


R586AC

Description

The R586AC anti-condensation recirculation unit allows the **solid fuel generator** to be connected to the system and, at the same time, provides protection against excessively low return temperatures.

A constantly high, stable return temperature prevents the formation of condensate, thereby ensuring greater boiler efficiency, reducing the fuel residue and increasing its lifespan.

The unit contains a circulator, an anti-condensation valve, a built-in clapet check valve for natural circulation (that can be activated during the commissioning phase), three thermometers, three interception valves and an insulation shell.

Versions and product codes

Product code	Connections	Calibration temperature [°C]
R586AY151	1" F (ISO 228)	55
R586AY152	1" F (ISO 228)	60
R586AY153	1" F (ISO 228)	65
R586AY154	1" F (ISO 228)	70

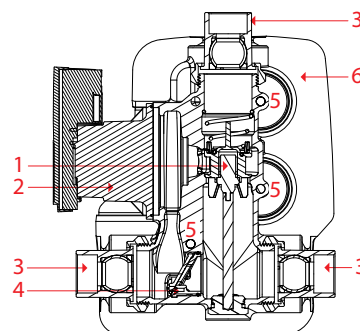
Technical data

- Max. working pressure: 6 bar
- Working temperature range: 0÷110 °C
- Ambient temperature: 0÷60 °C
- Calibration temperature: 55 °C – 60 °C – 65 °C - 70 °C
- Fluids: water, glycol solution (max. 50 % glycol)
- Connections: threaded female connections G1" (ISO 228)
- Supply voltage: 230 V ± 10 %, 50 Hz
- Self-modulating circulator complying with ErP Directive
- Power consumption: max 45 W
- Energetic class: A
- EEI (Energy Efficiency Index): < 0,23

Materials

- Body and cover: spheroidal cast iron EN-JS 1050
- Insulating shell: EPP
- Interception valves: UNI EN 12165 - CW617N brass

Components


Legend

1	Anti-condensation thermostat sensor
2	Circulator
3	Tail pieces with female thread and integrated interception ball valve
4	Clapet check valve for natural circulation
5	Thermometer-holder slots
6	Insulation

Installation

The installation of R586AC can be made only in horizontal pipe. Is not possible to install the product upside down (upper connection upside down) and horizontal.

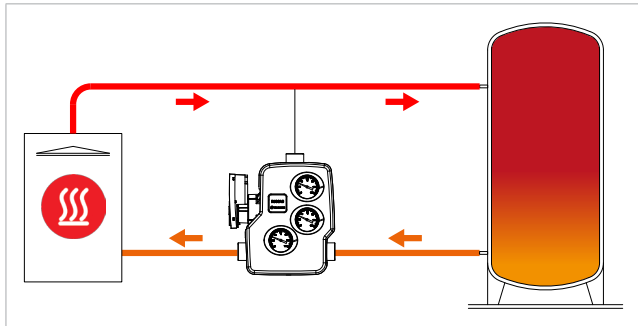




Operation

The R586AC unit consists of an integrated circulator and thermostatic mixer to facilitate assembly and maintenance operations. The unit is protected by a thermal insulation shell, and equipped with thermometers.

The valve contains a thermostat that regulates the opening of the upper inlet to make sure the temperature of the outlet mixed water returning to the generator is always higher than the calibrated value.



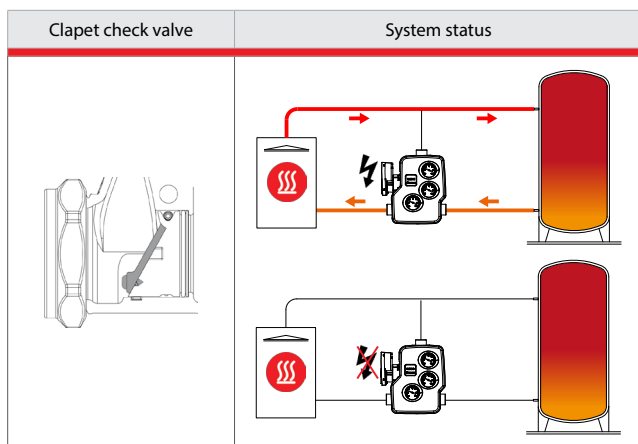
Natural circulation function

The R586AC unit has a built-in recirculation function that continues to work even in the event of a power failure or circulator fault. This recirculation function is deactivated at the time of delivery, but can easily be activated when needed, by removing the screw within the group (ref. 4 - components).

• **Screw insert (factory situation):** the screw doesn't allow the opening of the clapet check valve.

With the circulator ON the water in the system circulates normally.

