

Wafer butterfly valve **Serie J9**



EPDM
NBR
FKM/VITON
PTFE



The shut-off wafer butterfly valves in Series J9 are equipped with a centred disc and wafer type body, and are made of ductile iron or stainless steel, manufactured in accordance with severe product norms and in conformity to EN ISO 9001. These valves are suitable for heating and conditioning (HVAC), water treatment and water distribution, industrial applications, agricultural purposes for compressed air, gas, oils and hydrocarbons. (Please ensure the choice of the corresponding item)

YES: for in line and end of line installation with frequent actuation; the integrated support, in accordance with ISO 5211, allows easy mounting of a wide range of actuators and drives.

They are suitable for choking and regulating the flow.

NO: for steam.

Accessories

- Extension for main water system connection
- Position indicator and padlocking for gear box
- Micro-switch for gear box
- Kit: micro-switches for ON/OFF position indicator

Actuators

- Double acting and single acting pneumatic actuators
- On request: micro-switches, position indicators
- Electric actuators
- Gear box
- Chain driven control

Certifications



In conformity with directive 2014/68/UE (ex 97/23/CE PED)

In conformity with D.M. 174 (directive 98/83/CE) and with UNI EN 1074-1:2001 - UNI EN 1074-2:2004

Design and testing standards (correspondences):

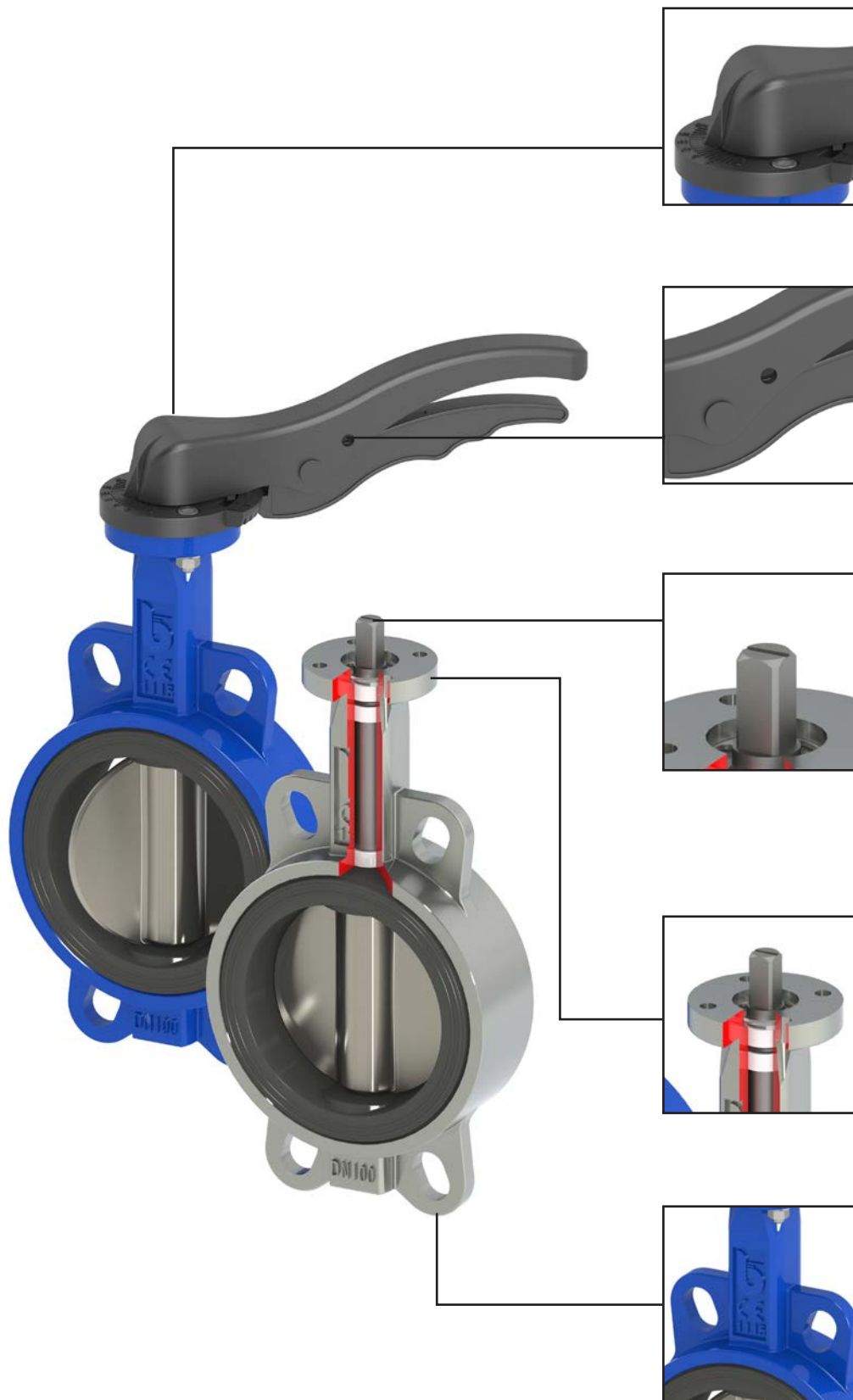
Face-to-face: EN558/1-20 (ISO 5752-20, DIN 3202K1)

Flanges: EN1092 ISO 7005, ANSI B16.5 #150

Design: EN593, EN12516, ISO 5211, EN12570

Marking: EN19

Testing: 100% testing in accordance with EN 12266 cat. A (ISO 5208 cat. A)



Lever suitable for intermediate regulation.

