

**LUG BUTTERFLY VALVE PERFORMANCE RANGE
DUCTILE IRON BODY WITH STAINLESS STEEL DISC AND EPDM HT SEAT**



Certificate 3.1

Size : DN 40 to 600 mm
Ends : Between flanges PN10/16
Min Temperature : - 20°C
Max Temperature : + 130°C
Max Pressure : 16 Bars up to DN300, 10 bars over
Specifications : Long neck for isolation
Stainless steel disc
Full crossing stem (up to DN65)
EPDM HT seat
With ISO 5211 mounting pad

Materials : Ductile iron body EN GJS-400-15

**LUG BUTTERFLY VALVE PERFORMANCE RANGE
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SPECIFICATIONS :

- Long neck for isolation
- ISO 5211 mounting pad
- Lug type
- Between flanges PN10/16
- Full crossing stem (up to DN65)
- Removable EPDM HT seat
- 9 positions lever up to DN150 and 12 positions lever from DN200 to 300, locking device in opened position
- Stainless steel disc
- Epoxy RAL 5012 electrostatic painting coated body, 250 μ thickness

USE :

- Cold and hot water, sea water, demineralized water, alcohol, milk of lime, mercury, alcalins, hydroxid of soda
- Min and max Temperature Ts : - 20°C to + 130°C
- Max Pressure Ps : 16 bars up to DN300, 10 bars over
- For temporary using, can be used at the end of the pipe (6 bars max)
- For final using, can be used at the end of the pipe if assembled with a flange (10 bars max)

RANGE :

- With lever from DN 40 to DN 300
- With gearbox from DN350 to 600
- Possible with gearbox **Ref. 1192** from DN 40 to DN 300

ENDS :

- Between flanges PN10/16

TORQUE VALUE (Nm, without safety coefficient) at 16 Bars :

| DN | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 |
|---------------|----|------|------|------|------|------|-----|-----|-----|-----|
| Torque (Nm) | 11 | 15.1 | 17.2 | 23.1 | 39.8 | 61.9 | 102 | 192 | 323 | 490 |

TORQUE VALUE (Nm, without safety coefficient) at 10 Bars :

| DN | 32-40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 |
|---------------|-------|------|------|----|------|------|------|-------|-------|-------|
| Torque (Nm) | 10.5 | 14.3 | 16.3 | 22 | 37.8 | 58.8 | 96.9 | 182.4 | 306.9 | 465.5 |

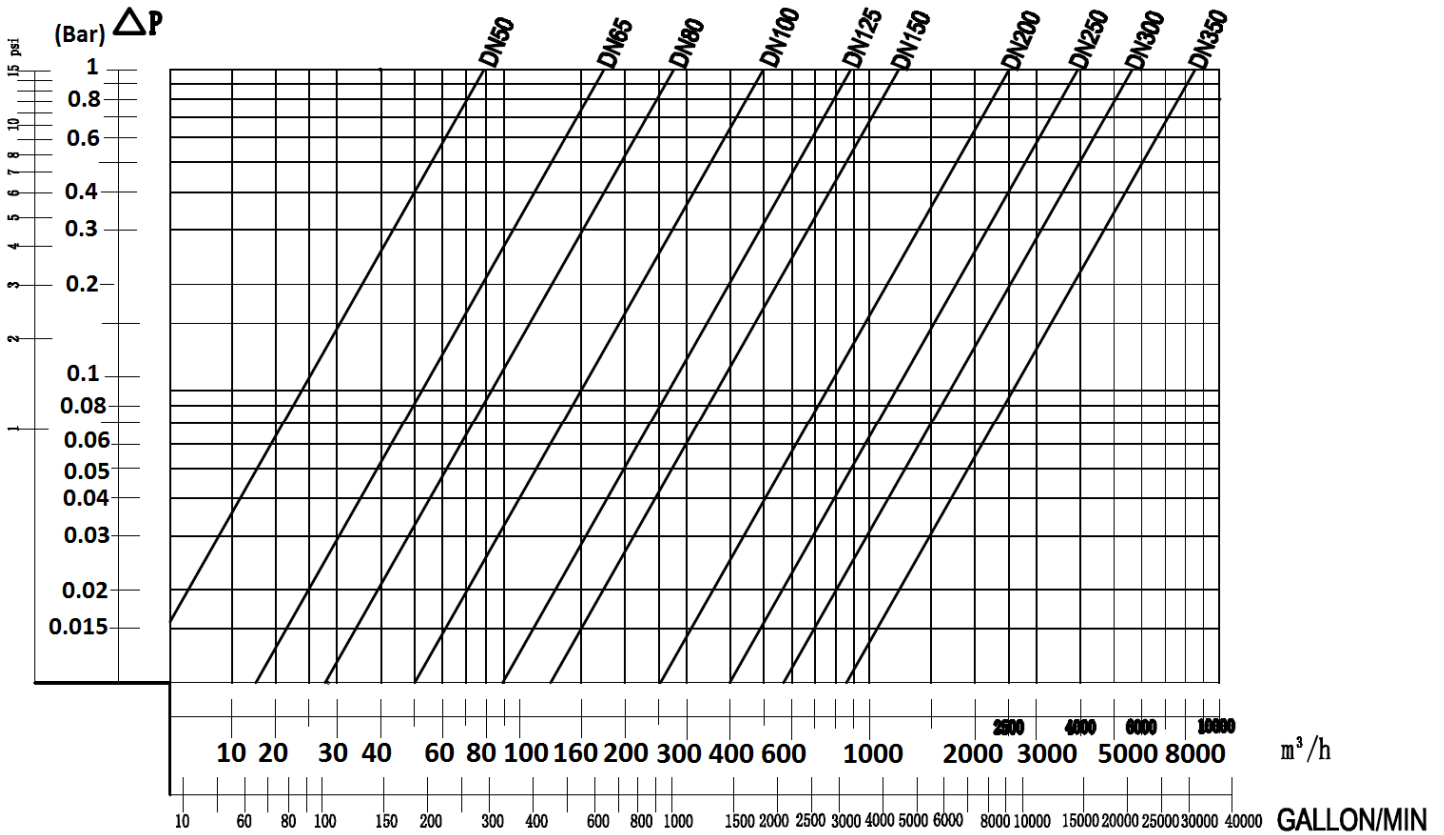
| DN | 350 | 400 | 450 | 500 | 600 |
|---------------|-----|-----|------|------|------|
| Torque (Nm) | 550 | 755 | 1012 | 1350 | 2111 |

**LUG BUTTERFLY VALVE PERFORMANCE RANGE
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FLOW COEFFICIENTS Kv (m³ / h) :

