

## KNIFE GATE VALVE CAST IRON BODY

TECHNICAL PASSPORT

### KNIFE GATE VALVE - RISING STEM WITH ELECTRIC ACTUATOR BERNARD CAST IRON BODY - BETWEEN FLANGES PN10

VG 3400-BX4

#### APPLICATION

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

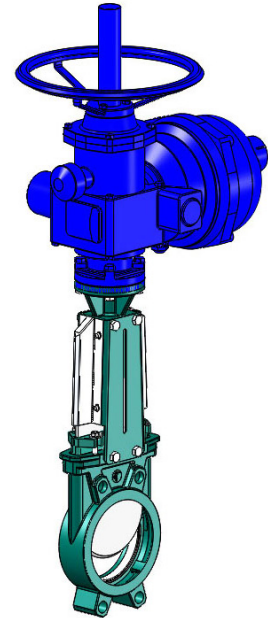
- Area of use : water treatment networks, pulp and paper industry, chemical plants, winemaking, cement works, pneumatic transport, storage.



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

#### GENERAL CHARACTERISTICS

- Range: DN50 to DN1200.
- 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.



References	Actuator types
VG 3400-B04	BERNARD 400V 3PH
VG 3400-B14	BERNARD 230V 3PH
VG 3400-B24	BERNARD 230V 1PH

#### STANDARDS

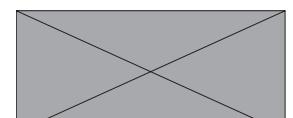
Design	Manufacture according to the requirements of the European directive n° 2014/68/UE «Equipment under pressure» : modulate H.					
	In option: product conform to European directive ATEX «ATmosphère EXplosive» n° 2014/34/UE.					
Face to face	Face to face dimension according to TECOFI standard					
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	DN700-1200;	3 bar	2.2 bar r	

#### PRODUCT APPROVALS



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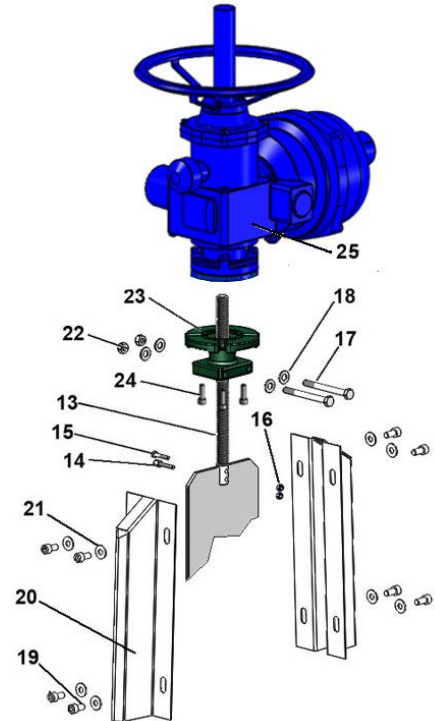
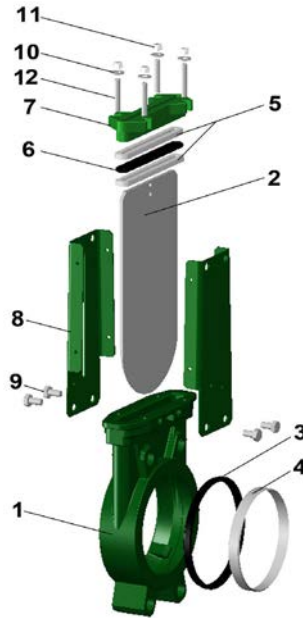
### TECHNICAL PASSPORT

VG 3400-BX4

#### 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
Gland packing (7)	
ISO plate (23)	

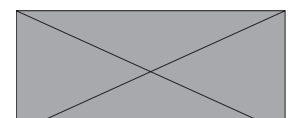


Rep.	Q-té	Désignation	Matière	DIN	Equivalence		
					ASTM	BS	
1	1	Body	Cast iron EN-GJL-250	GG25	A48 class 40B	1452 Grade 250	
2	1	Gate	Stainless steel 304	X5CrNi 18 10	A 182 AISI 304	1449-2 304 S15	
3	1	Seat gasket (1)	NBR				NBR
4	1	Support ring (1)	Stainless steel X5CrNi 18 10	X5CrNi 18 10	A 182 AISI 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	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	Steel A45				
24	4	Screw	Stainless steel A2-70				
25	1	Electric actuator	BERNARD model				

\* - 8 for DN350-400; - 12 for DN450-900 and 16 for DN1000-1200 (1) - Parts missing on metal/metal sealing

