

Diamix-Compamix

THERMORAGULATING / MIXING MOTORISED VALVES
ELECTRONIC FIXED-POINT TEMPERATURE REGULATION



USE

- hot and cold fluid mixing
- temperature regulation in thermal exchange systems
- domestic hot water mixing
- high and low temperature heating plants
- anti-condensation for solid fuel boilers
- civil and industrial applications

Diamix



Compamix

FUNCTION

- fixed-point temperature control

OPERATION

Diamix and **Compamix** thermoregulating/mixing motorised valves operate thanks to a built-in electronics which allows an easy and user-friendly programming, directly from the actuator. Using the appropriate probe, the regulator detects the temperature of the water at the valve outlet and modifies the position of the sphere inside the 3-way ball valve by suitably mixing the hot inlet with the cold inlet.

This keeps the temperature at the setpoint value, which is set on the display with an accuracy of $\pm 1^{\circ}\text{C}$. In case of power failure, the actuator remains in the same position. When the power is restored, the actuator resumes its normal operation keeping the programmed settings.

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.

Adjustment range
 -15°C to $+85^{\circ}\text{C}$



| TECHNICAL FEATURES | Diamix | Compamix |
|---------------------------------|--|----------|
| Power supply (110 V on request) | 230V • 24V 50/60 Hz | |
| Maximum power consumption | 15 VA (20 VA Fast version) | 14 VA |
| Operating time (90° rotation) * | 35 sec (4 sec Fast version) | 45 sec |
| Protection degree | IP67 | |
| Operational room temperature | $-10^{\circ}\text{C} + 50^{\circ}\text{C}$, RH max 85% | |
| Fluid type | Water, water with glycol max 30% | |
| Fluid temperature | $-10^{\circ}\text{C} + 100^{\circ}\text{C}$ ($-20^{\circ}\text{C} + 120^{\circ}\text{C}$ with spacer) | |
| Temperature probe | Contact, NTC 10k Ω , length 80cm | |
| Electronic adjuster | PID | |
| Temperature adjustment field | $-15^{\circ}\text{C} + 85^{\circ}\text{C}$ | |
| Precision | $\pm 1^{\circ}\text{C}$ | |
| Maintenance | None | |
| Certification | CE | |

* more operating times available upon request.



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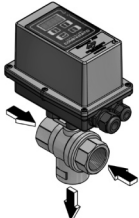


VERSIONS

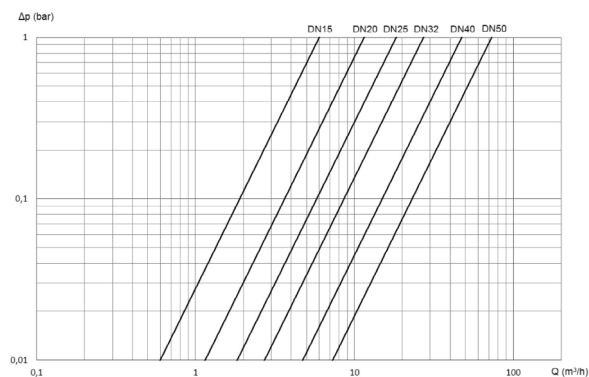
Diamix Compamix


Diamix Fast available for 1/2" diameter FFF • cod. DIAMIXNFAQ

The codes shown refer to the basic 230V version, for a 24V 50/60Hz supply voltage, please add "04" to the end of the code.

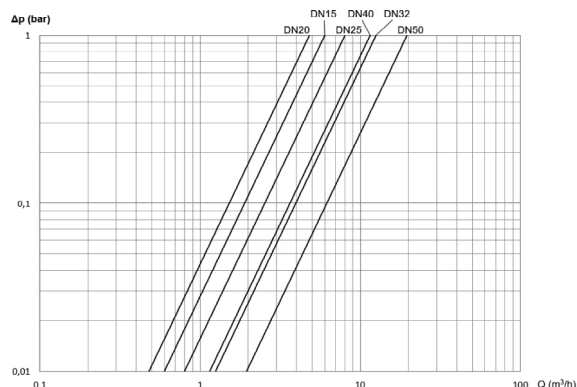
| Mixing | DN | Connections | PN | Δp_{max} [bar] | Kv_s [m ³ /h] | Code |
|---|----|-------------|----|---------------------------|-------------------------------|-----------|
|  | 20 | 3/4" * | 16 | 16 | 11,5 | DIAMIXNB |
| | 25 | 1" * | 16 | 16 | 18,3 | DIAMIXNC |
| | 15 | Rp 1/2" | 25 | 25 | 6 | DIAMIXNFA |
| | 20 | Rp 3/4" | 16 | 16 | 11,5 | DIAMIXNFB |
| | 25 | Rp 1" | 16 | 16 | 18,3 | DIAMIXNFC |
| | 32 | Rp 1 1/4" | 10 | 10 | 27,2 | COMPAMIXD |
| | 40 | Rp 1 1/2" | 10 | 6 | 47,3 | COMPAMIXE |
| | 50 | Rp 2" | 10 | 4 | 73 | COMPAMIXF |

