

R589HPWY124 (R589HPW)



Energy
Management

2-pipe hydronic unit, with exchanger, for HVAC systems with HDW production through booster

Datasheet/Instructions

1153EN 11/2024

047U59728



R589HPWY124 hydronic unit (booster plate) designed for use in heating/cooling radiant systems which produce hot domestic water through integrated tanks with water-water heat pumps.

The unit measurements are all managed electronically through a dedicated controller.

This provides more accurate control of the temperature and flow rate which results in energy saving, especially in the cooling season, thanks to the reduced energy drawn from the primary circuit.

➤ Versions and product codes

PRODUCT CODE	CONNECTIONS	VERSION	APPLICATION	HEATING POWER [kW]	COOLING POWER [kW]
R589HPWY124	G 3/4" F	2 pipes With exchanger	Heating/cooling system + HDW heater (booster) in water-water heat pump	4,7	2,8

Completion codes

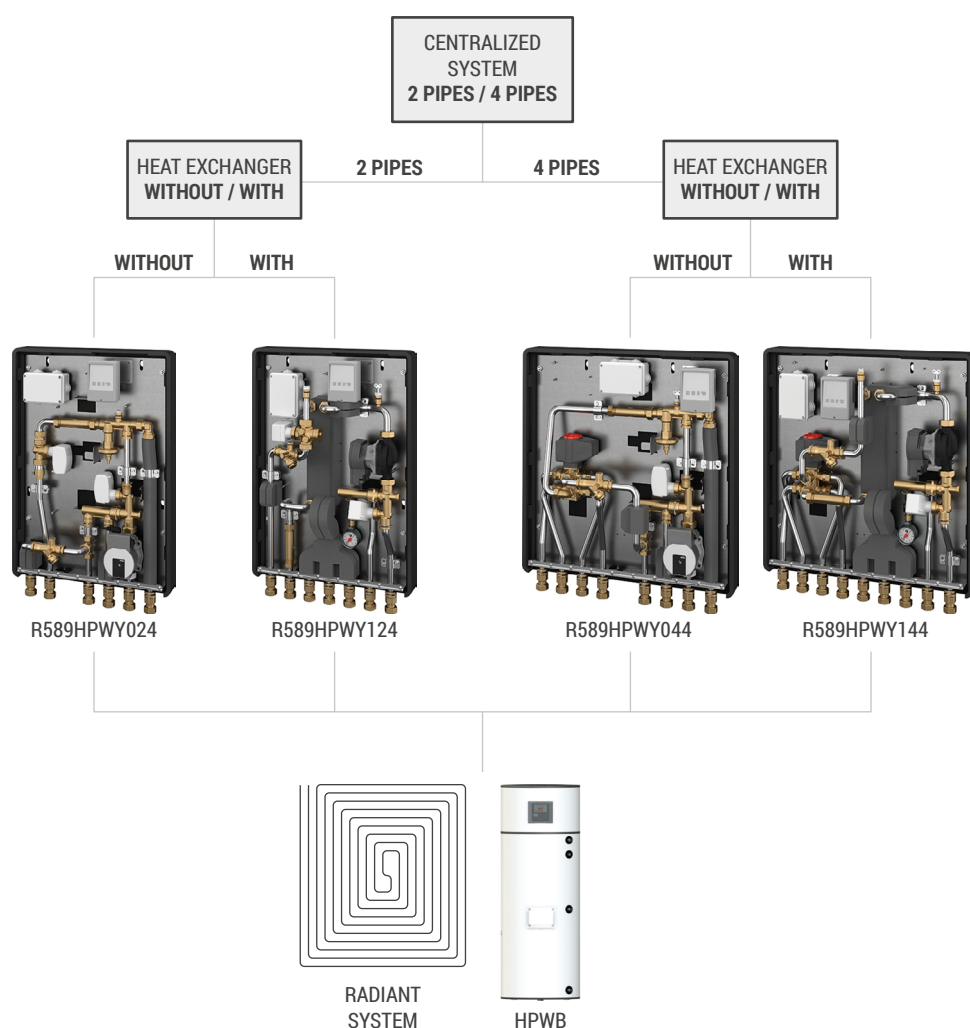
- R589HPWA124: template for R589HPWY124 hydronic unit.
- HPWB: hot domestic water heater (booster) in water-water heat pump.
- GE552-4: components for data concentration through M-Bus.
- GE552-W: components for data concentration through Wireless M-Bus.

For use in condensing environments but also as thermal insulation when heating is active, it is possible to use the specific R589HP-I insulations.

🔗 **NOTE.** To choose the correct insulation codes for the system needs, please contact Giacomini technical assistance.

Selecting the version

VERSION	WHEN TO CHOOSE IT
2 pipes	• Boiler room with only one low-temperature source producing chilled water in summer and hot water in winter
4 pipes	• Boiler room with two low-temperature sources active year round: one source producing chilled water and one producing hot water (the hydronic unit electronic control enhances the demand from either source for a top-notch performance based on the conditions of use)
With exchanger	• When a physical separation is required from the primary circuit connected to the boiler room and from the secondary circuit in individual apartments • When a boiler room primary circuit high-pressure is required (10÷16 bar) • When the presence of the exchanger makes maintenance of the entire system easier
Without exchanger	• When the system in the individual apartments can be connected directly to the primary circuit (pressure < 10 bar)



➤ Main features

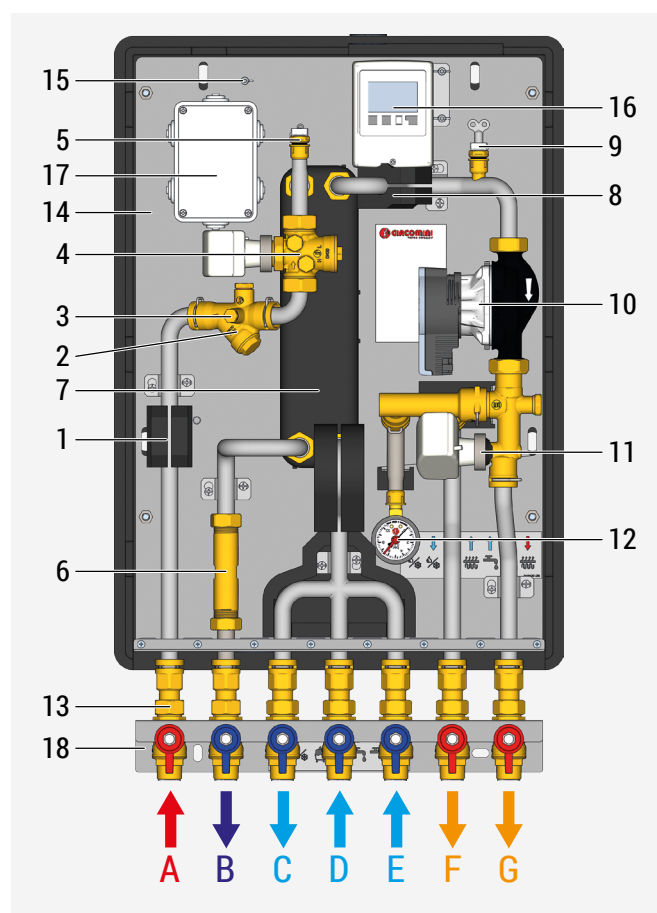
- G 3/4" F flat-seat connections with adjustable tail pieces.
- Primary circuit inlet: bottom.
- Electronic controller for management of the booster and heating/cooling system.
- Heat exchanger
- Motorized pressure independent control valve (PICV) for management of the secondary circuit supply temperature.
- Motorized 2-way zone valve with for heating/cooling control.
- Pump with PWM signal for secondary circuit.
- Primary inlet temperature probe.
- Supply temperature probe on secondary circuit (heating/cooling and booster).
- Polypropylene foam insulation shell with insulated pipes.
- Fit for installation of a thermal energy meter by replacing the brass spacer.
- Fit for installation of thermostats or chronothermostats to set the booster or heating/cooling operating time through dry contacts.

➤ Technical data

- Max working temperature of the primary circuit: 60 °C (max limit allowed for the booster)
- Min working temperature of the primary circuit: 14 °C
- Max working pressure: 16 bar primary circuit; 10 bar secondary circuit
- Max working temperature for the hydronic unit: 90 °C
- Max differential pressure of the primary circuit: 2 bar
- Min differential pressure of the primary circuit: 0,5 bar
- Nominal flow rate of the heating circuit: 810 l/h @ ΔT 5 °C (35-30 °C) for 4,7 kW
- Nominal flow rate of the cooling circuit: 810 l/h @ ΔT 3 °C (17-20 °C) for 2,8 kW
- Nominal flow rate of the booster:
 - with hot water primary circuit active: 215 l/h @ ΔT 10,4 °C (36-25,6 °C) for 2,6 kW
 - with hot water primary circuit and heating mode active: 205 l/h @ ΔT 10,3 °C (35-24,7 °C) for 2,4 kW
 - with cold water primary circuit active: 460 l/h @ ΔT 2,2 °C (13,1-10,9 °C) for 1,2 kW
 - with cold water primary circuit and cooling mode active: 400 l/h @ ΔT 3,0 °C (17-14 °C) for 1,4 kW
- Weight (without template): 14,5 kg

⚠ WARNING. The hydronic unit is fit for indoor spaces with air thermohygrometric characteristics that do not generate corrosion. Provide proper grounding to prevent stress corrosion cracking. The unit is fit for use with non-aggressive fluids (water, glycol-based water complying with the VDI 2035/ÖNORM 5195 standard).

Components



PRIMARY CIRCUIT, BOOSTER AND HEATING/COOLING	1	Probe for measurement of the primary circuit supply temperature, with insulation
	2	Filter
	3	Housing for the supply temperature probe of the thermal energy meter
	4	Motorized pressure independent control valve (PICV)
	5	Manual air vent, with wrench
	6	Brass spacer for installation of a thermal energy meter
	7	Insulated heat exchanger
	8	Probe for measurement of the secondary circuit supply temperature (heating/cooling and booster), with insulation
	9	Manual air vent, with wrench
	10	Pump for secondary circuit
	11	Motorized 2-way zone valve for control of the heating/cooling system
	12	Pressure gauge
	13	Adjustable tail pieces with swiveling nut
OTHER COMPONENTS	14	Metal frame
	15	Tie rod for grounding
	16	Electronic controller
	17	Cabinet with terminal block for electric connections
	18	R589HPWA124 template for job site installation (completion code)
HYDRAULIC CONNECTIONS	A	Hot/cold water primary circuit inlet
	B	Hot/cold water primary circuit outlet
	C	Expansion vessel / Safety valve
	D	Heating/cooling circuit return
	E	Booster circuit return
	F	Booster circuit supply
	G	Heating/cooling circuit supply

Operation

The R589HPW hydronic unit can be programmed through the functions of the electronic controller to manage and set the temperature and the flow rate of the heating/cooling supply water based on the commissioning settings. The default values are: 35 °C for heating and 17 °C for cooling. The default setting for operation with the booster only is 36 °C.

The limits exceeded for the supply temperature for heating (default setting: 50 °C) and cooling (default setting: 14 °C) are instead controlled and signaled on the controller display through an icon in the right lower corner with the symbol .

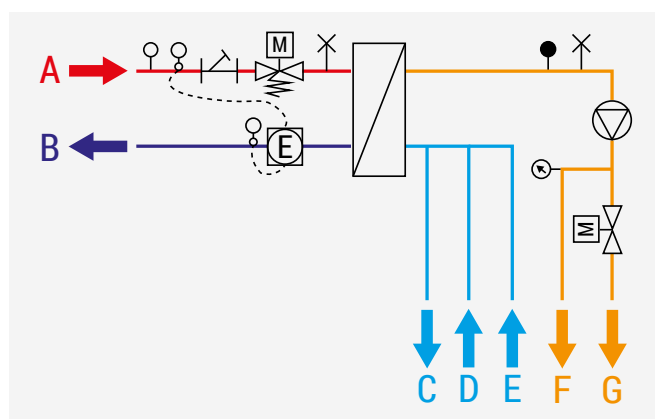
The system operator should be informed about the above messages.

The unit automatically controls the flow rate simultaneous demand for both the booster and the heating/cooling system.

⚠ WARNING. The hydronic unit doesn't control the primary circuit supply temperature directly. The electronic controller does not display the inconsistencies between the season change and the temperature value of the primary circuit water.

⚠ WARNING. In summer, the pipes (especially the booster system return pipes) may be subject to condensation. Appropriate insulation systems must be provided.

