

MODEL**BT****SERIES 22**

HEAVY DUTY KNIFE GATE VALVE

The BT(SER.22) model knife gate is a bi-directional lug type valve designed according to MSS-SP-81 and TAPPI TIS 405-8 for industrial service applications. The completely new design of the body and seat (patent pending) assures non-clogging shut off on suspended solids in industries such as:

- Pulp and Paper
- Wastewater
- Food and Beverage
- Power plants
- Mining
- Chemical plants
- Etc.

Sizes:

DN 2"/50mm to DN 24"/600mm (larger diameters on request)

Working pressure:

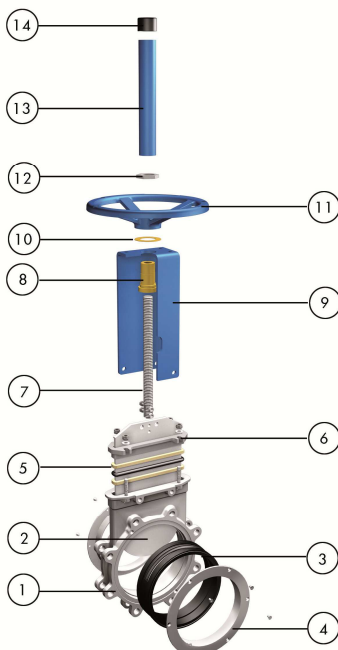
DN 2"/50mm to DN 24"/600mm: 150psi / 10bar

Standard flange connection:

ANSI B16.5 (class 150)
Others on request

Directives:

2006/42/CE (MACHINES)
97/23/CE (PED) Fluid: Group 1(b), 2 (Cat. I, mod. A)
94/9/CE (ATEX)



STANDARD PARTS LIST

Part:	Stainless Steel:
1- Body	CF8M / CF8
2- Gate	AISI 316 / AISI 304
3- Sleeve	EPDM
4- Seat Ring	AISI 316 / AISI 304
5- Packing	PTFE Impreg. Synth. Fibre + EPDM O-Ring
6-Gland Follower	CF8M / CF8
7- Stem	AISI 430
8- Stem nut	Brass
9- Yoke	Carbon Steel - Epoxy Coated
10- Thrust Washer	Brass
11- Handwheel	Ductile iron
12- Nut	Zinc Plated Carbon Steel
13- Stem protector	Carbon Steel - Epoxy Coated
14- Cap	Plastic



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MODEL

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DESIGN FEATURES

BODY:

One piece integrally cast stainless steel body with reinforced ribs in larger diameters for extra body strength.

Port design according to MSS-SP-81 and Tappi TIS 405-8.

Internal design avoids any build up of solids that could prevent valve from closing.

GATE:

Standard AISI 316 or AISI 304 stainless steel gate.

Gates polished and lapped for a greater seal between the gate and both the packing and seat.

SEAT: (resilient)

Patent pending. Totally new design.

The resilient seat is an elastomer sleeve, available in different materials. This sleeve which supports, protects and also guides the gate is slotted in the top half to allow gate travel, and guarantees full tightness with low friction. The sleeve is held by means of two seat rings which support it and also guide the gate. This design makes the valves suitable for dead end services to their full rated pressure.

PACKING:

Standard braided PTFE impregnated synthetic fibre with EPDM o-ring for better shut off, with an easy access packing gland ensuring a tight seal. The 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 actuators only, a stem protector is provided for additional protection against dust and damage while the valve 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 carbon steel valve components is electrostatically applied making them 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

OTHER MATERIALS:

On request, the body and the gate can be supplied in other materials.



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ACTUATOR TYPES

MANUAL:

- Handwheel (rising stem)
- Handwheel (non-rising stem)
- Chainwheel
- Bevel Gear
- Other (square nut...)

AUTOMATION:

- Electric
- Double Acting Pneumatic
- Single Acting Pneumatic
- Hydraulic

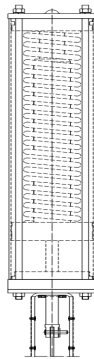
All actuators supplied by ORBINOX are interchangeable.

