

## BI-DIRECTIONAL KNIFE GATE VALVES XD-PRE SERIES



KGV XD-PRE SERIES FULLY LUGGED  
WITH RISING STEM & HANDWHEEL



KGV XD-PRE SERIES FULLY LUGGED  
WITH D/A PNEUMATIC ACTUATOR



KGV XD-PRE SERIES FULLY  
LUGGED WITH LEVER

The XD-PRE series knife gate is a Bi-directional resilient seated valve designed to handle semi-solid and arid mediums, sludge and general industrial applications. Equipped with adjustable stuffing box mounted on top of the body valve, allows upper sealing replacement without valve disassembling from the pipeline.

### GENERAL FEATURES

- 100 % water tight in both senses
- U-seat with a steel stiff core vulcanized, fixed between the two bodies by screws
- Adjustable external stuffing box, allowing upper sealing replacement without valve disassembling from the pipeline
- Two split body arrangements: fully lug-between flanges and fully lug-end valve without counter flange.
- Short face-to-face dimension
- Smooth and unobstructed full flow passage, no cavity or void in body, means no clogging
- Easy drive replacement
- Self cleaning design; little maintenance required

### APPLICATION FIELDS

- Wastewater treatment
- Pulp and paper
- Bulk handling
- Mining
- Biomass
- Food and beverage
- Tunnel boring
- Oil rigs
- Chemical process
- Etc.

### TECHNICAL DATA

- **Size range:**  
DN-50 (2") to DN-1000 (40")
- **Working pressure:**  
DN 50 to DN 300: 10 kg/cm<sup>2</sup>  
DN 350 to DN400: 6 kg/cm<sup>2</sup>  
DN 450 to DN 600: 4 kg/cm<sup>2</sup>  
DN 700 to DN 900: 3 kg/cm<sup>2</sup>  
DN 1000: 2 kg/cm<sup>2</sup>
- **Flange ratings:**  
PN10, PN16 and ANSI B16.5 (class 150)  
Note: other flange drillings under request
- **Face to face dimension:**  
According to K1 DIN3202 up to DN-350
- **Coating:**  
RAL 5017, 150 microns epoxy coated
- **Directives:**  
Pressure equipment directive 97/23/CE  
DIR 2006/42/CE (MACHINES)  
DIR 94/9/CE (ATEX)  
Approved certificate for potable water  
(ACS-Atestation De Conformite Sanitaire)

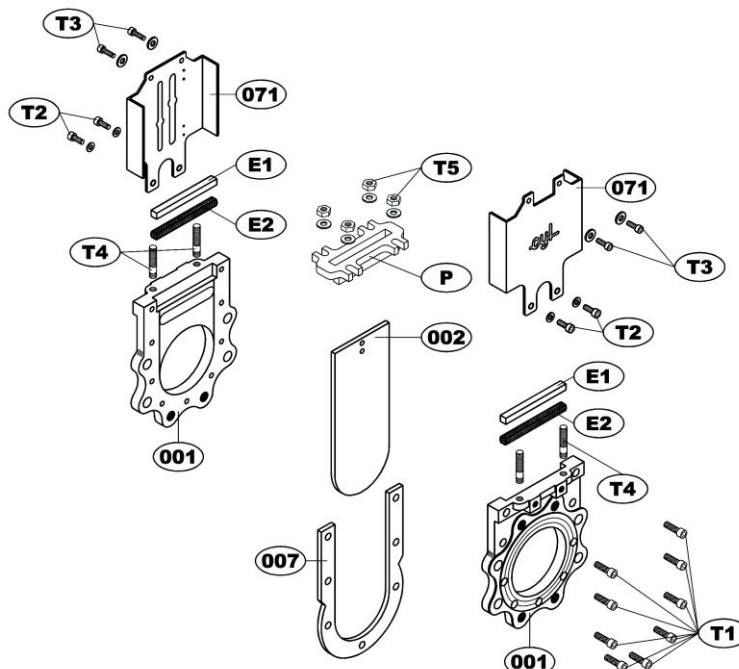
ASSEMBLY CONFIGURATION

|   |   |
|---|---|
| <p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>OPERATION</b></p>   |   |
| <p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>PLATES</b></p>      | <p>Plates</p>   |
| <p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>BODY</b></p>        |   |
| <p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>ACCESSORIES</b></p> | <ul style="list-style-type: none"> <li>- Revolving handle</li> <li>- Locking device</li> <li>- Overriding actuator</li> <li>- Limit stroke</li> <li>- Mechanical limit switches</li> <li>- Proximity limit switches</li> <li>- Mechanical position indicator</li> <li>- V-port (Aisi 316)</li> <li>- Deflector cone (Ni-hard)</li> <li>- Chest scraper (Bronze / PPS plastic)</li> <li>- Solenoid valve</li> <li>- Extension, extended guided plates</li> <li>- Etc.</li> </ul> |

