TUBI VALVES

WELKOM BIJ TUBI VALVES NEDERLAND B.V.

Industriële appendages en instrumentatie met vakkundig advies

Tubi Valves is een **adviserende technische groothandel** in appendages en instrumentatie. Voor diverse toepassingen in de procesindustrie, zoals chemie, petro-chemie, energie- en watervoorziening leveren wij appendages. Tevens leveren wij aan u op maat samengestelde appendages. Wij helpen u **snel en vakkundig** door middel van deskundig advies en flexibele service.

Door **exclusieve afspraken** met fabrikanten en voorraadhoudende handelshuizen hebben wij de beschikking over ruim 85 miljoen euro aan voorraad met producten uit de hele wereld. Tubi Valves Nederland is voor u het **betrouwbare middelpunt** van deze aanpak. De appendages leveren we snel in heel Europa.

Modern en flexibel
Wij zijn een modern en flexibel bedrijf, met **veel ervaring en expertise** in huis. Als organisatie zijn wij **NEN-EN-ISO 9001:2015 gecertificeerd**.
Vanuit onze vestiging in Zwaag (Hoorn) staan wij u graag bij met uw vraagstukken. We kunnen u appendages leveren van gerenommeerde merken en leveren daarbij de benodigde service.

Ons programma omvat in hoofdlijnen de volgende productgroepen:

- Kogelkranen
- Klep- & Balgafsluiters
- Terugslagkleppen
- Vlinderkleppen
- Schuif- & Plaatafsluiters
- Filters & Kijkglazen
- Veiligheidsventielen, Overstort- & Reduceertoestellen
- Membraanafsluiters, Magneetafsluiters & Plugkranen
- Condenspotten & Stoomappendages
- Regelkleppen inclusief berekeningen
- Druk- & Temperatuur instrumentatie
- Automatisatie (pneumatisch, elektrisch, hydraulisch) en Signalisatie

U kunt bij ons kiezen uit een **uitgebreid assortiment**, vindt u echter niet wat u zoekt, vraag het dan bij ons aan.

Tubi Valves:
Uw specialist in industriële afsluiters en appendages.

INDUSTRIËLE AFSLUITERS VOOR TAL VAN TOEPASSINGEN

Ons programma voor het leveren van industriële afsluiters en kleppen aan de procesindustrie is zeer divers. Al deze (merk)artikelen vinden dan ook hun weg naar de vele toepassingen.

Kwalitatieve producten, juist advies en snelle service

Wij staan u bij in de keuze van de juiste afsluiters voor uw applicatie. Wanneer u aangeeft voor welke toepassing de afsluiters dienen te worden gebruikt, bieden wij u vrijblijvend in samenwerking met onze fabrikanten en partners, de benodigde appendages aan. Wij kunnen daarnaast het volgende voor u verzorgen:

Aanpassingen en modificering

- spindelverlengingen t.b.v. isolatie of afstand overbrugging
- samenbouw, montage en testen van aandrijvingen
- afstellen eindcontacten en positioners

Leveringen

- leveringen wereldwijd
- levering op verschillende locaties
- leveringen 'just in time', deelleveringen mogelijk

Projectbegeleiding

- projectmatige administratieve verwerking
- projectbespreking bij u, ons of op locatie
- projectbespreking gezamenlijk met of bij fabrikant
- ondersteuning voor U aan de eindklant

Technische informatie

- verzorgen van een technisch dossier
- aanleveren van 2D & 3D tekeningen in diversen formaten
- verzorgen van certificaten

Controle van afsluiters

- geautomatiseerde afsluiters worden voor u getest
- afstellen / certificeren van appendages kunnen wij verzorgen in samenwerking met Lloyd's, Bureau Veritas (BV) of door u op te geven

Facturering

- Via post en/of digitaal (pdf, xml)

Internationaal bereik

Ons verkoopkantoor in Zwaag beschikt samen met onze fabrikanten en partners over een voorraad van meer dan 85 miljoen euro aan afsluiters en appendages vanuit de hele wereld. Door onze vervoerdersafspraken leveren we snel in heel Europa.

Service en advies

Als modern en dynamisch bedrijf staan we garant voor producten en advies van goede kwaliteit. Daarbij hoort een uitstekende service:

- snelle offerte- en orderverwerking
- aanwezigheid van technische databladen
- advies door goed opgeleid personeel
- informatievoorziening door moderne media zoals Facebook en Twitter

Search the valve you need.

Knife Gate Valve Serie A

Application:
Chemical industry
Dams and Hydrological Projects
Energy generation
Food industry
Paper pulp industry
Water treatment

Slurry Valves - Knife Gate Valve - Serie AB

Application:
Chemical industry
Dams and Hydrological Projects
Food industry
Paper pulp industry
Water treatment

Knife Gate Valve - Serie AD

Application:
Cement
Chemical industry
Dams and Hydrological Projects
Food industry
Paper pulp industry
Water treatment

Knife Gate Valve - Serie B

Application
Cement
Chemical industry
Energy generation
Food industry
Paper pulp industry
Water treatment

Knife Gate Valve - Serie C

Application
Chemical industry
Dams and Hydrological Projects
Energy generation
Food industry
Paper pulp industry
Water treatment

Knife Gate Valve - Serie D

Application:
Cement
Chemical industry
Dams and Hydrological Projects
Energy generation
Food industry
Paper pulp industry
Water treatment

Knife Gate Valve - Serie E

Application:
Cement
Chemical industry
Dams and Hydrological Projects
Food industry
Paper pulp industry
Water treatment

Knife Gate Valve - Serie F

Application:
Chemical industry
Energy generation
Paper pulp industry
Water treatment

Knife Gate Valve - Serie FK

Application:
Chemical industry
Food industry
Paper pulp industry

Knife Gate Valve - Serie GA

Application:
Cement
Chemical industry
Mining Slurry Valves
Paper pulp industry

Knife Gate Valve - Serie GD

Application:
Cement
Chemical industry
Mining Slurry Valves
Paper pulp industry

Knife Gate Valve - Serie GH

Application:
Cement
Chemical industry
Energy generation
Mining Slurry Valves

Slurry Gate Valves - Serie GL

Application:
Cement
Energy generation
Mining Slurry Valves

Knife Gate Valve - Serie K

Application:
Cement
Chemical industry
Energy generation
Food industry
Paper pulp industry

Knife Gate Valve - Serie L

Application:
Cement
Chemical industry
Food industry
Paper pulp industry
Water treatment

Knife Gate Valve - Serie T

Application:
Chemical industry
Energy generation
Food industry
Paper pulp industry
Water treatment

Knife Gate Valve - Serie TD

Application:
Chemical industry
Dams and Hydrological Projects
Energy generation
Food industry
Paper pulp industry
Water treatment

Knife Gate Valve - Serie U

Application:
Cement
Chemical industry
Energy generation
Food industry
Paper pulp industry

Knife Gate Valve - Serie UB

Application:
Cement
Chemical industry
Energy generation
Food industry
Paper pulp industry
Water treatment

Knife Gate Valve - Serie XB

Application:
Chemical industry
Energy generation
Food industry
Mining Slurry Valves
Paper pulp industry

More detailed information available on our website:

www.tubi-valves.nl

Option: possibilities as limitswiches, solonoids, position indicators and positioners are available on request.

For more information contact us.

Assembly and special manufacturing

At CMO Valves we carry out all nature of adaptations and special assemblies, such as limit switches, pneumatic drives, electric drives, special seals, air flushing, and supports as needed.

Industrial applications

- Paper industry.
- Mining.
- Silos unloading.
- Storage.
- Pumping stations.
- Food industry.
- Water treatment.
- Energy generation.
- Dams and reservoirs.
- Hydraulic projects.
- Petrochemical industry.
- Air and gas treatment.
- Steel industry.
- ...

The standard knife gate valve from CMO Valves

1. CAST IRON MONOBLOCK BODY.
   Distortion resistant, strong, leak free.
2. INTERCHANGEABLE SEAL.
   Elastomer seal.
3. ADJUSTABLE PACKING GLAND.
   Adjustable during service.
4. SUPPORT PLATES.
   Support plates.
5. ANTICORROSION PAINT.
   Baked epoxy treatment.
6. KNIFE.
   In stainless materials.
7. ACTUATOR.
   Multiple possibilities, manual or automatic.
8. STEM PROTECTION PIPE.
   Stem protection and lubrication.
9. ASSEMBLY LUGS.
   For installation.

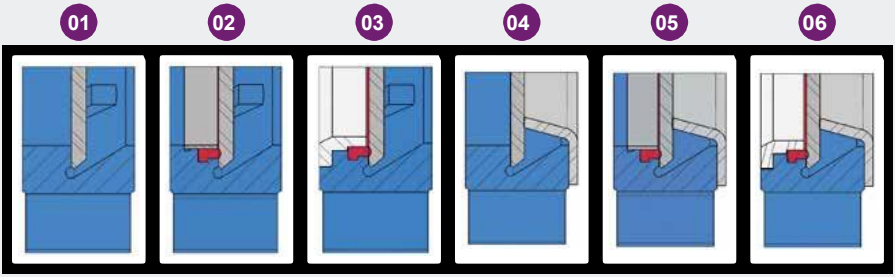
CE (PED) ART 4.3 /CAT.1
In accordance with the European directive on *«pressure equipment»*.

Ex N ° 94/9/CE: (ATEX) CAT.3 ZONE 2 and 22 GD.
In accordance with the European directive on *«explosive atmospheres»*.

For further information on categories and zones please contact TUBI Valves. Technical-Commercial Department.

Standard seats

Various types of seats are available according to the working application and the valve model.



01	02	03	04	05	06
METAL SEAT	SOFT SEAT	SOFT SEAT WITH REINFORCED RING	METAL SEAT WITH DEFLECTOR	SOFT SEAT WITH DEFLECTOR	SOFT SEAT WITH DEFLECTOR & REINFORCED RING

A SERIES

UNIDIRECTIONAL WAFER TYPE KNIFE GATE VALVE

DESCRIPTION

- One-piece cast body with guides to support gate and seat wedges.
- Stainless steel gate.
- High flow rates with low load losses.
- Various constructions materials and seal and stuffing materials available.
- Face-to-face distance in accordance with CMO Valves standards.
- An arrow is marked on the body indicating the flow direction.

GENERAL APPLICATIONS

This knife gate valve is suitable for liquids that contain a maximum of 5% suspended solids. If it is used for dry solids in gravity feed applications it should be installed with the arrow on the body pointing in the opposite direction to the flow.

Designed for applications such as:
- Paper industry.
- Mining.
- Chemical plants.
- Pumping.
- Food industry.
- Sewage treatment.

SIZES

From DN50 to DN2000.

Other DNs on request.

WORKING PRESSURE (ΔP)

DN50-DN250	10 bar
DN300-DN400	6 bar
DN450	5 bar
DN500-DN600	4 bar
DN700-DN2000	3 bar

Other pressures on request.

Indicated work pressures will only be valid following the direction of the arrow marked on the valve. Due to the valve's design with gate support guides, 30% of these pressures can be applied in the opposite direction to the arrow without causing any damage to it. In these circumstances the valve is not watertight. An additional series of supports

these conditions.

FLANGE DRILLING

- ENI092 PN10.
- ASME B16.5 (class 150).

OTHERS COMMONLY USED

- PN6.
- PN16.
- PN25.
- BS "D" and "E".
- JIS10K.

Others on request.

RESILIENT SEALS

- EPDM.
- NITRILE.
- FPM.
- SILICONE.
- PTFE.

Various materials are available for the reinforced socket and the deflector (CA-15, CF8M and Ni-hard...).

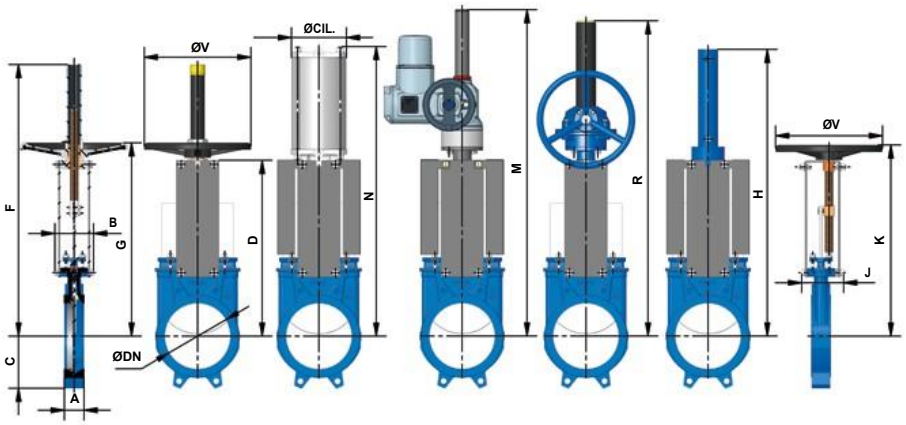
DIRECTIVES

Pressure equipment:
(PED) ART 4.3 /CAT.1.
Explosive Atmospheres:
(ATEX) CAT.3 ZONE 2 and 22 GD.

For further information on categories and zones please contact Tubi Valves. Technical-Commercial Department.

QUALITY DOSSIER

All valves are hydrostatically tested in accordance with EN1266. and material and test certificates can be supplied on request.
- Body test = working pressure x 1.5.
- Seal test = working pressure x 1.1.



MANUFACTURING RANGE

DIMENSIONS – A

DN	A	B	C	D	F	G	ØV	N	ØCIL.	M	R	H	J	K
50	40	92	63	241	409	280	225	415	80	595	540	460	101	280
65	40	92	70	268	436	307	225	455	80	622	566	500	101	308
80	50	92	92	294	469	333	225	498	80	647	592	560	101	330
100	50	92	105	334	502	373	225	565	100	687	632	620	101	373
125	50	102	120	367	585	406	225	636	125	720	665	683	111	407
150	60	102	130	419	644	458	225	717	125	772	717	755	111	458
200	60	119	160	525	815	578	325	874	160	990	942	926	128	578
250	70	119	198	626	1016	679	325	1036	200	1090	1043	1077	128	679
300	70	119	234	726	1116	779	380	1182	200	1190	1194	1246	128	779
350	96	290	256	797	1336	906	450	1380	250	1302	1335	1376	305	906
400	100	290	292	903	1442	1012	450	1530	250	1460	1441	1532	305	1012
450	106	290	308	989	1628	1098	450	1677	300	1755	1677	1707	305	1098
500	110	290	340	1101	1738	1210	450	1839	300	1870	1789	1869	305	1210
600	110	290	398	1307	2046	1416	450	2146	300	2043	2045	2176	305	1416
700	110	320	453	1506	-	-	-	2481	350	2401	2401	2525	-	-
800	110	320	503	1720	-	-	-	2798	350	2715	2715	2839	-	-
900	110	320	583	1953	-	-	-	3167	400	3043	3043	3172	-	-
1000	110	320	613	2137	-	-	-	3451	400	3351	3351	3496	-	-
1200	150	340	728	2616	-	-	-	4135	400	4042	4042	4175	-	-

No obligation consultation on dimensions and drawings. CMO Valves reserves the right to modify them at any time, at its discretion and without prior notice.

Larger sizes on request.

Visit our website to see the full features of the A/A-LUG Series.

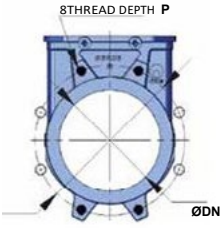
FLANGE DRILLING – A

DN	ΔP (bar)	PN10					ASA150				
		●	○	M	P	ØK	●	○	R UNC	P	ØK
50	10	4	-	M 16	8	125	4	-	5/8"	8	120,6
65	10	4	-	M 16	8	145	4	-	5/8"	8	139,7
80	10	4	4	M 16	9	160	4	-	5/8"	9	152,4
100	10	4	4	M 16	9	180	4	4	5/8"	9	190,5
125	10	4	4	M 16	9	210	4	4	3/4"	9	215,9
150	10	4	4	M 20	10	240	4	4	3/4"	10	241,3
200	10	4	4	M 20	10	295	4	4	3/4"	10	298,4
250	10	6	6	M 20	12	350	6	6	7/8"	12	361,9
300	6	6	6	M 20	12	400	6	6	7/8"	12	431,8
350	6	10	6	M 20	21	460	8	4	1"	21	476,2
400	6	10	6	M 24	21	515	10	6	1"	21	539,7
450	5	14	6	M 24	22	565	10	6	1 ⅛"	22	577,8
500	4	14	6	M 24	22	620	14	6	1⅛"	22	635
600	4	14	6	M 27	22	725	14	6	1 ¼"	22	749,3
700	3	16	8	M 27	22	840	20	8	1 ¼"	22	863,6
800	3	16	8	M 30	22	950	20	8	1 ½"	22	977,9
900	3	20	8	M 30	20	1050	20	12	1 ½"	20	1085,9
1000	3	20	8	M 33	20	1160	24	12	1 ½"	20	1200,2
1200	3	20	12	M 36	22	1380	26	18	1 ½"	24	1422,4

Larger sizes on request.

● *Threaded holes.*

○ *Through holes.*



AB SERIES

BIDIRECTIONAL WAFER TYPE KNIFE GATE VALVE

DESCRIPTION

- Bidirectional valve with one-piece cast body and seat inserted in valve.
- Stainless steel gate.
- High flow rates with low load losses.
- Various constructions materials and seal and packing materials available.
- Face-to-face distance in accordance with CMO Valves standards.

GENERAL APPLICATIONS

This knife gate valve is suitable for liquids that contain a maximum of 4% suspended solids.

Designed for applications such as:
- Industry.
- Chemical plants.
- Pumping.
- Food industry.
- Clean water treatment.

SIZES

From DN50 to DN600.

Other DNs on request.

WORKING PRESSURE (ΔP)

DN50-DN250	10 bar
DN300-DN400	6 bar
DN450	5 bar
DN500-DN600	4 bar

FLANGE DRILLING

- ENI092 PN10.
- ASME B16.5 (class 150).

OTHERS COMMONLY USED

- PN6.
- PN16.
- PN25.
- BS "D" and "E".
- JIS10K.

Others on request.

RESILIENT SEALS

- EPDM.
- NITRILE.
- FKM.
- SILICONE.

In some applications other types of resilient materials are used, such as hypalon, butile or natural rubber. Please contact us if you have such requirements.

DIRECTIVES

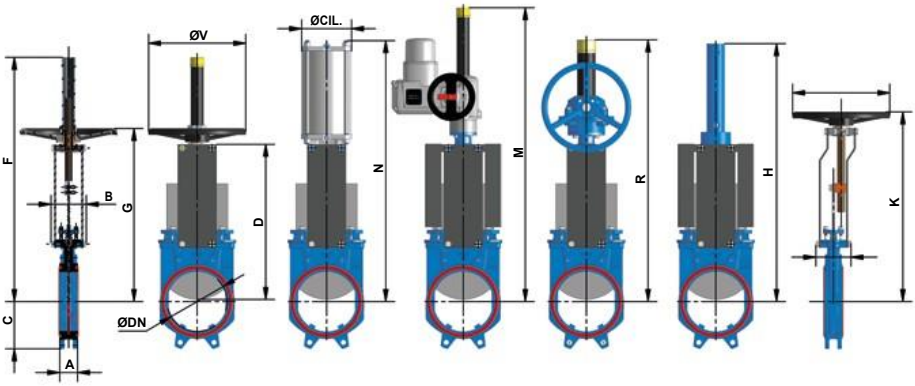
- Pressure equipment: (PED) ART 4.3 /CAT.1.
- Explosive Atmospheres: (ATEX) CAT.3 ZONE 2 and 22 GD.

For further information on categories and zones please contact TUBI Valves. Technical-Commercial Department.

QUALITY DOSSIER

All valves are hydrostatically tested in accordance with EN1266. and material and test certificates can be supplied on request.

- Seal test = working pressure x 1.1.



MANUFACTURING RANGE

DIMENSIONS – AB

DN	A	B	C	D	F	G	ØV	N	ØCIL.	M	R	H	J	K
50	40	91	61	241	410	280	225	400	80	587	540	457	101	280
65	40	91	68	268	437	308	225	442	80	614	566	500	101	308
80	50	91	91	294	463	333	225	483	80	640	592	560	101	333
100	50	91	104	334	503	373	225	546	100	680	632	620	101	373
125	50	101	118	367	586	407	225	630	125	713	665	683	111	407
150	60	101	130	419	638	458	225	692	125	765	717	755	111	458
200	60	118	159	525	816	578	325	869	160	880	942	926	128	578
250	70	118	196	626	1017	679	325	1032	200	981	1033	1077	128	679
300	70	118	230	726	1117	779	380	1182	200	1141	1121	1246	128	779
350	96	290	254	797	1337	906	450	1379	250	1347	1305	1376	305	906
400	100	290	287	903	1443	1012	450	1535	250	1550	1403	1532	305	1012
450	106	290	304	989	1629	1098	450	1677	300	1847	1677	1707	305	1098
500	110	290	340	1101	1741	1210	450	1839	300	1959	1789	1869	305	1210
600	110	290	398	1307	2047	1416	450	2145	300	2165	1995	2176	305	1416

No obligation consultation on dimensions and drawings. CMO Valves reserves the right to modify them at any time, at its discretion and without prior notice.

Larger sizes on request.

Visit our website to see the full features of the a AB Series.

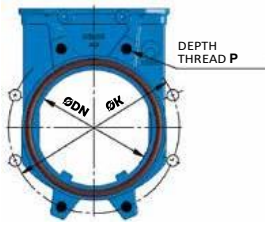
FLANGE DRILLING – AB

DN	ΔP (bar)	PN10					ASA150				
		●	○	M	P	ØK	●	○	R UNC	P	ØK
50	10	4	-	M 16	8	125	4	-	5/8"	8	120,6
65	10	4	-	M 16	8	145	4	-	5/8"	8	139,7
80	10	4	4	M 16	9	160	4	-	5/8"	9	152,4
100	10	4	4	M 16	9	180	4	4	5/8"	9	190,5
125	10	4	4	M 16	9	210	4	4	3/4"	9	215,9
150	10	4	4	M 20	10	240	4	4	3/4"	10	241,3
200	10	4	4	M 20	10	295	4	4	3/4"	10	298,4
250	10	6	6	M 20	12	350	6	6	7/8"	12	361,9
300	6	6	6	M 20	12	400	6	6	7/8"	12	431,8
350	6	12	4	M 20	21	460	8	4	1"	21	476,2
400	6	12	4	M 24	21	515	12	4	1"	21	539,7
450	5	16	4	M 24	22	565	12	4	1 1/8"	22	577,8
500	4	16	4	M 24	22	620	16	4	1 1/8"	22	635
600	4	16	4	M 27	22	725	16	4	1 1/4"	22	749,3

Larger sizes on request.