Lockable operation lever.

A notch machined at the top of the stem indicates the position of the disc and allows adjusting the lever/actuator to the correct position, when the command/lever is removed.

Integrated ISO 5211 flange.

Alignment holes. Suitable for mounting between PN6, PN10, PN16 and ANSI 150 for DN 25-400 For DN 450-600 stainless steel for PN 10 and PN 16 flanges. Epoxy coating.

EPDM



J9.100

Body: ductile iron
Disc: nickel plated ductile iron
Liner: EPDM
Temp: -10 a +120°C



J9.120

Body: ductile iron Disc:
AISI 316
Liner: EPDM
Temp: -10 a +120°C



J9.128

Body: ductile iron
Disc: AISI 316
Liner: EPDM
Temp: -10 a +120°C
Wras approv. up to 80° C



J9.170

Body: ductile iron Disc:
Aluminium-bronze
Liner: EPDM
Temp: -10 a +120°C

NBR



J9.101

Body: ductile iron
Disc: nickel plated ductile iron
Liner: NBR
Temp: -10 a +80°C



J9.101 gas

Body: ductile iron
Disc: nickel plated ductile iron
Liner: NBR
Temp: -10 a +70°C



J9.121

Body: ductile iron Disc:
AISI 316
Liner: NBR
Temp: -10 a +80°C



J9.121 gas

Body: ductile iron Disc:
AISI 316
Liner: NBR
Temp: -10 a +70°C

NBR



J9.171

Body: ductile iron Disc:
Aluminium-bronze
Liner: NBR
Temp: -10 a +80°C



J9.102

Body: ductile iron
Disc: nickel plated ductile iron
Liner: FKM
Temp: -10 a +150°C



J9.122

Body: ductile iron Disc:
AISI 316
Liner: FKM
Temp: -10 a +150°C



J9.172

Body: ductile iron Disc:
Aluminium-bronze
Liner: FKM
Temp: -10 a +150°C

PTFE



J9.103

Body: ductile iron
Disc: nickel plated ductile iron
Liner: PTFE
Temp: -10 a +120°C



J9.123

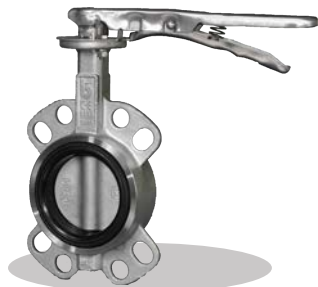
Body: ductile iron Disc:
AISI 316
Liner: PTFE
Temp: -10 a +120°C



J9.173

Body: ductile iron Disc:
Aluminium-bronze
Liner: PTFE
Temp: -10 a +120°C

Disc AISI 316



J9.620 EPDM

Body: AISI 316
Disc: AISI 316
Liner: EPDM
Temp: -10 a +120°C



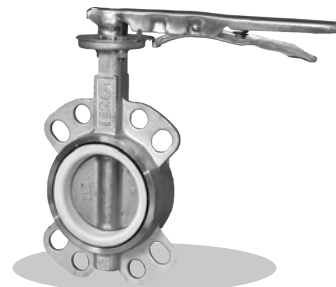
J9.621 NBR

Body: AISI 316 Disc:
AISI 316
Liner: NBR
Temp: -10 a +80°C



J9.622 FKM

Body: AISI 316
Disc: AISI 316
Liner: FKM
Temp: -10 a +150°C



J9.623 PTFE

Body: ductile iron
Disc: AISI 316
Liner: PTFE
Temp: -10 a +120°C

Disc AISI 316



J9.628 EPDM

Body: AISI 316
Disc: AISI 316
Liner: EPDM
Temp: -10 a +120°C
Wras approv. up to 80°C

Disc Aluminium-bronze



J9.670 EPDM

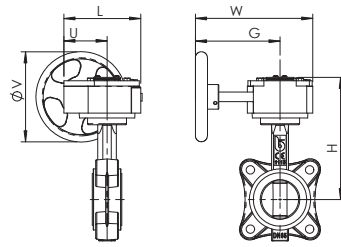
Body: AISI 316
Disc: Aluminium-bronze
Liner: EPDM
Temp: -10 a +120°C



J9.673 PTFE

Body: AISI 316
Disc: Aluminium-bronze
Liner: PTFE
Temp: -10 a +120°C

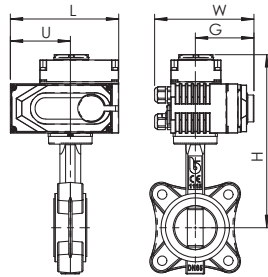
Actuators and accessories



Jg + RM

Gear box

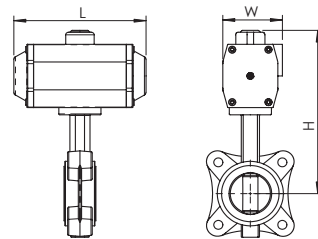
DN	25	32	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
Jg + RM	RM.0250	RM.0250	RM.0250	RM.0250	RM.0250	RM.0250	RM.0250	RM.0250	RM.0250	RM.0750	RM.1200	RM.1200	RM.1200	RM.1200	3DE-180	3DE-250	3DE-400
L	130	130	130	130	130	130	130	130	130	180	205	205	205	278	278	277	323
U	77	77	77	77	77	77	77	77	77	104	124	124	124	118	118	107	131
H	166	172	178	188	198	212	232	242	262	308	346	372	415	457	519	607	693
W	225	225	225	225	225	225	225	225	225	338	345	345	345	291	291	379	428
G	170	170	170	170	170	170	170	170	170	260	260	260	260	167	167	207	256
V	150	150	150	150	150	150	150	150	150	300	300	300	300	380	380	285	385
Weight Kg	5.7	5.7	5.8	6.1	6.4	7.02	8.12	9.61	11.11	22.3	32.8	42	43	60	107.7	155.8	231.1



