Serie J

Wafer butterfly valve

J9_GB_06/07/2015

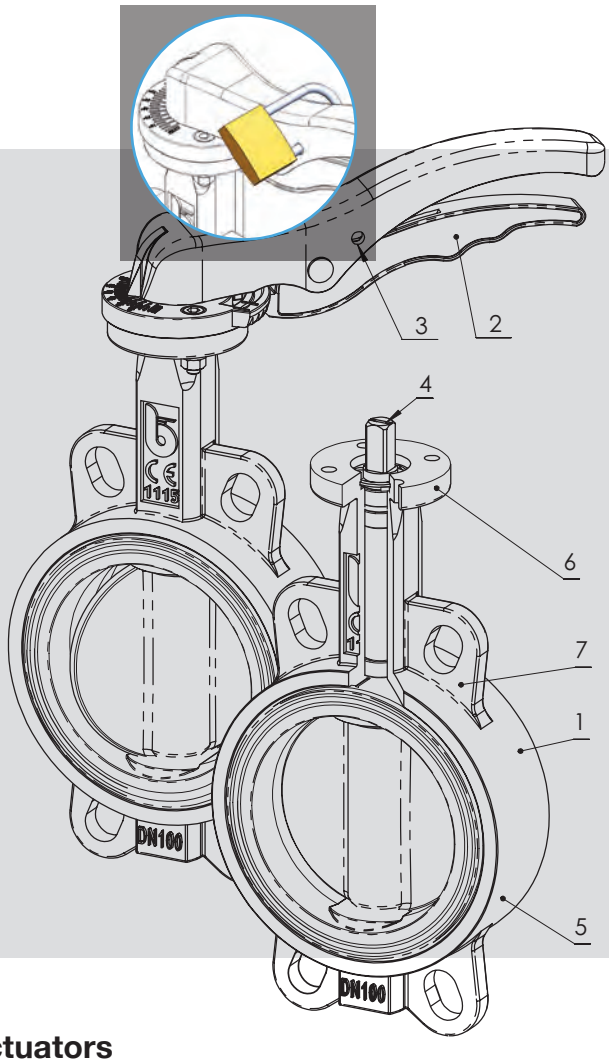
Application fields

WATER · CONDITIONING · GAS · HEATING · DRINKING WATER · INDUSTRY · MARINE · FIRE FIGHTING

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.



1. Epoxy coating.
2. Lever suitable for intermediate regulation.
3. Lockable operation lever.
4. 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.
5. Compact design.
6. Integrated ISO 5211 flange.
7. 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.

