# DOUBLE EXCENTRIC BUTERFLY VALVE TYPE TECWAT

Tecofi VALVE DESIGNER - FRANCE

TECHNICAL PASSPORT

## *PN25 FLANGED DOUBLE EXCENTRIC BUTTERFLY VALVE WITH GEAR BOX*

*VP 4251-08*

## APPLICATION

Tecwat type butterfly valves are intended to be used for ON/OFF operations in fluid transfer circuits.

**Area of use:** water networks, production plants, pumping stations, fire circuits on industrial site, etc.



**Fluids:** water, drinking water.



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## GENERAL CHARACTERISTICS

**TECWAT model:** long pattern.
-Design according to NF EN 595.
**Range:** from DN100 to DN1600.
-Bi-directional sealing with a preferred mounting direction indicated by the arrow on the body.
-Double eccentric butterfly valve prevents wear due to the stainless steel seat attached to the body.
-Seal on disc retained by a stainless steel retaining ring.
-Optimized maneuvering torque.
-Low pressure drop.
-Operating by IP65 gear box.

## STANDARDS

| | |
|---|---|
| **Design** | Complies with standard EN 593 |
| **Face to face** | Face to face according to standard NF EN 5752 serie 14. |
| **Connection** | ISO PN25 flange mounting according to standard EN1092-2. |
| **Tests** | Hydraulic tests carried out according to the standard EN12266-1:<br>-Body : 37.5 bar<br>-Seat : 27.5 bar |

## PRODUCT APPROVALS

EAC

Certificat WRAS n° 1607394

WRAS APPROVED PRODUCT

Attestation of health conformity n° 19 ACC LY 582

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**Tecofi France**
83 rue Marcel Mérieux - 69960 Corbas
Tél. +33 (0)4 72 79 05 79 - Fax. +33 (0)4 78 90 19 19
E-mail : sales@tecofi.fr - **www.tecofi.fr**

ISO 9001
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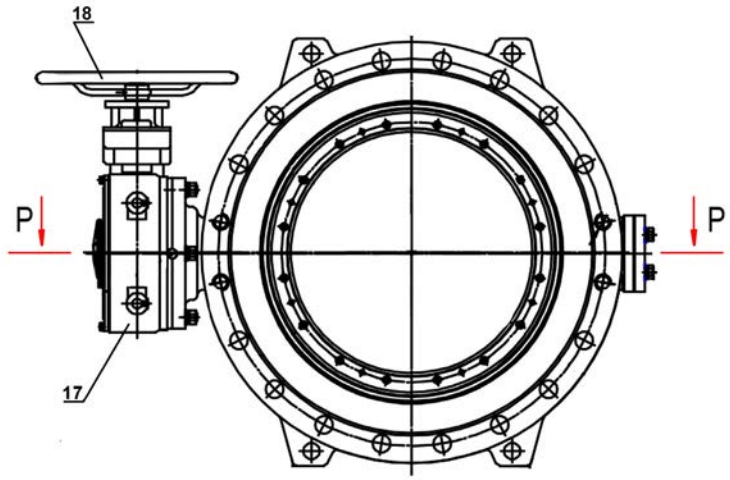
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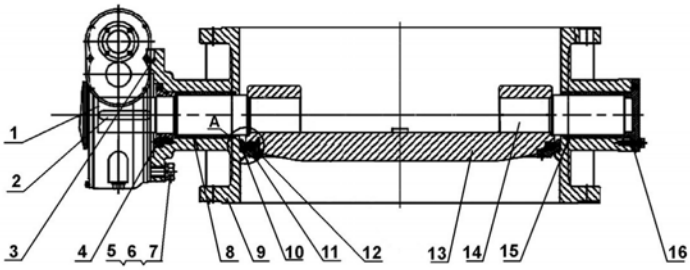
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## CONSTRUCTION

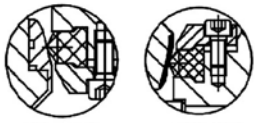



| Component | Coating |
|---|---|
| Body & Disc | Epoxy powder RAL 5015 250 microns |