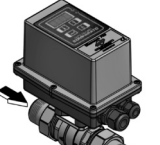
* with unions



| Mixing | DN | Connections | PN | Δp_{max} [bar] | Kv_s [m ³ /h] | Code |
|---|----|-------------|----|---------------------------|-------------------------------|------------|
|  | 15 | Rp 1/2" | 16 | 3,4 | 6 ** | DIAMIXNFAM |
| | 20 | Rp 3/4" | 16 | 3,4 | 4,8 ** | DIAMIXNFBM |
| | 25 | Rp 1" | 16 | 3,4 | 8,6 ** | DIAMIXNFCM |
| | 32 | Rp 1 1/4" | 16 | 3,4 | 12,8 ** | DIAMIXNFDM |
| | 40 | Rp 1 1/2" | 16 | 3,4 | 11,5 ** | DIAMIXNFEM |
| | 50 | Rp 2" | 16 | 3,4 | 19,5 ** | DIAMIXNFFM |

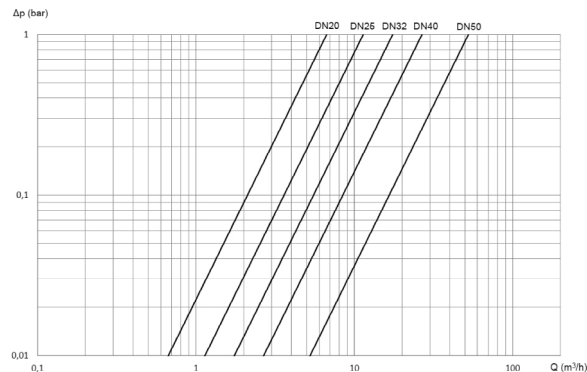
** value referring to the most disadvantaged way (L)



| Mixing | DN | Connections | PN | Δp_{max} [bar] | Kv_s [m ³ /h] | Code |
|---|----|-------------|----|---------------------------|-------------------------------|------------|
|  | 20 | 3/4" * | 16 | 3,5 | 6,7 ** | DIAMIXNFBV |
| | 25 | 1" * | 16 | 3,5 | 11,4 ** | DIAMIXNFCV |
| | 32 | 1 1/4" * | 16 | 3,5 | 17,5 ** | DIAMIXNFDV |
| | 40 | Rp 1 1/2" | 16 | 3,5 | 26,8 ** | DIAMIXNFEV |
| | 50 | Rp 2" | 16 | 3,5 | 52,6 ** | DIAMIXNFFV |

* with unions

** value referring to the most disadvantaged way (L)



Note: 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.



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BALL VALVES

3-WAY VERTICAL MIXED OUTLET, COMPARATO CONNECTION

3/4" • 1" male with unions



| | |
|---------------------------|-----------------------------------|
| BODY | BRASS CW617N UNI NICKEL-PLATED |
| BALL | BRASS CW617N CHROMED NICKEL |
| BALL SEAL | P.T.F.E. |
| ANTI-FRICTION SEAL | P.T.F.E. |
| O-RING | EPDM |

3-WAY VERTICAL MIXED OUTLET, ISO 5211 CONNECTION

1/2" • 3/4" • 1" • 1 1/4" • 1 1/2" • 2" - UNI EN 10226-1 approved Rp female thread



| | |
|---------------------------|--------------|
| BODY | BRASS CW617N |
| BALL | BRASS CW617N |
| BALL SEAL | P.T.F.E. |
| ANTI-FRICTION SEAL | P.T.F.E. |
| O-RING | FKM |

