

**CONCENTRIC LUG BUTTERFLY VALVE EXCELLENCE RANGE TTV**  
**DUCTILE IRON BODY-STAINLESS STEEL DISC AND NBR SEAT**

Lug butterfly valve TTV excellence range for non aromatic hydrocarbon, fuel, water, natural gas, grease, oil, compressed air, glycol.

Approval Bureau Veritas marine certificate., 5 years warranty.

Ductile iron EN GJS-500-7 body, stainless steel disc and NBR seat.

Between flanges PN10/16 or class 150 according to DN.

Compatible with explosive atmosphere, ATEX Zone 1&21 and Zone 2&22 on request.

Handling possible with stainless steel handle, gearbox or, chain gearbox and stem extension.

Thanks to the ISO 5211 plate and the square stem, an actuator can be installed direct on the valve.



Reinforced Lug from DN200 to DN300

- Size :** DN32 to DN300
- Connection :** Between flanges PN10/16
- Min Temperature :** -10°C
- Max Temperature :** +90°C
- Max Pressure :** 16 Bars
- Specifications :** Long neck for isolation  
Lug type  
Full crossing stem  
ISO 5211 direct mounting pad

**Materials :** Ductile iron GJS body, stainless steel disc,NBR seat

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

## CONCENTRIC LUG BUTTERFLY VALVE EXCELLENCE RANGE TTV DUCTILE IRON BODY-STAINLESS STEEL DISC AND NBR SEAT

### SPECIFICATIONS :

- Long neck for isolation
- ISO 5211 mounting pad
- Lug type ( reinforced Lug from DN200 to DN300 )
- Between flanges PN10/16 from DN32/40 to 150, PN10 over
- Between flanges PN16 or Class 150 (PN20) on request
- Full crossing stem
- Removable NBR seat, dovetail type above DN40
- 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 : Non aromatic hydrocarbon, fuel, water, natural gas, grease, oil, compressed air, glycol
- Not advisable : Organic acids, chlorine, alcohol, petrol, premium gasoline, acetone, acetic acid and solvent
- For temporary using, can be used at the end of the pipe from DN50 and over( 6 bars max )
- For final using, can be used at the end of the pipe if assembled with a flange (12 bars max up to DN150, 10 bars over)
- Min and max Temperature Ts : From -10°C to + 90°C
- Max Pressure Ps : 16 bars
- Compressed air : 7 bars max (over on request with glued seat or vulcanized seat)
- Vacuum: -0.3 bar max (on request: -0.6 bar with glued seat or -0.94 bar with vulcanized seat)

### RANGE :

- With lever from DN 32 to DN 300
- IP65 gear box possible ( **Ref. 1197** ) from DN 32 to DN 300
- IP65 chain gear box ( **Ref. 1194** ) from DN 32 to DN 300
- On request, stem extension with special length ( **Ref. 98665** )
- On request, CF8M stainless steel handle and bolting **Ref. 9831250-9831264**

### CONNECTION :

- Between flanges PN10/16 from DN32/40 to 150, PN10 over
- Between flanges PN16 or Class 150 (PN20) on request

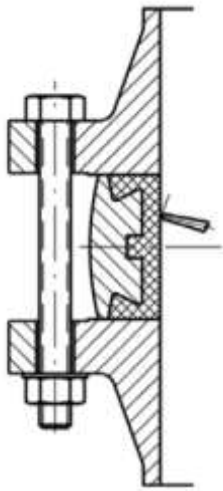
### TORQUE VALUES ( in Nm with safety coefficient of 30 % included ) :

|  |                | DN       |           |           |           |           |           |            |            |            |            |
|--|----------------|----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|
|  | Pressure (Bar) | 32/40    | 50        | 65        | 80        | 100       | 125       | 150        | 200        | 250        | 300        |
| <b>Torque (Nm) with machined disc (on request)</b> | 1-5*           | 2        | 4         | 6         | 8         | 10        | 14        | 15         | 25         | 64         | 118        |
|  | 6*             | 3        | 5         | 7         | 10        | 12        | 18        | 31         | 55         | 123        | 216        |
|  | 10*            | 6        | 8         | 10        | 14        | 18        | 31        | 59         | 93         | 206        | 330        |
| <b>Torque ( Nm )</b>                               | <b>16</b>      | <b>9</b> | <b>11</b> | <b>20</b> | <b>29</b> | <b>47</b> | <b>82</b> | <b>130</b> | <b>210</b> | <b>360</b> | <b>475</b> |

\* : Torques with machined disc (on request)

**CONCENTRIC LUG BUTTERFLY VALVE EXCELLENCE RANGE TTV**  
**DUCTILE IRON BODY-STAINLESS STEEL DISC AND NBR SEAT**

**MAXIMUM TIGHTENING TORQUES FOR BOLTING FLANGES :**



|                       |                    | Maximum torques (Nm) |                 |               |       |
|-----------------------|--------------------|----------------------|-----------------|---------------|-------|
|                       |                    | Bolting types        | 5,6 / A307 Gr.B | 8,8 / A193 B7 | 10,9  |
| <b>Bolting<br/>DN</b> | <b>M12 (1/2")</b>  | 41,16                | 84,28           | 117,6         | 142,1 |
|                       | <b>M14 (9/16")</b> | 66,64                | 132,3           | 186,2         | 225,4 |
|                       | <b>M16 (5/8")</b>  | 102,9                | 205,8           | 289,1         | 347,9 |
|                       | <b>M18 (3/4")</b>  | 142,1                | 284,2           | 396,9         | 475,3 |
|                       | <b>M20 (3/4")</b>  | 196                  | 401,8           | 568,4         | 676,2 |
|                       | <b>M22 (7/8")</b>  | 259,7                | 539             | 764,4         | 911,4 |
|                       | <b>M24 (1")</b>    | 338,1                | 695,8           | 980           | 1176  |
|                       | <b>M27 (1"1/8)</b> | 499,8                | 1029            | 1470          | 1764  |
|                       | <b>M30 (1"1/4)</b> | 666,4                | 1421            | 1960          | 2352  |

**CONCENTRIC LUG BUTTERFLY VALVE EXCELLENCE RANGE TTV**  
**DUCTILE IRON BODY-STAINLESS STEEL DISC AND NBR SEAT**

**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 |

**HEAD LOSS CALCULATIONS :**

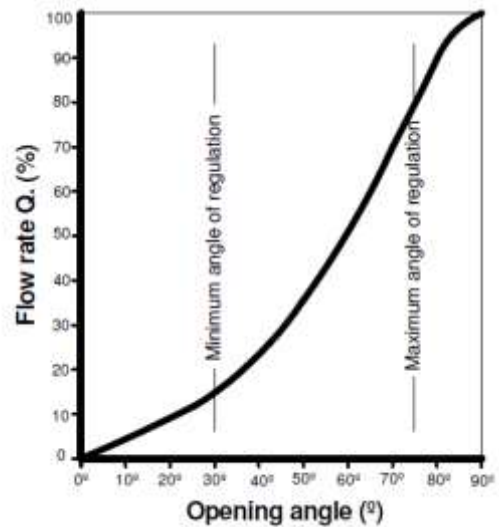
$\Delta p = ( Q / Kv )^2 \times SG$

Q : flow in m<sup>3</sup>/h

$\Delta p$  : Head loss in bar

SG : Specific gravity (= 1 for water)

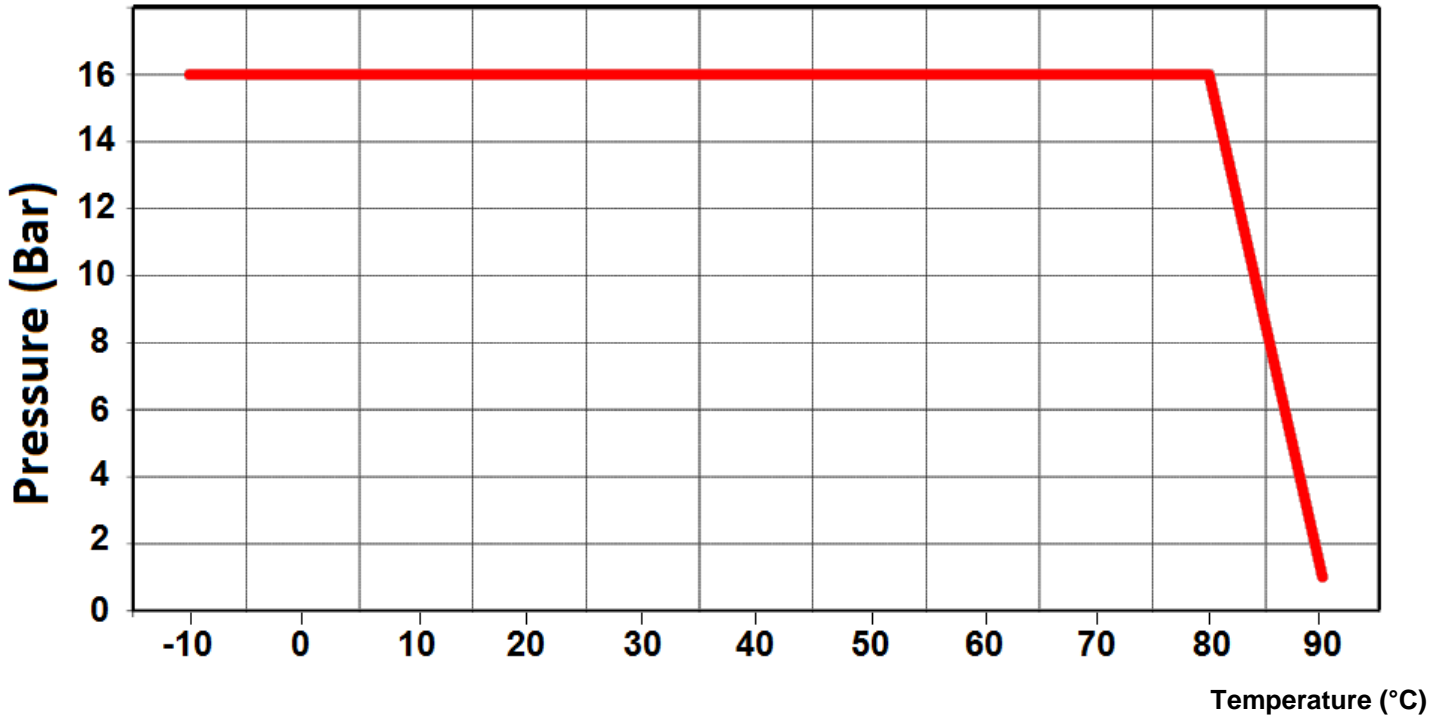
Kv : Volume of water in m<sup>3</sup>/h, that will flow through a given restriction or valve opening with a pressure drop of 1 bar at 20°C)