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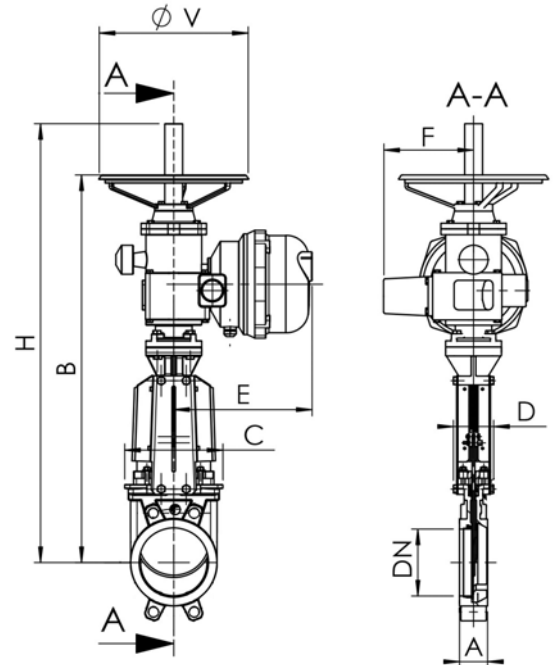
## KNIFE GATE VALVE CAST IRON BODY

### TECHNICAL PASSPORT

VG 3400-BX4

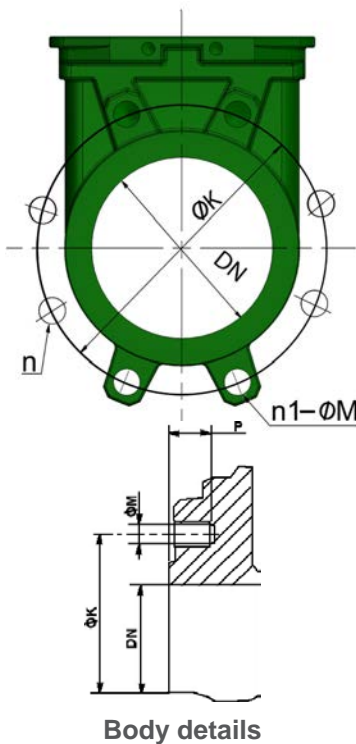
#### DIMENSIONS

DN		Actuator type	A	B	C	D	E	F	ØV	H	Weight (kg)
mm	inch										
50	2"	ASM6	40	587	124	83	291	247	300	587	30
65	2 1/2"	ASM6	40	612	139	83	291	247	300	612	30
80	3"	ASM6	50	637	154	83	291	247	300	637	31
100	4"	ASM6	50	682	174	83	291	247	300	682	32
125	5"	ASM6	50	720	189	93	291	247	300	720	37
150	6"	ASM6	60	771	220	93	291	247	300	771	41
200	8"	ASM6	60	890	275	108	291	247	300	890	58
250	10"	ASM6	70	982	326	108	291	247	300	1013	72
300	12"	ST14	70	1110	380	108	265	318	300	1157	83
350	14"	ST14	96	1220	438	290	265	318	300	1305	135
400	16"	ST14	100	1330	494	290	265	318	300	1473	165
450	18"	ST30	106	1475	547	290	310	433	450	1628	206
500	20"	ST30	110	1585	613	290	310	433	450	1778	241
600	24"	ST30	110	1789	716	290	310	433	450	2079	296
700	28"		110		835	320					
800	32"		110		972	320					
900	36"		110		1041	320					
1000	40"		110		1152	320					
1200	48"		150		1255	400					

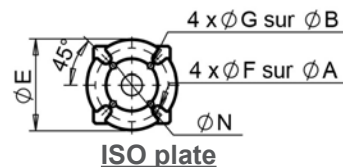


Dimension A - face to face according to TECOFI standard

#### MOUNTING



Body details



ISO plate

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
700	28"	2	24	16XM27	29	840	F14	140	-	175	17	-	100
800	32"	2	24	16XM30	29	950	F14	140	-	175	17	-	100
900	36"	2	28	20XM30	40	1050	F16	165	-	210	23	-	130
1000	40"	2	28	20XM33	40	1160	F16	165	-	210	23	-	130
1200	48"	2	32	24XM36	40	1380	F16	165	-	210	23	-	130

n- Total number of holes

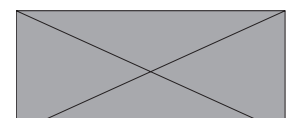
n1- number of threaded holes

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**VG 3400-BX4**

#### WORKING CONDITIONS

Maximum working pressure: DN50-250 : 10 bar  
 DN300-450 : 7 bar  
 DN500-600 : 4 bar  
 DN700-1200 : 2 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.

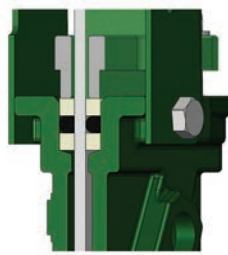
#### Upstream/downstream tightness



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
700	28"	17460	21100	36860	42680	48500
800	32"	25220	38800	48500	52380	58200
900	36"	34920	50440	61110	67900	77600
1000	40"	46560	62080	77600	87300	97000
1200	48"	62080	87300	106700	121250	145500

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

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