

## THROUGH CONDUIT KNIFE GATE VALVE

The TL (SER.30) 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 2"/50mm to DN 40"/1000mm (larger diameters on request)

**Working pressure:**

DN 2"/ 50mm to DN 5"/ 125mm	150psi/ (10 kg/cm <sup>2</sup> )
DN 6"/150mm to DN 10"/ 250mm	115psi/ (8 kg/cm <sup>2</sup> )
DN 12"/300mm to DN 16"/ 400mm	90psi/ (6 kg/cm <sup>2</sup> )
DN 18"/450mm	75psi/ (5 kg/cm <sup>2</sup> )
DN 20"/500mm to DN 24"/ 600mm	60psi/ (4 kg/cm <sup>2</sup> )
DN 28"/700mm to DN 40"/1000mm	30psi/ (2 kg/cm <sup>2</sup> )

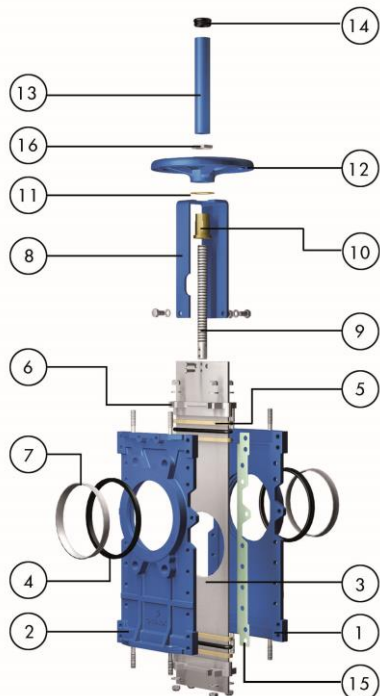
**Standard flange connection:**

EN 1092 PN 10 and ASME B16.5 (class 150)  
Other flange connections are available on request such as:  
EN 1092 PN 6                      EN 1092 PN 16                      EN 1092 PN 25  
BS "D" and "E"

**Directives:**

For EU Directives and other Certificates, please see the document:  
Directives and Certificates Compliance - Knife Gate Valves -  
Catalogues and Datasheets

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	GJL250 / GJS400	CF8M
2- Body	GJL250 / GJS400	CF8M
3- Gate	AISI 304	AISI 316
4-Seat	Metal/Metal or EPDM	
5- Packing	PTFE Impreg. Synth. Fibre (ST)+O-ring	
6- Gland Follower	Alum.(DN 2"/50mm to DN 12"/300mm) Ductile Iron (DN 14"/350mm to DN 40"/1000mm)	CF8M
7- Seat Retainer Ring	AISI 304	AISI 316
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	



**MODEL****TL****SERIES 30**

## 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.

### **SELF-CLEANING 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 a 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.

\* ONLY IN EUROPE



## OTHER OPTIONS

### Bonnet (Fig.1):

Assures tight seal 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

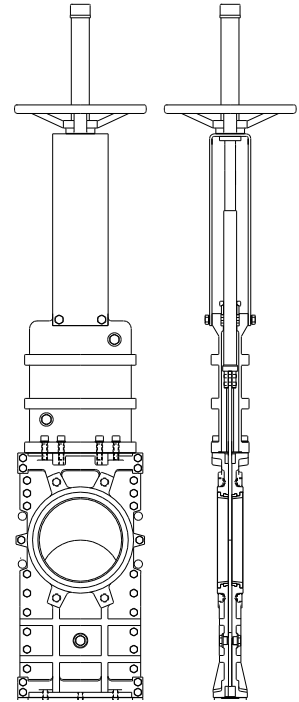


Fig.1

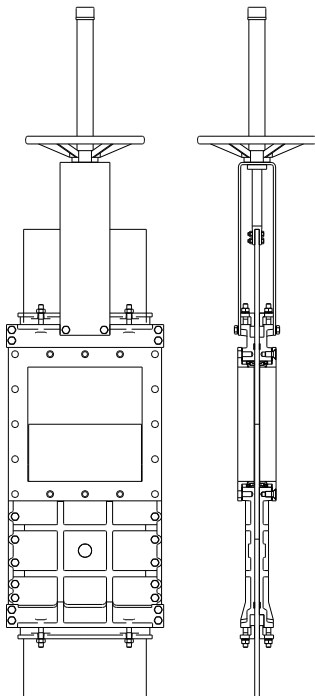


Fig.2

## 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...).

We recommend to contact our technical department

## 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

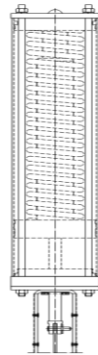
All actuators supplied by ORBINOX are interchangeable

### FAIL SAFE SYSTEMS

Used on pneumatic actuated valves

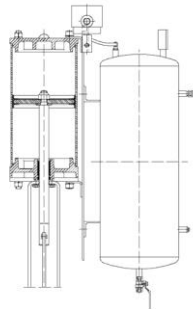
#### SINGLE ACTING (SPRING RETURN)

