MODEL EX

ORBINOX
VALVULAS-VALVES

WAFER STYLE KNIFE GATE VALVE

The **EX** model knife gate is a uni-directional wafer valve designed for general industrial service applications. The design of the body and seat assures non-clogging shutoff on suspended solids in industries such as:

- Pulp and Paper
- Wastewater treatment plants
- Food and Beverage
- Mining
- Power plants
- Chemical plants
- Bulk handling
- etc.

Sizes: DN 50 to DN 1200 (larger diameters on request)

Working pressure:

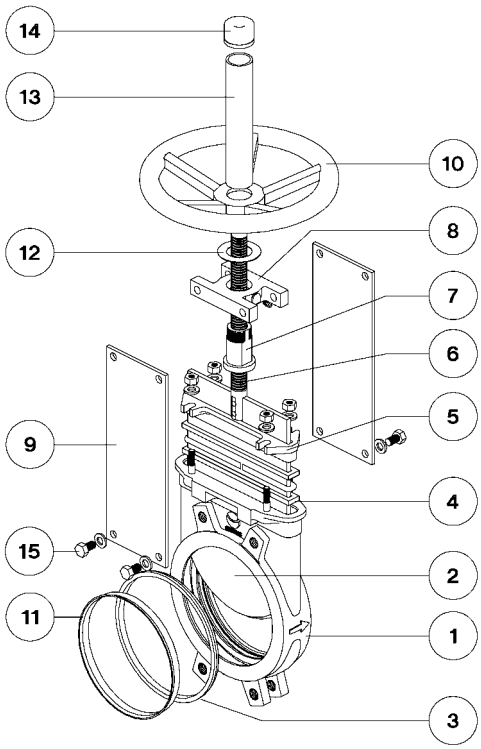
DN 50 to DN 250:	10 (kg/cm²)
DN 300 to DN 400:	6 (kg/cm²)
DN 450 :	5 (kg/cm²)
DN 500 to DN 600:	4 (kg/cm²)
DN 700 to DN 1200:	2 (kg/cm²)

Standard flange connection: DIN PN 10 and ANSI B16.5 (class 150)

Note: other flange connections are available on request such as:

DIN PN 6 DIN PN 16 DIN PN 25
BS "D" and "E" ANSI 125

All valves are tested prior to shipping in accordance with the standard developed by the Quality Control department at ORBINOX.



Part:	Cast Iron:	Stainless Steel:
1- Body	GG25	CF8M
2- Gate	AISI 304	AISI 316
3- Seat	Metal or Resilient	
4- Packing	AH	NT
5- Gland Follower	Aluminum (DN 50 to DN 300) S.G. Iron (DN 350 to DN 1000)	CF8M
6- Stem	AISI 303	
7- Stem Nut	Bronze	
8- Yoke	Carbon Steel (DN 50 to DN 150) S.G. Iron (DN 200 to DN 1000)	
9- Support Plates	Carbon Steel - Epoxy Coated	
10- Handwheel	Cast Iron	
11- Seat Retainer Ring	AISI 304	AISI 316
12- Thrust Washer	Bronze	
13- Stem Protector	Carbon Steel - Epoxy Coated	
14- Cap	Plastic	

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ACTUATOR TYPES

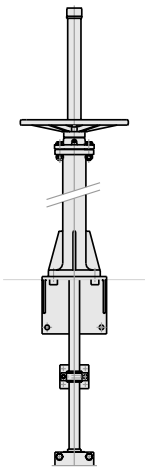
- Handwheel (rising & non-rising stem)
- Chainwheel
- Lever
- Bevel Gear
- Others (square nut....)
- Electric
- Double Acting Pneumatic
- Single Acting Pneumatic
- Hydraulic

All actuators supplied by ORBINOX are interchangeable.

Accessories

- Mechanical Stops
- Actuator manual override
- Positioners
- Electric controls
- Stem extensions
- Locking device
- Solenoid valves
- Limit Switches
- Floor stands

Wide range of valve extensions available.



Please consult our technical department.