● *Threaded holes.*

○ *Through holes.*



AD SERIES

UNIDIRECTIONAL FLANGED KNIFE GATE VALVE

DESCRIPTION

- One-piece cast body with guides to support gate and seat wedges.
- High flow rates with low load losses.
- Stainless steel gate.
- Various constructions materials and seal and stuffing materials available.
- Face-to-face distance in accordance with CMO Valves standard.
- An arrow is marked on the body indicating the flow direction.

GENERAL APPLICATIONS

This knife gate valve is suitable for liquids that contain a maximum of 5% suspended solids. If it is used for dry solids in gravity feed applications it should be installed with the arrow on the body pointing in the opposite direction to the flow.

Designed for applications such as:
- Paper industry.
- Mining.
- Chemical plants.
- Pumping.
- Food industry.
- Sewage treatment.

SIZES

From DN50 to DN1200.

Other DNs on request.

WORKING PRESSURE (ΔP)

DN50-DN250	10 bar
DN300-DN400	6 bar
DN450	5 bar
DN500-DN600	4 bar
DN700-DN1200	3 bar

Other pressures on request.

Indicated work pressures will only be valid following the direction of the arrow marked on the valve. Due to the valve's design with gate support guides, 30% of these pressures can be applied in the opposite direction to the arrow without causing any damage to it. In these circumstances the valve is not watertight. An additional series of supports is necessary in order to achieve tightness in these conditions.

FLANGE DRILLING

- ENI092 PN10.
- ASME B16.5 (class 150).

OTHERS COMMONLY USED

- PN6.
- PN16.
- PN25.
- BS "D" and "E".
- JIS10K.

Others on request.

RESILIENT SEALS

- EPDM.
- NITRILE.
- FPM.
- SILICONE.
- PTFE.

Various materials are available for the reinforced socket and the deflector (CA-15, CF8M and Ni-hard...).

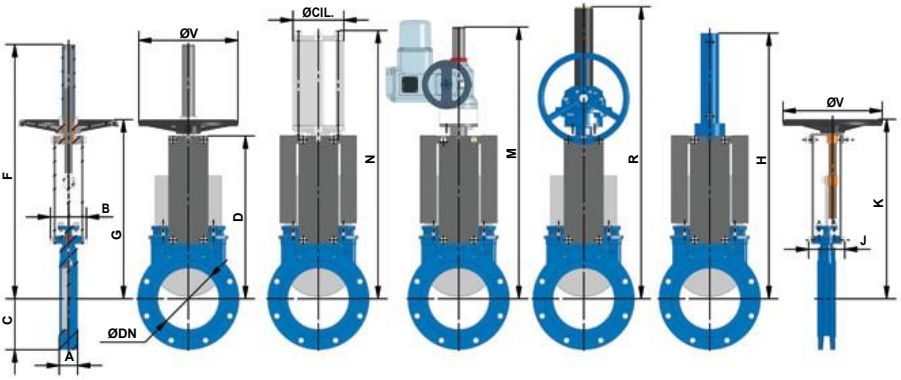
DIRECTIVES

- Pressure equipment (PED) ART.3 /CAT.1.
- Explosive Atmospheres: (ATEX) CAT.3 ZONE 2 and 22 GD.

For further information on categories and zones please contact TUBI Valves. Technical-Commercial Department.

QUALITY DOSSIER

All valves are hydrostatically tested in accordance with EN1266. and material and test certificates can be supplied on request.
- Body test = working pressure x 1.5.
- Seal test = working pressure x 1.1.



MANUFACTURING RANGE

DIMENSIONS – AD

DN	A	B	C	D	F	G	ØV	N	ØCIL.	M	R	H	J	K
50	40	92	63	241	409	280	225	415	80	595	540	460	101	280
65	40	92	70	268	436	307	225	455	80	622	566	500	101	308
80	50	92	92	294	469	333	225	498	80	647	592	560	101	333
100	50	92	105	334	502	373	225	565	100	687	632	620	101	373
125	50	102	120	367	585	406	225	636	125	720	665	683	111	407
150	60	102	130	419	644	458	225	717	125	772	717	755	111	458
200	60	119	160	525	815	578	325	874	160	990	942	926	128	578
250	70	119	198	626	1016	679	325	1036	200	1090	1043	1077	128	679
300	70	119	234	726	1116	779	380	1182	200	1190	1194	1245	128	779
350	96	290	256	797	1336	906	450	1380	250	1305	1335	1376	305	906
400	100	290	292	903	1442	1012	450	1530	250	1460	1441	1535	305	1012
450	106	290	308	989	1628	1098	450	1677	300	1755	1677	1710	305	1098
500	110	290	340	1101	1738	1210	450	1839	300	1870	1789	1870	305	1210
600	110	290	400	1307	2046	1416	450	2146	300	2045	2045	2175	305	1416
700	110	320	453	1506	-	-	-	2481	350	2401	2401	2525	-	-
800	110	320	503	1720	-	-	-	2798	350	2715	2715	2839	-	-
900	110	320	583	1953	-	-	-	3167	400	3043	3043	3172	-	-
1000	110	320	613	2137	-	-	-	3451	400	3351	3351	3496	-	-
1200	150	340	728	2616	-	-	-	4135	400	4042	4042	4174	-	-

No obligation consultation on dimensions and drawings. CMO Valves reserves the right to modify them at any time, at its discretion and without prior notice.

Larger sizes on request.

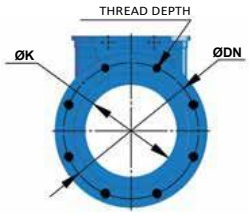
Visit our website to see the full features of the AD Series.

FLANGE DRILLING – AD

DN	ΔP (bar)	PN10				ND	ASA150			
		●	M	P	ØK		●	R UNC	P	ØK
50	10	4	M 16	8	125	2"	4	5/8"	8	120,6
65	10	4	M 16	8	145	2 ½"	4	5/8"	8	139,7
80	10	8	M 16	9	160	3"	4	5/8"	9	152,4
100	10	8	M 16	9	180	4"	8	5/8"	9	190,5
125	10	8	M 16	9	210	5"	8	3/4"	9	215,9
150	10	8	M 20	10	240	6"	8	3/4"	10	241,3
200	10	8	M 20	10	295	8"	8	3/4"	10	298,4
250	10	12	M 20	12	350	10"	12	7/8"	12	361,9
300	6	12	M 20	12	400	12"	12	7/8"	12	431,8
350	6	16	M 20	21	460	14"	12	1"	21	476,2
400	6	16	M 24	21	515	16"	16	1"	21	539,7
450	5	20	M 24	22	565	18"	16	1⅛"	22	577,8
500	4	20	M 24	22	620	20"	20	1⅛"	22	635
600	4	20	M 27	22	725	24"	20	1¼"	22	749,3
700	3	24	M 27	22	840	28"	28	1¼"	22	863,6
800	3	24	M 30	22	950	32"	28	1½"	22	977,9
900	3	28	M 30	20	1050	36"	32	1½"	20	1085,8
1000	3	28	M 33	20	1160	40"	36	1½"	20	1200,2
1200	3	32	M 36	20	1380	48"	44	1½"	24	1422,4

Larger sizes on request.

● *Threaded holes.*



B SERIES

BIDIRECTIONAL WAFER TYPE KNIFE GATE VALVE

DESCRIPTION

- Bidirectional knife gate valve.
- Cast body, comprised of two bolted parts, with internal sliding guides to provide smooth operation.
- High flow rates with low load losses.
- Stainless steel gate.
- Various seal and gasket materials available.
- Distance between faces according to the CMO Valves standard.
- It has a cleaning record.

GENERAL APPLICATIONS

This knife gate valve is suitable for liquids with a maximum solids concentration of 8%.

Designed for applications such as:
- Paper industry.
- Mining.
- Chemical plants.
- Pumping.
- Food industry.
- Sewage treatment.

SIZES

From DN50 to DN1000.

Other DNs on request.

WORKING PRESSURE (ΔP)

DN50-DN250	10 bar
DN300-DN400	6 bar
DN450	5 bar
DN500-DN600	4 bar
DN700-DN1000	3 bar

Other pressures on request.

FLANGE DRILLING

- ENI092 PN10.
- ASME B16.5 (class 150).

OTHERS COMMONLY USED

- PN6.
- PN16.
- PN25.
- BS "D" and "E".
- JIS10K.

Others on request.

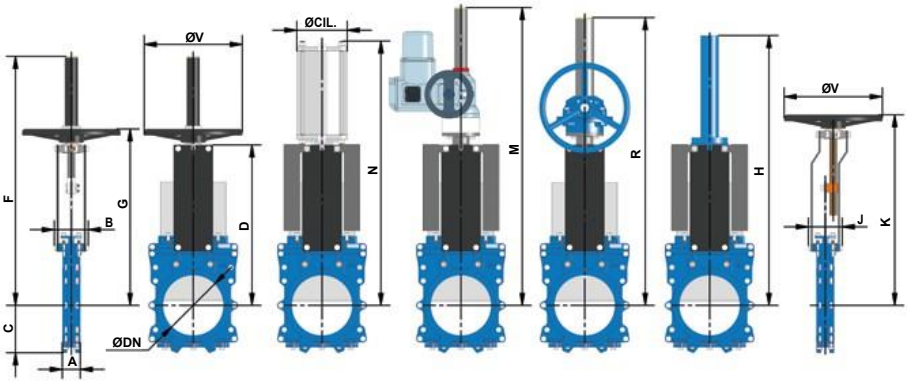
DIRECTIVES

Pressure equipment:
(PED) ART 4.3 /CAT.1.
Explosive Atmospheres:
(ATEX) CAT.3 ZONE 2 and 22 GD.

For further information on categories and zones please contact TUBI Valves. Technical-Commercial Department.

QUALITY DOSSIER

All valves are hydrostatically tested in accordance with EN1266. and material and test certificates can be supplied on request.
- Body test = working pressure x 1.5.
- Seal test = working pressure x 1.1.



MANUFACTURING RANGE

DIMENSIONS – B

DN	A	B	C	D	F	G	ØV	N	ØCIL.	M	R	H	J	K
50	40	92	63	241	409	280	225	415	80	595	540	460	101	280
65	40	92	70	268	436	307	225	455	80	622	566	500	101	308
80	50	92	92	294	469	333	225	498	80	647	592	560	101	330
100	50	92	105	334	502	373	225	565	100	687	632	620	101	373
125	50	102	120	367	585	406	225	636	125	720	665	683	111	407
150	60	102	130	419	644	458	225	717	125	772	717	755	111	458
200	60	119	160	525	815	578	325	874	160	990	942	926	128	578
250	70	119	198	626	1016	679	325	1036	200	1090	1043	1077	128	679
300	70	119	234	726	1116	779	380	1182	200	1190	1194	1246	128	779
350	96	290	256	797	1336	906	450	1380	250	1302	1335	1376	305	906
400	100	290	292	903	1442	1012	450	1530	250	1460	1441	1532	305	1012
450	106	290	308	989	1628	1098	450	1677	300	1755	1677	1707	305	1098
500	110	290	340	1101	1738	1210	450	1839	300	1870	1789	1869	305	1210
600	110	290	398	1307	2046	1416	450	2146	300	2043	2045	2176	305	1416
700	110	320	453	1506	-	-	-	2481	350	2401	2401	2525	-	-
800	110	320	503	1720	-	-	-	2798	350	2715	2715	2839	-	-
900	110	320	583	1953	-	-	-	3167	400	3043	3043	3172	-	-
1000	110	320	613	2137	-	-	-	3451	400	3351	3351	3496	-	-
1200	150	340	728	2616	-	-	-	4135	400	4042	4042	4175	-	-

No obligation consultation on dimensions and drawings. CMO Valves reserves the right to modify them at any time, at its discretion and without prior notice.

Larger sizes on request.

Visit our website to see the full features of the B Series

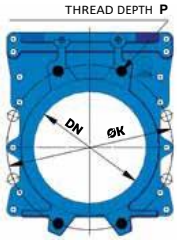
FLANGE DRILLING – B

DN	ΔP (bar)	PN10					ASA150				
		●	○	M	P	ØK	●	○	R UNC	P	ØK
50	10	4	-	M 16	8	125	4	-	5/8"	8	120,6
65	10	4	-	M 16	8	145	4	-	5/8"	8	139,7
80	10	4	4	M 16	9	160	4	-	5/8"	9	152,4
100	10	4	4	M 16	9	180	4	4	5/8"	9	190,5
125	10	4	4	M 16	9	210	4	4	3/4"	9	215,9
150	10	4	4	M 20	10	240	4	4	3/4"	10	241,3
200	10	4	4	M 20	10	295	4	4	3/4"	10	298,4
250	10	8	4	M 20	12	350	8	4	7/8"	12	361,9
300	6	8	4	M 20	12	400	8	4	7/8"	12	431,8
350	6	12	4	M 20	21	460	8	4	1"	21	476,2
400	6	12	4	M 24	21	515	12	4	1"	21	539,7
450	5	16	4	M 24	22	565	12	4	1 1/8"	22	577,8
500	4	16	4	M 24	22	620	16	4	1 1/8"	22	635
600	4	16	4	M 27	22	725	16	4	1 1/4"	22	749,3
700	3	20	4	M 27	22	840	24	4	1¼"	22	863,6
800	3	20	4	M 30	22	950	24	4	1½"	22	977,9
900	3	24	4	M 30	20	1050	28	4	1½"	20	1085,8
1000	3	24	4	M 33	20	1160	32	4	1½"	20	1200,2

Larger sizes on request.

● *Threaded holes.*

○ *Through holes.*



C SERIES

UNIDIRECTIONAL SQUARE KNIFE GATE VALVE

DESCRIPTION

- Square or rectangular section uni-directional knife gate valve.
- Body is mechanically welded.
- Various constructions materials and seal and stuffing materials available.
- Stainless steel gate.
- Face-to-face distance in accordance with CMO Valves standards.
- We also manufacture face-to-face inserts and dimensions to suit the customer.

GENERAL APPLICATIONS

This knife gate valve is suitable for solids. It is also recommended in gravity discharge applications for highly solid-laden fluids.

Designed for a wide range of applications such as:
- Storage, silos.
- Mining.
- Chemical plants.
- Food industry.

SIZES

From DN125 x 125 to DN1400 x 1400.

Other DNs on request.

Custom-made valves for each project are available.

WORKING PRESSURE (ΔP)

STANDARD	0.6 bar

Other pressures on request.

This knife gate valve is specially designed to work with solids and dust. When the valve is open it provides full, continuous flow without any type of obstruction enabling the product to be freely discharged.

FLANGE DRILLING

- Standard CMO Valves.

RESILIENT SEALS

- EPDM.
- NITRILE.
- FPM.
- SILICONE.
- PTFE.

Various materials are available for the reinforced socket and the deflector (S275JR, AISI 304, AISI 316...).

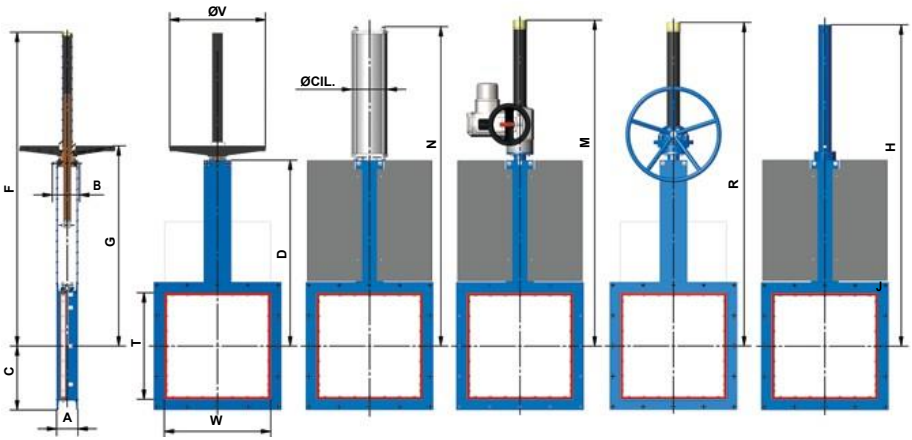
DIRECTIVES

Pressure equipment:
(PED) ART 4.3 /CAT.1.
Explosive Atmospheres:
(ATEX) CAT.3 ZONE 2 and 22 GD.

For further information on categories and zones please contact TUBI Valves. Technical-Commercial Department.

QUALITY DOSSIER

The tightness of the seat area is measured with gauges.
Material and testing certificates can be supplied on request.



MANUFACTURING RANGE

DIMENSIONS – C

DN	A	B	C	D	F	G	ØV	N	ØCIL.	M	R	H
125x125	80	102	107,5	281,5	496	317	225	511	80	631	556	561
150x150	80	102	120	319	534	354	225	574	80	668	619	623
200x200	80	102	145	394	650	429	225	699	80	743	744	723
250x250	80	111	170	471	802	524	325	824	80	831	869	903
300x300	80	111	195	546	935	599	325	949	80	956	994	1028
350x350	100	116	225	621	1060	674	325	1074	100	1086	1124	1156
400x400	100	116	250	697	1185	749	325	1215	125	1211	1249	1286
450x450	100	128	275	785	1338	852	450	1351	125	1365	1384	1421
500x500	100	128	300	864	1465	929	450	1486	160	1492	1511	1558
550x550	100	128	325	939	1590	1004	450	1611	160	1617	1636	1683
600x600	100	128	350	1014	1715	1079	450	1736	160	1742	1761	1808
650x650	100	128	375	1089	1840	1154	450	1861	160	1867	1886	1933
700x700	120	148	405	1178	1981	1245	450	2014	200	2008	2027	2097
750x750	120	148	430	1253	2106	1320	450	2182	250	2133	2152	2222
800x800	120	148	455	1328	2231	1395	450	2307	250	2258	2277	2347
900x900	140	168	510	1478	2481	1545	450	2560	250	2508	2527	2597
1000x1000	140	168	560	1628	2746	1695	-	2815	300	2758	2777	2847
1200x1200	160	186	665	1929	3280	2040	-	3310	350	3229	3251	3387
1400x1400	160	218	765	2229	3760	2340	-	3877	400	3729	3751	3918

No obligation consultation on dimensions and drawings. CMO Valves reserves the right to modify them at any time, at its discretion and without prior notice.

Larger sizes on request.

Visit our website to see the full features of the C Series.

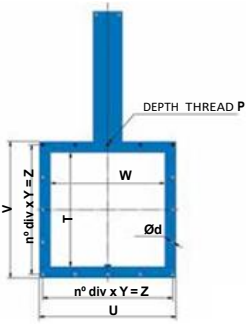
FLANGE DRILLING – C

W x T	ΔP (bar)	FLANGE DRILLING						
		●	○	M	P	Ød	U x V	nº div x Y=Z
125x125	0,6	3	5	M 10	8	12	215x215	2 x 92,5 = 185
150x150	0,6	3	5	M 10	8	12	240x240	2 x 105 = 210
200x200	0,6	3	5	M 10	8	12	290x290	2 x 130 = 260
250x250	0,6	3	5	M 10	8	12	340x340	2 x 155 = 310
300x300	0,6	4	8	M 10	8	12	390x390	3 x 120 = 360
350x350	0,6	4	8	M 12	8,5	14	450x450	3 x 140 = 420
400x400	0,6	5	11	M 12	8,5	14	500x500	4 x 117,5 = 470
450x450	0,6	5	11	M 12	8,5	14	550x550	4 x 130 = 520
500x500	0,6	5	11	M 12	8,5	14	600x600	4 x 142,5 = 570
550x550	0,6	5	11	M 12	8,5	14	650x650	4 x 155 = 620
600x600	0,6	5	11	M 12	8,5	14	700x700	4 x 167,5 = 670
650x650	0,6	5	11	M 12	8,5	14	750x750	4 x 180 = 720
700x700	0,6	6	14	M 12	9	14	810x810	5 x 155 = 775
750x750	0,6	6	14	M 12	9	14	860x860	5 x 166 = 830
800x800	0,6	6	14	M 12	9	14	910x910	5 x 175 = 875
900x900	0,6	7	17	M 12	10	14	1020x1020	6 x 162,5 = 975
1000x1000	0,6	8	20	M 12	10	14	1120x1120	7 x 155 = 1085
1200x1200	0,6	8	20	M 12	10,5	14	1320x1320	7 x 184,5 = 1291,5
1400x1400	0,6	8	20	M 12	10,5	14	1520x1520	7 x 213 = 1491

Larger sizes on request.

● *Threaded holes.*

○ *Through holes.*



D SERIES

UNIDIRECTIONAL FLANGED KNIFE GATE VALVE

DESCRIPTION

- Unidirectional flanged gate valve (bidirectional option on request), designed for high pressure applications, with self-cleaning seal.
- One-piece die-cast body, with wedges to ensure seal and screwed down bonnet.
- Stainless steel gate.
- Provides high flow rates with low pressure drops.
- Various constructions materials and seal and stuffing materials available.
- Face-to-face distance in accordance with CMO Valves standards.
- An arrow is marked on the body indicating the flow direction.

GENERAL APPLICATIONS

This gate valve is suitable for working with clean liquids or liquids with a concentration of solids.

Designed for applications such as:
- Paper industry.
- Mining.
- Chemical plants.
- Pumping.
- Food industry.
- Sewage treatment.

SIZES

From DN50 to DN2000.

Other DNs on request.

WORKING PRESSURE (ΔP)

STANDARD	PN2.5-PN100

Other pressures on request.

When a gate valve remains open for long periods of time and the body's internal walls are parallel, a very large torque is required to close it. The inside of the D model body has a conical shape which provides more space; moreover, the width between the faces in this type of valves is greater than standard, thus achieving more space. This way, when the valve is shut off the solids stored inside it can be easily released.

FLANGE DRILLING

- DIN PN10.
- ANSI B16.5 (150 LB).

OTHERS COMMONLY USED

- PN6.
- PN16.
- PN25.
- PN40.
- PN64.
- PN100.
- JIS standard.
- Australian standard.
- British standard.

Others on request.

RESILIENT SEALS

- EPDM.
- NITRILE.
- FPM.
- SILICONE.
- PTFE.

Various materials are available for the reinforced socket and the deflector (CA-15, CF8M and Ni-hard...). In some applications other types of rubber are used, such as: hypalon, butyl or natural rubber. Please contact Tubi Valves if you have such requirements.

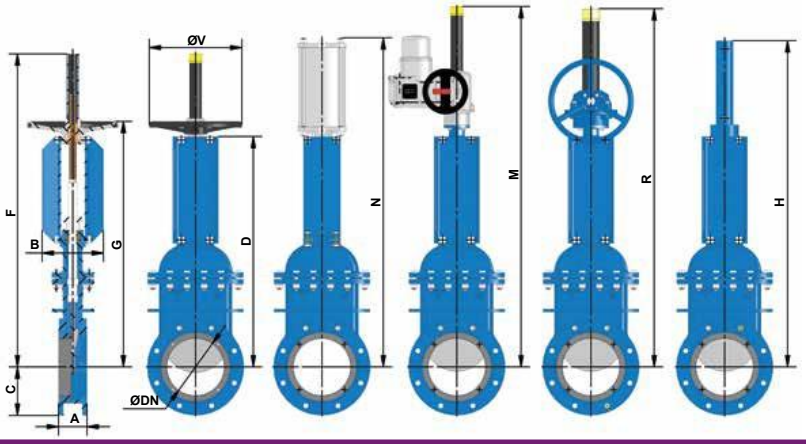
DIRECTIVES

Pressure equipment:
(PED) ART 4.3 / CAT.1.
Explosive Atmospheres:
(ATEX) CAT.3 ZONE 2 and 22 GD.

