

USE

- zone heating/cooling systems (HVAC)
- drinking water systems
- systems using alternative energy
- automation systems
- compliant with the Decree of the Ministry of Health N° 174 dd 06/04/2004

TECHNICAL FEATURES

BRASS BALL VALVES

COMPARATO connection FULL BORE

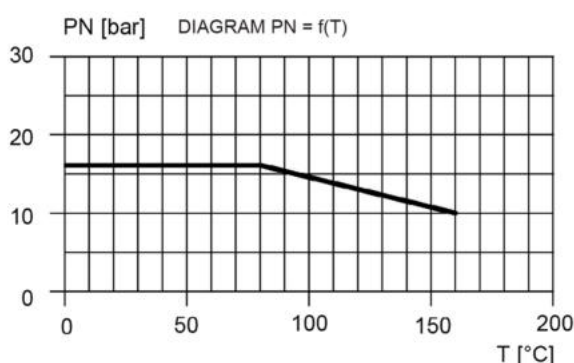


Diamant 2000 COMPARATO connection

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 (maximum 30% glycol)

TEMPERATURE

- Minimum +5°C
- Maximum +110 °C

COMPLIANCE

These ball valves are compliant with the Decree of the Ministry of Health N° 174 dd 06/04/2004.

HYDRAULIC VERSIONS AND FEATURES

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

3-WAY ball valve	DN	Connections	PN	K _v _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

3-WAY ball valve	DN	Connections	PN	K _v _s [m³/h]	Code
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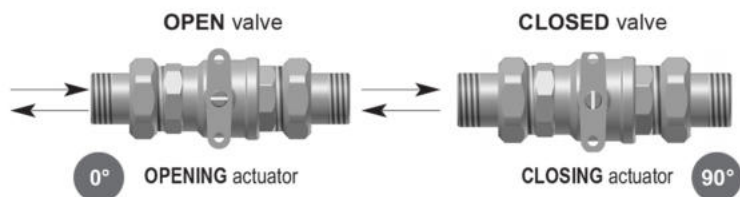
	DIVERTER 180° 2 HOLES				
	20	3/4" M	16	11,5	DC3B2A
	25	1" M	16	18,3	DC3C2A

BY-PASS ball valve	DN	Connections	PN	K _v _s [m³/h]	Code
	20	3/4" M	16	29,5 / 1,9	DC4B4A
	25	1" M	16	43 / 2,9	DC4C4AST *
	* without bypass tees				
	ECCENTRIC TANGS				
	20	3/4" M	16	29,5 / 1,9	DC4B4A2

For all valves the max differential pressure value coincides with PN

2-WAY BALL VALVE

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

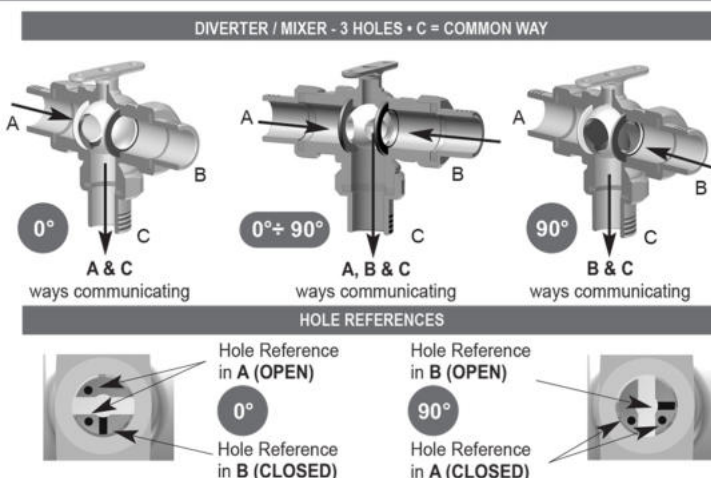


3 WAY DIVERTER/MIXER BALL VALVE

The 3-way version of **Diamant 2000** is available with two different balls. In both cases, one of the holes is positioned on the common way, which is therefore always open.

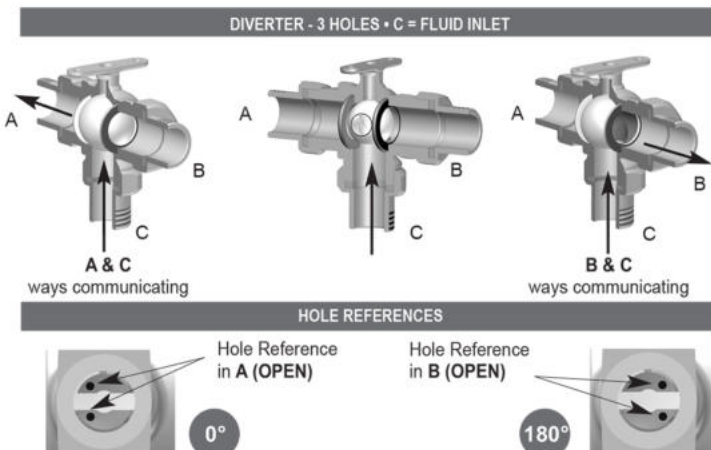
MIXER/DIVERTER BALL VALVE (3-HOLE BALL)

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.



