

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

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
- Power Plants
- Chemical plants
- etc.

Sizes: DN 2"/50mm to DN 52"/1000mm (larger diameters on request)

Working pressure:

DN 2"/50mm to DN 5"/125mm:	150psi / (10 kg/cm ²)
DN 6"/150mm to DN 10"/250mm:	115psi / (8 kg/cm ²)
DN 12"/300mm to DN 16"/400mm:	90psi / (6 kg/cm ²)
DN 18"/450mm:	75psi / (5 kg/cm ²)
DN 20"/500mm to DN 24"/600mm:	60psi / (4 kg/cm ²)
DN 28"/700mm to DN 52"/1000mm:	30psi / (2 kg/cm ²)

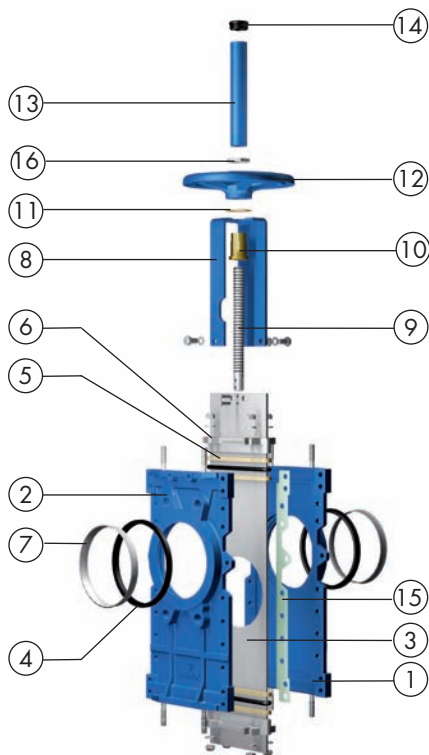
Standard flange connection: DIN PN 10 and ANSI B16.5 (class 150)

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

Directives: DIR 2006/42/EC (MACHINES)
 DIR 97/23/EC (PED) Fluid: Group 1(b), 2 (Cat. I, mod. A)
 DIR 94/9/EC (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:	Cast Iron:	Stainless Steel:
1- Body	GJL 250 (GG25)	CF8M
2- Body	GJL 250 (GG25)	CF8M
3- Gate	AISI 304	AISI 316
4- Seat	Metal or EPDM	Metal/ Metal
5- Packing	PTFE Impreg. Synth. Fiber (With a EPDM o-ring)	
6- Gland Follower	Aluminium (DN 2"/50mm to DN 12"/300mm) or Ductile Iron (DN 14"/350mm to DN 40"/1000mm)	CF8M
7- Seat Retainer Ring	AISI 304	-
8- Yoke	Carbon Steel - Epoxy Coated	
9- Stem	AISI 430	
10- Stem nut	Brass	
11- Friction washer	Brass	
12- Handwheel	$\phi \leq 12,20"/310\text{mm}$: Ductile Iron / $\phi \geq 14"/410\text{mm}$: GJL 250 (GG25)	
13- Stem Protector	Epoxy-coated Carbon Steel	
14- Cap	Plastic	
15- Gaskets	Aramid fibers	
16- Nut	Zinc plated Carbon Steel	



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DESIGN FEATURES

BODY:

Wafer style cast two-part bolted body, internally machined, with reinforced ribs in larger diameters for extra body strength.

Internal UHMW Polyethylene sliders for smoother gate travel (stainless steel version only).

Full port design for greater flow capacity and minimal pressure drop.

SELF-CLEANING GATE:

Stainless steel gate as standard. One piece gate with o-port design. While closing, the gate moves a disc of material laterally which returns to the flow when opening.

Gate is polished on both sides for a greater seal between the gate with both packing and seat.

On request: thickness and/or material of the gate can be changed for higher pressure requirement.

SEAT: (resilient)

Unique design that mechanically locks the seat in the internal 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 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 to allow for installation 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 carbonsteel 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.

* IN EUROPE ONLY



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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.
Purging can be made with air, steam, liquids, etc. depending on the process.

