S-GATE™ KNIFE GATE VALVE WITH PNEUMATIC ACTUATOR

MAIN FEATURES

The pneumatic S-GATE knife gate valve is intended for the automatic shut off of pipes of the heavy fluids like slurries and powders. The main fields of application are the water treatment, the paper industry and the food industry. The in-line tightness can be both uni- or bi-directional and several versions of the valve are available. The double effect pneumatic actuator allows the remote control of the valve. The pneumatic valve can be installed either indoor or outdoor. The movement of the gate is protected by lateral covers. Numerous options are available on the valve or on the actuator.

AVAILABLE MODELS

Optional

S-GATE 170 : cast iron body, stainless steel gate, NBR seat
S-GATE 172 : stainless steel body, stainless steel gate, EPDM seat
S-GATE 176 : cast iron body, stainless steel gate, metal seat (in-line leakage: 2% kvs)
S-GATE 178 : cast iron body, stainless steel gate, NBR seat, bi-directional tightness
Size 50 to 600, wafer-lug mounting between flanges EN 1092 PN10 thread M.
6 bar compressed air supply



LIMITS OF USE

Pressure of fluid : 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
Temperature of fluid : TS	See below	
Room temperature	-20°C / +60°C	
Compressed air supply	Mini : 5 bar / Maxi : 7 bar	
Fluid	Use not allowed on group 1 dangerous gas for sizes >100	

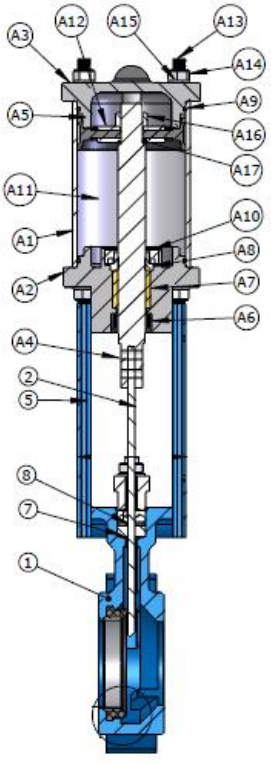
TS / seat	**NBR**	**EPDM**	**FPM**	**PTFE**	**METAL**
170-178 : cast iron	-10°C +80°C	+0°C +110°C	-10°C +150°C	+0°C +180°C	-
172 : stainless steel					-
176 : cast iron	-	-	-	-	-10°C +90°C
176 : caste iron + graphite	-	-	-	-	-10°C +200°C

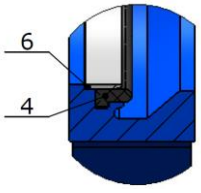
RULES AND STANDARDS OF CONSTRUCTION

Item	Standard
P.E.D. CE 97/23	Category I module A
ATEX CE 94/4	Category 3 Ex II 3G/D TX areas 2 and 22
PN 10 flange's dimension	EN 1092-2
ANSI 150 flanges' dimension	ANSI B16.5
Final testing	EN 12266-1

