**REF. 1150-1158**

# WAFER BUTTERFLY VALVE

| | |
|---|---|
| **Size :** | DN 32 to 1400 mm |
| **Ends :** | Between flanges PN10/16 and ISO PN20 ANSI150 |
| **Min Temperature :** | - 10°C (with EPDM seat ) |
| **Max Temperature :** | + 110°C ( with EPDM seat ) |
| **Max Pressure :** | 16 Bars up to DN300 |
| **Specifications :** | Long neck for isolation<br>Wafer type<br>Full crossing stem<br>ISO 5211 mounting pad |
| **Materials :** | Ductile iron EN GJS 500-7 body |

# WAFER BUTTERFLY VALVE

***SPECIFICATIONS :***

- Long neck for isolation
- ISO 5211 mounting pad
- Wafer type
- Between flanges ISO PN10/16 from DN32/40 to 400 and ISO PN20 ANSI150 from DN40 to 400 (over on request )
- Betwwen flanges ISO PN10 from DN450 to DN 1400
- Full crossing stem
- Removable seat
- Stainless steel disc up to DN100
- Ductile iron epoxy coated disc +/- 40 µ from DN125 to 300, ductile iron rilsan coated disc +/- 300 µ over for 1150 and 1152 types
- 9 positions lever with locking device up to DN200 , stop in all positions but non lockable from DN250 to 300
- Rilsan coated body color RAL 5024 , 250-300 microns thickness
- Stem extension 75 mm length ( option )
- Square lever 30x30 mm for special key ( option )

***USE :***

- Fluids : Depending of the seat
- Min and max Temperature Ts : Depending of the seat
- Max Pressure Ps : 16 bars up to DN300 , 10 bars over (see graphs page 5-7)

***RANGE :***

- With lever from DN 32 to DN 300
- Naked stem from DN 350 to DN1400
- IP65 gear box possible ( **Ref. 1197** ) from DN 32 to DN 1400
- IP65 chain gear box ( **Ref. 1194** ) from DN 32 to DN 500
- On request, stem extension with special length ( **Ref. 98665** )
- On request, stainless steel handle and bolting **Ref. 9831250-9831264**

***ENDS :***

- Between flanges ISO PN10/16 from DN32/40 to 400 and ISO PN20 ANSI150 from DN40 to 400
- Between flanges ISO PN10 from DN450 to DN 1400

***TORQUE VALUES ( in Nm with safety coefficient of 30 % included ) at 16 Bars :***

| DN | 32/40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 |
|---|---|---|---|---|---|---|---|---|---|---|
| Torque ( Nm ) | 9 | 11 | 20 | 29 | 47 | 82 | 130 | 210 | 360 | 475 |

***TORQUE VALUES ( in Nm with safety coefficient of 30 % included ) at 10 Bars :***

| DN | 350 | 400 | 450 | 500 | 600 | 700 | 750 | 800 | 900 | 1000 | 1100 | 1200 | 1300 | 1400 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Torque ( Nm ) | 640 | 1176 | 1450 | 2150 | 2850 | 4600 | 5800 | 7400 | 11000 | 13600 | 14200 | 16400 | 17800 | 19200 |

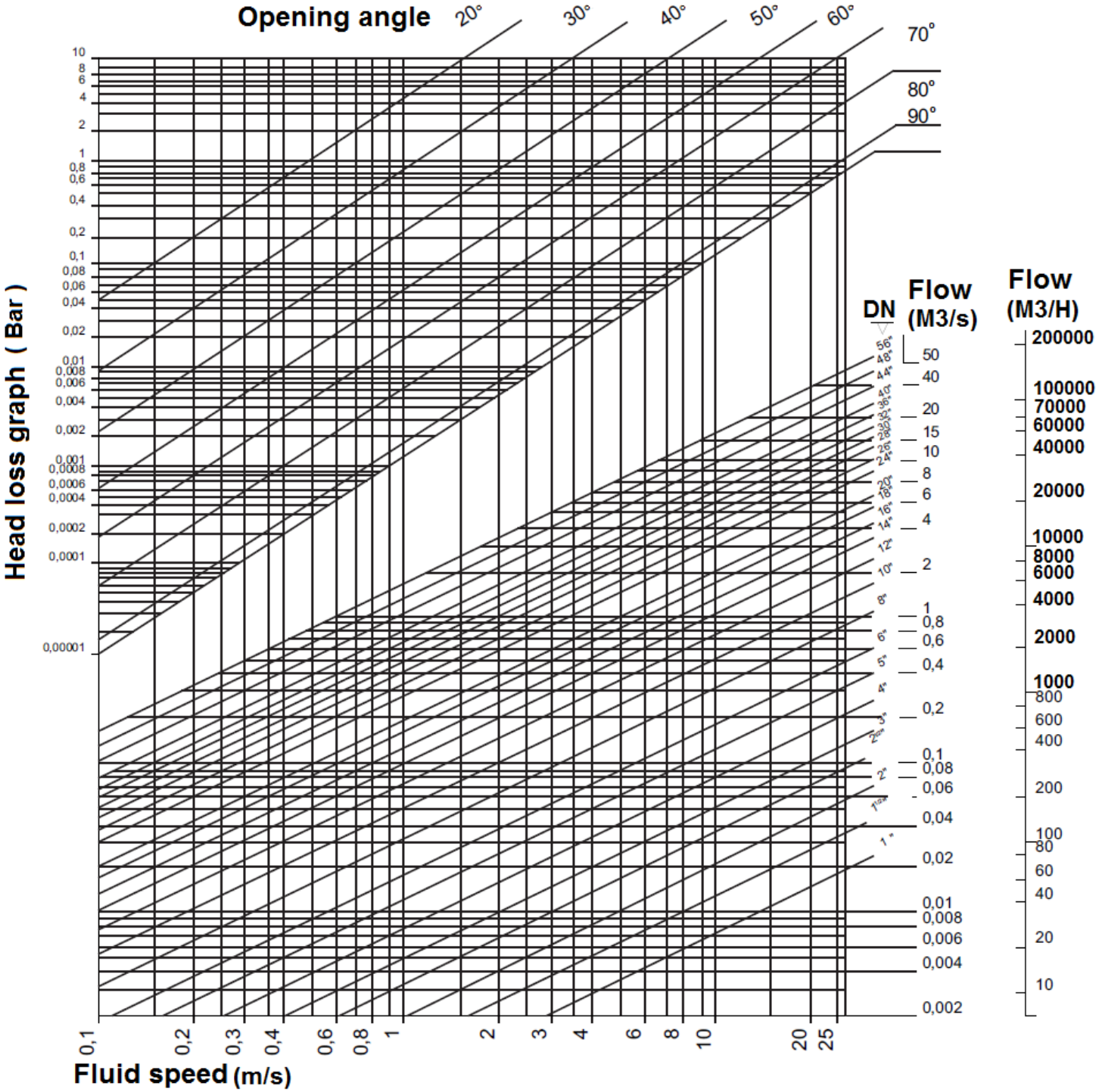
***FLOW COEFFICIENT Kvs ( m3 / h ) :***

| DN | 32/40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kvs ( m3/h ) | 70 | 109 | 200 | 334 | 551 | 901 | 1427 | 2383 | 3825 | 5659 | 8177 | 10659 |

| DN | 450 | 500 | 600 | 700 | 800 | 900 | 1000 | 1200 | 1300 | 1400 |
|---|---|---|---|---|---|---|---|---|---|---|
| Kvs ( m3/h ) | 12562 | 16021 | 22737 | 32443 | 43263 | 53873 | 64407 | 97341 | 119770 | 129808 |

# WAFER BUTTERFLY VALVE

***HEAD LOSS GRAPH :***



# WAFER BUTTERFLY VALVE

***COMPATIBILITY :***

| Types | Seat | Min/Max Temperature | Applications | Not Advisable |
|---|---|---|---|---|
| **1150** | EPDM | -10°C + 110°C | Cold and hot water | Hydrocarbon, steam, gas, acids, oil, freon |
| **1151 / 1152** | NBR | -10°C + 90°C | Non aromatic hydrocarbon, fuel, water, natural gas, grease, oil, compressed air, glycol | Gas in atmospheric condition, petrol, premium gasoline, acetone, acetic acid and solvent |
| **1153** | EPDM | -10°C + 110°C | Cold and hot water, sea water, alcohol, hydroxyd of soda, demineralized water, mercury, alcalins | Hydrocarbon, steam, gas, acids, oil, Freon |
| **1154** | FKM | -5°C + 180°C | Acids, grease, hydrocarbon, petrol, premium gasoline, Argon, glycerin, oil, carbon dioxide, biogas | Steam and hot water ( 130°C max), freon, amoniac, acetylene |
| **1156** | White NBR | -10°C + 90°C | Oil, grease | Gas in atmospheric condition, petrol, premium gasoline, acetone, acetic acid and solvent |
| **1157** | SILICONE | -30°C + 150°C | High temperature, oil, acids, air or inerted gas | Solvent, steam and hot water(100°C max) |
| **1158** | NBR | -10°C + 90°C | Sea water | Gas in atmospheric condition, petrol, premium gasoline, acetone, acetic acid and solvent |

The above information are given with sincerity and are result of a long experience.
Each case is particular and they can not engage our responsability.
We advise to proceed with real condition use trials.

***OTHER MODELS ON REQUEST :***

| BODY |
|---|
| Cast iron EN GJL-250 |
| Ductile iron EN GJS-500-7 |
| ASTM A216 WCB |
| SS 304 |
| ASTM A351 CF8M |
| Bronze aluminium |
| Aluminium |
| Bronze |
| Other alloy |
| Special |
| Coated |
| Dry cleaned |
| Special painting |

| STEM |
|---|
| SS 420 |
| SS 304 |
| SS 316 |
| Hastelloy |
| Other alloy |

| DISC |
|---|
| Cast iron EN GJL-250 |
| Ductile iron ENGJS-500-7 |
| ASTM A216 WCB |
| SS 304 |
| ASTM A351 CF8M |
| S.S. polish |
| Aluminium |
| Cupro aluminium |
| Bronze |
| Uranus B6 |
| Monel |
| Inconel |
| Hastelloy |
| Duplex |
| Halar coated |

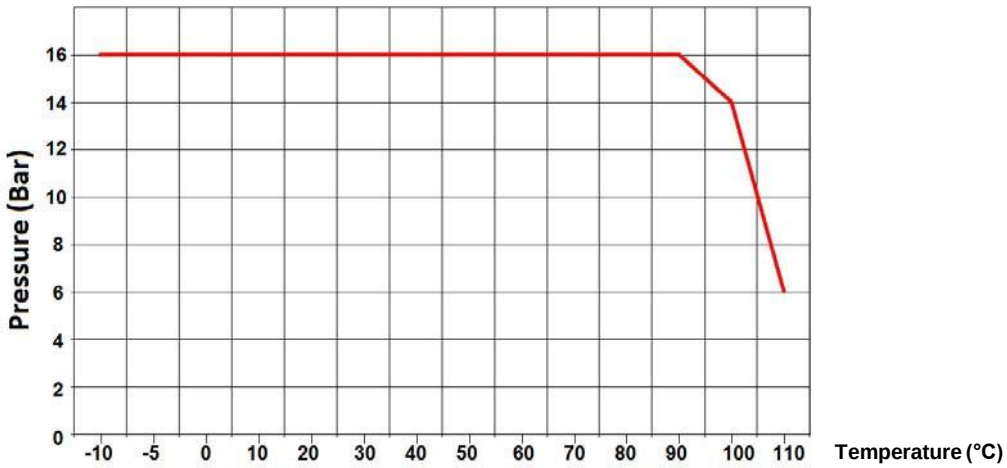
| SEAT |
|---|
| EPDM |
| EPDM HT |
| NBR |
| FKM |
| Hypalon® |
| Silicone |
| Silicone food |
| Silicone steam |
| White NBR |
| Carbox. NBR |
| Natural rubber |
| Neoprene |
| Nordel |
| Glued seat |
| Vulcanized |

| HANDLING |
|---|
| Aluminium lever |
| S.S. lever |
| Square |
| Gear box |
| S.S. gear box |
| Chain gear box |
| Electric |
| Pneumatic |
| Stem extension on request |

