BIDIRECTIONAL TIGHTNESS KNIFE GATE VALVE AISI 316 - NBR PN10 S-GATE

PRODUCT EVOLUTION

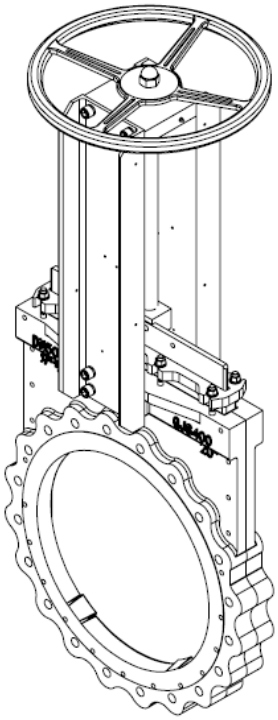
Be careful our knife gate valves DN500 are changing

We currently have 2 different types available with different dimensions:

Old design DN500:



New design DN500 2 pieces body:



At the end, only the new type DN500 with 2 pieces body will be available

Gegevens ter indicatie, wijzigingen voorbehouden.

ADL APPENDAGES

S-GATE®

REF. 178I

BIDIRECTIONAL TIGHTNESS KNIFE GATE VALVE AISI 316 - NBR PN10 S-GATE

Bidirectional cast iron knife gate valve for water, water treatment, chemical pulp, powders, food industry, chemistry
PTFE packing with ductile iron packing gland nut for a better mechanical resistance.
Centered index allowing the installation of the sensor with a small footprint.
Ribbed support plate for a better rigidity.
Interchangeable seat (NBR, EPDM, FKM).

Certificate

3.1



Size :	DN50 to DN500
Connection :	Between flanges PN10
Min Temperature :	-10°C
Max Temperature :	+90°C
Max Pressure :	10 Bars up to DN200
Specifications :	Non rising stem and handwheel Bidirectional tightness Weak head loss AISI 316 gate
Materials :	Cast iron EN GJL-250

Gegevens ter indicatie, wijzigingen voorbehouden.

ADL APPENDAGES

S-GATE®

REF. 178I

BIDIRECTIONAL TIGHTNESS KNIFE GATE VALVE AISI 316 - NBR PN10 S-GATE

SPECIFICATIONS :

- Opened or closed valve
- Non rising stem and handwheel
- Bidirectional tightness
- Weak head loss
- Between flanges PN10
- Full crossing threaded lower holes and blind threaded top holes
- With handwheel
- With lever or chain handwheel (option)
- 50% epoxy 50% polyester painting blue colour RAL 5005, 150 µm thickness
- AISI 316 gate

USE :

- Water, water treatment, chemical pulp, powders, food industry, chemistry
- Min and max Temperature Ts : - 10°C to + 90°C for valve with **NBR** seat **Ref.178I**
- Min and max Temperature Ts : - 10°C to + 180°C for valve with **FKM** seat (on request)

MAX PRESSURE :

DN	50	65	80	100	125	150	200	250	300	350	400	450	500
Ps (Bars)	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**8**	**6**	**4**	**4**	**3**	**3**

REPAIRABILITY :

Gaskets kit including:

- Seat
- Packing O-ring
- 2 PTFE packings



SEAT	TEMPERATURE	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200	DN 250	DN 300
NBR	**-10°C to +90°C**	**9802240**	**9802241**	**9802242**	**9802243**	**9802244**	**9802245**	**9802246**	**9802247**	**9802248**
EPDM	-15°C to +130°C	9802260	9802261	9802262	9802263	9802264	9802265	9802266	9802267	9802268
FKM	**-10°C to +180°C**	**9802280**	**9802281**	**9802282**	**9802283**	**9802284**	**9802285**	**9802286**	**9802287**	**9802288**

