 | 45 | 70 | 221 |
| 600 | 695 | 475 | 390 | 16 | 55 | 80 | 347 |
| 700 | 715 | 565 | 430 | 25 | 60 | 80 | 515 |
| 800 | 815 | 630 | 470 | 25 | 70 | 100 | 763 |
| 1000 | 970 | 765 | 500 | 30 | 90 | 120 | 1095 |

**PN 10**

| DN | A* | B | L | F | d1 | l1 | kg |
|---|---|---|---|---|---|---|---|
| 150 | 275 | 170 | 210 | 10 | 30 | 40 | 31 |
| 200 | 315 | 205 | 230 | 10 | 30 | 40 | 40 |
| 250 | 345 | 240 | 250 | 12 | 30 | 50 | 49 |
| 300 | 395 | 265 | 270 | 12 | 35 | 50 | 82 |
| 350 | 475 | 320 | 290 | 14 | 40 | 60 | 132 |
| 400 | 500 | 350 | 310 | 16 | 50 | 70 | 170 |
| 500 | 555 | 415 | 350 | 16 | 55 | 80 | 235 |
| 600 | 695 | 475 | 390 | 25 | 60 | 80 | 363 |
| 700 | 715 | 565 | 430 | 30 | 70 | 100 | 536 |
| 800 | 815 | 630 | 470 | 30 | 80 | 110 | 765 |
| 1000 | 970 | 765 | 500 | 35 | 100 | 130 | 1117 |

* The value applies to temperatures up to +400 ° C.

**DN 150-1000 • PN 6-63 • Tmax 500 °C**
**Design: wrought**

**Connection: EN 12 627 WELDED ENDS**

## PN 16

| DN | A* | B | L | F | d1 | l1 | kg |
|---|---|---|---|---|---|---|---|
| 150 | 275 | 170 | 210 | 10 | 30 | 40 | 31 |
| 200 | 315 | 205 | 230 | 10 | 30 | 50 | 40 |
| 250 | 345 | 240 | 250 | 12 | 35 | 50 | 49 |
| 300 | 395 | 265 | 270 | 14 | 40 | 60 | 78 |
| 350 | 475 | 320 | 290 | 16 | 45 | 70 | 137 |
| 400 | 500 | 350 | 310 | 16 | 55 | 80 | 190 |
| 500 | 555 | 415 | 350 | 25 | 70 | 100 | 256 |
| 600 | 695 | 475 | 390 | 30 | 80 | 110 | 339 |
| 700 | 715 | 565 | 430 | 30 | 90 | 120 | 519 |
| 800 | 825 | 640 | 470 | 35 | 100 | 130 | 775 |
| 1000 | 980 | 775 | 500 | 40 | 120 | 180 | 1130 |

## PN 25

| DN | A* | B | L | F | d1 | l1 | kg |
|---|---|---|---|---|---|---|---|
| 150 | 285 | 170 | 210 | 10 | 30 | 50 | 32 |
| 200 | 315 | 205 | 230 | 12 | 35 | 50 | 41 |
| 250 | 345 | 240 | 250 | 14 | 40 | 60 | 50 |
| 300 | 395 | 265 | 270 | 16 | 45 | 70 | 81 |
| 350 | 475 | 320 | 290 | 16 | 55 | 80 | 130 |
| 400 | 500 | 350 | 310 | 25 | 60 | 80 | 168 |
| 500 | 555 | 415 | 350 | 25 | 70 | 100 | 244 |
| 600 | 695 | 475 | 390 | 30 | 80 | 110 | 310 |
| 700 | 715 | 565 | 430 | 35 | 90 | 120 | 645 |
| 800 | 825 | 640 | 470 | 35 | 110 | 170 | 705 |
| 1000 | 990 | 785 | 500 | 48 | 140 | 200 | 1080 |

## PN 40

| DN | A* | B | L | F | d1 | l1 | kg |
|---|---|---|---|---|---|---|---|
| 150 | 285 | 175 | 210 | 12 | 30 | 50 | 59 |
| 200 | 315 | 205 | 230 | 14 | 40 | 60 | 75 |
| 250 | 390 | 255 | 250 | 14 | 40 | 70 | 102 |
| 300 | 420 | 290 | 270 | 16 | 50 | 70 | 185 |
| 350 | 500 | 320 | 290 | 25 | 60 | 80 | 195 |
| 400 | 525 | 350 | 310 | 25 | 70 | 100 | 265 |
| 500 | 605 | 425 | 350 | 30 | 80 | 110 | 320 |
| 600 | 745 | 525 | 390 | 35 | 110 | 170 | 405 |
| 700 | 810 | 615 | 430 | 40 | 110 | 170 | 610 |
| 800 | 930 | 690 | 470 | 40 | 140 | 200 | 860 |

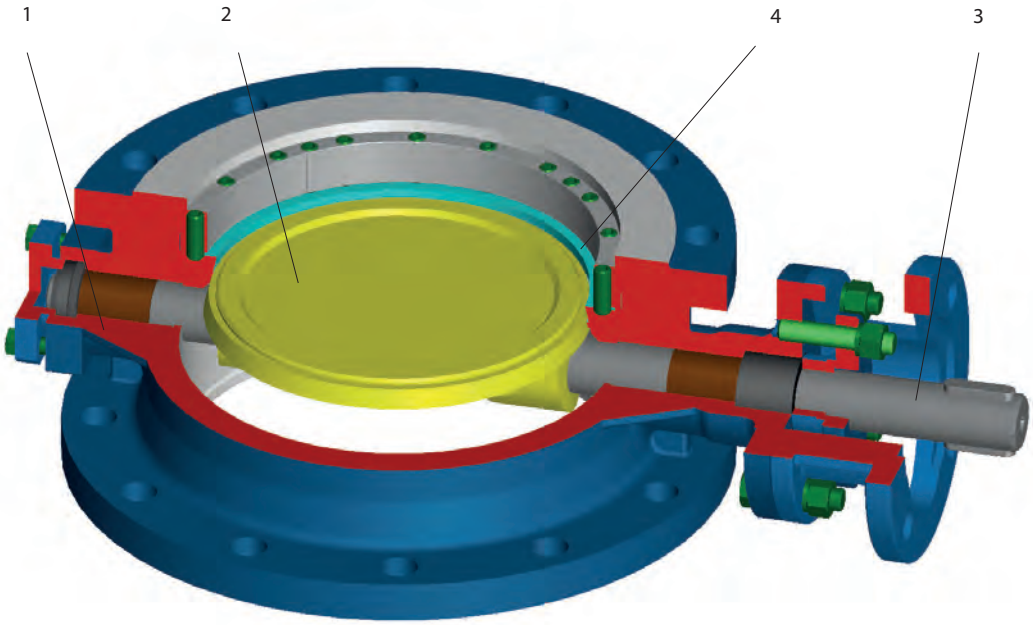
## PN 63

| DN | A* | B | L | F | d1 | l1 | kg |
|---|---|---|---|---|---|---|---|
| 150 | 275 | 168 | 267 | 14 | 35 | 60 | 35 |
| 200 | 360 | 250 | 292 | 16 | 45 | 70 | 98 |
| 250 | 435 | 305 | 330 | 25 | 55 | 80 | 135 |
| 300 | 470 | 340 | 356 | 25 | 60 | 80 | 245 |
| 350 | 535 | 365 | 381 | 30 | 80 | 110 | 280 |
| 400 | 565 | 390 | 406 | 35 | 90 | 120 | 355 |
| 500 | 640 | 460 | 457 | 35 | 100 | 130 | 415 |
| 600 | 765 | 545 | 508 | 40 | 110 | 170 | 530 |

* The value applies to temperatures up to +400 ° C.

**DN 80-1400 • PN 6-100 • Tmax 550 °C**
**Design: cast**

**Connection:** EN 1092-1 FLANGED ENDS
EN 12 627 WELDED ENDS
EN 1092-1 WAFER TYPE




## Material

| Position | Component | ASTM | | | | |
|---|---|---|---|---|---|---|
| | | +400 °C* | -46 °C to +300 °C* | +550 °C* | +500 °C* | +550 °C* |
| 1 | Body | A216 W CB | A352 LCB | A217 WC6 | A351 CF8 | A351 CF8M |
| 2 | Disc | A216 WCB | A352 LCB | A217 WC6 | A351 CF8 | A351 CF8M |
| | | Cr13 stellite6 | Cr13 stellite6 | stellite6 | stellite6 | stellite6 |
| 3 | Seat | A276 420<br>Cr13 | A276 420<br>Cr13 | 6370 (AMS)<br>24CrMo4 | A276 302<br>18Cr-8Ni | A705 630<br>17Cr-4Ni-4Cu |
| 4 | Shaft | A240 301 + graphite<br>17Cr-7Ni + graphite | A240 301 + graphite<br>17Cr-7Ni + graphite | A240 301 + graphite<br>17Cr-7Ni + graphite | A240 304 + graphite<br>18Cr-8Ni + graphite | A240 316 + graphite<br>16Cr-12Ni-2Mo + graphite |

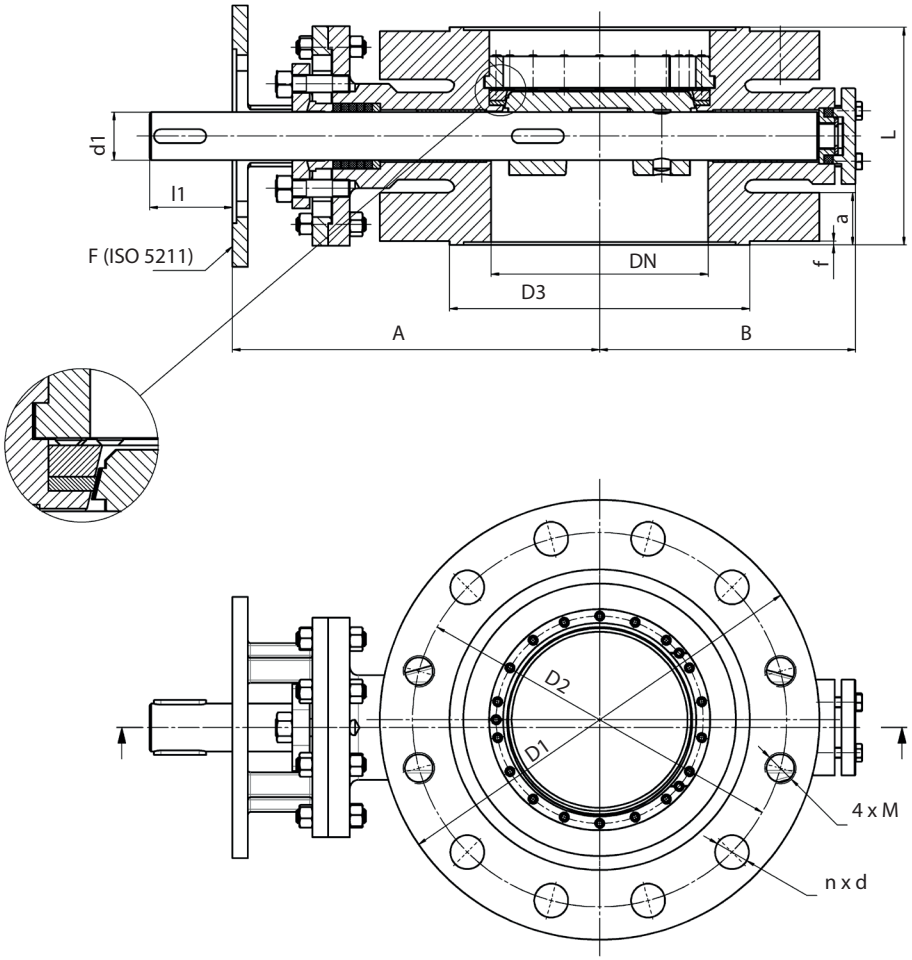
* The thermal use of the valve depends on the pressure-temperature characteristic of the material - see further information in this catalog.

