

## UNI-DIRECTIONAL KNIFE GATE VALVE



The MU-CYL model knife gate is a Uni-directional valve, equipped with automatic or manual driver, that by its loose elastomeric clamping ring design (tight version) ensures a bubble-tight shut off in one direction of the flow, making it suitable for several industrial applications, both solid granulates and abrasive mediums.

### GENERAL FEATURES

- Uni-directional
- Zero leakage on one sense
- 1 seal gasket needed only
- **Warning:** elastomeric seated valve designed only for flanges DN2632
- Short face-to-face dimension; easy to install between flanges
- One body valve with independent packing gland
- Three body styles: semi lugged (wafer) as standard and fully lug-between flanges or fully lug-end valve under request (only in stainless steel version)
- Easy drive replacement
- Proximity and limit switch mounting points as standard

### APPLICATION FIELDS

- Manipulation of solids
- Food processing
- Slaughterhouses
- Mining industry
- Paper mills
- Power plants
- Cement, sand and gravel
- Sugar industry
- Etc.

### TECHNICAL DATA

**Size range:** DN-50 (2") to DN-300 (12")

**Flange ratings:** PN-10 / PN-16 / ASA 150  
(Other flange drillings under request)

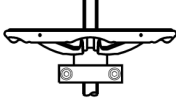
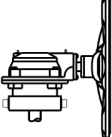
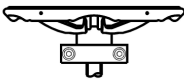
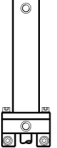
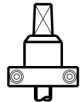
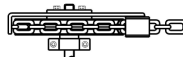
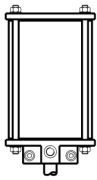
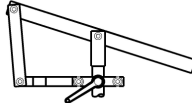
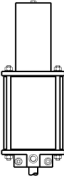

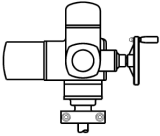
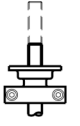
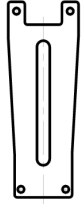
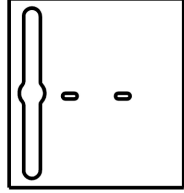
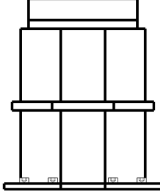
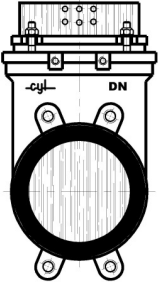
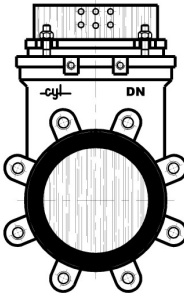
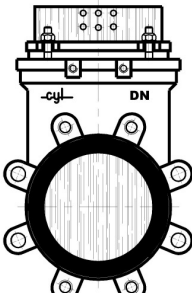
**Face to face dimension:** according to K1  
DIN3202

**Pressure class:** variable according to size  
(refer to dimensions table)

**Temperature range:** variable according to the  
sealing material.

**Coating:** internally and externally fusion  
bonded epoxy coated. RAL 5017, 80-150  
microns, as standard  
(Other RAL and thicknesses under request)