For further information on categories and zones please contact TUBI Valves. Technical-Commercial Department.

QUALITY DOSSIER

All valves are hydrostatically tested in accordance with EN1266. and material and test certificates can be supplied on request.
- Body test = working pressure x 1.5.
- Seal test = working pressure x 1.1.



MANUFACTURING RANGE

DIMENSIONS – D

DN	A	B	C	D	F	G	ØV	N	M	R	H
50	70	106	83	330	498	369	225	535	642	601	546
65	70	106	93	365	534	404	225	582	702	661	597
80	70	106	100	401	570	440	225	650	737	697	667
100	70	160	110	468	637	507	225	720	792	752	742
125	90	180	127	553	772	592	225	824	864	824	844
150	90	180	140	619	838	658	225	949	957	917	955
200	100	215	170	809	1100	862	325	1167	1273	1227	1210
250	114	215	198	907	1300	960	325	1418	1370	1324	1358
300	114	215	223	1033	1425	1090	380	1603	1446	1450	1553
350	127	290	260	1166	1695	1265	450	1774	1694	1694	1735
400	140	290	290	1372	-	-	-	2083	1905	1905	2000
450	152	290	308	1472	-	-	-	2184	2160	2160	2190
500	152	290	335	1670	-	-	-	2410	2263	2263	2343
600	178	290	390	1825	-	-	-	2759	2613	2613	2720
700	229	380	448	2210	-	-	-	3144	2930	2930	3108
800	241	340	508	2490	-	-	-	3574	3410	3410	3478
900	241	340	558	2690	-	-	-	3944	3895	3895	3930
1000	300	350	615	2920	-	-	-	-	4052	4052	4220
1200	350	520	728	3630	-	-	-	-	5120	5120	5175

No obligation consultation on dimensions and drawings. CMO Valves reserves the right to modify them at any time, at its discretion and without prior notice.

Larger sizes on request.

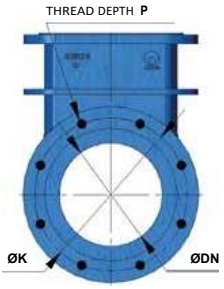
Visit our website to see the full features of the D Series.

FLANGE DRILLING – D

DN	ΔP (bar)	PN10				ASA150			
		●	M	P	ØK	●	R UNC	P	ØK
50	10	4	M 16	12	125	4	5/8"	12	120,6
65	10	4	M 16	12	145	4	5/8"	12	139,7
80	10	8	M 16	12	160	4	5/8"	12	152,4
100	10	8	M 16	12	180	8	5/8"	12	190,5
125	10	8	M 16	16	210	8	3/4"	16	215,9
150	10	8	M 20	16	240	8	3/4"	16	241,3
200	10	8	M 20	16	295	8	3/4"	16	298,4
250	10	12	M 20	20	350	12	7/8"	20	361,9
300	10	12	M 20	18	400	12	7/8"	18	431,8
350	10	16	M 20	19	460	12	1"	19	476,2
400	10	16	M 24	22	515	16	1"	22	539,7
450	10	20	M 24	24	565	16	1 1/8"	24	577,8
500	10	20	M 24	24	620	20	1 1/8"	24	635
600	10	20	M 27	30	725	20	1 1/4"	30	749,3
700	10	24	M 27	35	840	24	1 1/4"	35	863,6
800	6	24	M 30	35	950	28	1 1/2"	35	977,9
900	6	28	M 30	35	1050	32	1 1/2"	35	1085,9
1000	6	28	M 33	40	1160	36	1 1/2"	40	1200,2
1200	6	32	M 36	40	1380	44	1 1/2"	40	1422,4

Larger sizes on request.

● *Threaded holes.*



E SERIES

UNIDIRECTIONAL KNIFE GATE VALVE

DESCRIPTION

- Knife gate valve, unidirectional with WAFER design and round inlet and square outlet
- The valve body for model E comprise two half bodies. The inside of these two parts is machined and is joined using bolts to create thereby a solid block.
- The gate moves smoothly thanks to high resistance slides inserted on the inside of both parts of the body. There is also an option that these guide can be in PTFE or bronze.
- Both body composed of two screwed halves, with sliders to provide a smooth manoeuvre.
- It provides high flow rates with low pressure drops.
- Various constructions materials and seal and stuffing materials available.
- Face-to-face distance in accordance with CMO Valves standards.

GENERAL APPLICATIONS

This knife gate valve is suitable for working in very difficult conditions with fluids that contain a high solid load. It is very suitable for pulp shredders in paper recycling lines and in general in places working with hard particles such as metal parts (staples, clips...) and stones. Positioning is preferable in a horizontal position and the outlet (square) is larger than the inlet (round), so that solids are not accumulated in the valve and thus do not interfere when closing the gate.

SIZES

From DN50 to DN1200.

Other DNs on request.

WORKING PRESSURE (ΔP)

DN50-DN450	7 bar
DN500-DN1200	4 bar

Other pressures on request.

FLANGE DRILLING

- DIN PN10.
- ANSI B16.5 (150 LB).

Only for the inlet mouth of the valve, round flange.

OTHERS COMMONLY USED

- PN6.
- PN16.
- JIS standard.
- Australian standard.
- British standard.

Others on request.

RESILIENT SEALS

- EPDM.
- NITRILE.
- FPM.
- SILICONE.
- PTFE.

Various materials are available for the reinforced socket and the deflector (CA-15, CF8M and Ni-hard...). In some applications other types of rubber are used, such as: hypalon, butyl or natural rubber. Please contact Tubi Valves if you have such requirements.

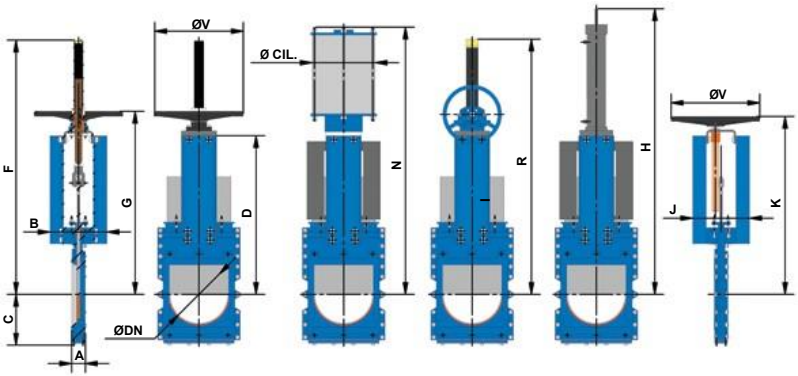
DIRECTIVES

Pressure equipment:
(PED) ART 4.3 /CAT.1.
Explosive Atmospheres:
(ATEX) CAT.3 ZONE 2 and 22 GD.

For further information on categories and zones please contact TUBI Valves. Technical-Commercial Department.

QUALITY DOSSIER

All valves are hydrostatically tested in accordance with EN1266. and material and test certificates can be supplied on request.
- Body test = working pressure x 1.5.
- Seal test = working pressure x 1.1.



MANUFACTURING RANGE

DIMENSIONS – E

DN	A	B	C	D	F	G	ØV	N	ØCIL.	R	H	J	K
50	40	91	86	243	410	280	225	425	80	540	457	91	280
65	40	91	95	269	437	308	225	470	80	566	500	91	308
80	50	91	114	292	463	333	225	510	100	592	560	91	333
100	50	91	135	334	503	373	225	557	100	632	620	91	373
125	50	102	145	392	586	407	225	665	125	665	683	102	407
150	60	119	155	425	638	458	225	814	160	717	683	119	458
200	60	119	185	525	816	578	325	940	200	942	755	119	578
250	70	290	235	620	1007	669	325	1070	250	1043	926	290	679
300	70	290	265	715	1095	757	380	1220	250	1193	1077	290	779
350	96	290	290	781	1307	876	450	1440	300	1335	1246	290	906
400	100	290	325	861	-	-	-	1480	300	1441	1376	290	-
450	106	290	350	985	-	-	-	1780	350	1677	1532	290	-
500	110	320	380	1064	-	-	-	1875	350	1789	1707	320	-
600	110	320	470	1224	-	-	-	2095	350	2108	1869	320	-
700	110	350	525	1425	-	-	-	2540	400	2406	2202	350	-
800	110	350	575	1615	-	-	-	2720	400	2790	2839	350	-
900	110	350	650	1823	-	-	-	3060	400	3130	3193	350	-
1000	110	400	725	1992	-	-	-	3470	400	3440	3437	400	-
1100	150	400	800	2234	-	-	-	3820	400	3765	3775	400	-
1200	150	400	870	2351	-	-	-	4220	400	4050	4161	400	-

No obligation consultation on dimensions and drawings. CMO Valves reserves the right to modify them at any time, at its discretion and without prior notice.

Larger sizes on request.

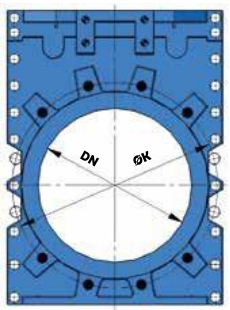
Visit our website to see the full features of the E Series.

FLANGE DIMENSIONS INFORMATION IN ACCORDANCE WITH EN 1092- 2 PN10

FLANGE DRILLING – E

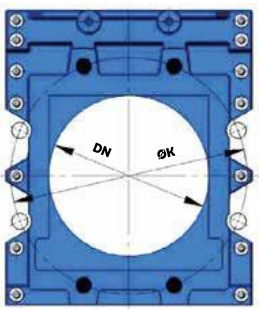
DN	ROUND FLANGE			SQUARE FLANGE						R	P
			ØK	N	T	U	W		ØK		
50	4	-	125		= ROUND FLANGE			4	- 125	M 16	8
65	4	-	145		= ROUND FLANGE			4	- 145	M 16	8
80	4	4	160		= ROUND FLANGE			4	4 160	M 16	9
100	4	4	180		= ROUND FLANGE			4	4 180	M 16	9
125	4	4	210		= ROUND FLANGE			4	4 210	M 16	9
150	4	4	240		= ROUND FLANGE			4	4 240	M 20	10
200	4	4	295		= ROUND FLANGE			4	4 295	M 20	10
250	8	4	350		= ROUND FLANGE			4	4 350	M 20	12
300	8	4	400	2x148	-	400	-	6	4 400	M 20	12
350	12	4	460	3x100	300	460	460	12	4 460	M 20	21
400	12	4	515	3x110	330	515	515	12	4 515	M 24	21
450	16	4	565	4x116	344	565	565	14	4 565	M 24	22
500	16	4	620	4x130	360	620	620	14	4 620	M 24	22
600	16	4	725	4x155	415	725	725	14	4 725	M 27	22
700	20	4	840	6x120	115+305+115	832	832	22	4 840	M 27	22
800	20	4	950	6x137	145+360+145	940	940	22	4 950	M 30	22
900	24	4	1050	6x155	160+410+160	1042	1042	22	4 1050	M 30	20
1000	24	4	1160	162+(5x164)+162	(2x170)+465+(2x170)	1144	1145	24	4 1160	M 33	20

ROUND FLANGE

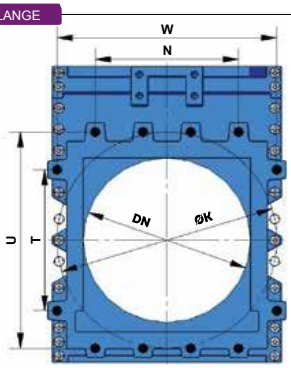


DN50 ➜ DN1000

SQUARE FLANGE



DN50 ➜ DN250



DN300 ➜ DN1000

FLANGE DIMENSIONS INFORMATION IN ACCORDANCE WITH EN ANSI B16, CLASS 150

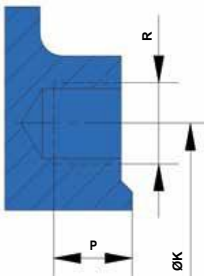
FLANGE DRILLING – E

DN	ROUND FLANGE ○	●	ØK	N	SQUARE FLANGE T	U	W	●	○	ØK	R – UNC	P
2"	4	-	120,6		= ROUND FLANGE			4	-	120,6	5/8"	8
2 ½"	4	-	139,7		= ROUND FLANGE			4	-	139,7	5/8"	8
3"	4	-	152,4		= ROUND FLANGE			4	-	152,4	5/8"	9
					= ROUND FLANGE							
4"	4	4	190,5					4	4	190,5	5/8"	9
5"	4	4	215,9					4	4	215,9	3/4"	9
6"	4	4	241,3		= ROUND FLANGE			4	4	241,3	3/4"	10
8"	4	4	298,4		= ROUND FLANGE			4	4	298,4	3/4"	10
10"	8	4	361,9		= ROUND FLANGE			4	4	361,9	7/8"	12
12"	8	4	431,8	2x148	-	400	-	6	4	431,8	7/8"	12
14"	8	4	476,2	3x100	300	460	460	12	4	476,2	1"	21
16"	12	4	539,7	3x110	330	515	515	12	4	539,7	1"	21
18"	12	4	577,8	4x116	344	565	565	14	4	577,8	1¼"	22
20"	16	4	635	4x130	360	620	620	14	4	635	1¼"	22
24"	16	4	749,3	4x155	415	725	725	14	4	749,3	1¼"	22
28"	24	4	863,6	6x120	115+305+115	832	832	22	4	863,6	1¼"	22
32"	24	4	977,9	6x137	145+360+145	940	940	22	4	977,9	1½"	22
36"	28	4	1085,9	6x155	160+410+160	1042	1042	22	4	1085,9	1½"	20
40"	32	4	1200,2	162+(5x164)+162	(2x170)+465+(2x170)	1144	1145	24	4	1200,2	1½"	20

Larger sizes on request.

● *Threaded holes.*

○ *Through holes.*




40
YEARS
OF EXPERIENCE
IN THE
DESIGN AND
MANUFACTURE
OF INDUSTRIAL
VALVES

F SERIES

UNIDIRECTIONAL WAFER TYPE KNIFE GATE VALVE

DESCRIPTION

- One-piece EXTRA-WIDE cast body with guides to support gate and seat wedges.
- Provides high flow rates with low pressure drops.
- Various constructions materials and seal and stuffing materials available.
- Stainless steel gate.
- Face-to-face distance in accordance with CMO Valves standards.
- An arrow is marked on the body indicating the flow direction.
- Flushing holes in the body.

GENERAL APPLICATIONS

Due to the special design of this knife gate valve, it is suitable for working with dry products such as dust and grain. Generally used in gravity discharge of dry solids.

Designed for applications such as:
- Storage, silos.
- Food industry.

SIZES

From DN50 to DN1200.

Other DNs on request.

WORKING PRESSURE (ΔP)

DN50-DN250	10 bar
DN300-DN400	6 bar
DN450	5 bar
DN500-DN600	4 bar
DN700-DN1200	3 bar

Other pressures and applications with flows containing liquids upon request.

For application with flows containing liquids check with Tubi Valves

This valve is usually mounted under a hopper. To prevent any type of solids from accumulating in the seat, the valve has a special body design and will be mounted with the body arrow in the same direction as the flow.

FLANGE DRILLING

- DIN PN10.
- ANSI B 16.5 (class 150).

OTHERS COMMONLY USED

- PN6.
- PN16.
- PN25.
- JIS standard.
- Australian standard.
- British standard.

Others on request.

RESILIENT SEALS

- EPDM.
- NITRILE.
- FPM.
- SILICONE.
- PTFE.

In some applications other types of rubber are used, such as: hypalon, butyl or natural rubber. Please contact TUBI Valvesif you have such requirements

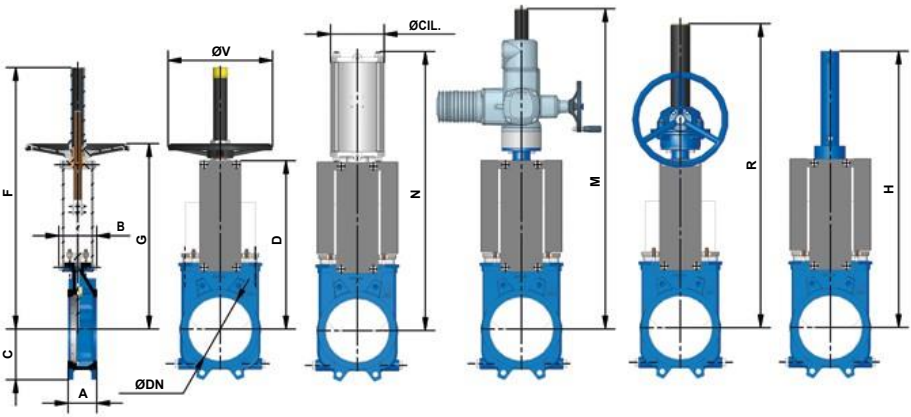
DIRECTIVES

Pressure equipment:
(PED) ART 4.3 /CAT.1.
Explosive Atmospheres:
(ATEX) CAT.3 ZONE 2 and 22 GD.

For further information on categories and zones please contact Tubi Valves. Technical-Commercial Department.

QUALITY DOSSIER

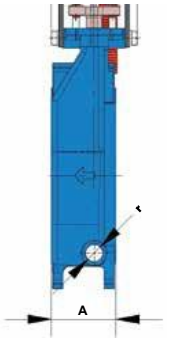
All valves are hydrostatically tested in accordance with EN1266. and material and test certificates can be supplied on request.
- Body test = working pressure x 1.5.
- Seal test = working pressure x 1.1.



MANUFACTURING RANGE

DIMENSIONS – F

DN	A	B	C	D	F	G	ØV	N	M	R	H	r (B.S.P.)	ØCIL.
50	60	91	61	241	410	280	225	416	581	537	457	1/4"	80
65	60	91	68	268	437	308	225	456	607	564	500	1/4"	80
80	64	91	91	294	463	333	225	498	632	590	560	1/4"	80
100	64	91	104	334	503	373	225	562	672	630	620	1/4"	100
125	70	101	118	367	586	407	225	636	705	663	683	3/8"	125
150	76	101	130	419	638	458	225	717	757	715	755	3/8"	125
200	89	118	158	525	816	578	325	874	988	943	926	3/8"	160
250	114	118	196	616	1007	669	325	1036	1089	1033	1077	1/2"	200
300	114	118	230	704	1095	757	380	1182	1190	1121	1246	1/2"	200
350	127	290	247	767	1307	876	450	1381	1302	1305	1376	1/2"	250
400	140	290	290	865	1405	974	450	1530	1458	1403	1532	1/2"	250
450	152	290	304	989	1629	1098	450	1676	1754	1677	1707	1/2"	300
500	152	290	340	1101	1741	1210	450	1839	1866	1788	1869	1/2"	300
600	178	290	398	1307	2047	1416	450	2145	2073	1995	2176	1/2"	300
700	178	320	453	1506	2401	1656	-	2481	2391	2401	2525	1/2"	350
800	178	320	503	1720	2715	1870	-	2798	2705	2715	2839	1/2"	350
900	178	320	583	1953	3043	2103	-	3167	3033	3043	3172	1/2"	400
1000	178	320	613	2137	3351	2287	-	3451	3328	3351	3496	1/2"	400
1200	203	340	728	2616	4042	2766	-	4133	4047	4042	4175	1/2"	400



FLANGE DRILLING – F

DN	ΔP (bar)	PN10					ASA150				
		●	○	M	P	ØK	●	○	R UNC	P	ØK
50	10	4	-	M 16	8	125	4	-	5/8"	8	120,6
65	10	4	-	M 16	8	145	4	-	5/8"	8	139,7
80	10	4	4	M 16	9	160	4	-	5/8"	9	152,4
100	10	4	4	M 16	9	180	4	4	5/8"	9	190,5
125	10	4	4	M 16	9	210	4	4	3/4"	9	215,9
150	10	4	4	M 20	10	240	4	4	3/4"	10	241,3
200	10	4	4	M 20	10	295	4	4	3/4"	10	298,4
250	10	8	4	M 20	12	350	8	4	7/8"	12	361,9
300	6	8	4	M 20	12	400	8	4	7/8"	12	431,8
350	6	12	4	M 20	21	460	8	4	1"	21	476,2
400	6	12	4	M 24	21	515	12	4	1"	21	539,7
450	5	16	4	M 24	22	565	12	4	1 1/8"	22	577,8
500	4	16	4	M 24	22	620	16	4	1 1/8"	22	635
600	4	16	4	M 27	22	725	16	4	1 1/4"	22	749,3
700	3	20	4	M 27	22	840	24	4	1¼"	22	863,6
800	3	20	4	M 30	22	950	24	4	1½"	22	977,9
900	3	24	4	M 30	20	1050	28	4	1½"	20	1085,9
1000	3	24	4	M 33	20	1160	32	4	1½"	20	1200,2
1200	2	28	4	M 36	22	1380	40	4	1 5/8"	20	1422,4

No obligation consultation on dimensions and drawings. CMO Valves reserves the right to modify them at any time, at its discretion and without prior notice.

Larger sizes on request.

● *Threaded holes.*

○ *Through holes.*

Visit our website to see the full features of the F Series.

FK SERIES

UNIDIRECTIONAL KNIFE GATE VALVE WITH COVER

DESCRIPTION

- One-piece EXTRA-WIDE cast body interior slides for optimum movement of the knife during operation and seal wedges.
- Various constructions materials and seal and stuffing materials available.
- Stainless steel gate.
- Face-to-face distance in accordance with CMO Valves standards.
- An arrow is marked on the body indicating the flow direction.
- Flushing holes in the body.

GENERAL APPLICATIONS

This knife gate valve is suitable for working with dry products such as powder and grain. It is completely seal tight, meaning it is recommended for toxic and hazardous fluids. Generally used in gravity discharge of dry solids.

Designed for applications such as:
- Storage, silos.
- Mining.
- Chemical plants.
- Food industry.
- Drying plants

SIZES

From DN50 to DN1200.

Other DNs on request.

WORKING PRESSURE (ΔP)

DN50-DN250	10 bar
DN300-DN400	6 bar
DN450	5 bar
DN500-DN600	4 bar
DN700-DN1200	3 bar

Other pressures on request.

This valve is usually mounted under a hopper. To prevent any type of solids from accumulating in the seat, the valve has a special body design and will be mounted with the body arrow in the same direction as the flow.