FAIL SAFE SYSTEMS

Used on pneumatic actuated valves

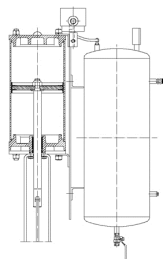
SINGLE ACTING (SPRING RETURN)

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



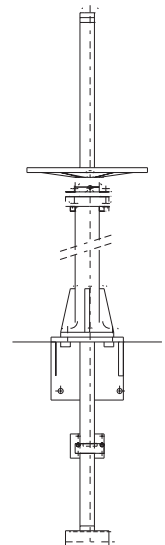
DOUBLE ACTING WITH AIR TANK

- Available for all valve sizes
- Supply pressure:
 - min. 50 psi / (3.5 bar)
 - max. 150 psi / (10 bar)
- Options:
 - Pneumatic or electric fail open
 - Pneumatic or electric fail close
 - Other options on request



ACCESSORIES

- Bonnet
- 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.

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TEMPERATURE CHART

SEAT / SLEEVE

Material	Max.Temp.(°F)	(°C)	Applications
EPDM (E)	248	120	Acids and non mineral oils
Nitrile (N)	248	120	Resistance to petroleum products
FKM-FPM (V)	392	200	Chemical service/High temp.

More details and other materials upon request.
All are reinforced with a metal core.

PACKING

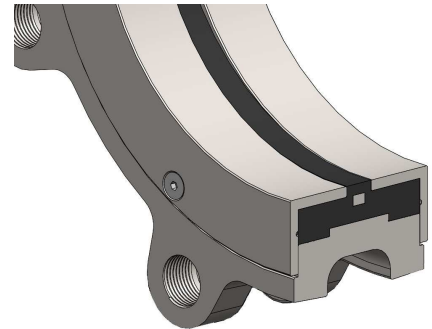
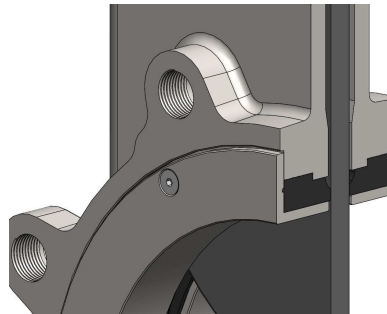
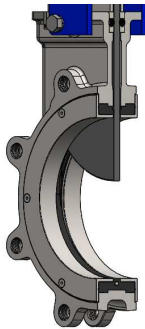
Material	Max.Temp.(°F)	(°C)	pH
Dry cotton (AS)	122	50	6-8
PTFE impregn. synth. fibre (ST)	464	240	2-13
Braided PTFE (TH)	560	260	0-14
Graphited (GR)	1112	600	0-14
Ceramic fibre (FC)	2192	1200	---

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

SEAT

RESILIENT SEAT:

The new seat (patent pending) is a slotted sleeve on its top half and includes a metal core in the bottom half which provides a great resistance to demanding working conditions and pressures. The seat is held by means of two stainless steel rings. This design provides watertightness in both directions while avoiding any buildup of solids that could prevent the valve from closing. The seat can be supplied in different resilient material qualities. Suitable for dead end service to the full rated pressure.



ATEX



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

- Hand operated BT (SER.22) valves have been subjected to an ignition risk assessment according to DIN EN 13463: 1-5 and they are out of the scope of application of ATEX Directive. Therefore hand operated valves are suitable for ALL ATEX zones.
- Electrically, pneumatically and hydraulically operated valves must be subjected to a conformity assessment of their own and also of the whole of unit valve-actuator to get EC Type Approval to Directive 94/9.

MODEL

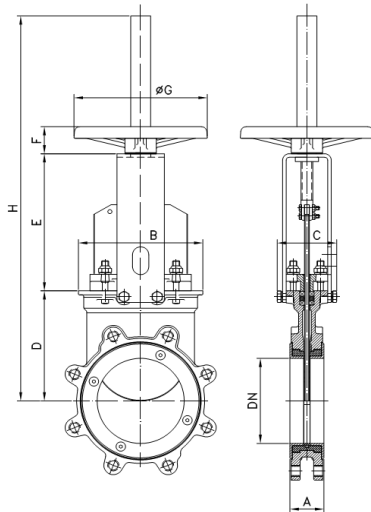
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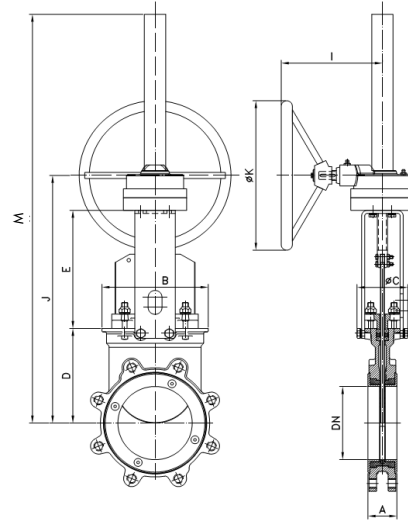