MATERIAL SPECIFICATION & PART LIST

| No. | DESCRIPTION      | MATERIAL   |
|-----|------------------|--|
| 001 | Body             | Cast iron - GJL250 (standard)<br>Ductile iron - GJS400 (optional)          |
| 007 | Seat             | NBR (standard)<br>EPDM, PTFE, VITON, POLIURETHANE (optional)               |
| 002 | Gate             | SS 316 (standard)<br>SS 316L , SS 316TI, DUPLEX 2205, SMO 254 (optional)   |
| E   | Packing material | PTFE+NBR, (standard)<br>PTFE+EPDM, PURE PTFE, ARAMIDE, GRAPHITE (optional) |
| P   | Packing gland    | Ductile iron - GJS400  |
| T   | Screws and nuts  | A4   |
| 071 | Plates           | 1.0580 (standard)<br>SS 316 (optional)                                     |
| -   | Stem             | SS 316   |
| -   | Bearing          | 1.0401 (standard)<br>SS 316 (optional)                                     |
| -   | Handwheel        | 1.0037   |
| -   | Pneumatic act.   | Aluminium  |

Figure 1. Exploded view of KGV XD-PRE series fully lugged



**SEAT TYPE**

The seat consists of one piece vulcanized u-shaped rubber seat (optionally PTFE) with steel stiff core inside, fixed between the two half bodies by screws, providing a bubble-tight shut off on both directions and avoiding at the same time, any build-up of fluids inside the body that would prevent the valve from closing.

**APPLICATION AND TEMPERATURE RANGE**

| <b>SEAT MATERIALS</b> |                              |                              |   |
|-----------------------|------------------------------|------------------------------|---|
| <b>Material</b>       | <b>Min. temperature (°C)</b> | <b>Max. temperature (°C)</b> | <b>APPLICATIONS</b>                                     |
| <b>NBR</b>            | -30                          | +80                          | Hydrocarbons and biogas waste                           |
| <b>EPDM</b>           | -30                          | +90                          | Clean and chlorided water                               |
| <b>EPDM - POTABLE</b> | -30                          | +90                          | Approved certificate for potable water                  |
| <b>VITON</b>          | -40                          | +180                         | Organic acids, hydrocarbons and heat resistant          |
| <b>PTFE</b>           | -10                          | +200                         | Heat, friction, acids, chemical and corrosion resistant |
| <b>POLIURETHANE</b>   | -10                          | +80                          | Abrasive mediums/mineral handling                       |
| <b>WHITE NBR</b>      | -10                          | +60                          | Food industry   |
| <b>RED SILICONE</b>   | -20                          | +180                         | Food industry (FDA conformity)                          |

*\* More details and other sealing materials under request.*

| <b>PACKING MATERIALS</b> |                              |                              |   |
|--------------------------|------------------------------|------------------------------|---|
| <b>Material</b>          | <b>Min. temperature (°C)</b> | <b>Max. temperature (°C)</b> | <b>APPLICATIONS</b>                           |
| <b>PTFE+NBR</b>          | -30                          | +100                         | Hydrocarbons and biogas waste                 |
| <b>PURE PTFE</b>         | -10                          | +200                         | Heat, acids, chemical and corrosion resistant |
| <b>ARAMIDE</b>           | -40                          | +250                         | Bulk handling                                 |
| <b>GRAPHITE</b>          | -40                          | +300                         | Hydrocarbons, heat resistant and solids       |

*\*More details and other sealing materials under request.*

## DIMENSIONAL DRAWINGS

Figure 2. KGV XD-PRE series fully lugged rising stem & handwheel

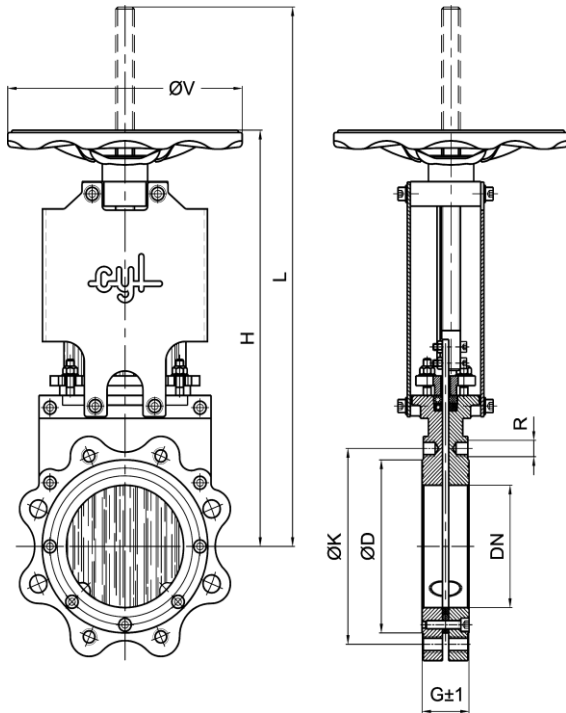


Figure 3. KGV XD-PRE series fully lugged with d/a pneumatic actuator

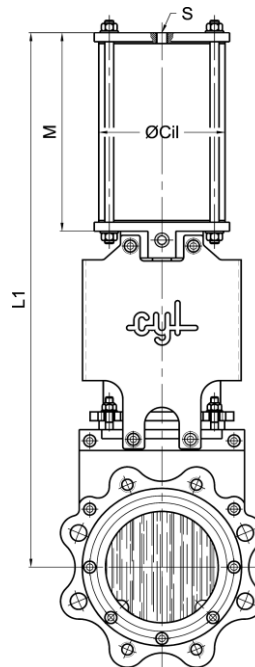
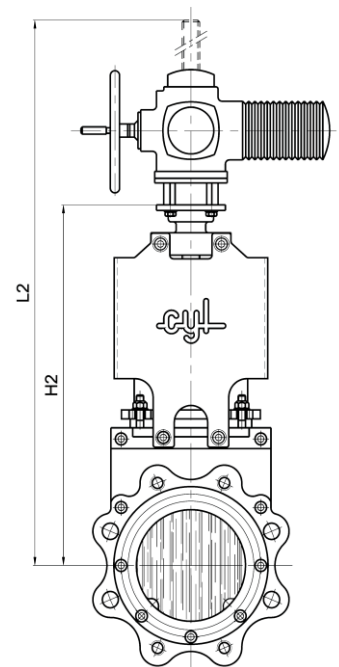