SEAT	TEMPERATURE	DN 350	DN 400	DN 450	DN 500
NBR	**-10°C to +90°C**	**9802249**	**9802250**	**9802251**	**9802252**
EPDM	-15°C to +130°C	9802269	9802270	9802271	9802272
FKM	**-10°C to +180°C**	**9802289**	**9802290**	**9802291**	**9802292**

BIDIRECTIONAL TIGHTNESS KNIFE GATE VALVE AISI 316 - NBR PN10 S-GATE

NUMBER OF CYCLES TO CLOSE OR OPEN THE VALVE :

DN	50	65	80	100	125	150	200	250	300
Number of cycles	15	19	23	28	34	40	42	52	62

DN	350	400	450	500
Number of cycles	60	69	78	86

FLOW COEFFICIENT Kvs (M3 / h) :

DN	50	65	80	100	125	150	200	250	300
Kvs (m3/h)	447	755	1144	1787	2793	4021	7149	11171	16086

DN	350	400	450	500
Kvs (m3/h)	21895	28597	36193	44683

HEAD LOSS CALCULATION :

$\Delta p = (Q / Kv)^2 \times SG$

Q : flow in m^3/h

Δp : Head loss in bar

SG : Specific gravity (= 1 for water)

Kv : Volume of water in m^3/h, that will flow through a given restriction or valve opening with a pressure drop of 1 bar at 20°C)

TORQUE VALUES (in Nm without safety coefficient) :

DN	50	65	80	100	125	150	200	250	300
Torque (Nm)	8	10	12	14	16	24	24	38	32

DN	350	400	450	500
Torque (Nm)	51	61	65	72

STEM THREADING SIZE :

DN	50	65	80	100	125	150	200	250	300
Threading (mm)	Tr 20x4						Tr 25x5		

DN	350	400	450	500
Threading (mm)	Tr 35x6			

Gegevens ter indicatie, wijzigingen voorbehouden.

BIDIRECTIONAL TIGHTNESS KNIFE GATE VALVE AISI 316 - NBR PN10 S-GATE

RANGE :



- Between flanges PN10, Cast iron body, SS 316 gate, NBR seat, with handwheel **Ref. 178I** from DN 50 to DN 500



- Bipolar sensors O + C kit **Ref. 9801351 and 9801352** from DN 50 to DN 300



- Sensor (alone) **Ref. 9801350** from DN 50 to DN 700



- Chain handwheel (on request)
  - **Ref. 9801796** from DN 50 to DN 150
  - **Ref. 9801797** from DN 200 to DN 300
  - **Ref. 9801798** from DN 350 to DN 500



- Chain (per meter) **Ref. 9801795**



- Stainless steel support with bolting **Ref. 9802001 to 9802011** from DN 50 to DN 400

