MODEL TL

ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

THROUGH CONDUIT KNIFE GATE VALVE

The TL model knife gate is a bi-directional wafer valve designed for media with high consistency. The double seat design assures a non-clogging shut off on either normal or reverse flow. The valve is used in a wide range of demanding applications in industries such as:

- Pulp & Paper
- Wastewater Treatment Plants
- Chemical plants
- Power Plants
- Etc.

Sizes:

DN 50 to DN 1000 (larger diameters on request)

Working pressure:

DN 50 to DN 125	10 bar
DN 150 to DN 250	8 bar
DN 300 to DN 400	6 bar
DN 450	5 bar
DN 500 to DN 600	4 bar
DN 700 to DN 1000	2 bar

Standard flange connection:

DIN PN 10 and ANSI B16.5 (class 150)

Other flange connections are available on request such as:

DIN PN 6 DIN PN 16 DIN PN 25

BS "D" and "E" ANSI 125

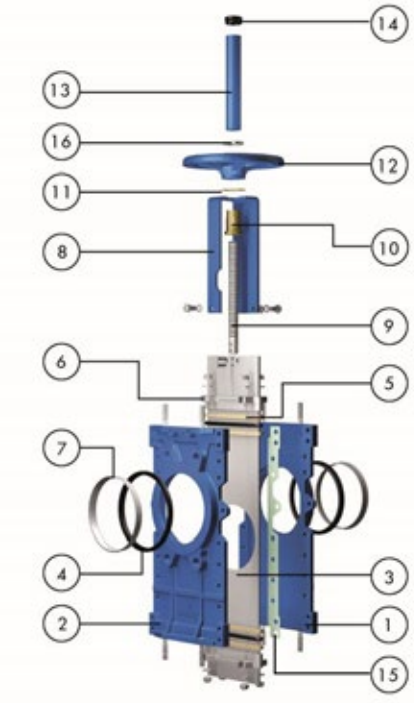
Directives:

2006/42/CE (MACHINES)

2014/68/EU (PED) Fluid: Group 1(b), 2 (Cat. I, mod. A)

2014/34/EU (ATEX)

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



STANDARD PARTS LIST

Part:	Materials:	
1- Body	GJL250 / GJS400	CF8M
2- Body	GJL250 / GJS400	CF8M
3- Gate	AISI 304	AISI 316
4-Seat	Metal or EPDM	
5- Packing	PTFE Impreg. Synth. Fibre (ST)+O-ring	
6- Gland Follower	Aluminium (DN50-300) Ductile Iron (DN350-1000)	CF8M
7- Seat Retainer Ring	AISI 304	-
8- Yoke	Carbon Steel - Epoxy Coated	
9- Stem	Stainless Steel	
10- Stem nut	Brass	
11- Friction washer	Brass	
12- Handwheel	GJS400 (GGG40)	
13- Stem Protector	Epoxy-coated Carbon Steel	
14- Cap	Plastic	
15- Gasket	Aramid fibres	
16- Nut	Zinc plated Carbon Steel	

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DESIGN FEATURES

BODY:
Wafer style cast two-part bolted body, both internally machined, with reinforcing ribs in larger diameters for extra body strength. The stainless steel version valves include internal high density polyethylene sliders (HMWPE) that ensure smoother gate traveling. Full port design to allow a greater flow capacity and to guarantee a minimal pressure drop.

SELFCLEANING GATE:
Stainless steel as standard. One piece through-going gate with o-port design. When closing, the gate cuts and moves a disc of material downwards, which is again returned to the flow when opening. Gate is polished on both sides to avoid jamming and to ensure a greater seal between the gate with both packing and seat. The thickness and/or the material of the gate can be changed on request for higher pressure requirement.

SEAT: (resilient)
Unique design that mechanically locks the seal in the interior of the valve body with a stainless steel retainer ring. Standard EPDM also available in different materials such as Viton, PTFE, etc.

PACKING:
Double stuffing box with several layers of braided fibre plus an EPDM o-ring, with an easy access and adjusting packing gland ensuring a tight seal. Long-life braided packing is available in a wide range of materials.

STEM:
The standard stainless steel stem offers a long corrosion resistant life. For rising stem handwheel actuators only, a stem protector is provided for additional protection against dust while the valve is in the open position.

ACTUATORS:
All actuators supplied by ORBINOX are interchangeable, and supplied with an standard mounting kit for installation purposes on site.

YOKE or ACTUATOR SUPPORT:
Made of EPOXY coated steel (stainless steel available on request). Compact design makes it extremely robust even under the most severe conditions.

EPOXY COATING:
The epoxy coating on all ORBINOX cast iron and carbon steel valve bodies and components is electrostatically applied making the valves to be corrosion resistant with a high quality finished surface. The ORBINOX standard colour is RAL-5015 blue.

GATE SAFETY PROTECTION:
ORBINOX automated valves are provided with gate guards in accordance with EU Safety Standards. The design feature prevents any objects from being caught accidentally while the gate is moving.

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OTHER OPTIONS

Bonnet (Fig.1):

Assures tight sealing to atmosphere for using with hazardous gas or fluids. Reduces packing maintenance

Diamond port:

Excellent flow regulation

Flush ports:

Allow for cleaning of solids trapped within the body cavities that can obstruct the flow or prevent the valve from closing. Depending on the process, purging can be made with air, steam, liquids, etc.

Other materials of construction:

Special alloys such as AISI 317 (1.4449), 254SMO (1.4547), Hastelloys, etc.

Fabricated valves:

ORBINOX designs, produces and delivers special fabricated valves for special process conditions (big sizes and/or high pressures)

Square port (Fig.2):

Greater flow capacity for bulk material. Designed for equipment with square flange connections

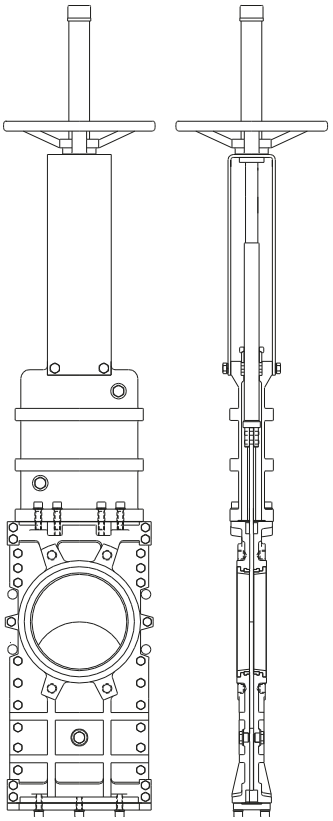

Fig.1

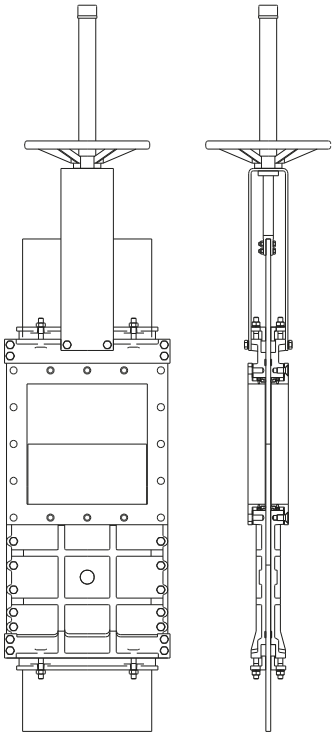

Fig.2

SURFACE TREATMENTS

Valve components can be protected or coated for a longer life expectancy, depending on the application of the valves and the valve service conditions. At ORBINOX we can offer alternative treatments and coatings for the different valve components to improve their properties against abrasion (Stellite, polyurethane…), against corrosion (Halar, Rilsan, galvanizing…) and against adherence (polishing, PTFE…).

ATEX

Please contact our ORBINOX representative for info and availability. Some considerations:

- Hand operated TL valves have been subjected to an ignition risk assessment according to DIN EN 13463: 1-5 and they are out the scope of application of ATEX Directive.Therefore hand operated valves are suitable for ALL ATEX zones.
- Electrical, pneumatical and hydraulically operated valves must be subjected to a conformity assessment of their own and also of the whole unit valve-actuator to get EC Type Approval to Directive 2014/34.

We recommend to contact our technical department

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ACTUATOR TYPES

MANUAL:
Handwheel (rising stem)
Handwheel (non-rising stem)
Chainwheel
Bevel Gear
Lever
Others (square nut...)

AUTOMATIC:
Electric (rising & non-rising stem)
Pneumatic (single & double-acting)
Hydraulic

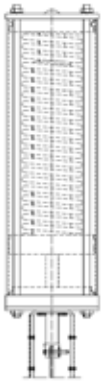
All actuators supplied by ORBINOX are interchangeable

FAIL SAFE SYSTEMS

Used on pneumatic actuated valves

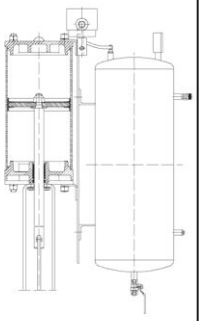
SINGLE ACTING (SPRING RETURN)

- Available from DN 50 to DN 300
- Supply pressure:
  min. 5 bar - max. 10 bar
- Options:
  - Pneumatic or electric fail open
  - Pneumatic or electric fail close
  - Other options on request



DOUBLE ACTING WITH AIR TANK

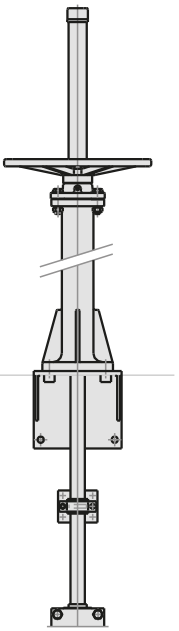
- Available for all valve sizes
- Supply pressure:
  min. 3.5 bar - max. 10 bar
- Options:
  - Pneumatic or electric fail open
  - Pneumatic or electric fail close
  - Other options on request



ACCESSORIES

Mechanical stops
Locking device
Manual override
Solenoid valves
Positioners
Limit switches
Proximity switches
Floor stands
Stem extensions

Wide range of valve extensions available



For further information about fail safe systems and valve extensions, please see EX catalogue

For more detailed information, please contact our Technical Department

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TEMPERATURE CHART

SEAT / SEALS

Material	Max.Temp.(°C)	Applications
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	Chemical service/High temp.
Silicone (S)	250	Food service/ High temp.
PTFE (T)	250	Corrosion resistance