Figure 4. KGV XD-PRE series fully lugged with electric actuator r.s.



| DN  | G±1 | L    | H    | ØV  | L1   | L2   | H2   | M   | Ø Cil | S       | Min. Torque (Nm) | Max. Torque (Nm) | Spindle thread |
|-----|-----|------|------|-----|------|------|------|-----|-------|---------|------------------|------------------|----------------|
| 50  | 43  | 359  | 292  | 175 | 398  | 407  | 300  | 147 | 80    | 1/4 " G | 8                | 16               | Tr18x4i        |
| 65  | 46  | 399  | 317  | 175 | 436  | 444  | 325  | 160 | 80    | 1/4 " G | 10               | 17               | Tr18x4i        |
| 80  | 46  | 444  | 361  | 225 | 486  | 499  | 357  | 177 | 100   | 1/4 " G | 12               | 19               | Tr20x4i        |
| 100 | 52  | 499  | 396  | 225 | 541  | 582  | 392  | 197 | 100   | 1/4 " G | 15               | 22               | Tr20x4i        |
| 125 | 56  | 560  | 432  | 225 | 612  | 618  | 428  | 232 | 125   | 3/8 " G | 17               | 24               | Tr20x4i        |
| 150 | 56  | 674  | 523  | 300 | 732  | 732  | 510  | 267 | 160   | 3/8 " G | 25               | 50               | Tr24x5i        |
| 200 | 60  | 824  | 623  | 300 | 892  | 882  | 610  | 327 | 190   | 1/2 " G | 27               | 53               | Tr24x5i        |
| 250 | 68  | 980  | 729  | 300 | 1046 | 1044 | 716  | 375 | 190   | 1/2 " G | 50               | 69               | Tr24x5i        |
| 300 | 78  | 1160 | 858  | 400 | 1217 | 1219 | 834  | 428 | 190   | 1/2 " G | 63               | 84               | Tr28x5i        |
| 350 | 78  | 1303 | 951  | 400 | 1381 | 1362 | 927  | 499 | 250   | 1/2 " G | 78               | 102              | Tr28x5i        |
| 400 | 90  | 1433 | 1050 | 400 | 1530 | 1501 | 1026 | 549 | 250   | 1/2 " G | 90               | 110              | Tr28x5i        |
| 450 | 90  | 1677 | 1234 | 500 | 1737 | 1685 | 1135 | 590 | 300   | 1/2 " G | 215              | 259              | Tr40x7i        |
| 500 | 95  | 1819 | 1311 | 500 | 1878 | 1829 | 1214 | 656 | 300   | 1/2 " G | 223              | 320              | Tr40x7i        |
| 600 | 105 | 2106 | 1498 | 500 | 2166 | 2116 | 1401 | 757 | 300   | 1/2 " G | 249              | 388              | Tr40x7i        |

\* Data sheet for ØK & ØD stated in "flange drillings chapter".

FLANGE DRILLINGS

**FLANGE DRILLING - PN10**

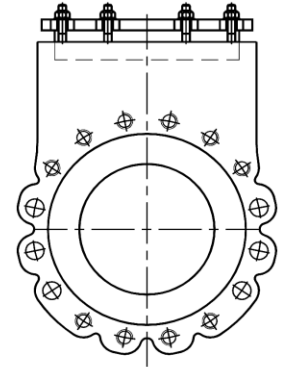
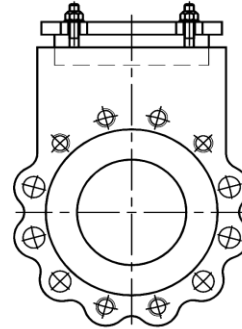
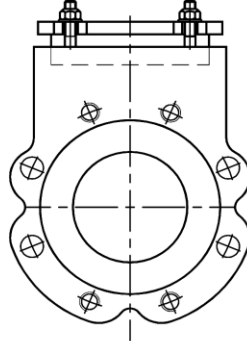
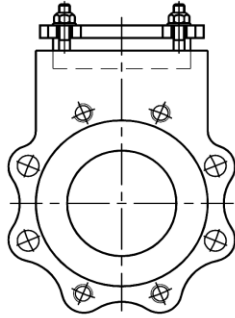
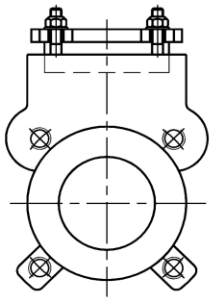
DN 50-65

