

BUTTERFLY VALVES

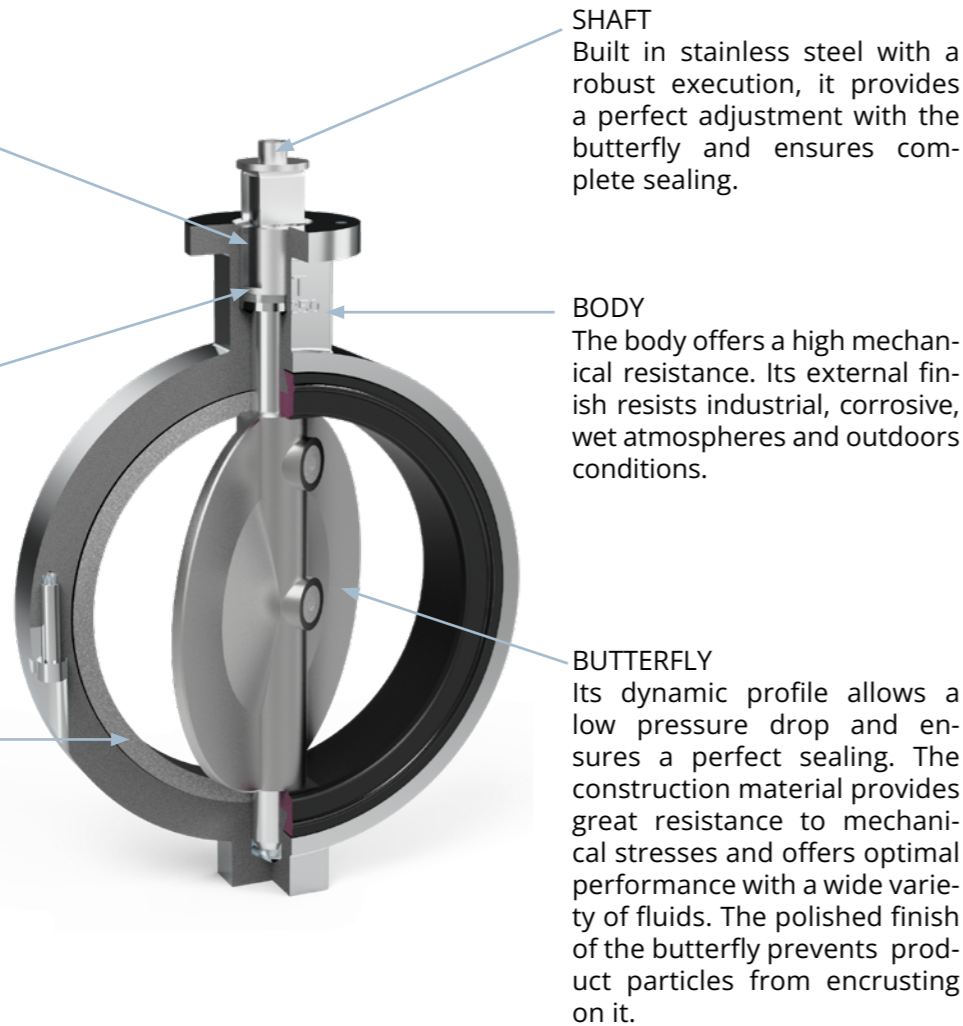
Butterfly valves are designed for a wide range of applications in which maximum performance is guaranteed.

The profile design of the butterfly and its rotation on the pipeline ensure a minimum disturbance during fluid flow, thus achieving a high reduction of pressure drop.

BUSHING
Helps to resist the axial forces caused by operation and driven of the valve.

SEAL
Its sealing is perfect and it also offers an extremely high mechanical and chemical resistance even at high temperatures.

SEAT
The seat, made of PTFE (Teflon™) with CSM (Hypalon®) support, for greater flexibility, ensures a perfect seal with the butterfly. Its lateral design allows the valve to be assembled between flanges without the need for additional gaskets.