- Available from  
DN 2"/50mm to DN 12"/300mm
- Supply pressure:
  - min. 75 psi/ (5 kg/cm<sup>2</sup>)
  - max. 150 psi/ (10 kg/cm<sup>2</sup>)
- Options:
  - Pneumatic or electric fail open
  - Pneumatic or electric fail close
  - Other options on request



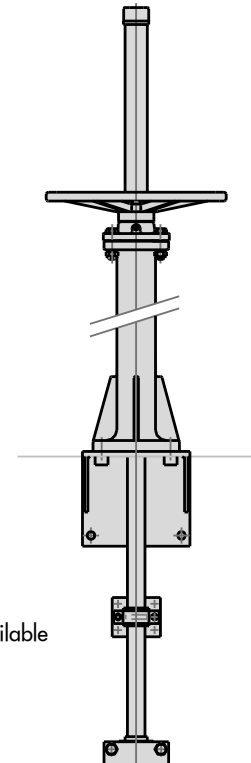
#### DOUBLE ACTING WITH AIR TANK

- Available for all valve sizes
- Supply pressure:
  - min. 50 psi / (3.5 kg/cm<sup>2</sup>)
  - max. 150 psi / (10 kg/cm<sup>2</sup>)
- 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(SER.10) catalog*

We recommend consultation with our technical department.

**MODEL****TL****SERIES 30****TEMPERATURE CHART****SEAT / SEALS**

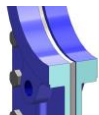
Material	Max.T. (°F)	(°C)	Applications
Metal/Metal	>482	>250	High temp./Low tightness
EPDM (E)	248	120	Acids and non mineral oils
NBR (N)	248	120	Resistance to petroleum products
FKM-FPM (V)	392	200	Chemical service/High temp.
VMQ (S)	482	250	Food service/ High temp.
PTFE (T)	482	250	Corrosion resistance

More details and other materials under request

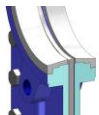
**PACKING**

Material	Max.T. (°F)	(°C)	pH
PTFE impregn. synth. fibre (ST)	482	250	2-13
Braided PTFE (TH)	500	260	0-14
Graphited (GR)	1112	600	0-14
Ceramic fibre (FC)	2192	1200	--

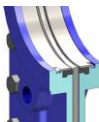
NOTE: all types include an elastomere O-ring (same material as seal), excluding TH, GR and FC

**SEAT TYPES****Cast Iron****METAL / METAL**

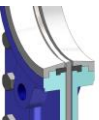
Used for applications with high temperature or applications where tight shutoff is not required. The stainless steel version includes HMW polyethylene seat sliders that ensure a smoother gate traveling

**METAL / METAL, TYPE "B"**

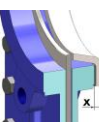
Two replaceable reinforced "B" type rings (available in AISI 316, Ni-hard, CA15,...) protect the seat in abrasive services. HMW polyethylene seat sliders for smoother gate traveling (stainless steel version only)

**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)

**RESILIENT, TYPE "B"**

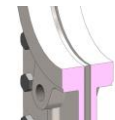
Resilient seat design with an elastomer seal fixed to the valve body with two replaceable reinforced seal retainer rings (available in AISI 316, Ni-hard, CA15,...) that protect the seat in abrasive services. Temperature limitations according to seat material selected. Verify the above chart or contact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

**DEFLECTION CONE "C"**

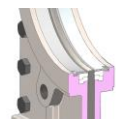
Deflects the media away from any valve internal exposed parts such as gate guides, seats, etc. Different types of material available such as AISI 316, CA15, Ni-Hard, etc. Installed at flow inlet, deflection cones protect the seat. They slightly reduce the inlet bore and the face-to-face dimensions also increase:

DN 2"/50mm to DN 10"/250mm X =0.35"/9mm

DN 12"/300mm to DN 24"/600mm X =0.47"/12mm

**Stainless Steel**

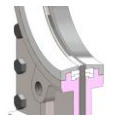
DN 2"/50 – 6"/150



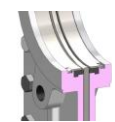
DN 8"/200 – 24"/600



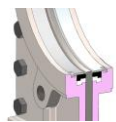
DN 2"/50 – 6"/150



DN 8"/200 – 24"/600



DN 2"/50 – 6"/150



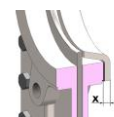
DN 8"/200 – 24"/600



DN 2"/50 – 6"/150

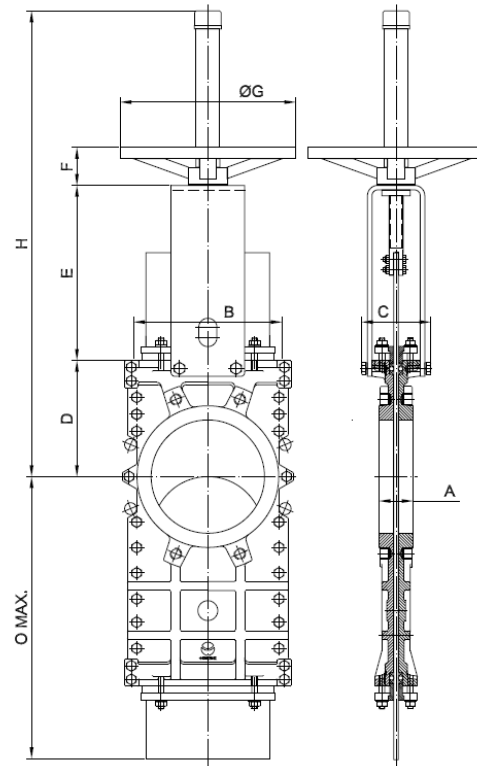


DN 8"/200 – 24"/600



**HANDWHEEL (rising stem)**

- Standard manual actuator
- Consists of:
  - Handwheel: Epoxy coated Cast Iron
  - Floor stand
  - Stem
  - Stem nut
  - Stem protector
- Available from DN 2"/50mm to DN 24"/600mm
- Options (on request):
  - Locking Device
  - Extensions

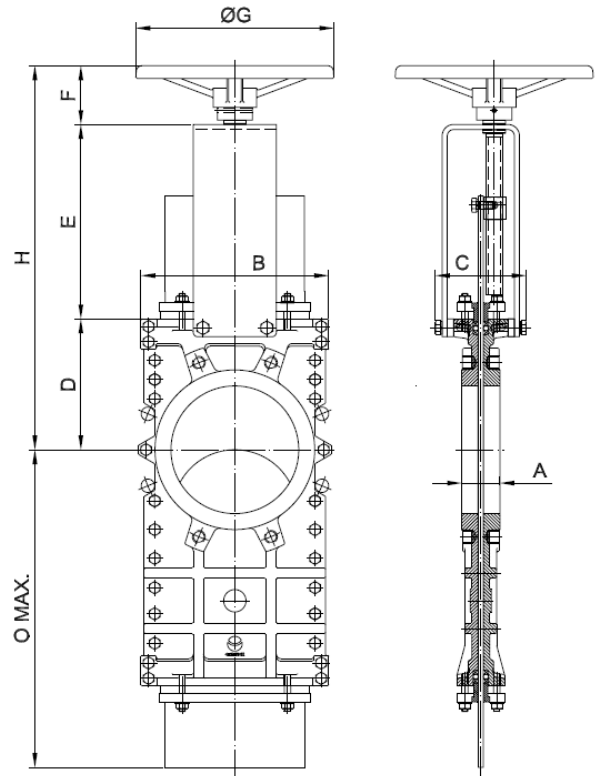


DN(“/mm)	A	B	C	D	E	F	ØG	H	O max.	Weight (lbs./kg.)
2"/50	1,57/40	5,98/152	4/100	4,33/110	5,07/129	1,85/47	8,86/225	16,88/429	9,13/232	26/12
2,5"/65	1,57/40	6,57/167	4/100	4,52/115	5,79/146	1,85/47	8,86/225	17,75/451	10,04/255	30/14
3"/80	1,96/50	7,16/182	4/100	4,88/124	6,37/162	1,85/47	8,86/225	18,74/476	12,20/310	35/16
4"/100	1,96/50	7,95/202	4/100	5,52/140	7,36/187	1,85/47	8,86/225	20,35/517	14,44/367	44/20
5"/125	1,96/50	8,50/216	4/100	6/150	8,30/211	1,85/47	8,86/225	23,66/601	17,00/432	64/29
6"/150	2,36/60	9,48/241	4/100	6,89/175	9,33/237	1,85/47	8,86/225	25,67/652	19,56/497	77/35
8"/200	2,36/60	11,57/294	4,80/122	8,07/205	12,16/309	2,64/67	12,20/310	32,36/822	25/635	137/62
10"/250	2,75/70	14,01/356	4,80/122	9,64/245	14,33/364	2,64/67	12,20/310	40,03/1017	30,59/777	197/89
12"/300	2,75/70	16,14/410	4,80/122	11,02/280	16,30/414	2,64/67	12,20/310	43,38/1102	35,62/905	242/110
14"/350	3,78/96	18,62/473	7,75/197	12/300	19,13/486	2,60/66	16,14/410	50,63/1286	41,22/1047	384/174
16"/400	3,93/100	21,18/538	7,75/197	13,77/350	21,10/536	2,60/66	16,14/410	54,56/1386	46,10/1171	586/266
18"/450	4,17/106	23,15/588	7,91/201	16,53/420	23,15/588	2,60/66	21,65/550	62,32/1583	51,22/1301	718/326
20"/500	4,33/110	25,43/646	7,91/201	17,71/450	25,51/648	2,60/66	21,65/550	65,86/1673	57,52/1461	820/372
24"/600	4,33/110	25,43/754	7,91/201	20,86/530	29,44/748	2,60/66	21,65/550	77,28/1963	67,36/1711	981/445

