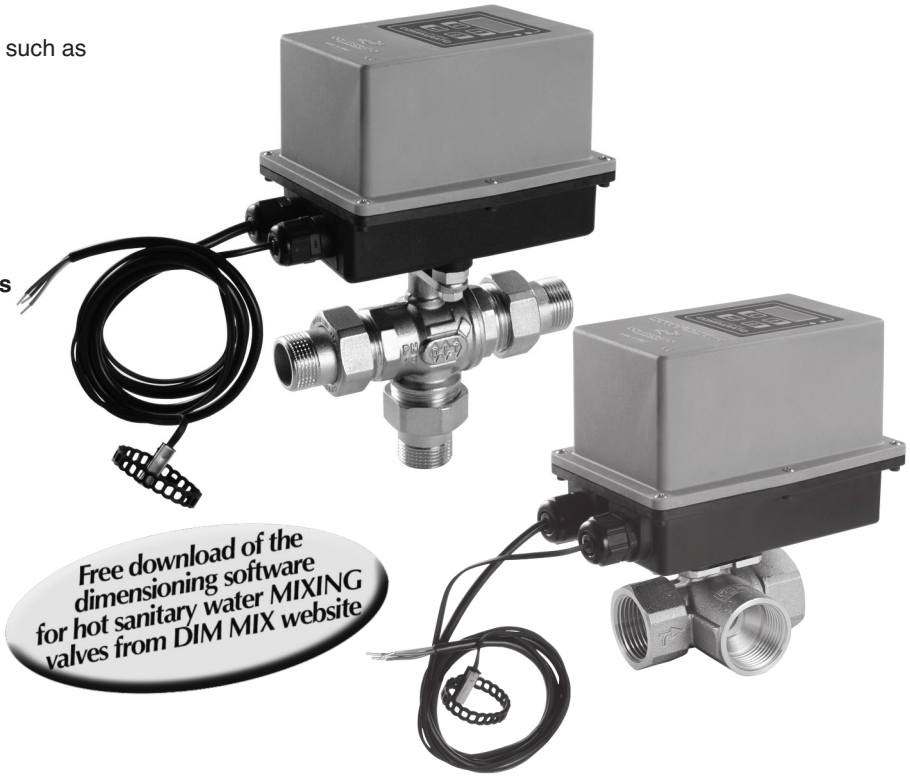
Diamix-Compamix

THERMORAGULATING/MIXING VALVES
FIXED-POINT ELECTRONIC TEMPERATURE ADJUSTMENT

USE

Thermoregulating/mixing motorized valves such as **Diamix** and **Compamix** can be use to:

- **mix hot and cold fluids**
- **temperature regulation in thermal exchange systems**
- **hot sanitary hot water mixing heating**
- **systems at high and low temperature**
- **anti-condensation for solid-fuelled boilers**
- **civil and industrial general applications**



OPERATION

Diamix and **Compamix** thermoregulating/mixing motorized valves operate thanks to a built-in electronics which allows the direct programming of the servocontrol.

They are mainly used when it is necessary to maintain a fluid at a constant temperature raging from -15 and +85°C, regardless of the inlet and outlet temperature when water is required.

The desired temperature is directly set on the mixer by a push-button panel and the relevant values are shown on the display with an accuracy of ±1°C.

According to the signal received from the temperature sensor, the microprocessor sends a modulating signal which regulates the valve opening and closing.

Note: for a proper operation, there should always be a closed hydraulic circuit ensuring a flow on the mixing valve by means of a circulator.

VERSIONS

Diamix available for 1/2" • 3/4" • 1" diameters.
Compamix available for 1"1/4 • 1"1/2 • 2" diameters.

TECHNICAL FEATURES	Diamix	Compamix
Power supply (110 V and 60 Hz on request)	230V • 24V 50 Hz	
Maximum power consumption	8,9 VA (230V) • 9,4 VA (24V)	10 VA (230V) • 10,6 VA (24V)
Operating times (90° rotation) *	35 sec.	45 sec.
Degree of protection	IP 67	
Operational room temperature, For lower temperatures, please contact out technical office	da -10°C a +50°C	
Adjustment range	da -15°C a +85°C	
Temperature probe Electronic	contact-type NTC 10kΩ	
Adjuster	PID	
Immersion probe	optional	

(*) more operating times available upon request.