Models & applications

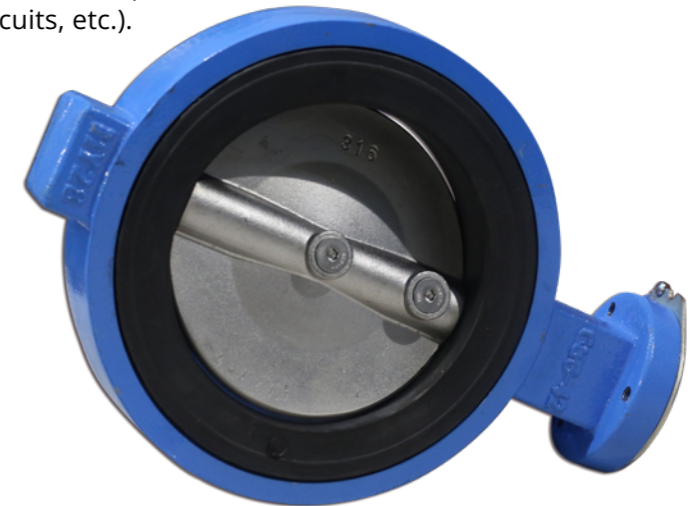
ICOMAR KV

ICOMAR KV valves are designed for a wide range of applications where their maximum performance is guaranteed.

They are suitable for chemical and petrochemical industries (sulphuric and nitric solutions, petrol, fuel, etc.), the food industry (milk, wine, beer, etc.), water supply and treatment, as well as water purification (seawater, freshwater, vacuum circuits, etc.).

FEATURES

- » Universal series PN-10/16 DN-40 to DN-500 mm.
- » Temperature: from -40 °C to +200 °C.
- » Prepared for being assembled between DIN 2632/2633 and ANSI 150lbs flanges.
- » Total and permanent sealing, even when applied in industrial vacuum or pressure.
- » The upper bearing absorbs all radial stresses of the actuator.
- » The lateral seat bosses ensure sealing against the flanges, eliminating the need for flat gaskets.
- » The butterfly profile design and its rotation on the shaft of the pipeline ensure minimum disturbance during fluid flow, resulting in a high reduction of pressure drop.





Models & applications

ICOMAR KT

The ICOMAR KT valves have been designed for use with highly corrosive products. The KT valve has a PTFE coating (TEFLON™) and is suitable for any applications involving high aggressive products or solvents, except for fluorine and some of its compounds.

They are indispensable in the petrochemical and processing industries. They are also suitable as quick-closing valves in tanker trucks and containers for the transporting chemical products. Their most common applications are those of the chemical industries, pharmaceuticals, and solvents, etc.



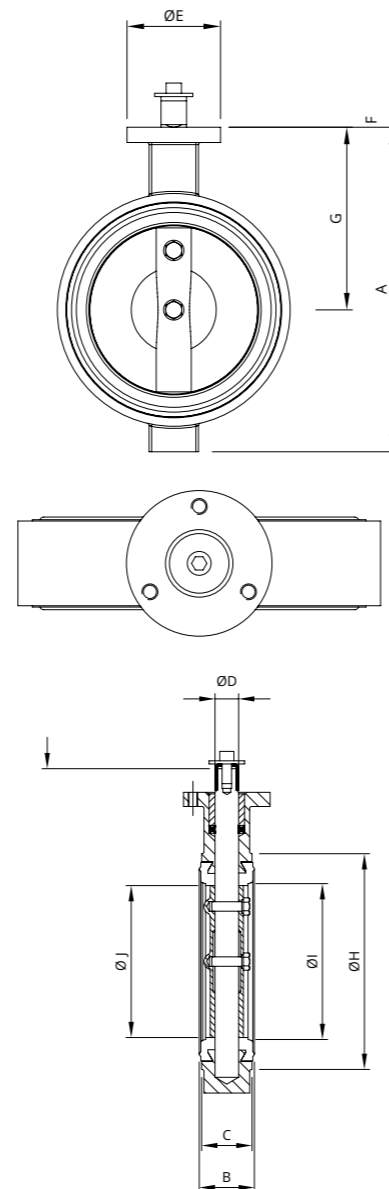
FEATURES

- » Universal series PN -10/16 DN-50 to DN-300 mm. De DN-350 a DN-500 mm, on request.
- » Temperature: from - 20 °C to +150 °C.
- » Especial temperature: +180°C (on request).
- » Prepared for being assembled between DIN 2632/2633 and ANSI 150lbs flanges.
- » DN-50 to DN-200 flanges PN-10/16.
- » DN-250 to DN-500 flanges PN-16.
- » High corrosion phenomena that occur in chemical processes can sometimes be so destructive that only certain non-metallic and completely inert materials such as glass, enamels, some elastomers, and plastomers can deal with them. This is why, the ICOMAR KT butterfly valves offer a solution to the increasing problem of chemical corrosion, giving, at the same time, maximum safety in minimal space.
- » The PTFE coating only works in flexion and not elasticity, allowing for a sealing up to 16 kg/cm², depending on pressure and temperature, while ensuring complete resistance to any type of chemical product.