**SECTION P-P**

**VIEW A**




| Pos. | Description | Material | Equivalences | | |
|---|---|---|---|---|---|
| | | | DIN | ASTM | BS |
| 1 | Upper shaft | Stainless steel X20Cr13 | 1.4021 | AISI 420 | 420 S 37 |
| 2 | Key | Stainless steel X20Cr13 | 1.4021 | AISI 420 | 420 S 37 |
| 3 | Locking pin | Stainless steel X20Cr13 | 1.4021 | AISI 420 | 420 S 37 |
| 4 | Packing gland | Ductile iron | | | |
| 5 | Screw | Stainless steel A2-70 | | | |
| 6 | Gasket | Stainless steel A2 | | | |
| 7 | Flexible gasket | Stainless steel 3 Cr13 | | | |
| 8 | Shaft bush | Al-bronze | | | |
| 9 | Body | Fonte ductile EN-GJS-500-7 | GGG 50 | A536 70-50-05 | 1563 EN-JS1050 |
| 10 | Sealing surface | Stainless steel 304 | | | |
| 11 | Retainer | Stainless steel 304 | | | |
| 12 | Sealing gasket | EPDM | | | |
| 13 | Disc | Fonte ductile EN-GJS-500-7 | GGG 50 | A536 70-50-05 | 1563 EN-JS1050 |
| 14 | Lower shaft | Stainless steel X20Cr13 | 1.4021 | AISI 420 | 420 S 37 |
| 15 | O-ring | EPDM | | | |
| 16 | Cover | Ductile iron | | | |
| 17 | Gear box | | | | |
| 18 | Handwheel | Cast iron | GG 25 | 35B | HT250 |

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Tél. +33 (0)4 72 79 05 79 - Fax. +33 (0)4 78 90 19 19
E-mail : sales@tecofi.fr - **www.tecofi.fr**

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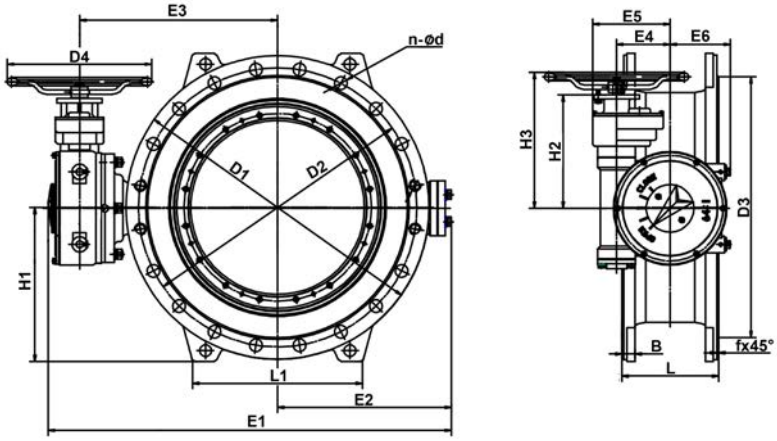
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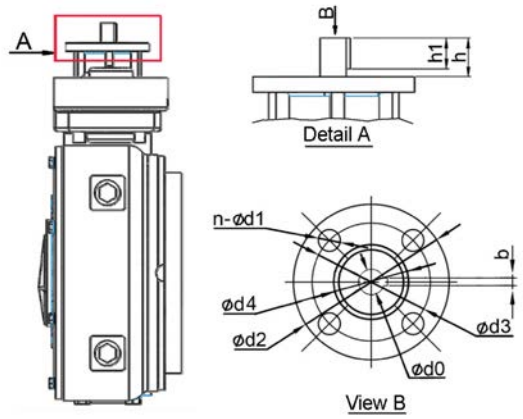
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## DIMENSIONS