FLANGE DRILLING

- DIN PN10.
- ANSI B 16.5 (class 150).

OTHERS COMMONLY USED

- PN6.
- PN16.
- PN25.
- BS "D" and "E".
- JIS10K.

Others on request.

RESILIENT SEALS

- EPDM.
- NITRILE.
- FPM.
- SILICONE.
- PTFE.

Various materials are available for the reinforced socket and the deflector (CA-15, CF8M and Ni-hard...).

DIRECTIVES

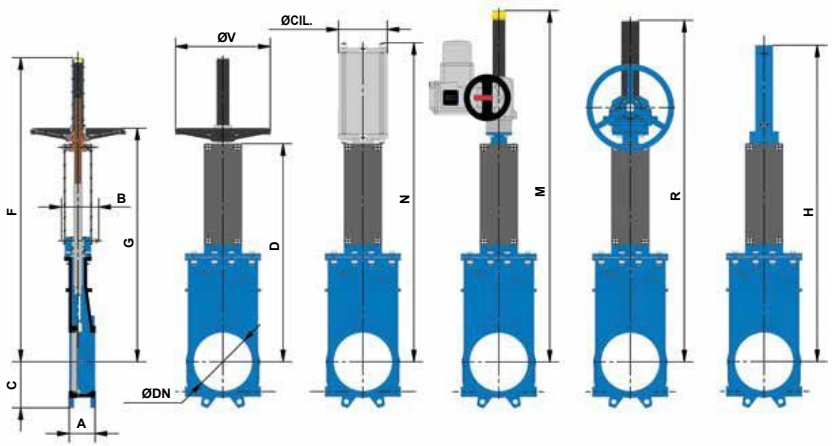
Pressure equipment:

(PED) ART 4.3 /CAT.1.
Explosive Atmospheres:
(ATEX) CAT.3 ZONE 2 and 22 GD.

For further information on categories and zones please contact TUBI Valves. Technical-Commercial Department.

QUALITY DOSSIER

All valves are hydrostatically tested in accordance with EN1266. and material and test certificates can be supplied on request.
- Body test = working pressure x 1.5.
- Seal test = working pressure x 1.1.



MANUFACTURING RANGE

DIMENSIONS – FK

DN	A	B	C	D	F	G	ØV	N	ØCIL.	M	R	H	r (B.S.P.)
50	60	91	61	323	492	362	225	498	80	674	620	539	1/4"
65	60	91	68	362	531	401	225	550	80	713	659	593	1/4"
80	64	91	91	404	573	443	225	608	80	755	701	670	1/4"
100	64	91	104	453	622	492	225	680	100	804	750	739	1/4"
125	70	101	118	511	730	550	225	774	125	862	808	827	3/8"
150	76	101	130	574	793	613	225	866	125	925	871	906	3/8"
200	89	118	158	745	1036	798	325	1090	160	1209	1164	1146	3/8"
250	114	118	196	880	1271	933	325	1287	200	1344	1299	1331	1/2"
300	114	118	230	1005	1396	1058	380	1462	200	1469	1424	1545	1/2"
350	127	290	255	1141	1681	1250	450	1724	250	1648	1680	1720	1/2"
400	140	290	290	1266	1806	1375	450	1899	250	1823	1805	1895	1/2"
450	152	290	306	1393	2033	1502	450	2081	300	2160	2082	2112	1/2"
500	152	290	340	1529	2169	1638	450	2267	300	2296	2218	2297	1/2"
600	178	290	398	1782	2522	1891	450	2620	300	2549	2471	2650	1/2"
700	178	320	453	2105	2967	2217	-	3085	350	3000	3000	3124	1/2"
800	178	320	503	2376	3338	2488	-	3455	350	3371	3371	3495	1/2"
900	178	320	583	2655	3717	2767	-	3870	400	3745	3745	3874	1/2"
1000	178	320	613	2935	4097	3047	-	4249	400	4149	4149	4294	1/2"
1200	203	340	728	3440	4802	3552	-	4957	400	4866	4866	4995	1/2"

FLANGE DRILLING– FK

DN	ΔP (bar)	PN10					ASA150				
		●	○	M	P	ØK	●	○	R UNC	P	ØK
50	10	4	-	M 16	8	125	4	-	5/8"	8	120,6
65	10	4	-	M 16	8	145	4	-	5/8"	8	139,7
80	10	4	4	M 16	9	160	4	-	5/8"	9	152,4
100	10	4	4	M 16	9	180	4	4	5/8"	9	190,5
125	10	4	4	M 16	9	210	4	4	3/4"	9	215,9
150	10	4	4	M 20	10	240	4	4	3/4"	10	241,3
200	10	4	4	M 20	10	295	4	4	3/4"	10	298,4
250	10	8	4	M 20	12	350	8	4	7/8"	12	361,9
300	6	8	4	M 20	12	400	8	4	7/8"	12	431,8
350	6	12	4	M 20	21	460	8	4	1"	21	476,2
400	6	12	4	M 24	21	515	12	4	1"	21	539,7
450	5	16	4	M 24	22	565	12	4	1 1/8"	22	577,8
500	4	16	4	M 24	22	620	16	4	1 1/8"	22	635
600	4	16	4	M 27	22	725	16	4	1 1/4"	22	749,3
700	3	20	4	M 27	22	840	24	4	1¼"	22	863,6
800	3	20	4	M 30	22	950	24	4	1½"	22	977,9
900	3	24	4	M 30	20	1050	28	4	1½"	20	1085,9
1000	3	24	4	M 33	20	1160	32	4	1½"	20	1200,2
1200	3	28	4	M 36	22	1380	40	4	1½"	20	1422,4

No obligation consultation on dimensions and drawings. CMO Valves reserves the right to modify them at any time, at its discretion and without prior notice.

Larger sizes on request.

● *Threaded holes.*

○ *Through holes.*

Visit our website to see the full features of the FK Series.

K SERIES

UNIDIRECTIONAL WAFER TYPE KNIFE GATE VALVE WITH COVER

DESCRIPTION

- One-piece cast body with guides to support gate and seat wedges.
- It provides high flow rates with low pressure drops.
- Various constructions materials and seal and stuffing materials available.
- Stainless steel gate.
- Face-to-face distance in accordance with CMO Valves standards.
- An arrow is marked on the body indicating the flow direction.

GENERAL APPLICATIONS

This knife gate valve is suitable for liquids that contain a maximum of 5% suspended solids.

Designed for applications such as:
- Mining.
- Chemical plants.
- Pumping.
- Food industry.

SIZES

From DN50 to DN2000.

Other DNs on request.

WORKING PRESSURE (ΔP)

DN50-DN250	10 bar
DN300-DN400	6 bar
DN450	5 bar
DN500-DN600	4 bar
DN700-DN1200	3 bar

Other pressures on request.

Indicated work pressures will only be valid following the direction of the arrow marked on the valve. Due to the valve's design with gate support guides, 30% of these pressures can be applied in the opposite direction to the arrow without causing any damage to it. In these circumstances the valve is not watertight. An additional series of supports is necessary in order to achieve tightness in these conditions.

FLANGE DRILLING

- ENI092 PN10.
- ASME B16.5 (class 150).

OTHERS COMMONLY USED

- PN6.
- PN16.
- PN25.
- BS "D" and "E".
- ANSI 150

Others on request.

RESILIENT SEALS

- EPDM.
- NITRILE.
- FPM.
- SILICONE.
- PTFE.

In some applications other types of resilient materials are used, such as hypalon, butile or natural rubber. Please contact us if you have such requirements.

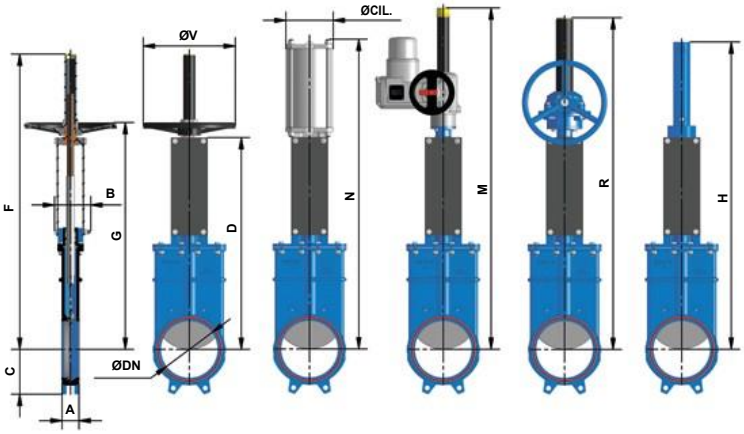
DIRECTIVES

Pressure equipment:
(PED) ART 4.3 /CAT.1.
Explosive Atmospheres:
(ATEX) CAT.3 ZONE 2 and 22 GD.

For further information on categories and zones please contact TUBI Valves. Technical-Commercial Department.

QUALITY DOSSIER

All valves are hydrostatically tested in accordance with EN1266. and material and test certificates can be supplied on request.
- Body test = working pressure x 1.5.
- Seal test = working pressure x 1.1.



MANUFACTURING RANGE

DIMENSIONS – K

DN	A	B	C	D	F	G	ØV	N	ØCIL.	M	R	H
50	40	92	61	323	501	369	225	498	80	677	631	539
65	40	92	68	362	539	407	225	550	80	716	669	593
80	50	92	91	404	583	451	225	608	80	758	713	670
100	50	92	104	453	630	498	225	680	100	807	760	739
125	50	102	118	511	740	558	225	774	125	865	820	827
150	60	102	130	574	801	619	225	866	125	928	881	910
200	60	119	159	745	1046	806	325	1090	160	1210	1175	1146
250	70	119	196	880	1277	938	325	1287	200	1345	1307	1331
300	70	119	230	1005	1401	1061	380	1462	200	1470	1430	1524
350	96	290	254	1141	1682	1250	450	1724	250	1649	1684	1720
400	100	290	287	1266	1807	1375	450	1899	250	1823	1809	1895
450	106	290	304	1393	2034	1502	450	2081	300	2159	2086	2111
500	110	290	340	1529	2170	1638	450	2267	300	2298	2222	2297
600	110	290	398	1782	2523	1891	450	2620	300	2520	2475	2650
700	110	320	453	2105	-	-	-	3087	350	3000	3000	3124
800	110	320	503	2376	-	-	-	3456	350	3371	3371	3495
900	110	320	583	2655	-	-	-	3855	400	3745	3745	3874
1000	110	320	613	2935	-	-	-	4220	400	4149	4149	4294
1100	150	340	670	3187	-	-	-	4586	400	4487	4487	4572
1200	150	340	728	3440	-	-	-	4939	400	4866	4866	5000

No obligation consultation on dimensions and drawings. CMO Valves reserves the right to modify them at any time, at its discretion and without prior notice.

Larger sizes on request.

Visit our website to see the full features of the K Series.

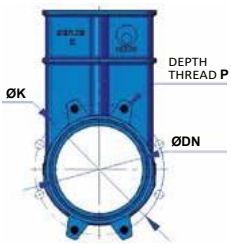
FLANGE DRILLING – K

DN	ΔP (bar)	PN10					ASA150				
		●	○	M	P	ØK	●	○	R UNC	P	ØK
50	10	4	-	M 16	8	125	4	-	5/8"	8	120,6
65	10	4	-	M 16	8	145	4	-	5/8"	8	139,7
80	10	4	4	M 16	9	160	4	-	5/8"	9	152,4
100	10	4	4	M 16	9	180	4	4	5/8"	9	190,5
125	10	4	4	M 16	9	210	4	4	3/4"	9	215,9
150	10	4	4	M 20	10	240	4	4	3/4"	10	241,3
200	10	4	4	M 20	10	295	4	4	3/4"	10	298,4
250	10	6	6	M 20	12	350	6	6	7/8"	12	361,9
300	6	6	6	M 20	12	400	6	6	7/8"	12	431,8
350	6	10	6	M 20	21	460	8	4	1"	21	476,2
400	6	10	6	M 24	21	515	10	6	1"	21	539,7
450	5	14	6	M 24	22	565	10	6	1 1/8"	22	577,8
500	4	14	6	M 24	22	620	14	6	1 1/4"	22	635
600	4	14	6	M 27	22	725	14	6	1 1/4"	22	749,3
700	3	16	8	M 27	22	840	20	8	1 1/4"	22	863,6
800	3	16	8	M 30	22	950	20	8	1 1/2"	22	977,9
900	3	20	8	M 30	20	1050	20	12	1 1/2"	20	1085,9
1000	3	20	8	M 33	20	1160	24	12	1 1/2"	20	1200,2
1200	3	20	12	M 36	22	1380	26	18	1 1/2"	24	1422,4

Larger sizes on request.

● *Threaded holes.*

○ *Through holes.*



GA SERIES

BIDIRECTIONAL FLANGED KNIFE GATE VALVE

DESCRIPTION

- This knife gate valve's main characteristic is that it provides a full continuous flow. This means that in open position it produces no cavities and there is no turbulence in the fluid.
- Valve suitable for use as end-of-line.
- Monoblock cast body.
- Stainless steel gate.
- Two screwed-down rubber sleeves.
- Provides high flow rates with low load loss.
- Various sealing materials available.
- Face-to-face distance in accordance with standard of CMO Valves.

GENERAL APPLICATIONS

This knife gate valve is suitable for working in the mining industry, in conveyance lines loaded with, for example: water with stones, mud... and is generally used for abrasive fluids in the chemical and wastewater industries.

Designed for applications such as:
- Water treatment.
- Mining.
- Thermal power stations.

SIZES

From DN50 to DN1500.

Other DNs on request.

WORKING PRESSURE (ΔP)

DN50- DN150	16 bar
DN200-DN600	10 bar
DN650-DN900	8 bar
DN1000	6 bar
DN1050	5 bar
DN1100-DN1500	4 bar

Other pressures on request.

Pressures indicated in the table can be used in either of the valve's two directions.

FLANGE DRILLING

- ENI092 PN10.
- ASME B16.5 (class 150).

OTHERS COMMONLY USED

- PN6.
- PN16.
- PN25.
- JIS standard.
- Australian standard.
- British standard.

Others on request.

RESILIENT SEALS

- NATURAL RUBBER.
- POLYURETHANE.
- EPDM.
- NITRILE.
- FPM.

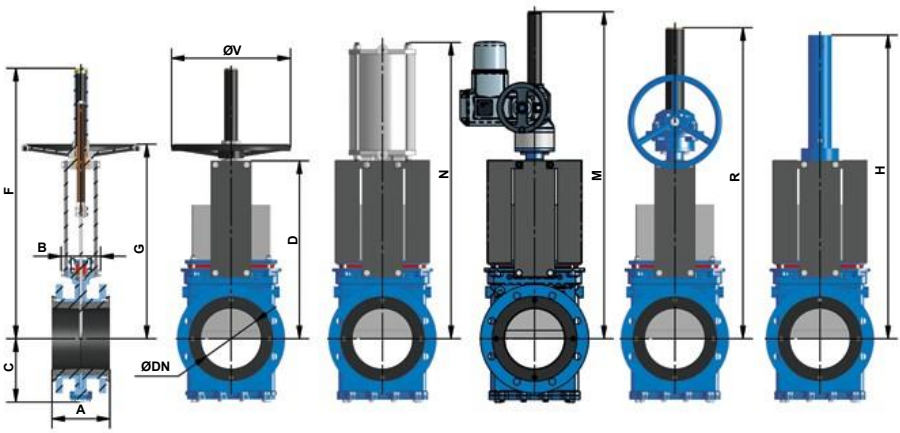
DIRECTIVES

Pressure equipment:
(PED) ART 4.3 / CAT.1.
Explosive Atmospheres:
(ATEX) CAT.3 ZONE 2 and 22 GD.

For further information on categories and zones please contact TUBI Valves. Technical-Commercial Department.

QUALITY DOSSIER

All valves are hydrostatically tested in accordance with EN1266. and material and test certificates can be supplied on request.
- Body test = working pressure x 1.5.
- Seal test = working pressure x 1.1.



MANUFACTURING RANGE

DIMENSIONS – GA

DN	A	B	C	D	F	G	ØV	N	M	R	H
50	175	109	106	280	449	319	225	475	631	581	482
65	175	109	113	306	500	345	225	515	657	621	524
80	175	109	122	332	551	372	225	555	683	633	566
100	175	109	136	368	587	407	225	620	719	669	615
125	178	126	153	421	713	474	325	700	769	800	702
150	178	126	168	466	757	519	325	775	819	848	789
200	184	126	199	565	957	618	325	940	1033	948	958
250	225	197	234	626	1125	749	450	1140	1121	1119	1100
300	257	197	272	739	1213	837	450	1300	1219	1217	1272
350	257	350	297	842	1342	942	-	1485	1384	1384	1441
400	279	350	330	933	1483	1033	-	1655	1627	1627	1613
450	311	350	355	1019	1619	1119	-	1805	1719	1719	1766
500	367	380	391	1156	1806	1256	-	2000	1889	1889	1939
600	371	400	461	1338	2088	1438	-	2285	2171	2171	2273

No obligation consultation on dimensions and drawings. CMO Valves reserves the right to modify them at any time, at its discretion and without prior notice.

Larger sizes on request.

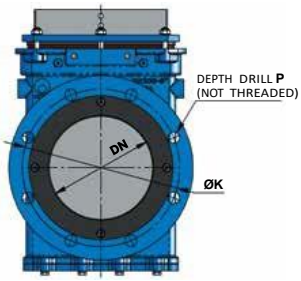
Visit our website to see the full features of the GA Series.

FLANGE DRILLING – GA

DN	ΔP (bar)	PN10				ASA150			
		○	Ød	P	ØK	○	Ød	P	ØK
50	16	4	18	32	125	4	3/4"	32	120,6
80	16	8	18	32	160	4	3/4"	32	152,4
100	16	8	18	32	180	8	3/4"	32	190,5
125	16	8	18	32	210	8	7/8"	32	215,9
150	16	8	22	32	240	8	7/8"	32	241,3
200	10	8	22	33	295	8	7/8"	33	298,4
250	10	12	22	35	350	12	1"	35	361,9
300	10	12	22	37	400	12	1"	37	431,8
350	10	16	22	37	460	12	1 1/8"	37	476,2
400	10	16	26	41	515	16	1 1/8"	41	539,7
450	10	20	26	45	565	16	1 1/4"	45	577,8
500	10	20	26	46	620	20	1 1/4"	46	635
600	10	20	30	49	725	20	1 3/8"	49	749,3

Larger sizes on request.

○ *Through holes.*



GD SERIES

BIDIRECTIONAL SEMI-LUG TYPE KNIFE GATE VALVE

DESCRIPTION

- Monoblock cast body.
- Stainless steel gate.
- Two screwed-down rubber sleeves.
- Provides high flow rates with low load loss.
- Various sealing materials available.
- Face-to-face distance in accordance with CMO Valves standards.

GENERAL APPLICATIONS

This knife gate valve is suitable for working in the mining industry, in conveyance lines loaded with, for example: water with stones, mud... and is generally used for abrasive fluids in the chemical and wastewater industries.

Designed for applications such as:
- Mining.
- Thermal power stations.
- Water treatment.

SIZES

From DN50 to DN1500.

Other DNs on request.

WORKING PRESSURE (ΔP)

DN50- DN150	16 bar
DN200-DN600	10 bar
DN650-DN900	8 bar
DN1000	6 bar
DN1050	5 bar
DN1100-DN1500	4 bar

Other pressures on request.

Pressures indicated in the table can be used in either of the valve's two directions.

FLANGE DRILLING

- ENI092 PN10.
- ASME B16.5 (class 150).

OTHERS COMMONLY USED

- PN6.
- PN16.
- PN25.
- BS "D" and "E".
- JIS10K.

Others on request.

RESILIENT SEALS

- NATURAL RUBBER.
- POLYURETHANE.
- EPDM.
- NITRILE.
- FPM.

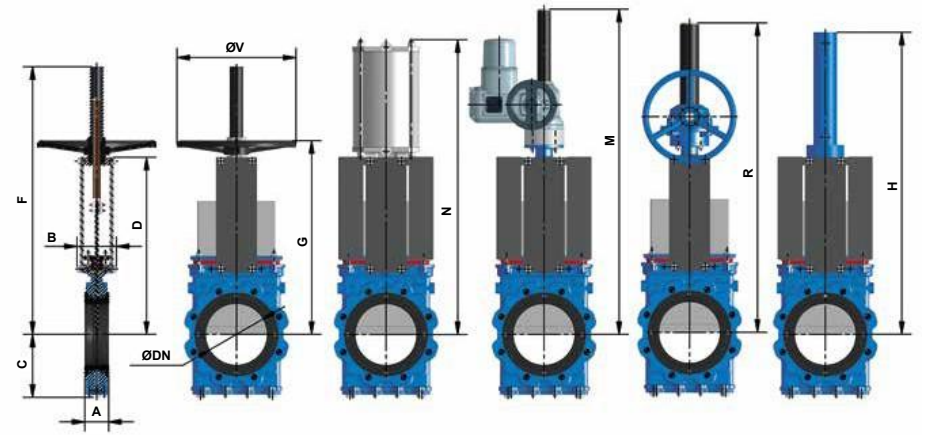
DIRECTIVES

Pressure equipment:
(PED) ART 4.3 /CAT.1.
Explosive Atmospheres:
(ATEX) CAT.3 ZONE 2 and 22 GD.

For further information on categories and zones please contact TUBI Valves. Technical-Commercial Department.

QUALITY DOSSIER

All valves are hydrostatically tested in accordance with EN1266. and material and test certificates can be supplied on request.
- Body test = working pressure x 1.5.



MANUFACTURING RANGE

DIMENSIONS – GD

DN	A	B	C	D	F	G	ØV	N	M	R	H
50	54	109	106	280	451	319	225	475	631	581	482
65	54	109	113	306	502	345	225	515	657	621	524
80	57	109	122	332	553	372	225	555	683	633	566
100	57	109	136	368	589	407	225	620	719	669	615
125	64	126	153	421	675	474	325	700	769	800	702
150	64	126	168	466	759	519	325	775	819	848	789
200	76	126	199	565	958	618	325	940	1033	948	958
250	76	197	234	626	1127	750	450	1140	1121	1119	1100
300	83	197	272	739	1230	838	450	1300	1219	1217	1272
350	83	350	297	842	-	-	-	1485	1384	1384	1441
400	96	350	330	933	-	-	-	1655	1627	1627	1613
450	96	350	355	1019	-	-	-	1805	1719	1719	1766
500	121	380	391	1156	-	-	-	2000	1889	1889	1939
600	121	400	461	1338	-	-	-	2285	2171	2171	2273

No obligation consultation on dimensions and drawings. CMO Valves reserves the right to modify them at any time, at its discretion and without prior notice.

Larger sizes on request.

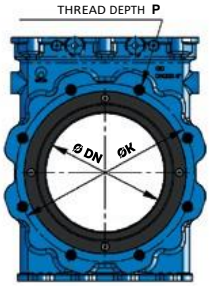
Visit our website to see the full features of the GD Series.