KV Technical data

Dimensions
DIN 10 / 16 ANSI 150

DN mm	DN inch	A	B	C	D	E DIN	E ISO	F	G	H	I	J	Weight Kg
40	1½"	157	48	44	16	710	90	25	97	82	40	36	1.9
50	2"	178	48	44	16	70	90	25	108	104	50	45	3
65	2½"	202	48	44	16	70	90	25	122	123	63	59	3.5
80	3"	219	48	44	16	70	90	25	132	137	76	73	4
100	4"	254	54	50	20	84	90	25	152	161	102	100	5.5
125	5"	277	54	50	20	84	90	25	160	190	127	123	6.5
150	6"	303	54	50	20	84	90	25	173	218	146	144	8.5
200	8"	382	70	64	30	110	125	30	215	274	198	193	15
250	10"	435	70	64	30	110	125	30	241	329	248	244	24
300	12"	498	74	74	30	110	150	30	278	377	298	294	27
350	14"	555	80	74	30	110	150	30	305	435	337	331	40
400	16"	621	110	102	45	160	175	142	341	488	387	380	60
450	18"	675	110	102	45	160	175	142	368	546	438	432	92
500	20"	775	132	125	45	160	175	147	403	594	502	497	112
600	24"	975	152	146	60	-	360	152	495	720	603	593	166
700	28"	1,110	165	155	60	-	300	157	575	840	702	696	241
800	32"	1,250	190	180	65	-	300	162	655	950	803	794	315
900	36"	1,330	203	193	80	-	300	167	685	1,050	895	890	482



Construction materials

Type		10 KV	20 KV	50 KV
Body	DN-40/250	Cast iron GG 25 with Rilsan® coating		
	DN-300/500	Nodular cast iron GGG 42 with Rilsan® coating		
Butterfly	DN-40/250	Cast iron GG 25	Stainless steel AISI-304	
	DN-300/500	Nodular cast iron GGG 42	Stainless steel AISI-304	
Seat		EPDM		
Shaft		Stainless steel AISI-304		Stainless steel AISI-316
Seal		EPDM		
Bushing		Synthetic		



Models & applications

ICOMAR KX

ICOMAR KX valves are made of stainless steel and designed for a wide range of applications where their maximum performance is guaranteed.

They are suitable for chemical and petrochemical industries (sulphuric and nitric solutions, petrol, fuel, etc.), the food industry (milk, wine, beer, etc.), water supply and treatment, as well as water purification (seawater, freshwater, vacuum circuits, etc.).



FEATURES

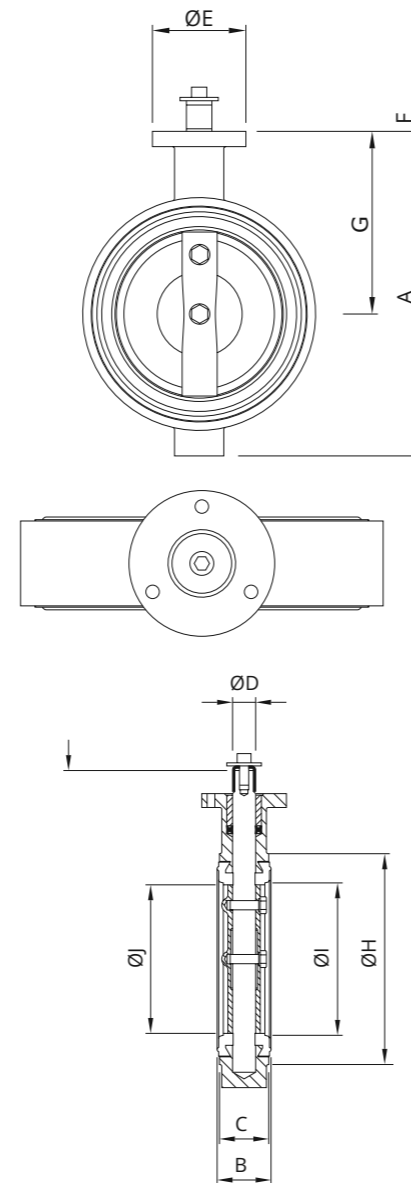
- » Universal series PN-10/16 DN-50 to DN-300 mm.
- » Temperature: from - 40 °C to +200 °C.
- » Prepared for being assembled between DIN 2632/2633 and ANSI 150 lbs flanges.
- » Total and permanent sealing, even when applied in industrial vacuum or pressure.
- » The upper bearing absorbs all radial stresses of the actuator.
- » The lateral seat bosses ensure sealing against the flanges, eliminating the need for flat gaskets.
- » The butterfly profile design and its rotation on the shaft of the pipeline ensure minimum disturbance during fluid flow, resulting in a high reduction of pressure drop.