Other diameters on request

**HANDWHEEL (non-rising stem)**

- Recommended for installation where space is limited
- Consists of:
  - Handwheel
    - DN 2"/50mm - DN 12"/300mm: aluminium
    - DN ≥14"/350mm: GJS400 (GGG40)
  - Stem
  - Yoke bushing
  - Stem nut fixed to the gate
- Available from DN 2"/50mm to DN 24"/600mm
- Options (on request):
  - Locking Device
  - Extension
  - Square Nut Drive

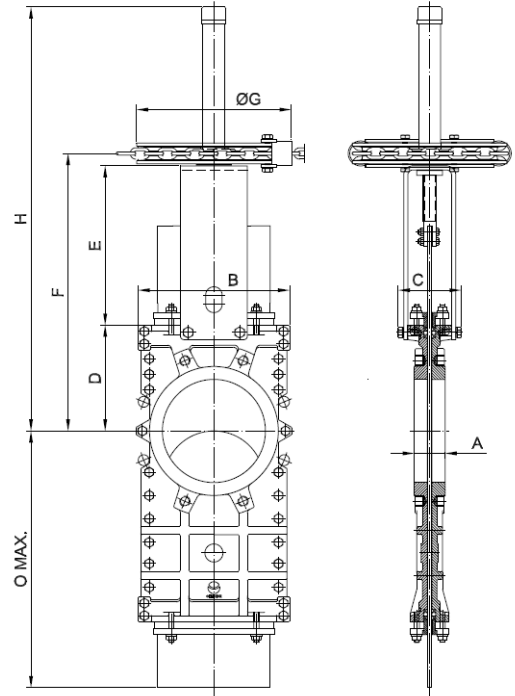


DN(" /mm)	A	B	C	D	E	F	ØG	H	O max.
2"/50	1,57/40	5,98/152	4,92/125	4,33/110	5,66/144	2,48/63	8,86/225	12,48/317	9,13/232
2,5"/65	1,57/40	6,57/167	4,92/125	4,52/115	6,33/161	2,48/63	8,86/225	13,34/339	10,04/255
3"/80	1,96/50	7,16/182	4,92/125	4,88/124	6,96/177	2,48/63	8,86/225	14,33/364	12,20/310
4"/100	1,96/50	7,95/202	4,92/125	5,52/140	7,95/202	2,48/63	8,86/225	15,94/405	14,44/367
5"/125	1,96/50	8,50/216	4,92/125	6/150	8,89/226	2,48/63	8,86/225	17,28/439	17,00/432
6"/150	2,36/60	9,48/241	4,92/125	6,89/175	9,92/252	2,48/63	8,86/225	19,29/490	19,56/497
8"/200	2,36/60	11,57/294	5,60/142	8,07/205	12,48/317	2,87/73	12,20/310	23,42/595	25/635
10"/250	2,75/70	14,01/356	5,60/142	9,64/245	14,64/372	2,87/73	12,20/310	27,16/690	30,59/777
12"/300	2,75/70	16,14/410	5,60/142	11,02/280	16,61/422	2,87/73	12,20/310	30,51/775	35,62/905
14"/350	3,78/96	18,62/473	7,75/197	12/300	20,03/509	3,85/98	16,14/410	35,71/907	41,22/1047
16"/400	3,93/100	21,18/538	7,75/197	13,77/350	22,00/559	3,85/98	16,14/410	39,64/1007	46,10/1171
18"/450	4,17/106	23,15/588	7,91/201	16,53/420	24,05/611	3,85/98	21,65/550	44,44/1129	51,22/1301
20"/500	4,33/110	25,43/646	7,91/201	17,71/450	26,41/671	3,85/98	21,65/550	47,99/1219	57,52/1461
24"/600	4,33/110	25,43/754	7,91/201	20,86/530	30,35/771	3,85/98	21,65/550	55,07/1399	67,36/1711

Other diameters on request

**CHAINWHEEL (rising stem)**

- Recommended for elevated installations
- Consists of:
  - Chainwheel: Epoxy coated Cast Iron
  - Stem
  - Stem nut
  - Stem protector
- Available from DN 2"/50mm to DN 24"/600mm
- Options (on request):
  - Locking Device
  - Extension
  - Non-rising Stem