Jg + AOX

Electric actuators

DN	25	32	40	50	65	80	100	125	150	200	250	300	350	400
Jg + AOX	003	003	003	003	005	005	008	010	015	030	060	060	100	160
L	123	123	123	123	160	160	160	189	189	268	268	268	268	508
U	74	74	74	74	89	89	89	107	107	152	152	152	152	366
H	217	223	229	239	257	271	291	309	329	394	430	456	499	789
W	100	100	100	100	121	121	121	145	145	225	225	225	225	285
G	65	65	65	65	84	84	84	89	89	119	119	119	119	143
Weight Kg	3.8	3.8	3.9	4.2	6	6.8	7.9	10.9	12.4	28.4	37.3	43.7	45.2	115.7

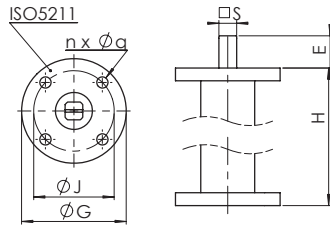


Jg + AP

Pneumatic actuator

DN	25	32	40	50	65	80	100	125	150	200	250	300	350	400
Jg + AP DE	AP1	AP1	AP2	AP2	AP3	AP3	AP3	AP3.5	AP4	AP4.5	AP5.5	AP5.5	AP6	AP8
L	142	142	155	155	213	213	213	236	276	310	388	388	468	563
H	191	197	219	229	256	270	290	310	345	402	472	498	565	740
W	60	60	73	73	85	85	85	98	110	128	160	160	175	215
Weight Kg	2.7	2.7	3.22	3.52	4.94	5.74	6.84	9.98	12.9	23.24	37.44	55.94	62.66	96.6
Jg + AP SE - SPRING RETURN	AP2S	AP2S	AP3S	AP3S	AP3.5S	AP3.5S	AP4S	AP4.5S	AP5S	AP6S	AP6S	AP8S	AP8S	AP10S
L	155	155	213	213	236	236	276	310	366	468	563	563	563	750
H	207	213	236	246	316	330	365	412	445	520	646	672	715	725
W	73	73	85	85	98	98	110	128	140	175	215	215	215	290
Weight Kg	3.26	3.26	4.9	5.2	6.7	7.5	10.5	15.97	20.42	38.86	68.32	86.82	87.86	161

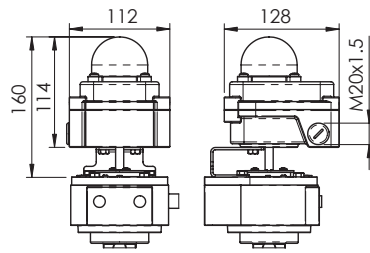
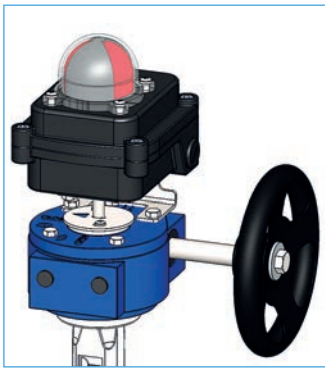
Actuators and accessories



DN	40-100	125-150	200	250-300
H	250 - 500 - 800 - 1000			
ISO 5211	F05	F07	F10	F12
G	65	90	125	150
J	50	F07	F10	F12
n x Ø q	4 x 7	4 x 9	4 x 11	4 x 13
E	20	26	26	26
S	11	14	17	27

KPROg

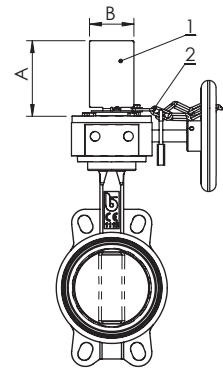
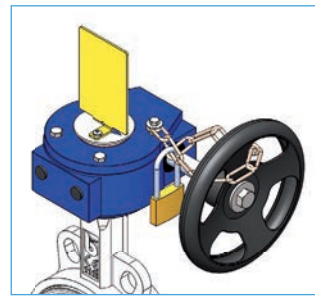
Stem extension for water main system connection



Mechanical switches per standard. Available on request: proximity switches, ATEX explosion proof proximity switches.

