



Product brochure
GOLD centric butterfly valves

BELGICAST RANGE



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Irrigation



Dams and
hydro power



Industrial
water
applications

CENTRIC BUTTERFLY VALVES

BELGICAST RANGE

GOLD

The centric butterfly valve « GOLD range » is the basic solution for bidirectional isolation functions by means of a butterfly valve. It is the perfect choice for installation between two piping flanges, or at the end of pipelines. Due to its extremely short face-to-face dimension, the valve is very compact. Therefore, it allows also the surrounding buildings to be dimensioned very compact and cost-effective. As the valve body is fully covered with a rubber sealing, this valve type can be used in many applications by just adapting the disc coating or material to the application requirements without any huge special effort. The valve is suitable for bidirectional use and is tight in both directions.



MARKETS



Water
treatment



Water
transmission



Desalination



Water
distribution
network



Industrial
water
applications



Irrigation

TECHNICAL DATA

Design acc. to EN593 and EN 1074-2

Face-to-face dimension
acc. to EN558 series 20

Nominal Diameter (DN):
DN32 to 1800 (according
to body design)

Nominal Pressure (PN):
PN10 to PN16

Medium Temperature: Standard
up to 50°C (other possibility
according to disc and liner
material)

ADVANTAGES

COMPACT

Compact and cost-efficient solution that allows economic layout of valve environment.

VERSATILE

Modular design allows easy adaption of valve to application requirements.

PROVEN DESIGN

Reliable European product successfully installed worldwide.

FEATURES

└ **Corrosion protection** ensured by valve body fully covered by rubber liner and appropriate disc coating or material.

└ **Flange gaskets incorporated** in liner. No additional flange gaskets required.

└ **Flexible installation** – Valve can be installed between two piping flanges or at the end of pipeline with or without counter flange (see installation instructions), both installation directions are possible.

└ **Automation** – Standard ISO 5211 connection flange allows use of all different kinds of actuators.

└ **Replaceable rubber liner.**

└ **Wide variety of applications** including drinking water and industrial applications, due to the wide variety of high-grade materials for the liner and disc.

└ **Low operating torques.**

└ **Long service life.**

└ **Easy maintenance** with low costs.

└ **Class tightness Rate A** according to EN 12266-1 ("0 drops").

└ **Different options** for operating devices.

3 BODIES TO SOLVE YOUR CONSTRAINTS OF INSTALLATION



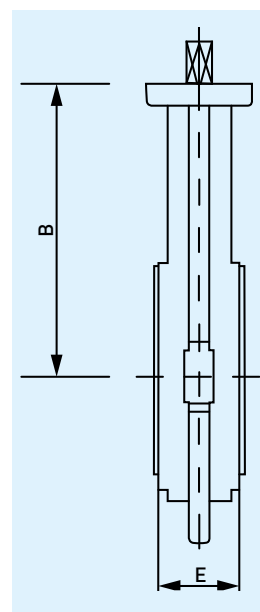
WAFER TYPE



LUG TYPE



**DOUBLE
FLANGE TYPE**



DN	E (mm)	B (mm)	MAX WEIGHT* (kg)			LUG										WAFER						DOUBLE FLANGE		
			Lug	Wafer	Flanged	EN1092 -PN6	EN1092 -PN10	EN1092 -PN16	ANSI-150	BS Table D	BS Table E	JIS 5K	JIS 10K	EN1092 -PN6	EN1092 -PN10	EN1092 -PN16	ANSI-150	BS Table D	BS Table E	JIS 5K	JIS 10K	EN1092 -PN10	EN1092 -PN16	ANSI-150
32	33	125	1,75	1,2		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
40	33	125	1,84	1,52		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
50	43	140	2,5	2,14		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
65	46	156	3,62	2,98		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
80	46	161	5,39	3,2		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
100	52	181	7,73	4,49		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
125	56	195	9,96	7,6		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
150	56	210	10,97	8,8		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
200	60	237	17,88	12,5		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
250	68	262	27,2	20,34	30	●	●	●	●	●	●	●	●		●	●	●	●	●		●	●	●	●
300	78	300	39,1	31,1	40	●	●	●	●	●	●				●	●	●	●	●		●	●	●	●
350	78	340		45	50										●	●	●	●	●		●	●	●	●
400	102	360		65	71										●	●	●	●	●		●	●	●	●
450	114	390		95	110										●	●	●	●	●		●	●	●	●
500	127	420		125	150										●	●	●	●	●		●	●	●	●
600	154	495		185	225										●	●	●	●	●		●	●	●	●
700	165	575		300	370										●	●	●	●	●		●	●	●	●
800	190	620			510																●	●	●	●
900	203	690			650																●	●	●	●
1000	216	750			835																●	●	●	●
1100	216	795			900																●	●	●	●
1200	254	865			1070																●	●	●	●
1400	279	980			1280																●	●	●	●
1600	318	1090			2100																●	●	●	●
1800	356	1290			-																●	●	●	●

● : same product.

(*) : maximum weight of the valve free shaft without actuating device, can be lighter depending on flange compatibility.

FEATURES AND BENEFITS



PERFECT CLOSING SYSTEM

The central element of the butterfly valve is the aerodynamically designed valve disc, which is machined spherically. It is mounted centrally in the body in maintenance-free bushings and closes against a single-piece keyed liner, which is firmly anchored in the body thanks to the shape of the internal part of the liner. This way, it seals the complete valve passage resulting in a completely tight seal in both directions of flow.



PROTECTED SHAFT

The design ensures that only the valve disc and liner come into contact with the medium. In contrast, the shaft, which is positively connected with the valve disc, is completely protected. The end of the shaft has involute gearing or a special shape, according to the diameter of the valve, which always guarantees reliable torque transmission without play.



EASY MAINTENANCE

In case it's needed, the liner can be easily replaced at any time. The centring marking helps perform this operation. The disc and the liner can be easily replaced, which reduces maintenance costs, since all the work can be done directly at the set-up location.

ADAPTABILITY TO DIFFERENT APPLICATIONS

Only the disc and the liner are in contact with the fluid, so just by choosing the right materials for these two elements, the valve can be used for different applications, starting with drinking water and finishing with industrial mediums. TALIS offers a wide variety of materials for liner and disc

LINER MATERIAL	ISO	CHEMICAL NAME	APPLICATION EXEMPLE	WORKING TEMP.
EPDM	EPDM	Ethylene-Propylene Terpolymer	Water, weak mineral acids and basis, water ketones, esters	-10° +80°
EPDM-HT			High temperature	-10° +130°
			Normative FDA	-20° +130°
NITRILE	NBR	Acrylonitrile-Butadiene Copolymer	Oils, Greases, Fuel, Gas oil, CO ₂ , CO, H ₂	-10° +80°
HYPALON	CSM	Chlorosulfonated Polyethylene	Moderate resistance to oil, greases and weak acids	-20° +120°
VITON	FPM	Hexafluoropropylene vinylidene fluoridene copolymer	Best chemical resistance	-15° +200°
		HFP-VDF-TFE terpolymer	Oxygenated Gasoline	-5° +70°
NATURAL	NR	1,4 cis / Polyisoprene	Very good abrasion resistance	-5° +70°
SILICONE	MVQ	Poly methyl vinyl siloxane	Highest and lowest temperature resistance	-60° +200°
STEAM SILICONE			Steam water	-60° +140°

Orientation information provided by rubber suppliers.

Final performance on the rubber will depend on media composition.

NUMEROUS COMBINATIONS TO COVER ALL YOUR APPLICATIONS

OPERATING SYSTEM

- └ Lever
- └ Gear box 1/4 tour
- └ Slider crank gearbox (skg)
- └ Double acting pneumatic actuator
- └ Double acting pneumatic actuator (manual emergency)
- └ Single acting pneumatic actuator
- └ Single acting pneumatic actuator (manual emergency)
- └ Electric actuator 1/4 turn
- └ Elect. Actuator multi-turn + gear box

ACTUATOR OPTIONS

- └ Positions indicator
- └ Position indicator « Namur »
- └ Positioner
- └ Chainwheel
- └ Extensions
- └ Solenoid valve

SHAFT

- └ AISI 420
- └ AISI 316
- └ AISI 316L
- └ Duplex

DISC MATERIAL

- └ GJS 400-15 + epoxy
- └ GJS 400-15 + Halar® coating
- └ CF 8M (AISI 316)
- └ CF 8M (AISI 316) polished
- └ CF 3M (AISI 316 L)
- └ Duplex ASTM A 890 Gr 5A / 6A
- └ Others upon request.

LINER MATERIAL

- └ EPDM
- └ EPDM (Heat temperature)
- └ NBR
- └ NBR carboxilic
- └ FPM (VITON®)
- └ SILICON
- └ Steam SILICON

INSTALLATION

- └ EN 1092 PN6/10/16,
- └ ANSI-150,
- └ BS Table E/D,
- └ JIS 5K/10K



QUALITY & TESTING



VALVE TESTING ACCORDING TO EN 12266-1 ; EN1074 («0» DROPS)

100% of BELGICAST centric butterfly valves are subjected to HIDROSTATIC test and to TIGHTNESS test.

Moreover, BELGICAST centric butterfly valves are also subjected to a PNEUMATIC testing of the disc.

HYDROSTATIC TEST

The butterfly valve with the disc open will be subjected to pressurization with water at 1.5 times the working pressure. The different pressures and the duration of the test will be as shown in the tables I and II.

Before subjecting the valve to pressurization the air must be purged from its interior. The pressure must be maintained throughout the execution of the test.

Table I – PRESSURE FOR HYDROSTATIC TEST OF CASING

	PN-1	PN-3	PN-6	PN-10	PN-16	ANSI-150*
BAR	1,5	4,5	9	15	24	24
PSI	22	64	128	213	342	342

(*)The maximum pressure in ANSI-150 valves will be equal to those indicated for PN-16..

Table II – DURATION OF HYDROSTATIC TEST

DN OF VALVES	EN12266-1 (SECONDS)	API 598 (SECONDS)
UP TO DN-50	15	15
DN-65 TO DN-150	60	60
DN-200 TO DN-300	120	120
DN-350 AND ABOVE	300	300



TIGHTNESS TEST

The test will be performed by subjecting the butterfly valve to pressurization with water, with the disc closed, at 1.1 times the service pressure, as indicated in the tables III and IV.

Before subjecting the valve to pressurization, all the air in its interior must be purged. The pressure must be maintained throughout the execution of the test.

Table III – PRESSURE FOR TIGHTNESS TESTING

	PN-1	PN-3	PN-6	PN-10	PN-16	ANSI-150*
BAR	1,1	3,3	6,6	11	17,6	17,6
PSI	16	47	94	157	250	250

(*)The maximum pressure in ANSI-150 valves will be equal to those indicated for PN-16.



Table IV – DURATION OF TIGHTNESS TESTING	
DN OF VALVES	EN 1266-1 (SECONDS)
UP TO DN-50	15
DN-65 TO DN-150	60
DN-200 TO DN-300	120
DN-350 AND ABOVE	300



TALIS GUARANTEES THE HIGH QUALITY OF THIS **EUROPEAN PRODUCT RANGE**, MANUFACTURED ACCORDING TO THE HIGHEST REQUIREMENTS.

APPROVALS

A cutting-edge traceability system applied from the reception of raw material to product supply, together with an exhaustive control of processes, guarantees the top quality of our products.

