

# L32

## L32.5.1142 PN16 DN50-300 Butterfly valve wafer



Certificate 3.1

**Size :** DN 50 to 300 mm  
**Ends :** Between flanges PN10/16 and Class 150 (PN20)  
**Min Temperature :** - 10°C  
**Max Temperature :** + 110°C  
**Max Pressure :** 16 Bars  
**Specifications :** For fire network and sprinkler  
Wafer type  
Full crossing stem  
Gear box with position indicator

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

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

### SPECIFICATIONS :

- CNPP
- Long neck for isolation
- For fire network
- IP65 gearbox
- Gear box with position indicator
- Aluminium gear box with locking device (by steel chain for DN250 and 300)
- Valve indicator ( indicate valve position : opened or closed )
- Wafer type
- Between flanges PN10/16 and Class 150 (PN20)
- Full crossing stem
- Stainless steel disc up to DN100 included
- Ductile iron epoxy coated disc ( +/- 40 µ thickness ) from DN125 to DN300
- Rilsan coated body color RAL 5024 250-300 microns thickness

### USE :

- For fire network and sprinkler
- Min and max Temperature Ts : - 10°C to + 110°C
- Max Pressure Ps : 16 bars (see graph page 4)

### RANGE :

- Wafer butterfly valve with gear box **Ref. 1142** DN 50 to DN 300

### ENDS :

- Between flanges PN10-PN16 and Class 150 (PN20)

### TORQUE VALUE ( in Nm with safety coefficient of 30 % included ) at 16 bars:

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

### TORQUE VALUE ( in Nm with safety coefficient of 30 % included ) at 10 bars :

| DN            | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 |
|---------------|----|----|----|-----|-----|-----|-----|-----|-----|
| Torque ( Nm ) | 10 | 14 | 18 | 31  | 59  | 93  | 206 | 330 | 425 |

FLOW COEFFICIENT  $K_v$  (  $m^3/h$  ) :

| DN  | Opening angle |     |     |     |      |      |      |      |      |
|-----|---------------|-----|-----|-----|------|------|------|------|------|
|     | 10°           | 20° | 30° | 40° | 50°  | 60°  | 70°  | 80°  | 90°  |
| 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 :

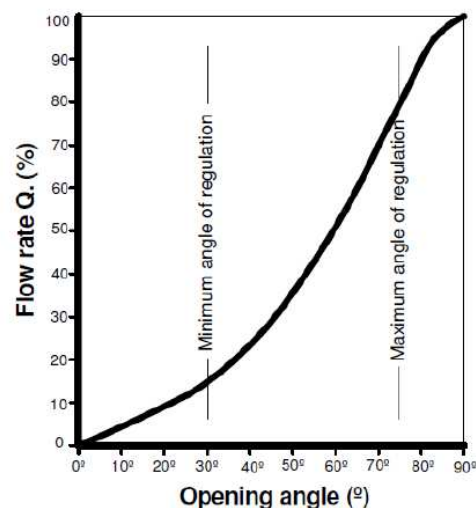
$$\Delta p = (Q / K_v)^2 \times SG$$

$Q$  : flow in  $m^3/h$

$\Delta p$  : Head loss in bar

$SG$  : Specific gravity (= 1 for water)