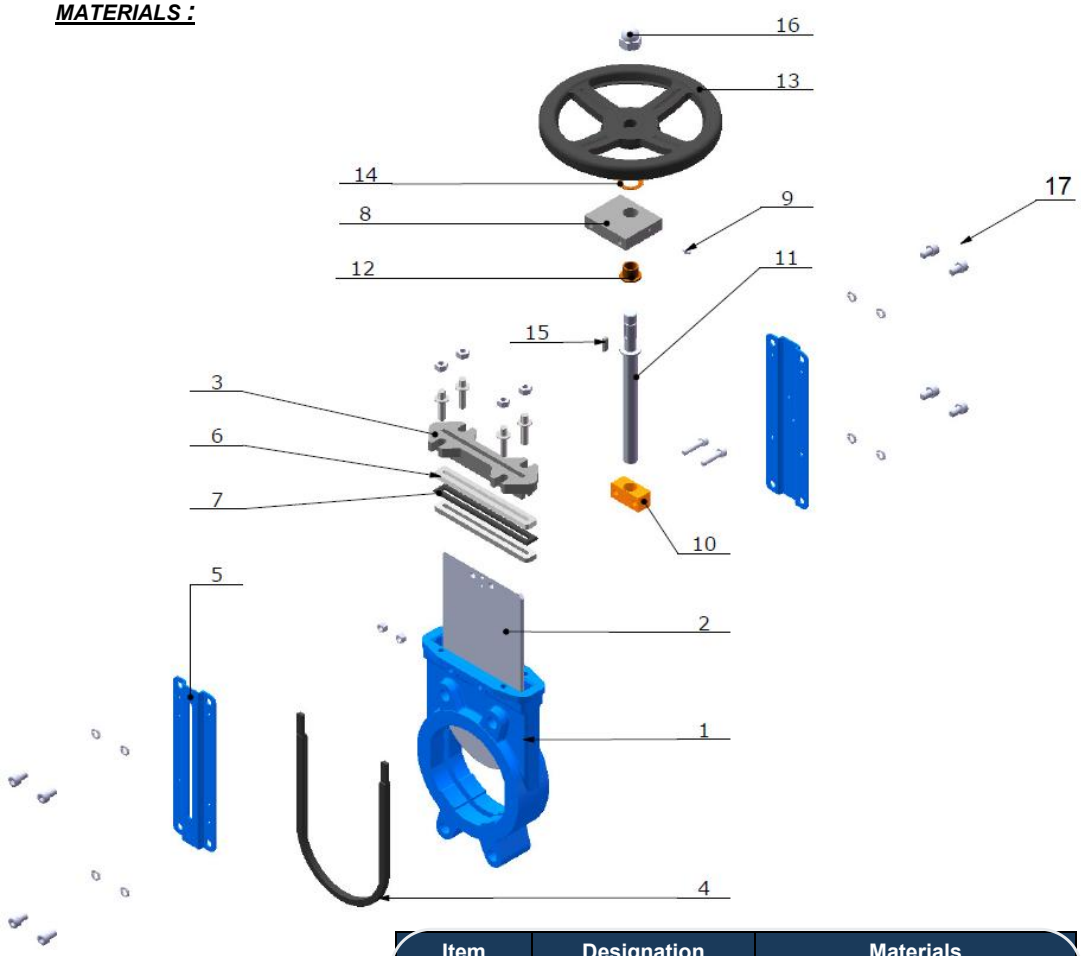
ADL APPENDAGES

S-GATE®

REF. 178I

BIDIRECTIONAL TIGHTNESS KNIFE GATE VALVE AISI 316 - NBR PN10 S-GATE

MATERIALS :



Repairability :



*Gaskets kit (items 4, 6 and 7)	
DN (mm)	**Ref.**
50	9802240
65	9802241
80	9802242
100	9802243
125	9802244
150	9802245
200	9802246
250	9802247
300	9802248
350	9802249
400	9802250