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Valve bodies

3-WAY VERTICAL MIXED OUTLET,
COMPARATO CONNECTION
FULL FLOW
Ø 3/4" • 1"

3-WAY VERTICAL MIXED OUTLET
ISO 5211 CONNECTION
FULL FLOW
Ø 1/2" • 3/4" • 1"• 1"1/4 • 1"1/2 • 2"

IN LINE MIXED 3-WAY OUTLET
REDUCED FLOW
Ø 1/2" • 3/4" • 1"• 1"1/4 • 1"1/2 • 2"

MATERIALS USED

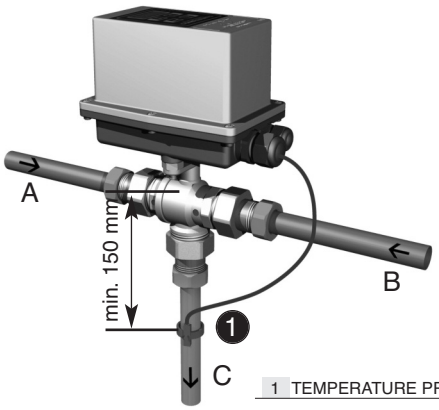
1	BODY	BRASS CW617N UNI 5705 CHROMED NICKEL
2	COUPLING	BRASS CW617N UNI 5705
3	BALL	BRASS CW617N UNI EN 5705 CHROMED NIKEL
4	BALL SEAL	P.T.F.E.
5	ANTI-FRICTION SEAL	P.T.F.E.
6	O-RING	EPDM

1	BODY	CW617N UNI EN 12165
2	COUPLING	CW617N UNI EN 12165
3	BALL	CW617N UNI EN 12165
4	BALL SEAL	P.T.F.E.
5	ANTI-FRICTION SEAL	P.T.F.E.
6	ROD SEAL	P.T.F.E.
7	BUSHING PACKING	CW614N UNI EN 12164
8	O-RING	FKN

1	BODY	BRASS DZR
2	COUPLING	BRASS DZR
3	BALL	CHROMED BRASS DZR
4	BALL SEAL	P.T.F.E.
5	ANTI-FRICTION SEAL	P.T.F.E.
6	ROD SEAL	P.T.F.E.
7	BUSHING PACKING	CW614N UNI EN 12164
8	O-RING	FKN

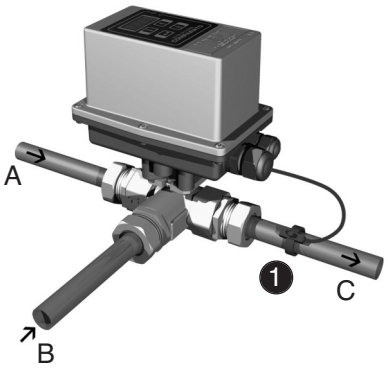
DIAMIX - COMPAMIX MOUNTING

Valve bodies with VERTICAL MIXED outlet

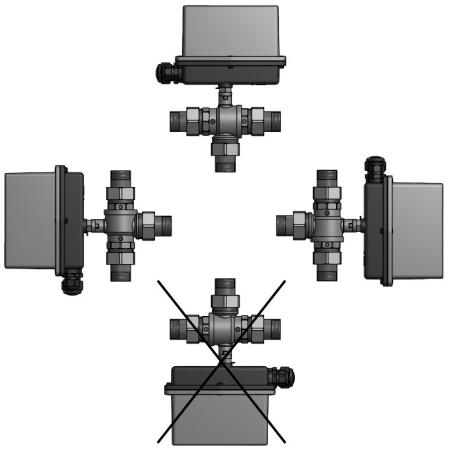


1 TEMPERATURE PROBE

Valve bodies with IN-LINE MIXED outlet



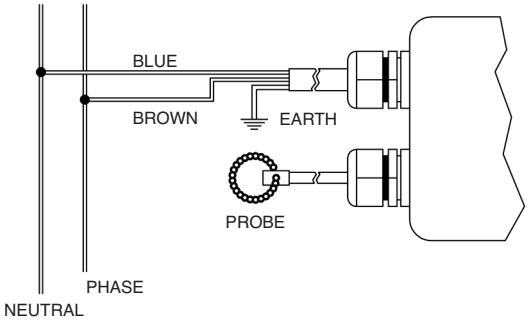
Allowed positions



A : Hot fluid inlet **B** : Cold fluid inlet **C** : Mixed outlet

NOTES:
The pipe section where the temperature probe will be placed must be made of metal.
The following part of the pipe can be of any type, provided it is suitable to the use.
Once the valve body has been installed, the servocontrol can be rotated 180°.
Mounting the servocontrol facing downwards is not allowed.