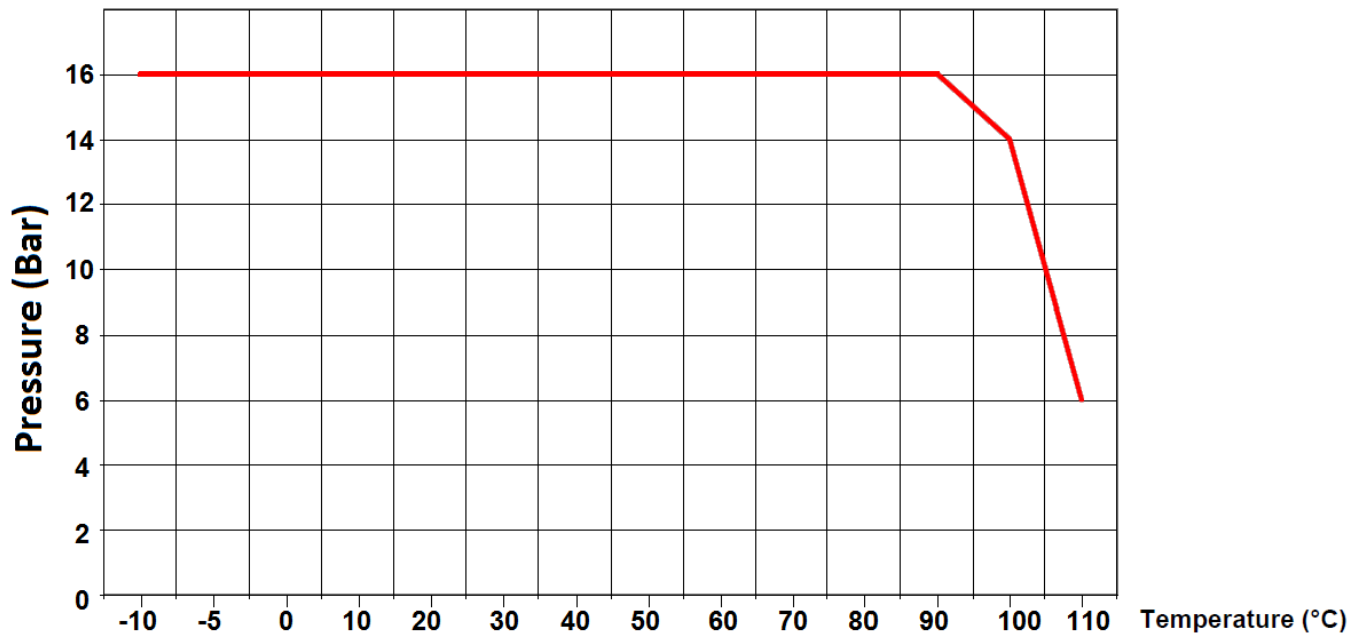
$K_v$  : Volume of water in  $m^3/h$ , that will flow through a given restriction or valve opening with a pressure drop of 1 bar at 20°C)



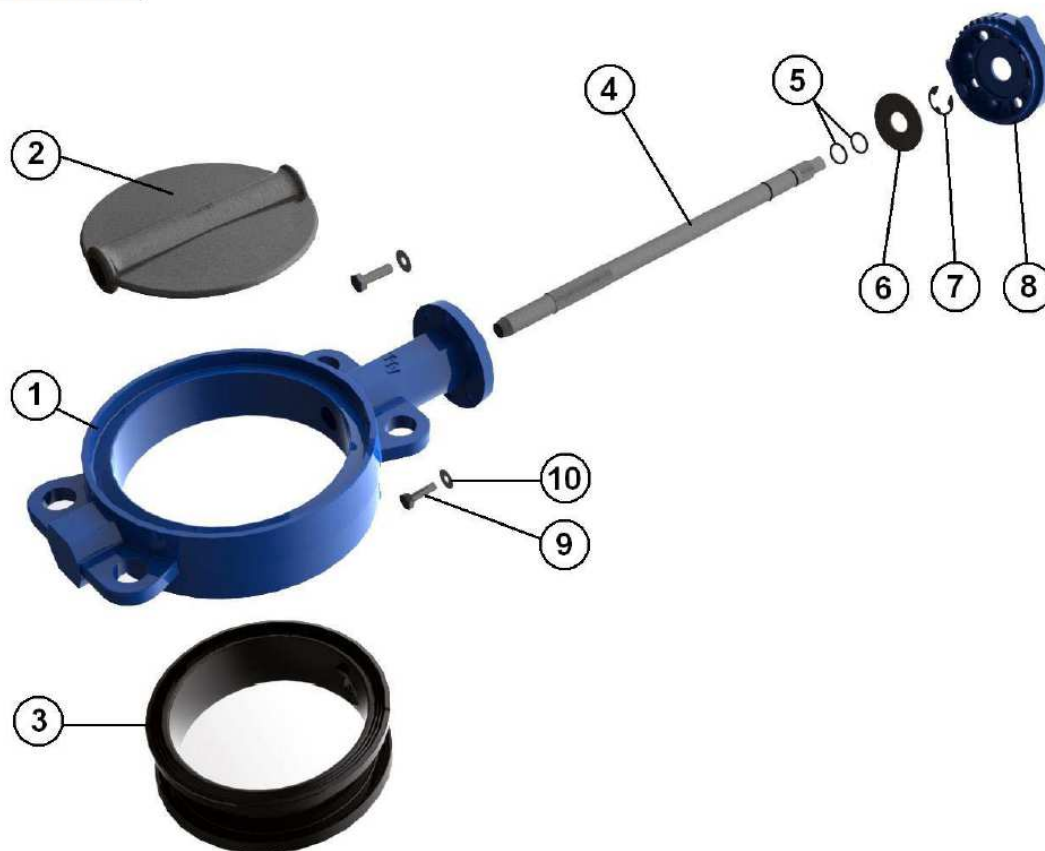
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Butterfly valve wafer