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

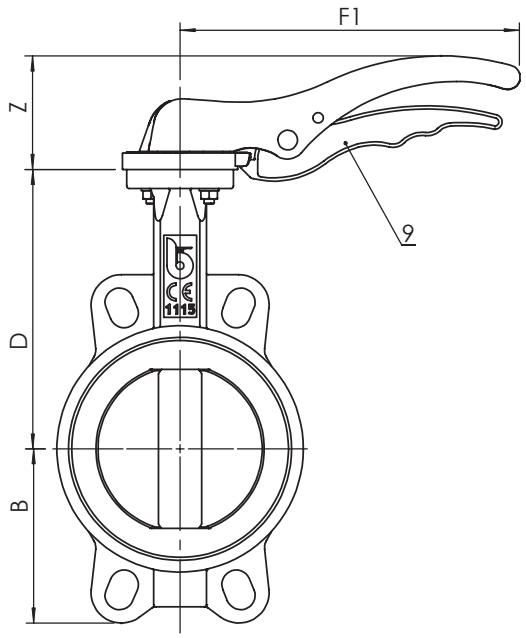
Refer to specifications on page 79

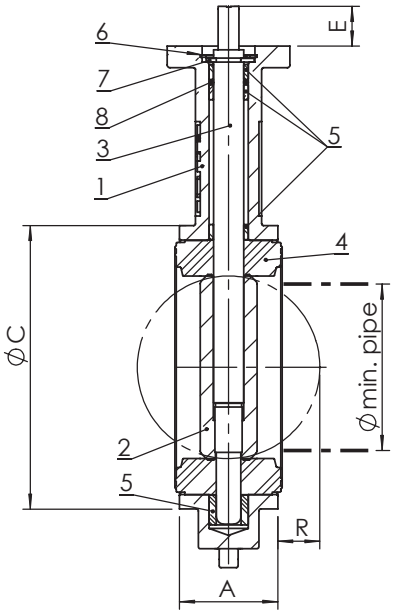
CE In conformity with directive 97/23/CE PED
In conformity with D.M. 174 (directive 97/83/CE)

Construction and testing norms (correspondences):

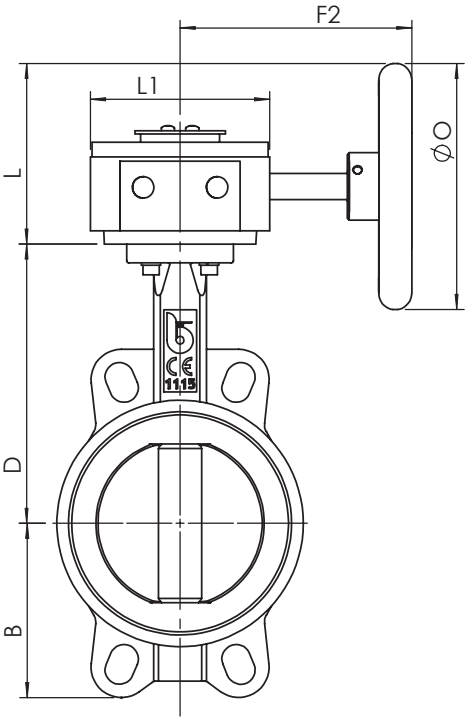
Face-to-face: EN558/1-20 (ISO 5752-20, DIN 3202K1)
Flanges: EN1092, ANSI B16.5 #150
Design: EN593, EN13445, ISO 5211, EN12570
Marking: EN19
Testing: 100% testing in accordance with EN 12266 cat. A (ISO 5208 cat. A)