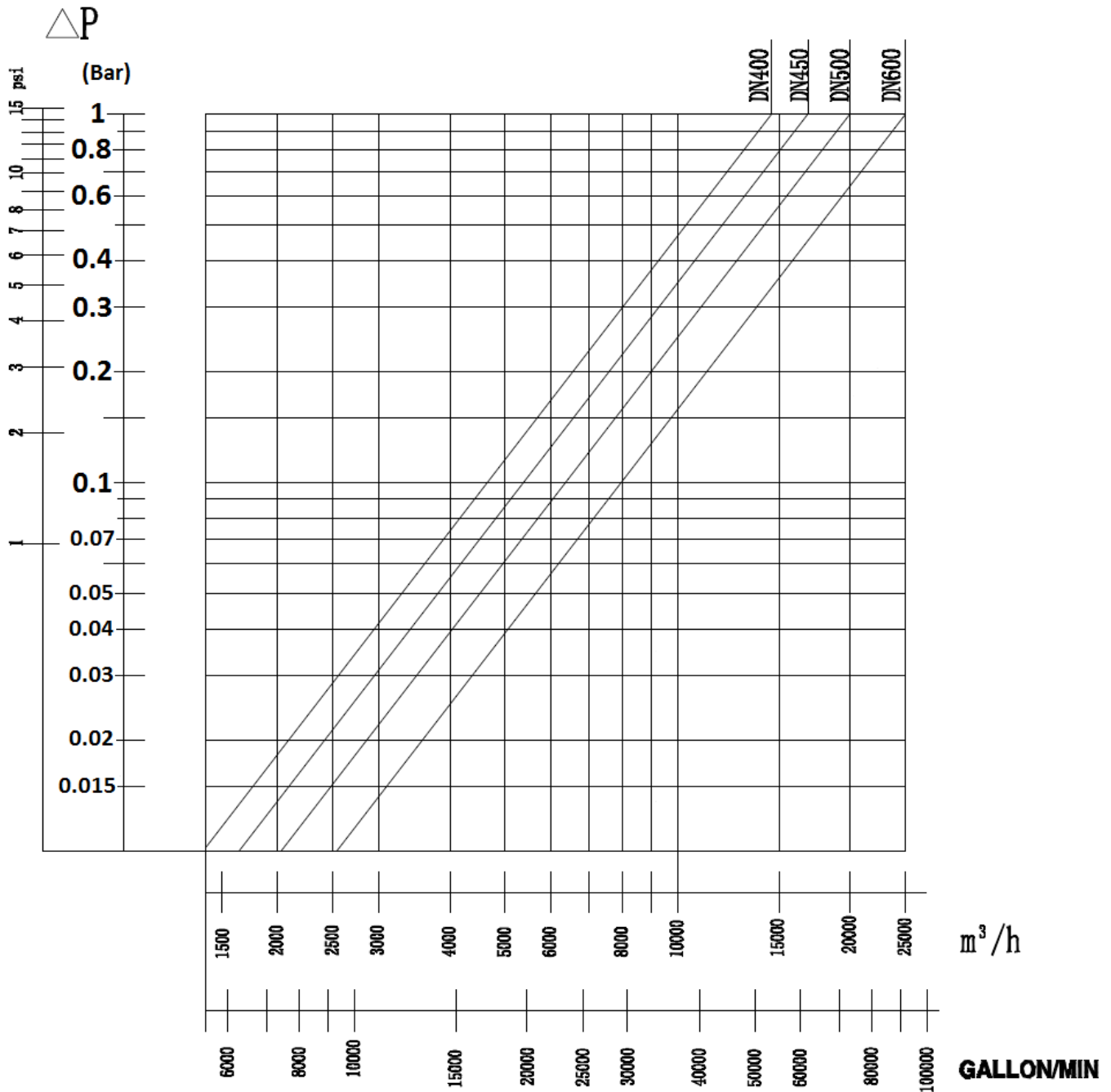
| Kv | OPENING ANGLE | | | | | | | | |
|-----|---------------|------|------|------|------|-------|-------|-------|-------|
| | 10° | 20° | 30° | 40° | 50° | 60° | 70° | 80° | 90° |
| 50 | 0,05 | 2,6 | 6,0 | 13 | 23 | 38 | 60 | 90 | 99 |
| 65 | 0,09 | 5 | 10 | 21 | 39 | 64 | 102 | 153 | 168 |
| 80 | 0,17 | 8 | 15 | 33 | 60 | 99 | 157 | 236 | 259 |
| 100 | 0,26 | 15 | 31 | 67 | 119 | 197 | 312 | 468 | 514 |
| 125 | 0,43 | 25 | 52 | 114 | 203 | 336 | 531 | 797 | 876 |
| 150 | 0,69 | 39 | 81 | 176 | 314 | 518 | 821 | 1231 | 1353 |
| 200 | 1,7 | 76 | 161 | 350 | 623 | 1030 | 1631 | 2446 | 2687 |
| 250 | 2,6 | 129 | 274 | 595 | 1060 | 1754 | 2776 | 4164 | 4576 |
| 300 | 3 | 201 | 424 | 919 | 1638 | 2710 | 4289 | 6433 | 7069 |
| 350 | 5 | 290 | 613 | 1327 | 2366 | 3914 | 6195 | 9292 | 10212 |
| 400 | 7 | 398 | 842 | 1825 | 3254 | 5383 | 8519 | 12779 | 14043 |
| 450 | 9 | 527 | 1116 | 2418 | 4308 | 7129 | 11284 | 16925 | 18599 |
| 500 | 12 | 678 | 1411 | 3109 | 5540 | 9167 | 14508 | 21762 | 23914 |
| 600 | 19 | 1047 | 2217 | 4803 | 8560 | 14163 | 22414 | 33621 | 36946 |

HEAD LOSS GRAPH DN50-350 :



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HEAD LOSS GRAPH DN400-600 :