ELECTRICAL CONNECTIONS



Should power fail, the actuator remains in the position it was when the power outage occurred. When the power is restored, the servocontrol resumes its normal operation keeping the programmed settings

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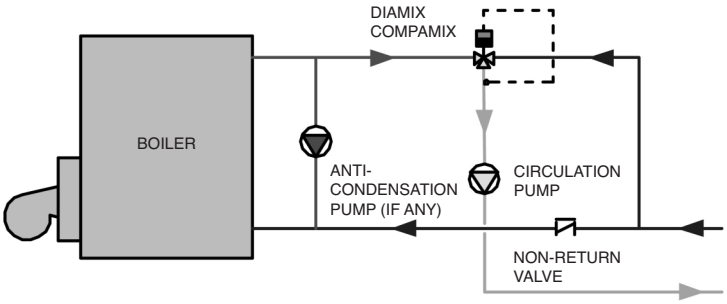
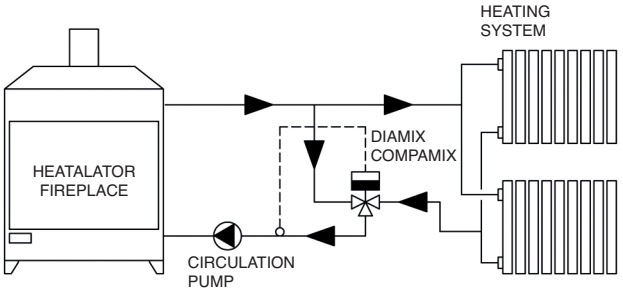
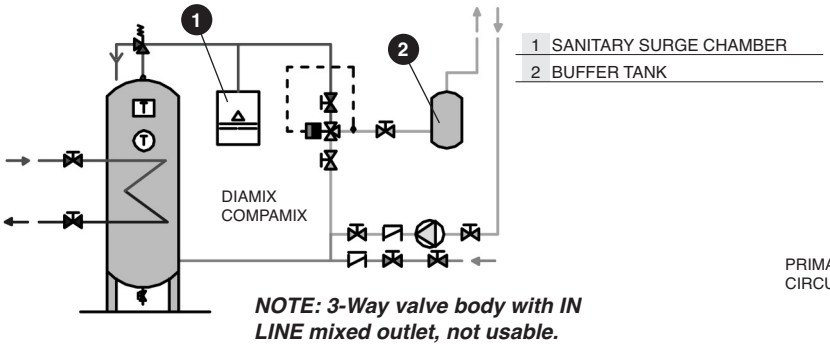
APPLICATION EXAMPLES



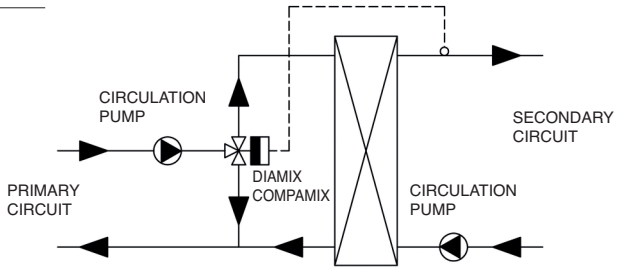
Heating system



Impianto di riscaldamento con termocamino - anticondensa



Hot sanitary water mixing system

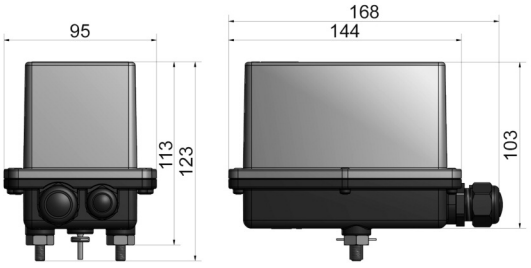


Temperature regulation in systems with thermal exchange by means of a plate heat exchanger.

