

L32

L32.5.1154 PN10/16 DN32-500 Butterfly valve wafer



**BUREAU
VERITAS**

Marine & Offshore
Division



ISO 9001



Lloyd's
Register
PED/2014/68/EU



Certificate 3.1

Size : DN 32 to 1400 mm
Ends : Between flanges PN10/16 and Class 150 (PN20)
Min Temperature : - 5°C
Max Temperature : + 180°C
Max Pressure : 16 Bars up to DN300
Specifications : Long neck for isolation
Wafer type
Full crossing stem
ISO 5211 mounting pad

Materials : Ductile iron EN GJS 500-7 body, FKM seat

*the installation defects and wear defects are not covered by the guarantee

L32

L32.5.1154 PN10/16 DN32-500 Butterfly valve wafer

SPECIFICATIONS :

- Long neck for isolation
- ISO 5211 mounting pad
- Wafer type
- Between flanges PN10/16 from DN32/40 to 400 and Class 150 (PN20) from DN40 to 400 (over on request)
- Between flanges PN10 from DN450 to DN 1400
- Full crossing stem
- Removable FKM seat
- Stainless steel disc
- 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 : Acids, grease, hydrocarbon, petrol, premium gasoline, Argon, glycerin, oil, carbon dioxide, biogas
- Not advisable : Steam and hot water (130°C max), freon, amoniac, acetylene
- Min and max Temperature Ts : From -5°C to + 180°C
- Max Pressure Ps : 16 bars up to DN300 , 10 bars over (see graphs page 4)

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, CF8M stainless steel handle and bolting Ref. 9831250-9831264

ENDS :

- Between flanges PN10/16 from DN32/40 to 400 and Class 150 (PN20) from DN40 to 400
- Between flanges 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 | 32/40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 |
|---------------|-------|----|----|----|-----|-----|-----|-----|-----|-----|
| Torque (Nm) | 8 | 10 | 14 | 18 | 31 | 59 | 93 | 206 | 330 | 425 |

| 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 Kv (m³/h) :

| DN | Opening Angle | | | | | | | | |
|-------|---------------|------|-------|-------|-------|-------|-------|-------|--------|
| | 10° | 20° | 30° | 40° | 50° | 60° | 70° | 80° | 90° |
| 32-40 | 3 | 5 | 10 | 16 | 22 | 31 | 36 | 36 | 36 |
| 50 | 3 | 7 | 15 | 33 | 44 | 48 | 54 | 54 | 54 |
| 65 | 6 | 10 | 21 | 40 | 57 | 86 | 102 | 102 | 102 |
| 80 | 7 | 16 | 37 | 56 | 84 | 182 | 246 | 246 | 246 |
| 100 | 9 | 22 | 51 | 88 | 134 | 187 | 255 | 336 | 336 |
| 125 | 21 | 33 | 91 | 153 | 232 | 331 | 468 | 560 | 560 |
| 150 | 45 | 69 | 149 | 281 | 302 | 597 | 822 | 1015 | 1072 |
| 200 | 55 | 131 | 254 | 420 | 631 | 904 | 1388 | 1758 | 1758 |
| 250 | 64 | 246 | 442 | 710 | 1056 | 1522 | 2128 | 3096 | 3096 |
| 300 | 100 | 275 | 472 | 953 | 1450 | 2093 | 2972 | 4193 | 4480 |
| 350 | 152 | 341 | 766 | 881 | 1773 | 2788 | 3978 | 6251 | 6260 |
| 400 | 182 | 542 | 1060 | 1764 | 2666 | 3836 | 5470 | 8403 | 8839 |
| 450 | 227 | 611 | 1229 | 2064 | 3133 | 4510 | 6458 | 9387 | 9387 |
| 500 | 342 | 837 | 1635 | 2795 | 4100 | 5896 | 8398 | 11830 | 13079 |
| 600 | 432 | 1143 | 2286 | 3833 | 6187 | 8369 | 11916 | 17917 | 17917 |
| 700 | 573 | 1569 | 3178 | 5359 | 8153 | 11770 | 16830 | 26139 | 26667 |
| 750 | 619 | 1947 | 3585 | 6361 | 9239 | 13359 | 19142 | 28298 | 31312 |
| 800 | 723 | 2167 | 4148 | 7008 | 10674 | 15426 | 22085 | 36080 | 35850 |
| 900 | 758 | 2434 | 4916 | 8280 | 12582 | 18142 | 25757 | 39127 | 39127 |
| 1000 | 1297 | 3282 | 6429 | 10701 | 16159 | 23266 | 33166 | 51427 | 51427 |
| 1100 | 1622 | 3682 | 7459 | 12441 | 19495 | 29186 | 36539 | 64101 | 68797 |
| 1200 | 1792 | 4612 | 9151 | 15308 | 23204 | 33449 | 41355 | 69264 | 76584 |
| 1300 | 2378 | 5293 | 10736 | 17255 | 28441 | 41241 | 53171 | 71746 | 84294 |
| 1400 | 2608 | 6343 | 12117 | 21341 | 31568 | 45727 | 65609 | 75811 | 117171 |
| 1600 | 3215 | 6869 | 14229 | 25493 | 35968 | 56628 | 77558 | 86501 | 137335 |

HEAD LOSS CALCULATIONS :

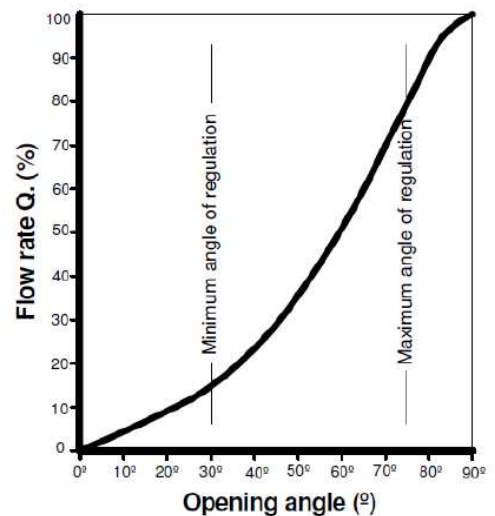
$$\Delta p = (Q / Kv)^2 \times SG$$

Q : flow in m³/h

Δp : Head loss in bar

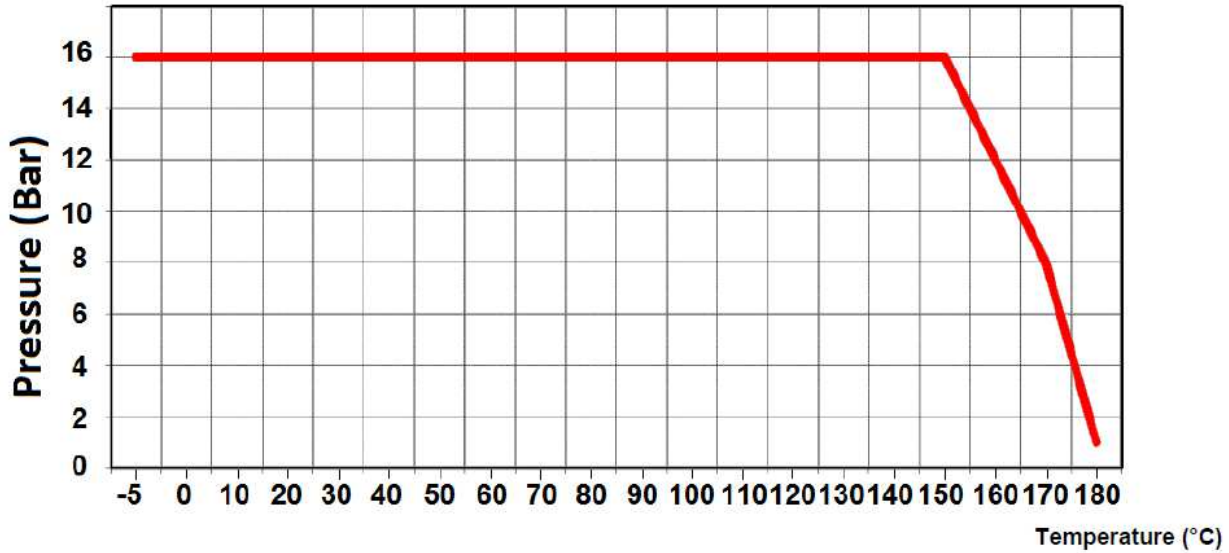
SG : Specific gravity (= 1 for water)

Kv : Volume of water in m³/h, that will flow through a given restriction or valve opening with a pressure drop of 1 bar at 20°C)

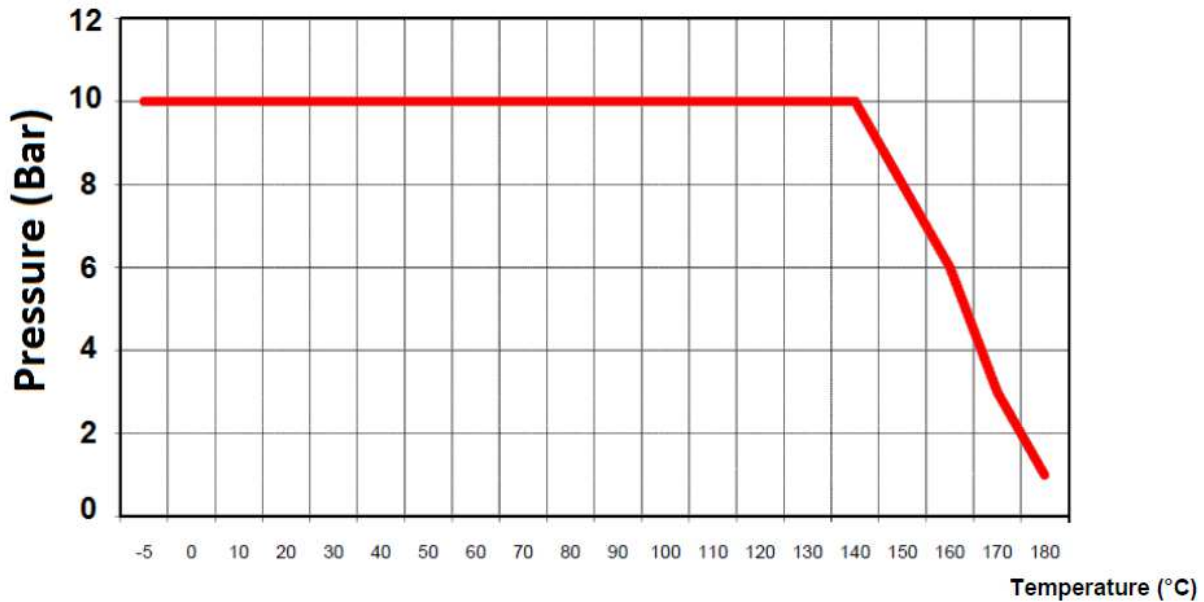


PRESSURE / TEMPERATURE GRAPH (STEAM EXCLUDED) :

