

Diamant P20

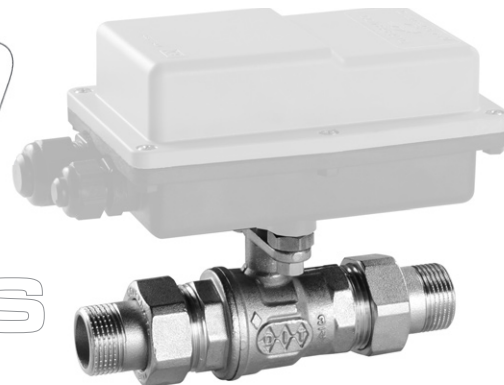
BRASS BALL VALVES

USE

- systems using alternative energy
- automation systems
- glycol cooling systems
- heating/cooling systems
- open and closed hydraulic systems
- industrial systems in general using hot and cold fluids
- water treatment systems
- compressed air systems

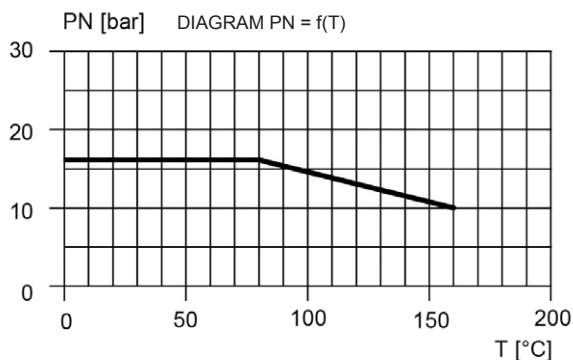
P20

BRASS



TECHNICAL FEATURES • The ball valves comply with Ministerial Decree 174

BRASS BALL VALVES COMPARATO connection FULL BORE



When the value of the flow is known, the general expression for the calculation of pressure losses is the following:

$$\Delta P [\text{bar}] = \left[\frac{Q [\text{m}^3/\text{h}]}{k_v} \right]^2$$

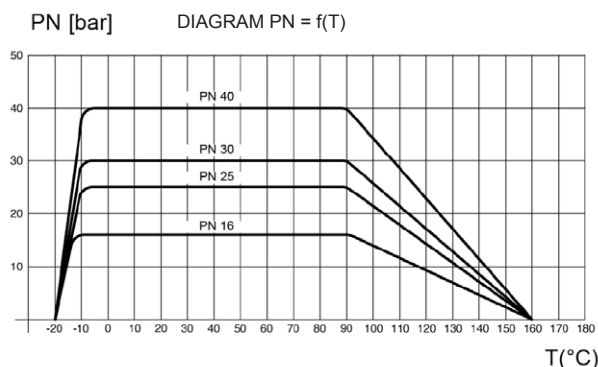
The expression provided applies to water or technically similar fluids.

FLUIDS Water and EPDM & PTFE-compatible fluids • Other fluids on request

TEMPERATURES

	Valve	Valve with spacer
• Minimum	-10°C	-20°C
• Maximum	+110°C	+110°C

BRASS BALL VALVES ISO 5211 connection FULL BORE



When the value of the flow is known, the general expression for the calculation of pressure losses is the following:

$$\Delta P [\text{bar}] = \left[\frac{Q [\text{m}^3/\text{h}]}{k_v} \right]^2$$

The expression provided applies to water or technically similar fluids.

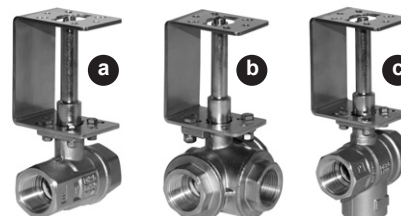
FLUIDS Water and EPDM & PTFE-compatible fluids • Other fluids on request

TEMPERATURES

	Valve	Valve with spacer
• Minimum	-10°C	-20°C
• Maximum	+110°C	look down

- 2 way ball valve with ISO 5211 connection and spacer: Peak T * = 160°C **a**
- 3 way ball valve with ISO 5211 connection and spacer: Peak T * = 160°C **b**
- diverter/mixer ball valve with ISO 5211 connection and spacer: Peak T * = 120°C **c**

* Maximum temperature that can be reached for a short period of time



COMPARATO NELLO SRL

AZIENDA CERTIFICATA UNI EN ISO 9001: 2015

Diamant P20

BRASS BALL VALVES

HYDRAULIC VERSIONS AND FEATURES • For all valves the max differential pressure value coincides with PN