**CONCENTRIC LUG BUTTERFLY VALVE EXCELLENCE RANGE TTV  
DUCTILE IRON BODY-STAINLESS STEEL DISC AND NBR SEAT**

PRESSURE / TEMPERATURE GRAPH (STEAM EXCLUDED) :



**CONCENTRIC LUG BUTTERFLY VALVE EXCELLENCE RANGE TTV  
DUCTILE IRON BODY-STAINLESS STEEL DISC AND NBR SEAT**

REPAIRABILITY :



**SEAT**

**DISC**

**STEM**

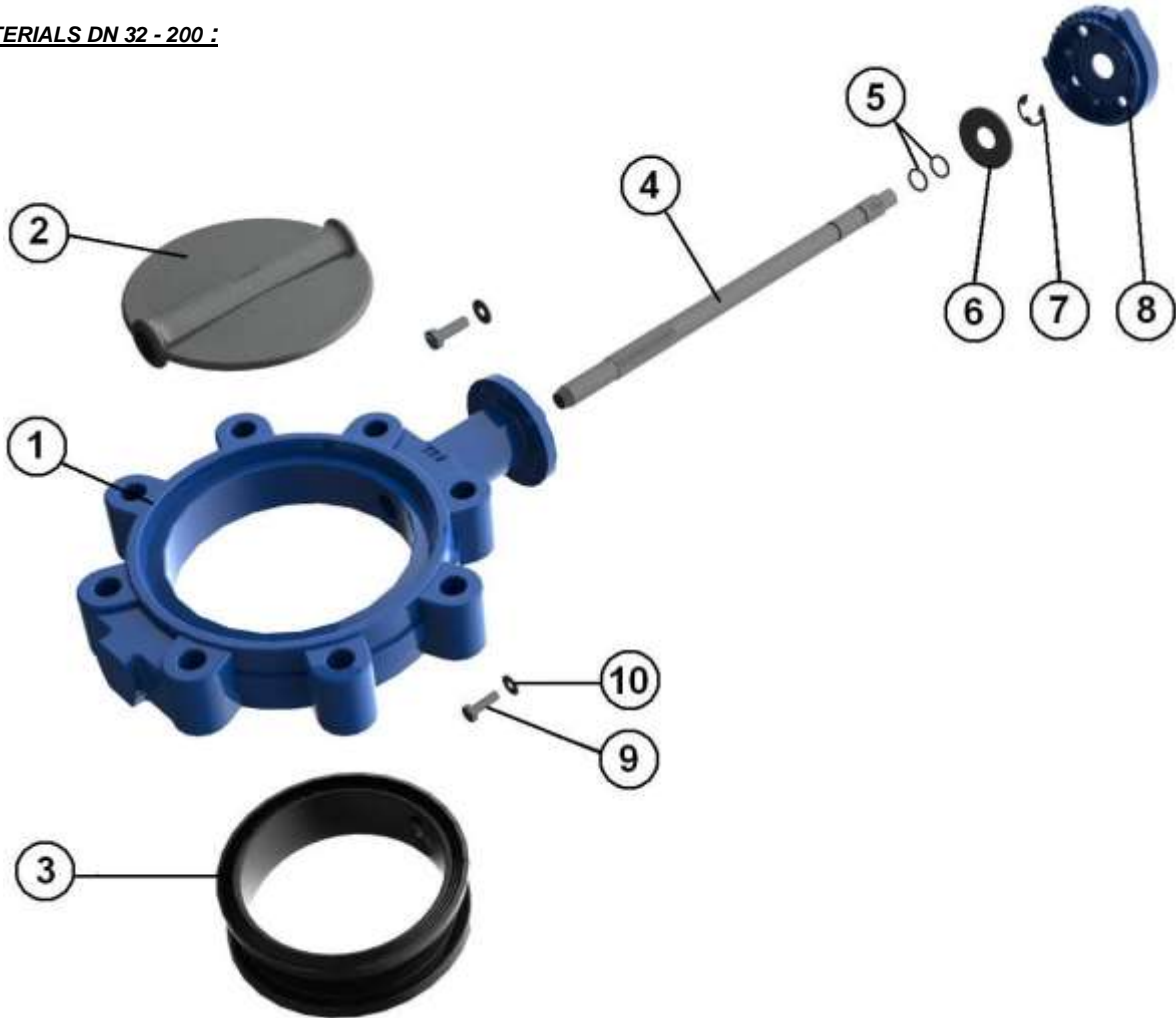
**HANDLE**



|               | DN   | 40      | 50      | 65      | 80      | 100     | 125     | 150     | 200     | 250     | 300     |
|---------------|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| <b>Seat</b>   | Ref. | 9865108 | 9865109 | 9865110 | 9865111 | 9865112 | 9865113 | 9865114 | 9865115 | 9865116 | 9865207 |
| <b>Disc</b>   | Ref. | 9865020 | 9865021 | 9865022 | 9865023 | 9865024 | 9865025 | 9865026 | 9865027 | 9865028 | 9865029 |
| <b>Stem</b>   | Ref. | 9865040 | 9865041 | 9865042 | 9865043 | 9865044 | 9865045 | 9865046 | 9865047 | 9865048 | 9865049 |
| <b>Handle</b> | Ref. | 9831331 |         | 9831332 | 9831333 |         | 9831334 |         | 9831335 | 9831336 | 9831337 |

**CONCENTRIC LUG BUTTERFLY VALVE EXCELLENCE RANGE TTV  
 DUCTILE IRON BODY-STAINLESS STEEL DISC AND NBR SEAT**

MATERIALS DN 32 - 200 :