HAND OPERATED (Rising stem)

HANDWHEEL



GEAR



• Standard handwheel actuator. Available from DN 2"/50mm to DN 24"/600mm

- Consists of:
 - Handwheel: Ductile iron
 - Stem
 - Stem nut
 - Yoke

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

• Gear is optional above DN 6"/150mm and recommended above 12"/300mm

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

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

DN(" /mm)	A	B	C	D	E	F	J	ØG	ØK	H	I	M
2"/50	1,88/47,8	4,92/125	4,13/105	4,13/105	5,07/129	1,85/47	-	8,86/225	-	16,92/430	-	-
3"/80	2/50,8	6,06/154	4,13/105	4,68/119	6,37/162	1,85/47	-	8,86/225	-	18,70/475	-	-
4"/100	2/50,8	6,88/175	4,13/105	5,59/142	7,36/187	1,85/47	-	8,86/225	-	20,66/525	-	-
5"/125	2,25/57,2	7,08/180	4,13/105	6,49/165	8,30/211	1,85/47	-	8,86/225	-	24,40/620	-	-
6"/150	2,25/57,2	8,46/215	4,13/105	7,48/190	9,33/237	1,85/47	-	8,86/225	-	26,37/670	-	-
8"/200	2,74/69,8	10,23/260	4,80/122	9,44/240	12,16/309	2,63/67	24,37/619	12,20/310	12/300	40,51/1029	7,87/200	40,51/1029
10"/250	2,74/69,8	13,33/338	4,80/122	11,41/290	13,54/344	2,63/67	27,67/703	12,20/310	12/300	43,81/1113	7,87/200	43,82/1113
12"/300	3/76,2	14,40/366	4,80/122	14,17/360	15,43/392	2,60/66	32,36/822	16,14/410	12/300	48,62/1235	7,87/200	48,62/1235
14"/350	3/76,2	16/400	7,75/197	12,60/320	17,52/445	2,60/66	32,09/815	16,14/410	17,72/450	50,78/1290	10,62/270	63,38/1610
16"/400	3,50/89	18,03/458	7,75/197	14,49/368	19,80/503	2,60/66	35,75/908	16,14/410	17,72/450	54,92/1395	10,62/270	67,72/1720
18"/450	3,50/89	19,25/489	7,75/197	16,34/415	21,14/537	2,63/67	38,82/986	21,65/550	17,72/450	62,20/1580	10,62/270	70,87/1800
20"/500	4,50/114,2	21,73/552	7,75/197	18,11/460	23,82/605	2,63/67	42,87/1089	21,65/550	17,72/450	66,53/1690	10,62/270	74,61/1895
24"/600	4,50/114,2	25,07/637	7,75/197	20,12/511	26,10/663	2,63/67	48,03/1220	21,65/550	17,72/450	75,39/1915	10,62/270	80,31/2040

