UNI-DIRECTIONAL KNIFE GATE VALVE MU SERIES

KGV MU SERIES WAFER WITH ELASTOMERIC SLEEVE & HANDWHEEL RS

KGV MU SERIES WAFER WITH PROFILE SEAT & HANDWHEEL NRS

KGV MU SERIES FULLY LUGGED WITH PROFILE SEAT & HANDWHEEL RS

The MU series knife gate is a uni-directional wafer valve, soft or metal-metal seated, designed for handling pulp, arid and powder mediums, mainly used in industrial bulk and silo outlet applications. Sleeve (DN50-DN300) and packing material can be replaced without valve disassembly from the pipeline.

GENERAL FEATURES

- Monoblock one-piece body: semi lugged (wafer) and optionally, fully lug-between flanges and fully lug-end
- Adjustable stuffing box, allowing packing material replacement without valve disassembly from the line
- Two sealing systems:
  - **DN50-DN300:** sleeve (tight version) or metallic ring (metal-metal valve). Same valve can be used for both options. Sleeve can be replaced by only holding the valve on one bolt and rotating 90º.
    Warning: sleeve seated valves designed only for flanges DN2632.
  - **DN350-DN600:** profile o-ring (tight version). Metal-metal seated valve without elastomeric parts on the passage. Profile o-ring cannot be replaced without valve disassembly from the pipeline.
- Short face-to-face dimension
- Easy drive replacement
- Proximity and limit switch mounting points

APPLICATION FIELDS

- Pulp and paper
- Bulk handling
- Mining
- Chemical process
- Slaughterhouse
- Food and beverage
- High temperature industrial applications
- Silo outlets
- Etc

TECHNICAL DATA

- ***Size range:***
  DN-50 (2") to DN-600 (24")

- **Working pressure:**
  DN 50 to DN 200: 10 kg/cm^2
  DN 250 to DN 300: 7 kg/cm^2
  DN 350 to DN 400: 6 kg/cm^2
  DN 450 to DN 600: 4 kg/cm^2

- **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-300
  From DN-350 to DN-600 CYL standard

- **Coating:**
  RAL 5017, 150 microns epoxy coated

- **Directives:**
  Pressure equipment directive 97/23/CE
  DIR 2006/42/CE (MACHINES)

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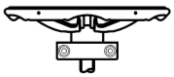
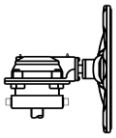
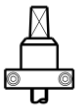
ASSEMBLY CONFIGURATION

OPERATION

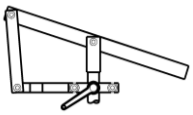

Rising stem **handwheel**

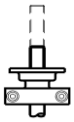

Non rising stem handwheel


Gearbox

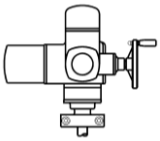

Key Cap

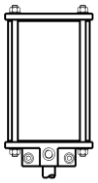

Chain Wheel

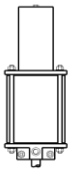

Quick closing


Rising stem coupling A


Non rising stem coupling B-3

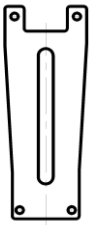

Electric actuator

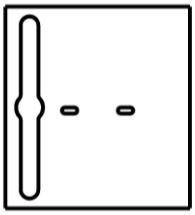

Double acting pneumatic actuator

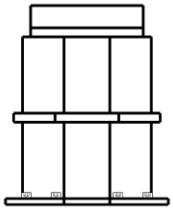

Spring-return pneumatic


Oil hydraulic actuator

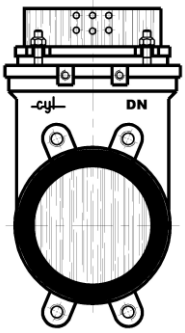
PLATES


Plates


Hand protections for automated valves


Tight closed bonnet rising stem

BODY



Semi lugged (wafer) DN50-DN300


Semi lugged (wafer) DN350-DN600

ACCESORIES

- Revolving handle
- Locking device
- Overriding actuator
- Limit stroke
- Flush holes
- 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, headstock rising stem / non rising stem
- Enlarged plates
- Rubber horse
- Etc.

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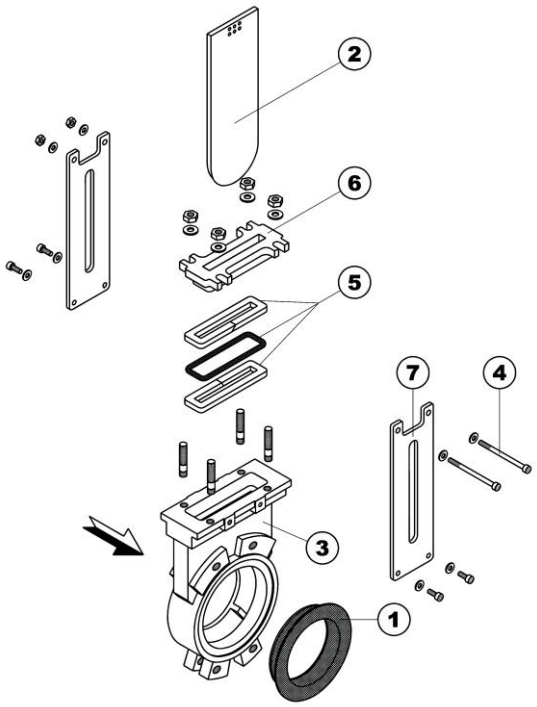
MATERIAL SPECIFICATION & PART LIST

