

# KNIFE GATE VALVE STAINLESS STEEL BODY

TECHNICAL PASSPORT

## KNIFE GATE VALVE WITH SQUARE NON RISING STEM STAINLESS STEEL BODY - BETWEEN FLANGES PN10

VG 6400-051

### 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.

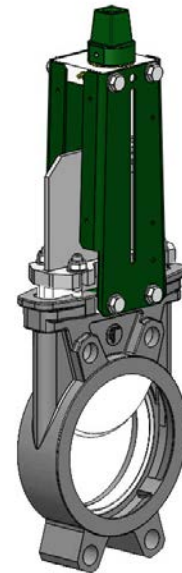


**Fluids:** water, sewage, pulp, pasty products, powdery, granular, fibrous, abrasive and crystallizing.

### GENERAL CHARACTERISTICS

**Range:** DN50 to DN500.

- 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 stainless steel 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

<b>Design</b>	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.					
<b>Face to face</b>	Face to face dimension according to TECOFI standard					
<b>Connection</b>	Mounting between flanges in accordance with EN1092-2 and ISO 7005-1 : ISO PN10					
<b>Tests</b>	Pressure test according to standards EN12266-1, DIN 3230, BS 5154 and ISO 5208.					
	DN	Body	Seat	DN	Body	Seat
	DN50-250 :	15.4 bar	11 bar	DN300-450:	12.6 bar	7.7 bar
	DN500 :	7.2 bar	4.4 bar			

### PRODUCT APPROVALS



### Tecofi France

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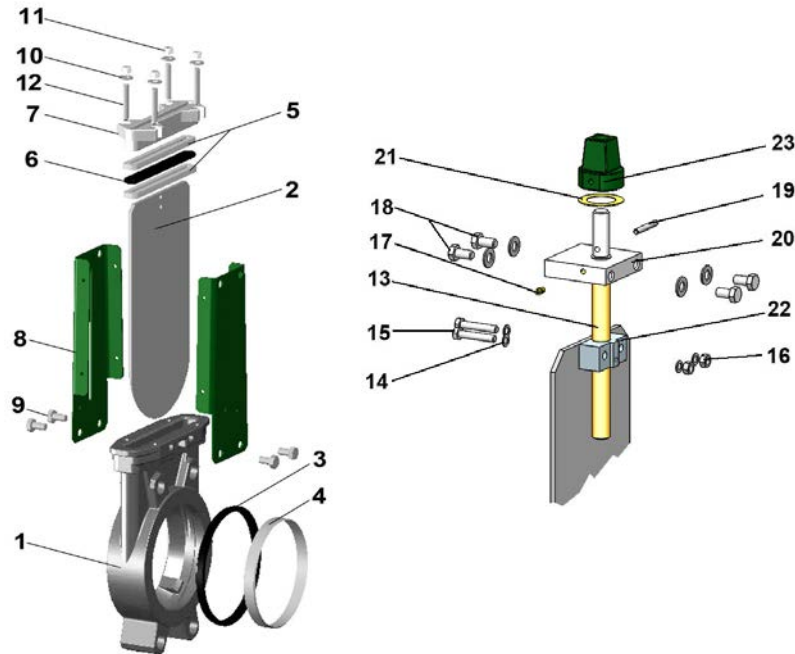
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### CONSTRUCTION

Coatings applied on the valve :

Constituant	Revêtement
Support plate (8)	Liquid epoxy RAL 6005 70 microns
Maneuvering square (23)	



Pos.	Q-ty	Description	Material	Equivalence		
				DIN	ASTM	BS
1	1	Body	Stainless steel GX5CrNiMo 19-11-2	G-X6CrNiMo18 10	A 351 grade CF8M	316 C16
2	1	Gate	Stainless steel X2CrNi 17-12-2	X2CrNiMo17-13-2	A 182 AISI 316L	1449-2 316 S11
3	1	Seat gasket (1)	EPDM			
4	1	Support ring (1)	Stainless steel X5CrNiMo 17-12-2	X5CrNiMo18 10	A 182 AISI 316	1449-2 316 S16
5	2	Packing	PTFE			
6	1	O-Ring	EPDM			
7	1	Packing gland	Stainless steel GX5CrNiMo 19-11-2	G-X6CrNiMo18 10	A 351 grade CF8M	316 C16
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	Inox A2-70			
13	1	Stem	Stainless steel 13% Cr	X12CR13	AISI 410	
14	1	Washer	Stainless steel A2-70			
15	1	Screw	Stainless steel A2-70			
16	2	Nut	Stainless steel A2-70			
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	Pin	Stainless steel A1			
20	1	Support nut	Zinc plated steel			
21	1	Washer	Bronze CuSn5Zn8Pb5-C			
22	1	Nut	Bronze CuSn5Zn8Pb5-C			
23	1	Maneuvering square	Cast iron EN-GJL-250	GG25	A48 class 40B	1452 Grade 250

