MODEL DT SERIES 80

ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

DOUBLE GATE KNIFE GATE VALVE

The DT(SER.80) model knife gate valve is a bi-directional valve widely used in the Pulp and Paper industry (paper recycling) and especially designed to handle high concentrated or contaminated media. In the open position, both gates are retracted into the body, assuring full flow. When the gates close, they push stock and contaminants as staples, wires, etc., out of the body and back into the flow. As a result of this double gate design, the stroke time of these valves is half of that of the conventional valves. All components subject to wear can be easily replaced.

Sizes:

DN 4"/100mm to DN 24"/600mm (larger diameters on request)

Working pressure:

DN 4"/100mm to DN 10"/250mm: 150psi/(10 kg/cm²)
DN 12"/300mm to DN 16"/400mm: 90psi/ (6 kg/cm²)
DN 18"/450mm: 75psi/ (5 kg/cm²)
DN 20"/500mm to DN 24"/600mm: 60psi/ (4 kg/cm²)

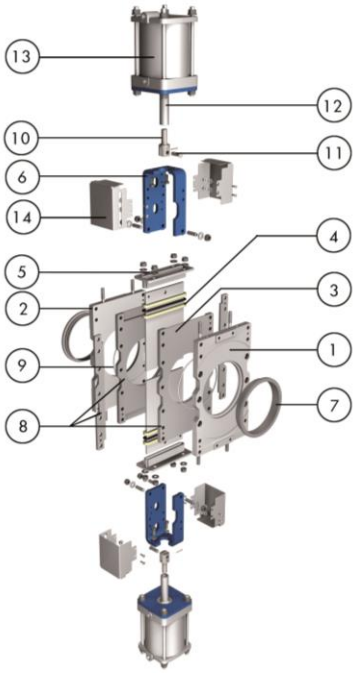
Standard flange connection:

EN 1092 PN 10 and ASME B16.5 (class 150)
Note: other flange connections are available on request.

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:	Carbon Steel:	Stainless steel:
1- Body	Carbon steel	AISI 316
2- Counterbody	Carbon steel	AISI 316
3- Gate	AISI 304	AISI 316
4- Packing	PTFE Impreg. Synth. Fibre (both with an EPDM o-ring)	
5- Gland Follower	Carbon Steel	AISI 316
6- Yoke	Carbon Steel-Epoxy Coated	
7- Seat rings	CF8M	
8- Body Liner	HMW Polyethylene	
9- O-ring	Nitrile	
10- Clevis	17-4 PH	
11- Pin	AISI 304 (1.4301)	
12- Piston Rod	AISI 304 (1.4301)	
13- Cylinder	Aluminium	
14- Gate Guards	AISI 304 (1.4301)	

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DESIGN FEATURES

BODY:

Cast or fabricated two-part bolted body, internally machined, with reinforcing ribs in larger diameters for extra body strength. The body is internally lined with HMW Polyethylene that provides an optimum guiding and sliding surface for the two gates when traveling. For additional safety, the port includes two stainless steel reinforced rings. Full port design for higher flow capacity and minimal pressure drop. When the valve is in the open position, both gates are retracted into the body, assuring full flow. When the gates close, they push back into the media the fluid and contaminants that might have accumulated within the body.

GATE:

Oversized stainless steel gates. Gates are polished on both sides to avoid jamming and to ensure a greater seal between the gate with both packing and seat. Special abrasion resistant materials and/or thickness can be used on request.

STEM:

The standard stainless steel stem offers a long corrosion resistant life. For those pneumatic actuated valves, stem linkage is provided by means of a stainless steel coupling and a pin (Fig. 1).

PACKING:

Double stuffing box with several layers of braided PTFE impregnated synthetic 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.

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. Reinforced “U”type design is standard starting from DN 10"/250mm.

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 PROTECTIONS:

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

Fig.1

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OTHER OPTIONS

Other materials of constructions:

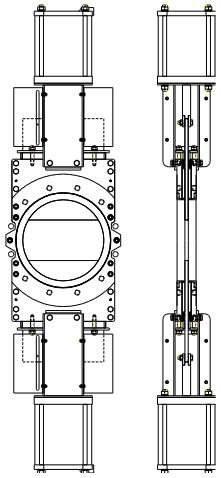
Special alloys such as AISI 317 (1.4449), 254SMO (1.4547), Hastelloys, etc.