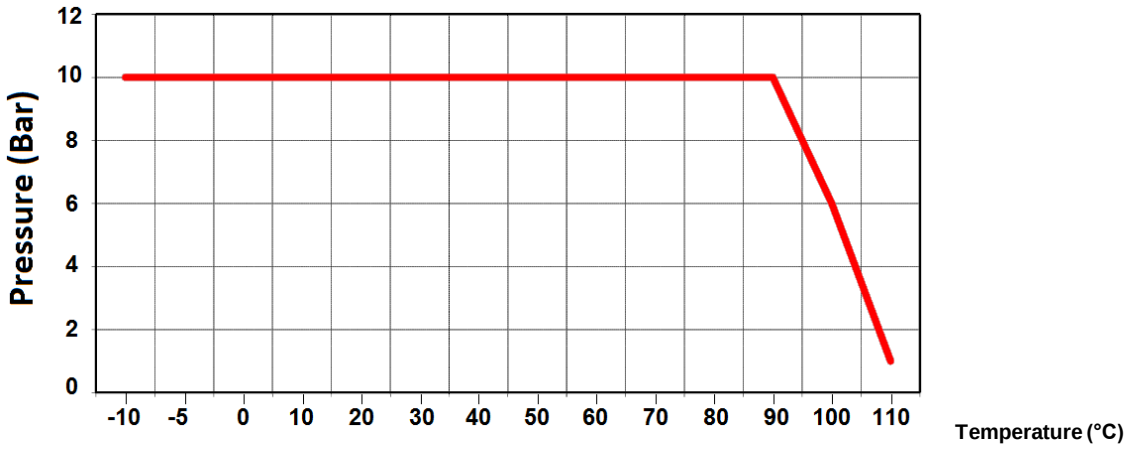
# WAFER BUTTERFLY VALVE

***PRESSURE / TEMPERATURE GRAPH (STEAM EXCLUDED) :***

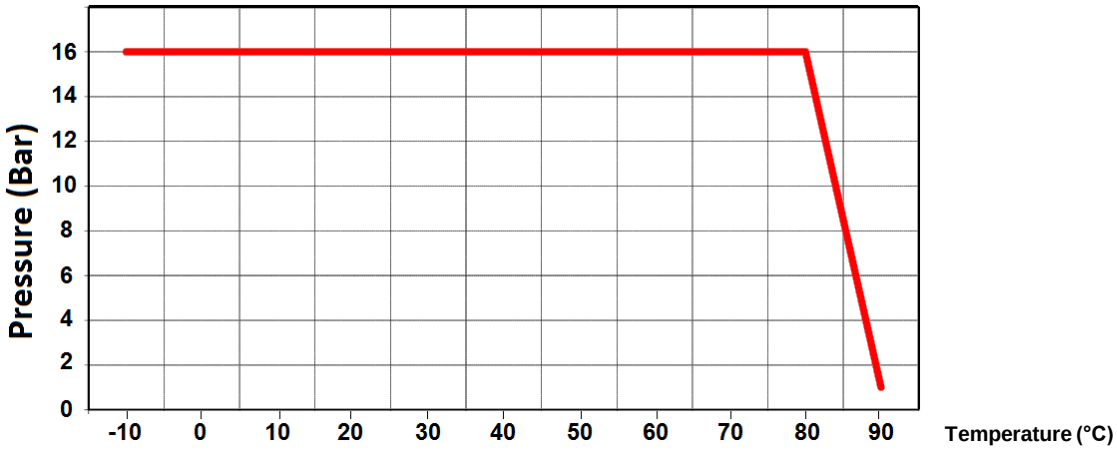
- ***EPDM seat for Ps 16 BAR DN40-300 :***




- ***EPDM seat for Ps 10 BAR DN350-1200 :***



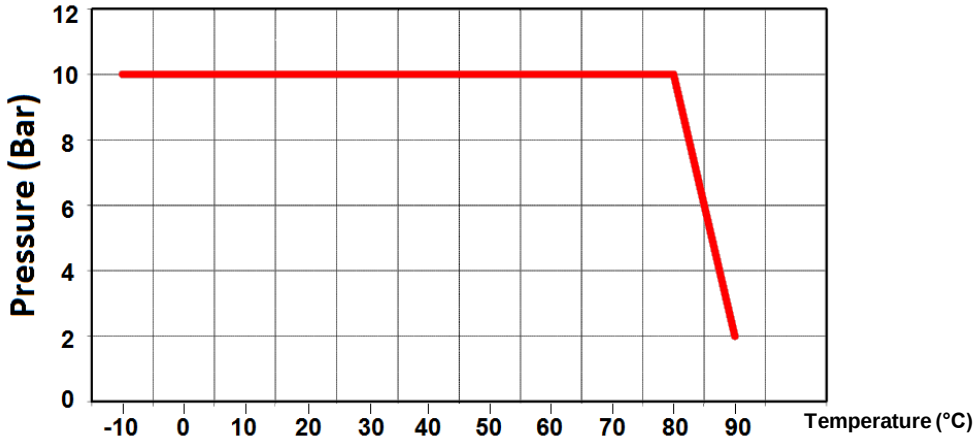

- ***NBR seat for Ps 16 BAR DN40-300 :***



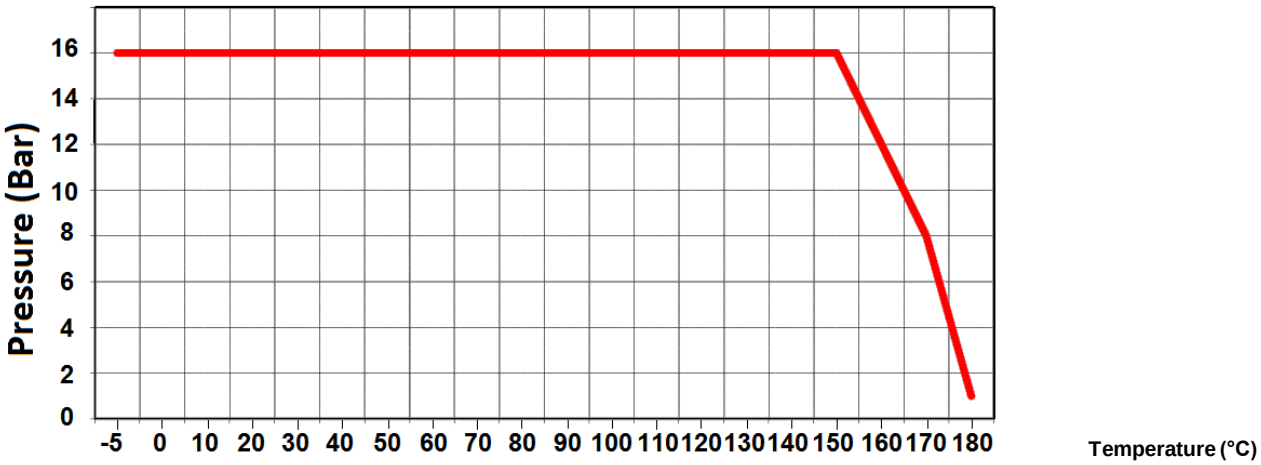
# WAFER BUTTERFLY VALVE

***PRESSURE / TEMPERATURE GRAPH (STEAM EXCLUDED) :***

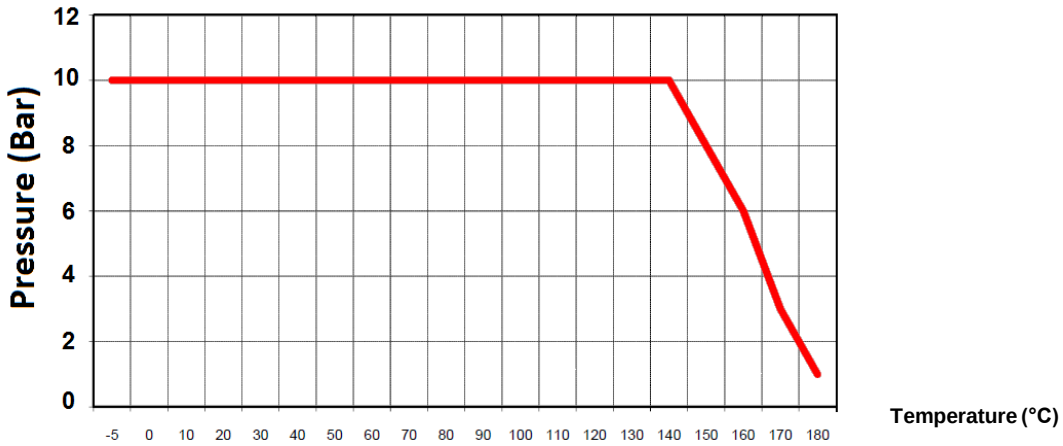
- ***NBR seat for Ps 10 BAR DN350-1200 :***




