

KNIFE GATE VALVE DUCTILE IRON BODY

TECHNICAL PASSPORT

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.

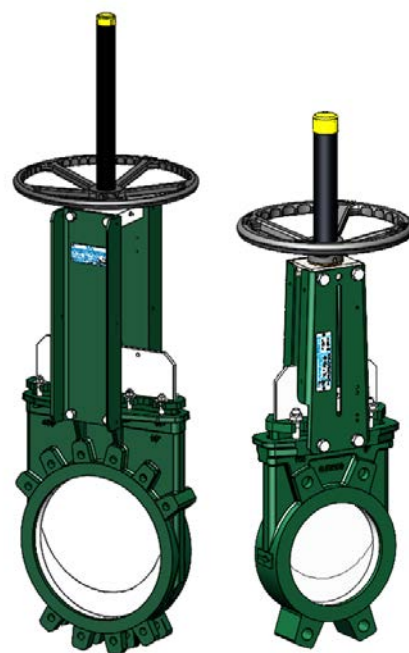


Fluids: water, sewage, pulp, pasty products, powdery, granular, fibrous, abrasive and crystallizing.

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 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



On request

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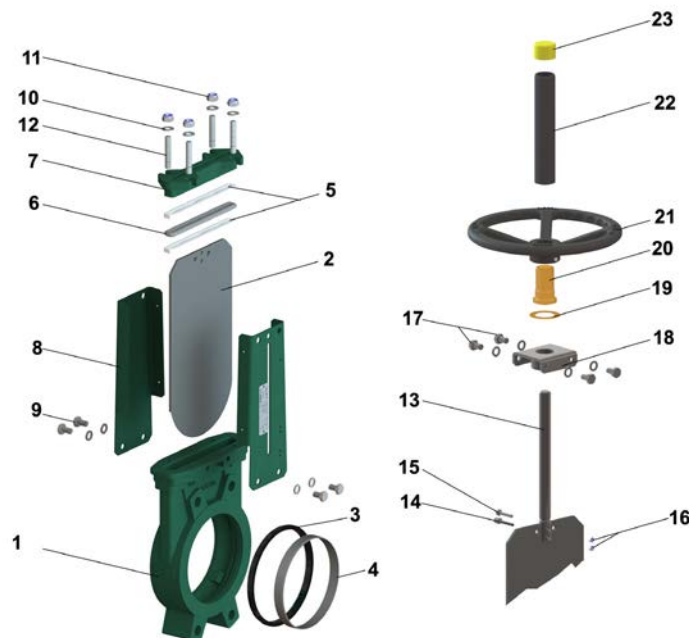
CONSTRUCTION DN50 - DN300

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

Component	Coating
Body (1)	Epoxy powder RAL 6005 250 microns
Support plate (8)	Liquid epoxy RAL 6005 150 microns
Gland packing (7)	
Handwheel (21)	Liquid epoxy RAL 9005 70 microns
Protection tube (22)	

Corrosion protection system:

1. The valve body is coated with a paint system corresponding to C5 - Medium durability (C5M) in accordance with the principles of NF EN ISO 12944.
2. The support plates are coated with a paint system corresponding to C4 - Medium durability (C4M) in accordance with the principles of NF EN ISO 12944.



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	4	Screw	Stainless steel A2-70			
18	1	Nut support	Zinc plated steel			
19	1	Support washer	Bronze CuSn5Zn8Pb5-C			
20	1	Nut	Bronze CuSn5Zn8Pb5-C			
21	1	Handwheel	Cast iron EN-GJL-250	GG25	A48 class 40B	1452 Grade 250
22	1	Protection tube	Steel A45			
23	1	Plug	Polyurethane			