PRESSURE / TEMPERATURE GRAPH (STEAM EXCLUDED) :



MATERIALS DN 50 - 200 :

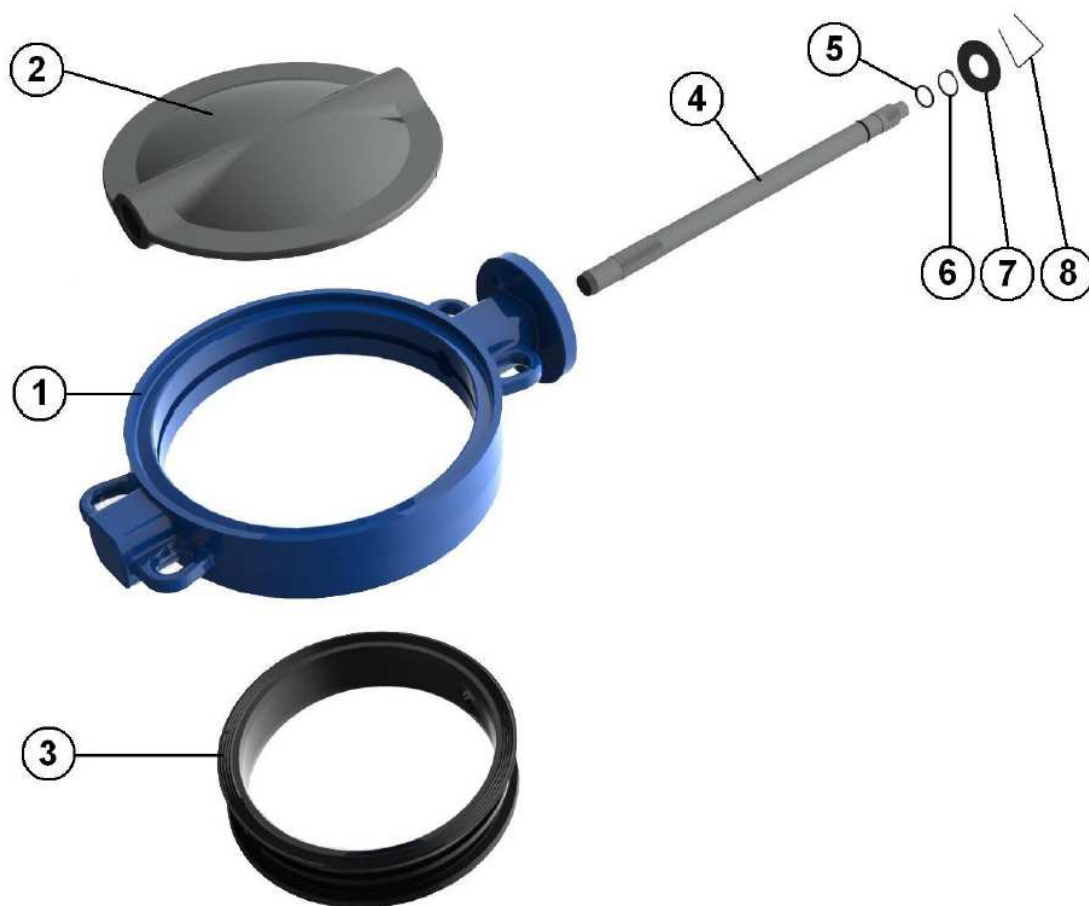


| Item | Designation      | Materials                                                                  |
|------|------------------|----------------------------------------------------------------------------|
| 1    | Body             | Ductile iron EN GJS-500-7 rilsan coated color RAL 5024 250-300 μ thickness |
| 2    | Disc DN 50 -100  | ASTM A351 CF8M                                                             |
| 2    | Disc DN125 - 200 | EN GJS-500-7 epoxy coated +/- 40μ                                          |
| 3    | Seat             | EPDM                                                                       |
| 4    | Stem             | AISI 420                                                                   |
| 5    | O ring           | EPDM                                                                       |
| 6    | Ring             | Steel                                                                      |
| 7    | Circlips         | Steel                                                                      |
| 8    | Plate            | Aluminium                                                                  |
| 9    | Plate screw      | 5.6                                                                        |
| 10   | Washer           | Steel                                                                      |

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MATERIALS DN 250 - 300 :