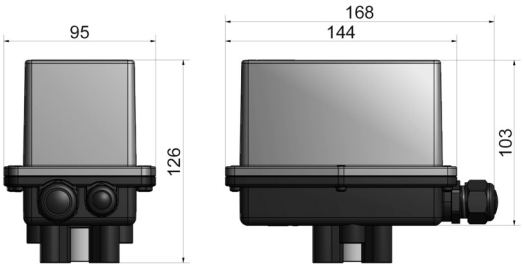
Warning: when used in hot sanitary water mixing systems, it is necessary to chose the right valve body diameter according to the flow rate. You can download our DimMix software at www.comparato.com: it will help you make the right choice. When replacing thermostatic mixers in existing systems, you need to check the presence of sanitary recirculation, as per the diagram, and choose the valve body diameter according to the Kvs values (see the table of fluid-dynamic features).

OVERALL SIZE [mm]

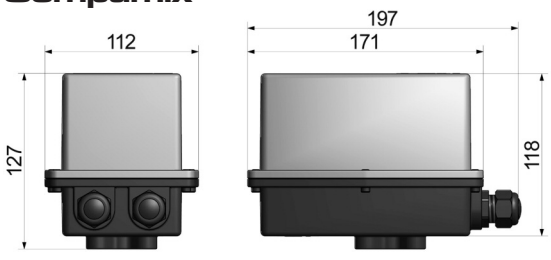
Diamix COMPARATO CONNECTION



Diamix ISO 5211 CONNECTION



Compamix



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THERMORAGULATING/MIXING VALVES
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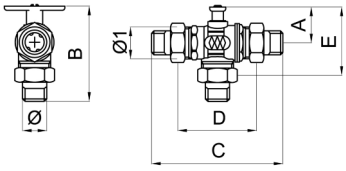
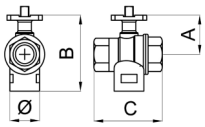
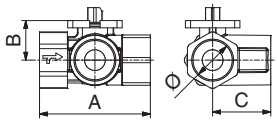
VALVE BODIES

BRASS VALVE BODIES

MODEL	DN	Ø TANGS	Ø VALVE BODIES	A	B	C	D	E
 **VERTICAL mixed COMPARATO connection**								
				Diamix				
	20	3/4"	1"	38	105	145	84	74
	25	1"	1"1/4	42	117	164	94	82

D - E: *dimensions refer to the valve body without tangs and caps.*

MODEL	DN	Ø	A	B	C	
 **VERTICAL mixed ISO 5211 connection**						
	15	1/2"	31	65	64	*Diamix*
	20	3/4"	42	82	74	*Diamix*
	25	1"	45	92	89	*Diamix*
	32	1"1/4	50	103	100	*Compamix*
	40	1"1/2	61	123	110	*Compamix*
	50	2"	67	140	130	*Compamix*

MODEL	DN	Ø	A	B	C	
 **IN LINE mixed**						
	15	1/2"	66,6	27,6	34	*Diamix*
	20	3/4"	80,4	30,5	40	*Diamix*
	25	1"	85,4	30,5	45	*Diamix*
	32	1"1/4	99,2	34,3	52,6	*Compamix*
	40	1"1/2	109,6	40	57	*Compamix*
	50	2"	131,4	53	69	*Compamix*

ACCESSORIES

OPTIONAL SPACERS FOR INSULATION AND/OR MANUAL OPENING

DIAMIX L COMPATATO CONNECTION

DIAMIX L ISO 5211 CONNECTION

COMPAMIX PR

SPACER FOR INSULATION

SPACER FOR INSULATION AND MANUAL OPENING

Diamix-Compamix

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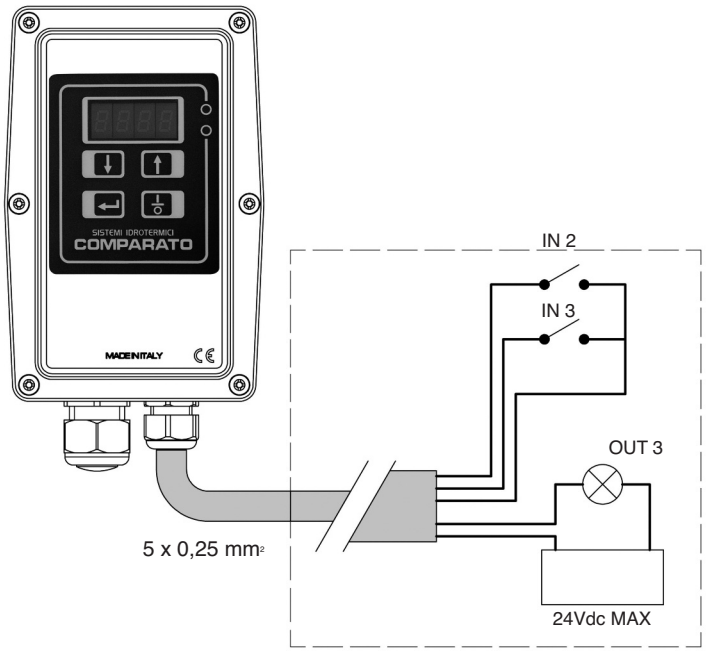
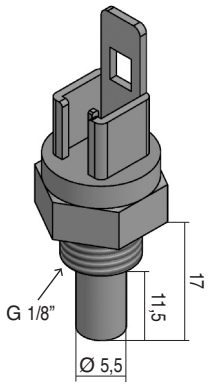
OPTIONAL INLETS/OUTLETS CABLE