KBOXRM

Limit switches box for gear box

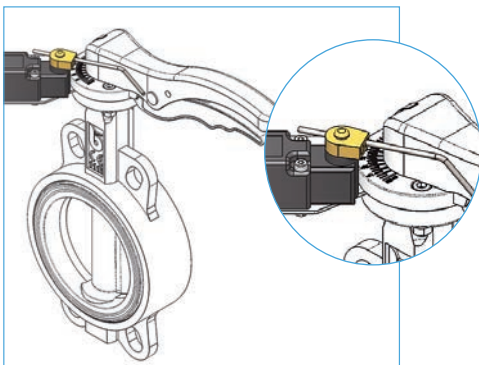


KPOSRM

Position indicator and padlocking for gear box

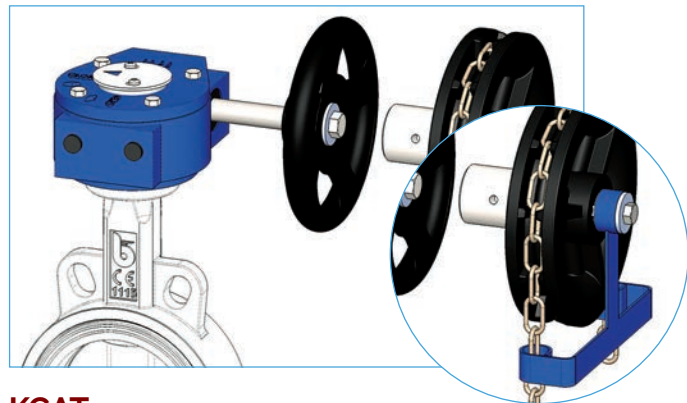
DN	25-150	200-400
A	100	120
B	60	80

1) Position indicator
2) Chain for padlocking



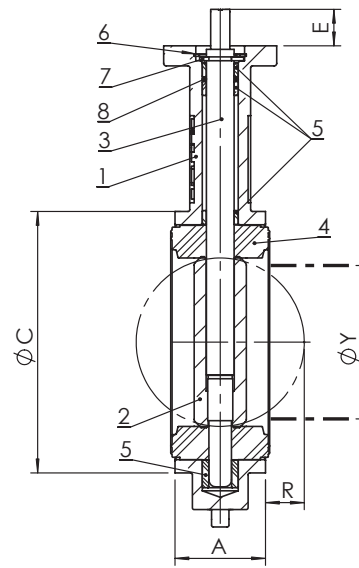
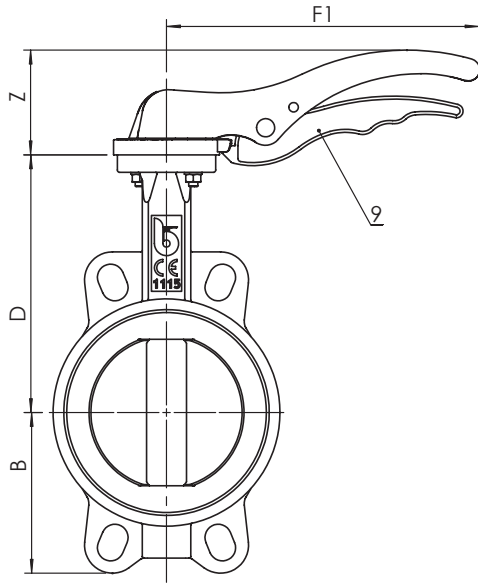
KFC109

Limit switches kit for ON-OFF indication



KCAT

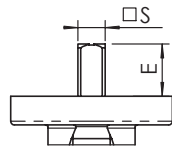
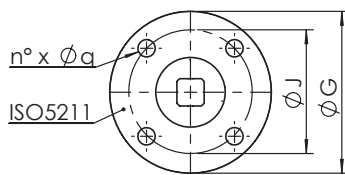
Chain driver kit



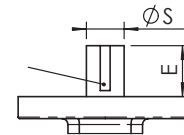
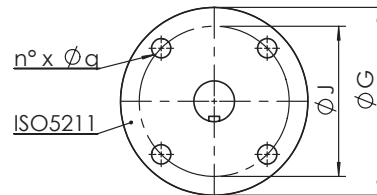
Dimensions (mm)

DN	25	32	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
A	33	33	33	43	46	46	52	56	56	60	68	78	78	102	114	127	154
ØC	65	73	82	89	102	118	150	174	205	260	318	376	406	471	539	594	695
D	104	110	116	126	136	150	170	180	200	230	266	292	335	360	422	480	562
B	51	56	63	62	69	90	106	119	131	166	202	235	257	292	318	355	444
F1	192	192	170	170	170	206	206	285	285	400	530	-	-	-	-	-	-
Z	68	68	50	50	50	69	69	90	90	72	72	-	-	-	-	-	-
R	-	1	5	5	9	17	26	34	50	71	91	112	128	144	163	182	219
ØY min pipe	-	12	27	31	45	65	90	110	146	194	241	291	324	379	428	475	573

NOTE: valves with EPDM, NBR and FKM ≥ DN 300 and those with PTFE ≥ DN 125 will be supplied with MANUAL REDUCER



DN25-400



DN450-600

Parallel key
ISO R773 / DIN6885A

DN	25	32	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
ISO 5211	F05	F05	F05	F05	F05	F05	F05	F07	F07	F10	F12	F12	F12	F12	F14	F14	F16
G	65	65	65	65	65	65	65	90	90	125	150	150	150	150	175	175	210
J	50	50	50	50	50	50	50	70	70	102	125	125	125	125	140	140	165
n x q	4 x 7	4 x 7	4 x 7	4 x 7	4 x 7	4 x 7	4 x 7	4 x 9	4 x 9	4 x 11	4 x 13	4 x 13	4 x 13	4 x 13	4 x 18	4 x 18	4 x 22
S	7	7	9	9	9	11	11	14	14	17	27	27	27	27	38	41.15	50.65
E	32	32	21	21	21	21	21	27	27	27	27	27	27	27	51.2	64.2	70.2

