

BI-DIRECTIONAL KNIFE GATE VALVE PR SERIES



KGV PR SERIES FULLY LUGGED
WITH RISING STEM & HANDWHEEL



KGV PR SERIES FULLY LUGGED
WITH D/A PNEUMATIC ACTUATOR



KGV PR SERIES FULLY
LUGGED WITH LEVER

The PR series knife gate is a Bi-directional resilient seated valve designed to handle semi-solid and arid mediums, sludge and general industrial applications. Equipped with adjustable stuffing box mounted on top of the body valve, allows upper sealing replacement without valve disassembling from the pipeline.

GENERAL FEATURES

- 100 % water tight in both senses
- U-seat with a steel stiff core vulcanized, fixed between the two bodies by screws
- Adjustable external stuffing box, allowing upper sealing replacement without valve disassembling from the pipeline
- Two split body arrangements: fully lug-between flanges and fully lug-end valve without counter flange.
- Short face-to-face dimension
- Smooth and unobstructed full flow passage, no cavity or void in body, means no clogging
- Easy drive replacement
- Self cleaning design; little maintenance required

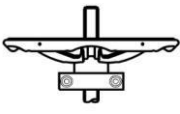
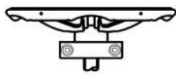
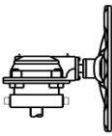

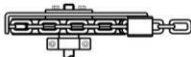
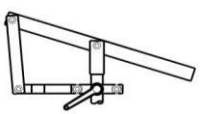
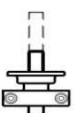

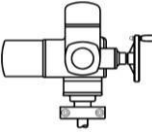


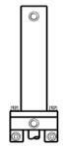
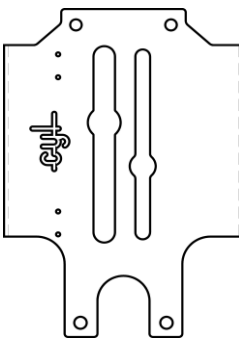
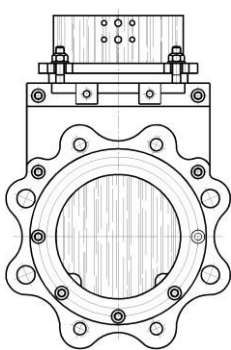
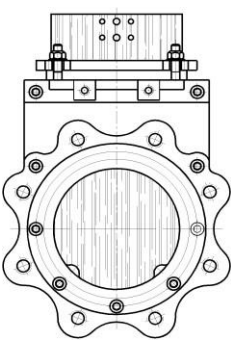
APPLICATION FIELDS

- Wastewater treatment plants
- Pulp and paper
- Bulk handling
- Mining
- Biomass
- Food and beverage
- Tunnel boring
- Oil rigs
- Fish handling
- Etc

TECHNICAL DATA

- **Size range:**
DN-50 (2") to DN-1000 (40")
- **Working pressure:**
DN 50 to DN 300: 10 kg/cm²
DN 350 to DN400: 6 kg/cm²
DN 450 to DN 600: 4 kg/cm²
DN 700 to DN 900: 3 kg/cm²
DN 1000: 2 kg/cm²
DN 1200: 1 kg/cm²
- **Flange ratings:**
PN10, PN16 and ANSI B16.5 (class 150)
Note: other flange drillings under request
- **Face to face dimension:**
According to K1 DIN3202 up to DN-350
- **Coating:**
RAL 5017, 150 microns epoxy coated
- **Directives:**
Pressure equipment directive 97/23/CE
DIR 2006/42/CE (MACHINES)
DIR 94/9/CE (ATEX)
Approved certificate for potable water
(ACS-Atestation De Conformite Sanitaire)