Other materials of construction:

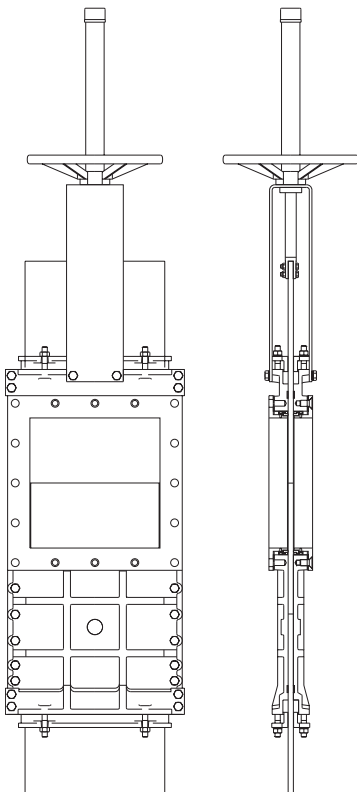
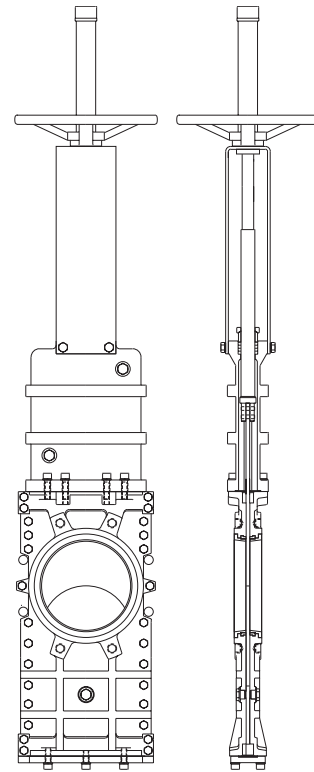
Special alloys such as AISI 317, 254SMO, Hastelloys, Titanium, etc.

Fabricated valves:

ORBINOX is equipped for in house fabrication of special valves.
Depending on the design, diameter, pressures, construction material, etc.

Square port (Fig.2):

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



SURFACE TREATMENTS

Valve components can be protected or coated for a longer life expectancy, depending on the application and the service conditions,

At **ORBINOX** we can offer treatments and coatings for the valve components to improve the properties against **abrasion** (Stellite, Polyurethane...), **corrosion** (Halar, Rilsan, Galvanised...) and **adherence** (Polishing, PTFE...).

ATEX



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

- Hand operated TL(SER.30) 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 assesment of their own and also of the whole unit valve-actuator to get EC Type Approval to Directive 94/9.

Fig.2

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ACTUATOR TYPES

Manual:

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

Automatic:

Electric
Double Acting Pneumatic
Single Acting Pneumatic
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 8"/200mm

Options:

- Fail open
- Fail closed

SINGLE ACTING / VOLUME TANK

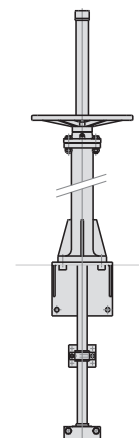
Available for all sizes (DN>8"/200mm)

Options:

- Pneumatic Failsafe
- Pneumatic or Electric Failsafe

ACCESSORIES

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



Wide range of extensions available.

For further information about fail safe systems and valve extensions, see EX(SER. 10) chapter.

We recommend consultation with our technical department.

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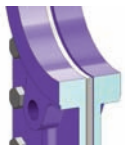
TEMPERATURE CHART

SEAT / SEALS				PACKING				
Material	Max.Temp.(F°)	(°C)	Applications	Material	Max. Temp.	(F°)	(°C)	pH
Metal/Metal	>482	>250	High temp. Low tightness.	Dry cotton (AS)		122	50	6 - 8
EPDM (E)	248	120	Acids and non mineral oils.	PTFE impregn. synth. fibre (ST)		464	240	2 - 13
Nitrile (N)	248	120	Resistance to petroleum products.	Braided PTFE (TH)		500	260	0 - 14
Viton (V)	392	200	General chemical service. High temperature.	Graphited (GR)		1112	600	0 - 14
Silicone (S)	482	250	Food service. / High temperature.	Ceramic fibre (FC)		2192	1200	—
PTFE (T)	482	250	Corrosion resistance.	NOTE: all types include an elastomere O-ring (same material as seal), excluding TH, GR and FC.				

More details and other materials under request.

SEAT TYPES

Cast Iron



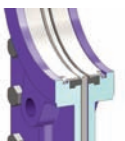
METAL / METAL

Used for high temperature or in applications where tight shutoff is not required. UHMW polyethylene seat sliders for smoother gate travel (stainless steel version only).