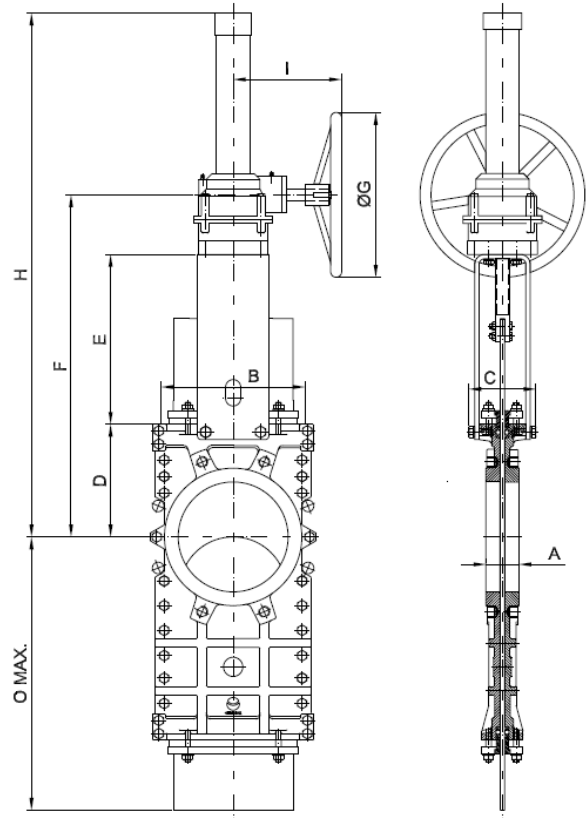
DN(“/mm)	A	B	C	D	E	F	ØG	H	O max.
2"/50	1,57/40	5,98/152	3,94/100	4,33/110	5,07/129	10,15/258	8,86/225	16,88/429	9,13/232
2,5"/65	1,57/40	6,57/167	3,94/100	4,52/115	5,79/146	11,02/280	8,86/225	17,75/451	10,04/255
3"/80	1,96/50	7,16/182	3,94/100	4,88/124	6,37/162	12/305	8,86/225	18,74/476	12,20/310
4"/100	1,96/50	7,95/202	3,94/100	5,52/140	7,36/187	13,66/347	8,86/225	20,39/518	14,44/367
5"/125	1,96/50	8,50/216	3,94/100	6/150	8,30/211	14,96/380	8,86/225	23,66/601	17,00/432
6"/150	2,36/60	9,48/241	3,94/100	6,89/175	9,33/237	16,97/431	8,86/225	25,66/652	19,56/497
8"/200	2,36/60	11,57/294	4,8/122	8,07/205	12,16/309	21,18/538	12/300	32,36/822	25/635
10"/250	2,75/70	14,01/356	4,8/122	9,64/245	14,33/364	24,92/633	12/300	40,04/1017	30,59/777
12"/300	2,75/70	16,14/410	4,8/122	11,02/280	16,30/414	28,26/718	12/300	43,38/1102	35,62/905
14"/350	3,78/96	18,62/473	7,75/197	12/300	19,13/486	32,20/818	17,87/454	50,59/1285	41,22/1047
16"/400	3,93/100	21,18/538	7,75/197	13,77/350	21,10/536	36,14/918	17,87/454	54,52/1385	46,10/1171
18"/450	4,17/106	23,15/588	7,91/201	16,53/420	23,15/588	40,94/1040	17,87/454	62,09/1577	51,22/1301
20"/500	4,33/110	25,43/646	7,91/201	17,71/450	25,51/648	44,48/1130	17,87/454	65,82/1672	57,52/1461
24"/600	4,33/110	25,43/754	7,91/201	20,86/530	29,44/748	51,57/1310	17,87/454	77,24/1962	67,36/1711

Other diameters on request



**GEAR (rising stem)**

- Recommended for valves larger than DN 14"/350mm and working pressures greater than 50psi/(3.5 kg/cm<sup>2</sup>)
- Consists of:
  - Stem
  - Yoke
  - Bevel Gear Actuator with Handwheel (Standard Ratio 4:1)
- Available from DN 8"/200mm to DN 24"/600mm
- Options (on request):
  - Locking Device
  - Extension
  - Chainwheel
  - Non-rising stem