2-WAY ball valve	DN	Connections	PN	Kv _s [m³/h]	Code
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15	1/2" M	16	16,3	DC2A2A
20	3/4" M	16	29,5	DC2B2A
25	1" M	16	43	DC2C2A

2-WAY ball valve	DN	Connections	PN	Kv _s [m³/h]	Code
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SPACER



15	1/2" M	16	16,3	DC2A2AD1
20	3/4" M	16	29,5	DC2B2AD1
25	1" M	16	43	DC2C2AD1

2-WAY ball valve	DN	Connections	PN	Kv _s [m³/h]	Code
------------------	----	-------------	----	---------------------------	------

SPACER and OVERRIDE



15	1/2" M	16	16,3	DC2A2AD2
20	3/4" M	16	29,5	DC2B2AD2
25	1" M	16	43	DC2C2AD2

3-WAY ball valves	DN	Connections	PN	Kv _s [m³/h]	Code
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MIXER / DIVERter 90° 3 HOLES



20	3/4" M	16	11,5	DC3B3A
25	1" M	16	18,3	DC3C3A

DIVERter 180° 2 HOLES

20	3/4" M	16	11,5	DC3B2A
25	1" M	16	18,3	DC3C2A

3-WAY ball valves	DN	Connections	PN	Kv _s [m³/h]	Code
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SPACER



MIXER / DIVERter 90° 3 HOLES

20	3/4" M	16	11,5	DC3B3AD1
25	1" M	16	18,3	DC3C3AD1

DEVIATORE 180° 2 FORI

20	3/4" M	16	11,5	DC3B2AD1
25	1" M	16	18,3	DC3C2AD1

3-WAY ball valves	DN	Connections	PN	Kv _s [m³/h]	Code
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SPACER and OVERRIDE



MIXER / DIVERter 90° 3 HOLES

20	3/4" M	16	11,5	DC3B3AD2
25	1" M	16	18,3	DC3C3AD2

DIVERter 180° 2 HOLES

20	3/4" M	16	11,5	DC3B2AD2
25	1" M	16	18,3	DC3C2AD2

2-WAY FF 3-WAY FFF ball valves	DN	Connections	PN	Kv _s [m³/h]	Code
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SPACER



-	Rp 1/4"	40	5,4	DC2S2P5D1
10	Rp 3/8"	40	6	DC2R2P5D1
15	Rp 1/2"	40	16,3	DC2A2P5D1
20	Rp 3/4"	40	29,5	DC2B2P5D1
25	Rp 1"	40	43	DC2C2P5D1
32	Rp 1 1/4 *	40	89	DC2D2P5D1

SPACER and OVERRIDE



-	Rp 1/4"	40	5,4	DC2S2P5D2
10	Rp 3/8"	40	6	DC2R2P5D2
15	Rp 1/2"	40	16,3	DC2A2P5D2
20	Rp 3/4"	40	29,5	DC2B2P5D2
25	Rp 1"	40	43	DC2C2P5D2
32	Rp 1 1/4 *	40	89	DC2D2P5D2

* maximum differential pressure 25 bar (ΔP max)

SPACER

MIXER / DIVERter 90° 3 HOLES



15	Rp 1/2"	16	6	DC3A3E5D1
20	Rp 3/4"	16	11,5	DC3B3E5D1
25	Rp 1" *	16	18,3	DC3C3E5D1

DEVIATORE 180° 2 FORI

15	Rp 1/2"	16	6	DC3A2E5D1
20	Rp 3/4"	16	11,5	DC3B2E5D1
25	Rp 1" *	16	18,3	DC3C2E5D1

SPACER and OVERRIDE

MIXER / DIVERter 90° 3 HOLES



15	Rp 1/2"	16	6	DC3A3E5D2
20	Rp 3/4"	16	11,5	DC3B3E5D2
25	Rp 1" *	16	18,3	DC3C3E5D2

DIVERter 180° 2 HOLES

15	Rp 1/2"	16	6	DC3A2E5D2
20	Rp 3/4"	16	11,5	DC3B2E5D2
25	Rp 1" *	16	18,3	DC3C2E5D2

* maximum differential pressure 25 bar (ΔP max)