FLANGE DRILLING – GD

DN	ΔP (bar)	PN10				ASA150			
		●	M	P	ØK	●	R UNC	P	ØK
50	16	4	M 16	14	125	4	5/8"	14	120,6
65	16	4	M 16	14	145	4	5/8"	14	139,7
80	16	8	M 16	14	160	4	5/8"	14	152,4
100	16	8	M 16	14	180	8	5/8"	14	190,5
125	16	8	M 16	15	210	8	3/4"	15	215,9
150	16	8	M 20	15	240	8	3/4"	15	241,3
200	10	8	M 20	17	295	8	3/4"	17	298,4
250	10	12	M 20	17	350	12	7/8"	17	361,9
300	10	12	M 20	20	400	12	7/8"	20	431,8
350	10	16	M 20	21	460	12	1"	21	476,2
400	10	16	M 24	23	515	16	1"	23	539,7
450	10	20	M 24	24	565	16	1 1/8"	24	577,8
500	10	20	M 24	25	620	20	1 1/8"	25	635
600	10	20	M 27	26	725	20	1 1/4"	26	749,3

Larger sizes on request.

● *Threaded holes.*



GH SERIES

BIDIRECTIONAL FLANGED KNIFE GATE VALVE

DESCRIPTION

- Valve suitable for use with high pressure.
- Monoblock cast body.
- Stainless steel gate.
- Two screwed-down rubber sleeves.
- Provides high flow rates with low load loss.
- Various sealing materials available.
- Face-to-face distance in accordance with CMO Valves standards.

GENERAL APPLICATIONS

This knife gate valve is suitable for working at HIGH PRESSURE in the mining industry, in conveyance lines loaded with, for example: water with stones, mud... and is generally used for abrasive fluids in the chemical and wastewater industries.

Designed for applications such as:
- Mining.
- Thermal power stations.
- Water treatment.

SIZES

From DN80 to DN900.

Other DNs on request.

FLANGE DRILLING

- DIN PN25, DIN PN40.
- ANSI B16.5 (300 LB).

OTHERS COMMONLY USED

- JIS standard.
- Australian standard.
- British standard.

Others on request.

RESILIENT SEALS

- NATURAL RUBBER.
- POLYURETHANE.
- EPDM.
- NITRILE.
- FPM.

DIRECTIVES

Pressure equipment:
(PED) ART 4.3 / CAT.1.
Explosive Atmospheres:
(ATEX) CAT.3 ZONE 2 and 22 GD.

For further information on categories and zones please contact TUBI Valves. Technical-Commercial Department.

QUALITY DOSSIER

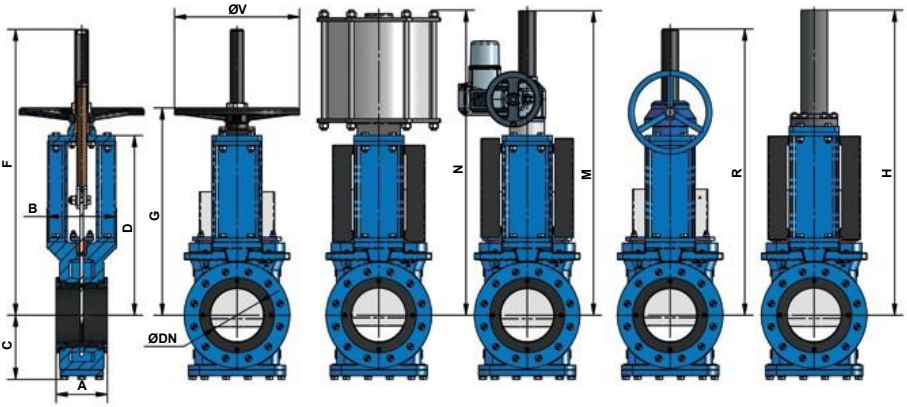
All valves are hydrostatically tested in accordance with EN1266. and material and test certificates can be supplied on request.
- Body test = working pressure x 1.5.
- Seal test = working pressure x 1.1.

WORKING PRESSURE (ΔP)

ASA150	DN50-DN600	21 bar
PN25	DN50-DN600	25 bar
ASA300/PN40	DN50-DN600	40 bar

Other pressures on request.

Pressures indicated in the table can be used in either of the valve's two directions.



MANUFACTURING RANGE

DIMENSIONS – GH

DN	A	B	C	D	F	G	ØV	N	M	R	H
80	175	110	125	364	529	401	225	594	738	634	604
100	175	110	155	420	635	457	225	682	794	690	642
150	178	126	198	529	823	582	325	920	907	878	870
200	185	250	223	645	1024	729	-	1095	1024	1024	1060
250	226	260	279	733	1142	817	-	1276	1142	1142	1168
300	258	275	296	832	1361	916	-	1429	1361	1361	1384
350	258	290	347	934	1435	1036	-	1572	1435	1435	1551
400	279	320	376	1087	1688	1189	-	1802	1688	1688	1710
450	321	350	401	1220	1919	1456	-	2032	1919	1919	1890
500	367	350	436	1326	2100	1562	-	-	2100	2100	2219
600	371	350	515	1507	2426	1817	-	-	2426	2426	2510

No obligation consultation on dimensions and drawings. CMO Valves reserves the right to modify them at any time, at its discretion and without prior notice.

Larger sizes on request.

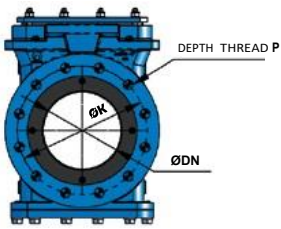
Visit our website to see the full features of the GH Series.

FLANGE DRILLING – GH

EN 1092-2 PN25						EN 1092-2 PN40						ANSI B16.5, clase 300					
DN	ΔP (bar)	●	M	P	ØK	DN	ΔP (bar)	●	M	P	ØK	DN	ΔP (psi)	●	R UNC	P	ØK
80	25	8	M 16	29	160	80	40	8	M 16	29	160	3"	300	8	3/4"	1,14"	6,63"
100	25	8	M 20	32	190	100	40	8	M 20	32	190	4"	300	8	3/4"	1,26"	7,87"
150	25	8	M 24	36	250	150	40	8	M 24	36	250	6"	300	12	3/4"	1,42"	10,63"
200	25	12	M 24	36	310	200	40	12	M 27	36	320	8"	300	12	7/8"	1,42"	13"
250	25	12	M 27	38	370	250	40	12	M 30	38	385	10"	300	16	1"	1,5"	15,25"
300	25	16	M 27	38	430	300	40	16	M 30	38	450	12"	300	16	1 1/8"	1,5"	17,75"
350	25	16	M 30	40	490	350	40	16	M 33	40	510	14"	300	20	1 1/8"	1,57"	20,25"
400	25	16	M 33	44	550	400	40	16	M 36	44	585	16"	300	20	1 1/4"	1,73"	22,5"
450	25	20	M 33	50	600	450	40	20	M 36	50	610	18"	300	24	1 1/4"	1,97"	24,75"
500	25	20	M 33	50	660	500	40	20	M 39	50	670	20"	300	24	1 1/4"	1,97"	27"
600	25	20	M 36	50	770	600	40	20	M 45	50	795	24"	300	24	1 1/2"	1,97"	32"

Larger sizes on request.

● *Threaded holes.*



GL SERIES

BIDIRECTIONAL SEMI-LUG TYPE KNIFE GATE VALVE

DESCRIPTION

- Monoblock cast body.
- Stainless steel gate.
- Two rubber sleeves.
- Provides high flow rates with low load loss.
- Various sealing materials available.
- Face-to-face distance in accordance with CMO Valves standards.

GENERAL APPLICATIONS

This knife gate valve is suitable for working in the mining industry, in conveyance lines loaded with, for example: water with stones, mud... and is generally used for abrasive fluids in the chemical and wastewater industries.

Designed for applications such as:
- Mining.
- Thermal power stations.
- Water treatment.

SIZES

From DN50 to DN1500.

Other DNs on request.

WORKING PRESSURE (ΔP)

DN50- DN150	16 bar
DN200-DN600	10 bar
DN650-DN900	8 bar
DN1000	6 bar
DN1050	5 bar
DN1100-DN1200	4 bar

Other pressures on request.

Pressures indicated in the table can be used in either of the valve's two directions.

FLANGE DRILLING

- ENI092 PN10.
- ASME B16.5 (class 150).

OTHERS COMMONLY USED

- PN6.
- PN16.
- PN25.
- JIS standard.
- Australian standard.
- British standard.

Others on request.

RESILIENT SEALS

- NATURAL RUBBER.
- POLYURETHANE.
- EPDM.
- NITRILE.
- FPM.

DIRECTIVES

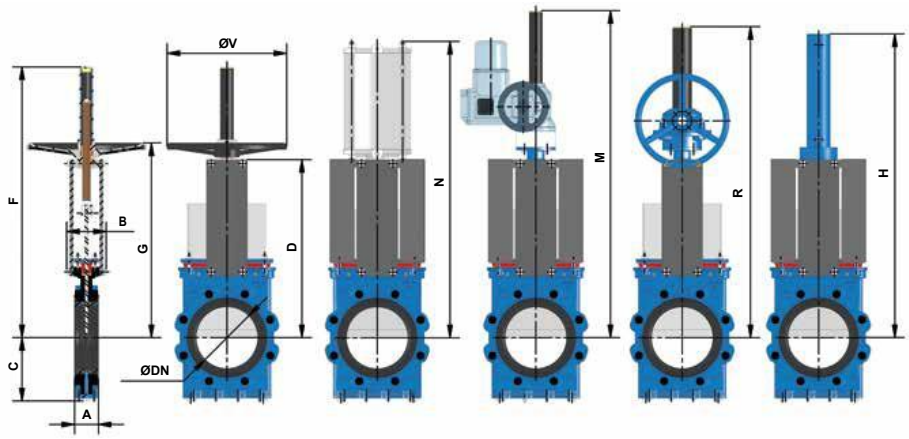
Pressure equipment:
(PED) ART 4.3 /CAT.1.
Explosive Atmospheres:
(ATEX) CAT.3 ZONE 2 and 22 GD.

For further information on categories and zones please contact TUBI Valves. Technical-Commercial Department.

QUALITY DOSSIER

All valves are hydrostatically tested in accordance with EN1266. and material and test certificates can be supplied on request.

- Seal test = working pressure x 1.1.



MANUFACTURING RANGE

DIMENSIONS – GL

DN	A	B	C	D	F	G	ØV	N	M	R	H
50	54	109	106	280	451	319	225	475	631	581	482
65	54	109	113	306	502	345	225	515	657	621	524
80	57	109	122	332	553	372	225	555	683	633	566
100	57	109	136	368	589	407	225	620	719	669	615
125	64	126	153	421	675	474	325	700	769	800	702
150	64	126	168	466	759	519	325	775	819	848	789
200	76	126	199	565	958	618	325	940	1033	948	958
250	76	197	234	626	1127	750	450	1140	1121	1119	1100
300	83	197	272	739	1230	838	450	1300	1219	1217	1272
350	83	350	297	842	-	-	-	1485	1384	1384	1441
400	96	350	330	933	-	-	-	1655	1627	1627	1613
450	96	350	355	1019	-	-	-	1805	1719	1719	1766
500	121	380	391	1156	-	-	-	2000	1889	1889	1939
600	121	400	461	1338	-	-	-	2285	2171	2171	2273

No obligation consultation on dimensions and drawings. CMO Valves reserves the right to modify them at any time, at its discretion and without prior notice.

Larger sizes on request.

Visit our website to see the full features of the GL Series.

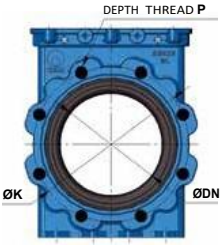
FLANGE DRILLING – GL

DN	ΔP (bar)	PN10					ASA150				
		●	○	M	P	ØK	●	○	R UNC	P	ØK
50	16	4	-	M 16	14	125	4	-	5/8"	14	120,6
65	16	4	-	M 16	14	145	4	-	5/8"	14	139,7
80	16	8	-	M 16	14	160	4	-	5/8"	14	152,4
100	16	8	-	M 16	14	180	8	-	5/8"	14	190,5
125	16	8	-	M 16	15	210	8	-	3/4"	15	215,9
150	16	8	-	M 20	15	240	8	-	3/4"	15	241,3
200	10	8	-	M 20	17	295	8	-	3/4"	17	298,4
250	10	12	-	M 20	17	350	12	-	7/8"	17	361,9
300	10	12	-	M 20	20	400	12	-	7/8"	20	431,8
350	10	12	4	M 20	21	460	8	4	1"	21	476,2
400	10	12	4	M 24	23	515	12	4	1"	23	539,7
450	10	16	4	M 24	24	565	12	4	1 1/8"	24	577,8
500	10	16	4	M 24	25	620	16	4	1 1/8"	25	635
600	10	16	4	M 27	26	725	16	4	1 1/4"	26	749,3

Larger sizes on request.

● *Threaded holes.*

○ *Through holes.*



L SERIES

THROUGH CONDUIT BIDIRECTIONAL WAFER STYLE KNIFE GATE VALVE

DESCRIPTION

- Die-cast body, comprising two bolted parts, with internal guides for smooth movement of the gate during operation.
- Provides high flow rates with low load loss.
- Various constructions materials and seal and stuffing materials available.
- Stainless steel gate.
- Face-to-face distance in accordance with CMO Valves standards.

GENERAL APPLICATIONS

This knife gate valve is suitable for liquids that contain a maximum of 20% suspended solids. It is also recommended in gravity discharge applications in solid and powder silos, due to the "crescent" shape on the gate, which cuts through flow and high consistency fluids.

Designed for applications such as:
- Paper Industry - Long Fibre.
- Mining.
- Chemical plants.
- Food industry.
- Sewage treatment.

SIZES

From DN50 to DN1600.

Other DNs on request.

WORKING PRESSURE (ΔP)

DN50-DN250	10 bar
DN300-DN400	6 bar
DN450	5 bar
DN500-DN600	4 bar
DN700-DN1600	3 bar

Other pressures on request.

FLANGE DRILLING

- ENI092 PN10.
- ASME B16.5 (class 150).

OTHERS COMMONLY USED

- PN6.
- PN16.
- PN25.
- BS "D" and "E".
- ANSI 150

Others on request.

RESILIENT SEALS

- EPDM.
- NITRILE.
- FPM.
- SILICONE.
- PTFE.

Various materials are available for the reinforced socket and the deflector (CA-15, CF8M and Ni-hard...).

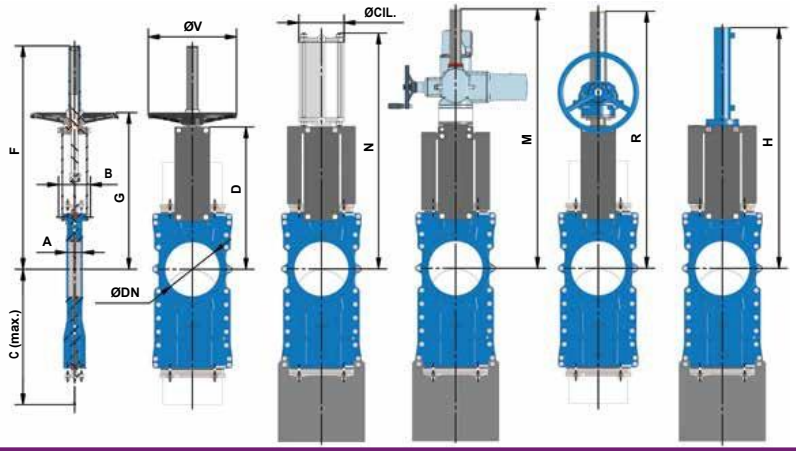
DIRECTIVES

Pressure equipment:
(PED) ART 4.3 /CAT.1.
Explosive Atmospheres:
(ATEX) CAT.3 ZONE 2 and 22 GD.

For further information on categories and zones please contact TUBI Valves. Technical-Commercial Department.

QUALITY DOSSIER

All valves are hydrostatically tested in accordance with EN1266. and material and test certificates can be supplied on request.
- Body test = working pressure x 1.5.
- Seal test = working pressure x 1.1.



MANUFACTURING RANGE

DIMENSIONS – L

DN	A	B	C	D	F	G	ØV	N	ØCIL.	M	R	H
50	40	91	225	243	412	282	225	416	80	587	540	459
65	40	91	265	269	437	308	225	456	80	614	566	500
80	50	91	310	293	462	332	225	497	80	640	591	559
100	50	91	370	334	503	373	225	561	100	680	631	620
125	50	101	430	367	586	407	225	636	125	713	665	683
150	60	101	495	419	638	458	225	717	125	765	717	755
200	60	118	630	525	816	578	325	874	160	880	943	927
250	70	118	770	620	1017	679	325	1030	200	981	1037	1071
300	70	118	895	704	1117	779	380	1160	200	1141	1171	1223
350	96	290	1050	780	1337	906	450	1364	250	1347	1318	1360
400	100	290	1185	855	1443	1012	450	1482	250	1550	1393	1484
450	106	290	1320	975	1629	1098	450	1662	300	1847	1662	1693
500	110	290	1455	1064	1741	1210	450	1802	300	1959	1752	1832
600	110	290	1720	1244	2047	1416	450	2081	300	2165	1981	2111
700	110	320	1995	1425	-	-	-	2400	350	2451	2320	2444
800	110	320	2230	1615	-	-	-	2693	350	2665	2610	2734
900	110	320	2465	1823	-	-	-	3037	400	2998	2913	3042
1000	110	320	2620	1992	-	-	-	3306	400	3178	3206	3351
1100	150	340	3030	2217	-	-	-	3587	400	3675	3777	3560
1200	150	340	3250	2351	-	-	-	3868	400	4042	4042	3910

No obligation consultation on dimensions and drawings. CMO Valves reserves the right to modify them at any time, at its discretion and without prior notice.

Larger sizes on request.

Visit our website to see the full features of the L Series.

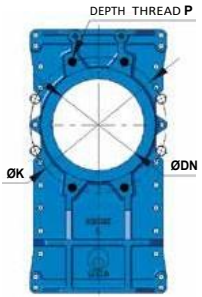
FLANGE DRILLING – L

DN	ΔP (bar)	PN10					ASA150				
		●	○	M	P	ØK	●	○	R UNC	P	ØK
50	10	4	-	M 16	8	125	4	-	5/8"	8	120,6
65	10	4	-	M 16	8	145	4	-	5/8"	8	139,7
80	10	4	4	M 16	9	160	4	-	5/8"	9	152,4
100	10	4	4	M 16	9	180	4	4	5/8"	9	190,5
125	10	4	4	M 16	9	210	4	4	3/4"	9	215,9
150	10	4	4	M 20	10	240	4	4	3/4"	10	241,3
200	10	4	4	M 20	10	295	4	4	3/4"	10	298,4
250	10	8	4	M 20	12	350	8	4	7/8"	12	361,9
300	6	8	4	M 20	12	400	8	4	7/8"	12	431,8
350	6	12	4	M 20	21	460	8	4	1"	21	476,2
400	6	12	4	M 24	21	515	12	4	1"	21	539,7
450	5	16	4	M 24	22	565	12	4	1¼"	22	577,8
500	4	16	4	M 24	22	620	16	4	1¼"	22	635
600	4	16	4	M 27	22	725	16	4	1¼"	22	749,3
700	3	20	4	M 27	22	840	24	4	1¼"	22	863,6
800	3	20	4	M 30	22	950	24	4	1½"	22	977,9
900	3	24	4	M 30	20	1050	28	4	1½"	20	1085,9
1000	3	24	4	M 33	20	1160	32	4	1½"	20	1200,2
1200	3	28	4	M 36	20	1380	40	4	1½"	20	1422,4

Larger sizes on request.

● *Threaded holes.*

○ *Through holes.*



T SERIES

UNIDIRECTIONAL LUG TYPE KNIFE GATE VALVE

DESCRIPTION

- One-piece cast body, with interior slides for optimum movement of the knife during operation.
- Provides high flow rates with low pressure drops.
- Various constructions materials and seal and stuffing materials available.
- Stainless steel gate.
- Face-to-face distance in accordance with MSS -81 standards.
- An arrow is marked on the body indicating the flow direction.

GENERAL APPLICATIONS

This knife gate valve is suitable for working with liquids with a maximum solids concentration of 10%. If used for solids, it should be installed with the body arrow indicating the direction of flow in the opposite direction

Designed for applications such as:
- Paper industry.
- Mining.
- Chemical plants.
- Pumping.
- Food industry.
- Water treatment.

SIZES

From DN50(2") to DN1200(48").

Other DNs on request.

WORKING PRESSURE (ΔP)

DN50- DN600	10 bar
DN700-DN800	6 bar
DN600-DN1200	4 bar

Other pressures on request.

Indicated work pressures will only be valid following the direction of the arrow marked on the valve. Due to the valve's design with gate support guides, 30% of these pressures can be applied in the opposite direction to the arrow without causing any damage to it. In these circumstances the valve is not watertight. An additional series of supports is necessary in order to achieve tightness in these conditions.

FLANGE DRILLING

- ENI092 PN10.
- ASME B16.5 (class 150).

OTHERS COMMONLY USED

- PN6.
- PN16.
- PN25.
- JIS standard.
- Australian standard.
- British standard.

Others on request.

RESILIENT SEALS

- EPDM.
- NITRILE.
- FPM.
- SILICONE.
- PTFE.

Various materials are available for the reinforced socket and the deflector (CA-15, CF8M and Ni-hard...).

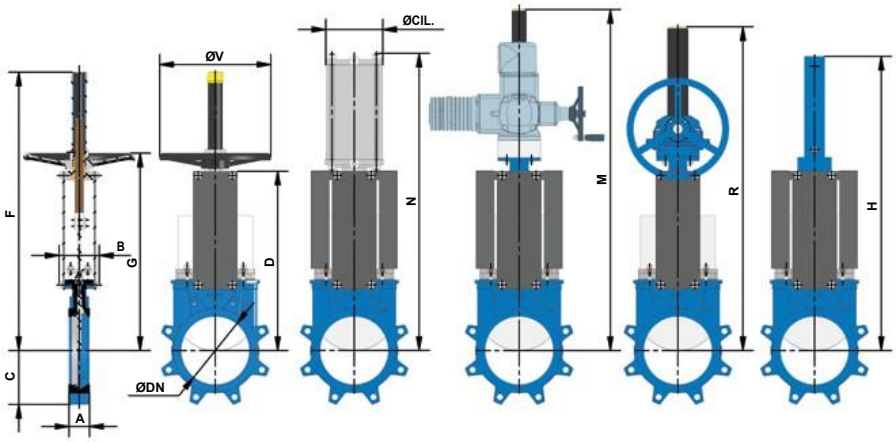
DIRECTIVES

Pressure equipment:
(PED) ART 4.3 /CAT.1.
Explosive Atmospheres:
(ATEX) CAT.3 ZONE 2 and 22 GD.

