

S-GATE type KNIFE VALVE with PNEUMATIC ACTUATOR

CHARACTERISTICS

The S-GATE knife valve is equipped with a pneumatic actuator and is dedicated to the automatic shut-off of loaded fluids such as slurries and powdery materials. The standard application sectors for this valve are the water treatment, the pulp and paper industry, the cement industry, the powdery material handling and the food and beverage industry. The tightness is unidirectional and different materials are available. The double acting pneumatic actuator permits the valve remote control. The set can be installed indoor or outdoor. The gate movement is protected by lateral gate guards. Many different options are available on the actuator: solenoid valve, limit switches, etc.

AVAILABLE ITEMS

S-GATE **MXT-54089385-170**: cast iron version, stainless steel gate, NBR seat

S-GATE **MXT-54129385-172**: stainless steel version, stainless steel gate, EPDM seat

S-GATE **MXT-54089385-176**: cast iron version, stainless steel gate, metal seat (no tightness: 2% kvs loss)

S-GATE **MXT-54089385-178**: cast iron version, stainless steel gate, NBR seat, bidirectional

DN 50 to 600, flanged connections EN 1092 PN10 (Flanges ANSI150 as an option) Compressed air supply 6 bar



LIMITS OF USE

Max. allowable pressure (PS)	DN 50 to 200	10 bar
	DN 250	8 bar
	DN 300	6 bar
	DN 350 to 400	4 bar
	DN 450 to 600	3 bar
Allowable temperature (TS)	See below	
Room temperature	-20 °C / +60 °C	
Compressed air supply	5 bar min. / 7 bar max.	
Fluid	Prohibited use on gases of group 1 for DN>100	

TS / seat	NBR	EPDM	FKM	PTFE	METAL
170: Cast iron	-10°C	+0°C	-10°C	+0°C	-
172: Stainless steel	+80°C	+110°C	+150°C	+180°C	-
176: Cast iron	-	-	-	-	-10°C +90°C
176: Cast iron + Graphite gland pack	-	-	-	-	-10°C +200°C

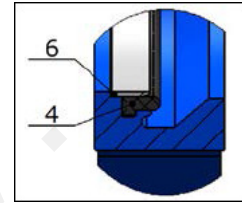
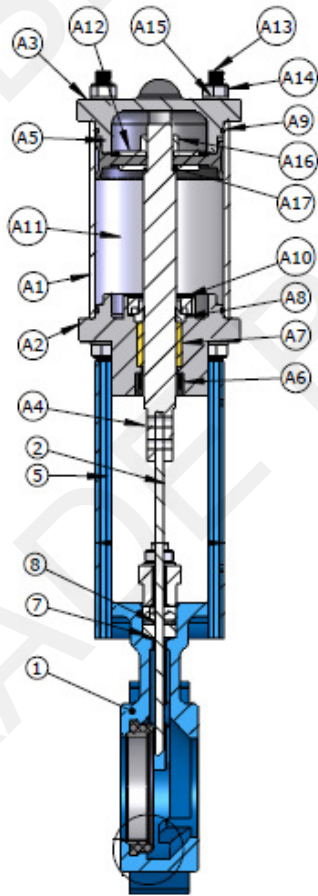
DIRECTIVES AND CONSTRUCTION STANDARDS

	Standard
97/23/EC Pressure Equipment Directive	Category I module A
Flanges PN10 dimensions	EN 1092-2
Flanges ANSI150 dimensions	ANSI B16.5
Valve testing	EN 12266-1

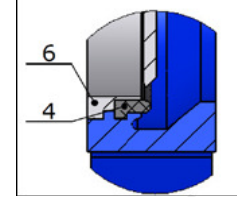


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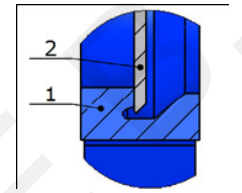
UNIDIRECTIONAL CONSTRUCTION