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MODEL

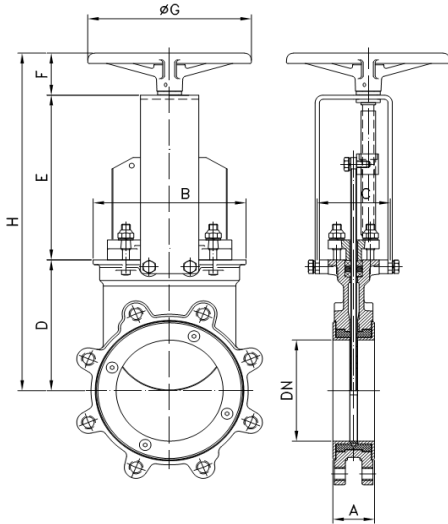
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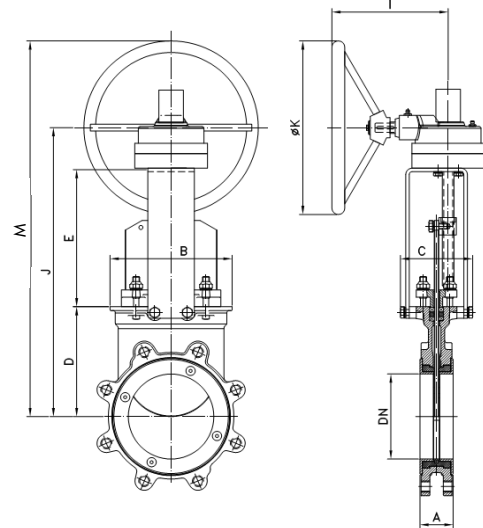


HAND OPERATED (Non-rising stem)

HANDWHEEL



GEAR



• Standard handwheel actuator. Available from DN 2"/50mm to DN 24"/600mm

- Consists of:
 - Handwheel: Ductile iron
 - Stem
 - Yoke

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

• Gear is optional above DN 6"/150mm and recommended above 12"/300mm

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

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

DN(" /mm)	A	B	C	D	E	F	J	ØG	ØK	H	M	I
2"/50	1,88/47,8	4,92/125	4,88/124	4,13/105	5,14/132	2,38/61	-	8,86/225	-	11,62/298	-	-
3"/80	2/50,8	6,06/154	4,88/124	4,68/119	6,43/165	2,38/61	-	8,86/225	-	13,45/345	-	-
4"/100	2/50,8	6,88/175	4,88/124	5,59/142	7,41/190	2,38/61	-	8,86/225	-	15,47/393	-	-
5"/125	2,25/57,2	7,08/180	4,88/124	6,49/165	8,35/214	2,38/61	-	8,86/225	-	17,32/440	-	-
6"/150	2,25/57,2	8,46/215	4,88/124	7,48/190	9,36/240	2,38/61	-	8,86/225	-	19,33/491	-	-
8"/200	2,74/69,8	10,23/260	5,59/142	9,44/240	12,28/312	2,38/61	24,48/622	12,20/310	12/300	24,13/613	30,51/775	7,87/200
10"/250	2,74/69,8	13,33/338	5,59/142	11,41/290	13,66/347	2,38/61	27,83/707	12,20/310	12/300	27,48/698	37,67/957	7,87/200
12"/300	3/76,2	14,40/366	5,59/142	14,17/360	15,55/395	2,77/71	32,48/825	16,14/410	12/300	32,52/826	38,38/975	7,87/200
14"/350	3/76,2	16/400	7,75/197	12,60/320	17,64/448	4,33/110	32,09/815	16,14/410	17,72/450	-	40,94/1040	10,43/265
16"/400	3,50/89	18,03/458	7,75/197	14,49/368	19,41/493	4,33/110	35,75/908	16,14/410	17,72/450	-	44,60/1133	10,43/265
18"/450	3,50/89	19,25/489	7,91/201	16,34/415	21,26/540	4,37/111	40,24/1022	21,65/550	17,72/450	-	49,09/1247	10,43/265
20"/500	4,50/114,2	21,73/552	7,91/201	18,11/460	23,03/585	4,37/111	42,99/1092	21,65/550	17,72/450	-	51,85/1317	10,43/265
24"/600	4,50/114,2	25,07/637	7,91/201	20,12/511	26,22/666	4,37/111	48,19/1224	21,65/550	17,72/450	-	57,04/1449	10,43/265

