

KNIFE GATE VALVE DUCTILE IRON BODY

TECHNICAL PASSPORT

KNIFE GATE VALVE WITH RISING STEM AND ISO ACTUATOR MOUNTING PLATE DUCTILE IRON BODY - BETWEEN FLANGES PN10

VG 4400-004

APPLICATION

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

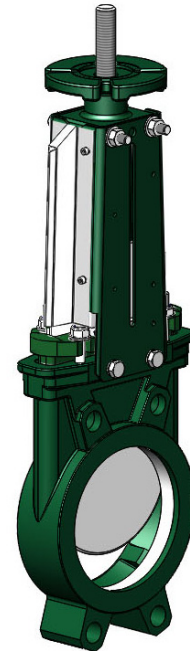
Area of use: water treatment networks, pulp and paper industry, chemical plants, winemaking, cement works, pneumatic transport, storage.



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

GENERAL CHARACTERISTICS

- Range: DN50 to 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



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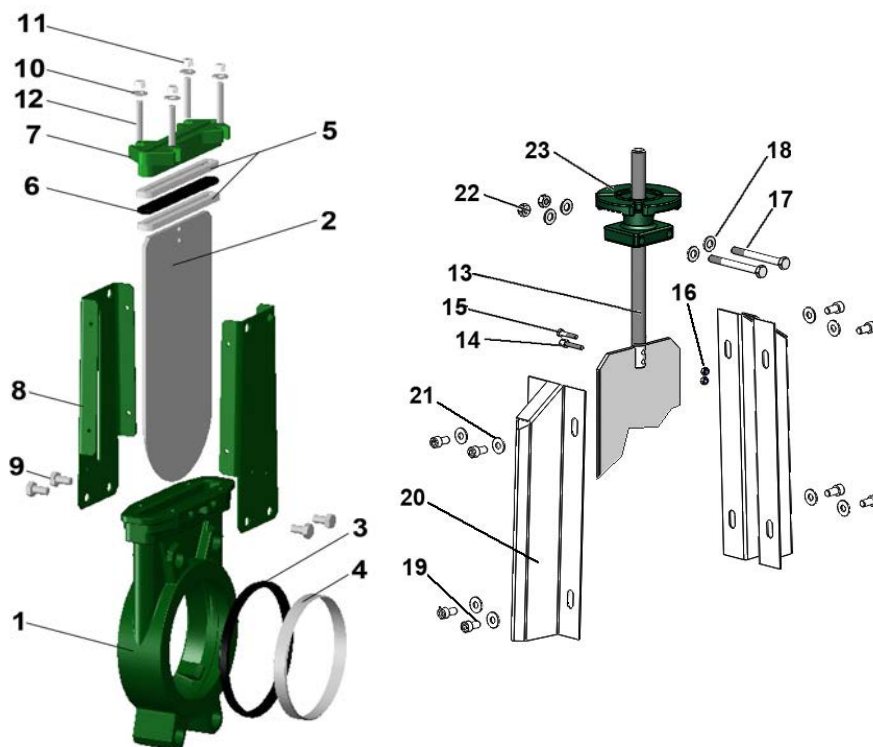
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CONSTRUCTION

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
Packing gland (7)	
Mounting plate (23)	



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 304	X5CrNi 18 10	A 182 AISI 304	1449-2 304 S15
3	1	Seat gasket (1)	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-500-7	GGG 50	A536 65-70-50-05	1563 EN-JS1050
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	2	Screw	Stainless steel A2-70			
18	4	Washer	Stainless steel A2-70			
19	8	Screw	Stainless steel A2-70			
20	2	Protection cap	Stainless steel X5CrNi 18 10	X5CrNi 18 10	A 182 AISI 304	1449-2 304 S15
21	8	Washer	Stainless steel A2-70			
22	2	Nut	Stainless steel A2-70			
23	1	ISO 5210 plate	Acier A45			

* - 8 for DN350-400; ** - 12 for DN450-600

(1) - Parts missing on metal/meat sealing

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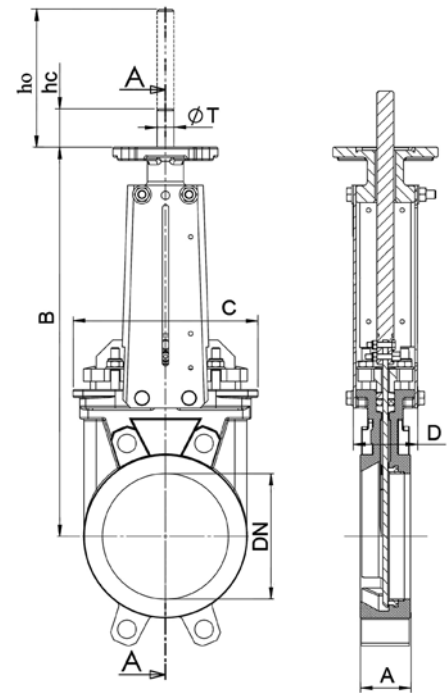
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DIMENSIONS