## Production range

| DN | Flanged ends | | | | | | | Wafer type | | | | Welded ends | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PN | | | | | | | PN | | | | PN | | | | |
| | 6 | 10 | 16 | 25 | 40 | 63 | 100 | 10 | 16 | 25 | 40 | 16 | 25 | 40 | 63 | 100 |
| 80 | • | • | • | • | • | • | | • | • | • | • | • | • | • | • | |
| 100 | • | • | • | • | • | • | | • | • | • | • | • | • | • | • | |
| 125 | • | • | • | • | • | • | | • | • | • | • | • | • | • | • | |
| 150 | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| 200 | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| 250 | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| 300 | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| 350 | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| 400 | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| 450 | • | • | • | • | • | | | • | • | • | • | • | • | • | • | • |
| 500 | • | • | • | • | • | | | • | • | • | • | • | • | • | • | • |
| 600 | • | • | • | • | • | | | • | • | • | • | • | • | • | • | • |
| 700 | • | • | • | • | • | | | • | • | • | | • | • | | | |
| 800 | • | • | • | • | • | | | • | • | • | | • | • | | | |
| 900 | • | • | • | • | | | | • | • | • | | • | • | | | |
| 1000 | • | • | • | • | | | | • | • | | | • | • | | | |
| 1200 | • | | | | | | | | | | | | | | | |
| 1400 | • | | | | | | | | | | | | | | | |

**DN 80-1400 • PN 6-100 • Tmax 550 °C**
**Design: cast**

**Connection: EN 1092-1 FLANGED ENDS**




**PN 6**

| DN | A | B | L | D1 | D2 | D3 | a | f | d1 | l1 | F | n x d | M | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 180 | - | 114 | 190 | 150 | 128 | 16 | 3 | 22 | 33 | 10 | 4 x 18 | - | 28,5 |
| 100 | 195 | - | 127 | 210 | 170 | 148 | 16 | 3 | 22 | 33 | 10 | 4 x 18 | - | 36,5 |
| 125 | 207 | - | 140 | 240 | 200 | 178 | 18 | 3 | 22 | 33 | 10 | 8 x 18 | - | 44,5 |
| 150 | 264 | 155 | 140 | 265 | 225 | 202 | 18 | 3 | 24 | 36 | 12 | 8 x 18 | - | 50 |
| 200 | 287 | 200 | 152 | 320 | 280 | 258 | 20 | 3 | 24 | 36 | 12 | 8 x 18 | - | 55 |
| 250 | 330 | 231 | 165 | 375 | 335 | 312 | 22 | 3 | 28 | 42 | 12 | 12 x 18 | - | 69 |
| 300 | 350 | 250 | 178 | 440 | 395 | 365 | 22 | 4 | 32 | 48 | 14 | 12 x 22 | - | 95 |
| 350 | 385 | 285 | 190 | 490 | 445 | 415 | 22 | 4 | 36 | 54 | 14 | 12 x 22 | - | 118 |
| 400 | 423 | 319 | 216 | 540 | 495 | 465 | 22 | 4 | 40 | 60 | 16 | 16 x 22 | - | 172 |
| 450 | 464 | 354 | 222 | 595 | 550 | 520 | 22 | 4 | 44 | 66 | 25 | 16 x 22 | - | 209 |
| 500 | 510 | 404 | 229 | 645 | 600 | 570 | 24 | 4 | 50 | 70 | 25 | 20 x 22 | - | 264 |
| 600 | 585 | 473 | 267 | 755 | 705 | 670 | 30 | 5 | 60 | 80 | 25 | 20 x 26 | - | 382 |
| 700 | 640 | 520 | 292 | 860 | 810 | 775 | 30 | 5 | 70 | 80 | 30 | 24 x 26 | - | 507 |
| 800 | 730 | 600 | 318 | 975 | 920 | 880 | 30 | 5 | 80 | 110 | 30 | 24 x 30 | - | 550 |
| 900 | 790 | 628 | 330 | 1075 | 1020 | 980 | 34 | 5 | 90 | 110 | 30 | 24 x 30 | - | 650 |
| 1000 | 875 | 705 | 300 | 1175 | 1120 | 1080 | 38 | 5 | 100 | 130 | 30 | 24 x 30 | M27 | 1119 |
| 1200 | 996 | 830 | 350 | 1405 | 1340 | 1295 | 42 | 5 | 120 | 180 | 40 | 28 x 33 | M30 | 1290 |
| 1400 | 1107 | 985 | 390 | 1630 | 1560 | 1510 | 56 | 5 | 140 | 190 | 40 | 32 x 36 | M33 | 1610 |

**DN 80-1400 • PN 6-100 • Tmax 550 °C**
**Design: cast**

**Connection: EN 1092-1 FLANGED ENDS**

## PN 10

| DN | A | B | L | D1 | D2 | D3 | a | f | d1 | l1 | F | n x d | M | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 180 | - | 114 | 200 | 160 | 138 | 20 | 3 | 22 | 33 | 10 | 8 x 18 | - | 29 |
| 100 | 195 | - | 127 | 220 | 180 | 158 | 20 | 3 | 22 | 33 | 10 | 8 x 18 | - | 37 |
| 125 | 207 | - | 140 | 250 | 210 | 188 | 22 | 3 | 22 | 33 | 10 | 8 x 18 | - | 45 |
| 150 | 264 | - | 140 | 285 | 240 | 212 | 22 | 3 | 24 | 36 | 12 | 8 x 22 | - | 51 |
| 200 | 287 | - | 152 | 340 | 295 | 268 | 24 | 3 | 24 | 36 | 12 | 8 x 22 | - | 70 |
| 250 | 330 | - | 165 | 395 | 350 | 320 | 26 | 3 | 28 | 42 | 12 | 12 x 22 | - | 76 |
| 300 | 350 | 250 | 178 | 445 | 400 | 370 | 26 | 4 | 32 | 48 | 14 | 12 x 22 | - | 99 |
| 350 | 385 | 285 | 190 | 505 | 460 | 430 | 26 | 4 | 36 | 54 | 14 | 16 x 22 | - | 126 |
| 400 | 423 | 312 | 216 | 565 | 515 | 482 | 26 | 4 | 40 | 60 | 16 | 16 x 26 | - | 186 |
| 450 | 464 | 354 | 222 | 615 | 565 | 532 | 28 | 4 | 44 | 66 | 25 | 20 x 26 | - | 226 |
| 500 | 510 | 404 | 229 | 670 | 620 | 585 | 28 | 4 | 50 | 70 | 25 | 20 x 26 | - | 281 |
| 600 | 581 | 473 | 267 | 780 | 725 | 685 | 30 | 5 | 60 | 80 | 25 | 20 x 30 | - | 420 |
| 700 | 640 | 520 | 292 | 895 | 840 | 800 | 35 | 5 | 70 | 80 | 30 | 24 x 30 | - | 560 |
| 800 | 730 | 600 | 318 | 1015 | 950 | 905 | 38 | 5 | 80 | 110 | 30 | 24 x 33 | - | 750 |
| 900 | 790 | 628 | 330 | 1115 | 1050 | 1005 | 38 | 5 | 90 | 110 | 30 | 28 x 33 | - | 1135 |
| 1000 | 870 | 705 | 410 | 1230 | 1160 | 1110 | 44 | 5 | 100 | 130 | 30 | 24 x 36 | M33 | 1269 |

## PN 16

| DN | A | B | L | D1 | D2 | D3 | a | f | d1 | l1 | F | n x d | M | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 180 | - | 114 | 200 | 160 | 138 | 20 | 3 | 22 | 33 | 10 | 8 x 18 | - | 30 |
| 100 | 195 | - | 127 | 220 | 180 | 158 | 20 | 3 | 22 | 33 | 10 | 8 x 18 | - | 38 |
| 125 | 207 | - | 140 | 250 | 210 | 188 | 22 | 3 | 22 | 33 | 10 | 8 x 18 | - | 46 |
| 150 | 264 | - | 140 | 285 | 240 | 212 | 22 | 3 | 24 | 36 | 12 | 8 x 22 | - | 52 |
| 200 | 296 | 200 | 152 | 340 | 295 | 268 | 24 | 3 | 32 | 48 | 12 | 12 x 22 | - | 71 |
| 250 | 330 | 231 | 165 | 405 | 355 | 320 | 26 | 3 | 36 | 51 | 14 | 12 x 26 | - | 78 |
| 300 | 373 | 269 | 178 | 460 | 410 | 378 | 28 | 4 | 40 | 60 | 16 | 12 x 26 | - | 107 |
| 350 | 410 | 298 | 190 | 520 | 470 | 438 | 30 | 4 | 44 | 66 | 16 | 16 x 26 | - | 140 |
| 400 | 465 | 331 | 216 | 580 | 525 | 490 | 32 | 4 | 55 | 67 | 25 | 16 x 30 | - | 205 |
| 450 | 496 | 369 | 222 | 640 | 585 | 550 | 34 | 4 | 60 | 77 | 25 | 16 x 30 | M27 | 254 |
| 500 | 533 | 404 | 229 | 715 | 650 | 610 | 36 | 4 | 70 | 84 | 25 | 16 x 33 | M30 | 333 |
| 600 | 613 | 473 | 267 | 840 | 770 | 725 | 40 | 5 | 80 | 104 | 30 | 16 x 36 | M33 | 486 |
| 700 | 683 | 538 | 292 | 910 | 840 | 795 | 40 | 5 | 90 | 104 | 30 | 20 x 36 | M33 | 597 |
| 800 | 747 | 615 | 318 | 1025 | 950 | 900 | 41 | 5 | 100 | 127 | 30 | 20 x 39 | M36 | 784 |
| 900 | 838 | 700 | 330 | 1125 | 1050 | 1000 | 48 | 5 | 120 | 164 | 40 | 24 x 39 | M36 | 1179 |
| 1000 | 897 | 730 | 410 | 1255 | 1170 | 1115 | 59 | 5 | 120 | 180 | 40 | 24 x 42 | M39 | 1174 |