- *Ps 16 BAR DN40-300 :*



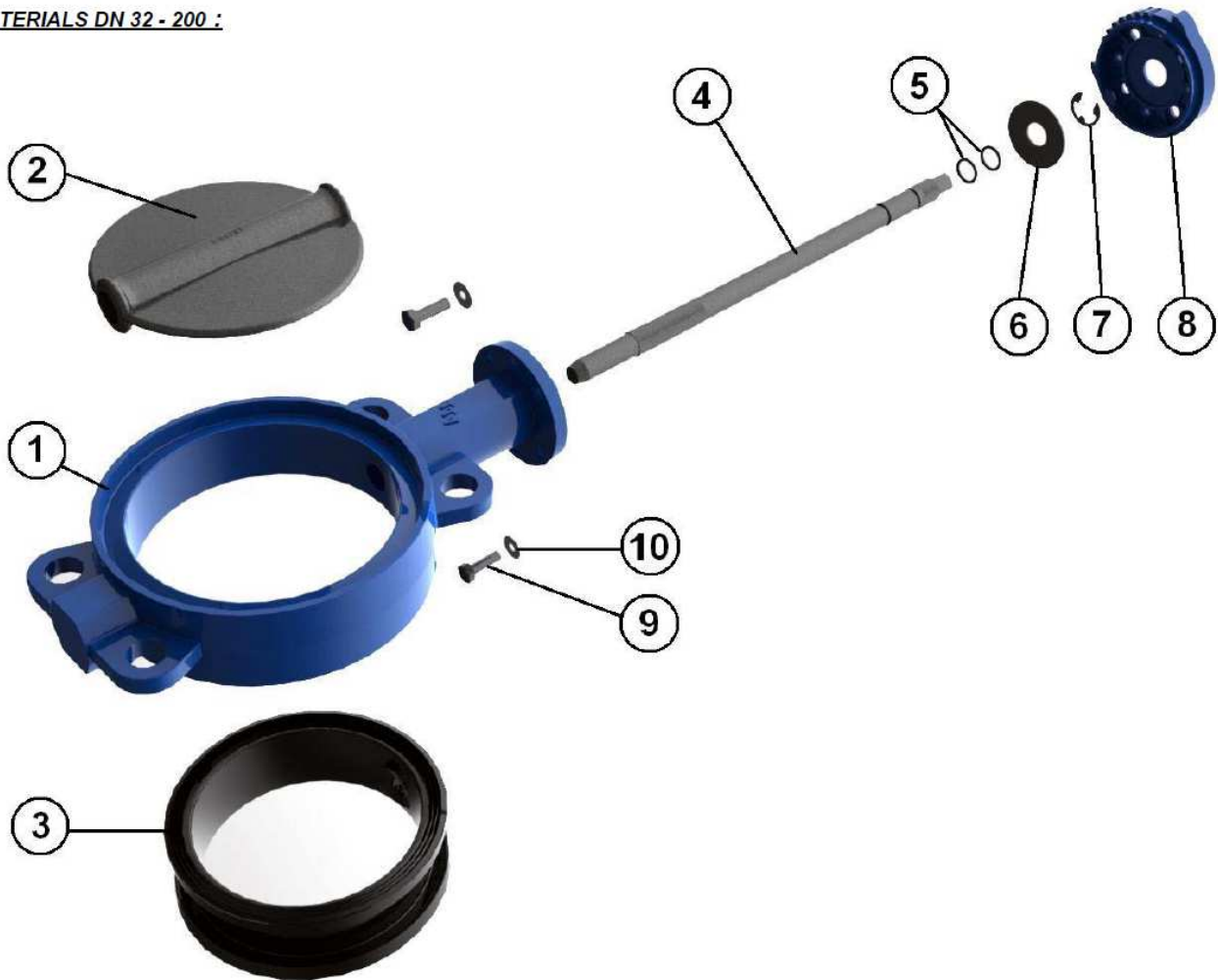
- *Ps 10 BAR DN350-1200 :*



L32

L32.5.1154 PN10/16 DN32-500 Butterfly valve wafer

MATERIALS DN 32 - 200 :

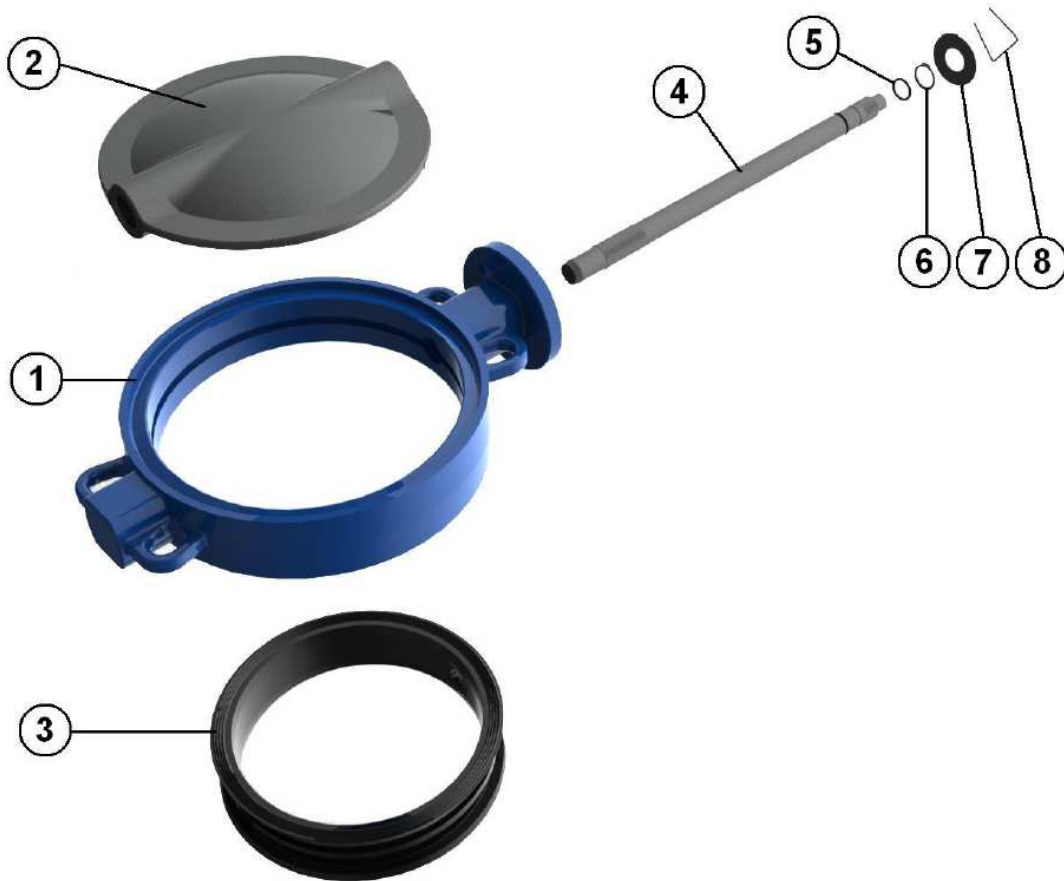


| Item | Designation | Materials |
|------|-------------|--|
| 1 | Body | Ductile iron EN GJS-500-7 rilsan coated color RAL 5024 250-300 μ thickness |
| 2 | Disc | ASTM A351 CF8M |
| 3 | Seat | FKM |
| 4 | Stem | AISI 304 |
| 5 | O ring | FKM |
| 6 | Ring | Steel |
| 7 | Circlips | Steel |
| 8 | Plate | Aluminium |
| 9 | Plate screw | 5.6 |
| 10 | Washer | Steel |
| | Lever | Aluminium ADC10 with epoxy painting 50 μ thickness |

L32

L32.5.1154 PN10/16 DN32-500 Butterfly valve wafer

MATERIALS DN 250 - 400 :

