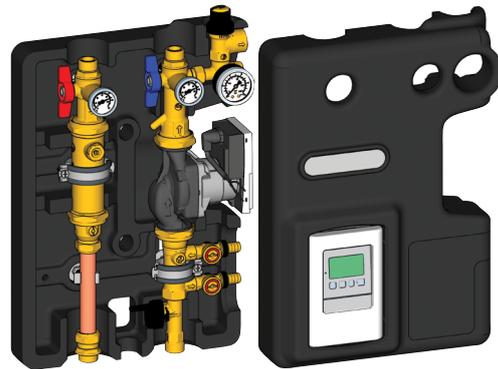


R586S



R586S-1

Description

The **R586S** and **R586S-1** preassembled groups have been designed to guarantee utmost operational reliability, dimension compactness and, last but not least, simplified installation and service of solar thermal systems.

The circulation groups include:

- ERP-complying circulator, specific for solar applications, controlling the thermo-conductor fluid flow based on the settings of the regulation unit. The ball valves installed on the bottom and top enable to maintain the system without emptying the circuit.
- Flow meter (mechanical for R586S - electronic for R586S-1) to directly calculate the thermal energy provided by the solar panels.
- Electronic regulation unit with Pt1000 temperature sensors (sold separately for the R586S group).
- Filling group including filling and drain taps and regulation valve.
- Safety group with 6 bar calibrated safety valve, complying with the PED (97/23/CE - Cat. IV) rule, pressure gauge and outlet for connection to expansion tank.
- Deaerator group with manual discharge valve.
- Ball valves with integrated check valve and each equipped with a thermometer to read solar circuit delivery temperatures.
- PPE insulation cover to ensure an efficient thermal insulation. It includes two removable spacers to install the regulation unit on the group side and carry out adjustment, filling and draining of the system; the cover also enables to view the thermometers mounted on the delivery and return manifolds, the pressure gauge mounted on the safety group, air circulation for cooling of the integrated circulator and, by means of a steel plate on the back, installation on boilers or walls.

Versions and product codes

Circulation group		Differential regulation unit		Type of flow meter
Series	Code	Series	Code	
R586S	R586SY001	KTD3 or KTD5 (sold separately)	KTD3Y003 KTD5Y006	mechanical
R586S-1	R586SY011	KTD4 (included)	077500568	electronic with flow/temperature sensor

Spare parts

- **KTDPY001**: overvoltage protection for KTD control units
- **KTDSY001**: Pt1000 temperature sensor (180 °C)
- **P586S**: spare parts for solar circulation groups
- **P586S-3**: connection kit for solar circulation groups

Optionals

- **KTD differential control unit**: for programming and operational control of solar thermal systems. Available in three versions: the KTD4 version is provided with the R586S-1 circulation group, while the KTD3 and KTD5 versions are combined to the R586S circulation group and are sold separately. The control unit is user-friendly with backlit graphic display, four buttons, convenient programming assistant and help texts that can be recalled in line. Outlets for Pt1000 temperature sensors, relay outlet to control the electric circulator and one or two relay outlets to control a pump (activation/deactivation) or a motorized valve (opening/closing). The control unit programs enable to set various system configurations. The operational control functions range from reading the current measured values up to analysis and long-term monitoring through diagrams and statistics. The KTD3 and KTD5 versions enable to easily register the thermal energy produced by the solar system by setting additional parameters (glycol type and percentage, system capacity; the KTD4 version can instead read the thermal energy by means of a combined temperature/flow sensor.



- **VES expansion tank**: a safety device for solar thermal systems; it compensates the thermal expansion of thermo-convector fluids caused by high temperature fluctuations inside the solar circuit. Installation of an expansion tank prevents each pressure increase inside the solar circuit from activating the safety valve, even when not required. Available versions range from 8 to 300 l; the special VES-2 (code: VESY020) fitting bracket, equipped with a double check valve, can be used with the 8 - 35 l versions.