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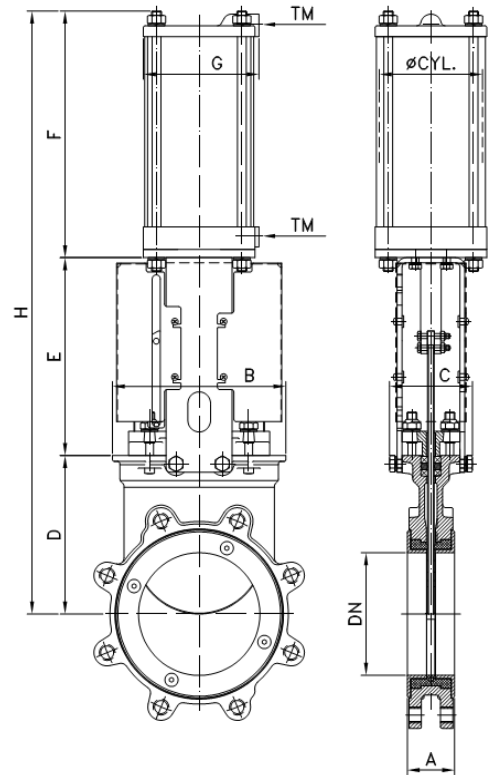
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PNEUMATIC CYLINDER

- The standard pneumatic actuator (double acting on-off cylinder) consists of:
 - DN ≤ 10"/250mm: Aluminum barrels
 - DN ≥ 12"/300mm: Composite barrels
 - Aluminum end covers
 - Stainless Steel (AISI 304) piston rod
 - Nitrile coated steel piston
- Available from DN 2"/50mm to DN 24"/600mm
- Air supply pressure: Actuator is sized considering 90 psi / 6 bar
- 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 systems
 - Limit switches
- Instrumentation (on request):
 - Positioners
 - Solenoid valves
 - Flow regulators
 - Air preparation units



DN(“/mm)	A	B	C	D	E	F	G	H	Standard Cyl	TM
2"/50	1,88/47,8	4,92/125	4,13/105	4,13/105	5,07/129	7,00/178	4,52/115	16,22/412	C4"-2,44"/(100-62)	¼" G
3"/80	2/50,8	6,06/154	4,13/105	4,68/119	6,37/162	8,31/211	4,52/115	19,37/492	C4"-3,74"/(100-95)	¼" G
4"/100	2/50,8	6,88/175	4,13/105	5,59/142	7,36/187	9,09/231	4,52/115	22,04/560	C4"-4,52"/(100-115)	¼" G
5"/125	2,25/57,2	7,08/180	4,13/105	6,49/165	8,30/211	10,67/271	5,51/140	25,47/647	C5"-5,63"/(125-143)	¼" G
6"/150	2,25/57,2	8,46/215	4,13/105	7,48/190	9,33/237	11,65/296	5,51/140	28,46/723	C5"-6,61"/(125-168)	¼" G
8"/200	2,74/69,8	10,23/260	4,80/122	9,44/240	12,16/309	14,09/358	6,88/175	35,70/907	C6.30"-8,66"/(160-220)	¼" G
10"/250	2,74/69,8	13,33/338	4,80/122	11,41/290	13,58/345	16,93/430	8,66/220	41,92/1065	C8"-10,63"/(200-270)	3/8" G
12"/300	3/76,2	14,40/366	4,80/122	14,17/360	15,47/393	18,89/480	8,66/220	48,54/1233	C8"-12,60"/(200-320)	3/8" G
14"/350	3/76,2	16/400	7,75/197	12,60/320	18,07/459	21,61/549	10,90/277	52,28/1328	C10"-14,76"/(250-375)	3/8" G
16"/400	3,50/89	18,03/458	7,75/197	14,49/368	20,31/516	21,61/549	10,90/277	56,42/1433	C10"-16,73"/(250-425)	3/8" G
18"/450	3,50/89	19,25/489	10,62/270	16,34/415	21,61/549	26,77/680	15,04/382	64,72/1644	C12"-18,70"/(300-475)	½" G
20"/500	4,50/114,2	21,73/552	10,62/270	18,11/460	24,21/615	26,77/680	15,04/382	69,09/1755	C12"-20,67"/(300-525)	½" G
24"/600	4,50/114,2	25,07/637	10,62/270	20,12/511	27,04/687	32,67/830	15,04/382	79,84/2028	C12"-24,60"/(300-625)	½" G