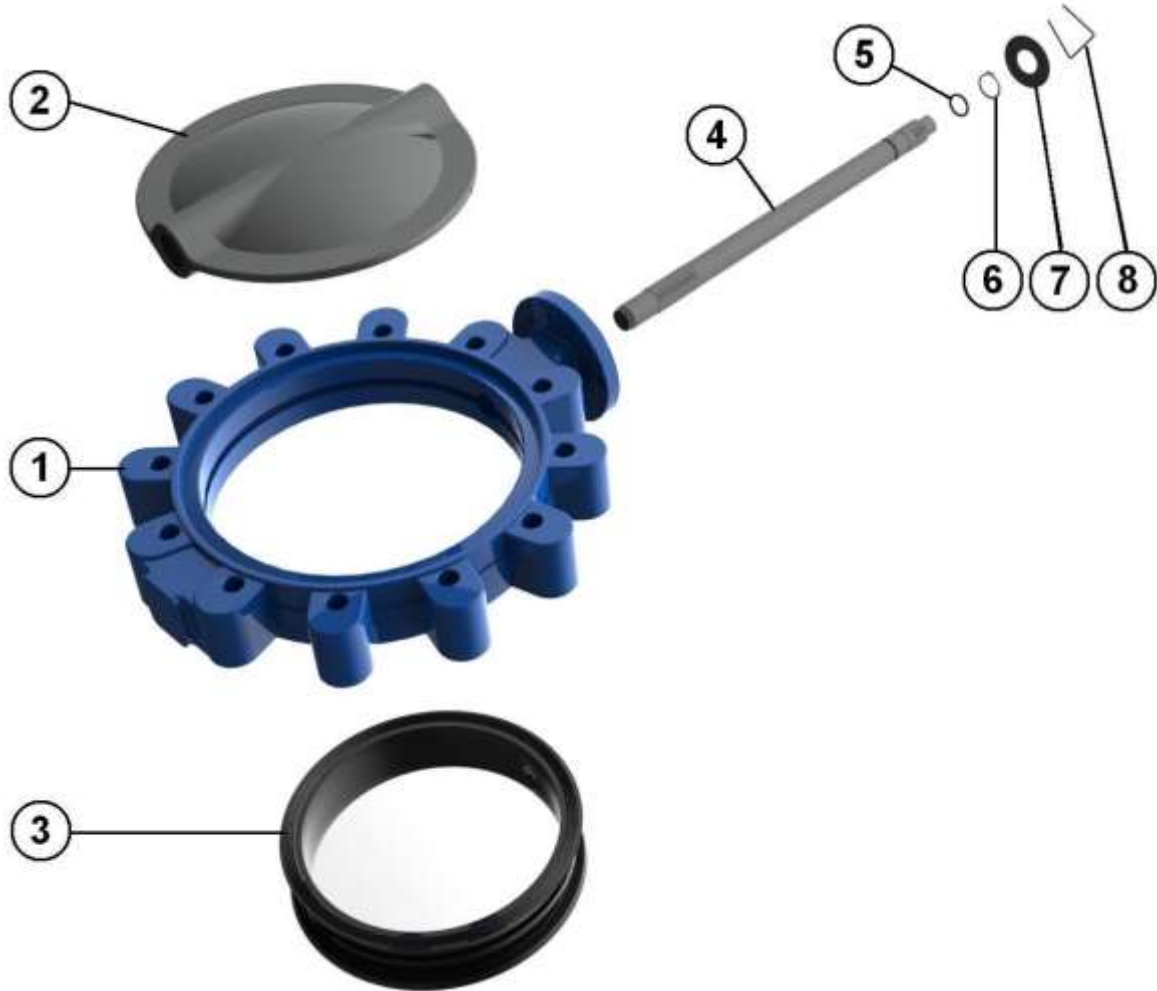


| Item | Designation | Materials  |
|------|-------------|--|
| 1    | Body        | Ductile iron EN GJS-500-7 rilsan coated color RAL 5024 250-300 μ thickness |
| 2    | Disc        | ASTM A351 CF8M   |
| 3    | Seat        | NBR  |
| 4    | Stem        | AISI 304   |
| 5    | O ring      | NBR  |
|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



**CONCENTRIC LUG BUTTERFLY VALVE EXCELLENCE RANGE TTV  
 DUCTILE IRON BODY-STAINLESS STEEL DISC AND NBR SEAT**

MATERIALS DN 250 - 300 :



| 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        | NBR  |
| 4                   | Stem        | AISI 304   |
| 5                   | O ring      | NBR  |
| 6                   | Circlips    | Steel  |
| 7                   | Ring        | Steel  |
| 8                   | Spring      | Steel  |
| Lever (up to DN300) |             | Ductile iron EN GJS-500-7 with epoxy painting 50μ thickness                |



**CONCENTRIC LUG BUTTERFLY VALVE EXCELLENCE RANGE TTV  
DUCTILE IRON BODY-STAINLESS STEEL DISC AND NBR SEAT**

GEARBOX MATERIALS REF. 1197 :

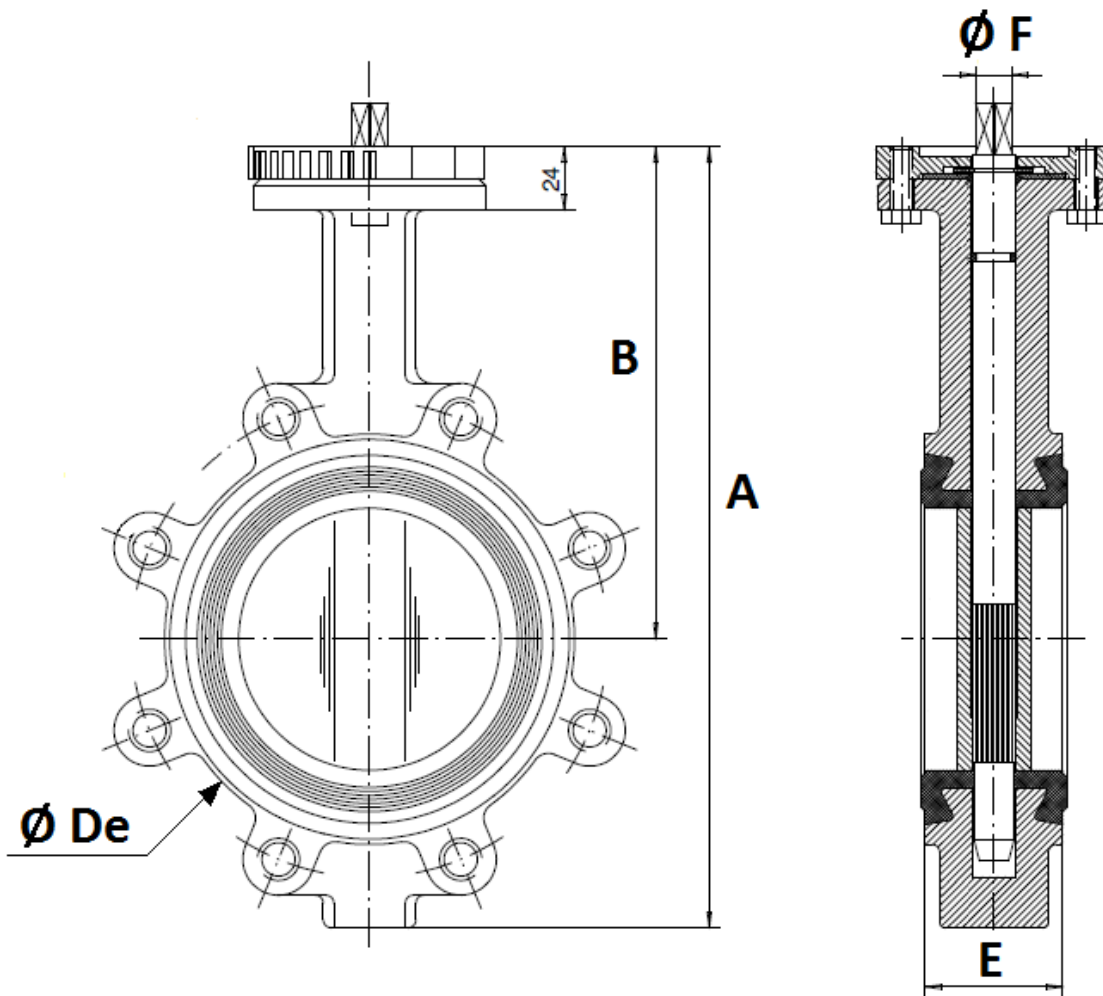


| Item | Designation    | Materials Ref. 1197        |
|------|----------------|----------------------------|
| 1    | Screw          | AISI 304                   |
| 2    | Pointer        | PVC                        |
| 3    | Bonnet         | Aluminium                  |
| 4    | O ring         | 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               |

**CONCENTRIC LUG BUTTERFLY VALVE EXCELLENCE RANGE TTV  
 DUCTILE IRON BODY-STAINLESS STEEL DISC AND NBR SEAT**

SIZE ( in mm ) :

- Valves DN 32 - 150 :