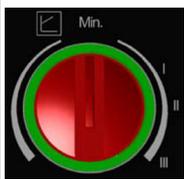


Technical data

- Thermo-conductor fluid: water or glycol-based solutions (max. 50 % of glycol)
- Max. working temperature: 110 °C at Troom ≤ 55 °C
- Nominal pressure: PN10
- Safety valve calibration pressure: 6 bar
- Circulator: 25/6 - center distance 130 mm - ErP compatible
Two operational options: 3 speeds or variable lift
- Circulator power: 230 Vac - 50 Hz (molex connector included)
- Mechanical flow meter: 2÷12 l/min (R586S)
- Electronic flow meter: 2÷40 l/min (R586S-1)
- Pressure gauge scale: 0÷10 bar
- Thermometer scale: 0÷120 °C
- Solar circuit outlets: 3/4" M (center distance: 125 mm)
- Boiler circuit outlets: 3/4" M (center distance: 125 mm)
- Safety valve discharge: 3/4" F
- Expansion tank outlet: 3/4" M
- Filling/drain taps with hose connection: Ø15 mm
- Insulation cover: PPE, density 70 kg/m³

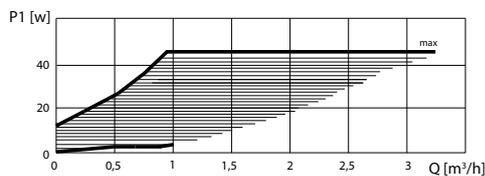
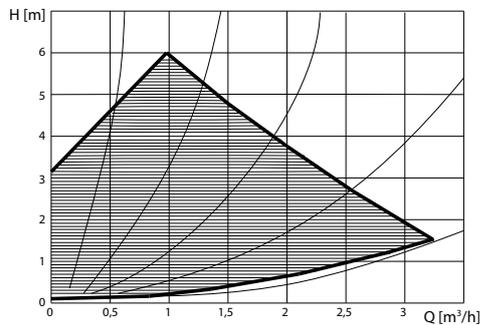
Circulator characteristics

There are three operational modes available for the 25/6 circulator: three speeds, minimum speed or variable lift.

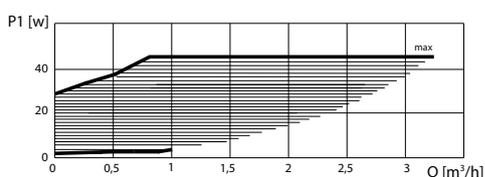
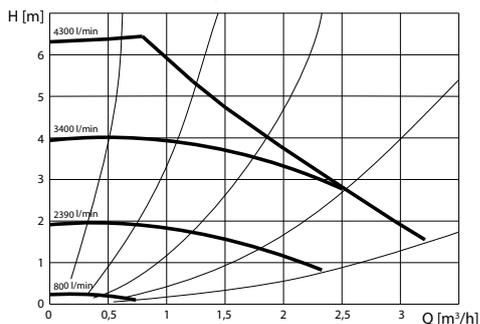


- Moving the knob to the left sets the maximum lift defining the range between which the circulator sets the speed.
- Moving the knob to the right sets the operational speed (constant) of the circulator.
- Moving the knob to the center (Min) sets the circulator minimum speed.