BELGICAST centric butterfly valves are suitable for potable water and they are approved by the most prestigious organisations all over the world.



EUROPEAN DIRECTIVE

European directive 2014/68/EU (PED) must be respected in all the countries of the European Union for all equipment under pressure. Valves which are subjected to this European directive are the object of a «CE» marking and also a CE declaration of conformity.



Are excluded from the scope of this directive the networks for the supply, distribution and discharge of water and associated equipment and headraces such as penstocks, pressure tunnels, pressure shafts for hydroelectric installations and their related specific accessories. In this context:

- └ “water” means: potable water, waste water and effluent, and sewage,
- └ “Networks and associated equipment” means: complete systems for the supply distribution and discharge of water. They extend up to the point of use in buildings, industrial sites and plants, and include equipment closely related to these networks such as water meter and line valves. Pressure vessels, such as expansion vessels, however are not considered to be part of such ‘networks and associated equipment’ and are therefore not excluded.

MATERIALS & DIMENSIONS



LUG TYPE -ART.21-(BV-05-2CL) DN32-300



DN32-200

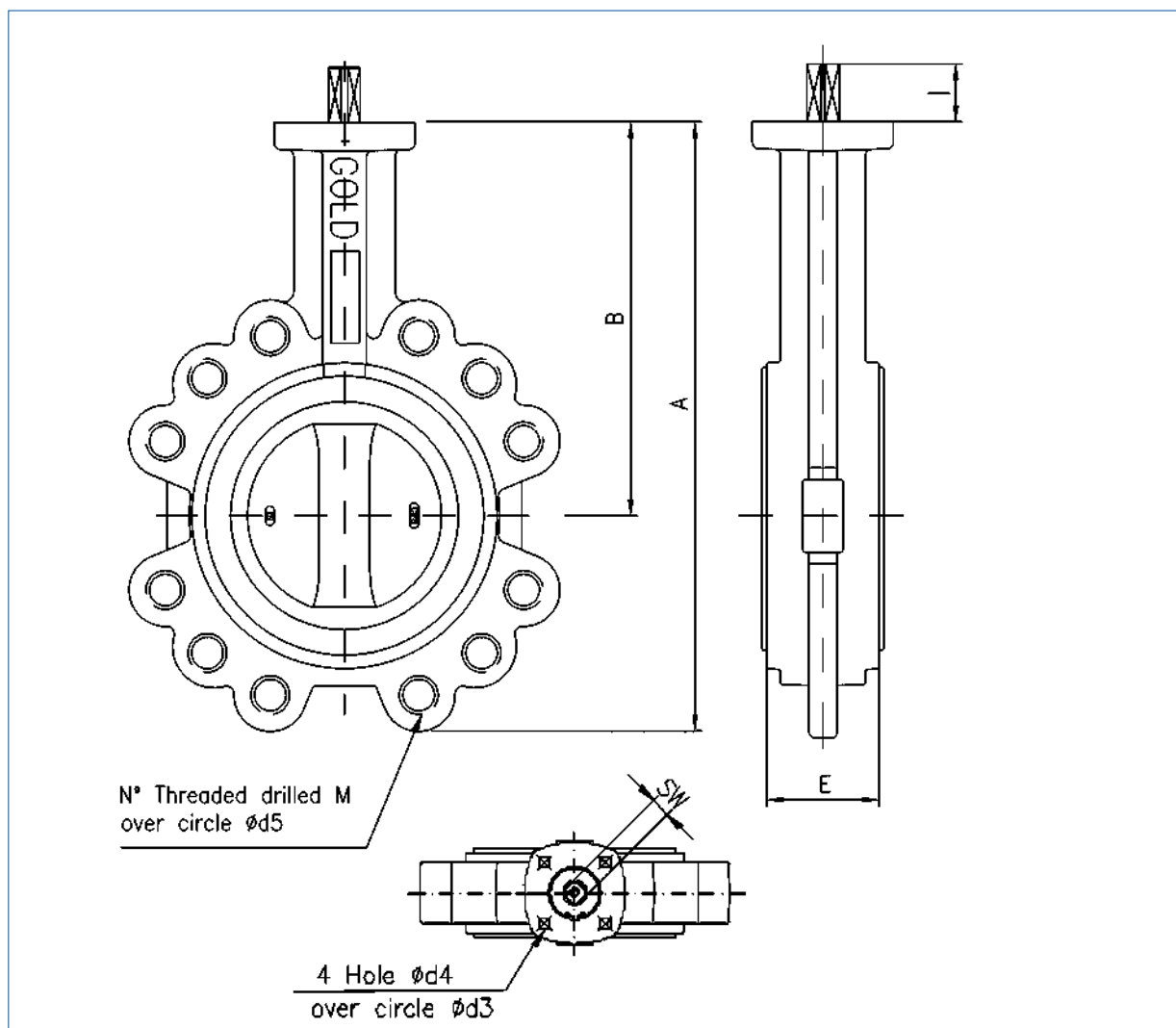
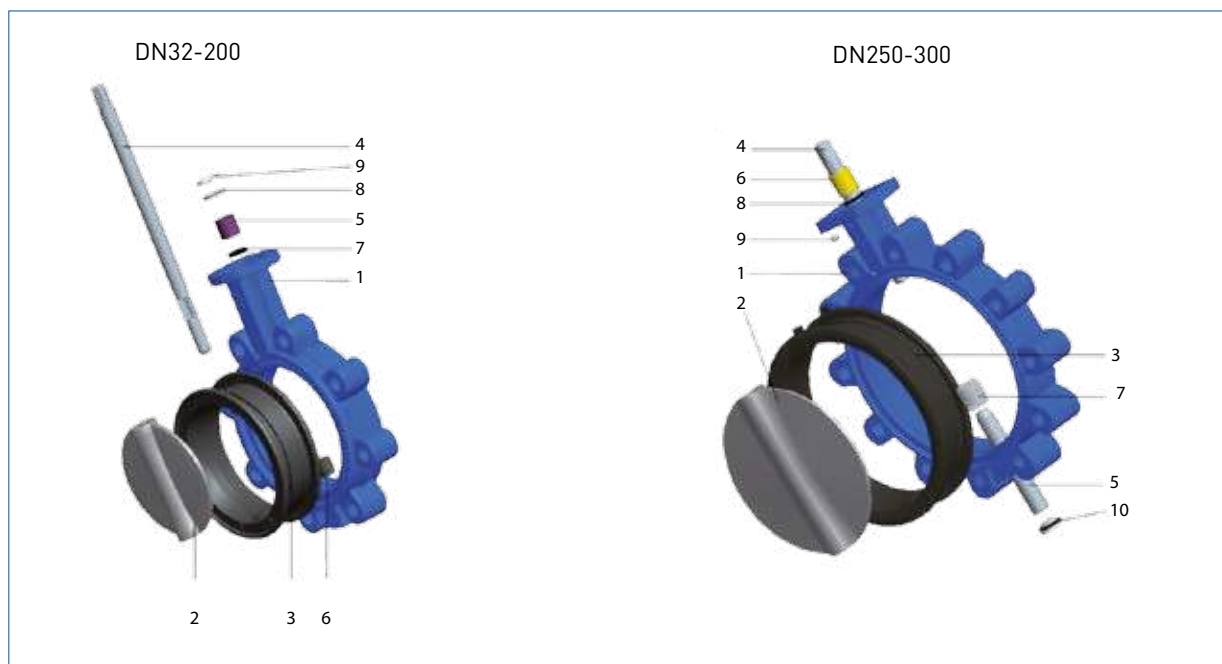
Item	Description	Standard material
1	Body	GGG-40
2	Disc	GGG-40 / CF8M
3	Liner	EPDM / NBR
4	Shaft	AISI-420
5	Upper bearing	Teflon
6	Lower bearing	Steel + PTFE
7	O-ring	NBR
8	Washer	Steel
9	Circlip	Steel

DN250-300

Item	Description	Standard material
1	Body	GGG-40
2	Disc	GGG-40 / CF8M
3	Liner	EPDM / NBR
4	Upper shaft	AISI-420
5	Lower shaft	AISI-420
6	Upper bearing	Teflon
7	Lower bearing	Steel + PTFE
8	O-ring	NBR
9	Locating screw	Steel
10	Plug	Steel

DN	A	B	E	I	SW	TOP FLANGE			ISO PN10			ISO PN16			Weight (Kg)
						d3	d4	ISO 5211	d5	M	n°	d5	M	n°	
32	181	125	33	22	11	50	6,5	F05	100	M16	4	100	M16	4	1,75
40	181	125	33	22	11	50	6,5	F05	110	M16	4	110	M16	4	1,84
50	202	140	43	22	11	50	6,5	F05	125	M16	4	125	M16	4	2,5
65	225	156	46	21	11	50	6,5	F05	145	M16	4	145	M16	4	3,62
80	253	161	46	21	11	50	6,5	F05	160	M16	8	160	M16	8	5,39
100	288	181	52	21	11	50	6,5	F05	180	M16	8	180	M16	8	7,73
125	310	195	56	20	14	70	8,5	F07	210	M16	8	210	M16	8	9,96
150	340	210	56	22	14	70	8,5	F07	240	M20	8	240	M20	8	10,97
200	394	237	60	22	17	70	8,5	F07	295	M20	8	295	M20	12	17,88
250	464	262	68	28	22	102	11	F10	350	M20	12	355	M24	12	27,2
300	540	300	78	28	22	125	14	F12	400	M20	12	410	M24	12	39,1

Installation between flanges according to EN 1092 PN10/16
 Installation according to PN-6, ANSI-150, BS Table E/D, JIS-5K/10K upon request