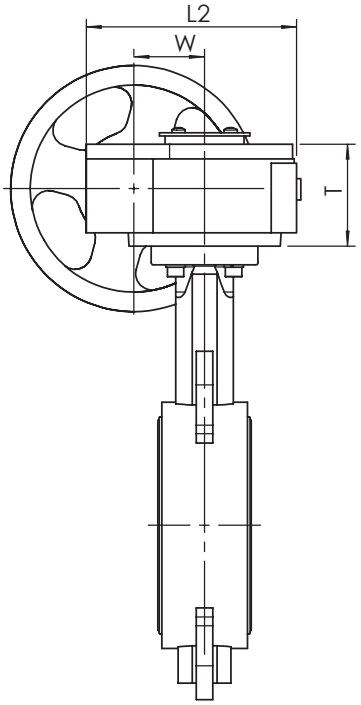
J.1/J.6 DN25-250

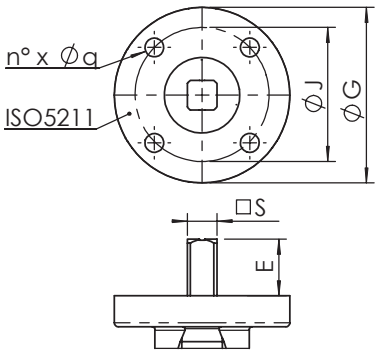




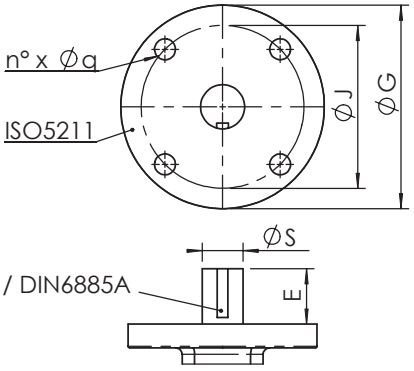
J.0 DN450-600 / J.1 DN300-600







DN25-400



DN450-600

Materials

J.1	Component	Material
1	Body	EN GJS 400 - 15
2	Disco	EN GJS 400 - 15 nickel plated / ASTM A351 gr. CF8-M / CuAl11Fe4 ASTM B148 C94500
3	Stem DN25-400	AISI 420
	Stem DN450-600	AISI 416
4	Liner	EPDM / NBR / FKM (Viton®) / PTFE
5	Bushing	PTFE
6	Washer	Galvanized carbon steel
7	Circlip ISO3075	Spring steel
8	O-ring	FKM (Viton®)
9	Lever	DN25-150 aluminium / DN 200-250 EN GJS 400-15
10	Bolts	Galvanized carbon steel

J.6	Component	Material
1	Body	ASTM A351 gr. CF8-M
2	Disco	ASTM A351 gr. CF8-M / CuAl11Fe4 ASTM B148 C94500
3	Stem	AISI 316
4	Liner	EPDM / NBR / FKM (Viton®) / PTFE
5	Bushing	PTFE
6	Washer	Stainless steel A4
7	Circlip ISO3075	Stainless steel A4
8	O-ring	FKM (Viton®)
9	Lever	DN25-150 aluminium / DN200-250 EN GJS 400-15
10	Bolts	Stainless steel A4

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	-	-	-	-	-	-
F2	170	170	170	170	170	170	170	170	170	235	226	226	226	226	216	256	285
L	102,5	102,5	102,5	102,5	102,5	102,5	102,5	102,5	102,5	190	190	190	190	190	183	311	386
T	65	65	65	65	65	65	65	65	65	78	80	80	80	80	80	125	136
L1	110	110	110	110	110	110	110	110	110	155	170	170	170	170	151	214	262
L2	130	130	130	130	130	130	130	130	130	176	195	195	195	195	188	275	324
W	45	45	45	45	45	45	45	45	45	63	81	81	81	81	80	168	293
O	150	150	150	150	150	150	150	150	150	300	300	300	300	300	285	285	385
R	-	1	5	5	9	17	26	34	50	71	91	112	128	144	163	182	219
D min pipe	-	12	27	31	45	65	90	110	146	194	241	291	324	379	428	475	573
Mounting between flanges [1]	EN 1092 PN6 - PN10 - PN16 - ANSI B16.5 #150														EN 1092 PN10		
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	1 25	1 50	1 50	1 50	1 50	175	175	210
J	50	50	50	50	50	50	50	70	70	1 02	1 25	1 25	1 25	1 25	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	1 1	1 4	1 4	1 7	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*

Weight (kg)

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 with lever	-	-	-	2,1	2,4	3,1	4,1	6,1	7,5	14,1	22,8	-	-	-	-	-	-
J9.1 with gear box	6,2	6,2	5,8	6,1	6,4	7,0	8,1	9,6	11,2	22,0	33,0	42,0	43,0	60,0	107,4	155,8	231,1
J9.6 with gear box	-	-	-	6,1	6,4	6,9	7,9	9,4	10,9	21,9	32,3	-	-	-	-	-	-

Operating torque (Nm)

DP bar																	
3	2,9	4,7	7,8	11,3	17	23	33	48	68	120	189	290	298	481	930	1250	2270
6	3,1	5,1	8,4	1 2	1 8	25	36	54	78	134	212	316	347	551	980	1350	2500
10	3,3	5,4	8,8	13	20	26	40	61	88	148	234	342	396	622	1200	1500	2700
16	3,4	5,7	9,2	13	21	28	44	68	99	162	257	367	550	850	-	-	-