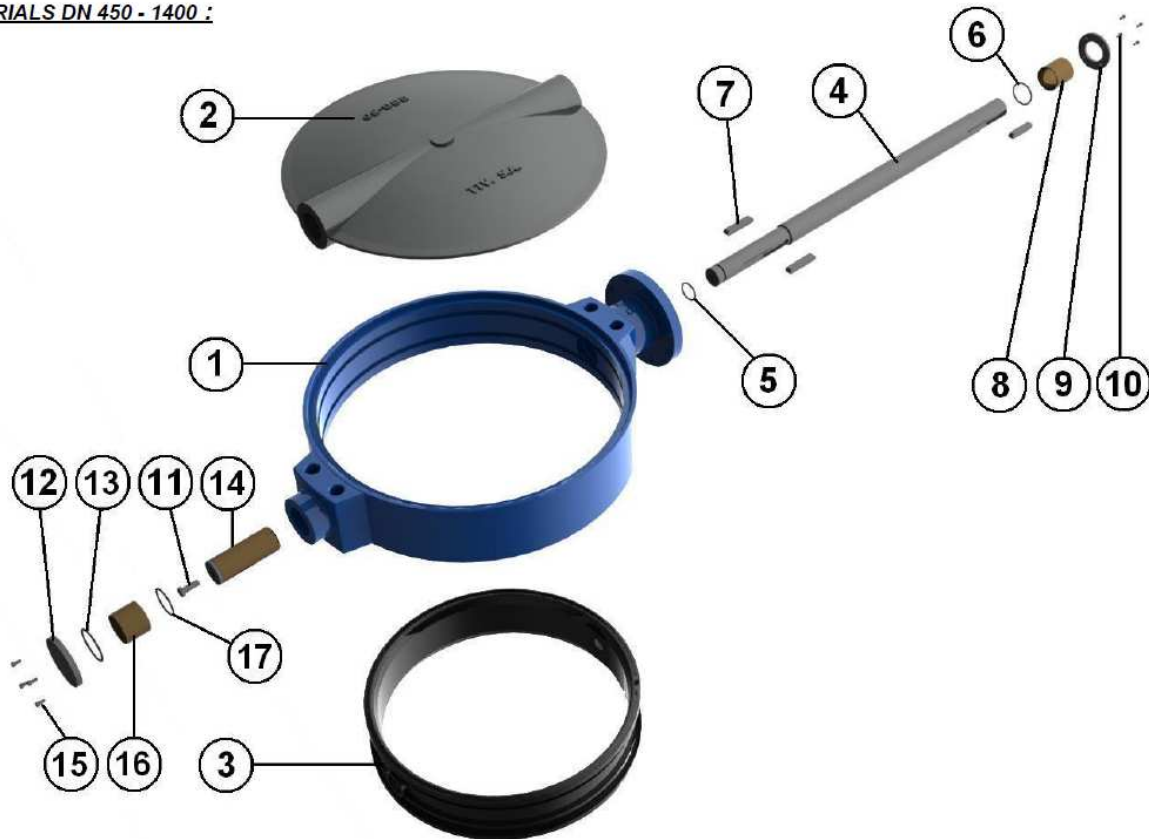


| Item | Designation | Materials |
|---------------------|-------------|--|
| 1 | Body | Ductile iron EN GJS-500-7 rilsan coated color RAL 5024 250-300 μ thickness |
| 2 | Disc | ASTM A351 CF8M |
| 3 | Seat | FKM |
| 4 | Stem | AISI 304 |
| 5 | O ring | FKM |
| 6 | Circlips | Steel |
| 7 | Ring | Steel |
| 8 | Spring | Steel |
| Lever (up to DN300) | | Ductile iron EN GJS-500-7 with epoxy painting 50 μ thickness |

L32

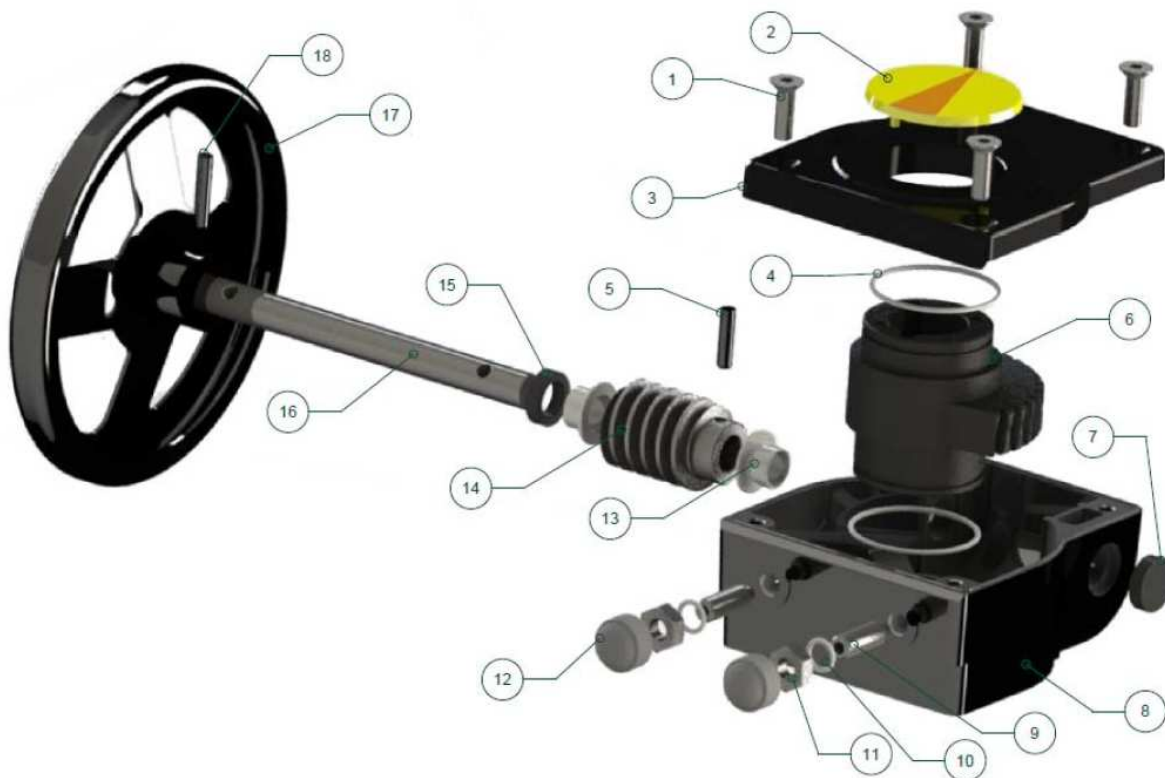
L32.5.1154 PN10/16 DN32-500 Butterfly valve wafer

MATERIALS DN 450 - 1400 :



| Item | Designation | Materials |
|------|-------------|--|
| 1 | Body | Ductile iron EN GJS-500-7 rilsan coated color RAL 5024 250-300 μ thickness |
| 2 | Disc | ASTM A351 CF8M |
| 3 | Seat | FKM |
| 4 | Stem | AISI 304 |
| 5 | O ring | FKM |
| 6 | O ring | FKM |
| 7 | Pin | ST - 60 |
| 8 | Socket | BRONZE |
| 9 | Ring | F1110 |
| 10 | Screw | 5.6 |
| 11 | Screw | 5.6 |
| 12 | Cap | F1110 |
| 13 | O ring | FKM |
| 14 | Socket | F1110 |
| 15 | Screw | 5.6 |
| 16 | Socket | BRONZE |
| 17 | O ring | FKM |

GEARBOX MATERIALS REF. 1197 :



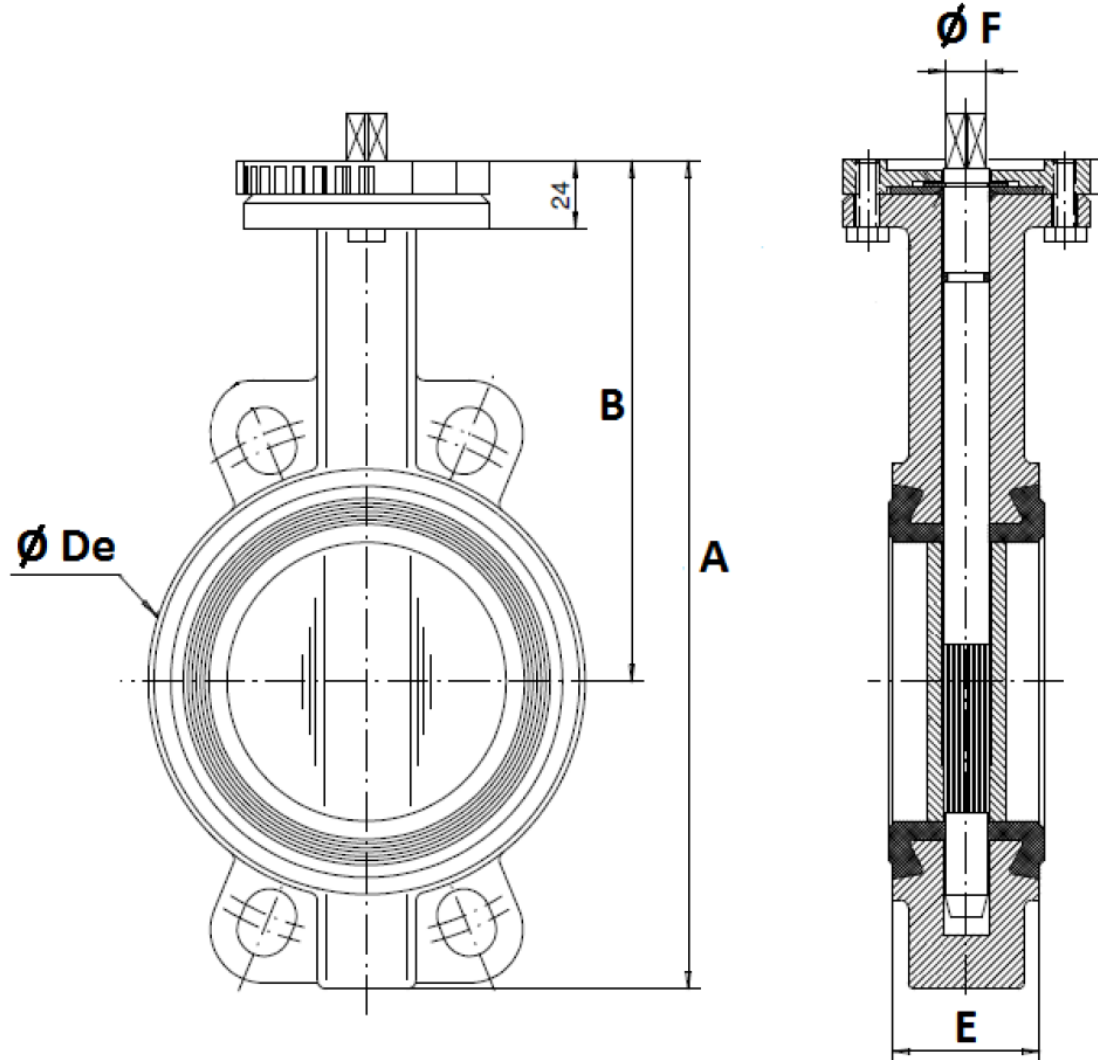
| Item | Designation | Materials Ref. 1197 |
|------|----------------|----------------------------|
| 1 | Screw | AISI 304 |
| 2 | Pointer | Polypropylene |
| 3 | Bonnet | Aluminium |
| 4 | O ring | NBR |
| 5 | Pin | Carbon steel |
| 6 | Quadrant | Ductile iron EN GJS-400-15 |
| 7 | Gasket | NBR |
| 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 |