MU-SERIES FROM DN50 TO DN300

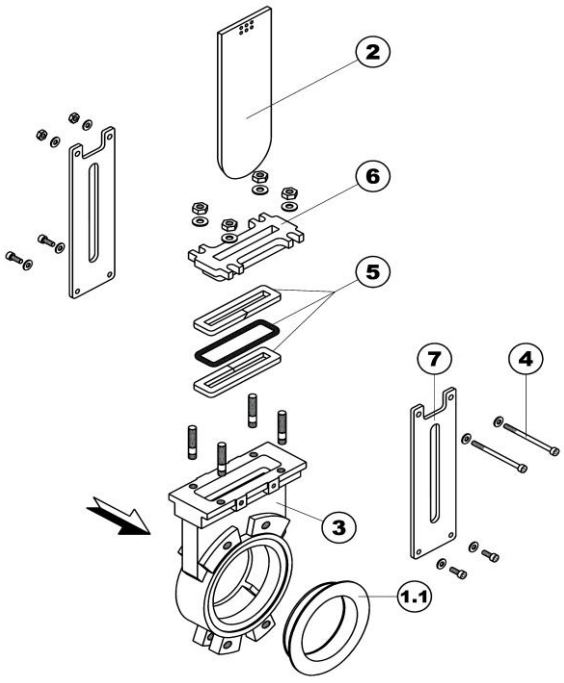
No.	DESCRIPTION	MATERIAL
1	Sleeve	NBR (standard) EPDM, PTFE, VITON, POLIURETHANE (optional)
2	Gate	SS 316 (standard) SS316L, SS316TI, DUPLEX 2205, SMO254(optional)
3	Body	Cast iron - GJL250 (standard) GJS400, CF8M, DUPLEX 2205,SMO254 (optional)
4	Screws & nuts	A-4
5	Packing material	PTFE+NBR (standard) PTFE+EPDM, ARAMIDE, GRAPHITE (optional)
6	Packing gland	Ductile iron - GJS400 (standard) CF8M, DUPLEX 2205, SMO 254 (optional)
7	Plates	1.0580 (standard) SS 316 (optional)
-	Stem	SS 316
-	Bearing	1.0401 (standard) SS 316 (optional)
-	Handwheel	1.0037
-	Pneumatic act.	Aluminium
-	Hand-protections	1.0580 (standard) SS 316 (optional)

Figure 1. Exploded view of KGV MU series semi lugged with **sleeve (tight seat)**



No.	DESCRIPTION	MATERIAL
1.1	Metallic ring	1.041 (standard) SS 316 (optional)
2	Gate	SS 316 (standard) SS316L,SS316TI, DUPLEX2205, SMO254(optional)
3	Body	Cast iron - GJL250 (standard) GJS400, CF8M, DUPLEX 2205, SMO 254 (optional)
4	Screws & nuts	A-4
5	Packing material	PTFE+NBR (standard) PTFE+VITON, ARAMIDE, GRAPHITE (optional)
6	Packing gland	Ductile iron - GJS400 (standard) CF8M, DUPLEX 2205, SMO 254 (optional)
7	Plates	1.0580 (standard) SS 316 (optional)
-	Stem	SS 316
-	Bearing	1.0401 (standard) SS 316 (optional)
-	Handwheel	1.0037
-	Pneumatic act.	Aluminium
-	Hand-protections	1.0580 (standard) SS 316 (optional)

Figure 2. Exploded view of KGV MU-SERIES semi lugged with **metallic ring (metal-metal seat)**



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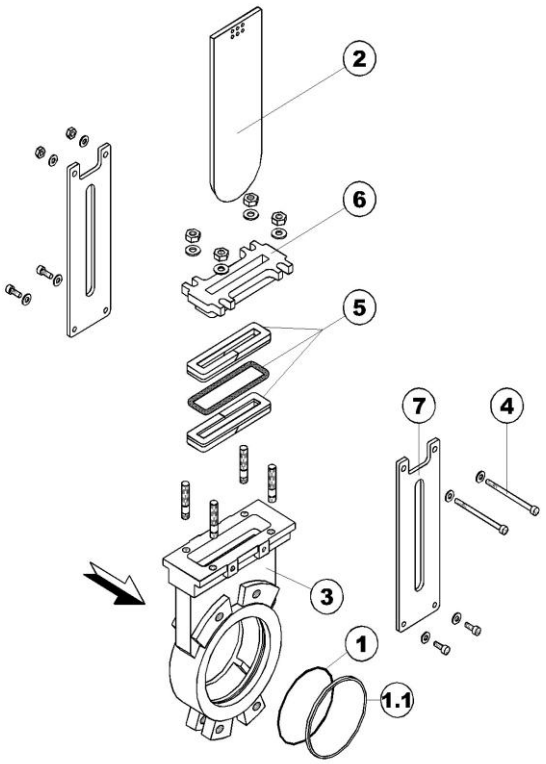
MU-SERIES FROM DN350 TO DN600