MODEL

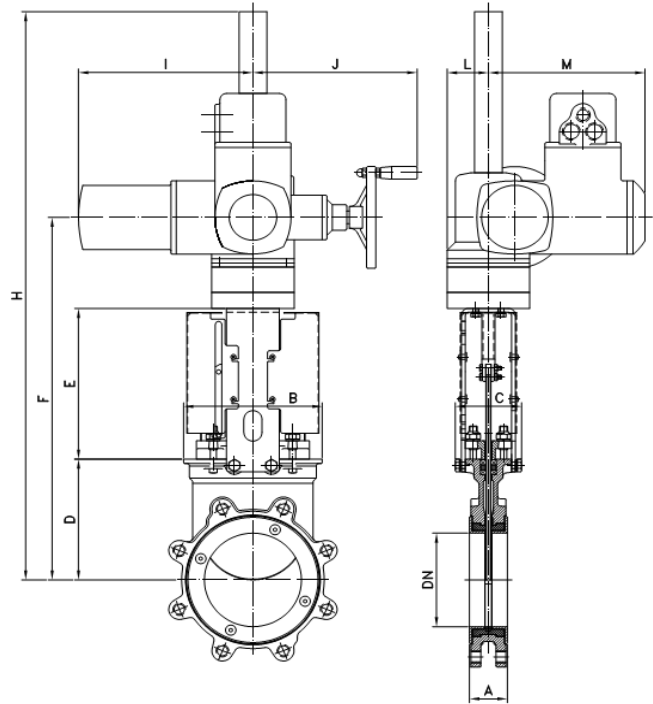
BT

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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 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.



DN ("/mm)	A	B	C	D	E	F	ØG	H	I	J	L	M	StemØ x pitch	Torque (ft.LBS/Nm)
2"/50	1,88/47,8	4,92/125	4,13/105	4,13/105	5,07/129	14,84/377	6,30/160	17,87/454	10,43/265	9,80/249	2,44/62	9,33/237	0,79 x 0.16/20 x 4	7.4/10
3"/80	2/50,8	6,06/154	4,13/105	4,68/119	6,37/162	16,70/424	6,30/160	19,72/501	10,43/265	9,80/249	2,44/62	9,33/237	0,79 x 0.16/20 x 4	7.4/10
4"/100	2/50,8	6,88/175	4,13/105	5,59/142	7,36/187	18,58/472	6,30/160	21,61/549	10,43/265	9,80/249	2,44/62	9,33/237	0,79 x 0.16/20 x 4	7.4/10
5"/125	2,25/57,2	7,08/180	4,13/105	6,49/165	8,30/211	20,43/519	6,30/160	23,46/596	10,43/265	9,80/249	2,44/62	9,33/237	0,79 x 0.16/20 x 4	11.1/15
6"/150	2,25/57,2	8,46/215	4,13/105	7,48/190	9,33/237	22,44/570	6,30/160	45,15/1147	10,43/265	9,80/249	2,44/62	9,33/237	0,79 x 0.16/20 x 4	14.8/20
8"/200	2,74/69,8	10,23/260	4,80/122	9,44/240	12,16/309	27,71/704	6,30/160	50,86/1292	10,43/265	9,80/249	2,44/62	9,33/237	0,94 x 0.2/24 x 5	22.2/30
10"/250	2,74/69,8	13,33/338	4,80/122	11,41/290	13,58/345	31,10/790	6,30/160	54,25/1378	10,43/265	9,80/249	2,44/62	9,33/237	0,94 x 0.2/24 x 5	33.3/45
12"/300	3/76,2	14,40/366	4,80/122	14,17/360	15,47/393	34,76/883	7,87/200	57,91/1471	11,10/282	10,08/256	2,55/65	9,72/247	0,94 x 0.2/24 x 5	51.8/70
14"/350	3/76,2	16/400	7,75/197	12,60/320	18,07/459	35,79/909	7,87/200	58,94/1497	11,14/283	10/254	2,55/65	9,76/248	1.42 x 0.24/36 x 6	81.4/110
16"/400	3,50/89	18,03/458	7,75/197	14,49/368	20,31/516	42,32/1075	12,40/315	70,98/1803	15,31/389	13,22/336	3,58/91	11,25/286	1.42 x 0.24/36 x 6	118.4/160
18"/450	3,50/89	19,25/489	10,62/270	16,34/415	21,61/549	44,84/1139	12,40/315	73,50/1867	15,31/389	13,22/336	3,58/91	11,25/286	1.42 x 0.24/36 x 6	140.6/190
20"/500	4,50/114,2	21,73/552	10,62/270	18,11/460	24,21/615	52/1321	15,74/400	80,67/2049	15,31/389	13,34/339	3,58/91	11,25/286	1.42 x 0.24/36 x 6	199.8/270
24"/600	4,50/114,2	25,07/637	10,62/270	20,12/511	27,04/687	56,85/1444	15,74/400	85,51/2172	15,31/389	13,34/339	3,58/91	11,25/286	1.57 x 0.27/40 x 7	333/450

