# WAFER BUTTERFLY VALVE

PN16 V1116

## FEATURES & SPECIFICATIONS

- Higher strength for disc with pinned single shaft ensure optimal alignment
- Centrally mounted disc and hydrodynamic design minimize pressure loss
- Can be installed at horizontal or vertical pipe line
- Phenolic backed rubber seat is non-collapsible, stretch resistant and easily replaceable
- Excellent flow characteristic with flow in either direction
- Precision machining of disc for low operating torque
- Design conforms to BS EN 593 / BS 5155 / MSS SP-67 / API 609
- WRAS and NSF approved option available upon request
- Applicable for Building Services, Air-Conditioning, Fire Protection, Cold Water Plumbing, Hot Water System, Water Supply Works, Water Treatment Plant, General Industries



## TECHNICAL SPECIFICATIONS

| | |
|---|---|
| Size | DN40 ... DN1000 |
| Body Design | Wafer |
| Working Pressure | 16bar |
| Shell Test Pressure (x1.5) | 24bar |
| Seat Test Pressure (x1.1) | 17.6bar |
| Working Temperature | -20°C ... 110°C (EPDM)<br>-10°C ... 80°C (NBR)<br>5°C ... 120°C (PTFE)<br>-10°C ... 200°C (Viton)<br>-10°C ... 150°C (HT-EPDM) |
| Suitable Media | Water |
| Operator | Lever, Wormgear, Electric Actuator |
| Connection | BS 4504 PN10 / PN16<br>EN1092-2 PN10 / PN16<br>JIS B2239 10K<br>ANSI Class 125 / 150 |
| Optional Accessories | Chain Wheel, Limit Switch |

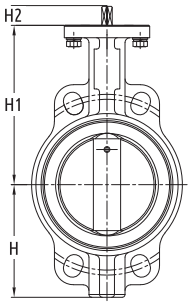
## MATERIAL SPECIFICATIONS

| Part | Material |
|---|---|
| Body | Ductile Iron |
| Disc | Ductile Iron<br>Epoxy coated Ductile Iron<br>Aluminium Bronze<br>Stainless Steel 304<br>Stainless Steel 316 |
| Seat | EPDM<br>NBR<br>PTFE (DN50...DN150, W/P 16bar; DN200...DN600, W/P 10bar)<br>Viton (DN50 ... DN200)<br>HT-EPDM |

| Part | Material |
|---|---|
| Stem | Stainless Steel 410<br>Stainless Steel 431 (DN600 and above)<br>Stainless Steel 316 (DN40 ... DN150, optional)<br>Stainless Steel 420 (for ALBC disc DN300 and above) |
| Taper Pin | Stainless Steel 416 (for Ductile Iron disc)<br>Stainless Steel 316 (for SS304 / SS316 / ALBC disc) |
| O-Ring | EPDM<br>NBR |
| Bushing | PTFE (DN40 ... DN600)<br>Luberized Bronze (DN700 & above) |
| Washer | Stainless Steel 304 |



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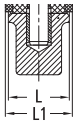



## DIMENSIONS (VALVE BODY)

(mm)

| DN (mm) | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DN (inch) | 1½ | 2 | 2½ | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 |
| H | 66 | 68.6 | 76 | 95 | 110 | 129.4 | 142 | 176 | 212 | 248.5 | 272 |
| H1 | 130 | 141.2 | 150.4 | 156.4 | 167.9 | 186.5 | 205.7 | 230.6 | 269.9 | 327.8 | 368 |
| H2 | 15 | 15 | 19 | 19 | 19 | 19 | 19 | 25 | 27 | 27 | 40 |
| L | 33 | 42 | 44.5 | 44.5 | 51 | 54.5 | 54.5 | 59.6 | 67 | 75.5 | 75.5 |
| L1 | 37 | 46.1 | 49.1 | 49.1 | 55.3 | 58.8 | 59.1 | 64.1 | 71.8 | 79.5 | 79.5 |

| DN (mm) | 400 | 450 | 500 | 600 | 700 | 750 | 800 | 900 | 1000 |
|---|---|---|---|---|---|---|---|---|---|
| DN (inch) | 16 | 18 | 20 | 24 | 28 | 30 | 32 | 36 | 40 |
| H | 333 | 364 | 389 | 459 | 521 | 554 | 591 | 650 | 713 |
| H1 | 400 | 422 | 480 | 562 | 626 | 660 | 666 | 722 | 806 |
| H2 | 52 | 52 | 64 | 70 | 95 | 95 | 95 | 130 | 130 |
| L | 102 | 114 | 127 | - | - | - | - | - | - |
| L1 | 106.5 | 118.5 | 131.5 | 151 | 165 | 167 | 188 | 203 | 216 |



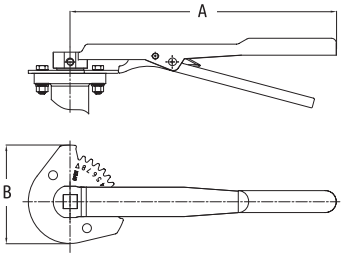

Note : Mono Flange for DN250 and above.