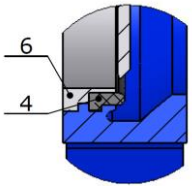
S-GATE™ KNIFE GATE VALVE WITH PNEUMATIC ACTUATOR

UNI-DIRECTIONNAL CONSTRUCTION

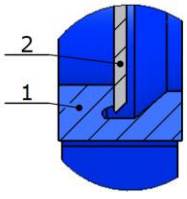




STANDARD SEAT



METAL SEAT

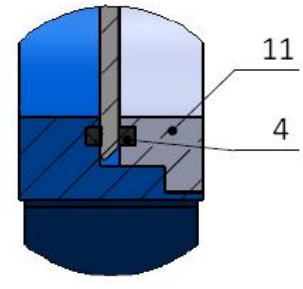


REINFORCED SEAT

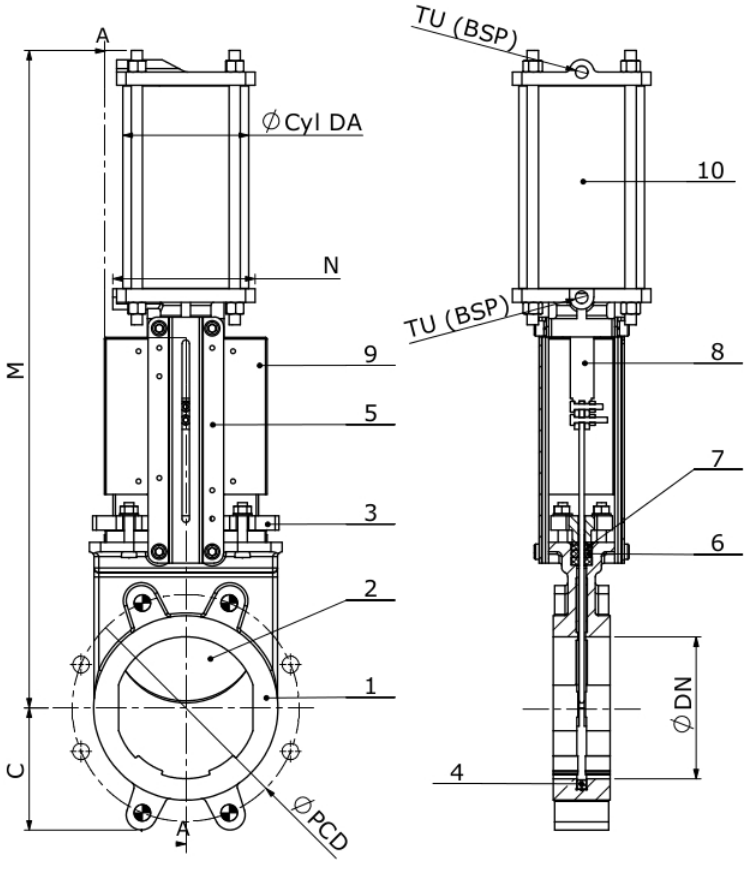
N°	Item	Cast iron S-170	Cast iron S-176	Stainless steel S-172
1	Body	epoxy RAL 500S coated EN-GJL 250 cast iron		1.4408 stainless steel
2	Gate	AISI 304 stainless steel		AISI 316 stainless steel
3	Stuffing's box gland DN50-200	Aluminium		1.4408 stainless steel
3	Stuffing's box gland DN250-300	EN-GJL 250 cast iron		1.4408 stainless steel
4	Seat	NBR	METAL	EPDM
5	Support	Epoxy coated carbon steel		Epoxy coated carbon steel
6	Ring	AISI 304 stainless steel		AISI 316 stainless steel
7	Packing	PTFE		PTFE
8	O-ring	NBR		EPDM
A1	Actuator's body	ASTM 6063 aluminium		
A2	Actuator's head	AS10G aluminium		
A3	Actuator's cover	Aluminium AS10G		
A4	Stem	AISI 410 stainless steel		
A5	Piston	NBR		
A6	Lip seal	PU		
A7	Guide tube	Bronze		
A8	Gasket	PU		
A9	O-ring	NBR		
A10	Blocking's nut	AISI 410 stainless steel		
A11	Washer	Carbon steel		
A12	Washer	Carbon steel		
A13	Tierod	8.8 steel		
A14	Nut	Zinc-plated steel		
A15	Washer	Steel		
A16	Self locking nut	Steel		
A17	O-ring	NBR		