DN 80-150

DN 200

DN 250-300

DN 350

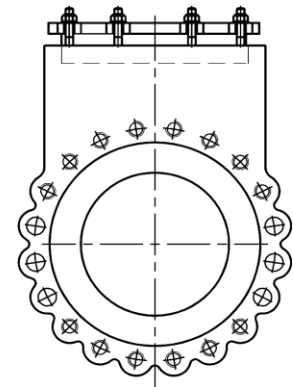
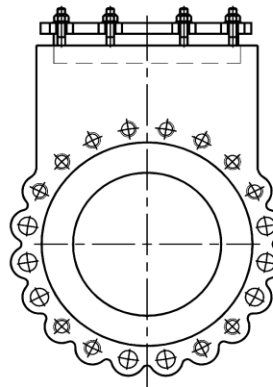
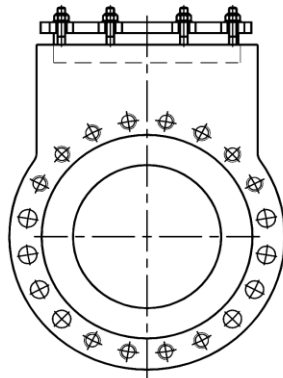
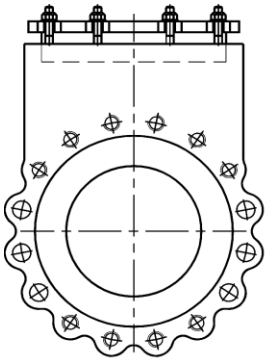


DN 400

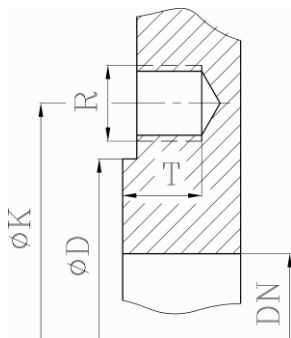
DN 450

DN 500

DN 600



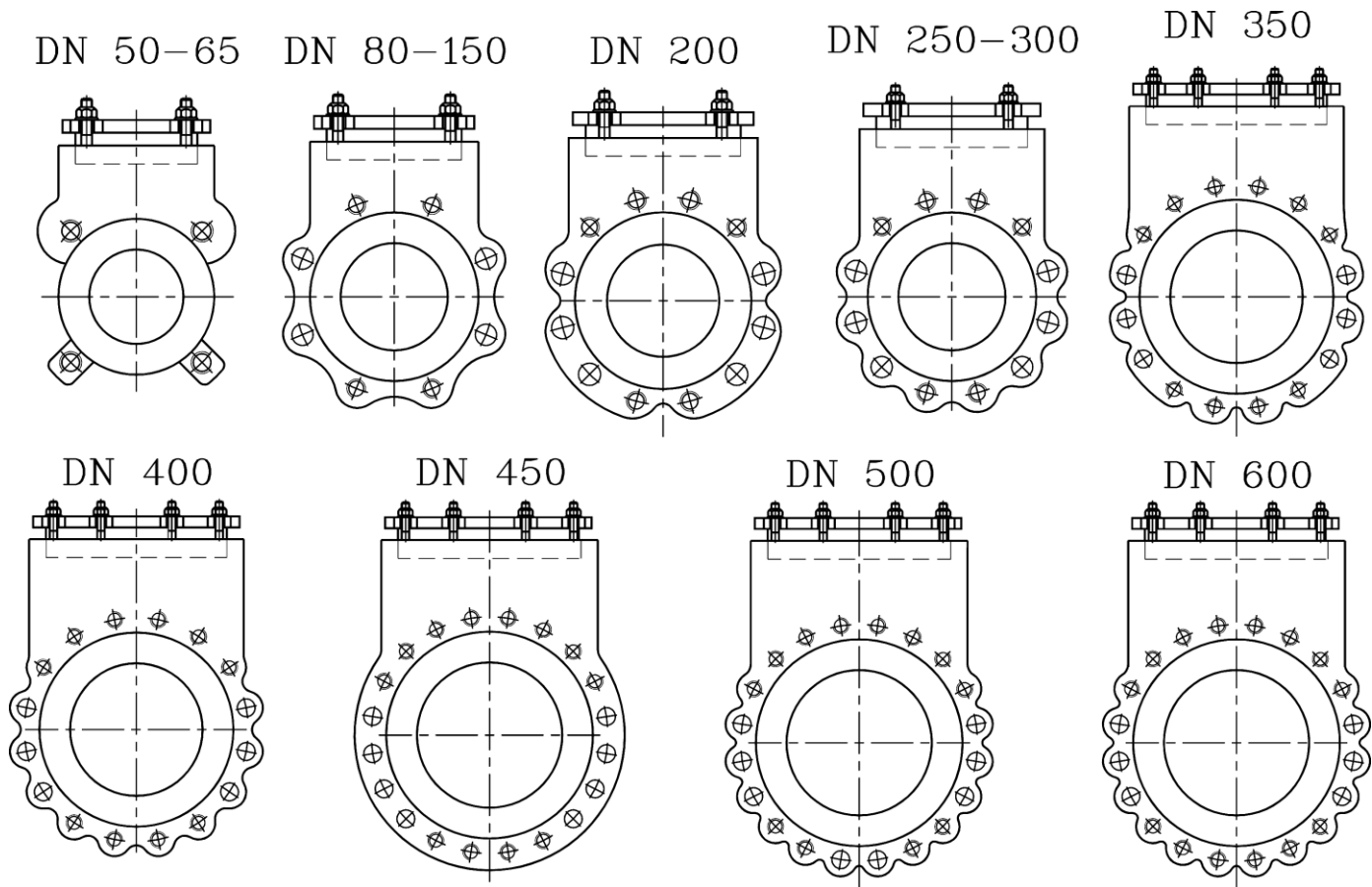
**Bolting Arrangements PN-10 Knife Gate Valve**