L32

L32.5.1154 PN10/16 DN32-500 Butterfly valve wafer

SIZE (in mm) :

- Valves DN 32 - 200 :



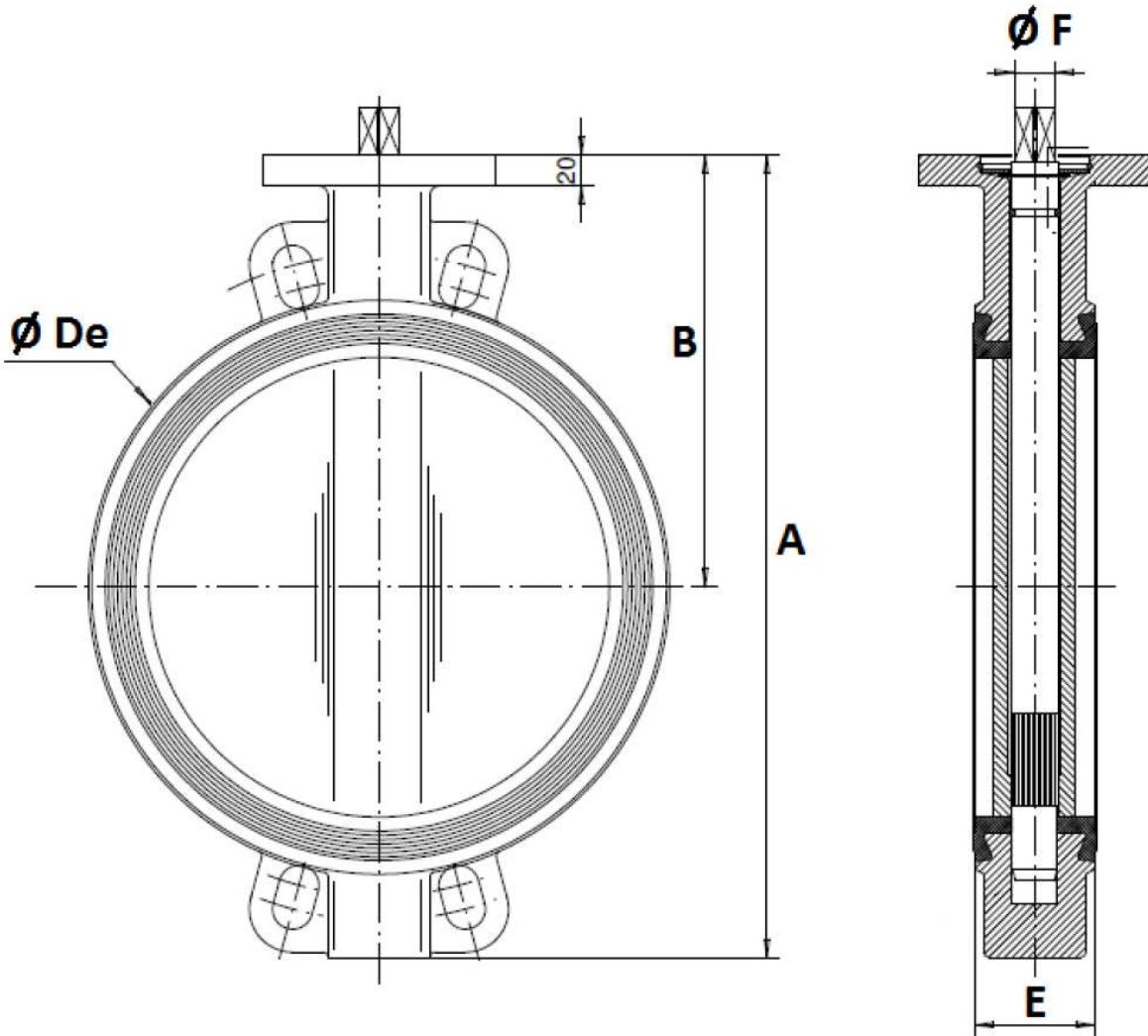
| DN | 32/40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 |
|-------------|-------|------|-----|-----|-----|-----|-----|------|
| A | 206 | 228 | 248 | 265 | 298 | 331 | 349 | 430 |
| B | 140 | 156 | 161 | 169 | 187 | 206 | 215 | 255 |
| Ø De | 82 | 102 | 119 | 135 | 155 | 185 | 208 | 270 |
| E | 33 | 43 | 46 | 46 | 52 | 56 | 56 | 60 |
| Ø F | 9.5 | 9.5 | 12 | 14 | 14 | 17 | 17 | 21 |
| Weight (Kg) | 2.46 | 3.66 | 4.4 | 4.6 | 6 | 7.6 | 9.2 | 14.7 |

L32

L32.5.1154 PN10/16 DN32-500 Butterfly valve wafer

SIZE (in mm) :

- Valves DN 250 -400 :



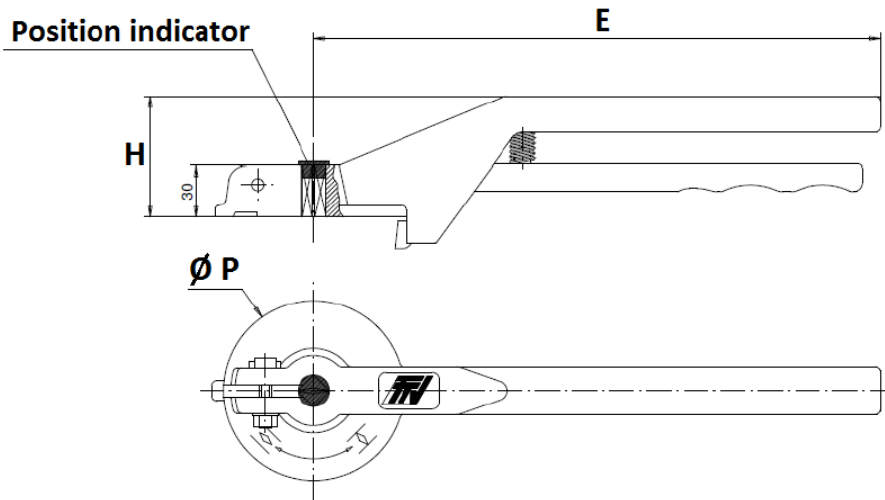
| DN | 250 | 300 | 350 | 400 |
|------------------|------|------|------|-----|
| A | 461 | 524 | 570 | 644 |
| B | 248 | 280 | 300 | 340 |
| $\varnothing De$ | 328 | 381 | 437 | 486 |
| E | 68 | 78 | 78 | 102 |
| $\varnothing F$ | 23 | 26.5 | 26.5 | 33 |
| Weight (Kg) | 24.7 | 33 | 39 | 52 |

L32

L32.5.1154 PN10/16 DN32-500 Butterfly valve wafer

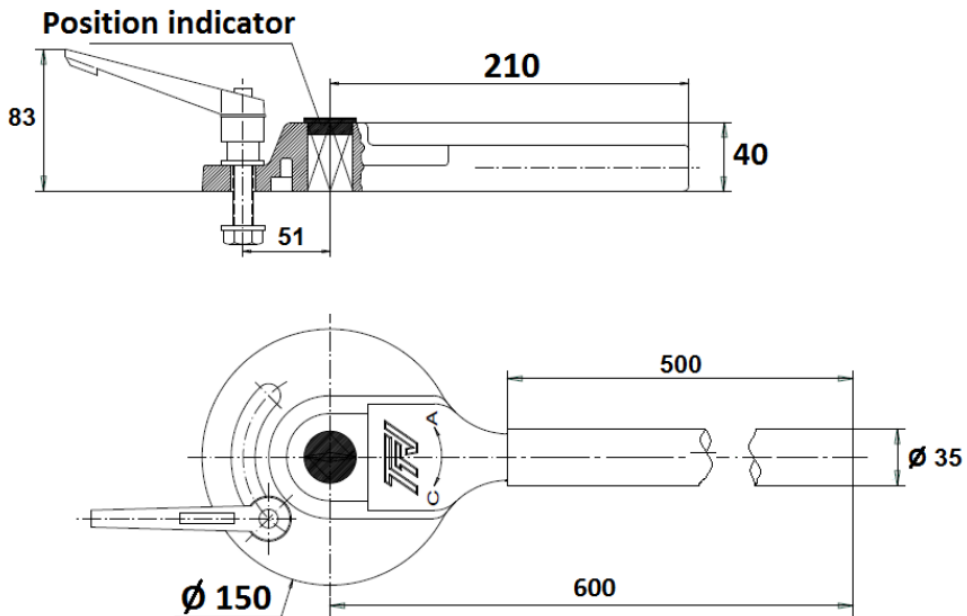
STANDARD LEVERS SIZE (in mm) :

DN 32 – 200 :



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

DN 250 – 300 :

