VALVE INNOVATION_MANAGEMENT

SWISS PERFORMANCE

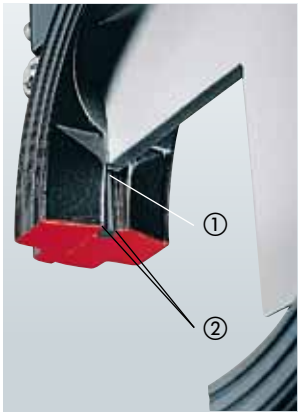
# Wey Knife Gate Valve VN

**2.4.00**

PN 10

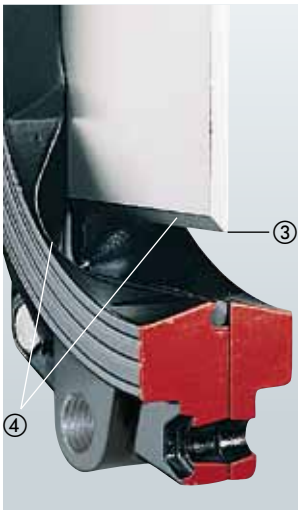
# Wey Knife Gate Valve VN

**The unique Wey sealing system for high performance duties:**
The Wey Knife Gate Valve VN is built to high quality manufacturing standards and combines rugged construction with time-tested design refinements found in no other knife gate valve. This unique valve design assures long-life reliability and bubble-tight shut-off due to the joint action of various factors during the closing stage.



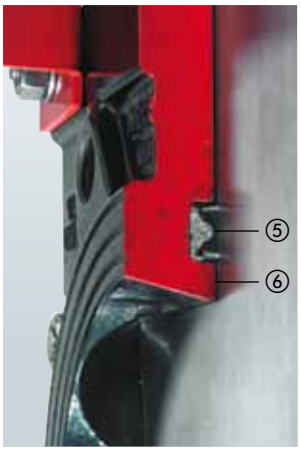

① Tight shut-off due to the **sealing function on the lateral gate side.** Fine surface ground finish of the gate ensures smooth operation and long-life seal performance. Mechanically retained seal prevents «pull-out».

② **Gate guides on full stroke length** ensure flutterand noisefree operation and bi-directional bubbletight shut-off at full design pressure in combination with above sealing features.




③ During final closing stage, remaining solids are sheared off by **knife-like gate** and body cutting edge.

④ Special gate geometry prevents jamming during closure because deposits are pushed ahead by the gate into **enlarged flushing corners** of the body. Contoured body interior initiates flushing action to prevent build-up and jamming of deposits in seat area.




⑤ Unique Wey **transverse seal** eliminates stuffing box. A special lip-seal profile ensures for no leakage to atmosphere. Diamond shaped, compressed sealing compound provides necessary sealing pressure, compensates for wear and stands for outstanding service life performance under normal conditions.

⑥ **Minimized chest area** between port and transverse seal leaves no space for solid build-up or jamming.

⑦ By tightening **packing screws** or inserting sealing compound pellets, repacking under full pressure and without system shut-down is always possible. Considerable time/cost savings in maintenance work persuaded customers for decades to install Wey Knife Gate Valves.

## Additional features





Ⓐ Solid steel topwork provides maximum strength, partial disassembly of support for easy access to mechanical parts, and facilitates mounting of:
- mechanical or proximity limit switches
- solenoid valves

Ⓑ Non-rising stem design (VNA) saves space and offers shielded stem, stem nut operation.

Ⓒ The cushioned (shut) pneumatical cylinder (VNC) prevents pressure shocks and initiates flushing action.

Ⓓ As an option pneumatic cylinder can be supplied with magnet piston design, together with proximity-magnet end-switches directly mounted on cylinder.

Ⓔ Topwork is designed in accordance to latest European Human Safety Regulations.

Ⓕ Epoxy powder coating EKB for body and topwork with stainless steel screws provide excellent corrosion protection.

Ⓖ Semi-lug type design provides for ease of installation and permits dead-end service.

Ⓗ Full bore opening effects low pressure drop and permits the use of all known pigging devices (e.g. spherical, cylindrical, brush pigs, etc.)