KT Technical data

Dimensions
DIN 10 / 16 ANSI 150

DN mm	DN inch	A	B	C	D	E	F	G	H	I	J	Weight Kg
50	2"	179	48	44	16	70	25	108	104	50	45	3
65	2½"	202	48	44	16	70	25	122	123	63	59	3.5
80	3"	219	48	44	16	70	25	132	137	76	73	4
100	4"	254	54	50	20	84	25	152	161	102	100	5.5
125	5"	277	54	50	20	84	25	160	190	127	123	6.5
150	6"	303	54	50	20	84	25	173	218	146	144	8.5
200	8"	382	70	64	30	110	30	215	274	198	193	15
200	8"	382	70	64	30	110	30	215	274	198	193	15
250	10"	435	70	64	30	110	30	241	329	248	244	24
300	12"	498	74	74	30	110	30	278	377	298	294	27
350	14"	555	80	74	30	110	30	305	435	337	331	40
400	16"	621	110	102	45	160	142	341	488	387	380	60
450	18"	675	110	102	45	160	142	368	546	438	432	92
500	20"	775	132	125	45	160	147	403	594	502	497	112



Construction materials

Type	14 KT	24 KT	24 KTT	30 KTT*
Body	DIN 1693 GGG 40 / DIN 1691 GG 25			
Butterfly	ASTM A 351 CF8M Electro-polished finish	ASTM A 351 CF8M HALAR® coating	ASTM A 351 CF8M PTFE coating	ASTM A 351 CF8M PTFE coating
Seat	PTFE + EPDM / PTFE + silicone / PTFE + VITON™			
Shaft	ASTM A 351 CF8M			
Seal	VITON™			
Bushing	Synthetic			
Temperature	90 °C / 140 °C / 210 °C			

*only in DN80



Models & applications

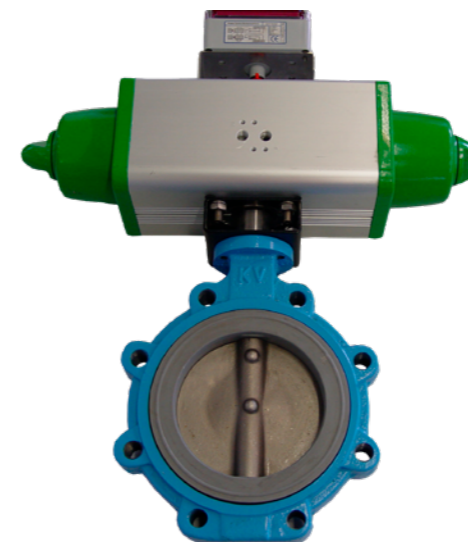
ICOMAR KVL LUG TYPE

ICOMAR KVL valves are designed for a wide range of applications where their maximum performance is guaranteed.

They are suitable for chemical and petrochemical industries (sulphuric and nitric solutions, petrol, fuel, etc.), the food industry (milk, wine, beer, etc.), water supply and treatment, as well as water purification (seawater, freshwater, vacuum circuits, etc.). Highly recommended for gas.