WARNING:
The total cable length should not exceed 30 m.

NOTE:
In floor heating systems it is advisable to use the digital inlet 3 – forcing towards cold – in order to position the mixing valve passageway towards the return to the floor heating system when the circulation pump stops. This configuration prevents any high-temperature peak in the radiating panel circuit when the pump is restarted.

BRASS IMMERSION PROBE WITH CONNECTOR



NOTE:
Well not included

INLET	FUNCTION	DESCRIPTION
2	**Forcing towards hot**	If you close the inlet, the geared motor starts up: the valve is turned counter clockwise towards the hot way (during this phase the temperature control is disabled); the display shows the “Man” message.
3	**Forcing towards cold**	If you close the inlet, the geared motor activates: the valve is turned clockwise (during this phase the temperature control is disabled); the display shows the “Man” message.

OUTLET	FUNCTION	DESCRIPTION
3	**Temperature alarm**	The outlet is activated if the set point temperature is not reached within P2 time (“AL t”)

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FLUID-DYNAMIC FEATURES:

Kv_S (m^3/h with Δp = 100kPa = 1bar)

Model	DN	Kv_S m^3/h
VERTICAL mixed COMPARATO connection	20	11,5
	25	18,3
VERTICAL mixed ISO 5211 connection	15	6
	20	11,5
	25	18,3
	32	27,2
	40	47,3
	50	73
IN LINE * mixed	15	6
	20	8
	25	8
	32	12,5
	40	24,5
	50	36,5

PRESSURES

Model	DN	PN	Δp max [bar]
VERTICAL mixed COMPARATO connection	20	16	16
	25	16	16
VERTICAL mixed ISO 5211 connection	15	25	25
	20	16	16
	25	16	16
	32	10	10
	40	10	6
	50	10	4
IN LINE * mixed	15	40	3,5
	20	40	3,5
	25	40	3,5
	32	40	3,5
	40	40	3,5
	50	40	3,5

In order for the mixing process to run properly, make sure that the pressure values at the two inlets of the mixing valve are as constant and similar as possible.

(*) values referring to the most disadvantaged way.

FLUID TYPE AND TEMPERATURES

Water, water with glycol 30% max (for higher values, please contact our technical office)
Fluids which are compatible with the valve body materials and relevant seals.

Model	Spacer WITHOUT manual control / opening	Spacer WITH manual control / opening
VERTICAL mixed COMPARATO connection	- 10° C ÷ +100° C	- 20° C ÷ +120° C
VERTICAL mixed ISO 5211 connection	- 10° C ÷ +100° C	- 20° C ÷ +120° C
IN LINE * mixed	- 10° C ÷ +100° C	- 10° C ÷ +130° C

GLOSSARY

- Operating torque: Torque which can be occasionally provided by the actuator, with no risk of breaks nor permanent deformation of the actuator components.
- Kv_S: Flow coefficient when the valve is completely open (2-way valve) or when the flow is completely deviated on a perpendicular (3-way valve).
- PN: Nominal operating pressure.
- Δp max: Maximum differential operating pressure.

UPDATED DATA SHEETS AVAILABLE AT www.comparato.com

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COMPARATO NELLO SRL
17014 CAIRO MONTENOTTE (SV) ITALIA VIALE DELLA LIBERTÀ • LOCALITÀ FERRANIA • Tel. +39 019 510.371 - FAX +39 019 517.102
www.comparato.com e-mail:info@comparato.com