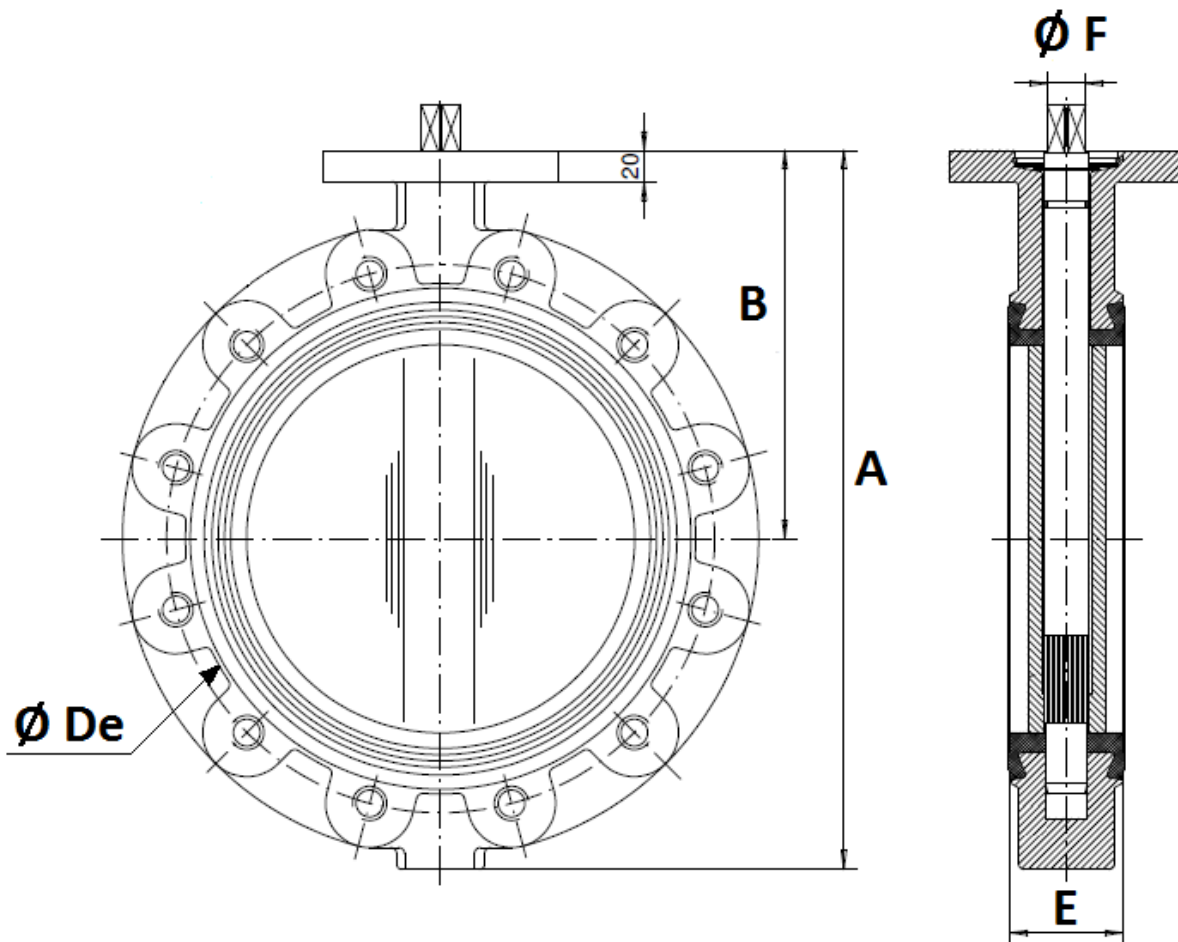


| DN          | 32/40 | 50  | 65  | 80  | 100 | 125  | 150   |
|-------------|-------|-----|-----|-----|-----|------|-------|
| A           | 205   | 226 | 246 | 259 | 295 | 325  | 352   |
| B           | 140   | 156 | 161 | 169 | 187 | 206  | 215   |
| Ø De        | 83    | 102 | 115 | 136 | 157 | 192  | 220   |
| E           | 33    | 43  | 46  | 46  | 52  | 56   | 56    |
| Ø F         | 9.5   | 9.5 | 12  | 14  | 14  | 17   | 17    |
| Weight (Kg) | 2.7   | 4.1 | 4.7 | 6.1 | 7.9 | 10.9 | 11.85 |

**CONCENTRIC LUG BUTTERFLY VALVE EXCELLENCE RANGE TTV**  
**DUCTILE IRON BODY-STAINLESS STEEL DISC AND NBR SEAT**

SIZE ( in mm ) :

- Valves DN 200 -300 :

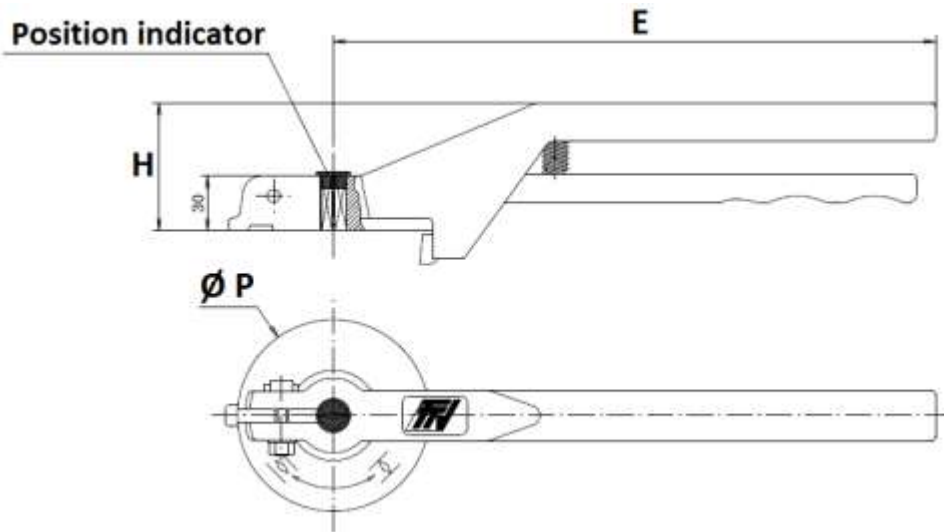


| DN          | 200  | 250  | 300   |
|-------------|------|------|-------|
| A           | 422  | 460  | 523   |
| B           | 255  | 248  | 280   |
| Ø De        | 275  | 329  | 378   |
| E           | 60   | 68   | 78    |
| Ø F         | 21   | 23   | 26.5  |
| Weight (Kg) | 18.5 | 31.8 | 47.80 |

**CONCENTRIC LUG BUTTERFLY VALVE EXCELLENCE RANGE TTV  
DUCTILE IRON BODY-STAINLESS STEEL DISC AND NBR SEAT**

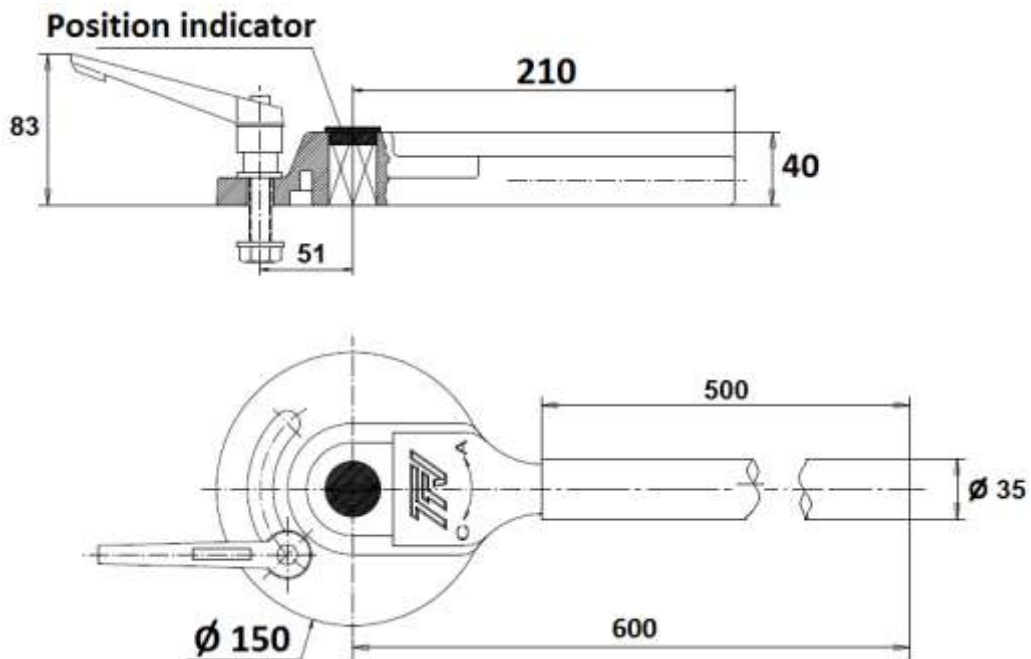
STANDARD LEVERS SIZE ( in mm ) :