FEATURES

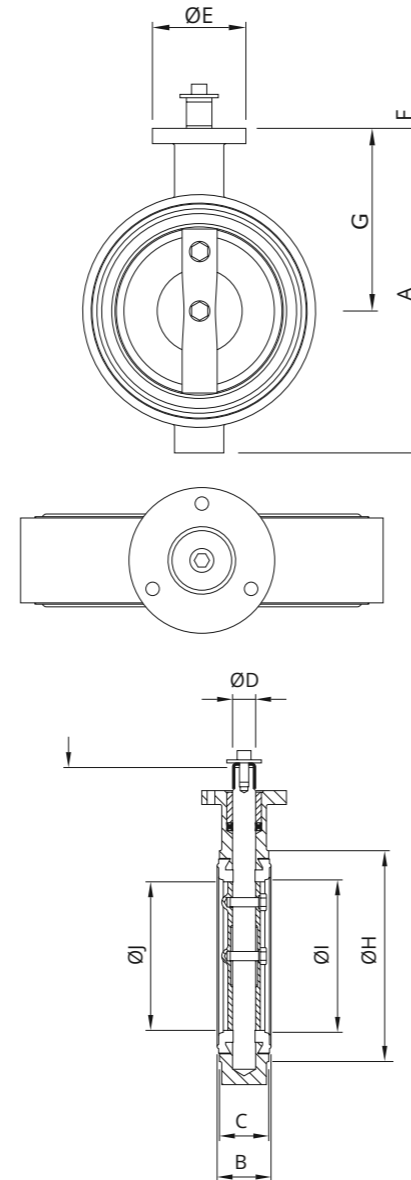
- » Universal series PN-10/16 DN- 50 to DN-350 mm.
- » Temperature: from - 40 °C to +200 °C.
- » Prepared for being assembled between DIN 2632/2633 y ANSI 150 lbs flanges.
- » Total and permanent sealing, even when applied in industrial vacuum or pressure.
- » The upper bearing absorbs all radial stresses of the actuator.
- » The lateral seat bosses ensure sealing against the flanges, eliminating the need for flat gaskets.
- » The centering lugs allow for quick installation and proper alignment with the pipe flanges.
- » The butterfly profile design and its rotation on the shaft of the pipeline ensure minimum disturbance during fluid flow, resulting in a high reduction of pressure drop.



KX Technical data

Dimensions
DIN 10 / 16 ANSI 150

DN mm	DN inch	A	B	C	D	E	F	G	H	I	J	Weight Kg
50	2"	179	48	44	16	70	25	108	104	50	45	3
65	2½"	202	48	44	16	70	25	122	123	63	59	3.5
80	3"	219	48	44	16	70	25	132	137	76	73	4
100	4"	254	54	50	20	84	25	152	161	102	100	5.5
125	5"	277	54	50	20	84	25	160	190	127	123	6.5
150	6"	303	54	50	20	84	25	173	218	146	144	8.5
200	8"	382	70	64	30	110	30	215	274	198	193	15
200	8"	382	70	64	30	110	30	215	274	198	193	15
250	10"	435	70	64	30	110	30	241	329	248	244	24
300	12"	498	74	74	30	110	30	278	377	298	294	27
350	14"	555	80	74	30	110	30	305	435	337	331	40
400	16"	621	110	102	45	160	142	341	488	387	380	60
450	18"	675	110	102	45	160	142	368	546	438	432	92
500	20"	775	132	125	45	160	147	403	594	502	497	112



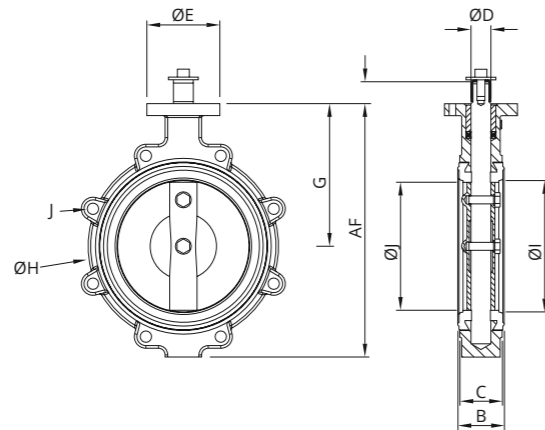
Construction materials

Type	20 KX
Body	ASTM A 351 CF8M
Butterfly	ASTM A 351 CF8M mirror polished
Seat	PTFE+EPDM / PTFE+silicone / PTFE+Viton™
Shaft	ASTM A 351 CF8M
Seal	VITON™
Bushing	Synthetic
Temperature	90 °C / 140 °C / 210 °C

