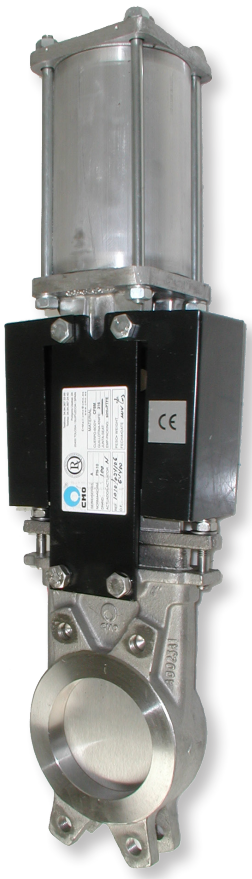
KNIFE GATE VALVE FIG. A
General features

GENERAL FEATURES:

CMO VALVES
manufacturing the valve you need

Unidirectional wafer type knife gate valve with monoblock body
Connexion PN16/PN10 (DN50 - DN150), PN10 (DN200 - ...)
ANSI versions on request
Provides high flow rates with low pressure drop
Designed for: - water, liquids and gas, lightly polluted with solid material (max. 5%)
- pneumatic transport of powders
- paper pulp with low concentration



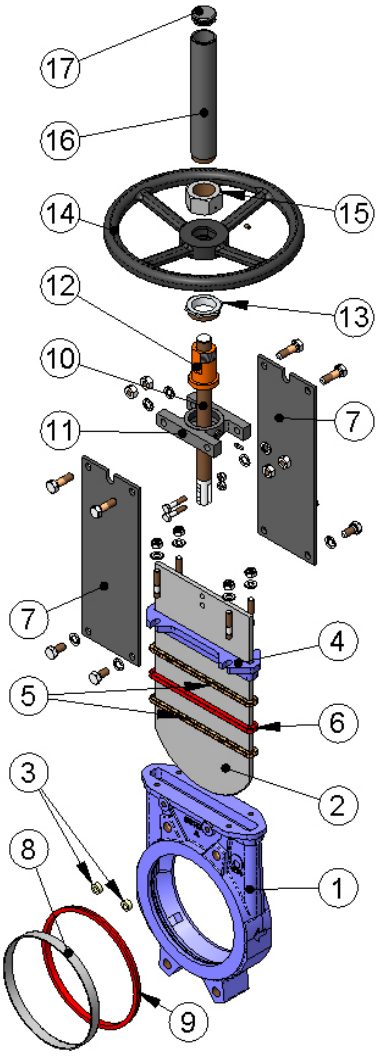


CE

ATEX

TESTS AND CERTIFICATES	
PED/CE	2014/68/UE
Machinery directive	DIR 2006/42/EC
Atex	2014/34/EC Group II, categorie 3 GD
Testting procedure	EN-12266

Subject to changes



Pos.	Description	Materials	
		Version in nodular cast iron	Version in stainless steel
1	Body	GJS-500	A 351 Gr. CF8M
2	Gate	AISI 304	AISI 316
3	Guide	UHMWPE (RCH 1000)	
4	Packing gland	GJS-500	A 351 Gr. CF8M
5	Packing	PTFE + Synth	
6	O-ring seal	EPDM	
7	Support plates	S275JR	
8	Ring	AISI 316	
9	Seat	EPDM	
10	Stem	AISI 303	
11	Yoke	Steel	
12	Stem nut	Bronze	
13	Lock nut	ST44.2 + Zinc	
14	Handwheel	Nodular cast iron	
15	Nut	Steel	
16	Stem protection	Steel	
17	Top cap	Plastic	

Subject to changes

Kv Values

Ø	DN	Kv
2”	50	206
21/2”	65	305
3”	80	485
4”	100	895
5”	125	1550
6”	150	2095
8”	200	3834
10”	250	5375
12”	300	8083
14”	350	10700
16”	400	14200
18”	450	18405
20”	500	23215
24”	600	34142
28”	700	46440
32”	800	61490
36”	900	79985
40”	1000	99750

Max. differential pressure (bar)

Ø	DN	ΔP
2”	50	10
21/2”	65	10
3”	80	10
4”	100	10
5”	125	10
6”	150	8
8”	200	7
10”	250	5
12”	300	5
14”	350	4
16”	400	4
18”	450	3
20”	500	3
24”	600	3
28”	700	3
32”	800	3
36”	900	3
40”	1000	3

Subject to changes

KNIFE GATE VALVE FIG. A
Ordering key

Type		Connection		Operation		Seat		Body materials		Elastomere	
A	Standard knife gate valve	1	PN 10	-	Free stem	1	Metal to metal	HH	Nodular cast iron	-	EPDM
		2	PN 6	V	Handwheel with rising stem	2	Elastomere	I	Stainles steel	/B	Buna
		3	PN 16	N	Double acting pneumatic actuator	3	Elastomere with reinforced socket	A	Carbon steel	/V	Viton
		4	PN 25	VNR	Handwheel with non-rising stem	4	Metal to metal with deflector and joint	AL	Aluminium	/S	Silicone
		5	ANSI 150	P	Lever	5	Elastomere with deflector	H*	Cast iron	/EW	EPDM white
		6	ANSI 300	C	Chain wheel	6	Elastomere with reinforced socket and deflector				
		7	PN 40	R	Gearbox						
				NE	Spring return pneumatic actuator, normally closed						
				NEO	Spring return pneumatic actuator, normally open						
				M	Electric actuator						
				H	Hydraulic actuator						