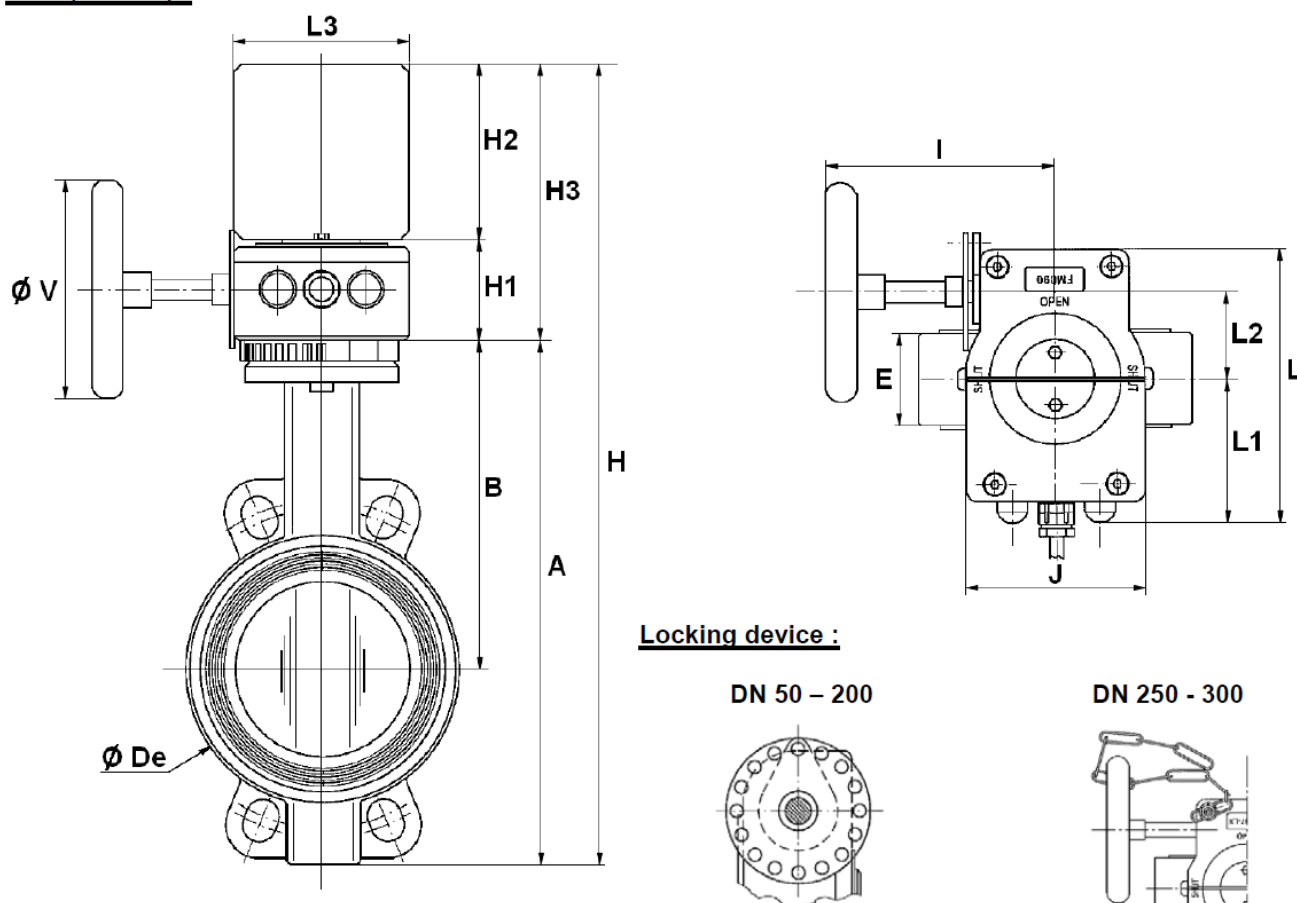


| Item | Designation | Materials                                                                      |
|------|-------------|--------------------------------------------------------------------------------|
| 1    | Body        | Ductile iron EN GJS-500-7 rilsan coated color RAL 5024 250-300 $\mu$ thickness |
| 2    | Disc        | EN GJS-500-7 epoxy coated +/- 40 $\mu$                                         |
| 3    | Seat        | EPDM                                                                           |
| 4    | Stem        | AISI 420                                                                       |
| 5    | O ring      | EPDM                                                                           |
| 6    | Circlips    | Steel                                                                          |
| 7    | Ring        | Steel                                                                          |
| 8    | Spring      | Steel                                                                          |

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SIZE ( in mm ) :



| DN            | 50    | 65    | 80    | 100   | 125   | 150   | 200   | 250   | 300   |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| E             | 43    | 46    | 46    | 52    | 56    | 56    | 60    | 68    | 78    |