KVL Technical data

Dimensions

DN mm	DN inch	A	B	C	D	E	E	F	G	H	J	N° Drill	H	J	N° Drill	Weight kg
DIN ISO																
										PN-10 DIN-2576 / 2581 / 2653/ 2673		PN-16 DIN-2633				
50	2"	179	48	44	16	70	90	30	108	125	M-16	4	125	M-16	4	3.4
65	2½"	202	48	44	16	70	90	25	122	145	M-16	4	145	M-16	4	4.2
80	3"	222	48	44	16	70	90	25	132	160	M-16	4	160	M-16	8	5.2
100	4"	254	54	50	20	84	90	25	152	180	M-16	8	150	M-16	8	6.8
125	5"	277	54	50	20	84	90	25	160	210	M-16	8	210	M-16	8	8.4
150	6"	303	54	50	20	84	90	25	173	240	M-20	8	295	M-20	8	10.2
200	8"	382	70	64	30	110	125	30	215	295	M-20	9	295	M-20	12	18.5
250	10"	425	70	64	30	110	125	30	241	350	M-20	12	355	M-24	12	24.3
300	12"	498	80	74	30	110	150	30	278	400	M-20	12	410	M-24	12	37.7
350	14"	560	80	74	30	110	150	30	305	460	M-20	16	470	M-24	16	46.3



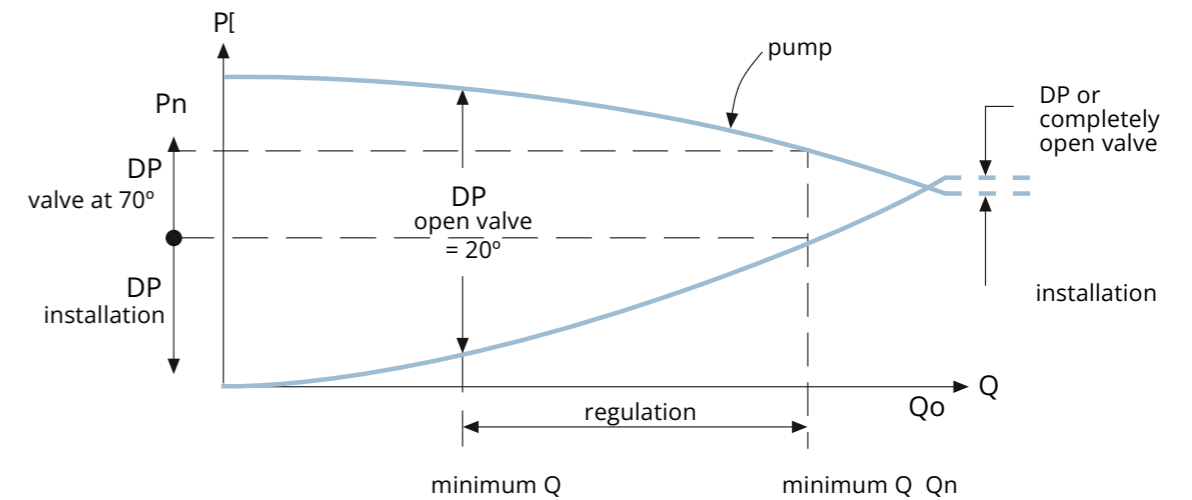
Construction materials

Type	30 KVL		40 KVL	
Body	DN-50/300	Cast iron GGG 42 with Rilsan® coating		
	DN-350	Nodular cast iron GGG 42 with Rilsan® coating		
Butterfly	DN-50/250	Cast iron GG 25	Stainless steel AISI-316	
	DN-300/350	Nodular cast iron GGG 42	Stainless steel AISI-316	
Seat	NBR / EPDM / EPDM hight temp. / RT-60 RUBBER / SILICONE / VITON™			
Shaft	Stainless steel AISI-316			
Seal	EPDM / VITON™			
Bushing	Synthetic			