MATERIALS & DIMENSIONS

WAFER TYPE - ART. 20 - (BV-05-02W) DN32-300



DN32-200

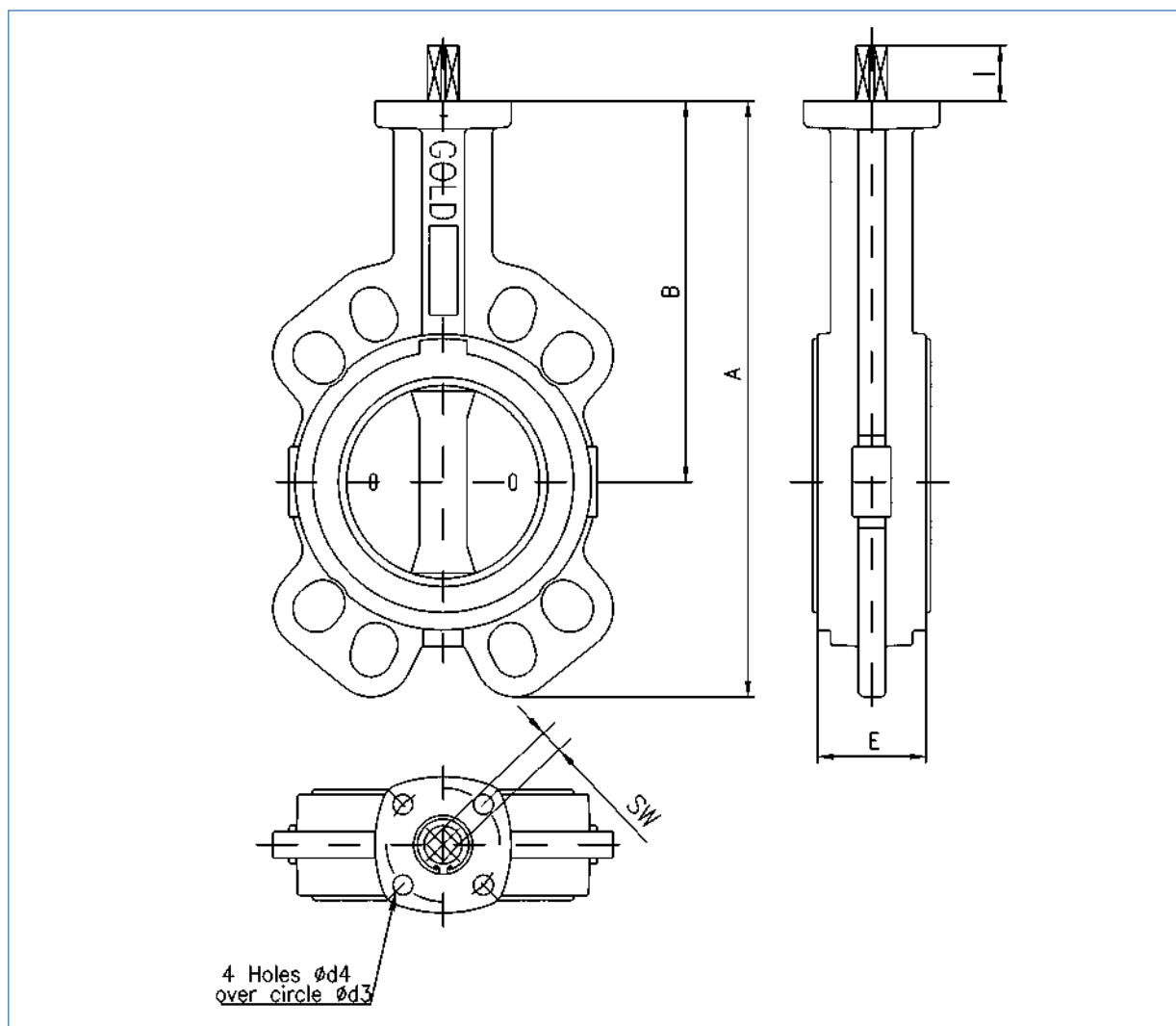
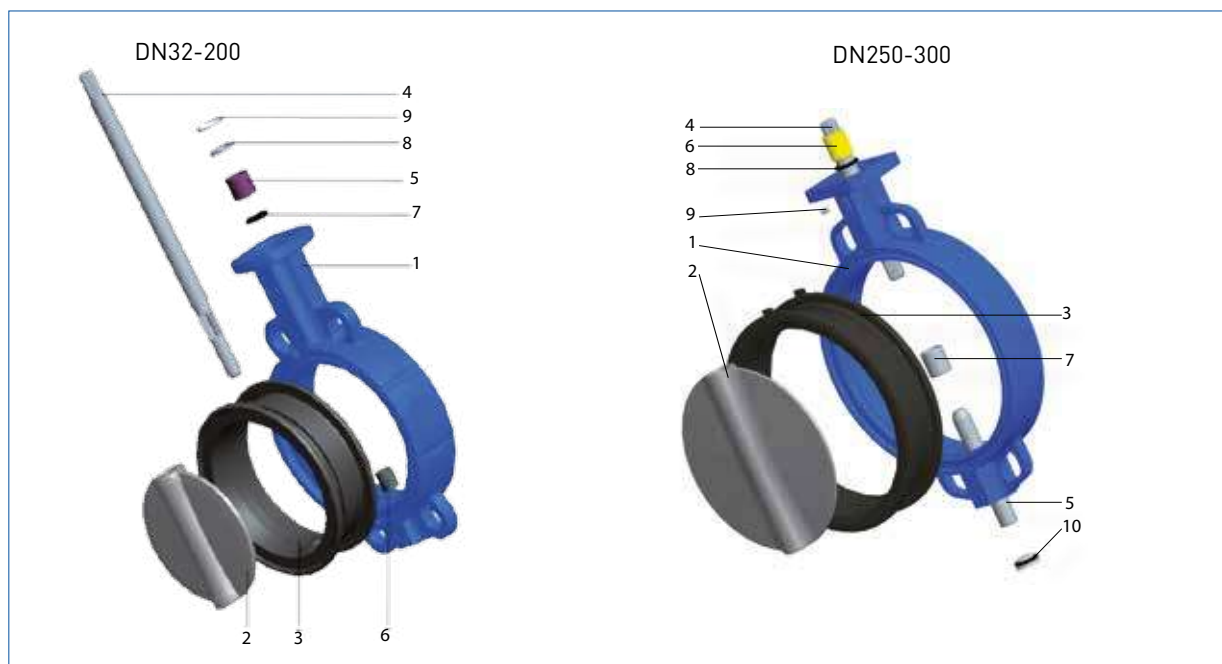
Item	Description	Standard material
1	Body	GGG-40
2	Disc	GGG-40 / CF8M
3	Liner	EPDM / NBR
4	Shaft	AISI-420
5	Upper bearing	Teflon
6	Lower bearing	Steel + PTFE
7	O-ring	NBR
8	Washer	Steel
9	Circlip	Steel

DN250-300

Item	Description	Standard material
1	Body	GGG-40
2	Disc	GGG-40 / CF8M
3	Liner	EPDM / NBR
4	Upper shaft	AISI-420
5	Lower shaft	AISI-420
6	Upper bearing	Bronze B-62
7	Lower bearing	Steel + PTFE
8	O-ring	NBR
9	Locating screw	Steel
10	Plug	Steel

DN	A	B	E	I	SW	TOP FLANGE			Weight (Kg)
						d 3	d4	ISO 5211	
32	181	125	33	22	11	50	6,5	F05	1,20
40	181	125	33	22	11	50	6,5	F05	1,52
50	202	140	43	22	11	50	6,5	F05	2,14
65	225	156	46	21	11	50	6,5	F05	2,98
80	253	161	46	21	11	50	6,5	F05	3,20
100	288	181	52	21	11	50	6,5	F05	4,49
125	310	195	56	20	14	70	8,5	F07	7,60
150	340	210	56	22	14	70	8,5	F07	8,80
200	394	237	60	22	17	70	8,5	F07	12,50
250	464	262	68	28	22	102	11	F10	20,34
300	540	300	78	28	22	125	14	F12	31,10

Installation between flanges according to EN 1092 PN10/16
Installation according to PN-6, ANSI-150, BS Table E/D



MATERIALS & DIMENSIONS

WAFER TYPE - ART. 20 - (BV-05-02W) DN350-700



DN350-400

Item	Description	Standard material
1	Body	GGG40
2	Disc	GGG40 / CF8M
3	Liner	EPDM / NBR
4	Upper Shaft	STEEL AISI-420
5	Lower Shaft	STEEL AISI-420
6	Upper Bearing	BRONZE B-62
7	Disc Bearing	BRONZE B-62
8	O-Ring	NBR
9	Locating Screw	STEEL
10	Plug	STEEL
11	Intermediate Bearing	BRONZE B-62

DN450-600

Item	Description	Standard material
1	Body	GGG40
2	Disc	GGG40 / CF8M
3	Liner	EPDM / NBR
4	Upper Shaft	STEEL AISI-420
5	Lower Shaft	STEEL AISI-420
6	Upper Bearing	BRONZE B-62
7	Disc Bearing	BRONZE B-62
8	O-Ring	NBR
9	Locating Screw	STEEL
11	Intermediate Bearing	BRONZE B-62
12	O-Ring	NBR
13	Lower Bonnet	STEEL
14	Bolting	STEEL

DN700

Item	Description	Standard material
1	Body	GGG-40
2	Disc	GGG-40 / CF8M
3	Liner	EPDM / NBR
4	Upper Stem	AISI-420
5	Lower Stem	AISI-420
6	Upper Bonnet	STEEL F-114
7	Lower Bonnet	STEEL F-114
8	Bearing	STEEL+PTFE
9	Cotter	STEEL
10	Plug Stem	STEEL

DN	A	B	E	I	SW	Cotter		TOP FLANGE			
						a	b	K	d3	d4	ISO 5211
350	620	340	78	27	27	-	-	150	125	14	F-12
400	662	360	102	27	27	-	-	150	125	14	F-12
450	736	390	114	36	36	-	-	175	140	18	F-14
500	790	420	127	36	36	-	-	175	140	18	F-14
600	960	495	154	46	46	-	-	210	165	22	F-16
700	1110	575	165	90	80	22	7	300	254	18	F-25

DN	PN-10			Weight (Kg)
	d5	M	Nº	
350	-	-	4	45
400	-	-	4	65
450	565	M-24	4	82
500	620	M-24	4	110
600	725	M-27	4	165
700	840	M-27	4	300

DN	PN-16			Weight (Kg)
	d5	M	Nº	
350	-	-	4	45
400	-	-	4	65
450	585	M-27	4	95
500	650	M-30	4	125
600	770	M-33	4	185
700	840	M-33	4	300

DN	ANSI-150			Weight (Kg)
	d5	M	Nº	
350	-	-	4	45
400	-	-	4	65
450	578	1-1/8"	4	95
500	635	1-1/8"	4	125
600	749	1-1/4"	4	185
700	863	1-1/4"	4	300