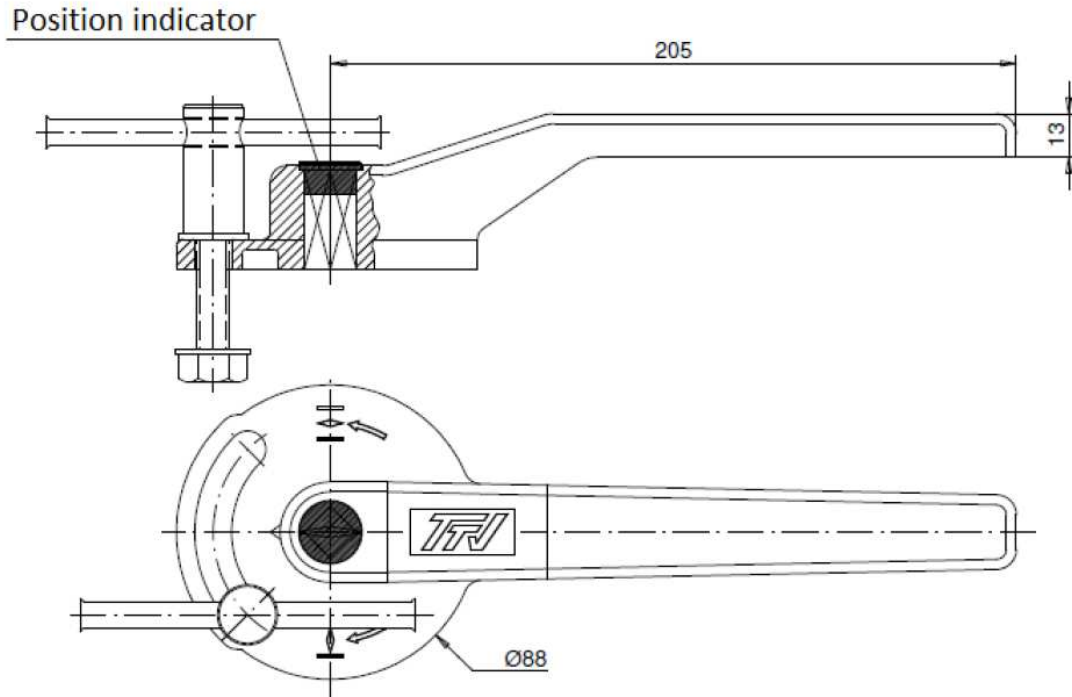


L32

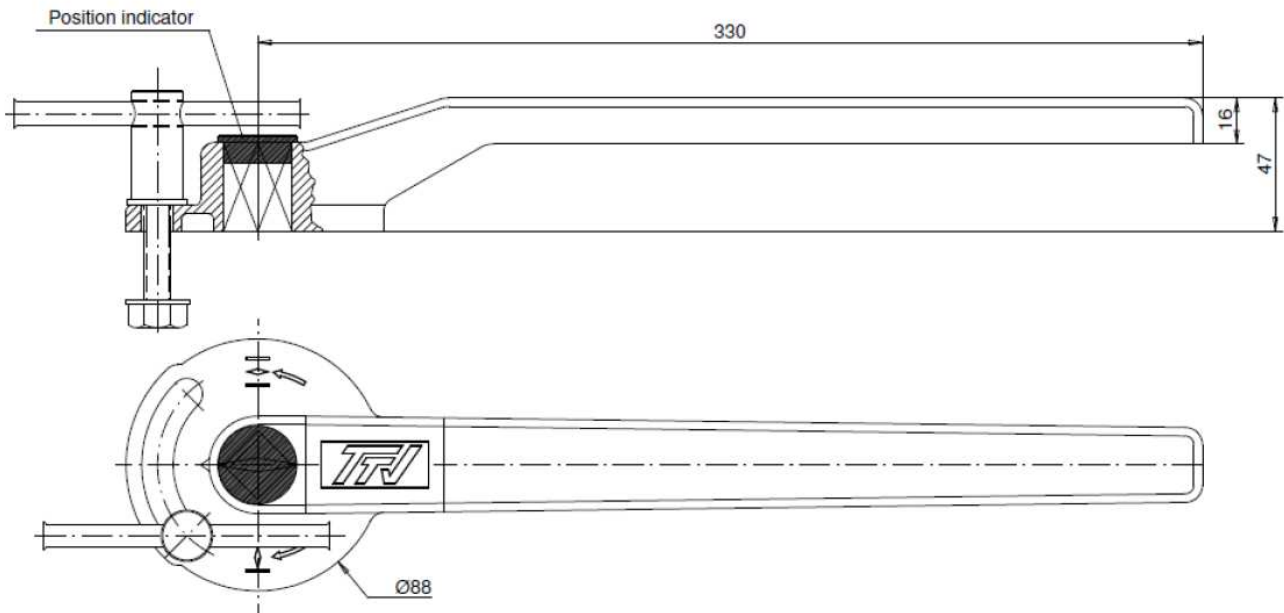
L32.5.1154 PN10/16 DN32-500 Butterfly valve wafer

ASTM A351 CF8M STAINLESS STEEL LEVERS SIZE (in mm) (ON REQUEST) :

DN 40 - 100



DN 125 - 200

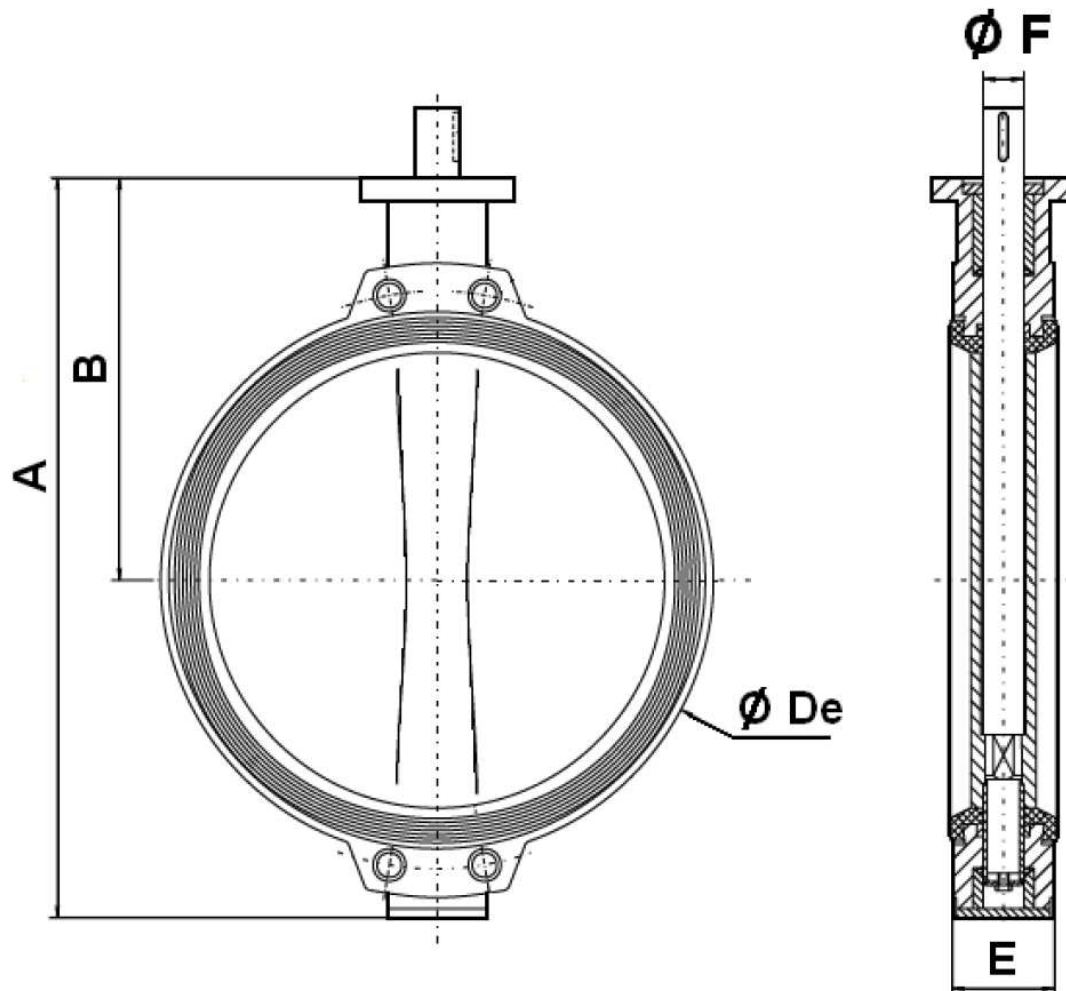


L32

L32.5.1154 PN10/16 DN32-500 Butterfly valve wafer

SIZE (in mm) :

- Valves DN 450 - 1400 :



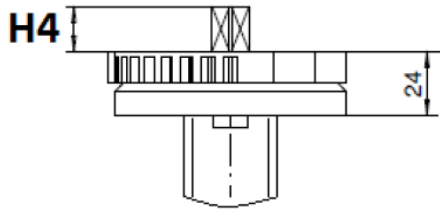
| DN | 450 | 500 | 600 | 700 | 750 | 800 | 900 | 1000 | 1100 | 1200 | 1300 | 1400 |
|-------------|-----|-----|-----|------|------|------|------|------|------|------|------|------|
| A | 738 | 822 | 965 | 1100 | 1150 | 1248 | 1325 | 1457 | 1580 | 1720 | 1910 | 1990 |
| B | 394 | 440 | 507 | 575 | 600 | 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 P | 175 | 175 | 250 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 350 | 350 |
| Weight (Kg) | 87 | 117 | 177 | 258 | 296 | 330 | 505 | 661 | 840 | 1020 | 1650 | 1900 |

L32

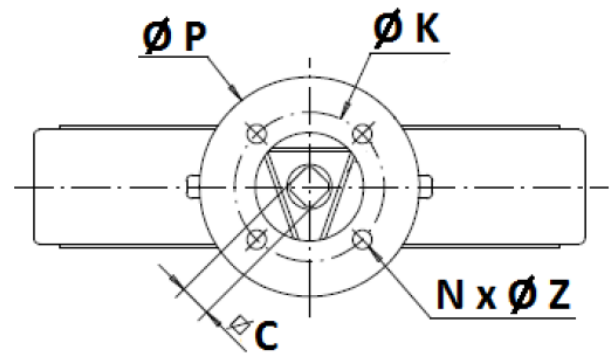
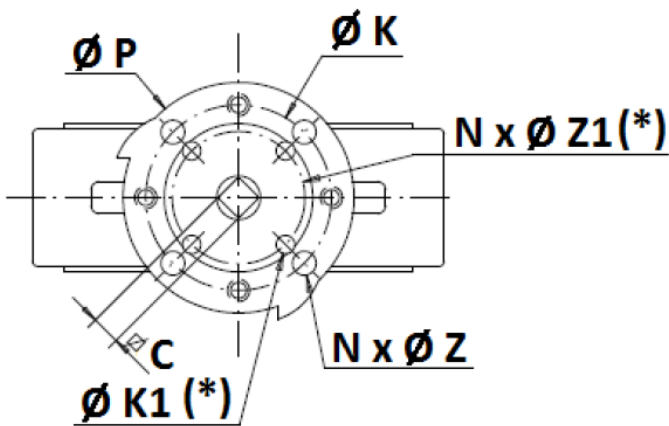
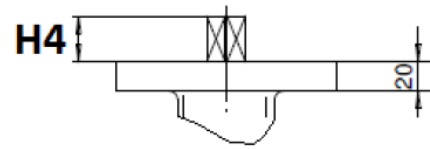
L32.5.1154 PN10/16 DN32-500 Butterfly valve wafer