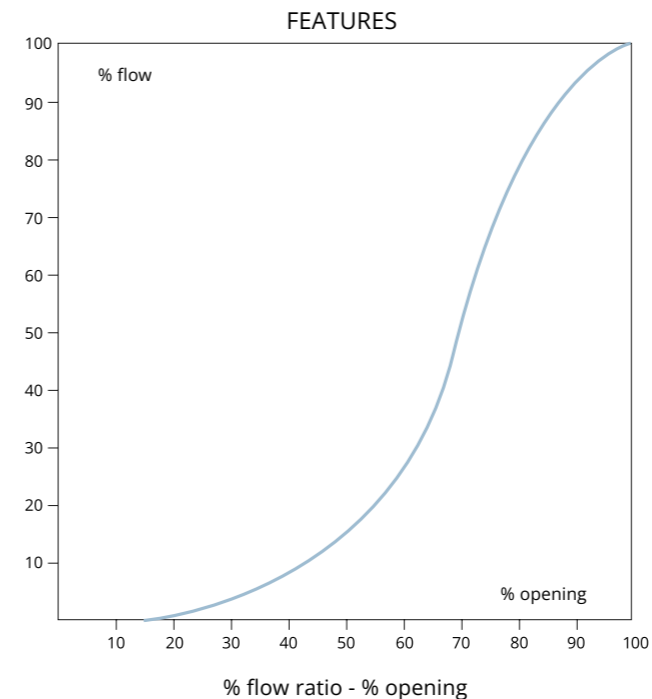
Technical specifications

The ICOMAR valves offer all the advantages of butterfly valves: reduced size and weight, easy and quick assembly and disassembly, minimal pressure drop, easy to handle and regulation possibilities. Additionally, ICOMAR butterfly valves are leakproof, without packing glands, and therefore maintenance-free.



flow / pressure features

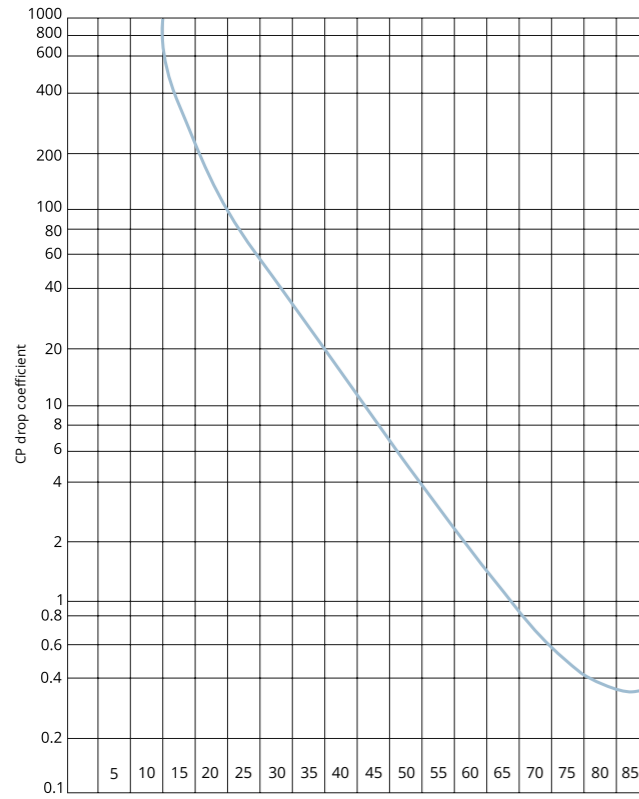
It is recommended that optimal regulation should be between 20° and 70°



PRESSURE DROP

The purpose of control valves is to adapt the flow-pressure characteristic to the different operating conditions.

Selecting a control valve depends on the prior estimation or calculation of the flow-pressure characteristics before they are installed. Accumulating safety coefficients may result in defining a valve that is too large, which operate with a reduced opening. The opposite mistake leads to defining a too small valve which will absorb too much energy, even when fully open.