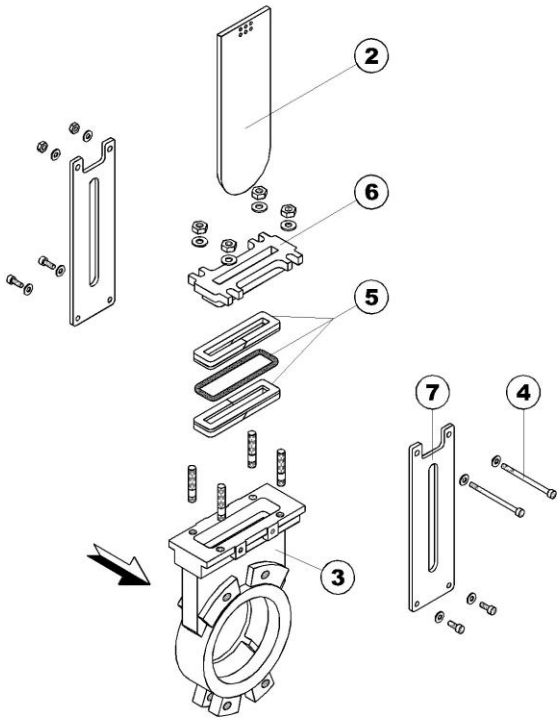
No.	DESCRIPTION	MATERIAL
1	Profile o-ring	NBR (standard) EPDM, PTFE, VITON, POLIURETHANE (optional)
1.1	Fastening ring	SS 316
2	Gate	SS 316 (standard) SS316L,SS316TI,DUPLEX2205,SMO254(optional)
3	Body	Cast iron - GJL250 (standard) GJS400, CF8M, DUPLEX2205, SMO254 (optional)
4	Screws & nuts	A-4
5	Packing material	PTFE+NBR (standard) PTFE+EPDM, ARAMIDE, GRAPHITE (optional)
6	Packing gland	Ductile iron - GJS400 (standard) CF8M, DUPLEX 2205, SMO 254 (optional)
7	Plates	1.0580 (standard) SS 316 (optional)
-	Stem	SS 316
-	Bearing	1.0401 (standard) SS 316 (optional)
-	Handwheel	1.0037
-	Pneumatic act.	Aluminium
-	Hand-protections	1.0580 (standard) SS 316 (optional)

Figure 3. Exploded view of KGV MU series semi lugged with **profile o-ring (tight seat)**



No.	DESCRIPTION	MATERIAL
2	Gate	SS 316 (standard) SS316L,SS316TI,DUPLEX2205,SMO254(optional)
3	Body	Cast iron - GJL250 (standard) GJS400, CF8M, DUPLEX2205, SMO254 (optional)
4	Screws & nuts	A-4
5	Packing material	PTFE+NBR (standard) PTFE+EPDM, ARAMIDE, GRAPHITE (optional)
6	Packing gland	Ductile iron - GJS400 (standard) CF8M, DUPLEX 2205, SMO 254 (optional)
7	Plates	1.0580 (standard) SS 316 (optional)
-	Stem	SS 316
-	Bearing	1.0401 (standard) SS 316 (optional)
-	Handwheel	1.0037
-	Pneumatic act.	Aluminium
-	Hand-protections	1.0580 (standard) SS 316 (optional)
-	Metal-Metal seat	Cast iron/Ductile iron (standard) AISI 316 (optional)

Figure 4. Exploded view of KGV MU series semi lugged with **metal-metal seat**



APPLICATION AND TEMPERATURE RANGE

SEAT MATERIALS			
Material	**Min. temperature (ºC)**	**Max. temperature (ºC)**	**APPLICATIONS**
NBR	-30	+80	Hydrocarbons and biogas waste
EPDM	-30	+90	Clean and chlorided 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 SILICONE	-20	+180	Food industry (FDA conformity)
METAL-METAL	-30	+400	Solids, abrasive/high temperature mediums

**More details and other sealing materials under request.*

PACKING MATERIALS			
Material	**Min. temperature (ºC)**	**Max. temperature (ºC)**	**APPLICATIONS**
COTTON-PTFE	-30	+100	Hydrocarbons
PURE PTFE	-10	+200	Heat, friction, acids, chemical and corrosion resistant
ARAMIDE	-40	+250	Bulk handling
GRAPHITE	-40	+300	Hydrocarbons, heat resistant and solids
SPECIAL PACKING FOR HIGH TEMPERATURE	-10	+1000	High temperature