SPACER

"T" BALL



20	Rp 3/4"	30	11,5	DC3A6E5D1
25	Rp 1" *	30	18,3	DC3B6E5D1

"L" BALL

20	Rp 3/4"	30	11,5	DC3A5E5D1
25	Rp 1" *	30	18,3	DC3B5E5D1

SPACER and OVERRIDE

"T" BALL



20	Rp 3/4"	30	11,5	DC3A6E5D2
25	Rp 1" *	30	18,3	DC3B6E5D2

"L" BALL

20	Rp 3/4"	30	11,5	DC3A5E5D2
25	Rp 1" *	30	18,3	DC3B5E5D2

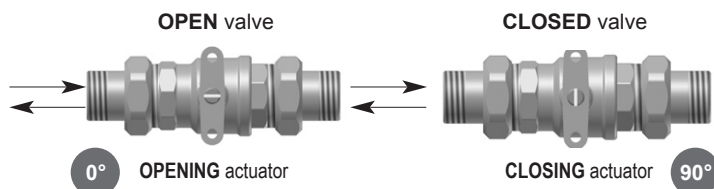
* maximum differential pressure 25 bar (ΔP max)

Diamant PRO

BRASS BALL VALVES

2-WAY BALL VALVE

The ball valve can be mounted in both flow directions, without distinction.

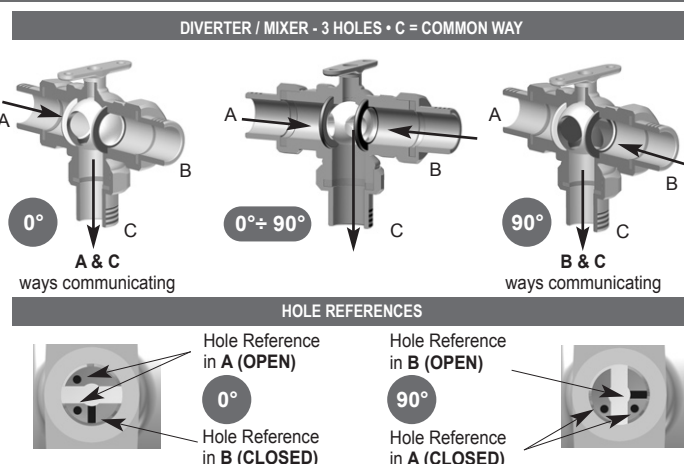


3 WAY DIVERTER/MIXER BALL VALVE

The 3-way version of **Diamant PRO** is available with two different balls. In both cases, one of the holes is positioned on the common way, which is therefore always open.

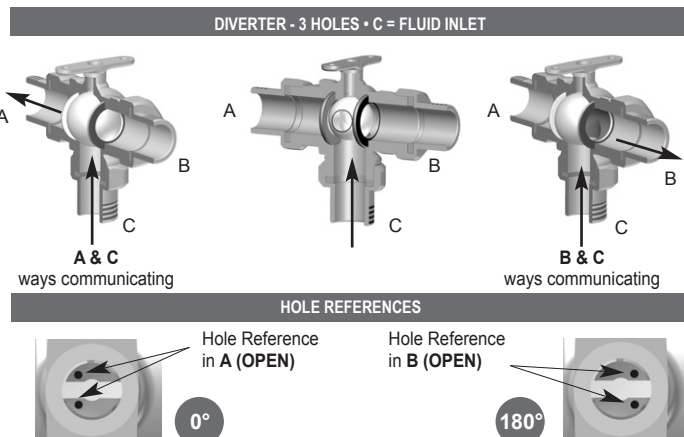
MIXER/DIVERTER BALL VALVE (3-HOLE BALL)

The **MIXER/DIVERTER** ball valve has a 3-hole sphere with one hole pointed towards the common way C (always open) and two more holes which are orthogonal to the first one and to each other. When one of these two holes is pointed towards one of the two inlets, for example A, the second inlet B is closed. When the operation is completed, with a rotation of the ball of 90°, the second hole is oriented on the second way (B), closing the first one (A). The 3-hole ball valve has a particular feature: it can close one way and simultaneously start the opening of the other way. For a short while, during the operating phase, all the three ways are communicating. Moreover, the above mentioned condition allows this valve to be used for mixing. On the control rod there are some symbols, which indicate sphere hole references.