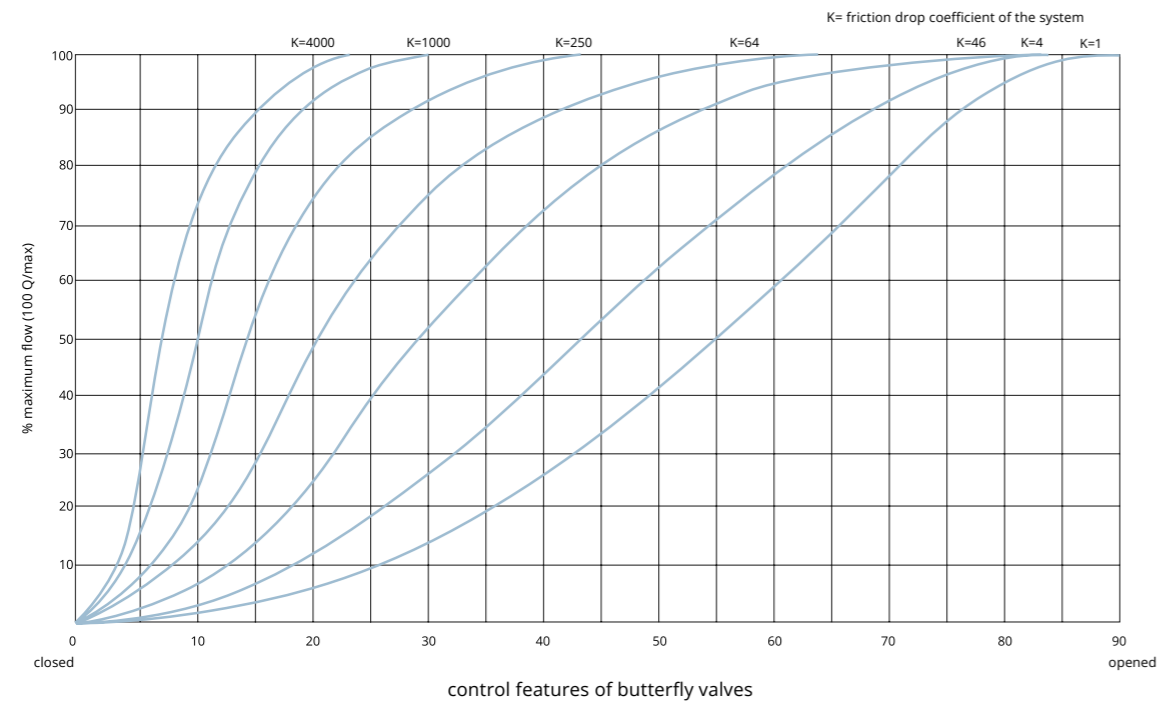


CP drop coefficient of a butterfly valve

In this graph, we see the relation between the opening angle of the butterfly regarding its closed position plane, with the coefficient of pressure drop CP (flow-pressure).

It is clearly observed that when opening or closing the butterfly valve, this coefficient increases or decreases linearly throughout the complete turning, except near of full closure and full opening, where it is larger or smaller, respectively, than what would correspond to them.

The flow control of the butterfly valve can be seen in this graph, which relates the angle of opening of the butterfly valve with the coefficient (K) of pressure drop of the system and with the % of maximum flow passing through the valve. Therefore, for each angle of opening of the butterfly valve and for different values of K, the maximum flow passing through the valve will be obtained.



working pressure in kg/cm²

DN		1	2	3	4	5	6	7	8	9	10
50	max. torque					2					3
65	max. torque					2					3
80	max. torque					3					5
100	max. torque					4					6
125	max. torque					6					10
150	max. torque					10					16
200	stable torque		10	13	16	18	21	24	26	29	32
	dinamyc torque		8	9	11	12	13	14	15	16	17
250	stable torque		12	16	19	22	25	29	32	35	38
	dinamyc torque		14	17	20	21	23	24	26	28	30
300	stable torque		15	19	23	27	31	35	39	43	47
	dinamyc torque		21	26	20	32	35	37	40	43	46
350	stable torque		19	24	29	34	39	44	49	54	59
	dinamyc torque		29	35	40	44	48	51	55	59	62
400	stable torque		25	32	39	46	53	60	67	74	81
	dinamyc torque		41	50	56	64	68	74	80	87	92
450	stable torque		36	46	56	66	76	86	96	106	116
	dinamyc torque		61	74	84	93	102	114	120	130	137
500	stable torque		44	57	70	83	96	109	122	135	148
	dinamyc torque		80	89	111	125	137	150	162	172	180

NOTE: Dynamic torque calculated on the basis of a liquid at 2 m/s speed. In any case all data refer to a liquid of d=1.

OPERATING TORQUE

The operating torque is defined by the stress required to overcome the friction of the shaft in the bearings and the penetration stress of the butterfly on the rubber seat. This last effort is zero when the butterfly is opened, but then the hydrodynamic torque exerted by the fluid in its movement appears.

The absence of metal parts sliding against each other and submitted to the difference of pressure between the two sides of the valve means that the stress necessary to operate our valves is minimum.