* no longer available

Special order

Example

A	1	V	2	HH	/B
	PN 10	Handwheel with rising stem	Elastomere	Body in nodular cast iron	Buna

Seat materials

Materials	Max. temperature	Applications
Metal	> 250	High temp. / Low watertight integ.
EPDM	-5 °C ~ 90*	Non-mineral acids and oils Can also be used for abrasive products and is 100% watertight
White EPDM	'-5 °C ~ 90	Good resistance to acids, bases and steam Recommended for heated lines and fruit processing
NBR	-10 °C ~ 90*	Hydrocarbons, oils and greases Is 100% watertight
FKM	-5 °C ~ 200	Hydrocarbons and solvents Is 100% watertight
Silicone	-30 °C ~ 200	Food products Is 100% watertight
PTFE	-30 °C ~ 250	Corrosion resistant (pH 2 up to pH 12) Leak rate: 0,5% of the tube flow

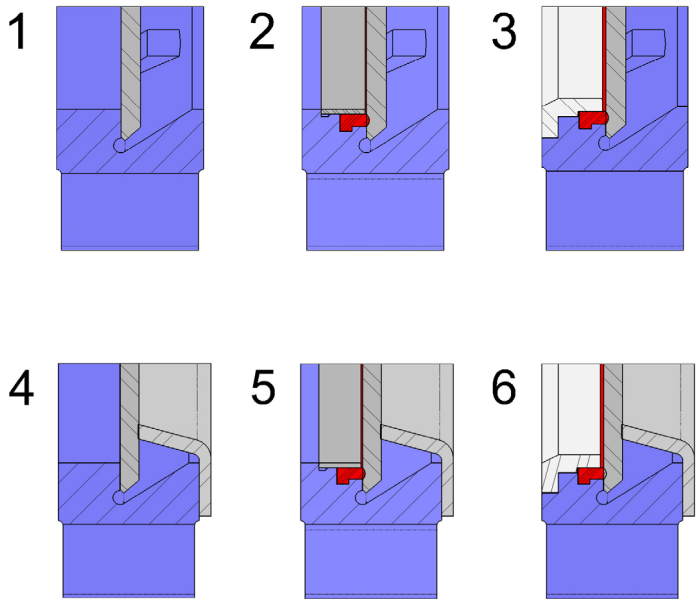
* EPDM and NBR up to max. 120°C on request

Packing materials

Materials	Max. P (bar) packing	Max. temperature (°C)	pH
Greased cotton *	10	100	6 - 8
Dry cotton	0,5	100	6 - 8
Cotton + PTFE	30	120	6 - 8
Synthetic + PTFE **	100	-200 / +270	0 - 14
Graphite	40	650	0 - 14
Ceramic fibre	0,3	1400	0 - 14
Gore-Tex + PTFE fibres (FDA)	100	-100 / + 280	0 - 14

* Standard packing for lever operation
** Standard packing for all other applications

Subject to changes

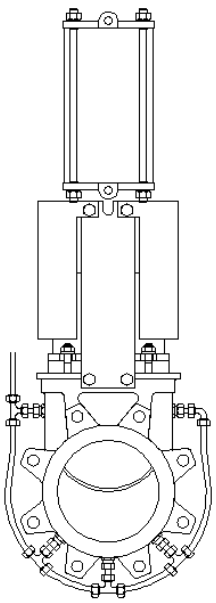


Seats

Pos.	Type	Description
1	Metal / metal seat	Without resilient seat. The estimated leakage is 1,5% of the pipe flow.
2	Standard soft seat	A resilient seat, fixed to the inside of the body via an AISI 316 stainless steel retaining ring.
3	Soft seat with reinforced socket	A resilient seat with reïnforced socket, fixed to the inside of the body via an AISI 316 stainless steel retaining ring. This protects the valve from abrasion and cleans the gate when operated,
4	Metal / metal seat with deflector	Same as 1, but including a deflector. (A cone shaped ring which protects the valve from abrasion and guides the flow to the centre of the valve.)
5	Standard soft seat with defletor	Same as 2, but including a deflector. (A cone shaped ring which protects the valve from abrasion and guides the flow to the centre of the valve.)
6	Soft seat with reinforced socket with deflector	Same as 3, but including a deflector. (A cone shaped ring which protects the valve from abrasion and guides the flow to the centre of the valve.)

