

KNIFE GATE VALVE CAST IRON BODY

TECHNICAL PASSPORT

KNIFE GATE VALVE WITH SQUARE NON RISING STEM CAST IRON BODY - BETWEEN FLANGES PN10

VG 3400-051

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.



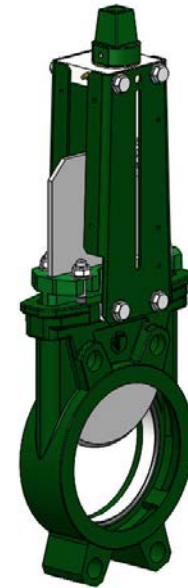
Fluids: water, sewage, pulp, pasty products, powdery, granular, fibrous, abrasive and crystallizing.

GENERAL CHARACTERISTICS

Range: DN 50 to DN400.

Knife gate for ON/OFF or control operation, with non rising stem. Molded monobloc body. Unidirectional tightness: Direction of installation indicated on the body by an arrow. Mounting between ISO PN10 flanges. Internal parts designed to avoid product deposition : Small retention zone.

The gate is guided in the body and has little clearance. Its chamfered end is sharp, which facilitates the penetration in the product and guarantts the closure of the valve without blocking. The polishing of its faces as on standard model ensures a soft contact with the seals. The packing gland made of very resitant ductile iron avoids any risk of breaking. The stuffing box packing and O-ring are made of the same material as the seat gasket, this fact gives more elasticity to the assembly and contributes to reduce the maneuvering forces. The support plates are made of profiled sheet metal and preformed from DN50 to DN300 for mounting accessories or kits. At the end of maneuvering the valve has full bore, which guarantees high flow with low pressure drops. The valve offers the possibility of flow control on pasty or abrasive products thanks to the adaptation of a diaphragm which ensures also the protection of the seat against wear.



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

PRODUCT APPROVALS

CE EAC Ex On request

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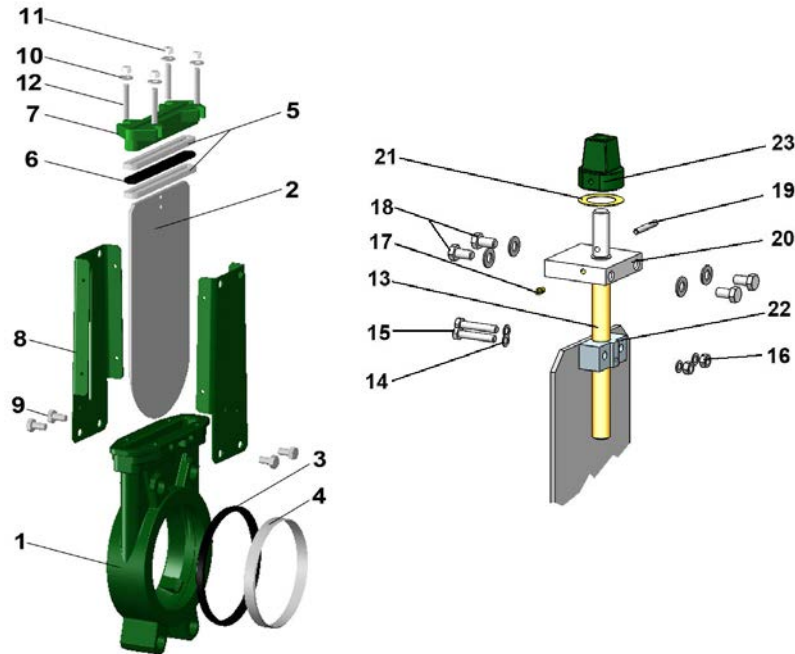
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CONSTRUCTION

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)	
packing gland (7)	Liquid epoxy RAL 6005 70 microns
Maneuvering square (23)	



Pos.	Q-ty	Description	Material	Equivalence		
				DIN	ASTM	BS
1	1	Body	Cast iron EN-GJL-250	GG25	A48 class 40B	1452 Grade 250
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-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	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 DN350-400 1) - Parts missing on metal/meat sealing.

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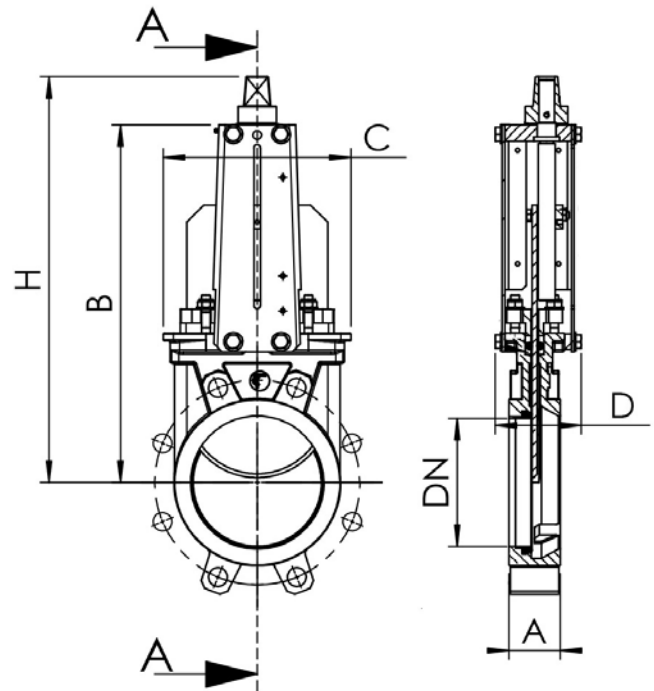
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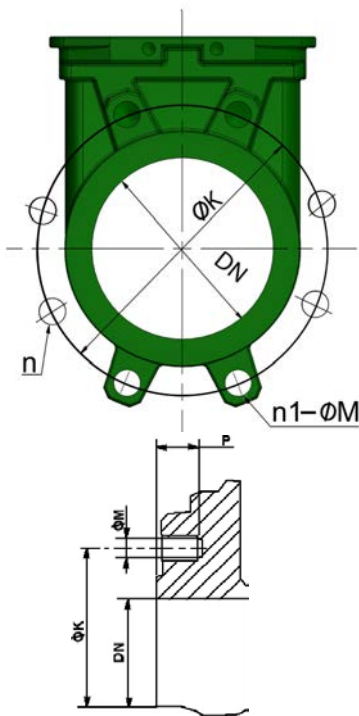
DIMENSIONS

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	514	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

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

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

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WORKING CONDITIONS

Maximum working pressure : DN50-250 : 10 bar
DN 300-400 : 7 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.

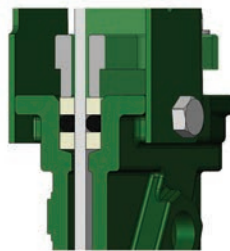
Upstream/downstream tightness



Elastomer
tightness

Metal/metal
tightness

Packing tightness



PTFE/Elastomer

Tightness in option

Etanchéité	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

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

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