## PN 25

| DN | A | B | L | D1 | D2 | D3 | a | | d1 | l1 | F | n x d | M | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 180 | - | 114 | 200 | 160 | 138 | 24 | 3 | 22 | 33 | 10 | 8 x 18 | - | 31 |
| 100 | 195 | - | 127 | 235 | 190 | 162 | 24 | 3 | 22 | 33 | 10 | 8 x 22 | - | 40 |
| 125 | 207 | - | 140 | 270 | 220 | 188 | 26 | 3 | 22 | 33 | 10 | 8 x 26 | - | 50 |
| 150 | 264 | - | 140 | 300 | 250 | 218 | 28 | 3 | 24 | 36 | 12 | 8 x 26 | - | 55 |
| 200 | 296 | 200 | 152 | 360 | 310 | 278 | 30 | 3 | 32 | 48 | 12 | 8 x 26 | M24 | 70 |
| 250 | 330 | 231 | 165 | 425 | 370 | 335 | 32 | 3 | 36 | 55 | 14 | 8 x 30 | M27 | 95 |
| 300 | 373 | 269 | 178 | 485 | 430 | 395 | 34 | 4 | 40 | 60 | 16 | 12 x 30 | M27 | 128 |
| 350 | 410 | 298 | 190 | 555 | 490 | 450 | 38 | 4 | 44 | 66 | 16 | 12 x 33 | M30 | 175 |
| 400 | 465 | 331 | 216 | 620 | 550 | 505 | 40 | 4 | 55 | 70 | 25 | 12 x 36 | M33 | 251 |
| 450 | 496 | 369 | 222 | 670 | 600 | 555 | 46 | 4 | 60 | 80 | 25 | 16 x 36 | M33 | 312 |
| 500 | 530 | 404 | 229 | 730 | 660 | 615 | 48 | 4 | 70 | 80 | 25 | 16 x 36 | M33 | 387 |
| 600 | 610 | 473 | 267 | 845 | 770 | 720 | 48 | 5 | 80 | 110 | 30 | 16 x 39 | M36 | 536 |
| 700 | 680 | 538 | 292 | 960 | 875 | 820 | 50 | 5 | 90 | 110 | 30 | 20 x 42 | M39 | 706 |
| 800 | 744 | 615 | 318 | 1085 | 990 | 930 | 53 | 5 | 100 | 130 | 30 | 20 x 48 | M45 | 943 |
| 900 | 802 | 700 | 330 | 1185 | 1090 | 1030 | 57 | 5 | 120 | 170 | 40 | 24 x 48 | M45 | 1371 |
| 1000 | 940 | 750 | 410 | 1320 | 1210 | 1140 | 63 | 5 | 120 | 190 | 40 | 24 x 56 | M52 | 2333 |

**DN 80-1400 • PN 6-100 • Tmax 550 °C**
**Design: cast**

**Connection: EN 1092-1 FLANGED ENDS**

## PN 40

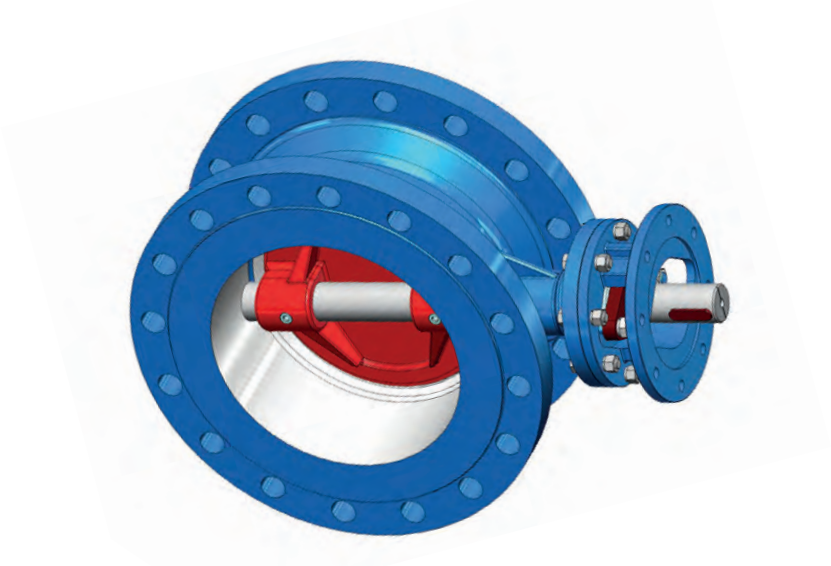
| DN | A | B | L | D1 | D2 | D3 | a | f | d1 | l1 | F | n x d | M | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 180 | - | 180 | 200 | 160 | 138 | 24 | 3 | 22 | 33 | 10 | 8 x 18 | - | 35,5 |
| 100 | 195 | - | 190 | 235 | 190 | 162 | 24 | 3 | 22 | 33 | 10 | 8 x 22 | - | 47,5 |
| 125 | 256 | - | 200 | 270 | 220 | 188 | 26 | 3 | 28 | 46 | 12 | 8 x 26 | - | 52 |
| 150 | 270 | - | 210 | 300 | 250 | 218 | 28 | 3 | 32 | 48 | 12 | 8 x 26 | - | 60 |
| 200 | 310 | 219 | 230 | 375 | 320 | 285 | 34 | 3 | 36 | 55 | 14 | 12 x 30 | - | 100 |
| 250 | 362 | 261 | 250 | 450 | 385 | 345 | 38 | 3 | 40 | 57 | 16 | 12 x 33 | - | 150 |
| 300 | 424 | 289 | 270 | 515 | 450 | 410 | 42 | 4 | 44 | 66 | 16 | 16 x 33 | - | 200 |
| 350 | 460 | 320 | 290 | 580 | 510 | 465 | 46 | 4 | 55 | 70 | 25 | 16 x 36 | - | 290 |
| 400 | 502 | 357 | 310 | 660 | 585 | 535 | 50 | 4 | 60 | 80 | 25 | 16 x 39 | - | 400 |
| 450 | 570 | 385 | 330 | 685 | 610 | 560 | 57 | 4 | 70 | 137 | 30 | 16 x 39 | M36 | 450 |
| 500 | 578 | 431 | 350 | 755 | 670 | 615 | 57 | 4 | 80 | 110 | 30 | 16 x 42 | M39 | 550 |
| 600 | 660 | 492 | 390 | 890 | 795 | 735 | 72 | 5 | 90 | 110 | 30 | 16 x 48 | M45 | 845 |
| 700 | 752 | 570 | 430 | 995 | 900 | 840 | 76 | 5 | 100 | 130 | 40 | 20 x 48 | M45 | 1310 |
| 800 | 870 | 685 | 470 | 1140 | 1030 | 960 | 80 | 5 | 120 | 180 | 40 | 20 x 56 | M52 | 1450 |

## PN 63

| DN | A | B | L | D1 | D2 | D3 | a | f | d1 | l1 | F | n x d | M | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 180 | - | 180 | 215 | 170 | 138 | 28 | 3 | 22 | 33 | 10 | 8 x 22 | - | 35,5 |
| 100 | 195 | - | 190 | 250 | 200 | 162 | 30 | 3 | 22 | 33 | 10 | 8 x 26 | - | 47,5 |
| 125 | 256 | - | 200 | 295 | 240 | 188 | 34 | 3 | 28 | 46 | 12 | 8 x 30 | - | 52 |
| 150 | 320 | 185 | 210 | 345 | 280 | 218 | 36 | 3 | 40 | 60 | 16 | 8 x 33 | - | 60 |
| 200 | 359 | 216 | 230 | 415 | 345 | 285 | 42 | 3 | 40 | 60 | 16 | 8 x 36 | M33 | 100 |
| 250 | 407 | 290 | 250 | 470 | 400 | 345 | 46 | 3 | 50 | 70 | 25 | 8 x 36 | M33 | 150 |
| 300 | 450 | 338 | 270 | 530 | 460 | 410 | 52 | 4 | 60 | 80 | 25 | 12 x 36 | M33 | 200 |
| 350 | 480 | 360 | 290 | 600 | 525 | 465 | 56 | 4 | 70 | 80 | 25 | 12 x 39 | M36 | 290 |
| 400 | 545 | 391 | 310 | 670 | 585 | 535 | 60 | 4 | 80 | 110 | 30 | 12 x 42 | M39 | 400 |

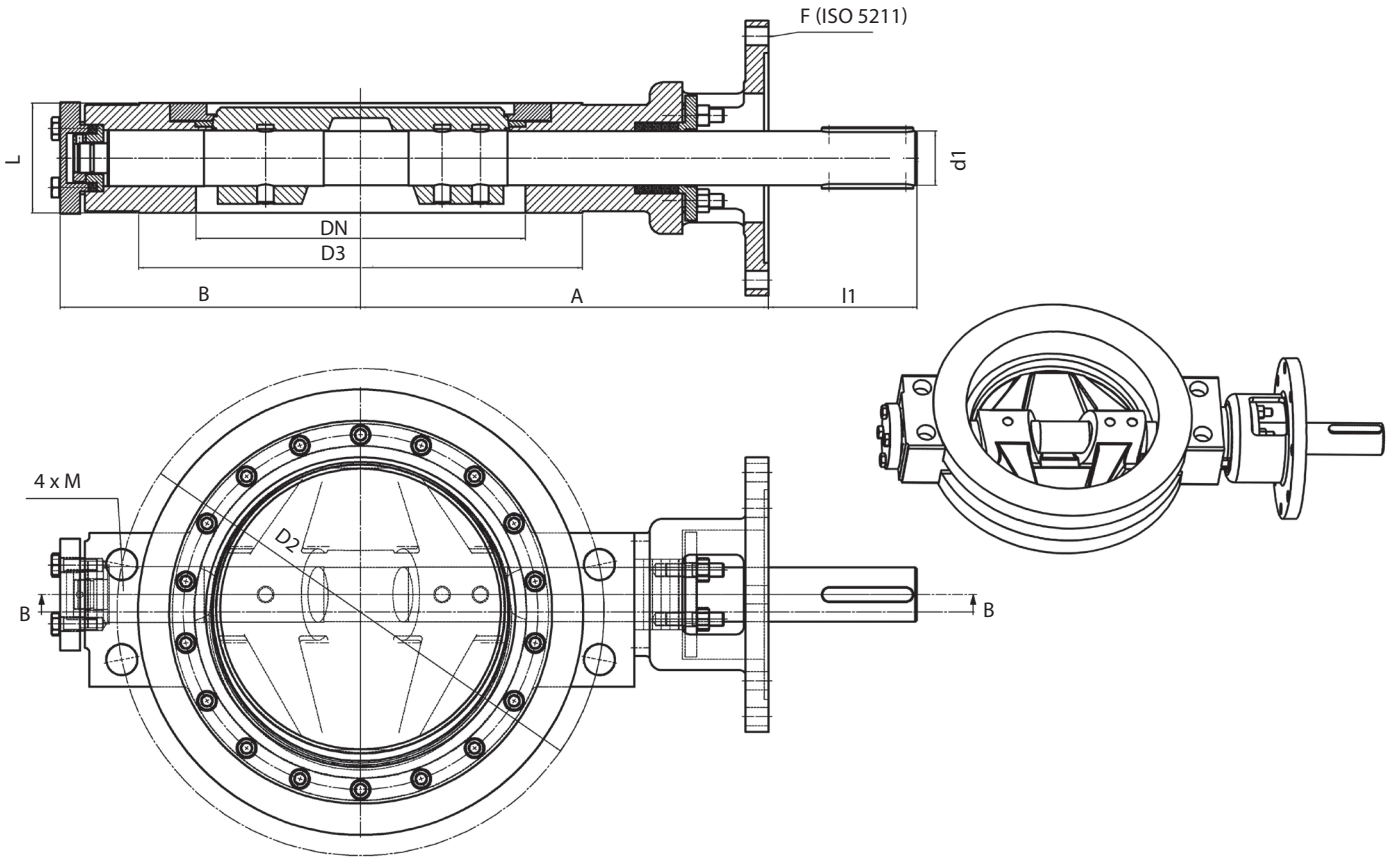
## PN 100

| DN | A | B | L | D1 | D2 | D3 | a | f | d1 | l1 | F | n x d | M | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 150 | 320 | 185 | 210 | 355 | 290 | 218 | 44 | 3 | 40 | 60 | 16 | 8 x 33 | M30 | 85 |
| 200 | 377 | 227 | 230 | 430 | 360 | 285 | 52 | 3 | 50 | 70 | 25 | 8 x 36 | M33 | 130 |
| 250 | 422 | 294 | 250 | 505 | 430 | 345 | 60 | 3 | 55 | 95 | 25 | 8 x 39 | M36 | 205 |
| 300 | 517 | 338 | 270 | 585 | 500 | 410 | 68 | 4 | 70 | 105 | 30 | 12 x 42 | M39 | 215 |
| 350 | 520 | 358 | 290 | 655 | 560 | 465 | 74 | 4 | 80 | 110 | 30 | 12 x 48 | M45 | 380 |
| 400 | 585 | 420 | 310 | 715 | 620 | 535 | 78 | 4 | 90 | 130 | 30 | 12 x 48 | M45 | 500 |