Options

Option	Description
Mirror polished gate	The mirror polished gate is especially recommended in the food industry and, as standard, in applications in which solids can stick to the gate. It is an alternative to ensure the solids slide off and do not stick to the gate.
PTFE lined gate	As with the mirror polished gate, it improves the valve's resistance to products that can stick to the gate.
Stellited gate	Stellite is added to the gate's lower edge to protect it from abrasion.
Scraper in the Packing	Its function is to clean the gate during the opening movement and prevent possible damage to the packing.
Air Injection in the Packing Gland	By injecting air in the packing, an air chamber is created which improves the watertight integrity.
Heating Jacket	Recommended in applications in which the fluid can harden and solidify inside the valve's body. An external jacket keeps the body temperature constant, preventing the fluid from solidifying.
Flushing Holes in Body (see image)	Several holes can be drilled in the body to flush air, steam or other fluids out in order to clean the valve seat before sealing.



Subject to changes

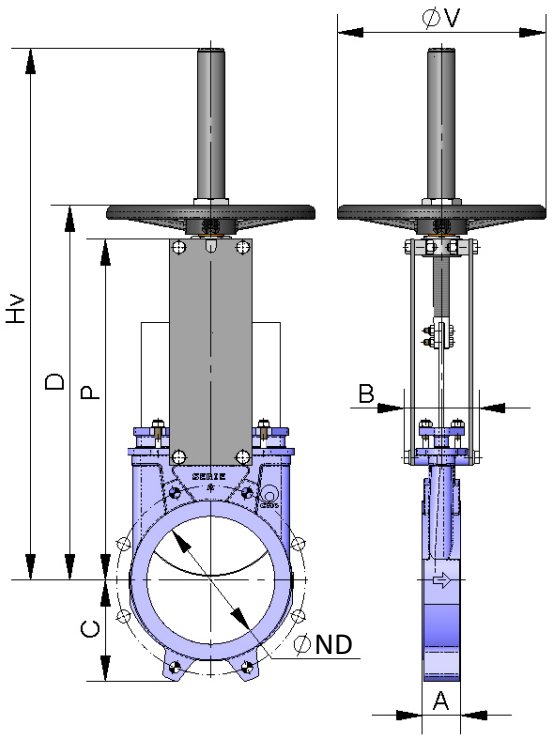
KNIFE GATE VALVE FIG. A
Handwheel with rising stem

MATERIALS:
-Handwheel in nodular iron

OPTIONS:
-Locking devices
-Extensions: stand, pipe, plates
-DN higher than those given in the table

INCLUDING:
-Handwheel
-Stem
-Nut
-Stem protection hood

REMARKS:
-From DN 600, the actuator is with gears



Dimensions (in mm)

Ø	DN	A	B	C	P	Hv	D	ØV	Kg
2”	50	40	92	63	241	409	280	225	7
21/2”	65	40	92	70	268	436	307	225	8
3”	80	50	92	92	294	469	333	225	9
4”	100	50	92	105	334	502	373	225	11
5”	125	50	102	120	367	585	406	225	13
6”	150	60	102	130	419	644	458	225	17
8”	200	60	119	160	525	815	578	325	28
10”	250	70	119	198	626	1016	679	325	40
12”	300	70	119	234	726	1116	779	380	56
14”	350	96	290	256	797	1336	906	450	94
16”	400	100	290	292	903	1442	1012	450	116
18”	450	106	290	308	989	1628	1098	450	162
20”	500	110	290	340	1101	1738	1210	450	191
24”	600	110	290	400	1307	2046	1416	450	264
28”	700	110	320	453	1506	-	-	-	441
32”	800	110	320	503	1720	-	-	-	568
36”	900	110	320	583	1953	-	-	-	736
40”	1000	110	320	613	2137	-	-	-	921

Subject to changes

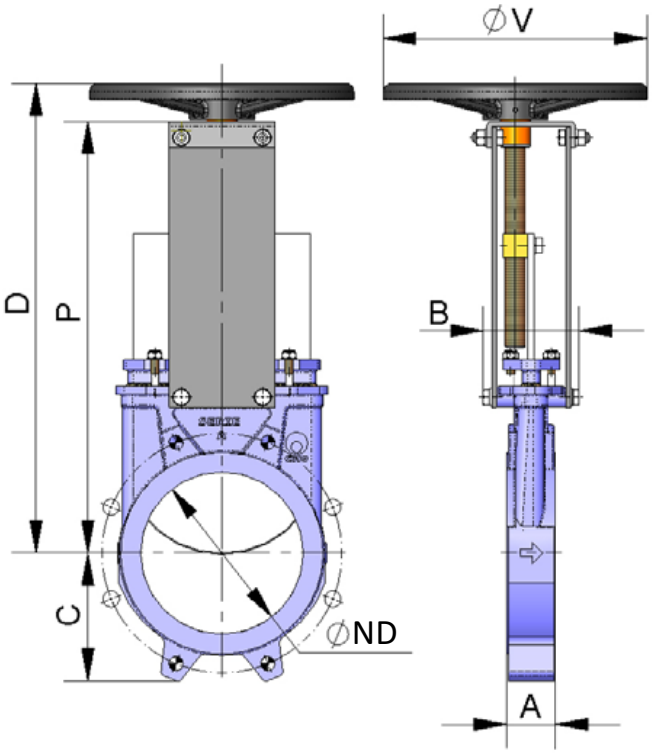
KNIFE GATE VALVE FIG. A
Handwheel with non-rising stem