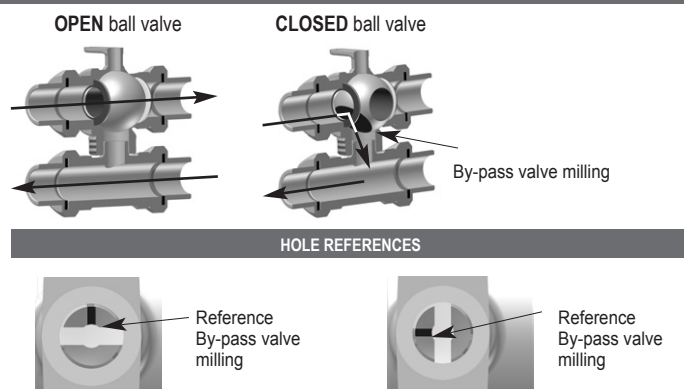
DIVERTER BALL VALVE (2-HOLE BALL)

The **DIVERTER** ball valve has a 2-hole sphere: the first hole is always oriented toward the common way (C), the second hole can be oriented toward either the A or B way, with a rotation of 180°. The ball valve closes one of the two inlets before the other one opens, therefore the two ways never communicate. On the control rod there is a symbol, which indicates which way is communicating with the common one (C).



BY-PASS BALL VALVE

The feature that distinguishes the by-pass ball from the 2-way ball is a milling which allows the recirculation of part of the outlet flow towards the return line when the valve is closed. Therefore, in by-pass valves it is important to recognize the flow direction. On the control rod there is a symbol which indicates the position of the milling on the ball; when the valve is closed, it must always be oriented towards the direction of the incoming flow.



Diamant *PRO*

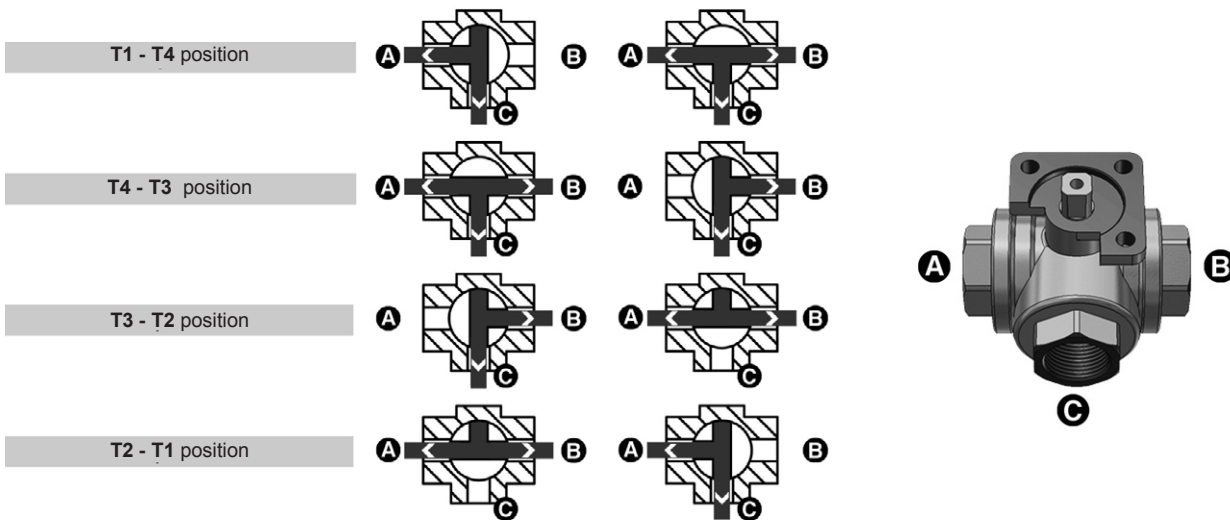
BRASS BALL VALVES

3-WAY DIVERTER BALL VALVES

In **Diamant PRO** valves, the HORIZONTAL 3-way version is available with a T-ball or L-ball; in both cases, they are used to allow a DEVIATION. Both ball valves close one way and, at the same time, start opening of the other one: for a short period of time, during the operating phase, all three ways are in communication with each other. Despite the condition described above, however, it is not possible to carry out a mixing adjustment by means of this type of valve because of the limited dimensions of the sections created.

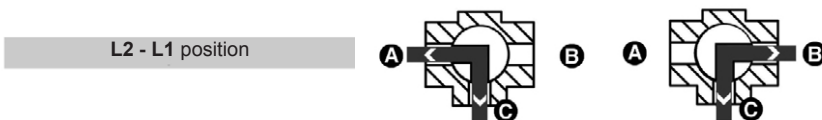
DIVERTER BALL VALVE • "T" BALL

The T-BALL DIVERTER ball valve features a ball that can be used in different ways depending on the initial orientation. As can be seen in the picture, with a 90° rotation it is possible to create different configurations. The position of the holes is indicated by a T engraved on the ball valve pin.