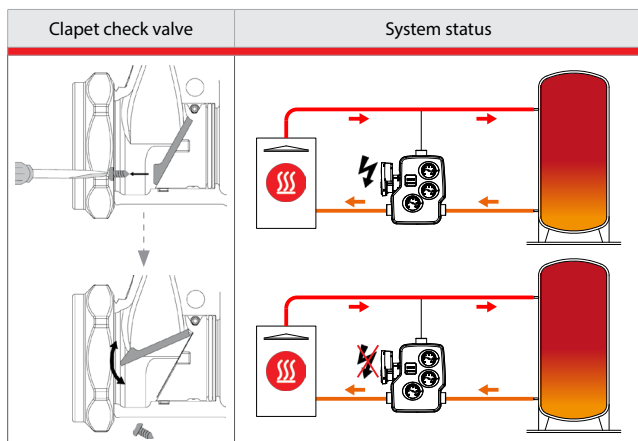
With the circulator OFF (for manually action or for power failure), the water in the system doesn't circulates.



• **Screw removed:** the removal of the screw allows the opening of the clapet check valve.

With the circulator ON the water in the system circulates normally.

With the circulator OFF (for manually action or for power failure), the water in the system circulates in a natural way.

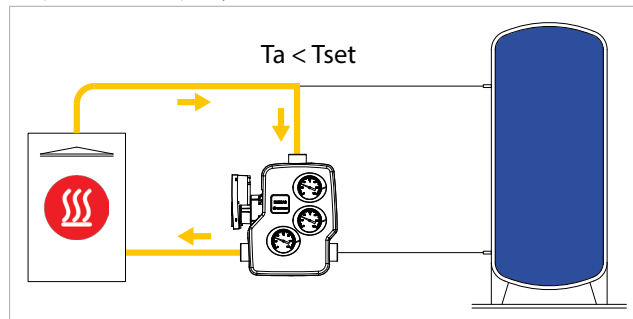


Operating principle

Phase 1: $T_a < T_{set}$ – System start-up

Bypass open; return line closed.

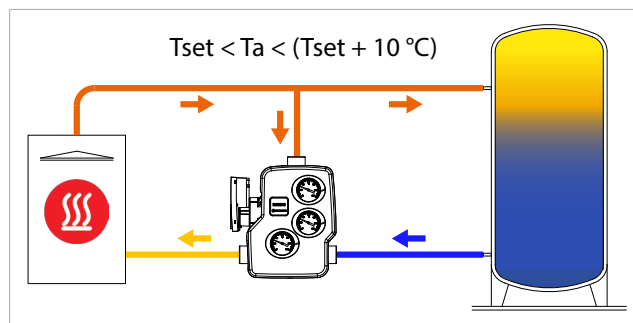
The water leaving the generator flows back into it immediately, allowing the temperature to rise quickly.



Phase 2: $T_{set} < T_a < (T_{set} + 10^\circ\text{C})$ – Operation with mixing

Bypass open; return line open.

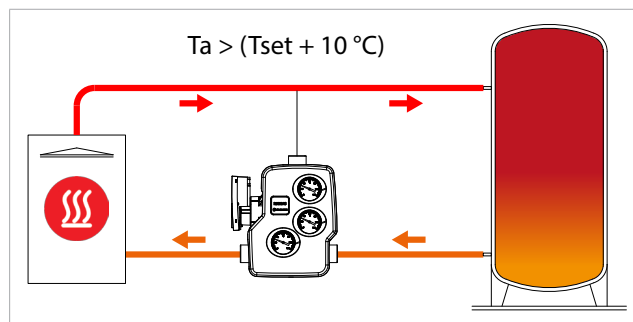
When the water leaving the boiler reaches the calibration temperature, the unit starts to open the user return circuit. As the delivery temperature increases, the bypass flow rate gradually decreases in favour of the return circuit.