\* - 8 for DN350-500 (1) - Parts missing on valves with metal/metal sealing

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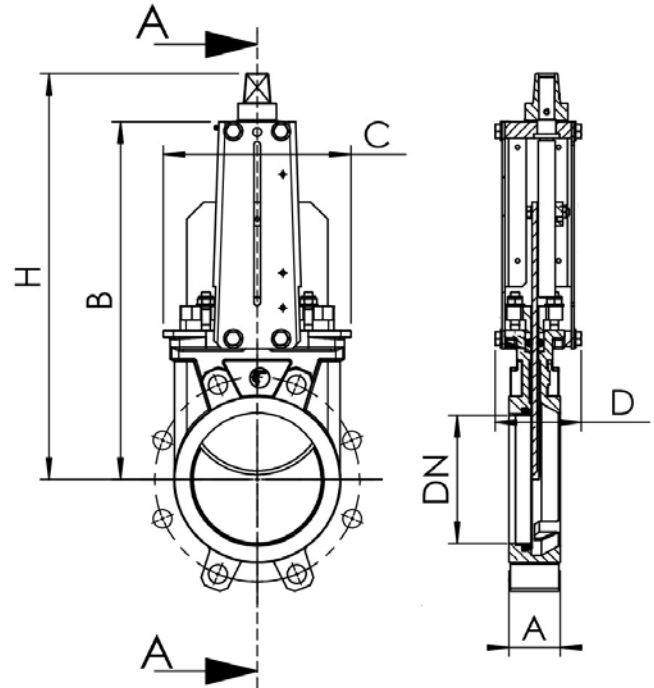
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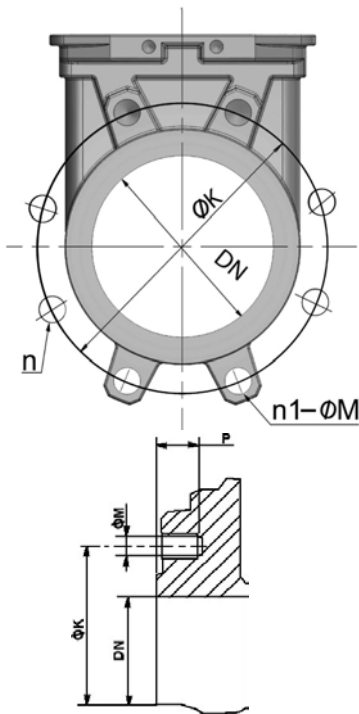
### DIMENSIONS

DN		A	B	C	D	H	Weight (kg)
mm	inch						
50	2"	40	240	124	83	327	6.5
65	2 1/2"	40	265	139	83	352	7.8
80	3"	50	290	154	83	377	8.4
100	4"	50	335	174	83	422	10.5
125	5"	50	373	189	93	463	14.4
150	6"	60	424	220	93	493	17.5
200	8"	60	533	275	108	628	32.8
250	10"	70	625	326	108	720	45.0
300	12"	70	732	380	108	827	59.0
350	14"	96	835	438	290	941	114.0
400	16"	100	913	494	290	1051	148.0
450	18"	106	1003	547	290	1143	186
500	20"	110	1040	613	290	1256	221



Dimension A - face to face according to TECOFI standard

### MOUNTING



Body details

DN		Maximum pressure (bar)	n	n1-ØM	P	ØK
mm	inch					
50	2"	10	4	4xM16	8	125
65	2 1/2"	10	4	4xM16	8	145
80	3"	10	8	4xM16	9	160
100	4"	10	8	4xM16	9	180
125	5"	10	8	4xM16	9	210
150	6"	10	8	4xM20	10	240
200	8"	10	8	4xM20	12	295
250	10"	10	12	8xM20	12	350
300	12"	7	12	8xM20	19	400
350	14"	7	16	10xM20	20	460
400	16"	7	16	10xM24	24	515
450	18"	7	20	14xM24	24	565
500	20"	4	20	14xM24	24	620

n- Total number of holes  
n1- Number of threaded holes

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### WORKING CONDITIONS

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

Maximum working pressure : -10°C / +130°C (EPDM joint in standard)

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

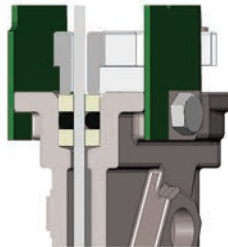
#### Upstream/downstream tightness



Elastomer  
tightness

metal/metal  
tightness

#### Packing tightness



PTFE/elasticomer

#### Tightness in option

Tightness	Maximum temperature
Metal/metal	Tmax : -10°C / +80°C
NBR	Tmax : -10°C / +80°C
White 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.

### FLOWS

#### Kv of valves (m³/h)

DN		Operating stroke, %									
mm	inch	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
50	2"	1,41	7,57	18,4	33,27	52,61	74,78	98,45	120,81	149,53	161,66
65	2"1/2	2,41	8,58	25,4	49,32	85,77	121,51	167,85	219,67	287,45	317,77
80	3"	3	13,1	46,66	79,57	122,11	199,58	276,85	359,84	432,49	461,98
100	4"	3,86	33,06	75,62	125,01	206,17	311,72	474,43	681,36	865,17	993,21
125	5"	19,64	47,05	107,47	177,8	295,95	444,71	675,13	973,05	1231,14	1385,15
150	6"	28,88	104,25	181,37	281,61	418,76	614,83	884,79	1177,11	1482,44	1613,77
200	8"	24,04	141,73	251,71	418,72	514,76	785,11	1227,16	1982,56	2491,22	2783,27
250	10"	115,44	367,52	693,84	1141,65	1634,09	2342,79	3243,71	3960,67	5336,19	5951,8
300	12"	103,12	535,87	1023,55	1619,5	2441,26	3508,29	4553,83	6339,29	7862,36	8373,88
350	14"	218,4	725,8	1323	2173,2	3294,8	4914,3	7120,9	11415,3	19105,4	24890,7
400	16"	389,1	1150,1	2024,4	3130,9	4669,6	7009,1	10355,2	16014,2	22600,5	26497,7
450	18"	402,7	1287,3	2402,9	3803,4	5686,8	8247,3	12248,7	17298,5	26403,9	29485
500	20"	617	1611,1	2935,9	4625,8	7054,7	10438,9	15446	23582,8	35107,4	42784

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