

Diamix PR - Compamix PR

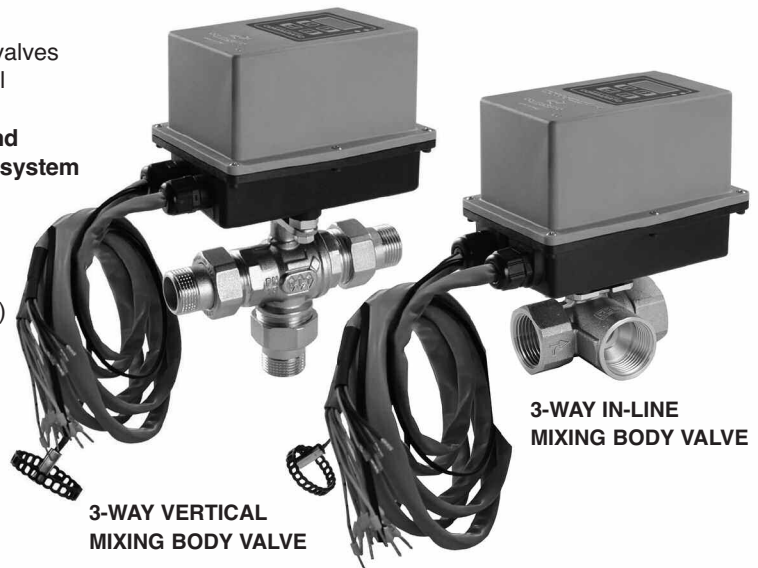
MIXING VALVES FOR HEATING / COOLING RADIANT PANEL SYSTEMS
WITH NEW COOLING MANAGEMENT AND DEHUMIDIFICATION FUNCTION

APPLICATIONS

Diamix PR and **Compamix PR** motorised valves are specifically used for temperature regulation and control of modern heating and / or cooling radiant panel systems. Thanks to the new management software, **Diamix PR** and **Compamix PR** optimize the control of the radiant panel system during summer cooling and allow the management of modern dehumidification systems.

Main functions:

- regulation of flow temperature during heating function with fixed or sliding point control (weather compensation function)
- regulation of flow temperature during cooling function with fixed point control or pursuit of the dew-point temperature
- summer/winter commutation
- pump management by room thermostat control
- electronic safety against over-temperatures
- control of the environment dehumidification system, adiabatic or adiabatic-complementary type



3-WAY VERTICAL MIXING BODY VALVE

3-WAY IN-LINE MIXING BODY VALVE

NEW FUNCTIONS

The new generation of **Diamix PR** and **Compamix PR** mixing valves allows the complete management of the radiant panel system without the need of external control devices by using the new functions and thanks to the interaction with the dehumidifier, these products are able to maintain the relative humidity inside the housing unit and to guarantee the maximum efficiency and maximum room comfort.

Thanks to the "block" logic, it is possible to activate / deactivate the various functions in order to be able to easily adapt the actuators to the system. The cooling management is particularly aimed at preventing the formation of condensation forming on the floor; main features below:

- **Tracking regulation with dehumidification control:** thanks to this configuration, **Diamix PR / Compamix PR** can manage the dehumidifier, which can be of adiabatic type and with or without integration function. This control mode can maintain the flow temperature to the radiant plant close to the dew-point temperature (calculated by a humidity and room temperature sensors); in order to maintain the relative humidity below a certain set value, the adiabatic dehumidification plant is activated or deactivated according to the maximum relative humidity set on the motorised valve.

In case of dehumidifiers with complementary function, it is possible to set a minimum ambient temperature below which the motorised valve activates this function, in order to introduce dry air at a lower temperature (in comparison with the ambient temperature) in the air-conditioned housing unit.

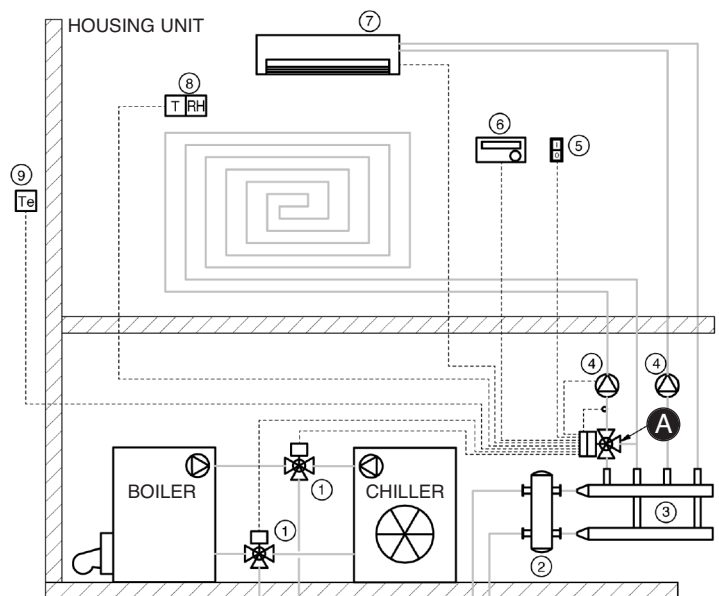
- **Fixed point regulation:** **Diamix PR / Compamix PR** maintain the flow temperature to the radiant panel system at the set fixed value. If the relative humidity and room temperature sensor is connected and if the flow temperature has reached the calculated dew-point temperature value, the motorised valve forces the activation of the dehumidifier.