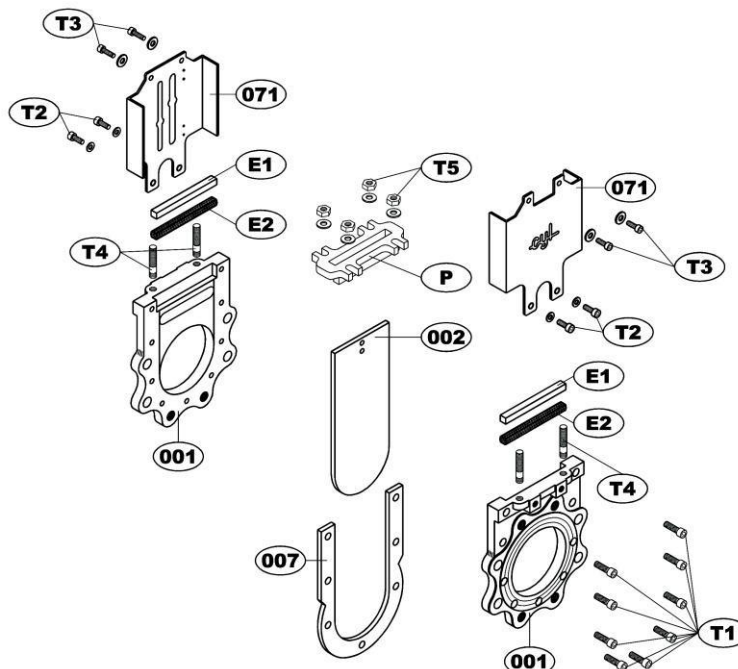
ASSEMBLY CONFIGURATION

<p>OPERATION</p>	 <p>Rising stem handwheel</p>  <p>Non rising stem handwheel</p>  <p>Gearbox</p>  <p>Key Cap</p>  <p>Chain Wheel</p>  <p>Quick closing lever</p>  <p>Rising stem coupling A</p>  <p>Non rising stem coupling B-3</p>  <p>Electric actuator</p>  <p>Double acting pneumatic actuator</p>  <p>Spring-return pneumatic actuator</p>  <p>Oil hydraulic actuator</p>
<p>PLATES</p>	 <p>Plates</p>
<p>BODY</p>	 <p>Fully lugged - between flanges (partly tapped and partly through holes)</p>  <p>Fully lugged - end valve (All holes threaded)</p>
<p>ACCESSORIES</p>	<ul style="list-style-type: none"> - Revolving handle - Locking device - Overriding actuator - Limit stroke - Mechanical limit switches - Proximity limit switches - Mechanical position indicator - V-port (Aisi 316) - Deflector cone (Ni-hard) - Chest scraper (Bronze / PPS plastic) - Solenoid valve - Extension, extended guided plates - Etc.

MATERIAL SPECIFICATION & PART LIST

No.	DESCRIPTION	MATERIAL
001	Body	Ductile iron - GJS400 CF8M – stainless steel
007	Seat	NBR (standard) EPDM, PTFE, VITON, POLIURETHANE (optional)
002	Gate	SS 316L (standard) SS 316TI, DUPLEX 2205, SMO 254 (optional)
E	Packing material	PTFE+NBR, (standard) PTFE+EPDM, PURE PTFE, ARAMIDE, GRAPHITE (optional)
P	Packing gland	Ductile iron - GJS400 CF8M – stainless steel
T	Screws and nuts	A4
071	Plates	1.0580 (standard) SS 316 (optional)
-	Stem	SS 316
-	Bearing	1.0401 (standard) SS 316 (optional)
-	Handwheel	1.0037
-	Pneumatic act.	Aluminium

Figure 1. Exploded view of KGV PR series



SEAT TYPE

The seat consists of one piece vulcanized u-shaped rubber seat (optionally PTFE) with steel stiff core inside, fixed between the two half bodies by screws, providing a bubble-tight shut off on both directions and avoiding at the same time, any build-up of fluids inside the body that would prevent the valve from closing.

APPLICATION AND TEMPERATURE RANGE

SEAT MATERIALS			
Material	Min. temperature (°C)	Max. temperature (°C)	APPLICATIONS
NBR	-30	+80	Hydrocarbons and biogas waste
EPDM	-30	+90	Clean and chlorided water
EPDM - POTABLE	-30	+90	Approved certificate for potable water
VITON	-40	+180	Organic acids, hydrocarbons and heat resistant
PTFE	-10	+200	Heat, friction, acids, chemical and corrosion resistant
POLIURETHANE	-10	+80	Abrasive mediums/mineral handling
WHITE NBR	-10	+60	Food industry
RED SILICONE	-20	+180	Food industry (FDA conformity)

* More details and other sealing materials under request.

PACKING MATERIALS			
Material	Min. temperature (°C)	Max. temperature (°C)	APPLICATIONS
PTFE+NBR	-30	+100	Hydrocarbons and biogas waste
PURE PTFE	-10	+200	Heat, acids, chemical and corrosion resistant
ARAMIDE	-40	+250	Bulk handling
GRAPHITE	-40	+300	Hydrocarbons, heat resistant and solids

*More details and other sealing materials under request.