MATERIALS:
-Handwheel in nodular iron

OPTIONS:
-Square nut
-Locking devices
-Extensions: stand, pipe, plates
-DN higher than those given in the table

INCLUDING:
-Handwheel
-Stem
-Nut
-Guide bearings on the yoke

REMARKS:
-From DN 600, the actuator is with gears



Dimensions (in mm)

Ø	DN	A	B	C	P	D	ØV	Kg
2”	50	40	101	63	241	280	225	7
21/2”	65	40	101	70	268	308	225	8
3”	80	50	101	92	294	333	225	9
4”	100	50	101	105	334	373	225	11
5”	125	50	111	120	367	407	225	13
6”	150	60	111	130	419	458	225	17
8”	200	60	128	160	525	578	325	29
10”	250	70	128	198	626	679	325	40
12”	300	70	128	234	726	779	380	53
14”	350	96	305	256	797	906	450	93
16”	400	100	305	292	903	1012	450	126
18”	450	106	305	308	989	1098	450	160
20”	500	110	305	340	1101	1210	450	193
24”	600	110	305	400	1307	1416	450	264
28”	700	110	335	453	1506	--	--	435
32”	800	110	335	503	1720	--	--	580
36”	900	110	335	583	1953	--	--	740
40”	1000	110	335	613	2137	--	--	925

Subject to changes

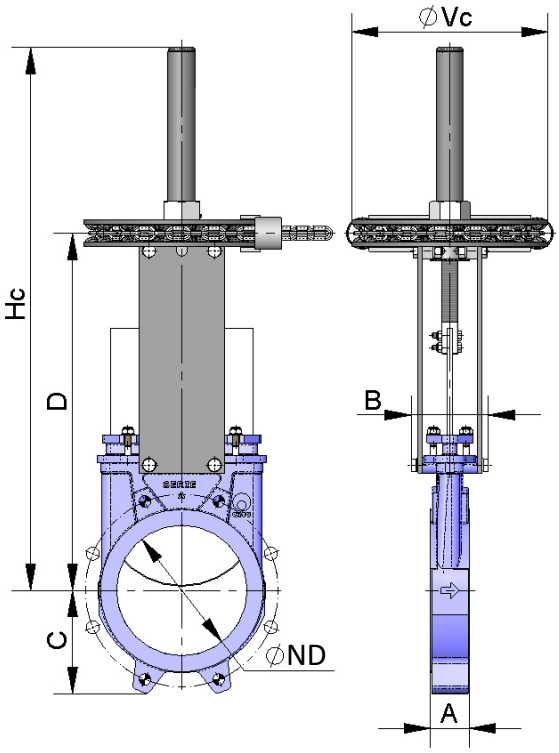
KNIFE GATE VALVE FIG. A
Chainwheel

MATERIALS:
-Wheel in nodular iron

OPTIONS:
-Locking devices
-Extensions: stand, pipe, plates
-Non-rising stem
-DN higher than those given in the table

INCLUDING:
-Handwheel
-Stem
-Nut
-Hood

REMARKS:
-From DN 600, the actuator is with gears (see * in table)



Dimensions (in mm)

Ø	DN	A	B	C	D	Hc	ØVc	Kg
2”	50	40	92	63	264	409	225	7
21/2”	65	40	92	70	291	436	225	8
3”	80	50	92	92	317	469	225	9
4”	100	50	92	105	357	502	225	11
5”	125	50	102	120	390	585	225	13
6”	150	60	102	130	442	644	225	17
8”	200	60	119	160	551	815	300	29
10”	250	70	119	198	652	1016	300	40
12”	300	70	119	234	752	1116	300	53
14”	350	96	290	256	879	1336	402	93
16”	400	100	290	292	985	1442	402	126
18”	450	106	290	308	1071	1628	402	160
20”	500	110	290	340	1183	1738	402	193
24”	600	110	290	400	1389	2046	402	264
28”	700	110	320	453	1506	2406	402*	435
32”	800	110	320	503	1720	2790	402*	580
36”	900	110	320	583	1953	3130	402*	740
40”	1000	110	320	613	2137	3440	402*	925