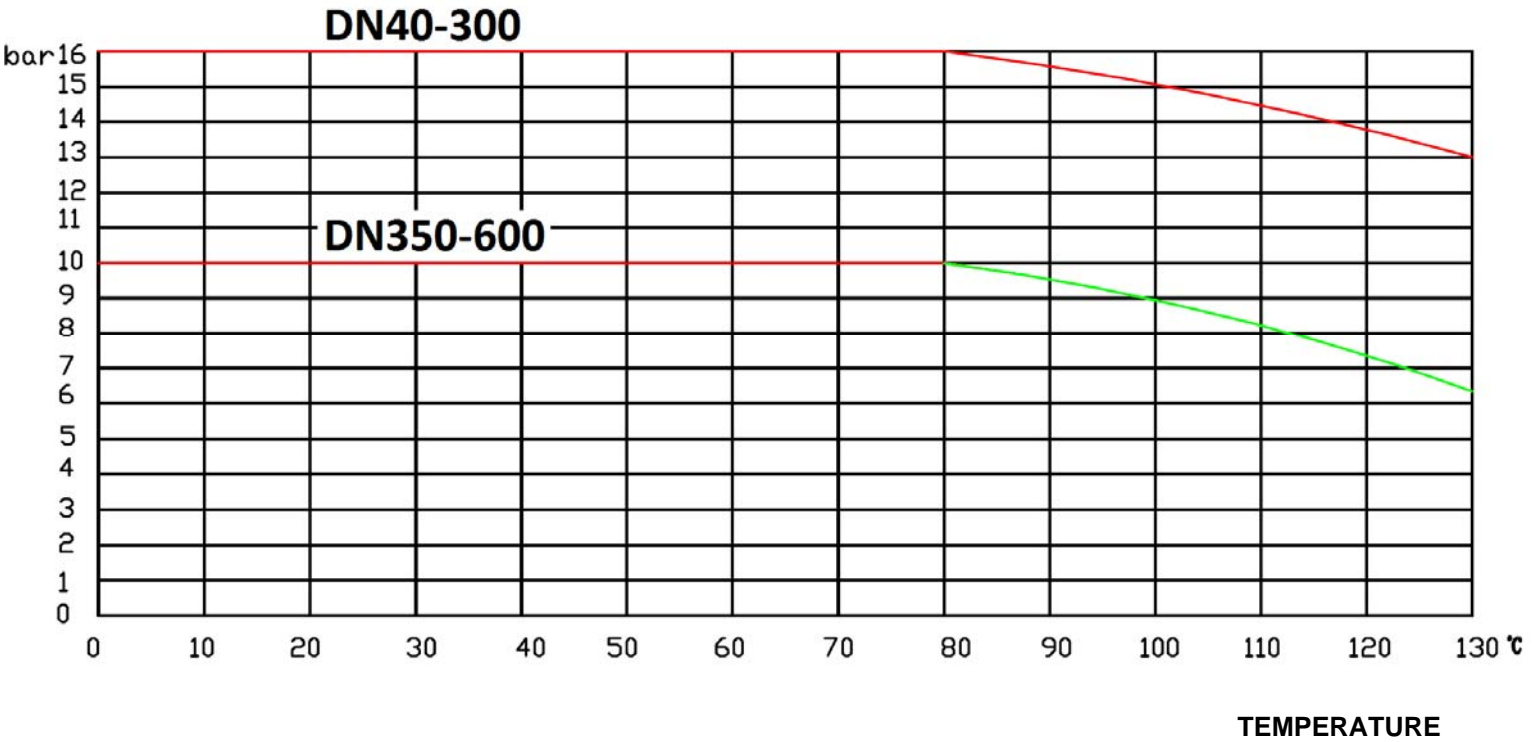




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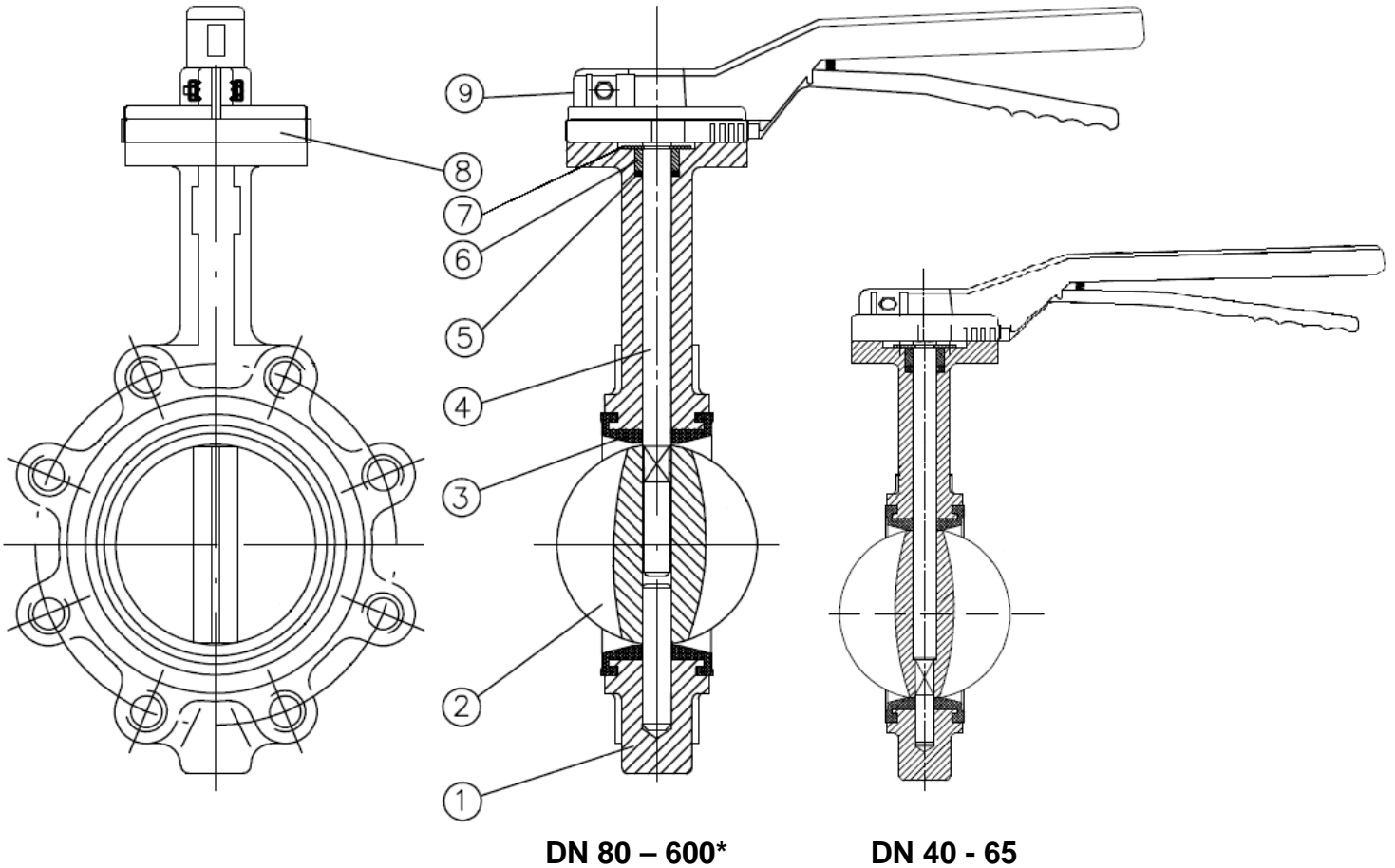
PRESSURE / TEMPERATURE GRAPH (STEAM EXCLUDED) :

