

**MODEL****DT**

## DOUBLE GATE KNIFE GATE VALVE

The **DT** model knife gate is a bi-directional valve widely used in the Pulp and Paper industry (recycling or secondary fibre processing) designed to handle high concentrated or contaminated media. In open position, both gates retract into the body and allow full flow. When closing, the gates push stock and contaminants as staples, wires,... out of the body into the flow.

Stroke time is one half of conventional valves.

All components subject to wear are replaceable.

**Sizes:** DN 100 to DN 600 (larger diameters on request)

**Working pressure:**

DN 100 to DN 250:	10 kg/cm <sup>2</sup>
DN 300 to DN 400:	6 kg/cm <sup>2</sup>
DN 450:	5 kg/cm <sup>2</sup>
DN 500 to DN 600:	4 kg/cm <sup>2</sup>

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

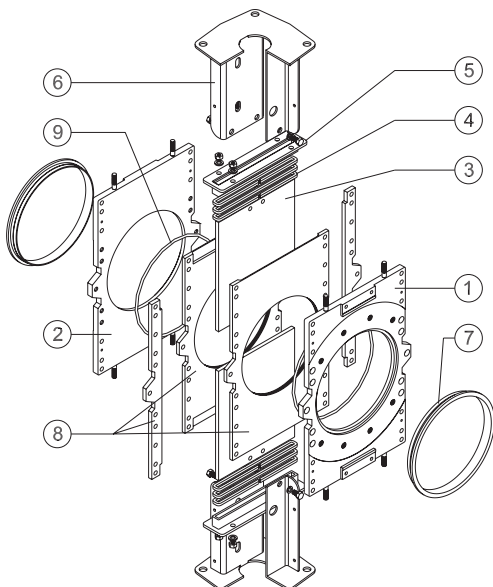
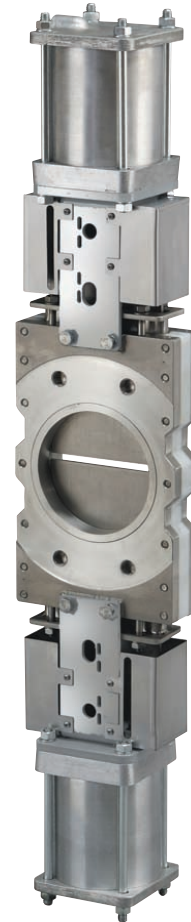
Note: other flange connections are available on request.

**Directives:** DIR 98/37/CE (MACHINES)

DIR 97/23/CE (PED) Fluid: Group 1(b), 2 (Cat. I, mod. A)

DIR 94/9/CE (ATEX) Please contact Orbinox for information and availability of categories and zones.

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 versions with a EPDM o-ring)	
5- Gland Follower	Carbon Steel	AISI 316
6- Yoke	Carbon Steel-Epoxy Coated	
7- Seat rings	CF8M	
8- Body Liner	UHMW Polyethylene	
9- O-ring	Nitrile	



Reserves the right to change specifications without notice

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OBX 09/09 8th EDITION

DT-1

MODEL

DT

## DESIGN FEATURES

### **BODY:**

Cast or fabricated **two-part bolted body**, internally machined, with reinforced ribs in larger diameters for extra body strength.  
The body is internally lined with UHMW Polyethylene acting as a sliding surface for the two gates to travel on.  
Full port design for higher flow capacity and minimal pressure drop.

### **GATE:**

Oversized stainless steel gates.  
Gates are polished on both sides for a greater seal between the packing and the seat.  
Special abrasion resistant **materials** and/or **thickness** can be used on request.