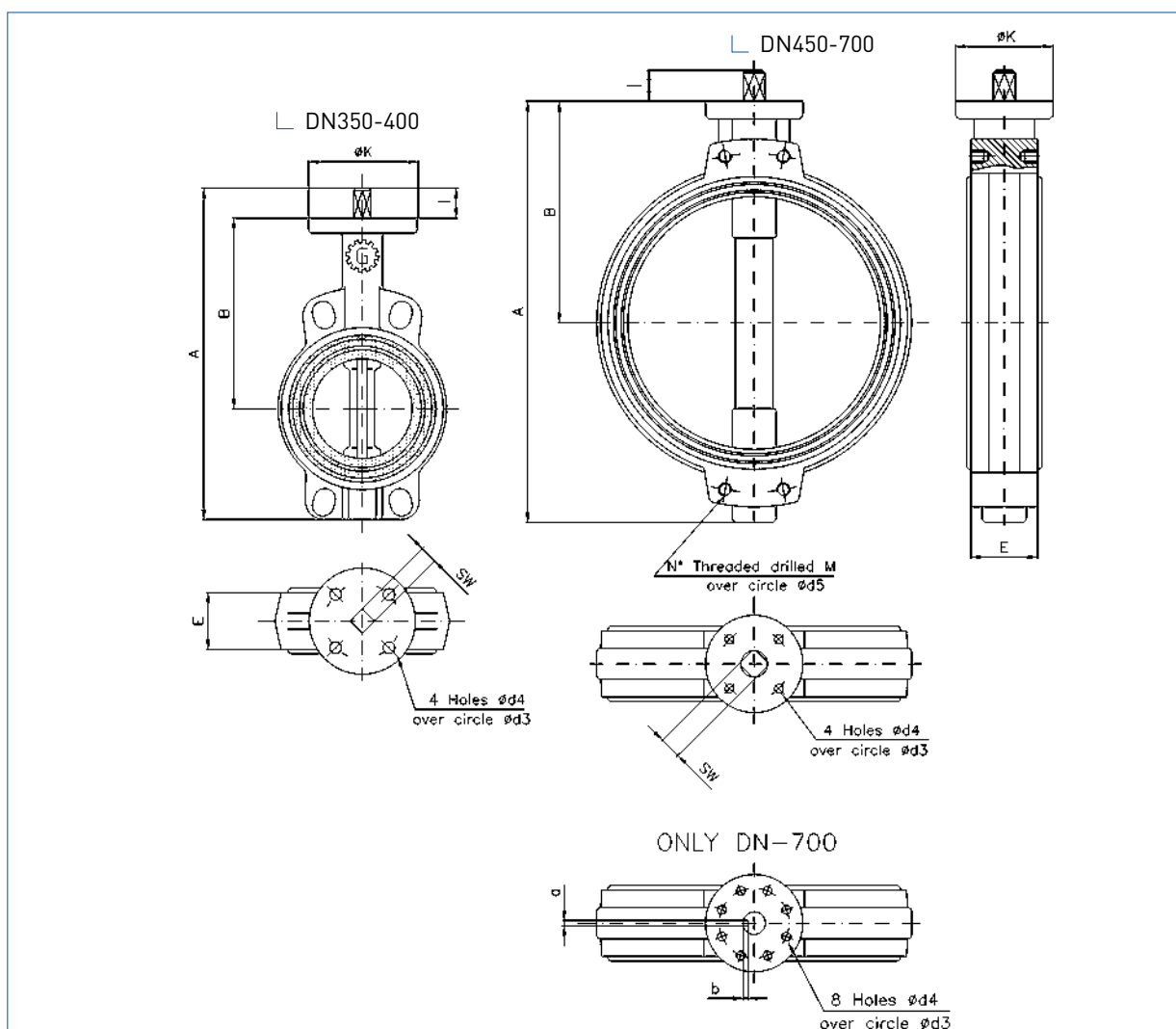
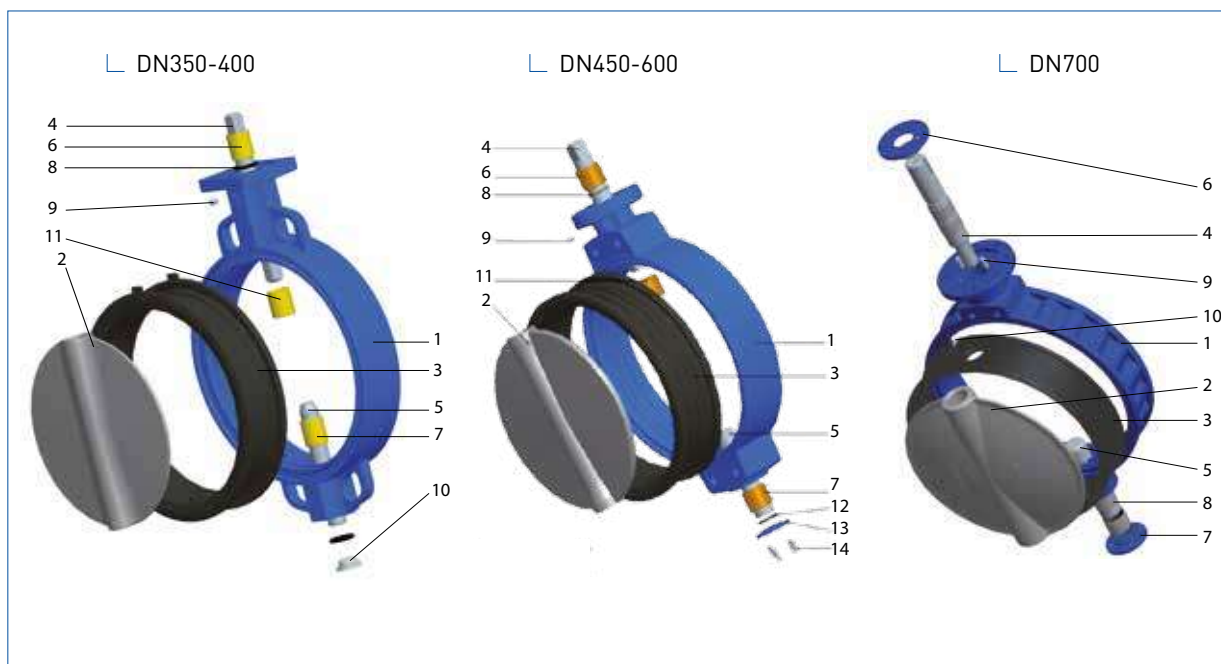


CHRYSSAFIDIS

MATERIALS & DIMENSIONS

WAFER TYPE - ART. 20 - (BV-05-02W) DN350-700

Installation between flanges according to EN 1092 PN10/16, ANSI-150



MATERIALS & DIMENSIONS

FLANGED TYPE - ART. 12 - (BV-05-02F) DN250-600

└ DN250-300

Item	Description	Standard material
1	Body	GGG40
2	Disc	GGG40 / CF8M
3	Liner	EPDM / NBR
4	Upper Shaft	STEEL AISI-420
5	Lower Shaft	STEEL AISI-420
6	Upper Bearing	BRONZE B-62
7	Disc Bearing	STEEL+PTFE
8	O-Ring	NBR
9	Locating Screw	STEEL
10	Plug	STEEL

└ DN350-400

Item	Description	Standard material
1	Body	GGG40
2	Disc	GGG40 / CF8M
3	Liner	EPDM / NBR
4	Upper Shaft	STEEL AISI-420
5	Lower Shaft	STEEL AISI-420
6	Upper Bearing	BRONZE B-62
7	Disc Bearing	BRONZE B-62
8	O-Ring	NBR
9	Locating Screw	STEEL
10	Plug	STEEL
11	Intermediate Bearing	BRONZE B-62

└ DN450-600

Item	Description	Standard material
1	Body	GGG40
2	Disc	GGG40 / CF8M
3	Liner	EPDM / NBR
4	Upper Shaft	STEEL AISI-420
5	Lower Shaft	STEEL AISI-420
6	Upper Bearing	BRONZE B-62
7	Disc Bearing	BRONZE B-62
8	O-Ring	NBR
9	Locating Screw	STEEL
10	Bolting	STEEL
11	Intermediate Bearing	BRONZE B-62
12	O-Ring	NBR
13	Lower Bonnet	STEEL



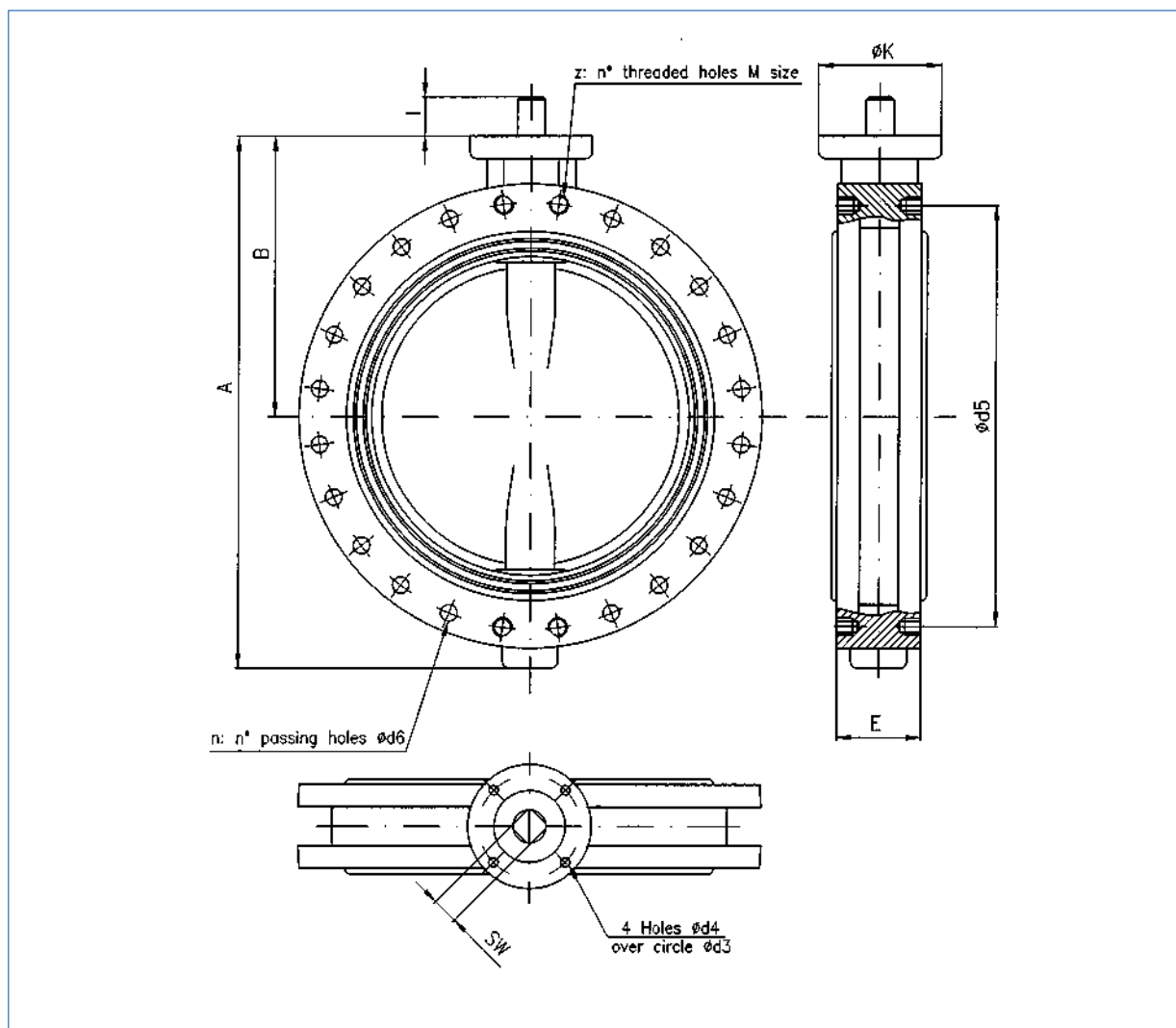
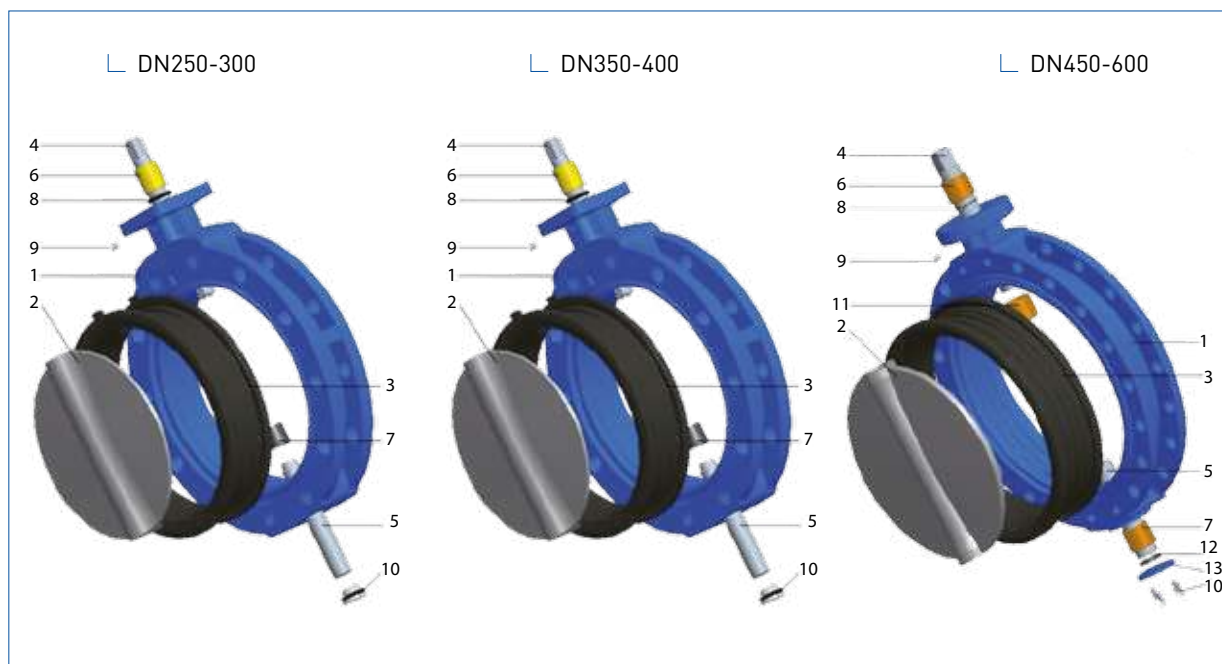
DN	A	B	E	I	SW	TOP FLANGE			
						K	d3	d4	ISO 5211
250	465	262	68	28	22	135	102	12	F-10
300	540	300	78	25	22	150	125	14	F-12
350	620	340	78	27	27	150	125	14	F-12
400	662	360	102	27	27	150	125	14	F-12
450	736	390	114	36	36	175	140	18	F-14
500	790	420	127	36	36	175	140	18	F-14
600	960	495	154	46	46	210	165	22	F-16