## Service

**Municipal**
Raw Sewage, Sewer Sludge, Waste Water with solids, etc.

**Pulp and Paper**
Paper stock thru all consistencies, Pulp/Water mixtures, Black Liquor, Waste Paper, Rags, Wood Pulp

**Sugar**
Beet and Cane Sugar, Syrup, Juice

**Process**
Viscous Paste, Colloids, Granulates, Chemical Waste, Textile Slurry, Pellets, Powders

**Food and Beverage**
Fruit Pulps, Grain Mash and Spent Grain Mash, Corn Slurry

**Power Generation and Mining**
Mill Scale, Coal Dust and Slurry, Mine Slurry, Lime Slurry, Cement Dust

## Construction details

**Application**

| Size DN | Nominal pressure PN | Flange drilling | Test acc. | Face-to-face |
|---|---|---|---|---|
| 50–150 | 10 bar | PN 16 | EN 12266-1 rate A | EN 558-1 / ISO 5752 part 20 |
| 200 | 10 bar | PN 10 | | |
| 250–300 | 6 bar | PN 10 | | |
| 350–400 | 4 bar | PN 10 | | |
| 500–1400** | 4 bar | PN 10 | | |

** from size DN 500 pillar topwork according to type MF EN-JL1040 only available up to size DN 400

## Temperature

–40° C to 400° C with adequate material- and construction adaption.

## Material construction

| Description | Cast Iron – Construction | | Stainless steel – Construction | | Accessories |
|---|---|---|---|---|---|
| | Standard | Option | Standard | Option | |
| Body | EN-JL1040 | | 316SS | | Limit switches mechanical and proximity, Solenoid valves, Vee-notch, Positioner |
| Gate | 304SS | 316L, 304L | 316L* | 316Ti* | |
| Seal | NBR | FPM, EPDM, PTFE | NBR | FPM, EPDM, PTFE | |
| Topwork | Steel | 316L | Steel | 316L | |
| Stem/Piston rod | Cr-Steel AISI430F | 316L | Cr-Steel AISI430F | 316L | |

* hard chromed

**Other materials upon request**

## Corrosion protection

**Standard**

| | |
|---|---|
| Body | EKB coating (Epoxy powder), black RAL 9005 |
| Topwork | EKB coating (Epoxy powder), red similar RAL 3020 |
| Handwheel | EKB coating (Epoxy powder), black RAL 9005 |
| Screws | Screws in stainless steel |
| Remark | Stainless steel parts without coating |

## Actuator options

**Wey Knife Gate Valve VNA**
with handwheel

**Wey Knife Gate Valve VNB**
with quick action lever

**Wey Knife Gate Valve VNC**
with pneumatic cylinder

**Wey Knife Gate Valve VNE**
with electric actuator

**Stem extension**
All VN Knife Gate Valves can be supplied with stem/piston rod extension to suit site construction.

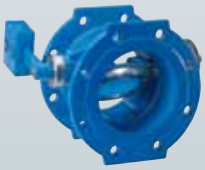
Assembling Wey Knife Gate Valves

## Further products

Wey Sluice Gates

Wey Check Valves (dirty water)

Wey Off-center Butterfly Valves



Wey Check Valves (clean water)