| DN | | ØD1 | ØD2 | ØD3 | B | f | L | n-Ød | H1 | H2 | H3 | E1 | E2 | E3 | E4 | E5 | E6 | L1 | D4 | ISO 5210 | Weigth (kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| mm | inch | | | | | | | | | | | | | | | | | | | | |
| 100 | 4" | 235 | 190 | 156 | 19 | 3 | 190 | 8-Ø23 | 127.5 | 115 | 155 | 399 | 142 | 209 | 43.2 | 73.2 | 64 | 160 | 180 | F10 | 36 |
| 150 | 6" | 300 | 250 | 211 | 20 | 3 | 210 | 8-Ø28 | 165 | 137 | 187 | 508 | 188 | 264 | 64 | 128 | 86 | 150 | 240 | F10 | 53 |
| 200 | 8" | 360 | 310 | 274 | 22 | 3 | 230 | 12-Ø28 | 190 | 178 | 233 | 586 | 221 | 300 | 93.4 | 135 | 115 | 220 | 320 | F10 | 79 |
| 250 | 10" | 425 | 370 | 330 | 25 | 3 | 250 | 12-Ø31 | 220 | 178 | 233 | 656 | 254 | 337 | 93.4 | 135 | 115 | 260 | 320 | F10 | 110 |
| 300 | 12" | 485 | 430 | 389 | 28 | 4 | 270 | 16-Ø31 | 250 | 192 | 283 | 757 | 298 | 377 | 120 | 169 | 138 | 300 | 240 | F10 | 180 |
| 350 | 14" | 555 | 490 | 448 | 30 | 4 | 290 | 16-Ø34 | 285 | 317 | 378 | 830 | 318 | 430 | 120 | 186 | 138 | 320 | 400 | F10 | 198 |
| 400 | 16" | 620 | 550 | 503 | 32 | 4 | 310 | 16-Ø37 | 315 | 315 | 376 | 945 | 370 | 486 | 148 | 214 | 166 | 350 | 400 | F10 | 330 |
| 450 | 18" | 670 | 600 | 548 | 34.5 | 4 | 330 | 20-Ø37 | 340 | 315 | 376 | 991 | 406 | 496 | 148 | 214 | 166 | 370 | 400 | F10 | 398 |
| 500 | 20" | 730 | 660 | 609 | 37 | 4 | 350 | 20-Ø37 | 370 | 346 | 407 | 1112 | 453 | 554 | 185 | 265 | 196 | 410 | 400 | F10 | 538 |
| 600 | 24" | 845 | 770 | 720 | 42 | 5 | 390 | 20-Ø41 | 427.5 | 346 | 407 | 1235 | 495 | 631 | 185 | 265 | 196 | 470 | 400 | F10 | 687 |
| 700 | 28" | 960 | 875 | 820 | 46.5 | 5 | 430 | 24-Ø44 | 485 | 390 | 451 | 1439 | 601 | 715 | 230 | 333 | 232 | 530 | 400 | F10 | 1075 |
| 800 | 32" | 1085 | 990 | 928 | 51 | 5 | 470 | 24-Ø50 | 547.5 | 390 | 451 | 1588 | 668 | 797 | 230 | 333 | 232 | 600 | 400 | F10 | 1325 |
| 900 | 36" | 1185 | 1090 | 1028 | 55.5 | 5 | 510 | 28-Ø50 | 597.5 | 451 | 512 | 1669 | 695 | 849 | 230 | 368 | 232 | 655 | 400 | F10 | 1995 |
| 1000 | 40" | 1320 | 1210 | 1140 | 60 | 5 | 550 | 24-Ø57/4-M52 | 665 | 507 | 568 | 1994 | 844 | 988 | 315 | 453 | 327 | 730 | 400 | F10 | 2450 |
| 1200 | 48" | 1530 | 1420 | 1350 | 69 | 5 | 630 | 32-Ø57 | 770 | 599 | 660 | 2398 | 1008 | 1179 | 412 | 613 | 408 | 840 | 400 | F10 | 3822 |
| 1400 | 56" | 1755 | 1640 | 1560 | 74 | 5 | 710 | 36-Ø62 | 882.5 | 599 | 660 | 2667 | 1150 | 1306 | 412 | 613 | 408 | 970 | 400 | F10 | 5250 |
| 1500 | 60" | 1865 | 1750 | 1678 | 77.5 | 5 | 150 | 36-Ø62 | 937.5 | 599 | 660 | 2657 | 1130 | 1308 | 412 | 613 | 408 | 1030 | 400 | F10 | 6958 |
| 1600 | 64" | 1975 | 1860 | 1780 | 81 | 5 | 790 | 36-Ø62/4-M56 | 992.5 | 777 | 838 | 2942 | 1250 | 1449 | 495 | 725 | 485 | 1080 | 400 | F10 | 7925 |