For further information on categories and zones please contact TUBI Valves. Technical-Commercial Department.

QUALITY DOSSIER

All valves are hydrostatically tested in accordance with EN1266. and material and test certificates can be supplied on request.
- Body test = working pressure x 1.5.
- Seal test = working pressure x 1.1.



MANUFACTURING RANGE

DIMENSIONS – T

DN	DN	A	A	B	C	D	F	G	ØV	N	ØCIL.	M	R	H
50	2"	47,6	1 7/8"	91	61	241	410	280	225	416	80	581	540	457
65	2 ½"	47,6	1 7/8"	91	68	268	437	308	225	456	80	607	566	500
80	3"	50,8	2"	91	91	294	463	333	225	498	80	632	592	560
100	4"	50,8	2"	91	104	334	503	373	225	562	100	672	632	620
125	5"	57,2	2 1/4"	101	118	367	586	407	225	636	125	705	665	683
150	6"	57,2	2 1/4"	101	130	419	638	458	225	723	160	757	717	755
200	8"	69,9	2 3/4"	118	159	525	816	578	325	886	200	988	942	926
250	10"	69,9	2 3/4"	118	196	626	1017	679	325	1133	250	1089	1043	1077
300	12"	76,2	3"	118	231	726	1117	779	380	1278	300	1189	1193	1246
350	14"	76,2	3"	290	257	797	1337	906	450	1383	350	1335	1335	1376
400	16"	88,9	3 1/2"	290	290	903	-	-	-	1532	400	1441	1441	1532
450	18"	88,9	3 1/2"	290	312	989	-	-	-	-	-	1677	1677	1707
500	20"	114,3	4 1/2"	290	340	1101	-	-	-	-	-	1789	1789	1869
600	24"	114,3	4 1/2"	290	398	1307	-	-	-	-	-	2108	2108	2202
700	28"	114,3	4 1/2"	320	453	1506	-	-	-	-	-	2406	2406	2525
750	30"	117,5	4 5/8"	320	489	1620	-	-	-	-	-	2565	2565	2670
800	32"	117,5	4 5/8"	320	503	1720	-	-	-	-	-	2790	2790	2818
900	36"	117,5	4 5/8"	320	583	1953	-	-	-	-	-	3130	3130	3193
1000	40"	117,5	4 5/8"	320	613	2137	-	-	-	-	-	3440	3440	3437
1100	44"	152,4	6"	340	670	2375	-	-	-	-	-	3765	3765	3775
1200	48"	152,4	6"	340	728	2616	-	-	-	-	-	4050	4050	4161

No obligation consultation on dimensions and drawings. CMO Valves reserves the right to modify them at any time, at its discretion and without prior notice.

Larger sizes on request.

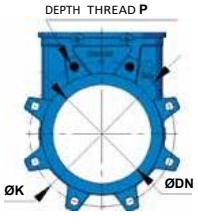
Visit our website to see the full features of the T Series.

FLANGE DRILLING – T

DN	DN	ΔP (bar)	PN 0			ASA150			
				M	P	ØK	R UNC	P	ØK
50	2"	10	4	M 16	8	125	4 5/8"	8	120,6
65	2 1/2"	10	4	M 16	8	145	4 5/8"	8	139,7
80	3"	10	8	M 16	9	160	4 5/8"	9	152,4
100	4"	10	8	M 16	9	180	8 5/8"	9	190,5
125	5"	10	8	M 16	9	210	8 3/4"	9	215,9
150	6"	10	8	M 20	10	240	8 3/4"	10	241,3
200	8"	10	8	M 20	10	295	8 3/4"	10	298,4
250	10"	10	12	M 20	12	350	12 7/8"	12	361,9
300	12"	10	12	M 20	12	400	12 7/8"	12	431,8
350	14"	10	16	M 20	21	460	12 1"	21	476,2
400	16"	10	16	M 24	21	515	16 1"	21	539,7
450	18"	10	20	M 24	22	565	16 1¼"	22	577,8
500	20"	10	20	M 24	22	620	20 1¼"	22	635
600	24"	10	20	M 27	22	725	20 1¼"	22	749,3
700	28"	6	24	M 27	22	840	28 1¼"	22	863,6
750	30"	6	24	M 30	22	900	28 1¼"	22	914,4
800	32"	6	24	M 30	22	950	28 1½"	22	977,9

Larger sizes on request.

● *Threaded holes.*



TD SERIES

UNIDIRECTIONAL DOUBLE GATE KNIFE GATE VALVE

DESCRIPTION

- Knife gate valve, unidirectional WAFER design and very fast opening and closing.
- Both body composed of two screwed halves, with sliders to provide a smooth manoeuvre.
- It has two opposing stainless steel gates which come together in the centre of the opening and all its components subject to wear and tear are easy to replace.
- Provides high flow rates with low pressure drops.
- Various constructions materials and seal and stuffing materials available.
- Face-to-face distance in accordance with CMO Valves standards.

GENERAL APPLICATIONS

This knife gate valve has been designed to work in the most demanding conditions. They are generally used in the paper industry in pulp mills, water treatment plants.

Designed for applications such as:
- Paper industry.
- Mining.
- Chemical plants.
- Water treatment plants.
- Food industry.
- Water treatment.

WORKING PRESSURE (ΔP)

DN50-DN250	10 bar
DN300-DN400	6 bar
DN450	5 bar
DN500-DN600	4 bar
DN700	3 bar
DN800-DN1200	2 bar

Other pressures on request.

Indicated work pressures will only be valid following the direction of the arrow marked on the valve. Due to the valve's design with gate support guides, 30% of these pressures can be applied in the opposite direction to the arrow without causing any damage to it. In these circumstances the valve is not watertight. An additional series of supports is necessary in order to achieve tightness in these conditions.

SIZES

From DN50 to DN1200.

Other DNs on request.

FLANGE DRILLING

- ENI092 PN10.
- ASME B16.5 (class 150).

OTHERS COMMONLY USED

- PN6.
- PN16.
- PN25.
- JIS standard.
- Australian standard.
- British standard.

Others on request.

RESILIENT SEALS

- EPDM.
- NITRILE.
- FPM.
- SILICONE.
- PTFE.

Various materials are available for the reinforced socket and the deflector (CA-15, CF8M and Ni-hard...).

DIRECTIVES

Pressure equipment:
(PED) ART 4.3 /CAT.1.
Explosive Atmospheres:
(ATEX) CAT.3 ZONE 2 and 22 GD.

For further information on categories and zones please contact TUBI Valves. Technical-Commercial Department.

QUALITY DOSSIER

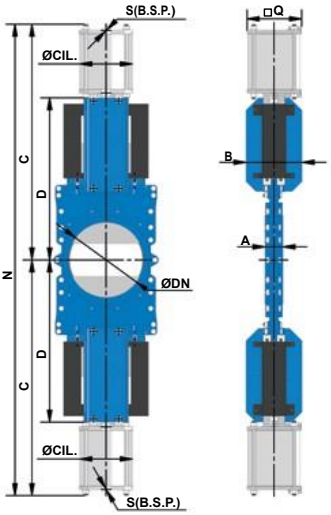
All valves are hydrostatically tested in accordance with EN1266. and material and test certificates can be supplied on request.
- Body test = working pressure x 1.5.
- Seal test = working pressure x 1.1.

MANUFACTURING RANGE

DIMENSIONS – TD

DOUBLE-ACTING PNEUMATIC CYLINDER

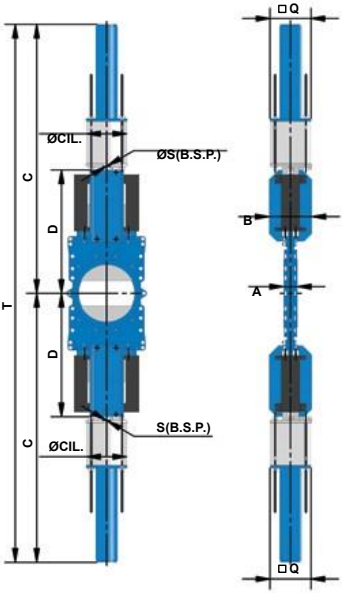
DN	ΔP (bar)	A	B	C	D	N	Q	ØCIL	ØV	S (B.S.P.)
50	10	40	92	370	235	740	96	80	20	1/4"
65	10	40	92	398	256	796	96	80	20	1/4"
80	10	50	92	435	285	870	96	80	20	1/4"
100	10	50	92	493	328	985	110	100	20	1/4"
125	10	50	92	548	371	1095	110	100	20	1/4"
150	10	60	102	595	395	1190	135	125	25	1/4"
200	10	60	119	730	495	1460	170	160	30	1/4"
250	10	70	119	855	585	1710	215	200	30	3/8"
300	6	70	119	937	645	1874	215	200	30	3/8"
350	6	96	290	1098	705	2195	270	250	40	3/8"
400	6	100	290	1215	790	2429	270	250	40	3/8"
450	5	106	290	1318	850	2635	382	300	45	1/2"
500	4	110	290	1420	930	2840	382	300	45	1/2"
600	4	110	290	1590	1055	3180	382	300	45	1/2"
700	3	110	290	1880	1260	3760	444	350	45	1/2"
800	2	110	290	2034	1365	4067	444	350	45	1/2"
900	2	110	350	2208	1475	4415	508	400	50	1/2"
1000	2	110	350	2378	1595	4756	508	400	50	1/2"
1100	2	150	350	2548	1720	5095	508	400	50	1/2"
1200	2	150	400	2765	1885	5530	508	400	50	1/2"



DIMENSIONS – TD

SINGLE-ACTING PNEUMATIC CYLINDER

DN	ΔP (bar)	A	B	C	D	T	Q	ØCIL	ØV	S (B.S.P.)
50	10	40	92	660	235	1320	135	125	25	1/4"
65	10	40	92	688	256	1376	135	125	25	1/4"
80	10	50	92	725	285	1450	135	125	25	1/4"
100	10	50	92	785	328	1570	135	125	25	1/4"
125	10	50	92	840	371	1680	135	125	25	1/4"
150	10	60	102	850	395	1700	170	160	30	1/4"
200	10	60	119	1225	495	2450	215	200	30	3/8"
250	10	70	119	1660	585	3320	270	250	40	3/8"
300	6	70	119	1742	645	3484	270	250	40	3/8"



The most habitual actuators are those detailed on the tables on previous pages with their respective dimensions, operations with two double-acting pneumatic cylinders and operations with two single-acting pneumatic cylinders. Although they can be supplied with other actuators, for example with a manual handwheel, geared, electric motor or hydraulics. What they do have in common is that each valve requires two actuators as this type of valve in particular has two knives.

If you wish the valve to have one of these actuators, please request information regarding dimensions and characteristics from the technical-commercial department at TUBI Valves.

No obligation consultation on dimensions and drawings. CMO Valves reserves the right to modify them at any time, at its discretion and without prior notice.

Larger sizes on request.

Visit our website to see the full features of the TD Series.

INFORMATION ON FLANGE DIMENSIONS

FLANGE DRILLING – TD

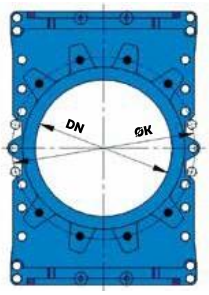
EN 1092-2 PN10

DN	●	○	R	p	ØK
50	4	-	M 16	8	125
65	4	-	M 16	8	145
80	4	4	M 16	9	160
100	4	4	M 16	9	180
125	4	4	M 16	9	210
150	4	4	M 20	10	240
200	4	4	M 20	10	295
250	8	4	M 20	12	350
300	8	4	M 20	12	400
350	12	4	M 20	21	460
400	12	4	M 24	21	515
450	16	4	M 24	22	565
500	16	4	M 24	22	620
600	16	4	M 27	22	725
700	20	4	M 27	22	840
800	20	4	M 30	22	950
900	24	4	M 30	20	1050
1000	24	4	M 33	20	1160
1100	28	4	M 33	20	1270
1200	28	4	M 36	22	1380

Larger sizes on request.

● *Threaded holes.*

○ *Through holes.*



FLANGE DRILLING – TD

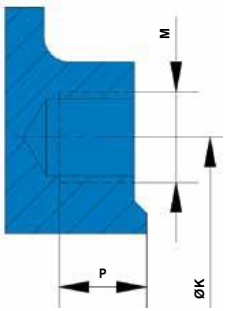
ANSI B16, class 150

DN	●	○	R UNC	p	ØK
2"	4	-	5/8"	8	120,6
2 ½"	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"	8	4	7/8"	12	361,9
12"	8	4	7/8"	12	431,8
14"	8	4	1"	21	476,2
16"	12	4	1"	21	539,7
18"	12	4	1¼"	22	577,8
20"	16	4	1¼"	22	635
24"	16	4	1¼"	22	749,3
28"	24	4	1¼"	22	863,6
32"	24	4	1¼"	22	977,9
36"	28	4	1½"	20	1085,9
40"	32	4	1½"	20	1200,2

Larger sizes on request.

● *Threaded holes.*

○ *Through holes.*




CMO VALVES
MANUFACTURING
THE VALVE YOU
NEED

UB SERIES

BIDIRECTIONAL WAFER STYLE KNIFE GATE VALVE

DESCRIPTION

- Die-cast body, comprising two bolted parts, with internal guides for smooth movement of the gate during operation.
- Provides high flow rates with low pressure drops.
- Various constructions materials and seal and stuffing materials available.
- Stainless steel gate.
- Face-to-face distance in accordance with UNE-EN 558 Series Basic 20. The rest according to CMO Valves.

GENERAL APPLICATIONS

This knife gate valve is suitable for working with clean liquids or liquids with a concentration of soft solids.

Designed for applications such as:
- Industry.
- Mining.
- Chemical plants.
- Food industry.
- Sewage treatment.
- Drying plants.
- Oil extraction.

SIZES

From DN50 to DN2000.

Other DNs on request.

WORKING PRESSURE (ΔP)

DN50-DN250	10 bar
DN300	7 bar
DN350-DN400	6 bar
DN450	5 bar
DN500-DN600	4 bar
DN700-DN1400	3 bar
DN1600-DN2000	2 bar

Other pressures on request.

FLANGE DRILLING

- ENI092 PN10.
- ASME B16.5 (class 150).

OTHERS COMMONLY USED

- PN6.
- PN16.
- PN25.
- BS "D" and "E".
- JIS10K.

Others on request.

RESILIENT SEALS

- EPDM.
- NITRILE.
- FPM.
- SILICONE.

Various materials are available for the reinforced socket and the deflector (CA-15, CF8M and Ni-hard...).

DIRECTIVES

Pressure equipment:
(PED) ART 4.3 /CAT.1.
Explosive Atmospheres:
(ATEX) CAT.3 ZONE 2 and 22 GD.

For further information on categories and zones please contact TUBI Valves. Technical-Commercial Department.

QUALITY DOSSIER

All valves are hydrostatically tested in accordance with EN1266. and material and test certificates can be supplied on request.
- Body test = working pressure x 1.5.
- Seal test = working pressure x 1.1.

FLANGE DRILLING – UB

DN	PN10					ASA150				
	●	○	M	P	ØK	●	○	R UNC	P	ØK
50	2	2	M 16	9	125	2	2	5/8"	9	120,6
65	2	2	M 16	9	145	2	2	5/8"	9	139,7
80	2	6	M 16	11	160	2	2	5/8"	11	152,4
100	2	6	M 16	12	180	2	6	5/8"	12	190,5
125	2	6	M 16	12	210	2	6	3/4"	12	215,9
150	2	6	M 20	14	240	2	6	3/4"	14	241,3
200	2	6	M 20	14	295	2	6	3/4"	14	298,4
250	4	8	M 20	14	350	4	8	7/8"	14	361,9
300	4	8	M 20	14	400	4	8	7/8"	14	431,8
350	6	10	M 20	20	460	4	8	1"	20	476,2
400	6	10	M 24	21	515	6	10	1"	21	539,7
450	8	12	M 24	22	565	6	10	1 1/8"	22	577,8
500	8	12	M 24	22	620	8	12	1 1/8"	22	635
600	8	12	M 27	22	725	8	12	1 1/4"	22	749,3

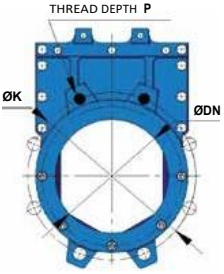
No obligation consultation on dimensions and drawings. CMO Valves reserves the right to modify them at any time, at its discretion and without prior notice.

Larger sizes on request.

● *Threaded holes.*

○ *Through holes.*

Visit our website to see the full features of the UB Series.



FLANGE DRILLING – UB

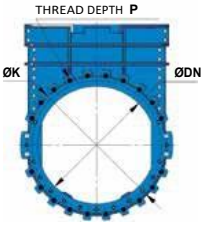
DN	PN10					ASA150				
	●	○	M	P	ØK	●	○	R UNC	P	ØK
700	16	8	M 27	23	840	20	8	1 1/4"	23	863,6
800	20	4	M 30	23	950	24	4	1 1/2"	23	977,9
900	24	4	M 30	23	1050	28	4	1 1/2"	23	1085,9
1.000	24	4	M 33	23	1160	32	4	1 1/2"	23	1200,2
1.200	28	4	M 36	30	1380	40	4	1 1/2"	30	1422,4
1.400	32	4	M 39	30	1590	44	4	1 3/4"	30	1651

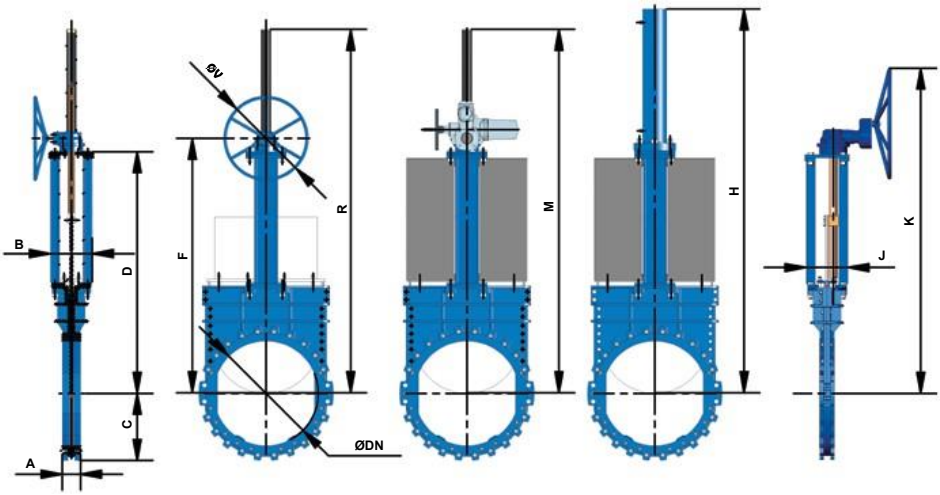
No obligation consultation on dimensions and drawings. CMO Valves reserves the right to modify them at any time, at its discretion and without prior notice.

Larger sizes on request.

● *Threaded holes.*

○ *Through holes.*

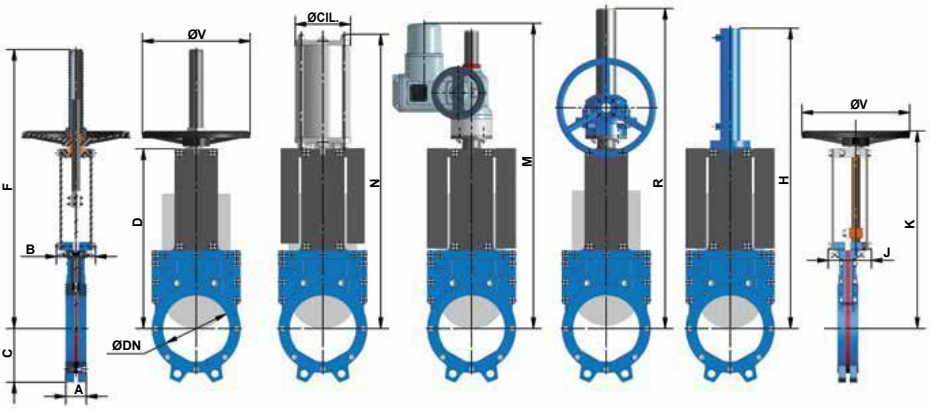




MANUFACTURING RANGE

DIMENSIONS – UB

DN	ΔP (bar)	A	B	C	D	F	R	ØV	M	H	J	K
700	3	140	320	446	1548	1650	2403	1000	2.403	2.447	320	1991
800	3	140	320	513	1823	2029	2816	300	2.816	2.770	320	2219
900	3	140	320	585	2059	2295	3152	450	3.152	3.107	320	2451
1000	3	145	320	614	2190	2426	3383	650	3.383	3.511	320	2797
1200	3	150	350	726	2616	2890	4059	1350	4.059	4.230	350	3412
1400	3	160	350	837	2990	3264	4633	850	4.923	4.917	350	3917



MANUFACTURING RANGE

DIMENSIONS – UB

DN	ΔP (bar)	A	B	C	D	F	ØV	N	ØCIL.	M	R	H	J	K
50	10	43	90	66	245	418	225	420	80	623	548	424	101	281
65	10	46	90	73	270	443	225	460	80	648	573	479	101	306
80	10	46	90	96	295	468	225	500	80	673	598	504	101	331
100	10	52	90	110	327	500	225	553	100	705	630	556	101	363
125	10	56	100	123	365	588	225	632	125	743	668	624	111	401
150	10	56	100	136	415	638	225	706	125	793	718	719	111	451
200	10	62	118	162	541	840	325	886	160	919	964	904	130	578
250	10	69	118	199	630	1.029	325	1037	200	1086	1.053	1043	130	687
300	7	78	218	257	869	1.149	450	1202	200	1209	1.414	1213	130	779
350	6	78	254	318	1117	-	-	1454	250	1414	1.815	1400	-	-
400	6	103	294	418	1442	-	-	1619	250	1529	2.140	1565	-	-
450	5	114	254	318	1117	-	-	1815	300	1815	1815	1770	-	-
500	4	127	267	355	1222	-	-	1970	300	1920	1920	1935	-	-
600	4	154	294	418	1442	-	-	2290	300	2140	2140	2255	-	-

XB SERIES

RUBBERISED BIDIRECTIONAL LUG TYPE KNIFE GATE VALVE

DESCRIPTION

- One-piece cast body with elastomer coated interior.
- High flow rates with low pressure drops.
- Various construction and packing materials available.
- Stainless steel gate.
- Face-to-face distance in accordance with CMO Valves standards.

GENERAL APPLICATIONS

This knife gate valve is suitable for working in the mining industry, in conveyance lines loaded with, for example: water with stones, mud...