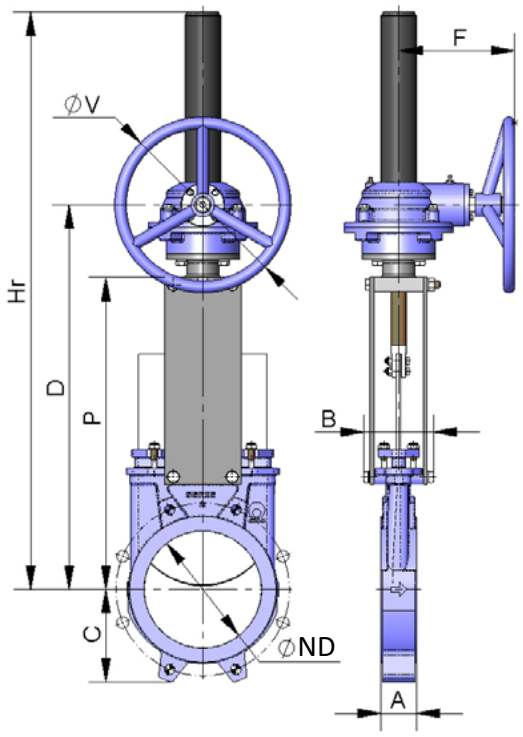
Subject to changes

KNIFE GATE VALVE FIG. A
Gearbox

OPTIONS:
-Chainwheel
-Locking devices
-Extensions: stand, pipe, plates
-Non-rising stem

INCLUDING:
-Stem
-Yoke
-Cone shaped gearbox
-Handwheel

REMARKS:
-Standard ratio = 4:1
-Gearbox can be mounted frontally (standard) or laterally (optional)



Dimensions (in mm)

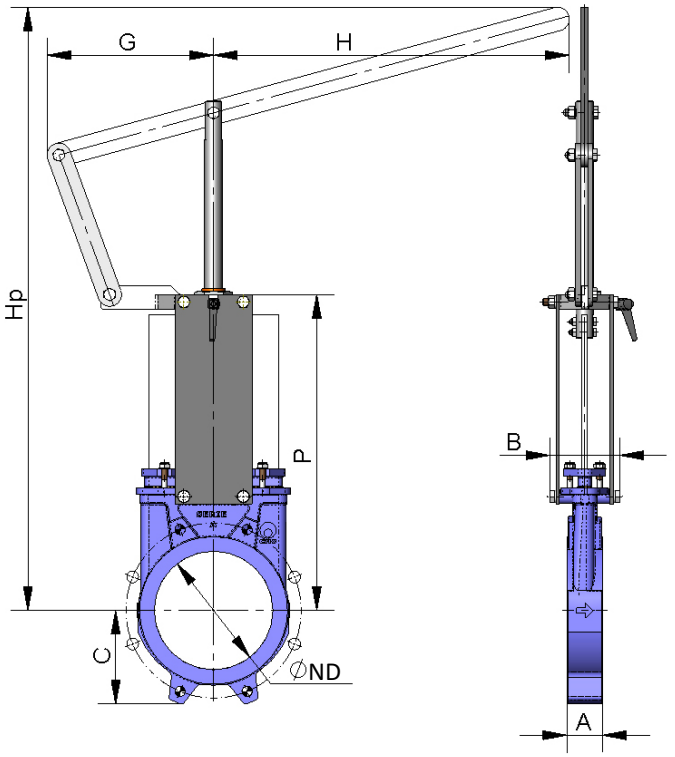
Ø	DN	A	B	C	P	D	F	ØV	Hr	Kg
2”	50	40	92	63	241	366	198	300	540	17
21/2”	65	40	92	70	268	392	198	300	566	18
3”	80	50	92	92	294	418	198	300	592	19
4”	100	50	92	105	334	458	198	300	632	20
5”	125	50	102	120	367	491	198	300	665	24
6”	150	60	102	130	419	543	198	300	717	26
8”	200	60	119	160	525	648	198	300	942	50
10”	250	70	119	198	626	749	198	300	1043	63
12”	300	70	119	234	726	850	198	300	1194	77
14”	350	96	290	256	797	891	218	450	1335	106
16”	400	100	290	292	903	997	218	450	1441	134
18”	450	106	290	308	989	1083	218	450	1677	173
20”	500	110	290	340	1101	1195	218	450	1789	216
24”	600	110	290	400	1307	1401	218	450	2045	284
28”	700	110	320	453	1506	1612	260	450	2401	430
32”	800	110	320	503	1720	1825	288	650	2715	615
36”	900	110	320	583	1953	2055	288	650	3043	768
40”	1000	110	320	613	2137	2246	288	650	3351	972

Subject to changes

KNIFE GATE VALVE FIG. A
Lever

INCLUDING:

-Lever
-Rod
-Guide bearing
-External limiting switches to maintain the position



Dimensions (in mm)

