

KNIFE GATE VALVE DUCTILE IRON BODY

TECHNICAL PASSEPORT

KNIFE GATE VALVE WITH HANDWHEEL RISING STEM DUCTILE IRON BODY - WAFER TYPE PN10

VG 4400-00

APPLICATION

The knife gate valve is particularly suitable for the most difficult applications.

Area of use: water treatment networks, pulp and paper industry, chemical plants, winemaking, cement works, pneumatic transport, storage.

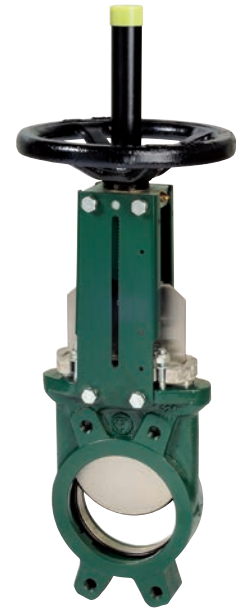


Fluids: water, sewage, pulp, pasty products, powdery, granular, fibrous, abrasive and crystallizing.

GENERAL CHARACTERISTICS

Range: from DN50 to DN600.

- Knife Gate Valve on/off or regulation with rising stem.
- Molded monobloc body
- Unidirectional water tightness: Flow direction indicated on the body with an arrow.
- Installation between flanges ISO PN10.
- Small retention zone.
- Gate with a beveled cutting edge guided in the body with little backlash.
- Guaranteed closure, without risk of blockage.
- Standard polished gate, soft contact with the gaskets.
- Very resistant ductile iron packing flange avoids risks of breaks.
- Operating force reduced thanks to the elasticity of the gaskets.
- Pre-formed profiled sheet metal support plates from DN50 to DN300 for accessory or kit mounting.
- Full flow when fully opened, ensuring a high flow rate with low head loss.
- Flow regulation possible for pasty or abrasive fluids with installation of a deflector.



STANDARDS

| | | | | | | |
|---------------------|---|--------|---------|------------|----------|---------|
| Design | Manufacture according to the requirements of the European directive n° 2014/68/UE «Equipment under pressure» : modulate H. In option: product conform to European directive ATEX «ATmosphère EXplosive» n° 2014/34/UE. | | | | | |
| Face to face | Face to face dimension according to TECOFI standard | | | | | |
| Connection | Mounting between flanges in accordance with EN1092-2 and DIN 2501 : ISO PN10 | | | | | |
| Tests | Pressure test according to standards EN12266-1, DIN 3230, BS 5154 and ISO 5208. | | | | | |
| | DN | Body | Seat | DN | Body | Seat |
| | DN50-250 : | 15 bar | 11 bar | DN300-450: | 10.5 bar | 7.7 bar |
| | DN500-600: | 6 bar | 4.4 bar | | | |

PRODUCT APPROVALS



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



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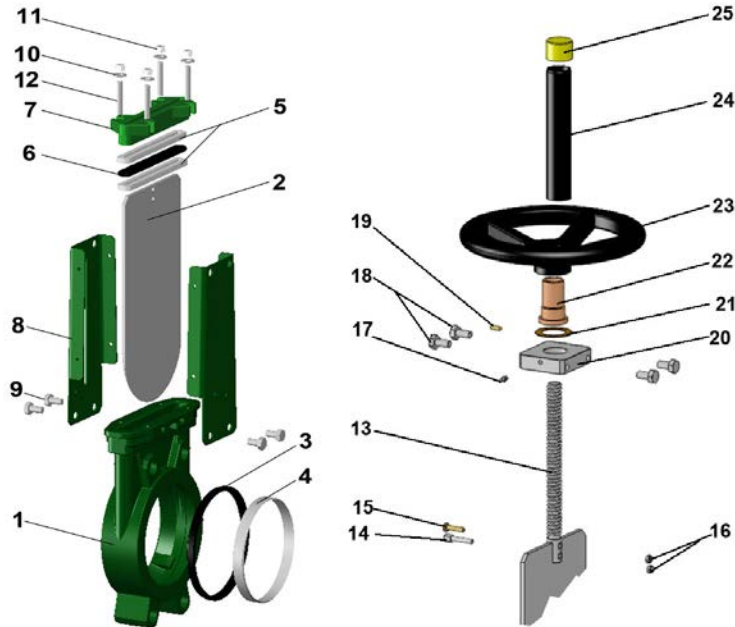
TECHNICAL PASSEPORT