**More details and other sealing materials under request.*

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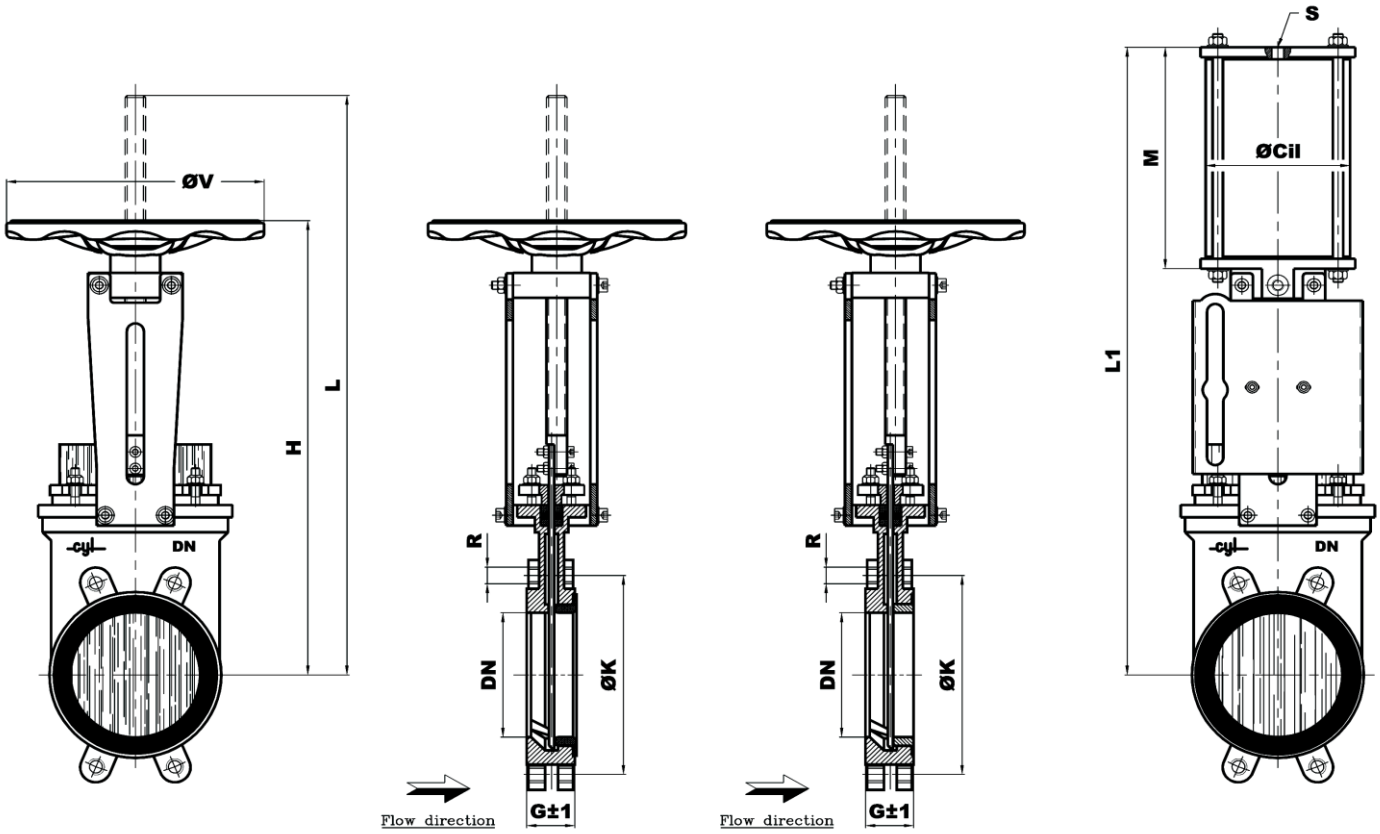
DIMMENSIONAL DRAWINGS

MU-SERIES FROM DN50 TO DN300

Figure 5. KGV MU series semi lugged rising stem & handwheel

Figure 6. KGV MU series semi lugged with d/a pneumatic actuator



Tight elastomeric-seat ***Steel ring-seat Metal/metal seat***

DN	G±1	H	L	ØV	L1	M	S	Ø Cil	Min. Torque (Nm)	Max. Torque (Nm)	Spindle thread
50	43	306	366	175	406	147	1/4 " G	80	8	16	Tr18x4i
65	43	336	411	175	448	160	1/4 " G	80	10	17	Tr18x4i
80	46	366	448	225	490	177	1/4 " G	100	12	19	Tr20x4i
100	52	393	495	225	537	197	1/4 " G	100	15	22	Tr20x4i
125	56	446	573	225	625	232	3/8 " G	125	17	24	Tr20x4i
150	56	548	699	300	757	267	3/8 " G	160	25	50	Tr24x5i
200	60	659	860	300	928	327	1/2 " G	190	27	53	Tr24x5i
250	68	733	984	300	1050	375	1/2 " G	190	50	69	Tr24x5i
300	78	870	1172	400	1229	428	1/2 " G	190	63	84	Tr28x5i

* Data sheet for ØK & ØD stated in "flange drillings chapter".