- ***FKM seat for Ps 16 BAR DN40-300 :***



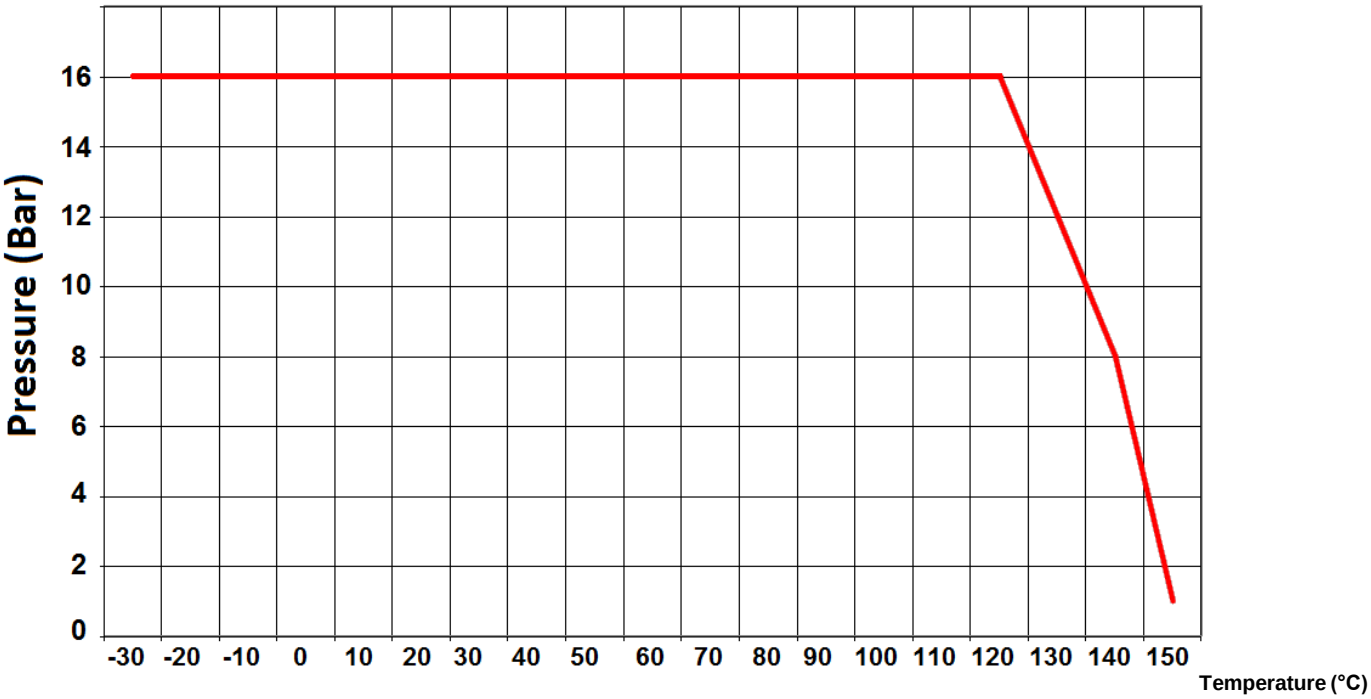

- ***FKM seat for Ps 10 BAR DN350-1200 :***



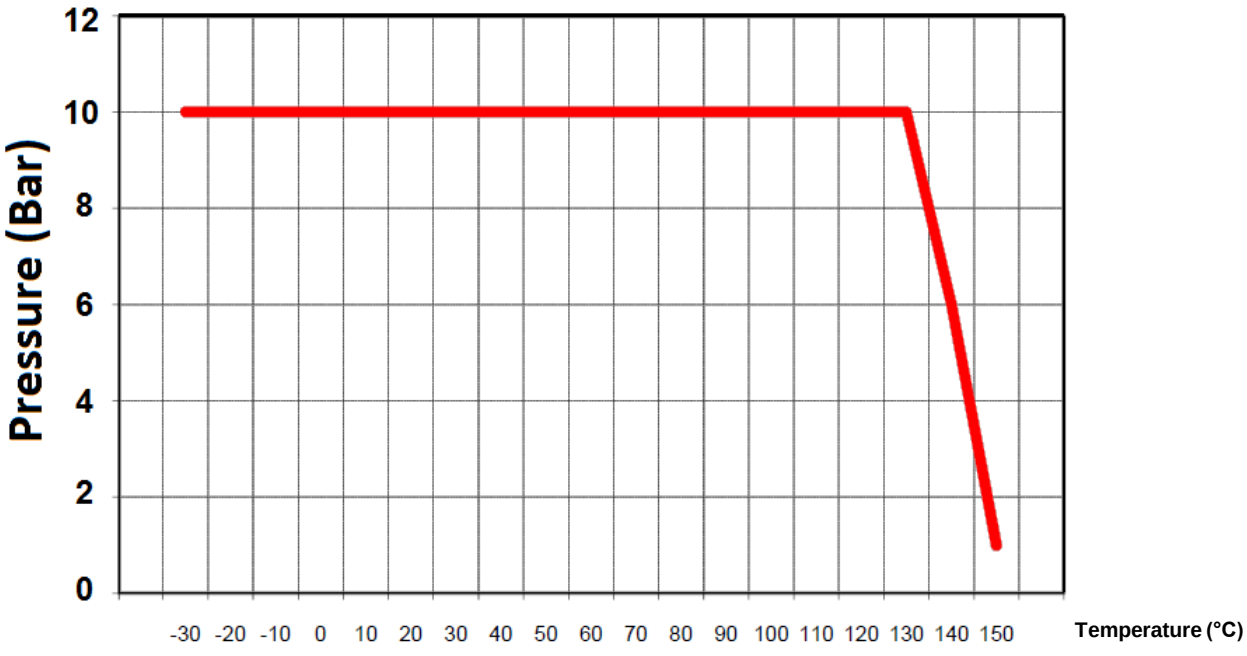
# WAFER BUTTERFLY VALVE

***PRESSURE / TEMPERATURE GRAPH (STEAM EXCLUDED) :***

- ***SILICONE seat for Ps 16 BAR DN40-300 :***

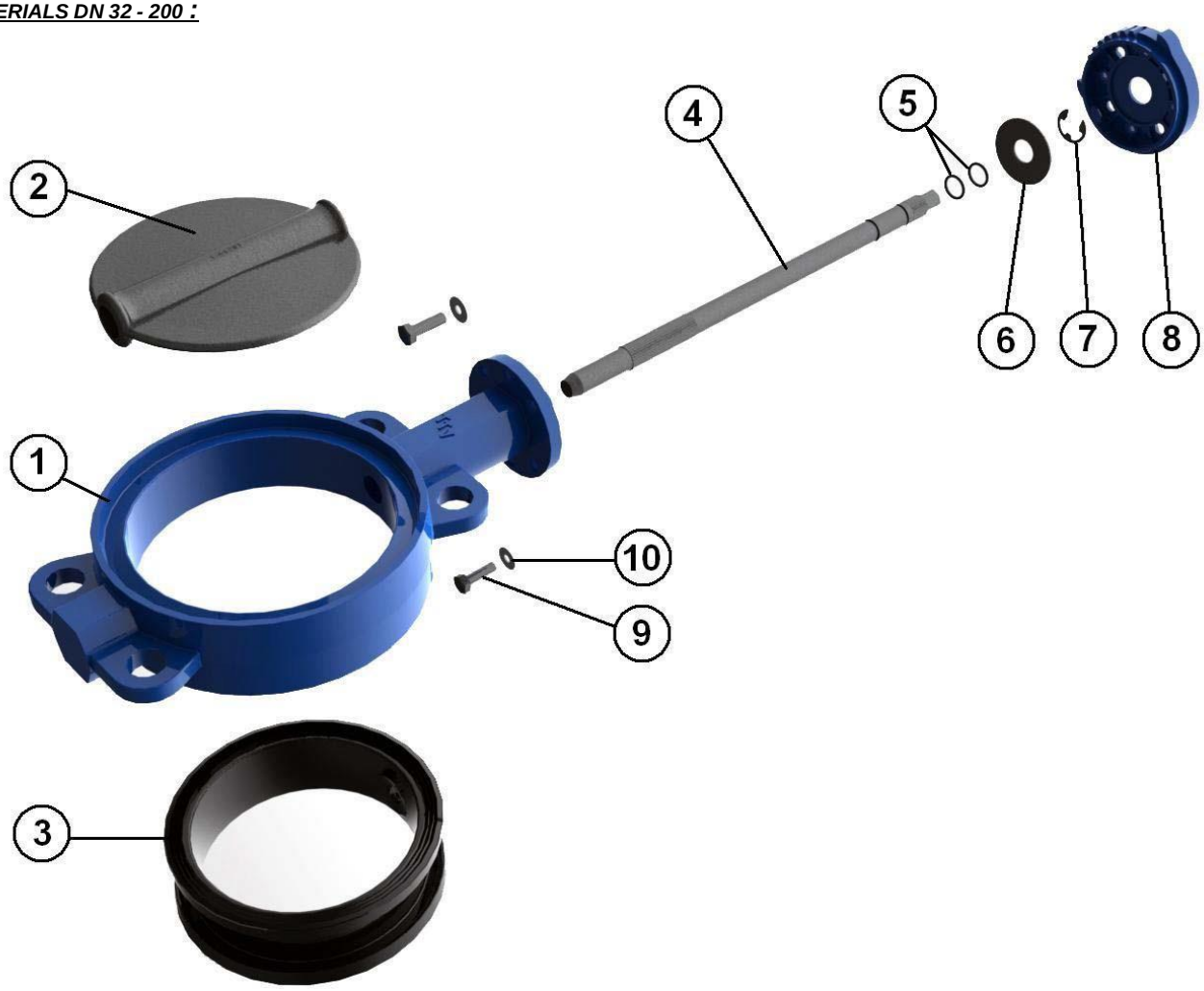



- ***SILICONE seat for Ps 10 BAR DN350-1200 :***



# WAFER BUTTERFLY VALVE

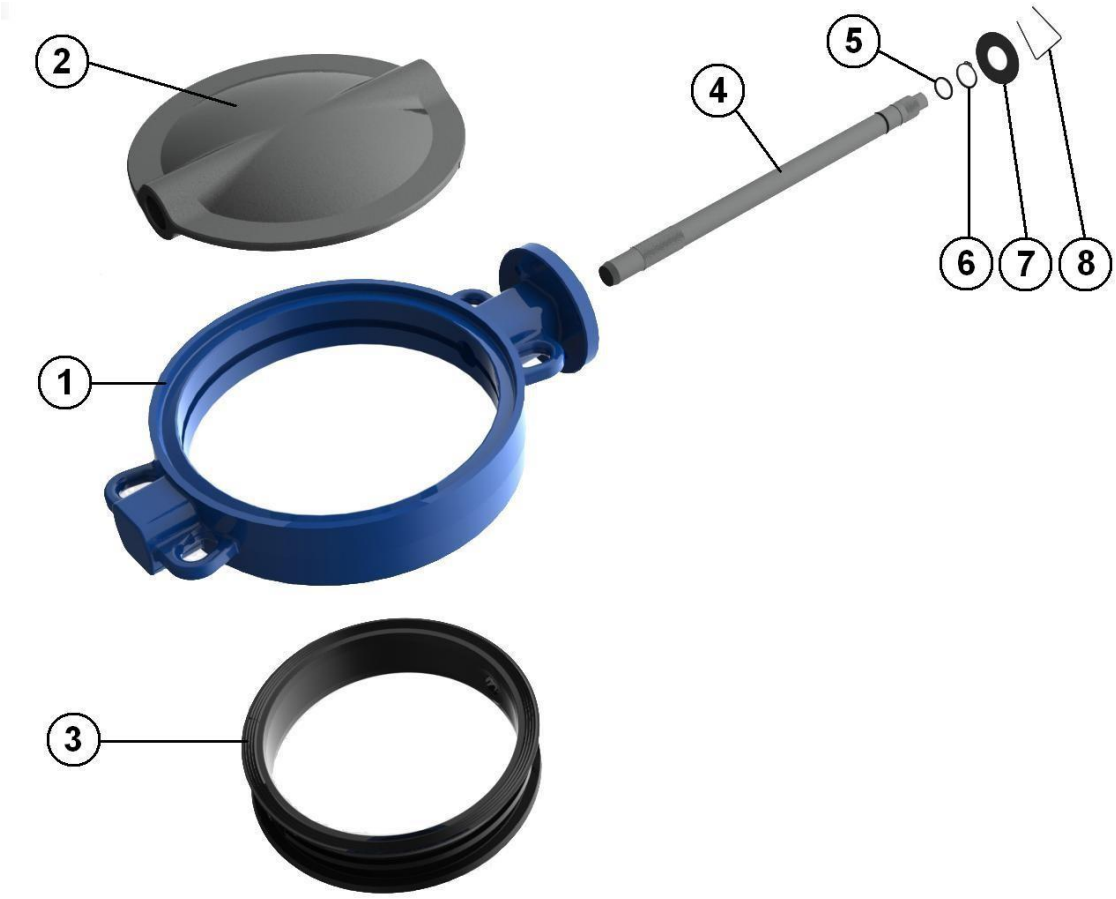
***MATERIALS DN 32 - 200 :***




| | | Materials | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Item** | **Designation** | **1150** | **1151** | **1152** | **1153** | **1154** | **1156** | **1157** | **1158** |
| 1 | Body | Ductile iron EN GJS-500-7 | | | | | | | |
| 2 | Disc DN32-100 | ASTM A351 CF8M | | | | | | | Alu bronze |
| 2 | Disc DN125-200 | ENGJS500-7 | A351 CF8M | ENGJS500-7 | ASTM A351 CF8M | | | | Alu bronze |
| 3 | Seat | EPDM | NBR | NBR | EPDM | FKM | White NBR | SILICONE | NBR |
| 4 | Stem | SS 420 | SS 304 | SS 420 | SS 304 | SS 304 | SS 304 | SS 304 | SS 304 |
| 5 | O ring | EPDM | NBR | NBR | EPDM | FKM | NBR | EPDM | NBR |
| 6 | Ring | Steel | Steel | Steel | Steel | Steel | Steel | Steel | Steel |
| 7 | Circlips | Steel | Steel | Steel | Steel | Steel | Steel | Steel | Steel |
| 8 | Plate | Aluminium | Aluminium | Aluminium | Aluminium | Aluminium | Aluminium | Aluminium | Aluminium |
| 9 | Plate screw | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 |
| 10 | Washer | Steel | Steel | Steel | Steel | Steel | Steel | Steel | Steel |
| | Lever | Aluminium | | | | | | | |

# WAFER BUTTERFLY VALVE

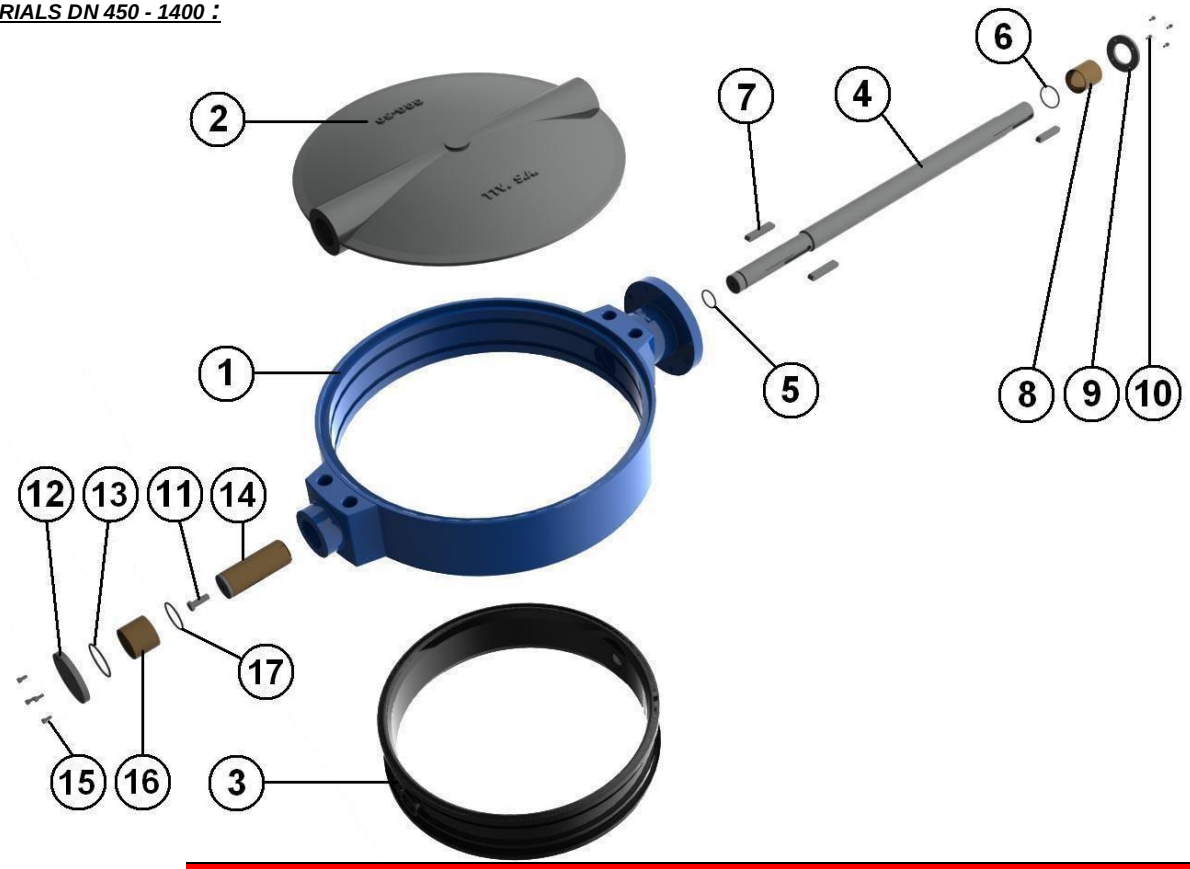
***MATERIALS DN 250 - 400 :***




| | | Materials | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Item** | **Designation** | **1150** | **1151** | **1152** | **1153** | **1154** | **1156** | **1157** | **1158** |
| 1 | Body | Ductile iron EN GJS-500-7 | | | | | | | |
| 2 | Disc | ENGJS500-7 | A351 CF8M | ENGJS500-7 | ASTM A351 CF8M | | | | Alu bronze |