DIMENSIONAL DRAWINGS

Figure 2. KGV PR series fully lugged rising stem & handwheel

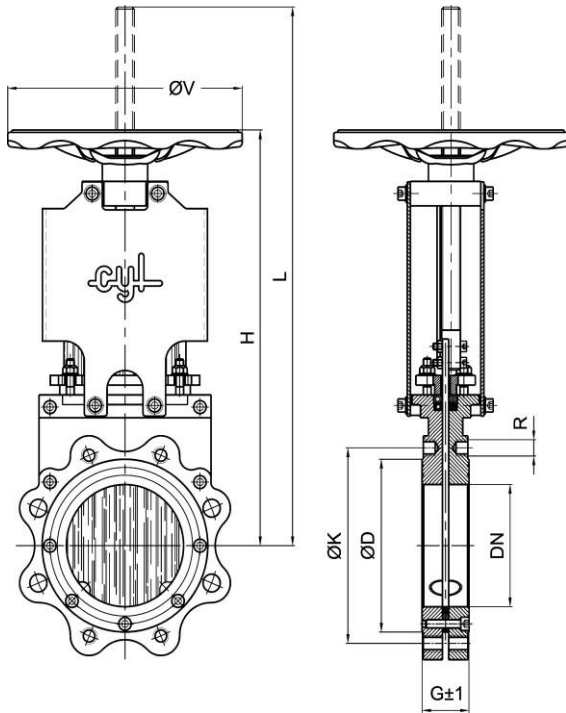


Figure 3. KGV PR series fully lugged with d/a pneumatic actuator

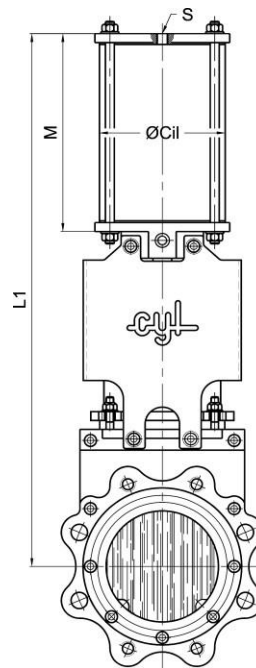
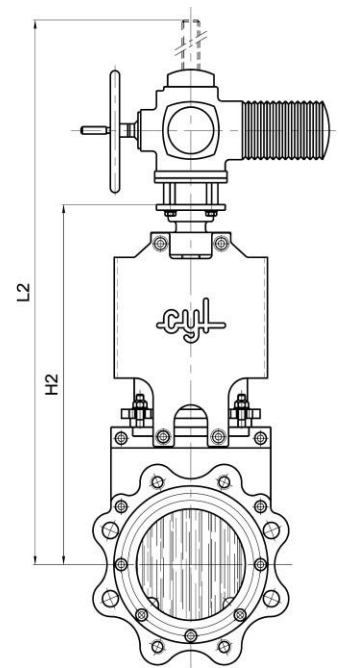


Figure 4. KGV PR series fully lugged with electric actuator r.s.



DN	G±1	L	H	ØV	L1	L2	H2	M	Ø Cil	S	Min. Torque (Nm)	Max. Torque (Nm)	Spindle thread
50	43	359	292	175	398	407	300	147	80	1/4 " G	8	16	Tr18x4i
65	46	399	317	175	436	444	325	160	80	1/4 " G	10	17	Tr18x4i
80	46	444	361	225	486	499	357	177	100	1/4 " G	12	19	Tr20x4i
100	52	499	396	225	541	582	392	197	100	1/4 " G	15	22	Tr20x4i
125	56	560	432	225	612	618	428	232	125	3/8 " G	17	24	Tr20x4i
150	56	674	523	300	732	732	510	267	160	3/8 " G	25	50	Tr24x5i
200	60	824	623	300	892	882	610	327	190	1/2 " G	27	53	Tr24x5i
250	68	980	729	300	1046	1044	716	375	190	1/2 " G	50	69	Tr24x5i
300	78	1160	858	400	1217	1219	834	428	190	1/2 " G	63	84	Tr28x5i
350	78	1303	951	400	1381	1362	927	499	250	1/2 " G	78	102	Tr28x5i
400	90	1433	1050	400	1530	1501	1026	549	250	1/2 " G	90	110	Tr28x5i
450	90	1677	1234	500	1737	1685	1135	590	300	1/2 " G	215	259	Tr40x7i
500	95	1819	1311	500	1878	1829	1214	656	300	1/2 " G	223	320	Tr40x7i
600	105	2106	1498	500	2166	2116	1401	757	300	1/2 " G	249	388	Tr40x7i

* Valves above DN-700 need to be operated with gearbox and handwheel.
 * Data sheet for ØK & ØD stated in "flange drillings chapter".