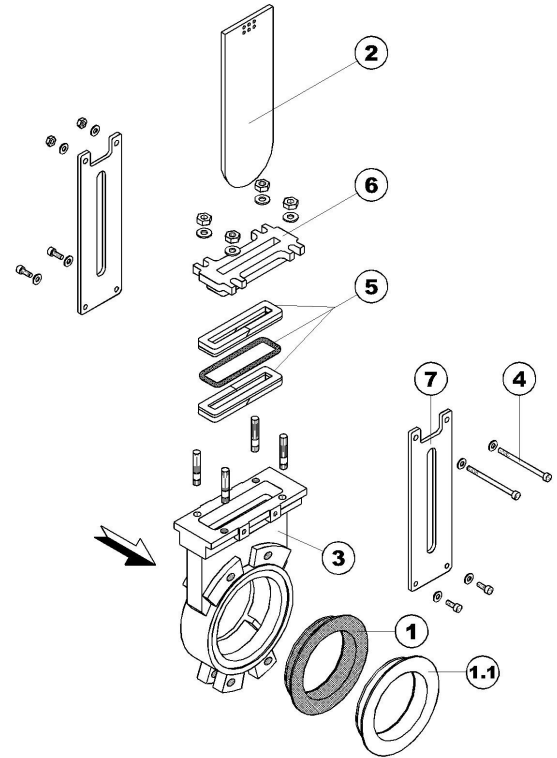
ASSEMBLY CONFIGURATION

	STANDARD	OPTIONAL					
OPERATION	 Rising stem handwheel   Gearbox	 Non rising stem handwheel   Oil hydraulic actuator	 Key Cap   Chain Wheel	 Double acting pneumatic actuator   Quick closing lever	 Spring-return pneumatic actuator   Non rising stem coupling B-3	 Electric actuator   Rising stem coupling A	
SHROUD (PLATES)	 Open shroud	 Hand protections for automated valves	 Tight closed bonnet				
BODY	 Semi lugged (wafer)	 Fully lugged End valve (All holes threaded)	 Fully lugged between flanges (partly threaded and partly thru holes)	<i>* Fully lugged valves only in stainless steel</i>			
ACCESSORIES	<ul style="list-style-type: none"> <li>- Revolving handle</li> <li>- Locking device</li> <li>- Overriding actuator</li> <li>- Mechanical positioner</li> <li>- Limit stroke</li> <li>- Mechanical limit switches</li> <li>- Proximity limit switches</li> <li>- V-port</li> <li>- Deflector cone</li> <li>- Chest scraper</li> <li>- Solenoid valve</li> <li>- Extension, extended guided plates</li> <li>- Etc.</li> </ul>						

## MATERIAL SPECIFICATION & PART LIST

No.	DESCRIPTION	MATERIAL
1	Tight seat	EPDM (standard) PTFE, VITON, POLIURETHANE, NBR (optional)
1.1	Metal seat	1.041 (standard) SS 316 (optional)
2	Gate	SS 316 (standard) DUPLEX 2205, SMO 254, SS 316TI, SS 316L (optional)
3	Body	GJL250 Iron (standard) GJS400 Iron, CF8M, DUPLEX 2205, SMO 254 (optional)
4	Screw & nut	A-4
5	Packing material	PTFE+EPDM (standard) PTFE+VITON, ARAMIDE, GRAPHITE (optional)
6	Packing gland	GJS400 (standard) CF8M, DUPLEX 2205, SMO 254 (optional)
7	Open shroud	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 semi lugged with open shroud



## APPLICATION AND TEMPERATURE RANGE OF SEALING MATERIALS

RESILENT SEATS			
Material	Min. temperature (°C)	Max. temperature (°C)	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	+160	Heat, friction, acids, chemical and corrosion resistant
POLIURETHANE	-10	+80	Abrasive mediums
METAL-METAL	-30	+400	Solid and abrasive mediums

\*More details and other sealing materials under request.

**APPLICATION AND TEMPERATURE RANGE OF PACKING MATERIALS**

<b>RESILENT SEATS</b>			
<b>Material</b>	<b>Min. temperature (°C)</b>	<b>Max. temperature (°C)</b>	<b>APPLICATIONS</b>
<b>COTTON-PTFE</b>	-30	+100	Hydrocarbons and biogas waste
<b>PURE PTFE</b>	-10	+200	Heat, friction, acids, chemical and corrosion resistant
<b>ARAMIDE</b>	-40	+250	Abrasive mediums
<b>GRAPHITE</b>	-40	+300	Hydrocarbons and heat resistant
<b>SPECIAL PACKING FOR HIGH TEMPERATURE</b>	-10	+1000	High temperature

