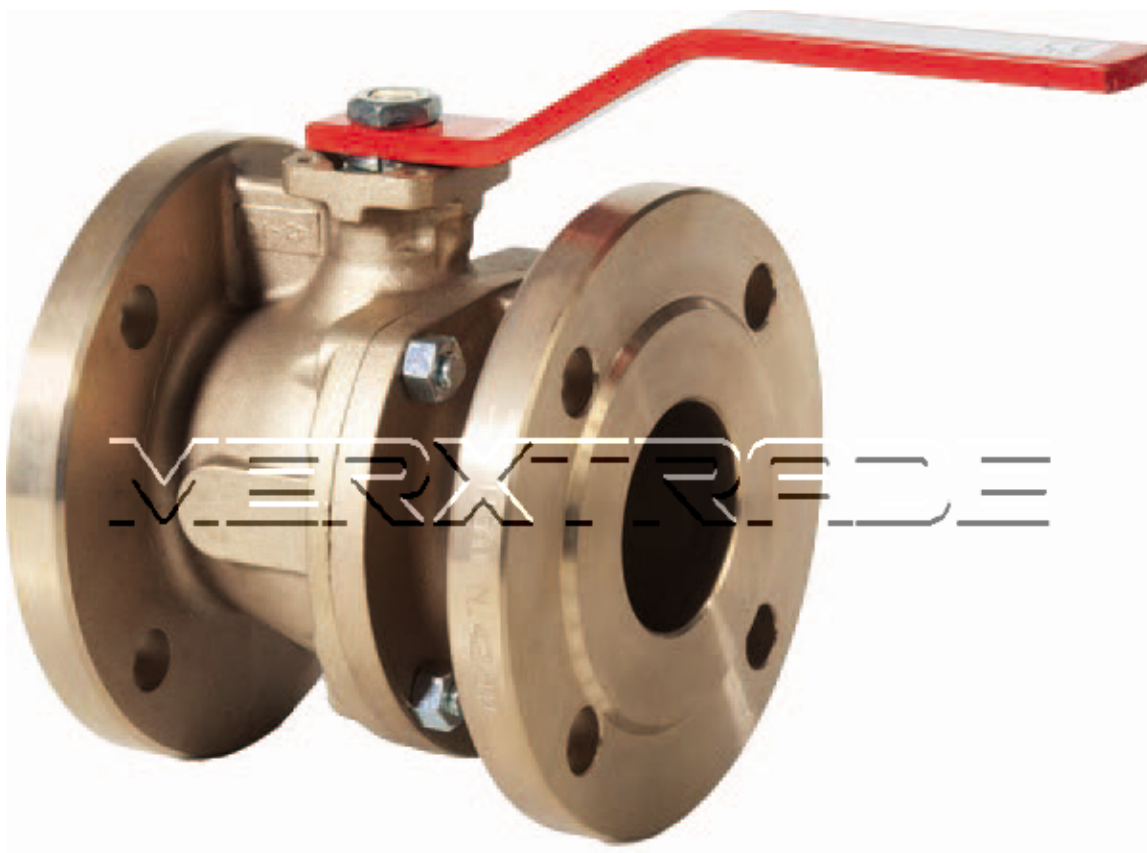


## Serie B2.3

# Flanged bronze ball valve



## Flanged bronze ball valve

Series B2.3 valves are split-body-type, shut-off ball valves in bronze and floating ball, manufactured in accordance with the relevant product standards and quality management of ISO 9001.

This series is available also:

**B2** > with face to face, in accordance with EN 558-1 full bore

**R2** > with face to face, in accordance with ANSI B16.10#150 short pattern reduced bore

**S2** > with face to face, in accordance with ANSI B16.10#150 short pattern full bore

Suitable for naval, Offshore and seawater applications, heating and conditioning (HVAC), district heating, distribution and treatment of water, industrial and chemical applications, agricultural applications, for compressed air processing, oils and hydrocarbons.

(Please ensure the choice of the corresponding item)

**YES:** for installation in-line and end of line, for services with frequent acting, the integrated ISO 5211 support allows the installation of a wide range of actuators.

The B2 range of ball valves of full and straight bores, reduce turbulences and minimize head loss.

**NO:** for steam, for choking and regulation of the flow.

## Accessories

- Stem extension for thermal insulation
- Square cap for water main system connection
- Stem extension
- Kit lockable operation lever
- Kit limit switches for ON/OFF position indicator
- KIT ISO 5211 flange

## Actuators

- Double acting and single acting pneumatic actuators
- On request: limit switches, position indicator
- Electric actuators
- Gear boxes
- Chain driven operated gear boxes

## Certifications



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

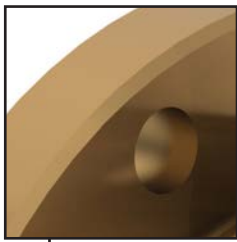
**Design and testing standards** (correspondences):

Flanges: EN 1092 ISO 7005, ANSI B16.5 #150

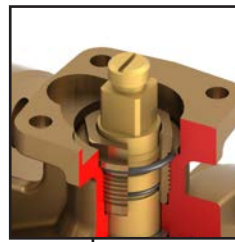
Design: EN 1983, EN12516, ISO 5211

Marking: EN19

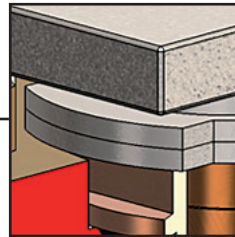
Testing: 100% testing in accordance with EN 12266 cat. A  
(ISO 5208 cat. A)



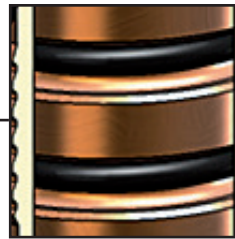
Face to face, in accordance with EN558/1 or ANSI B 16.10 class 150 short pattern for all DN (diameters).