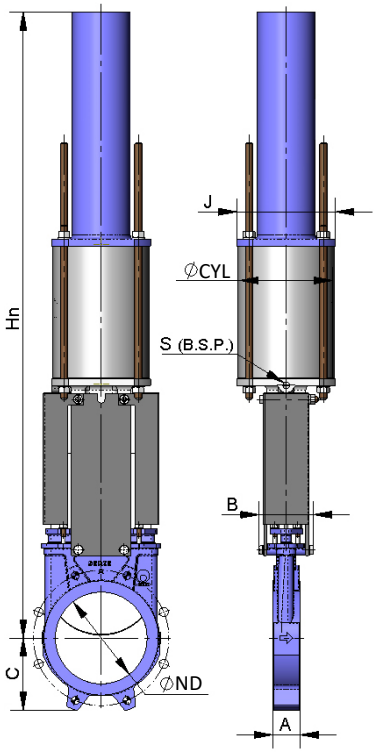
Ø	DN	A	B	C	P	G	H	Hp	Kg
2”	50	40	92	63	264	155	325	504	8
21/2”	65	40	92	70	291	155	325	526	9
3”	80	50	92	92	317	155	325	549	10
4”	100	50	92	105	357	155	325	605	11
5”	125	50	102	120	390	155	425	902	14
6”	150	60	102	130	442	155	425	956	16
8”	200	60	119	160	551	290	620	1027	32
10”	250	70	119	198	652	290	620	1416	54
12”	300	70	119	234	752	290	620	1525	57

Subject to changes

KNIFE GATE VALVE FIG. A
Spring return pneumatic actuator

MATERIALS:
-Aluminium jacket
-Covers in nodular iron or carbon steel
-Rod in AISI 304
-Piston in rubber coated steel
-O-rings in Nitrile
-Spring in steel

REMARKS:
-Working pressure between 6 and 10 kg/cm².
-Available with spring opening or closing in case of failure.
-Spring activated for valves with diameters up to DN 300.
Larger diameters require a double acting actuator.



Dimensions (in mm)

Ø	DN	A	B	C	Ø CYL	Ø ROD	J	S (B.S.P.)	Hn	Kg
2”	50	40	92	63	125	25	138	1/4”	781	19
21/2”	65	40	92	70	125	25	138	1/4”	806	22
3”	80	50	92	92	125	25	138	1/4”	833	23
4”	100	50	92	105	125	25	138	1/4”	873	24
5”	125	50	102	120	160	30	175	1/4”	909	35
6”	150	60	102	130	160	30	175	1/4”	960	36
8”	200	60	119	160	200	30	218	3/8”	1355	66
10”	250	70	119	198	250	40	270	3/8”	1844	130
12”	300	70	119	234	250	40	270	3/8”	2005	143

Subject to changes

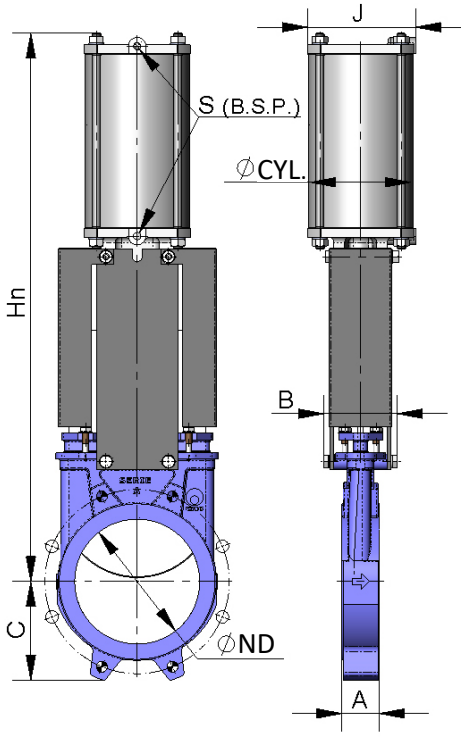
KNIFE GATE VALVE FIG. A
Double acting pneumatic actuator

MATERIALS:

-Aluminium jacket
-Covers in Aluminium (DN 50 - DN 200)
-Covers in nodular iron or carbon steel (> DN 200)
-Rod in AISI 304
-Piston in rubber coated steel
-O-rings in Nitrile

REMARKS:

-Working pressure between 6 and 10 kg/cm².
-On request, the actuator can be made entirely of stainless steel.



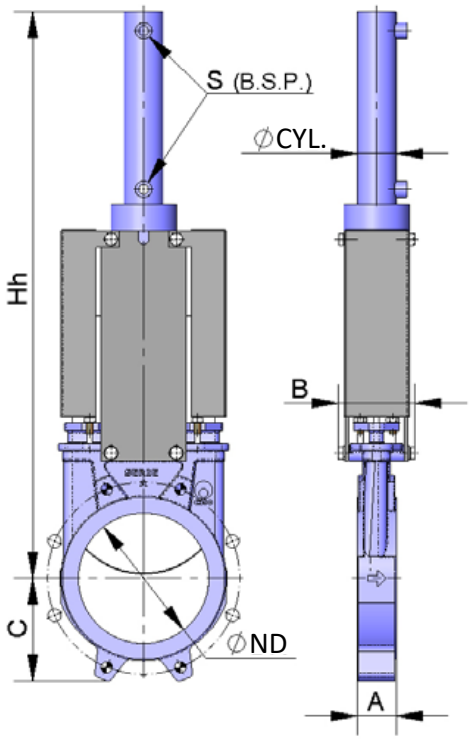
Dimensions (in mm)