DN	PN-10				Weight (Kg)
	d5	n+z	d6	M	
250	350	12	23	-	30
300	400	8+4	23	M-20	40
350	460	12+4	23	M-20	50
400	515	12+4	27	M-24	71
450	565	16+4	27	M-24	90
500	620	16+4	27	M-24	115
600	725	16+4	30	M-27	185

DN	PN-16				Weight (Kg)
	d5	n+z	d6	M	
250	355	12	28	-	30
300	410	8+4	27	M-24	40
350	470	12+4	27	M-24	50
400	525	12+4	30	M-27	71
450	585	16+4	30	M-27	110
500	650	16+4	33	M-30	150
600	770	16+4	36	M-33	225

DN	ANSI-150				Weight (Kg)
	d5	n+z	d6	M	
250	361.9	12	26	-	30
300	431.8	8+4	26	7/8"	40
350	476.3	8+4	30	1"	50
400	540	12+4	30	1"	71
450	578	12+4	32	1 1/8"	110
500	635	16+4	32	1 1/8"	150
600	749	16+4	35	1 1/4"	225

Installation between flanges according to EN 1092 PN10/16, ANSI-150



MATERIALS & DIMENSIONS

FLANGED TYPE - ART. 12 - (BV-05-02F) DN700-1800

DN700-1200

Item	Description	Standard material
1	Body	GGG-40
2	Disc	GGG-40 / CF8M
3	Liner	EPDM / NBR
4	Upper Stem	AISI-420
5	Lower Stem	AISI-420
6	Upper Bonnet	STEEL F-114
7	Lower Bonnet	STEEL F-114
8	Bearing	STEEL+PTFE
9	Cotter	STEEL
10	Plug Stem	STEEL

DN1400-1800

Item	Description	Standard material
1	Body	GGG-40
2	Disc	GGG-40 / CF8M
3	Liner	EPDM / NBR
4	Upper Stem	AISI-420
5	Lower Stem	AISI-420
6	Upper Bearing	BRONZE B62
7	Lower Bearing	BRONZE B62
8	Lower Distancing	BRONZE B62
9	Upper Distancing	BRONZE B62
10	Upper Bonnet	STEEL F-114
11	Lower Bonnet	STEEL F-114
12	Cotter Upper Stem	STEEL
13	Cotter Stem/Disc	STEEL

DN	A	B	E	I	J	Cotter		TOP FLANGE			
						a	b	K	d3	d4	ISO 5211
700	1110	575	165	90	80	22	7	300	254	18	F-25
800	1245	620	190	90	80	22	7	300	254	18	F-25
900	1380	690	203	116	95	28	8	300	254	18	F-25
1000	1500	750	216	123	95	28	8	300	254	18	F-25
1100	1570	795	216	123	95	28	8	300	254	18	F-25
1200	1714	865	254	136	100	28	8	350	298	22	F-30
1400	1960	980	279	126	120	32	11	415	356	33	F-35
1600	2155	1090	318	155	150	36	13	475	406	43	F-40
1800	2566	1290	356	200	150	36	13	475	406	43	F-40

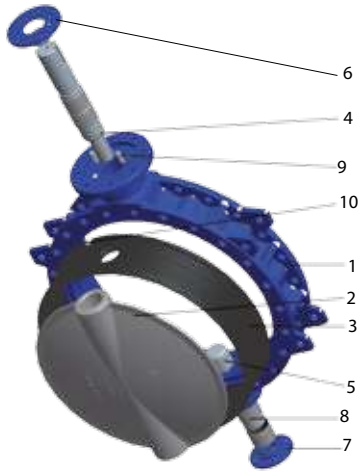
DN	PN-10				Weight (Kg)
	d5	n+z	d6	M	
700	840	20+4	30	M-27	350
800	950	20+4	33	M-30	510
900	1050	24+4	33	M-30	600
1000	1160	24+4	36	M-33	820
1100	1270	28+4	36	M-33	880
1200	1380	28+4	40	M-36	1030
1400	1590	32+4	43	M-39	1120
1600	1820	36+4	49	M-45	1980
1800	2020	40+4	49	M-45	-

DN	PN-16				Weight (Kg)
	d5	n+z	d6	M	
700	840	20+4	36	M-33	370
800	950	20+4	39	M-36	510
900	1050	24+4	39	M-36	650
1000	1170	24+4	42	M-39	835
1100	1270	28+4	42	M-39	900
1200	1390	28+4	49	M-45	1070
1400	1590	32+4	49	M-45	1280
1600	1820	36+4	56	M-52	2100
1800	2020	40+4	56	M-52	-

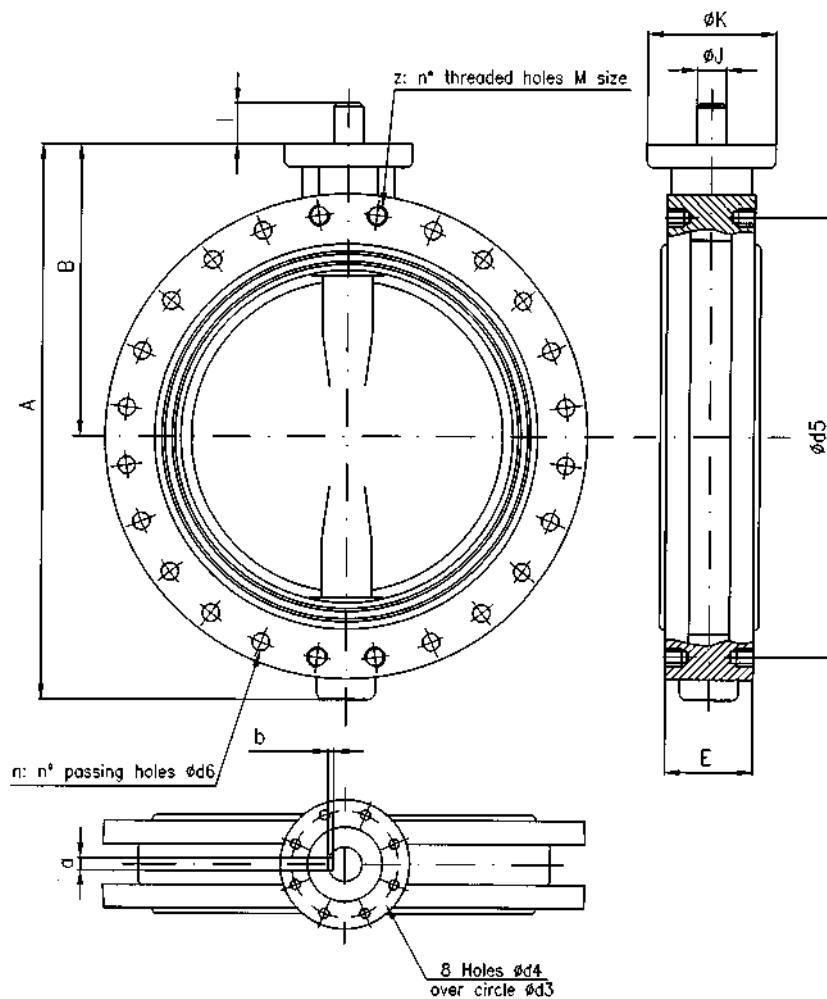
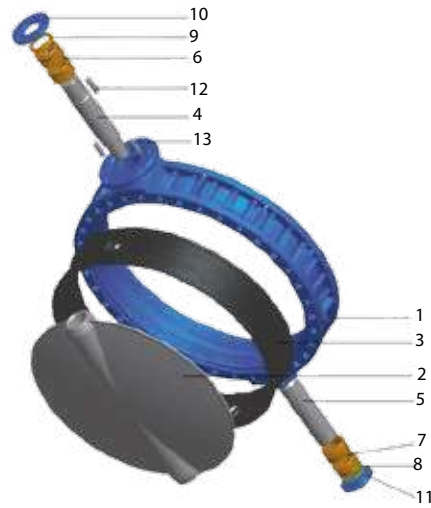
DN	ANSI-150				Weight (Kg)
	d5	n+z	d6	M	
700	863	24+4	35	1 1/4"	370
800	978	24+4	41	1 1/2"	510
900	1089	28+4	41	1 1/2"	650
1000	1170	32+4	41	1 1/2"	835
1100	1314,4	36+4	41	1 1/2"	900
1200	1422,4	36+8	41	1 1/2"	1070
1400	1651	44+4	48	1 3/4"	1280
1600	1930	44+8	48	1 3/4"	-
1800	-	-	-	-	-