⚠ WARNING. Install an expansion vessel and a safety valve with a proper filling unit on the secondary circuit.



COMPONENTS		Housing for the energy meter temperature probe
		Probe for measurement of the primary circuit inlet temperature, with insulation
		Probe for measurement of the secondary circuit supply temperature (heating/cooling and booster), with insulation
		Filter
		Motorized pressure independent control valve (PICV)
		Manual air vent, with wrench
		Spacer for the thermal energy meter
		Insulated heat exchanger
		Pump for secondary circuit
		Pressure gauge
		Motorized 2-way zone valve
HYDRAULIC CONNECTIONS	A	Hot/cold water primary circuit inlet
	B	Hot/cold water primary circuit outlet
	C	Expansion vessel / Safety valve
	D	Heating/cooling circuit return
	E	Booster circuit return
	F	Booster circuit supply
	G	Heating/cooling circuit supply

Primary circuit (A and B)

The primary circuit includes a probe to read the primary circuit inlet temperature (Components - Ref. 1), a filter (Components - Ref.2), a motorized PICV (Components - Ref. 4) which adjusts the primary circuit flow rate based on the secondary circuit supply temperature, a manual air vent (Components - Ref. 5), a heat exchanger (Components - Ref.7) and a brass spacer to install the thermal energy meter (Components - Ref. 6).

The brass spacer can be replaced with a thermal energy meter by installing the return circuit temperature probe in the special housing (Components - Ref. 3) inside the filter.

The water from the boiler room enters the hydronic unit and is then channeled towards the heat exchanger when the motorized PICV is opened (Components - Ref. 4).

Secondary circuit: booster (E and F)

The booster circuit includes a heat exchanger (Components - Ref. 7), a probe to read the secondary circuit supply temperature (Components - Ref. 8), an air vent (Components - Ref. 9) and a pump (Components - Ref. 10).

The water temperature supplied to the booster circuit is controlled directly by the hydronic unit when the dry contact controlling the booster system is closed. When booster water only is required, the zone valve (Components - Ref. 11) is closed and the pump flow is channeled exclusively towards the booster circuit at the temperature set through the controller.

Secondary circuit: heating/cooling (D and G)

The heating/cooling circuit includes a heat exchanger (Components - Ref. 7), a probe to read the secondary circuit supply temperature (Components - Ref. 8), an air vent (Components - Ref. 9), a pump (Components - Ref. 10) and a 2-way motorized valve (Components - Ref. 11).

The temperature and the flow rate of the water supplied to the heating/cooling circuit are controlled directly by the hydronic unit when the dry contact controlling the system is closed. The supply temperature can be set through the controller. The heating/cooling circuit can be activated simultaneously to the demand for the booster circuit flow rate.

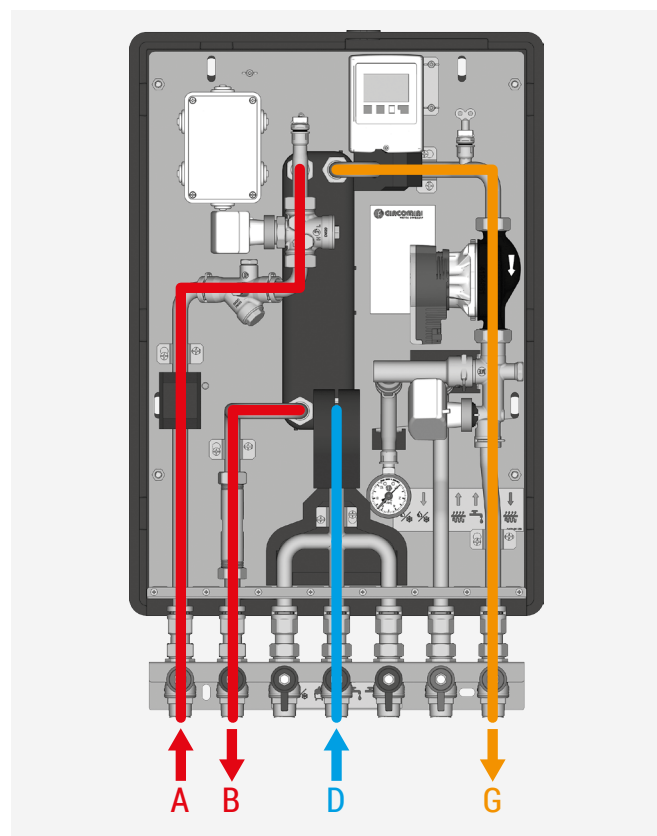
Hot water primary circuit

WARNING. Pressure independent control valve (PICV) set on position H7 (Components - Ref. 4).

Secondary circuit for the heating system

- Pressure independent control valve (PICV) with proportional control
- Supply temperature of the secondary heating circuit: 35 °C
- Min Δp of the primary circuit: 50 kPa
- Max Δp of the primary circuit: 200 kPa
- Max Δp of the secondary circuit: 25 kPa
- Nominal flow rate of the heating circuit: 810 l/h @ ΔT 5 °C (35-30 °C) for 4,7 kW
- Primary circuit Kv: 1,46

PRIMARY CIRCUIT				SECONDARY CIRCUIT FOR HEATING			
INLET T [°C]	OUTLET T [°C]	FLOW RATE [l/h]	POWER [kW]	INLET T [°C]	OUTLET T [°C]	FLOW RATE [l/h]	POWER [kW]
38,0	30,5	550	4,8	35,0	30,0	810	4,7
40,0	31,0	465	4,9	35,0	30,0	810	4,7
45,0	31,5	310	4,9	35,0	30,0	810	4,7



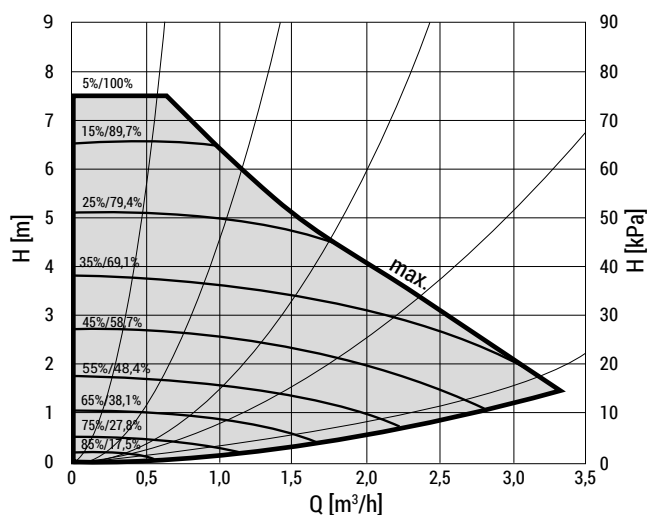
A Hot water primary circuit inlet

B Hot water primary circuit outlet

D Heating circuit return

G Heating circuit supply

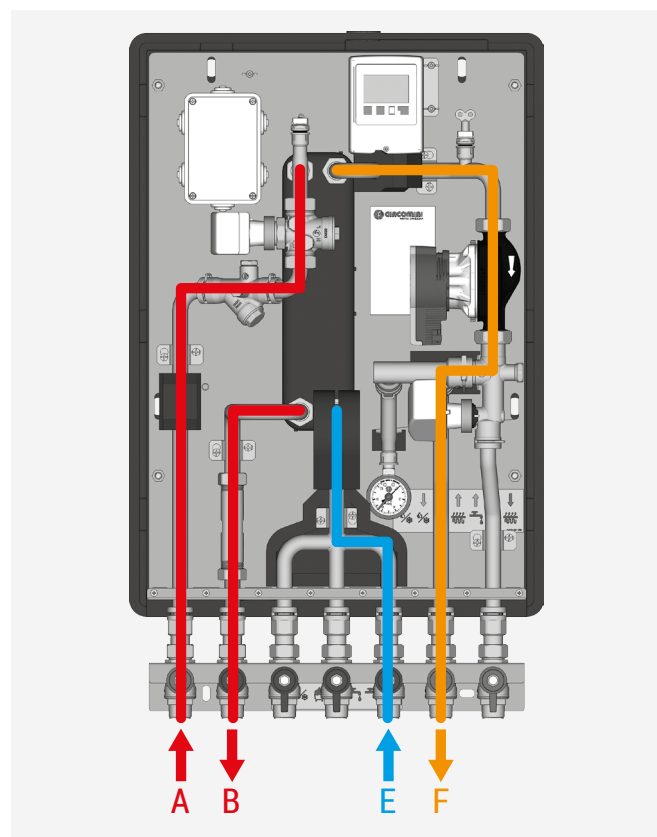
Features of the Wilo Para iPWM 15/7 pump



Secondary circuit for the booster

- Pressure independent control valve (PICV) with proportional control
- Supply temperature of the secondary heating circuit: 36°C
- Min Δp of the primary circuit: 50 kPa
- Max Δp of the primary circuit: 200 kPa
- Nominal flow rate of the booster: 215 L/h @ ΔT 10,4 °C (36-25,6 °C) for 2,6 kW
- Primary circuit Kv: 1,46

PRIMARY CIRCUIT				BOOSTER SECONDARY CIRCUIT			
INLET T [°C]	OUTLET T [°C]	FLOW RATE [l/h]	POWER [kW]	INLET T [°C]	OUTLET T [°C]	FLOW RATE [l/h]	POWER [kW]
38,0	30,0	250	2,3	36,0	27,3	222	2,2
40,0	28,7	200	2,6	36,0	25,6	215	2,6
45,0	26,5	120	2,6	36,0	25,5	210	2,6



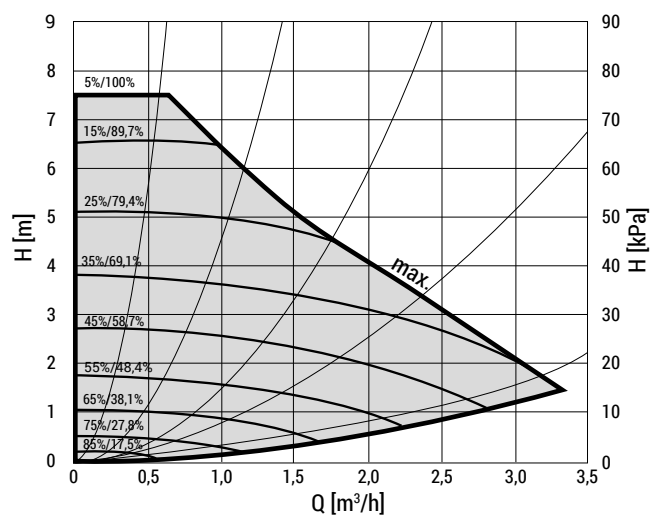
A Hot water primary circuit inlet

B Hot water primary circuit outlet

E Booster circuit return

F Booster circuit supply

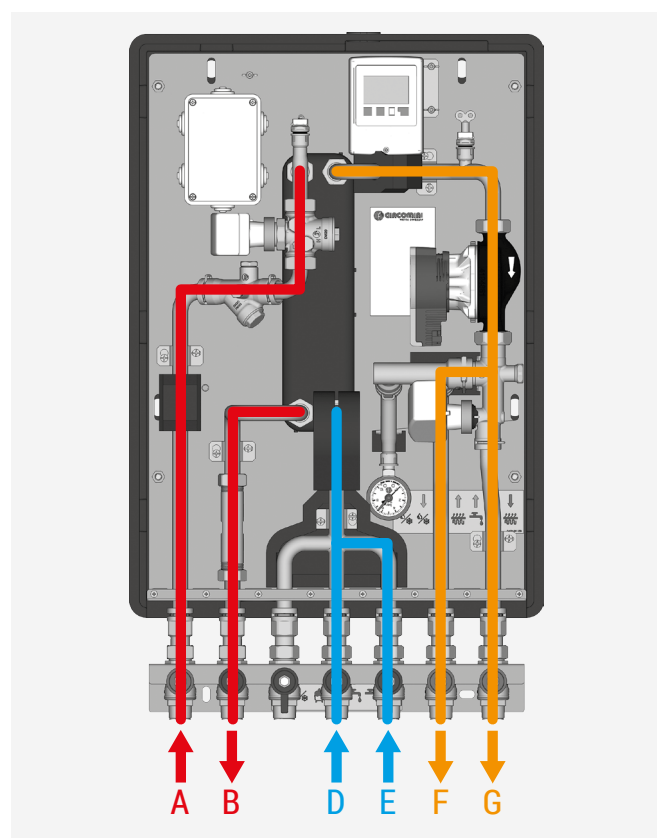
Features of the Wilo Para iPWM 15/7 pump