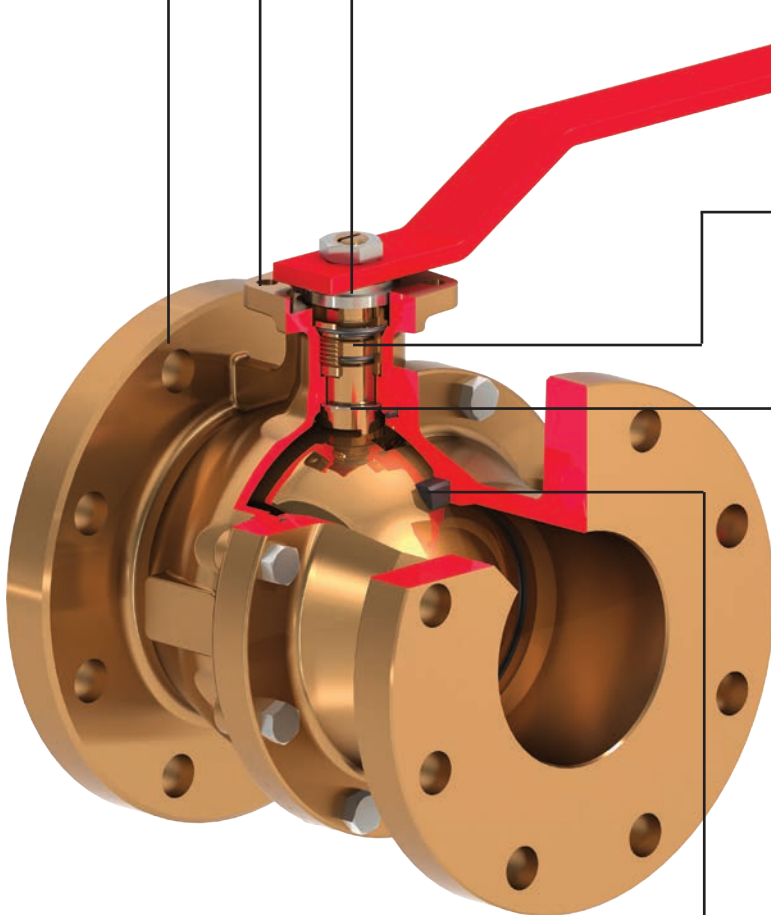
Integrated flange, in accordance with ISO 5211.



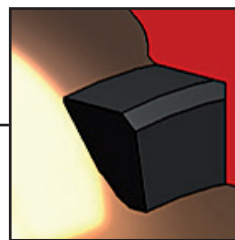
Removing and repositioning of the plate at 90° allows locking of the lever in ON-OFF position.



The dynamic seal of the stem is guaranteed by a double O-ring, even in severe working conditions.



Blow-out proof stem.  
On request antistatic device (EN17292)

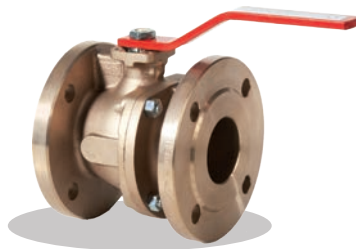


Seat of ball in reinforced PTFE, as temperature changes, the torque re-mains constant.

Flanged bronze ball valve

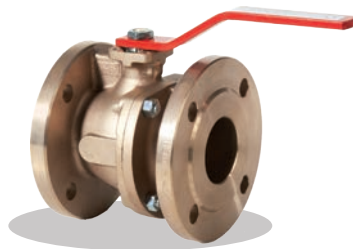
# Serie B2.3

Scartamento / Face to face EN 558/1 - 14\*



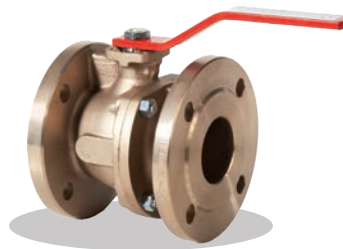
**B2.300**

Body: Bronze  
Ball: Brass  
Stem: Brass  
O-ring: FKM  
Temp: -10 +150°C



**B2.322**

Body: Bronze  
Ball: AISI 316  
Stem: AISI 316  
O-ring: FKM  
Temp: -10 +150°C

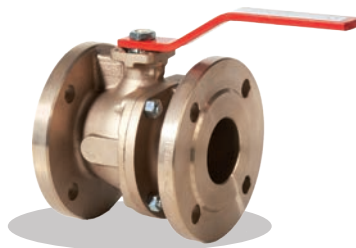


**B2.377**

Body: Bronze  
Ball: Aluminium-bronze  
Stem: Aluminium-bronze  
O-ring: FKM  
Temp: -10 +150°C

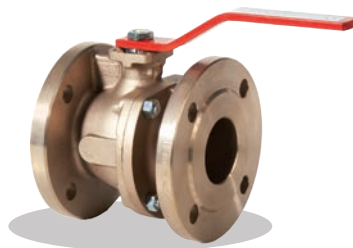
\*Flanges: PN 16, ANSI 150

Face to face ANSI B16.10#150 / full bore\*\*



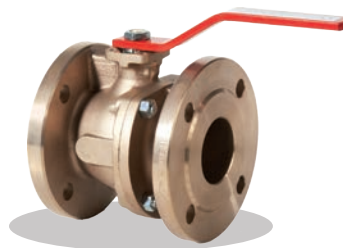
**S2.300**

Body: Bronze  
Ball: Brass  
Stem: Brass  
O-ring: FKM  
Temp: -10 +150°C



**S2.322**

Body: Bronze  
Ball: AISI 316  
Stem: AISI 316  
O-ring: FKM  
Temp: -10 +150°C



**S2.377**

Body: Bronze  
Ball: Aluminium-bronze  
Stem: Aluminium-bronze  
O-ring: FKM  
Temp: -10 +150°C