**DN 80-1000 • PN 10-40 • Tmax 550 °C**
**Design: cast**

**Connection: EN 1092-1 WAFER TYPE**




**PN 10**

| DN | A | B | L | D2 | D3 | d1 | l1 | F | M | kg |
|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 195 | 98 | 49 | 160 | 138 | 22 | 33 | 10 | - | 13,5 |
| 100 | 210 | 112 | 56 | 180 | 158 | 22 | 33 | 10 | - | 15,5 |
| 125 | 230 | 125 | 64 | 210 | 188 | 22 | 33 | 10 | - | 22,5 |
| 150 | 280 | 155 | 70 | 240 | 212 | 24 | 36 | 12 | - | 25 |
| 200 | 315 | 200 | 71 | 295 | 268 | 24 | 36 | 12 | M20 | 28 |
| 250 | 355 | 231 | 76 | 350 | 320 | 28 | 42 | 12 | M20 | 39 |
| 300 | 385 | 250 | 83 | 400 | 370 | 32 | 48 | 14 | M20 | 58 |
| 350 | 420 | 285 | 92 | 460 | 430 | 36 | 54 | 14 | M20 | 80 |
| 400 | 435 | 312 | 102 | 515 | 482 | 40 | 60 | 16 | M24 | 123 |
| 450 | 490 | 354 | 114 | 565 | 532 | 44 | 66 | 25 | M24 | 161 |
| 500 | 560 | 404 | 127 | 620 | 585 | 50 | 70 | 25 | M24 | 201 |
| 600 | 655 | 473 | 154 | 725 | 685 | 60 | 80 | 25 | M27 | 313 |
| 700 | 665 | 520 | 165 | 840 | 800 | 70 | 80 | 30 | M27 | 412 |
| 800 | 760 | 600 | 190 | 950 | 905 | 80 | 110 | 30 | M30 | 567 |
| 900 | 800 | 628 | 203 | 1050 | 1005 | 90 | 110 | 30 | M30 | 950 |
| 1000 | 870 | 705 | 216 | 1160 | 1110 | 100 | 130 | 30 | M33 | 1002 |

**DN 80-1000 • PN 10-40 • Tmax 550 °C**
**Design: cast**

**Connection: EN 1092-1 WAFER TYPE**

## PN 16

| DN | A | B | L | D2 | D3 | d1 | l1 | F | M | kg |
|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 195 | 98 | 49 | 160 | 138 | 22 | 33 | 10 | - | 13,5 |
| 100 | 210 | 112 | 56 | 180 | 158 | 22 | 33 | 10 | - | 15,5 |
| 125 | 230 | 125 | 64 | 210 | 188 | 22 | 33 | 10 | - | 22,5 |
| 150 | 290 | 155 | 70 | 240 | 212 | 24 | 36 | 12 | - | 25 |
| 200 | 330 | 200 | 71 | 295 | 268 | 32 | 48 | 12 | M20 | 30 |
| 250 | 355 | 231 | 76 | 355 | 320 | 36 | 55 | 14 | M24 | 41 |
| 300 | 385 | 269 | 83 | 410 | 378 | 40 | 60 | 16 | M24 | 60 |
| 350 | 420 | 298 | 92 | 470 | 438 | 44 | 66 | 16 | M24 | 83 |
| 400 | 495 | 331 | 102 | 525 | 490 | 55 | 70 | 25 | M27 | 128 |
| 450 | 520 | 369 | 114 | 585 | 550 | 60 | 80 | 25 | M27 | 177 |
| 500 | 555 | 404 | 127 | 650 | 610 | 70 | 80 | 25 | M30 | 239 |
| 600 | 640 | 473 | 154 | 770 | 725 | 80 | 110 | 30 | M33 | 374 |
| 700 | 690 | 538 | 165 | 840 | 795 | 90 | 110 | 30 | M33 | 432 |
| 800 | 760 | 615 | 190 | 950 | 900 | 100 | 130 | 30 | M36 | 587 |
| 900 | 840 | 700 | 203 | 1050 | 1000 | 120 | 170 | 40 | M36 | 980 |
| 1000 | 920 | 730 | 216 | 1170 | 1115 | 120 | 180 | 40 | M39 | 1022 |

## PN 25

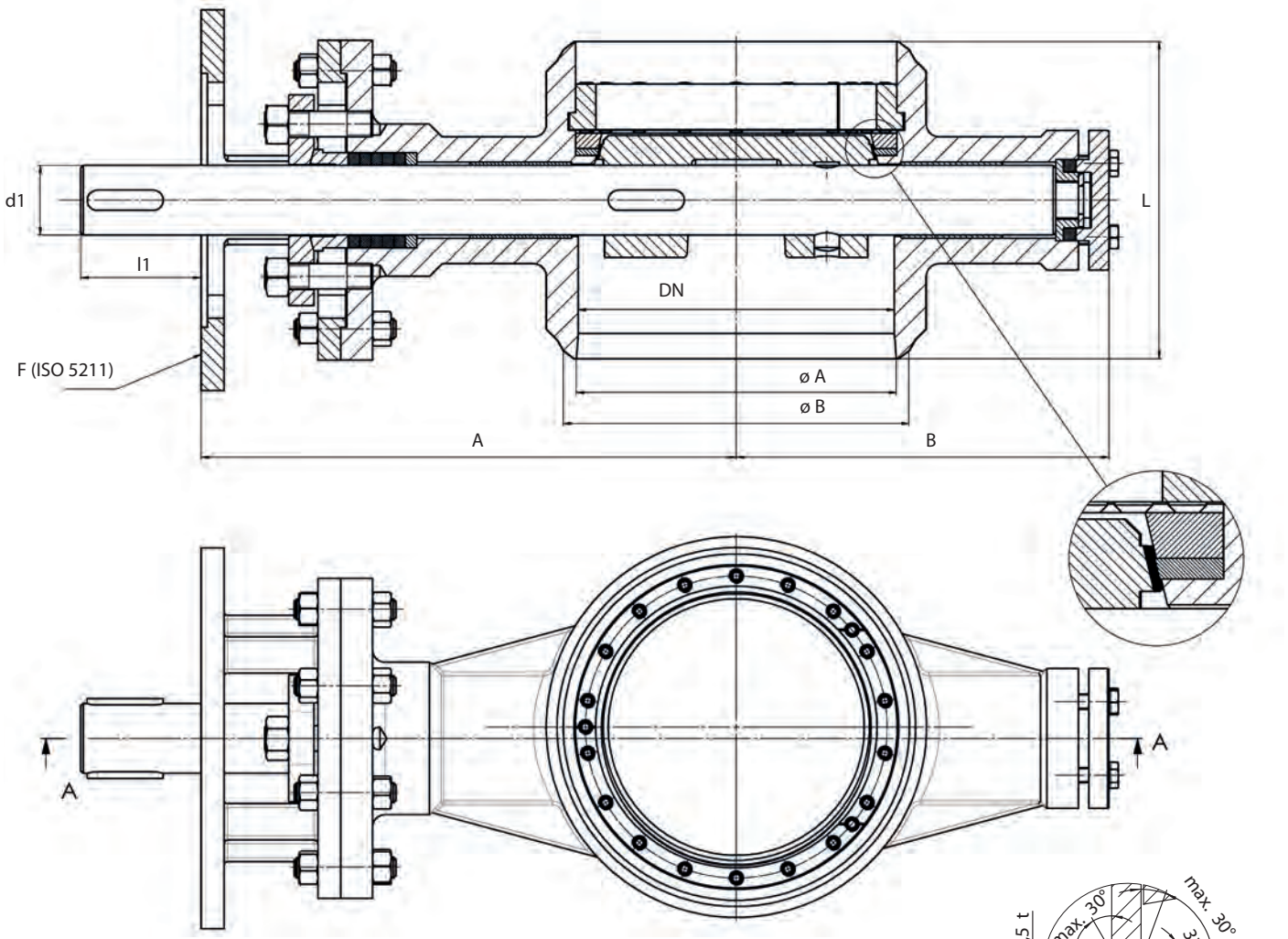
| DN | A | B | L | D2 | D3 | d1 | l1 | F | M | kg |
|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 195 | 98 | 49 | - | 138 | 22 | 33 | 10 | - | 15,5 |
| 100 | 210 | 112 | 56 | - | 162 | 22 | 33 | 10 | - | 17,5 |
| 125 | 230 | 125 | 64 | - | 188 | 22 | 33 | 10 | - | 26,5 |
| 150 | 290 | 155 | 70 | - | 218 | 24 | 36 | 12 | - | 27 |
| 200 | 330 | 200 | 71 | 310 | 278 | 32 | 48 | 12 | M24 | 32 |
| 250 | 355 | 231 | 76 | 370 | 335 | 36 | 55 | 14 | M27 | 45 |
| 300 | 385 | 269 | 83 | 430 | 395 | 40 | 60 | 16 | M27 | 69 |
| 350 | 420 | 298 | 92 | 490 | 450 | 44 | 66 | 16 | M30 | 94 |
| 400 | 495 | 331 | 102 | 550 | 505 | 55 | 70 | 25 | M33 | 145 |
| 450 | 520 | 369 | 114 | 600 | 555 | 60 | 80 | 25 | M33 | 207 |
| 500 | 555 | 404 | 127 | 660 | 615 | 70 | 80 | 25 | M33 | 270 |
| 600 | 640 | 473 | 154 | 770 | 720 | 80 | 110 | 30 | M36 | 405 |
| 700 | 700 | 538 | 165 | 875 | 820 | 90 | 110 | 30 | M39 | 483 |
| 800 | 760 | 615 | 190 | 990 | 930 | 100 | 130 | 30 | M45 | 656 |
| 900 | 840 | 700 | 203 | 1090 | 1030 | 120 | 170 | 40 | M45 | 1020 |