| 3 | Seat | EPDM | NBR | NBR | EPDM | FKM | White NBR | SILICONE | NBR |
| 4 | Stem | SS 420 | SS 304 | SS 420 | SS 304 | SS 304 | SS 304 | SS 304 | SS 304 |
| 5 | O ring | EPDM | NBR | NBR | EPDM | FKM | NBR | EPDM | NBR |
| 6 | Circlips | Steel | Steel | Steel | Steel | Steel | Steel | Steel | Steel |
| 7 | Ring | Steel | Steel | Steel | Steel | Steel | Steel | Steel | Steel |
| 8 | Spring | Steel | Steel | Steel | Steel | Steel | Steel | Steel | Steel |
| Lever ( up to DN300 ) | | Aluminium | | | | | | | |

# WAFER BUTTERFLY VALVE

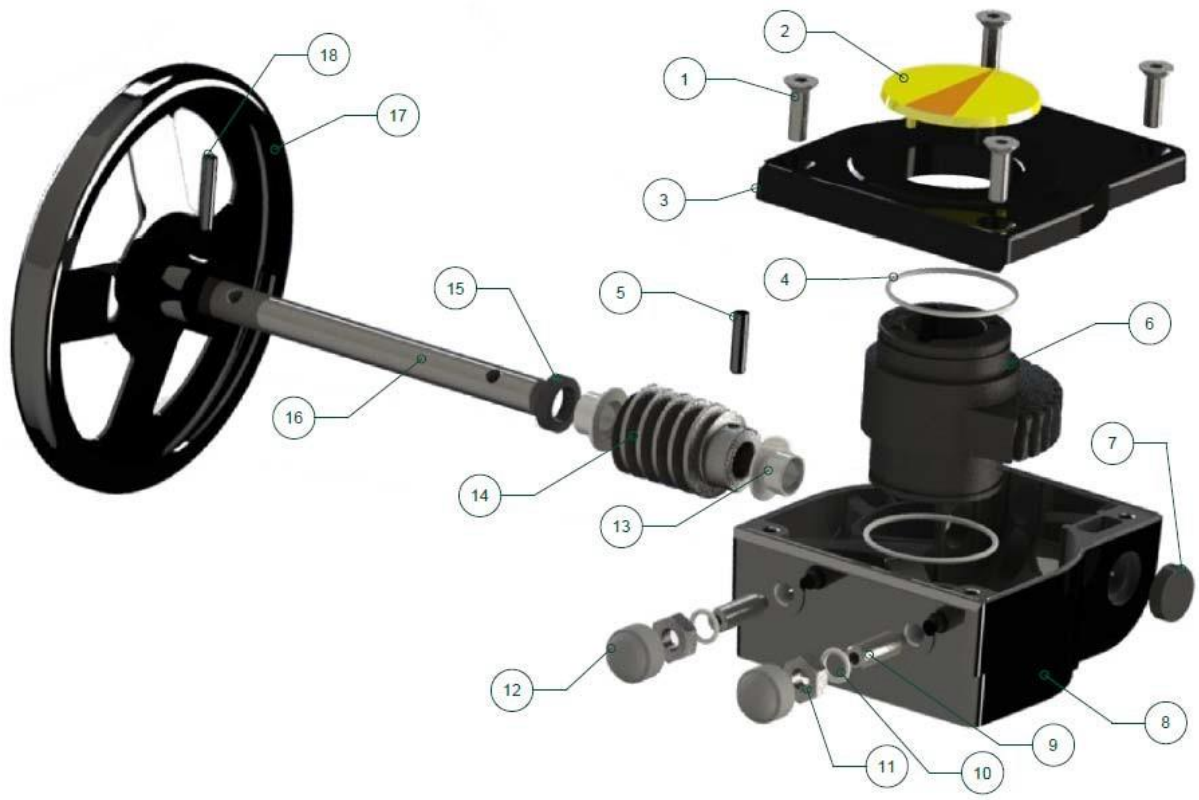
***MATERIALS DN 450 - 1400 :***




| | | Materials | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Item** | **Designation** | **1150** | **1151** | **1152** | **1153** | **1154** | **1156** | **1157** | **1158** |
| 1 | Body | Ductile iron EN GJS-500-7 | | | | | | | |
| 2 | Disc | ENGJS500-7 | A351 CF8M | ENGJS500-7 | ASTM A351 CF8M | | | | Alu bronze |
| 3 | Seat | EPDM | NBR | NBR | EPDM | FKM | White NBR | SILICONE | NBR |
| 4 | Stem | SS 420 | SS 304 | SS 420 | SS 304 | SS 304 | SS 304 | SS 304 | SS 304 |
| 5 | O ring | EPDM | NBR | NBR | EPDM | FKM | NBR | EPDM | NBR |
| 6 | O ring | EPDM | NBR | NBR | EPDM | FKM | NBR | EPDM | NBR |
| 7 | Pin | ST - 60 | ST – 60 | ST – 60 | ST – 60 | ST – 60 | ST – 60 | ST – 60 | ST - 60 |
| 8 | Socket | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE |
| 9 | Ring | F1110 | F1110 | F1110 | F1110 | F1110 | F1110 | F1110 | F1110 |
| 10 | Screw | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 |
| 11 | Screw | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 |
| 12 | Cap | F1110 | F1110 | F1110 | F1110 | F1110 | F1110 | F1110 | F1110 |
| 13 | O ring | EPDM | NBR | NBR | EPDM | FKM | NBR | EPDM | NBR |
| 14 | Socket | F1110 | F1110 | F1110 | F1110 | F1110 | F1110 | F1110 | F1110 |
| 15 | Screw | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 |
| 16 | Socket | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE | BRONZE |
| 17 | O ring | EPDM | NBR | NBR | EPDM | FKM | NBR | EPDM | NBR |