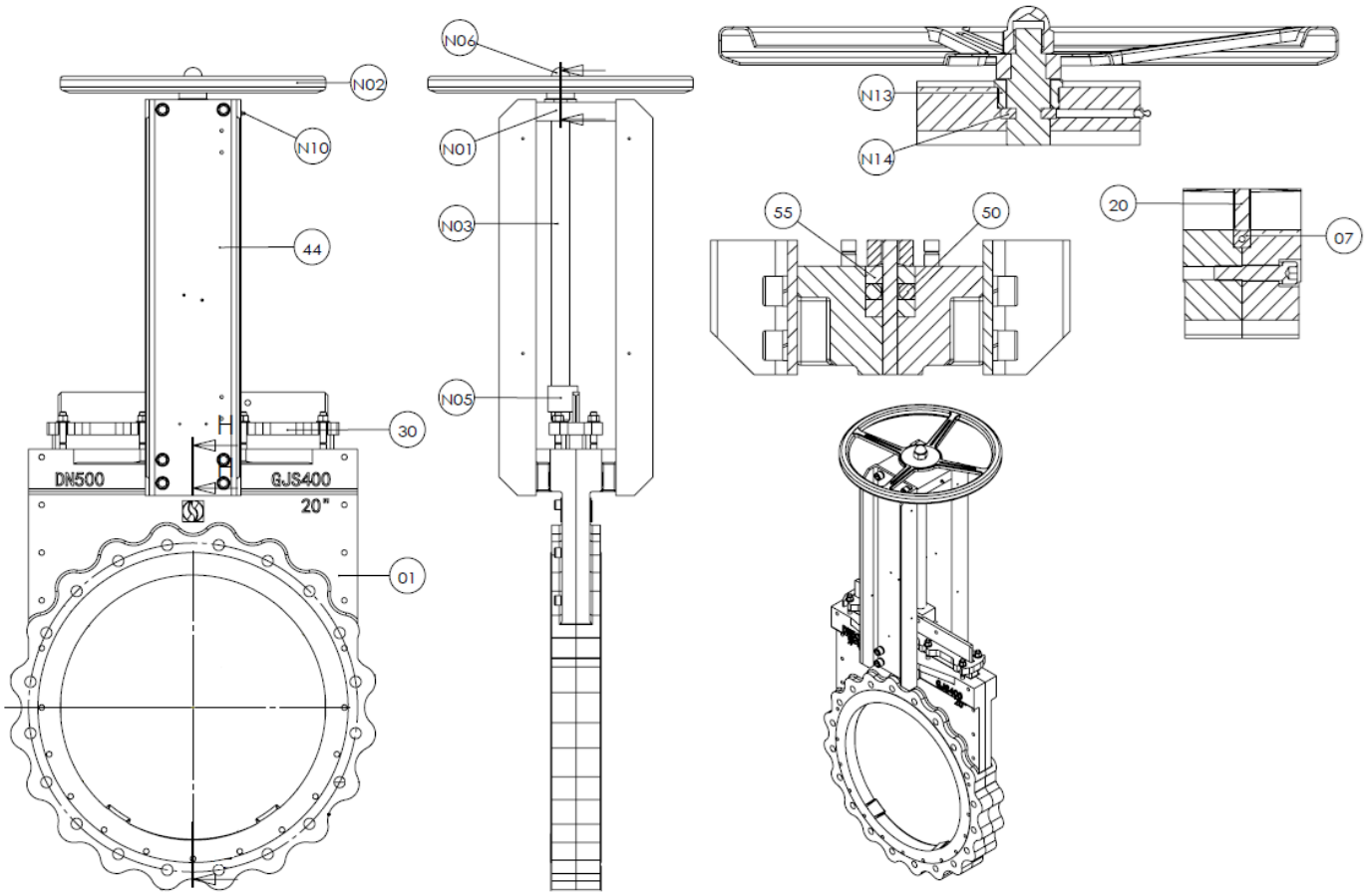
(*) : included in gasket kit

**** : modification of the design in progress for the DN500 (see page 7)**

Item	Designation	Materials
1	Body DN50-300	Cast iron EN GJL-250
	Body DN350-500**	Ductile iron EN GJS-400 or 500
2	Gate	AISI 316
3	Packing gland	Ductile Iron EN GJS-400-15
4*	Seat	NBR
5	Support	Painted steel
6*	Packing (Tress)	PTFE
7*	Packing (O ring)	NBR
8	Yoke	A3 Steel
9	Greaser	Steel
10	Stem nut	Bronze
11	Stem	AISI 304
12	Stem nut	Bronze
13	Handwheel	A3 Steel
14	Ring	Bronze
15	Pin	Steel
16	Handwheel nut	Zinc-coated Steel
17	Bolting	AISI 316