Reserves the right to change specifications without notice

ORBINOX CANADA, ORBINOX USA, ORBINOX BRAZIL, ORBINOX CHILE, ORBINOX SPAIN, ORBINOX UK, ORBINOX FRANCE, ORBINOX GERMANY, ORBINOX INDIA, ORBINOX CHINA, ORBINOX S.E.A.

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OBX 02/16

Rev.1

BT (SER.22)_8

MODEL**BT****SERIES 22**

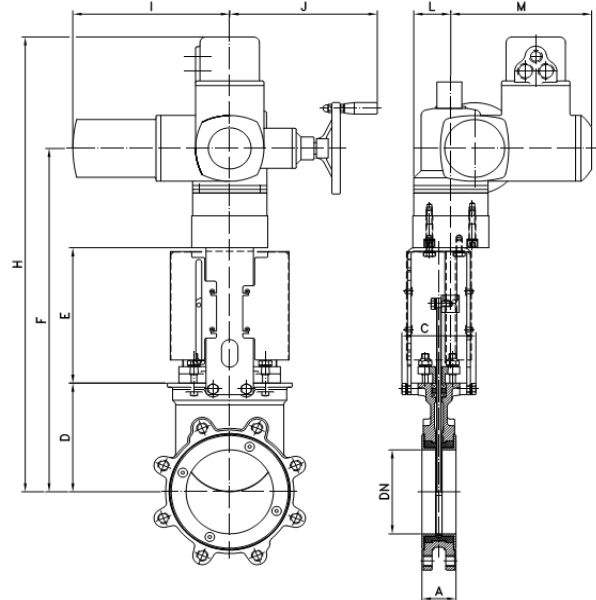
ELECTRIC ACTUATOR (Non-rising stem)

- Consists of:
 - Electric motor
 - Non-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



DN(″/mm)	A	B	C	D	E	F	ØG	H	I	J	L	M	StemØ x pitch	Torque (ft.LBS/Nm)
2″/50	1,88/47,8	4,92/125	4,13/105	4,13/105	5,07/129	14,84/377	6,30/160	21,33/547	10,43/265	9,80/249	2,44/62	9,33/237	0,79 x 0,16/20 x 4	7,4/10
3″/80	2/50,8	6,06/154	4,13/105	4,68/119	6,37/162	16,70/424	6,30/160	23,17/594	10,43/265	9,80/249	2,44/62	9,33/237	0,79 x 0,16/20 x 4	7,4/10
4″/100	2/50,8	6,88/175	4,13/105	5,59/142	7,36/187	18,58/472	6,30/160	25,27/642	10,43/265	9,80/249	2,44/62	9,33/237	0,79 x 0,16/20 x 4	7,4/10
5″/125	2,25/57,2	7,08/180	4,13/105	6,49/165	8,30/211	20,43/519	6,30/160	27,16/690	10,43/265	9,80/249	2,44/62	9,33/237	0,79 x 0,16/20 x 4	11,1/15
6″/150	2,25/57,2	8,46/215	4,13/105	7,48/190	9,33/237	22,44/570	6,30/160	29,13/740	10,43/265	9,80/249	2,44/62	9,33/237	0,79 x 0,16/20 x 4	14,8/20
8″/200	2,74/69,8	10,23/260	4,80/122	9,44/240	12,16/309	27,71/704	6,30/160	34,44/875	10,43/265	9,80/249	2,44/62	9,33/237	0,94 x 0,2/24 x 5	22,2/30
10″/250	2,74/69,8	13,33/338	4,80/122	11,41/290	13,58/345	31,10/790	6,30/160	37,79/960	10,43/265	9,80/249	2,44/62	9,33/237	0,94 x 0,2/24 x 5	33,3/45
12″/300	3/76,2	14,40/366	4,80/122	14,17/360	15,47/393	34,76/883	7,87/200	41,45/1053	11,10/282	10,08/256	2,55/65	9,72/247	0,94 x 0,2/24 x 5	51,8/70
14″/350	3/76,2	16/400	7,75/197	12,60/320	18,07/459	35,79/909	7,87/200	42,48/1079	11,14/283	10/254	2,55/65	9,76/248	1,42 x 0,24/36 x 6	81,4/110
16″/400	3,50/89	18,03/458	7,75/197	14,49/368	20,31/516	42,32/1075	12,40/315	49,01/1245	15,31/389	13,22/336	3,58/91	11,25/286	1,42 x 0,24/36 x 6	118,4/160
18″/450	3,50/89	19,25/489	10,62/270	16,34/415	21,61/549	44,84/1139	12,40/315	51,53/1309	15,31/389	13,22/336	3,58/91	11,25/286	1,42 x 0,24/36 x 6	140,6/190
20″/500	4,50/114,2	21,73/552	10,62/270	18,11/460	24,21/615	52/1321	15,74/400	58,70/1491	15,31/389	13,34/339	3,58/91	11,25/286	1,42 x 0,24/36 x 6	199,8/270
24″/600	4,50/114,2	25,07/637	10,62/270	20,12/511	27,04/687	56,85/1444	15,74/400	63,54/1614	15,31/389	13,34/339	3,58/91	11,25/286	1,57 x 0,27/40 x 7	333/450