Standard Handwheel
(Rising Stem)

Handwheel
(Non Rising Stem)

Pneumatic
Double Acting

Electric

Lever

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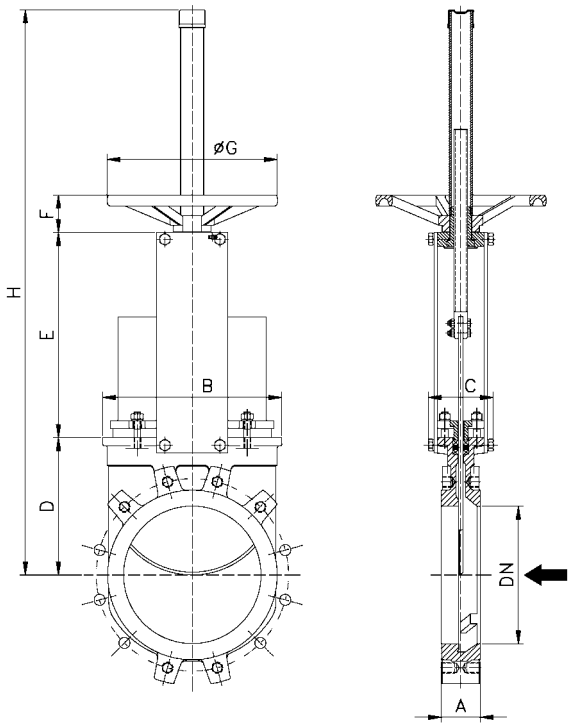
HANDWHEEL (rising stem)

- Standard handwheel actuator.
- Consists of:
  - Handwheel: Epoxy coated Cast Iron
  - Stem
  - Stem nut
  - Stem protector
  - Grease nipple
- Available in DN 50 to DN 1000
- Options:
  - Locking Device
  - Extensions



DN	A	B	C	D	E	F	ØG	H	Weight (kg.)
50	40	124	90	105	135	48	200	429	7
65	40	139	90	115	152	48	200	456	8
80	50	154	90	124	168	48	200	481	9
100	50	174	90	140	193	48	200	522	11
125	50	192	104	150	217	52	250	606	15
150	60	217	104	175	243	52	250	657	18
200	60	270	118	205	318	63	300	830	30
250	70	326	118	250	373	63	300	1030	44
300	70	380	118	300	423	63	300	1130	58
350	96	438	193	338	503	68	410	1341	96
400	100	493	193	392	553	68	410	1445	124
450	106	546	197	432	603	68	550	1610	168
500	110	620	197	485	663	68	550	1723	192
600	110	714	197	590	763	68	550	2038	245
700	110	834	400	686	890	74	800	2370	405
750	110	884	400	760	945	74	800	2579	455
800	110	1015	320	795	989	74	800	2737	512
900	110	1040	320	900	1118	74	800	3051	680
1000	110	1150	320	980	1220	74	800	3319	865

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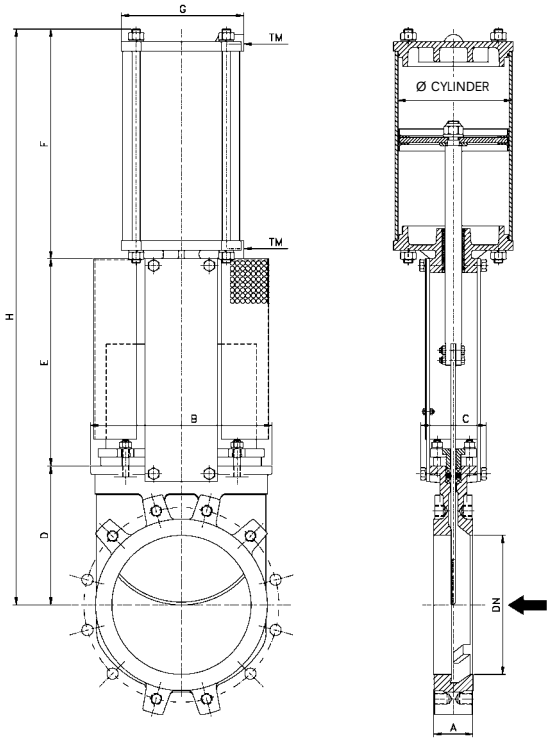
PNEUMATIC CYLINDER

- The standard pneumatic actuator (double acting on-off cylinder) consists of:
  - Aluminium jacket and covers
  - Stainless (AISI 304) piston rod
  - Nitrile coated steel piston
- Available in DN 50 to DN 1000
- Supply Pressure: minimum 3.5 kg/cm^2 - maximum 7 kg/cm^2
- For valves installed in a horizontal position, we recommend U-type support plates and/or actuator support.
- Options:
  - Hard anodised jacket and covers
  - Over / Under sized cylinder
  - Stainless jacket and covers
  - Manual override
  - Fail safe system (Page EX-14)
  - Travel stops
- Instrumentation (on request):
  - Positioners
  - Solenoid valves
  - Flow regulators
  - Air preparation units