Face to face ANSI B16.10#150 / reduced bore\*\*



**R2.377**

Body: Bronze  
Ball: Aluminium-bronze  
Stem: Aluminium-bronze  
O-ring: FKM  
Temp: -10 +150°C

\*\*Flange: ANSI 150

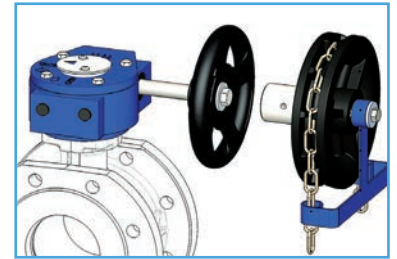
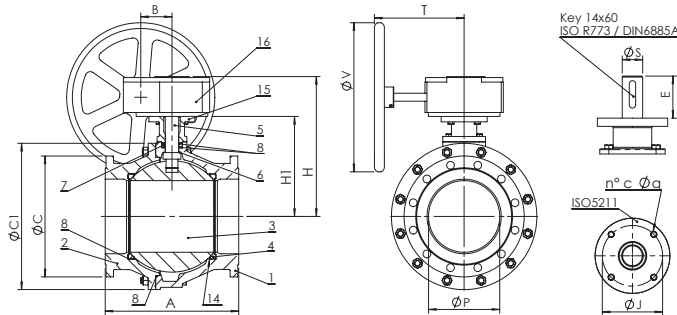
\*\*Flanges: ANSI 150

**Actuators and accessories**



**B2.3-S2.3 + RM**

*Gear box*



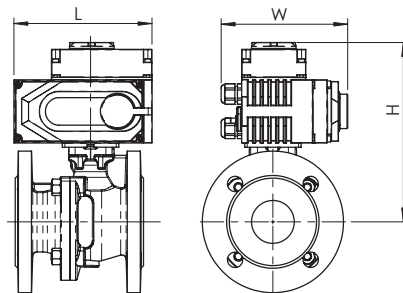
**KCAT**  
*Chain driver kit*

DN	15	20	25	32	40	50	65	80	100	125	150	200	250
B2/S2 + RM	RM.0250	RM.0250	RM.0250	RM.0250	RM.0250	RM.0250	RM.0250	RM.0250	RM.0250	RM.0750	RM.0750	RM.1200	RM.1200
L	130	130	130	130	130	130	130	130	130	180	180	205	256
U	77	77	77	77	77	77	77	77	77	104	104	124	101
H	112,5	114	121	126	140,5	149	157	180	194,5	243	260,5	310	448
W	225	225	225	225	225	225	225	225	225	338	338	345	464
G	170	170	170	170	170	170	170	170	170	260	260	260	360
V	150	150	150	150	150	150	150	150	150	300	300	300	500
Peso / Weight Kg	6,9	7,6	8,5	10,1	11,8	13,3	14,8	19,8	22,8	38,3	48,8	105,3	192,3



**B2.3-S2.3 + AOX**

*Electric actuators*

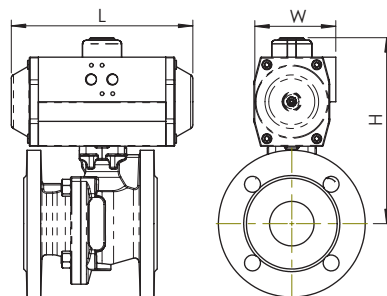


DN	15	20	25	32	40	50	65	80	100	125	150	200
B2/S2 + AOX	003	003	003	003	005	005	008	015	015	030	040	100
L	123	123	123	123	160	160	160	189	189	268	268	268
H	164	165	172	177	200	208	216	247	262	329	347	394
W	100	100	100	100	121	121	121	145	145	225	225	225
Weight Kg	4,7	5,4	6,3	7,9	11,1	12,6	14,1	20,1	23,1	41,4	52,3	107,5



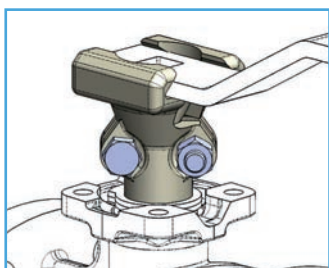
**B2.3-S2.3 + AP**

*Pneumatic actuator*



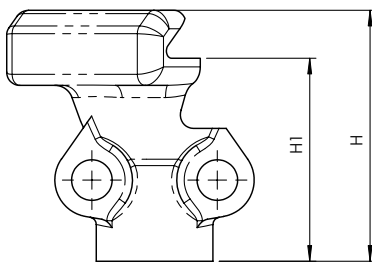
DN	15	20	25	32	40	50	65	80	100	125	150	200	250
B2/S2 + AP DE - DA	AP2	AP2	AP2	AP2	AP3	AP3	AP3	AP4	AP4	AP5	AP5,5	AP8	AP10
L	155	155	155	155	213	213	213	276	276	366	388	563	750
H	153,5	155	162	167	199	207	215	263	278	350	389	530	720
W	73	73	73	73	85	85	85	110	110	140	160	215	290
Weight Kg	4,02	4,72	5,62	7,22	10,04	11,54	13,04	20,6	23,6	38,1	52,44	129,6	257
B2/S2 + AP SE - SPRING RETURN	AP3S	AP3S	AP3,5S	AP3,5S	AP3,5S	AP3,5S	AP4S	AP4,5S	AP5,5S	AP6S	AP8S	AP10S	-
L	213	213	236	236	236	236	276	310	388	468	563	750	-
H	210,5	212	229	234	259	267	290	350	399	455	543	575	-
W	85	85	98	98	98	98	110	128	160	175	215	290	-
Weight Kg	5,7	6,4	8,5	10,1	11,8	13,3	16,7	25,17	35,59	51,86	83,32	194	-