Pressure



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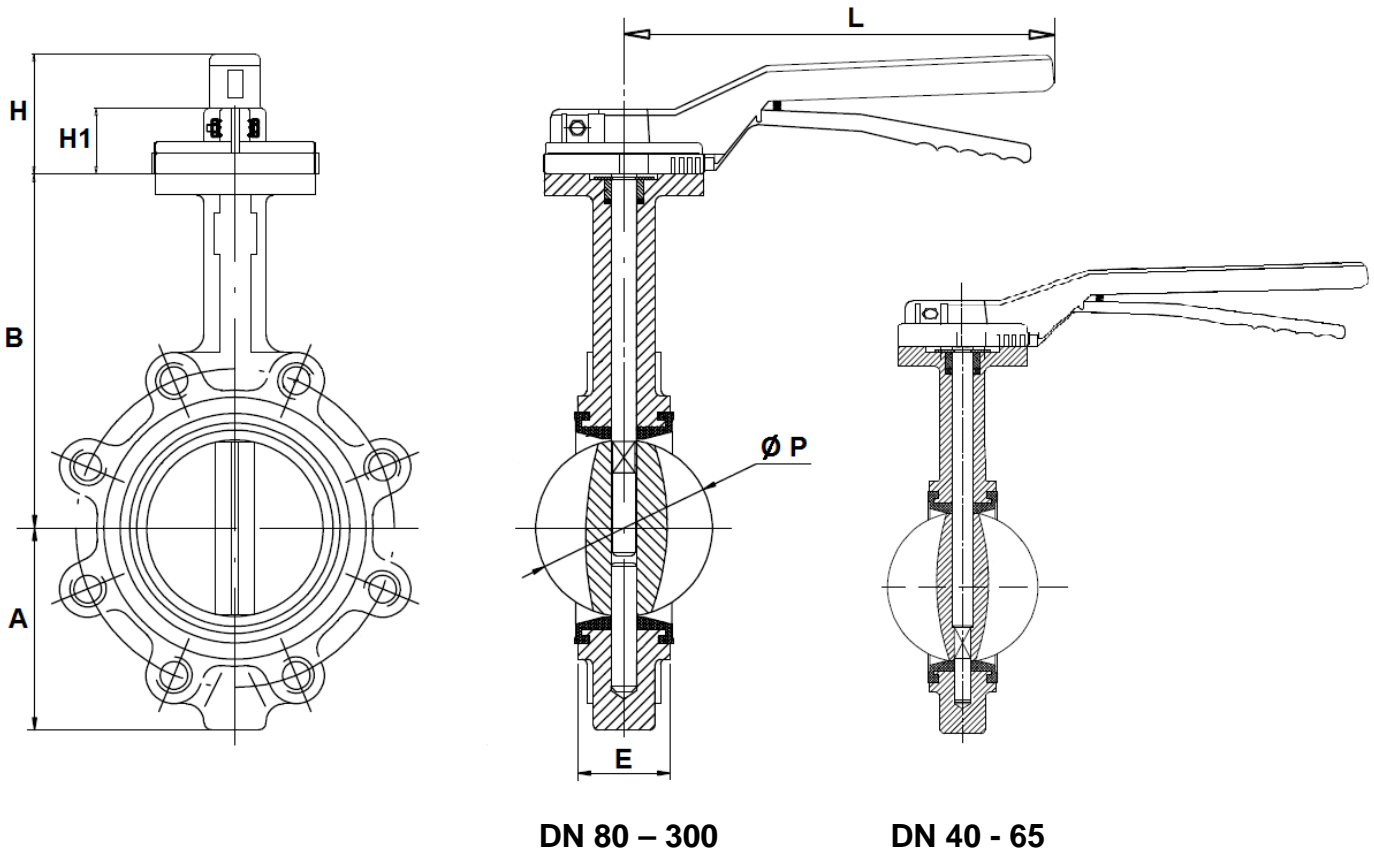
MATERIALS :



| Item | Designation | Materials |
|------------------|-------------|----------------------------|
| 1 | Body | Ductile iron EN GJS-400-15 |
| 2 | Disc | ASTM A351 CF8M |
| 3 | Seat | EPDM HT |
| 4 | Stem | SS 416 |
| 5 | Gasket | NBR |
| 6 | Bushing | PTFE |
| 7 | Circlips | Steel |
| 8 | Plate | Aluminium |
| 9 (*up to DN300) | Lever | Aluminium |

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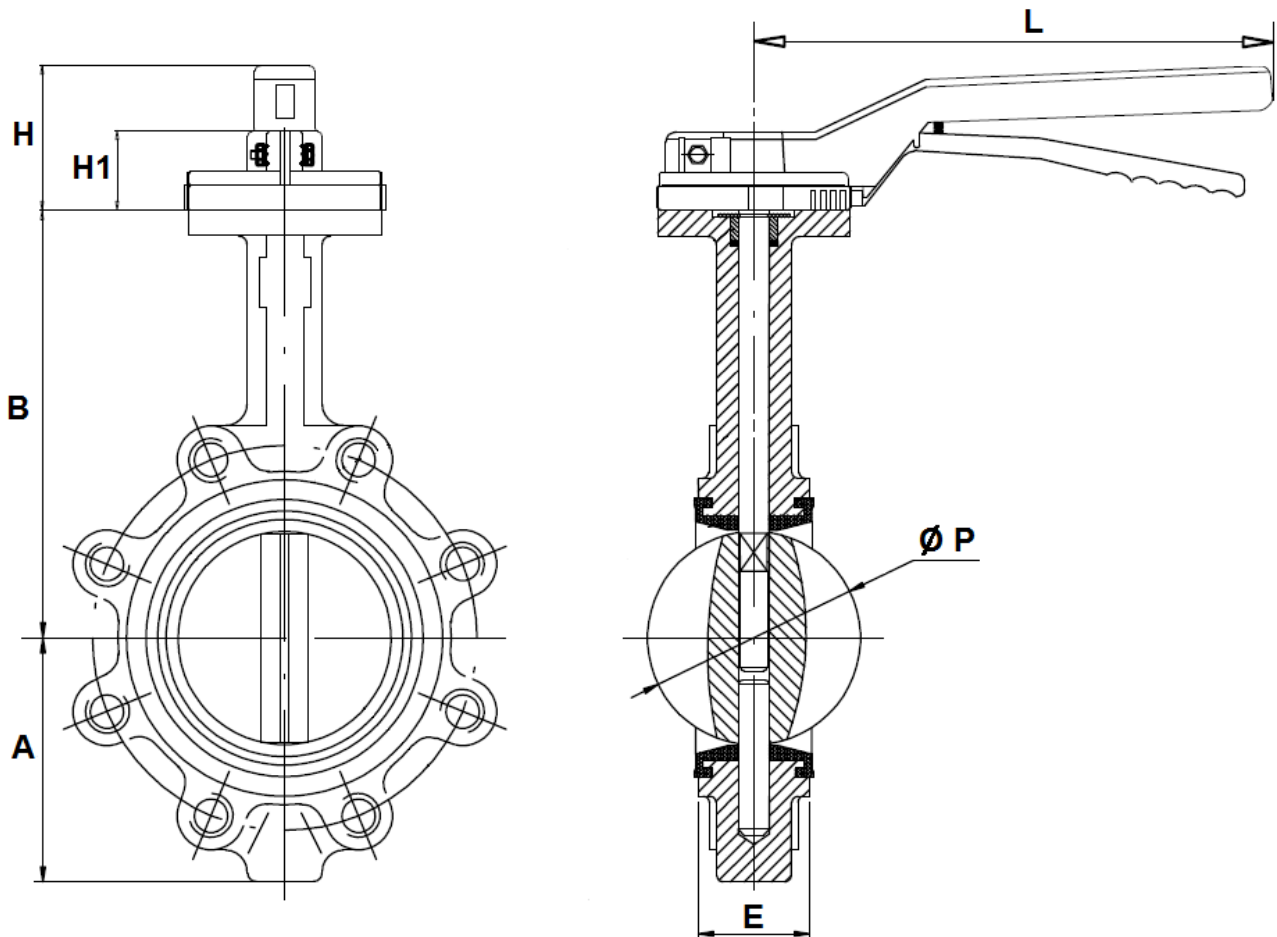
VALVE SIZE (in mm) DN40-300 :



| DN | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 |
|-------------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| Ø P | 42.9 | 52.7 | 64.4 | 78.9 | 104.1 | 123.4 | 155.7 | 202.5 | 250.5 | 301.5 |
| L | 200 | 200 | 200 | 200 | 200 | 325 | 325 | 400 | 400 | 400 |
| E | 33 | 43 | 46 | 46 | 52 | 56 | 56 | 60 | 68 | 78 |
| H1 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 46 | 46 | 46 |
| H | 74 | 74 | 74 | 74 | 74 | 75 | 75 | 75 | 75 | 75 |
| B | 120 | 140 | 150 | 158 | 176 | 190 | 211 | 235 | 265 | 305 |
| A | 57 | 65 | 75 | 93 | 108 | 125 | 135 | 170 | 205 | 238 |
| Weight (Kg) | 3 | 4 | 4.6 | 6 | 7.7 | 9.9 | 12.4 | 20.7 | 30.4 | 42.4 |