Phase 3: $T_a > (T_{set} + 10^\circ\text{C})$ – Full operation

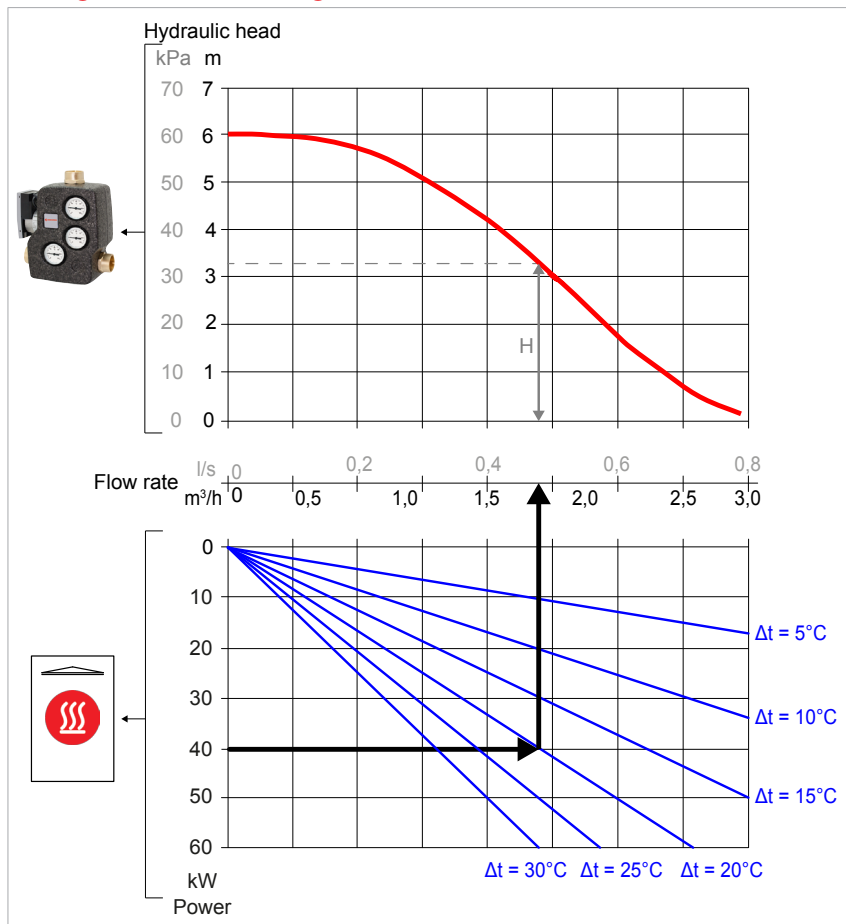
Bypass closed; return line open.

When the water leaving the boiler exceeds the calibrated unit temperature by about 10°C , the bypass closes completely to allow the user to make full use of the flow rate from the boiler.





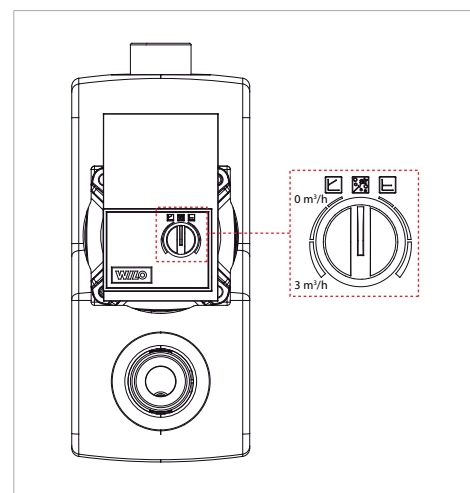
Setting and commissioning



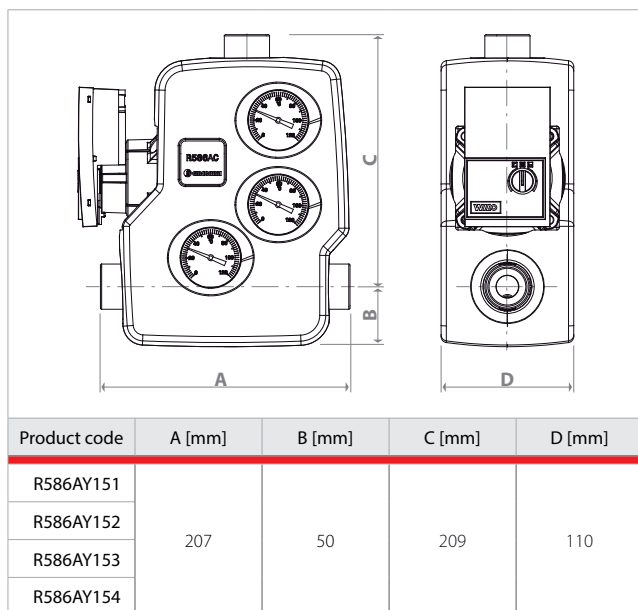
To set the circulator at the right flow rate, proceed as follows:

- 1) When you know the generator power (i.e. 40 kW), mark a horizontal line to intersect the curve of the desired Δt , corresponding to the temperature difference between delivery and return of the generator (i.e. 20 °C).
- 2) Now mark a vertical arrow until it intersects the necessary flow rate (to set on the circulator using the potentiometer), ensuring that the available hydraulic head to that flow rate, is compatible with the hydraulic system that is running the group.