More details and other materials under request

PACKING

Material	Max.Temp.(°C)	pH
Dry cotton (AS)	50	6 - 8
PTFE impregn. synth. fibre (ST)	240	2 - 13
Braided PTFE (TH)	260	0 - 14
Graphited (GR)	600	0 - 14
Ceramic fibre (FC)	1200	- - -

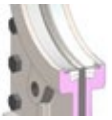
NOTE: all types include an elastomere O-ring (same material as seal), excluding TH, GR and FC

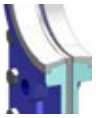
SEAT TYPES

Cast Iron / **Stainless Steel**

METAL / METAL
Used for applications with high temperature or applications where tight shutoff is not required. The stainless steel version includes HMW polyethylene seat sliders that ensure a smoother gate traveling


DN 50 - 150


DN 200 - 600



METAL / METAL, TYPE "B"
Two replaceable reinforced "B" type rings (available in AISI 316, Ni-hard, CA15,...) protect the seat in abrasive services. HMW polyethylene seat sliders for smoother gate traveling (stainless steel version only)


DN 50 - 150


DN 200 - 600

RESILIENT, TYPE "A"
The standard resilient seat design consists of an elastomer seal fixed to the valve body with a replaceable stainless steel retainer ring. Temperature limitations according to seat material selected. Verify the above chart or contact our technical department for more information. HMW polyethylene seat sliders for smoother gate traveling (stainless steel version only)

See option TK valve

See option TK valve

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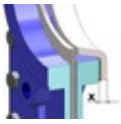
RESILIENT, TYPE "B"
Resilient seat design with an elastomer seal fixed to the valve body with two reaplaceable reinforced seal retainer rings (available in AISI 316, Ni-hard, CA15,...) that protect the seat in abrasive services. Temperature limitations according to seat material selected. Verify the above chart or contact our technical department for more information. HMW polyethylene seat sliders for smoother gate traveling (stainless steel version only)


DN 50 - 150


DN 200 - 600



DEFLECTION CONE "C"
Deflects the media away from any valve internal exposed parts such as gate guides, seats, etc. Different types of material available such as AISI 316, CA15, Ni-Hard, etc. Installed at flow inlet, deflection cones protect the seat. They slightly reduce the inlet bore and the face-to-face dimensions also increase:
DN 50 to DN 250 X = 9mm
DN 300 to DN 600 X = 12mm

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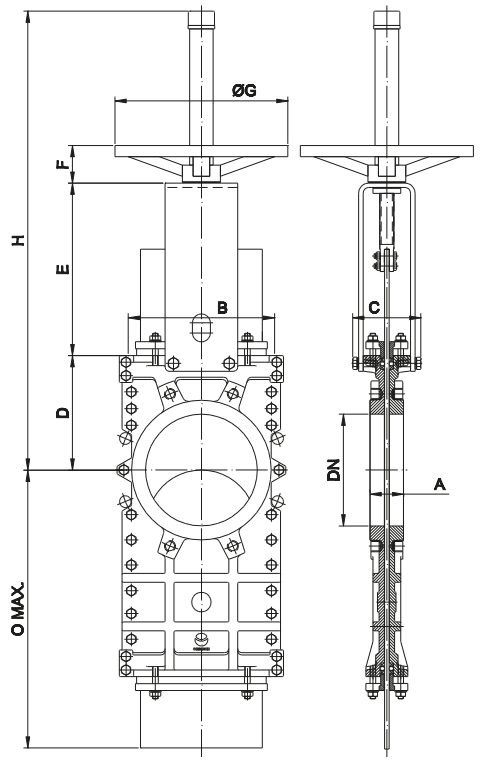
HANDWHEEL (rising stem)

- Standard manual actuator

- Consists of:
  - Handwheel: Epoxy coated Cast Iron
  - Floor stand
  - Stem
  - Stem nut
  - Stem protector

- Available from DN 50 to DN 600

- Options (on request):
  - Locking Device
  - Extensions



DN	A	B	C	D	E	F	ØG	H	O max.	Weight (kg.)
50	40	152	100	110	129	47	225	429	232	12
65	40	167	100	115	146	47	225	451	255	14
80	50	182	100	124	162	47	225	476	310	16
100	50	202	100	140	187	47	225	517	367	20
125	50	216	100	150	211	47	225	601	432	29
150	60	241	100	175	237	47	225	652	497	35
200	60	294	122	205	309	67	310	822	635	62
250	70	356	122	245	364	67	310	1017	777	89
300	70	410	122	280	414	67	310	1102	905	110
350	96	473	197	300	486	66	410	1286	1047	174
400	100	538	197	350	536	66	410	1386	1171	266
450	106	588	201	420	588	66	550	1583	1301	326
500	110	646	201	450	648	66	550	1673	1461	372
600	110	754	201	530	748	66	550	1963	1711	445

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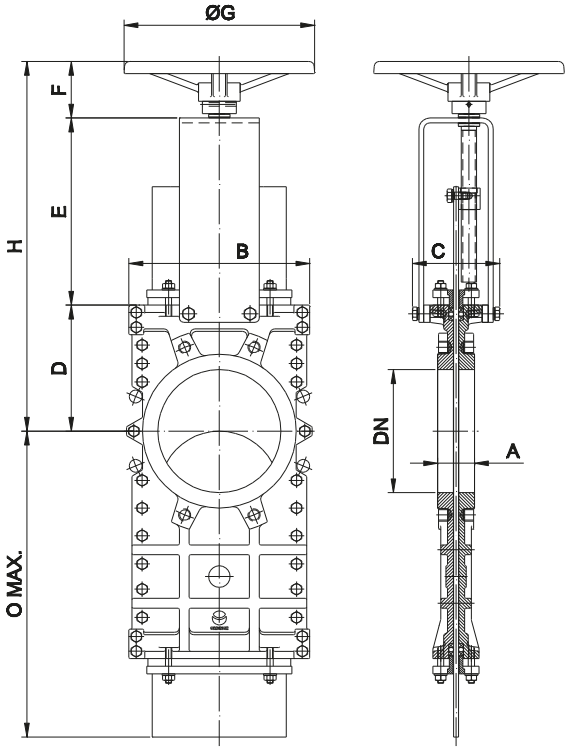
HANDWHEEL (non-rising stem)

- Recommended for installation where space is limited

- Consists of:
  - Handwheel
    - DN 50-300: Aluminium
    - DN ≥ 350: GJS400 (GGG40)
  - Stem
  - Yoke bushing
  - Stem nut fixed to the gate

- Available from DN 50 to DN 600

- Options (on request):
  - Locking Device
  - Extension
  - Square Nut Drive



DN	A	B	C	D	E	F	ØG	H	O max.
50	40	152	125	110	144	63	225	317	232
65	40	167	125	115	161	63	225	339	255
80	50	182	125	124	177	63	225	364	310
100	50	202	125	140	202	63	225	405	367
125	50	216	125	150	226	63	225	439	432
150	60	241	125	175	252	63	225	490	497
200	60	294	142	205	317	73	310	595	635
250	70	356	142	245	372	73	310	690	777
300	70	410	142	280	422	73	310	775	905
350	96	473	197	300	509	98	410	907	1047
400	100	538	197	350	559	98	410	1007	1171
450	106	588	201	420	611	98	550	1129	1301
500	110	646	201	450	671	98	550	1219	1461
600	110	754	201	530	771	98	550	1399	1711

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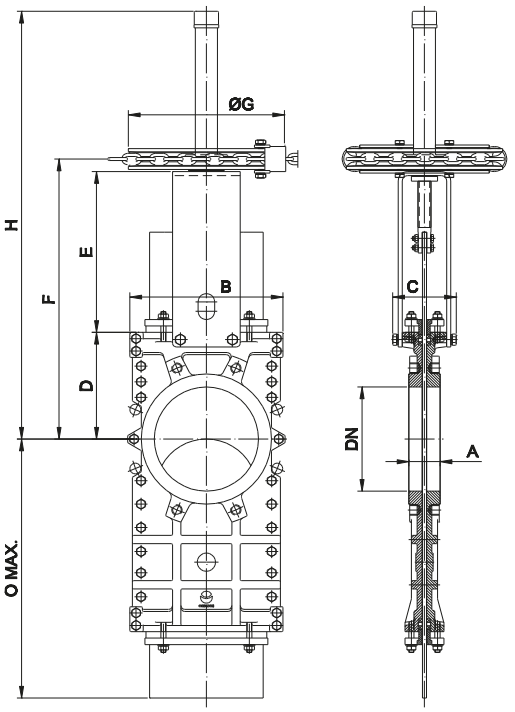
CHAINWHEEL (rising stem)

- Recommended for elevated installations

- Consists of:
  - Chainwheel: Epoxy coated Cast Iron
  - Stem
  - Stem nut
  - Stem protector

- Available from DN 50 to DN 600

- Options (on request):
  - Locking Device
  - Extension
  - Non-rising Stem



DN	A	B	C	D	E	F	ØG	H	O max.
50	40	152	100	110	129	258	225	429	232
65	40	167	100	115	146	280	225	451	255
80	50	182	100	124	162	305	225	476	310
100	50	202	100	140	187	347	225	518	367
125	50	216	100	150	211	380	225	601	432
150	60	241	100	175	237	431	225	652	497
200	60	294	119	205	309	538	300	822	635
250	70	356	122	245	364	633	300	1017	777
300	70	410	122	280	414	718	300	1102	905
350	96	473	197	300	486	818	454	1285	1047
400	100	538	197	350	536	918	454	1385	1171
450	106	588	201	420	588	1040	454	1577	1301
500	110	646	201	450	648	1130	454	1672	1461
600	110	754	201	530	748	1310	454	1962	1711