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DUCTILE IRON BODY WITH STAINLESS STEEL DISC AND EPDM HT SEAT**

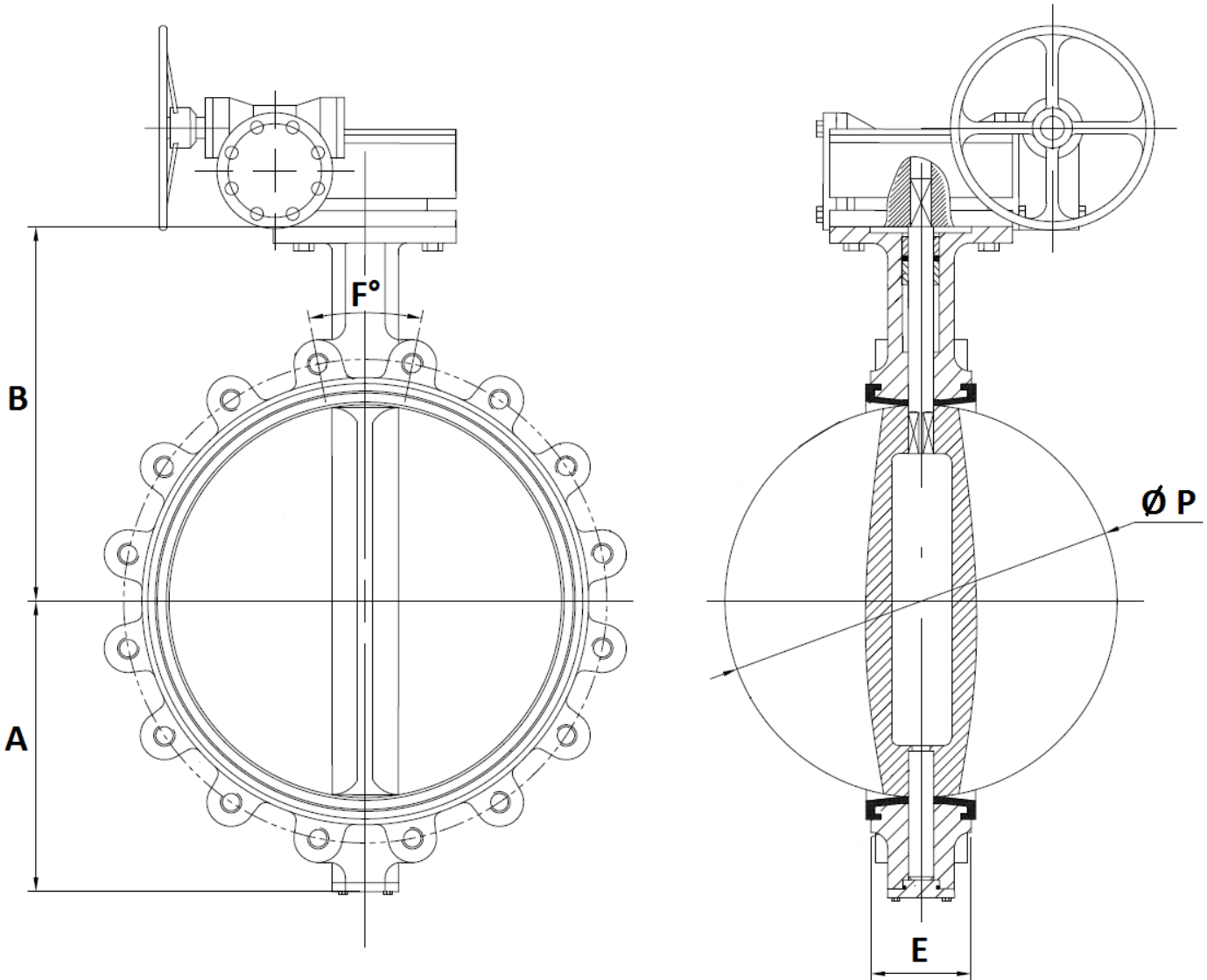
VALVE SIZE (in mm) DN200-300 :



| DN | 200 | 250 | 300 |
|-------------|-------|-------|-------|
| Ø P | 202.5 | 250.5 | 301.5 |
| L | 400 | 400 | 400 |
| E | 60 | 68 | 78 |
| H1 | 46 | 46 | 46 |
| H | 75 | 75 | 75 |
| B | 235 | 265 | 305 |
| A | 170 | 205 | 238 |
| Weight (Kg) | 20.2 | 30.4 | 42.4 |

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VALVE SIZE (in mm) DN350-600 :



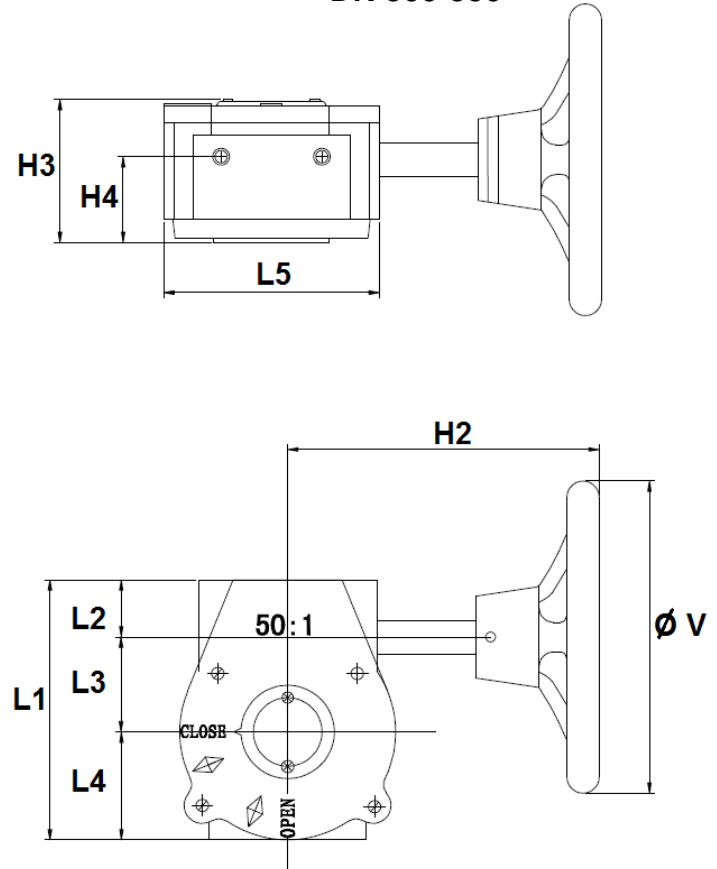
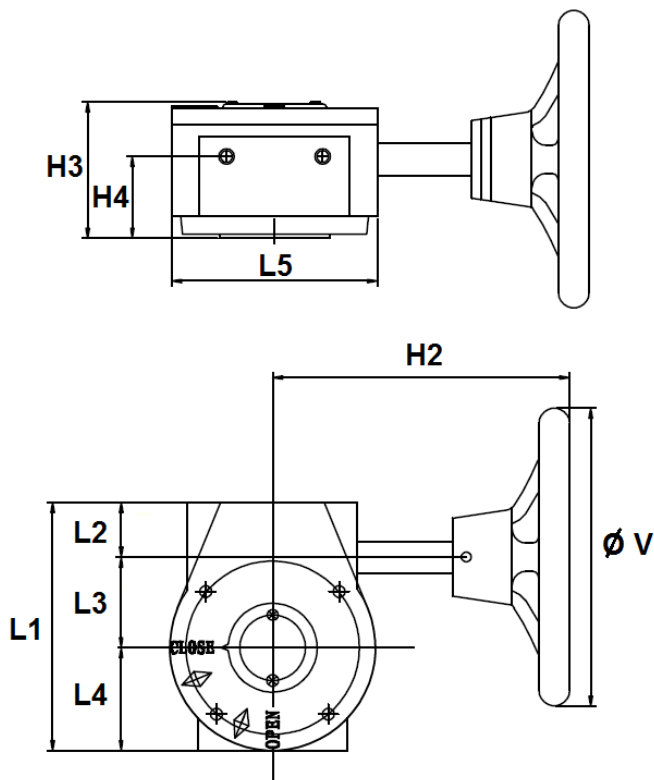
| DN | 350 | 400 | 450 | 500 | 600 |
|-------------|-------|-------|-------|-------|-------|
| Ø P | 333.9 | 380.2 | 433.3 | 491.8 | 571.5 |
| E | 78 | 102 | 114 | 127 | 154 |
| B | 368 | 400 | 422 | 480 | 562 |
| A | 267 | 309 | 328 | 361 | 459 |
| F° | 22.5 | 22.5 | 18 | 18 | 18 |
| Weight (Kg) | 71 | 153 | 179 | 259 | 342 |