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

D min pipe

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

Maximum pressure

Fluids *	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
Non-hazardous gases	16 bar DN25-300 10 bar DN350-500 6 bar DN600	10 bar DN25-300 6 bar DN350-500 4 bar DN600
Hazardous fluids	16 bar DN25-400 10 bar DN450-600	10 bar DN25-400 6 bar DN450-600
Non-hazardous fluids	16 bar DN25-400 10 bar DN450-600	10 bar DN25-400 6 bar DN450-600

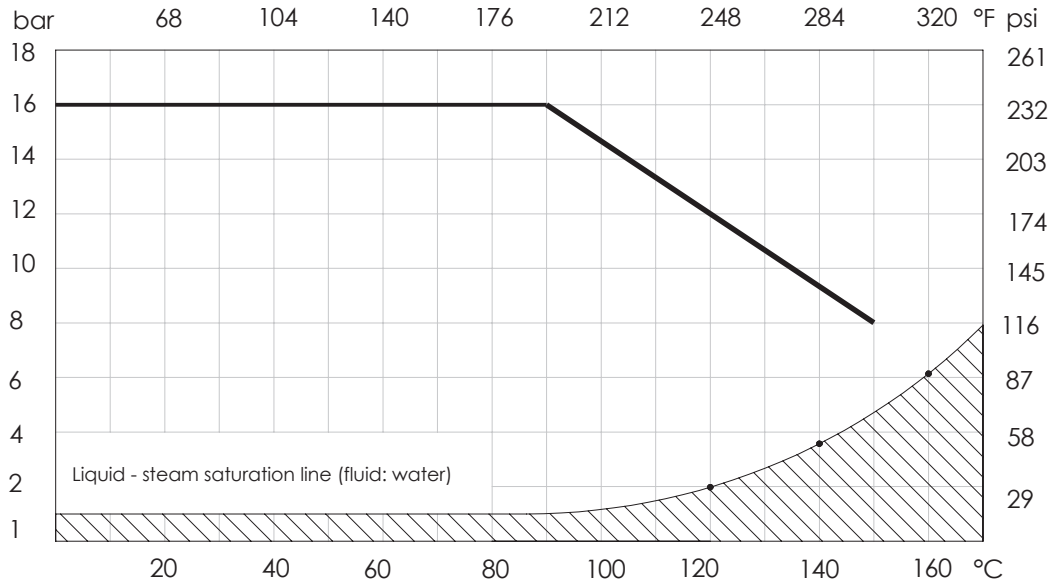
*: Hazardous gas, liquids (explosive, inflammable, toxic) in accordance with 97/23/CE PED and 67/548/EEC