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CONSTRUCTION DN50 - DN300

The valves are coated with epoxy paint to protect them against corrosion

| Component | Coating |
|----------------------|--------------------------------------|
| Body (1) | Epoxy powder RAL 6005 150 microns |
| Support plate (8) | Liquid epoxy RAL 6005 70 microns |
| Gland packing (7) | |
| Handwheel (23) | Liquid epoxy RAL 9005 70 microns |
| Protection tube (24) | |



| Pos. | Q-ty | Description | Material | Equivalences | | |
|------|------|------------------|------------------------------|--------------|------------------|----------------|
| | | | | DIN | ASTM | BS |
| 1 | 1 | Body | Ductile iron EN-GJS-500-7 | GGG 50 | A536 65-70-50-05 | 1563 EN-JS1050 |
| 2 | 1 | Gate | Stainless steel X5CrNi 18-10 | X5CrNi 18 10 | A 182 AISI 304 | 1449-2 304 S15 |
| 3 | 1 | Seat gasket | NBR | | | NBR |
| 4 | 1 | Support ring (1) | Stainless steel X5CrNi 18-10 | X5CrNi 18 10 | A 182 AISI 304 | 1449-2 304 S15 |
| 5 | 2 | Packing | PTFE | | | |
| 6 | 1 | O-Ring | NBR | | | NBR |
| 7 | 1 | Packing gland | Ductile iron EN-GJS-400-15 | GGG40 | A536 65-45-12 | 1563 EN-JS1030 |
| 8 | 2 | Support plate | Steel | | | |
| 9 | 4 | Screw | Stainless steel A2-70 | | | |
| 10 | 4 | Washer | Stainless steel A2-70 | | | |
| 11 | 4 | Nut | Stainless steel A2-70 | | | |
| 12 | 4 | Tie rod | Stainless steel A2-70 | | | |
| 13 | 1 | Stem | Stainless steel 13% Cr | X12Cr13 | AISI 410 | |
| 14 | 1 | Detection screw | Stainless steel X5CrNi 18-10 | X5CrNi 18 10 | A 182 AISI 304 | 1449-2 304 S15 |
| 15 | 1 | Screw | Stainless steel A2-70 | | | |
| 16 | 2 | Nut | Stainless steel X5CrNi 18-10 | X5CrNi 18 10 | A 182 AISI 304 | 1449-2 304 S15 |
| 17 | 1 | Greaser | Stainless steel X5CrNi 18-10 | X5CrNi 18 10 | A 182 AISI 304 | 1449-2 304 S15 |
| 18 | 4 | Screw | Stainless steel A2-70 | | | |
| 19 | 1 | Screw | Stainless steel A2-70 | | | |
| 20 | 1 | Nut support | Zinc plated steel | | | |
| 21 | 1 | Support washer | Bronze CuSn5Zn8Pb5-C | | | |
| 22 | 1 | Nut | Bronze CuSn5Zn8Pb5-C | | | |
| 23 | 1 | Handwheel | Cast iron EN-GJL-250 | GG25 | A48 class 40B | 1452 Grade 250 |
| 24 | 1 | Protection tube | Steel A45 | | | |
| 25 | 1 | Plug | Polyurethane | | | |

(1) - Parts missing on metal/metal sealing

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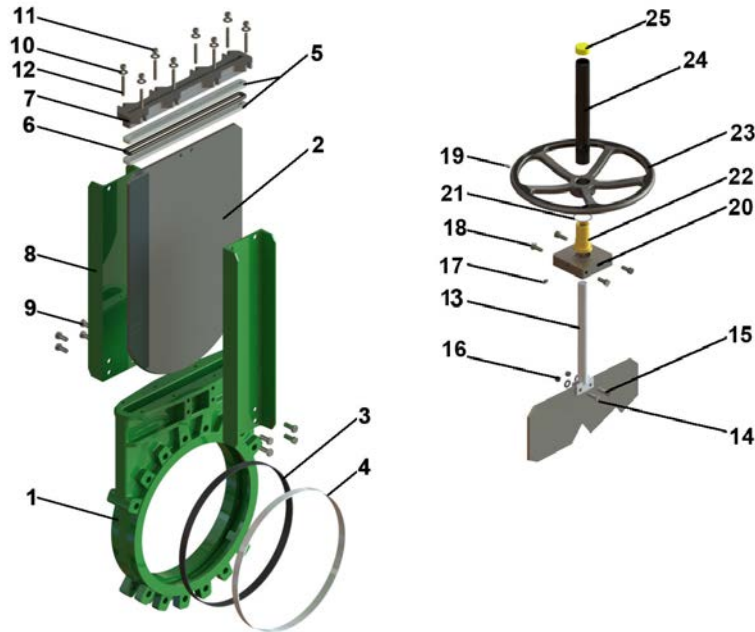
TECHNICAL PASSEPORT