**LUG BUTTERFLY VALVE PERFORMANCE RANGE
DUCTILE IRON BODY WITH STAINLESS STEEL DISC AND EPDM HT SEAT**

GEARBOX SIZE REF.1192 (in mm) DN32/40-350 :

DN 32/40 – 250

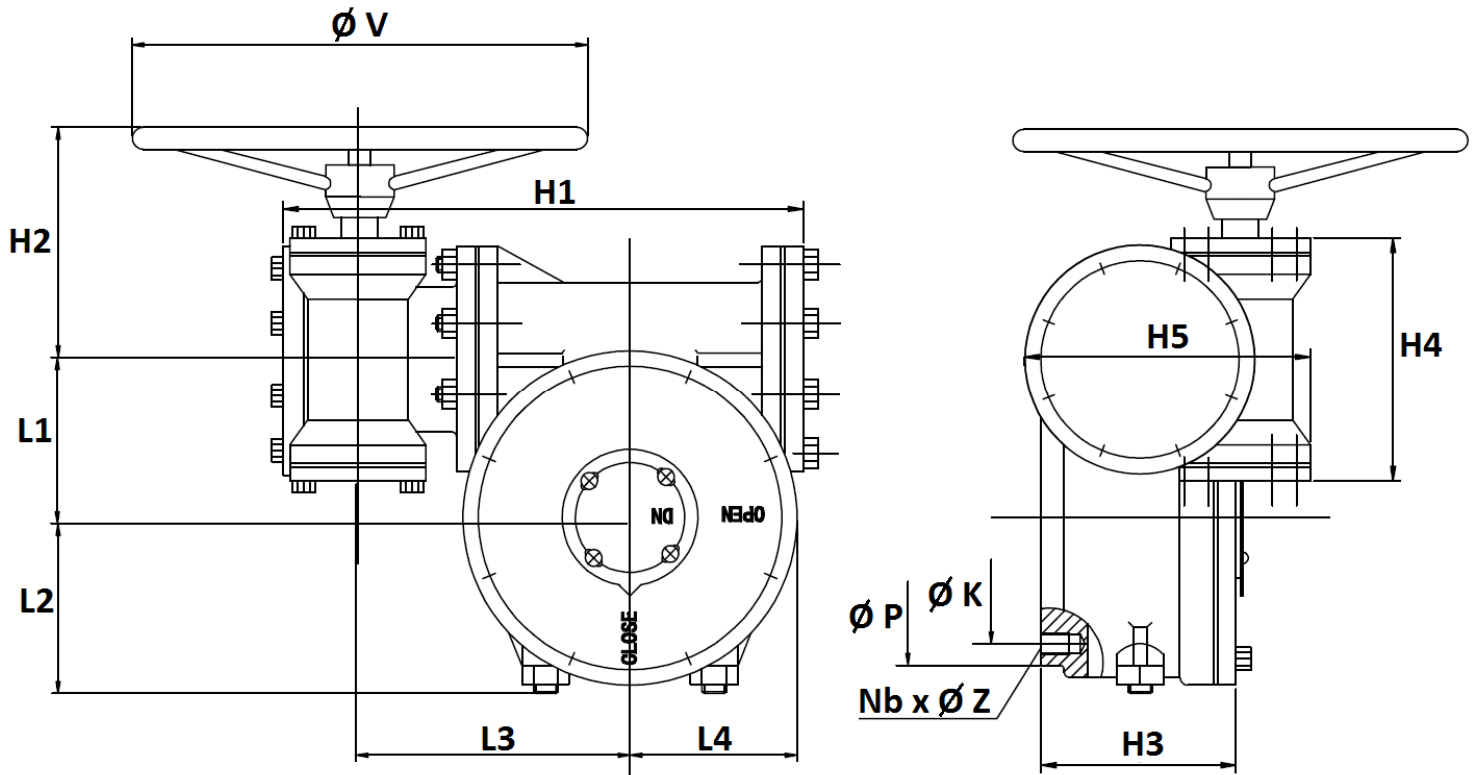
DN 300-350



| Ref. | DN | 32/40 – 80 | 100 | 125 – 150 | 200 | 250 | 300 | 350 |
|------|-------------|------------|---------|-----------|---------|---------|---------|------|
| 1192 | Ø V | 150 | 150 | 150 | 300 | 300 | 300 | 300 |
| | H2 | 156 | 156 | 156 | 220 | 220 | 225 | 225 |
| | H3 | 72 | 72 | 72 | 85 | 85 | 82 | 82 |
| | H4 | 43 | 43 | 43 | 45 | 45 | 45 | 45 |
| | L1 | 125 | 125 | 125 | 170 | 170 | 185 | 185 |
| | L2 | 30 | 30 | 30 | 33 | 33 | 32.5 | 32.5 |
| | L3 | 45 | 45 | 45 | 66 | 66 | 77.5 | 77.5 |
| | L4 | 50 | 50 | 50 | 71 | 71 | 75 | 75 |
| | L5 | 104 | 104 | 104 | 146 | 146 | 155 | 155 |
| | Weight (Kg) | 3.8 | 3.8 | 3.8 | 8.1 | 8.1 | 9.8 | 9.8 |
| | Ref. | 1192001 | 1192002 | 1192003 | 1192004 | 1192005 | 1192006 | - |