STANDARD SEAT



METAL SEAT



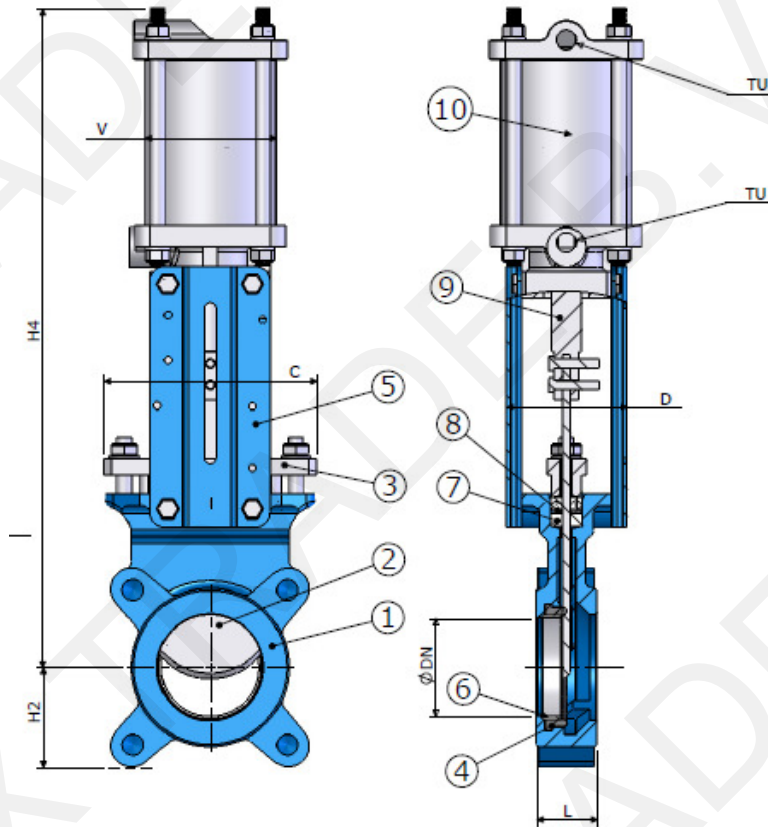
REINFORCED SEAT

#	Item	S-170 cast iron version	S-176 cast iron version	S-172 stainless steel version
1	Body	EN-GJL 250 Cast iron		Stainless steel A351 CF8M / 1.4408
2	Gate	AISI 304 Stainless steel		AISI 316 Stainless steel
3	Gland follower DN50-200	Aluminium		Stainless steel A351 CF8M / 1.4408
3	Gland follower DN250-300	EN-GJL 250 Cast iron		Stainless steel A351 CF8M / 1.4408
4	Seat	NBR	METAL	EPDM
5	Bracket	Epoxy-coated Carbon steel		Epoxy-coated Carbon steel
6	A-ring	AISI 304 Stainless steel		AISI 316 Stainless steel
7	Gland packing	PTFE		PTFE
8	O-ring	NBR		EPDM
A1	Cylinder housing	ASTM 6063 Aluminium		
A2	Base end of the cylinder	AS10G Aluminium		
A3	Actuator top cover	AS10G Aluminium		
A4	Stem	AISI 410 Stainless steel		
A5	Piston	NBR		
A6	Lip seals	PU		
A7	Guide pipe	Bronze		
A8	Gasket	PU		
A9	O-ring	NBR		
A10	Locking nut	AISI 410 Stainless steel		
A11	Flat washer	Carbon steel		
A12	Washer	Carbon steel		
A13	Bolt	8.8 Steel		
A14	Nut	Zinc-plated steel		
A15	Washer	Steel		
A16	Self-locking nut	Steel		
A17	O-ring	NBR		

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S-GATE type KNIFE VALVE with PNEUMATIC ACTUATOR

DIMENSIONS (mm)



DN	H2	H4	C	D	L	PN 10 Flanges			Weight (Kg)
						Ø K	n	M	
50	63	400	125	92	40	125	4	M16	9
65	70	442	140	92	40	145	4	M16	11
80	92	483	155	92	50	160	4	M16	12
100	105	546	175	92	50	180	4	M16	13
125	120	630	190	102	50	210	4	M16	18
150	130	692	220	102	60	240	4	M20	22
200	160	869	275	120	60	295	4	M20	40
250	198	1032	325	120	70	350	6	M20	50
300	234	1182	380	120	70	400	6	M20	65
350	256	1379	440	290	96	460	10	M20	120
400	292	1535	495	290	100	515	10	M24	150
450	308	1677	550	290	106	565	14	M24	188
500	340	1839	615	290	110	620	14	M24	220
600	400	2145	715	290	110	725	14	M27	268