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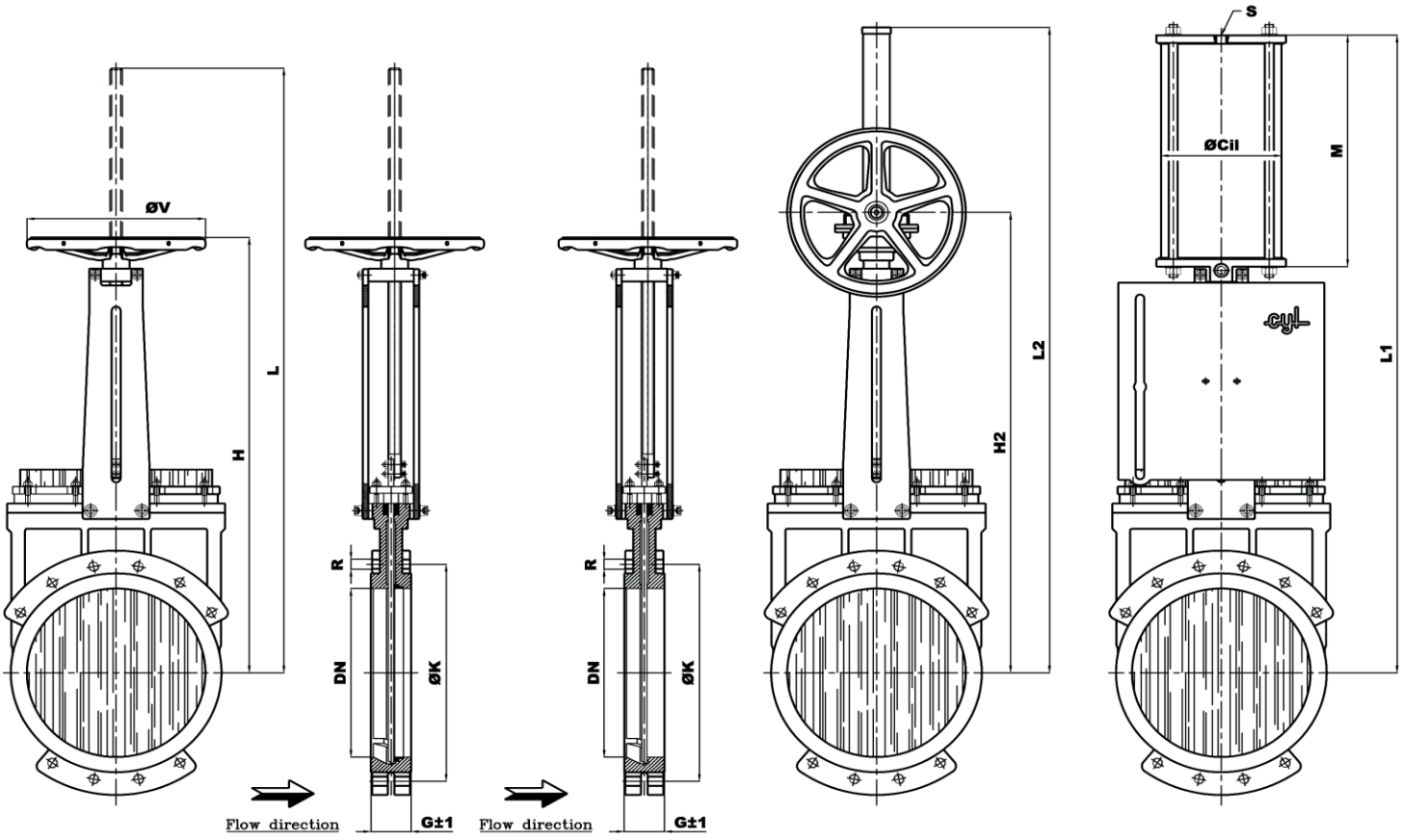
MU-SERIES FROM DN350 TO DN600