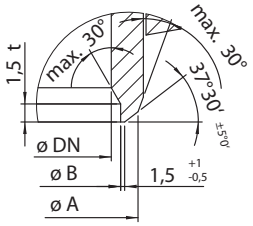
## PN 40

| DN | A | B | L | D2 | D3 | d1 | l1 | F | M | kg |
|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 195 | 98 | 49 | - | 138 | 22 | 33 | 10 | - | 20,5 |
| 100 | 210 | 112 | 56 | - | 162 | 22 | 33 | 10 | - | 30,5 |
| 125 | 270 | 125 | 70 | 220 | 188 | 28 | 46 | 12 | - | 35 |
| 150 | 290 | 165 | 76 | 250 | 218 | 32 | 48 | 12 | - | 40 |
| 200 | 340 | 222 | 89 | 320 | 285 | 36 | 55 | 14 | M27 | 60 |
| 250 | 390 | 261 | 114 | 385 | 345 | 40 | 60 | 16 | M30 | 80 |
| 300 | 460 | 289 | 114 | 450 | 410 | 44 | 66 | 16 | M30 | 110 |
| 350 | 490 | 320 | 127 | 510 | 465 | 55 | 70 | 25 | M33 | 150 |
| 400 | 530 | 357 | 140 | 585 | 535 | 60 | 80 | 25 | M36 | 200 |
| 450 | 560 | 385 | 152 | 610 | 560 | 70 | 135 | 30 | M36 | 230 |
| 500 | 615 | 431 | 152 | 670 | 615 | 80 | 110 | 30 | M39 | 334 |
| 600 | 690 | 492 | 178 | 795 | 735 | 90 | 110 | 30 | M45 | 585 |

**DN 80-1000 • PN 16-100 • Tmax 550 °C**
**Design: cast**

**Connection: EN 12 627 WELDED ENDS**




*Welded ends*

*ø A - acc. to EN 12 627*
*ø B - inner pipe diameter*
*(upon customer´s request)*
*t - pipe thickness (upon customer´s request)*

**PN 16**

| DN | A | B | L | d1 | l1 | F | kg |
|---|---|---|---|---|---|---|---|
| 80 | 195 | 98 | 180 | 22 | 33 | 10 | 25,5 |
| 100 | 210 | 112 | 190 | 22 | 33 | 10 | 32,5 |
| 125 | 230 | 125 | 200 | 22 | 33 | 10 | 39,5 |
| 150 | 290 | 155 | 210 | 24 | 36 | 12 | 45 |
| 200 | 330 | 200 | 230 | 32 | 48 | 12 | 50 |
| 250 | 355 | 231 | 250 | 36 | 55 | 14 | 70 |
| 300 | 385 | 269 | 270 | 40 | 60 | 16 | 96 |
| 350 | 420 | 298 | 290 | 44 | 66 | 16 | 123 |
| 400 | 495 | 331 | 310 | 55 | 70 | 25 | 178 |
| 450 | 520 | 369 | 330 | 60 | 80 | 25 | 222 |
| 500 | 555 | 404 | 350 | 70 | 80 | 25 | 293 |
| 600 | 640 | 473 | 390 | 80 | 110 | 30 | 423 |
| 700 | 690 | 538 | 430 | 90 | 110 | 30 | 523 |
| 800 | 760 | 615 | 470 | 100 | 130 | 30 | 691 |
| 900 | 840 | 700 | 510 | 120 | 170 | 40 | 1020 |
| 1000 | 920 | 730 | 550 | 120 | 180 | 40 | 1650 |

**DN 80-1000 • PN 16-100 • Tmax 550 °C**
**Design: cast**

**Connection: EN 12 627 WELDED ENDS**

## PN 25

| DN | A | B | L | d1 | l1 | F | kg |
|---|---|---|---|---|---|---|---|
| 80 | 195 | 98 | 180 | 22 | 33 | 10 | 25,5 |
| 100 | 210 | 112 | 190 | 22 | 33 | 10 | 32,5 |
| 125 | 230 | 125 | 200 | 22 | 33 | 10 | 39,5 |
| 150 | 290 | 155 | 210 | 24 | 36 | 12 | 45 |
| 200 | 330 | 200 | 230 | 32 | 48 | 12 | 50 |
| 250 | 355 | 231 | 250 | 36 | 55 | 14 | 70 |
| 300 | 385 | 269 | 270 | 40 | 60 | 16 | 96 |
| 350 | 420 | 298 | 290 | 44 | 66 | 16 | 123 |
| 400 | 495 | 331 | 310 | 55 | 70 | 25 | 178 |
| 450 | 520 | 369 | 330 | 60 | 80 | 25 | 222 |
| 500 | 555 | 404 | 350 | 70 | 80 | 25 | 293 |
| 600 | 640 | 473 | 390 | 80 | 110 | 30 | 423 |
| 700 | 690 | 538 | 430 | 90 | 110 | 30 | 523 |
| 800 | 760 | 615 | 470 | 100 | 130 | 30 | 691 |
| 900 | 840 | 700 | 510 | 120 | 170 | 40 | 1020 |
| 1000 | 920 | 730 | 550 | 140 | 180 | 40 | 1650 |
| 1200 | 1170 | 942 | 630 | 160 | 240 | 48 | 2050 |

## PN 40

| DN | A | B | L | d1 | l1 | F | kg |
|---|---|---|---|---|---|---|---|
| 80 | 195 | 98 | 180 | 22 | 33 | 10 | 25,5 |
| 100 | 210 | 112 | 190 | 22 | 33 | 10 | 32,5 |
| 125 | 270 | 125 | 200 | 28 | 46 | 12 | 45 |
| 150 | 290 | 165 | 210 | 32 | 48 | 12 | 60 |
| 200 | 340 | 219 | 230 | 36 | 55 | 14 | 70 |
| 250 | 390 | 155 | 250 | 40 | 60 | 16 | 80 |
| 300 | 460 | 289 | 270 | 44 | 66 | 16 | 95 |
| 350 | 490 | 320 | 290 | 55 | 70 | 25 | 155 |
| 400 | 530 | 357 | 310 | 60 | 80 | 25 | 257 |
| 450 | 560 | 385 | 330 | 70 | 135 | 30 | 230 |
| 500 | 615 | 431 | 350 | 80 | 110 | 30 | 319 |
| 600 | 690 | 492 | 390 | 90 | 110 | 30 | 548 |

## PN 63

| DN | A | B | L | d1 | l1 | F | kg |
|---|---|---|---|---|---|---|---|
| 80 | 195 | 90 | 180 | 22 | 33 | 10 | 21 |
| 100 | 210 | 112 | 190 | 22 | 33 | 10 | 25 |
| 125 | 270 | 124 | 200 | 28 | 46 | 12 | 35 |
| 150 | 350 | 185 | 210 | 40 | 60 | 16 | 58 |
| 200 | 390 | 216 | 230 | 44 | 66 | 16 | 75 |
| 250 | 440 | 290 | 250 | 50 | 70 | 25 | 103 |
| 300 | 500 | 338 | 270 | 60 | 80 | 25 | 172 |
| 350 | 510 | 360 | 290 | 70 | 80 | 25 | 231 |
| 400 | 575 | 391 | 310 | 80 | 110 | 30 | 299 |
| 450 | 610 | 431 | 330 | 90 | 135 | 30 | 380 |
| 500 | 625 | 481 | 350 | 90 | 110 | 30 | 546 |
| 600 | 670 | 582 | 390 | 120 | 180 | 40 | 763 |

## PN 100

| DN | A | B | L | d1 | l1 | F | kg |
|---|---|---|---|---|---|---|---|
| 150 | 340 | 185 | 210 | 40 | 60 | 16 | 58 |
| 200 | 410 | 227 | 230 | 50 | 70 | 25 | 92 |
| 250 | 455 | 294 | 250 | 60 | 95 | 25 | 122 |
| 300 | 500 | 338 | 270 | 70 | 105 | 30 | 191 |
| 350 | 550 | 358 | 290 | 90 | 110 | 30 | 273 |
| 400 | 620 | 420 | 310 | 90 | 130 | 30 | 403 |
| 450 | 680 | 453 | 330 | 90 | 135 | 30 | 508 |
| 500 | 710 | 485 | 350 | 120 | 180 | 40 | 685 |
| 600 | 785 | 575 | 390 | 120 | 180 | 40 | 945 |

# FLOW CHARACTERISTICS

**Kv Coefficient**
A „Kv 100 %“ value represents a flow rate (in $m^3/h$) of density water of 1000 $kg/m^3$ at a pressure drop p of 0,01 MPa for the valve in the „OPEN“ position.

### L32.6, L32.7

| DN | NPS | Kvs [$m^3/h$] | ξ [-] | Cv [gall/min] | Kvs [$m^3/h$] | ξ [-] | Cv [gall/min] |
|---|---|---|---|---|---|---|---|
| | | PN 2,5 | | | PN 6-16 | | |
| 80 | 3" | - | - | - | 149 | 2,90 | 173 |
| 100 | 4" | - | - | - | 250 | 2,50 | 290 |
| 125 | 5" | - | - | - | 430 | 2,10 | 500 |
| 150 | 6" | - | - | - | 1 170 | 0,58 | 1 360 |
| 200 | 8" | - | - | - | 2 320 | 0,47 | 2 690 |
| 250 | 10" | - | - | - | 3 920 | 0,40 | 4 550 |
| 300 | 12" | - | - | - | 6 130 | 0,34 | 7 110 |
| 350 | 14" | - | - | - | 8 880 | 0,30 | 10 300 |
| 400 | 16" | - | - | - | 11 800 | 0,29 | 13 690 |
| 500 | 20" | - | - | - | 19 500 | 0,26 | 22 620 |
| 600 | 24" | - | - | - | 28 600 | 0,25 | 33 180 |
| 700 | 28" | - | - | - | 39 700 | 0,24 | 46 050 |
| 800 | 32" | - | - | - | 54 100 | 0,22 | 62 760 |
| 1000 | 40" | - | - | - | 84 600 | 0,22 | 98 140 |
| 1200 | 48" | 127 800 | 0,20 | 148 200 | 121 800 | 0,22 | 141 300 |
| 1400 | 56" | 183 300 | 0,18 | 212 600 | 169 700 | 0,21 | 196 900 |
| 1600 | 64" | 239 500 | 0,18 | 277 800 | 227 200 | 0,20 | 263 600 |
| 2000 | 80" | 374 100 | 0,18 | 434 000 | 354 900 | 0,20 | 411 700 |

### L32.6, L32.7

| DN | NPS | Kvs [$m^3/h$] | ξ [-] | Cv [gall/min] | Kvs [$m^3/h$] | ξ [-] | Cv [gall/min] |
|---|---|---|---|---|---|---|---|
| | | PN 25 | | | PN 40 | | |
| 80 | 3" | 149 | 2,90 | 173 | 149 | 2,90 | 173 |
| 100 | 4" | 250 | 2,50 | 290 | 250 | 2,50 | 290 |
| 125 | 5" | 430 | 2,10 | 500 | 430 | 2,10 | 500 |
| 150 | 6" | 1 160 | 0,59 | 1 350 | 650 | 1,90 | - |
| 200 | 8" | 2 140 | 0,55 | 2 480 | 1 310 | 1,50 | - |
| 250 | 10" | 3 620 | 0,47 | 4 200 | 2 190 | 1,30 | - |
| 300 | 12" | 5 510 | 0,42 | 6 390 | 3 430 | 1,10 | - |
| 350 | 14" | 8 220 | 0,35 | 9 540 | 4 900 | 1,00 | - |
| 400 | 16" | 10 900 | 0,34 | 12 640 | 6 700 | 0,92 | - |
| 500 | 20" | 18 100 | 0,30 | 21 000 | 11 300 | 0,78 | - |
| 600 | 24" | 27 000 | 0,28 | 31 320 | 17 300 | 0,69 | - |
| 700 | 28" | 37 400 | 0,27 | 43 380 | 24 900 | 0,62 | - |
| 800 | 32" | 48 900 | 0,27 | 56 720 | 34 200 | 0,56 | - |
| 1000 | 40" | 82 700 | 0,23 | 95 900 | - | - | - |
| 1200 | 48" | 119 200 | 0,23 | 138 300 | - | - | - |
| 1400 | 56" | 162 200 | 0,23 | - | - | - | - |