| A             | 228   | 248   | 265   | 298   | 326   | 349   | 430   | 461   | 523   |
| B             | 156   | 161   | 169   | 187   | 206   | 215   | 255   | 248   | 280   |
| H             | 385.5 | 405.5 | 422.5 | 455.5 | 483.5 | 506.5 | 587.5 | 633.5 | 696.5 |
| H1            | 57.5  | 57.5  | 57.5  | 57.5  | 57.5  | 57.5  | 57.5  | 72.5  | 72.5  |
| H2            | 100   | 100   | 100   | 100   | 100   | 100   | 100   | 100   | 100   |
| H3            | 157.5 | 157.5 | 157.5 | 157.5 | 157.5 | 157.5 | 157.5 | 172.5 | 172.5 |
| L3            | 100   | 100   | 100   | 100   | 100   | 100   | 100   | 100   | 100   |
| Ø V           | 100   | 100   | 125   | 125   | 125   | 125   | 200   | 250   | 250   |
| I             | 132   | 132   | 131   | 131   | 131   | 131   | 143   | 210   | 210   |
| J             | 102   | 102   | 102   | 102   | 102   | 102   | 102   | 146   | 146   |
| L             | 156   | 156   | 156   | 156   | 156   | 156   | 156   | 177.5 | 177.5 |
| L1            | 82    | 82    | 82    | 82    | 82    | 82    | 82    | 82.5  | 82.5  |
| L2            | 50    | 50    | 50    | 50    | 50    | 50    | 50    | 60    | 60    |
| Ø De          | 102   | 119   | 135   | 155   | 185   | 208   | 270   | 328   | 381   |
| Weight ( Kg ) | 5.6   | 6.25  | 6.75  | 8     | 9.5   | 10.5  | 15.65 | 25.8  | 34.3  |