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

DIMENSIONAL DRAWINGS

Figure 2. KGV-MU semi lugged rising stem & handwheel

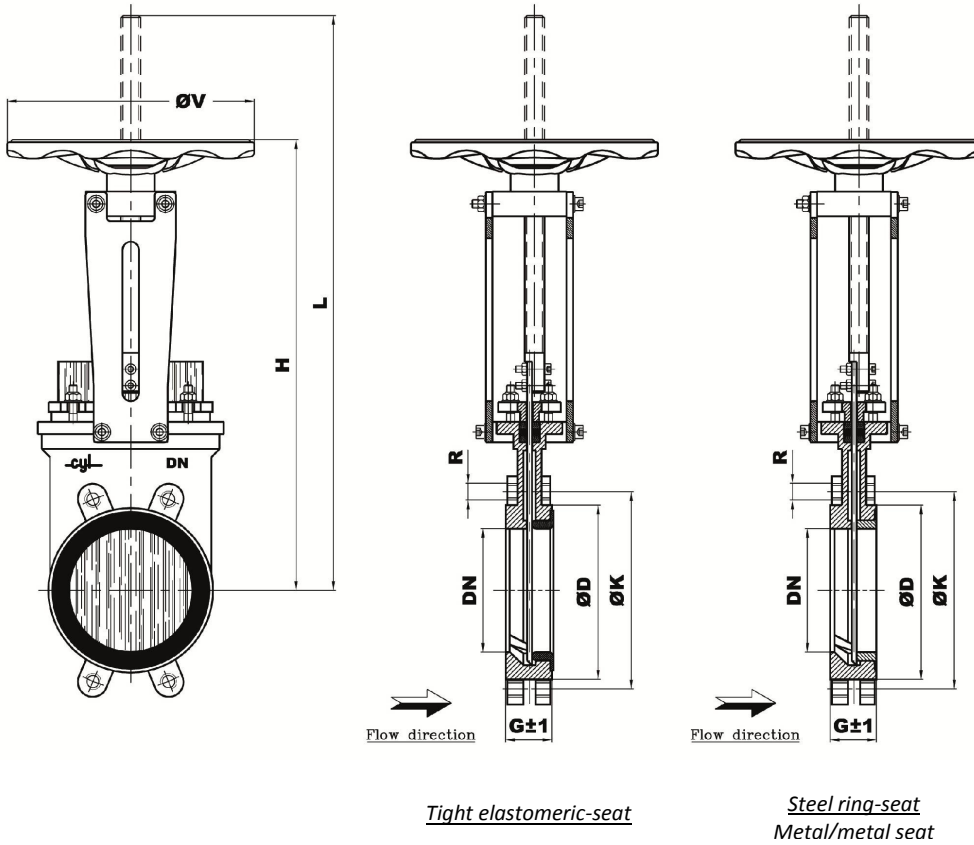
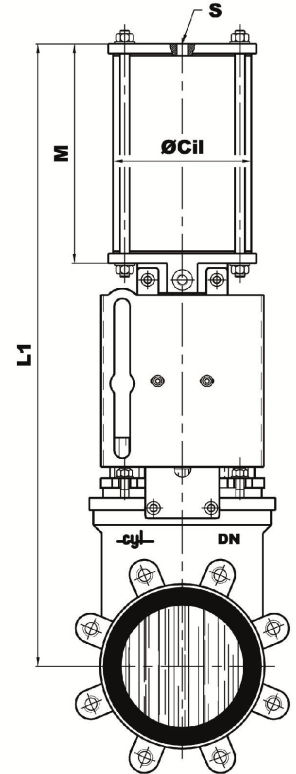