Figure 5. KGV PR series fully lugged Handwheel and gearbox

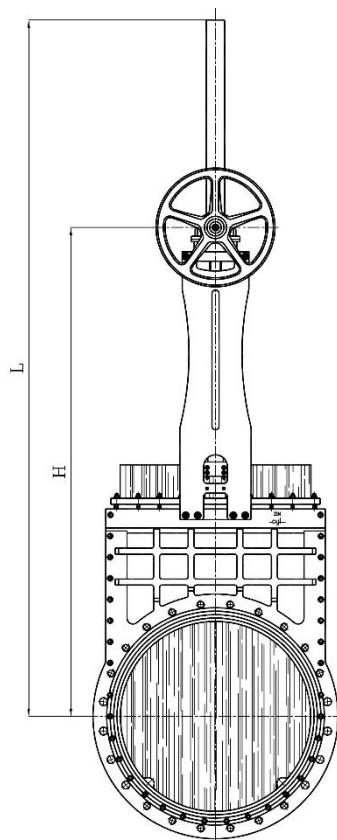


Figure 6. KGV PR series fully lugged with electric actuator

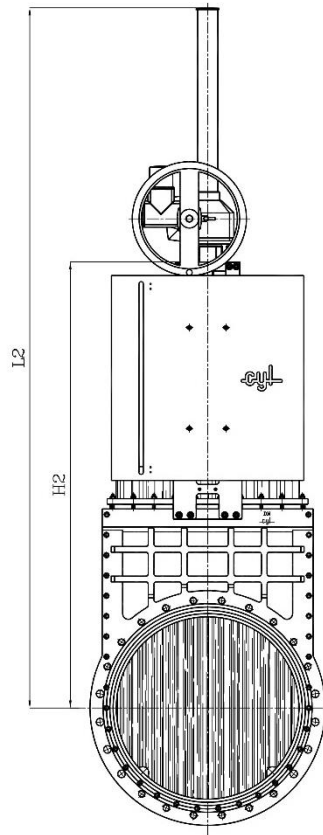
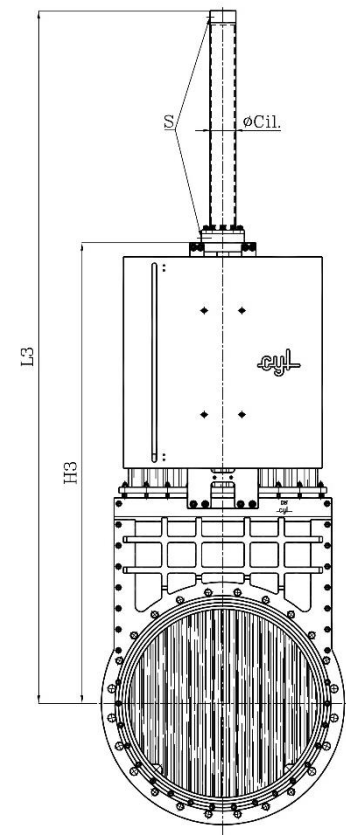


Figure 7. KGV PR series fully lugged with hydraulic actuator.

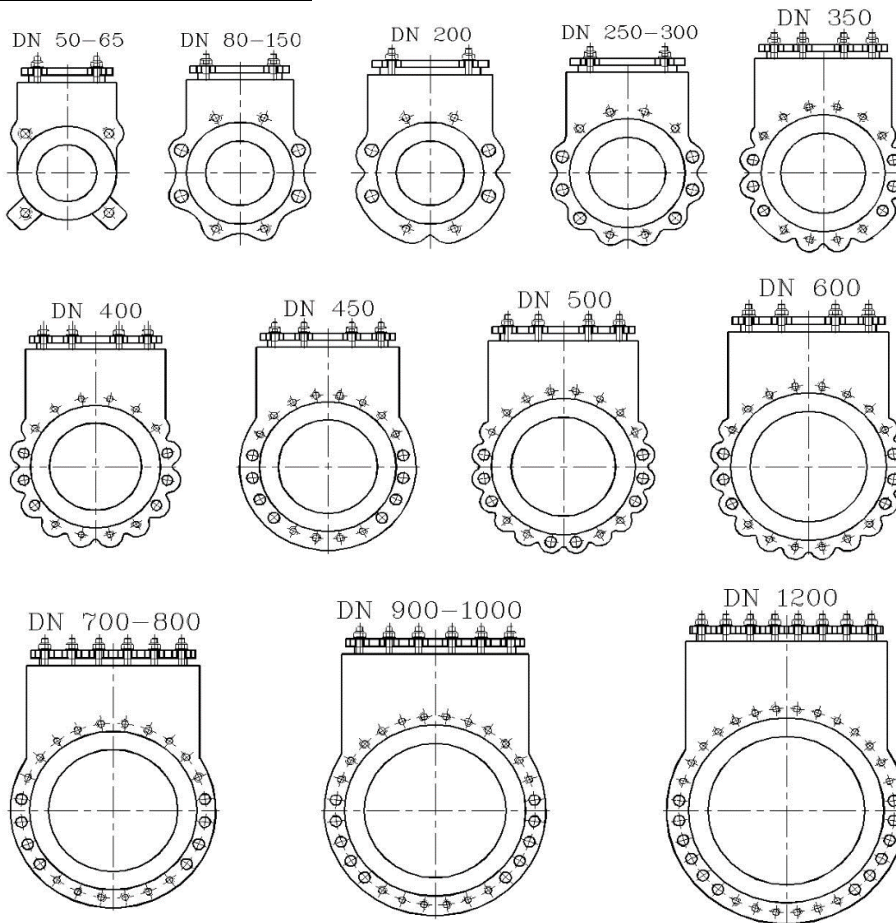


DN	G±1	L	H	ØV	L2	H2	L3	H3	Min. Torque (Nm)	Max. Torque (Nm)	Spindle thread
700	85	2620	1818	500	2620	1716	2630	1721	330	436	50X8
800	110	2931	2058	500	2931	1956	2941	1956	420	570	50X8
900	125	3285	2328	500	3285	2192	3295	2192	512	783	50X8
1000	125	3649	2542	500	3649	2406	3612	2406	620	987	60X9
1200	125	4212	2957	500	4212	2821	4230	2821	950	1460	60X9

Data sheet for ØK & ØD stated in “flange drillings chapter”.