Secondary circuit for the heating system and the booster

- Pressure independent control valve (PICV) with proportional control
- Supply temperature of the secondary heating circuit: 35 °C
- Min Δp of the primary circuit: 50 kPa
- Max Δp of the primary circuit: 200 kPa
- Max Δp of the secondary circuit: 25 kPa
- Nominal flow rate of the heating circuit: 760 l/h @ ΔT 5 °C (35-30 °C) for 4.4 kW
- Nominal flow rate of the booster: 205 l/h @ ΔT 10.3 °C (35-24.7 °C) for 2.4 kW
- Primary circuit Kv: 1,46

PRIMARY CIRCUIT				SECONDARY CIRCUIT FOR HEATING				BOOSTER CIRCUIT			
INLET T [°C]	OUTLET T [°C]	FLOW RATE [l/h]	POWER [kW]	INLET T [°C]	OUTLET T [°C]	FLOW RATE [l/h]	POWER [kW]	INLET T [°C]	OUTLET T [°C]	FLOW RATE [l/h]	POWER [kW]
38,0	31,1	860	6,9	35,0	30,0	760	4,4	35,0	24,7	205	2,4
40,0	30,6	610	6,7	35,0	30,0	760	4,4	35,0	25,7	205	2,2
45,0	29,9	380	6,7	35,0	30,0	760	4,4	35,0	25,6	205	2,2



A Hot water primary circuit inlet

B Hot water primary circuit outlet

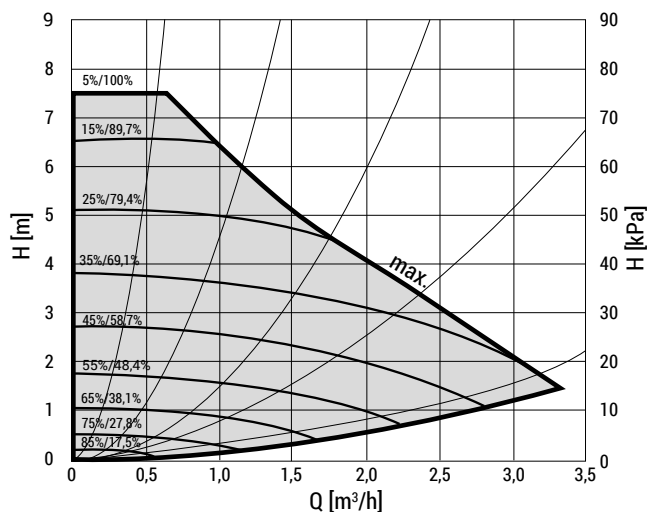
D Heating circuit return

E Booster circuit return

F Booster circuit supply

G Heating circuit supply

Features of the Wilo Para iPWM 15/7 pump



➤ Cold water primary circuit

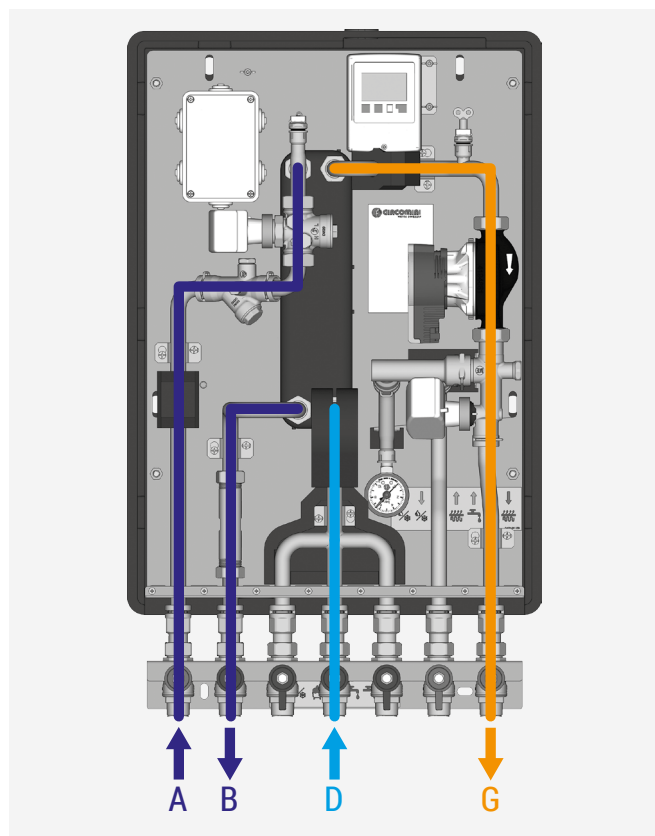
▲ WARNING. Pressure independent control valve (PICV) set on position H7 (Components - Ref. 4).

Secondary circuit for the cooling system

- Pressure independent control valve (PICV) with proportional control
- Supply temperature of the secondary cooling circuit: 17 °C
- Min temperature: 14°C
- Min Δp of the primary circuit: 50 kPa
- Max Δp of the primary circuit: 200 kPa
- Max Δp of the secondary circuit: 25 kPa
- Nominal flow rate of the cooling circuit: 810 l/h @ ΔT 3 °C (17-20 °C) for 2,8 kW
- Primary circuit Kv: 1,46

PRIMARY CIRCUIT				COOLING SECONDARY CIRCUIT			
INLET T [°C]	OUTLET T [°C]	FLOW RATE [l/h]	POWER [kW]	INLET T [°C]	OUTLET T [°C]	FLOW RATE [l/h]	POWER [kW]
14,0	19,5	470	3,0	17,0	20,0	810	2,8
17,0	20,5	740	3,0	18,0*	21,0	810	2,8

* Min temperature achievable.



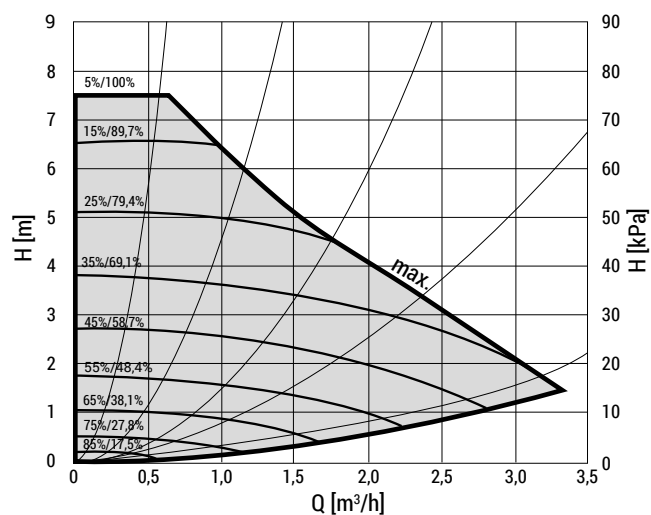
A Cold water primary circuit inlet

B Cold water primary circuit outlet

D Cooling circuit return

G Cooling circuit supply

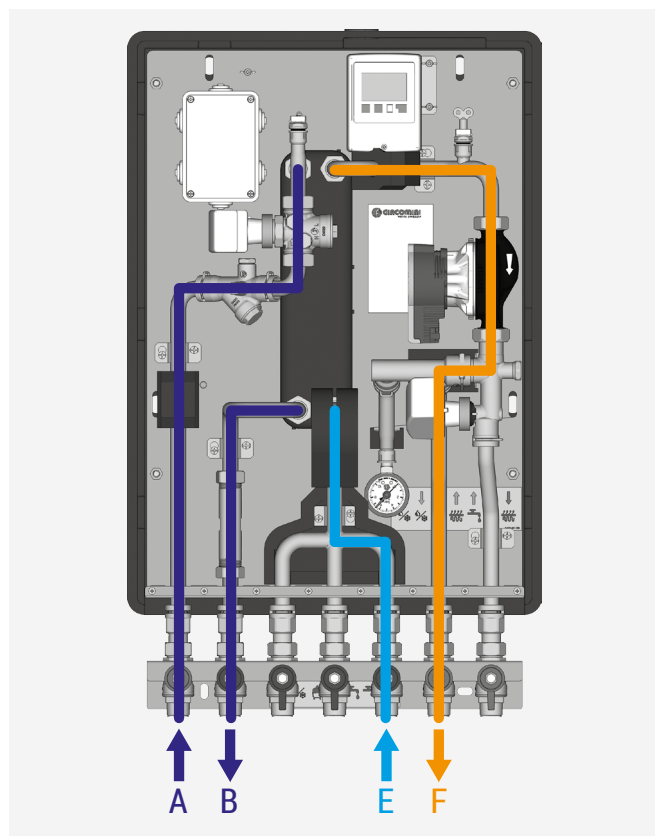
Features of the Wilo Para iPWM 15/7 pump



Secondary circuit for the booster

- Pressure independent control valve (PICV) with proportional control
- Min Δp of the primary circuit: 50 kPa
- Max Δp of the primary circuit: 200 kPa
- Nominal flow rate of the booster: 460 l/h @ ΔT 2,2 °C (13,1-10,9 °C) for 1,2 kW
- Primary circuit Kv: 1,46

PRIMARY CIRCUIT				BOOSTER SECONDARY CIRCUIT			
INLET T [°C]	OUTLET T [°C]	FLOW RATE [l/h]	POWER [kW]	INLET T [°C]	OUTLET T [°C]	FLOW RATE [l/h]	POWER [kW]
14,0	12,8	860	1,2	13,1	10,9	460	1,2
17,2	16,0	880	1,2	16,6	14,4	460	1,2



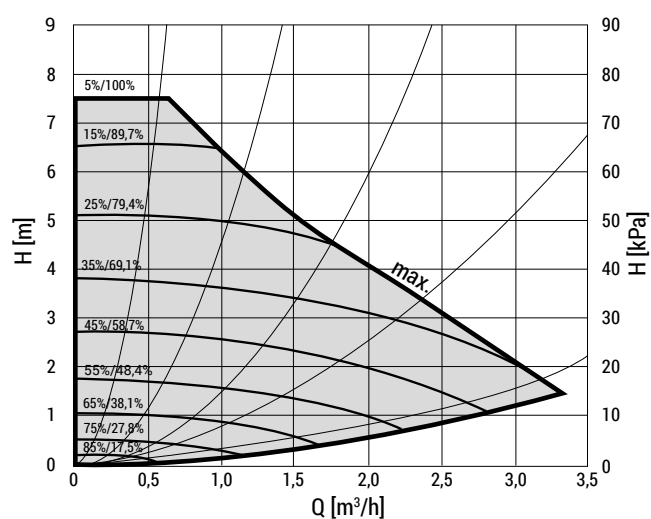
A Cold water primary circuit inlet

B Cold water primary circuit outlet

E Booster circuit return

F Booster circuit supply

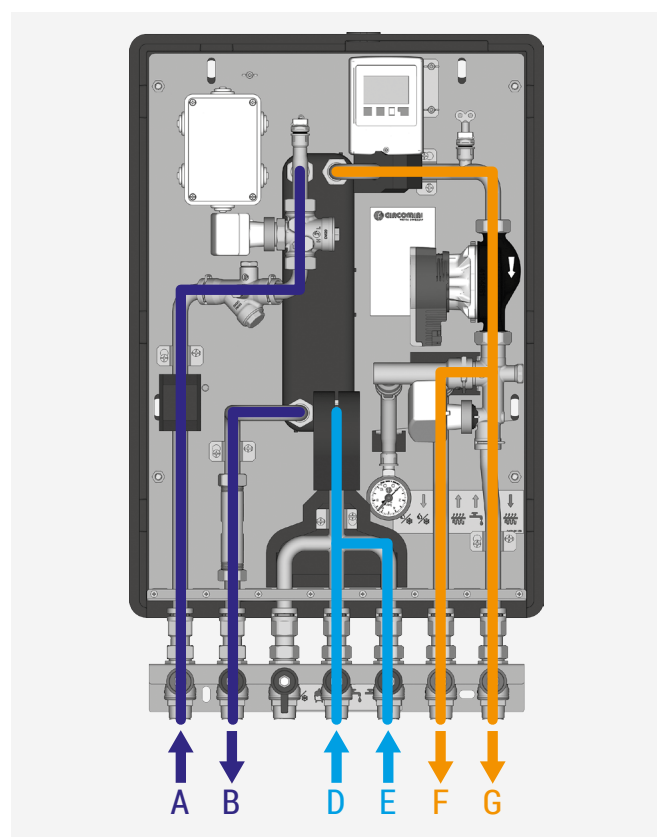
Features of the Wilo Para iPWM 15/7 pump