BIDIRECTIONAL TIGHTNESS KNIFE GATE VALVE AISI 316 - NBR PN10 S-GATE

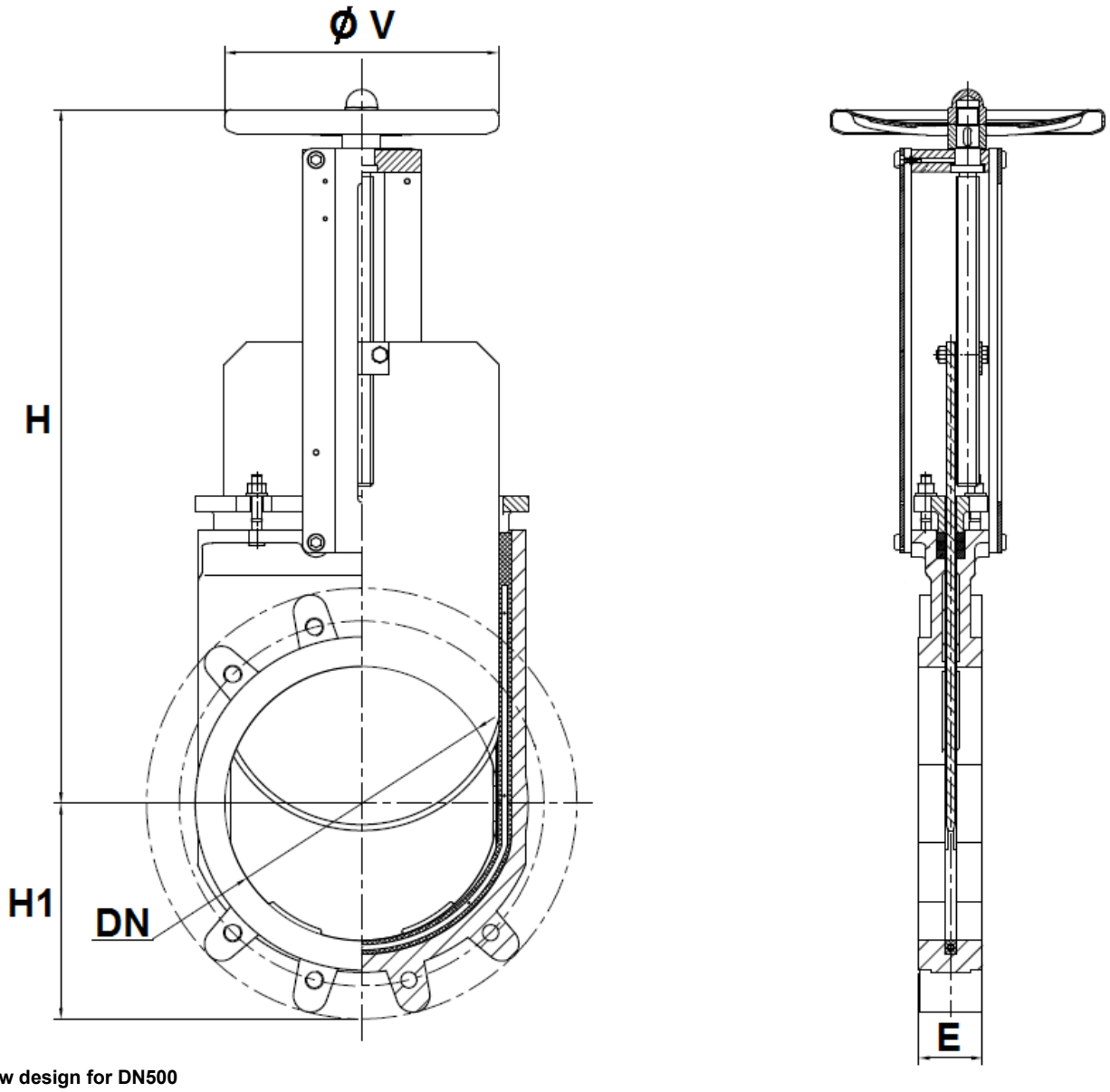
MATERIALS DN500 WITH NEW DESIGN (2 PIECES BODY):



Item	Designation	Materials
01	Body	Ductile iron EN GJS-400
07	Seat	NBR
20	Gate	AISI 316
30	Packing gland	Ductile iron EN GJS-400-15
44	Support	Painted steel A3
50	Packing (O ring)	NBR
55	Packing (Tress)	PTFE
N01	Yoke	Steel A3
N02	Handwheel	Steel A3
N03	Stem	AISI 304
N05	Stem nut	Bronze
N06	Handwheel nut	Steel
N10	Greaser	Bronze
N13	Lock ring	Steel
N14	Washer	Bronze