# WAFER BUTTERFLY VALVE

***GEARBOX MATERIALS REF. 1197 :***

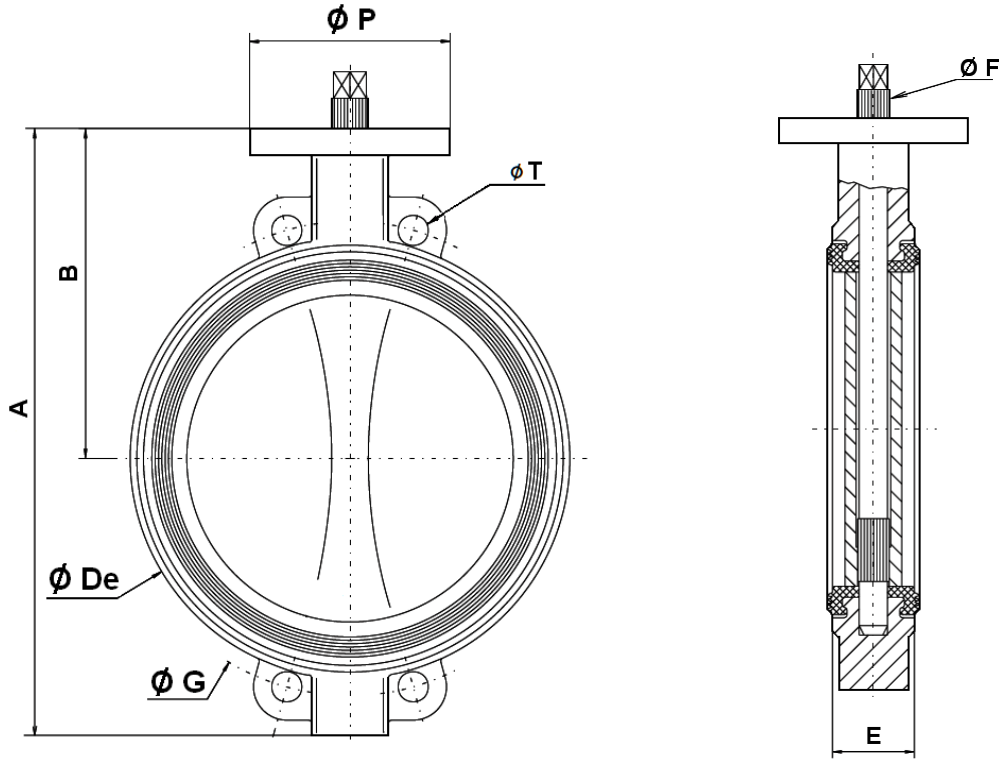



| Item | Designation | Materials Ref. 1197 |
|---|---|---|
| 1 | Screw | SS 304 |
| 2 | Pointer | Polypropylene |
| 3 | Bonnet | Aluminium |
| 4 | O ring | NBR |
| 5 | Pin | Carbon steel |
| 6 | Quadrant | Ductile iron EN GJS-400-15 |
| 7 | Gasket | NBR |
| 8 | Body | Aluminium |
| 9 | Adjusting bolt | Carbon steel |
| 10 | Washer | Galvanized steel |
| 11 | Nut | Galvanized steel |
| 12 | Cap | NBR 70 |
| 13 | Bushing | Bronze |
| 14 | Worm | Carbon steel 45 |
| 15 | Gasket | NBR |
| 16 | Stem | Carbon steel 45 |
| 17 | Handwheel | Carbon steel |
| 18 | Pin | Carbon steel |

# WAFER BUTTERFLY VALVE

***SIZE ISO PN10 ( in mm ) :***

- **Valves DN 32 - 400 :**

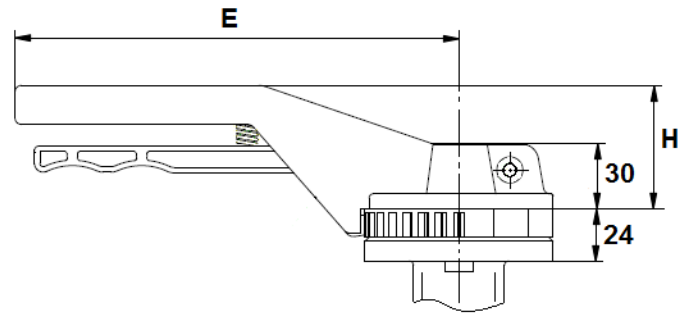



| DN | 32/40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 206 | 228 | 243 | 266 | 294 | 324 | 349 | 438 | 461 | 523 | 582 | 645 |
| B | 140 | 156 | 162 | 170 | 185 | 207 | 216 | 256 | 248 | 280 | 300 | 340 |
| Ø De | 82 | 102 | 119 | 135 | 155 | 185 | 208 | 270 | 328 | 381 | 437 | 486 |
| E | 33 | 43 | 46 | 46 | 52 | 56 | 56 | 60 | 68 | 78 | 78 | 102 |
| Ø F | 10.5 | 10.5 | 14.5 | 16.5 | 16.5 | 18.5 | 18.5 | 22.5 | 25.5 | 30.5 | 30.5 | 35.5 |
| Ø G | 110 | 125 | 145 | 160 | 180 | 210 | 240 | 295 | 350 | 400 | 460 | 515 |
| Ø P | 88 | 88 | 88 | 88 | 88 | 105 | 105 | 105 | 150 | 150 | 170 | 170 |
| Ø T | 18 | 18 | 18 | 18 | 18 | 18 | 23 | 23 | 23 | 23 | 23 | 27 |
| Weight (Kg) | 2.46 | 3.66 | 4.4 | 4.6 | 6 | 7.6 | 9.2 | 14.7 | 24.7 | 33 | 39 | 52 |

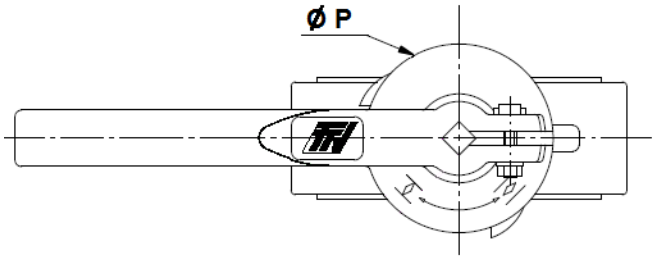
# WAFER BUTTERFLY VALVE

***LEVERS SIZE ( in mm ) :***

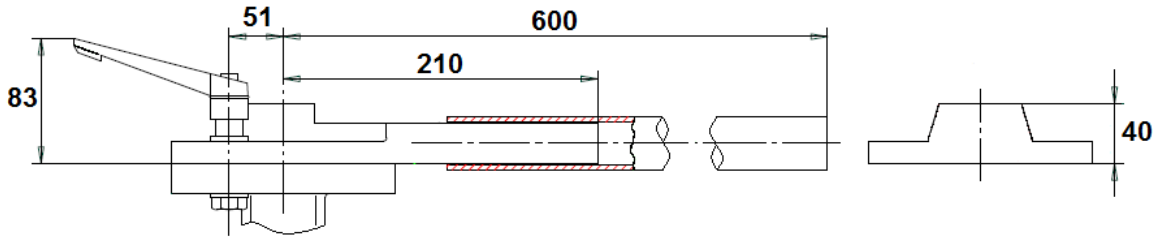
## DN 32 – 200 :