ISO MOUNTING PAD SIZE DN32-400 (in mm) :

DN 32 – 200



DN250-400



(*) : Only from DN32 to DN100

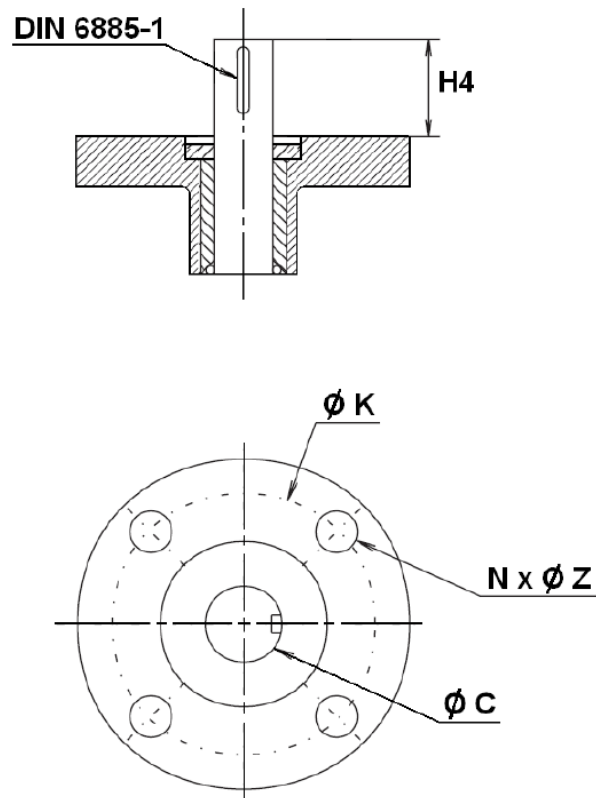
| DN | 32/40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|
| H4 | 14 | 14 | 16 | 16 | 20 | 20 | 20 | 24 | 24 | 24 | 29 | 29 |
| C | 8 | 8 | 9 | 11 | 11 | 14 | 14 | 17 | 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 |
| Ø K1 | 50 | 50 | 50 | 50 | 50 | - | - | - | - | - | - | - |
| ISO 1 | F05 | F05 | F05 | F05 | F05 | - | - | - | - | - | - | - |
| N x Ø Z1 | 4 x 7 | 4 x 7 | 4 x 7 | 4 x 7 | 4 x 7 | - | - | - | - | - | - | - |

L32

L32.5.1154 PN10/16 DN32-500 Butterfly valve wafer

ISO MOUNTING PAD SIZE DN450-1400 (in mm) :

DN 450 - 1400



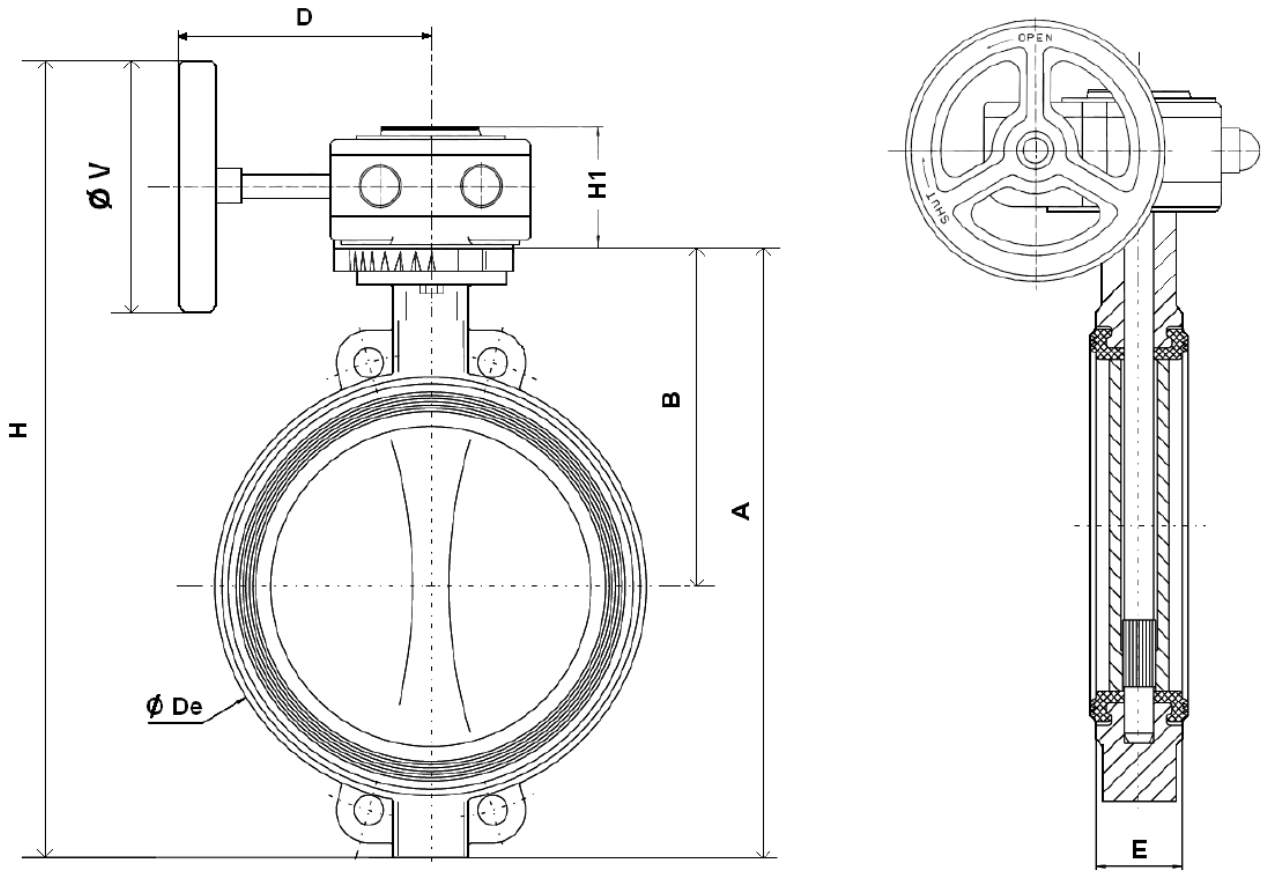
| DN | 450 | 500 | 600 | 700 | 750 | 800 | 900 | 1000 | 1100 | 1200 | 1300 | 1400 |
|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| H4 | 80 | 80 | 90 | 90 | 110 | 110 | 110 | 110 | 110 | 110 | 120 | 120 |
| ø C | 50 | 50 | 60 | 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 |

L32

L32.5.1154 PN10/16 DN32-500 Butterfly valve wafer

SIZE (in mm) :

- Valves with gear box DN 32 - 400 :



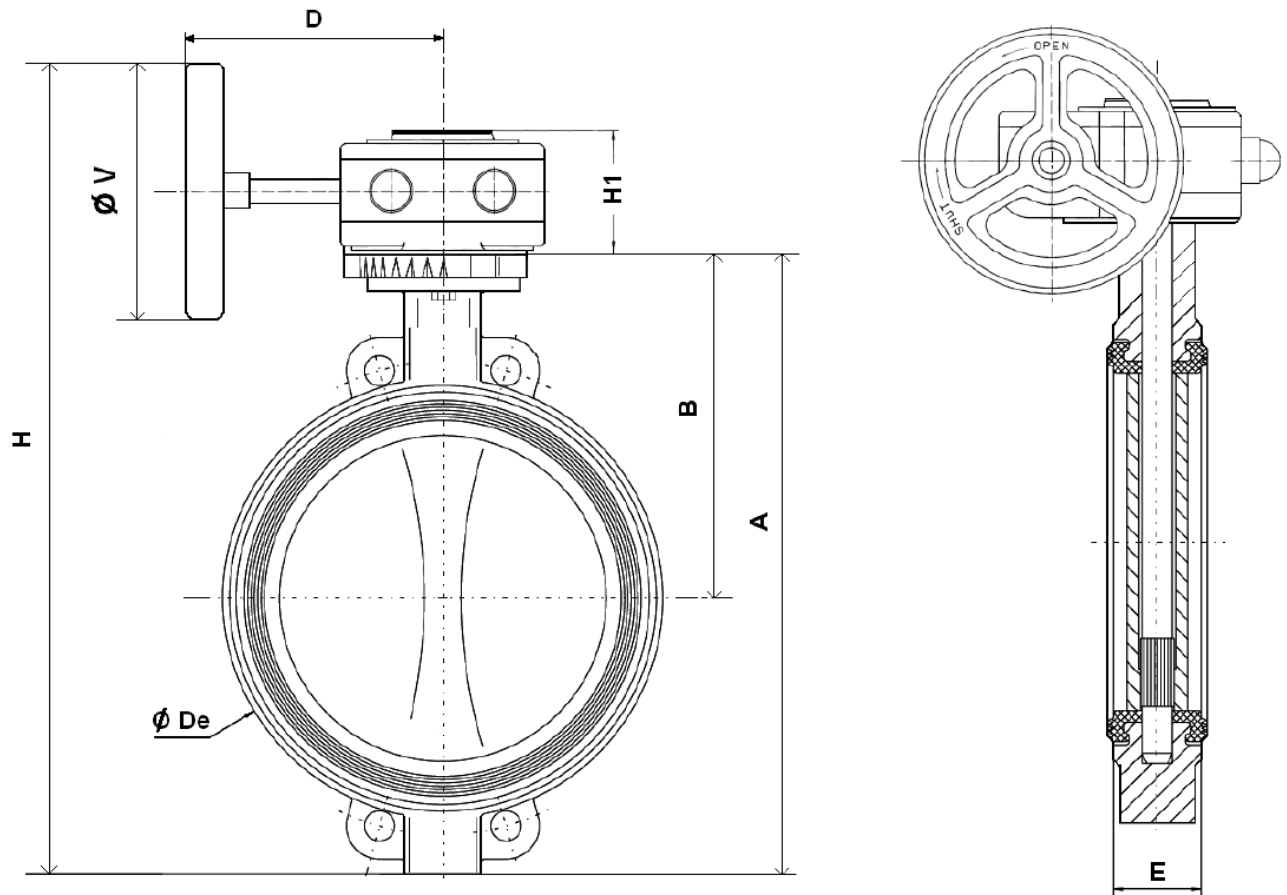
| DN | 32/40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 |
|---------------|-------|------|------|------|------|------|-------|-------|------|-----|------|------|
| A | 206 | 228 | 248 | 265 | 298 | 331 | 349 | 430 | 461 | 524 | 570 | 644 |
| B | 140 | 156 | 161 | 169 | 187 | 206 | 215 | 255 | 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 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 |