BIDIRECTIONAL TIGHTNESS KNIFE GATE VALVE AISI 316 - NBR PN10 S-GATE

SIZE (in mm) :



** : new design for DN500

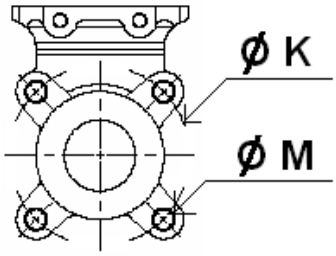
DN	50	65	80	100	125	150	200	250	300	350	400	450	500	500**
E	40	40	50	50	50	60	60	70	70	96	100	106	110	95
H	286	316	342	382	415	458	575	676	776	906	1012	1098	1210	1190
H1	63	70	92	105	120	130	160	198	234	256	292	308	340	344
Ø V	200	200	200	200	250	250	300	300	300	500	500	500	500	500
Weig. (Kg)	6.2	6.8	8	9.9	12.7	16.9	27	42.7	59	119	144	166	203	267
Ref.	178I050	178I065	178I080	178I100	178I125	178I150	178I200	178I250	178I300	178I350	178I400	178I450	178I500	

Gegevens ter indicatie, wijzigingen voorbehouden.

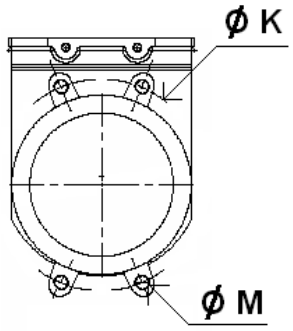
BIDIRECTIONAL TIGHTNESS KNIFE GATE VALVE AISI 316 - NBR PN10 S-GATE

SIZE FIXING VALVE THREADED HOLES (BETWEEN FLANGES PN10 in mm) :