Secondary circuit for the cooling system and the booster

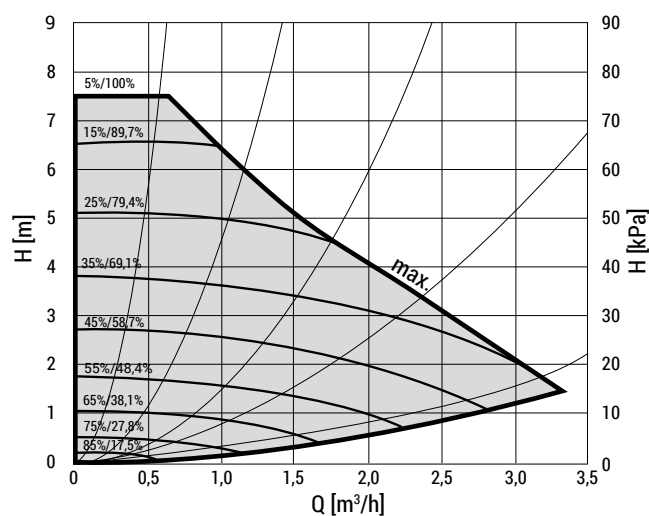
- Pressure independent control valve (PICV) with proportional control
- Supply temperature of the secondary cooling circuit: 17°C
- Min Δp of the primary circuit: 50 kPa
- Max Δp of the primary circuit: 200 kPa
- Max Δp of the secondary circuit: 25 kPa
- Nominal flow rate of the cooling circuit: 700 l/h @ ΔT 3,0 °C (17-20 °C) for 2,4 kW
- Nominal flow rate of the booster: 400 l/h @ ΔT 3,0 °C (17-14 °C) for 1,4 kW
- Primary circuit Kv: 1,46

PRIMARY CIRCUIT				COOLING SECONDARY CIRCUIT				BOOSTER CIRCUIT			
INLET T [°C]	OUTLET T [°C]	FLOW RATE [l/h]	POWER [kW]	INLET T [°C]	OUTLET T [°C]	FLOW RATE [l/h]	POWER [kW]	INLET T [°C]	OUTLET T [°C]	FLOW RATE [l/h]	POWER [kW]
14,0	19,4	170	1,1	17,0	20,0	700	2,4	17,0	14,0	400	1,4
17,0	18,2	890	1,2	18,0	21,1	690	2,5	17,9	14,9	410	1,4



- A Cold water primary circuit inlet
- B Cold water primary circuit outlet
- D Cooling circuit return
- E Booster circuit return
- F Booster circuit supply
- G Cooling circuit supply

Features of the Wilo Para iPWM 15/7 pump



➤ Installation, inspections and maintenance

⚠ IMPORTANT WARNING. Vibrations during transport may loosen the connections. Check all flat-housing connections before commissioning and tighten if necessary.

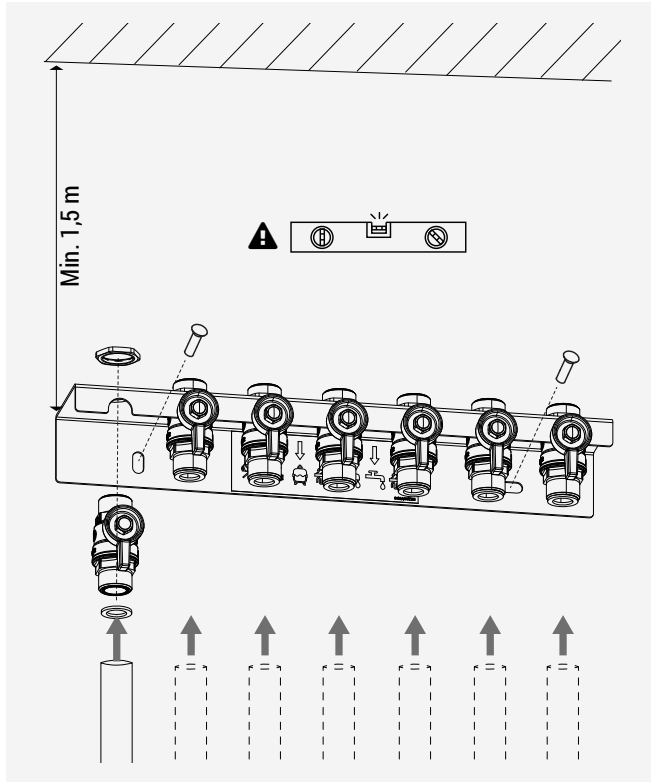
⚠ WARNING. Risk of burns and electric shocks.

Only qualified and authorized operators should install the hydronic unit.

Refer to the reference standards for use (installation, fixing, etc...), operation, recalibration and replacement of the meters.

Also refer to the assembly instructions provided with each meter.

Wall mounting of the R589HP-A template



- Mount the template on the wall using screw anchors fit for the type of surface and the weight of the equipment, leaving at least 1.5 m between the template base and the ceiling.
- Install the ball valves in the template holes and fix them with the washers using a wrench.
- Connect the system pipes to the template ball valves provided with G 3/4" M connections using suitable adapters. Refer to the template label for proper installation of the pipes.

⚠ WARNING. Make sure the template is installed and aligned correctly while forming a 90° angle with the wall; if necessary, install appropriate spacers to align the template and ensure the hydronic unit forms a 90° angle with the wall.

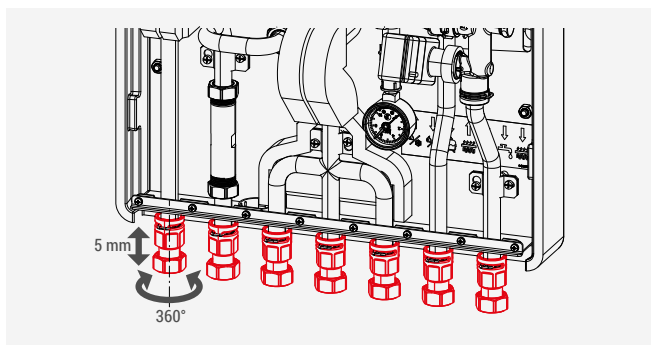
⚠ WARNING. Before connecting the system pipes to the template, make sure the length of the thread of the connection fitting used is compatible with the valve length to ensure proper sealing.

⚠ WARNING. Unused connections and ball valves must be closed with a cap.

Installation of the R589HPW hydronic unit on the template

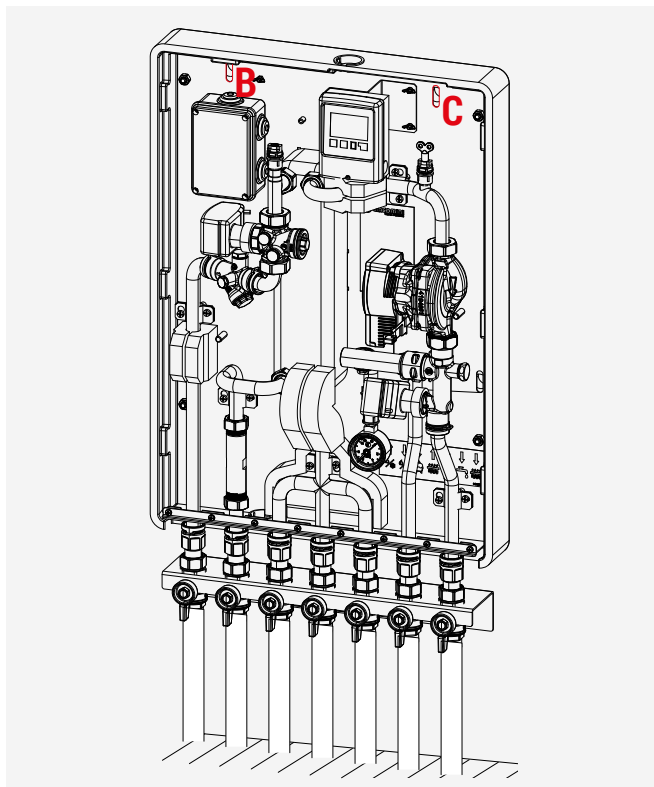
⚠ WARNING. Flush all pipes before installing the hydronic unit on the template.

⚠ WARNING. Before installing the unit, remove the plastic caps inserted in the adjustable fittings making sure not to damage the seal flat seat.

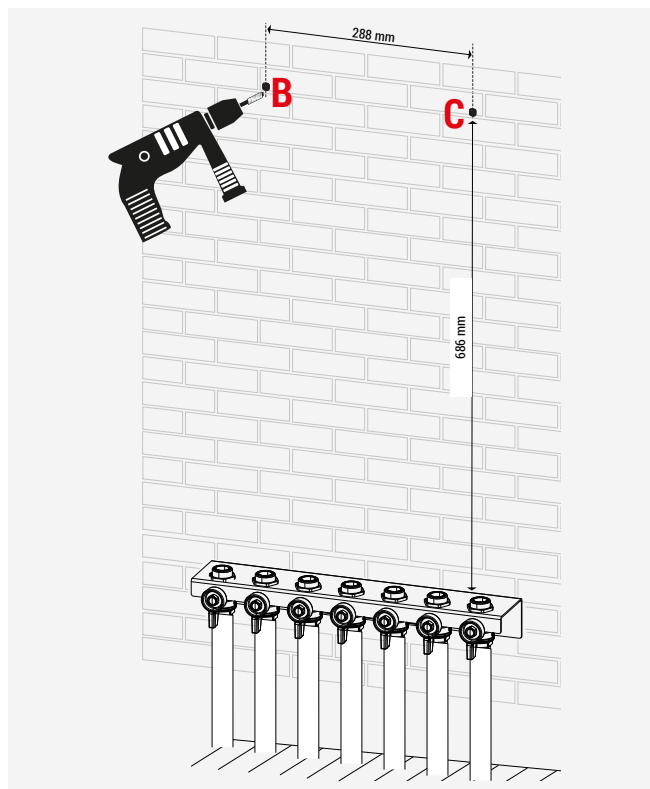


The hydronic unit is provided with adjustable connections (5-mm extension) and a G 3/4" F flat-seat swiveling nut for installation.

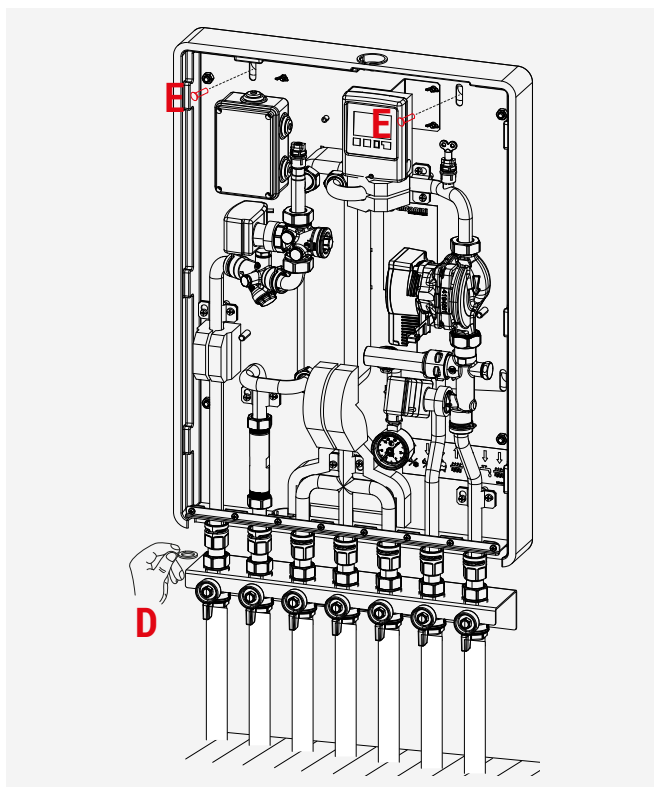
This simplifies the installation on the template valves.