Temperature

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

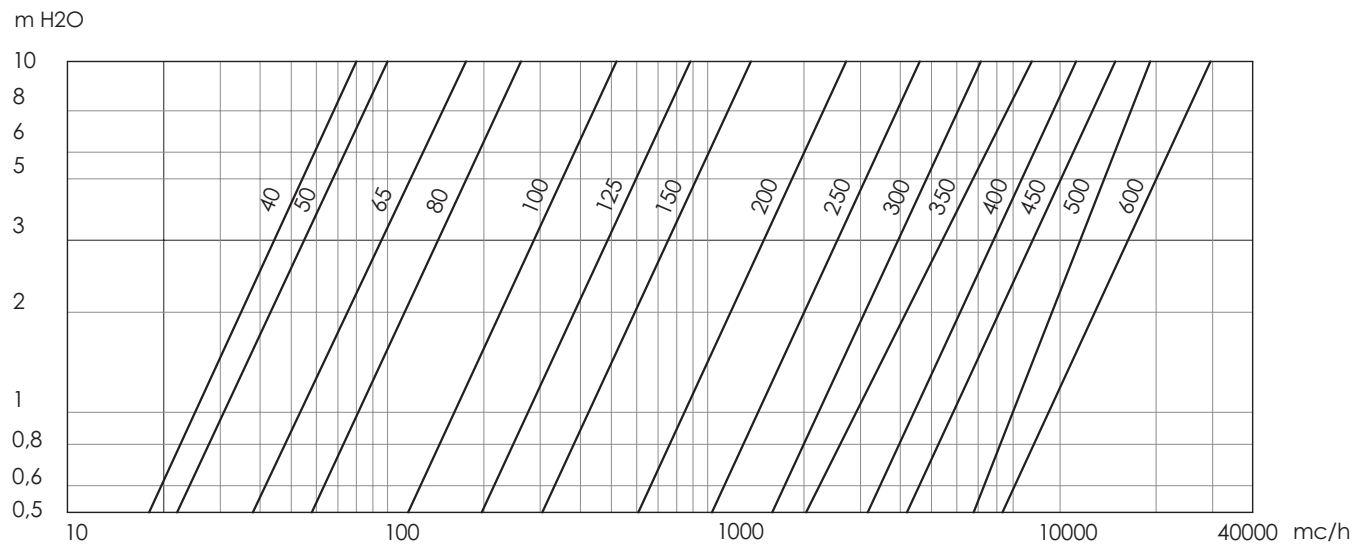
NB: *the maximum working pressure decreases while the temperature increases; please refer to "pressure/temperature" chart*

Pressure/temperature chart

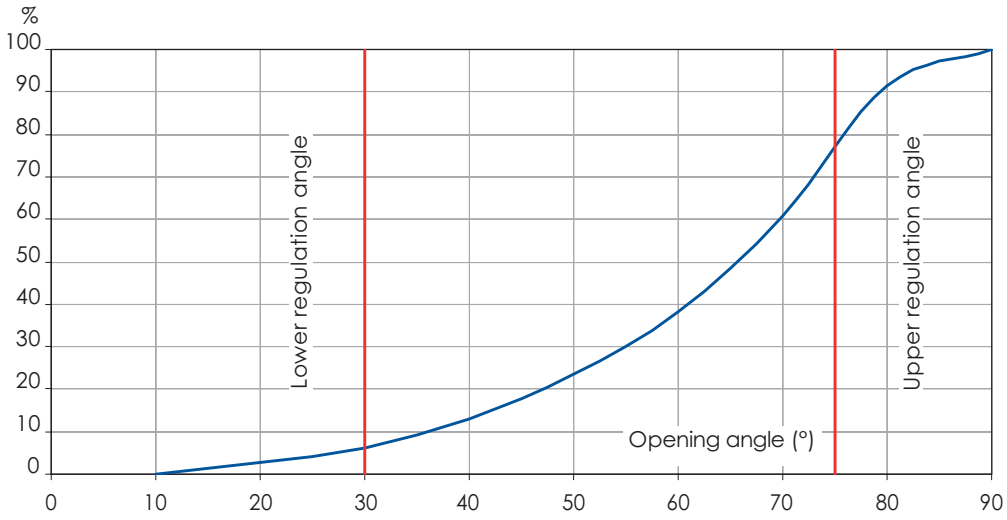


RANGE NOT SUITABLE FOR STEAM. DO NOT use when temperature and pressure are below the liquid-steam saturation line (hatched area)

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"
OPENING ANGLE	10°	0,04	0,05	0,09	0,17	0,26	0,43	0,69	1,73	2,6	3,5	5,2	6,9	9,5	12	19
	20°	2,1	2,6	5,2	7,8	15	25	39	77	130	202	292	401	531	683	1055
	30°	4,8	6	10	16	31	53	82	162	276	427	617	849	1124	1445	2234
	40°	10	13	22	34	67	115	177	352	599	926	1376	1839	2437	3133	4840
	50°	19	23	39	60	120	205	316	628	1068	1650	2384	3279	4342	5609	8626
	60°	30	38	65	100	199	339	522	1038	1768	2730	3945	5425	7185	9238	14272
	70°	48	60	103	158	314	535	827	1643	2798	4322	6243	8585	11371	14620	22587
	80°	73	91	161	237	471	803	1241	2465	4196	6483	9364	12878	17057	21930	33882
	90°	79	99	169	261	518	883	1364	2708	4611	7124	10291	14152	18743	24099	37232