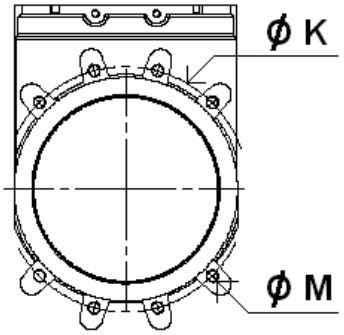
DN 50 – 65



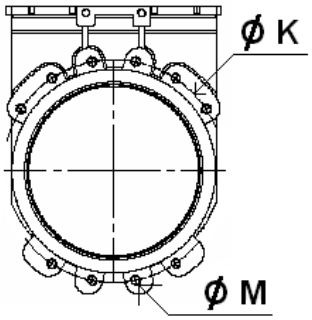
DN 80 – 200



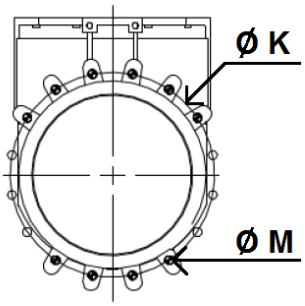
DN 250 - 300



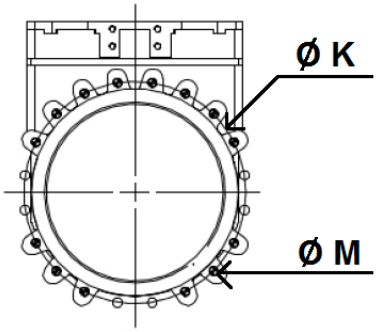
DN 350



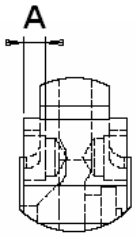
DN 400



DN 450-500



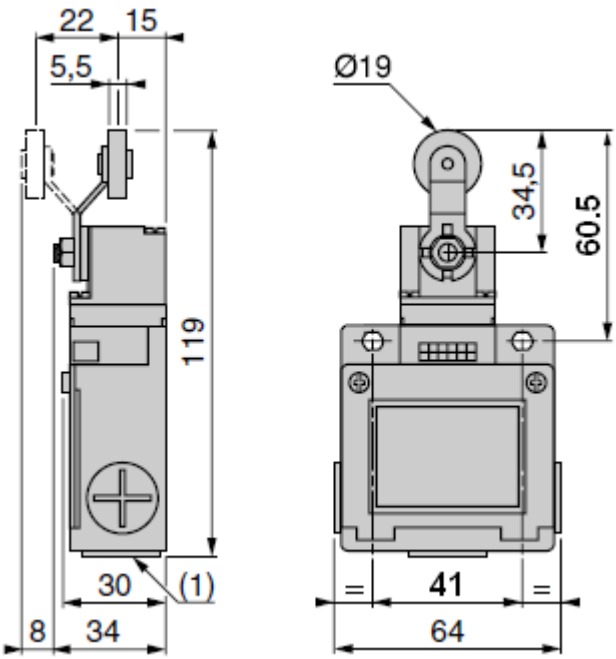
THREADED LENGHT FOR TOP BLIND HOLES :



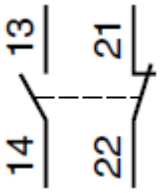
DN	50	65	80	100	125	150	200	250	300	350	400	450	500
Ø K	125	145	160	180	210	240	295	350	400	460	515	565	620
Ø M	M16	M16	M16	M16	M16	M20	M20	M20	M20	M20	M24	M24	M24
Nb threaded hole	4	4	4	4	4	4	4	8	8	10	10	14	14
A	8	8	9	9	9	10	10	12	12	20	20	24	24

BIDIRECTIONAL TIGHTNESS KNIFE GATE VALVE AISI 316 - NBR PN10 S-GATE

SENSOR SIZE (in mm) AND SCHEMA :



Bipolar sensor O + C
(XE2S P2151)



STANDARDS :

- Manufacturer certified ISO 9001 : 2015
- DIRECTIVE 2014/68/UE: For Liquids of group 1 and Gas of Group 2
    - DN50-100 : Article 4, §3 (SEP), no CE marking