## DIMENSIONS (VALVE OPERATOR)

### Malleable Iron / Stainless Steel Lever
### Stainless Steel SUS304 Top Indicator Plate

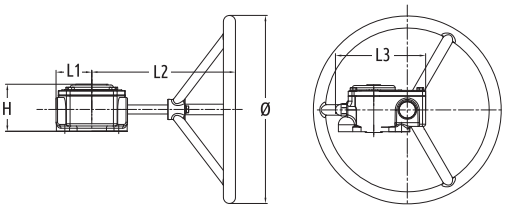
(mm)

| DN (mm) | 40-80 | 100-125 | 150 | 200-250 | 300 |
|---|---|---|---|---|---|
| DN (inch) | 1.5-3 | 4-5 | 6 | 8-10 | 12 |
| A | 195 | 266 | 328 | 386 | 391 |
| B | 95 | 109 | 109 | 164 | 164 |



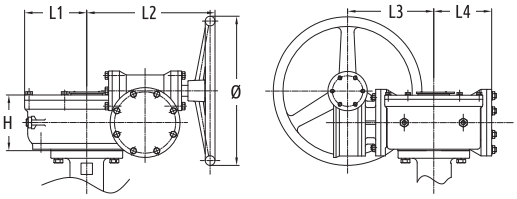

### Ductile Iron 1-Stage Worm Gear and Handwheel (IP67 Protection)
### Stainless Steel SUS410 Gear Box Shaft

| VALVE DIAMETER | H | ø | L1 | L2 | L3 |
|---|---|---|---|---|---|
| DN50 - DN80 | 51 | 150 | 34 | 160 | 106 |
| DN100 - DN200 | 51 | 150 | 45 | 190 | 106 |
| DN250 - DN300 | 62.5 | 250 | 47.5 | 260 | 123 |
| DN350 | 65 | 300 | 62.5 | 270 | 154 |
| DN400 | 90 | 300 | 70 | 320 | 175 |
| DN450 | 90 | 400 | 70 | 320 | 175 |
| DN500 | 97 | 400 | 93.5 | 370 | 214 |
| DN600 | 97 | 500 | 93.5 | 370 | 214 |




### Cast Iron 2-Stage Worm Gear and Handwheel
### Carbon Steel Gear Box Shaft

| VALVE DIAMETER | H | ø | L1 | L2 | L3 | L4 |
|---|---|---|---|---|---|---|
| DN700 - DN800 | 158 | 425 | 173 | 359 | 245 | 173 |
| DN900 - DN1000 | 185 | 425 | 201 | 399 | 279 | 201 |





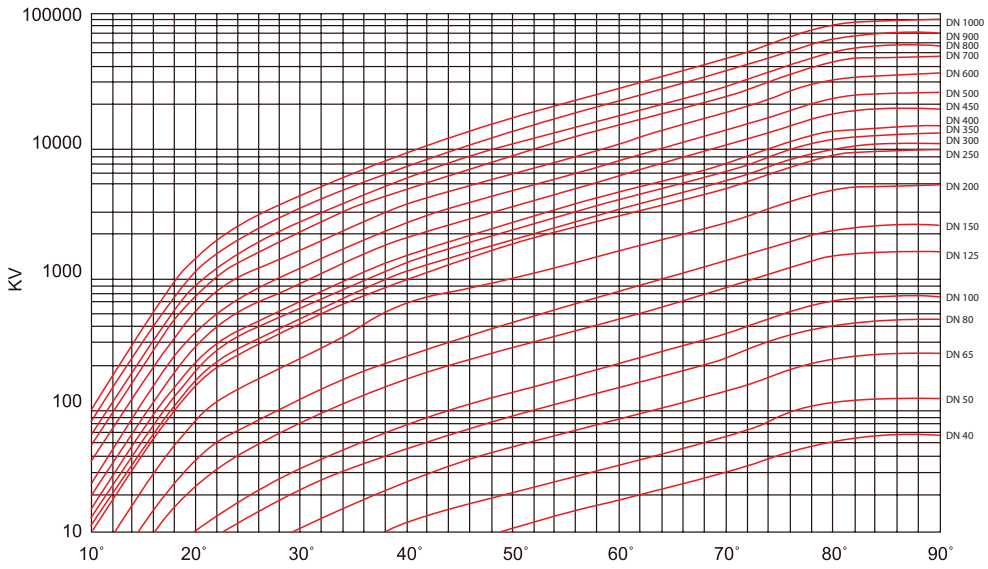

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## VALVE COEFFICIENT (FULL OPEN)

Cv = 1.17Kv

| DN (mm) | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DN (inch) | 1½ | 2 | 2½ | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 |
| Cv | 69 | 135 | 220 | 302 | 600 | 1022 | 1579 | 3136 | 5340 | 8250 | 11917 |

| DN (mm) | 400 | 450 | 500 | 600 | 700 | 750 | 800 | 900 | 1000 |
|---|---|---|---|---|---|---|---|---|---|
| DN (inch) | 16 | 18 | 20 | 24 | 28 | 30 | 32 | 36 | 40 |
| Cv | 16388 | 21705 | 27908 | 43116 | 49500 | 59800 | 68250 | 86375 | 119750 |




## OPERATING TORQUE

Unit : N.m

| DN (mm) | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DN (inch) | 1½ | 2 | 2½ | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 |
| Wet | 15.1 | 15.1 | 17.2 | 23.1 | 39.8 | 61.9 | 102 | 192 | 323 | 490 | 625 |
| Dry | 24.2 | 24.2 | 32.7 | 43.7 | 72.8 | 108 | 174 | 330 | 549 | 799 | 969 |

| DN (mm) | 400 | 450 | 500 | 600 | 700 | 750 | 800 | 900 | 1000 |
|---|---|---|---|---|---|---|---|---|---|
| DN (inch) | 16 | 18 | 20 | 24 | 28 | 30 | 32 | 36 | 40 |
| Wet | 846 | 1131 | 1431 | 2301 | 4253 | 4897 | 5600 | 6834 | 11603 |
| Dry | 1307 | 1787 | 2288 | 3711 | 6380 | 7345 | 8400 | 10251 | 17405 |



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