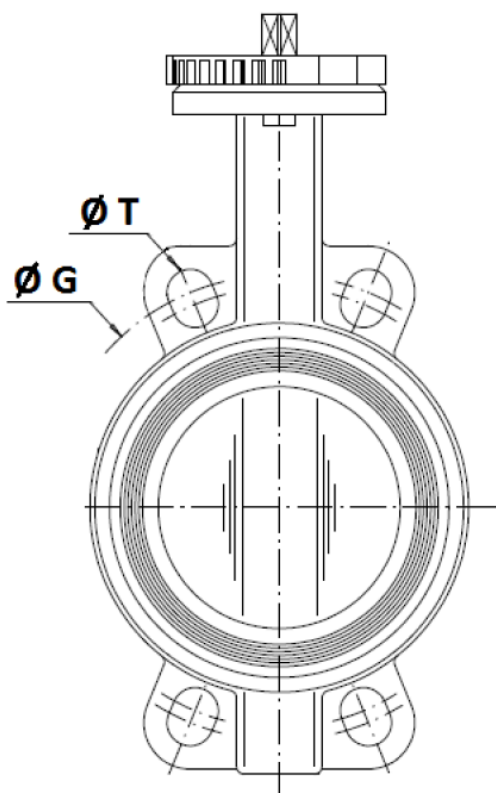


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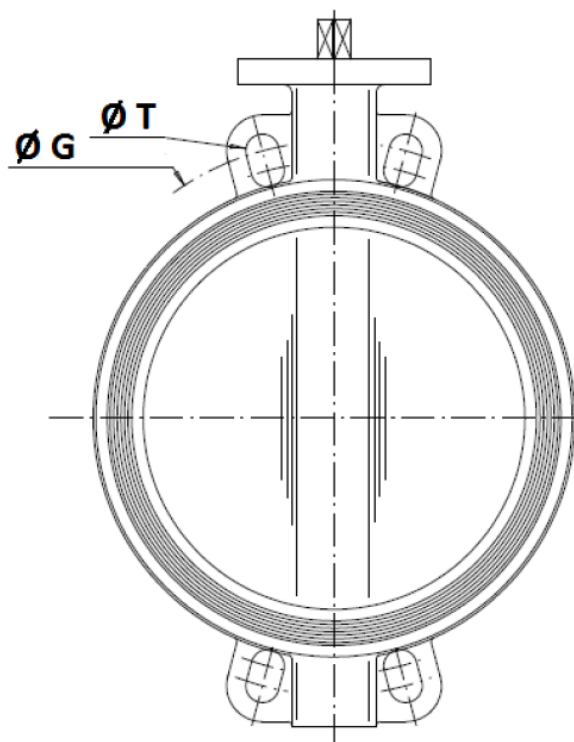
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BETWEEN FLANGES SIZE ( in mm ) :