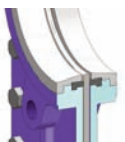
METAL / METAL, TYPE "B"

Two replaceable reinforced "B" type rings (available in AISI 316, Ni-hard, CA-15,...) protect the seat in abrasive services. UHMW polyethylene seat sliders for smoother gate travel (stainless steel version only).



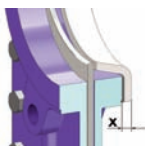
RESILIENT, TYPE "A"

The standard resilient seat design consists of an elastomer seal locked to the valve body with a replaceable stainless steel retainer ring. Temperature limitations according to seat material selected. Consult the above chart or our technical department for more information. UHMW polyethylene seat sliders for smoother gate travel (stainless steel version only).



RESILIENT, TYPE "B"

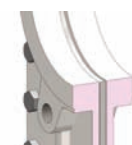
The two replaceable reinforced seal retainer rings (available in AISI 316, Ni-hard, CA-15,...) protect the seat in abrasive services. Temperature limitations according to seat material selected. Consult the above chart or our technical department for more information. UHMW polyethylene seat sliders for smoother gate travel (stainless steel version only).



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 2"/50mm to DN10"/250mm X=0.35"/9mm
DN 12"/300mm to DN24"/600mm X=0.47"/12mm

Stainless Steel



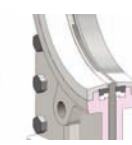
DN 2"- 6"
(50mm - 150mm)



DN 8"- 24"
(200mm - 600mm)



DN 2"- 6"
(50mm - 150mm)



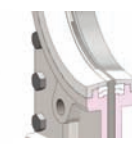
DN 8"- 24"
(200mm - 600mm)

See option TK valve

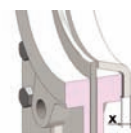
See option TK valve



DN 2"- 6"
(50mm - 150mm)



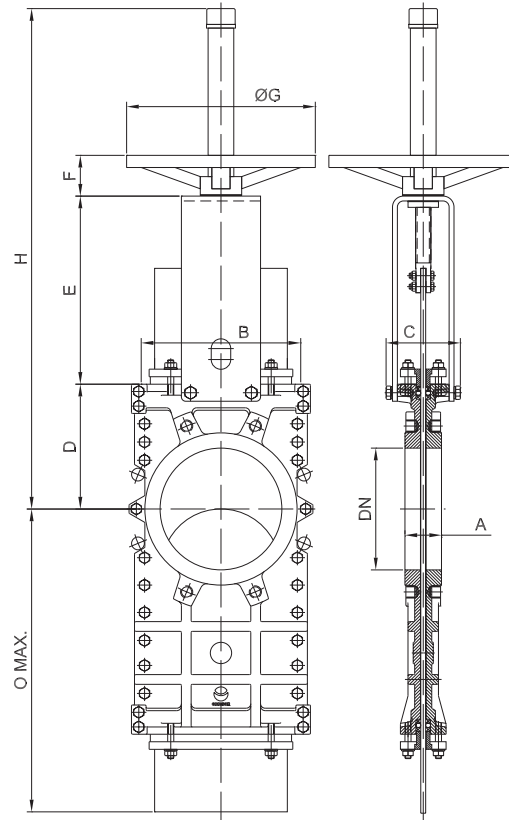
DN 8"- 24"
(200mm - 600mm)



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MODEL**TL****SERIES 30****HANDWHEEL (rising stem)**

- Standard handwheel actuator
- Consists of:
 - Handwheel: Epoxy coated Cast Iron
 - 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	5,51/140	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	5,90/150	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	6,88/175	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	11,81/300	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	29,68/754	7,91/201	20,86/530	29,44/748	2,60/66	21,65/550	77,28/1963	67,36/1711	981/445