Centric Butterfly Valves

Wey Dismantling pieces

Your contact

# Wey Knife Gate Valve VNA 2.4.10

## DN 50–400
## Standard construction

Material acc. to data sheet 2.0.13

Body and upper construction with epoxy powder coating

Stainless steel parts without coating

Flange drilling: PN 10/16 EN 1092 / ISO 7005

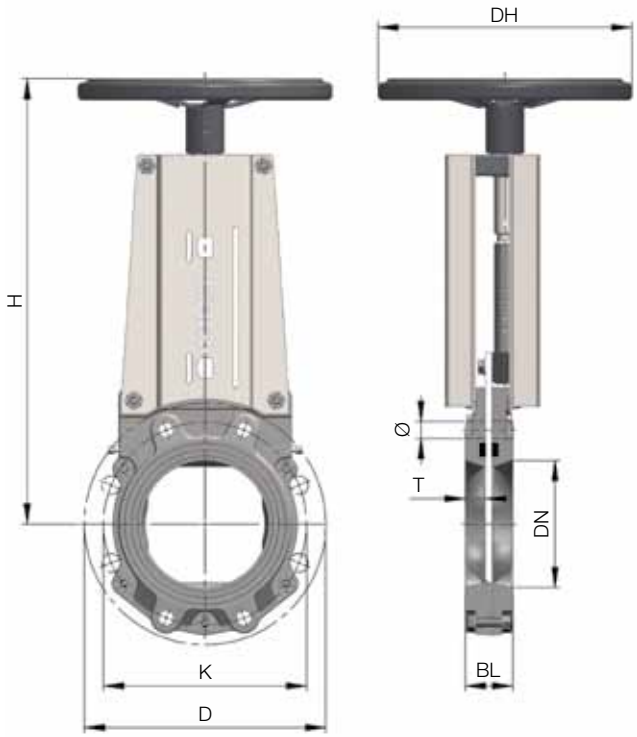
Face-to-face: EN 558-1/ ISO 5752 part 20

Nominal pressure PN: DN 50–200 10 bar
DN 250–300 6 bar
DN 350–400 4 bar

Operating pressure: Refer to table column OP

For dead-end installation we recommend to use steel-enforced rubber gasket

Test acc. EN 12266-1, rate A




| DN | D | K | BL | H | DH | Ø | T | Qty screws | ⊕ | ⊕ | OP max. bar | Weight [kg] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 165 | 125 | 43 | 328 | 150 | M16 | 17 | 4 | 4 | – | 10 | 7 |
| 65 | 185 | 145 | 46 | 340 | 150 | M16 | 17 | 4 | 4 | – | 10 | 8 |
| 80 | 200 | 160 | 46 | 358 | 200 | M16 | 17 | 8 | 4 | 4 | 10 | 9 |
| 100 | 220 | 180 | 52 | 411 | 200 | M16 | 20 | 8 | 4 | 4 | 10 | 12 |
| 125 | 250 | 210 | 56 | 452 | 200 | M16 | 22 | 8 | 4 | 4 | 10 | 14 |
| 150 | 285 | 240 | 56 | 526 | 300 | M20 | 21 | 8 | 4 | 4 | 10 | 22 |
| 200 | 340 | 295 | 60 | 606 | 300 | M20 | 23 | 8 | 4 | 4 | 10 | 29 |
| 250 | 395 | 350 | 68 | 696 | 300 | M20 | 19 | 12 | 6 | 6 | 6 | 40 |
| 300 | 445 | 400 | 78 | 792 | 400 | M20 | 23 | 12 | 6 | 6 | 6 | 65 |
| 350 | 505 | 460 | 78 | 905 | 400 | M20 | 20 | 16 | 8 | 8 | 4 | 89 |
| 400 | 565 | 515 | 102 | 987 | 400 | M24 | 28 | 16 | 6 | 10 | 4 | 115 |



Dimensions mm. All information for reference only. Modifications reserved.