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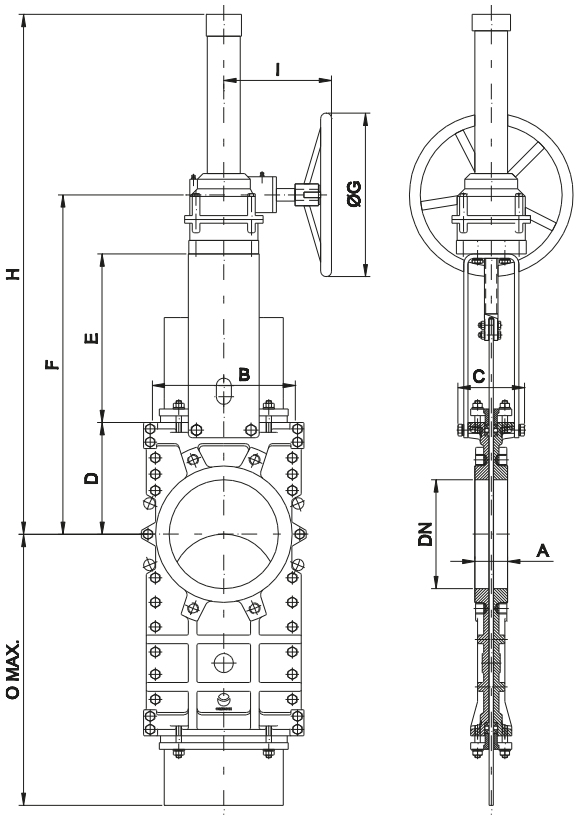
GEAR (rising stem)

- Recommended for valves larger than DN 350 and working pressures greater than 3.5 bar

- Consists of:
  - Stem
  - Yoke
  - Bevel Gear Actuator with Handwheel (Standard Ratio 4:1)

- Available from DN 200 to DN 600

- Options (on request):
  - Locking Device
  - Extension
  - Chainwheel
  - Non-rising stem



DN	A	B	C	D	E	F	ØG	H	I	O max.
200	60	294	122	205	309	584	300	994	200	635
250	70	356	122	245	364	679	300	1089	200	777
300	70	410	122	280	414	744	300	1154	200	905
350	96	473	197	300	486	836	450	1536	270	1047
400	100	538	197	350	536	936	450	1636	270	1171
450	106	588	201	420	588	1058	450	1758	270	1301
500	110	646	201	450	648	1148	450	1848	270	1461
600	110	754	201	530	748	1328	450	2028	270	1711

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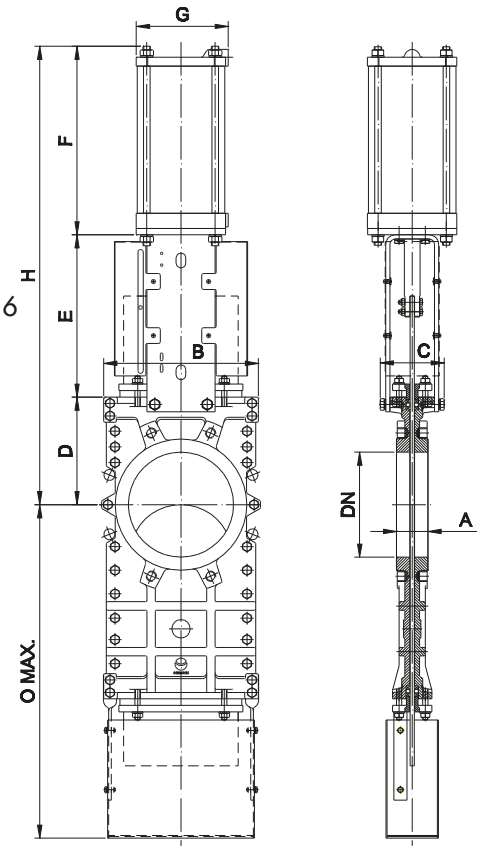
PNEUMATIC CYLINDER

- The standard pneumatic actuator (double acting on-off cylinder) consists on:
  - Ø ≤ 300: Aluminum barrels
  - Ø ≥ 350: Composite barrels
  - Aluminum end covers
  - Stainless Steel (AISI 304) piston rod
  - Nitrile coated steel piston
- Available from DN 50 to DN 600
- Supply Pressure: min. 3,5 bar - max. 10 bar. Actuator designed with 6 bar air supply
- For valves installed in a horizontal position, we recommend Utype support plates and/or actuator support
- Options (on request):
  - Hard anodized barrel and covers
  - Stainless Steel barrel and covers
  - Over / Undersized cylinder
  - Manual override
  - Fail Safe System
  - Limit switches
- Instrumentation (on request):
  - Positioners
  - Solenoid valves
  - Flow regulators
  - Air preparation units



DN	A	B	C	D	O max.	E	F	G	H	Weight (kg.)	Standard Cyl.	Connect.
50	40	152	100	110	232	129	178	115	417	14	C100/62	1/4" G
65	40	167	100	115	255	146	193	115	454	16	C100/77	1/4" G
80	50	182	100	124	310	162	211	115	497	18	C100/95	1/4" G
100	50	202	100	140	367	187	231	115	558	23	C100/115	1/4" G
125	50	216	100	150	432	211	271	140	632	34	C125/143	1/4" G
150	60	241	100	175	497	237	296	140	708	41	C125/168	1/4" G
200	60	294	119	205	635	309	358	175	872	73	C160/220	1/4" G
250	70	356	122	245	777	364	428	220	1037	105	C200/270	3/8" G
300	70	410	122	280	905	414	478	220	1172	128	C200/320	3/8" G
350	96	473	197	300	1047	510	549	277	1359	207	C250/375	3/8" G
400	100	538	197	350	1171	560	599	277	1509	300	C250/425	3/8" G
450	106	588	270	420	1301	608	680	382	1708	378	C300/475	1/2" G
500	110	646	270	450	1461	668	730	382	1848	445	C300/525	1/2" G
600	110	754	270	530	1711	796	880	444	2206	619	C300/625	1/2" G

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ELECTRIC ACTUATOR (rising stem)

- Consists of:
  - Electric motor
  - Rising stem
  - Motor support yoke
    acc. to ISO 5210/DIN 3338

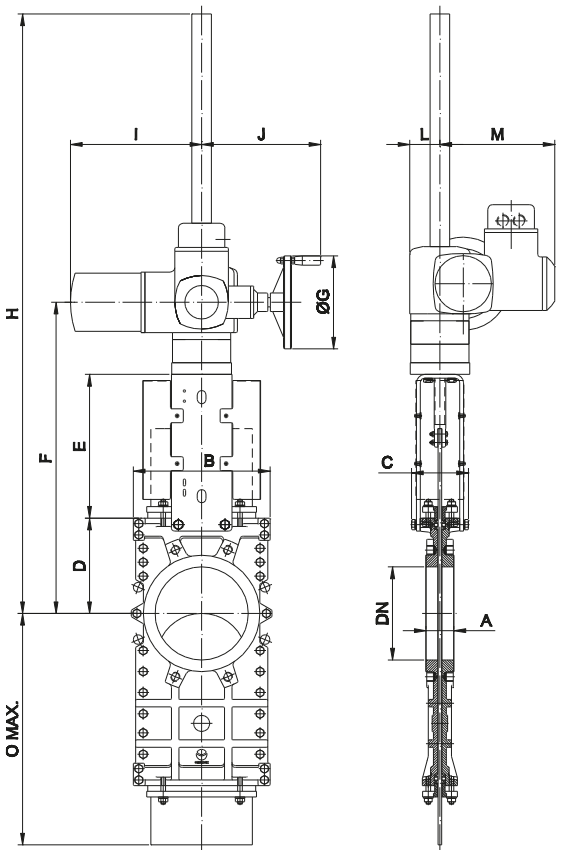
- The standard electric motor is equiped with:
  - Manual emergency operation
  - Limit switches (open/closed)
  - Torque switches

- Available from DN 50 to DN 600

- For valves installed in a horizontal position, we recommend Utype support plates and/or actuator support

- Wide range of types and brands available to meet customer's needs

- Option:
  - Non rising stem



DN	A	B	C	D	E	F	ØG	H	O max.	I	J	L	M	stem Ø x pitch	Torque (Nm)
50	40	152	100	110	129	357	160	547	232	265	249	62	238	20 x 4	10
65	40	167	100	115	146	379	160	549	255	265	249	62	238	20 x 4	10
80	50	182	100	124	162	404	160	574	310	265	249	62	238	20 x 4	10
100	50	202	100	140	187	445	160	615	367	265	249	62	238	20 x 4	10
125	50	216	100	150	211	479	160	649	432	265	249	62	238	20 x 4	15
150	60	241	100	175	237	530	160	1100	497	265	249	62	238	20 x 4	25
200	60	294	122	205	309	632	160	1252	635	265	249	62	238	25 x 5	35
250	70	356	122	245	364	739	200	1319	777	283	254	65	248	25 x 5	60
300	70	410	122	280	414	824	200	1409	905	283	254	65	248	25 x 5	70
350	96	473	197	300	510	940	200	1525	1047	283	254	65	248	35 x 6	100
400	100	538	197	350	560	1085	315	1670	1171	389	336	91	248	35 x 6	140
450	106	588	270	420	608	1203	315	1803	1301	389	336	91	286	35 x 6	180
500	110	646	270	450	668	1293	315	1893	1461	389	336	91	286	35 x 6	170
600	110	754	270	530	796	1505	315	2065	1711	389	336	91	286	35 x 6	220

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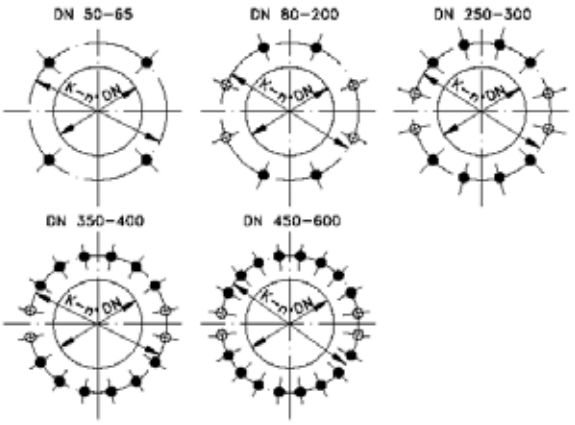
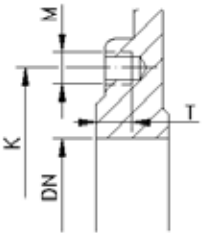
FLANGE AND BOLTING DETAILS

EN 1092-2 PN10

DN	K	nº	M	T	⌖ ⊕
50	125	4	M-16	11	4 - 0
65	145	4	M-16	11	4 - 0
80	160	8	M-16	14	4 - 4
100	180	8	M-16	14	4 - 4
125	210	8	M-16	14	4 - 4
150	240	8	M-20	18	4 - 4
200	295	8	M-20	18	4 - 4
250	350	12	M-20	22	8 - 4
300	400	12	M-20	22	8 - 4
350	460	16	M-20	28	12 - 4
400	515	16	M-24	28	12 - 4
450	565	20	M-24	32	16 - 4
500	620	20	M-24	32	16 - 4
600	725	20	M-27	25	16 - 4