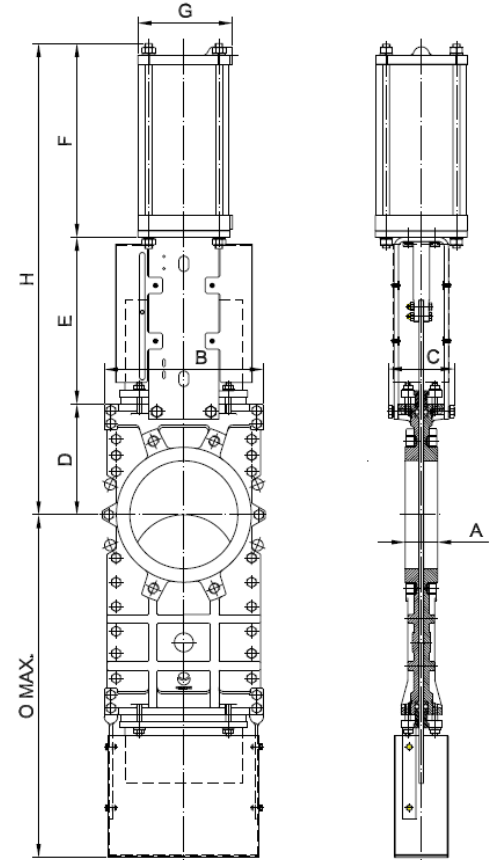


DN(" /mm)	A	B	C	D	E	F	ØG	H	I	O max.
8"/200	2,36/60	11,57/294	4,80/122	8,07/205	12,16/309	23,00/584	12/300	39,13/994	7,87/200	25/635
10"/250	2,75/70	14,01/356	4,80/122	9,64/245	14,33/364	26,73/679	12/300	42,87/1089	7,87/200	30,59/777
12"/300	2,75/70	16,14/410	4,80/122	11,02/280	16,30/414	29,29/744	12/300	45,43/1154	7,87/200	35,62/905
14"/350	3,78/96	18,62/473	7,75/197	12/300	19,13/486	32,91/836	18/450	60,47/1536	10,62/270	41,22/1047
16"/400	3,93/100	21,18/538	7,75/197	13,77/350	21,10/536	36,85/936	18/450	64,40/1636	10,62/270	46,10/1171
18"/450	4,17/106	23,15/588	7,91/201	16,53/420	23,15/588	41,65/1058	18/450	69,21/1758	10,62/270	51,22/1301
20"/500	4,33/110	25,43/646	7,91/201	17,71/450	25,51/648	45,19/1148	18/450	72,75/1848	10,62/270	57,52/1461
24"/600	4,33/110	25,43/754	7,91/201	20,86/530	29,44/748	52,28/1328	18/450	79,84/2028	10,62/270	67,36/1711

Other diameters on request

## PNEUMATIC CYLINDER

- The standard pneumatic actuator (double acting on-off cylinder) consists on:
  - $\varnothing \leq 12'' / 300\text{mm}$ : Aluminum barrels
  - $\varnothing \geq 14'' / 350\text{mm}$ : Composite barrels
  - Aluminum end covers
  - Stainless Steel (AISI 304) piston rod
  - Nitrile coated steel piston
- Available from DN2'' / 50mm to DN 24''/600mm
- Actuator sized for 90psi/(6 kg/cm<sup>2</sup>) air supply
- For valves installed in a horizontal position, we recommend U-type 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