S-GATE™ KNIFE GATE VALVE WITH PNEUMATIC ACTUATOR

BI-DIRECTIONNAL CONSTRUCTION



BI-DIRECTIONNAL SEAT

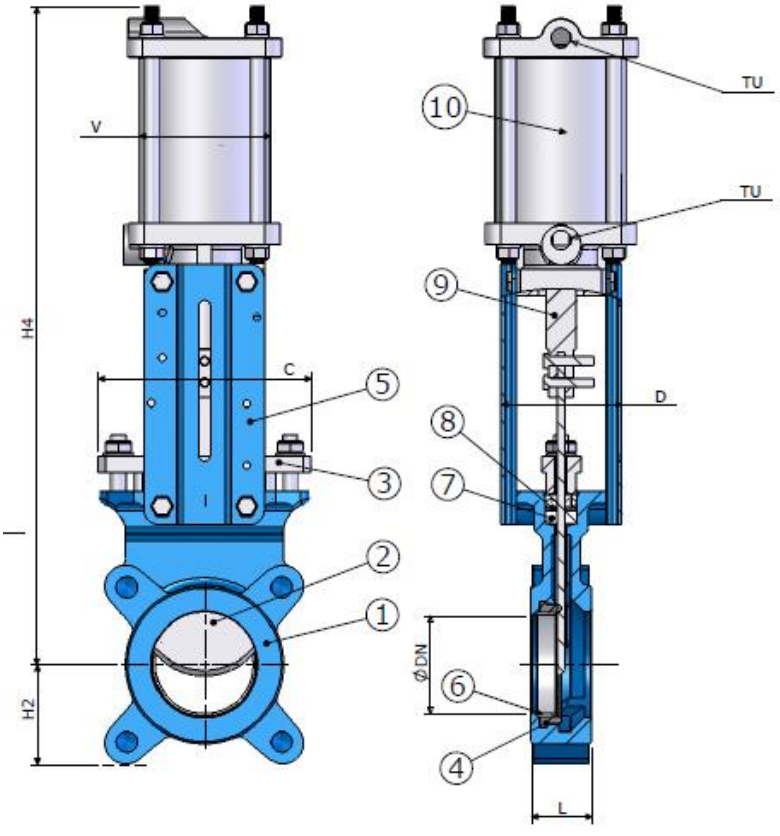


N°	Item	Cast iron S-178
1	Body	epoxy RAL 500S coated EN-GJL 250 cast iron
2	Gate	AISI 304 stainless steel
3	Stuffing's box gland DN50-200	Aluminium
3	Stuffing's box gland DN250-300	EN-GJL 250 cast iron
4	Seat	NBR
5	Support	Epoxy coated carbon steel
6	O-ring	NBR
7	Packing	PTFE
8	Stem	AISI 410 stainless steel
9	Lateral covers	Epoxy coated carbon steel
10	Actuator	Aluminium
11	Ring	AISI 304 stainless steel

	Size	PS
Maximum fluid's pressure : PS	50-200	10 bar
	250	8 bar
	300	6 bar
	350-400	4 bar
	450-600	3 bar
	700-1200	2 bar

S-GATE™ KNIFE GATE VALVE WITH PNEUMATIC ACTUATOR

DIMENSIONS (mm)



DN	H2	H4	C	D	L	Flanges PN 10			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

S-GATE™ KNIFE GATE VALVE WITH PNEUMATIC ACTUATOR

PNEUMATIC ACTUATION

The standard actuator are sized for following conditions:
- double effect linear actuator with aluminium body,
- 5 to 7 bar lubricated compressed air supply,

The operators are protected against the gate's movement by the lateral covers.

DN	Actuator's internal diameter Ø (mm)	Actuator's volume (liter)	Air's ports TU
50	96	0.4	G ¼''
65	96	0,5	G ¼''
80	96	0,6	G ¼''
100	115	1	G ¼''
125	138	1,9	G ¼''
150	138	2,3	G ¼''
200	175	4,8	G ¼''
250	218	9,4	G ¼''
300	218	11,2	G ¼''
350	270	20	G 3/8 ''
400	270	23	G 3/8 ''
450	382	51	G ½''
500	382	57	G ½''
600	382	70	G ½''

For any other operating conditions, please consult.

OPTIONS FOR THE ACTUATION

n°	
1	Filter-regulator on compressed air supply
2	Filter-regulator-lubricator on compressed air supply
3	5/2 monostable pilot solenoid valve, voltage 230V CA, 110V CA, 48V CA, 24V CA, 24V CC, 12V CC
4	Air break
5	Silencer
6	Quick exhaust
7	Mechanical limit switches Télémécanique XCKM 115
8	Position's detector IFM IFS 204, M12 connection
9	Position's detector P+F NBB4, NCB2
10	Simple effect piloting kit
11	Spring return actuator
12	Actuator with manual override
13	Stainless steel support (item.5)
14	Stainless steel lateral cover
15	Protection's cover for limit switches
16	3 positions piloting (open, closed and intermediate position)