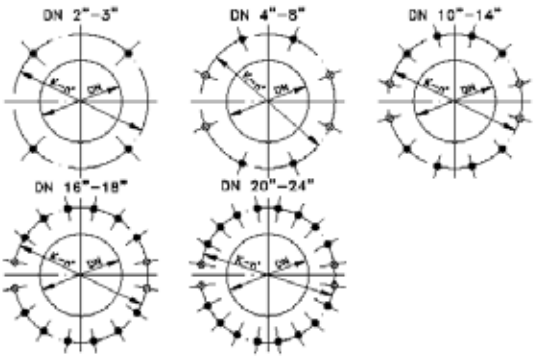


BLIND TAPPED HOLES

THROUGH HOLES

ANSI B16.5, class 150

DN	K	nº	M	T	⌖ ⊕
2″	4 ¾″	4	5/8″ - 11 UNC	7/16″	4 - 0
2 ½″	5 ½″	4	5/8″ - 11 UNC	7/16″	4 - 0
3″	6″	4	5/8″ - 11 UNC	9/16″	4 - 0
4″	7 ½″	8	5/8″ - 11 UNC	9/16″	4 - 4
5″	8 ½″	8	3/4″ - 10 UNC	9/16″	4 - 4
6″	9 ½″	8	3/4″ - 10 UNC	11/16″	4 - 4
8″	11 ¾″	8	3/4″ - 10 UNC	11/16″	4 - 4
10″	14 ¼″	12	7/8″ - 9 UNC	7/9″	8 - 4
12″	17″	12	7/8″ - 9 UNC	7/9″	8 - 4
14″	18 ¾″	12	1″ - 8 UNC	7/9″	8 - 4
16″	21 ¼″	16	1″ - 8 UNC	1 1/8″	12 - 4
18″	22 ¾″	16	1 1/8″ - 7 UNC	7/9″	12 - 4
20″	25″	20	1 1/8″ - 7 UNC	1 1/4″	16 - 4
24″	29 ½″	20	1 1/4″ - 7 UNC	1″	16 - 4



MODEL TK

ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

THROUGH CONDUIT KNIFE GATE VALVE

The TK model knife gate is a bi-directional wafer type valve designed for media with high consistency. The double seat design assures a non-clogging shut off on either normal or reverse flow. The valve is used in a wide range of demanding applications in industries such as:

- Pulp & Paper
- Wastewater Treatment Plants
- Chemical plants
- Power Plants
- Etc.

Sizes:

DN 50 to DN 900 (larger diameters on request)

Working pressure:

DN 50 to DN 250	10 bar
DN 300 to DN 900	6 bar (1)

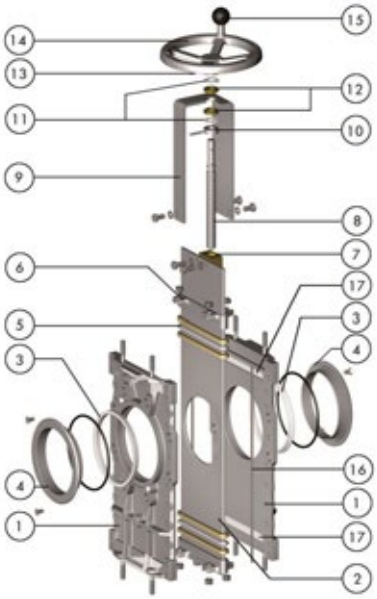
(1) 8 bar with duplex gate

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

Other flange connections are available on request such as:
DIN PN 6 DIN PN 16 DIN PN 25
BS "D" and "E"

Directives: 2006/42/EC (MACHINES)
2014/68/EU (PED) Fluid: Group 1(b), 2 (Cat. I, mod. A)
2014/34/EU (ATEX)

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



STANDARD PARTS LIST

Part:	Material:
1- Body	CF8M (1.4408)
2- Gate	AISI 316 (1.4401)
3- Seat	PTFE + O ring
4- "K" Ring	CF8M (1.4408)
5- Packing	Dynapack (Graphite impregnated PTFE and Aramid yarn combination with an elastomeric core) + (EPDM O-ring)
6- Gland Follower	CF8M (1.4408)
7- Stem nut	Brass
8- Stem	Stainless Steel
9 - Yoke	AISI 304 (1.4301)
10- Axial fixing bush	AISI 304 (1.4301)
11- Friction washer	PET + solid lubricant
12- Bushing	Bronze
13- Spring Pin	AISI 420 (1.4021) (ISO 8752)
14- Handwheel	Ø≤310: Aluminium (AlSi12) / Ø≥410 GJS400 (GGG40)
15- Knob	Black bakelite
16- Gasket	DN 80-200: Graphite / DN 250-900: NBR
17- Sliders	Glass filled PTFE

MODEL TK

ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

DESIGN FEATURES

BODY:

Wafer style cast two-part bolted body, both internally machined, with reinforcing ribs in larger diameters for extra body strength. With internal glass filled PTFE sliders that ensure smoother gate traveling. Full port design to allow a greater flow capacity and to guarantee a minimal pressure drop.

SELFCLEANING GATE:

Stainless steel as standard. One piece through-going gate with o-port design. When closing, the gate cuts and moves a disc of material downwards, which is again returned to the flow when opening. Gate is polished on both sides to avoid jamming and to ensure a greater seal between the gate with both packing and seat. The material of the gate can be changed on request for higher pressure requirements.

SEAT:

Unique design that mechanically locks the seal in the interior of the valve body with a cast, easy to replace, stainless steel seat ring. Standard PTFE + NBR O-ring (Fig.1)

Fig.1

PACKING:

Long-life packing with several graphite impregnated PTFE and Aramid yarn combination with an elastomeric core, with an easy access packing gland ensuring a tight seal. Long-life braided packing is available in a wide range of materials.

STEM:

The standard stainless Steel stem offers a long corrosion resistant life. Standard configuration is nonrising stem.
For those pneumatic actuated valves, stem linkage is provided by means of a stainless steel coupling and a pin (Fig. 2).

ACTUATORS:

All actuators supplied by ORBINOX are interchangeable, and supplied with a standard mounting kit for installation purposes on site.

Fig. 2

YOKE or ACTUATOR SUPPORT:

Made of stainless steel (EPOXY coated steel available on request). Compact design makes it extremely robust even under the most severe conditions.

EPOXY COATING:

The epoxy coating on all ORBINOX cast iron and carbon steel components is electrostatically applied, making the valves corrosion-resistant with a high quality finished surface. The ORBINOX standard colour is RAL-5015 blue.

GATE SAFETY PROTECTION:

ORBINOX automated valves are provided with gate guards in accordance with EU Safety Standards. The design feature prevents any objects from being caught accidentally while the gate is moving.

MODEL **TK**

ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

OTHER OPTIONS

Gate guards for actuators with proximity switches:

Allows horizontal and parallel mounting of the proximity switches including their protection

Bonnet:

Assures tight sealing to atmosphere if used with hazardous gas or fluids.
Reduces packing maintenance

Diamond port:

Excellent flow regulation

Flush ports:

Allow for cleaning of solids trapped within the body cavities that can obstruct the flow or prevent the valve from closing. Purging can be made with air, steam, liquids, etc. depending on the process

Other materials of construction:

Special alloys such as AISI 317 (1.4449), 254SMO (1.4547), Hastelloys, etc.

Fabricated valves:

ORBINOX designs, produces and delivers special fabricated valves for special process conditions (big sizes and/or high pressures)

SURFACE TREATMENTS

Valve components can be protected or coated for a longer life expectancy, depending on the application of the valves and the valve service conditions.
At ORBINOX we can offer alternative treatments and coatings for the different valve components to improve their properties against abrasion (Stellite, polyurethane…), against corrosion (Halar, Rilsan, galvanizing…) and against adherence (polishing, PTFE…)

ATEX

Please contact an ORBINOX representative for info and availability. Some considerations:

- Hand operated TK valves have been subjected to an ignition risk assessment according to DIN EN 13463: 1-5 and they are out the scope of application of ATEX Directive. Therefore hand operated valves are suitable for ALL ATEX zones
- Electrical, pneumatical and hydraulically operated valves must be subjected to a conformity assessment of their own and also of the whole unit valve-actuator to get EC Type Approval to Directive 2014/34

MODEL TK

ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

ACTUATOR TYPES

MANUAL:
Handwheel (rising & non-rising stem)
Chainwheel
Lever
Bevel Gear
Others (square nut...)

AUTOMATIC:
Electric (rising & non-rising stem)
Pneumatic (single & double-acting)
Hydraulic

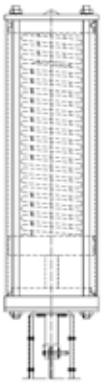
All actuators supplied by ORBINOX are interchangeable

FAIL SAFE SYSTEMS

Used on pneumatic actuated valves

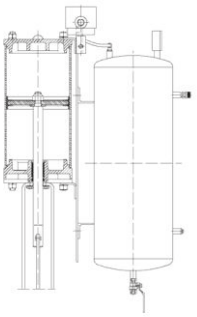
SINGLE ACTING (SPRING RETURN)

- Available from DN 50 to DN 300
- Supply pressure:
  min. 5 bar - max. 10 bar
- Options:
  - Pneumatic or electric fail open
  - Pneumatic or electric fail close
  - Other options on request



DOUBLE ACTING WITH AIR TANK

- Available for all valve sizes
- Supply pressure:
  min. 3.5 bar - max. 10 bar
- Options:
  - Pneumatic or electric fail open
  - Pneumatic or electric fail close
  - Other options on request



ACCESSORIES

Mechanical stops
Locking device (Fig.1)
Manual override
Solenoid valves
Positioners
Limit switches
Proximity switches
Floor stands
Extensions (Fig.2)

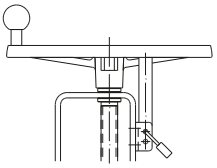


Fig.1

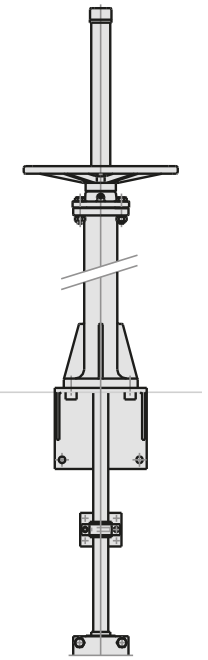


Fig. 2

For further information about fail safe systems and valve extensions, see EX catalogue

For more detailed information, please contact our Technical Department

MODEL TK

ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

TEMPERATURE CHART

SEAT / SEALS

Material	Max.Temp.(°C)	Applications
PTFE (T) + O-ring*		
*NBR (N)	120	Corrosion resistance (1)
*FKM-FPM (V)	200	Corrosion resistance
*VMQ (S)	250	Corrosion resistance
Polyurethan (PU)	90	Abrasion resistance
EPDM (E)	120	Acids and non mineral oils
NBR (N)	120	Resistance to petroleum products
FKM-FPM (V)	200	Chemical service/High temp.