## TOP FLANGE ISO 5210 DIMENSIONS




| DN | | ISO 5210 | | | | | | | | Nb of turn | Torque * (Nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| mm | inch | Embase | Ød0 | n-Ød1 | Ød2 | Ød3 | Ød4 | h | bxh1 | | |
| 100 | 4" | F10 | 20 | 4-Ø10 | 125 | 102 | 70 | 28 | 6X20 | 10 | 14 |
| 150 | 6" | F10 | 20 | 4-Ø10 | 125 | 102 | 70 | 28 | 6X20 | 10 | 28 |
| 200 | 8" | F10 | 20 | 4-Ø10 | 125 | 102 | 70 | 28 | 6X20 | 12 | 48 |
| 250 | 10" | F10 | 20 | 4-Ø10 | 125 | 102 | 70 | 28 | 6X20 | 12 | 80 |
| 300 | 12" | F10 | 20 | 4-Ø10 | 125 | 102 | 70 | 30 | 6X20 | 20 | 72 |
| 350 | 14" | F10 | 20 | 4-Ø10 | 125 | 102 | 70 | 30 | 6X25 | 80 | 29 |
| 400 | 16" | F10 | 20 | 4-Ø10 | 125 | 102 | 70 | 30 | 6X25 | 64 | 51 |
| 450 | 18" | F10 | 20 | 4-Ø10 | 125 | 102 | 70 | 30 | 6X25 | 64 | 67 |
| 500 | 20" | F10 | 20 | 4-Ø10 | 125 | 102 | 70 | 30 | 6X25 | 96 | 60 |
| 600 | 24" | F10 | 20 | 4-Ø10 | 125 | 102 | 70 | 30 | 6X25 | 96 | 87 |
| 700 | 28" | F10 | 20 | 4-Ø10 | 125 | 102 | 70 | 30 | 6X25 | 198,9 | 67 |
| 800 | 32" | F10 | 20 | 4-Ø10 | 125 | 102 | 70 | 30 | 6X25 | 198,9 | 93 |
| 900 | 36" | F10 | 20 | 4-Ø10 | 125 | 102 | 70 | 30 | 6X25 | 382,2 | 60 |
| 1000 | 40" | F10 | 20 | 4-Ø10 | 125 | 102 | 70 | 30 | 6X25 | 421,4 | 79 |
| 1200 | 48" | F10 | 20 | 4-Ø10 | 125 | 102 | 70 | 30 | 6X25 | 641,25 | 65 |
| 1400 | 56" | F10 | 20 | 4-Ø10 | 125 | 102 | 70 | 30 | 6X25 | 641,25 | 116 |
| 1500 | 60" | F10 | 20 | 4-Ø10 | 125 | 102 | 70 | 30 | 6X25 | 559 | 163 |
| 1600 | 60" | F14 | 20 | 4-Ø10 | 125 | 102 | 70 | 50 | 8X45 | 559 | 193 |

* Values without safety coefficient

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Tél. +33 (0)4 72 79 05 79 - Fax. +33 (0)4 78 90 19 19
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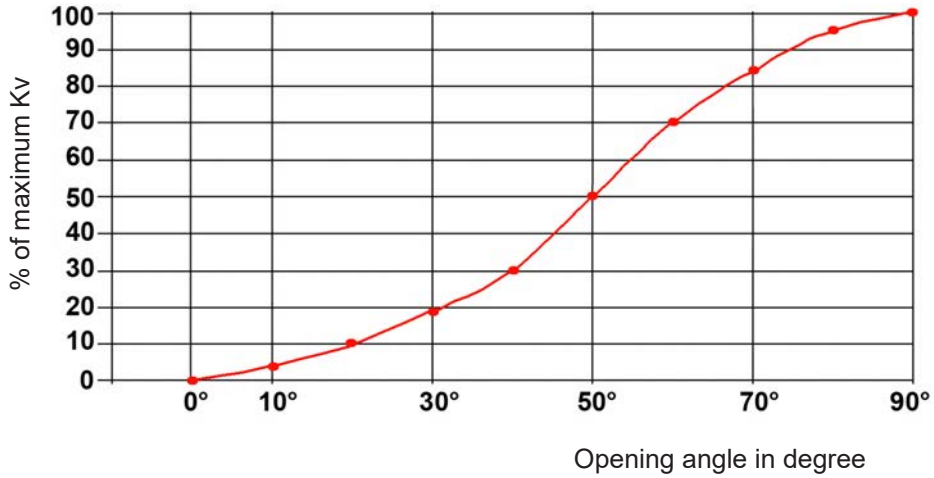
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## WORKING CONDITIONS

Maximum working pressure : 25 bar.
Maximum working temperature : + 80 °C.

## FLOW FACTOR - Kv




| DN | mm | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 | 700 | 800 | 900 | 1000 | 1100 | 1200 | 1400 | 1600 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | inch | 8" | 10" | 12" | 14" | 16" | 18" | 20" | 24" | 28" | 32" | 36" | 40" | 44" | 48" | 56" | 64" |
| **Kvs** | | 1880 | 3800 | 4950 | 8000 | 10900 | 14200 | 18250 | 28000 | 40500 | 55100 | 74000 | 93338 | 116213 | 142516 | 167310 | 264433 |

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