DN 50 - 200



DN250 – 300



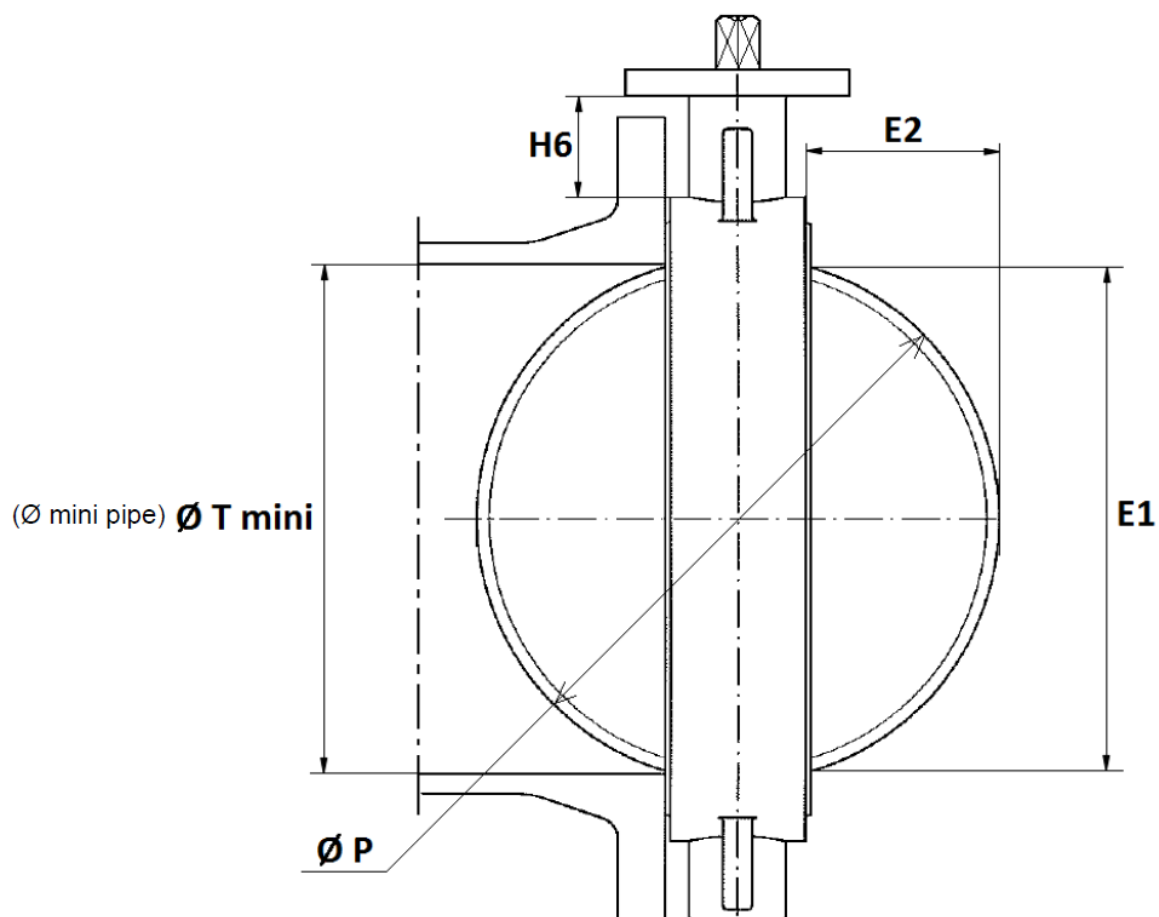
|           | DN (mm)   | 50    | 65     | 80    | 100   | 125   | 150   | 200   | 250 | 300   |
|-----------|-----------|-------|--------|-------|-------|-------|-------|-------|-----|-------|
|           | NPS ( " ) | 2"    | 2 1/2" | 3"    | 4"    | 5"    | 6"    | 8"    | 10" | 12"   |
| PN10      | Ø G       | 125   | 145    | 160   | 180   | 210   | 240   | 295   | 350 | 400   |
|           | Ø T       | 18    | 18     | 18    | 18    | 18    | 23    | 23    | 23  | 23    |
| PN16      | Ø G       | 125   | 145    | 160   | 180   | 210   | 240   | 295   | 355 | 410   |
|           | Ø T       | 18    | 18     | 18    | 18    | 18    | 23    | 23    | 27  | 27    |
| Class 150 | Ø G       | 120.6 | 139.7  | 152.4 | 190.5 | 215.9 | 241.3 | 298.5 | 362 | 431.8 |
|           | Ø T       | 19    | 19     | 19    | 19    | 23    | 23    | 23    | 26  | 26    |