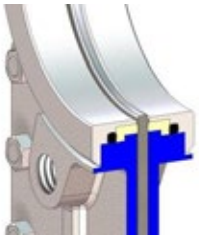
(1) PTFE + NBR O-ring standard ORBINOX arrangement

PACKING

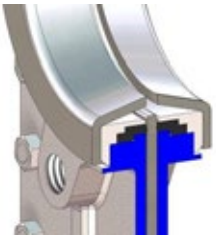
Material	Max.Temp.(°C)	pH
Dynapack (DP)	270	2-14
Braided PTFE (TH)	260	0-14
Graphited (GR)	600	0-14
Ceramic fibre (FC)	1200	--

NOTE: all types include an elastomere O-ring

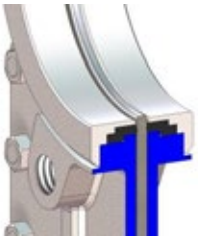
SEAT TYPES



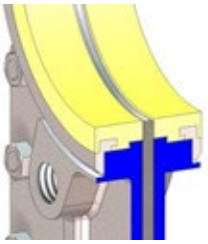
TYPE “K” SEAT (PTFE)
- Replaceable resilient PTFE + O-ring seats
- Replaceable stainless steel rings



DEFLECTION CONE "C"
- Deflects the media away from any valve internal exposed parts (gate guides, seat,...)
- Material: AISI 316, CA15, Ni-Hard, etc.
- Face-to-face dimension increases:
  DN 50 to DN 250 X = 9mm
  DN 300 to DN 600 X = 12mm
  Larger diameters on request



TYPE "K" SEAT (EPDM)
- Standard replaceable resilient EPDM seats
- Replaceable stainless steel rings



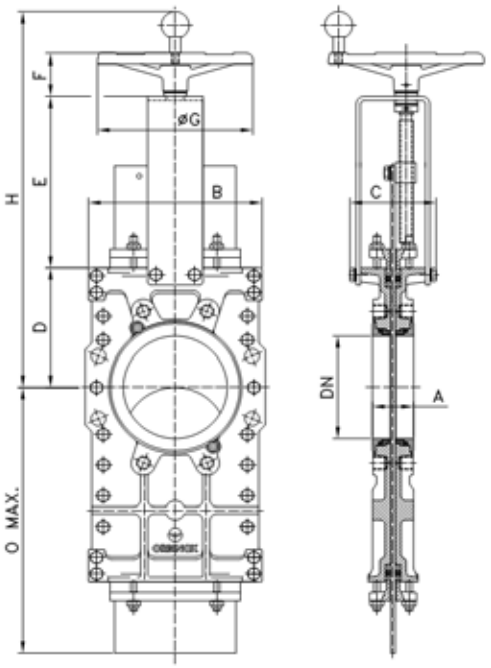
POLYURETHANE
- Replaceable polyurethane seat ring.

MODEL TK

ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

HANDWHEEL (non-rising stem)

- Standard manual actuator:
  - DN 50-300: Aluminium handwheel
  - DN≥350: GJS400 handwheel
- Recommended for installation where space is limited
- Consists of:
  - Handwheel with knob
  - Stem
  - Yoke bushing
  - Stem nut fixed to the gate
- Available from DN 50 to DN 600
- Options:
  - Locking Device
  - Extension
  - Square Nut Drive
- Gear is recommended above DN350



DN	A	B	C	D	E	F	ØG	H	O max.	Weight (kg.)
50	41	152	125	110	144	63	225	317	232	12
65	41	167	125	115	161	63	225	339	255	14
80	51	192	125	124	177	63	225	425	312	17
100	51	212	125	140	202	63	225	466	367	22
125	56	226	125	150	226	63	225	500	432	31
150	60	251	125	175	252	63	225	551	497	37
200	60	304	142	205	317	73	310	656	637	75
250	69	366	142	245	372	73	310	756	777	100
300	78	425	142	280	422	73	310	856	907	170
350	78	483	197	320	515	98	410	994	1047	200
400	89	543	197	350	559	98	410	1068	1171	290
450	89	588	201	420	611	98	550	1190	1301	326
500	114	740	320	485	671	98	550	1315	1573	750
600	122	836	320	530	771	98	550	1460	1830	790

MODEL TK

ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

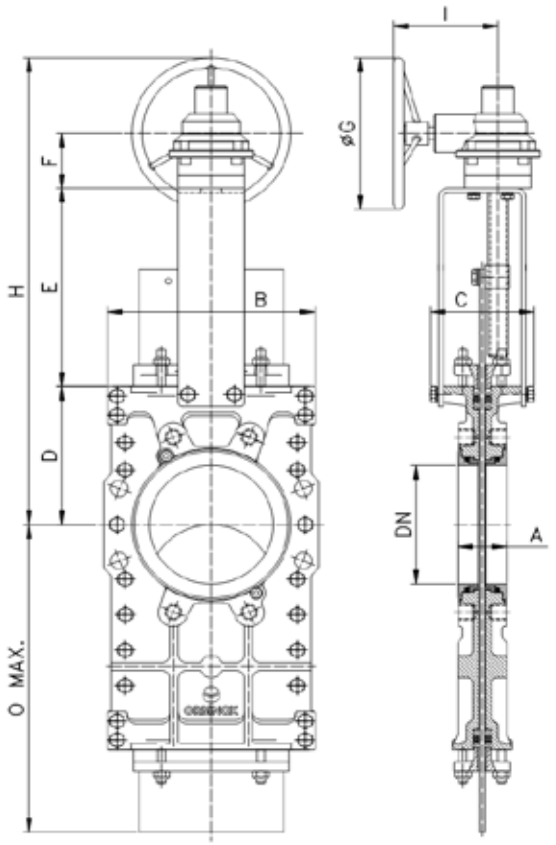
GEAR (non-rising stem)

- Recommended for valves larger than DN 350 and working pressures greater than 3.5 bar

- Consists of:
  - Stem
  - Yoke
  - Bevel Gear Actuator with Handwheel (Standard Ratio 4:1)

- Available from DN 200 to DN 900

- Options:
  - Locking Device
  - Extension
  - Chainwheel



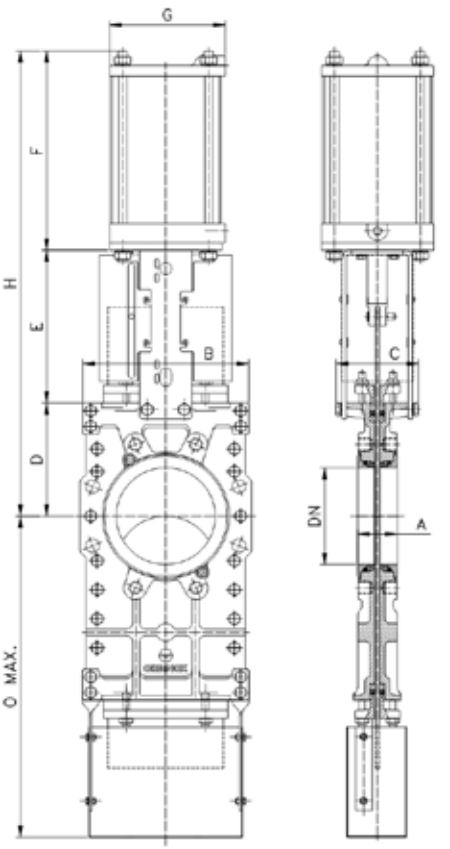
DN	A	B	C	D	E	F	ØG	H	I	O max.
200	60	304	125	205	309	109	300	773	200	637
250	69	366	125	245	364	109	300	868	200	777
300	78	425	125	280	423	109	300	962	200	907
350	78	483	197	320	486	109	450	1120	270	1047
400	89	543	197	350	536	109	450	1220	270	1171
450	89	588	201	420	588	109	450	1342	270	1301
500	114	740	320	485	649	109	450	1468	270	1573
600	122	836	320	530	748	109	450	1612	270	1830
700	128	960	320	650	855	109	450	1939	270	2005
800	128	1030	320	630	955	109	650	2129	270	2340
900	128	1170	320	775	1055	109	650	2334	320	2595

MODEL TK

ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

PNEUMATIC CYLINDER

- The standard pneumatic actuator (double acting on-off cylinder) consists of:
  - Ø ≤ 300: Aluminum barrels
  - Ø ≥ 350: Composite barrels
  - Aluminium covers
  - Stainless Steel (AISI 304) piston rod
  - Nitrile coated steel piston
- Available from DN 50 to DN 900
- Supply Pressure: min. 3.5 bar - max. 10 bar. Actuator designed with 6 bar air supply and for standard catalogue differential pressure
- For valves installed in a horizontal position, we recommend U-type support plates and/or actuator support
- Options:
  - Gate guards for proximity switches
  - Hard anodized barrel and covers
  - Stainless Steel barrel and covers
  - Over / Undersized cylinder
  - Manual override
  - Fail Safe System
  - Limit switches
- Instrumentation (on request):
  - Positioners
  - Solenoid valves
  - Flow regulators
  - Air preparation units



DN	A	B	C	D	O max.	E	F	G	H	Weight (kg.)	Standard Cyl.	Connect.
50	41	152	100	110	232	129	178	115	417	14	C100/62	1/4" G
65	41	167	100	115	255	146	193	115	454	16	C100/77	1/4" G
80	51	192	125	124	312	162	211	115	497	19	C100/95	1/4" G
100	51	212	125	140	367	187	231	115	558	25	C100/115	1/4" G
125	56	226	125	150	432	211	271	140	632	36	C125/143	1/4" G
150	60	251	125	175	497	237	310	175	722	43	C160/168	1/4" G
200	60	304	142	205	637	309	358	175	872	86	C160/220	1/4" G
250	69	366	185	245	777	364	428	220	1037	116	C200/270	3/8" G
300	78	425	185	280	907	414	478	220	1172	188	C200/320	3/8" G
350	78	483	270	320	1047	520	549	220	1389	233	C200/375	3/8" G
400	89	543	270	350	1171	577	599	277	1526	324	C250/425	3/8" G
450	89	588	270	420	1301	608	680	382	1708	378	C250/475	3/8" G
500	114	740	320	485	1573	671	692	382	1848	800	C300/525	1/2" G
600	122	836	320	530	1830	760	880	444	2170	960	C300/625	1/2" G
700	128	960	320	650	2005	855	980	444	2485	2000	C350/730	3/4" G
800	128	1030	320	630	2340	1085	1090	444	2805	2600	C400/830	3/4" G
900	128	1170	320	775	2595	1298	1197	515	3270	3200	C400/930	3/4" G