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PNEUMATIC ACTUATION

Suggested standard actuation under the following conditions:

- Double-acting linear actuator with aluminium enclosure
- Lubricated compressed air supply from 5 to 7 bar

Operators are protected from the gate movements by lateral gate guards

DN	V - cylinder int. Ø (mm)	Cylinder volume (l)	TU - port connections
50	96	0.4	BSP ¼"
65	96	0.5	BSP ¼"
80	96	0.6	BSP ¼"
100	115	1	BSP ¼"
125	138	1.9	BSP ¼"
150	138	2.3	BSP ¼"
200	175	4.8	BSP ¼"
250	218	9.4	BSP ¼"
300	218	11.2	BSP ¼"
350	270	20	BSP 3/8 "
400	270	23	BSP 3/8 "
450	382	51	BSP ½"
500	382	57	BSP ½"
600	382	70	BSP ½"

*Unloaded operating time given for information purpose only. May vary depending on the medium
For any other working conditions, please contact us.

ACTUATION OPTIONS

#	
1	Compressed air supply filter-regulator
2	Compressed air supply filter-regulator-lubricator
3	5/2 monostable electrovalve 230 V AC, 110 V AC, 48 V AC, 24 V AC, 24 V DC, 12 V DC
4	Exhaust brake
5	Exhaust silencer
6	Quick exhaust valve
7	Télémechanique XCKM 115 mechanical limit switches
8	IFM IFS 2012 position sensors, connection M12
9	P+F position sensors NBB4, NCB2
10	Single effect set with air tank
11	Spring return actuator
12	Hand-operated actuator
13	Stainless steel bracket
14	Stainless steel side covers
15	Connection protection cover
16	3 positions control (open, close, intermediary)