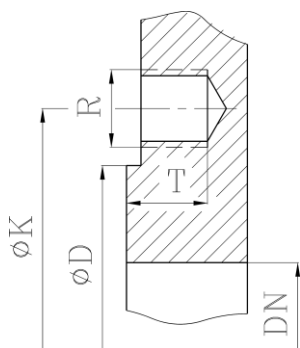
| DN  | K   | D   | N (1) | N (2) | N (3) | T  | R    |
|-----|-----|-----|-------|-------|-------|----|------|
| 50  | 125 | 100 | 4     | -     | 4     | 9  | M-16 |
| 65  | 145 | 120 | 4     | -     | 4     | 9  | M-16 |
| 80  | 160 | 135 | 4     | 4     | 8     | 13 | M-16 |
| 100 | 180 | 158 | 4     | 4     | 8     | 13 | M-16 |
| 125 | 210 | 188 | 4     | 4     | 8     | 13 | M-16 |
| 150 | 240 | 212 | 4     | 4     | 8     | 12 | M-20 |
| 200 | 295 | 268 | 4     | 4     | 8     | 12 | M-20 |
| 250 | 350 | 320 | 6     | 6     | 12    | 16 | M-20 |
| 300 | 400 | 370 | 6     | 6     | 12    | 16 | M-20 |
| 350 | 460 | 430 | 10    | 6     | 16    | 20 | M-20 |
| 400 | 515 | 482 | 10    | 6     | 16    | 24 | M-24 |
| 450 | 565 | 532 | 12    | 8     | 20    | 24 | M-24 |
| 500 | 620 | 585 | 12    | 8     | 20    | 25 | M-24 |
| 600 | 725 | 685 | 14    | 6     | 20    | 29 | M-27 |

N (1)- N° of tapped holes    N (2)- N° of through holes    N (3)- N° of flange holes

**FLANGE DRILLING - PN16**



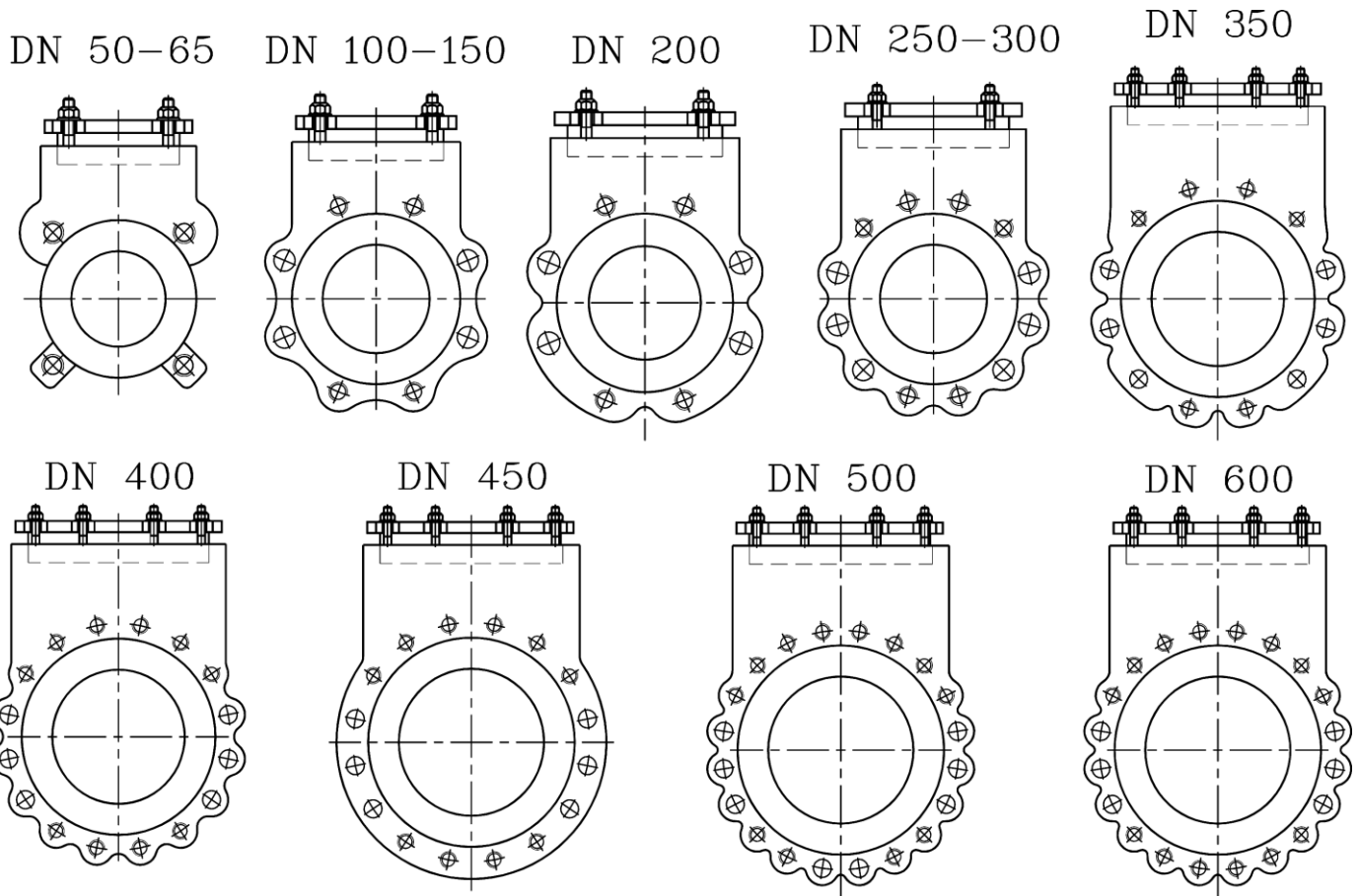
**Bolting Arrangements PN-16 Knife Gate Valve**