1: please see Instruction and Recommendations

DN	25	32	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
J9.1 with lever	1,7	1,7	1,8	2,1	2,4	3,2	4,3	6,3	7,8	15,0	23,5	-	-	-	-	-	-
J9.6	-	-	-	2,1	2,4	3,1	4,1	6,1	7,5	14,1	22,8	-	-	-	-	-	-

Operating torque (Nm)

DN	25	32	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
DP bar																	
3	2,9	4,7	7,8	11,3	17	23	33	48	68	120	189	290	298	481	930	1'250	2'270
6	3,1	5,1	8,4	12	18	25	36	54	78	134	212	316	347	551	980	1'350	2'500
10	3,3	5,4	8,8	13	20	26	40	61	88	148	234	342	396	622	1'312	1'848	3'005
16	3,4	5,7	9,2	13	21	28	44	68	99	162	257	367	550	850	1'543	2'112	3'535

N.B.: In order to choose the right actuator, we recommend multiplying the operating torque figure by a safety coefficient, K=1.5

Minimum pipe diameter Y

To ensure complete disc opening, make sure that the inner diameter of the pipe exceeds the following values

DN	25	32	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
	-	12	27	31	45	65	90	110	146	194	241	291	324	379	428	475	573

Flange chart For mounting between flanges

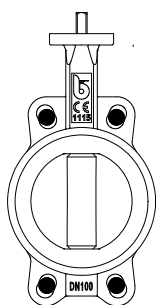
	25	32	40	50	65	80(1)	100	125	150	200	250	300	350	400	450	500	600
PN6 EN1092	v (A)	v (A)	v (A)	v (A)	v (A)	v (D)	v (B)	v (A)	v (A)	v (A)	v (A)	v (A)	v (A)	v (A)	X	X	X
PN10 EN1092	v (A)	v (A)	v (A)	v (A)	v (A)	v (C)	v (A)	v (A)	v (A)	v (A)	v (A)	v (A)	v (A)	v (A)	v (A)	v (A)	v (A)
PN16 EN1092	v (A)	v (A)	v (A)	v (A)	v (A)	v (C)	v (A)	v (A)	v (A)	v (A)	v (A)	v (A)	v (A)	v (A)	v (A)	v (A)	v (A)
#150 ANSI B16.5	v (A)	v (A)	v (A)	v (A)	v (A)	v (D)	v (A)	v (A)	v (A)	v (A)	v (A)	v (A)	v (A)	v (A)	X	X	X

X: mounting not allowed

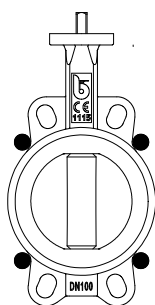
v: mounting allowed

A, B, C, D: Bolt arrangement

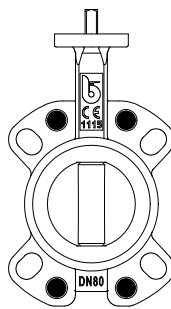
(1): DN80 PN10-16 with 4 holes see bolt arrangement D



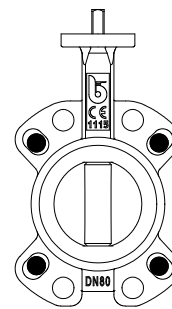
A



B



C



D

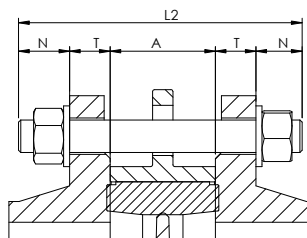
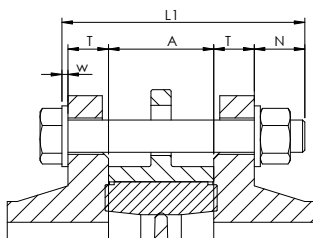
Bolt length calculation

Mounting with screws

Mounting with tie-rods

$L1 \geq A+2T+w+N$

$L2 \geq A+2T+2N$



DN	25	32	40	50	65	80(1)	100	125	150	200	250	300	350	400	450	500	600
A	33	33	33	43	46	46	52	56	56	60	68	78	78	102	114	127	154
N*	18	24	24	24	24	24	24	26	26	26	32	32	32	32	32	36	40

T = flange thickness (customer)

w = thickness of washer at the screw head

* Max among: EN1092 PN6/10/16 and ANSI 150.

** We do not supply the bolting.

Recommended flange types

Norms	Type	
EN 1092-1 PN6/10/16	Type 11	weld neck
	Type 21	integral
	Type 02 + 35	loose plate with weld ring neck
	Type 02 + 36	loose plate with pressed collar
	Type 04 + 34	loose plate with weld neck collar
ANSI B16.1#150° ANSI B16.5#150°		flat face
		raised face
		lap joint

Materials

	Component	Material	
		J9.1	J9.6
1	Body	Ductile iron EN GJS 400 - 15	Stainless steel ASTM A351 gr. CF8-M
2	Disc	Nickel plated Ductile iron EN GJS 400 - 15 / Stainless steel ASTM A351 gr. CF8-M / Aluminium-bronze CuAl11Fe4 ASTM B148 C94500	Stainless steel ASTM A351 gr. CF8-M / CuAl11Fe4 ASTM B148 C94500
3	Stem DN25-400	AISI 420	AISI 316
	Stem DN450-600	AISI 416	AISI 316
4	Liner	EPDM / NBR / FKM (Viton®) / PTFE	
5	Bushing	PTFE	
6	Washer	Galvanized carbon steel	Stainless steel A4
7	Circlip ISO3075	Spring steel	Stainless steel A4
8	O-ring	FKM (Viton®)	
9	Lever	DN25-150 aluminium / DN200-250 Ductile iron EN GJS 400-15	
10	Bolts	Galvanized carbon steel	Stainless steel A4