# Wey Knife Gate Valve VNB 2.4.20

## DN 50–200
## Standard construction

Material acc. to data sheet 2.0.13

Body and upper construction with epoxy powder coating

Stainless steel part without coating

Flange drilling: PN 10/16 EN 1092 / ISO 7005

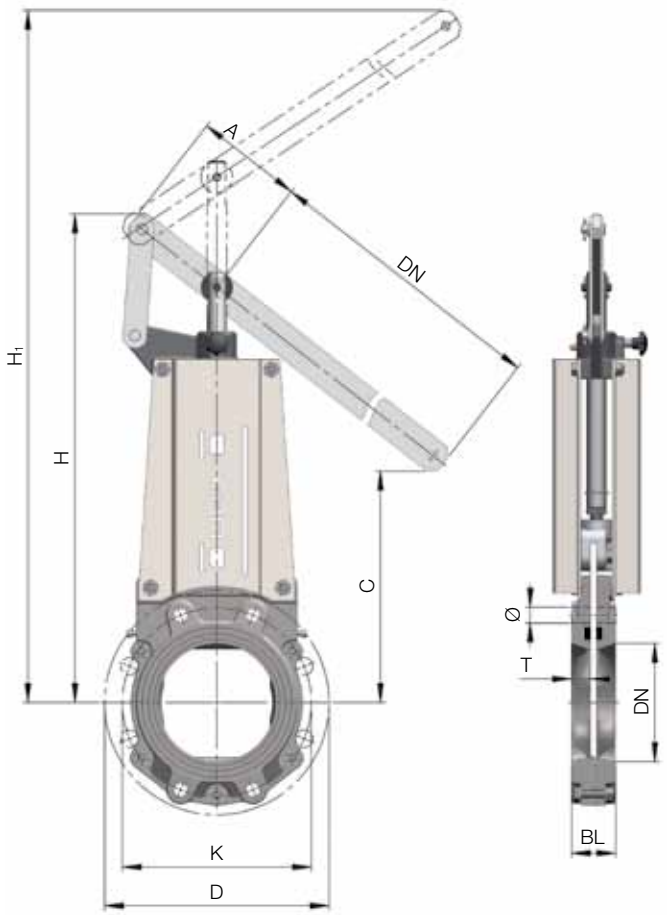
Face-to-face: EN 558-1 / ISO 5752 part 20

Nominal pressure PN: DN 50–200 4 bar

Operating pressure: DN 50–125 1 bar
DN 150–200 0,5 bar

For dead-end installation we recommend to use steel-enforced rubber gasket

Test acc. EN 12266-1, rate A




| DN | D | K | BL | H | $H_1$ | A | B | C | Ø | T | Qty screws | ⊕ | ⊕ | Weight [kg] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 165 | 125 | 43 | 378 | 492 | 108 | 382 | 283 | M16 | 17 | 4 | 4 | – | 8 |
| 65 | 185 | 145 | 46 | 391 | 528 | 108 | 382 | 266 | M16 | 17 | 4 | 4 | – | 9 |
| 80 | 200 | 160 | 46 | 409 | 585 | 108 | 382 | 221 | M16 | 17 | 8 | 4 | 4 | 10 |
| 100 | 220 | 180 | 52 | 493 | 717 | 126 | 454 | 267 | M16 | 20 | 8 | 4 | 4 | 12 |
| 125 | 250 | 210 | 56 | 536 | 824 | 126 | 454 | 254 | M16 | 22 | 8 | 4 | 4 | 15 |
| 150 | 285 | 240 | 56 | 620 | 1147 | 136 | 916 | 57 | M20 | 21 | 8 | 4 | 4 | 23 |
| 200 | 340 | 295 | 60 | 727 | 1390 | 160 | 858 | 144 | M20 | 23 | 8 | 4 | 4 | 35 |



Dimensions mm. All information for reference only. Modifications reserved.

# Wey Knife Gate Valve VNC 2.4.30

## DN 50–400
## Standard construction

Valve operated by pneumatic or hydraulic cylinder

Supply pressure 6–8 bar on cylinder

Material acc. to data sheet 2.0.13

Body and upper construction with epoxy powder coating

Stainless steel parts without coating

Flange drilling: PN 10/16 EN 1092 / ISO 7005

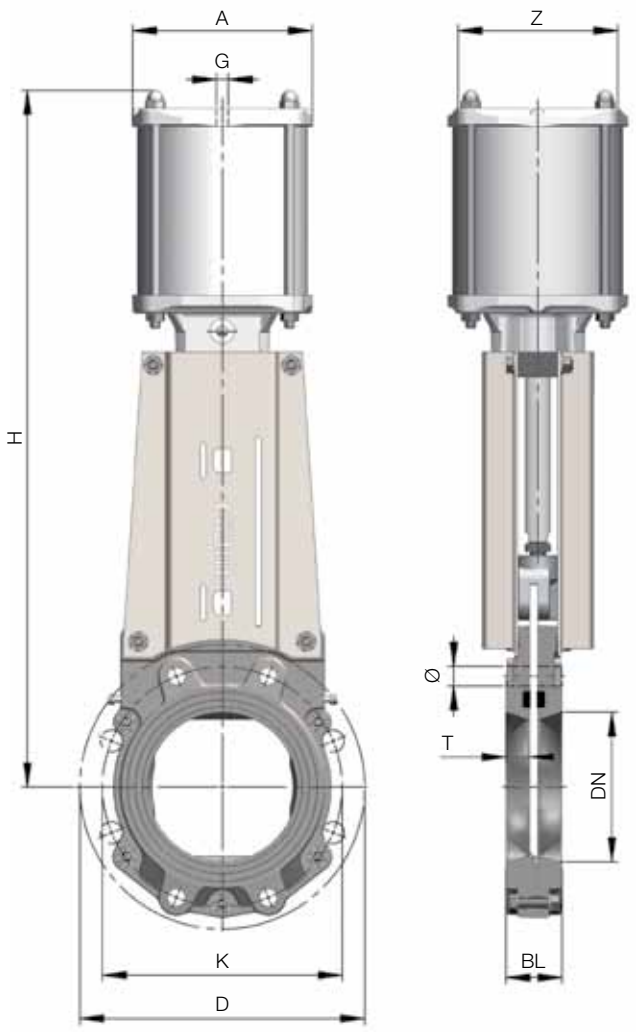
Face-to-face: EN 558-1 / ISO 5752 part 20