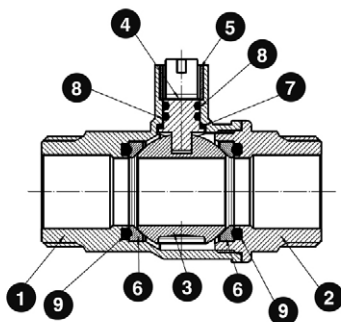


DIVERTER BALL VALVE • "L" BALL

The DIVERTER ball valve with L-SHAPED BALL has a common central way C and two ways which are put into communication with it when they make a 90° rotation. The position of the holes is indicated by an L engraved on the ball valve pin.

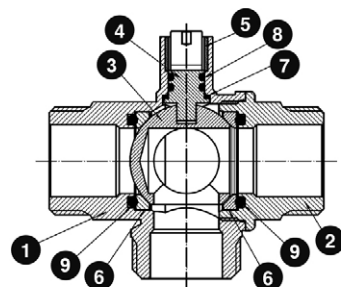


MATERIALS USED



2-WAY COMPARATO CONNECTION BRASS BALL VALVE

1	BODY	BRASS \ CW 617N - UNI EN 12165 NICKEL PLATING
2	COUPLING	BRASS \ CW 617N - UNI EN 12165
3	BALL	BRASS \ CW 617N - UNI EN 12165 CHROMED NICKEL
4	ROD	BRASS \ CW 614N - UNI EN 12164 NICKEL PLATING
5	SLEEVE	P.T.F.E.
6	BALL SEAL	P.T.F.E.
7	ATIFRICTION SEAL	P.T.F.E.
8	O-RING	EPDM
9	O-RING	NBR



3-WAY COMPARATO CONNECTION BRASS BALL VALVE

1	BODY	BRASS \ CW 617N - UNI EN 12165 NICKEL PLATING
2	COUPLING	BRASS \ CW 617N - UNI EN 12165
3	BALL	BRASS \ CW 617N - UNI EN 12165 CHROMED NICKEL
4	ROD	BRASS \ CW 614N - UNI EN 12164 NICKEL PLATING
5	SLEEVE	P.T.F.E.
6	BALL SEAL	P.T.F.E.
7	ATIFRICTION SEAL	P.T.F.E.
8	O-RING	EPDM
9	O-RING	NBR



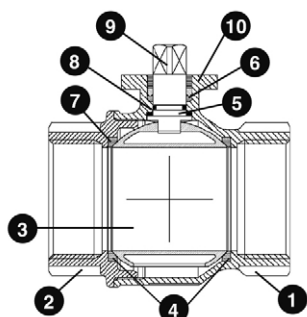
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Diamant *P20*

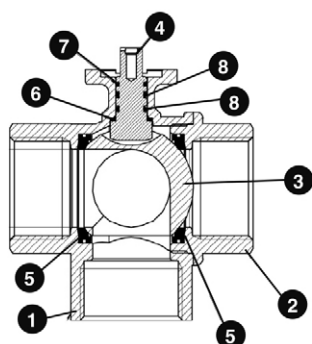
BRASS BALL VALVES

MATERIALS USED



2-WAY FF ISO 5211 BRASS BALL VALVE

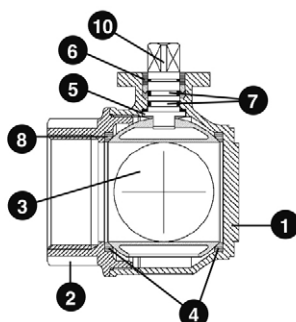
1	BODY	BRASS CW617N UNI EN 12165
2	COUPLING	BRASS CW617N UNI EN 12165
3	BALL	BRASS CW617N UNI EN 12165
4	BALL SEAL	P.T.F.E.
5	ANTI-FRICTION SEAL	P.T.F.E.
6	ROD WASHER	P.T.F.E.
7	O-RING	FKM
8	O-RING	FKM
9	CONTROL ROD	BRASS CW617N UNI EN 12165
10	FLANGE ISO 5211	BRASS CW617N UNI EN 12165