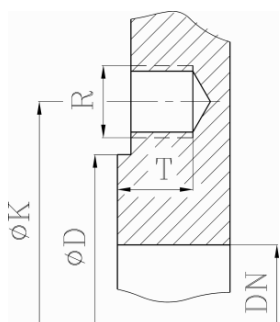
| DN  | K   | D   | N (1) | N (2) | N (3) | T  | R    |
|-----|-----|-----|-------|-------|-------|----|------|
| 50  | 125 | 100 | 4     | -     | 4     | 9  | M-16 |
| 65  | 145 | 120 | 4     | -     | 4     | 9  | M-16 |
| 80  | 160 | 135 | 4     | 4     | 8     | 13 | M-16 |
| 100 | 180 | 158 | 4     | 4     | 8     | 13 | M-16 |
| 125 | 210 | 188 | 4     | 4     | 8     | 13 | M-16 |
| 150 | 240 | 212 | 4     | 4     | 8     | 12 | M-20 |
| 200 | 295 | 268 | 6     | 6     | 12    | 12 | M-20 |
| 250 | 355 | 320 | 6     | 6     | 12    | 16 | M-24 |
| 300 | 410 | 370 | 6     | 6     | 12    | 16 | M-24 |
| 350 | 470 | 430 | 10    | 6     | 16    | 20 | M-24 |
| 400 | 525 | 482 | 10    | 6     | 16    | 24 | M-27 |
| 450 | 585 | 532 | 12    | 8     | 20    | 24 | M-27 |
| 500 | 650 | 585 | 12    | 8     | 20    | 25 | M-30 |
| 600 | 770 | 685 | 14    | 6     | 20    | 29 | M-33 |

N (1)- Nº of tapped holes N (2)- Nº of through holes N (3)- Nº of flange holes

**FLANGE DRILLING - ASA 150**



**Bolting Arrangements ASA-150 Knife Gate Valve**



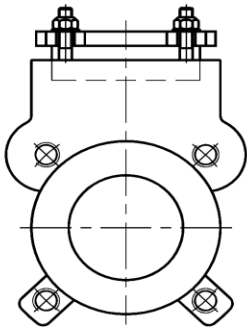
| DN  | K      | D   | N (1) | N (2) | N (3) | T  | R       |
|-----|--------|-----|-------|-------|-------|----|---------|
| 50  | 120,60 | 100 | 4     | -     | 4     | 9  | 5/8 "   |
| 65  | 139,70 | 120 | 4     | -     | 4     | 9  | 5/8 "   |
| 80  | 152,40 | 135 | 4     | -     | 4     | 13 | 5/8 "   |
| 100 | 190,50 | 158 | 4     | 4     | 8     | 13 | 5/8 "   |
| 125 | 215,90 | 188 | 4     | 4     | 8     | 13 | 3/4 "   |
| 150 | 241,30 | 212 | 4     | 4     | 8     | 12 | 3/4 "   |
| 200 | 298,40 | 268 | 4     | 4     | 8     | 12 | 3/4 "   |
| 250 | 361,90 | 320 | 6     | 6     | 12    | 16 | 7/8 "   |
| 300 | 431,80 | 370 | 6     | 6     | 12    | 16 | 7/8 "   |
| 350 | 476,20 | 430 | 8     | 4     | 12    | 20 | 1 "     |
| 400 | 539,70 | 482 | 10    | 6     | 16    | 24 | 1 "     |
| 450 | 577,80 | 532 | 10    | 6     | 16    | 24 | 1 1/8 " |
| 500 | 635,00 | 585 | 12    | 8     | 20    | 25 | 1 1/8 " |
| 600 | 749,30 | 685 | 14    | 6     | 20    | 29 | 1 1/4 " |