Variable lift

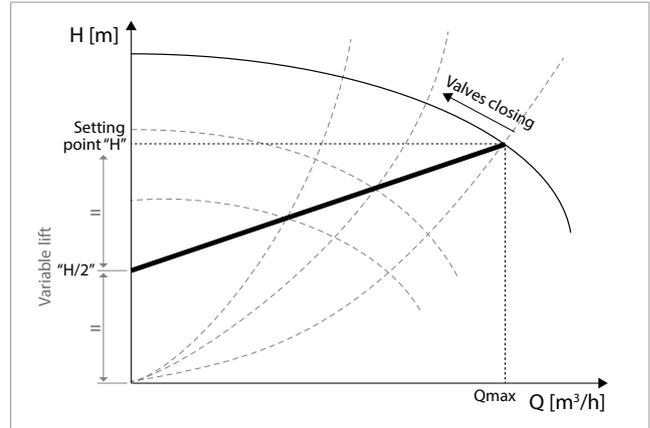


3 speed

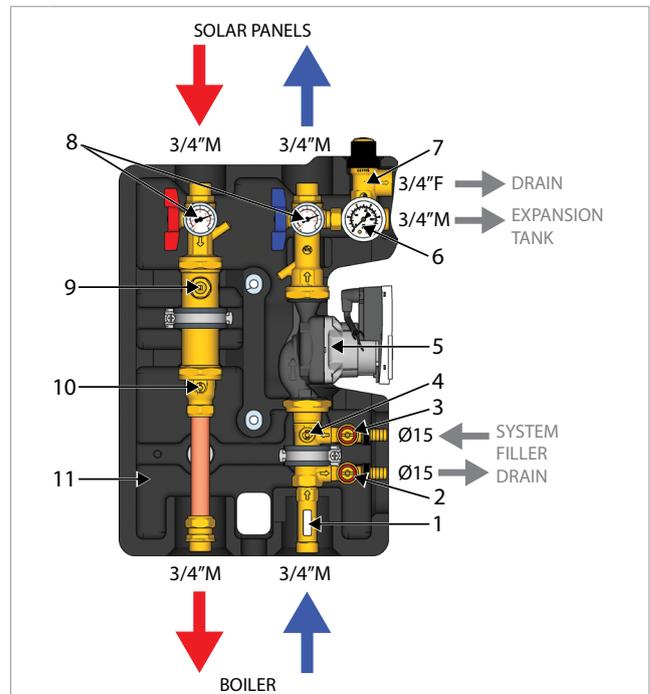


Circulator functioning

The 25/6 circulator can adjust the lift between the H and H/2 setting points by reducing the speed when the system losses of pressure increase.



Components



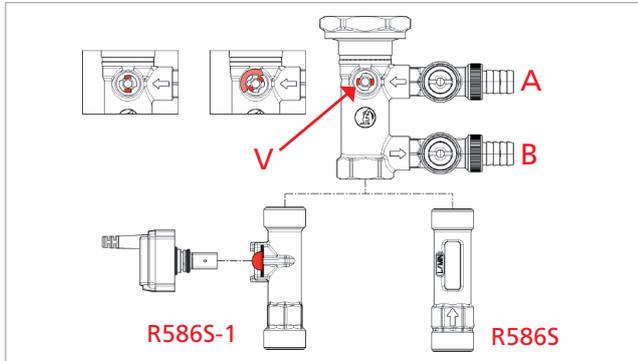
Legend

1	Flow meter (mechanical for R586S - electronic for R586S-1)
2	Drain tap
3	Filling tap
4	Ball valve
5	Circulator
6	Pressure gauge
7	Safety valve, 6 bar
8	Ball valve with integrated thermometer and check valve
9	Air discharge manual valve
10	Ball valve
11	Insulation cover

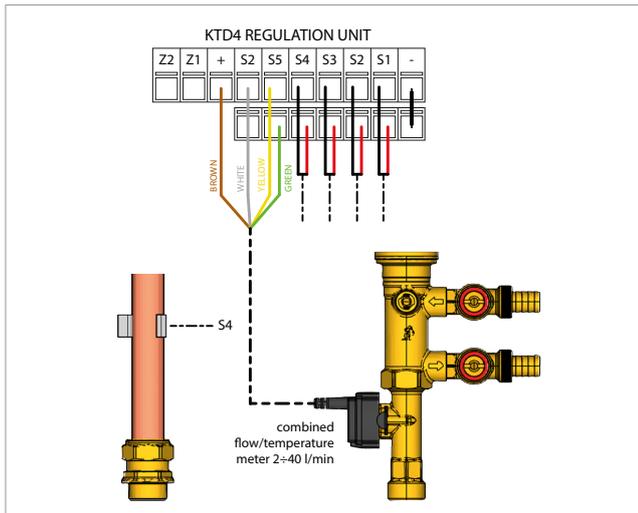


Construction features

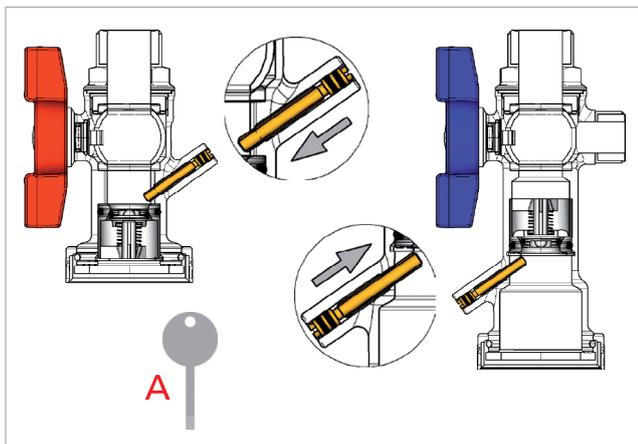
• A mechanical (R586S) or electronic (R586S-1) meter connected to the KTD regulation unit reads the flow. The **V** valve adjusts the flow starting from the “completely open” position (screwdriver tip in vertical position) and turning clockwise. When the **V** valve is completely closed (screwdriver tip in horizontal position), the **A** and **B** taps can be used to fill and drain the system.