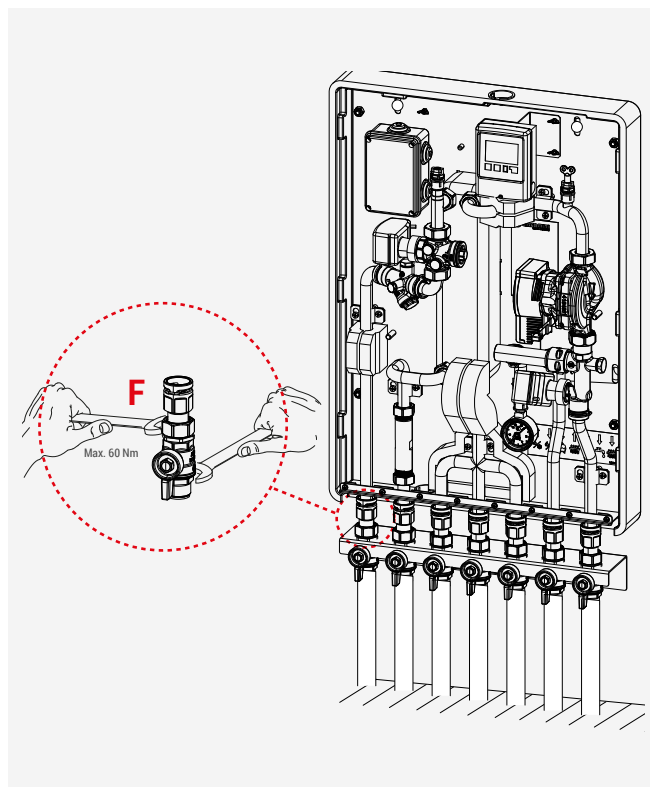
After fitting the template, lay the hydronic unit on top and mark the position of the holes (**B** and **C**) on the wall, while considering a 2-mm thickness for the connection gaskets.



Drill the wall in the positions previously marked (**B** and **C**). Use screw anchors fit for the type of wall and the weight of the equipment.



Insert the gaskets, place the hydronic unit on the template and tighten slightly (**D**). Fit the hydronic unit to the wall using the special screw anchors (**E**).



Complete the installation by tightening the hydronic unit nuts on the G 3/4\"M connections of the template ball valves (max torque 60 Nm) using a backup wrench (**F**).

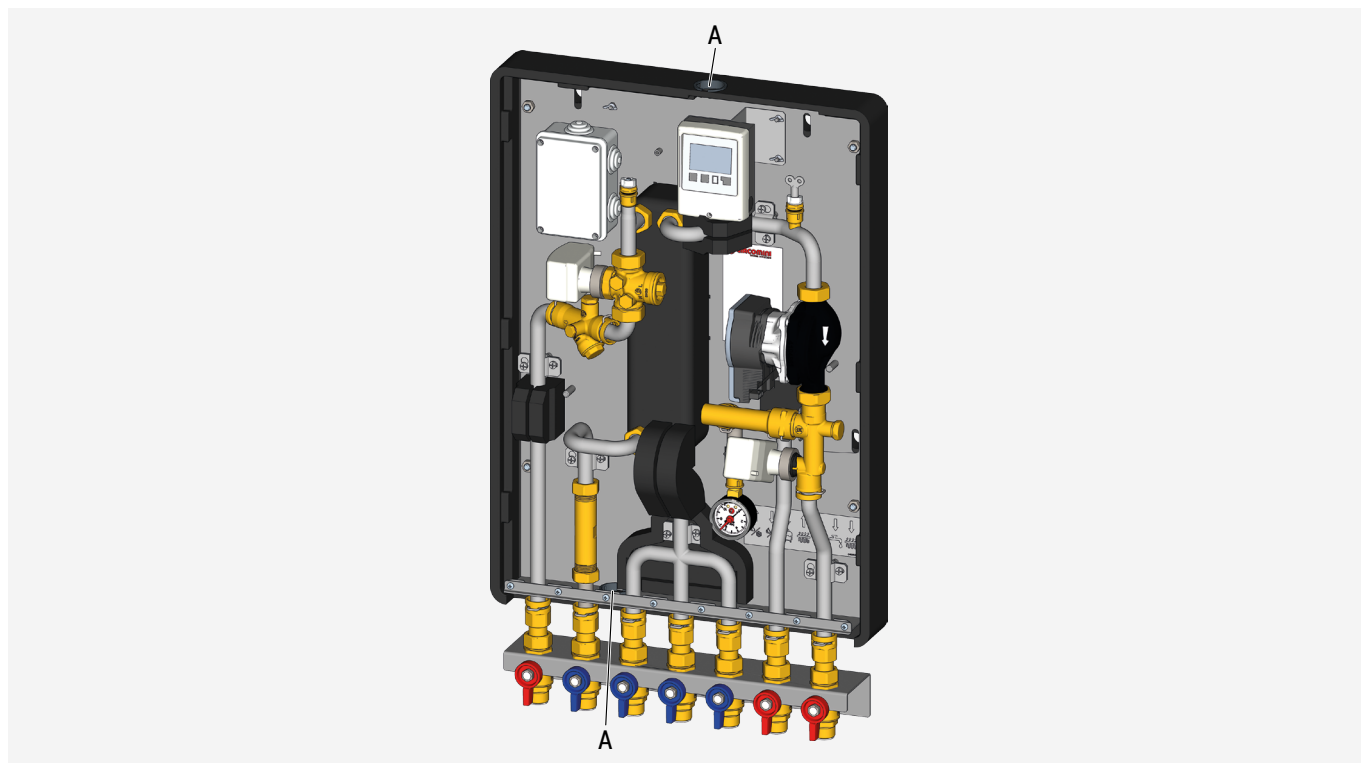
➤ Electric connections

⚠ WARNING. Before carrying out the electric connections, make sure the power is OFF. Only qualified operators should carry out the electric connections in compliance with the applicable standards. Do not turn on the electronic controller if the lid is visibly damaged.

⚠ WARNING. Protect the hydronic unit installation with a magnetothermic/differential switch.

Cable laying

To lay the electric cables, only use the two holes with the corresponding cable ducts **(A)** on the hydronic unit.



Electric technical data

The hydronic unit requires a 24 Vdc electric supply.

It is provided with a 230/24 Vdc transformer including a type-C electric connection.

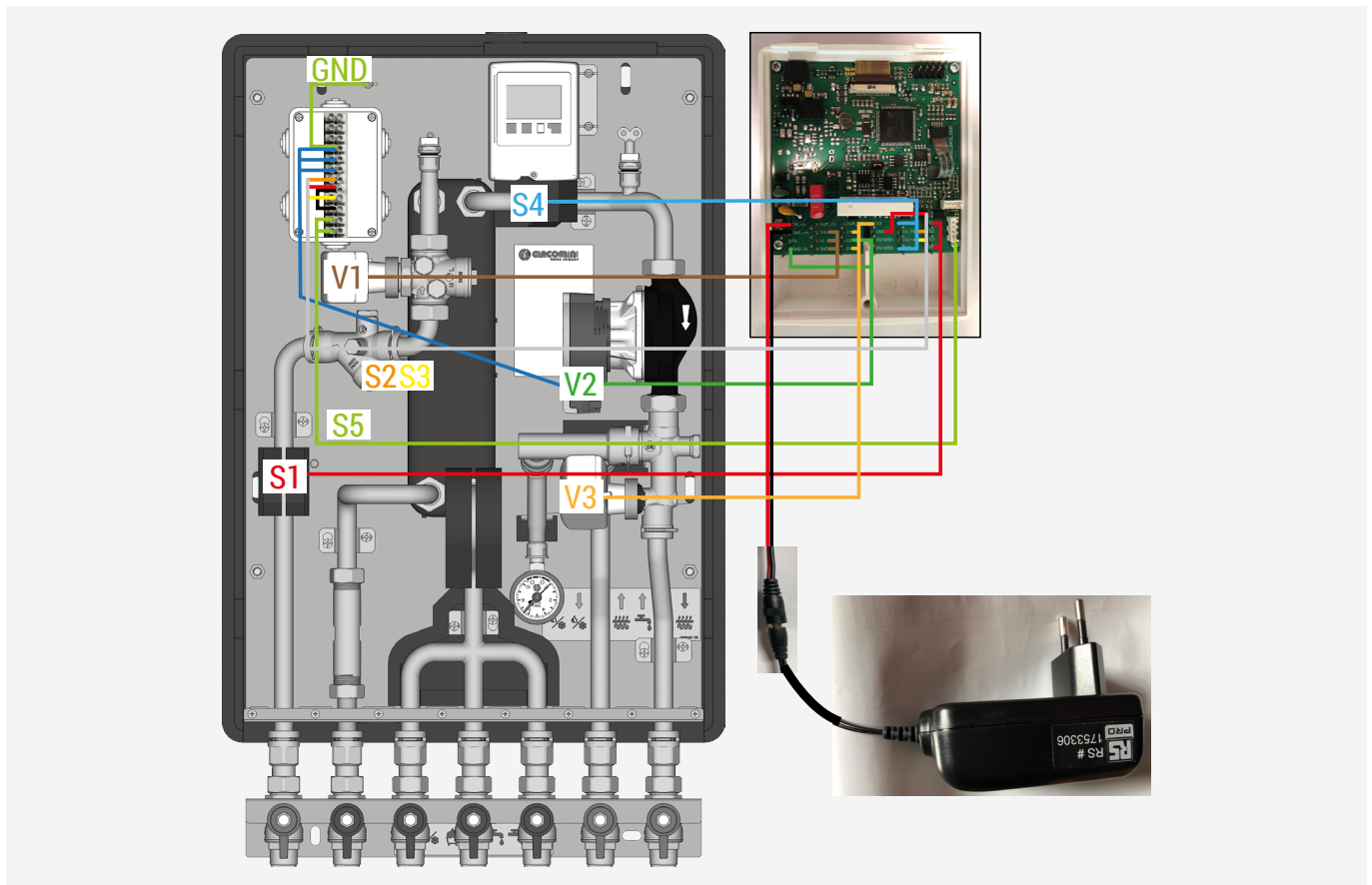
Connect the transformer to the electronic controller using the connector already wired (shown below) and equipped with a red/black cable.



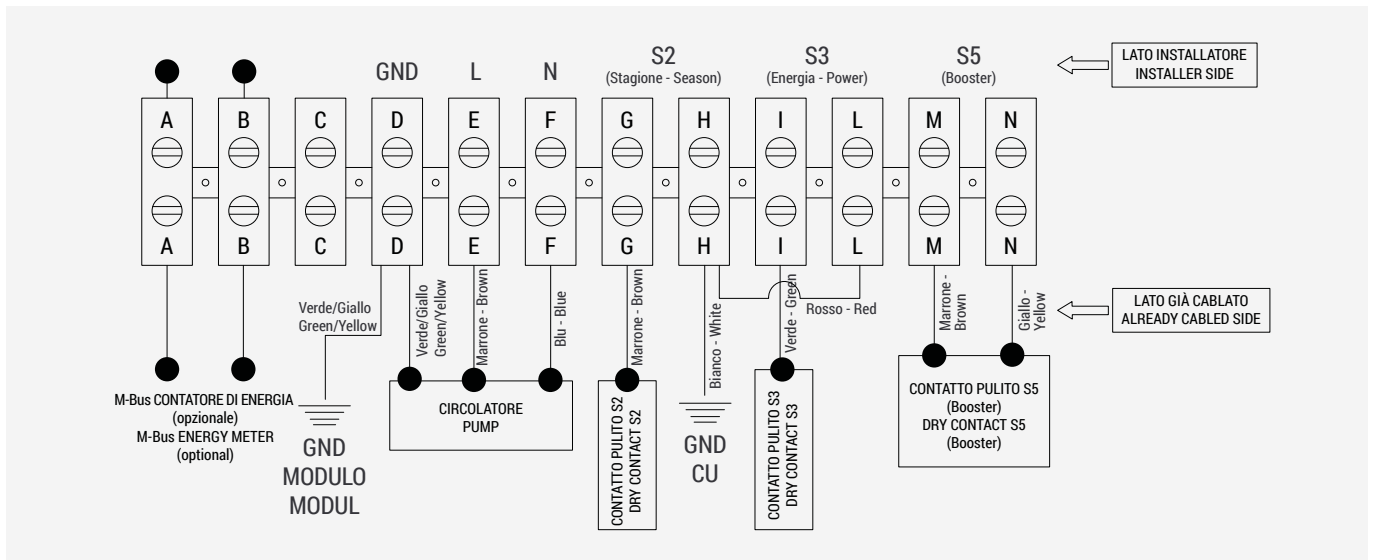
M-Bus

To connect the M-Bus data transmission cable to the concentrator, refer to the datasheet of the thermal energy meter used.