OPTIONS FOR THE VALVE

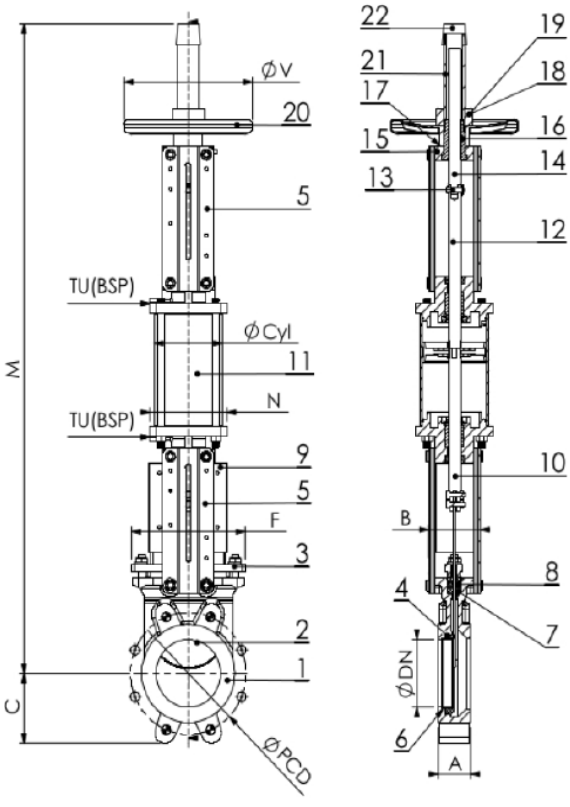
n°	
1	NBR, EPDM, PTFE, FPM, metal-metal seats
2	Hight temperature graphited packing
3	Deflector
4	Bi-directionnal in-line tightness
5	Throught conduit gate
6	ANSI 150 standard flanges connection with threads UNS or M
7	PN 25 rating
8	Blow off seat

S-GATE™ KNIFE GATE VALVE WITH PNEUMATIC ACTUATOR

"M" OPTION: ACTUATOR WITH MANUAL OVERRIDE

PARTS' LIST

N°	Item	Cast iron version
1	Body	EN-GJL 250 cast iron
2	Gate	AISI 304 SS
3	Stuffing's box gland DN50-200	Aluminium
3	Stuffing's box gland DN250-300	EN-GJL 250 cast iron
4	Seat	NBR
5	Support	Steel
6	Ring	AISI 304 SS
7	Packing	PTFE
8	O-ring	NBR
9	Protection's cover	Steel
10	Stem	AISI 303 SS
11	Actuator	ALU
12	Uper stem	AISI 303 SS
13	Goupille	Steel
14	Handwheel's stem	AISI 303 SS
15	Potence	Steel
16	Bronze nut	Bronze
17	Washer	Brass
18	Screw	AISI 304 SS
19	Handwheel's nut	Steel
20	Handwheel	Steel
21	Tube	Steel
22	Plug	Plastic



DIMENSIONS (mm)

DN	A	B	C	D	F	V	M	ØPCD			deep.	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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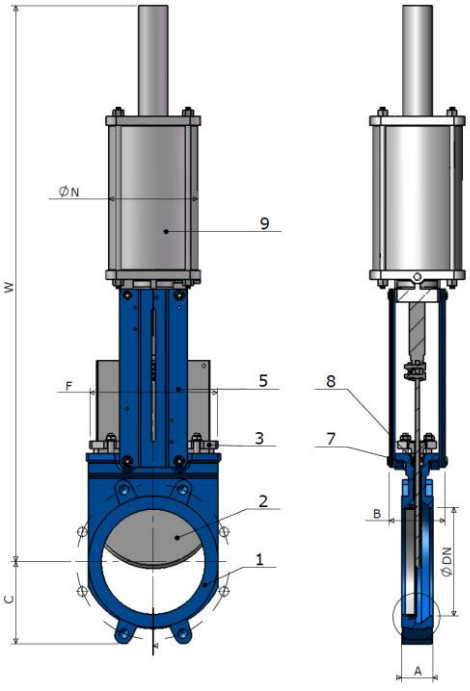
" S " OPTION: SPRING RETURN ACTUATOR

PARTS' LIST

N°	Item	Cast iron version	Stainless steel version
1	Body	EN-GJL 250 cast iron	Stainless steel 1.4408
2	Gate	AISI 304 SS	AISI 316 SS
3	Stuffing's box gland DN50-200	Aluminium	Stainless steel 1.4408
3	Stuffing's box gland DN250-300	EN-GJL 250 cast iron	Stainless steel 1.4408
4	Seat	NBR	EPDM
5	Support	STEEL	STEEL
6	Ring	Inox 304	AISI 316 SS
7	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: USE IN HAZARDOUS EXPLOSIBLE ATMOSPHERE

Optional, the S-GATE valve can be adapted for a use in hazardous explosive area. This version is registered as category 3 equipment following the CE ATEX 94/9 directive. It can be installed in the areas 2 and 22. The respect of the special instructions for mounting and maintenance of S-GATE valve in hazardous explosive atmosphere is mandatory.

"B" OPTION: SEAT BLOW OFF

This option makes possible the cleaning of the seat by compressed air blow off. The blow off frequency is piloted by a 2/2 NC solenoid valve.