DN		A	B	C	D	hc	ho	nr*	Torque**	T	Weight (kg)
mm	inch								(Nm)		
50	2"	40	305	124	83	36	99.5	13	10	Tr 20 x 4 left	6
65	2 1/2"	40	330	139	83	43	119.5	16	12		8
80	3"	50	355	154	83	40	152.5	20	21		9
100	4"	50	400	174	83	40	157.5	25	20		10
125	5"	50	438	189	93	38	177.5	31	29		15
150	6"	60	489	220	93	40	205.5	38	23	Tr 25 x 5 left	19
200	8"	60	608	275	108	50	268	40	41		33
250	10"	70	700	326	108	48	316	50	56		47
300	12"	70	807	380	108	50	370.5	60	42	Tr 35 x 6 left	58
350	14"	96	910	450	290	45	435	58	70		107
400	16"	100	1020	510	290	53	487.5	67	91		137
450	18"	106	1115	564	290	63	528	75	110		177
500	20"	110	1225	630	290	53	568	83	105		212
600	24"	110	1429	726	290	50	666	100	135		256



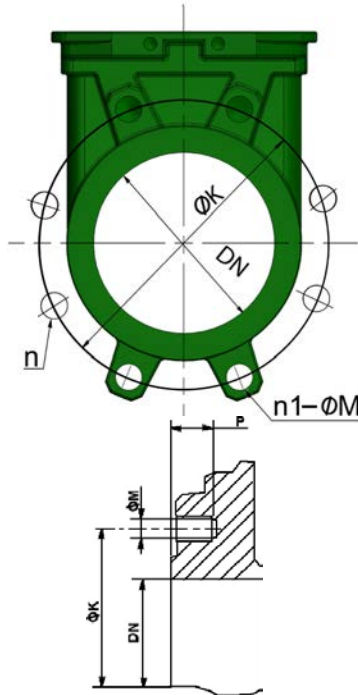
Dimension A - face to face according to TECOFI standard

*-nr number of turns for opening

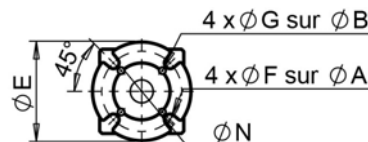
** - Torque value are approximate as they depend on the tightening of the packing gland.

We advise to increase them by 30% for more security.

MOUNTING



Body details



Embase ISO

DN		Maximum pressure (bar)	n	n1-ØM	P	ØK	ISO plate	ØA	ØB	ØE	ØF	ØG	ØN
mm	inch												
50	2"	10	4	4xM16	8	125	F07/F10	70	102	125	9	11	70
65	2 1/2"	10	4	4xM16	8	145	F07/F10	70	102	125	9	11	70
80	3"	10	8	4xM16	9	160	F07/F10	70	102	125	9	11	70
100	4"	10	8	4xM16	9	180	F07/F10	70	102	125	9	11	70
125	5"	10	8	4xM16	9	210	F07/F10	70	102	125	9	11	70
150	6"	10	8	4XM20	10	240	F07/F10	70	102	125	9	11	70
200	8"	10	8	4XM20	12	295	F10	102	-	125	12	-	70
250	10"	10	12	8XM20	12	350	F10	102	-	125	12	-	70
300	12"	7	12	8XM20	19	400	F10	102	-	125	12	-	70
350	14"	7	16	10XM20	20	460	F10/F14	102	140	175	11	17	100
400	16"	7	16	10XM24	24	515	F10/F14	102	140	175	11	17	100
450	18"	7	20	14XM24	24	565	F10/F14	102	140	175	11	17	100
500	20"	4	20	14XM24	24	620	F10/F14	102	140	175	11	17	100
600	24"	4	20	14XM27	24	725	F10/F14	102	140	175	11	17	100

n- Total number of holes

n1- number of threaded holes

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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 (standard tightness)

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

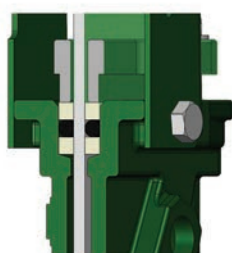
Upstream/downstream tightness



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.

FLOWS

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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