N (1)- Nº of tapped holes N (2)- Nº of through holes N (3)- Nº of flange holes

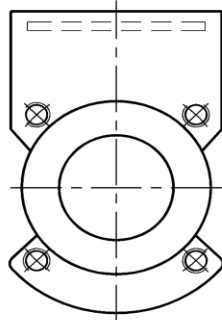


**FLANGE DRILLING – AS 2129 TABLE C/D**

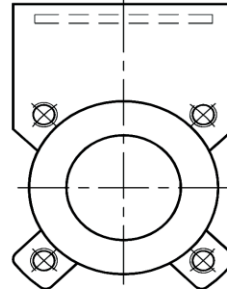
DN 50–65



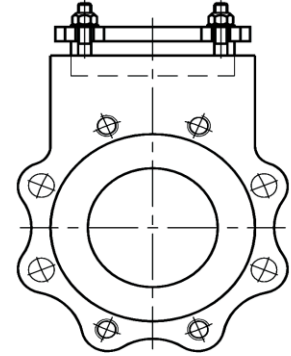
DN 80



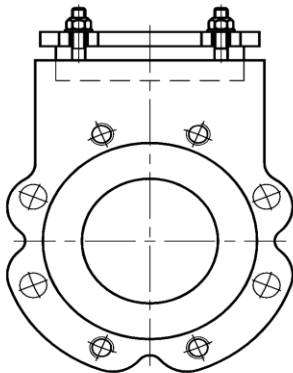
DN 100



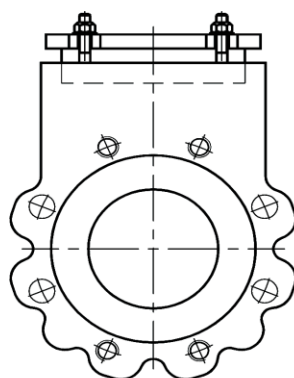
DN 125–150



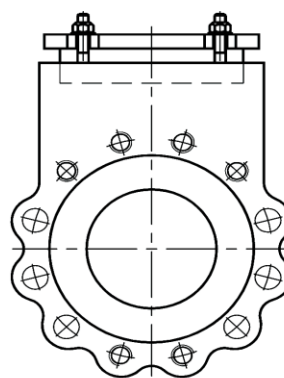
DN 200



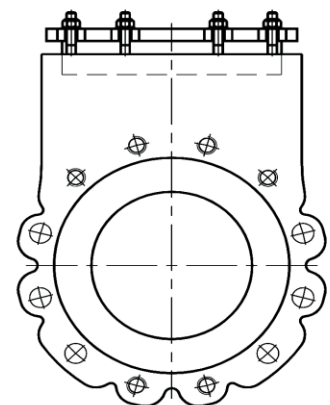
DN 250



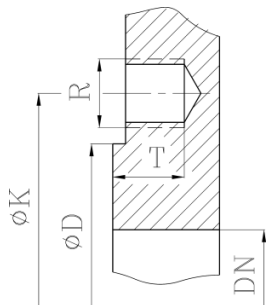
DN 300



DN 350



**Bolting Arrangements AS 2129 TABLE C/D Knife Gate Valve**



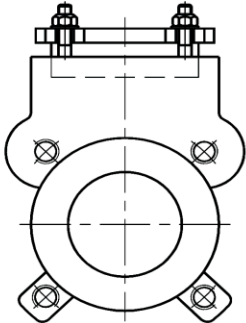
| DN  | K   | D   | N (1) | N (2) | N (3) | T  | R    |
|-----|-----|-----|-------|-------|-------|----|------|
| 50  | 114 | 100 | 4     | -     | 4     | 9  | M-16 |
| 65  | 127 | 120 | 4     | -     | 4     | 9  | M-16 |
| 80  | 146 | 135 | 4     | -     | 4     | 13 | M-16 |
| 100 | 178 | 158 | 4     | -     | 4     | 13 | M-16 |
| 125 | 210 | 188 | 4     | 4     | 8     | 13 | M-16 |
| 150 | 235 | 212 | 4     | 4     | 8     | 12 | M-16 |
| 200 | 292 | 268 | 4     | 4     | 8     | 12 | M-16 |
| 250 | 356 | 320 | 4     | 4     | 8     | 16 | M-20 |
| 300 | 406 | 370 | 6     | 6     | 12    | 19 | M-20 |
| 350 | 470 | 430 | 6     | 6     | 12    | 19 | M-24 |

N (1)- Nº of tapped holes N (2)- Nº of through holes N (3)- Nº of flange holes

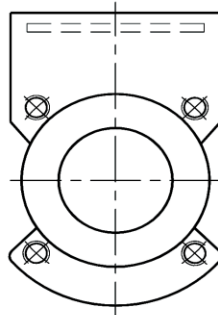
Please be aware that valves DN80 and DN100 can only be drilled at AS 2129 Table C/D on the standard XD series without independent packing gland.