L32

L32.5.1154 PN10/16 DN32-500 Butterfly valve wafer

SIZE (in mm) :

- Valves with gear box DN 450 - 1400 :



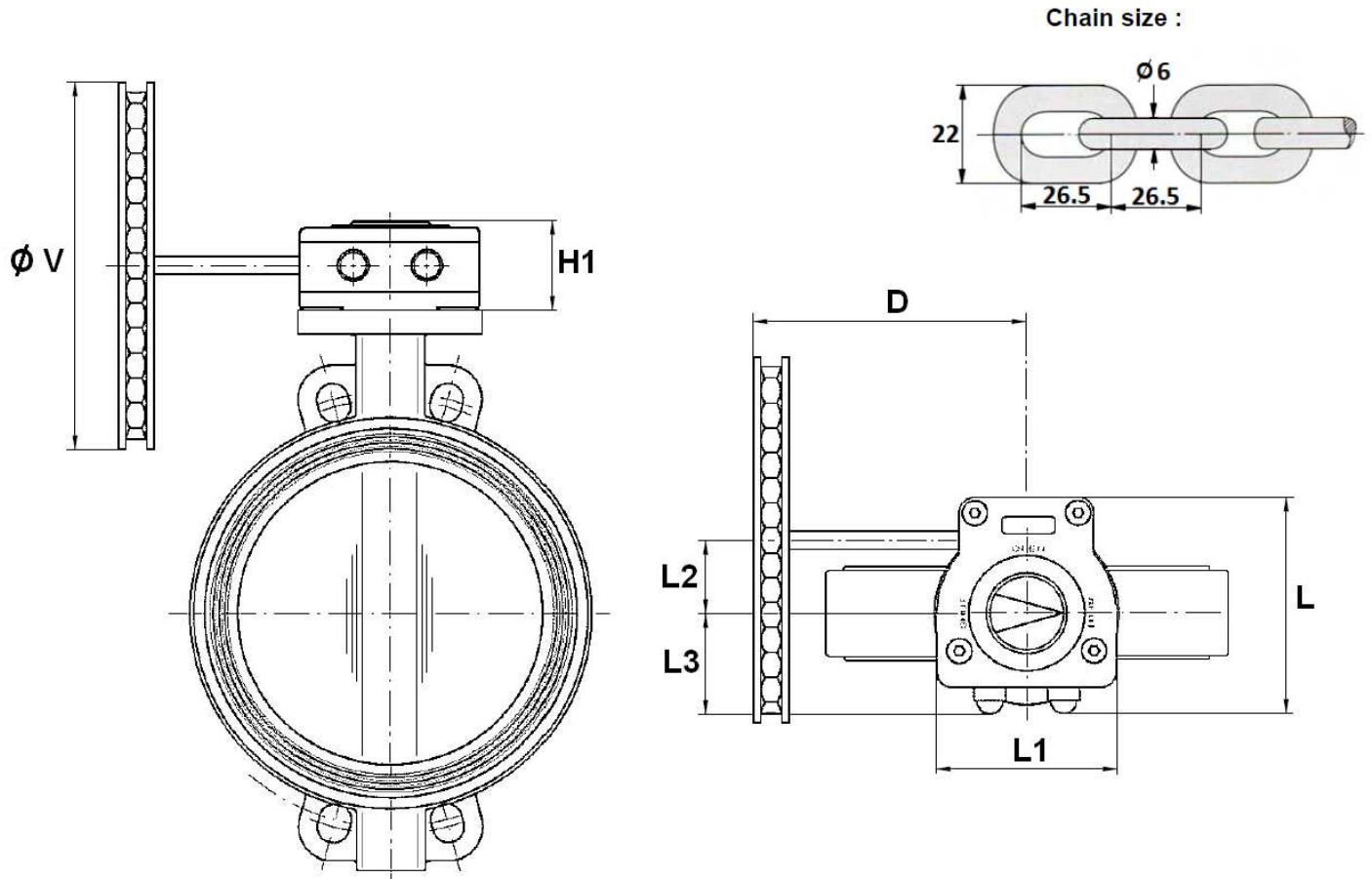
| DN | 450 | 500 | 600 | 700 | 750 | 800 | 900 | 1000 | 1100 | 1200 | 1300 | 1400 |
|---------------|-------|-------|-------|------|------|-------|-------|-------|-------|--------|------|------|
| A | 738 | 822 | 965 | 1100 | 1150 | 1248 | 1325 | 1457 | 1580 | 1720 | 1910 | 1990 |
| B | 394 | 440 | 507 | 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 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 |

L32

L32.5.1154 PN10/16 DN32-500 Butterfly valve wafer

SIZE (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 |
| ϕV | 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 |

L32

L32.5.1154 PN10/16 DN32-500 Butterfly valve wafer

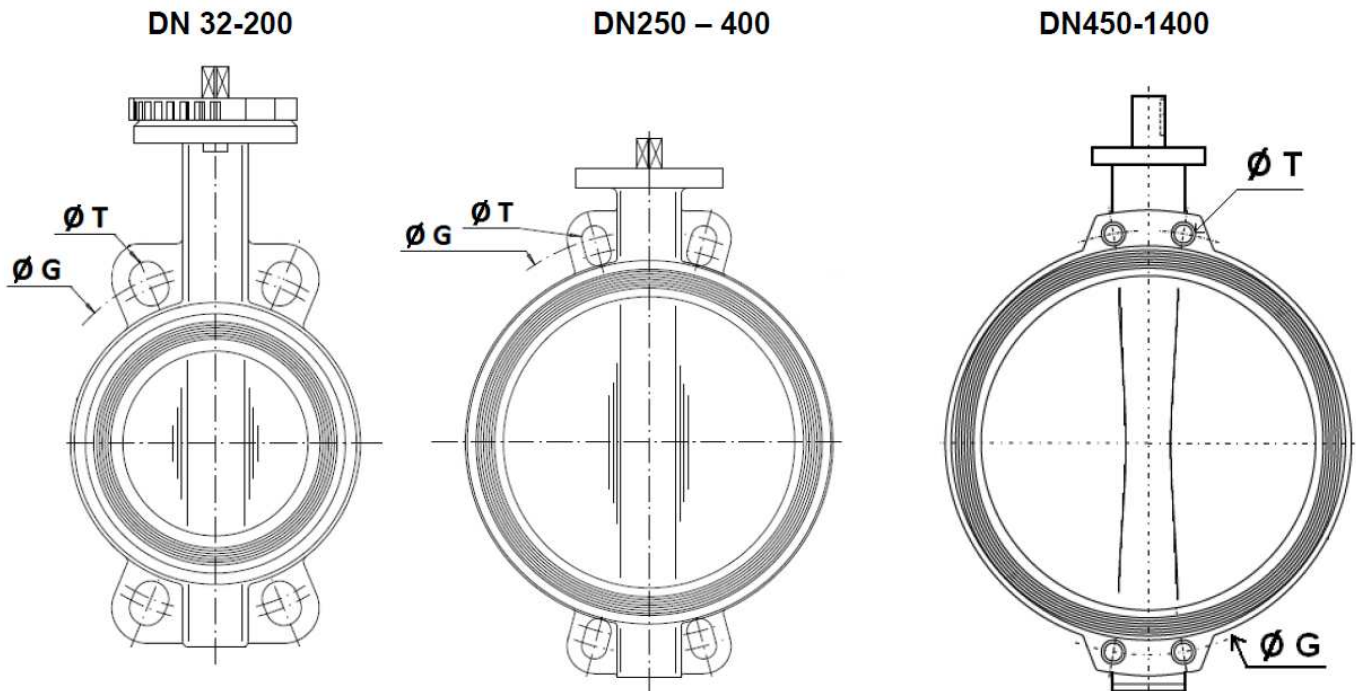
GEARBOX SPECIFICATIONS :

| 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 |

BETWEEN FLANGES SIZE (in mm):



| | DN (mm) | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 |
|-----------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|-------|-------|-------|
| | NPS (") | 1"1/4 | 1"1/2 | 2" | 2"1/2 | 3" | 4" | 5" | 6" | 8" | 10" | 12" | 14" | 16" |
| PN10 | Ø G | 100 | 110 | 125 | 145 | 160 | 180 | 210 | 240 | 295 | 350 | 400 | 460 | 515 |
| | Ø T | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 23 | 23 | 23 | 23 | 23 | 27 |
| PN16 | Ø G | 100 | 110 | 125 | 145 | 160 | 180 | 210 | 240 | 295 | 355 | 410 | 470 | 525 |
| | Ø T | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 23 | 23 | 27 | 27 | 27 | 30 |
| Class 150 | Ø G | 88.9 | 98.5 | 120.6 | 139.7 | 152.4 | 190.5 | 215.9 | 241.3 | 298.5 | 362 | 431.8 | 476.3 | 539.8 |
| | Ø T | 16 | 16 | 19 | 19 | 19 | 19 | 23 | 23 | 23 | 26 | 26 | 29 | 29 |