Nominal pressure PN: DN 50–200 10 bar
DN 250–300 6 bar
DN 350–400 4 bar

Operating pressure: Refer to table column OP

For dead-end installation we recommend to use steel-enforced rubber gasket

Test acc. EN 12266-1, rate A




| DN | D | K | BL | H | Z | A | G | Ø | T | Qty screws | ⊕ | ⊕ | *OP max. bar | Weight [kg] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 165 | 125 | 43 | 407 | 100 | 140 | ISO 228-G¼ | M16 | 17 | 4 | 4 | – | 10 | 8 |
| 65 | 185 | 145 | 46 | 429 | 100 | 140 | ISO 228-G¼ | M16 | 17 | 4 | 4 | – | 10 | 9 |
| 80 | 200 | 160 | 46 | 462 | 100 | 140 | ISO 228-G¼ | M16 | 17 | 8 | 4 | 4 | 10 | 10 |
| 100 | 220 | 180 | 52 | 535 | 100 | 140 | ISO 228-G¼ | M16 | 20 | 8 | 4 | 4 | 8 | 13 |
| 125 | 250 | 210 | 56 | 601 | 100 | 140 | ISO 228-G¼ | M16 | 22 | 8 | 4 | 4 | 6 | 16 |
| 150 | 285 | 240 | 56 | 698 | 160 | 180 | ISO 228-G¼ | M20 | 21 | 8 | 4 | 4 | 10 | 26 |
| 200 | 340 | 295 | 60 | 828 | 160 | 180 | ISO 228-G¼ | M20 | 23 | 8 | 4 | 4 | 8 | 32 |
| 250 | 395 | 350 | 68 | 987 | 200 | 220 | ISO 228-G¼ | M20 | 19 | 12 | 6 | 6 | 6 | 46 |
| 300 | 445 | 400 | 78 | 1114 | 200 | 220 | ISO 228-G¼ | M20 | 23 | 12 | 6 | 6 | 5 | 78 |
| 350 | 505 | 460 | 78 | 1329 | 250 | 270 | ISO 228-G½ | M20 | 20 | 16 | 8 | 8 | 4 | 108 |
| 400 | 565 | 515 | 102 | 1461 | 250 | 270 | ISO 228-G½ | M24 | 28 | 16 | 6 | 10 | 4 | 134 |

*Application for supply air pressure of 6 bar in troublefree media.