3-WAY FFF ISO 5211 BRASS BALL VALVE

DIVERTING / MIXING FFF

1	BODY	BRASS CW617N UNI EN 12165
2	COUPLING	BRASS CW617N UNI EN 12165
3	BALL	BRASS CW617N UNI EN 12165
4	CONTROL ROD	P.T.F.E.
5	BALL SEAL	P.T.F.E.
6	ANTI-FRICTION SEAL	P.T.F.E.
7	O-RING	FKM
8	O-RING	FKM

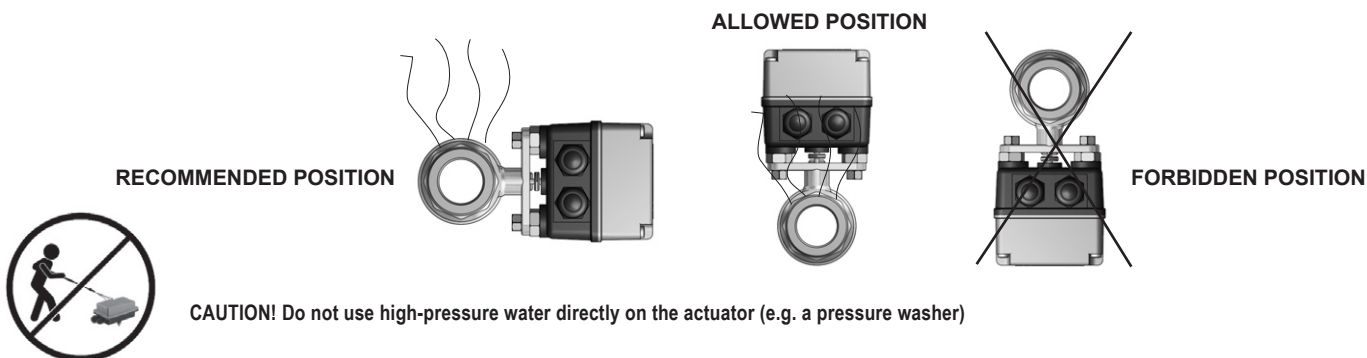


3-WAY FFF ISO 5211 BRASS BALL VALVE

1	BODY	BRASS CW617N UNI EN 12165
2	COUPLING	BRASS CW617N UNI EN 12165
3	BALL	BRASS CW617N UNI EN 12165
4	BALL SEAL	P.T.F.E.
5	ANTI-FRICTION SEAL	P.T.F.E.
6	ROD WASHER	P.T.F.E.
7	O-RING	FKM
8	O-RING	FKM
10	CONTROL ROD	BRASS CW617N UNI EN 12165

INSTALLATION

The valve should be installed in such a way that the actuator connection is not facing downwards.