3-WAY HORIZONTAL IN-LINE MIXED OUTLET, ISO 5211 CONNECTION

1/2" • 3/4" • 1" • 1 1/4" • 1 1/2" • 2" - Rp female thread, UNI EN 10226-1 approved



| | |
|---------------------------|-----------------------|
| BODY | BRASS CW617N |
| BALL | BRASS CW617N |
| CONTROL ROD | BRASS CW614N |
| BALL SEAL | P.T.F.E. 15% GRAPHITE |
| ANTI-FRICTION SEAL | P.T.F.E. 15% GRAPHITE |
| O-RING | EPDM |

3-WAY VERTICAL IN-LINE MIXED OUTLET, ISO 5211 CONNECTION

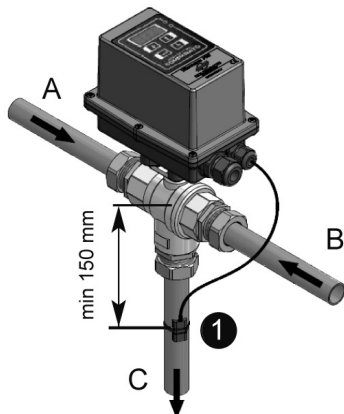
3/4" • 1" • 1 1/4" male thread with unions
1 1/2" • 2" Rp female thread UNI EN 10226-1 approved



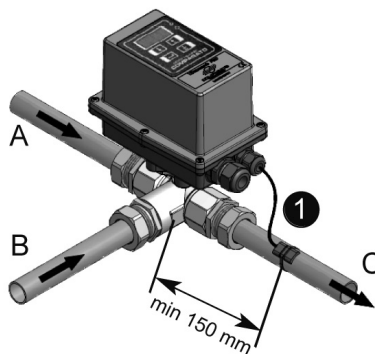
| | |
|--------------------|-------------------------|
| BODY | BRASS CW617N |
| BALL | BRASS CHROMED CW617N |
| CONTROL ROD | BRASS CW617N |
| BALL SEAL | P.T.F.E. |
| ISO FLANGE | ALUMINUM UNI EN 1706 |
| O-RING | EPDM |

ASSEMBLY

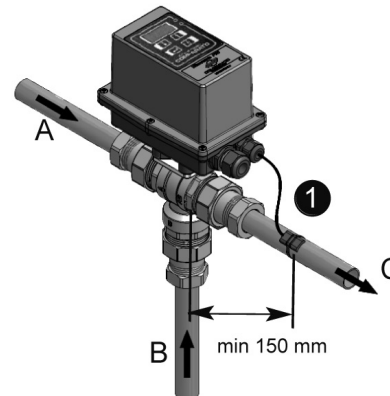
VERTICAL MIXED



HORIZONTAL IN-LINE MIXED



VERTICAL IN-LINE MIXED



1 : Temperature probe 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 ball valve has been installed, the actuator can be rotated 180°.

INSTALLATION

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

OK

OK

OK

FORBIDDEN POSITION



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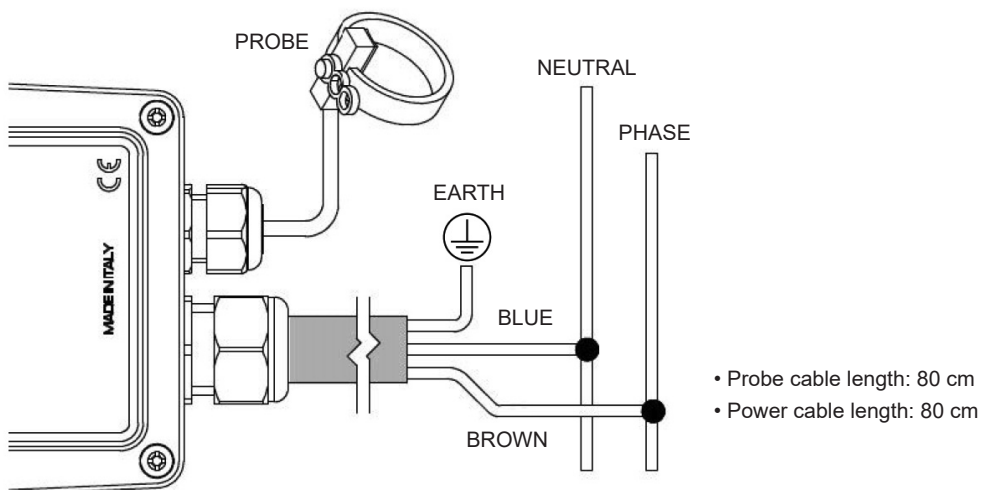
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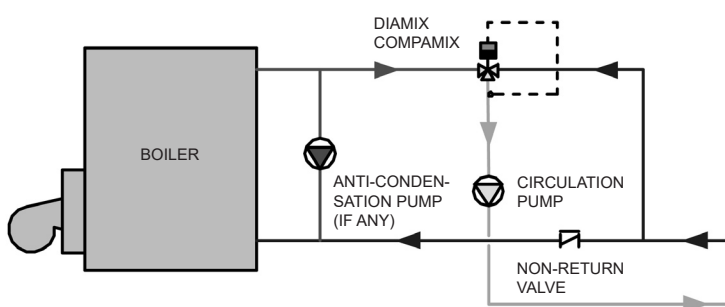