Figure 7. KGV MU series semi lugged rising stem & handwheel

Figure 8. KGV MU series semi lugged rising stem with handwheel & gearbox

Figure 9. KGV MU series semi lugged with d/a pneumatic actuator



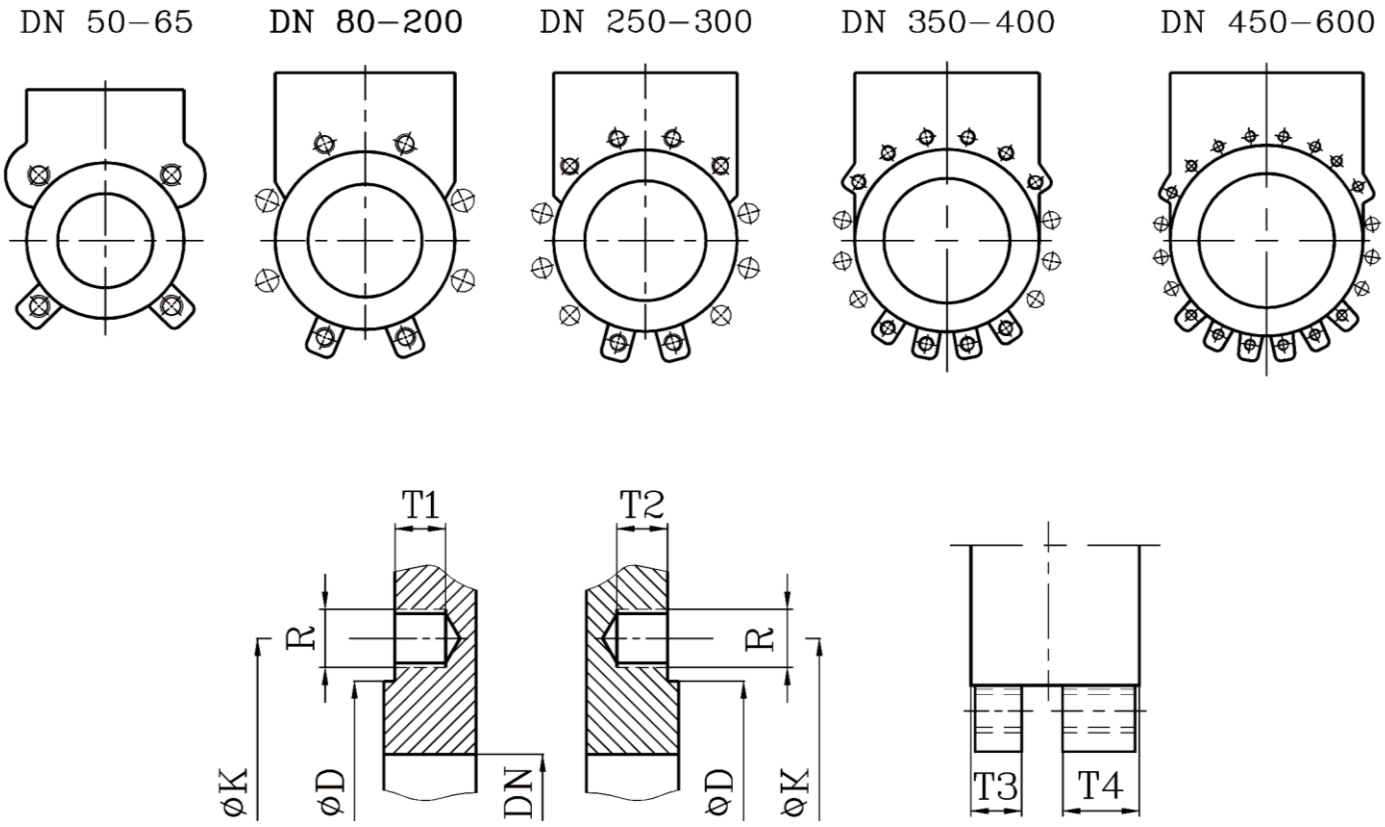
Tight profile o-ring ***Metal-metal seat***

DN	G±1	H	L	ØV	L2	H2	L1	M	Ø Cil	S	Min. Torque (Nm)	Max. Torque (Nm)	Spindle thread
350	96	915	1267	400	1364	975	1345	499	250	1/2 " G	78	102	Tr28x5i
400	100	1033	1435	400	1532	1093	1513	549	250	1/2 " G	90	110	Tr28x5i
450	106	1131	1579	500	1649	1146	1653	601	300	1/2 " G	215	259	Tr40x7i
500	110	1235	1743	500	1793	1240	1802	656	300	1/2 " G	223	320	Tr40x7i
600	110	1437	2045	500	2098	1445	2108	757	300	1/2 " G	249	388	Tr40x7i

** Data sheet for ØK & ØD stated in "flange drillings chapter".*

FLANGE DRILLINGS

FLANGE DRILLING - PN10



Bolting Arrangements PN-10 Knife Gate Valve

DN	K	D	N (1)	N (2)	N (3)	T1	T2	T3	T4	R
50	125	95	4	-	4	9	10	37		M-16
65	145	105	4	-	4	10	10	38		M-16
80	160	135	4	4	8	7	9	16	19	M-16
100	180	158	4	4	8	7	11	17	23	M-16
125	210	188	4	4	8	7	17	15	27	M-16
150	240	212	4	4	8	11	12	20	22	M-20
200	295	268	4	4	8	13	15	21	24	M-20
250	350	320	6	6	12	13	16	28	29	M-20
300	400	370	6	6	12	16	23	29	38	M-20
350	460	410	10	6	16	21	21	24	24	M-20
400	515	465	10	6	16	21	21	26	26	M-24
450	565	520	14	6	20	22	22	26	26	M-24
500	620	566	14	6	20	22	22	28	28	M-24
600	725	672	14	6	20	22	22	28	28	M-27