Ø	DN	A	B	C	Ø CYL	Ø ROD	J	S (B.S.P.)	Hn	Kg
2”	50	40	92	63	80	20	96	1/4”	415	7
21/2”	65	40	92	70	80	20	96	1/4”	455	8
3”	80	50	92	92	80	20	96	1/4”	498	9
4”	100	50	92	105	100	20	115	1/4”	565	12
5”	125	50	102	120	125	25	138	1/4”	636	18
6”	150	60	102	130	125	25	138	1/4”	717	22
8”	200	60	119	160	160	30	175	1/4”	874	37
10”	250	70	119	198	200	30	218	3/8”	1036	58
12”	300	70	119	234	200	30	218	3/8”	1182	72
14”	350	96	290	256	250	40	270	3/8”	1380	130
16”	400	100	290	292	250	40	270	3/8”	1530	155
18”	450	106	290	308	300	45	382	1/2”	1677	225
20”	500	110	290	340	300	45	382	1/2”	1839	257
24”	600	110	290	400	300	45	382	1/2”	2146	340
28”	700	110	320	453	350	45	426	1/2”	2481	556
32”	800	110	320	503	350	45	426	1/2”	2798	679
36”	900	110	320	583	400	50	508	1/2”	3167	840
40”	1000	110	320	613	400	50	508	1/2”	3451	1053

Subject to changes

KNIFE GATE VALVE FIG. A
Hydraulic actuator

INCLUDING:
-Hydraulic cylinder
-Mounting flange



Dimensions (in mm)

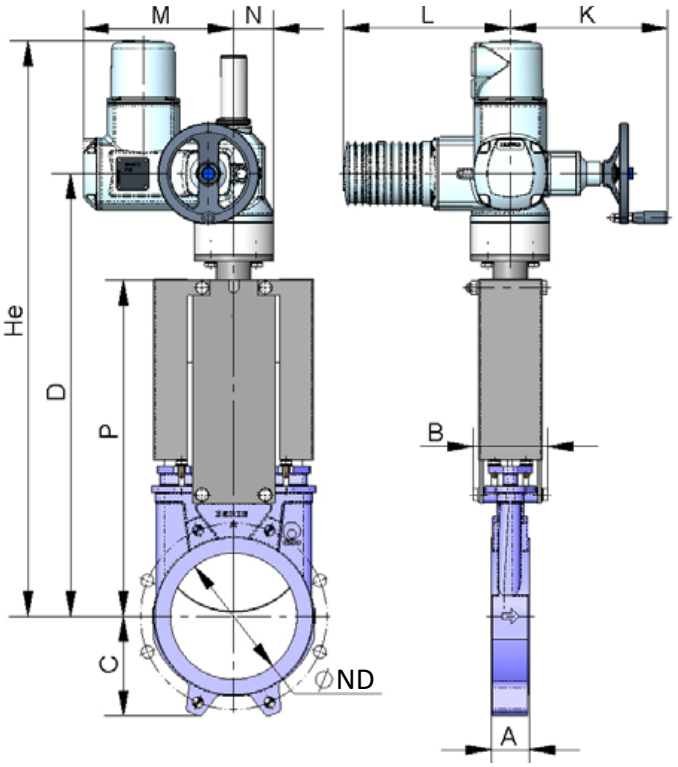
Ø	DN	A	B	C	Hh	Ø CYL	S (B.S.P.)	Ø ROD	Kg
2”	50	40	92	63	460	25	3/8”	18	7
21/2”	65	40	92	70	500	25	3/8”	18	8
3”	80	50	92	92	560	25	3/8”	18	9
4”	100	50	92	105	620	32	3/8”	22	12
5”	125	50	102	120	683	32	3/8”	22	15
6”	150	60	102	130	755	40	3/8”	28	20
8”	200	60	119	160	926	50	3/8”	28	31
10”	250	70	119	198	1077	50	3/8”	28	44
12”	300	70	119	234	1245	50	3/8”	28	62
14”	350	96	290	256	1376	50	3/8”	28	100
16”	400	100	290	292	1535	63	3/8”	36	138
18”	450	106	290	308	1710	63	3/8”	36	161
20”	500	110	290	340	1870	63	3/8”	36	223
24”	600	110	290	400	2175	80	3/8”	45	325
28”	700	110	320	453	2525	80	3/8”	45	481
32”	800	110	320	503	2839	100	1/2”	56	678
36”	900	110	320	583	3172	100	1/2”	56	861
40”	1000	110	320	613	3496	125	1/2”	70	1103

Subject to changes

KNIFE GATE VALVE FIG. A
Auma electric actuator

INCLUDING:

-Electric actuator
-Emergency handwheel
-Limit switches
-Torque switches



Dimensions (in mm)