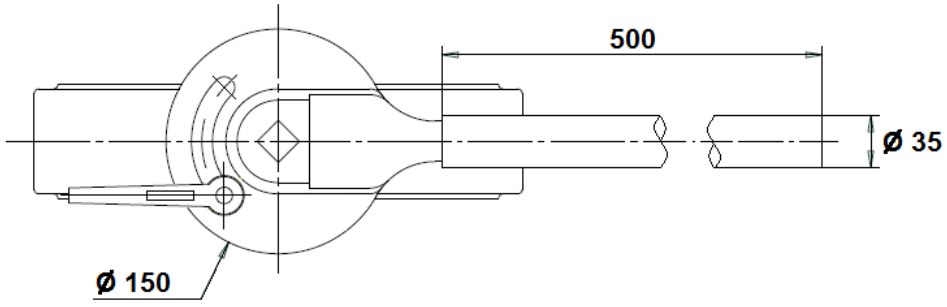



| DN | 32-100 | 125-200 |
|---|---|---|
| E | 205 | 330 |
| H | 57 | 70 |
| Ø P | 88 | 105 |




## DN 250 – 300 :

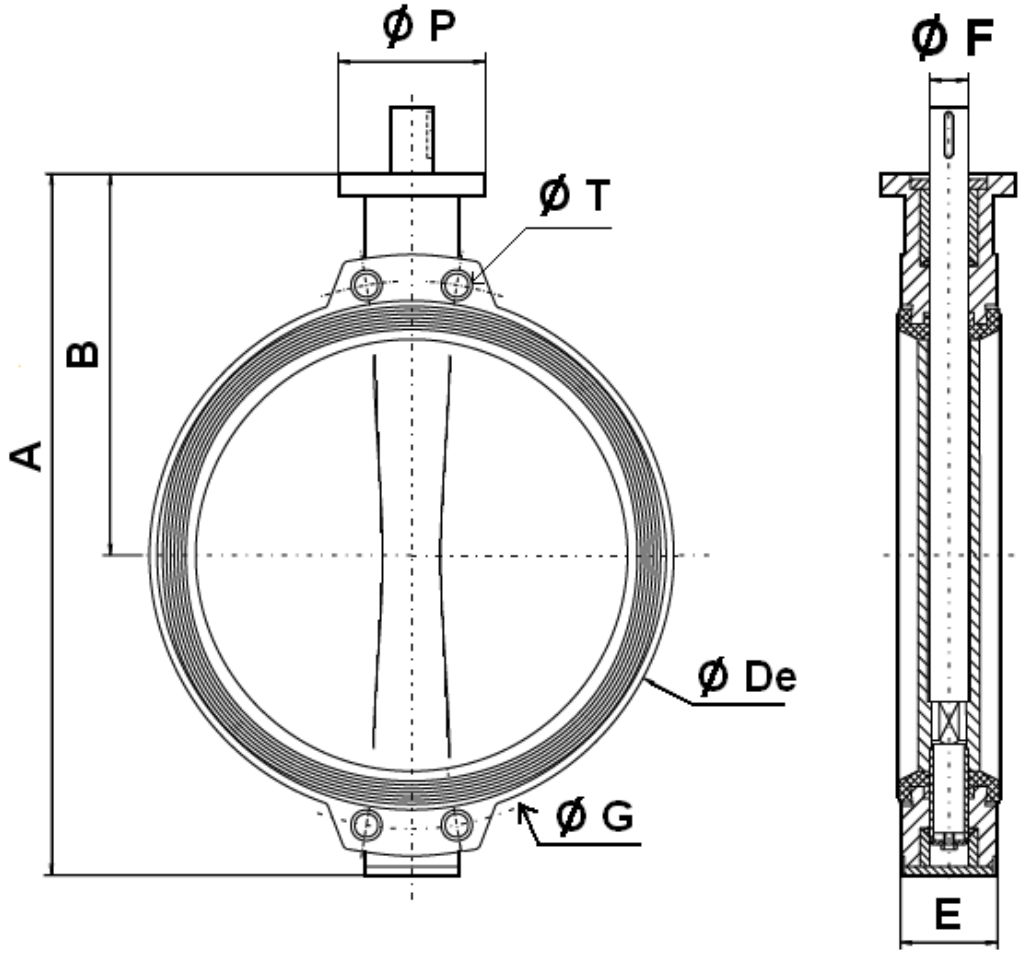


# WAFER BUTTERFLY VALVE

***SIZE ISO PN10 ( in mm ) :***

- **Valves DN 450 - 1400 :**

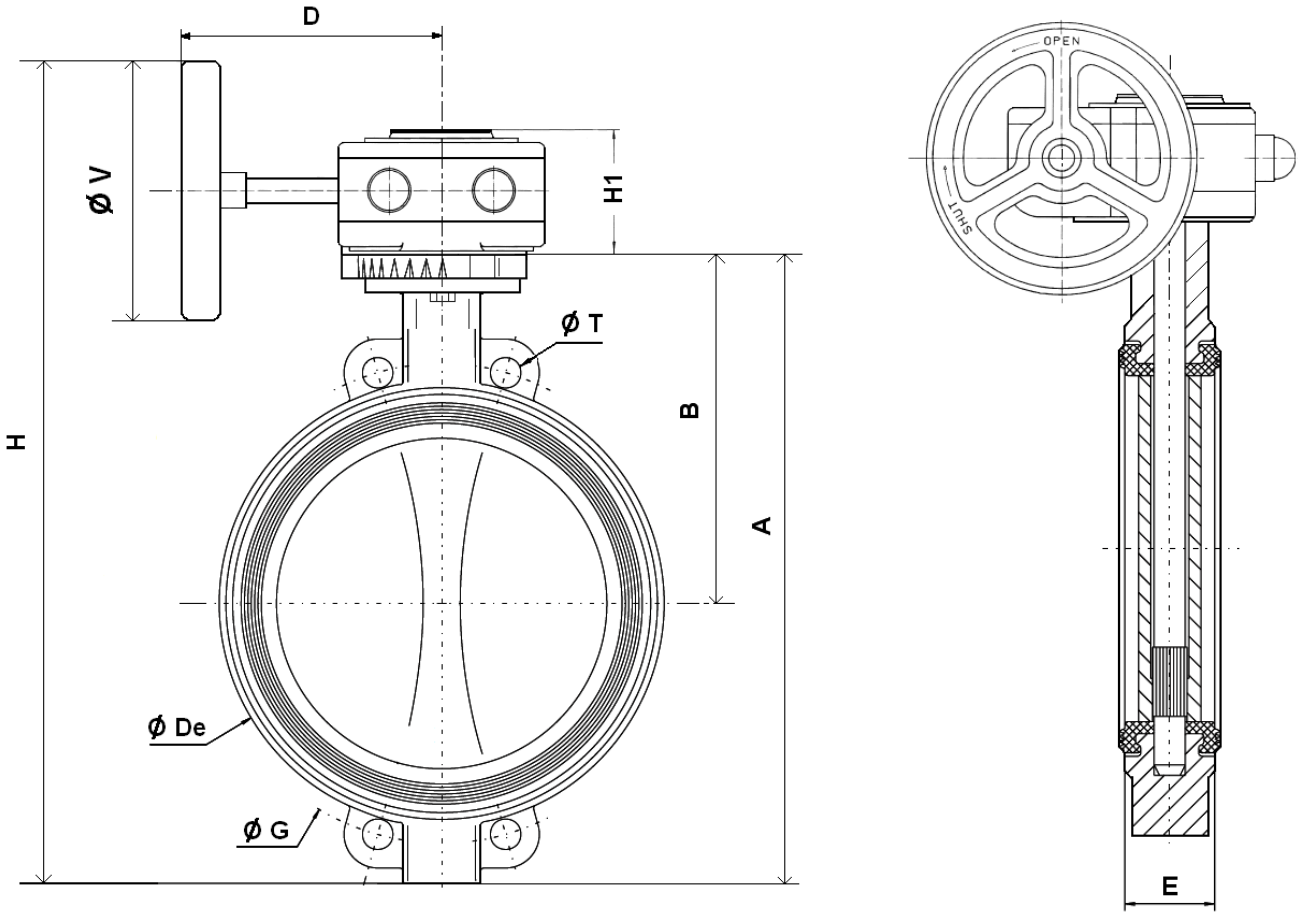



| DN | 450 | 500 | 600 | 700 | 750 | 800 | 900 | 1000 | 1100 | 1200 | 1300 | 1400 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 738 | 822 | 965 | 1100 | 1150 | 1248 | 1325 | 1457 | 1580 | 1720 | 1910 | 1990 |
| B | 394 | 440 | 507 | 575 | 600 | 655 | 685 | 754 | 815 | 873 | 1005 | 1025 |
| Ø De | 538 | 595 | 695 | 804 | 860 | 911 | 1010 | 1124 | 1225 | 1330 | 1460 | 1530 |
| E | 114 | 127 | 154 | 165 | 190 | 190 | 203 | 216 | 216 | 254 | 360 | 360 |
| Ø F | 50 | 50 | 60 | 60 | 65 | 65 | 80 | 80 | 80 | 100 | 120 | 120 |
| Ø G | 565 | 620 | 725 | 840 | 900 | 950 | 1050 | 1160 | 1270 | 1380 | - | 1590 |
| Ø P | 175 | 175 | 250 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 350 | 350 |
| Ø T | M24 | M24 | M27 | M27 | M30 | M30 | M30 | M33 | M33 | M36 | - | M39 |
| Weight (Kg) | 87 | 117 | 177 | 258 | 296 | 330 | 505 | 661 | 840 | 1020 | 1650 | 1900 |

# WAFER BUTTERFLY VALVE

***SIZE ISO PN10 ( in mm ) :***

- **Valves with gear box DN 32 - 400 :**

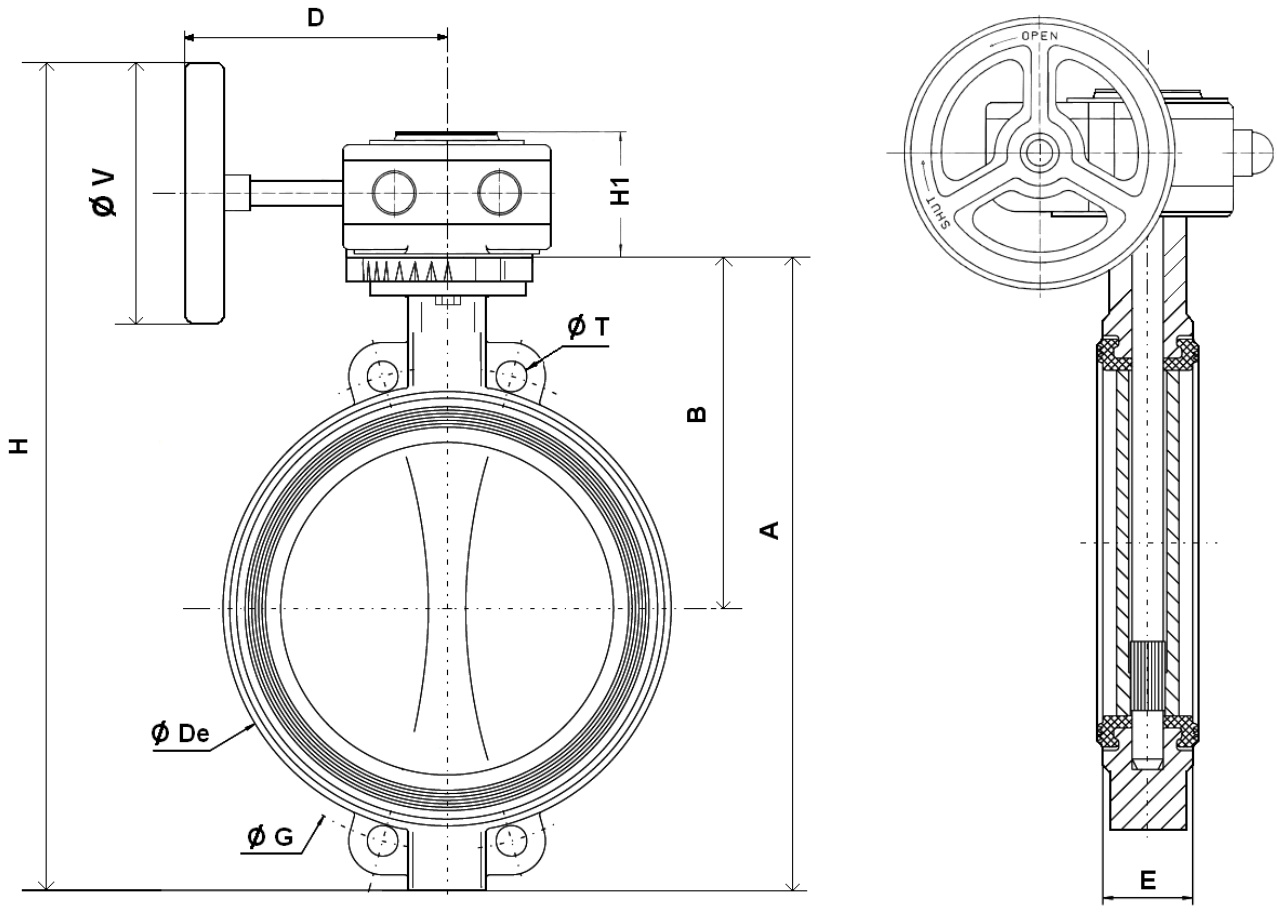



| DN | 32/40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 206 | 228 | 243 | 266 | 294 | 324 | 349 | 438 | 461 | 523 | 582 | 645 |
| B | 140 | 156 | 162 | 170 | 185 | 207 | 216 | 256 | 248 | 280 | 300 | 340 |
| Ø De | 82 | 102 | 119 | 135 | 155 | 185 | 208 | 270 | 328 | 381 | 437 | 486 |
| D | 120 | 120 | 120 | 120 | 120 | 136 | 136 | 136 | 223 | 223 | 345 | 345 |
| E | 33 | 43 | 46 | 46 | 52 | 56 | 56 | 60 | 68 | 78 | 78 | 102 |
| H | 304 | 326 | 341 | 364 | 392 | 452 | 477 | 566 | 647 | 709 | 831 | 894 |
| H1 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 74 | 74 | 98 | 98 |
| Ø G | 110 | 125 | 145 | 160 | 180 | 210 | 240 | 295 | 350 | 400 | 460 | 515 |
| Ø T | 18 | 18 | 18 | 18 | 18 | 18 | 23 | 23 | 23 | 23 | 23 | 27 |
| Ø V | 140 | 140 | 140 | 140 | 140 | 200 | 200 | 200 | 300 | 300 | 400 | 400 |
| Weight ( Kg ) | 3.81 | 5.01 | 5.75 | 5.95 | 7.35 | 9.35 | 10.95 | 16.45 | 28.7 | 37 | 48.5 | 61.5 |