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

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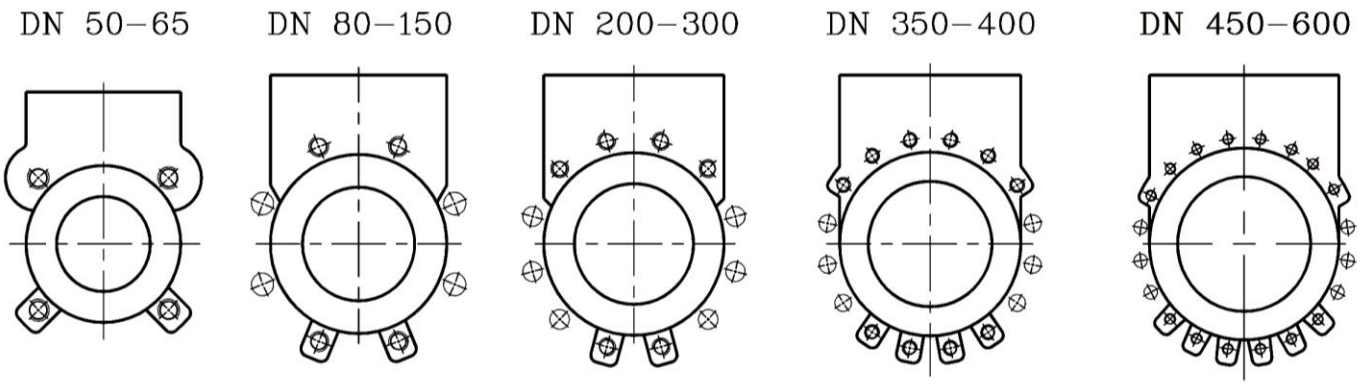
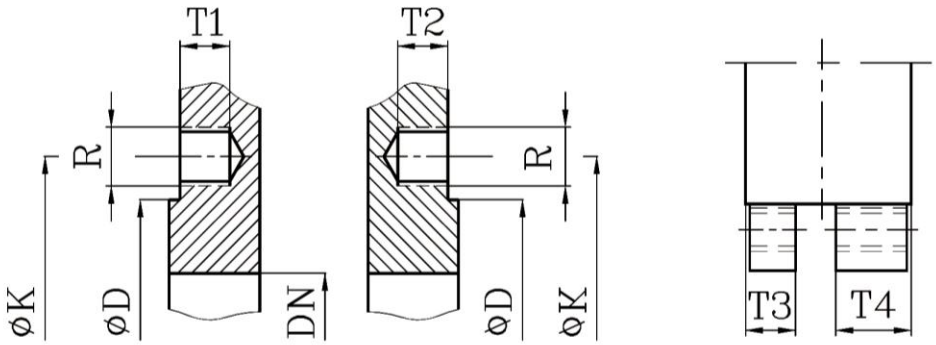
FLANGE DRILLING - PN16





Bolting Arrangements PN-16 Knife Gate Valve

DN	K	D	N (1)	N (2)	N (3)	T1	T2	T3	T4	R
50	125	95	4	-	4	9	10	37		M-16
65	145	105	4	-	4	10	10	38		M-16
80	160	135	4	4	8	7	9	16	19	M-16
100	180	158	4	4	8	7	11	17	23	M-16
125	210	188	4	4	8	7	17	15	27	M-16
150	240	212	4	4	8	11	12	20	22	M-20
200	295	268	6	6	12	13	15	21	24	M-20
250	355	320	6	6	12	13	16	28	29	M-24
300	410	370	6	6	12	16	23	29	38	M-24
350	470	410	10	6	16	21	21	24	24	M-24
400	525	465	10	6	16	21	21	26	26	M-27
450	585	520	14	6	20	22	22	26	26	M-27
500	650	566	14	6	20	22	22	28	28	M-30
600	770	672	14	6	20	22	22	28	28	M-33

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

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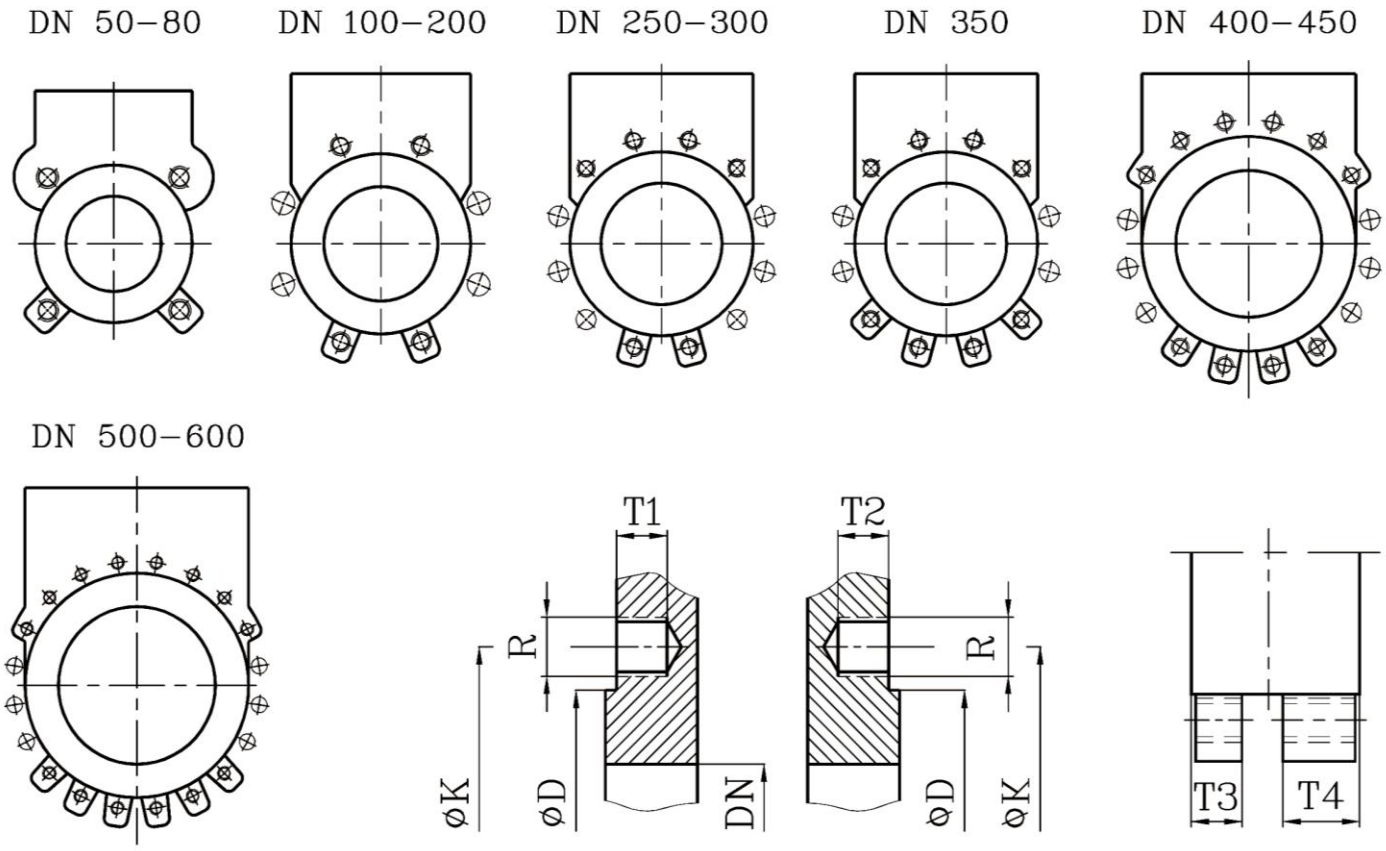
FLANGE DRILLING - ASA 150