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CONSTRUCTION DN350- DN600

The valves are coated with epoxy paint to protect them against corrosion

| Component | Coating |
|----------------------|--------------------------------------|
| Body (1) | Epoxy powder RAL 6005 150 microns |
| Support plate (8) | Liquid epoxy RAL 6005 70 microns |
| Gland packing (7) | |
| Handwheel (23) | Liquid epoxy RAL 9005 70 microns |
| Protection tube (24) | |



| Pos. | Q-ty | Description | Material | Equivalences | | |
|------|------|------------------|------------------------------|--------------|------------------|----------------|
| | | | | DIN | ASTM | BS |
| 1 | 1 | Body | Ductile iron EN-GJS-500-7 | GGG 50 | A536 65-70-50-05 | 1563 EN-JS1050 |
| 2 | 1 | Gate | Stainless steel X5CrNi 18-10 | X5CrNi 18 10 | A 182 AISI 304 | 1449-2 304 S15 |
| 3 | 1 | Seat gasket | NBR | | | NBR |
| 4 | 1 | Support ring (1) | Stainless steel X5CrNi 18-10 | X5CrNi 18 10 | A 182 AISI 304 | 1449-2 304 S15 |
| 5 | 2 | Packing | PTFE | | | |
| 6 | 1 | O-Ring | NBR | | | NBR |
| 7 | 1 | Packing gland | Ductile iron EN-GJS-400-15 | GGG40 | A536 65-45-12 | 1563 EN-JS1030 |
| 8 | 2 | Support plate | Steel | | | |
| 9 | 12 | Screw | Stainless steel A2-70 | | | |
| 10 | 8 | Washer | Stainless steel A2-70 | | | |
| 11 | 8 | Nut | Stainless steel A2-70 | | | |
| 12 | 8 | Tie rod | Stainless steel A2-70 | | | |
| 13 | 1 | Stem | Stainless steel 13% Cr | X12Cr13 | AISI 410 | |
| 14 | 1 | Detection screw | Stainless steel X5CrNi 18-10 | X5CrNi 18 10 | A 182 AISI 304 | 1449-2 304 S15 |
| 15 | 1 | Screw | Stainless steel A2-70 | | | |
| 16 | 2 | Nut | Stainless steel X5CrNi 18-10 | X5CrNi 18 10 | A 182 AISI 304 | 1449-2 304 S15 |
| 17 | 1 | Greaser | Stainless steel X5CrNi 18-10 | X5CrNi 18 10 | A 182 AISI 304 | 1449-2 304 S15 |
| 18 | 4 | Screw | Stainless steel A2-70 | | | |
| 19 | 1 | Screw | Stainless steel A2-70 | | | |
| 20 | 1 | Nut support | Zinc plated steel | | | |
| 21 | 1 | Support washer | Bronze CuSn5Zn8Pb5-C | | | |
| 22 | 1 | Nut | Bronze CuSn5Zn8Pb5-C | | | |
| 23 | 1 | Handwheel | Cast iron EN-GJL-250 | GG25 | A48 class 40B | 1452 Grade 250 |
| 24 | 1 | Protection tube | Steel A45 | | | |
| 25 | 1 | Plug | Polyurethane | | | |