Fabricated valves:

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

Square/rectangular port:

Modifications on port design are possible to suit customer's needs



TEMPERATURE CHART

SEAT

Material	Max. T. (ºF)	(°C)	Applications
Metal / Metal PE liner	167	75	General
On request			
Metal / Metal PTFE liner	482	250	High temp. Corrosion resistance.

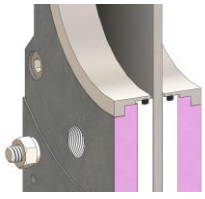
More details and other materials under request.

PACKING

Material	Max. T. (ºF)	(°C)	pH
PTFE impregn. synth. fibre (ST)	482	250	2-13
Braided PTFE (TH)	1112	600	0-14

NOTE: all types include an elastomere O-ring (same materialas seal), excluding TH

SEAT TYPE



METAL / METAL
Used for applications with high temperature or applications where tight shutoff is not required. Two replaceable reinforced stainless steel rings protect the body. There is no elastomer seal. The four-piece liner (HMWPE as standard, PTFE or Nylon also available) of the body provides gate support to all sides ensuring gate guiding and sliding, as well as a good valve seal

Please contact our technical department

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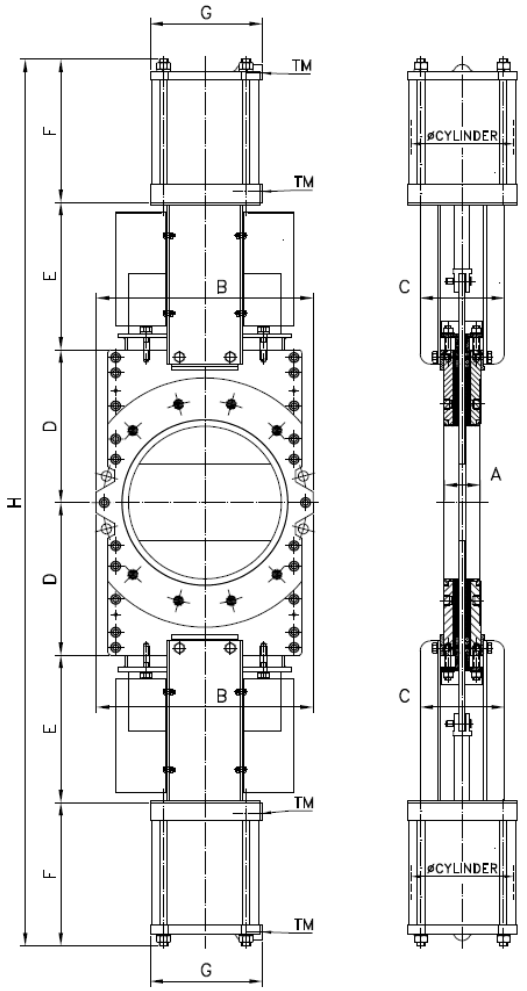
DOUBLE ACTING PNEUMATIC CYLINDERS

- The standard pneumatic actuator (double acting on-off cylinder) consists of:
  - Ø ≤ 12"/300mm: Aluminium barrels
  - Ø ≥ 14"/350mm: Composite barrels
  - Aluminium covers
  - Stainless Steel (AISI 304) piston rod
  - Nitrile coated steel piston
- Available from DN 4"/100mm to DN 24"/600mm
- Actuator sized for 90psi/(6 kg/cm²) air supply
- Reinforced design of support plates (U-type) is standard starting from DN 10"/250mm
- Options (on request):
  - Hard anodized barrel and covers
  - Stainless Steel jacket and covers
  - Over / Undersized cylinder
  - Manual override
  - Fail safe system
  - Limit switches
- Instrumentation (on request):
  - Positioners
  - Solenoid valves
  - Flow regulators
  - Air preparation units