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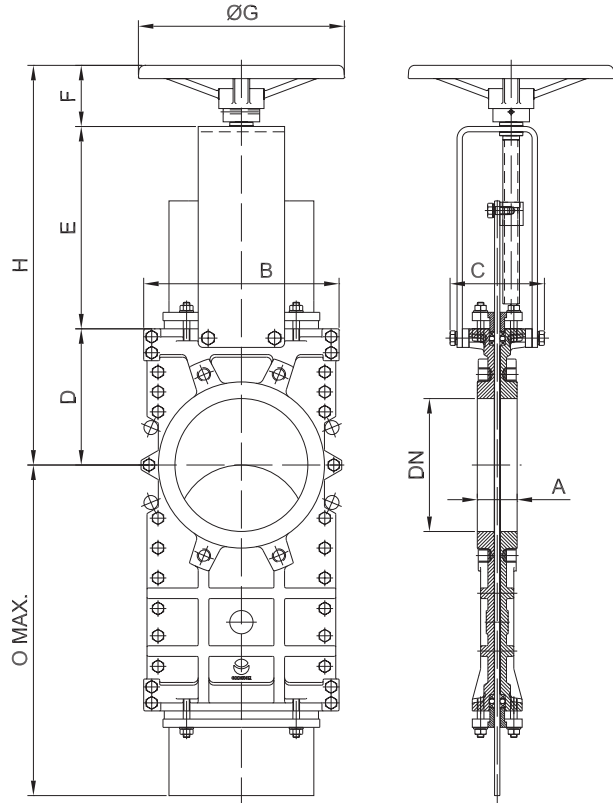
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MODEL**TL****SERIES 30**

HANDWHEEL (non-rising stem)

- Recommended for installation where space is limited
- Consists of:
 - Handwheel: Epoxy coated Cast Iron
 - 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	5,20/132	3,07/78	8,86/225	12,60/320	9,13/232
2.5″/65	1,57/40	6,57/167	4,92/125	4,52/115	5,87/149	3,07/78	8,86/225	13,46/342	10,04/255
3″/80	1,96/50	7,16/182	4,92/125	4,88/124	6,50/165	3,07/78	8,86/225	14,45/367	12,20/310
4″/100	1,96/50	7,95/202	4,92/125	5,51/140	7,48/190	3,07/78	8,86/225	16,06/408	14,44/367
5″/125	1,96/50	8,50/216	4,92/125	5,90/150	8,42/214	3,07/78	8,86/225	17,40/442	17,00/432
6″/150	2,36/60	9,48/241	4,92/125	6,88/175	9,45/240	3,07/78	8,86/225	19,41/493	19,56/497
8″/200	2,36/60	11,57/294	5,60/142	8,07/205	12,00/305	3,62/92	12,20/310	23,70/602	25/635
10″/250	2,75/70	14,01/356	5,60/142	9,64/245	14,17/360	3,62/92	12,20/310	27,44/697	30,59/777
12″/300	2,75/70	16,14/410	5,60/142	11,02/280	16,17/410	3,62/92	12,20/310	30,78/782	35,62/905
14″/350	3,78/96	18,62/473	7,75/197	11,81/300	19,17/487	4,33/110	16,14/410	35,31/897	41,22/1047
16″/400	3,93/100	21,18/538	7,75/197	13,77/350	21,14/537	4,33/110	16,14/410	39,25/997	46,10/1171
18″/450	4,17/106	23,15/588	7,91/201	16,53/420	23,19/589	4,37/111	21,65/550	44,10/1120	51,22/1301
20″/500	4,33/110	25,43/646	7,91/201	17,71/450	25,55/649	4,37/111	21,65/550	47,63/1210	57,52/1461
24″/600	4,33/110	29,68/754	7,91/201	20,86/530	29,45/748	4,37/111	21,65/550	54,68/1389	67,36/1711

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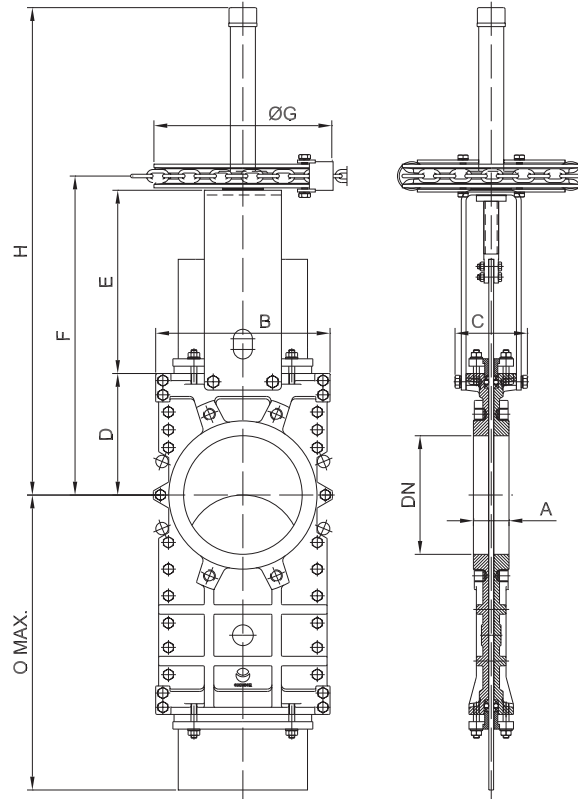
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MODEL**TL****SERIES 30****CHAINWHEEL**