### **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.

### **YOKE or ACTUATOR SUPPORT:**

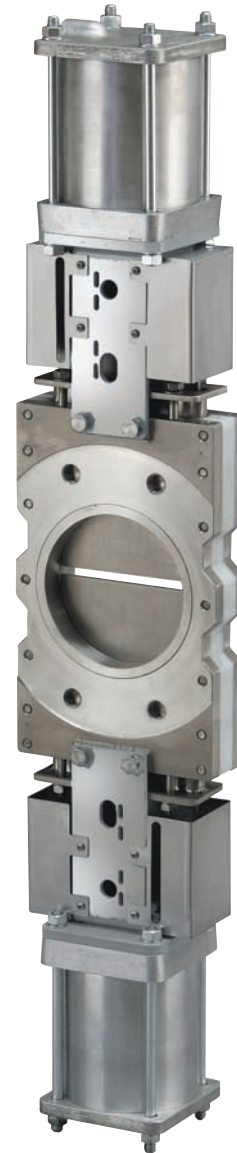
Made of EPOXY coated steel (stainless steel available on request).  
Compact design makes it extremely robust even under the most severe conditions.  
Reinforced "U" type design is standard starting from DN 250.

### **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.



**OTHER OPTIONS**

**Other materials of constructions:**

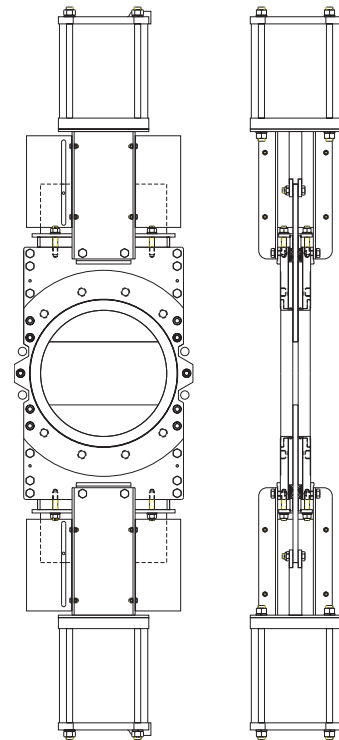
Special alloys such as AISI 317, 254SMO, Hastelloys, Titanium, etc.

**Fabricated valves:**

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

**Square/rectangular port**

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

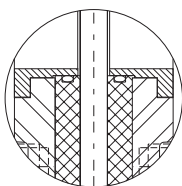


**SEAT** and **PACKING** specifications table.

SEAT			PACKING		
Material	Max. Temp (°C)	Applications	Material	Max. Temp. (°C)	pH
Metal / Metal Polyethylene liner	75	General	PTFE impregn. synth. fibre (ST)	240	2 - 13
<b>On request</b>			Braided PTFE (TH)	260	0 - 14
Metal / Metal PTFE liner	250	High temp. Corrosion resistance.	NOTE: all types include an elastomere O-ring (same material as seal), excluding TH.		

More details and other materials under request.