Designed for applications such as:
- Mining industry.
- Paper mill Sector.
- Chemical plants.
- Food industry.
- Sewage treatment.

SIZES

From DN50 to DN1500.

Other DNs on request.

WORKING PRESSURE (ΔP)

DN50- DN150	16 bar
DN200-DN600	10 bar

FLANGE DRILLING

- ENI092 PN10.
- ASME B16.5 (class 150).

OTHERS COMMONLY USED

- PN6.
- PN16.
- PN25.
- BS "D" and "E".
- JIS10K.

Others on request.

RESILIENT SEALS

- POLYURETHANE.

Various materials are available for the reinforced socket and the deflector (CA-15, CF8M and Ni-hard...).

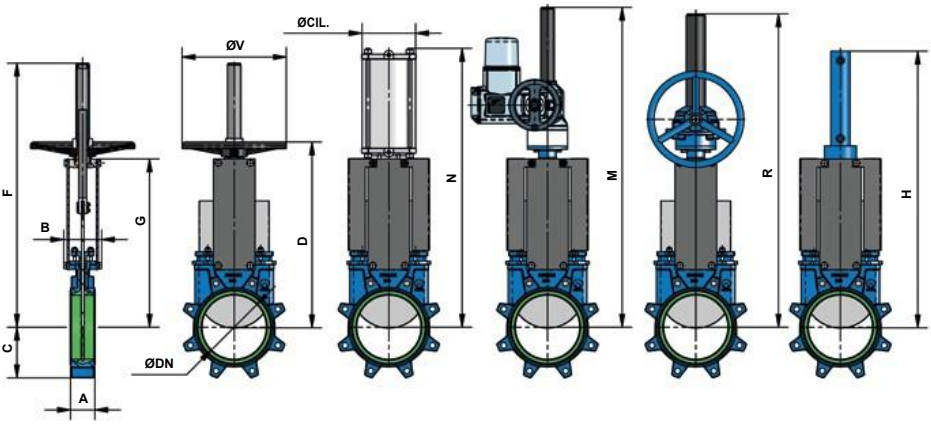
DIRECTIVES

Pressure equipment:
(PED) ART 4.3 /CAT.1.
Explosive Atmospheres:
(ATEX) CAT.3 ZONE 2 and 22 GD.

For further information on categories and zones please contact TUBI Valves. Technical-Commercial Department.

QUALITY DOSSIER

All valves are hydrostatically tested in accordance with EN1266. and material and test certificates can be supplied on request.
- Body test = working pressure x 1.5.
- Seal test = working pressure x 1.1.



MANUFACTURING RANGE

DIMENSIONS – XB

DN	A	B	C	G	F	D	ØV	N	ØCIL.	M	R	H
50	54	91	61	241	410	280	225	416	80	581	540	457
65	54	91	68	268	437	308	225	456	80	607	566	500
80	57	91	91	294	463	333	225	498	80	632	592	560
100	57	91	104	334	503	373	225	562	100	672	632	620
125	64	101	118	367	586	407	225	636	125	705	665	683
150	64	101	130	419	638	458	225	723	160	757	717	755
200	76	118	159	525	816	578	325	886	200	988	942	926
250	76	118	196	626	1017	679	325	1133	250	1089	1043	1077
300	83	118	231	726	1117	779	380	1278	300	1189	1193	1246
350	83	290	257	797	1337	906	450	1383	350	1335	1335	1376
400	96	290	290	903	-	-	-	1532	400	1441	1441	1532
450	96	290	312	989	-	-	-	*	*	1677	1677	1707
500	121	290	340	1101	-	-	-	*	*	1789	1789	1869
600	121	290	398	1307	-	-	-	*	*	2108	2108	2202

** Please consult.*

No obligation consultation on dimensions and drawings. CMO Valves reserves the right to modify them at any time, at its discretion and without prior notice.

Larger sizes on request.

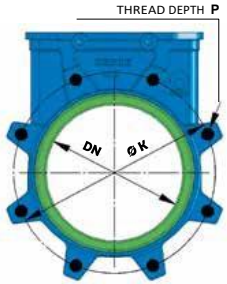
Visit our website to see the full features of the XB Series.

FLANGE DRILLING – XB

DN	ΔP (bar)	PN10				ASA150			
		●	M	P	ØK	●	R UNC	P	ØK
50	16	4	M 16	8	125	4	5/8"	8	120,6
65	16	4	M 16	8	145	4	5/8"	8	139,7
80	16	8	M 16	9	160	4	5/8"	9	152,4
100	16	8	M 16	9	180	8	5/8"	9	190,5
125	16	8	M 16	9	210	8	3/4"	9	215,9
150	16	8	M 20	10	240	8	3/4"	10	241,3
200	10	8	M 20	10	295	8	3/4"	10	298,4
250	10	12	M 20	12	350	12	7/8"	12	361,9
300	10	12	M 20	12	400	12	7/8"	12	431,8
350	10	16	M 20	21	460	12	1"	21	476,2
400	10	16	M 24	21	515	16	1"	21	539,7
450	10	20	M 24	22	565	16	1¼"	22	577,8
500	10	20	M 24	22	620	20	1¼"	22	635
600	10	20	M 27	22	725	20	1¼"	22	749,3

Larger sizes on request.

● *Threaded holes.*



Characteristics

BODY

- For diameters greater than DN1400 the body is machine-welded with the necessary reinforcements to withstand the maximum working pressure.
- Designed with full passage to provide large flows with low pressure losses.
- The body's internal design prevents any build-up of solids in the seat area.
- The standard manufacturing materials are GJL-250 cast iron and CF8M stainless steel. Likewise materials, such as GJS-500 nodular cast iron, A216WCB carbon steel and stainless steel alloys ,(AISI316Ti, Duplex, 254SMO, Uranus B6...) are available to order. As standard, iron or carbon steel valves are painted with an anti-corrosive protection of 80 microns of EPOXY (colour RAL 5015).
- Other types of anti-corrosive protections and colours are available on request.

KNIFE

The standard manufacturing materials are AISI304 stainless steel in valves with a cast iron, or steel body. AISI316 Stainless Steel in valves with a CF8M body. Other materials or combinations can be supplied to order. The knife is polished on both sides to provide a smooth contact surface with the resilient seal. At the same time, the knife is rounded to prevent the sealing joint from being cut. Different degrees of polishing, anti-abrasion treatments and modifications are available to adapt the valves to the customer's requirements.

RESILIENT SEAL MATERIALS

EPDM
This is the standard resilient seal fitted on CMO Valves. It can be used in many applications, however, it is generally used for water and products diluted in water at temperatures no higher than 90°C*. It can also be used with abrasive products and provides the valve with 100% tightness.

NITRILE
It is used in fluids containing fats or oils at temperatures no higher than 90°C*. It provides the valve with 100% tightness.

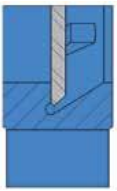
FPM
Suitable for corrosive applications and high temperatures up to 190°C continuously and peaks of 210°C. Provides the valve with 100% tightness.

SILICONE
Mainly used in the food industry and for pharmaceutical products with temperatures no higher than 200°C. Provides the valve with tightness of 100%.

PTFE
Suitable for corrosive applications and pH between 2 and 12. It does not provide the valve with 100% tightness. Estimated leakage: 0.5% of the pipe flow.

STANDARD SEAT

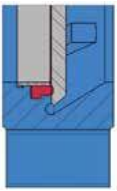
01



METAL SEAT

This type of seat does not include any type of resilient seal and the estimated leakage. (Considering water as the test fluid)is 1.5% of the flow in the pipe).

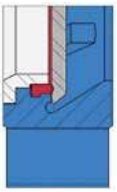
02



SOFT SEAT

This type of seat includes a resilient seal which is fixed to the inside of the body via an AISI316 stainless steel retaining ring. Watertight closure.

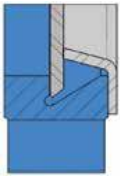
03



SOFT SEAT WITH REINFORCED RING

This type of seat includes a resilient seat which is fixed to the inside of the body via a dual-function stainless steel retaining ring. (Protect the valve from abrasionand clean the gate when working with solids that can adhere to the gate).

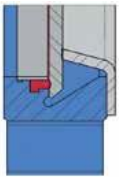
04



METAL SEAT WITH DEFLECTOR

The deflector is a conical ring located at the valve inlet with two functions. (Protect the valve from abrasion and guide the flow to the centre of the passage area).

05

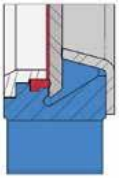


SOFT SEAT WITH DEFLECTOR

Seat combination.

02 + 04

06



SOFT SEAT WITH DEFLECTOR & REINFORCED RING

Seat combination.

03 + 04

Various materials are available for the reinforced socket and the deflector (CA-15, CF8M and Ni-hard...).

Installation/Maintenance

INSTRUCTIONS, INSTALLATION OF STANDARD KNIFE GATE VALVES

In order to avoid personal injury and other types of damage (to property, the plant...), we recommend following these recommendations:

- Use non-electrical hand tools during installation and maintenance, in accordance with EN13463-1(15).
- The personnel responsible for the installation or operation of the equipment must be qualified and trained.
- Use suitable Personal Protective Equipment (PPE) (gloves, safety boots, goggles...).
- Shut off all lines which affect the valve and put up a warning sign to inform about the work being carried out.
- Completely isolate the valve from the whole process. De-pressurise the process.
- Drain all the line fluid through the valve.

Before installation, inspect the valve to ensure no damage has occurred during transport or storage. Make sure that the inside of the valve body and, in particular, the seal area are clean. Inspect the installation's pipes and the flanges to make sure they are clean. Inspect the pipes and the flanges to make sure they contain no foreign material and are clean.

Knife gate valves can be unidirectional or bidirectional, and there is an arrow marked on the body indicating the flow direction of the unidirectional valves. The word SEAT is also marked on one side of the body (near the packing) to indicate the side where the sealing joint is located.

Bidirectional valves do not need markings indicating the direction of pressure or the location of the seal. They can be installed in either of its two directions. The direction of the fluid and the pressure do not always coincide, but in bidirectional valves, this plays no importance when it comes to mounting the valve, since the subsequent performance is the same.

HANDLING

Pay special attention to the following points when handling the equipment:

- SAFETY WARNING: Before handling the valve, check that the crane to be used is capable of withstanding its weight.
- Do not lift the valve or hold it by the drive. Lifting the valve by the drive can lead to operating problems as it is not designed to withstand the valve's weight.
- Do not lift the valve by holding it in the flow passage area. The valve's seal is located in this area. If the valve is held and lifted by this area it can damage the surface and the O-ring seal and lead to leakage problems whilst the valve is operating.
- To prevent damage, especially to the anti-corrosive protection, we recommend using soft straps to lift knife gate valves. These straps must be fitted around the top of body.

DIRECTIVES

Valve from CMO Valves valves may comply with the directive on protection systems and apparatus for use in explosive atmospheres. In these cases the logo will appear on the identification label. This label shows the exact classification of the zone in which the valve can be used. The user is responsible for its use in any other zone.

Pressure Equipment Directive:
(PED) ART 4.3 /CAT.1.

Explosive Atmospheres Directive (optional):
(ATEX) CAT.3 ZONE 2 and 22 GD.

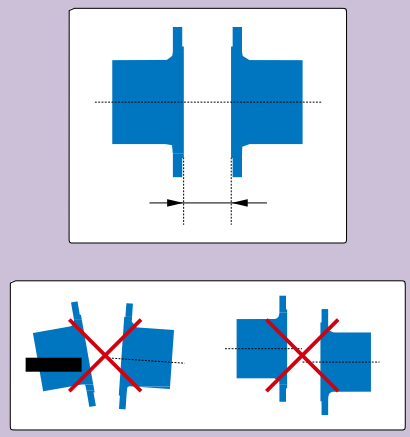
IMPORTANT ASPECTS TO CONSIDER DURING ASSEMBLY

Special care must be taken to respect the correct distance between the flanges and ensure they are correctly aligned and parallel.

The incorrect position or installation of the flanges can cause loss of shape on the valve's body and this could lead to operating problems.

It is very important to make sure that the valve is correctly aligned and parallel to the flanges to prevent leakages and avoid deformations. The bolts in the threaded blind holes will have a maximum depth and will never reach the bottom of the hole.

CORRECT PARALLELISM AND ALIGNMENT



As standard, when the unidirectional valve operates with clean liquids or with low solid content, it is recommended to install it so that the pressure pushes the gate against the seat. That way, the fluid direction will be the same as the direction indicated by the arrow on the body *(figure 1)*.

It should be remembered that the pressure and the fluid direction do not always coincide *(figure 2)*.

Special care must be taken to maintain the correct distance between the flanges and ensure they are correctly aligned and parallel.

The incorrect position or installation of the flanges can cause deformations on the valve's body which can cause difficulties during operation.

A SERIES

figure 1

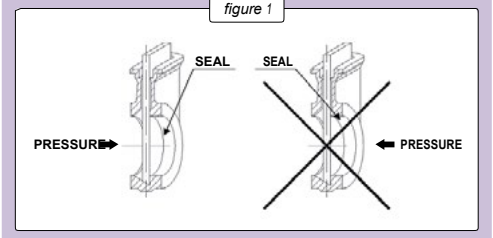
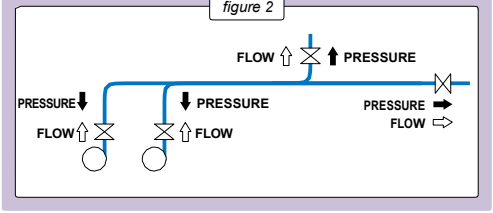


figure 2



Installation/Maintenance

ASSEMBLY POSITIONS
(horizontal pipe)

The valve must always be installed in the OPEN-position. Valves from CMO Valves valves can be assembled in all positions; however, recommendations do exist for some of them.

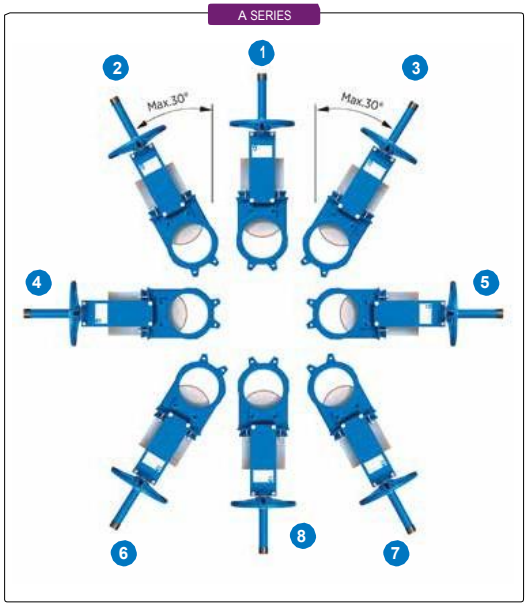
POSITION 1:
This is the most advisable position.

POSITION 8:
The valve can be installed in this position, but you are advised to contact CMO if this is necessary.

POSITIONS 2, 3, 6 AND 7:
For large valves (over DN300), the maximum installation angle permitted with vertical of 30°. For sizes smaller than DN250 the angle can be increased up to 90°. When it is necessary to install large valves in any of these positions, please check with us, as in these cases, due to the weight of the actuator, a suitable support must be made to prevent deformations and operating problems in the valves. To install valves larger than DN200 in any of these positions, please check with CMO Valves In these positions it is recommended to secure the actuator to prevent the shaft from bending due to the weight of the actuator. If this is not carried out it could lead to operating problems.

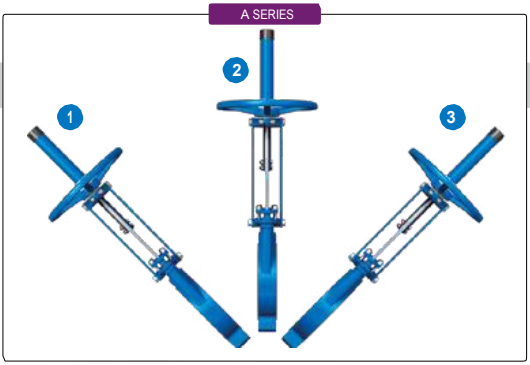
POSITIONS 4 AND 5:
This knife gate valve has no exterior gate guides, and the larger the valve the heavier it is, meaning that it could rub internally with the body during movement and stop it. To install valves larger than DN200 in any of these positions, please check with CMO Valves as special guides must be installed. For sizes smaller than DN250 the valves can be installed in these positions.

In all these positions the actuator should be secured to prevent the shaft from suffering due to the weight of the actuator. If this is not taken into account, it can lead to problems during valve operation.



IMPORTANT SAFETY ASPECTS

- In order to work under ideal safety conditions, the magnetic and electrical elements must be in idle mode and the air tanks depressurised. Moreover, the electrical control cabinets must also be out of service. The maintenance personnel must be up to date with the safety regulations and work can only start under orders from the site's safety personnel.
- The safety areas must be clearly marked and you must avoid placing auxiliary equipment (ladders, scaffolding...) on levers or moving parts which may lead to the movement of the knife gate.
- In units fitted with spring return actuators, the knife gate valve must be mechanically locked and only unlocked when the actuator is pressurised.
- In equipment with electrical actuator, it is recommended to disconnect it from the mains in order to access the mobile parts without any risk.
- Its great importance means you should check that the penstock's shaft has no load before disassembling the drive system.



ASSEMBLY POSITIONS
(vertical/inclined pipe)

Valves from CMO Valves valves can be assembled in all positions; however, certain aspects must be taken into account:

Positions numbers 1, 2, and 3:: A suitable support should be made in these positions, since the weight of the actuator may lead to loss of shape, resulting in valve operation problems.

Once the valve has been installed, check that all the screws and nuts have been correctly tightened and that the whole valve action system has been correctly adjusted (electrical connections, pneumatic connections, instruments...).

Even if the valve has been assembled and tested at CMO Valves facilities, during handling and transport the screws on the packing tend to come loose and must be re-tightened.

In the event of a leakage, tighten the screws on the packing crosswise until the leakage stops, ensuring that there is no contact between the stuffing and the gate.

A very high tightening torque on the stuffing's screws can lead to problems, such as an increase in the valve's torque, reduction in the packing's working life, or the breaking of the stuffing. The tightening torques are indicated in *Table 2*.

Once the valve is installed in the pipeline and it has been pressurised, it is very important to check for any leakages from the stuffing to the atmosphere.

In an ATEX zone, check the continuity between the valve and the pipe (EN 12266-2, annex B, points B.2.2.2. and B.2.3.1.). Check the pipe's earth connection and the conductivity between the outlet and inlet pipes.

Not all knife gate valves from CMO Valves can be mounted in these depicted positions, consult for the model required and the possible mounting positions.

MAINTENANCE

- In order to prevent personal injury and other types of damage (in the plant...) we recommend following these recommendations:
- The person responsible for the installation, operation and maintenance of the valves must be qualified and trained in the operation of similar valves.

- Appropriate personal protection must be used (gloves, safety boots, goggles, hard hat...).
- Shut off all operating lines to the valve and put up a warning sign.
- Completely isolate the valve from the process.
- Fully depressurise the process.
- Drain all the line fluid through the valve.
- Use non-electrical hand tools during installation and maintenance, in accordance with EN13463-1(15).

The only maintenance required in this type of valve is to change the seat's rubber joint (if soft seated valve is used) and the packing. Seals should be checked every 6 months, although their working life will depend on the working conditions of the valve, such as: pressure, temperature, number of operations, fluid composition, among others.

In an ATEX ,electrostatic charges may be present inside the valve, which can cause explosions. The user is responsible for minimising the risks.

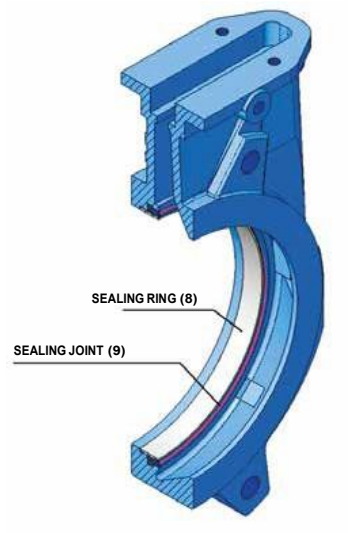
- Personnel must consider the risks of explosion and ATEX training is recommended.
- If the fluid transported constitutes an internal explosive atmosphere, the user must regularly check the installation's correct tightness.
- Regular cleaning of the valve to prevent accumulation of dust.
- Assemblies are not permitted at the end of the line.
- Avoid painting the products supplied.

Installation/Maintenance

REPLACING THE SEAL

1. Make sure there is absolutely no pressure and fluid in the installation.
2. Remove the valve from the pipeline and place the valve in the open position.
3. Remove the actuator and safety guards (if present) by unscrewing and removing the bolts connecting the stem to the gate and the support plate to the body.
4. Remove the stuffing.
5. Remove the old packing taking care not to damage its rubber strip.
6. Clean the seat gasket housing.
7. Clean the inside surfaces of the valve.
8. Remove the ring (8) that secures the sealing joint (9). For this purpose, apply a few sharp knocks to the outside with a bronze object at the base of the ring until it comes out.
9. Remove the old seal (9) and clean its housing.
10. Fit a new sealing joint (9) with the same dimensions as the old one or use the dimensions shown below (table 3).
11. Insert the retaining ring (8) in its original position.

A SERIES



During the assembly of the new sealing joint it is recommended to apply "Vaseline" to the seal to facilitate the assembly process and the correct operation of the valve (do not use oil or grease) table 4 details of the Vaseline used by CMO Valves.

table 3

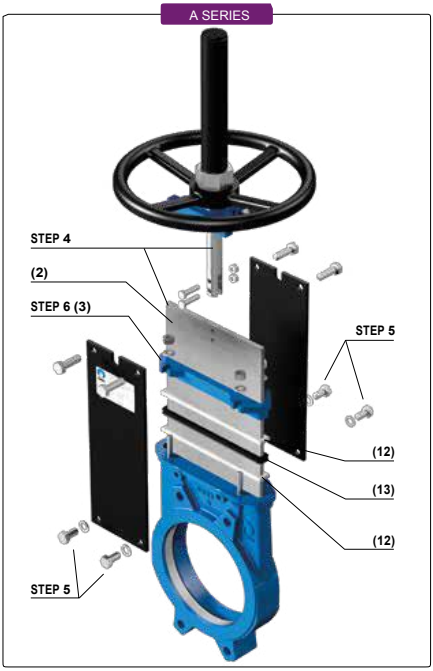
DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200
Length	190	250	290	370	445	530	690	845	1005	1175	1350	1520	1710	2020	2300	2680	3030	3367	3681	3995

table 4

Saybolt colour	ASTM D-156	15
Melting point (°C)	ASTM D-127	60
Viscosity at 100°C	ASTM D-1445	5
Penetration 25°C mm./ 10	ASTM D-1937	165
Silicone content	None	
Pharmacopoeia BP	OK	

REPLACING THE PACKING

1. Make sure there is absolutely no pressure and fluid in the installation.
2. Place the valve in open position.
3. If the valve has safety protections, remove them.
4. Loosen the screws that connect the stem or rod to the gate.
5. Release the connection between the support plates and the body.
6. Loosen and remove the stuffing (3).
7. Remove the old packing (12 and 13) using a pointed tool, taking care not to damage the surface of the gate. (2).
8. Carefully clean the packing, making sure there are no residues anywhere so the new packing strips fit correctly.
9. Insert the new packing (12 and 13). During this operation it is very important for both ends to be perfectly joined. The packing dimensions are shown below *(table 5)*. As standard, at CMO Valves.valve packing is composed of 3 lines (2 packing lines and 1 rubber seal line in the middle).
10. Place the stuffing in its original position (3) , making sure it does not touch the gate(2), carefully tighten all the screws crosswise and make sure the same distance is left between the gate (2) and the stuffing (3) on both sides.
11. Screw down the support plates and the stem, in reverse order to that described in steps (4 and 5).
12. Perform several manoeuvres with no load, checking the correct operation of the valve and ensuring the stuffing (3) is correctly centred.
13. Pressurise the valve in the line and tighten the stuffing (3)crosswise, enough to prevent leakages to the atmosphere.