Maximum pressure

Tipo fluido * / Fluids *	Montaggio / Mounting	
	BETWEEN FLANGES	END OF LINE
Hazardous gases	16 bar DN25-200 10 bar DN250-350 NO DN400-600	10 bar DN25-100 NO DN125-600
Hazardous liquids	16 bar DN25-400 10 bar DN450-600	10 bar DN25-400 6 bar DN450-600
Non hazardous liquids	16 bar DN25-300 10 bar DN350-500 6 bar DN600	10 bar DN25-300 6 bar DN350-500 4 bar DN600
Non hazardous liquids	16 bar DN25-400 10 bar DN450-600	10 bar DN25-400 6 bar DN450-600
Water**	16 bar	16 bar

* hazardous gas, liquids acc. 2014/68/EU e 1272/2008 (CLP)

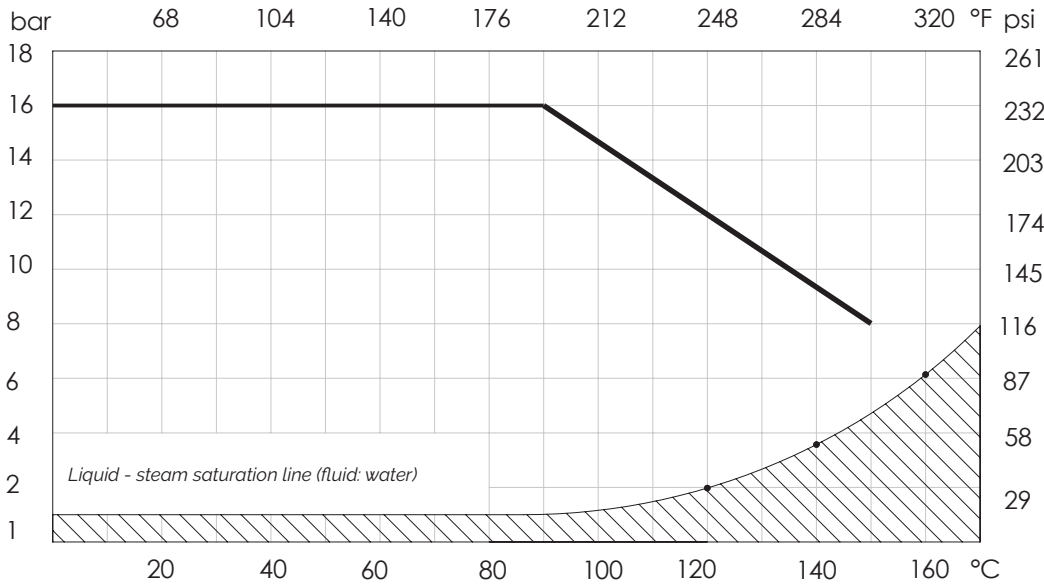
** For supply, distribution and discharge of water (PED 2014/68/EU 112b)

Temperature

Temperature	min °C	max°C - Max°C	
		continuous	peak
EPDM	-10	120	130
NBR	-10	80	90
FKM (Viton®)	-10	150	170
PTFE	-10	120	120

NB: the maximum working pressure decreases while the temperature increases; please refer to "pressure/temperature" chart