FLANGE DRILLINGS

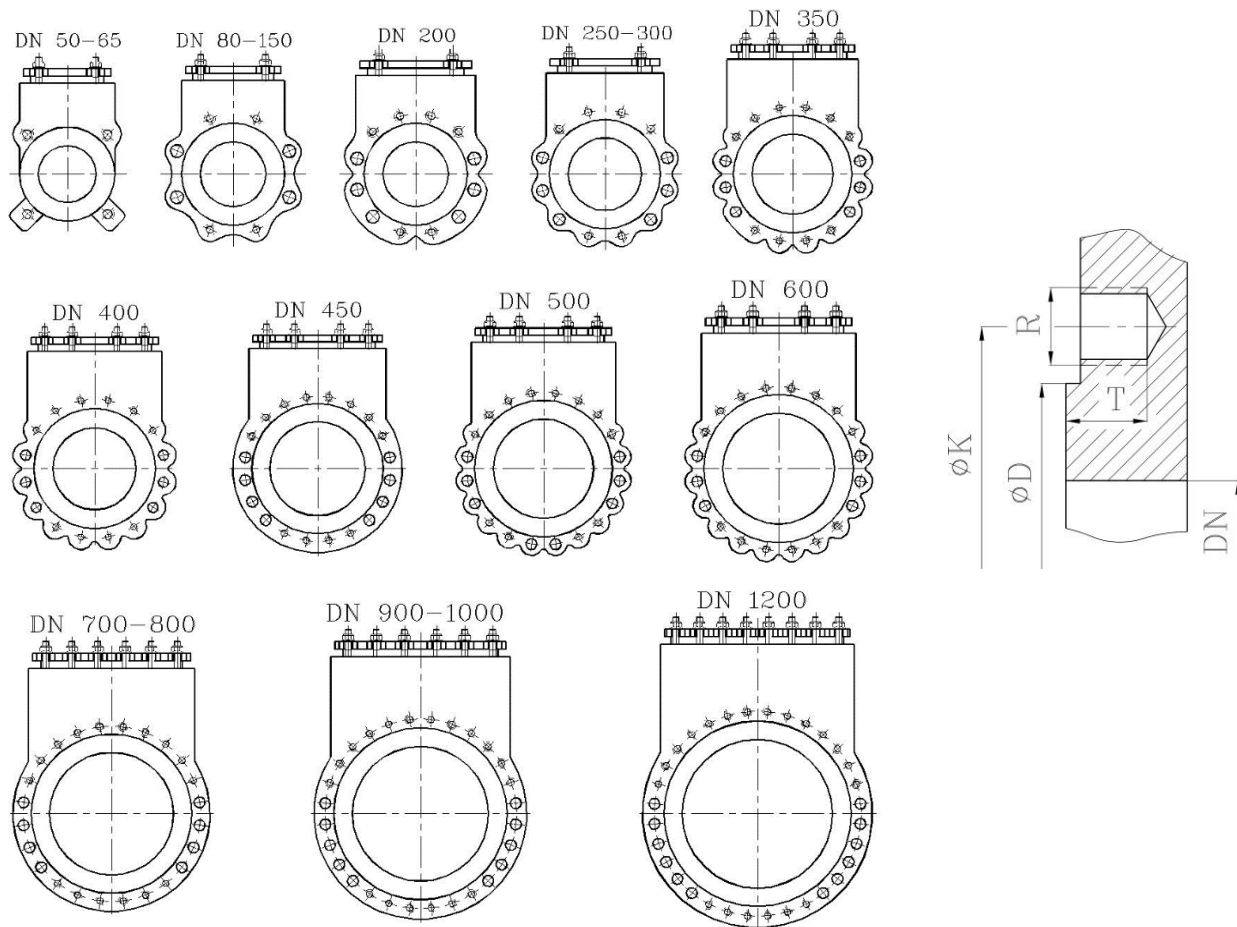
FLANGE DRILLING - PN10



DN	K	D	N (1)	N (2)	N (3)	T	R
50	125	100	4	-	4	9	M-16
65	145	120	4	-	4	9	M-16
80	160	135	4	4	8	13	M-16
100	180	158	4	4	8	13	M-16
125	210	188	4	4	8	13	M-16
150	240	212	4	4	8	12	M-20
200	295	268	4	4	8	12	M-20
250	350	320	6	6	12	16	M-20
300	400	370	6	6	12	16	M-20
350	460	430	10	6	16	20	M-20
400	515	482	10	6	16	24	M-24
450	565	532	12	8	20	24	M-24
500	620	585	12	8	20	25	M-24
600	725	685	14	6	20	29	M-27
700	840	800	16	8	24	29	M-27
800	950	915	16	8	24	29	M-30
900	1050	1004	18	10	28	35	M-30
1000	1160	1108	18	10	28	35	M-33
1200	1380	1330	20	12	32	36	M-36