DN	A	B	C	D	E	F	G	H	Weight (kg.)	Standard Cyl	Connect.
50	40	124	90	105	135	170	95	410	9	C80/62	1/4" G
65	40	139	90	115	152	186	95	453	10	C80/77	1/4" G
80	50	154	90	124	168	204	95	496	11	C80/95	1/4" G
100	50	174	90	140	193	225	115	558	14	C100/115	1/4" G
125	50	192	104	150	217	268	140	635	20	C125/143	1/4" G
150	60	217	104	175	243	292	140	710	25	C125/168	1/4" G
200	60	270	118	205	318	355	175	878	44	C160/220	1/4" G
250	70	326	118	250	373	413	220	1036	67	C200/270	3/8" G
300	70	380	118	300	423	463	220	1186	82	C200/320	3/8" G
350	96	438	193	338	503	541	277	1382	135	C250/375	3/8" G
400	100	493	193	392	553	591	277	1536	165	C250/425	3/8" G
450	106	546	197	432	603	669	382	1704	220	C300/475	1/2" G
500	110	620	197	485	663	719	382	1867	280	C300/525	1/2" G
600	110	714	197	590	763	819	382	2172	330	C300/625	1/2" G
700	110	834	400	686	890	970	444	2546	520	C350/730	3/4" G
750	110	884	400	760	945	1020	444	2725	585	C350/780	3/4" G
800	110	1015	320	795	989	1070	444	2854	650	C350/830	3/4" G
900	110	1040	320	900	1118	1185	515	3203	850	C400/930	3/4" G
1000	110	1150	320	980	1220	1285	515	3485	1060	C400/1030	3/4" G

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SEAT / SEALS

Material	Max.Temp.(ºC)	Aplications
Metal/Metal	>250	High temp. Low tightness.
EPDM (E)	120	Acids and non mineral oils.
Nitrile (N)	120	Resistance to petroleum products.
Viton (V)	200	General chemical service. High temperature.
Silicone (S)	250	Food service. / High temperature.
PTFE (T)	250	Corrosion resistance.

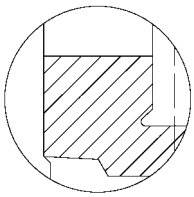
More details and other materials under request.

PACKING

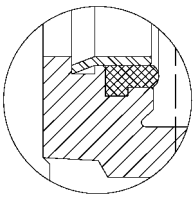
Material	Max. Temp. (ºC)	pH
Tallowed cotton (AH)	50	6 - 8
Dry cotton (AS)	50	6 - 8
PTFE impregn. natural fibre (NT)	120	4 - 12
PTFE impregn. synth. fibre (ST)	240	2 - 13
Braided PTFE (TH)	260	0 - 14
Graphited (GR)	300	4 - 12
Ceramic fibre (FC)	1200	—

NOTE: all types include an elastomere O-ring (same material as seal), excluding TH, GR and FC.

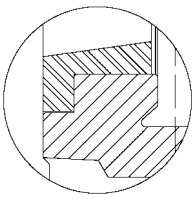
SEAT TYPES



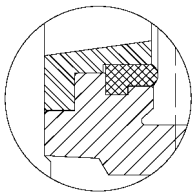
METAL / METAL
- High temperature
- High density media application
- Positive shut off



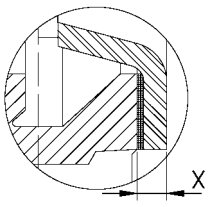
RESILIENT, TYPE "A"
- Standard resilient seat.
- Temperature limitations according to seat material selected. Consult the above chart or our technical department for more information.
- Replaceable seat retainer ring.



TYPE "B" SEAT (metal / metal)
- High temperature
- High density media application
- Positive shut off
- Replaceable design without dismantling the valve



TYPE "B" SEAT (resilient)
- Temperature limitations according to seat material selected. Consult the above chart or our technical department for more information.
- Replaceable design without dismantling the valve



DEFLECTION CONE "C"
- Deflects the media away from any internal exposed parts of the valve such as gate guides, seat, etc....
- Different types of material available such as AISI 316 stainless, CA15, Ni-Hard, etc....