# Wey Knife Gate Valve VNE 2.4.40

## DN 50–400
## Standard construction

Valve operated by electrical actuator 400 V, 50 Hz, with rising stem

Material acc. to data sheet 2.0.13

Body and upper construction with epoxy powder coating

Stainless steel parts without coating

Flange drilling: PN 10/16 EN 1092 / ISO 7005

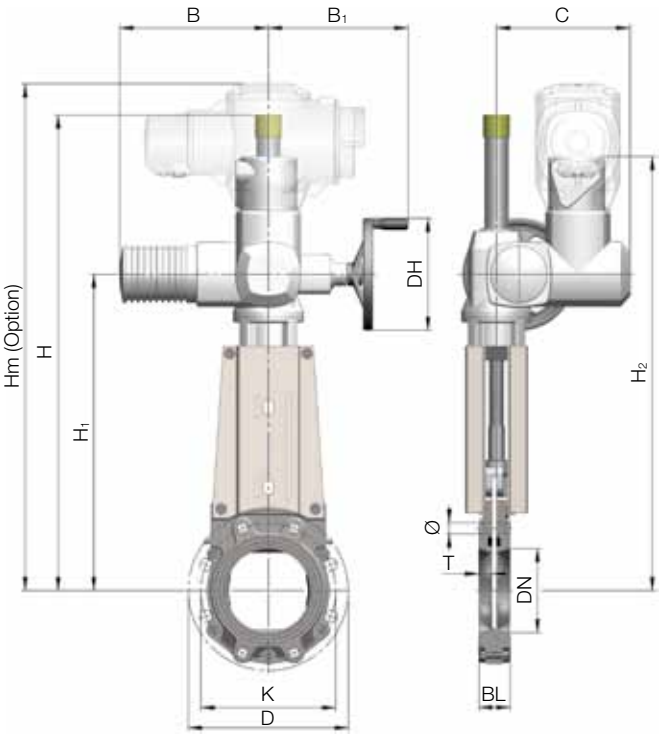
Face-to-face: EN 558-1 / ISO 5752 part 20

Nominal pressure PN: DN 50–200 10 bar
DN 250–300 6 bar
DN 350–400 4 bar

Operating pressure: Refer to table column OP

For dead-end installation we recommend to use steel-enforced rubber gasket

Test acc. EN 12266-1, rate A




| DN | D | K | BL | H | H1 | H2 | Option Hm | DH | B max. | B1 | C | Ø | T | Qty screws | ⊕ | ⊕ | OP max. bar | *Actuator SA… | Weight [kg] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 165 | 125 | 43 | | 385 | 559 | 725 | 140 | 265 | 249 | 237 | M16 | 17 | 4 | 4 | – | 10 | 07.1 | 27 |
| [1)] 65 | 185 | 145 | 46 | | 397 | 571 | 737 | 140 | 265 | 249 | 237 | M16 | 17 | 4 | 4 | – | 10 | 07.1 | 28 |
| 80 | 200 | 160 | 46 | | 415 | 589 | 755 | 140 | 265 | 249 | 237 | M16 | 17 | 8 | 4 | 4 | 10 | 07.1 | 29 |
| 100 | 220 | 180 | 52 | | 468 | 642 | 808 | 140 | 265 | 249 | 237 | M16 | 20 | 8 | 4 | 4 | 10 | 07.1 | 32 |
| 125 | 250 | 210 | 56 | | 509 | 683 | 849 | 140 | 265 | 249 | 237 | M16 | 22 | 8 | 4 | 4 | 10 | 07.1 | 34 |
| 150 | 285 | 240 | 56 | | 554 | 728 | 894 | 160 | 265 | 249 | 237 | M20 | 21 | 8 | 4 | 4 | 10 | 07.5 | 41 |
| 200 | 340 | 295 | 60 | 811 | 634 | 808 | 974 | 160 | 265 | 249 | 237 | M20 | 23 | 8 | 4 | 4 | 9 | 07.5 | 47 |
| 250 | 395 | 350 | 68 | 924 | 736 | 910 | 1076 | 200 | 282 | 254 | 247 | M20 | 19 | 12 | 6 | 6 | 6 | 10.1 | 65 |
| 300 | 445 | 400 | 78 | 1106 | 818 | 992 | 1158 | 200 | 282 | 254 | 247 | M20 | 23 | 12 | 6 | 6 | 6 | 10.1 | 90 |
| 350 | 505 | 460 | 78 | 1219 | 931 | 1105 | 1271 | 200 | 282 | 254 | 247 | M20 | 20 | 16 | 8 | 8 | 4 | 10.1 | 114 |
| 400 | 565 | 515 | 102 | 1401 | 1013 | 1187 | 1353 | 200 | 282 | 254 | 247 | M24 | 28 | 16 | 6 | 10 | 4 | 10.1 | 140 |

* Applicable in trouble-free media
[1)] DN 65 with 4 holes