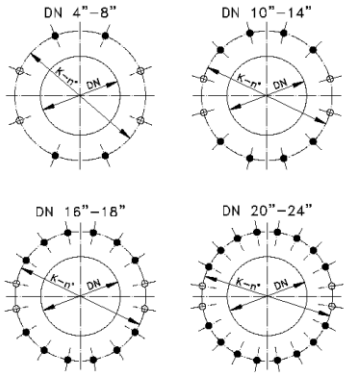


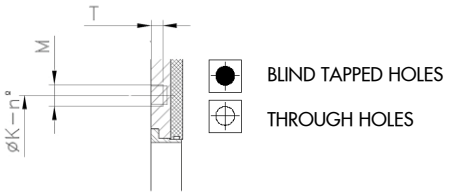
DN("/mm)	A	B	C	D	E	F	G	H	Weight (lbs./kg.)	Standard Cyl	Connect
4"/100	1,96/50	6.37/162	4/100	5,52/140	5.19/132	6.65/169	4,53/115	34.72/882	106/48	C4"-42.05"/(100-52)	¼" G
5"/125	1,96/50	8.27/210	4/100	5.74/146	5.59/142	7.04/179	5,51/140	36.77/934	124/56	C5"-2.55"/(125-65)	¼" G
6"/150	2,36/60	8.46/215	4/100	6,88/175	6.06/154	8.11/206	5,51/140	42.12/1070	148/67	C5"-3.07"/(125-78)	¼" G
8"/200	2,36/60	10.43/265	6,50/165	8.26/210	8.03/204	9.48/241	6,89/175	31.57/1310	176/80	C6.30"-4.05"/(160-103)	¼" G
10"/250	2,75/70	12.99/330	10,63/270	10.43/265	9.09/231	11.22/285	8,66/220	61.49/1562	198/90	C8"-5.04"/(200-128)	3/8" G
12"/300	2,75/70	14.96/380	10,63/270	12/300	10.07/256	12,20/310	8,66/220	68.18/1732	353/160	C8"-6.02"/(200-153)	3/8" G
14"/350	3,78/96	17.71/450	10,63/270	12.79/325	12.79/325	13.38/340	10,90/277	77.95/1980	562/255	C10"-7.08"/(250-180)	3/8" G
16"/400	3,93/100	20.07/510	10,63/270	13.77/350	13.97/355	14.92/365	10,90/277	84.25/2140	750/340	C10"-8.08"/(250-205)	3/8" G
18"/450	4,17/106	22.24/565	10,63/270	15.94/405	14.92/379	15.78/401	15,03/382	93.31/2370	893/405	C12"-9.05"/(300-230)	½" G
20"/500	4,49/114	24.01/610	10,63/270	17.71/450	16.53/420	17.52/445	15,03/382	103.54/2630	1080/490	C12"-10.03"/(300-255)	½" G
24"/600	4,49/114	28.15/715	10,63/270	20/500	18.50/470	19.48/495	15,03/382	115.35/2930	1279/580	C12"-12.01"/(300-305)	½" G

FLANGE AND BOLTING DETAILS

ASME B16.5, class 150

DN	K	nº	M	T	⊕ ⊕
4″	7 ½″	8	5/8″ - 11 UNC	5/16″	4 - 4
5″	8 ½″	8	3/4″ - 10 UNC	5/16″	4 - 4
6″	9 ½″	8	3/4″ - 10 UNC	3/8″	4 - 4
8″	11 3/4″	8	3/4″ - 10 UNC	3/8″	4 - 4
10″	14 ¼″	12	7/8″ - 9 UNC	7/16″	8 - 4
12″	17″	12	7/8″ - 9 UNC	7/16″	8 - 4
14″	18 ¾″	16	1″ - 8 UNC	11/16″	8 - 4
16″	21 ¼″	16	1″ - 8 UNC	13/16″	12 - 4
18″	22 ¾″	16	1 1/8″ - 7 UNC	13/16″	12 - 4
20″	25″	20	1 1/8″ - 7 UNC	13/16″	16 - 4
24″	29 ½″	20	1 1/4″ - 7 UNC	13/16″	16 - 4





EN 1092 PN10

DN	K	nº	M	T	⊕ ⊕
100	180	8	M-16	8	4 - 4
125	210	8	M-16	8	4 - 4
150	240	8	M-20	10	4 - 4
200	295	8	M-20	10	4 - 4
250	350	12	M-20	11	8 - 4
300	400	12	M-20	11	8 - 4
350	460	16	M-20	18	12 - 4
400	515	16	M-24	20	12 - 4
450	565	20	M-24	20	16 - 4
500	620	20	M-24	20	16 - 4
600	725	20	M-27	20	16 - 4