(1) - Parts missing on metal/metal sealing

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CONSTRUCTION DN350- DN600

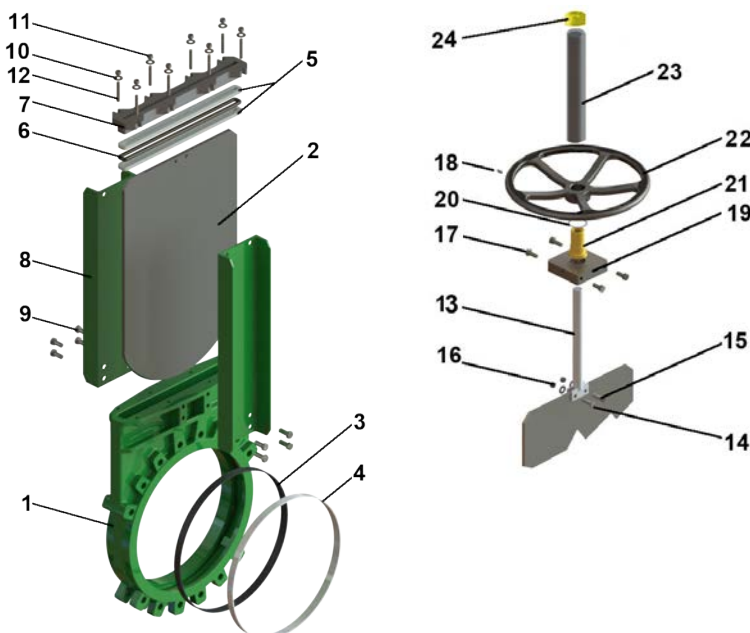
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Protection tube (23)	

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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	4	Screw	Stainless steel A2-70			
18	1	Screw	Stainless steel A2-70			
19	1	Nut support	Zinc plated steel			
20	1	Support washer	Bronze CuSn5Zn8Pb5-C			
21	1	Nut	Bronze CuSn5Zn8Pb5-C			
22	1	Handwheel	Cast iron EN-GJL-250	GG25	A48 class 40B	1452 Grade 250
23	1	Protection tube	Steel A45			
24	1	Plug	Polyurethane			

(1) - Parts missing on metal/metal sealing

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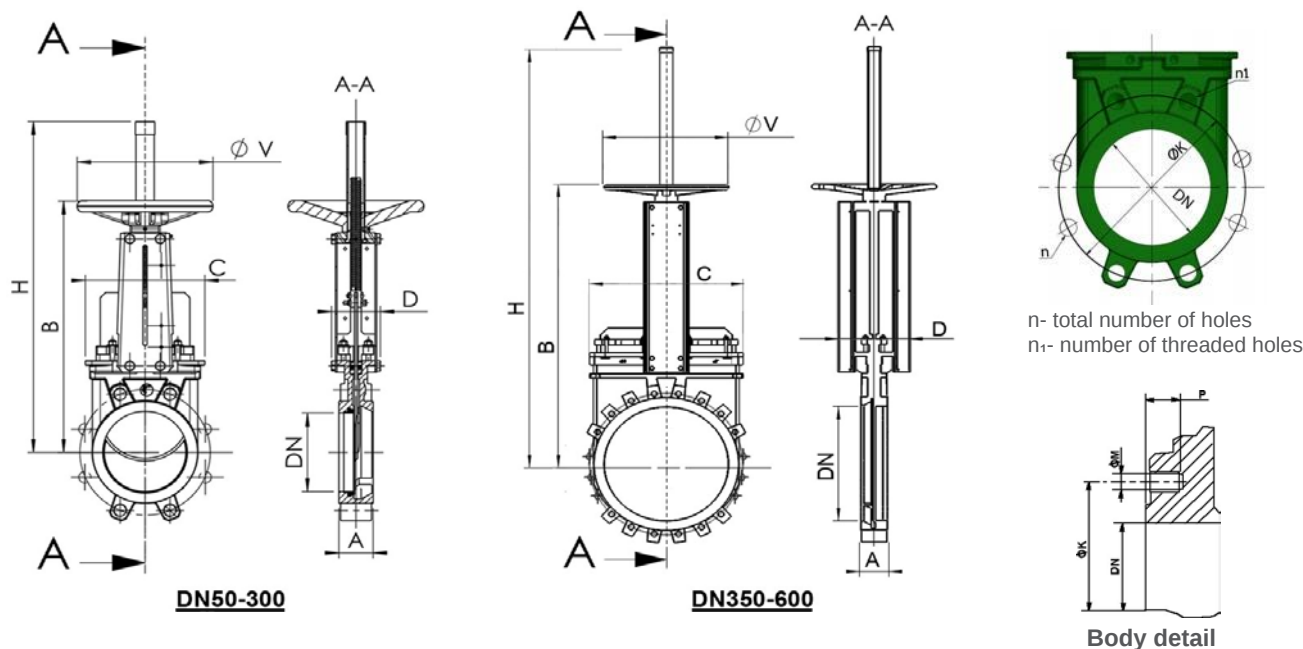
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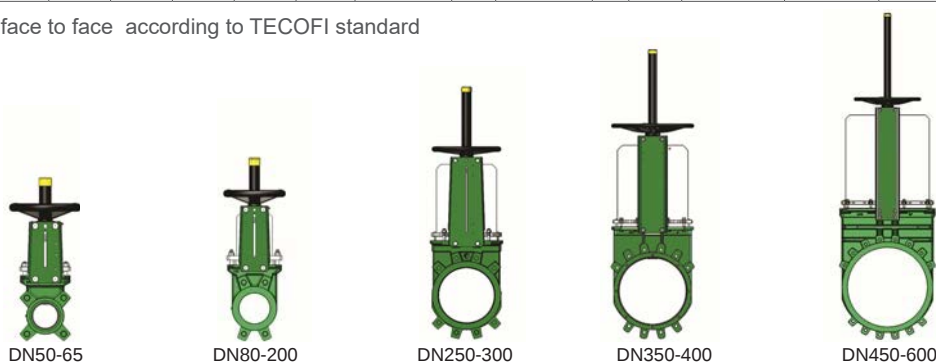
DIMENSIONS