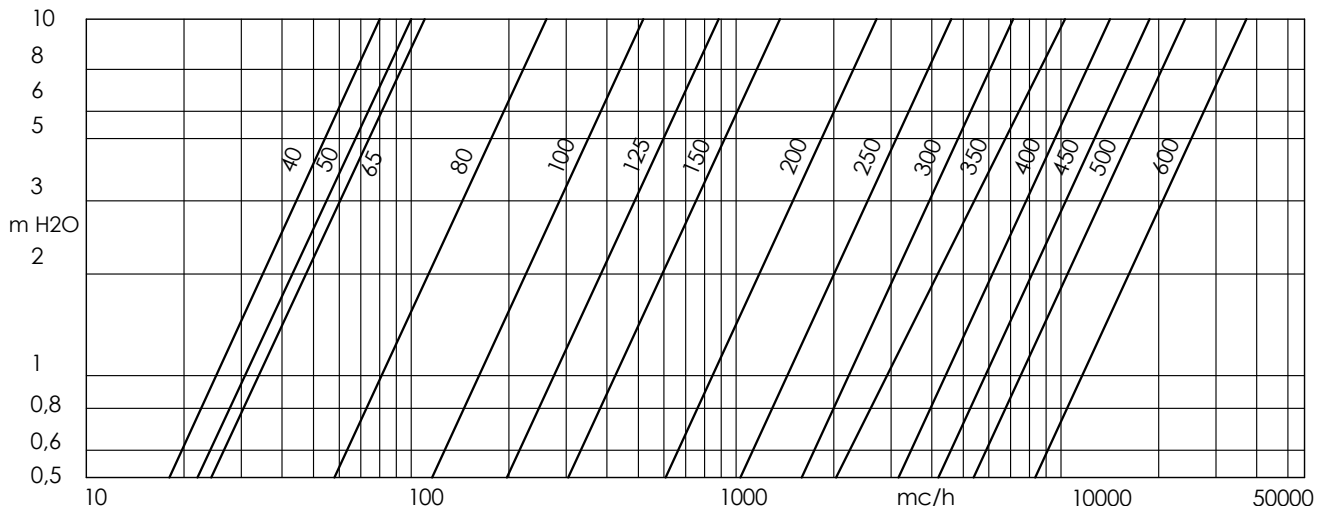
Pressure/temperature chart



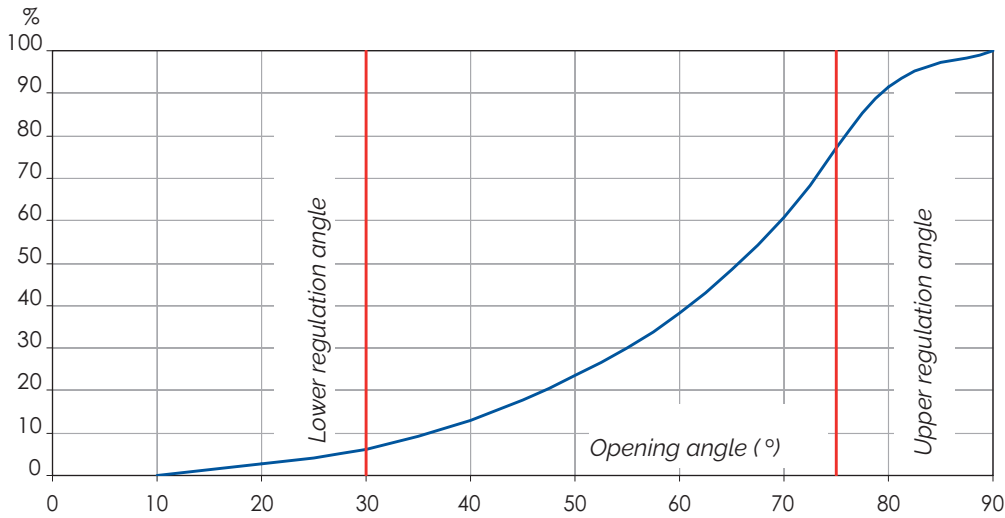
RANGE NOT SUITABLE FOR STEAM. DO NOT use when temperature and pressure are below the liquid-steam saturation line (hatched area)



Head loss Fluid: water (1m H2O = 0,098bar) - Head loss with shutter fully opened



Flow rate / opening position chart Flow percentage on the flow at full opening under the same loss of head.



Kv - DN chart (mc/h per bar)

DN	mm	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
	ins	1 1/2	2"	2 1/2	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
10°	0,04	0,05	0,00	0,17	0,26	0,43	0,69	2,6	2,6	3,5	5,2	6,9	9,5	12	19	
20°	2,1	2,6	3,8	7,8	15	25	39	52	130	202	292	401	531	683	1055	
30°	4,8	6	14	16	31	53	82	142	276	427	617	849	1124	1445	2234	
40°	10	13	33	34	67	115	177	250	599	926	1376	1839	2437	3133	4840	
50°	19	23	53	60	120	205	316	450	1068	1650	2384	3279	4342	5609	8626	
60°	30	38	75	100	199	339	522	713	1768	2730	3945	5425	7185	9238	14272	
70°	48	60	98	158	314	535	827	1122	2798	4322	6243	8585	11371	14620	22587	
80°	73	91	108	237	471	803	1241	1723	4196	6483	9364	12878	17057	21930	33882	
90°	79	99	108	261	518	883	1364	2716	4611	7124	10291	14152	18743	24099	37232	

Instruction and Recommendations for series J9 - L9

INSTALLATION AND TRANSPORT

- Keep in dry and closed place.
- While stored, the disc must be partially open (Fig. 1).
- Avoid knocks, take special care to protect lever, hand wheel, gear boxes/actuators.
- Do not use lever or hand wheel to lift the valve.

MAINTENANCE

The valve does not require maintenance.

Recommendations

Before carrying out maintenance or dismantling the valve, be sure that the pipes, valves and liquids have cooled down, that the pressure has decreased and that the lines and pipes have been drained in case of toxic, corrosive, inflammable or caustic liquids.

Temperatures above 50°C and below 0°C might cause damage to people.

INSTALLATION

- Handle with care.
- Do not weld the flanges to the piping after installing the valve.
- Water hammers might cause damage and ruptures. Inclination, twisting and misalignments of the piping may subject the valve to stress, once installed. It is recommended that elastic joints be used in order to reduce these effects as much as possible. The disc must be partially open (Fig. 1).

The stem has a machined notch N (Fig. 2), which indicates the position of the disc; consider this indication, in order to mount the levers and actuators correctly.