Figure 3. KGV-MU fully lugged with d/a pneumatic actuator

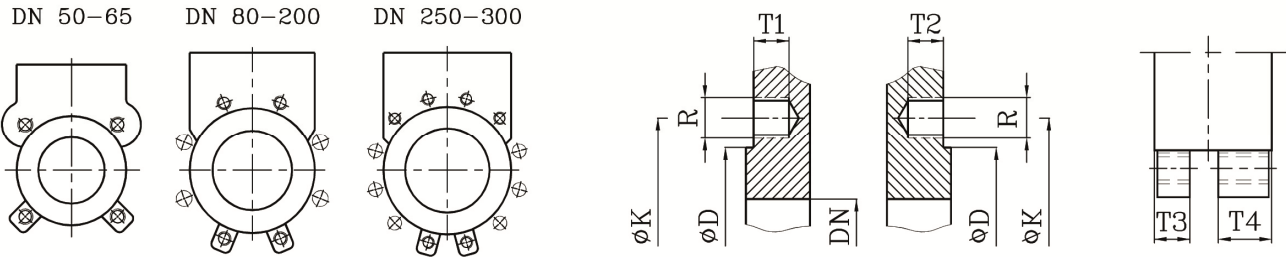


DN	G±1	H	L	ØV	L1	M	S	ØCil	Min. Torque (Nm)	Max. Torque (Nm)	Spindle thread	Max. Working Pressure (bar)
50	43	306	366	175	406	147	1/4 " G	80	8	16	Tr18x4i	10
65	43	336	411	175	448	160	1/4 " G	80	10	17	Tr18x4i	10
80	46	366	448	225	490	177	1/4 " G	100	12	19	Tr20x4i	10
100	52	393	495	225	537	197	1/4 " G	100	15	22	Tr20x4i	10
125	56	446	573	225	625	232	3/8 " G	125	17	24	Tr20x4i	10
150	56	548	699	300	757	267	3/8 " G	160	25	50	Tr24x5i	10
200	60	659	860	300	928	327	1/2 " G	190	27	53	Tr24x5i	8
250	68	733	984	300	1050	375	1/2 " G	190	50	69	Tr24x5i	7
300	78	870	1172	400	1229	428	1/2 " G	190	63	84	Tr28x5i	7

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

FLANGE DRILLINGS

FLANGE DRILLING- PN10



Bolting Arrangements PN-10 Knife Gate Valve

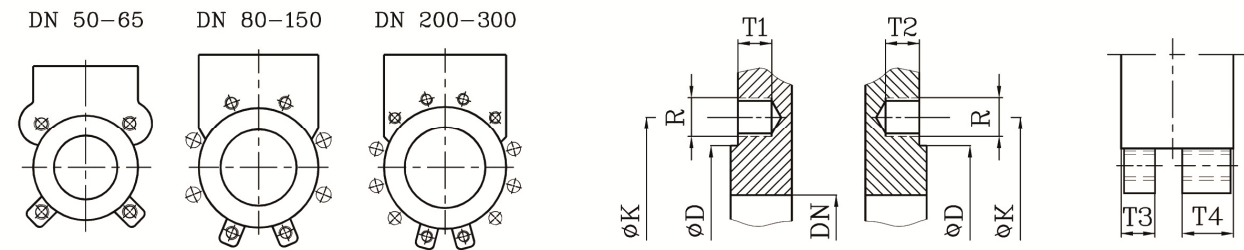
DN	K	D	N (1)	N (2)	N (3)	T1	T2	T3	T4	R
50	125	95	4	-	4	9	10	37		M-16
65	145	105	4	-	4	10	10	38		M-16
80	160	135	4	4	8	7	9	16	19	M-16
100	180	158	4	4	8	7	11	17	23	M-16
125	210	188	4	4	8	7	17	15	27	M-16
150	240	212	4	4	8	11	12	20	22	M-20
200	295	268	4	4	8	13	15	21	24	M-20
250	350	320	6	6	12	13	16	28	29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