**DN 32 – 200 :**



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

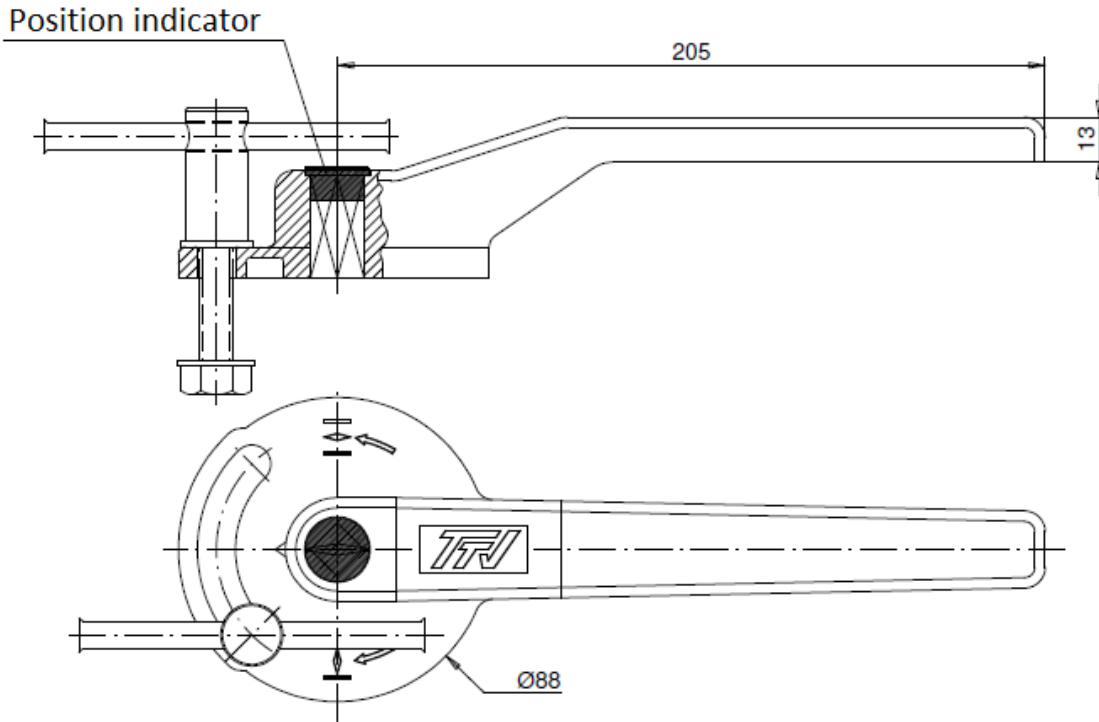
**DN 250 – 300 :**



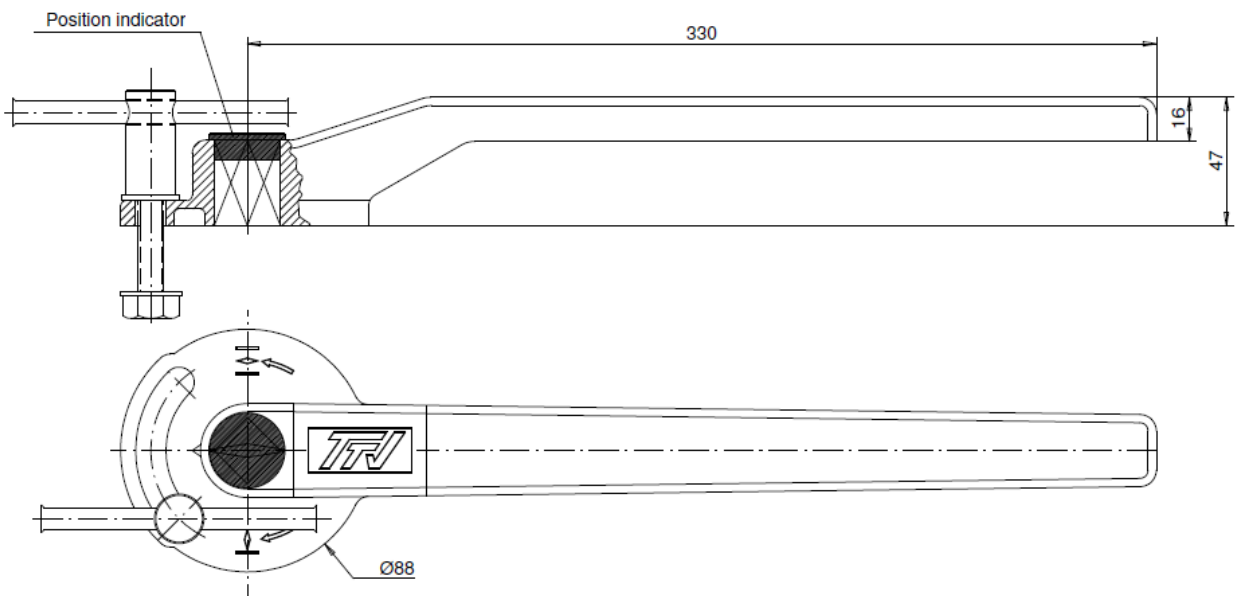
**CONCENTRIC LUG BUTTERFLY VALVE EXCELLENCE RANGE TTV  
DUCTILE IRON BODY-STAINLESS STEEL DISC AND NBR SEAT**

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

**DN 40 - 100**



**DN 125 - 200**

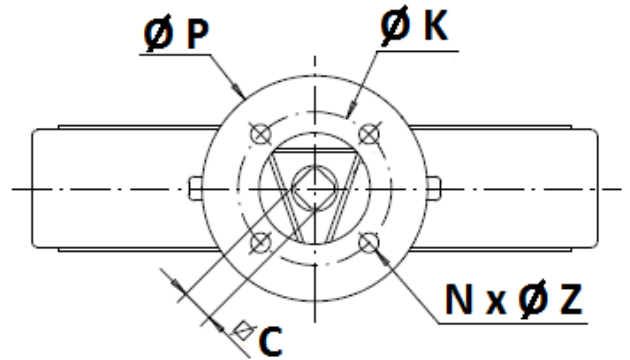
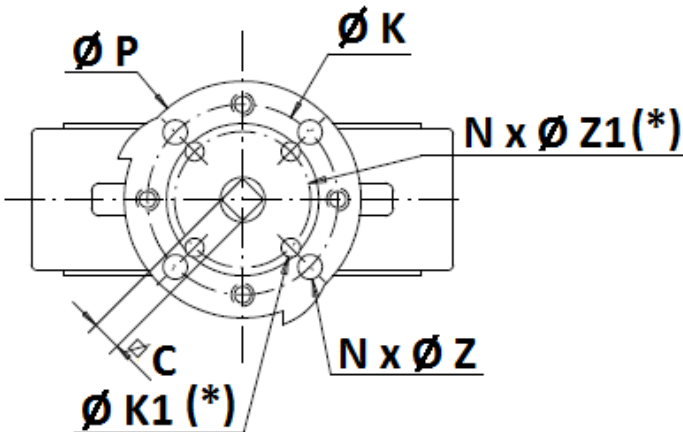
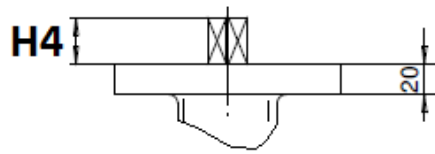
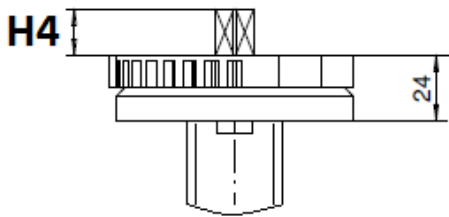


**CONCENTRIC LUG BUTTERFLY VALVE EXCELLENCE RANGE TTV**  
**DUCTILE IRON BODY-STAINLESS STEEL DISC AND NBR SEAT**

ISO MOUNTING PAD SIZE ( in mm ) :

**DN 32 – 200**

**DN250-300**

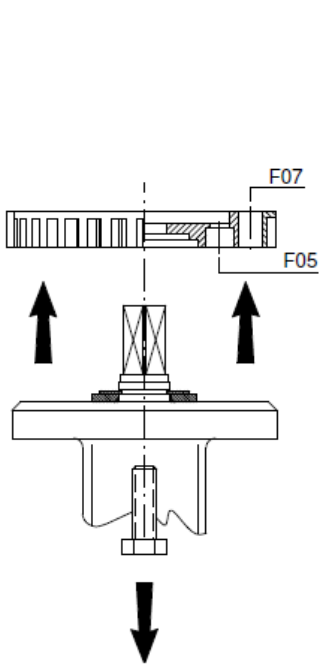


(\*) : Only from DN32 to DN100 (see installation for ISO plate F05 next page)

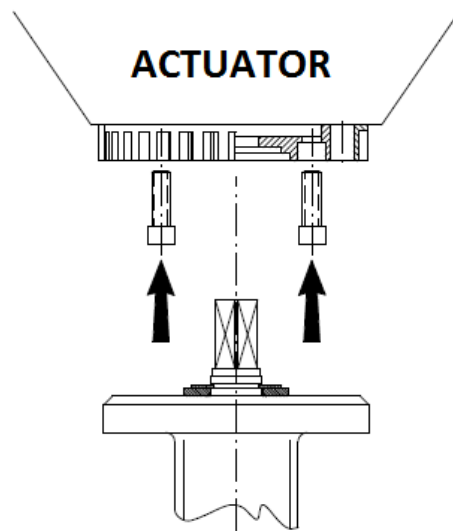
| DN       | 32/40 | 50 | 65 | 80 | 100 | 125 | 150 | 200    | 250 | 300 |  |
|----------|-------|----|----|----|-----|-----|-----|--------|-----|-----|--|
| H4       | 14    | 16 |    | 20 |     |     | 24  |        |     |     |  |
| C        | 8     | 9  | 11 |    | 14  |     | 17  | 19     | 22  |     |  |
| Ø K      | 70    |    |    |    |     |     |     | 102    |     |     |  |
| ISO      | F07   |    |    |    |     |     |     | F10    |     |     |  |
| N x Ø Z  | 4 x 9 |    |    |    |     |     |     | 4 x 11 |     |     |  |
| Ø K1     | 50    |    |    |    |     | -   |     |        |     |     |  |
| ISO 1    | F05   |    |    |    |     |     |     |        |     |     |  |
| N x Ø Z1 | 4 x 7 |    |    |    |     |     |     |        |     |     |  |
| Ø P      | 88    |    |    |    |     | 105 |     |        | 150 |     |  |