VERSIONS

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

Compamix PR available for 1"1/4 • 1"1/2 • 2" diameters.

PLANT SCHEME



A Diamix PR / Compamix PR

1. Deviating motorised valve
2. Hydraulic separator
3. Distribution manifold
4. Pump
5. Summer / Winter switch
6. Room thermostat
7. Adiabatic / complementary dehumidifier
8. Relative humidity and temperature sensor
9. External probe



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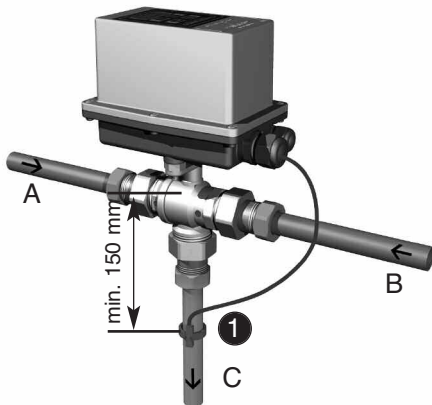
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SPECIFICATIONS

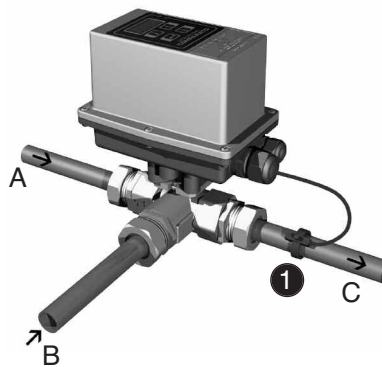
TECHNICAL FEATURES	Diamix PR	Compamix PR
Electric supply	230V • 24V 50Hz	
Maximum power consumption	8,9 VA (230V) • 9,4 VA (24V)	10 VA (230V) • 10,6 VA (24V)
Operating time (90° rotation)	35 sec	45 sec
Class protection	IP 67	
Electric connections	by cables	
Operational room temperature	-10°C +50°C	
Temperature probe	contact type, NTC 10kΩ	
Electronic adjuster	P.I.D.	
Maintenance	none	
Certification	CE	
Input	room thermostat, summer / winter switch, external probe, relative humidity and temperature sensor	
Output	pump relay control, cooling / heating signal, activation of adiabatic / complementary dehumidifier	
Cables length	80 cm	
Internal storage	EEPROM, data preservation even without power supply	