## Actuators and accessories

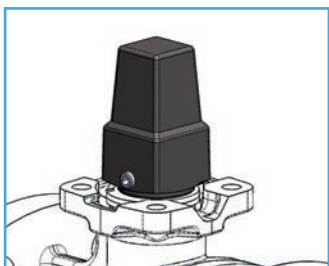


### KITB2

Stem extension for thermal insulation

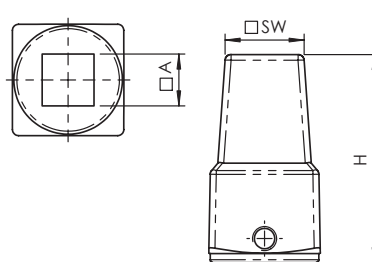


DN	25-32-40-50-65	80-100-125-150
H	68	68
H1	55	55

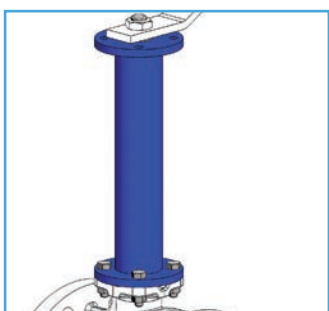


### KCAPB2

Square cap for water main system connection

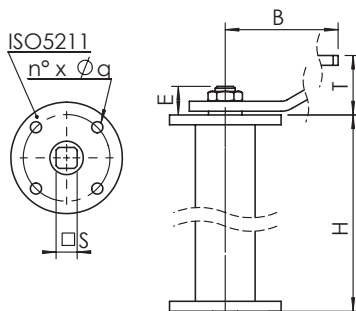


DN	40-50-65	80-100	125-150
SW	26	26	26
A	14	17	22
H	69	69	71

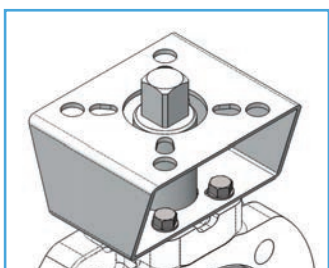


### KPRB

Stem extension for water main system connection

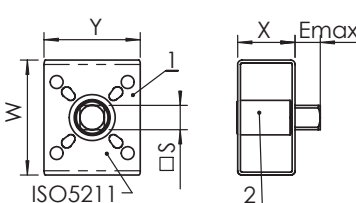


DN	40	50	65	80	100	125	150
H	250-500-800-1000						
T	48	48	48	48	48	59	59
B	230	230	230	280	360	450	560
ISO 5211	F05	F05	F05	F07	F07	F10	F10
J	50	50	50	70	70	102	102
n° x Ø q	4x7	4x7	4x7	4x9	4x9	4x11	4x11
E	22	22	22	23	23	27	27
S	14	14	14	17	17	22	22



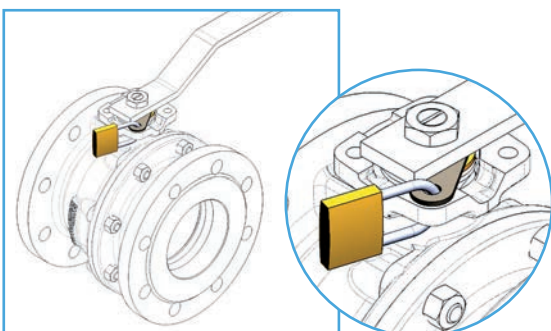
### KISO.B2

Kit ISO 5211 flange

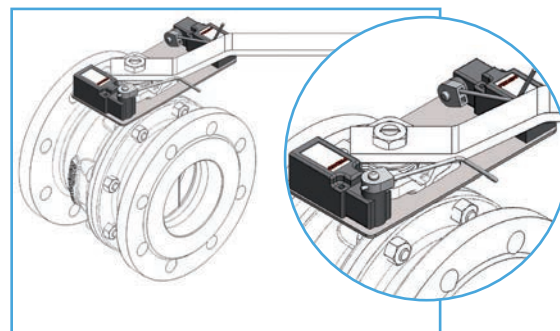


- 1) Bracket
- 2) Joint

DN	15-20	25-32	40-50-65	80	100	125	150
ISO 5211'	F04-05-07	F04-05-07	F05-07	F10-12	F10-12	F10-12	F10-12-14
S x E	14 x 14	17 x 17	17 x 17	22 x 22	27 X 27	27 X 27	36 X 36
S1 x E1"	11 x 11	11 x 11	-	-	-	-	-
Drilling valve side	F03-04	F03-04	F05-07	F07-10	F07-10	F07-10	F10-12-14
X	40	40	50	60	60	60	80
Y	70	70	70	120	120	120	140
W	80	80	100	120	120	120	160