**CONCENTRIC LUG BUTTERFLY VALVE EXCELLENCE RANGE TTV  
DUCTILE IRON BODY-STAINLESS STEEL DISC AND NBR SEAT**

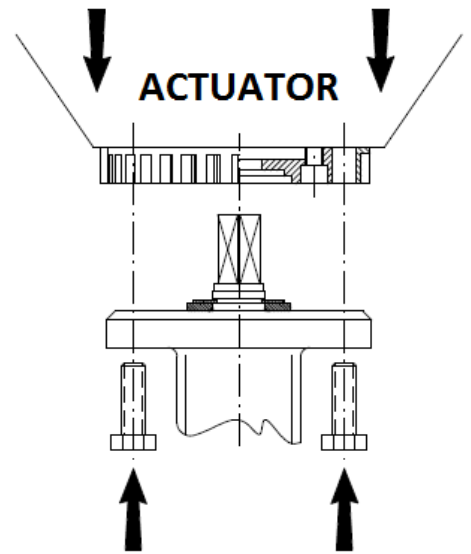
**ISO PLATE INSTALLATION FOR DN32-100 ISO F05 :**



Unscrew and remove the flange



Screw the flange to the actuator with hexagon socket screws

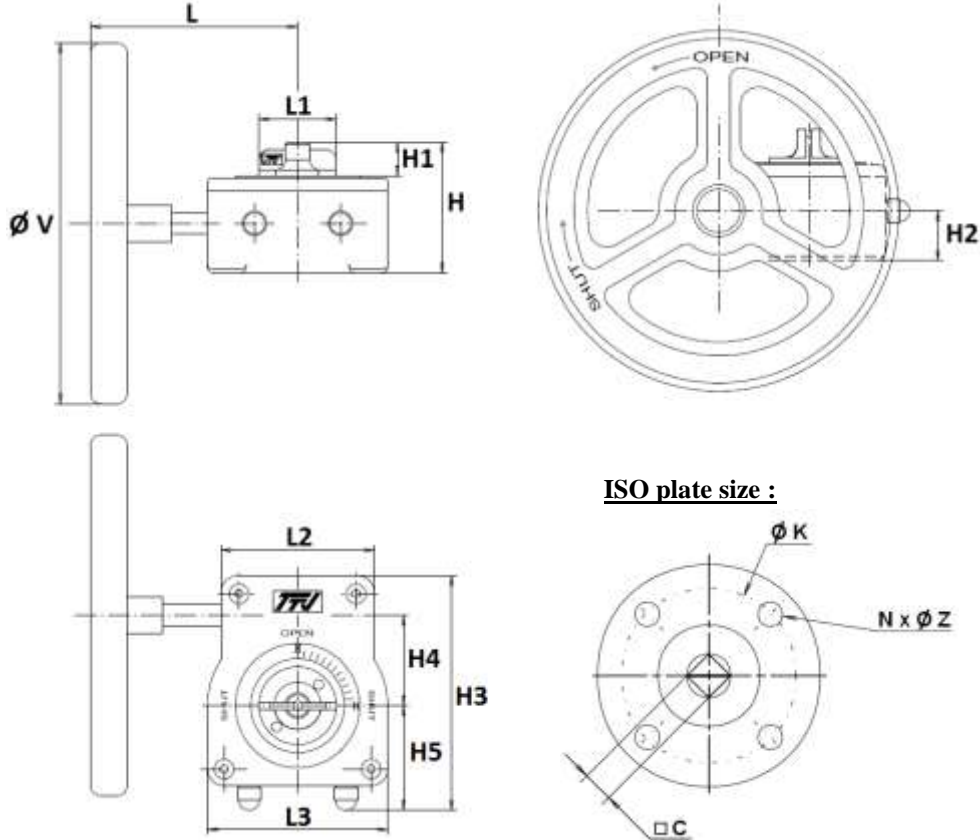


Screw the valve to the flange



**CONCENTRIC LUG BUTTERFLY VALVE EXCELLENCE RANGE TTV**  
**DUCTILE IRON BODY-STAINLESS STEEL DISC AND NBR SEAT**

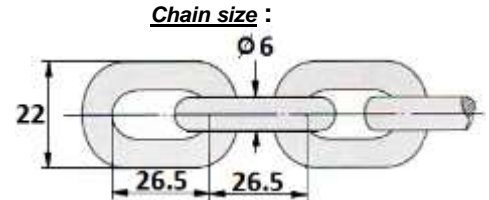
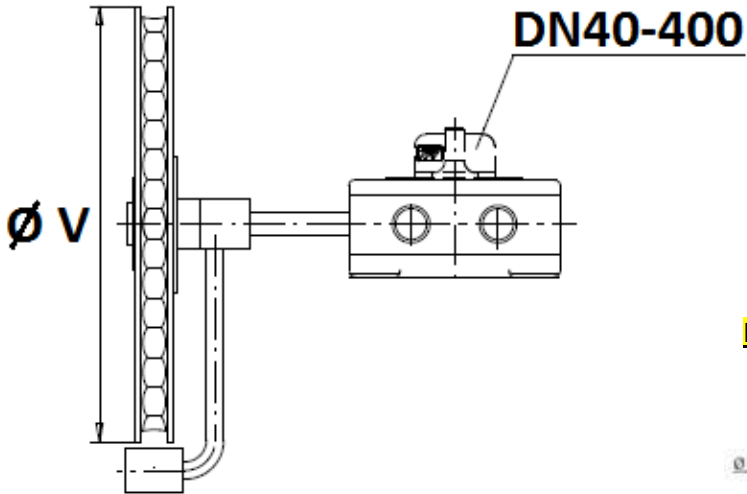
**GEARBOX SIZE REF.1197 ( in mm ) :**



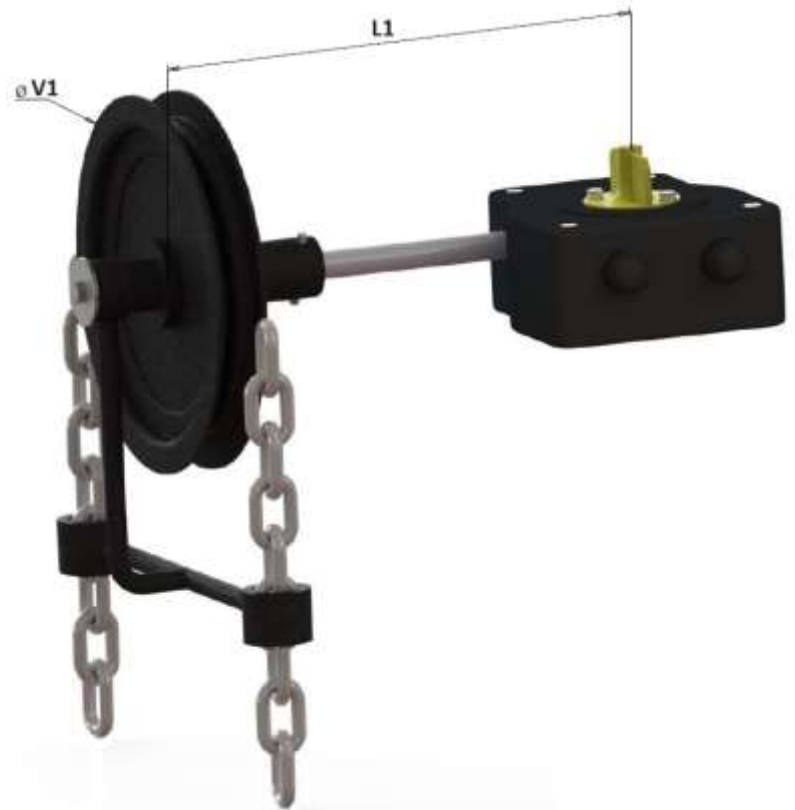
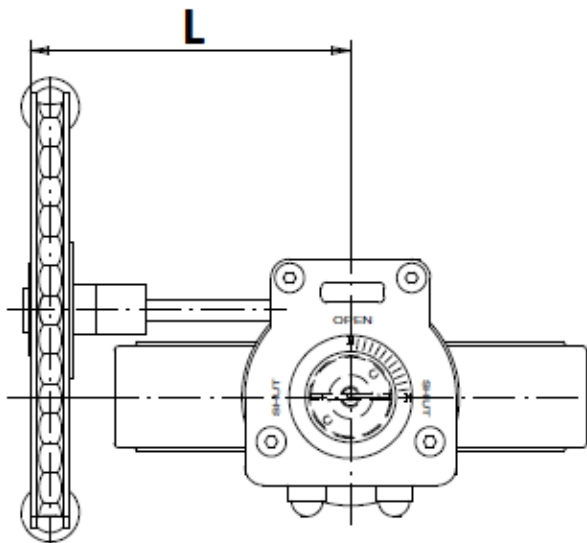
| DN          | 32/50   | 65      | 80/100  | 125/150 | 200     | 250     | 300     |
|-------------|---------|---------|---------|---------|---------|---------|---------|
| L           | 115     | 115     | 115     | 115     | 115     | 223.5   | 223.5   |
| L1          | 43      | 43      | 43      | 43      | 43      | 55      | 55      |
| L2          | 85      | 85      | 85      | 85      | 85      | 110     | 110     |
| L3          | 100     | 100     | 100     | 100     | 100     | 142     | 142     |
| H           | 73      | 73      | 73      | 73      | 73      | 103     | 103     |
| H1          | 19      | 19      | 19      | 19      | 19      | 33      | 33      |
| H2          | 27.5    | 27.5    | 27.5    | 27.5    | 27.5    | 42      | 42      |
| H3          | 130     | 130     | 130     | 130     | 130     | 176     | 176     |
| H4          | 50      | 50      | 50      | 50      | 50      | 60      | 60      |
| H5          | 58      | 58      | 58      | 58      | 58      | 82      | 82      |
| Ø V         | 140     | 140     | 140     | 200     | 200     | 300     | 300     |
| C           | 8       | 9       | 11      | 14      | 17      | 19      | 22      |
| Ø K         | 70      | 70      | 70      | 70      | 70      | 102     | 102     |
| ISO         | F07     | F07     | F07     | F07     | F07     | F10     | F10     |
| N x Ø Z     | 4 x M8  | 4 x M8  | 4 x M8  | 4 x M8  | 4 x M8  | 4 x M10 | 4 x M10 |
| Weight (Kg) | 1.35    | 1.35    | 1.35    | 1.75    | 1.75    | 4       | 4       |
| Ref.        | 1197050 | 1197065 | 1197100 | 1197150 | 1197200 | 1197250 | 1197300 |