**FLANGE DRILLING – AS 2129 TABLE E**

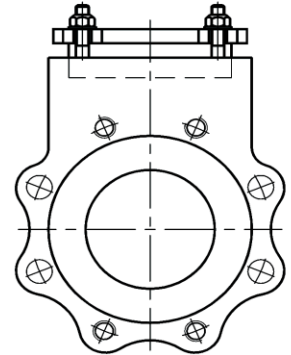
DN 50–65



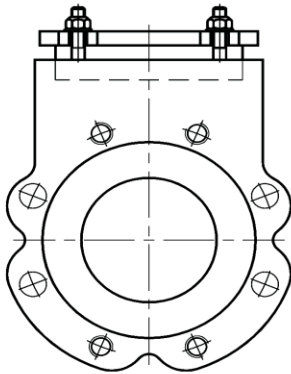
DN 80



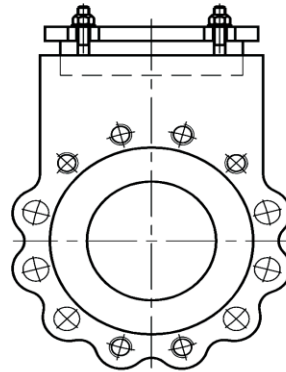
DN 100–150



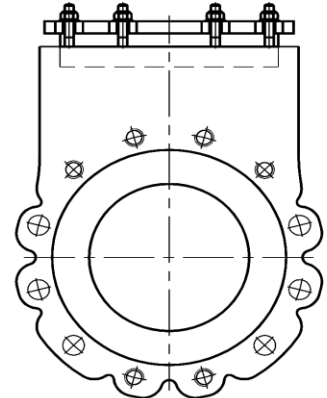
DN 200



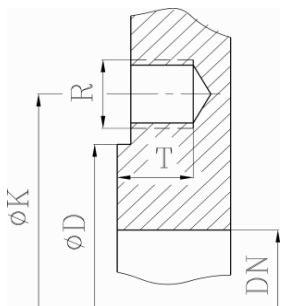
DN 250–300



DN 350



**Bolting Arrangements AS 2129 TABLE E Knife Gate Valve**



| DN  | K   | D   | N (1) | N (2) | N (3) | T  | R    |
|-----|-----|-----|-------|-------|-------|----|------|
| 50  | 114 | 100 | 4     | -     | 4     | 9  | M-16 |
| 65  | 127 | 120 | 4     | -     | 4     | 9  | M-16 |
| 80  | 146 | 135 | 4     | -     | 4     | 13 | M-16 |
| 100 | 178 | 158 | 4     | 4     | 8     | 13 | M-16 |
| 125 | 210 | 188 | 4     | 4     | 8     | 13 | M-16 |
| 150 | 235 | 212 | 4     | 4     | 8     | 12 | M-20 |
| 200 | 292 | 268 | 4     | 4     | 8     | 12 | M-20 |
| 250 | 356 | 320 | 6     | 6     | 12    | 16 | M-20 |
| 300 | 406 | 370 | 6     | 6     | 12    | 19 | M-24 |
| 350 | 470 | 430 | 6     | 6     | 12    | 19 | M-24 |

N (1)- N° of tapped holes N (2)- N° of through holes N (3)- N° of flange holes

Please be aware that valves DN80 can only be drilled at AS 2129 Table E on the standard XD series without independent packing gland.

**ORDERING GUIDE**

| SERIES             | OPERATIONS                                  | BODY MATERIAL     | DN | SEAT MATERIAL     | BODY TYPE                              | FLANGE DRILLING      |
|--------------------|---|-------------------|----|-------------------|--|----------------------|
| Example:<br>XD-PRE | V   | 11                |    | NI                | W                                      | PN-10                |
|                    | V → Handwheel r.s                           | 11 → Cast iron    |    | NI → NBR          | L → Fully Lugged<br>(END VALVE)        | PN-10                |
|                    | VR → Handwheel r.s + Bevel Gearbox          | 12 → Ductile iron |    | EP → EPDM         | LW → Fully Lugged<br>(BETWEEN FLANGES) | PN-16                |
|                    | F → Handwheel n.r.s.                        |                   |    | VI → VITON        |  | ASA 150              |
|                    | FR → Handwheel n.r.s. + Bevel Gearbox       |                   |    | TE → PTFE         |  | AS-2129<br>Table C/D |
|                    | C → Key cap n.r.s                           |                   |    | PU → POLIURETHANE |  | AS-2129<br>Table E   |
|                    | CR → Key cap + Spur Gearbox                 |                   |    | SI → SILICONE     |  |                      |
|                    | B → Iso top flange r.s.                     |                   |    | NIB → WHITE NBR   |  |                      |
|                    | BR → Iso top flange r.s. + Bevel Gearbox    |                   |    |                   |  |                      |
|                    | FB → Iso top flange n.r.s.                  |                   |    |                   |  |                      |
|                    | FBR → Iso top flange n.r.s. + Bevel Gearbox |                   |    |                   |  |                      |
|                    | M → Electric actuator r.s.                  |                   |    |                   |  |                      |
|                    | MR → Electric actuator r.s. + Bevel Gearbox |                   |    |                   |  |                      |

| SERIES | OPERATIONS                                    | MATERIAL          | DN | SEAT              | BODY TYPE                              | FLANGE               |
|--------|---|-------------------|----|-------------------|--|----------------------|
|        | FM → Electric actuator n.r.s                  | 11 → Cast iron    |    | NI → NBR          | L → Fully Lugged<br>(END VALVE)        | PN-10                |
|        | FMR → Electric actuator n.r.s + Bevel Gearbox | 12 → Ductile iron |    | EP → EPDM         | LW → Fully Lugged<br>(BETWEEN FLANGES) | PN-16                |
|        | P → Quick closing lever                       |                   |    | VI → VITON        |  | ASA 150              |
|        | N → D/A pneumatic actuator                    |                   |    | TE → PTFE         |  | AS-2129<br>Table C/D |
|        | SE → S/A pneumatic actuator                   |                   |    | PU → POLIURETHANE |  | AS-2129<br>Table E   |
|        | H → Oil hydraulic actuator                    |                   |    | SI → SILICONE     |  |                      |
|        | VCH → Chain wheel r.s.                        |                   |    | NIB → WHITE NBR   |  |                      |
|        | VCHR → Chain wheel r.s. + Bevel Gearbox       |                   |    |                   |  |                      |
|        | FCH → Chain wheel n.r.s.                      |                   |    |                   |  |                      |
|        | FCHR → Chain wheel n.r.s. + Bevel Gearbox     |                   |    |                   |  |                      |