Installation between flanges according to EN 1092 PN10/16, ANSI-150

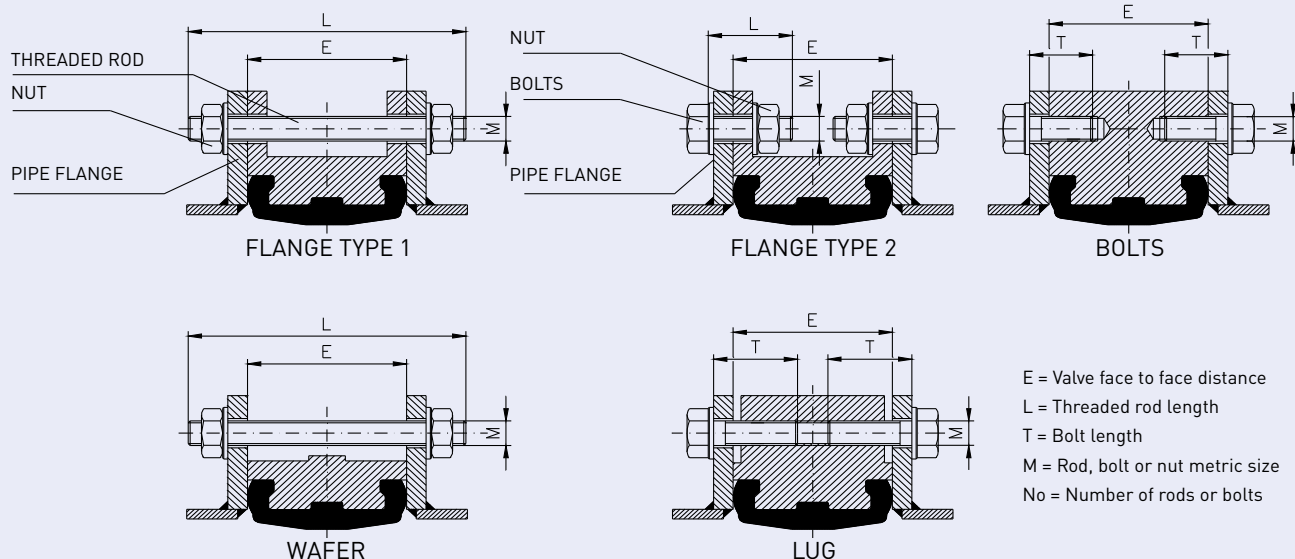
DN700-1200



DN1400-1800



INSTALLATION AND OPERATION INSTRUCTIONS

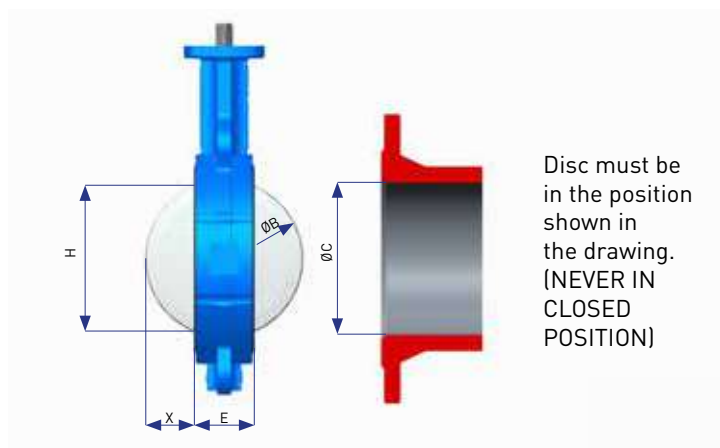


		PN10															PN16														
		BOLTING FOR FLANGE TYPE 1 AND WAVER						BOLTING FOR FLANGE TYPE 2						BOLTING FOR LUG			BOLTING FOR FLANGE TYPE 1 AND WAVER						BOLTING FOR FLANGE TYPE 2						BOLTING FOR LUG		
DN	E	L	M	Nº	T	M	Nº	L	M	Nº	M	Nº	T	M	Nº	L	M	Nº	T	M	Nº	L	M	Nº	M	Nº	T	M	Nº		
32	33	110	16	4	-	-	-	-	-	-	-	-	30	16	8	110	16	4	-	-	-	-	-	-	-	-	30	16	8		
40	33	110	16	4	-	-	-	-	-	-	-	-	30	16	8	110	16	4	-	-	-	-	-	-	-	-	30	16	8		
50	43	125	16	4	-	-	-	-	-	-	-	-	35	16	8	125	16	4	-	-	-	-	-	-	-	-	35	16	8		
65	46	130	16	4	-	-	-	-	-	-	-	-	40	16	8	130	16	4	-	-	-	-	-	-	-	-	40	16	8		
80	46	130	16	8	-	-	-	-	-	-	-	-	40	16	16	130	16	8	-	-	-	-	-	-	-	-	40	16	16		
100	52	140	16	8	-	-	-	-	-	-	-	-	45	16	16	140	16	8	-	-	-	-	-	-	-	-	45	16	16		
125	56	145	16	8	-	-	-	-	-	-	-	-	50	16	16	145	16	8	-	-	-	-	-	-	-	-	50	16	16		
150	56	155	20	8	-	-	-	-	-	-	-	-	50	20	16	155	20	8	-	-	-	-	-	-	-	-	50	20	16		
200	60	165	20	8	-	-	-	-	-	-	-	-	50	20	16	165	20	12	-	-	-	-	-	-	-	-	50	20	24		
250	68	175	20	12	-	-	-	-	-	-	-	-	60	20	24	180	24	12	-	-	-	-	-	-	-	-	60	24	24		
300	78	185	20	8	55	20	8	-	-	-	-	-	65	20	24	200	24	8	60	24	8	-	-	-	-	-	65	24	24		
350	78	185	20	12	55	20	8	-	-	-	-	-	-	-	-	200	24	12	60	24	8	-	-	-	-	-	-	-	-		
400	102	220	24	12	65	24	8	70	24	24	24	24	-	-	-	240	27	12	65	27	8	-	-	-	-	-	-	-	-		
450	114	240	24	16	50	24	8	70	24	32	24	32	-	-	-	265	27	16	65	27	8	-	-	-	-	-	-	-	-		
500	127	260	24	16	65	24	8	85	24	32	24	32	-	-	-	270	30	16	65	30	8	-	-	-	-	-	-	-	-		
600	154	300	27	16	65	27	8	100	27	32	27	32	-	-	-	310	33	16	75	33	8	110	33	32	33	32	-	-	-		
700	165	310	27	20	70	27	8	110	27	40	27	40	-	-	-	330	33	20	75	33	8	120	33	40	33	40	-	-	-		
800	190	350	30	20	75	30	8	120	30	40	30	40	-	-	-	370	36	20	80	36	8	130	36	40	36	40	-	-	-		
900	203	360	30	24	75	30	8	120	30	48	30	48	-	-	-	400	36	24	90	36	8	140	36	48	36	48	-	-	-		
1000	216	380	33	24	85	33	8	130	33	48	33	48	-	-	-	420	39	24	95	39	8	150	39	48	39	48	-	-	-		
1100	216	380	33	28	75	33	8	130	33	56	33	56	-	-	-	420	39	28	75	39	8	150	39	56	39	56	-	-	-		
1200	260	440	36	28	95	36	8	140	36	56	36	56	-	-	-	480	45	28	105	45	8	160	45	56	45	56	-	-	-		
1400	279	470	39	32	100	39	8	145	39	64	39	64	-	-	-	510	45	32	115	45	8	170	45	64	45	64	-	-	-		
1600	318	530	45	36	105	45	8	160	45	72	45	72	-	-	-	580	52	36	120	52	8	180	52	72	52	72	-	-	-		

DIMENSIONS FOR INSTALLATION



GOOD TO KNOW BEFORE INSTALLATION



DN	H	X	E	B	C min	C max
32/40	21,7	3,25	33	39,5	30	49,5
50	26,5	3,75	43	50,5	40	61,5
65	46,6	9,75	46	65,5	56	77,5
80	64,7	16,7	46	79,4	72	90,5
100	88,2	25,2	52	102,4	95	116
125	111,7	34,5	56	125	117	141,5
150	138,9	46,9	56	149,8	145	170,5
200	190,3	69,7	60	199,5	196	221,5
250	239,7	90,6	68	249,2	243	276,5
300	289,3	110,5	78	299	295	327,5
350	332,4	131,7	78	341,4	340	359
400	377	144,3	102	390,6	385	411
450	425,3	163	114	440,3	435	462
500	472,2	181	127	489	482	513,5
600	573,17	219	154	593,5	585	616,5
700	677,2	266	165	697	688	725
800	768,8	300,9	190	791,9	775	820
900	865,5	342,4	203	889	877	925
1000	969,6	388,7	216	993,4	982	1045
1100	1081,6	443,5	216	1103	1093	1140
1200	1157,7	463,3	260	1186,5	1180	1260
1400	1359,7	554,5	279	1388	1370	1465
1600	1559,9	637	318	1592	1575	1665

INSTALLATION AND OPERATION INSTRUCTIONS

VALVE INSTALLATION POSITIONING IN PIPE

1. Leave space enough between Flanges as to facilitate the introduction of the valve without dragging the body.

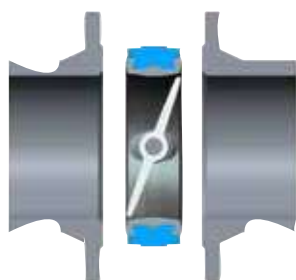


Fig. A

2. Prior to flange bolt tightening fully open the valve insuring a free disc movement. The butterfly must be in the position depicted in figure B.
(NEVER CLOSED).

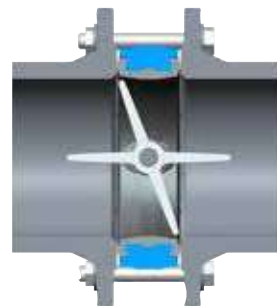
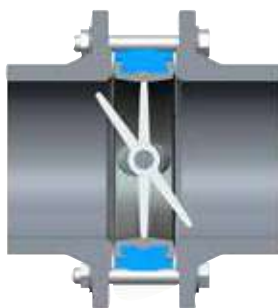
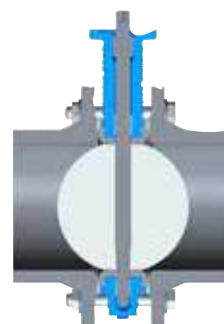


Fig.B

RIGHT



WRONG



For valves up to DN-300, with clean fluids, the shaft can be either in the vertical or horizontal position, the latter position being recommended. For all other cases, installation with the shaft in horizontal position is mandatory.



WARNING

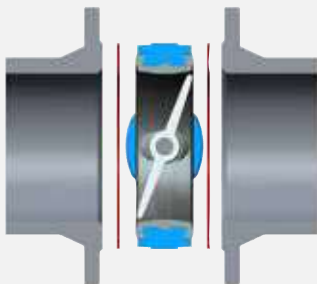
Never weld flanges to pipe with the valve installed, body can be damaged by heat.

GENERAL MOUNTING PRECAUTIONS

a) Flange faces must be flat, and will mate valve body faces when bolts are tight.

b) NO gaskets may be installed between valve and flanges.

c) Never install other elements with elastic raised face, such as elastic sleeves, next to the valve.



WRONG



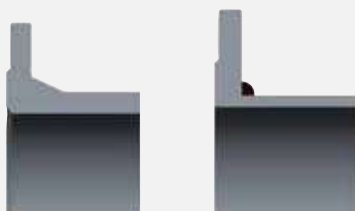
d) NO slip on flanges may be used in the way depicted in figure. The body will be held down incorrectly and internal distortion could impair the valve.



WRONG



IMPORTANT: For valves PN-16 the use of welding neck or slip on flanges welded with the pipe end flushed with the flange face is essential as depicted in figure.





HYDRAULIC DATA

Flow coefficient Cv: flow in USGPM that when going through the valve produces a loss of head (Δp) of 1 psi.