**CONCENTRIC LUG BUTTERFLY VALVE EXCELLENCE RANGE TTV**  
**DUCTILE IRON BODY-STAINLESS STEEL DISC AND NBR SEAT**

**CHAIN GEARBOX SIZE REF.1194 ( in mm ) :**



**NEW TYPE (MODIFICATION IN PROGRESS) :**



| DN             | 32/50   | 65      | 80/100  | 125/150 | 200     | 250     | 300     |
|----------------|---------|---------|---------|---------|---------|---------|---------|
| L              | 120     |         |         | 215     |         | 325     |         |
| L1             | 110     |         |         |         |         | 250     |         |
| Ø V            | 160     |         |         | 210     |         | 300     |         |
| Ø V1           | 160     |         |         | 210     |         | 300     |         |
| Weight (in Kg) | 2.35    | 2.35    | 2.35    | 2.75    | 2.75    | 6.8     | 6.8     |
| Ref.           | 1194050 | 1194065 | 1194100 | 1194150 | 1194200 | 1194250 | 1194300 |

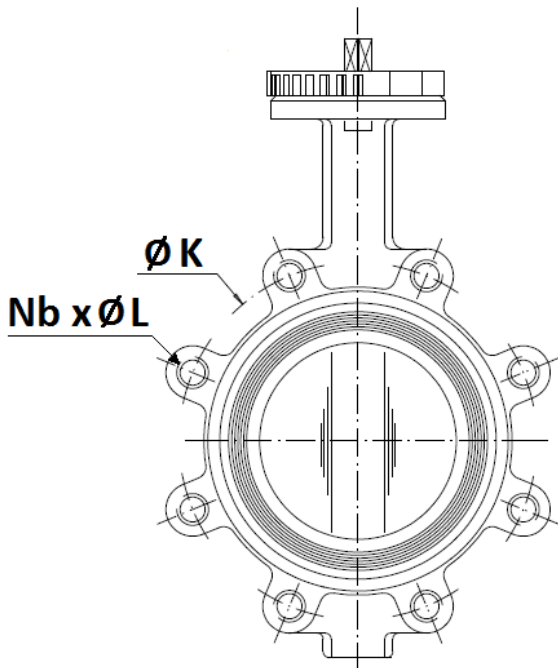
**CONCENTRIC LUG BUTTERFLY VALVE EXCELLENCE RANGE TTV**  
**DUCTILE IRON BODY-STAINLESS STEEL DISC AND NBR SEAT**

**GEARBOX SPECIFICATIONS :**

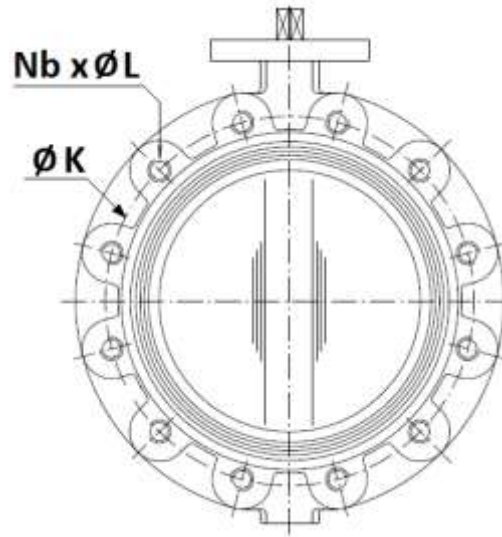
| DN                                 | 32/50   | 65      | 80/100  | 125/150 | 200     | 250     | 300     |
|------------------------------------|---------|---------|---------|---------|---------|---------|---------|
| Ref.                               | 1197050 | 1197065 | 1197100 | 1197150 | 1197200 | 1197250 | 1197300 |
| Ratio factor                       | 37 : 1  | 37 : 1  | 37 : 1  | 37 : 1  | 37 : 1  | 36 : 1  | 36 : 1  |
| Turns number for closing / opening | 9.25    | 9.25    | 9.25    | 9.25    | 9.25    | 9       | 9       |
| Input torque (Nm)                  | 9       | 9       | 9       | 9       | 9       | 18.5    | 18.5    |
| Output torque (Nm)                 | 250     | 250     | 250     | 250     | 250     | 500     | 500     |

**BETWEEN FLANGES SIZE ( in mm ) :**

**DN 32-150**



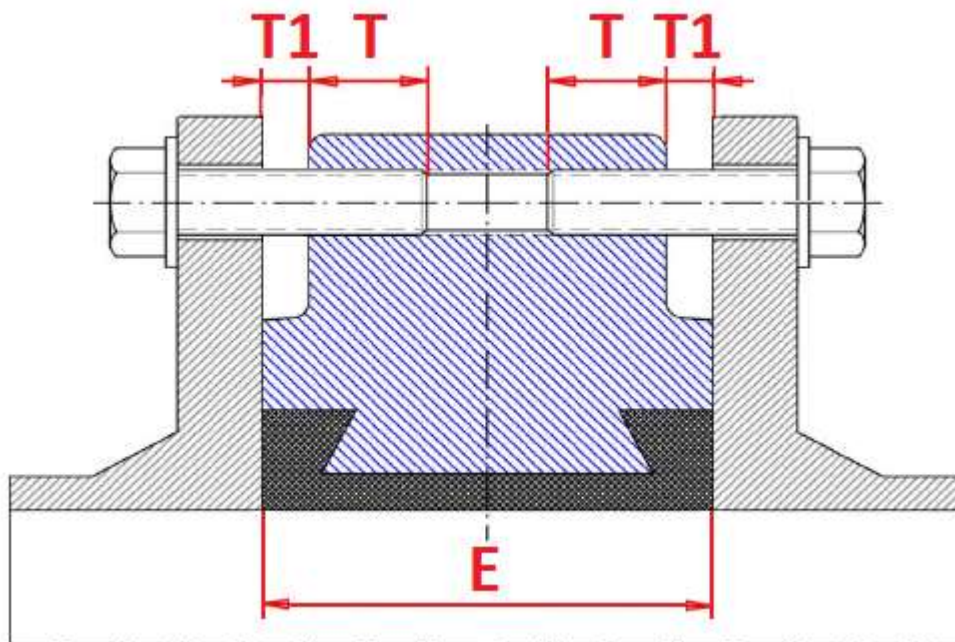
**DN200 – 400**



|           | DN (mm)  | 32       | 40    | 50       | 65    | 80      | 100    | 125      | 150     | 200    | 250       | 300   |
|-----------|----------|----------|-------|----------|-------|---------|--------|----------|---------|--------|-----------|-------|
|           | NPS (")  | 1"1/4    | 1"1/2 | 2"       | 2"1/2 | 3"      | 4"     | 5"       | 6"      | 8"     | 10"       | 12"   |
| PN10      | Ø K      | 100      | 110   | 125      | 145   | 160     | 180    | 210      | 240     | 295    | 350       | 400   |
|           | Nb x Ø L | 4 x M16  |       |          |       | 8 x M16 |        |          | 8 x M20 |        | 12 x M20  |       |
| PN16      | Ø K      | 100      | 110   | 125      | 145   | 160     | 180    | 210      | 240     | 295    | 355       | 410   |
|           | Nb x Ø L | 4 x M16  |       |          |       | 8 x M16 |        |          | 8xM20   | 12xM20 | 12 x M24  |       |
| Class 150 | Ø K      | 88.9     | 98.5  | 120.6    | 139.7 | 152.4   | 190.5  | 215.9    | 241.3   | 298.5  | 362       | 431.8 |
|           | Nb x Ø L | 4 x 1/2" |       | 4 x 5/8" |       |         | 8x5/8" | 8 x 3/4" |         |        | 12 x 7/8" |       |