Flow coefficient - Kvs, Loss coefficient - ζ, Coefficients - Cv

### L32.8 - Design: wrought

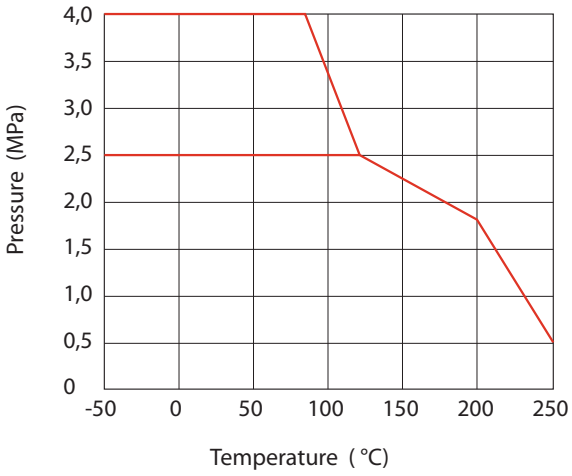
| DN | Kvs [m³/h] | ξ [-] | Kvs [m³/h] | ξ [-] | Kvs [m³/h] | ξ [-] |
|---|---|---|---|---|---|---|
| | PN 6, 10, 16 | | PN 25, 40 | | PN 63 | |
| 150 | 650 | 1,87 | 460 | 3,79 | - | - |
| 200 | 1 250 | 1,65 | 820 | 3,71 | 690 | 5,36 |
| 250 | 2 150 | 1,31 | 1 430 | 3,00 | 1 190 | 4,33 |
| 300 | 3 500 | 1,04 | 2 300 | 2,40 | 1 950 | 3,47 |
| 350 | 5 000 | 0,95 | 3 200 | 2,32 | 2 650 | 3,35 |
| 400 | 6 650 | 0,91 | 4 300 | 2,18 | 3 580 | 3,15 |
| 500 | 11 750 | 0,98 | 7 350 | 1,82 | 6 100 | 2,63 |
| 600 | 17 200 | 0,71 | 11 000 | 1,68 | 9 150 | 2,43 |
| 700 | 25 500 | 0,69 | 16 000 | 1,48 | - | - |
| 800 | 33 600 | 0,58 | 22 500 | 1,27 | - | - |
| 1000 | 56 700 | 0,55 | - | - | - | - |

### L32.8 - Design: cast

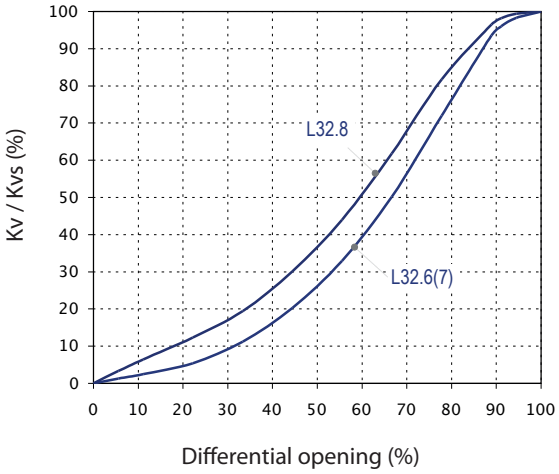
| DN | Kvs [m³/h] | ξ [-] | Kvs [m³/h] | ξ [-] | Kvs [m³/h] | ξ [-] | Kvs [m³/h] | ξ [-] |
|---|---|---|---|---|---|---|---|---|
| | PN 6-25 | | PN 40 | | PN 63 | | PN 100 | |
| 80 | 128 | 3,90 | 128 | 3,90 | 128 | 3,90 | - | - |
| 100 | 214 | 3,43 | 214 | 3,43 | 214 | 3,43 | - | - |
| 125 | 342 | 3,27 | 274 | 5,11 | 274 | 5,11 | - | - |
| 150 | 650 | 1,88 | 457 | 3,80 | 342 | 6,78 | 342 | 6,78 |
| 200 | 1 232 | 1,65 | 821 | 3,72 | 684 | 5,36 | 586 | 7,31 |
| 250 | 2 139 | 1,34 | 1 429 | 3,00 | 1 190 | 4,33 | 969 | 6,52 |
| 300 | 3 490 | 1,04 | 2 297 | 2,41 | 1 914 | 3,47 | 1 558 | 5,23 |
| 350 | 4 962 | 0,96 | 3 182 | 2,32 | 2 652 | 3,35 | 2 188 | 4,91 |
| 400 | 6 630 | 0,91 | 4 286 | 2,19 | 3 571 | 3,15 | 2 947 | 4,62 |
| 450 | 8 580 | 0,87 | 5 868 | 1,87 | 4 890 | 2,69 | 4 192 | 3,66 |
| 500 | 10 984 | 0,81 | 7 322 | 1,83 | 6 102 | 2,63 | 5 329 | 3,45 |
| 600 | 16 886 | 0,71 | 10 984 | 1,68 | 9 153 | 2,43 | 7 913 | 3,25 |
| 700 | 23 319 | 0,69 | 15 920 | 1,49 | - | - | - | - |
| 800 | 33 225 | 0,58 | 22 241 | 1,30 | - | - | - | - |
| 900 | 42 429 | 0,57 | - | - | - | - | - | - |
| 1000 | 53 293 | 0,55 | - | - | - | - | - | - |
| 1200 | 82 977 | 0,47 | - | - | - | - | - | - |
| 1400 | 118 050 | 0,43 | - | - | - | - | - | - |

Flow coefficient - Kvs, Loss coefficient - ζ, Coefficients - Cv

### Maximum working pressure/temperature diagram for L32.7 (PTFE)




### Relative flow characteristics (DN 300 PN 25)



## Application
The throttling butterfly valves are valves to regulation medium flow rate, which can flow by both ways. The throttling butterfly valves aren't closing valves.

## Working medium
- air
- water
- non-aggressive liquids
- gases

## Maximum working temperature
A working temperature is from - 50 °C up to + 500 °C and depends on the body and gland packing material.

## Technical description
The disc is pivoted by operating shaft in the body. The angle displacement of the disc is 0-90°. Disc position is shown by indicator line on the shaft, on the lever eventually on the electric actuator. There is always a gap between disc and body in closed position for type L35.18. In case of butterfly valve design with sealing collar (type L35.38) then the gap is limited to shaft area merely.

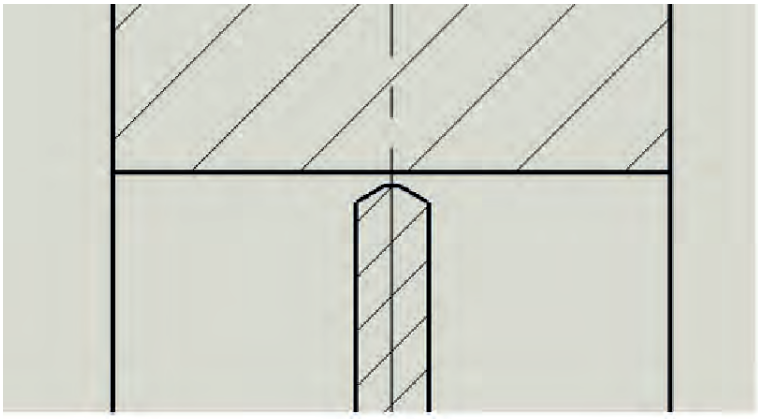
## Operation
- lever
- manual gear-box
- electric actuator
- bare shaft
- pneumatic or hydraulic actuator

## Testing
The valves are tested according to PED 97/23/EC and EN 12 266-1 as standard or ISO 5208.

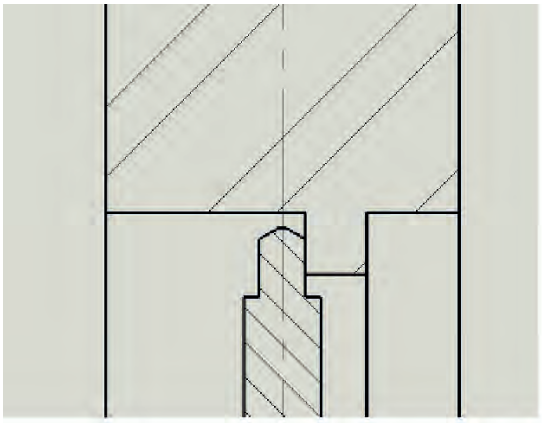
## Connection to piping
- **wafer type** acc. to EN 1092-1
- **flanged ends** acc. to EN 1092-1

Other ways of connection are acc. to the customer´s requierement. The face to face and connecting dimensions are noted in table of dimensions, e.g. GOST, ANSI.

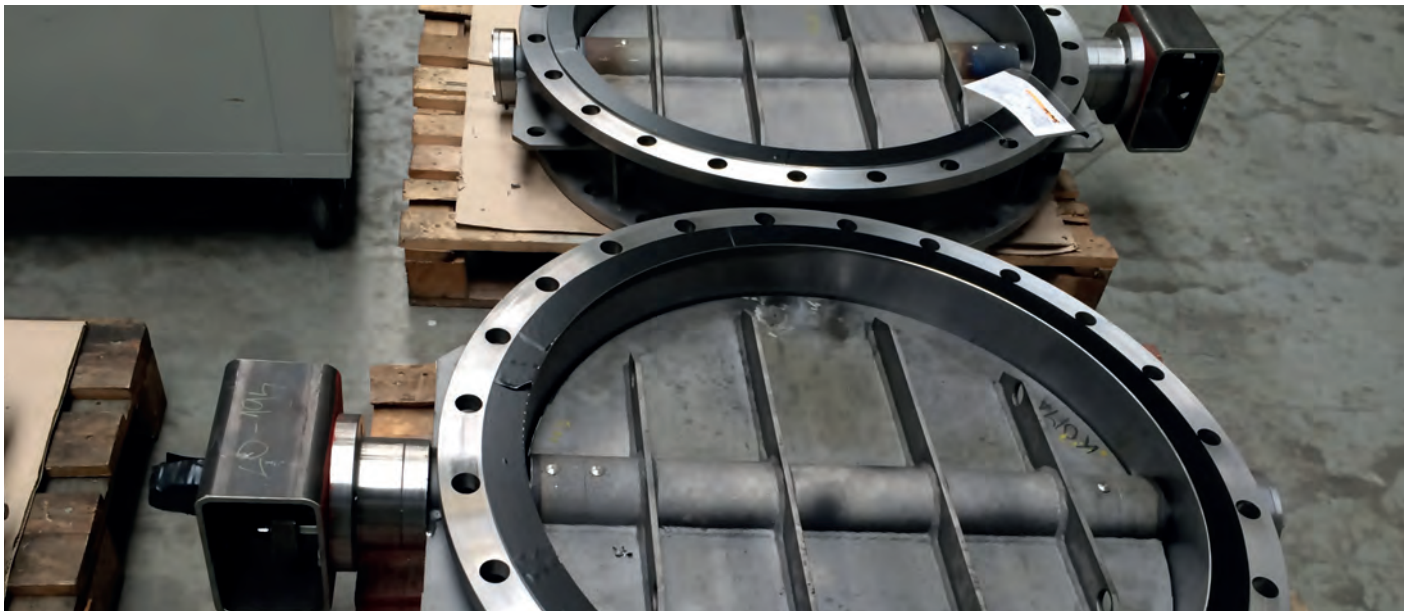
## Installation
The throttling butterfly valves can be mounted into horizontal, vertical or inclined pipeline with the horizontal rotating axe of the disc. When there is a butterfly valve with actuator it is important to abide the actuator's manufacturer.