(1) - Parts missing on metal/metal sealing

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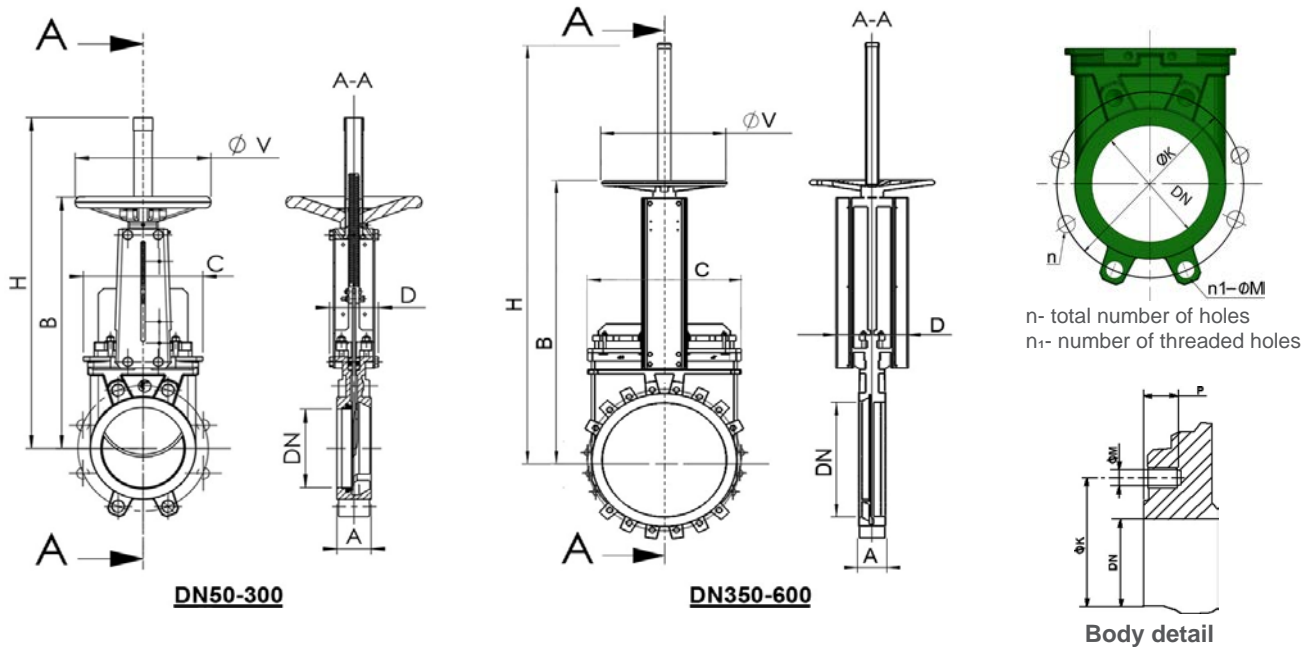


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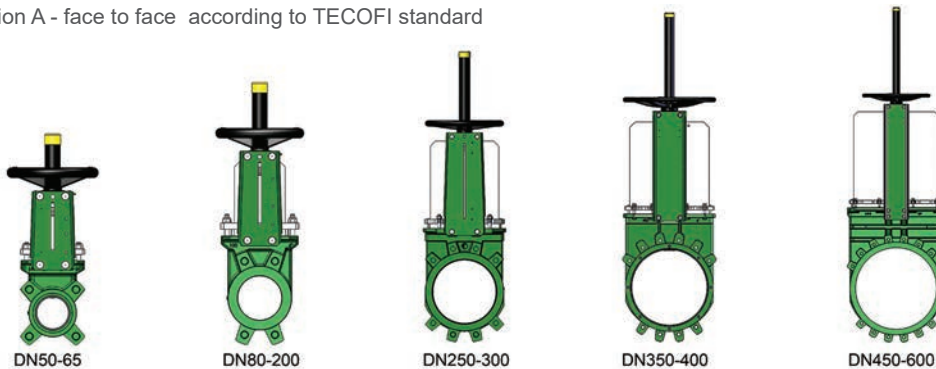
DIMENSIONS