Bolting Arrangements ASA-150 Knife Gate Valve

DN	K	D	N (1)	N (2)	N (3)	T1	T2	T3	T4	R
50	120,6	95	4	-	4	9	10	37		5/8 “
65	139,7	105	4	-	4	10	10	38		5/8 “
80	152,4	135	4	4	8	7	9	16	19	5/8 “
100	190,5	158	4	4	8	7	11	17	23	5/8 “
125	215,9	188	4	4	8	7	17	15	27	3/4 “
150	241,3	212	4	4	8	11	12	20	22	3/4 “
200	298,4	268	4	4	8	13	15	21	24	3/4 “
250	361,9	320	6	6	12	13	16	28	29	7/8 “
300	431,8	370	6	6	12	16	23	29	38	7/8 “
350	476,2	410	8	4	12	21	21	24	24	1 “
400	539,7	465	10	6	16	21	21	26	26	1 “
450	577,8	520	10	6	16	22	22	26	26	1 1/8 “
500	635	566	14	6	20	22	22	28	28	1 1/8 “
600	749,3	672	14	6	20	22	22	28	28	1 1/8 “

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

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ORDERING GUIDE

SERIES	OPERATIONS	BODY MATERIAL	DN	SEAT MATERIAL	BODY TYPE	FLANGE DRILLING
Example: MU-SERIES	V	11		NI	W	PN-10
	V → Handwheel r.s	11 → Cast iron		NI → NBR	W → Semi lugged (WAFER)	PN-10
	VR → Handwheel r.s + Bevel Gearbox	12 → Ductile iron		EP → EPDM		PN-16
	F → Handwheel n.r.s.	14 → Stainless steel		VI → VITON		ASA 150
	FR → Handwheel n.r.s. + Bevel Gearbox	17 → Fully stainless steel		TE → PTFE		
	C → Key cap n.r.s	18 → Carbon steel		PU → POLIURETHANE		
	CR → Key cap + Spur Gearbox			MET → METAL-METAL		
	B → Iso top flange r.s.					
	BR → Iso top flange r.s. + Bevel Gearbox					
	FB → Iso top flange n.r.s.					
	FBR → Iso top flange n.r.s. + Bevel Gearbox					
	M → Electric actuator r.s.					
	MR → Electric actuator r.s. + Bevel Gearbox					

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MU series

SERIES	OPERATIONS	MATERIAL	DN	SEAT	BODY TYPE	FLANGE
	FM → Electric actuator n.r.s	11 → Cast iron		NI → NBR	W → Semi lugged (WAFER)	PN-10
	FMR → Electric actuator n.r.s + Bevel Gearbox	12 → Ductile iron		EP → EPDM		PN-16
	P → Quick closing lever	14 → Stainless steel		VI → VITON		ASA-150
	N → D/A pneumatic actuator	17 → Fully stainless steel		TE → PTFE		
	SE → S/A pneumatic actuator	18 → Carbon steel		PU → POLIURETHANE		
	H → Oil hydraulic actuator			MET → METAL-METAL		
	VCH → Chain wheel r.s.					
	VCHR → Chain wheel r.s. + Bevel Gearbox					
	FCH → Chain wheel n.r.s.					
	FCHR → Chain wheel n.r.s. + Bevel Gearbox					