If it is not possible to place a rubber joint in the middle, another packing line should be used instead (table 5).

table 5

DIAMETER	PACKING 2 LÍNEAS	RUBBER RING 1 LÍNEA
DN50	☐8 mm x 204 mm.	☐8 mm x 204 mm.
DN65	☐8 mm x 234 mm.	☐8 mm x 234 mm.
DN80	☐8 mm x 264 mm.	☐8 mm x 264 mm.
DN100	☐8 mm x 304 mm.	☐8 mm x 304 mm.
DN125	☐8 mm x 356 mm.	☐8 mm x 356 mm.
DN150	☐8 mm x 406 mm.	☐8 mm x 406 mm.
DN200	☐8 mm x 516 mm.	☐8 mm x 516 mm.
DN250	☐10 mm x 636 mm.	☐10 mm x 636 mm.
DN300	☐10 mm x 740 mm.	☐10 mm x 740 mm.
DN350	☐10 mm x 810 mm.	☐10 mm x 810 mm.
DN400	☐10 mm x 928 mm.	☐10 mm x 928 mm.
DN450	☐10 mm x 1028 mm.	☐10 mm x 1028 mm.
DN500	☐14 mm x 1144 mm.	☐14 mm x 1144 mm.
DN600	☐14 mm x 1346 mm.	☐14 mm x 1346 mm.

Installation/Maintenance

PACKING

Standard packing from CMO Valves comprises three lines with a specially designed EPDM seal in the middle which provides watertight integrity between the body and the gate, preventing any type of leakage to the atmosphere. It is located in an easily accessible place and can be replaced without dismantling the valve from the pipeline. Below we indicate various types of packing available according to the application in which the valve is located:

1. **SYNTHETIC + PTFE**
   This high performance packing is the standard from CMO Valves. This packing is composed of braided synthetic fibres soaked in PTFE both inside and out. It is for general use in hydraulic applications in both pumps and valves and in all types of fluids, especially corrosive ones, including concentrated and oxidising oils. It is also used in liquids with solid particles in suspension.

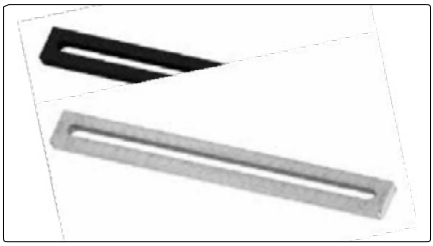
2. **GREASED COTTON**
   This packing is composed of braided cotton fibres soaked in grease both inside and out. It is for general use in hydraulic applications in both pumps and valves.

3. **DRY COTTON**
   This packing is composed of cotton fibres. It is for general use in applications with solids.

4. **COTTON + PTFE**
   This packing is composed of braided cotton fibres soaked in PTFE both inside and out. It is for general use in hydraulic applications in both pumps and valves.

5. **GRAPHITE**
   This packing for high temperatures is composed of high-purity graphite fibres. A diagonal braiding system is used and it is impregnated with graphite and lubricant which helps to reduce porosity and improve operation. It has a wide range of applications as graphite is resistant to steam, water, oils, solvents, alkali and most acids. It is also used in liquids with solid particles in suspension.

6. **CERAMIC FIBRE**
   This packing is composed of ceramic material fibres. Its main applications are with air or gas at high temperatures and low pressures.



SEATS/SEALS

MATERIAL	Max temp (C)	APPLICATIONS
Metal/Metal	>250	High temperature/Low tightness
EPDM (E)	90*	Non-mineral oils and acids.
Nitrile (N)	90*	Hydrocarbons, oils and greases
FPM (V)	200	Hydrocarbons and solvents
Silicone (S)	200	Food Products
PTFE (T)	250	Resistant to corrosion

PACKING

MATERIAL	P(Bar)	Max temp (C)	pH
Greased cotton	10	100	6-8
Dry cotton (AS)	0.5	100	6-8
Cotton + PTFE	30	120	6-8
Synthetic + PTFE	100	250	0-14
Graphite	40	650	0-14
Ceramic Fibre	0.3	1400	0-14

In some applications other types of resilient materials are used, such as hypalon, butile or natural rubber. Please contact us if you have such requirements.

GREASING

It is recommended to lubricate the stem at least twice a year by removing the cap from the bonnet and filling it with grease up to half its volume.

After maintenance in an ATEX zone, it is necessary to check the electrical continuity between the pipe and the rest of the valve's components, such as the body, gate, stem; standard EN 12266- 2, Annex B, points B.2.2.2. and B.2.3.1.

Accessories and options

Different types of accessories are available to adapt the valve to specific working conditions such as:

1. 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.

2. PTFE LINED GATE
   As with the mirror polished gate, it improves the valve's resistance to products that can stick to the gate.

3. STELLITED GATE:
   Stellite is added to the gate's lower edge to protect it from abrasion.

4. SCRAPER IN THE PACKING
   Its function is to clean the gate during the opening movement and prevent possible damage to the packing.

5. AIR INJECTION IN THE PACKING
   By injecting air in the packing, an air chamber is created which improves tightness.

6. JACKETED BODY:
   Recommended in applications in which the fluid can harden and solidify inside the valve body. An external jacket keeps the body temperature constant, preventing the fluid from solidifying.

7. ACTUATOR OR YOKE SUPPORT
   Made of EPOXY-coated steel (or stainless steel to order), its robust design gives it great rigidity in order to withstand the most adverse operation conditions.

8. MECHANICAL LIMIT SWITCHES, INDUCTIVE SENSORS AND POSITIONERS
   Limit switches or inductive switches are installed to indicate precise valve position, as well as positioners to indicate continuous position.

9. SOLENOID VALVES
   For air distribution to pneumatic actuators.

10. MECHANICAL LOCKING DEVICE
    Allows the valve to be mechanically locked in a position.

11. CONNECTION BOXES, WIRING AND PNEUMATIC PIPING
    Fully assembled units can be supplied with all the necessary accessories.

12. STROKE LIMITING MECHANICAL STOPS
    These allow the stroke to be mechanically adjusted, limiting the valve run.

13. EMERGENCY MANUAL ACTUATOR (HANDWHEEL/GEARS)
    Allows manual operation of the valve in the event of power or air failure.

14. FLUSHING HOLES IN THE BODY
    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.

Accessories and options

15. V-NOTCH AND PENTAGONAL DIAPHRAGM WITH INDICATION RULE
Recommended for applications in which flow regulation is required. Allows flow control according to the valve's opening percentage.

16. INTERCHANGEABLE ACTUATORS
The actuators are easily interchangeable.

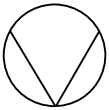
17. EPOXY COATING
All cast iron and carbon steel bodies and components on CMO Valves valves are EPOXY coated, giving the valves great resistance to corrosion and an excellent finish. The standard colour of CMO Valves is blue, RAL 5015.

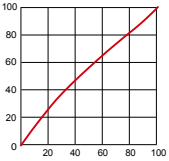
18. GATE SAFETY PROTECTION
In accordance with European Safety standards ("EC" marking) CMO Valves automatic valves are fitted with metal guards in the gate run in order to prevent objects from being accidentally caught or dragged along.

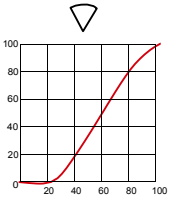
19. BONNET/LID
The bonnet provides total tightness to the outside, reducing the stuffing maintenance required.

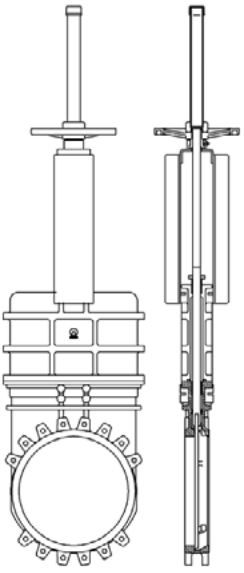
VERTICAL:
% MAXIMUM FLOW.

HORIZONTAL:
% OF VALVE OPENING.









TYPES OF EXTENSIONS

When the valve needs to be operated from a distance, the following different types of actuators can be fitted.

01

COLUMN/PEDSTAL

This extension is done by coupling a rod to the stem. The desired extension is achieved by defining the length of the rod. A floor stand is normally installed to support the actuator.

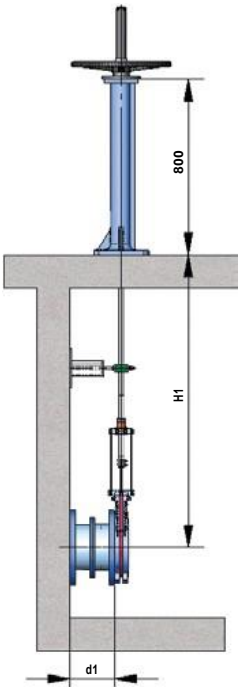
The definition variables are as follows:

- **H1** Distance from the valve's centre to the base of the stand.
- **d1** Separation from the wall to the end of the connecting flange.

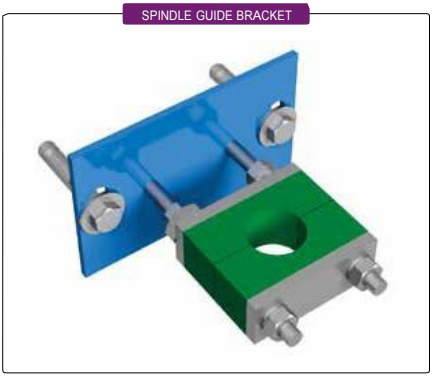
CHARACTERISTICS:

- It can be coupled to any type of actuator.
- A pipe support-guide is recommended every 1.5 m.
- The standard floor stand is 800 mm high
- Other floor stand measurements available on request.
- Position indicator can be fitted to determine the valve's percentage of opening.
- Leaning stand available to order

STANDARD COLUMN



SPINDLE GUIDE BRACKET

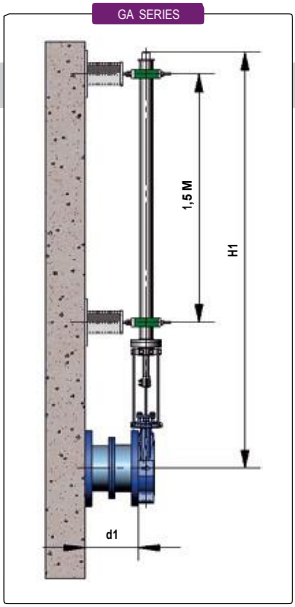


INCLINED COLUMN

COMPONENTS LIST

COMPONENT	STANDARD VERSION
Support	AISI 304
Guides	AISI 304
Support-Guide	AISI 304
Slide	® Nylon
Floor Stand	GJS-500 with EPOXY coating

Types of extensions



02

PIPE WITH INTERNAL SPINDLE

This consists of raising the actuator. The pipe will rotate in the same direction as the wheel when the valve is operated. It always remains at the same height.

The definition variables are as follows:

- **H1** Distance from the valve's centre to the base of the stand.
- **d1** Separation from the wall to the end of the connecting flange.

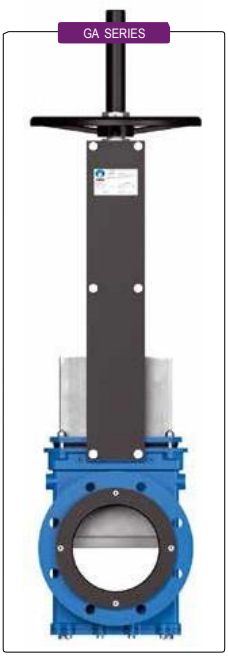
CHARACTERISTICS:

- Standard actuators: Handwheel and square stem.
- A pipe support-guide is recommended every 1.5 m.
- The standard materials are: EPOXY coated carbon steel and stainless steel.

03

EXTENDED SUPPORT PLATES

When a short extension is required, it can be achieved by extending the support plates.
An intermediate yoke can be fitted to reinforce the support plates structure.



04

CARDAN

If the valve and the actuator are not in correct alignment, the problem can be resolved by fitting a universal joint.

05

STEM

The valve stem from CMO Valves is manufactured in stainless steel AISI 304. This characteristic makes it highly resistant and provides excellent properties against corrosion. The valve design can be rising stem or non-rising stem. When a rising stem is required, a bonnet is supplied to protect the stem from contact with dust and dirt, besides keeping it greased.

06

ACCESSORIES

- Mechanical stoppers
- Locking devices
- Emergency manual actuators.
- Electrovalves
- Positioners
- Limit switches
- Proximity detectors...
- Straight floor stand
- Leaning floor stand

STRAIGHT COLUMN

INCLINED COLUMN

Stem extensions have also been developed, allowing the actuator to be located far away from the valve, to suit all needs.

Please ask our technicians beforehand.

07

TYPES OF EXTENSIONS

All types of actuators can be supplied, with the advantage that thanks to the design they are interchangeable. This design allows customers to change the actuators themselves and no extra assembly accessories are required. A design characteristic of CMO Valves is that all actuators are interchangeable.

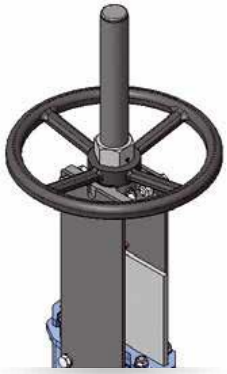
MANUALS:

- Handwheel with rising stem.
- Handwheel with non-rising stem.
- Chain handwheel
- Lever
- Geared motor
- Others (square stem...).

AUTOMATION:

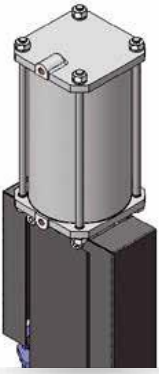
- Electric actuator
- D/E and S/E pneumatic cylinder.
- Hydraulic cylinder

Types of actuators and drives



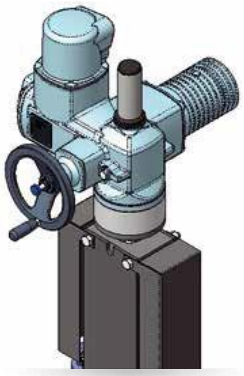
HANDWHEEL WITH RISING STEM

HANDWHEEL WITH NON-RISING STEM



PNEUMATIC ACTUATOR

DOUBLE AND SINGLE ACTING

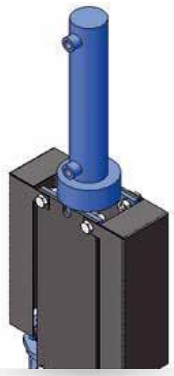


ELECTRIC-MOTOR ACTUATOR

MULTIPLE VOLTAGES

GEARED WHEEL

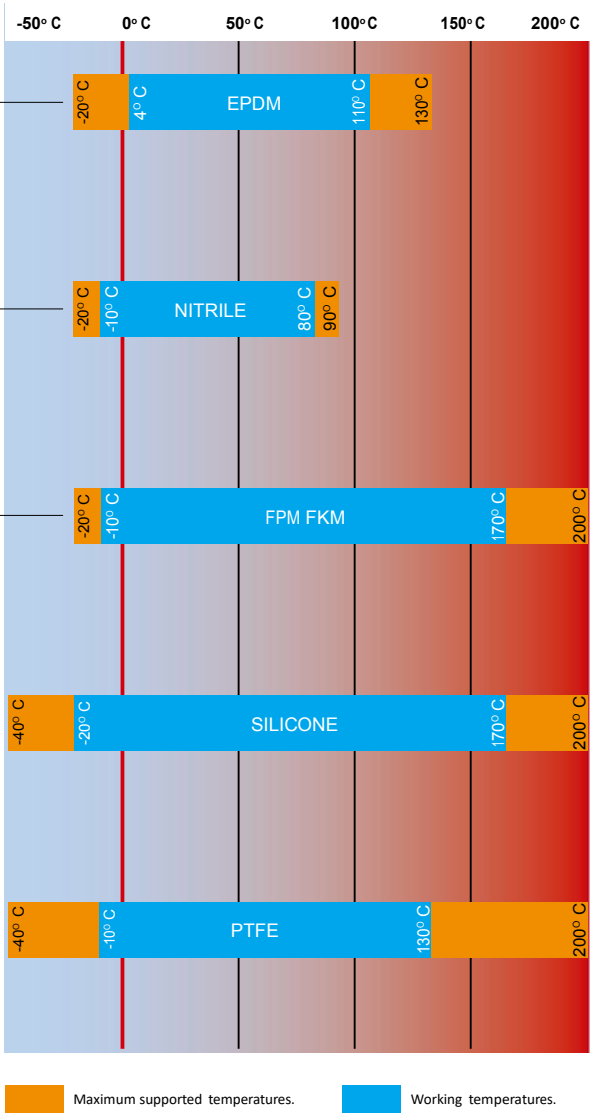
WITH RISING, NON-RISING STEM



HYDRAULIC ACTUATOR

150-170 bar

Seat materials temperature



EPDM

Cold or hot water, sea water, dry air without oil, alkalis, alcohols, sodium hydroxide, acids. (mineral and organic), acid salt.

NITRILE

Mineral oils, hydrocarbons, lubricated air.

FPM FKM

Acids, fats, hydrocarbons.

SILICONE

Food Industry, high temperatures.

PTFE

Highly corrosive products.

Pneumatic actuator maintenance

The pneumatic cylinders in our valves are manufactured and assembled at our premises. Maintenance for these cylinders is straightforward; if you need to replace any elements or have any questions please ask CMO Valves.

Below is an exploded diagram of the pneumatic actuator and a list of the cylinder's components. The top cover and the support cover are usually made of aluminium, although pneumatic cylinders over Ø200 mm are made of cast iron GJS-400.

The maintenance kit normally includes the bushing and its seals and the scraper, and if the customer wishes, the piston is also supplied.

The steps to follow to replace these parts are shown below.

1. Position the valve in closed position and shut off the pneumatic circuit pressure.
2. Release the cylinder air input connections.
3. Release and remove the top cover (5), the casing (4) the tie-rods (16).
4. Loosen the nut (14) which connects the piston (3) to the rod (1), remove the pieces. Disassemble the cir-clip (10) and remove the bushing (7) with its joints (8/ 9).
5. Release and remove the mount cover (2), in order to remove the scraper (6).
6. Replace the damaged parts with new ones and assemble the actuator in reverse order to that described for disassembly.

figure 8

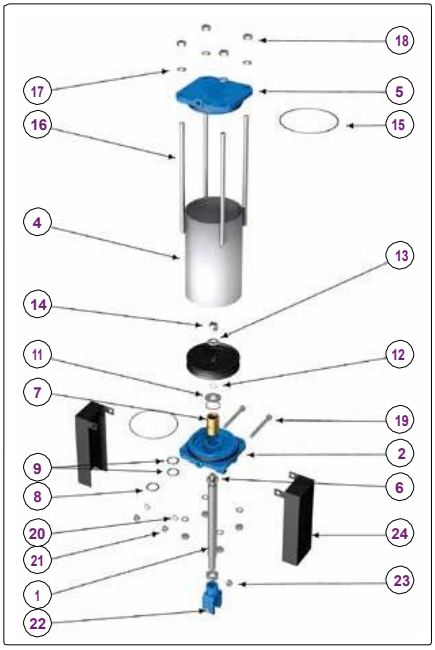


table 6

	DESCRIPTION	MATERIAL
1	STEM	AISI-304
2	MOUNT COVER	ALUMINUM/GJS
3	PISTON	S275JR + EPDM
4	CASING	ALUMINIUM
5	TOP COVER	ALUMINUM/GJS
6	SCRAPER	NITRILE
7	BUSHING	NYLON
8	EXTERIOR O-RING	NITRILE
9	INTERIOR O-RING	NITRILE
10	CIR-CLIP	STEEL
11	WASHER	ST ZINC
12	O-RING	NITRILE
13	WASHER	ST ZINC
14	SELF-LOCKING NUT	5.6 ZINC
15	O-RING	NITRILE
16	TIE-BOLTS	F-114 ZINC
17	WASHER	ST ZINC
18	NUT	5.6 ZINC
19	BOLT	5.6 ZINC
20	WASHER	ST ZINC
21	NUT	5.6 ZINC
22	BOLT	A-2
23	SELF-LOCKING NUT	A-2
24	PROTECTION	S275JR

Storage

To ensure the valve is in optimum conditions of use after long periods of storage, it should be stored in a well-ventilated place at temperatures below 30°C.

It is not advisable, but, if it is stored outside, the valve must be covered to protect it from heat and direct sunlight, with good ventilation to prevent humidity.

The following aspects must be considered for storage purposes:

- The storage place must be dry and undercover.
- It is not recommended to store the equipment outdoors with direct exposure to adverse weather conditions, such as rain, wind... Even less so if the equipment is not protected with packaging.
- This recommendation is even more important in areas with high humidity and saline environments. Wind can carry dust and particles which can come into contact with the valve's mobile parts and this can lead to operating difficulties. The drive system can also be damaged due to the introduction of particles in the different elements.
- The equipment must be stored on a flat surface to avoid loss of shape.
- If the equipment is stored without suitable packaging it is important to keep the valve's mobile parts lubricated, for this reason it is recommended to carry out regular checks and lubrication.
- Likewise, if there are any machined surfaces without surface protection, it is important for some form of protection to be applied to prevent the appearance of corrosion.

General dimensions of pneumatic cylinders CMO VALVES

DIMENSIONS

Ø CYLINDER	Ø STEM	AIR CONNECTION (BSP)
80	20	1/4"
100	20	1/4"
125	25	1/4"
160	30	1/4"
200	30	3/8"
250	40	3/8"
300	45	1/2"
350	45	1/2"
400	50	1/2"
450	50	3/4"
500	50	3/4"
635	70	1"

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