Design type L35.18



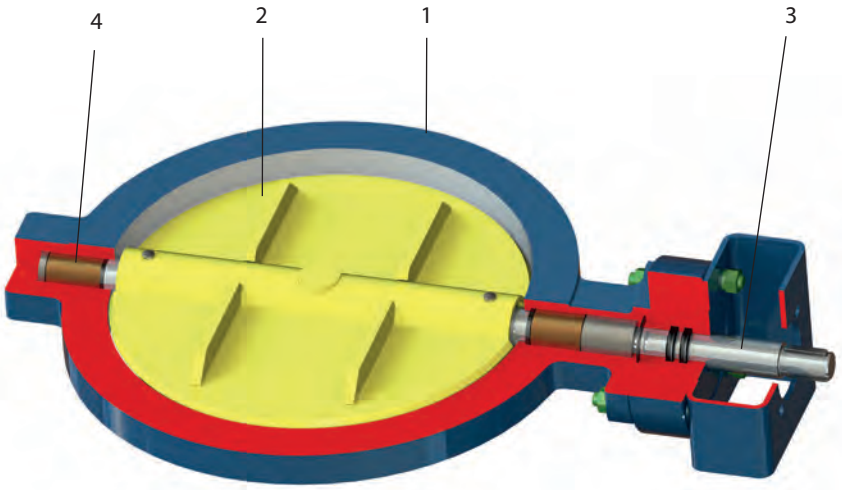
Design type L35.38



DN 50-2400 • PN 1-16 • Tmax +500 °C
L35.18 • DN 50-2400 • PN 1-16
L35.38 • DN 200-2400 • PN 2,5-16

Connection: EN 1092-1 FLANGED ENDS
EN 1092-1 WAFER TYPE

**More detailed information will be provided on request.**




## Material

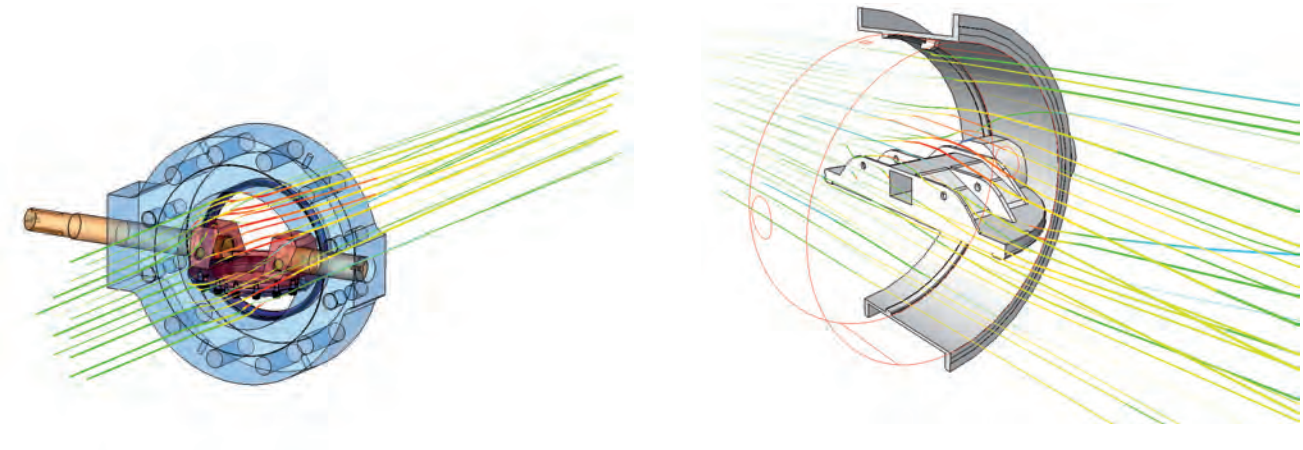
| Position | Component | EN | | | | |
|---|---|---|---|---|---|---|
| | | Carbon forged steel | | | Stainless steel | Alloy forged steel |
| | | to +150 °C* | to +425 °C* | from -40 °C to +400 °C* | to +500 °C* | to +500 °C* |
| 1 | Body | 1.0577 | 1.0425 | 1.0566 | 1.4541 | 1.7335 |
| 2 | Disc | | | | | |
| 3 | Shaft, pivot | 1.4021-QT700 | | | 1.4541 | 1.4923 |
| 4 | Bearing bush | GGG40; KU; 42 3046 | GGG40; KU; 42 3046; Ni-Rezist | | Ni-Rezist | Ni-Rezist |

* The thermal use of the valve depends on the pressure-temperature characteristic of the material - see further information in this catalog.

## Production range

| DN | Wafer type | | | | | Flanged ends | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | PN | | | | | PN | | | | |
| | 1* | 2,5 | 6 | 10 | 16 | 1* | 2,5 | 6 | 10 | 16 |
| 50 | • | • | | | | | | | | |
| 100 | • | • | | | | | | | | |
| 150 | • | • | • | • | • | • | • | • | • | • |
| 200 | • | • | • | • | • | • | • | • | • | • |
| 250 | • | • | • | • | • | • | • | • | • | • |
| 300 | • | • | • | • | • | • | • | • | • | • |
| 350 | • | • | • | • | • | • | • | • | • | • |
| 400 | • | • | • | • | • | • | • | • | • | • |
| 450 | • | • | • | • | • | • | • | • | • | • |
| 500 | • | • | • | • | • | • | • | • | • | • |
| 600 | • | • | • | • | • | • | • | • | • | • |
| 700 | • | • | • | • | • | • | • | • | • | • |
| 800 | • | • | • | • | • | • | • | • | • | • |
| 900 | • | • | • | • | • | • | • | • | • | • |
| 1000 | • | • | • | • | • | • | • | • | • | • |
| 1200 | • | • | • | • | • | • | • | • | • | • |
| 1400 | • | • | • | • | | • | • | • | • | |
| 1600 | • | • | • | • | | • | • | • | • | |
| 2000 | • | • | • | | | • | • | • | | |
| 2200 | • | • | • | | | • | • | • | | |
| 2400 | • | • | • | | | • | • | • | | |