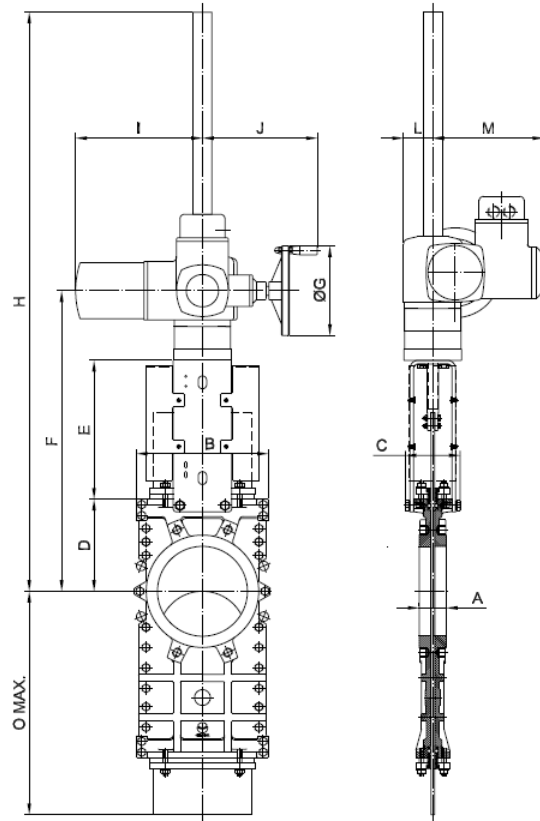


DN(“/mm)	A	B	C	D	O max.	E	F	G	H	Weight (lbs./kg.)	Standard Cyl.	Connect.
2"/50	1,57/40	5,98/152	4/100	4,33/110	9,13/232	5,07/129	7/178	4,53/115	16,41/417	30/14	C4"-2.44"/(100-62)	¼" G
2,5"/65	1,57/40	6,57/167	4/100	4,52/115	10,04/255	5,79/146	7,60/193	4,53/115	17,87/454	35/16	C4"-3.03"/(100-77)	¼" G
3"/80	1,96/50	7,16/182	4/100	4,88/124	12,20/310	6,37/162	8,31/211	4,53/115	19,56/497	40/18	C4"-3.74"/(100-95)	¼" G
4"/100	1,96/50	7,95/202	4/100	5,52/140	14,44/367	7,36/187	9,09/231	4,53/115	21,96/558	51/23	C4"-4.52"/(100-115)	¼" G
5"/125	1,96/50	8,50/216	4/100	6/150	17,00/432	8,30/211	10,67/271	5,51/140	24,88/632	75/34	C5"-5.52"/(125-143)	¼" G
6"/150	2,36/60	9,48/241	4/100	6,89/175	19,56/497	9,33/237	11,65/296	5,51/140	27,87/708	90/41	C5"-6.61"/(125-168)	¼" G
8"/200	2,36/60	11,57/294	4,80/122	8,07/205	25/635	12,16/309	14,09/358	6,89/175	34,33/872	160/73	C6.30"-8.66"/(160-220)	¼" G
10"/250	2,75/70	14,01/356	4,80/122	9,64/245	30,59/777	14,33/364	16,85/428	8,66/220	40,82/1037	231/105	C8"-10.62"/(200-270)	3/8" G
12"/300	2,75/70	16,14/410	4,80/122	11,02/280	35,62/905	16,30/414	18,82/478	8,66/220	46,14/1172	282/128	C8"-12.60"/(200-320)	3/8" G
14"/350	3,78/96	18,62/473	7,75/197	12/300	41,22/1047	20,08/510	21,61/549	10,90/277	53,50/1359	456/207	C10"-14.76"/(250-375)	3/8" G
16"/400	3,93/100	21,18/538	7,75/197	13,77/350	46,10/1171	22,05/560	23,58/599	10,90/277	59,40/1509	662/300	C10"-16.73"/(250-425)	3/8" G
18"/450	4,17/106	23,15/588	10,63/270	16,53/420	51,22/1301	23,94/608	26,77/680	15,03/382	67,24/1708	833/378	C12"-18.70"/(300-475)	½" G
20"/500	4,33/110	25,43/646	10,63/270	17,71/450	57,52/1461	26,30/668	28,74/730	15,03/382	72,75/1848	981/445	C12"-20.67"/(300-525)	½" G
24"/600	4,33/110	25,43/754	10,63/270	20,86/530	67,36/1711	31,33/796	34,64/880	17,48/444	86,85/2206	1365/619	C14"-24.60"/(350-625)	3/4" G
28"/700	4,33/110	34,64/880	14,96/380	23,62/600	78,74/2000	34,45/875	39,96/1015	17,48/444	98,03/2490	2678,62	C14"-28.74"/(350-730)	3/4" G
32"/800	4,33/110	38,98/990	12,60/320	24,61/625	94,49/2400	39,96/1015	42,91/1090	17,48/444	107,48/2730	3152,61	C14"-32.68"/(350-830)	3/4" G

Other diameters on request

**ELECTRIC ACTUATOR (rising stem)**

- Consists of:
  - Electric motor
  - Rising stem
  - 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 2"/50mm to DN 24"/600mm
- 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(" / mm)	A	B	C	D	E	F	ØG	H	O max.	I	J	L	M	stem Ø x pitch	Torque (ft.LBS/Nm)
2"/50	1,57/40	5,98/152	4/100	4,33/110	5,07/129	14,05/357	6,30/160	20,74/527	9,13/232	10,43/265	9,80/249	2,44/62	9,37/238	0,79 x 0,16/20 x 4	7,4/10
2,5"/65	1,57/40	6,57/167	4/100	4,52/115	5,79/146	14,92/379	6,30/160	21,61/549	10,04/255	10,43/265	9,80/249	2,44/62	9,37/238	0,79 x 0,16/20 x 4	7,4/10
3"/80	1,96/50	7,16/182	4/100	4,88/124	6,37/162	15,90/404	6,30/160	22,59/574	12,20/310	10,43/265	9,80/249	2,44/62	9,37/238	0,79 x 0,16/20 x 4	7,4/10
4"/100	1,96/50	7,95/202	4/100	5,52/140	7,36/187	17,51/445	6,30/160	24,21/615	14,44/367	10,43/265	9,80/249	2,44/62	9,37/238	0,79 x 0,16/20 x 4	7,4/10
5"/125	1,96/50	8,50/216	4/100	6/150	8,30/211	18,85/479	6,30/160	25,55/649	17,00/432	10,43/265	9,80/249	2,44/62	9,37/238	0,79 x 0,16/20 x 4	11,1/15
6"/150	2,36/60	9,48/241	4/100	6,89/175	9,33/237	20,86/530	6,30/160	43,30/1100	19,56/497	10,43/265	9,80/249	2,44/62	9,37/238	0,79 x 0,16/20 x 4	18,44/25
8"/200	2,36/60	11,57/294	4,80/122	8,07/205	12,16/309	24,88/632	6,30/160	49,29/1252	25/635	10,43/265	9,80/249	2,44/62	9,37/238	0,98 x 0,2/25 x 5	25,81/35
10"/250	2,75/70	14,01/356	4,80/122	9,64/245	14,33/364	29,09/739	7,87/200	51,93/1319	30,59/777	11,14/283	10/254	2,55/65	9,76/248	0,98 x 0,2/25 x 5	44,25/60
12"/300	2,75/70	16,14/410	4,80/122	11,02/280	16,30/414	32,44/824	7,87/200	55,47/1409	35,62/905	11,14/283	10/254	2,55/65	9,76/248	0,98 x 0,2/25 x 5	51,63/70
14"/350	3,78/96	18,62/473	7,75/197	12/300	20,07/510	37,00/940	7,87/200	60,04/1525	41,22/1047	11,14/283	10/254	2,55/65	9,76/248	1,38 x 0,24/35 x 6	73,75/100
16"/400	3,93/100	21,18/538	7,75/197	13,77/350	22,04/560	42,71/1085	12,40/315	65,74/1670	46,10/1171	15,31/389	13,22/336	3,58/91	11,25/286	1,38 x 0,24/35 x 6	103,25/140
18"/450	4,17/106	23,15/588	10,63/270	16,53/420	23,94/608	47,36/1203	12,40/315	70,98/1803	51,22/1301	15,31/389	13,22/336	3,58/91	11,25/286	1,38 x 0,24/35 x 6	132,77/180
20"/500	4,33/110	25,43/646	10,63/270	17,71/450	26,30/668	50,90/1293	12,40/315	74,52/1893	57,52/1461	15,31/389	13,22/336	3,58/91	11,25/286	1,38 x 0,24/35 x 6	125,38/170
24"/600	4,33/110	25,43/754	10,63/270	20,86/530	31,33/796	59,25/1505	12,40/315	86,81/2205	67,36/1711	15,31/389	13,22/336	3,58/91	11,25/286	1,38 x 0,24/35 x 6	162,26/220
28"/700	4,33/110	34,64/880	14,96/380	23,62/600	34,45/875	65,04/1652	16/400	107,68/2735	78,74/2000	15,31/389	13,23/336	3,58/91	11,26/286	1,57 x 0,27/40 x 7	169,64/230
32"/800	4,33/110	38,98/990	12,60/320	24,61/625	40/1000	70,95/1802	16/400	113,58/2885	94,49/2400	15,31/389	13,35/339	3,58/91	11,26/286	1,97 x 0,31/50 x 8	295,02/400