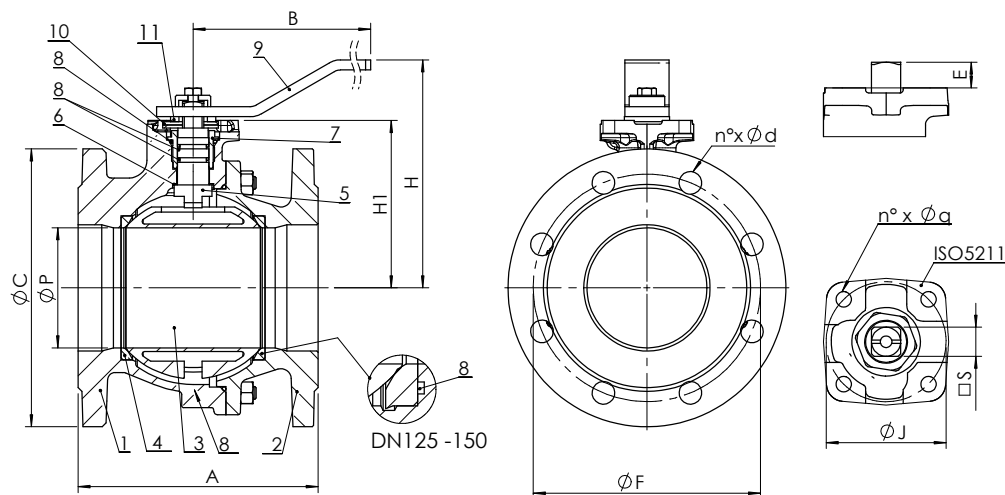
Kit lockable operation lever



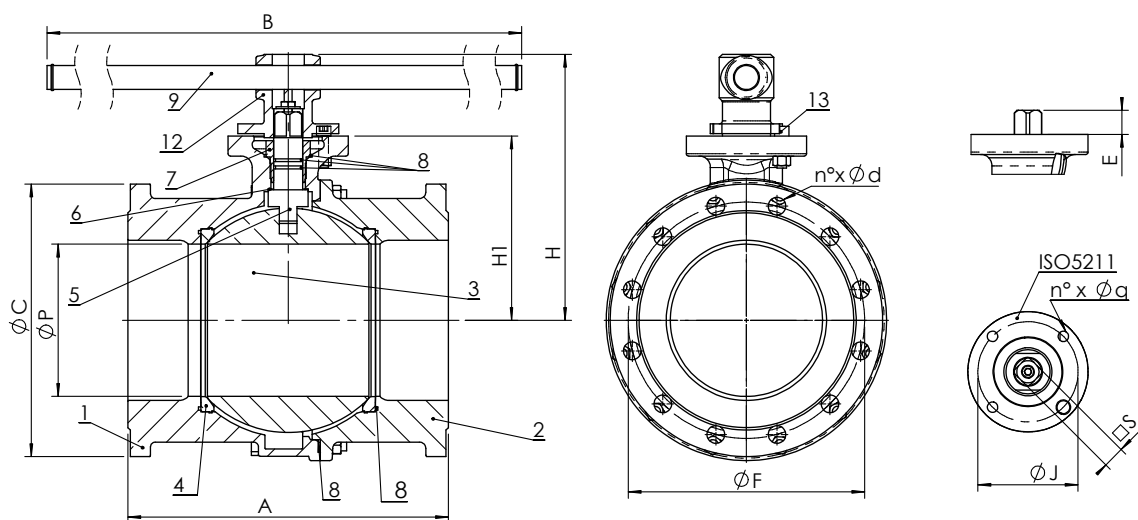
### KFC

Kit limit switches for ON/OFF position indicator

**B2.3 - DN 15-150**



**B2.3 - DN 200**



**B2.3 -Dimensions (mm)**

DN		15	20	25	32	40	50	65	80	100	125	150	200	250
P		15	20	25	32	40	50	63	76	95	120	145	190	240
A	EN 558/1 - 14 (ex DIN 3202 F4)	115	120	125	130	140	150	170	180	190	200	210	-	-
A	EN 558/1 - 14 (ex DIN 3202 F5)	-	-	-	-	-	-	-	-	-	-	-	400	450
H		84	84	96	101	125	135	143	165	180	225	243	320	-
H <sub>1</sub>		50,5	52	59	64	78,5	87	95	118	132,5	165	182,5	230	355
B		160	160	170	170	230	230	230	280	360	520	520	1'000	101
ISO 5211		F04	F04	F04	F04	F05	F05	F05	F07	F07	F10	F10	F12	F12
J		42	42	42	42	50	50	50	70	70	102	102	125	125
n° x Øq		4 x 6	4 x 6	4 x 6	4 x 6	4 x 7	4 x 7	4 x 7	4 x 9	4 x 9	4 x 11	4 x 11	4 x 13	4 x 13
E		9,5	9,5	11	11	13,5	13,5	13,5	15	15	21	21	27	92
S		□ 9	□ 9	□ 11	□ 11	□ 14	□ 14	□ 14	□ 17	□ 17	□ 22	□ 22	□ 27	Φ 45

**Flanges dimensions EN 1092 PN16**

C		95	105	115	140	150	165	185	200	220	250	285	340	405
F		65	75	85	100	110	125	145	160	180	210	240	295	355
n° x Fd		4 x 14	4 x 14	4 x 14	4 x 18	4 x 18	4 x 18	4 x 18	8 x 18	8 x 18	8 x 18	8 x 22	12 x 22	12 x 26

**Flanges dimensions ANSI B16.5#150**

C		88,9	98,6	108	117,3	127	152,4	177,8	190,5	228,6	254	279,4	-	-
F		60,5	69,9	79,2	88,9	98,6	120,7	139,7	152,4	190,5	215,9	241,5	298,5	362
n° x Ød		4 x 16	4 x 16	4 x 16	4 x 16	4 x 16	4 x 19	4 x 19	4 x 19	8 x 19	8 x 22	8 x 22	8 x 22	12 x 26