INSTALLATION

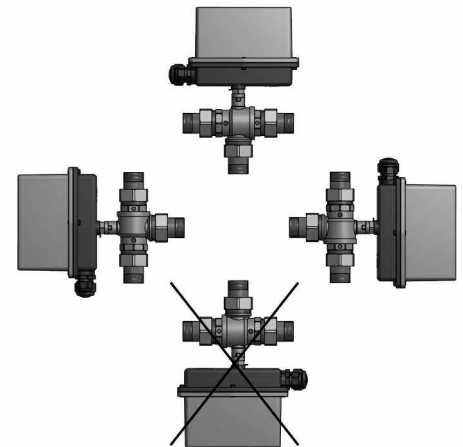
Body valve with VERTICAL MIXING OUTLET



Body valve with IN-LINE MIXING OUTLET



Allowed positioning



1 TEMPERATURE PROBE

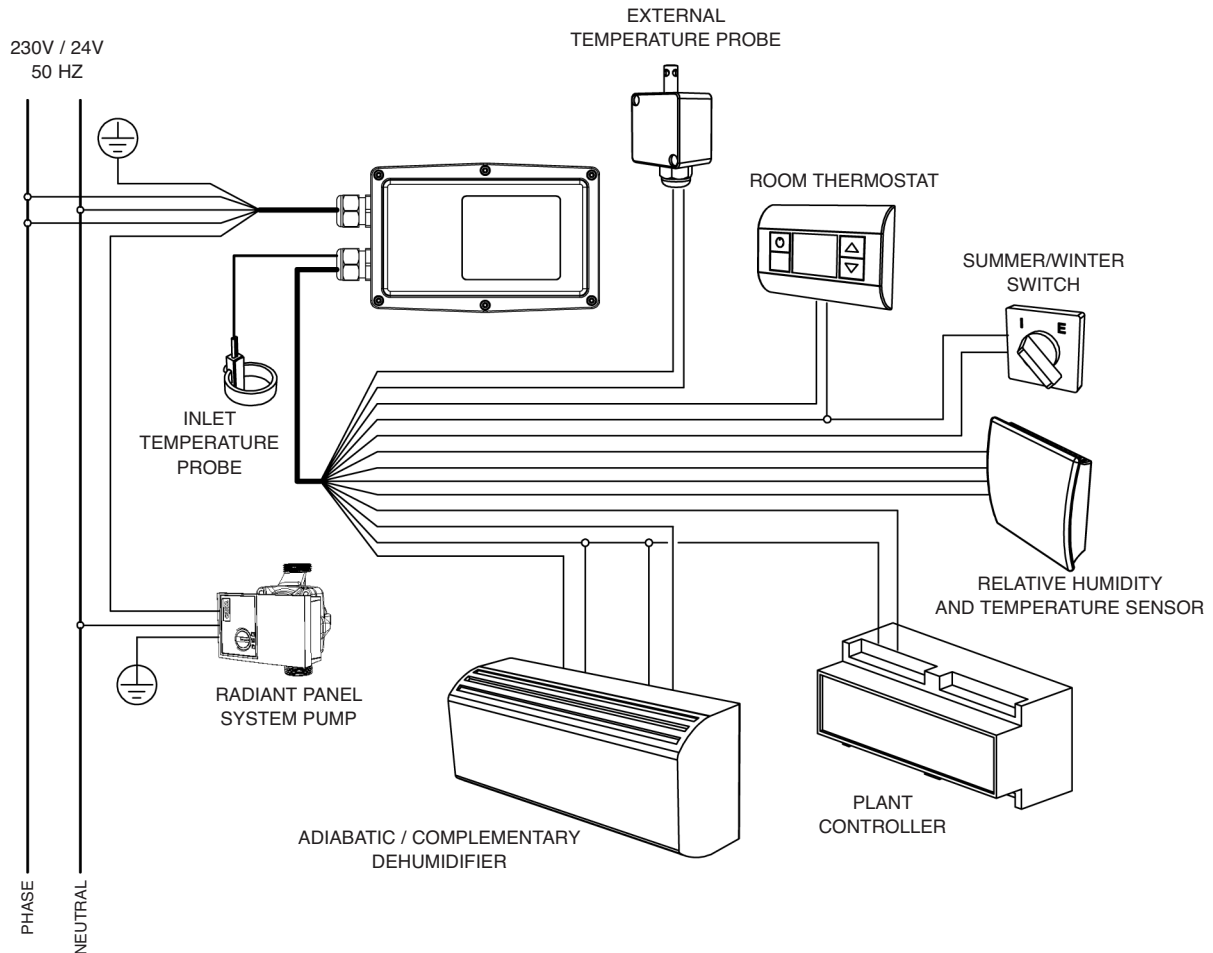
A : Inlet from primary plant **B** : Return from radiant panel system **C** : Outlet to radiant panel system



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WIRING DIAGRAMS



FLUID DYNAMIC FEATURES

Kv_S (m^3/h with $\Delta p = 100kPa = 1bar$)

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

PRESSURE

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

(*) values referred to the most disadvantaged conditions.

To avoid the occurrence of malfunctions in the mixing process, make sure that the pressure values on the two inlet ways of the mixing valve are as constant and equal as possible.



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FLUID TYPE AND TEMPERATURE

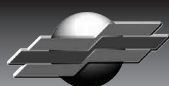
Water, water with max 30% glycol (for higher values, please contact the technical office).
Compatible fluids with the material of the valve bodies and seals.

Type	WITHOUT spacer / manual override	WITH spacer / manual override
VERTICAL mixing COMPARATO connections	- 10° C ÷ +100° C	- 20° C ÷ +120° C
VERTICAL mixing ISO 5211 connections	- 10° C ÷ +100° C	- 20° C ÷ +120° C
IN-LINE * mixing	- 10° C ÷ +100° C	- 10° C ÷ +130° C



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**HYDROTHERMAL SYSTEMS
COMPARATO NELLO SRL**

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