Versions

EPDM liner

WRAS * ICIM * ICIM * * CE PG

J9.100

Body: EN GJS 400 -15
Disc: EN GJS400 nickel plated
Liner: EPDM
Temp: -10 a +120°C

J9.120

Body: EN GJS 400 -15
Disc: AISI 316
Liner: EPDM
Temp: -10 a +120°C

J9.170

Body: EN GJS 400 -15
Disc: Aluminium-bronze
Liner: EPDM
Temp: -10 a +120°C

J9.128 *

Body: EN GJS 400 -15
Disc: AISI 316
Liner: EPDM
Temp: -10 a +120°C
Approved for drinking water

Coating: **RAL 5002** colour

NBR liner

CE PG

J9.101

Body: EN GJS 400 -15
Disc: EN GJS400 nickel plated
Liner: NBR
Temp: -10 +80°C

J9.121

Body: EN GJS 400 -15
Disc: AISI 316
Liner: NBR
Temp: -10 +80°C

J9.171

Body: EN GJS 400 -15
Disc: Aluminium-bronze
Liner: NBR
Temp: -10 +80°C

Coating: **RAL 5002** colour - GAS version (DN 25-350) with yellow lever

FKM or PTFE liner

CE PG

J9.102

Body: EN GJS 400 -15
Disc: EN GJS400 nickel plated
Liner: FKM
Temp: -10 +150°C

J9.122

Body: EN GJS 400 -15
Disc: AISI 316
Liner: FKM
Temp: -10 +150°C

J9.172

Body: EN GJS 400 -15
Disc: Aluminium-bronze
Liner: FKM
Temp: -10 +150°C

J9.123

Body: EN GJS 400 -15
Disc: AISI 316
Liner: PTFE
Temp: -10 +120°C

J9.173

Body: EN GJS 400 -15
Disc: Aluminium-bronze
Liner: PTFE
Temp: -10 +120°C

Coating: **RAL 5002** colour

Special versions on request.

AISI 316 disc

J.620

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

J.621

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

J.622

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

J.623

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

Aluminium-bronze disc

J.670

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

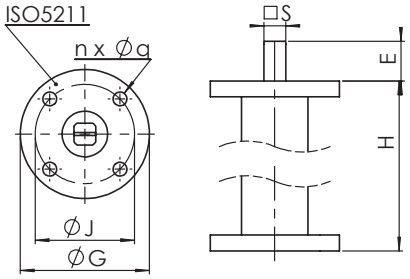
J.673

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

Special versions on request.

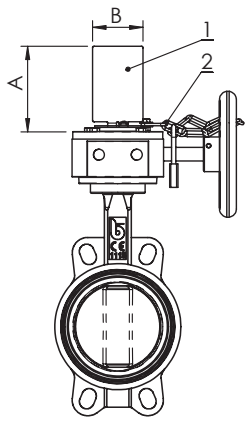
Accessories for series J - L

Stem extension for water main system connection



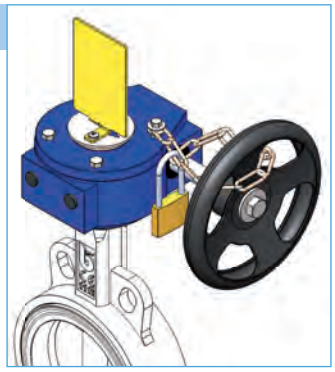
DN	40-100	125-150	200	250-300
H	250-500-800-1000			
ISO5211	F05	F07	F10	F12
G	65	90	125	150
J	50	70	102	125
n° x Ø q	4 x 7	4 x 9	4 x 11	4 x 13
E	20	26	26	26
S	11	14	17	27