The mounting can be made with the stem axis in a horizontal or vertical position. In case the fluid contains suspended solid particles (for example, sand, impurities, etc.) or solid particles that may leave deposits, it is recommended that the valve be installed with its axis horizontal, and in such a way that the bottom end of the disc opens in the direction of flow, F. (Fig. 3)

FIG.1

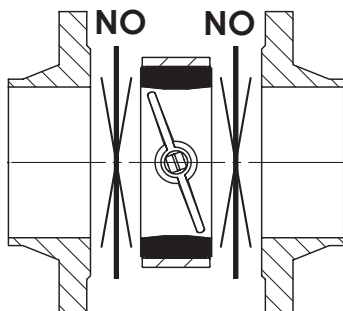


FIG.2

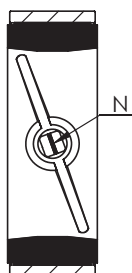
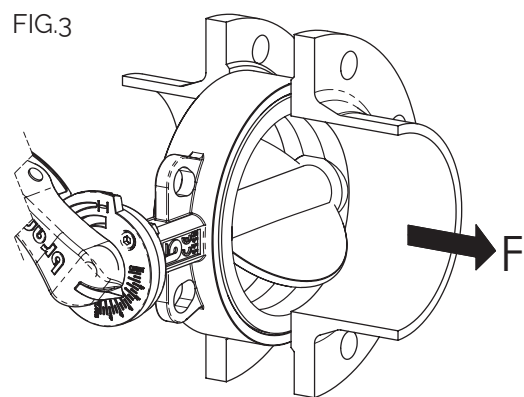


FIG.3



The item L9 allows the dismantling of the pipes downstream, for pressures below 6 bar. For end of line installation:

- series J9 (all pressures), series L9 (pressure > 6 bar): counter flange **MUST** be installed
- series L9 (pressure < 6 bar): it is recommended that a counter flange be installed.

Verify maximum working pressure and limits of use under section "maximum pressure".

Place the valve between two flanges. While placing the valve, ensure there is sufficient space in order not to damage the rubber. Do not mount seals between valve and flanges (Fig. 1).

Carefully clean the contact surface. Do not install the butterfly valve in direct contact with a rubber surface (for example, expansion joints); the best installation is when the rubber is in contact with metal (Fig. 4). In order to achieve correct working, the internal diameter of the pipe must be greater than the value indicated in the chart. Do not weld the flanges to the tube if the valve has already been installed. It is recommended that the flanges listed in the chart be used. As far as possible, avoid flat flanges for welding (EN 1092 01 type); if these flanges are used, ensure perfect centring between the flange and valve, and be sure to weld exactly edgewise to the flange. Do not let protrusions or sharp edges on the piping cause damage to the rubber surface of the valve (Fig. 5).

Centre the valve on holes while using wafer type valves.

Tighten the bolts crosswise and progressively, in order to distribute the pressure equally before the body and flanges come into contact with each other. (Fig. 6)

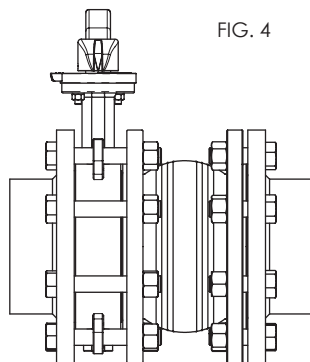


FIG. 4

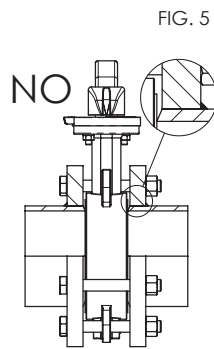


FIG. 5

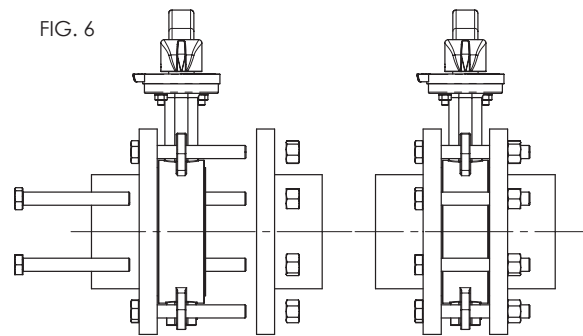


FIG. 6

With regard to the Lug version, check that the screws are the correct length, in order to allow complete compression of the lining rubber.

Turbulences of the fluid might increase erosion and reduce the life-cycle of the valve. Install the valve at a distance of at least 1 x DN upstream, and at a distance of 2-3 x DN downstream, away from fittings or bends. In the open position, the valve is larger than the nominal Face to Face value.

Check that no other components of the piping interfere or create damage or malfunction (Fig. 7A).

If they do, a spacer should be inserted for the valve to operate correctly (Fig. 7B).

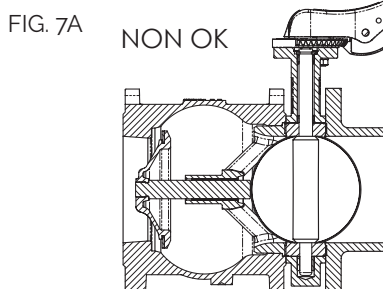


FIG. 7A

NON OK

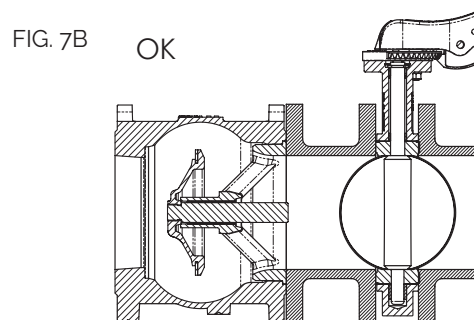


FIG. 7B

OK

DISPOSAL

For valve operating with hazardous media (toxic, corrosive...) , if there is a possibility of residue remaining in the valve, take due safety precaution and carry out required cleaning operation. Personnel in charge must be trained and equipped with appropriate protection devices.

Prior to disposal, disassemble the valve and separate the component according to various materials. Please refer to product literature for more information. Forward sorted material to recycling (e.g. metallic materials) or disposal, according to local and currently valid legislation and under consideration of the environment.