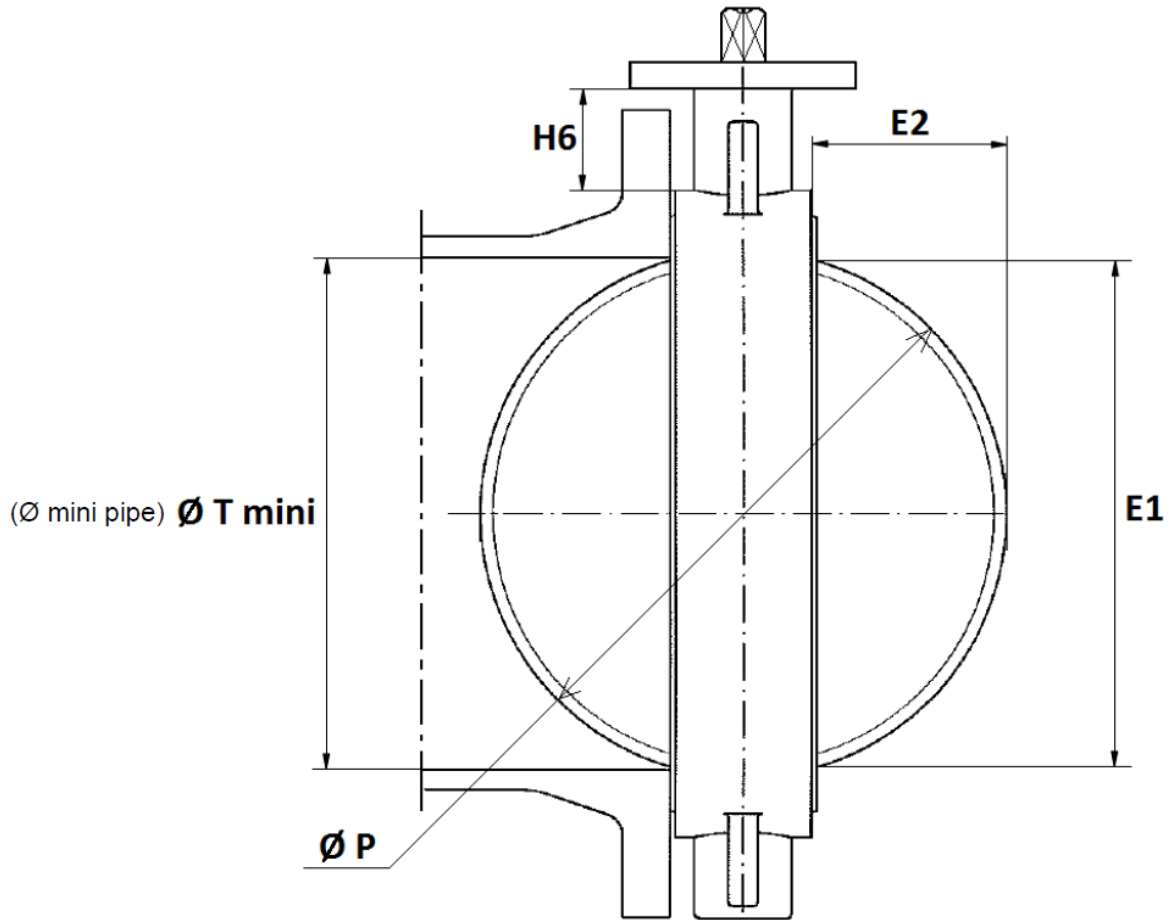
| | DN (mm) | 450 | 500 | 600 | 700 | 750 | 800 | 900 | 1000 | 1100 | 1200 | 1300 | 1400 |
|-----------|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | NPS (") | 18" | 20" | 24" | 28" | 30" | 32" | 36" | 40" | 44" | 48" | 52" | 56" |
| PN10 | 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 |
| PN16 | Ø G | 585 | 650 | 770 | 840 | 900 | 950 | 1050 | 1170 | 1270 | 1390 | - | 1590 |
| | Ø T | M27 | M30 | M33 | M33 | M33 | M36 | M36 | M39 | M39 | M45 | - | M45 |
| Class 150 | Ø G | 577.9 | 635 | 749.3 | 863 | 914 | 978 | 1086 | 1200 | 1314 | 1422 | 1537 | 1651 |
| | Ø T (BSW)* | 1 1/8" | 1 1/8" | 1 1/4" | 1 1/4" | 1 1/4" | 1 1/2" | 1 1/2" | 1 1/2" | 1 1/2" | 1 1/2" | 1 3/4" | 1 3/4" |
| | Ø T (Metric) | M30 | M30 | M33 | M33 | M33 | M39 | M39 | M39 | M39 | M39 | | |

* Threaded BSW on standard, on request metric threaded for Class 150

L32

L32.5.1154 PN10/16 DN32-500 Butterfly valve wafer

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 |
| Ø T mini | 26 | 27.5 | 49 | 68 | 88 | 112 | 139 | 191 | 241 | 292 | 334 | 388 | 427 | 482 | 578 |
| Ø P | 40 | 50 | 65 | 80 | 100 | 123 | 147 | 198 | 248 | 299 | 340 | 398 | 439 | 495 | 596 |

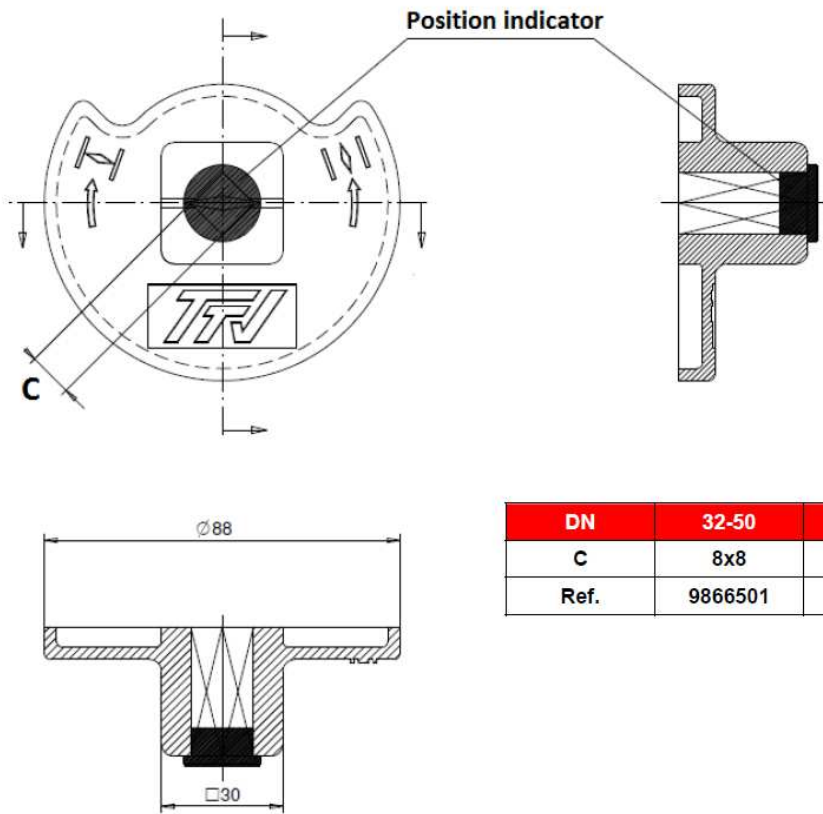
| DN | 700 | 750 | 800 | 900 | 1000 | 1100 | 1200 | 1300 | 1400 |
|----------|-------|-----|-----|-------|-------|------|------|-------|-------|
| E1 | 680 | 721 | 777 | 850 | 957 | 1052 | 1146 | 1261 | 1368 |
| E2 | 267.5 | 278 | 305 | 335.5 | 382.5 | 429 | 460 | 475.5 | 527.5 |
| H6 | 148 | 140 | 170 | 150 | 162 | 175 | 176 | 240 | 228 |
| Ø T mini | 683 | 724 | 780 | 853 | 960 | 1055 | 1149 | 1264 | 1371 |
| Ø P | 700 | 746 | 800 | 874 | 981 | 1074 | 1174 | 1311 | 1415 |

L32

L32.5.1154 PN10/16 DN32-500 Butterfly valve wafer

SIZE (in mm) :

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



| DN | 32-50 | 65 | 80-100 | 125-150 | 200 |
|------|---------|---------|---------|---------|---------|
| C | 8x8 | 9x9 | 11x11 | 14x14 | 17x17 |
| Ref. | 9866501 | 9866502 | 9866503 | 9866504 | 9866505 |

STANDARDS :

- Fabrication according to ISO 9001:2008
- Designing according to ISO 10631 and EN 593
- DIRECTIVE 2014/68/EU : CE N° 0038
Risk Category III module H
- Certificate 3.1 on request
- Pressure tests according to ISO 5208, Rate A
- Between flanges according to EN 1092-1 PN10/16
- 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)
- Approval certificate **Marine BUREAU VERITAS**, N° 14087/C0 BV from DN32 to 1000
- OTAN agreement (N° 286B)

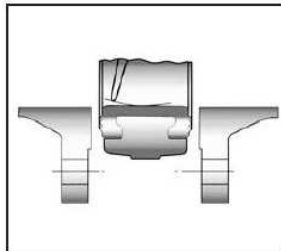
INSTALLATION INSTRUCTIONS

GENERAL GUIDELINES :

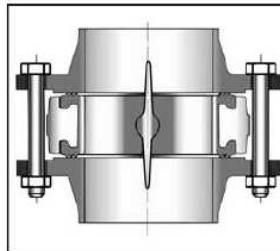
- Ensure that the valves to be used are appropriate for the conditions of the installation (type of fluid, pressure and temperature).
- Be sure to have enough valves to be able to isolate the sections of piping as well as the appropriate equipment for maintenance and repair.
- Ensure that the valves to be installed are of correct strength 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).**

INSTALLATION INSTRUCTIONS :

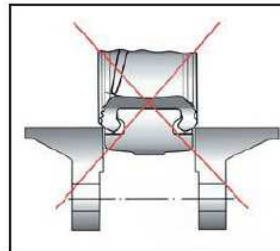
- Before installing the valves, clean and remove any objects from the pipes (in particular bits of sealing and metal) which could obstruct and block the valves.
- Ensure that both connecting pipes either side of the valve (upstream and downstream) are aligned (if they're not, the valves may not work 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 tightness 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.