Potentiometer to set the flow rate



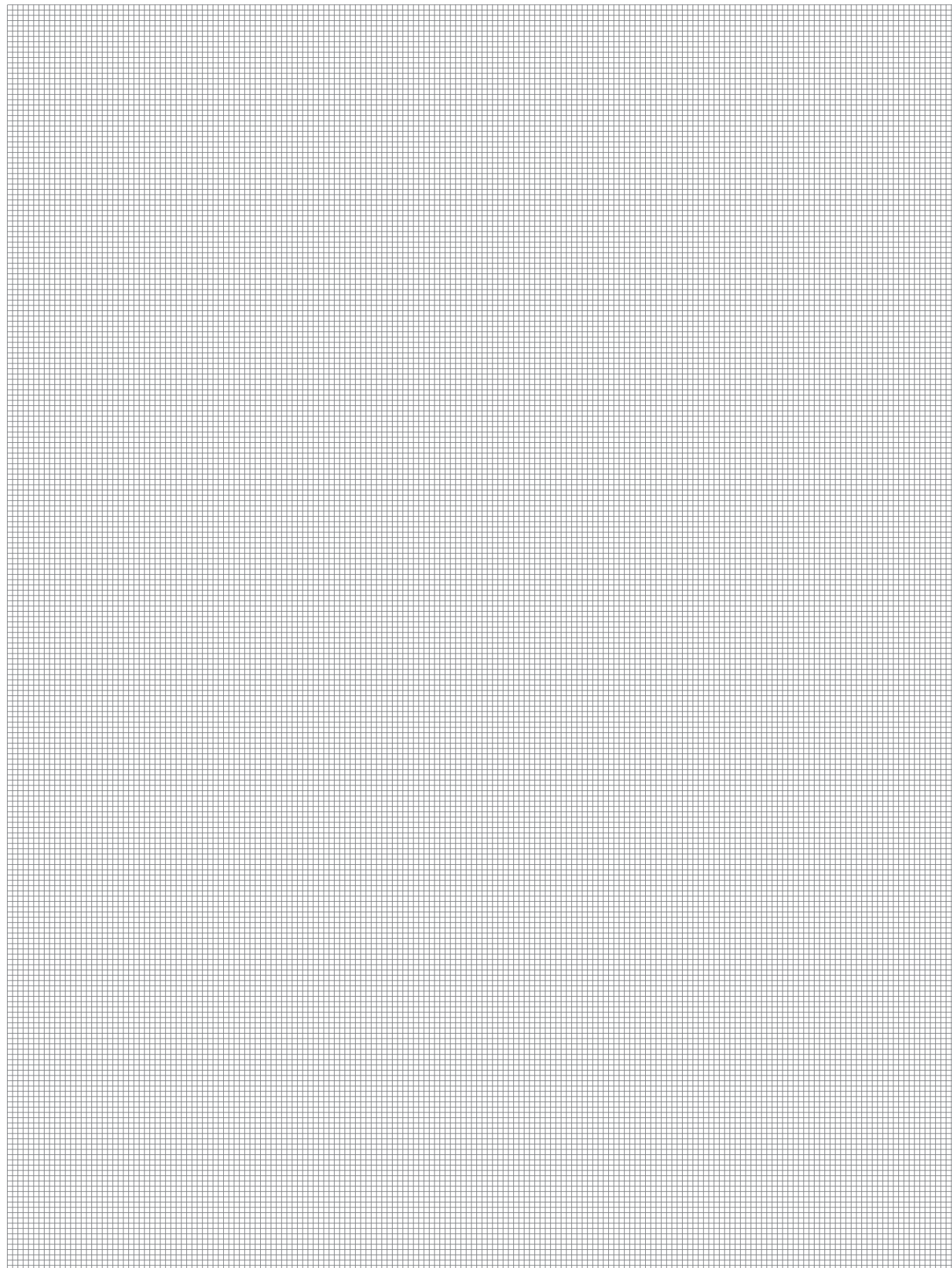
Dimensions



Product specifications

R586AC

Anti-condensation recirculation and distribution unit DN25. Female connections G1" (ISO 228) with tail piece. Body in spheroidal cast iron. Tail pieces in brass with built-in ball cock. Max. working pressure 6 bar. Fluids: water and glycol solutions (max. 50 % glycol). Working temperature range 0÷110 °C. Ambient temperature: 0÷60°C. Built-in anti-condensation thermostatic valve: calibration temperature 55 °C, 60 °C, 65 °C, 70 °C, depending on the version. Calibration accuracy ± 2 °C. Thermometer scale: 0÷120 °C. Self-modulating circulator complying with ErP Directive. Power supply: 230 V - 50 Hz. Complete with EPP insulation.



Additional information

For additional information please check the website www.giacomini.com or contact the technical service: ☎ +39 0322 923372 📠 +39 0322 923255 ✉ consulenza.prodotti@giacomini.com
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