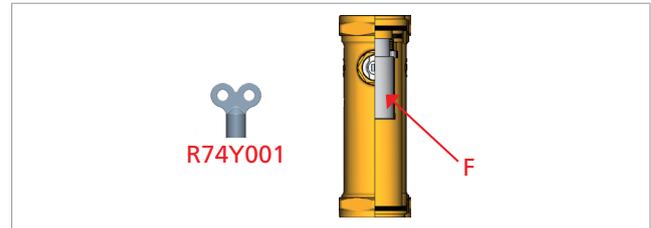
• The combined flow/temperature meter of the **R586S-1** version mounted on the check valve, and an additional temperature sensor mounted on the delivery manifold, enable to calculate and display the thermal energy provided by the solar manifolds through the KTD4 regulation unit (included with the R586S-1 group).



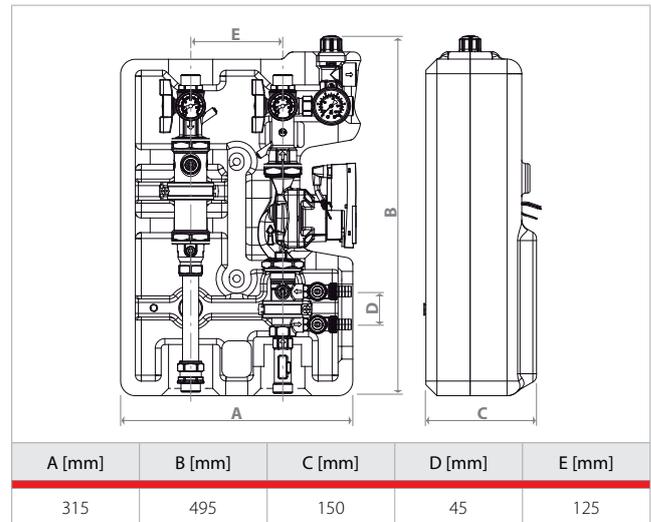
• The ball valves integrated in the circulation groups for sectioning of the solar manifolds are both equipped with a check valve to prevent undesired circulations. Should specific operational conditions (e.g. when filling the system) require circulation of a thermo-convector fluid also in the opposite direction, the check valves can be opened using the **A** wrench to move the rods.



• Air discharge manual valve mounted on delivery manifold. It must be moved using the special **R74Y001** wrench. For proper operation, a deaerator filter **F** has also been installed inside the support insert and can be easily removed for replacement or ordinary maintenance operations.