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DUCTILE IRON BODY WITH STAINLESS STEEL DISC AND EPDM HT SEAT**

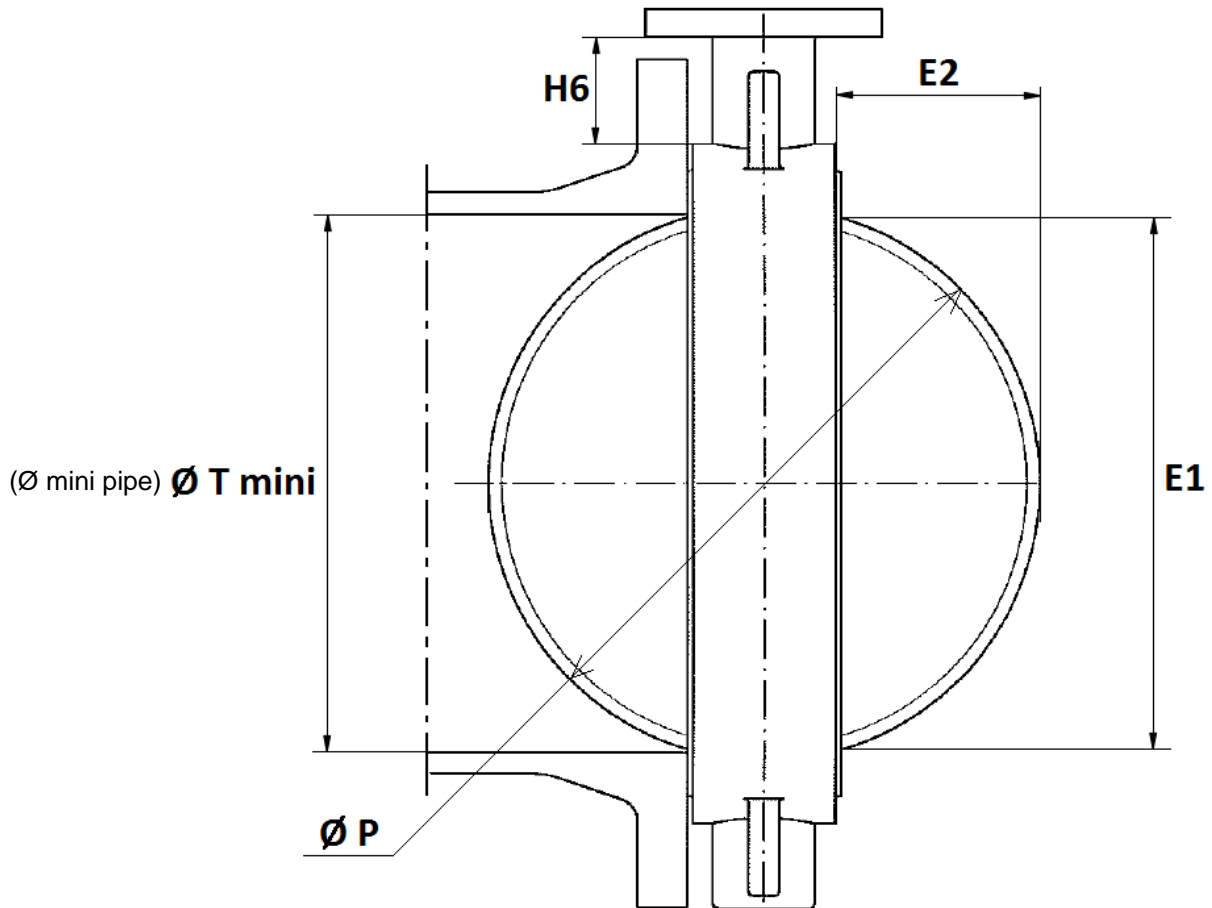
GEARBOX SIZE DN400-600 (in mm):



| DN | 400-500 | 600 |
|-------------|-----------|-----------|
| Ø V | 300 | 390 |
| H1 | 320 | 386 |
| H2 | 165 | 165 |
| H3 | 135 | 140 |
| H4 | 170 | 170 |
| H5 | 185 | 185 |
| L1 | 104 | 130 |
| L2 | 110 | 135 |
| L3 | 175 | 197 |
| L4 | 100 | 145 |
| Ø K (ISO) | 140 (F14) | 165 (F16) |
| Nb x Ø Z | 4 x M16 | 4 x M20 |
| Ø P | 175 | 210 |
| Weight (Kg) | 31 | 48 |

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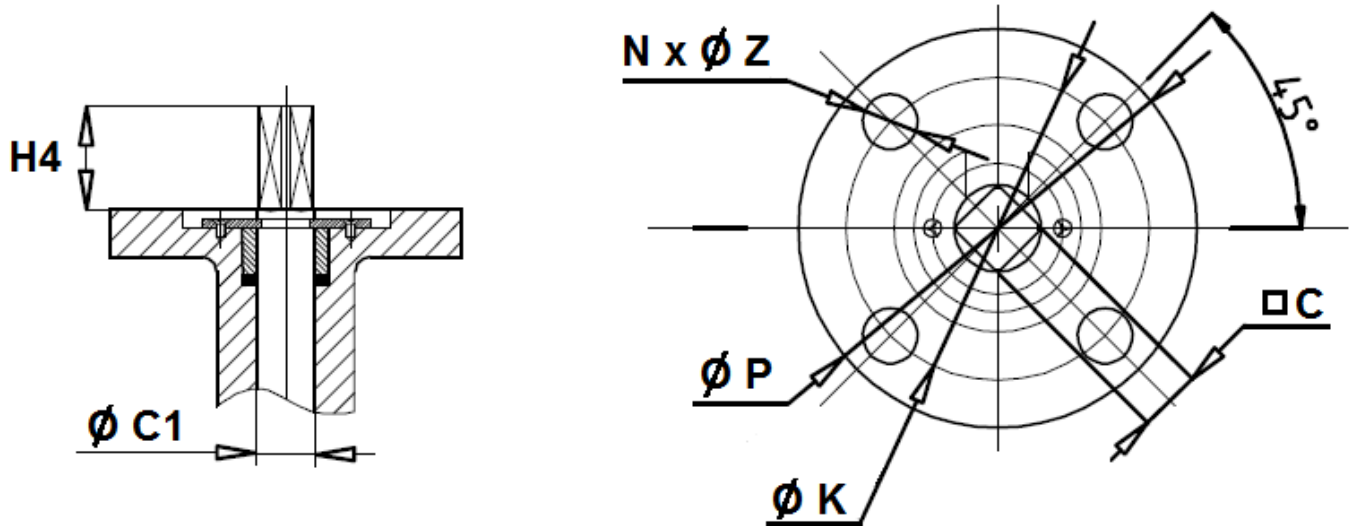
DISC AND NECK SIZE (in mm) :



| DN | 32-40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 |
|----------|-------|------|------|-------|-------|-------|-------|-------|-------|--------|--------|-------|--------|-------|--------|
| E1 | 38.2 | 46.6 | 59.5 | 75.4 | 98.2 | 117.1 | 147.8 | 195.3 | 242.6 | 292.2 | 329 | 377.1 | 427.7 | 484.3 | 562.6 |
| E2 | 4.95 | 4.85 | 9.2 | 16.45 | 26.05 | 33.7 | 49.85 | 71.25 | 91.25 | 111.75 | 127.95 | 139.1 | 159.65 | 182.4 | 208.75 |
| H6 ±2 | 68 | 82.5 | 78.8 | 81.5 | 85.5 | 88 | 90.5 | 89 | 99 | 103 | 140 | 143 | 138 | 162 | 189 |
| Ø P | 42.9 | 52.7 | 64.4 | 78.9 | 104.1 | 123.4 | 155.7 | 202.5 | 250.5 | 301.5 | 333.9 | 380.2 | 433.3 | 491.8 | 571.5 |
| Ø T mini | 43 | 53 | 65 | 79.5 | 104.5 | 124 | 155.5 | 202.5 | 250.5 | 302 | 334 | 390 | 441 | 492 | 585 |