ELECTRICAL CONNECTIONS

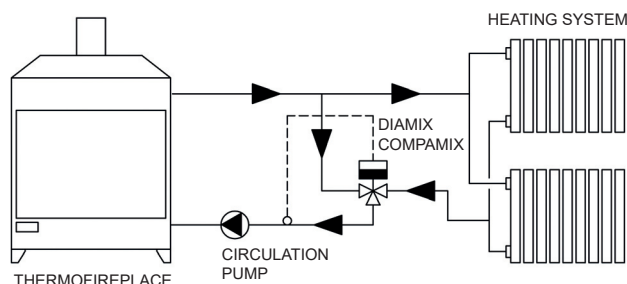


APPLICATION EXAMPLES

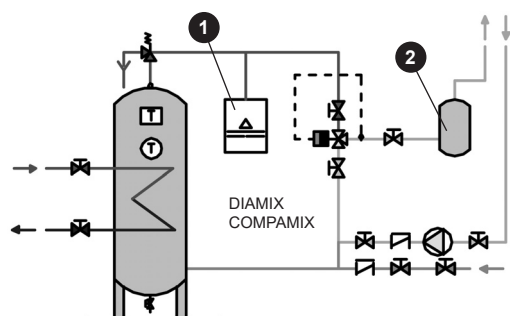
HEATING SYSTEM (FIXED-POINT)



HEATING SYSTEM WITH THERMOFIREPLACE ANTICONDENSATION



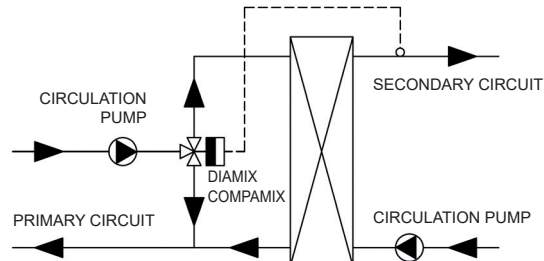
DOMESTIC HOT WATER MIXING SYSTEM



1 SANITARY SURGE CHAMBER

2 BUFFER TANK

TEMPERATURE REGULATION WITH PLATE HEAT EXCHANGER



NOTE: 3-way ball valves with in-line horizontal and vertical mixed outlet, NOT USABLE

CAUTION! When used in hot sanitary water mixing systems, it is necessary to choose the right ball valve diameter according to the flow rate. The DimMix mixer sizing software helps you to make the right selection; you can download it from the download area on www.comparato.com.

When replacing thermostatic mixers in existing systems, you need to check the presence of sanitary recirculation, as per the diagram, and choose the ball valve diameter according to the Kvs values.



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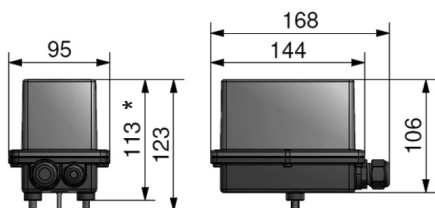
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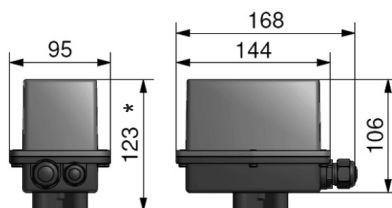