Dimensions



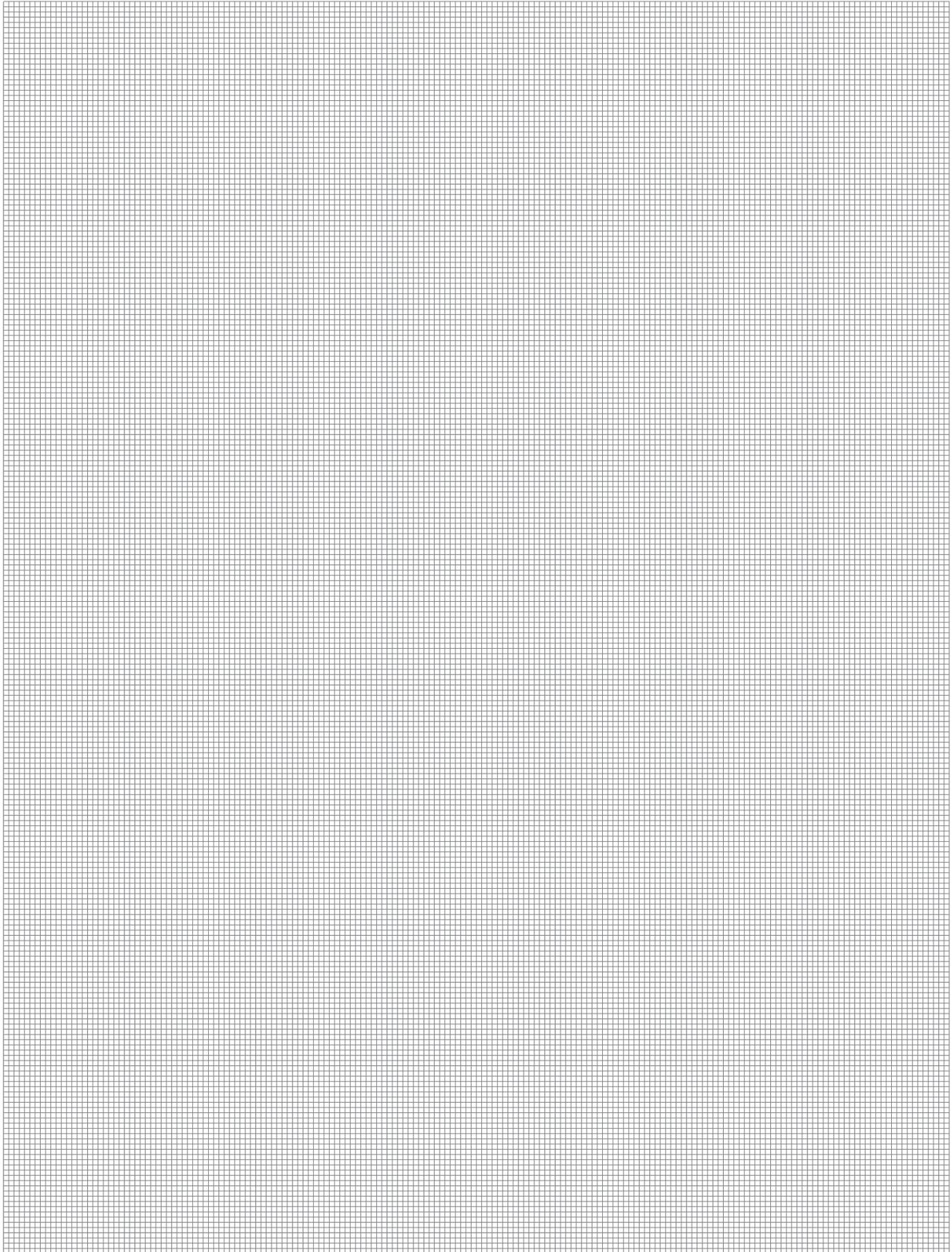
Specifications

R586S

Preassembled two-ways circulation group for solar thermal systems. Required fluids: water, glycol-based solutions (max. 50 %). The group includes: ErP-complying circulator with 2 operational options: 3 speeds or variable lift; safety valve calibrated at 6 bar, R140C series, complying with “PED” 97/23/CE - cat. IV; filling/drain taps; 0÷10 bar pressure gauge; 3/4”M outlet for connection to expansion tank; deaerator group with manual discharge valve; insulation cover; 0÷120 °C delivery and return thermometers; ball valves with integrated check valve; mechanical flow meter (2÷12 l/min measuring range) to directly calculate the thermal energy provided by the manifolds. Power 230 Vac; 50 Hz. 3/4”M solar circuit outlet (center distance 125 mm). 3/4”M boiler circuit outlets (center distance 125 mm). Dimensions 315x495x150 mm (LxHxP). Max. working temperature 120 °C. Nominal pressure PN10.

R586S-1

Preassembled two-ways circulation group for solar thermal systems. Required fluids: water, glycol-based solutions (max. 50 %). The group includes: ErP-complying circulator with 2 operational options: 3 speeds or variable lift; safety valve calibrated at 6 bar, R140C series, complying with “PED” 97/23/CE - cat. IV; filling/drain taps; 0÷10 bar pressure gauge; 3/4”M outlet for connection to expansion tank; deaerator group with manual discharge valve; insulation cover; 0÷120 °C delivery and return thermometers; ball valves with integrated check valve; electronic flow meter with combined flow/temperature sensor to directly control the thermal energy provided to the manifolds. KTD4 electronic regulation unit with four PT1000 probes included. Power 230 Vac; 50 Hz. 3/4”M solar circuit outlet. 3/4”M boiler circuit outlet. Dimensions 190x495x150 mm (LxHxP). Max. working temperature 120 °C. Nominal pressure PN10.



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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