MOUNTING DIMENSIONS

| DN | | A | B | C | D | Ø V | H | Maxi pressure (bar) | n | n1-ØM | P | ØK | Weight (kg) |
|-----|--------|-----|------|-----|-----|-----|------|---------------------|----|--------|----|-----|-------------|
| mm | inch | | | | | | | | | | | | |
| 50 | 2" | 40 | 283 | 124 | 83 | 200 | 348 | 10 | 4 | 4xM16 | 8 | 125 | 7,5 |
| 65 | 2 1/2" | 40 | 308 | 139 | 83 | 200 | 388 | 10 | 4 | 4xM16 | 8 | 145 | 9 |
| 80 | 3" | 50 | 333 | 154 | 83 | 200 | 413 | 10 | 8 | 4xM16 | 9 | 160 | 10 |
| 100 | 4" | 50 | 378 | 174 | 83 | 200 | 488 | 10 | 8 | 4xM16 | 9 | 180 | 11,5 |
| 125 | 5" | 50 | 423 | 189 | 93 | 250 | 564 | 10 | 8 | 4xM16 | 9 | 210 | 15,5 |
| 150 | 6" | 60 | 474 | 220 | 93 | 250 | 635 | 10 | 8 | 4XM20 | 10 | 240 | 18,5 |
| 200 | 8" | 60 | 593 | 275 | 108 | 310 | 809 | 10 | 8 | 4XM20 | 12 | 295 | 35 |
| 250 | 10" | 70 | 685 | 326 | 108 | 310 | 946 | 10 | 12 | 8XM20 | 12 | 350 | 47 |
| 300 | 12" | 70 | 792 | 380 | 108 | 310 | 1118 | 7 | 12 | 8XM20 | 19 | 400 | 61 |
| 350 | 14" | 96 | 900 | 438 | 290 | 500 | 1282 | 7 | 16 | 10XM20 | 20 | 460 | 117 |
| 400 | 16" | 100 | 978 | 494 | 290 | 500 | 1441 | 7 | 16 | 10XM24 | 24 | 515 | 151 |
| 450 | 18" | 106 | 1105 | 547 | 290 | 500 | 1587 | 7 | 20 | 14XM24 | 24 | 565 | 187 |
| 500 | 20" | 110 | 1215 | 613 | 290 | 500 | 1809 | 4 | 20 | 14XM24 | 24 | 620 | 205 |
| 600 | 24" | 110 | 1418 | 716 | 290 | 500 | 2060 | 4 | 20 | 14XM27 | 24 | 725 | 292 |

Dimension A - face to face according to TECOFI standard



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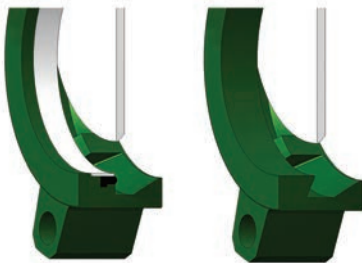
WORKING CONDITIONS

Maximum working pressure: DN50-250 : 10 bar
 DN300-450 : 7 bar
 DN500-600 : 4 bar

Maximum working temperature : -10°C / +80°C (NBR joint in standard)

⚠ The above mentioned pressures are only valid if the direction of assembly indicated by the arrow on the valves is observed.

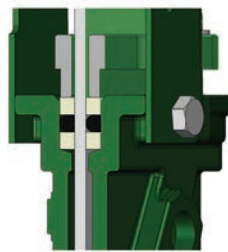
Upstream/downstream tightness



Elastomer tightness

Metal/metal tightness

Packing tightness



PTFE/Elastomer

Tightness in option

| Tightness | maximum temperature |
|---------------------|-----------------------|
| Metal/metal | Tmax : -10°C / +80°C |
| White NBR | Tmax : -10°C / +80°C |
| EPDM | Tmax : -10°C / +130°C |
| Silicone | Tmax : -10°C / +170°C |
| FPM (Type Viton®) | Tmax : -10°C / +170°C |
| PTFE | Tmax : +4°C / +170°C |
| CSM (Type Hypalon®) | Tmax : +4°C / +80°C |

⚠ To ensure a satisfactory tightness, when using the PTFE gasket, the operating pressure must be at least 1 bar.

FLOW RATES

Flow rates of valves under different differential pressure (m³/h)

| DN | | 0.2 bar | 0.4 bar | 0.6 bar | 0.8 bar | 1.0 bar |
|-----|--------|---------|---------|---------|---------|---------|
| mm | inch | | | | | |
| 50 | 2" | 93 | 134 | 165 | 185 | 206 |
| 65 | 2 1/2" | 129 | 180 | 213 | 268 | 309 |
| 80 | 3" | 191 | 309 | 371 | 422 | 494 |
| 100 | 4" | 443 | 618 | 721 | 824 | 927 |
| 125 | 5" | 700 | 927 | 1133 | 1339 | 1545 |
| 150 | 6" | 927 | 1339 | 1545 | 1906 | 2060 |
| 200 | 8" | 1597 | 2369 | 2987 | 3399 | 4017 |
| 250 | 10" | 2472 | 3502 | 4429 | 5150 | 5665 |
| 300 | 12" | 4120 | 5665 | 6798 | 7828 | 8755 |
| 350 | 14" | 5335 | 7372 | 8730 | 9700 | 11640 |
| 400 | 16" | 6693 | 9312 | 11640 | 13580 | 15520 |
| 450 | 18" | 8342 | 12610 | 14550 | 16490 | 18430 |
| 500 | 20" | 9700 | 14550 | 17460 | 19400 | 22310 |
| 600 | 24" | 14550 | 19400 | 25220 | 29100 | 33950 |

The column of the table under 1 bar gives the values of the Kvs of the valves.

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