N (1)- Nº of tapped holes N (2)- Nº of through holes N (3)- Nº of flange holes

FLANGE DRILLING - PN16

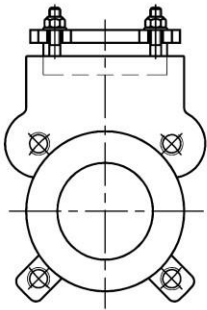


DN	K	D	N (1)	N (2)	N (3)	T	R
50	125	100	4	-	4	9	M-16
65	145	120	4	-	4	9	M-16
80	160	135	4	4	8	13	M-16
100	180	158	4	4	8	13	M-16
125	210	188	4	4	8	13	M-16
150	240	212	4	4	8	12	M-20
200	295	268	6	6	12	12	M-20
250	355	320	6	6	12	16	M-24
300	410	370	6	6	12	16	M-24
350	470	430	10	6	16	20	M-24
400	525	482	10	6	16	24	M-27
450	585	532	12	8	20	24	M-27
500	650	585	12	8	20	25	M-30
600	770	685	14	6	20	29	M-33
700	840	800	16	8	24	29	M-33
800	950	915	16	8	24	29	M-36
900	1050	1004	18	10	28	35	M-36
1000	1170	1108	18	10	28	35	M-39
1200	1390	1330	20	12	32	36	M-45

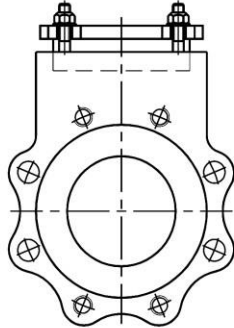
N (1)- Nº of tapped holes N (2)- Nº of through holes N (3)- Nº of flange holes

FLANGE DRILLING - ASA 150

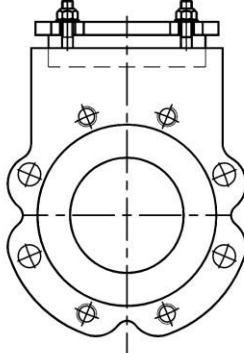
DN 50-65



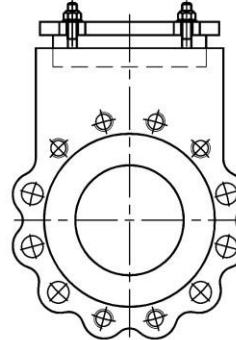
DN 100-150



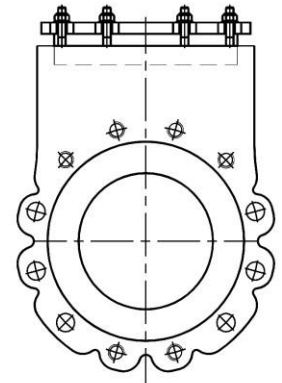
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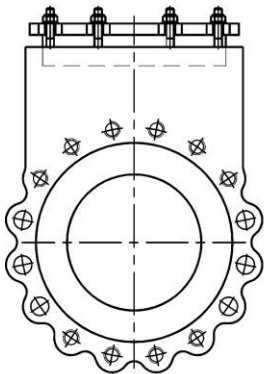
DN 250-300



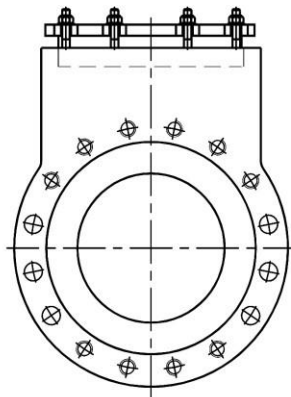
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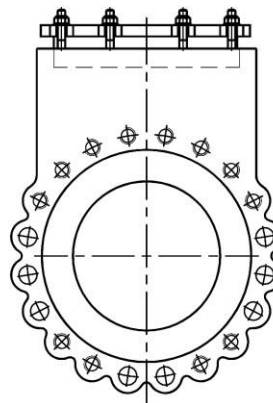
DN 400



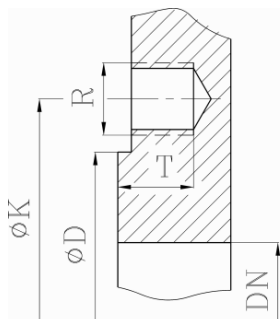
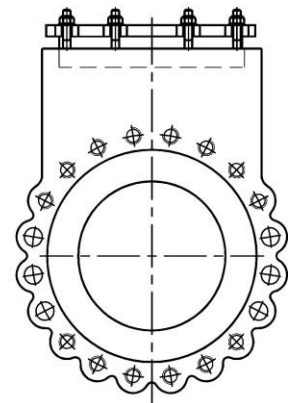
DN 450