Face to face dimensions increase:
DN 50 to DN 250 = 9mm
DN 300 to DN 600 = 12mm

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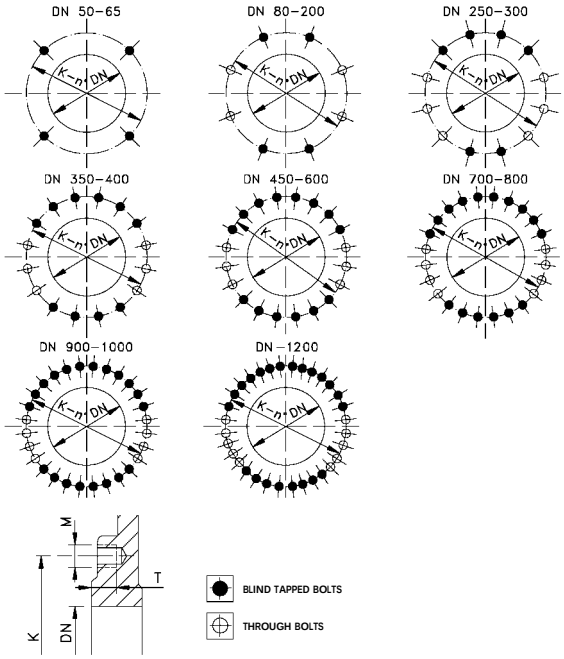
FLANGE AND BOLTING DETAILS

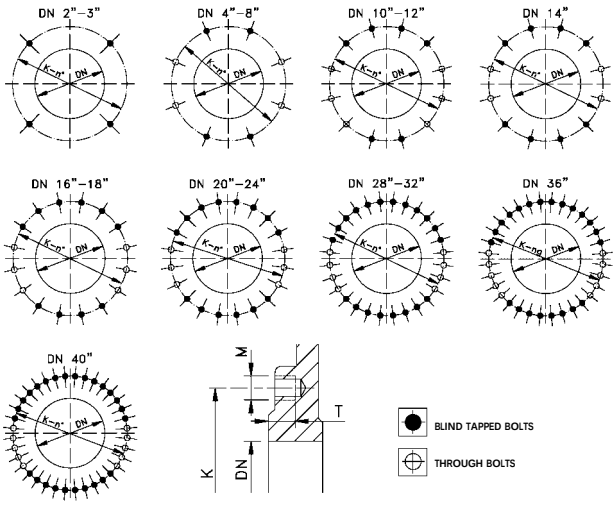
DIN PN10

DN	K	nº	M	T	⌖ ⊕
50	125	4	M-16	10	4 - --
65	145	4	M-16	10	4 - --
80	160	8	M-16	10	4 - 4
100	180	8	M-16	10	4 - 4
125	210	8	M-16	10	4 - 4
150	240	8	M-20	14	4 - 4
200	295	8	M-20	14	4 - 4
250	350	12	M-20	18	6 - 6
300	400	12	M-20	18	6 - 6
350	460	16	M-20	22	10 - 6
400	515	16	M-24	24	10 - 6
450	565	20	M-24	24	14 - 6
500	620	20	M-24	24	14 - 6
600	725	20	M-27	24	14 - 6
700	840	24	M-27	20	16 - 8
800	950	24	M-30	20	16 - 8
900	1050	28	M-30	20	20 - 8
1000	1160	28	M-33	20	20 - 8
1200	1380	32	M-36	30	22 - 10



ANSI B16.5, class 150(*)

DN	K	nº	M	T	⌖ ⊕
2”	4 3/4“	4	5/8” UNC	3/8”	4 - --
2 1/2”	5 1/2”	4	5/8” UNC	3/8”	4 - --
3”	6”	4	5/8” UNC	3/8”	4 - --
4”	7 1/2”	8	5/8” UNC	3/8”	4 - 4
5”	8 1/2”	8	3/4” UNC	3/8”	4 - 4
6”	9 1/2”	8	3/4” UNC	1/2”	4 - 4
8”	11 3/4”	8	3/4” UNC	1/2”	4 - 4
10”	14 1/4”	12	7/8” UNC	3/4”	6 - 6
12”	17”	12	7/8” UNC	3/4”	6 - 6
14”	18 3/4”	12	1” UNC	7/8”	8 - 4
16”	21 1/4”	16	1” UNC	1”	10 - 6
18”	22 3/4”	16	1 1/8” UNC	1”	10 - 6
20”	25”	20	1 1/8” UNC	1”	14 - 6
24”	29 1/2”	20	1 1/4” UNC	1”	14 - 6
28”	34”	28	1 1/4” UNC	3/4”	20 - 8
30”	36”	28	1 1/4” UNC	3/4”	20 - 8
32”	38 1/2”	28	1 1/2” UNC	3/4”	20 - 8
36”	42 3/4”	32	1 1/2” UNC	3/4”	22 -10
40”	47 1/4”	36	1 1/2” UNC	3/4”	26 -10



(*) From DN 24”, acc. to MSS SP 44 (class 150)