**SEAT TYPE**



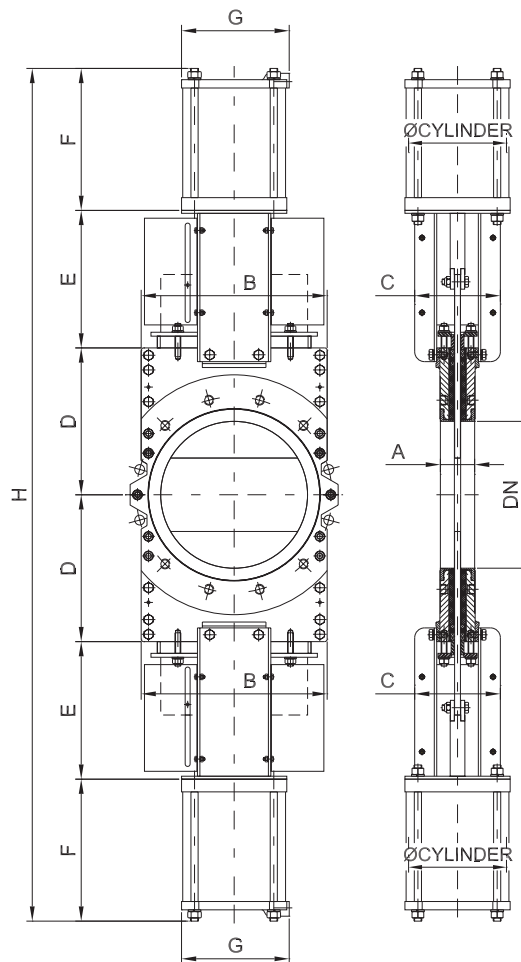
**METAL / METAL**

Two replaceable reinforced stainless steel rings protect the seat. There is no elastomer seal. The four-piece liner of the body provides gate support to all sides giving a good valve seal.

Please consult our technical department.

## DOUBLE ACTING PNEUMATIC CYLINDERS



- The standard pneumatic actuator (double acting on-off cylinder) consists of:
  - Aluminium jacket and covers
  - Stainless Steel (AISI 304) piston rod
  - Nitrile coated steel piston
- Available in DN 100 to DN 600
- Supply Pressure: minimum 3.5 kg/cm<sup>2</sup> - maximum 10 kg/cm<sup>2</sup>  
Actuator designed with 6 kg/cm<sup>2</sup> air supply
- Reinforced design of support plates (U-type) is standard starting from DN 250.
- 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

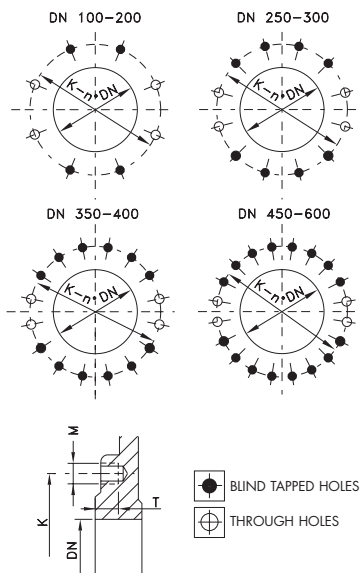


DN	A	B	C	D	E	F	G	H	Weight (kg.)	Standard Cyl	Connect
100	50	162	100	140	132	169	115	882	48	C100/52	1/4" G
125	50	210	100	146	142	179	140	934	56	C125/65	1/4" G
150	60	215	100	175	154	206	140	1070	67	C125/78	1/4" G
200	60	265	165	210	204	241	175	1310	80	C160/103	1/4" G
250	70	330	270	265	231	285	220	1562	90	C200/128	3/8" G
300	70	380	270	300	256	310	220	1732	160	C200/153	3/8" G
350	96	450	270	325	325	340	277	1980	255	C250/180	3/8" G
400	100	510	270	350	355	365	277	2140	340	C250/205	3/8" G
450	106	565	270	405	379	401	382	2370	405	C300/230	1/2" G
500	110	610	270	450	420	445	382	2630	490	C300/255	1/2" G
600	110	715	270	500	470	495	382	2930	580	C300/305	1/2" G



**FLANGE AND BOLTING DETAILS**

**EN 1092-2 PN10**

DN	K	n°	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



**ANSI B16.5, class 150**

DN	K	n°	M	T	 
4"	7 1/2"	8	5/8" UNC	5/16"	4 - 4
5"	8 1/2"	8	3/4" UNC	5/16"	4 - 4
6"	9 1/2"	8	3/4" UNC	3/8"	4 - 4
8"	11 3/4"	8	3/4" UNC	3/8"	4 - 4
10"	14 1/4"	12	7/8" UNC	7/16"	8 - 4
12"	17"	12	7/8" UNC	7/16"	8 - 4
14"	18 3/4"	12	1" UNC	11/16"	8 - 4
16"	21 1/4"	16	1" UNC	13/16"	12 - 4
18"	22 3/4"	16	1 1/8" UNC	13/16"	12 - 4
20"	25"	20	1 1/8" UNC	13/16"	16 - 4
24"	29 1/2"	20	1 1/4" UNC	13/16"	16 - 4