**Weight (kg)**

B2.300		2,8	3,4	4,8	5,6	7,9	10,5	15,1	19,1	24,0	36,7	44,6	104,0	120,0
B2.322		2,8	3,4	4,8	6,5	9,3	11,5	16,0	20,6	28,4	41,2	51,7	131,0	140,0

**B2.3 - Operating torque (Nm)**

Nm		15	15	18	18	18	20	40	70	100	180	250	600	2'000
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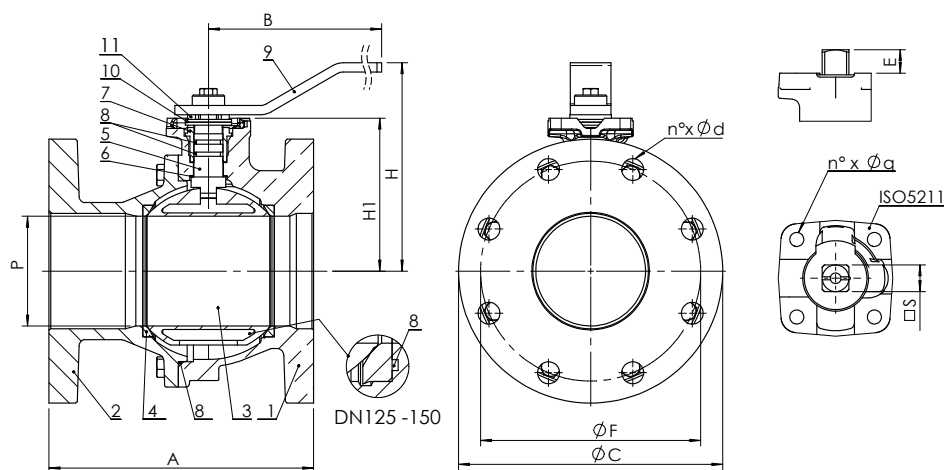
N.B.: In order to choose the right actuator, we recommend multiplying the operating torque figure by a safety coefficient, K=1.5

## Flanged bronze ball valve

**Serie B2.3**
**B2.3 - Drilling**

item	DN	15	20	25	32	40	50	65	80	100	125	150	200	250
B2.3...16CV Dimensions of flanges according to PN 16 EN1092/3	Drilling PN 16 EN1092/1	std	std	std	std	std	std	std	std	std	std	std	std	std
	Drilling PN 10 EN1092/1	=	=	=	=	=	=	=	=	=	=	=	opt	opt
	Drilling PN 6 EN1092/1	opt	opt	opt	opt	opt	opt	opt	opt	opt	opt	opt	opt	opt
	Drilling PN 25 EN1092/1	=	=	=	=	=	=	opt	=	no	no	no	no	no
B2.3...A1CV Dimensions of flanges according to ANSI B16.5 #150	Drilling ANSI B16.5 #150	std	std	std	std	std	std	std	std	std	std	std	-	-

std: standard / opt: option on request / =: same as PN16  
 (1) Threaded hole

**S2.3**

**S2.3 - Dimensions (mm)**

DN		15	20	25	32	40	50	65	80	100	150
P		15	20	25	32	40	50	63	76	95	145
A	ANSI B16.10 #150.Short Pattern	108	117	127	140	165	178	190	203	229	267
H		84	84	96	101	125	135	143	165	180	243
H1		50,5	52	59	64	78,5	87	95	118	132,5	182,5
B		160	160	170	170	230	230	230	280	360	520
ISO 5211		F04	F04	F04	F04	F05	F05	F05	F07	F07	F10
J		42	42	42	42	50	50	50	70	70	102
$n \times \phi q$		4 x 6	4 x 6	4 x 6	4 x 6	4 x 7	4 x 7	4 x 7	4 x 9	4 x 9	4 x 11
E		9,5	9,5	11	11	13,5	13,5	13,5	15	15	21
S		□ 9	□ 9	□ 11	□ 11	□ 14	□ 14	□ 14	□ 17	□ 17	□ 22
<b>Flanges dimensions ANSI B16.10#150</b>											
C		88,9	98,6	108	117,3	127	152,4	177,8	190,5	228,6	279,4
F		60,5	69,9	79,2	88,9	98,6	120,7	139,7	152,4	190,5	241,5
$n \times \phi d$		4 x 16	4 x 16	4 x 16	4 x 16	4 x 16	4 x 19	4 x 19	4 x 19	8 x 19	8 x 22