Electric connections of the unit



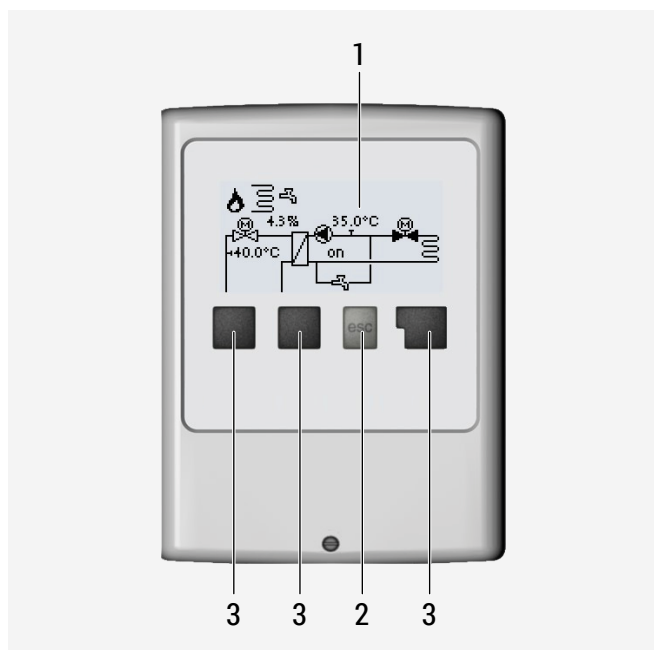
Electric connection of the terminal box (Components - Ref. 17)



Electric connections required during installation

- Pump: GND – L – N terminals marked with letters D - E - F
- S2 dry contact (summer/winter season change): G - H terminals (contact open: winter; contact closed: summer)
- S3 dry contact (power demand for heating/cooling system): I - L terminals (contact open: no power demand; contact closed: power demand)
- S5 dry contact (power demand for Booster system): M - N terminals (contact open: no power demand; contact closed: power demand)
- M-Bus cables for energy meter: A - B terminals

Controller operation



Inputs are entered through the four buttons assigned to the various functions based on the situation.

ESC (2) cancels an input or exits the menu.

The function of each of the other three buttons (3) is shown on the display line right above the buttons; the one on the right is generally used to confirm and select.

- 1 Display
- 2 ESC button
- 3 Function buttons

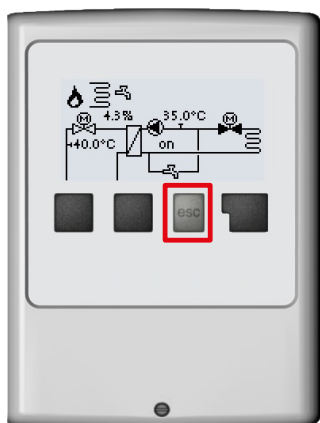
List of button functions

+/-	Increase or decrease the values
▲/▼	Scroll the menu up/down
Yes/No	Confirm/Cancel
Info	Additional information
Back	Return to previous screen
Ok	Confirm selection
Confirm	Confirm setting

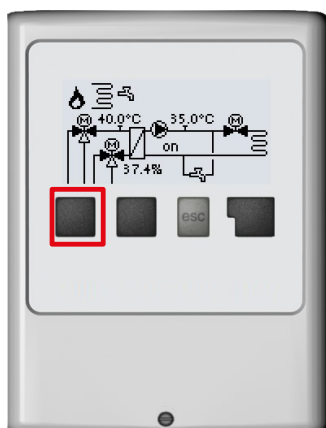
Legend of display symbols

	Winter period active
	Summer period active
	Heating/cooling active
	Booster active
	Motorized valve
	Pump
	Heat exchanger
	Temperature probe
	Warning/Error message
	New information available

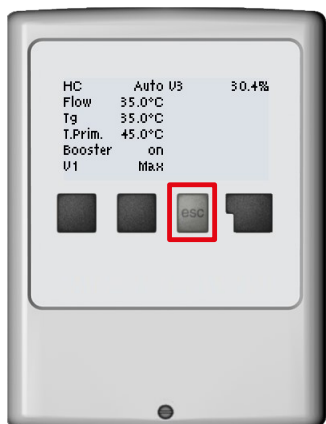
Menu sequence and structure



There are two display modes available, "charts" or "overview", that appear when no button is pressed for 2 minutes or when the user exits the main menu by pressing ESC.



To scroll through the two modes, press the first button on the left.



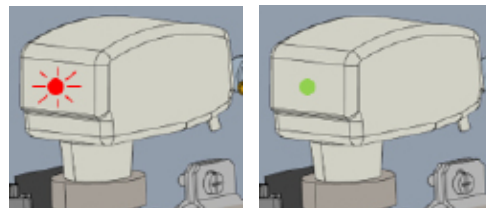
To return to the main menu, press ESC in the "charts" or "overview" modes.

Commissioning

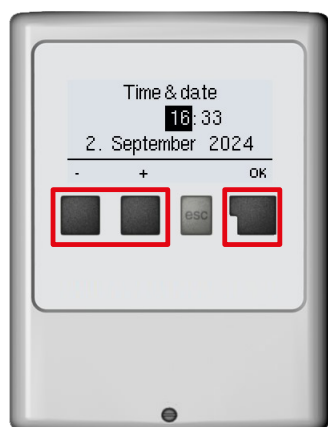
After carrying out the electric connections, the controller can be turned ON by connecting the transformer to the power line (230 Vac).

⚠ WARNING. When carrying out the electric connection of the controller, the V1 and V3 actuators (Components - Ref. 4 and 11) perform a self-learning cycle confirmed by a blinking red LED on the actuators. During this phase, make sure the actuator threaded ring nut is properly tightened on the valve body.

Wait for the solid green LED to turn ON before carrying out any operation.



The language selection screen will appear upon commissioning.
Use the up and down arrows to scroll through the menu and select the desired language.
Press OK to confirm.



The screen to select the time and date will be displayed.
Use + and - to change the time and date.
Press OK to confirm.



Use + and - to select the daylight saving time.
Press OK to confirm.

The display will show a prompt to start the setup wizard.

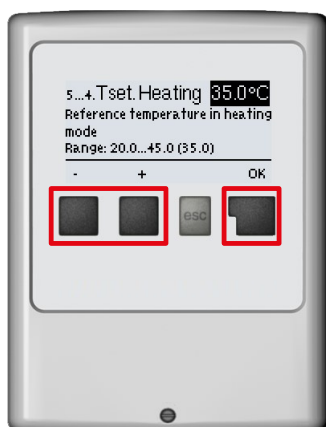


Press Yes to start the setup wizard and change the main measurements of the system:

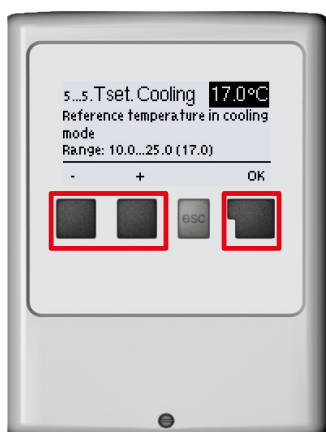
- Heating reference temperature: 35 °C (standard value)
- Cooling reference temperature: 17 °C (standard value)
- Booster reference temperature: 36 °C (standard value)
- Limit working temperature for cooling (to prevent condensation): 14 °C (standard value)
- Duration of the anti-condensation cycle: 30 minutes (standard value)



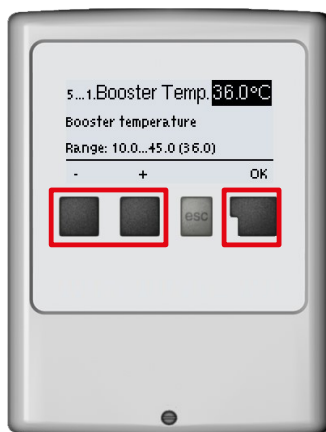
The screen will display information messages.
Press OK to confirm.



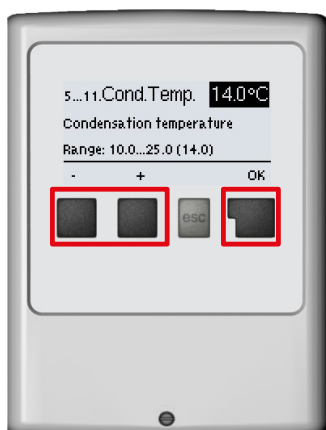
Enter the supply temperature set-point of the heating system.
It is set to 35 °C by default.
Press OK to confirm or + and – to change the value.
Press OK to confirm.



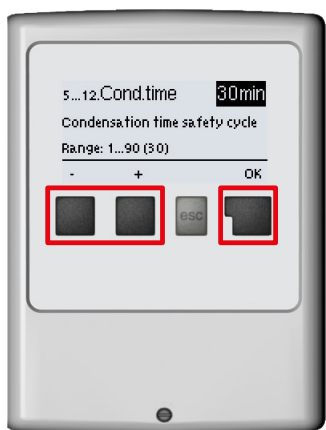
Enter the supply temperature set-point of the cooling system.
It is set to 17 °C by default.
Press OK to confirm or + and – to change the value.
Press OK to confirm.



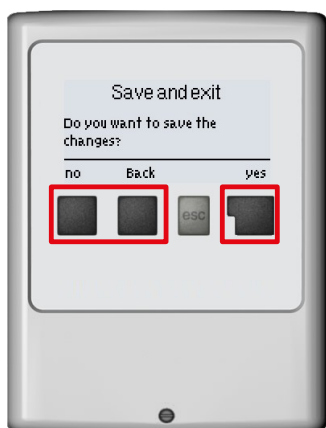
Enter the limit temperature set-point of the booster system.
It is set to 36 °C by default.
Press OK to confirm or + and – to change the value.
Press OK to confirm.



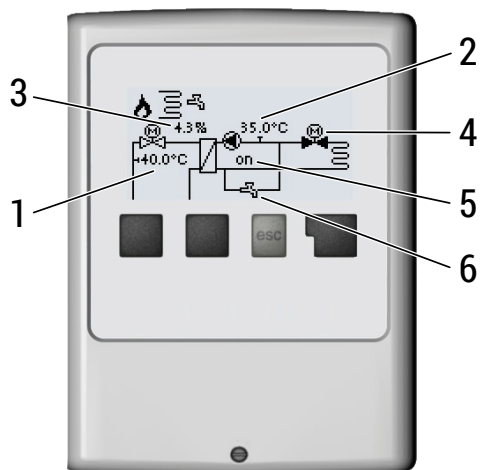
Enter the limit temperature set-point of the cooling system to prevent condensation.
It is set to 14 °C by default.
Press OK to confirm or + and – to change the value.
Press OK to confirm.



Set the duration of the anti-condensation cycle.
It is set to 30 minutes by default.
Press OK to confirm or + and – to change the value.
Press OK to confirm.



Press Yes to exit the configuration menu and save the changes.
Press Back to change the selections.
Press Yes to exit the configuration menu without saving.



The initial screen shown here will be displayed:

- | | |
|---|--|
| 1 | Supply temperature of the primary circuit (S1) |
| 2 | Supply temperature of the secondary circuit (S4) |
| 3 | Opening percentage of V1 valve |
| 4 | V3 valve status (= ON / = OFF) |
| 5 | V2 pump status (ON/OFF) |
| 6 | Booster Circuit |

Specifically, it may display:

- Supply temperature of the primary circuit [°C] (the same of the Booster supply temperature) read by the probe on the pipe and marked as shown below:

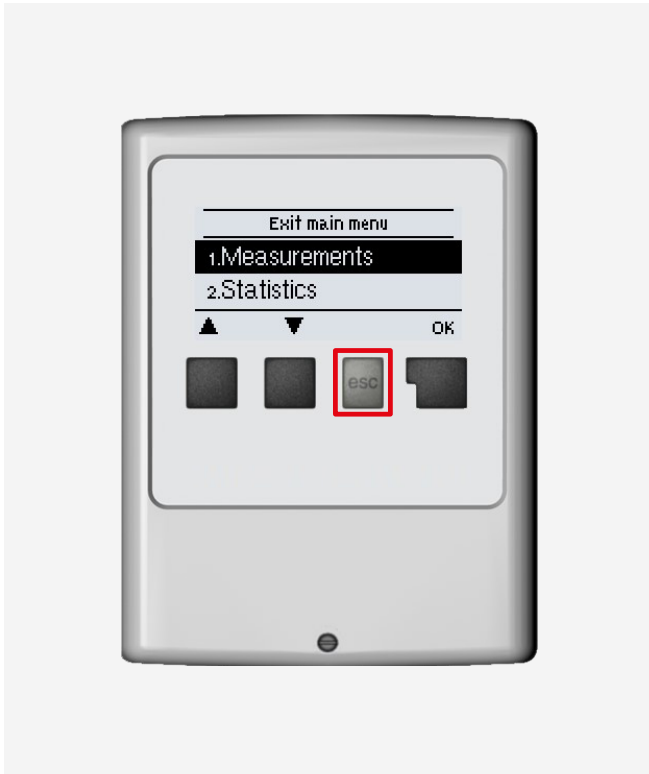
Voeler aanvoertemperatuur primaire circuit	
Sonde de température de départ du circuit primaire	
Primary circuit delivery temperature probe	
Sonda di temperatura di mandata del circuito primario	