- 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	12,00/305	8,86/225	18,74/476	12,20/310
4"/100	1,96/50	7,95/202	3,94/100	5,51/140	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	5,90/150	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	6,88/175	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	11,81/300	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	11,81/300	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	11,81/300	43,38/1102	35,62/905
14"/350	3,78/96	18,62/473	7,75/197	11,81/300	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	29,68/754	7,91/201	20,86/530	29,44/748	51,57/1310	17,87/454	77,24/1962	67,36/1711

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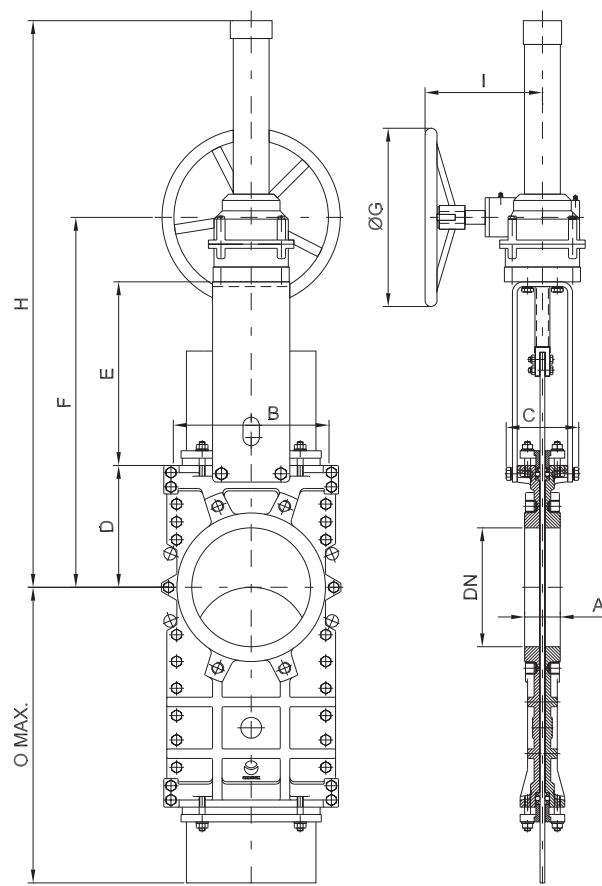
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MODEL**TL****SERIES 30****GEAR**

- Recommended for valves larger than DN 14"/350mm and working pressures greater than 50psi / 3.5 kg/cm²
- 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	11,81/300	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	23,14/588	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	29,68/754	7,91/201	20,86/530	29,44/748	52,28/1328	18/450	79,84/2028	10,62/270	67,36/1711

MODEL

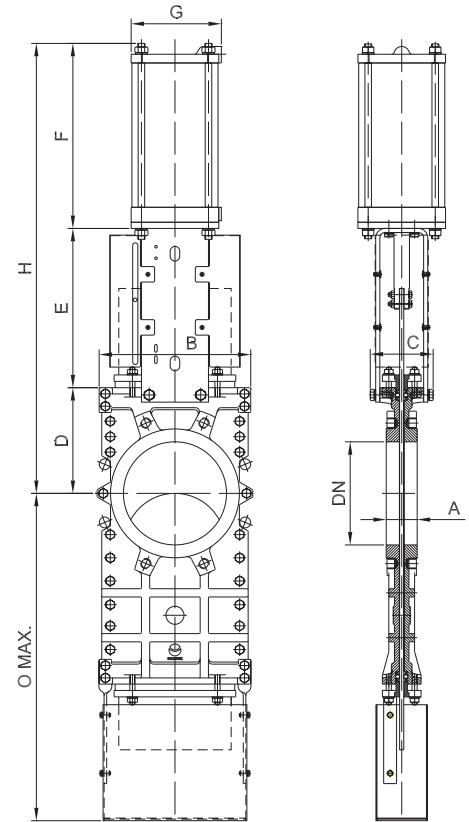
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SERIES 30