**S2.3 - Weight (kg)**

S2.300	2,1	2,7	4,1	4,9	7,1	9,8	13,9	18	25,7	47,2
S2.322	2,4	3,1	4,7	5,72	8,1	11,3	16	20,8	29,5	56,8

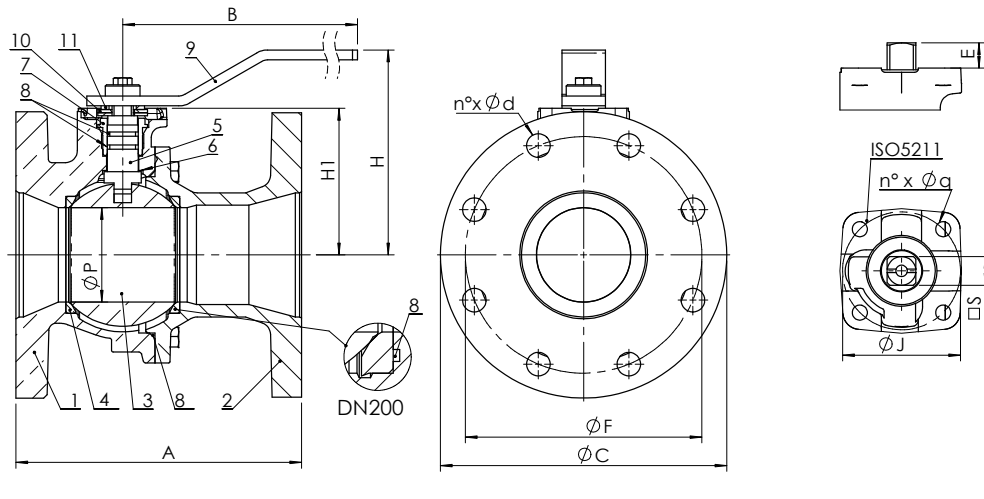
**S2.3 - Operating torque (Nm)**

Nm	15	15	18	18	18	20	40	70	100	250
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N.B.: In order to choose the right actuator, we recommend multiplying the operating torque figure by a safety coefficient, K=1,5



**R2.3**



**R2.3 - Dimensions (mm)**

DN		50	80	100	150	200
P		40	50	76	95	145
A	ANSI B16.10 #150.Short Pattern	178	203	229	267	292
H		125	135	165	180	243
H1		78,5	87	118	132,5	182,5
B		230	230	280	360	520
ISO 5211		F05	F05	F07	F07	F10
J		50	50	70	70	102
n° x Fq		4 x 7	4 x 7	4 x 9	4 x 9	4 x 11
E		17,5	17,5	20	20	21
S		□ 14	□ 14	□ 17	□ 17	□ 22
<b>Flanges dimensions ANSI B16.10#150</b>						
C		152,4	190,5	228,6	279,4	349,2
F		120,7	152,4	190,5	241,5	298,5
n° x Ød		4 x 19	4 x 19	8 x 19	8 x 22	8 x 22

**R2.3 - Weight (kg)**

<b>R2.377</b>		9,4	15,5	24,8	36,2	76,0
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**R2.3 - Operating torque (Nm)**

<b>Nm</b>		18	20	70	100	250
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N.B.: In order to choose the right actuator, we recommend multiplying the operating torque figure by a safety coefficient, K=1.5

# Serie B2.3

## Flanged bronze ball valve

### Materials

	Component	Material		
		B2.300 / S2.300	B2.322 / S2.322	B2.377 / S2.377 / R2.377
1	Body	Bronze C83600 ASTM B62 (equiv. CuSn5Zn5Pb5 CC491K EN1982)		
2	Flange	Bronze C83600 ASTM B62 (equiv. CuSn5Zn5Pb5 CC491K EN1982)		
3	Sfera DN15-50/Ball DN15-50	Brass CuZn40Pb2	Stainless steel AISI316	Alu bronze CuAl-10Ni5Fe5
	Sfera DN65-250/Ball DN65-250	Brass CuZn40Pb2	Stainless steel AISI316	Alu bronze C95800 ASTM B148
4	Sede sfera/Ball seat	PTFE + Carbon reinforced PTFE	PTFE + Carbon reinforced PTFE	PTFE + Carbon reinforced PTFE
5	Asta/Stem	Brass CuZn40Pb2	Stainless steel AISI316	Alu bronze CuAl10Ni5Fe4
6	Sliding Ring	PTFE		
7	Ring nut	Brass CuZn40Pb2	Stainless steel AISI316	Alu bronze CuAl10Ni5Fe4
8	O Ring	FKM (Viton®)		
9	Handle	Carbon steel epoxy coated (1)		
10	Stop plate	Carbon steel galvanized (1)		
11	Spring washer	Carbon steel galvanized (1)		
12	Handle support (DN200)	Brass CuZn40Pb2		
13	Handle stop (DN200)	Carbon steel galvanized (1)		
14	Retaining ring (DN250)	Stainless steel AISI302		
15	Gear box bearing (DN250)	Aluminium bronze CuAl10Ni5Fe5		
16	Gear box (DN250)	Carbon steel galvanized (1)		
	Nuts and bolts	-		

### Maximum pressure

Fluids *	Mounting	
	BETWEEN FLANGES	END OF LINE
Hazardous gases G1	NO	NO
Hazardous liquids L1	16 bar DN15-200 10 bar DN250	10 bar
Non hazardous gases G2	16 bar DN15-200 10 bar DN250	10 bar
Non hazardous liquids G2	16 bar	10 bar
Water**	16 bar	16 bar

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

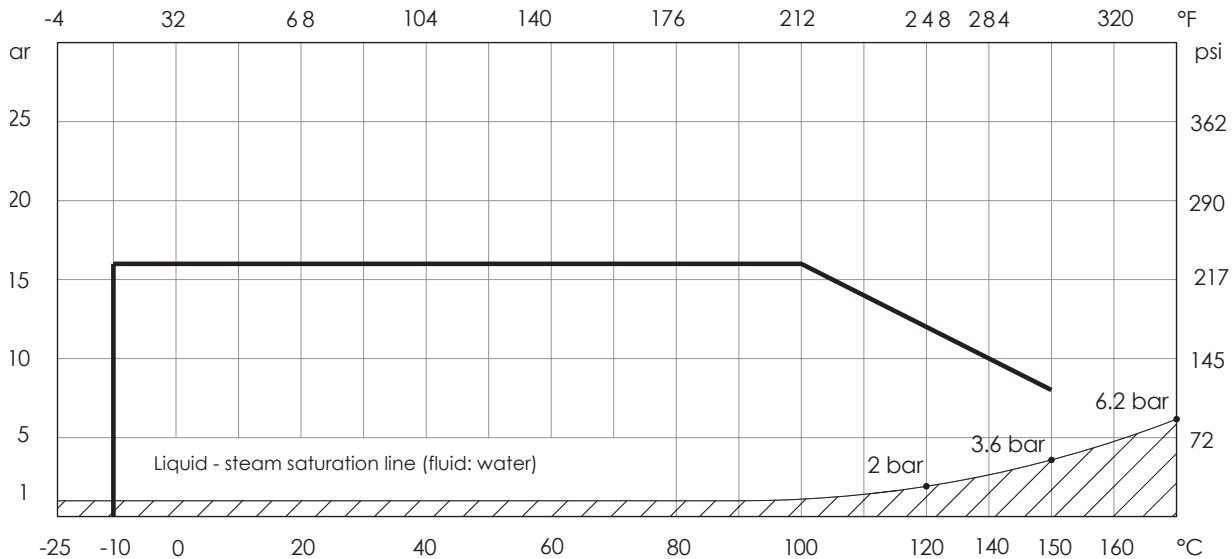
\*\* For supply, distribution and discharge of water (PED 2014/68/EU 1.1.2b)