N (1)- N° of threaded holes

N (2)- N° of thru bolts

N (3)- N° of flange holes

FLANGE DRILLING- PN16



Bolting Arrangements PN-16 Knife Gate Valve

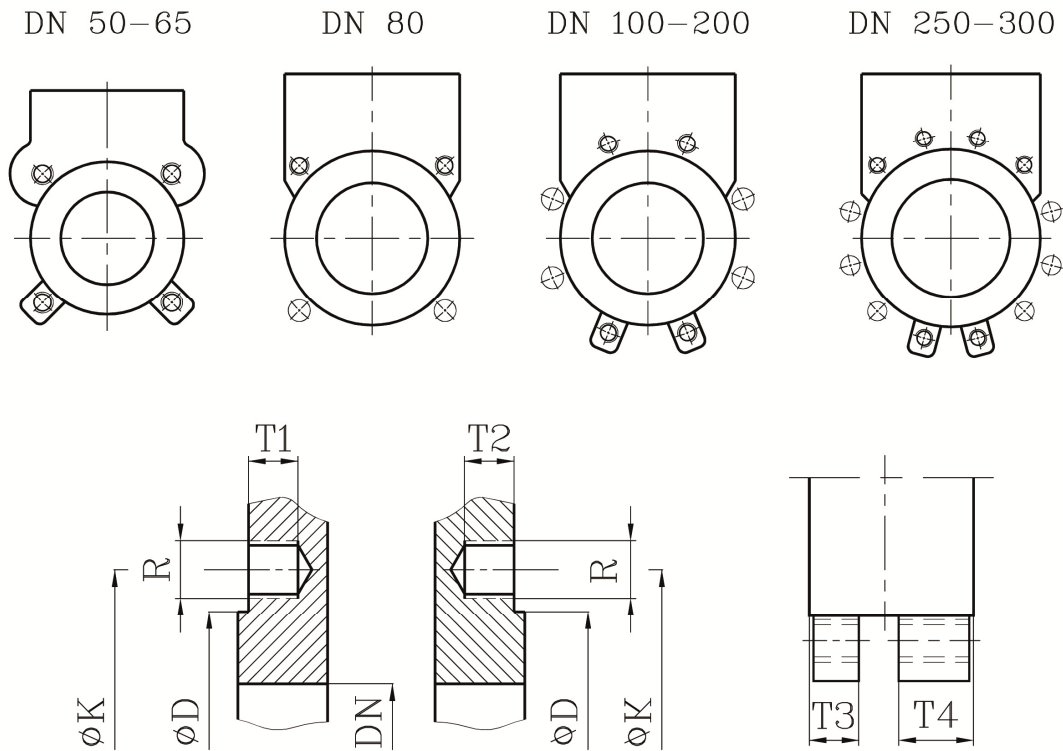
DN	K	D	N (1)	N (2)	N (3)	T1	T2	T3	T4	R
50	125	95	4	-	4	9	10	37		M-16
65	145	105	4	-	4	10	10	38		M-16
80	160	135	4	4	8	7	9	16	19	M-16
100	180	158	4	4	8	7	11	17	23	M-16
125	210	188	4	4	8	7	17	15	27	M-16
150	240	212	4	4	8	11	12	20	22	M-20
200	295	268	6	6	12	13	15	21	24	M-20
250	355	320	6	6	12	13	16	28	29	M-24
300	410	370	6	6	12	16	23	29	38	M-24

N (1)- N° of threaded holes

N (2)- N° of thru bolts

N (3)- N° of flange holes

## 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	2	2	4	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 "

N (1)- N° of threaded holes

N (2)- N° of thru bolts

N (3)- N° of flange holes

**ORDERING GUIDE**

SERIES	OPERATIONS	MATERIAL	DN	SEAT	BODY TYPE	FLANGE
Example: MU	V	11		NI	W	PN-10
MU	V → Handwheel r.s	11 → Cast iron		NI → NBR	L → Fully Lugged (END VALVE)	PN-10
	VR → Handwheel r.s + Bevel Gearbox	12 → Ductil iron		EP → EPDM	LW → Fully Lugged (BETWEEN FLANGES)	PN-16
	F → Handwheel n.r.s.	14 → Stainless steel		VI → VITON	W → Semi lugged (WAFER)	ASA 150
	FR → Handwheel n.r.s. + Bevel Gearbox	17 → Fully stainless steel		TE → PTFE		AS-2129 Table C/D
	C → Key cap	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					





SERIES	OPERATIONS	MATERIAL	DN	SEAT	BODY TYPE	FLANGE
MU	FM → Electric actuator n.r.s	11 → Cast iron		NI → NBR	L → Fully Lugged (END VALVE)	PN-10
	FMR → Electric actuator n.r.s + Bevel Gearbox	12 → Ductil iron		EP → EPDM	LW → Fully Lugged (BETWEEN FLANGES)	PN-16
	P → Quick closing lever	14 → Stainless steel		VI → VITON	W → Semi lugged (WAFER)	ASA 150
	N → D/A penumatic actuator	17 → Fully stainless steel		TE → PTFE		AS-2129 Table C/D
	SE → S/A penumatic 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					