Position indicator and padlocking for gear box

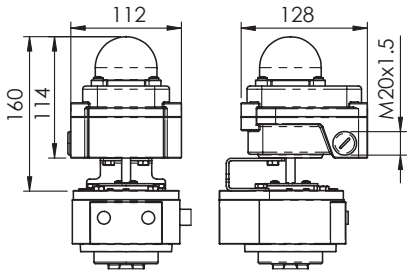


DN	25-150	200-400
A	100	120
B	60	80

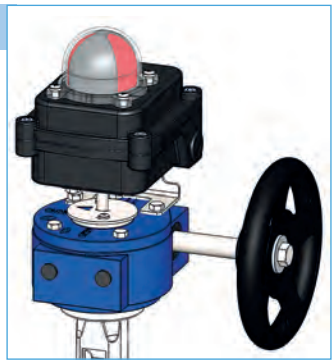
1) Position indicator
2) Chain for padlocking



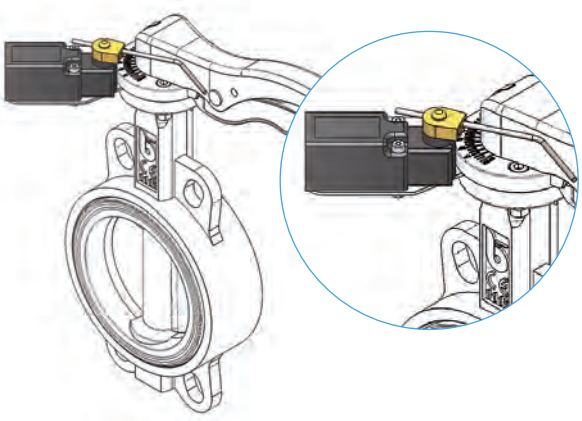
Limit switches box for gear box



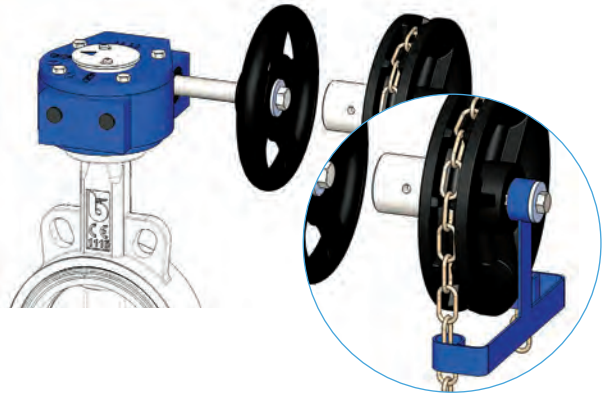
Mechanical switches per standard.
Available on request: proximity switches, ATEX explosion proof proximity switches.



Limit switches kit for ON-OFF indication



Chain driver kit



Instruction and Recommendations for series J - L

The information provided here is delivered with each product, and contains "Instructions for use and maintenance"; it is also available on our website: www.brandoni.it (download section)

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).