Ø	DN	A	B	C	D	K	L	M	N	P	He	Auma	Kg
2”	50	40	92	63	400	249	265	238	62	241	595	SA 07.2	24
21/2”	65	40	92	70	426	249	265	238	62	268	622	SA 07.2	25
3”	80	50	92	92	452	249	265	238	62	294	647	SA 07.2	26
4”	100	50	92	105	492	249	265	238	62	334	687	SA 07.2	27
5”	125	50	102	120	525	249	265	238	62	367	720	SA 07.2	30
6”	150	60	102	130	577	249	265	238	62	419	772	SA 07.2	32
8”	200	60	119	160	685	249	265	238	62	525	990	SA 07.2	42
10”	250	70	119	198	785	249	265	238	62	626	1090	SA 07.2	55
12”	300	70	119	234	885	249	265	238	62	726	1190	SA 07.6	72
14”	350	96	290	256	940	254	283	248	65	797	1305	SA 10.2	99
16”	400	100	290	292	1045	254	283	248	65	903	1460	SA 10.2	136
18”	450	106	290	308	1175	336	389	286	91	989	1755	SA 10.2	166
20”	500	110	290	340	1290	336	389	286	91	1101	1870	SA 10.2	245
24”	600	110	290	400	1495	336	389	286	91	1307	2045	SA 14.2	362
28”	700	110	320	453	1661	336	389	286	91	1506	2401	SA 14.2	432
32”	800	110	320	503	1875	339	389	286	91	1720	2715	SA 14.6	630
36”	900	110	320	583	2108	339	389	286	91	1953	3043	SA 14.6	764
40”	1000	110	320	613	2292	339	389	286	91	2137	3351	SA 14.6	998

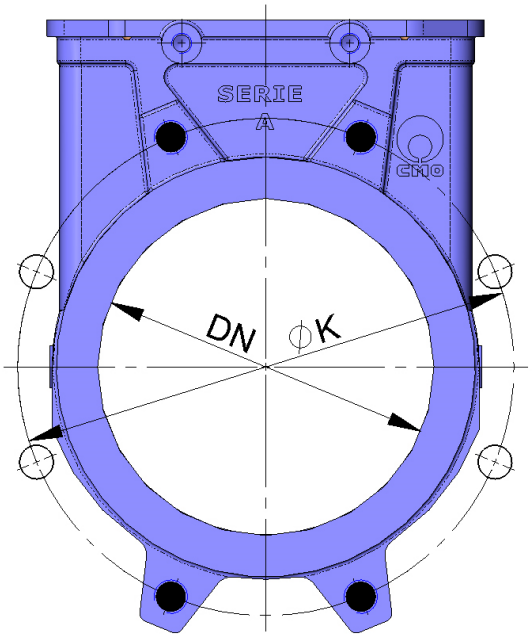
Subject to changes

Connection DIN

Ø	DN	●	○	Metric	P	ØK
2”	50	4	-	M16	8	125
21/2”	65	4	-	M16	8	145
3”	80	4	4	M16	9	160
4”	100	4	4	M16	9	180
5”	125	4	4	M16	9	210
6”	150	4	4	M 20	10	240
8”	200	4	4	M 20	10	295
10”	250	6	6	M 20	12	350
12”	300	6	6	M 20	12	400
14”	350	10	6	M 20	21	460
16”	400	10	6	M 24	21	515
18”	450	14	6	M 24	22	565
20”	500	14	6	M 24	22	620
24”	600	14	6	M 27	22	725
28”	700	16	8	M 27	22	840
32”	800	16	8	M 30	22	950
36”	900	20	8	M 30	20	1050
40”	1000	20	8	M 33	20	1160

● Blind tapped holes

○ Through holes

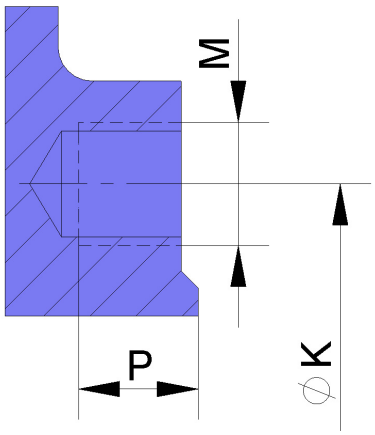


Connection ANSI

Ø	●	○	R UNC	P	ØK
2”	4	-	5/8”	8	120,6
21/2”	4	-	5/8”	8	139,7
3”	4	-	5/8”	9	152,4
4”	4	4	5/8”	9	190,5
5”	4	4	3/4”	9	215,9
6”	4	4	3/4”	10	241,3
8”	4	4	3/4”	10	298,4
10”	6	6	7/8”	12	361,9
12”	6	6	7/8”	12	431,8
14”	8	4	1”	21	476,2
16”	10	6	1”	21	539,7
18”	10	6	1 1/8”	22	577,8
20”	14	6	1 1/8”	22	635
24”	14	6	1 1/4”	22	749,3
28”	20	8	1 1/4”	22	863,6
30”	20	8	1 1/4”	22	914,4
32”	18	10	1 1/2”	22	977,9
36”	20	12	1 1/2”	20	1085,9
40”	24	12	1 1/2”	20	1200,2

● Blind tapped holes

○ Through holes



Subject to changes