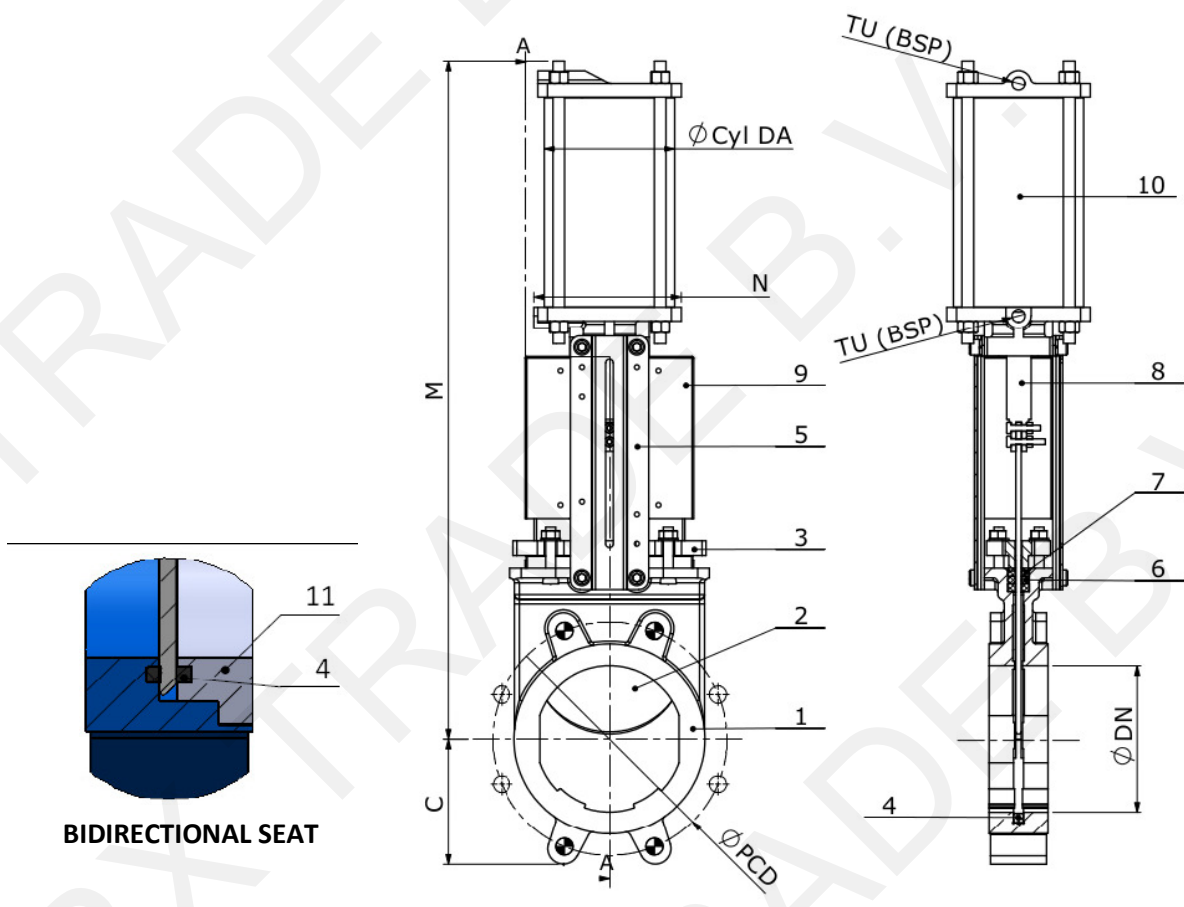
VALVE OPTIONS

#	
1	NBR, EPDM, PTFE, FKM, metal-metal seats
2	High temperature graphite filled gland pack
3	Deflector
4	Bi-directional tightness (see next page)
5	Through conduit gate
6	Flanges ANSI150
7	PN25 body
8	Flushing holes

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S-178 VERSION: bidirectional tightness



#	Item	S-178 cast iron version
1	Body	EN-GJL 250 Cast iron
2	Gate	AISI 304 Stainless steel
3	Gland follower DN 50-200	Aluminium
3	Gland follower DN 250-300	EN-GJL 250 Cast iron
4	Seat	NBR
5	Bracket	Epoxy coated carbon steel
6	O-ring	NBR
7	Gland packing	PTFE
8	Stem	AISI 410 stainless steel
9	Side covers	Epoxy coated carbon steel
10	Actuator	Aluminium
11	Ring nut	F304 stainless steel

Max. allowable pressure (PS)	DN 50 to 200	10 bar
	DN 250	8 bar
	DN 300	6 bar
	DN 350 and 400	4 bar
	DN 450 to 600	3 bar
	DN 700 to 1200	2 bar

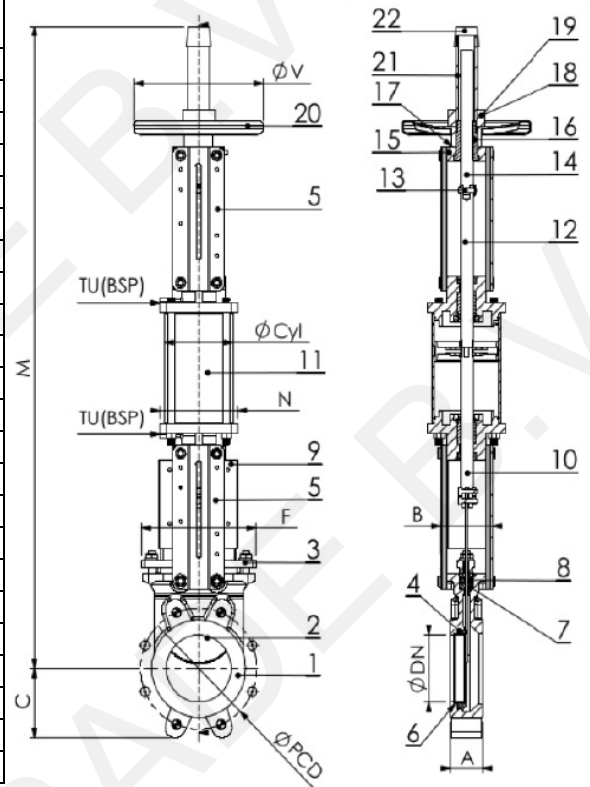
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OPTION "M": HAND-OPERATED ACTUATOR