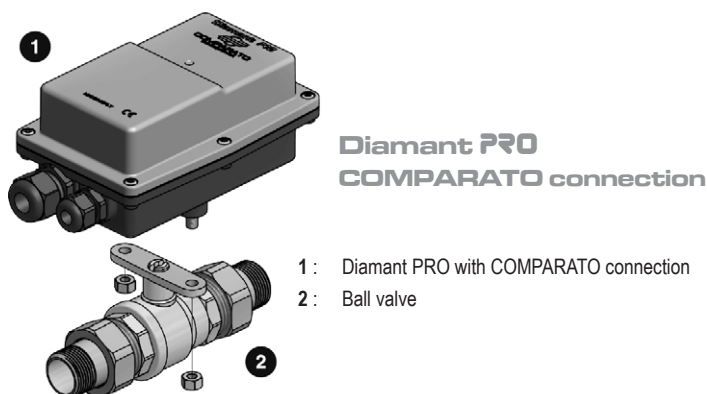
Diamant **PRO**

BRASS BALL VALVES

CONNECTION TO THE BALL VALVE

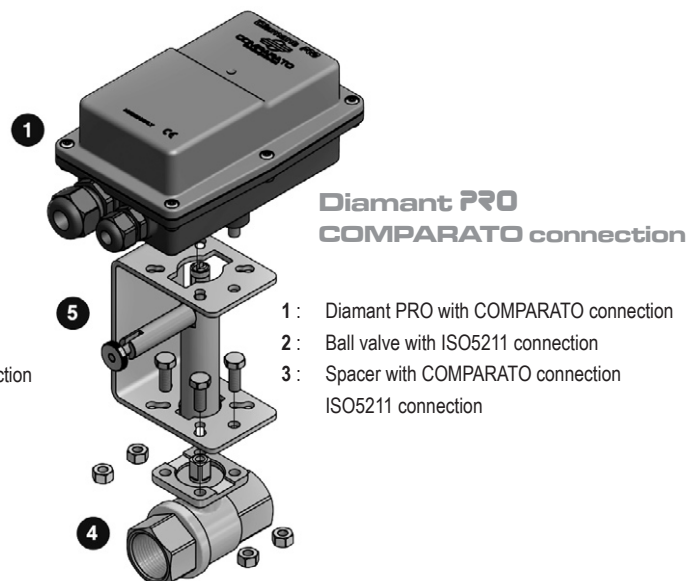
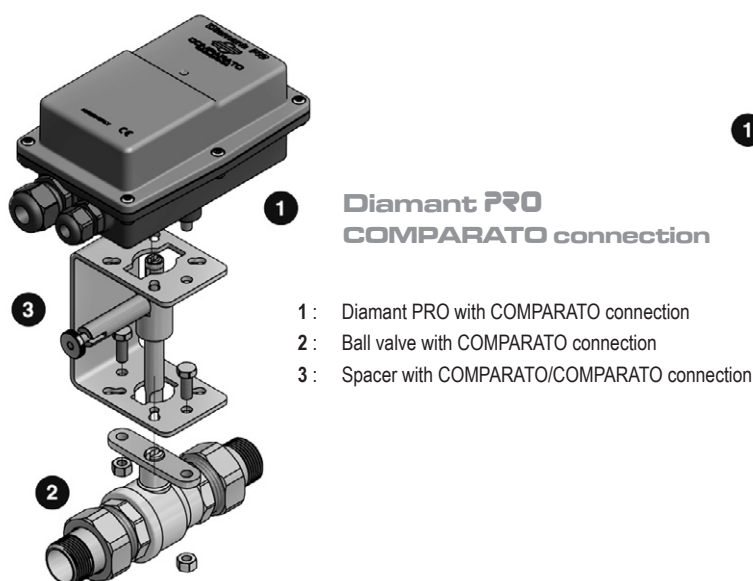
DIRECT CONNECTION TO THE BALL VALVE

The direct connection of the **Diamant PRO** with **COMPARATO** connection can only be made on the ball valve with **COMPARATO** connection. For the direct coupling to **ISO 5211** connection ball valve see the **PRO Range** data sheet.



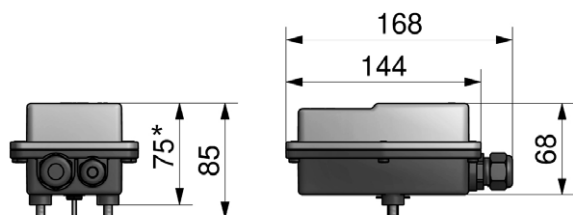
CONNECTION TO THE BALL VALVE WITH A SPACER

The ball valves fitted with a spacer (both with direct rod and manual opening) must be motorized with a **Diamant PRO COMPARATO** connection, even if the ball valve has an **ISO 5211** port.

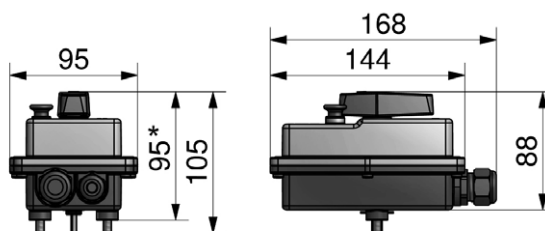


OVERALL SIZE

Diamant PRO
with **COMPARATO** connection



Diamant PRO with **COMPARATO** connection
Version with **MANUAL OVERRIDE FROM THE TOP**



* the size is to be taken into account when coupling the actuator to the ball valve



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Diamant *PRO*

BRASS BALL VALVES

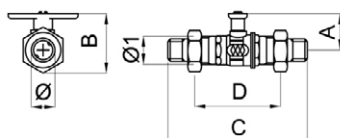
OVERALL SIZE

BALL VALVES

BRASS

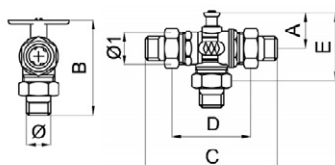
MODEL	DN	Ø UNIONS	Ø 1 BALL VALVES	A	B	C	D
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2-way
COMPARATO
connection