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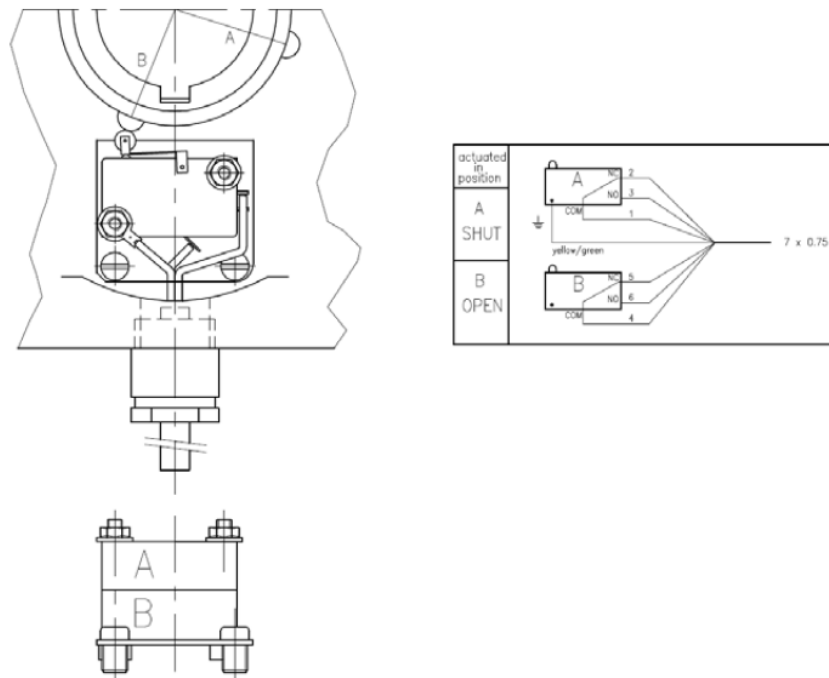
DISC AND NECK SIZE ( in mm ) :



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

### POSITION INDICATOR :

- A double contact ( incompleted opening position ) , signal at the beginning of closure.
- 7 wires cable 0.75 mm<sup>2</sup> 1 meter long



### STANDARDS :

- Fabrication according to ISO 9001:2008
- DIRECTIVE 2014/68/UE : CE N° 0038  
Risk Category III module H
- Certificate 3.1 on request
- Designing according to NF EN 593 v 2004
- Marking according to NFE 29-130
- 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 Wafer short/medium, DIN 3202 part 3, series K1
- Belongs to the list of materials that can be used as part of an installation according to the rule **APSAD R1**

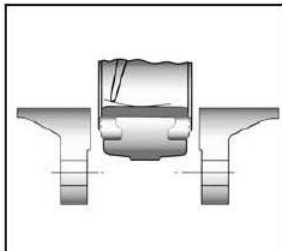
### INSTALLATION INSTRUCTIONS

#### GENERAL GUIDELINES :

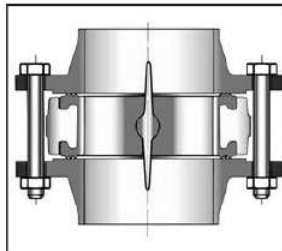
- Ensure that the valves to be used are appropriate for the conditions of the installation (type of fluid, pressure and temperature).
- Be sure to have enough valves to be able to isolate the sections of piping as well as the appropriate equipment for maintenance and repair.
- Ensure that the valves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

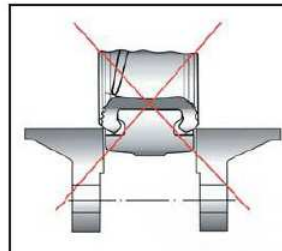
- **Before installing the valves, clean and remove any objects from the pipes** (in particular bits of sealing and metal) which could obstruct and block the valves.
- **Ensure that both connecting pipes either side of the valve (upstream and downstream) are aligned** (if they're not, the valves may not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

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### 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.