MODEL TK

ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

ELECTRIC ACTUATOR (non-rising stem)

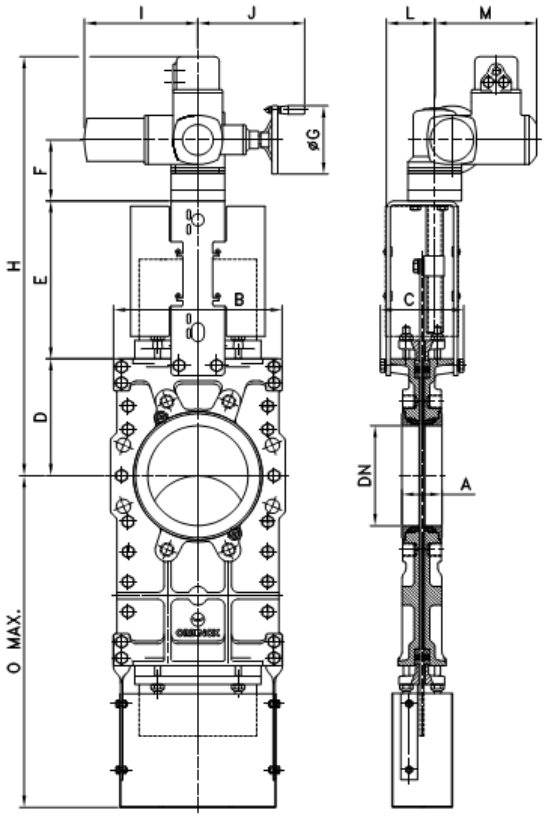
- Consists of:
  - Electric motor
  - Motor support yoke
    acc. to ISO 5210/DIN 3338

- The standard electric motor is equipped with:
  - Manual emergency operation
  - Limit switches (open/closed)
  - Torque switches

- Available from DN 50 to DN 900

- For valves installed in a horizontal position, we recommend U-type support plates and/or actuator support

- Wide range of types and brands available to meet customer's needs



DN	A	B	C	D	E	F	ØG	H	O max.	I	J	L	M	stem Ø x pitch	Torque (Nm)
50	41	152	125	110	129	143	160	592	232	265	249	72	238	20 x 3	10
65	41	167	125	115	146	143	160	614	255	265	249	72	238	20 x 3	10
80	51	192	125	124	162	143	160	639	312	265	249	72	238	20 x 3	10
100	51	212	125	140	187	143	160	680	367	265	249	72	238	20 x 3	10
125	56	226	125	150	211	143	160	714	432	265	249	72	238	20 x 3	15
150	60	251	125	175	237	143	160	765	497	265	249	72	238	20 x 3	30
200	60	304	142	205	309	143	160	867	637	265	249	82	238	25 x 4	40
250	69	366	185	245	364	155	200	979	777	283	254	82	248	25 x 4	65
300	78	425	185	280	414	155	200	1059	907	283	254	82	248	25 x 4	70
350	78	483	270	320	520	155	200	1180	1047	283	254	128	248	35 x 6	110
400	89	543	270	350	577	158	315	1273	1171	389	336	130	286	35 x 6	140
450	89	588	335	420	608	158	315	1401	1301	389	336	130	286	35 x 6	180
500	114	740	320	485	671	158	315	1656	1573	389	336	130	286	35 x 6	210
600	122	836	320	530	760	158	315	1641	1830	389	336	130	286	35 x 6	300
700	128	960	320	650	855	175	500	1885	2005	389	340	190	286	40 x 7	500
800	128	1030	320	630	955	175	500	2105	2340	389	340	190	286	60 x 9	500
900	128	1170	320	775	1055	210	500	2375	2595	510	355	190	330	60 x 9	650

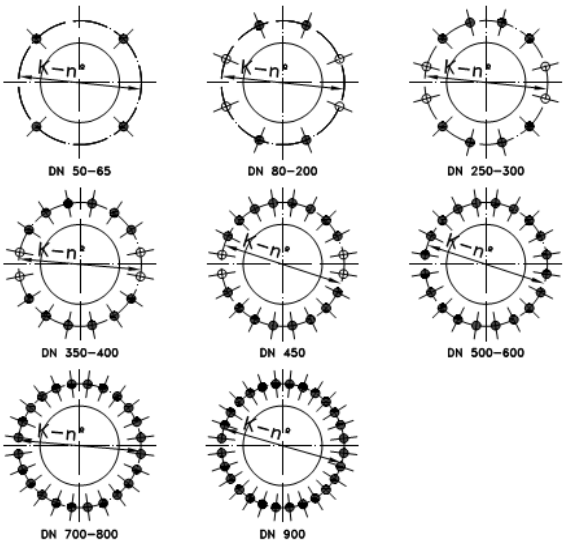
MODEL TK

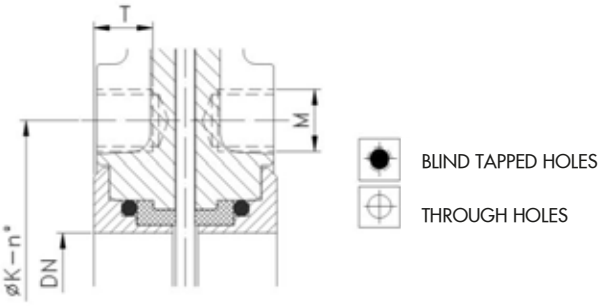
ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

FLANGE AND BOLTING DETAILS

EN 1092-2 PN10

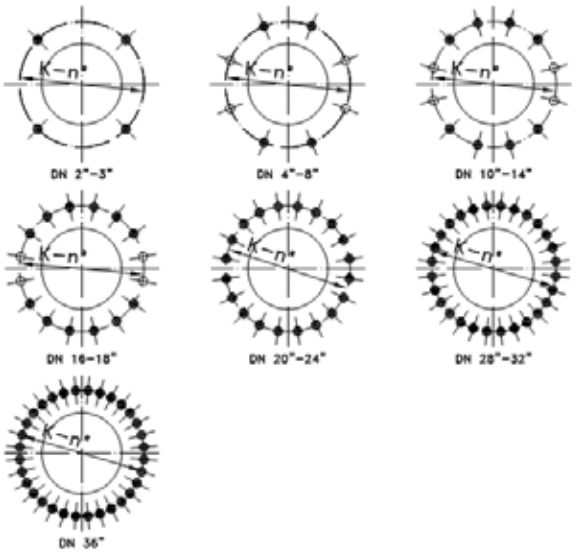
DN	K	nº	M	T	⌖ ⊕
50	125	4	M-16	11	4 - 0
65	145	4	M-16	11	4 - 0
80	160	8	M-16	15	4 - 4
100	180	8	M-16	16	4 - 4
125	210	8	M-16	18	4 - 4
150	240	8	M-20	19	4 - 4
200	295	8	M-20	18	4 - 4
250	350	12	M-20	21	8 - 4
300	400	12	M-20	27	8 - 4
350	460	16	M-20	23	12 - 4
400	515	16	M-24	28	12 - 4
450	565	20	M-24	32	16 - 4
500	620	20	M-24	28	20 - 0
600	725	20	M-27	28	20 - 0
700	840	24	M-27	32	24 - 0
800	950	24	M-30	32	24 - 0
900	1050	28	M-30	32	24 - 0





ANSI B16.5, class 150

DN	K	nº	M	T	⌖ ⊕
2″	4 ¾″	4	5/8″ - 11 UNC	7/16″	4 - 0
2 ½″	5 ½″	4	5/8″ - 11 UNC	7/16″	4 - 0
3″	6″	4	5/8″ - 11 UNC	9/16″	4 - 0
4″	7 ½″	8	5/8″ - 11 UNC	9/16″	4 - 4
5″	8 ½″	8	3/4″ - 10 UNC	9/16″	4 - 4
6″	9 ½″	8	3/4″ - 10 UNC	11/16″	4 - 4
8″	11 ¾″	8	3/4″ - 10 UNC	11/16″	4 - 4
10″	14 ¼″	12	7/8″ - 9 UNC	7/9″	8 - 4
12″	17″	12	7/8″ - 9 UNC	1″	8 - 4
14″	18 ¾″	12	1″ - 8 UNC	7/9″	8 - 4
16″	21 ¼″	16	1″ - 8 UNC	1 1/8″	12 - 4
18″	22 ¾″	16	1 1/8″ - 7 UNC	7/9″	12 - 4
20″	25″	20	1 1/8″ - 7 UNC	1 1/8″	20 - 0
24″	29 ½″	20	1 1/4″ - 7 UNC	1 1/8″	20 - 0
28″	34″	28	1 1/4″ - 7 UNC	1 1/4″	28 - 0
32″	38 ½″	28	1 1/2″ - 6 UNC	1 1/4″	28 - 0
36″	42 ¾″	32	1 1/2″ - 6 UNC	1 1/4″	32 - 0



MODEL TH

ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

THROUGH CONDUIT KNIFE GATE VALVE

The TH model knife gate is a bi-directional high pressure wafer valve designed for media with high consistency. The double seat design assures a non-clogging shut off on either normal or reverse flow. The valve is used in a wide range of demanding applications in industries such as:

- Pulp & Paper
- Wastewater Treatment Plants
- Chemical plants
- Power Plants
- Etc.