- Supply temperature of the heating/cooling secondary circuit [°C] read by the probe on the pipe and marked as shown below:

Voeler aanvoertemperatuur secundair circuit	
Sonde de température de départ du circuit secondaire	
Secondary circuit delivery temperature probe	
Sonda di temperatura di mandata del circuito secondario	

Main menu

Press ESC to display the main menu, which includes:



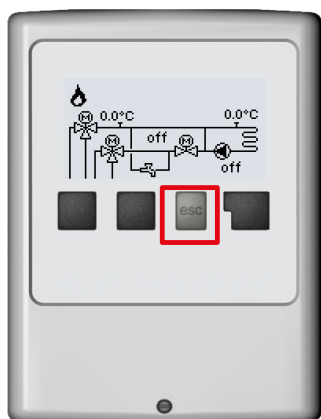
1. **Measurements:** it shows the temperature values of the probes present in the operating circuit and the status of the dry contacts.
2. **Statistics:** temperature trend charts, operating times, list of error messages.
3. **Times:** date and time setting.
4. **Operating mode:** manual activation of actuators and display of dry contacts and temperature probes.
5. **Settings:** configuration of the heating and cooling system measurements.
6. **Protection function:** valve and pump anti-locking.
7. **Special functions*:** configuration of the valves and pump measurements, calibration of the temperature probes, setup wizard, factory settings and selection of the *ecomode* for display.
8. **Menu lock:** used to prevent unintentional changes of the preset configuration.
9. **Service values*:** for diagnosis purposes in case of error or to display the value of the system measurements.
10. **Language:** language selection for the controller menu (German, English, Italian, French or Flemish).

* Menus 7 and 9 cannot be displayed.

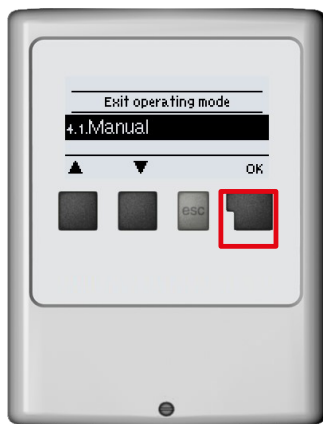
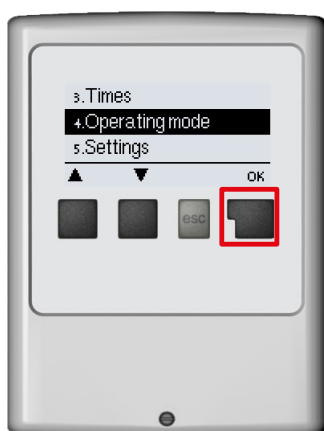
NOTE. Menus 4, 5, 6, 7, 8, 9 are available only for qualified operators trained for the use of R589HPW hydronic units.

Hydronic unit filling: primary circuit

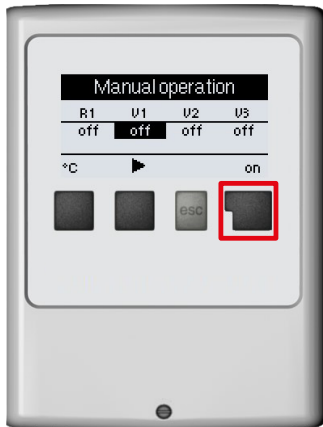
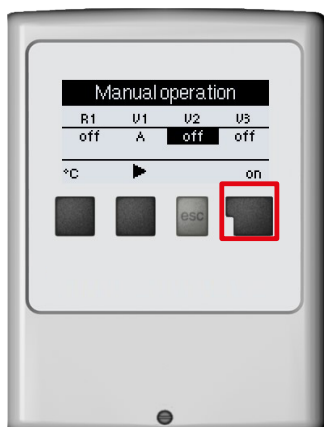
For correct filling of the hydronic unit primary circuit, open the V1 actuator completely according to the procedure described below.



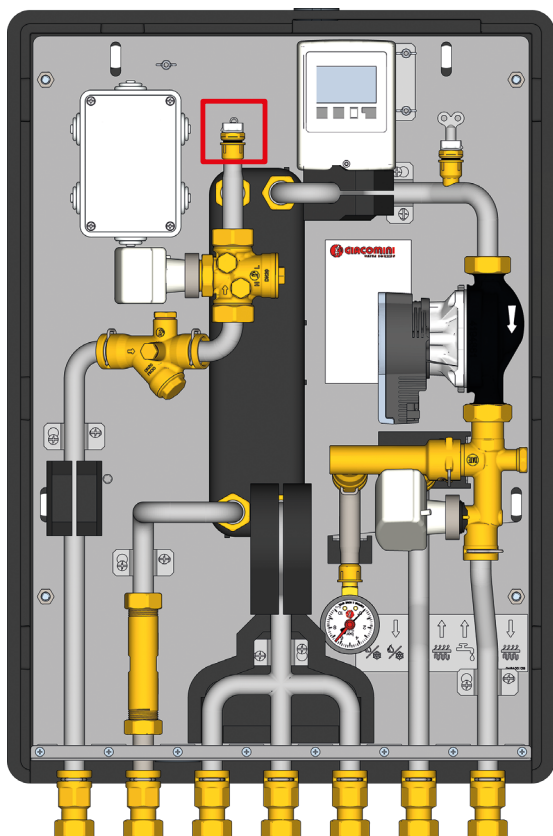
From the initial screen, press ESC to display the main menu.



Select:
4. Operating mode → 4.1 Manual.



Move to the V1 signal and press ON.

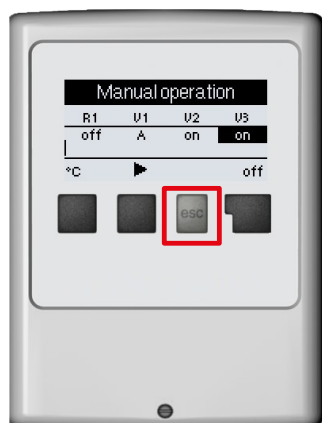


When filling the unit, vent the air inside the system by opening the air vent (Components - Ref. 5) with the special wrench included.

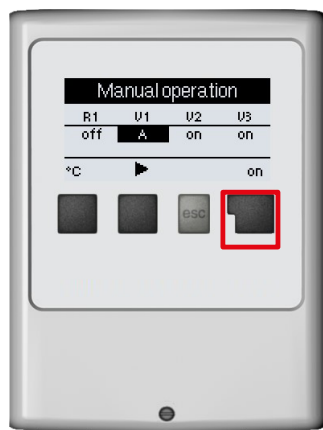
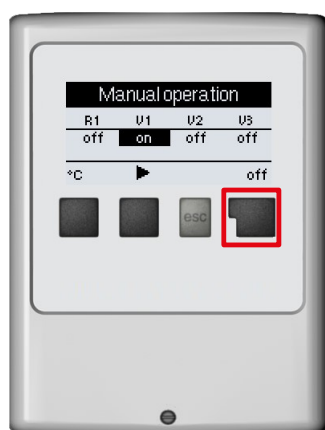
⚠ WARNING. Protect all electric components from water splashes during filling operations. Thoroughly dry the wet parts after filling the unit.

Hydronic unit filling: secondary circuit

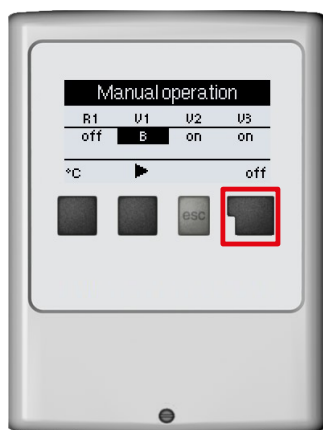
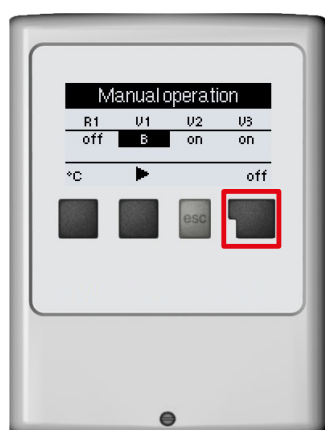
Turn ON the V2 pump V2 (ON) and open the V3 valve (ON) according to the procedure described below.



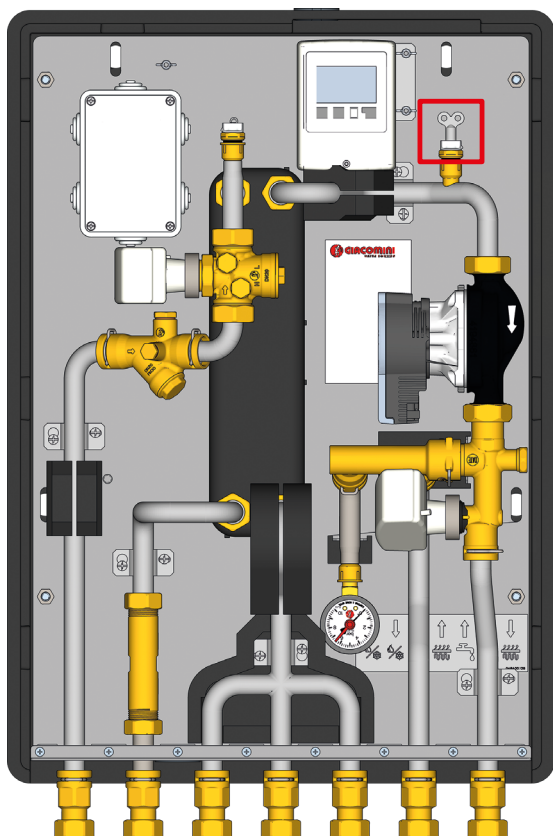
From the initial screen, press ESC to display the main menu.



Select:
4. Operating mode → 4.1 Manual.



Move to the V2 signal V2 and press ON.
Move to the V3 signal and press ON.

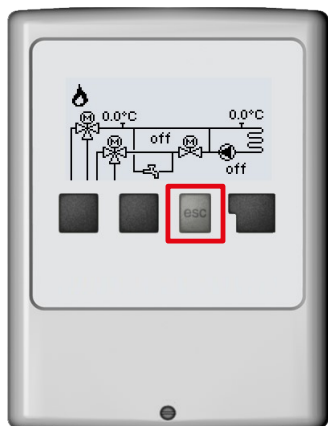


When filling the unit, vent the air inside the system by opening the air vent (Components - Ref. 9) with the special wrench included. The gauge on the secondary circuit will show the supply water pressure during the filling phase.

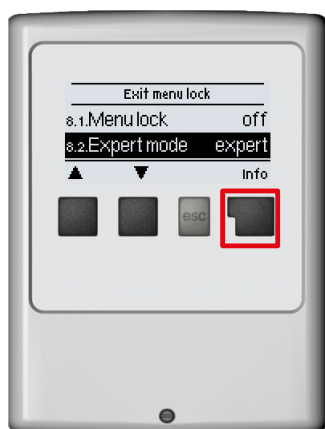
⚠ WARNING. Protect all electric components from water splashes during filling operations. Thoroughly dry the wet parts after filling the unit.

Commissioning

After filling, the controller (set by default on the *expert mode*) must be set on the end-user mode (*simple mode*).



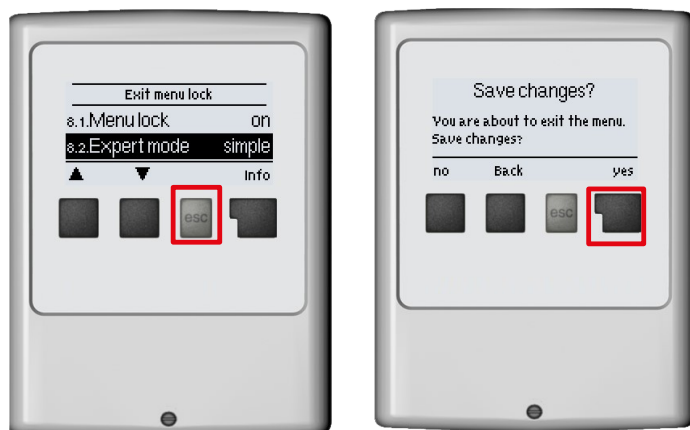
From the initial screen, press ESC to display the main menu.