MOUNTING DIMENSIONS

DN		A	B	C	D	Ø V	H	Maxi pressure (bar)	n	n-ØM	P	ØK	Stem dimensions	Number of turns	Torque Nm	Packing screw tightening torque Nm	Weight (kg)
mm	inch																
50	2"	40	283	124	83	200	348	10	4	4xM16	8	125	Tr20x4-L	15	10	15	7,5
65	2 1/2"	40	308	139	83	200	388	10	4	4xM16	8	145	Tr20x4-L	19	12	15	9
80	3"	50	333	154	83	200	413	10	8	4xM16	9	160	Tr20x4-L	23	21	15	10
100	4"	50	378	174	83	200	488	10	8	4xM16	9	180	Tr20x4-L	27	20	15	11,5
125	5"	50	423	189	93	250	564	10	8	4xM16	9	210	Tr20x4-L	34	29	15	15,5
150	6"	60	474	220	93	250	635	10	8	4XM20	10	240	Tr20x4-L	40	23	20	18,5
200	8"	60	593	275	108	310	809	10	8	4XM20	12	295	Tr25x5-L	42	41	20	35
250	10"	70	685	326	108	310	946	10	12	8XM20	12	350	Tr25x5-L	50	56	40	47
300	12"	70	792	380	108	310	1118	7	12	8XM20	19	400	Tr25x5-L	66	42	40	61
350	14"	96	900	438	290	500	1282	7	16	10XM20	20	460	Tr35x6-L	60	70	40	117
400	16"	100	978	494	290	500	1441	7	16	10XM24	24	515	Tr35x6-L	69	91	40	151
450	18"	106	1105	547	290	500	1587	7	20	14XM24	24	565	Tr35x6-L	77	115	40	187
500	20"	110	1215	613	290	500	1809	4	20	14XM24	24	620	Tr35x6-L	87	110	40	205
600	24"	110	1418	716	290	500	2060	4	20	14XM27	24	725	Tr35x6-L	105	135	40	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
(Temperature with NBR gasket in standard)

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

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 seal, the operating pressure must not be less than 1 bar.

* Maximum working temperature with different packing material :
PTFE (-40°C / +200°C) ; EPDM ACS (-10°C/+80°C); Hephaistos packing (0°C / +350°C); 2 PTFE packing+1 NBR Oring (-10°C / +80°C); 2 PTFE packing+1 FPM Oring (-20°C / +170°C)

FLOW RATES

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
600	24"	824.96	2347.72	4192.29	6367.56	9626.12	13780.4	19.393.58	26104.09	36144.08	42541.04

Upstream/downstream and packing tightness

PTFE/elastomer

DN50-300

DN350-600



Elastomer tightness



Metal/metal tightness

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