# WAFER BUTTERFLY VALVE

***SIZE ISO PN10 ( in mm ) :***

- **Valves with gear box DN 450 - 1400 :**

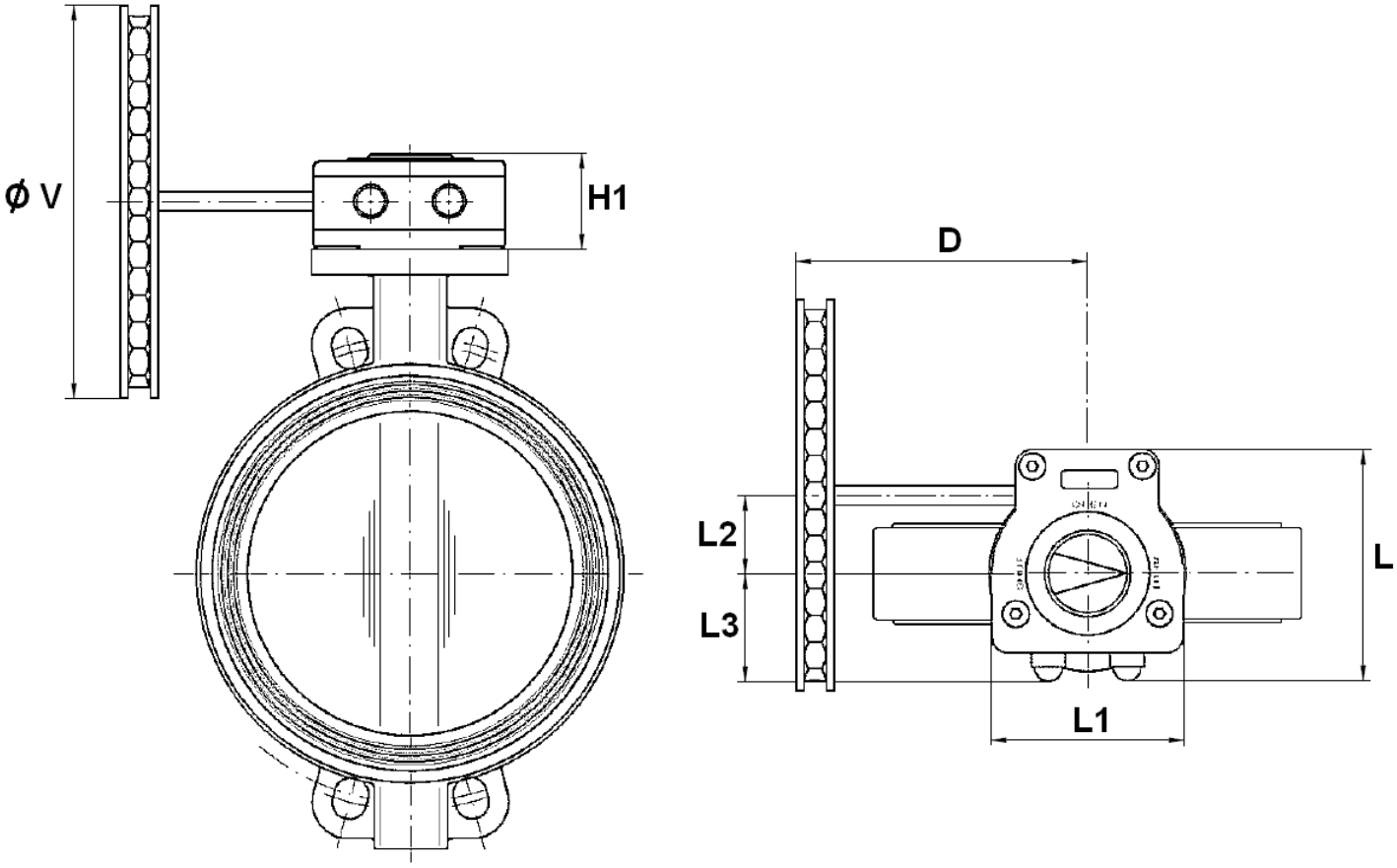



| DN | 450 | 500 | 600 | 700 | 750 | 800 | 900 | 1000 | 1100 | 1200 | 1300 | 1400 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | 738 | 822 | 965 | 1100 | 1150 | 1248 | 1325 | 1457 | 1580 | 1720 | 1910 | 1990 |
| B | 394 | 440 | 507 | 575 | 600 | 655 | 685 | 754 | 815 | 873 | 1005 | 1025 |
| Ø De | 538 | 595 | 695 | 804 | 860 | 911 | 1010 | 1124 | 1225 | 1330 | 1460 | 1530 |
| D | 364 | 386 | 421 | 440 | 440 | 438 | 492 | 492 | 492 | 550 | 605 | 605 |
| E | 114 | 127 | 154 | 165 | 190 | 190 | 203 | 216 | 216 | 254 | 360 | 360 |
| H | 1083 | 1171 | 1376 | 1409 | 1459 | 1657 | 1688 | 1820 | 1943 | 2178 | 2260 | 2429 |
| H1 | 90 | 98 | 122 | 117 | 117 | 117 | 125 | 125 | 125 | 115 | 178 | 178 |
| Ø G | 565 | 620 | 725 | 840 | 900 | 950 | 1050 | 1160 | 1270 | 1380 | - | 1590 |
| Ø T | M24 | M24 | M27 | M27 | M30 | M30 | M30 | M33 | M33 | M36 | - | M39 |
| Ø V | 600 | 600 | 700 | 500 | 500 | 700 | 600 | 600 | 600 | 800 | 700 | 700 |
| Weight ( Kg ) | 105.8 | 143.8 | 215.3 | 307 | 345 | 381.3 | 579.8 | 735.8 | 914.8 | 1106.5 | 1882 | 2132 |

# WAFER BUTTERFLY VALVE

***SIZE ISO PN10 ( in mm ) :***

- **Valves with chain gear box :**




| DN | 32/40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | 120 | 120 | 120 | 120 | 120 | 126 | 126 | 126 | 214 | 214 | 331 | 331 | 350 | 365 |
| H1 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 74 | 74 | 98 | 98 | 90 | 98 |
| L | 128 | 128 | 128 | 128 | 128 | 128 | 128 | 128 | 175 | 175 | 224 | 224 | 232 | 267 |
| L1 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 142 | 142 | 185 | 185 | 204 | 227 |
| L2 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 61 | 61 | 80 | 80 | 86 | 104.5 |
| L3 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 80 | 80 | 98 | 98 | 100 | 110 |
| Ø V | 160 | 160 | 160 | 160 | 160 | 210 | 210 | 210 | 300 | 300 | 400 | 400 | 500 | 500 |
| Weight (Kg) | 4.81 | 6.01 | 6.75 | 6.95 | 8.35 | 10.35 | 11.95 | 17.45 | 31.5 | 39.8 | 53.3 | 66.3 | 113.2 | 150.7 |

# WAFER BUTTERFLY VALVE

***GEARBOX SPECIFICATIONS :***

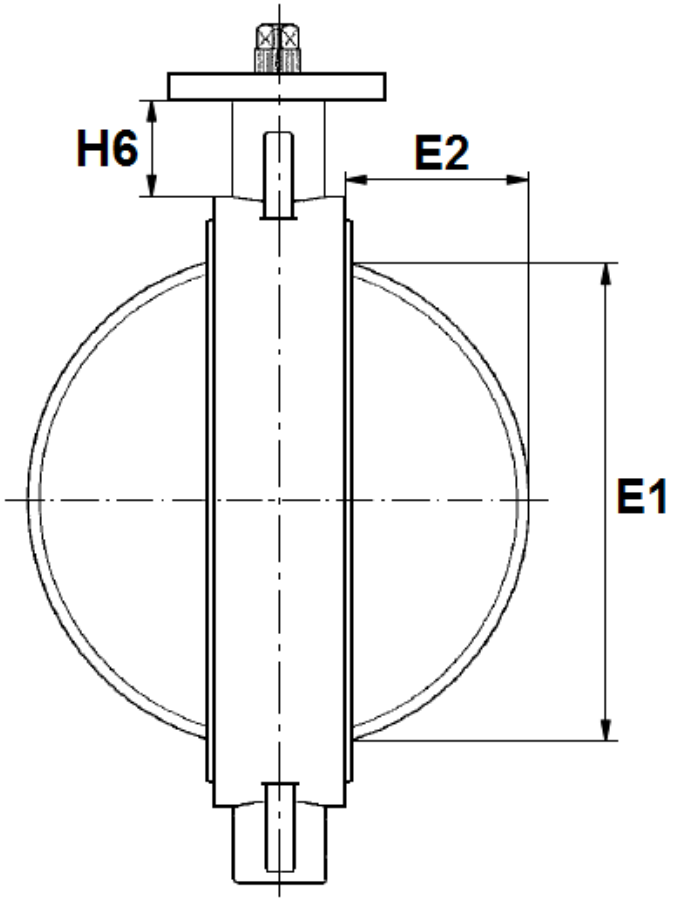
| DN | 32/50 | 65 | 80/100 | 125/150 | 200 | 250 | 300 | 350 |
|---|---|---|---|---|---|---|---|---|
| Ref. | 1197050 | 1197065 | 1197100 | 1197150 | 1197200 | 1197250 | 1197300 | 1197350 |
| Ratio factor | 37 : 1 | 37 : 1 | 37 : 1 | 37 : 1 | 37 : 1 | 36 : 1 | 36 : 1 | 50 : 1 |
| Turns number for closing / opening | 9.25 | 9.25 | 9.25 | 9.25 | 9.25 | 9 | 9 | 12.5 |
| Input torque (Nm) | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 23 | 23 | 50 |
| Output torque (Nm) | 300 | 300 | 300 | 300 | 300 | 675 | 675 | 1310 |

| DN | 400 | 450 | 500 | 600 | 700 | 800 | 900 | 1000 |
|---|---|---|---|---|---|---|---|---|
| Ref. | 1197400 | 1197451 | 1197501 | 1197601 | 1197700 | 1197800 | - | - |
| Ratio factor | 50 : 1 | 38 : 1 | 55 : 1 | 52 : 1 | 208 : 1 | 208 : 1 | 312 : 1 | 312 : 1 |
| Turns number for closing / opening | 12.5 | 9.5 | 13.75 | 13 | 52 | 52 | 78 | 78 |
| Input torque (Nm) | 50 | 86 | 96 | 160 | 65 | 65 | 80 | 80 |
| Output torque (Nm) | 1310 | 1620 | 2640 | 4160 | 6800 | 6800 | 12500 | 12500 |

| DN | 1200 | 1300 | 1400 |
|---|---|---|---|
| Ratio factor | 702 : 1 | 720 : 1 | 720 : 1 |
| Turns number for closing / opening | 175.5 | 180 | 180 |
| Input torque (Nm) | 50 | 91 | 91 |
| Output torque (Nm) | 17000 | 32000 | 32000 |