DN 500



DN 600

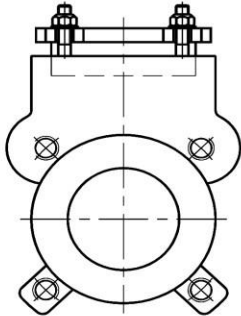


DN	K	D	N (1)	N (2)	N (3)	T	R
50	120,60	100	4	-	4	9	5/8 "
65	139,70	120	4	-	4	9	5/8 "
80	152,40	135	4	-	4	13	5/8 "
100	190,50	158	4	4	8	13	5/8 "
125	215,90	188	4	4	8	13	3/4 "
150	241,30	212	4	4	8	12	3/4 "
200	298,40	268	4	4	8	12	3/4 "
250	361,90	320	6	6	12	16	7/8 "
300	431,80	370	6	6	12	16	7/8 "
350	476,20	430	8	4	12	20	1 "
400	539,70	482	10	6	16	24	1 "
450	577,80	532	10	6	16	24	1 1/8 "
500	635,00	585	12	8	20	25	1 1/8 "
600	749,30	685	14	6	20	29	1 1/4 "

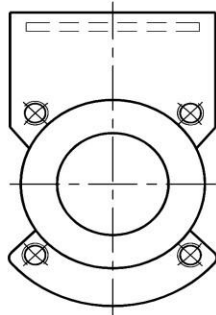
N (1)- Nº of tapped holes N (2)- Nº of through holes N (3)- Nº of flange holes

FLANGE DRILLING – AS 2129 TABLE C/D

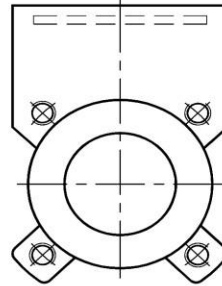
DN 50–65



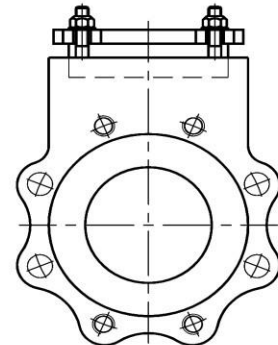
DN 80



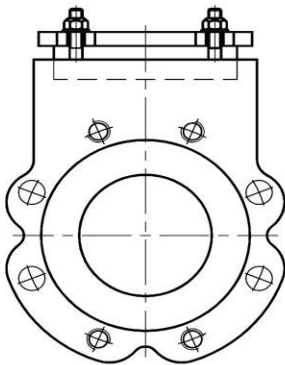
DN 100



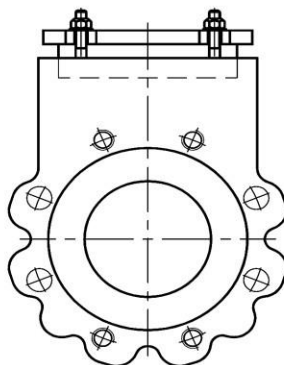
DN 125–150



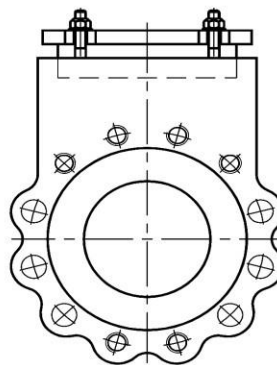
DN 200



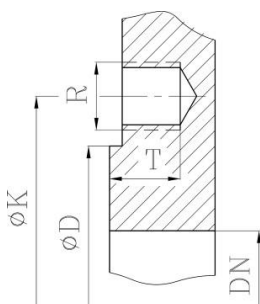
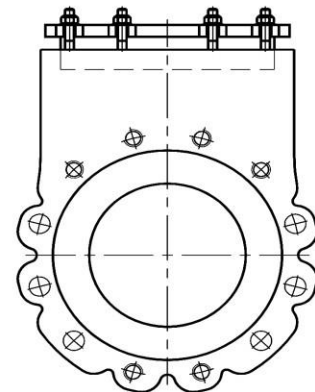
DN 250



DN 300



DN 350



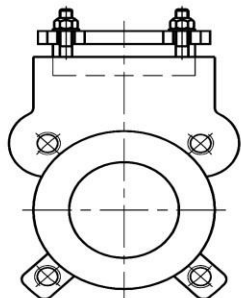
DN	K	D	N (1)	N (2)	N (3)	T	R
50	114	100	4	-	4	9	M-16
65	127	120	4	-	4	9	M-16
80	146	135	4	-	4	13	M-16
100	178	158	4	-	4	13	M-16
125	210	188	4	4	8	13	M-16
150	235	212	4	4	8	12	M-16
200	292	268	4	4	8	12	M-16
250	356	320	4	4	8	16	M-20
300	406	370	6	6	12	19	M-20
350	470	430	6	6	12	19	M-24