MODEL



BT

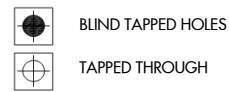
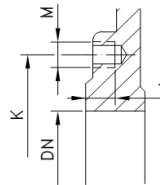
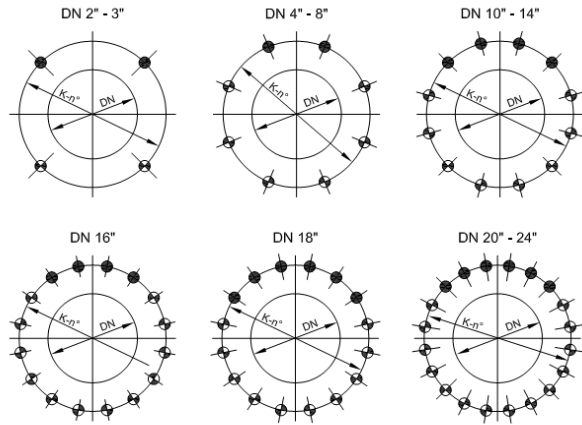
SERIES 22





FLANGE AND BOLTING DETAILS

ANSI B16.5, class 150

DN	K	N	M	T	 
2"	5"	4	5/8" UNC	7/16"	2 - 2
3"	6"	4	5/8" UNC	11/32"	2 - 2
4"	7 1/2"	8	5/8" UNC	11/32"	2 - 6
5"	8 1/2"	8	3/4" UNC	3/8"	2 - 6
6"	9 1/2"	8	3/4" UNC	3/8"	2 - 6
8"	11 3/4"	8	3/4" UNC	7/16"	2 - 6
10"	14 1/4"	12	7/8" UNC	18/32"	4 - 8
12"	17"	12	7/8" UNC	18/32"	4 - 8
14"	18 3/4"	12	1" UNC	1/2"	4 - 8
16"	21 1/4"	16	1" UNC	1/2"	4 - 12
18"	22 3/4"	16	1 1/8" UNC	18/32"	6 - 10
20"	25"	20	1 1/8" UNC	1"	6 - 14
24"	29 1/2"	20	1 1/4" UNC	7/8"	6 - 14



EN 1092-2 PN10

DN	K	N	M	T	 
50	125	4	M-16	11	2 - 2
100	180	8	M-16	9	2 - 6
125	210	8	M-16	10	2 - 6
150	240	8	M-20	10	2 - 6
200	295	8	M-20	12	2 - 6
250	350	12	M-20	14	4 - 8
300	400	12	M-20	14	4 - 8
400	515	16	M-24	12	4 - 12
500	620	20	M-24	24	6 - 14
600	725	20	M-27	22	6 - 14