BIDIRECTIONAL TIGHTNESS KNIFE GATE VALVE AISI 316 - NBR PN10 S-GATE

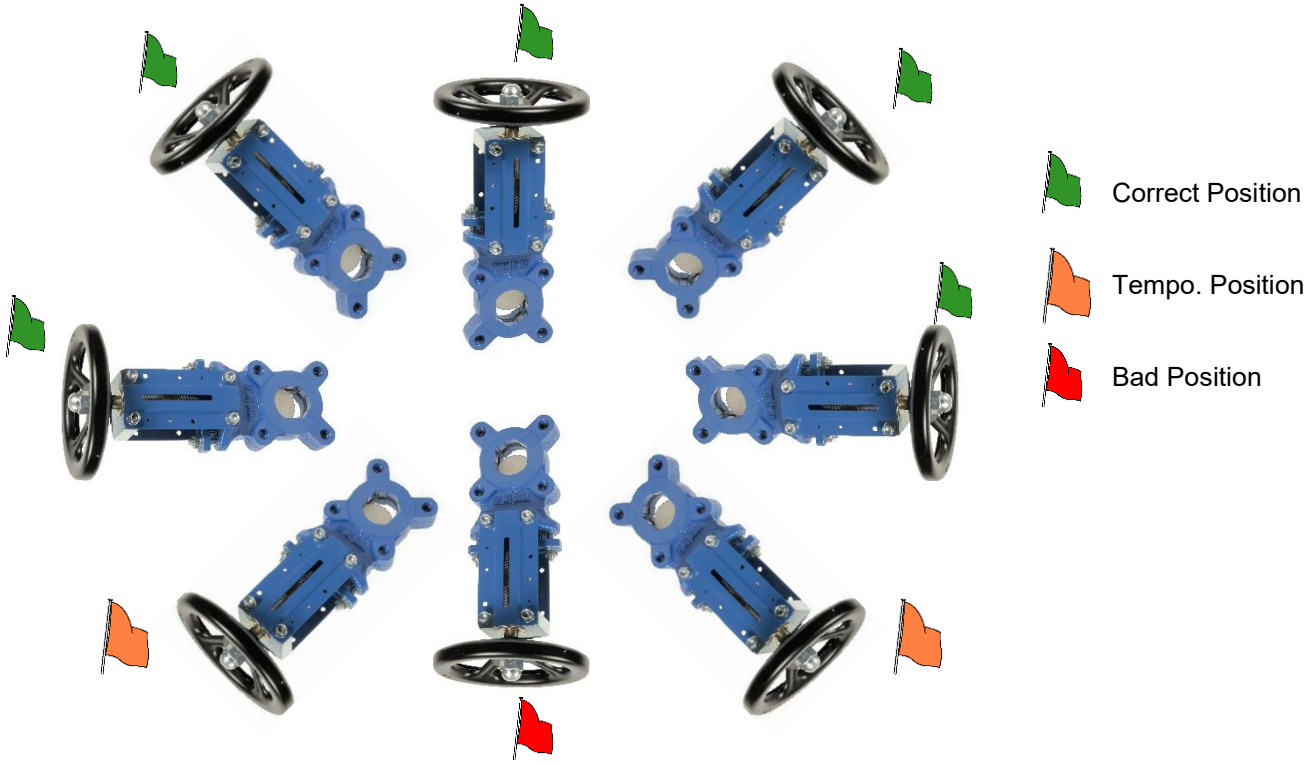
INSTALLATION INSTRUCTIONS :

GENERAL GUIDELINES :

- Ensure that the valves to be used are appropriate for the conditions of the installation (type of fluid,pressure and temperature).
- Be sure to have enough valves to be able to isolate the sections of piping as well as the appropriate equipment for maintenance and repair.
- Ensure that the valves to be installed are of correct strenght to be able to support the capacity of their usage.
- **Installation of all circuits should ensure that their function can be automatically tested on a regular basis (at least two times a year).**

INSTALLATION INSTRUCTIONS :

- **Before installing the valves,clean and remove any objects from the pipes** (in particular bits of sealing and metal) which could obstruct and block the valves.
- **Ensure that both connecting pipes either side of the valve (upstream and downstream) are aligned (if they're not,the valves may not work correctly).**
- **Make sure that the two sections of the pipe (upstream and downstream) match,the valve unit will not absorb any gaps.Any distortions in the pipes may affect the thightness of the connection,the working of the valve and can even cause a rupture.**To be sure,place the kit in position to ensure the assembling will work.
- **If sections of piping do not have their final support in place,they should be temporarily fixed.This is to avoid unnecessary strain on the valve.**
- During installation operation , do not carry the valves by the handwheel.
- Valves can be installed in all positions but we recommend the above positions :



BIDIRECTIONAL TIGHTNESS KNIFE GATE VALVE AISI 316 - NBR PN10 S-GATE

INSTALLATION INSTRUCTIONS (SUITE) :

- If the valve is installed at the end of the pipe, it must be between 2 flanges.
- Tighten the bolts in cross. For blind holes, use studs to have a good tightening and tighten them carrefully so that they don't touch the gate.
- During cleaning operation, the valves must be opened.
- Tests must be done with cleaned installation and pipe.
- Test must be done with partially opened valve. Test pressure must not exceed valve specification according to ISO 5208.
- Open carrefully the valve.
- Tighten the gland packing at the first start of the installation (with a moderate torque) so that there's no leakage and the handwheel is easy to operate. Make sure there's no contact between the gate and the gland.
- Keep greased the stem.
- It's recommended to operate the valve (open and close) 1 time per month

Gegevens ter indicatie, wijzigingen voorbehouden.