Sizes:

DN 300 to DN 1000 (larger diameters on request)

Working pressure:

DN 300 to DN 800 10 bar
DN 900 to DN 1000 6 bar

* For higher pressures, please contact ORBINOX

Standard flange connection:

DIN PN 10 and ANSI B16.5 (class 150)

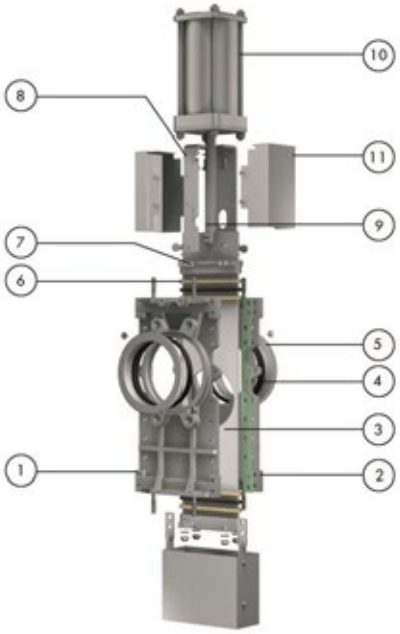
Other flange connections are available on request

DIN PN 16

Directives:

2006/42/EC (MACHINES)
2014/68/EU (PED) Fluid: Group 1(b), 2 (Cat. I, mod. A)
2014/34/EU (ATEX)

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



STANDARD PARTS LIST

Part:	Stainless Steel:
1- Body	CF8M / AISI 316
2- Body	CF8M / AISI 316
3- Gate	AISI 316
4- Seat	PTFE
5- "K" Ring	AISI 316
6- Packing	Dynapack (Graphite impregnated PTFE and Aramid yam combination with an elastomeric core) + (EPDM O-ring)
7- Gland Follower	CF8M / AISI 316
8- Yoke	AISI 304 (1.4301)
9- Piston Rod	AISI 304 (1.4301)
10- Cylinder	Aluminum
11- Gate guards	AISI 304 (1.4301)

MODEL TH

ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

DESIGN FEATURES

BODY:

Wafer style cast two-part bolted stainless steel body, both internally machined, with reinforcing ribs in larger diameters for extra body strength. Internal high density polyethylene sliders (HMWPE) that ensure smoother gate traveling. Full port design to allow a greater flow capacity and to guarantee a minimal pressure drop.

SELFCLEANING GATE:

Stainless steel as standard. One piece through-going gate with o-port design. When closing, the gate cuts and moves a disc of material downwards, which is again returned to the flow when opening. Gate is polished on both sides to avoid jamming and to ensure a greater seal between the gate with both packing and seat. The thickness and/or the material of the gate can be changed on request for higher pressure requirement.

SEAT: (resilient)

Unique resilient seat design for all sizes, that mechanically locks the seal in the internal of the valve body with a cast, easy to replace, stainless steel seat ring. PTFE as standard, also available in different materials such as EPDM, NBR, Viton, Polyurethane, etc.

PACKING:

Long-life packing with several graphite impregnated PTFE and Aramid yarn combination with an elastomeric core, with an easy access packing gland ensuring a tight seal. Long-life braided packing is available in a wide range of materials.

STEM:

The standard stainless steel stem offers a long corrosion resistant life. For rising stem handwheel actuators only, a stem protector is provided for additional protection against dust while the valve is in the open position.

ACTUATORS:

All actuators supplied by ORBINOX are interchangeable, and supplied with an standard mounting kit for installation purposes on site.

YOKE or ACTUATOR SUPPORT:

Made of stainless steel. Compact design makes it extremely robust even under the most severe conditions.

GATE SAFETY PROTECTION:

ORBINOX automated valves are provided with gate guards in accordance with EU Safety Standards. The design feature prevents any objects from being caught accidentally while the gate is moving.

MODEL **TH**

ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

OTHER OPTIONS

Gate guards for actuators with proximity switches (Fig.1)

It has been made a special design which allows horizontal and parallel mounting of the proximity switches including protection to them

Flush ports:

Allow for cleaning of solids trapped within the body cavities that can obstruct the flow or prevent the valve from closing. Purging can be made with air, steam, liquids, etc. depending on the process

Other materials of construction:

Special alloys such as AISI 317 (1.4449), 254SMO (1.4547), Hastelloys,etc.

Fabricated valves:

ORBINOX designs, produces and delivers special fabricated valves for special process conditions (big sizes and/or high pressures)

Fig.1

SURFACE TREATMENTS

Valve components can be protected or coated for a longer life expectancy, depending on the application of the valves and the valve service conditions.
At ORBINOX we can offer alternative treatments and coatings for the different valve components to improve their properties against abrasion (Stellite, polyurethane…), against corrosion (Halar, Rilsan, galvanizing…) and against adherence (polishing, PTFE…)

ATEX

Please contact an ORBINOX representative for info and availability. Some considerations:

- Hand operated TH valves have been subjected to an ignition risk assessment according to DIN EN 13463: 1-5 and they are out the scope of application of ATEX Directive. Therefore hand operated valves are suitable for ALL ATEX zones
- Electrical, pneumatical and hydraulically operated valves must be subjected to a conformity assessment of their own and also of the whole unit valve-actuator to get EC Type Approval to Directive 2014/34

We recommend to contact our technical department.

MODEL TH

ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

ACTUATOR TYPES

MANUAL:
Handwheel (rising & non-rising stem)
Chainwheel
Bevel Gear
Others (square nut…)

AUTOMATIC:
Electric (rising & non-rising stem)
Double Acting Pneumatic
Hydraulic

All actuators supplied by ORBINOX are interchangeable

ACCESSORIES

Mechanical stops
Locking device (Fig.1)
Manual override
Solenoid valves
Positioners
Limit switches
Proximity switches
Floor stands
Stem Extensions

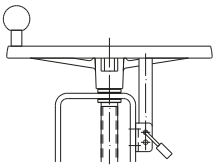
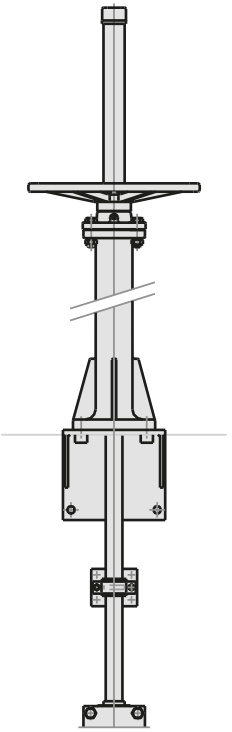


Fig.1



Wide range of extensions available

For further information about fail safe systems and valve extensions, see EK catalogue

For more detailed information, please contact our Technical Department

MODEL TH

ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

TEMPERATURE CHART

SEAT / SEALS

Material	Max.T(°C)	Applications
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	Chemical service/High temp.
Silicone (S)	250	Food service/High temp.
PTFE (T)	250	Corrosion resistance

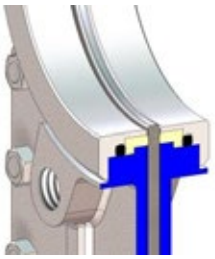
PACKING

Material	Max.T(°C)	pH
Dynapack (DP)	270	2-14
Braided PTFE (TH)	260	0-14
Graphited (GR)	600	0-14
Ceramic fibre (FC)	1200	--

NOTE: all types include an elastomere O-ring (same material as seal)

More details and other materials under request

SEAT TYPES



TYPE "K" SEAT (PTFE)

- Replaceable resilient PTFE + O-ring seats
- Replaceable stainless steel rings

MODEL TH

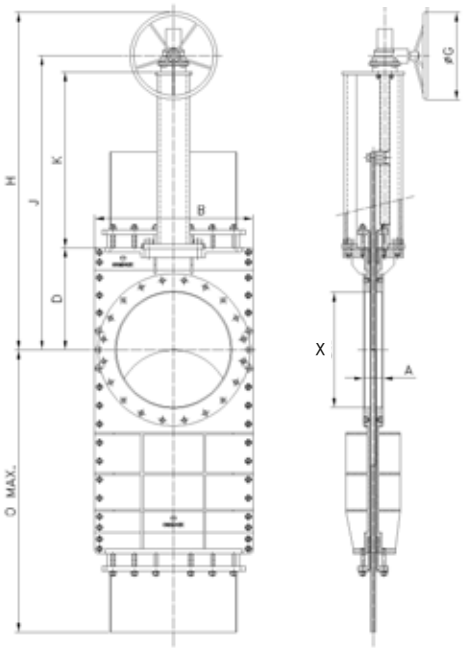
ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

BEVEL GEAR (non-rising stem)

- Consists of:
  - Stem
  - Yoke
  - Bevel Gear Actuator with Handwheel (Standard Ratio 4:1)

- Available from DN 300 to DN 1000

- Options (on request):
  - Locking Device
  - Chainwheel
  - Extension
  - Rising stem



DN	X	A	B	D	J	K	ØG	H	O max.
300	302	78	410	280	810	420	310	822	905
350	332	78	473	300	900	490	410	897	1047
400	380	89	538	350	1000	540	410	997	1171
450	420	89	588	420	1125	595	550	1120	1301
500	490	114	740	490	1215	655	550	1210	1575
600	540	122	754	530	1395	755	550	1389	1711
700	665	128	860	650	1615	855	650	997	2005
800	760	128	964	740	1805	955	650	1120	2295
900	880	128	1070	845	2010	1055	650	1210	2585
1000	970	128	1180	955	2220	1155	650	1389	2875

MODEL TH

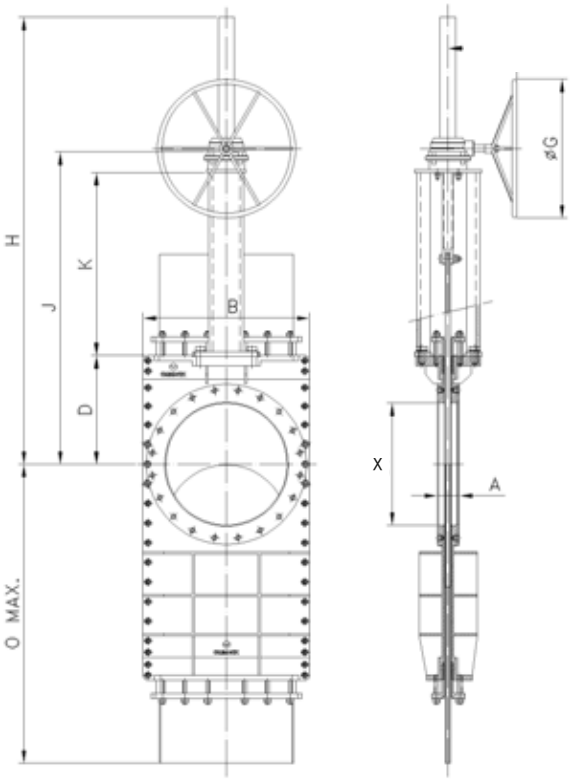
ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