### Temperature

Temperature	min °C	max°C - Max°C	
		continuous	peak
FKM (Viton®)	-10	150	170

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

### Pressure/temperature chart

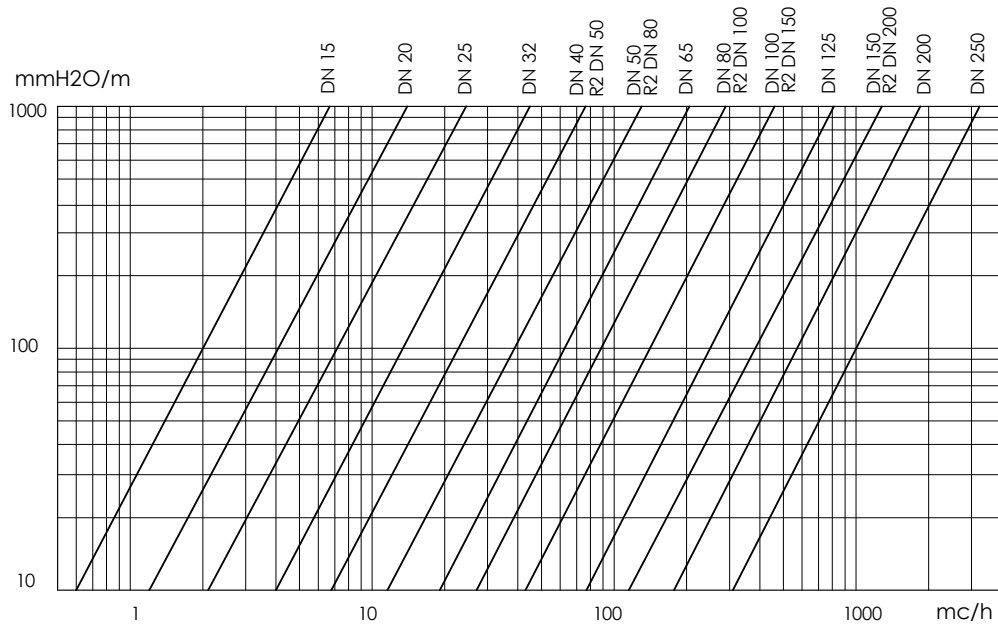


RANGE NOT SUITABLE FOR STEAM. DO NOT use when temperature and pressure are below the liquid-steam saturation line ( hatched area )



## Flanged bronze ball valve

Head loss Fluid: water (1m H<sub>2</sub>O = 0,098bar)



### Kv - DN chart

DN			15	20	25	32	40	50	65	80	100	125	150	200	250
Kv	B2-S2	mc/h	22.3	47.7	83.5	150.4	255	435	672	947	1'508	2'633	4'261	5'957	10'510
Kv	R2	mc/h						255	435	947	947		1'508	4'261	

## **Instructions and Recommendations for series B1 - B2.1 - B2.3/7**

### **STORING**

- Keep in a dry and closed place.
- While stored, the valve must be fully open to avoid damage to the seats.

### **MAINTENANCE**

- It is recommended that the rubber O-rings be replaced at least every 24 months, and the PTFE seats, at least every 48 months.  
The period of replacement depends on the use of the valve.
- Clean the surface of the valve periodically, in order to prevent the accumulation of dust.

### **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. The valve must be installed in either the ON or OFF position.
- Place the valve between the flanges of the pipe and install the seal between the pipe and valve flanges. Check the correct position of the seals.
- The distance between the counter flanges should be equal to the valve's face to face distance. Do not use bolts of the counter flanges to bring the piping close to the valve. The bolts should be cross tightened.
- Do not weld the flanges to the piping after installing the valve.
- Water hammers might cause damage and ruptures. Inclinations, torsions and misalignments of the piping may subject the installed valve to excessive stresses. It is recommended that elastic joints be used in order to reduce such effects as much as possible.
- While heating from room temperature to the high operating temperature, the liquid located between the body and ball (valve open), or located in the bore of the ball (valve closed) tends to expand and may damage the ball and the seats; it is recommended that the valve be opened and closed at intermediate temperatures during the heating process (for example, at 40°C /60°C/...). Valves with equalization hole on ball available (option).  
Special valves with drain plugs are available for this application.
- At sub-zero temperatures, the liquid between the body and ball may freeze, causing irreparable damage. If the valve is exposed to such conditions, insulation of the valve is recommended.
- It is recommended that the valve be operated periodically, to prevent the build-up of materials on the ball and the seats, particularly in the presence of limestone.

**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.