15	1/2"	3/4"	34	48	133	78
20	3/4"	1"	38	58	145	84
25	1"	1"1/4	42	66	164	94

3-ways
Diverter
Mixer
COMPARATO
connection

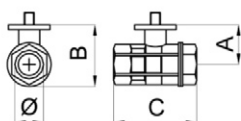


DN	Ø UNIONS	Ø 1 BALL VALVES	A	B	C	D	E
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D - E : dimensions referred to the ball valve without unions

20	3/4"	1"	38	58	145	84	74
25	1"	1"1/4	42	66	164	94	82

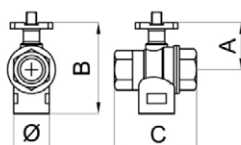
2-way
ISO 5211
connection



DN	Ø	A *	B	C
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8	1/4"	33	50	67
10	3/8"	33	50	67
15	1/2"	33	50	67
20	3/4"	35	55	76
25	1"	46	71	90
32	1"1/4	49	78	102

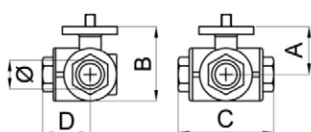
3-ways
Diverter
Mixer
ISO 5211
connection



DN	Ø	A *	B	C
----	---	-----	---	---

15	1/2"	31	65	64
20	3/4"	42	82	74
25	1"	45	92	89

3-ways
"T" Ball
"L" Ball
ISO 5211
connection



DN	Ø	A *	B	C	D
----	---	-----	---	---	---

15	1/2"	33	52	77	39
20	3/4"	42	66	89	44
25	1"	47	77	105	53

* the size of the spacer must always be added to the "A" dimension



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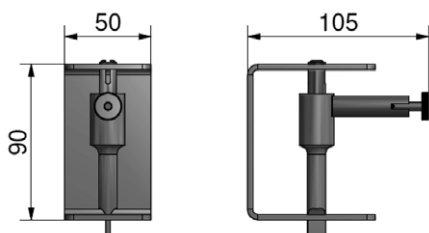
BRASS BALL VALVES

INSULATION SPACERS AND MANUAL OVERRIDE

SPACER with COMPARATO / COMPARATO connection

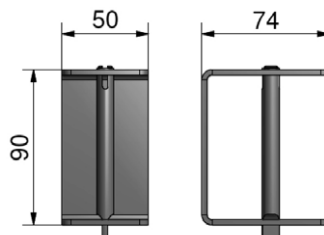
Spacer for insulation
with manual opening
COMPARATO - COMPARATO connection

Code ADSTD2



Spacer for insulation
COMPARATO - COMPARATO connection

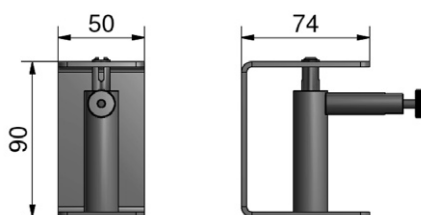
Code ADSTD1



SPACER with COMPARATO / ISO 5211 connection

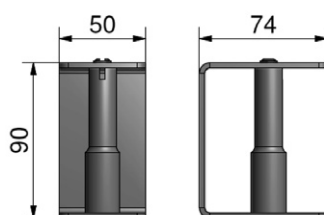
Spacer for insulation
with manual opening
COMPARATO - ISO 5211 connection

Code DIDM02



Spacer for insulation
COMPARATO - ISO 5211 connection

Code DIDM01



EXAMPLE OF SPECIFICATIONS

DIAMANT 2000 BRASS BALL VALVE • CW617N UNI EN 12165, EPDM and PTFE seals, full port, PN16, with tangs and caps, UNI EN ISO 226 threads. Operating temperatures -20°C...+110°C. Fluid type: water with glycol max. 30%. Spacer for insulation in stainless steel with manual opening height 90 mm. Connection to the actuator with a Comparato Connection. Version: 2-WAY MM DN15 - 1/2" - Kvs 16,3

Brand: **COMPARATO**

Code: **DC2A2AD2**

UPDATED DATA SHEETS AVAILABLE AT www.comparato.com

In order to provide an up-to-date service, Comparato Nello S.r.l. reserves the right to modify technical data, drawings, graphs and photos of this data sheet at any time, without prior notice.

BIM
BUILDING
INFORMATION
MODELING



HYDROTHERMAL SYSTEMS
COMPARATO NELLO SRL

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