Select:
8. Menu lock → 8.2. Expert mode → Press INFO.



Press + or - until the "simple" caption appears. Press OK to confirm.



Press ESC and then YES to confirm the selection.

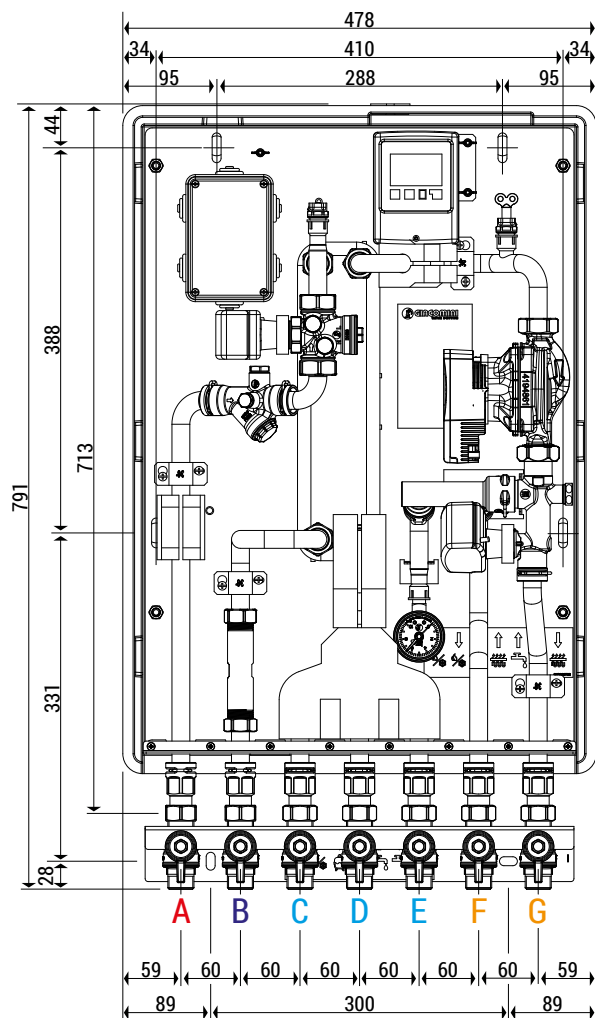
The initial menu will be displayed in reduced mode:

1. Measurements
2. Statistics
3. Times
8. Menu lock

This will prevent the end user from implementing changes that may cause malfunctioning of the hydronic unit.

➤ Dimensions

R589HPWY124 Hydronic Unit + R589HPWA124 Template



- A Hot/cold water primary circuit inlet
- B Hot/cold water primary circuit outlet
- C Expansion vessel / Safety valve
- D Heating/cooling circuit return
- E Booster circuit return
- F Booster circuit supply
- G Heating/cooling circuit supply

➤ Reference standards

Hydronic unit

- UNI EN 1434
- EN 60751
- EN 61107
- Measuring Instruments Directive 2014/32/UE (MID)
- ErP Directive 2009/125/CE
- 2012/19/EU Directive (RAEE)
- 2015/863/EU Directive (RoHS3)

Actuators

- CE marking
- 2014/30/EU Directive (EMC)
- 2014/35/EU Directive (Low Voltage Directive LVD)
- 2011/65/EU Directive (RoHS2)

Electronic controller

- CE marking
- 2015/863/EU Directive (RoHS3)
- 2012/19/EU Directive (WEEE)
- WEEE Directive number: DE23479719
- 2014/30/EU Directive (EMC)
- 2014/35/EU Directive (Low Voltage Directive LVD)
- EN 60730-1:2016 Harmonized Standard
- EN IEC 60730-2:2019 Harmonized Standard

➤ Enclosures



📄 K281X062 ACTUATOR DATASHEET
(Components - Ref. 4 and 11)



📄 R206AMY104 VALVE DATASHEET
(Components - Ref. 4)



📄 R589HPWA124 TEMPLATE DATASHEET
(Components - Ref. 18)

➤ Product specifications

R589HPWY124

Hydronic unit (booster plate) designed for use in heating/cooling radiant systems which produce hot domestic water through integrated tanks with water-water heat pumps. Version with 2 pipes, with heat exchanger. G 3/4" F flat-seat connections with adjustable tail pieces. Primary circuit inlet: bottom. Electronic controller for management of the booster and heating/cooling system. Heat exchanger. Motorized pressure independent control valve (PICV) for management of the secondary circuit supply temperature. Motorized 2-way zone valve for heating/cooling control. Pump with PWM signal for secondary circuit. Primary inlet temperature probe. Supply temperature probe on secondary circuit (heating/cooling and booster). Polypropylene foam insulation shell with insulated pipes. Fit for installation of a thermal energy meter by replacing the brass spacer. Fit for installation of thermostats or chronothermostats to set the booster or heating/cooling operating time through dry contacts.

- Max working temperature of the primary circuit: 60 °C (max limit allowed for the booster)
- Min working temperature of the primary circuit: 14 °C
- Max working pressure: 16 bar primary circuit; 10 bar secondary circuit
- Max working temperature for the hydronic unit: 90 °C
- Max differential pressure of the primary circuit: 2 bar
- Min differential pressure of the primary circuit: 0,5 bar
- Nominal flow rate of the heating circuit: 810 l/h @ ΔT 5 °C (35-30 °C) for 4,7 kW
- Nominal flow rate of the cooling circuit: 810 l/h @ ΔT 3 °C (17-20 °C) for 2,8 kW
- Nominal flow rate of the booster:
 - with hot water primary circuit active: 215 l/h @ ΔT 10,4 °C (36-25,6 °C) for 2,6 kW
 - with hot water primary circuit and heating mode active: 205 l/h @ ΔT 10,3 °C (35-24,7 °C) for 2,4 kW
 - with cold water primary circuit active: 460 l/h @ ΔT 2,2 °C (13,1-10,9 °C) for 1,2 kW
 - with cold water primary circuit and cooling mode active: 400 l/h @ ΔT 3,0 °C (17-14 °C) for 1,4 kW
- Weight (without template): 14,5 kg

IT AVVERTENZE PER IL CORRETTO SMALTIMENTO DEL PRODOTTO

Questo prodotto rientra nel campo di applicazione della Direttiva 2012/19/UE riguardante la gestione dei rifiuti di apparecchiature elettriche ed elettroniche (RAEE).

L'apparecchio non deve essere eliminato con gli scarti domestici in quanto composto da diversi materiali che possono essere riciclati presso le strutture adeguate.

Informarsi attraverso l'autorità comunale per quanto riguarda l'ubicazione delle piattaforme ecologiche atte a ricevere il prodotto per lo smaltimento ed il suo successivo corretto riciclaggio. Si ricorda, inoltre, che a fronte di acquisto di apparecchio equivalente, il distributore è tenuto al ritiro gratuito del prodotto da smaltire.

Il prodotto non è potenzialmente pericoloso per la salute umana e l'ambiente, ma se abbandonato nell'ambiente impatta negativamente sull'ecosistema.

Leggere attentamente le istruzioni prima di utilizzare l'apparecchio per la prima volta. Si raccomanda di non usare assolutamente il prodotto per un uso diverso da quello a cui è stato destinato, essendoci pericolo di shock elettrico se usato impropriamente.



Il simbolo del bidone barrato, presente sull'etichetta posta sull'apparecchio, indica la rispondenza di tale prodotto alla normativa relativa ai rifiuti di apparecchiature elettriche ed elettroniche. L'abbandono nell'ambiente dell'apparecchiatura o lo smaltimento abusivo della stessa sono puniti dalla legge.

EN IMPORTANT INFORMATION FOR CORRECT DISPOSAL OF THE PRODUCT

This product falls into the scope of the Directive 2012/19/EU concerning the management of Waste Electrical and Electronic Equipment (WEEE).

This product shall not be disposed in to the domestic waste as it is made of different materials that have to be recycled at the appropriate facilities.

Inquire through the municipal authority regarding the location of the ecological platforms to receive the product for disposal and its subsequent correct recycling.

Furthermore, upon purchase of an equivalent appliance, the distributor is obliged to collect the product for disposal free of charge.

The product is not potentially dangerous for human health and the environment, but if abandoned in the environment can have negative impact on the environment. Read carefully the instructions before using the product for the first time. It is recommended that you do not use the product for any purpose rather than those for which it was intended, there being a danger of electric shock if used improperly.



The crossed-out wheeled dustbin symbol, on the label on the product, indicates the compliance of this product with the regulations regarding Waste Electrical and Electronic Equipment. Abandonment in the environment or illegal disposal of the product is punishable by law.

FR AVERTISSEMENTS POUR L'ÉLIMINATION CORRECTE DU PRODUIT

Ce produit entre dans le champ d'application de la directive 2012/19 / UE relative à la gestion des déchets équipements électriques et électroniques (DEEE).

L'appareil ne doit pas être jeté avec les ordures ménagères car il est fait de différents matériaux pouvant être recyclés dans des centres appropriés.

Renseignez-vous auprès de l'autorité locale concernant l'emplacement des plates-formes écologiques appropriées pour recevoir le produit pour sa destruction et son recyclage correct ultérieur. Il convient également de rappeler que, en cas d'achat d'un appareil équivalent, le distributeur est tenu de collecter le produit à détruire. Le produit n'est potentiellement pas dangereux pour la santé humaine et l'environnement, mais s'il est abandonné dans l'environnement, il a un impact négatif sur l'écosystème.

Lisez attentivement les instructions avant d'utiliser l'appareil pour la première fois.

Il est interdit d'utiliser le produit pour un usage différent de celui auquel il était destiné, il y a risque de choc électrique si utilisé incorrectement.



Le symbole de la poubelle barrée sur l'étiquette de l'appareil indique sa correspondance produit à la législation relative aux déchets d'équipements électriques et électroniques. L'abandon dans l'environnement de l'équipement ou l'élimination illégale de l'équipement est punissable par la loi.

DE WICHTIGE HINWEISE ZUR KORREKTEN ENTSORGUNG DES PRODUKTS

Dieses Produkt fällt in den Anwendungsbereich der Richtlinie 2012/19/EU über die Entsorgung von Elektro- und Elektronik - Altgeräten (WEEE).

Dieses Produkt darf nicht in den Hausmüll entsorgt werden, da es aus verschiedenen Materialien besteht, die in entsprechenden Einrichtungen recycelt werden müssen. Erkundigen Sie sich bei Ihrer Gemeinde nach dem Standort des nächsten Recyclinghofs bzw. der nächsten Annahmestelle, um das Produkt dem Recycling zuzuführen bzw. fachgerecht zu entsorgen. Darüber hinaus ist der Händler verpflichtet, das Produkt beim Kauf eines gleichwertigen Geräts kostenlos zu entsorgen. Das Produkt ist für die menschliche Gesundheit und die Umwelt potenziell nicht gefährlich. Diese können sich aber, falls sie in der Umwelt gelangen, negativ auf diese auswirken. Lesen Sie daher vor dem ersten Gebrauch des Produkts die Inbetriebnahme-, Bedienungs- und Entsorgungsanweisungen sorgfältig durch. Es wird empfohlen, dass Sie das Produkt nur für den vorgesehenen Zweck verwenden.

Bei unsachgemäßer Verwendung bzw. Fehlgebrauch besteht die Gefahr eines elektrischen Schlags.



Das Symbol der durchgestrichenen Mülltonne auf dem Etikett des Produkts weist auf die Konformität dieses Produkts zu den Vorschriften für Elektro- und Elektronik-Altgeräte hin. Das Ablagern in der Umwelt oder die illegale Entsorgung des Produkts ist strafbar.

⚠ Safety Warning. Installation, commissioning and periodical maintenance of the product must be carried out by qualified operators in compliance with national regulations and/or local standards. A qualified installer must take all required measures, including use of Individual Protection Devices, for his and others' safety. An improper installation may damage people, animals or objects towards which Giacomini S.p.A. may not be held liable.

♻ Package Disposal. Carton boxes: paper recycling. Plastic bags and bubble wrap: plastic recycling.

ℹ Additional information. For more information, go to giacomini.com or contact our technical assistance service. This document provides only general indications. Giacomini S.p.A. may change at any time, without notice and for technical or commercial reasons, the items included herewith. The information included in this technical sheet do not exempt the user from strictly complying with the rules and good practice standards in force.

♻ Product Disposal. Do not dispose of product as municipal waste at the end of its life cycle. Dispose of product at a special recycling platform managed by local authorities or at retailers providing this type of service.



GIACOMINI
WATER E-MOTION



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