Flow coefficient Kv: same as above in Q metric units m³/h and Δp in Kg/cm².

$$K_v = \frac{C_v}{1,16}$$

PRESSURE LOSS calculation formula for liquids:

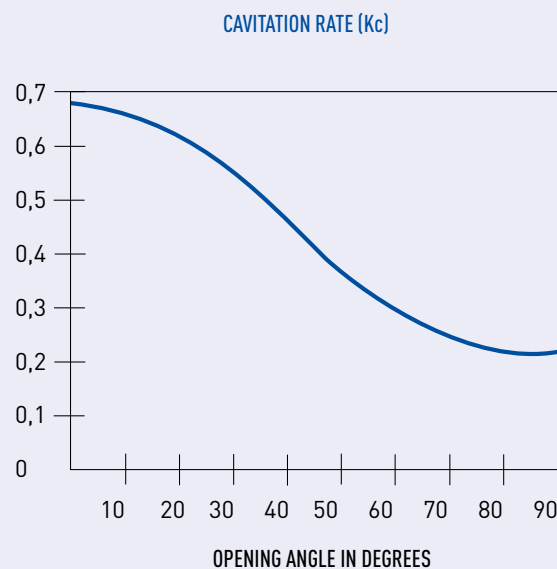
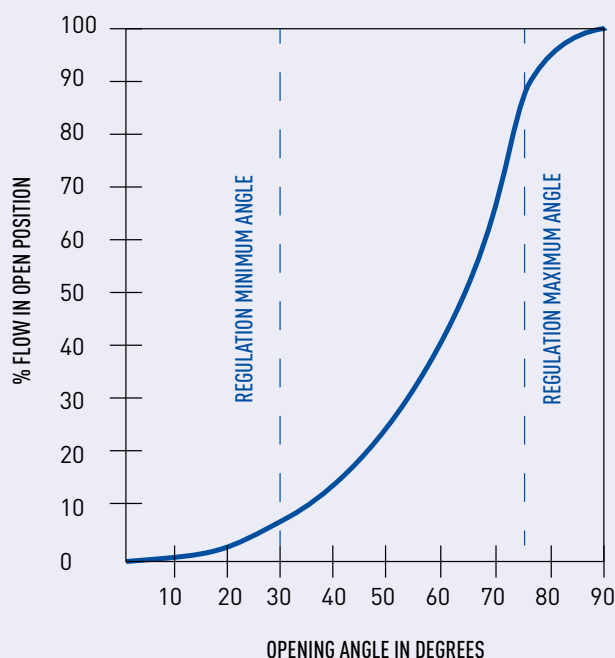
$$\Delta p = \left(\frac{Q}{K_v} \right)^2 \cdot \gamma$$

- Δp in Kg/cm².
- Q in m³/h.
- γ Relative density.
- Kv valve flow coefficient.

FLOW VARIATION CURVE

It shows the variation of (Cv) or (Kv) depending on the valve opening angle.

DN	Cv
40	100
50	158
65	270
80	425
100	710
125	1175
150	1770
200	3300
250	5300
300	7700
350	10500
400	14000
450	18200
500	23200
600	33640
700	47500
800	62600
900	81200
1000	102000
1200	150800
1400	214600
1600	295000
1800	390000



Formulas applicable to circulating conditions with no cavitation inside the valve.

For liquids when $\Delta p(K_c \cdot (P_1 - P_v))$ - Kc value of $\frac{\Delta p}{P_1 - P_v}$ From which cavitation starts.

Kc value is show in the chart (cavitation coefficient) for different opening angles.

FLOW COEFFICIENT CV RELATING TO THE OPENING ANGLE OF THE DISC

SIZE		Opening angle									
mm	Inch.	10°	20°	30°	40°	50°	60°	70°	75°	80°	90°
40	1 1/2"	1.3	3.5	8	15	26	42	65	89	95	100
50	2"	2	5.5	13	24	41	66	103	141	150	158
65	2 1/2"	3.5	9.5	22	41	70	113	175	240	257	270
80	3"	5.5	15	34	64	110	179	276	378	404	425
100	4"	9	25	57	107	185	298	462	632	675	710
125	5"	15	41	94	176	305	494	764	1046	1116	1175
150	6"	23	62	142	265	460	743	1150	1575	1681	1770
200	8"	43	115	264	495	858	1386	2145	2937	3135	3300
250	10"	69	185	424	795	1378	2226	3445	4717	5035	5300
300	12"	100	269	616	1155	2002	3234	5005	6853	7315	7700
350	14"	137	367	840	1575	2730	4410	6825	9345	9975	10500
400	16"	182	490	1120	2100	3640	5880	9100	12460	13300	14000
450	18"	237	637	1456	2730	4732	7644	11830	16198	17290	18200
500	20"	302	812	1856	3480	6032	9744	15080	20648	22040	23200
600	24"	438	1177	2691	5046	8746	14129	21866	29940	31958	33640
700	28"	618	1662	3800	7125	12350	19950	30875	42275	45125	47500
800	32"	814	2191	5008	9390	16276	26292	40690	55714	59470	62600
900	36"	1056	2842	6496	12180	21112	34104	52780	72268	77140	81200
1000	40"	1326	3570	8160	15300	26520	42840	66300	90780	96900	102000
1200	48"	1960	5278	12064	22620	39208	63336	98020	134212	143260	150800
1400	56"	2790	7510	17170	32190	55800	90130	139500	191000	203900	214600
1600	64"	3835	10325	23600	44250	76700	123900	191750	262550	280250	295000
1800	72"	5070	13650	31200	58500	101400	163800	253500	347100	370500	390000

The flow coefficient Cv is the flow in US GPM (US gallons per minute) that when going through the valve produces a loss of head (Δp) of 1 psi. The above indicated values are the flow coefficients related to the opening angle of the disc.

These values are for guidance only since they have been calculated under ideal working conditions.

TALIS centric butterfly valves are designed as isolating valves, however they can be used for

regulation within the operating window hereabove stated (angle 30° to 75°).

TALIS, as specialist in control valves, provides full expertise and support. TALIS provides project specific VALVE DATASHEET, which includes complete info related to valve operating conditions and values.

For further info, please do not hesitate to contact our engineers.



TORQUE VALUES (Nm)

DN	Maximum Working Pressure (bar)			
	3	6	10	16
32/40	-	-	-	10
50	-	-	-	11
65	-	-	20	28
80	-	-	30	35
100	-	-	40	50
125	-	-	35	46
150	-	-	46	65
200	-	-	115	130
250	-	-	230	255
300	-	-	412	585
350	310	460	760	1070
400	450	650	1000	1400
450	550	750	1250	1750
500	700	1020	1700	2400
600	1000	1500	2400	3500
650	1300	1900	2900	4200
700	1500	2100	3400	4800
800	1900	2700	4500	6300
900	2500	3500	6000	7800
1000	3000	4500	7500	9500
1100	4500	11000	12500	19500
1200	5700	12700	15240	23200
1400	11477	14880	24800	32240
1600	O/R	O/R	55870	O/R
1800	O/R	O/R	26900	O/R

The above indicated torque values are for guidance only since they have been calculated under constant working pressure and conditions. Torques listed are valid for Belgicast butterfly valves with EPDM liners for water at room temperature (approx 20°C).

It is convenient to consider velocity of the fluid because of the dynamic forces produced by the flow on the disc. For valves bigger than DN200, this dynamic torque must be taken into account when selecting an actuator.

Belgicast butterfly valve is designed to work with fluids, which act like lubricants. For air or any other non-lubricated medium torque values are approx 30% higher.

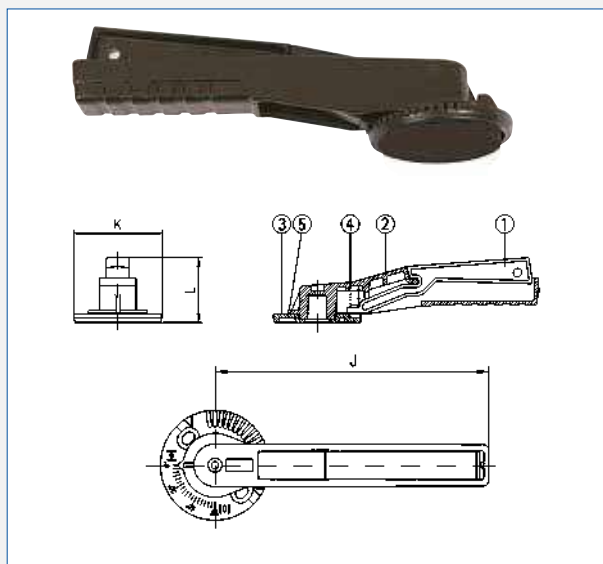
If any doubt, please contact our Technical Department. For pressures lower than the nominal pressure spherical diameter of the disc has to be reduced in our premises upon request. Torque values for bigger sizes and other liners on request (O/R).

Belgicast safety factor is not included, please apply 30%.

ACTUATION METHODS

BELGICAST offers a wide variety of actuation methods that will allow to choose the best option for each installation. The actuation can be made manually, by means of pneumatic or electrical actuator.

MANUAL ACTUATION



LEVER

Part	Description	Material
1	Latch	Siluminium
2	Lever	Siluminium
3	Toothed	Siluminium
4	Spring	Steel
5	Bolting	Zinc Coated Steel

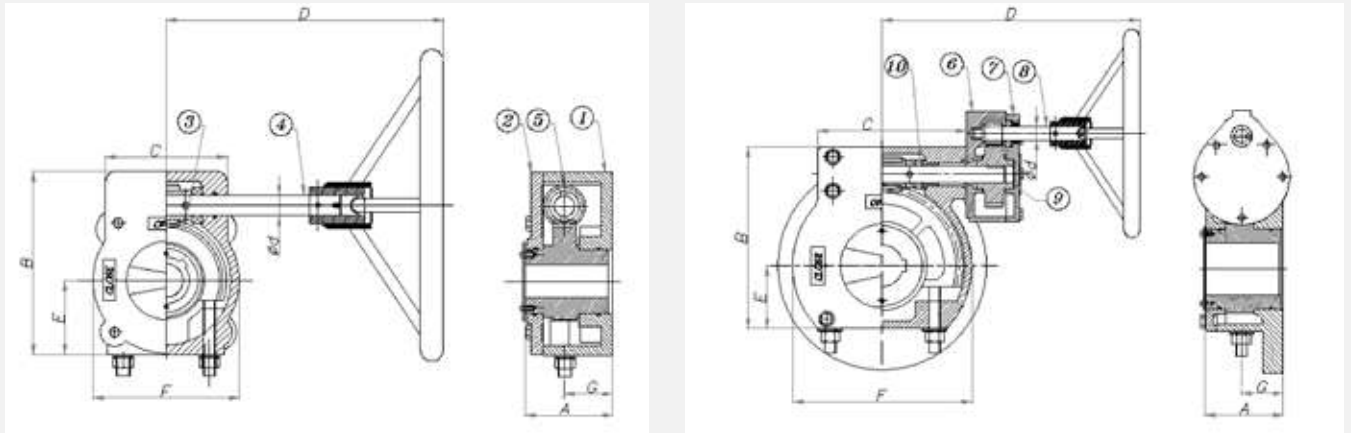
DN	J	K	L	WEIGHT (kg)
32/100	180	72	60	0,31
125/200	310	95	65	0,9



EG GEAR-BOX. Protection IP68

Part	Description	Material	DIN
1	Housing	FG 200	GG 20
2	Cover	FG 200	GG 20
3	Worm Wheel	SG Iron 500/7	GGG 50
4	Input Shaft	En8/E19	CK45/42CrMo4
5	Worm	En8	CK 45
6	Spur Housing	FG 200	GG 20
7	Spur Cover	FG 200	GG 20
8	Spur Pinion	En 19	42CrMo4
9	Spur Gear	En 19	42CrMo4
10	Thrust Bearing	STD	----