PNEUMATIC CYLINDER

- The standard pneumatic actuator (double acting on-off cylinder) consists on:
 - DN 50-250: Aluminum barrels
 - DN ≥ 300: Composite barrels
 - Stainless Steel (AISI 304) piston rod
 - Nitrile coated steel piston
- Available in DN 2"/50mm to DN 24"/600mm
- Supply Pressure: minimum 50psi / 3.5 kg/cm² - maximum 150psi/10 kg/cm²
Actuator designed with 90psi / 6 kg/cm² air supply
- For valves installed in a horizontal position, we recommend U-type support plates and/or actuator support.
- Options:
 - Hard anodized jacket and covers
 - Over / Undersized cylinder
 - Stainless Steel jacket and covers
 - Manual override
 - Fail Safe System
 - Travel stops
- 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	3,94/100	4,33/110	9,13/232	5,07/129	7,00/178	4,53/115	16,41/417	30/14	C4"-2.44"/(100-62)	1/4" G
2,5"/65	1,57/40	6,57/167	3,94/100	4,52/115	10,04/255	5,74/146	7,60/193	4,53/115	17,87/454	35/16	C4"- 3.03"/(100-77)	1/4" G
3"/80	1,96/50	7,16/182	3,94/100	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)	1/4" G
4"/100	1,96/50	7,95/202	3,94/100	5,51/140	14,44/367	7,36/187	9,09/231	4,53/115	21,96/558	51/23	C4"-4.52"/(100-115)	1/4" G
5"/125	1,96/50	8,50/216	3,94/100	5,90/150	17,00/432	8,30/211	10,67/271	5,51/140	24,88/632	75/34	C5"-5.62"/(125-143)	1/4" G
6"/150	2,36/60	9,48/241	3,94/100	6,88/175	19,56/497	9,33/237	11,65/296	5,51/140	27,87/708	90/41	C5"-6.61"/(125-168)	1/4" 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)	1/4" 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	16,29/414	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	11,81/300	41,22/1047	20,07/510	21,06/535	10,90/277	52,95/1345	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	22,04/560	21,06/585	10,90/277	58,85/1495	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	23,93/608	26,18/665	15,03/382	66,65/1693	833/378	C12"-18.70"/(300-475)	1/2" G
20"/500	4,33/110	25,43/646	10,63/270	17,71/450	57,52/1461	26,29/668	28,14/715	15,03/382	72,16/1833	981/445	C12"-24.60"/(300-625)	1/2" G
24"/600	4,33/110	29,68/754	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

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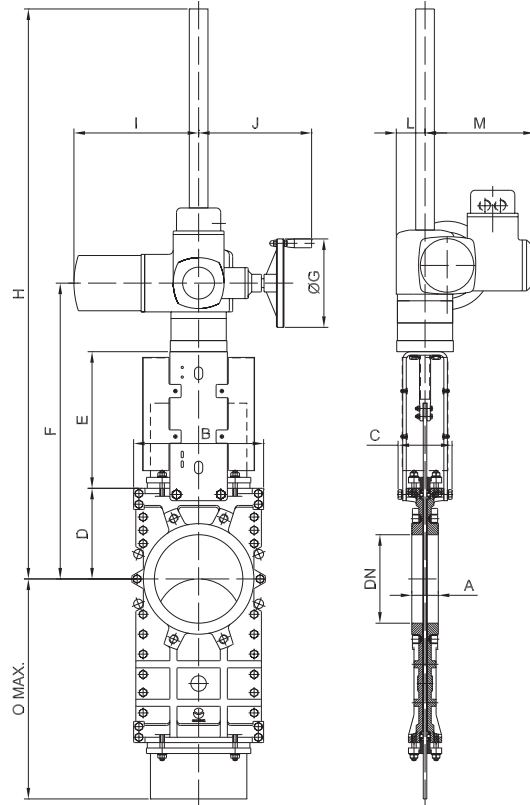
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MODEL**TL****SERIES 30****ELECTRIC ACTUATOR**