# WAFER BUTTERFLY VALVE

***NECK AND DISC SIZE ( in mm ) :***



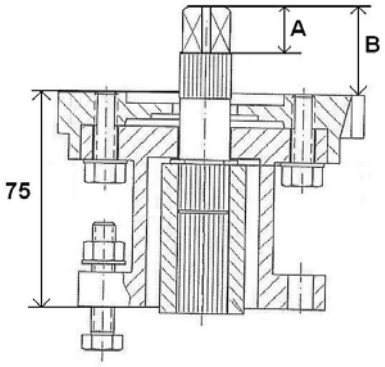

| DN | 32/40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| E1 | 23 | 24.5 | 46 | 65 | 85 | 109 | 136 | 188 | 238 | 289 | 331 | 385 | 424 | 479 | 575 |
| E2 | 3.5 | 3.5 | 9.5 | 17 | 24 | 33.5 | 45.5 | 69 | 90 | 110.5 | 131 | 148 | 162.5 | 184 | 221 |
| H6 | 76 | 82 | 80 | 80 | 88 | 93 | 89 | 99 | 71 | 76 | 69 | 80 | 96 | 119 | 127 |

| DN | 700 | 750 | 800 | 900 | 1000 | 1100 | 1200 | 1300 | 1400 |
|---|---|---|---|---|---|---|---|---|---|
| E1 | 680 | 721 | 777 | 850 | 957 | 1052 | 1146 | 1261 | 1368 |
| E2 | 267.5 | 278 | 305 | 335.5 | 382.5 | 429 | 460 | 475.5 | 527.5 |
| H6 | 148 | 140 | 170 | 150 | 162 | 175 | 176 | 240 | 228 |

# WAFER BUTTERFLY VALVE

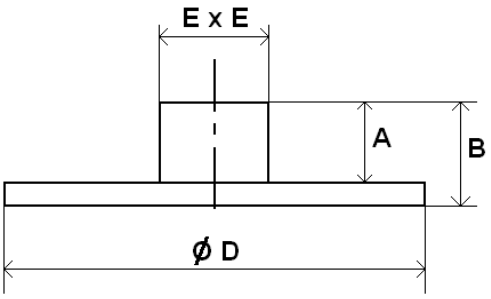
***SIZE ( in mm ) :***

- **Stem extension for isolation ( 75 mm ) :**




| DN | 32-50 | 65 | 80-100 | 125-150 | 200 |
|---|---|---|---|---|---|
| A | 19 | 19 | 19 | 17 | 17 |
| B | 34 | 34 | 34 | 34 | 34 |
| Weight (Kg) | 0.8 | 0.8 | 0.9 | 0.9 | 1 |

- **Square lever for special key ( 30x30 mm ) :**

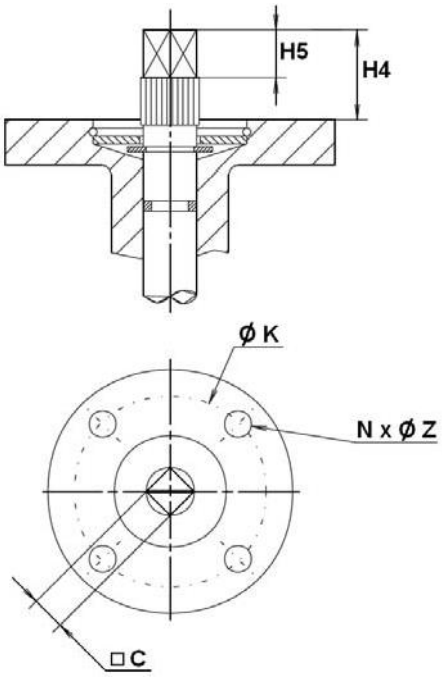



| DN | 32-50 | 65 | 80-100 | 125-150 | 200 |
|---|---|---|---|---|---|
| A | 20 | 20 | 20 | 20 | 20 |
| B | 31 | 31 | 32 | 32 | 32 |
| Ø D | 107 | 107 | 107 | 107 | 107 |
| E x E | 30 x 30 | 30 x 30 | 30 x 30 | 30 x 30 | 30 x 30 |
| Weight (Kg) | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 |

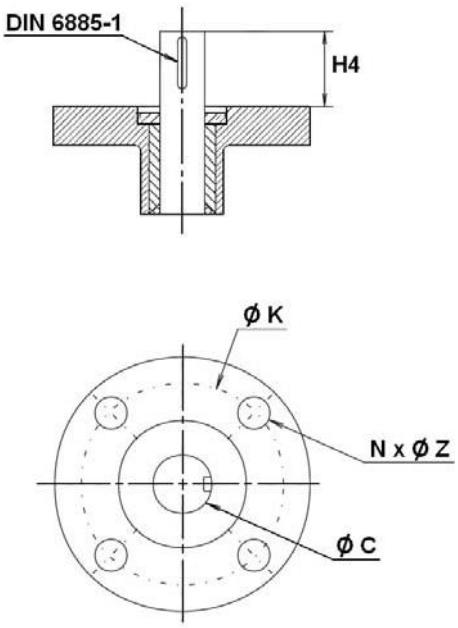
# WAFER BUTTERFLY VALVE

***ISO MOUNTING PAD AND STEM SIZE ( in mm ) :***

**DN 32 – 400**




**DN 450 - 1400**




| DN | 32/40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H4 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 40 | 40 | 40 | 40 |
| H5 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 20 | 20 | 20 | 20 |
| C | 8 | 8 | 9 | 11 | 11 | 14 | 14 | 17 | 19 | 22 | 22 | 27 |
| Ø K | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 102 | 102 | 140 | 140 |
| ISO | F07 | F07 | F07 | F07 | F07 | F07 | F07 | F07 | F10 | F10 | F14 | F14 |
| N x Ø Z | 4 x 9 | 4 x 9 | 4 x 9 | 4 x 9 | 4 x 9 | 4 x 9 | 4 x 9 | 4 x 9 | 4 x 11 | 4 x 11 | 4 x 18 | 4 x 18 |

| DN | 450 | 500 | 600 | 700 | 750 | 800 | 900 | 1000 | 1100 | 1200 | 1300 | 1400 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H4 | 80 | 80 | 90 | 90 | 110 | 110 | 110 | 110 | 110 | 110 | 120 | 120 |
| Ø C | 50 | 50 | 60 | 60 | 65 | 65 | 80 | 80 | 80 | 100 | 120 | 120 |
| Ø K | 140 | 140 | 165 | 254 | 254 | 254 | 254 | 254 | 254 | 254 | 298 | 298 |
| ISO | F14 | F14 | F16 | F25 | F25 | F25 | F25 | F25 | F25 | F25 | F30 | F30 |
| N x Ø Z | 4 x 18 | 4 x 18 | 4 x 22 | 8 x 18 | 8 x 18 | 8 x 18 | 8 x 18 | 8 x 18 | 8 x 18 | 8 x 18 | 8 x 22 | 8 x 22 |

# WAFER BUTTERFLY VALVE

***STANDARDS :***

- Fabrication according to ISO 9001:2008
- Designing according to ISO 10631
- DIRECTIVE 97/23/CE : CE N° 0038
  Risk Category III module H
- Tests according to ISO 5208, A class
- Between flanges according to EN 1092-1 PN10
- ISO 5211 mounting pad
- Length according to ISO 5752 short series 20, EN 558 series 20 ( NF 29305 ),BS 5155 Wafer short/medium, DIN 3202 part 3, series K1
- ATEX Group II Category 2 G/2D Zone 1 & 21 Zone 2 &22 ( optional marking )
- French water agreement **A.C.S. N° 13 ACC LY 404** for types :
  - **1150** from **DN32** to **100** and from **DN350** to **1400**
  - **1153** from **DN32** to **1400**
- Approval certificate Russian **GOST-R**
- Approval certificate **Marine ABS,** N° MD1935037 up to DN1400
- Approval certificate **Marine DNV,** N° P-13614
- Approval certificate **Marine BUREAU VERITAS,** N° 14087/B0 BV from DN32 to 1000
- OTAN agreement ( N° 286B )

**ADVICE :** Our opinion and our advice are not guaranteed and SFERACO shall not be liable for the consequences of damages.
The customer must check the right choice of the products with the real service conditions.

## INSTALLATION INSTRUCTIONS

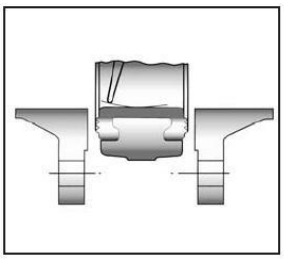
### GENERAL GUIDELINES :

- Ensure that the valves to be used are appropriate for the conditions of the installation (type of fluid,pressure and temperature).
- Be sure to have enough valves to be able to isolate the sections of piping as well as the appropriate equipment for maintenance and repair.
- Ensure that the valves to be installed are of correct strenght to be able to support the capacity of their usage.
- **Installation of all circuits should ensure that their function can be automatically tested on a regular basis (at least two times a year).**

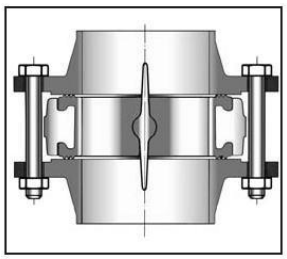
# WAFER BUTTERFLY VALVE

**INSTALLATION INSTRUCTIONS :**

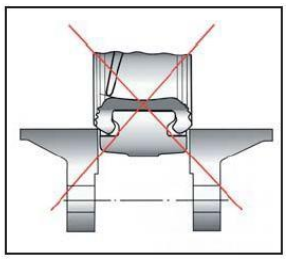
- **Before installing the valves,clean and remove any objects from the pipes** (in particular bits of sealing and metal) which could obstruct and block the valves.
- **Ensure that both connecting pipes either side of the valve (upstream and downstream) are aligned (if they're not,the valves may not work correctly).**
- **Make sure that the two sections of the pipe (upstream and downstream) match,the valve unit will not absorb any gaps.Any distortions in the pipes may affect the thightness of the connection,the working of the valve and can even cause a rupture.**To be sure,place the kit in position to ensure the assembling will work.
- **If sections of piping do not have their final support in place,they should be temporarily fixed.This is to avoid unnecessary strain on the valve.**
- The valve must be inserted between flanges with disc half opened but the disc must not overpass the valve thickness. Position the bolts to keep centered the valve. Then open fully the valve and tighten the bolts. **See graph under**.



**Half open valve introduction**



**Complete opened disc valves when screw tightening**



- Tighten the bolts in cross.
- The disc must move easily inside the pipe.
- Valves must be opened during cleaning operation.
- Tests must be done with a cleaned pipe.
- Tests must be done with opened valve. Test pressure must not be higher than the valve specification according to ISO 5208.
- Then open slowly the valve.
- **Do not mount butterfly valves with stainless steel pressed collars and turning flanges without strias.**
- **And not on flat face flanges without strias ( example : painted cast iron fittings )**

**MAINTENANCE :**

- We recommend to operate fully the valve 1 to 2 times per year.
- During maintenance operation, ensure that the pipe isn't under pressure, that there's no fluid in the pipe and that the valve is isolated. If there's a fluid in the pipe , evacuate it. Ensure that there are no risks due to the temperature or the fluid ( like acids ). If the fluid is corrosive , inert the installation before maintenance operation.