N (1)- N° of tapped holes N (2)- N° of through holes N (3)- N° of flange holes

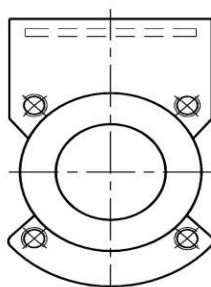
Please be aware that valves DN80 and DN100 can only be drilled at AS 2129 Table C/D on the standard XD series without independent packing gland.

FLANGE DRILLING – AS 2129 TABLE E

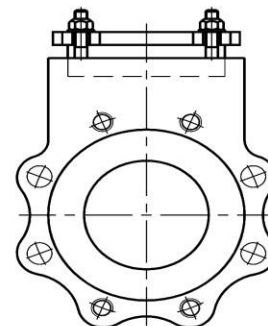
DN 50–65



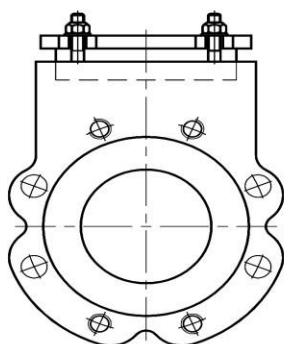
DN 80



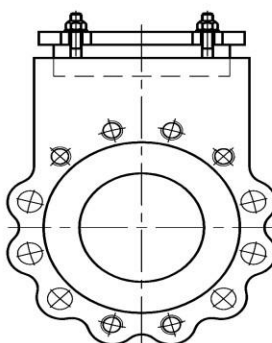
DN 100–150



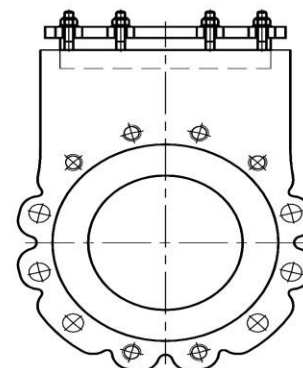
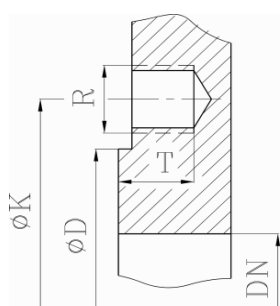
DN 200



DN 250–300



DN 350

**Bolting Arrangements AS 2129 TABLE E Knife Gate Valve**

DN	K	D	N (1)	N (2)	N (3)	T	R
50	114	100	4	-	4	9	M-16
65	127	120	4	-	4	9	M-16
80	146	135	4	-	4	13	M-16
100	178	158	4	4	8	13	M-16
125	210	188	4	4	8	13	M-16
150	235	212	4	4	8	12	M-20
200	292	268	4	4	8	12	M-20
250	356	320	6	6	12	16	M-20
300	406	370	6	6	12	19	M-24
350	470	430	6	6	12	19	M-24

N (1)- N° of tapped holes N (2)- N° of through holes N (3)- N° of flange holes

Please be aware that valves DN80 can only be drilled at AS 2129 Table E on the standard XD series without independent packing gland.

ORDERING GUIDE

SERIES	LOGO	MATERIAL	DRIVERS	-DN	SEAT MATERIAL	DRILLING	BODY TYPE	GATE MATERIAL	PRESSURE
PR	Y= CYL	12- GJS400	VAL- Handwheel R.S		NI- NBR	010- PN-10	L - END VALVE	6 – 316L	A-2
		13- GJS500	VRA- Handwheel R.S + gear		EP- EPDM	016- PN-16	S - STD	7 – 316L+Niquel	B-3
		14- CF8M (plates steel)	VFI- Handwheel N.R.S		VI- VITON	A15- ASA 150		8- 316L+Crom	C-4
		17- CF8M (plates ST.ST)	VRF-Handwheel N.R.S+ gear		TE- PTFE	A30 -ASA300		D- Duplex	D-5
			CUA- Key cap N.R.S		PU- POLIURETHANE	UNC- ASA150 UNC		H- Hastelloy	E-6
			A10/A14/A16- Iso top flange R.S		NB- WHITE NBR	U30-ASA300 UNC		S- SMO	F-7
			F10/F14/F16- Iso top flange N.R.S		PO- POTABLE			T- 316TI	G-10
			HID- Hydraulic						H-10
			NDE- D/A Pneumatic act						I-25
			SEA- Single acting OPEN						J-40
			SEC- Single acting CLOSED						K-64
			PAL- Coupling for extension						L-100
			COE- Coupling for extension						M-50