**CONCENTRIC LUG BUTTERFLY VALVE EXCELLENCE RANGE TTV**  
**DUCTILE IRON BODY-STAINLESS STEEL DISC AND NBR SEAT**

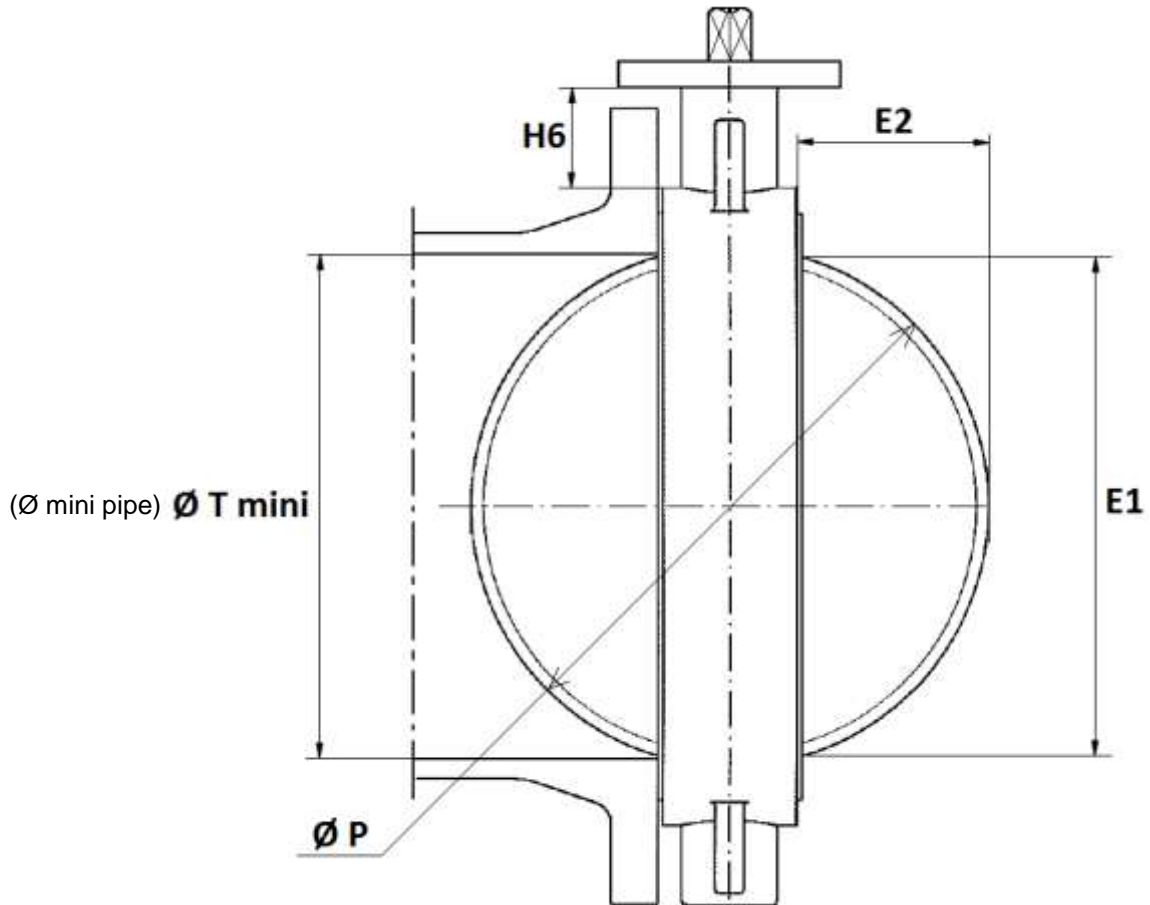
DEPTH THREADED HOLES (in mm) :



| DN  | PN10 | PN16 | Class 150 (PN20) | PN10, PN16 and CLASS 150 |    |
|-----|------|------|------------------|--------------------------|----|
|     | T    | T    | T                | T1                       | E  |
| 32  | 13.5 | 13.5 | 13.6             | 2.5                      | 33 |
| 40  | 13.5 | 13.5 | 12               | 2.5                      | 33 |
| 50  | 14.5 | 14.5 | 13.5             | 2.5                      | 43 |
| 65  | 13.5 | 13.5 | 14.3             | 3.5                      | 46 |
| 80  | 16   | 16   | 17.2             | 4                        | 46 |
| 100 | 17.5 | 17.5 | 18.7             | 2.5                      | 52 |
| 125 | 20   | 20   | 23.2             | 3                        | 56 |
| 150 | 20   | 20   | 21.6             | 3                        | 56 |
| 200 | 23   | 23   | 23.4             | 3                        | 60 |
| 250 | 26.5 | 26.5 | 27.3             | 2.5                      | 68 |
| 300 | 31   | 29   | 30.3             | 3                        | 78 |

**CONCENTRIC LUG BUTTERFLY VALVE EXCELLENCE RANGE TTV  
 DUCTILE IRON BODY-STAINLESS STEEL DISC AND NBR SEAT**

NECK AND DISC SIZE ( in mm ):

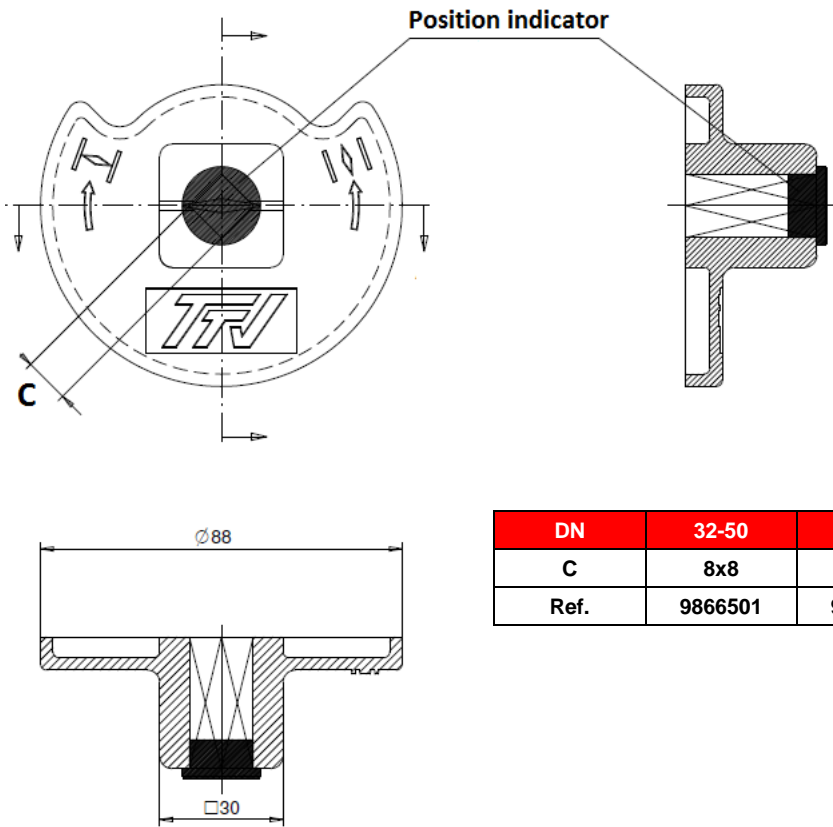


| DN       | 32/40 | 50   | 65  | 80 | 100 | 125  | 150  | 200 | 250 | 300   |
|----------|-------|------|-----|----|-----|------|------|-----|-----|-------|
| E1       | 23    | 24.5 | 46  | 65 | 85  | 109  | 136  | 188 | 238 | 289   |
| E2       | 3.5   | 3.5  | 9.5 | 17 | 24  | 33.5 | 45.5 | 69  | 90  | 110.5 |
| H6       | 76    | 82   | 80  | 80 | 88  | 93   | 89   | 99  | 71  | 76    |
| Ø T mini | 26    | 27.5 | 49  | 68 | 88  | 112  | 139  | 191 | 241 | 292   |
| Ø P      | 40    | 50   | 65  | 80 | 100 | 123  | 147  | 198 | 248 | 299   |

**CONCENTRIC LUG BUTTERFLY VALVE EXCELLENCE RANGE TTV  
DUCTILE IRON BODY-STAINLESS STEEL DISC AND NBR SEAT**

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 |

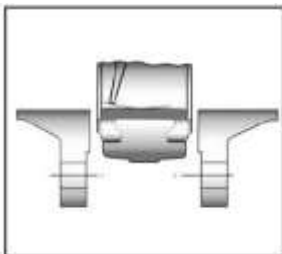


**CONCENTRIC LUG BUTTERFLY VALVE EXCELLENCE RANGE TTV  
DUCTILE IRON BODY-STAINLESS STEEL DISC AND NBR SEAT**

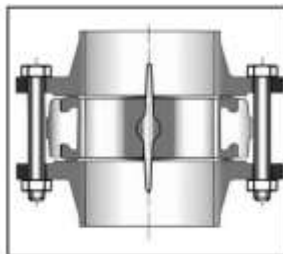
**STANDARDS :**

- Manufacturer certified ISO 9001:2015
- Designing according to ISO 10631 and EN 593
- DIRECTIVE 2014/68/EU : For liquids or Gas of Group 1
  - DN32-50 : Risk category I, CE marking
  - DN65-200 : Risk category II, CE0094 marking
  - DN250-300 : Risk category III, CE0094 marking
  - DN350 : Risk category II, CE0094 marking
  - DN400-600 : Risk category III, CE0094 marking
- Certificate 3.1 on request
- Pressure tests according to EN 12266-1, 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 series 4
  - DIN 3202 part 3, series K1
  - API 609 Table 1 up to DN600
  - ASME B16.10 Table 8 column 3
- ATEX Group II Category 2 G/2D Zone 1 & 21 Zone 2 &22 ( on request )
- The valves are suitable for use in a safety instrumented system up to SIL 2 in low demand mode. Under consideration of the minimum required hardware fault tolerance HFT= 1 the valves may be used in a redundant architecture up to SIL 3.
- Approval certificate **Marine BUREAU VERITAS on request**

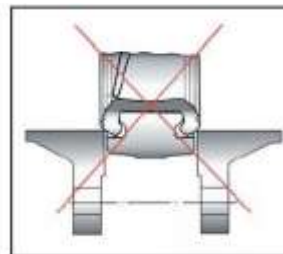
**INSTALLATION INSTRUCTIONS :**



**Half open valve introduction**



**Complete opened disc valves  
when screw tightening**



**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.