- 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
- Wide range of types and makes 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	N	stemØ x pitch	Torque(Nm)
2"/50	1,57/40	5,98/152	3,94/100	4,33/110	5,08/129	14,05/357	6,30/160	20,74/527	9,13/232	10,43/265	9,80/249	2,44/62	9,33/237	0.79x0.16/20x4	7.4/10
2,5"/65	1,57/40	6,57/167	3,94/100	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	9,33/237	0.79x0.16/20x4	7.4/10
3"/80	1,96/50	7,16/182	3,94/100	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	9,33/237	0.79x0.16/20x4	7.4/10
4"/100	1,96/50	7,95/202	3,94/100	5,51/140	7,36/187	17,51/445	6,30/160	24,21/615	14,44/367	10,43/265	9,80/249	2,44/62	9,33/237	0.79x0.16/20x4	7.4/10
5"/125	1,96/50	8,50/216	3,94/100	5,90/150	8,30/211	18,85/479	6,30/160	25,55/649	17,00/432	10,43/265	9,80/249	2,44/62	9,33/237	0.79x0.16/20x4	11.1/15
6"/150	2,36/60	9,48/241	3,94/100	6,88/175	9,33/237	20,86/530	6,30/160	43,30/1100	19,56/497	10,43/265	9,80/249	2,44/62	9,33/237	0.79x0.16/20x4	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	9,33/237	0.98x0.20/25x5	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	11,10/282	10,07/256	2,55/65	9,72/247	0.98x0.20/25x5	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	11,10/282	10,07/256	2,55/65	9,72/247	0.98x0.20/25x5	51,63/70
14"/350	3,77/96	18,62/473	7,75/197	11,81/300	20,07/510	37,00/940	7,87/200	60,04/1525	41,22/1047	11,10/282	10,07/256	2,55/65	9,72/247	1.37x0.24/35 x 6	73,75/100
16"/400	3,94/100	21,18/538	7,75/197	13,77/350	22,04/560	42,71/1085	12,40/315	65,74/1670	46,10/1171	15,07/383	12,79/325	3,54/90	11,22/285	1.37x0.24/35 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	15,07/383	12,79/325	3,54/90	11,22/285	1.37x0.24/35 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	15,07/383	12,79/325	3,54/90	11,22/285	1.37x0.24/35 x 6	125.38/170
24"/600	4,33/110	29,68/754	10,63/270	20,86/530	31,33/796	59,25/1505	12,40/315	86,81/2205	67,36/1711	15,07/383	12,79/325	3,54/90	11,22/285	1.37x0.24/35 x 6	162.26/220

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MODEL

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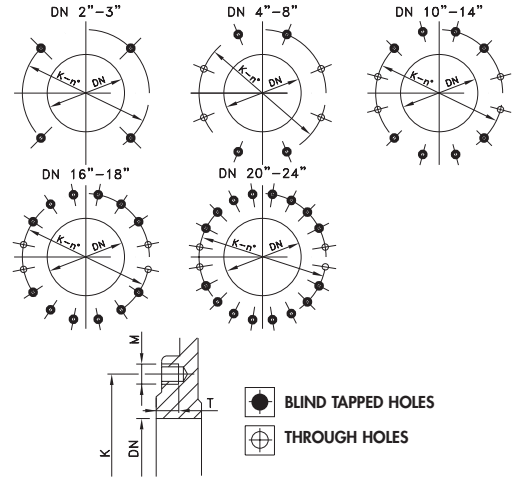
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FLANGE AND BOLTING DETAILS

ANSI B16.5, class 150

DN	K	n°	M	T	⊙	⊕
2"	4 3/4"	4	5/8" UNC	7/16"	4 - -	
2 1/2"	5 1/2"	4	5/8" UNC	7/16"	4 - -	
3"	6"	4	5/8" UNC	9/16"	4 - -	
4"	7 1/2"	8	5/8" UNC	9/16"	4 - 4	
5"	8 1/2"	8	3/4" UNC	9/16"	4 - 4	
6"	9 1/2"	8	3/4" UNC	11/16"	4 - 4	
8"	11 3/4"	8	3/4" UNC	11/16"	4 - 4	
10"	14 1/4"	12	7/8" UNC	7/9"	8 - 4	
12"	17"	12	7/8" UNC	7/9"	8 - 4	
14"	18 3/4"	12	1" UNC	1 1/8"	8 - 4	
16"	21 1/4"	16	1" UNC	1 1/8"	12 - 4	
18"	22 3/4"	16	1 1/8" UNC	1 1/4"	12 - 4	
20"	25"	20	1 1/8" UNC	1 1/4"	16 - 4	
24"	29 1/2"	20	1 1/4" UNC	1 1/4"	16 - 4	



EN 1092-2 PN10

DN	K	n°	M	T	⊙	⊕
50	125	4	M-16	11	4 - -	
65	145	4	M-16	11	4 - -	
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	32	16 - 4	