FIG. 1

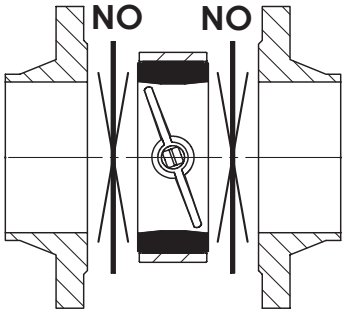


FIG. 2

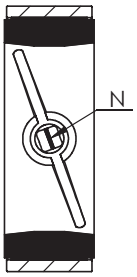
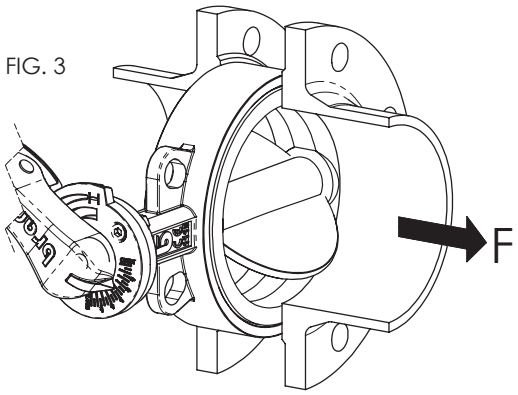


FIG. 3



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.) o solid particles that may leave deposits, it is recommend 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)
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 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).

FIG. 4

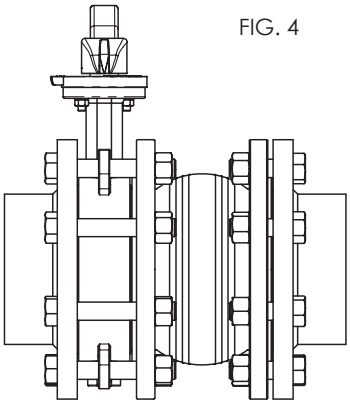
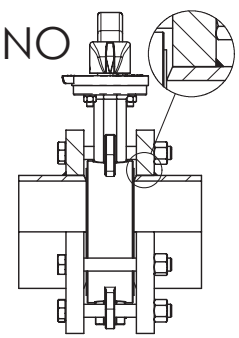
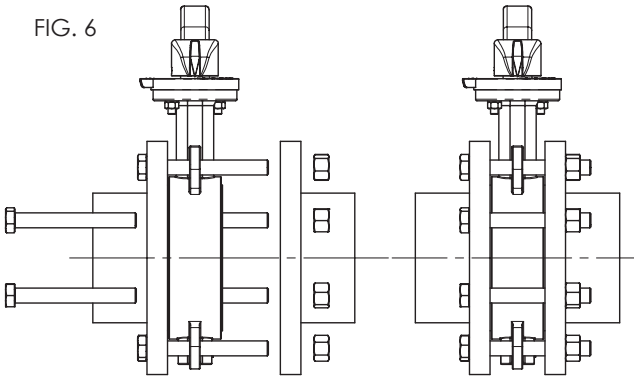


FIG. 5



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)
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.

FIG. 6



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

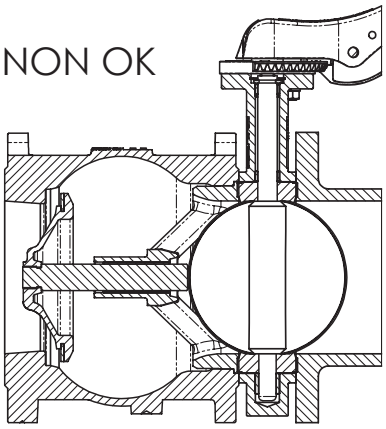
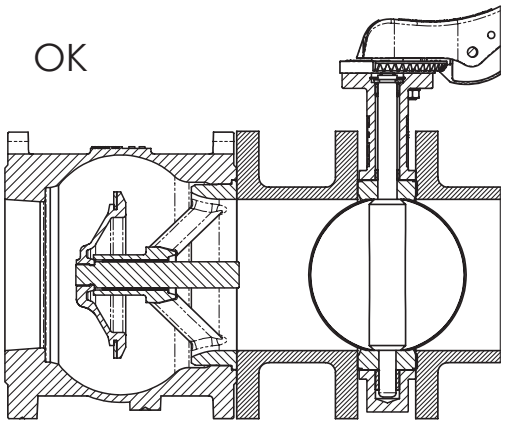


FIG. 7B

OK



FLANGES CHART

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

CHART MINIMUM DIAMETER OF PIPES

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

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