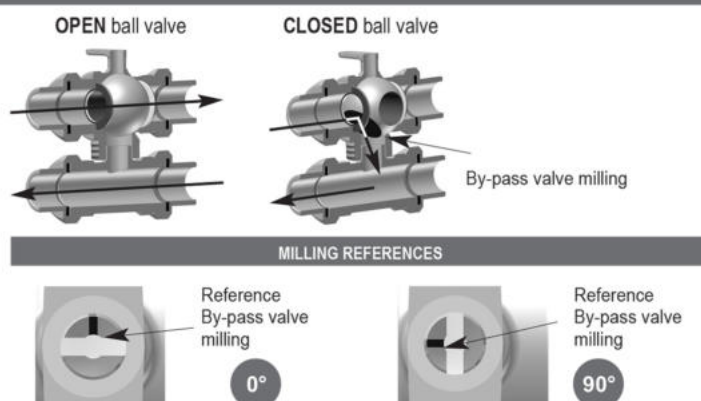
DIVERTER BALL VALVE (2-HOLE BALL)

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).

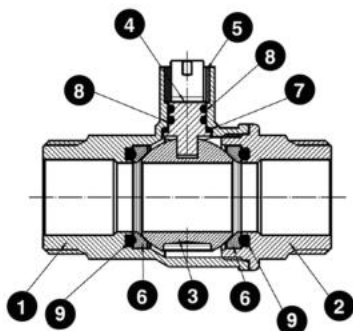


BY-PASS BALL VALVE

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.

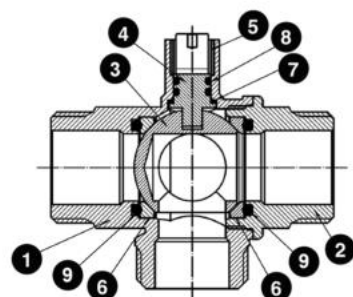


MATERIALS USED



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 NICKEL PLATING
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	ANTIFRICTION SEAL	P.T.F.E.
8	O-RING	EPDM
9	O-RING	NBR



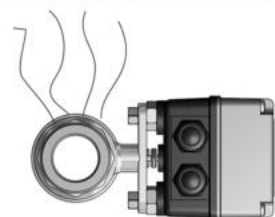
3-WAY COMPARATO CONNECTION BRASS BALL VALVE

1	BODY	BRASS \ CW 617N - UNI EN 12165 NICKEL PLATING
2	COUPLING	BRASS \ CW 617N - UNI EN 12165 NICKEL PLATING
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	ANTIFRICTION SEAL	P.T.F.E.
8	O-RING	EPDM
9	O-RING	NBR

INSTALLATION

The valve shall not be installed with the actuator's connection facing downwards.

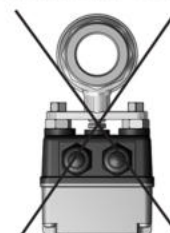
RECOMMENDED POSITION



ALLOWED POSITION



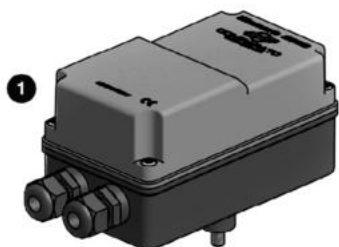
FORBIDDEN POSITION



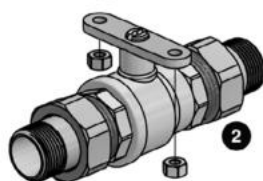
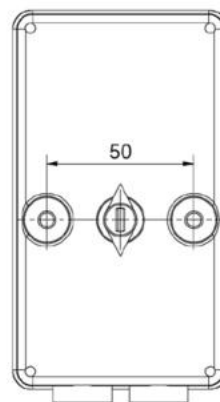
CAUTION! Do not use high-pressure water directly on the actuator (e.g. a pressure washer)

CONNECTION TO THE BALL VALVE

For the evaluation of the overall size of motorised valves, take into account the assembling diagram (shown below) and the dimensions of each single component.



**Diamant 2000
COMPARATO connection**



- 1 : Diamant 2000 COMPARATO connection
2 : Ball valve

OVERALL SIZE

BALL VALVES

MODEL	DN	Ø UNIONS	Ø1 BALL VALVES	A	B	C	D
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
	D : dimensions referred to the ball valve without tangs and caps						

	DN	Ø UNIONS	Ø1 BALL VALVES	A	B	C	D	E
3-way Diverter Mixer COMPARATO Connection	20	3/4"	1"	38	105	145	84	74
	25	1"	1 1/4"	42	117	164	94	82
	D - E : dimensions referred to the ball valve without tangs and caps							

	DN	Ø UNIONS	Ø1 BALL VALVES	A	B	C	D	E
By-Pass COMPARATO Connection	20	3/4"	1"	38	119	145	84	70
	25	1"	1 1/4"	42	*	164	94	*
	* : without bypass tees							

DN	Ø UNIONS	Ø1 BALL VALVES	A	B	C	D	E
20	3/4"	1"	da 15 a 27	119	145	84	da 58 a 82
ECCENTRIC tangs D: dimensions referred to the ball valve without tangs and caps							

EXAMPLE OF SPECIFICATIONS

DIAMANT 2000 BRASS BALL VALVE • CW617N UNI EN 12165, EPDM and PTFE seals, full bore, PN16, with tangs and caps. Operating temperatures +5°C...+100°C. Fluid type: water with glycol max 30%. Connection to the actuator with Comparato Connection

Version: 2-way MM DN15 - 1/2" - Kvs 16,3

Brand: **COMPARATO**

Code: **DC2A2A**