CONSTRUCTION

N°	Item	Cast iron version
1	Body	EN-GJL 250 Cast iron
2	Gate	AISI 304 Stainless steel
3	Gland follower DN50-200	Aluminium
3	Gland follower DN250-300	EN-GJL 250 Cast iron
4	Seat	NBR
5	Bracket	Steel
6	Ring nut	F304 stainless steel
7	Gland packing	PTFE
8	O ring	NBR
9	Bracket protection	Steel
10	Stem	303 stainless steel
11	Actuator	Aluminium
12	Upper actuator stem	303 stainless steel
13	Pin	Steel
14	Wheel stem	303 stainless steel
15	Potence	ACIER
16	Nut	Bronze
17	Washer	Brass
18	Screw	304 stainless steel
19	Wheel nut	Steel
20	Wheel	Steel
21	Pipe	Steel
22	Cap	Plastic



DIMENSIONS (mm)

DN	A	B	C	D	F	V	M	ϕ_{PCD}			prof.	Weight (kg)
50	40	92	63	289	124	200	713	125	4xM16	0	8	9
65	40	92	70	316	139	200	772	145	4xM16	0	8	10
80	50	92	92	342	154	200	829	160	4xM16	4	10	11
100	50	92	105	382	174	200	917	180	4xM16	4	10	14
125	50	102	120	415	192	250	1075	210	4xM16	4	10	19
150	60	102	130	458	217	250	1163	240	4xM20	4	12	22
200	60	120	160	575	270	300	1492	295	4xM20	4	12	38
250	70	120	198	676	326	300	1810	350	6xM20	6	15	58
300	70	120	234	776	380	300	2010	400	6xM20	6	15	72
350	96	290	256	906	438	500	2391	460	10xM20	6	19	140
400	100	290	292	1012	493	500	2597	515	10xM24	6	20	164
450	106	290	308	1098	546	500	2888	565	14xM24	6	24	203
500	110	290	340	1210	620	500	3109	620	14xM24	6	24	285
600	110	290	400	1416	714	500	3615	725	14xM27	6	24	378

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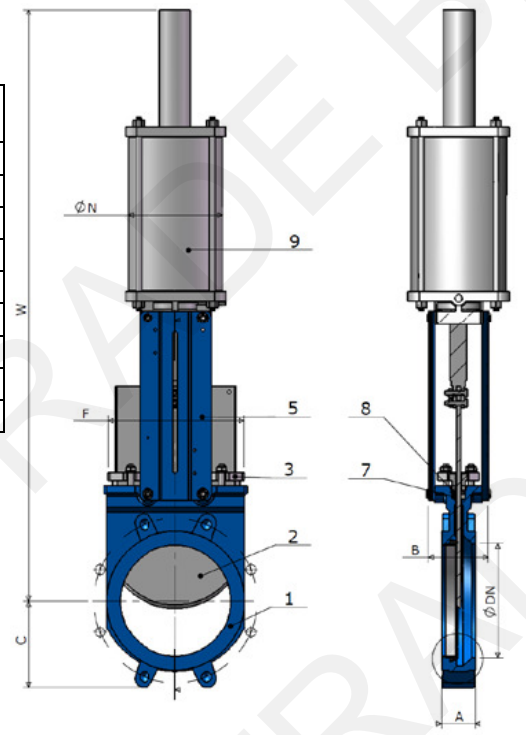
OPTION " S ": SPRING RETURN ACTUATOR

CONSTRUCTION

N°	Item	Cast iron version	Stainless steel version
1	Body	EN-GJL 250	Inox 1.4408
2	Gate	Inox 304	Inox 316
3	Gland follower DN50-200	Aluminium	Inox 1.4408
3	Gland follower DN250-300	Fonte EN-GJL 250	Inox 1.4408
4	Seat	NBR	EPDM
5	Bracket	STEEL	STEEL
6	Ring nut	Inox 304	Inox 316
7	Gland packing	PTFE	PTFE
8	O-ring	NBR	EPDM
9	Actuator	Aluminium	

DIMENSION (mm)

DN	A	B	C	F	W	N
50	40	92	63	125	720	96
65	40	92	70	140	766	96
80	50	92	92	155	810	96
100	50	92	105	175	875	115
125	50	102	120	190	975	138
150	60	102	130	220	1066	138
200	60	119	160	175	1380	175
250	70	119	198	325	1792	218
300	70	119	234	380	1932	218



OPTION "B" FLUSHING HOLES

Allows the clean up of the seat by compressed air blowing. The blowing frequency is controlled by a solenoid valve 2/2 NF.



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