GEAR-BOX DIMENSIONS



GEAR MODEL	RATED OUTPUT TORQUE (Nm)	MECH ADVANTAGE $\pm 10\%$	RATIO	ISO 5211	APPROX. WEIGHT (Kg)	A	B	C	D	E	F	G
EG 250	250	8	33:1	F05, F07	2.7	49.5	110	78	251	36	90	23
EG 500	500	10	40:1	F07, F10	5.7	63	136	98	265	54	108	35
EG 700	700	10	40:1	F07, F10, F12	7	74	143	95	311	45	128	39
EG 1K	1000	12	44:1	F10, F12, F14	9.5	86	176	116	320	70	140	47
EG 1K5	1500	14	48:1	F10, F12, F14, F16	12	82	198	137	461	81	168	44.5
EG 2K	2000	16	60:1	F10, F12, F14, F16	15	86	214	156	477	83	176	46
EG 3K	3000	22	80:1	F12, F14, F16 F25	30 35	122.5 119.5	245	232	477	84	244 300	64
EG 3K5	3500	20	73:1	F14, F16 F25	33 36.5	113	265	206	505	85	250 300	62
EG 4K	4000	24	90:1	F16, F25	58	133	305	268	504	100	350	78
EG 4K5	4500	50	264:1	F12, F14, F16 F25	38 43	122.5 119.5	245	232	560	84	244 300	64
EG 6K5	6500	65	292:1	F14, F16 F25	41 45	113	265	206	559	85	250 300	62
EG 10K	10000	75	300:1	F25, F30	74	151	348	263	607	110	377	76
EG 15K	15000	100	450:1	F25, F30	84	151	338	263	651	110	377	76
EG 22K5	22500	120	456:1	F25, F30, F35	136	157	424	334	685	133	469	88
EG 35K	35000	253	1150:1	F25, F30, F35	160	157	424	334	996	133	469	88
EG 50K	50000	287	1302:1	F30, F35, F40	380	203	650	595	854	199	706	103
EG 75K	75000	400	1788:1	F40, F48	430	203	650	595	911	199	706	103



GEAR-BOX SELECTION

DN	OPERATING TORQUE (torque x 1,3 as safety factor)				# TOP FLANGE	MODEL	GEAR-BOX TORQUE	Ø HANDWHEEL
	PN3	PN6	PN10	PN16				
32/40	-	-	-	13	# 11-F05	EG 250	250	250
50	-	-	-	14.3	# 11-F05	EG 250	250	250
65	-	-	26	36.4	# 11-F05	EG 250	250	250
80	-	-	39	45.5	# 11-F05	EG 250	250	250
100	-	-	52	65	# 11-F05	EG 250	250	250
125	-	-	45.5	59.8	# 14-F07	EG 250	250	250
150	-	-	59.8	84.5	# 14-F07	EG 250	250	250
200	-	-	149.5	169	# 17-F07	EG 500	500	250
250	-	-	299	331.5	# 22-F10	EG 700	700	300
300	-	-	535	761	# 22-F12	EG 1K	1.000	300
350	403	598	988	-	# 27-F12	EG 1K	1.000	300
350	-	-	-	1391	# 27-F12	EG 1K5	1.500	500
400	585	845	-	-	# 27-F12	EG 1K	1.000	300
400	-	-	1300	-	# 27-F12	EG 1K5	1.500	500
400	-	-	-	1820	# 27-F12	EG 2K	2.000	500
450	715	975	-	-	# 36-F14	EG 1K5	1.500	500
450	-	-	1625	-	# 36-F14	EG 2K	2.000	500
450	-	-	-	2275	# 36-F14	EG 3K	3.000	500
500	910	1326	-	-	# 36-F14	EG 1K5	1.500	500
500	-	-	2210	-	# 36-F14	EG 3K	3.000	500
500	-	-	-	3120	# 36-F14	EG 3K5	3.500	600
600	1300	1950	-	-	# 46-F16	EG 3K	3.000	500
600	-	-	3120	-	# 46-F16	EG 3K5	3.500	600
600	-	-	-	4550	# 46-F16	EG 6K5	6.500	500
700	1950	2730	-	-	Ø80-F25	EG 3K	3.000	500
700	-	-	4420	-	Ø80-F25	EG 5K5	5.500	500
700	-	-	-	6240	Ø80-F25	EG 6K5	6.500	500
800	2470	-	-	-	Ø80-F25	EG 3K	3.000	500
800	-	3510	-	-	Ø80-F25	EG 5K5	5.500	500
800	-	-	5850	-	Ø80-F25	EG 6K5	6.500	500
800	-	-	-	8190	Ø80-F25	EG 10K	10.000	600
900	3.250	4.550	7.800	-	Ø95-F25	EG 10K	10.000	600
900	-	-	-	10.140	Ø95-F25	EG 15K	15.000	600
1000	3.900	5.850	9.750	-	Ø95-F25	EG 10K	10.000	600
1000	-	-	-	12.350	Ø95-F25	EG 15K	15.000	600
1100	5850	-	-	-	Ø95-F25	EG 10K	10.000	600
1100	-	14300	-	-	Ø95-F25	EG 15K	15.000	600
1100	-	-	16250	-	Ø95-F25	EG 22K5	22.500	600
1100	-	-	-	25350	Ø95-F25	EG 35K	35.000	600
1200	7.410	-	-	-	Ø100-F30	EG 15K	15.000	600
1200	-	16.510	19.812	-	Ø100-F30	EG 22K5	22.500	600
1200	-	-	-	33.150	Ø100-F30	EG 35K	35.000	600
1400	16.354	19.344	32.240	-	Ø120-F35	EG 35K	35.000	600
1400	-	-	-	43.524	Ø120-F35	EG 50K	50.000	600
1600	-	-	78.000	-	Ø150-F40	EG 75K	75.000	750



ELECTRIC ACTUATION

AUMA ELECTRIC ACTUATOR

- └ On/Off duty, S2 - 15 min
- └ 2 limit switches
- └ 2 torque switches
- └ Emergency handwheel for manual operation
- └ 400V-50Hz three-phase supply (alternatives on request)
- └ Coating protection:
 - _ SQ and SA electric actuators: KS type
 - _ GS gear-boxes: KS type up to model GS80.3 included, rest of models KN type
- └ Heating resistance to avoid condensation
- └ IP68 protection



DREHMO ELECTRIC ACTUATOR

- └ On/Off duty, S2 - 15 min
- └ 2 limit switches
- └ 2 torque switches
- └ Emergency handwheel for manual operation
- └ 400V-50Hz three-phase supply (alternatives on request)
- └ Coating protection:
 - _ electric actuators: K3 type
 - _ gear-boxes: C2 type
- └ Heating resistance to avoid condensation
- └ IP68 protection



AUMA ELECTRIC ACTUATOR SELECTION

DN	PRESSURE RATING PN	MODEL	TOP FLANGE
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1/4 TURN AUMA ELECTRIC ACTUATOR TYPE SQ

32/40	16	SQ 05.2	Shaft #11 - Flange F05
50	16	SQ 05.2	Shaft #11 - Flange F05
65	10/16	SQ 05.2	Shaft #11 - Flange F05
80	10/16	SQ 05.2	Shaft #11 - Flange F05
100	10/16	SQ 05.2	Shaft #11 - Flange F05
125	10/16	SQ 05.2	Shaft #14 - Flange F07
150	10/16	SQ 05.2	Shaft #14 - Flange F07
200	10	SQ 05.2	Shaft #17 - Flange F07
200	16	SQ 07.2	Shaft #17 - Flange F07
250	10	SQ 07.2	Shaft #22 - Flange F10
250	16	SQ 10.2	Shaft #22 - Flange F10
300	3/6/10	SQ 12.2	Shaft #22 - Flange F12
300	16	SQ 12.2	Shaft #22 - Flange F12

MULTITURN AUMA ELECTRIC ACTUATOR TYPE SA WITH 1/4 TURN AUMA GEARBOX TYPE GS

350	3/6	GS63.3-F12/SA07.6	Shaft #27 - Flange F12
350	10	GS80.3-F12/SA07.6	Shaft #27 - Flange F12
350	16	GS80.3-F12/SA10.2	Shaft #27 - Flange F12
400	3	GS63.3-F12/SA07.6	Shaft #27 - Flange F12
400	6	GS80.3-F12/SA07.6	Shaft #27 - Flange F12
400	10/16	GS80.3-F12/SA10.2	Shaft #27 - Flange F12
450	3/6/10	GS100.3-F14/VZ4.3/SA07.2	Shaft #36 - Flange F14
450	16	GS100.3-F14/VZ4.3/SA07.6	Shaft #36 - Flange F14
500	3/6	GS100.3-F14/VZ4.3/SA07.2	Shaft #36 - Flange F14
500	10/16	GS100.3-F14/VZ4.3/SA07.6	Shaft #36 - Flange F14
600	3/6	GS100.3-F16/VZ4.3/SA07.2	Shaft #46 - Flange F16
600	10	GS100.3-F16/VZ4.3/SA07.6	Shaft #46 - Flange F16
600	16	GS125.3-F16/VZ4.3/SA07.6	Shaft #46 - Flange F16
700	3/6	GS100.3-F16/VZ4.3/SA07.6	Shaft Ø80 - Flange F25
700	10	GS125.3-F25/VZ4.3/SA07.6	Shaft Ø80 - Flange F25
700	16	GS125.3-F25/VZ4.3/SA10.2	Shaft Ø80 - Flange F25
800	3/6	GS125.3-F25/VZ4.3/SA07.6	Shaft Ø80 - Flange F25
800	10	GS125.3-F25/VZ4.3/SA10.2	Shaft Ø80 - Flange F25
800	16	GS160.3-F25/GZ160.3/SA07.6	Shaft Ø80 - Flange F25
900	3/6/10	GS160.3-F25/GZ160.3/SA07.6	Shaft Ø95 - Flange F25
900	16	GS160.3-F25/GZ160.3/SA10.2	Shaft Ø95 - Flange F25
1000	3/6	GS160.3-F25/GZ160.3/SA07.6	Shaft Ø95 - Flange F25
1000	10/16	GS160.3-F25/GZ160.3/SA10.2	Shaft Ø95 - Flange F25
1100	3	GS160.3-F25/GZ160.3/SA07.6	Shaft Ø95 - Flange F25
1100	6	GS160.3-F25/GZ160.3/SA10.2	Shaft Ø95 - Flange F25
1100	10	GS200.3-F25/GZ200.3/SA07.6	Shaft Ø95 - Flange F25
1100	16	GS200.3-F25/GZ200.3/SA10.2	Shaft Ø95 - Flange F25
1200	3	GS160.3-F30/GZ160.3/SA07.6	Shaft Ø100 - Flange F30
1200	6/10	GS200.3-F30/GZ200.3/SA10.2	Shaft Ø100 - Flange F30
1200	16	GS250.3-F30/GZ250.3/SA14.2	Shaft Ø100 - Flange F30
1400	3/6	GS200.3-F35/GZ200.3/SA10.2	Shaft Ø120 - Flange F35
1400	10/16	GS250.3-F35/GZ250.3/SA14.2	Shaft Ø120 - Flange F35
1600	10	GS315-F40/GZ30/SA10.2*	Shaft Ø150 - Flange F40
1800	10	GS315-F40/GZ30/SA10.2*	Shaft Ø150 - Flange F40