## CFD ANALYSIS

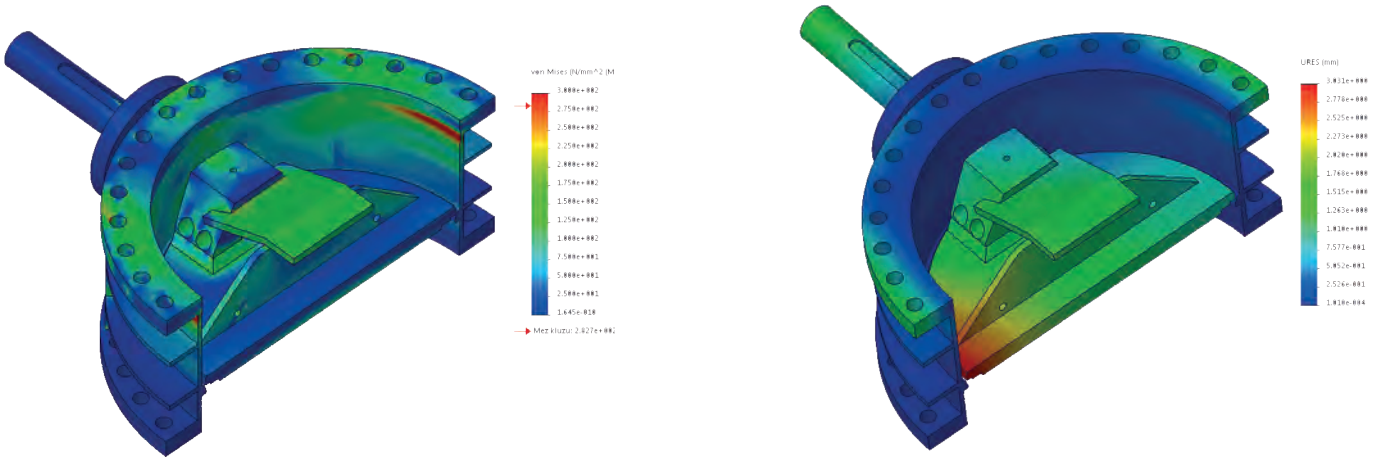


*Kvs and Loss coefficient analysis*

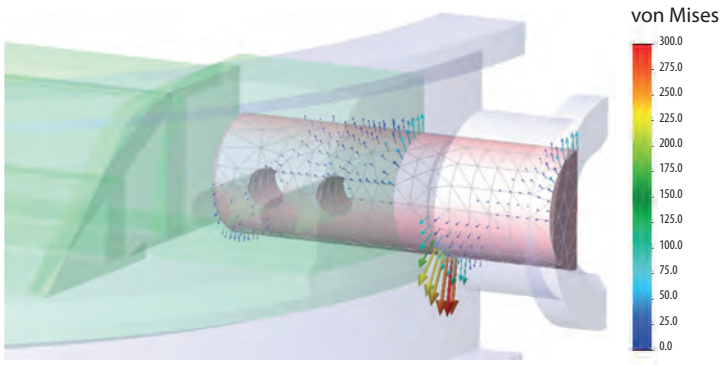
## FEM ANALYSIS

*- stress*

*- displacement*



*Equivalent tense*




*Contact pressure in the bearing and disc hub*

# PRESSURE-TEMPERATURE RATING

### Design: wrought

| Body material | Maximum Allowable Pressure PS (MPa) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Temperature | PN | 100 °C | 150 °C | 250 °C | 300 °C | 350 °C | 400 °C | 450 °C | 500 °C |
| 1.0577 | 6 | 0,59 | 0,54 | - | - | - | - | - | - |
| | 10 | 0,99 | 0,91 | - | - | - | - | - | - |
| | 16 | 1,58 | 1,45 | - | - | - | - | - | - |
| | 25 | 2,47 | 2,27 | - | - | - | - | - | - |
| | 40 | 3,96 | 3,64 | - | - | - | - | - | - |
| | 63 | 6,24 | 5,74 | - | - | - | - | - | - |
| Temperature | PN | 100 °C | 200 °C | 250 °C | 300 °C | 350 °C | 400 °C | 425 °C | 450 °C |
| 1.0425 | 6 | 0,55 | 0,50 | 0,45 | 0,41 | 0,38 | 0,35 | 0,27 | - |
| | 10 | 0,92 | 0,83 | 0,76 | 0,69 | 0,64 | 0,59 | 0,45 | - |
| | 16 | 1,48 | 1,33 | 1,21 | 1,10 | 1,02 | 0,95 | 0,73 | - |
| | 25 | 2,32 | 2,08 | 1,90 | 1,72 | 1,60 | 1,48 | 1,15 | - |
| | 40 | 3,71 | 3,33 | 3,04 | 2,76 | 2,57 | 2,38 | 1,84 | - |
| | 63 | 5,85 | 5,25 | 4,80 | 4,35 | 4,05 | 3,75 | 2,91 | - |
| Temperature | PN | 100 °C | 200 °C | 250 °C | 300 °C | 350 °C | 400 °C | 450 °C | 500 °C |
| 1.0566 | 6 | 0,60 | 0,60 | 0,60 | 0,58 | 0,54 | 0,47 | - | - |
| | 10 | 1,00 | 1,00 | 1,00 | 0,98 | 0,90 | 0,79 | - | - |
| | 16 | 1,60 | 1,60 | 1,60 | 1,56 | 1,44 | 1,27 | - | - |
| | 25 | 2,50 | 2,50 | 2,50 | 2,45 | 2,26 | 1,98 | - | - |
| | 40 | 4,00 | 4,00 | 4,00 | 3,92 | 3,61 | 3,18 | - | - |
| | 63 | 6,30 | 6,30 | 6,30 | 6,18 | 5,70 | 5,01 | - | - |
| 1,4541 | 6 | 0,59 | 0,53 | 0,50 | 0,47 | 0,46 | 0,44 | 0,43 | 0,42 |
| | 10 | 0,99 | 0,88 | 0,84 | 0,79 | 0,76 | 0,74 | 0,72 | 0,70 |
| | 16 | 1,58 | 1,42 | 1,34 | 1,27 | 1,22 | 1,18 | 1,16 | 1,13 |
| | 25 | 2,48 | 2,21 | 2,10 | 1,98 | 1,91 | 1,85 | 1,81 | 1,77 |
| | 40 | 3,96 | 3,54 | 3,37 | 3,18 | 3,06 | 2,97 | 2,90 | 2,83 |
| | 63 | 6,24 | 5,58 | 5,31 | 5,01 | 4,83 | 4,68 | - | - |
| 1,7335 | 6 | 0,60 | 0,60 | 0,60 | 0,60 | 0,57 | 0,54 | 0,50 | 0,39 |
| | 10 | 1,00 | 1,00 | 1,00 | 1,00 | 0,95 | 0,90 | 0,84 | 0,65 |
| | 16 | 1,60 | 1,60 | 1,60 | 1,60 | 1,52 | 1,44 | 1,34 | 1,04 |
| | 25 | 2,50 | 2,50 | 2,50 | 2,50 | 2,38 | 2,25 | 2,10 | 1,63 |
| | 40 | 4,00 | 4,00 | 4,00 | 4,00 | 3,80 | 3,60 | 3,37 | 2,60 |

### Design: cast

| Body material | Maximum Allowable Pressure PS (MPa) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Temperature | PN | 20 °C | 100 °C | 150 °C | 200 °C | 250 °C | 300 °C | 325 °C | 350 °C | 400 °C | 425 °C | 450 °C | 500 °C | 550 °C |
| A216 WCB | 6 | 0,5 | 0,5 | 0,5 | 0,5 | 0,4 | 0,3 | - | 0,3 | 0,2 | 0,1 | - | - | - |
| | 10 | 0,9 | 0,9 | 0,9 | 0,9 | 0,8 | 0,7 | - | 0,6 | 0,4 | 0,1 | - | - | - |
| | 16 | 1,6 | 1,4 | 1,3 | 1,1 | 1 | 0,9 | - | 0,7 | 0,5 | 0,5 | - | - | - |
| | 25 | 2,5 | 2,3 | 2,1 | 1,9 | 1,7 | 1,5 | - | 1,3 | 1,1 | 1 | - | - | - |
| | 40 | 4,1 | 3,7 | 3,6 | 3,4 | 3,2 | 2,9 | - | 2,7 | 2,6 | 2,1 | - | - | - |
| | 63 | 6,5 | 5,9 | 5,7 | 5,6 | 5,3 | 4,9 | - | 4,7 | 4,4 | 3,7 | - | - | - |
| | 100 | 9,6 | 8,5 | 8,3 | 8,2 | 7,8 | 7,3 | - | 7 | 6,5 | 5,4 | - | - | - |
| A217 WC6 | 16 | 1,6 | 1,4 | - | 1,1 | - | 0,9 | - | 0,7 | 0,5 | - | 0,3 | 0,2 | 0,1 |
| | 25 | 2,5 | 2,3 | - | 1,9 | - | 1,6 | - | 1,4 | 1,2 | - | 1 | 0,6 | 0,3 |
| | 40 | 4,1 | 4 | - | 3,7 | - | 3,2 | - | 3 | 2,7 | - | 2,4 | 1,7 | 0,9 |
| | 63 | 6,5 | 6,5 | - | 6,1 | - | 5,4 | - | 5,1 | 4,7 | - | 4,1 | 3,2 | 1,5 |
| | 100 | 9,6 | 9,6 | - | 8,9 | - | 8 | - | 7,5 | 6,9 | - | 6,2 | 4,7 | 2,3 |
| A352 LCB | 16 | 1,6 | 1,4 | 1,3 | 1,1 | 1 | 0,8 | 0,7 | - | - | - | - | - | - |
| | 25 | 2,5 | 2,2 | 2 | 1,7 | 1,5 | 1,3 | 1,2 | - | - | - | - | - | - |
| | 40 | 3,7 | 3,3 | 3,3 | 3,2 | 3 | 2,9 | 2,8 | - | - | - | - | - | - |
| | 63 | 6,2 | 5,7 | 5,5 | 5,3 | 5,1 | 4,8 | 4,7 | - | - | - | - | - | - |
| | 100 | 9,2 | 8,3 | 8,1 | 7,8 | 7,5 | 7,1 | 6,9 | - | - | - | - | - | - |
| A351 CF8 | 6 | 0,5 | 0,5 | - | 0,3 | - | - | - | - | - | - | - | - | - |
| | 10 | 0,9 | 0,9 | - | 0,9 | - | 0,7 | - | 0,6 | 0,5 | - | 0,4 | 0,2 | 0,1 |
| | 16 | 1,5 | 1,4 | - | 1,1 | - | 0,9 | - | 0,7 | 0,5 | - | 0,4 | 0,2 | 0,1 |
| | 25 | 2,4 | 2,1 | - | 1,7 | - | 1,4 | - | 1,2 | 1 | - | 0,8 | 0,6 | 0,4 |
| | 40 | 4 | 3,3 | - | 2,8 | - | 2,4 | - | 2,3 | 2,1 | - | 2 | 1,8 | 1,5 |
| | 63 | 6,3 | 4,2 | - | 3,5 | - | 3,1 | - | 3 | 2,9 | - | 2,8 | 2,6 | 2,2 |
| | 100 | 9,3 | 7,6 | - | 6,4 | - | 5,7 | - | 5,5 | 5,3 | - | 5 | 4,9 | 4 |
| A351 CF8M | 16 | 1,5 | 1,3 | - | 1,1 | - | 0,9 | - | 0,7 | 0,5 | - | 0,4 | 0,2 | 0,1 |
| | 25 | 2,4 | 2 | - | 1,7 | - | 1,4 | - | 1,2 | 1 | - | 0,8 | 0,6 | 0,4 |
| | 40 | 3,9 | 3,4 | - | 2,8 | - | 2,5 | - | 2,3 | 2,2 | - | 2 | 1,8 | 1,6 |
| | 63 | 6,3 | 4,3 | - | 3,6 | - | 3,2 | - | 3,1 | 3 | - | 2,9 | 2,8 | 2,4 |
| | 100 | 9,3 | 7,9 | - | 6,6 | - | 5,9 | - | 5,7 | 5,5 | - | 5,4 | 5 | 4,5 |

## CERTIFICATION


*Product Certificate for L32*


*Product Certificate for L35*


*Safety Integrity Level for L32*

*Certificate of Conformity to Technical Regulation „ Safety of machines and equipment“*


*FIRE SAFE Certificate acc. to ISO 10497 and API Standard 607*


*Certificate of Conformity (Ukraine)*


*QMS Certificate in welding acc. to EN ISO 3834-2*


*QMS Certificate acc. to EN ISO 9001:2015*


*EMS Certificate acc. to EN ISO 14001:2015*

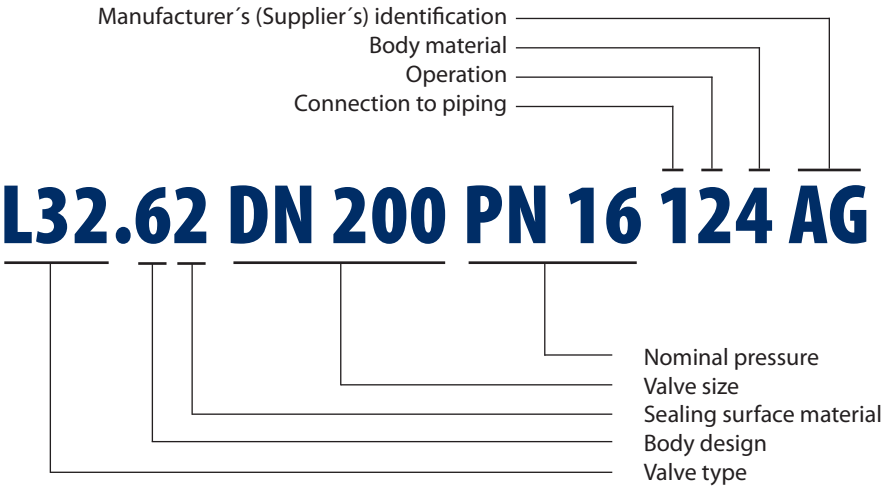

*Management System Certificate acc. to BS OHSAS 18001:2007*


*ASME BPVC III - N Certificate*


*ASME BPVC III - NPT Certificate*

## TYPE NUMBER COMPOSITION

Type number uniquely describes the valve.
Type number is fixed by the manufacturer (supplier).
Type number serves to customers in subsequent communication with the manufacturer (supplier) valve.




**Valve type**
- L32 – butterfly valve
- L35 – throttling butterfly valve

**Body design - L32**
- 6 – fabricated or forged body, single eccentricity
- 7 – fabricated, cast or forged body, double eccentricity
- 8 – fabricated, cast or forged body, triple eccentricity

**Body design - L35**
- 1 – fabricated or forged body, centric control check valve
- 3 – fabricated or forged body, centric control check valve with collar

**Sealing surface material**
- 1 – metal x NBR
- 2 – metal x EPDM
- 3 – metal x VITON
- 4 – metal x VITON GF
- 5 – metal x PTFE
- 6 – metal x other type of hard sealing
- 7 – metal x lamellar seal ring
- 8 – metal x metal

**Connection to piping**
- 1 – flanged ends
- 2 – welded ends
- 7 – wafer type

**Operation**
- 1 – lever
- 2 – gear-box
- 3 – electric actuator
- 4 – pneumatic, hydraulic, el.-hydraulic actuator and their combination
- 5 – bare shaft
- 8 – extension
- 9 – lever with counterweight and hydraulic cylinder

**Body material**
- 0 – stainless steel
- 2 – alloy cast steel
- 3 – alloy forged steel
- 4 – carbon forged steel
- 5 – carbon cast steel
- 7 – heavy non-ferrous metals

**Manufacturer's (Supplier's) identification**
- AG – ARMATURY Group a.s.

For an order and delivery of the goods are obligatory the data mentioned in respective specifications of manufacturer.

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