**LUG BUTTERFLY VALVE PERFORMANCE RANGE
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ISO MOUNTING PAD SIZE (in mm) :

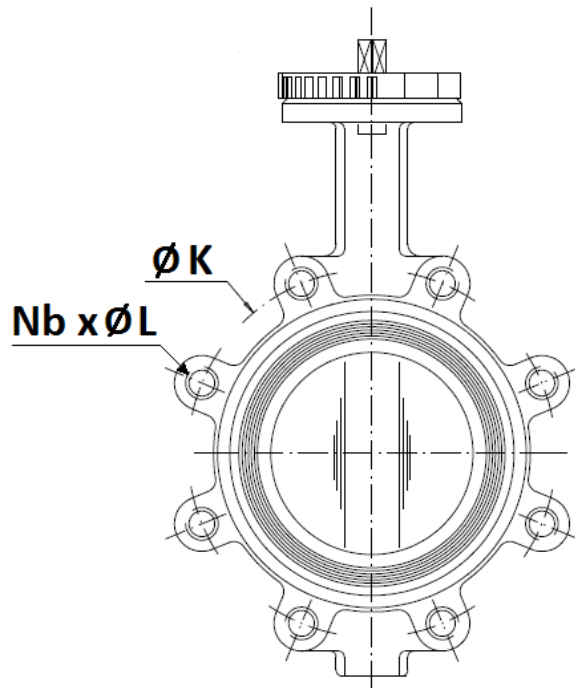


| DN | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 |
|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| H4 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 46 | 46 | 46 |
| Ø C1 | 12.6 | 12.6 | 12.6 | 12.6 | 15.77 | 18.92 | 18.92 | 22.1 | 28.45 | 31.6 |
| C | 9 | 9 | 9 | 9 | 11 | 14 | 14 | 17 | 22 | 22 |
| Ø P | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 125 | 125 | 125 |
| Ø K | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 102 | 102 | 102 |
| ISO | F07 | F07 | F07 | F07 | F07 | F07 | F07 | F10 | F10 | F10 |
| N x Ø Z | 4 x 10 | 4 x 10 | 4 x 10 | 4 x 10 | 4 x 10 | 4 x 10 | 4 x 10 | 4 x 12 | 4 x 12 | 4 x 12 |

| DN | 350 | 400 | 450 | 500 | 600 |
|---------|--------|--------|--------|--------|--------|
| H4 | 40 | 50 | 50 | 65 | 65 |
| Ø C1 | 31.6 | 37.95 | 42.86 | 45.72 | 53.98 |
| C | 22 | 27 | 27 | 36 | 36 |
| Ø P | 125 | 175 | 175 | 175 | 210 |
| Ø K | 102 | 140 | 140 | 140 | 165 |
| ISO | F10 | F14 | F14 | F14 | F16 |
| N x Ø Z | 4 x 12 | 4 x 18 | 4 x 18 | 4 x 18 | 4 x 23 |

**LUG BUTTERFLY VALVE PERFORMANCE RANGE
 DUCTILE IRON BODY WITH STAINLESS STEEL DISC AND EPDM HT SEAT**

BETWEEN FLANGES SIZE (in mm) :



| | DN (mm) | 40 | 50 | 65 | 80 | 100 | 125 | 150 |
|---------|-----------|---------|---------|---------|---------|---------|---------|---------|
| | NPS (") | 1"1/2 | 2" | 2"1/2 | 3" | 4" | 5" | 6" |
| PN10/16 | Ø K | 110 | 125 | 145 | 160 | 180 | 210 | 240 |
| | Nb x Ø L | 4 x M16 | | | 8 x M16 | | | 8xM20 |
| | Ref. | 1175040 | 1175050 | 1175065 | 1175080 | 1175100 | 1175125 | 1175150 |

| | DN (mm) | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 |
|------|-----------|---------|----------|---------|----------|----------|----------|---------|----------|
| | NPS (") | 8" | 10" | 12" | 14" | 16" | 18" | 20" | 24" |
| PN10 | Ø K | 295 | 350 | 400 | 460 | 515 | 565 | 620 | 725 |
| | Nb x Ø L | 8 x M20 | 12 x M20 | | 16 x M20 | 16 x M24 | 20 x M24 | | 20 x M27 |
| | Ref. | 1175200 | 1175250 | 1175300 | 1175350 | 1175400 | 1175450 | 1175500 | 1175600 |

| | DN (mm) | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 |
|------|-----------|----------|----------|---------|----------|----------|----------|----------|----------|
| | NPS (") | 8" | 10" | 12" | 14" | 16" | 18" | 20" | 24" |
| PN16 | Ø K | 295 | 355 | 410 | 470 | 525 | 585 | 650 | 770 |
| | Nb x Ø L | 12 x M20 | 12 x M24 | | 16 x M24 | 16 x M27 | 20 x M27 | 20 x M30 | 20 x M33 |
| | Ref. | 1175201 | 1175251 | 1175301 | 1175351 | 1175401 | 1175451 | 1175501 | 1175601 |

**LUG BUTTERFLY VALVE PERFORMANCE RANGE
 DUCTILE IRON BODY WITH STAINLESS STEEL DISC AND EPDM HT SEAT**

GEARBOX SPECIFICATIONS REF.1192:

| DN | 32/40 – 80 | 100 | 125 – 150 | 200 | 250 | 300 | 400-500 | 600 |
|-------------------------------------|------------|---------|-----------|---------|---------|---------|---------|--------|
| Ref. | 1192001 | 1192002 | 1192003 | 1192004 | 1192005 | 1192006 | - | - |
| Ratio factor | 24 :1 | 24 :1 | 24 :1 | 32 :1 | 32 :1 | 50 :1 | 532 :1 | 640 :1 |
| Number of turns for closing/opening | 6 | 6 | 6 | 8 | 8 | 12.5 | 133 | 160 |
| Output torque (Nm) | 170 | 170 | 170 | 500 | 500 | 1200 | 2500 | 4000 |

STANDARDS :

- Fabrication according to ISO 9001:2015
- Designing according to BS 5155
- DIRECTIVE 2014/68/EU : CE N° 0035
Risk category III module H
- Certificate 3.1 on request
- Pressure tests according to EN 12266-1, Rate A
- Between flanges according to EN 1092-1 PN10-PN16
- 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

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.

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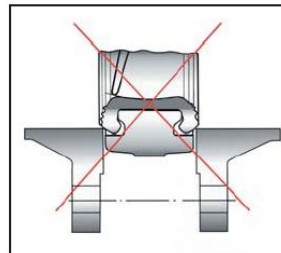
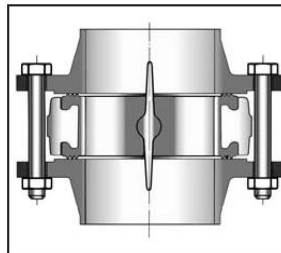
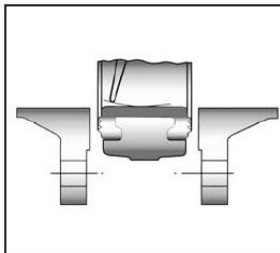
INSTALLATION INSTRUCTIONS

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 EN 12266-1.
- 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.