OVERALL SIZE • ACTUATORS

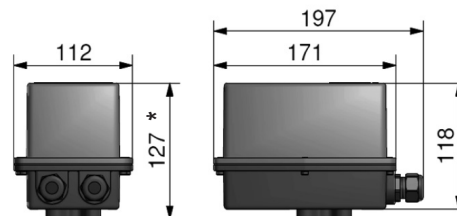
Diamix COMPARATO connection



Diamix ISO 5211 connection



Compamix



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

OVERALL SIZE • BALL VALVES

| MODEL | DN | Ø UNIONS | Ø1 BALL VALVES | A | B | C | D | E |
|--|----|-------------|-------------------|----|-----|-----|----|----|
| VERTICAL mixed COMPARATO connection | 20 | 3/4" | 1" | 38 | 105 | 145 | 84 | 74 |
| | 25 | 1" | 1 1/4" | 42 | 117 | 164 | 94 | 82 |

Diamix COMPARATO connection

D - E: dimensions referred to the ball valve without unions

| MODEL | DN | Ø | A | B | C | |
|---|----|--------|----|-----|-----|----------------------------|
| VERTICAL mixed ISO 5211 connection | 15 | 1/2" | 31 | 65 | 64 | Diamix ISO 5211 connection |
| | 20 | 3/4" | 42 | 82 | 74 | Diamix ISO 5211 connection |
| | 25 | 1" | 45 | 92 | 89 | Diamix ISO 5211 connection |
| | 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 | |
|--|----|--------|-----|----|----|----------------------------|
| HORIZONTAL IN-LINE mixed ISO 5211 connection | 15 | 1/2" | 71 | 31 | 38 | Diamix ISO 5211 connection |
| | 20 | 3/4" | 77 | 31 | 40 | Diamix ISO 5211 connection |
| | 25 | 1" | 91 | 33 | 47 | Diamix ISO 5211 connection |
| | 32 | 1 1/4" | 104 | 44 | 55 | Diamix ISO 5211 connection |
| | 40 | 1 1/2" | 105 | 44 | 55 | Diamix ISO 5211 connection |
| | 50 | 2" | 127 | 48 | 65 | Diamix ISO 5211 connection |

| MODEL | DN | Ø UNIONS | Ø1 BALL VALVES | A | B | C | D | E |
|--|----|-------------|-------------------|------|-------|-------|-------|-------|
| VERTICAL IN-LINE mixed ISO 5211 connection | 20 | 3/4" | 1" | 30,5 | 115,2 | 134,4 | 75 | 85 |
| | 25 | 1" | 1 1/4" | 34,3 | 135,6 | 156,6 | 87 | 100,8 |
| | 32 | 1 1/4" | 1 1/2" | 39,8 | 154,7 | 178,2 | 102,6 | 116,6 |
| | 40 | 1 1/2" | | 53 | 130 | 96 | | |
| | 50 | 2" | | 61 | 153 | 113 | | |
| | | | | | | | | |

Diamix ISO 5211 connection

D - E: dimensions referred to the ball valve without unions

Diamix ISO 5211 connection



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ACCESSORIES

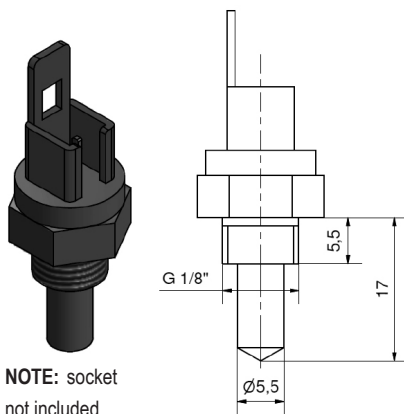
INSULATION SPACER • Add "D1" to the end of the code



INSULATION SPACER AND MANUAL OVERRIDE • Add "D2" to the end of the code



BRASS IMMERSION PROBE WITH CONNECTOR • Add "K" to the end of the code



EXAMPLE OF SPECIFICATIONS

DIAMIX MIXING MOTORISED VALVE • PID electronic regulator, fixed-point temperature control, adjustment range: $-15^{\circ}\text{C} \div +85^{\circ}\text{C}$, accuracy: $\pm 1^{\circ}\text{C}$, operating time: 35 sec / 90° , operational room temperature: $-10^{\circ}\text{C} \div 50^{\circ}\text{C}$, contact temperature probe type NTC 10 K Ω , power supply: 230V - 50/60Hz, operating angle: 90° , degree of protection: IP67, brass ball valve, vertical mixed outlet with unions G3/4" MMM - DN20 - Kvs 11,5 - PN16

Brand: **COMPARATO**
Code: **DIAMIXNB**

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 S.r.l.
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