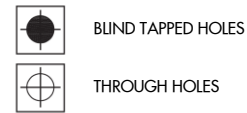
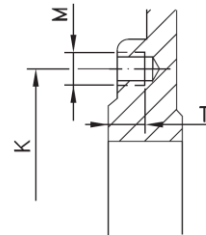
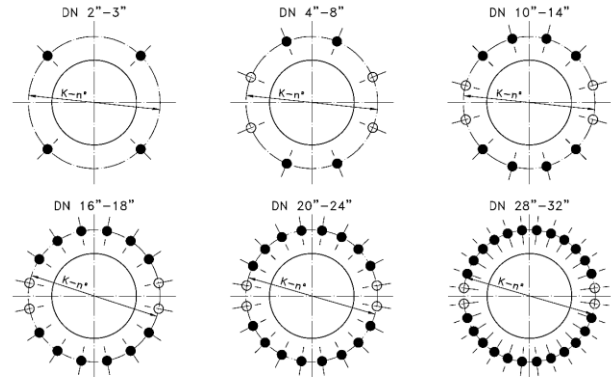
Other diameters on request

## FLANGE AND BOLTING DETAILS

### ASME B16.5, class 150

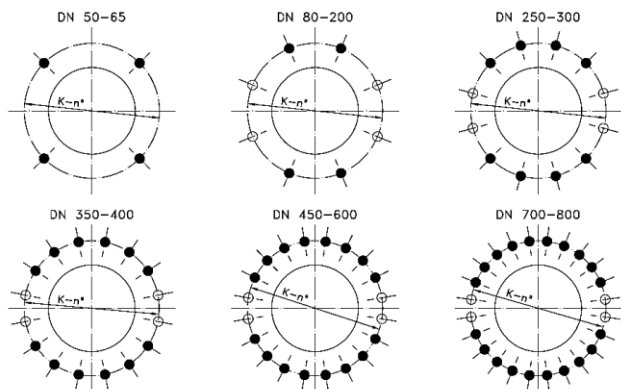
DN	K	n	M	T	⊕ ⊖
2"	4 3/4"	4	5/8" - 11 UNC	7/16"	4 - 0
2 1/2"	5 1/2"	4	5/8" - 11 UNC	7/16"	4 - 0
3"	6"	4	5/8" - 11 UNC	9/16"	4 - 0
4"	7 1/2"	8	5/8" - 11 UNC	9/16"	4 - 4
5"	8 1/2"	8	3/4" - 10 UNC	9/16"	4 - 4
6"	9 1/2"	8	3/4" - 10 UNC	11/16"	4 - 4
8"	11 3/4"	8	3/4" - 10 UNC	11/16"	4 - 4
10"	14 1/4"	12	7/8" - 9 UNC	7/9"	8 - 4
12"	17"	12	7/8" - 9 UNC	7/9"	8 - 4
14"	18 3/4"	12	1" - 8 UNC	7/9"	8 - 4
16"	21 1/4"	16	1" - 8 UNC	1 1/8"	12 - 4
18"	22 3/4"	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 1/2"	20	1 1/4" - 7 UNC	1"	16 - 4
28"	34"	28	1 1/4"-7UNC	7/8"	24 - 4
32"	38 1/2"	28	1 1/2"-6UNC	7/8"	24 - 4

From NPS 24, acc. to ASME B16.47 Series A (class 150)



### EN 1092 PN10

DN	K	n°	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
700	840	24	M-27	22	20 - 4
800	950	24	M-30	22	20 - 4



\* Flange drilling of DN-65 PN10/16 according to EN1092 allow 4 or 8 drills. ORBINOX designs of DN-65 PN10/16 have 4 drills