BEVEL GEAR (rising stem)

- Consists of:
  - Stem
  - Yoke
  - Bevel Gear Actuator with Handwheel (Standard Ratio 4:1)

- Available from DN 300 to DN 1000

- Options (on request):
  - Locking Device
  - Chainwheel
  - Extension
  - Non-rising stem



DN	X	A	B	D	J	K	ØG	H	O max.
300	302	78	410	280	810	420	310	1102	905
350	332	78	473	300	900	490	410	1286	1047
400	380	89	538	350	1000	540	410	1386	1171
450	420	89	588	420	1125	655	550	1583	1301
500	490	114	740	490	1395	755	550	1673	1575
600	540	122	754	530	1615	855	550	1963	1171
700	665	128	860	650	1615	855	650	2300	2005
800	760	128	964	740	1805	955	650	2640	2295
900	880	128	1070	845	2010	1055	650	2980	2585
1000	970	128	1180	955	2220	1155	650	3310	2875

MODEL TH

ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

PNEUMATIC CYLINDER

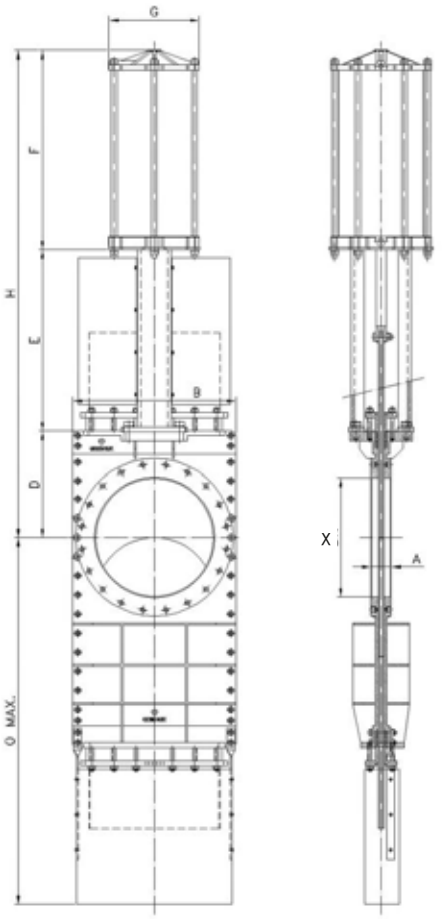
- The standard pneumatic actuator (double acting on-off cylinder) consists of:
  - Ø≤300: Aluminum barrels
  - Ø≥350: Composite barrels
  - Aluminum end covers
  - Stainless Steel (AISI 304) piston rod
  - Nitrile coated steel piston

- Available from DN 300 to DN 1000

- For valves installed in a horizontal position, we recommend U-type support plates and/or actuator support

- Options (o request):
  - Gate guards for proximity switches (see pag. 3)
  - Hard anodized jacket and covers
  - Stainless Steel jacket and covers
  - Manual override
  - Fail Safe System
  - Limit switches

- Instrumentation (on request):
  - Positioners
  - Solenoid valves
  - Flow regulators
  - Air preparation units



DN	X	A	B	D	O max.	E	F	G	H	Standard Cyl.	Connect.
300	302	78	410	280	905	414	478	220	1172	C200/320	3/8" G
350	332	78	473	300	1047	510	535	277	1344	C200/375	3/8" G
400	380	89	538	350	1171	560	585	277	1494	C250/425	3/8" G
450	420	89	588	420	1301	608	665	382	1693	C250/475	1/2" G
500	490	114	740	490	1575	754	715	382	1959	C300/525	1/2" G
600	540	122	754	530	1711	796	880	444	2206	C350/625	3/4" G
700	665	128	960	650	1820	855	980	444	2485	C350/725	3/4" G
800	760	128	964	740	1930	955	1080	444	2775	C350/825	3/4" G
900	880	128	1070	845	2040	1055	1180	444	3080	C400/925	3/4" G
1000	970	128	1180	955	2135	1155	1280	444	3390	C400/1025	3/4" G

MODEL TH

ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

ELECTRIC ACTUATOR (rising stem)

- Consists of:
  - Electric motor
  - Motor support yoke
    acc. to ISO 5210/DIN 3338

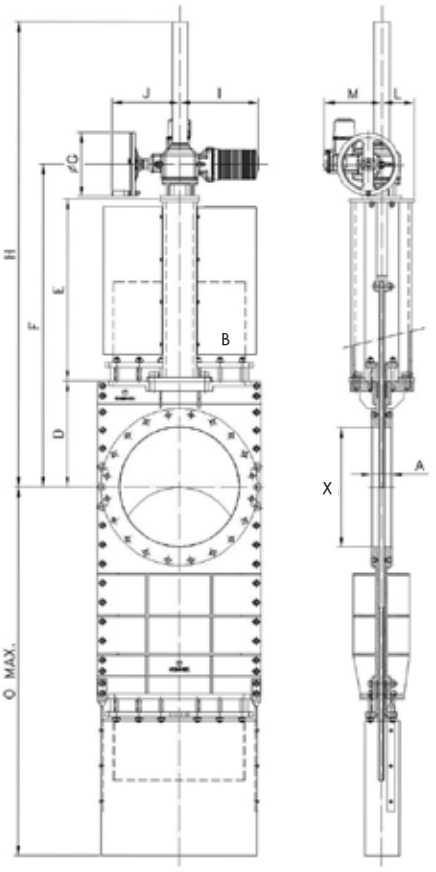
- The standard electric motor is equiped with:
  - Manual emergency operation
  - Limit switches (open/closed)
  - Torque switches

- Available from DN 300 to DN 1000

- For valves installed in a horizontal position, we recommend U-type support plates and/or actuator support

- Wide range of types and brands available to meet customer's needs

- Option:
  - Non-rising stem



DN	X	A	B	D	E	F	ØG	H	Ø max.	I	J	L	M	Torque (Nm)
300	302	78	410	280	420	849	200	1434	905	282	256	62	247	60
350	332	78	473	300	490	930	200	1515	1047	282	256	65	247	60
400	380	89	538	350	540	1030	315	1615	1171	282	256	65	247	60
450	420	89	588	420	595	1193	315	1793	1301	385	325	65	285	120
500	490	114	740	490	655	1283	315	1883	1575	385	325	90	285	250
600	540	122	754	530	755	1443	315	2143	1711	385	325	90	285	250
700	665	128	860	630	855	1660	400	2300	1820	385	332	90	285	500
800	760	128	964	740	955	1850	500	2640	1930	510	355	115	310	500
900	880	128	1070	845	1055	2060	500	2980	2040	510	355	115	310	650
1000	970	128	1180	955	1155	2300	500	3310	2135	510	355	115	310	1000

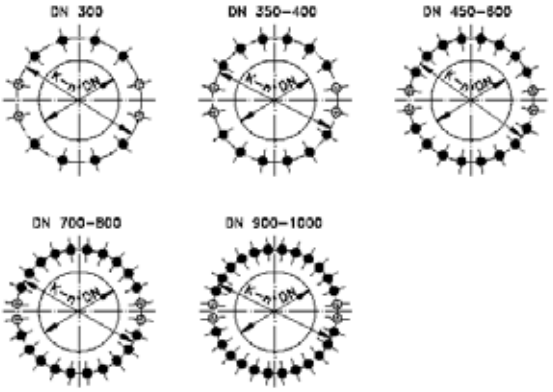
MODEL TH

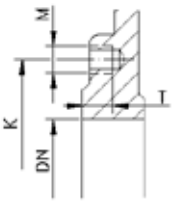
ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

FLANGE AND BOLTING DETAILS

EN 1092-2 PN10

DN	K	nº	M	T	⌖ ⊕
300	400	12	M-20	22	8 - 4
350	460	16	M-20	28	12 - 4
400	515	16	M-24	28	12 - 4
450	565	20	M-24	32	16 - 4
500	620	20	M-24	32	16 - 4
600	725	20	M-27	32	16 - 4
700	840	24	M-27	32	20 - 4
800	950	24	M-30	32	20 - 4
900	1050	28	M-30	32	24 - 4
1000	1160	28	M-33	32	24 - 4



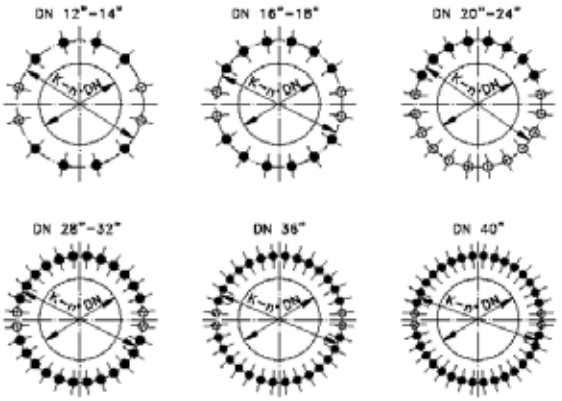


⌖ BLIND TAPPED BOLTS

⊕ THROUGH BOLTS

ANSI B16.5, class 150

DN	K	nº	M	T	⌖ ⊕
12″	17″	12	7/8″ - 9 UNC	7/9″	8 - 4
14″	18 ¾″	12	1″ - 8 UNC	7/9″	8 - 4
16″	21 ¼″	16	1″ - 8 UNC	7/9″	12 - 4
18″	22 ¾″	16	1 1/8″ - 7 UNC	1 1/4″	12 - 4
20″	25″	20	1 1/8″ - 7 UNC	1 1/4″	16 - 4
24″	29 ½″	20	1 1/4″ - 7 UNC	1 1/4″	16 - 4
28″	36 ½″	28	1 1/2″ - 6 UNC	1 1/4″	24 - 4
32″	41 ¾″	28	1 1/2″ - 6 UNC	1 1/4″	24 - 4
36″	46″	32	1 1/2″ - 6 UNC	1 1/4″	28 - 4
40″	50 ¾″	36	1 1/2″ - 6 UNC	1 1/4″	32 - 4



KLINGER Portugal

Klinger Portugal, Lda.
Via José Régio, 36
Centro Empresarial Vilar do Pinheiro
4485-860 Vila do Conde
T: +351 22 947 0910
E-mail: geral@klinger.pt

Delegação Lisboa
Rua de Cabo Verde, 8
Prior Velho 2685-316
T: +351 21 940 6620
E-mail: lisboa@klinger.pt