



## **CEILING HOME SMART MODULAR PLASTERBOARD PANEL FOR CEILING RADIANT SYSTEMS**

## CEILING RADIANT SYSTEM WIDESPREAD WELLBEING

Ceiling Home Smart is Tiemme's integrated heating and cooling system that exploits the ability of ceilings and walls to exchange heat and cold for radiation with the environment and with people. In this way the human body is put in a position to perfectly balance its heat exchanges with an increase in the level of perceived comfort.

The increasingly frequent demand for this type of system is able to guarantee the comfort throughout the year and the healthiness of the premises, the experience gained in the field and the continuous technological research have led Tiemme to develop alongside the traditional Ceiling Home Smart system some innovative solutions able to guarantee an even more practical and fast installation, high performance and greater versatility of use even in structures where there are specific constraints of reaction to fire.



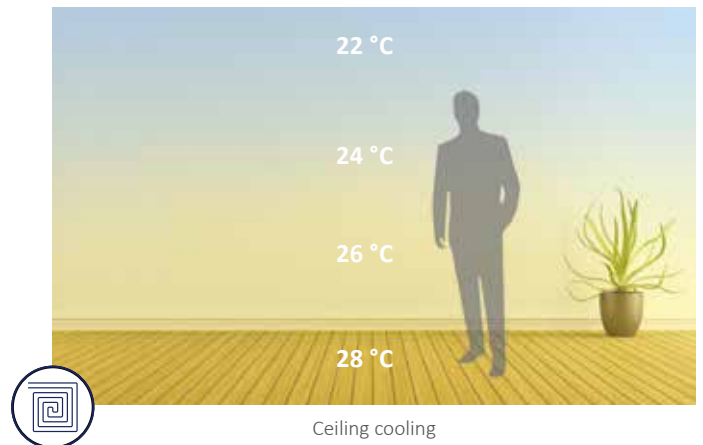
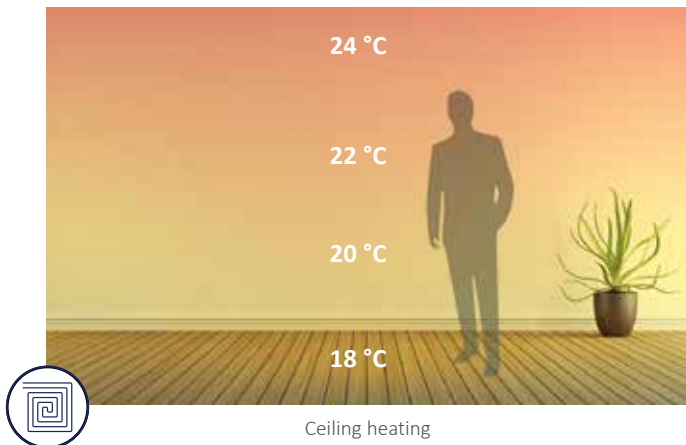
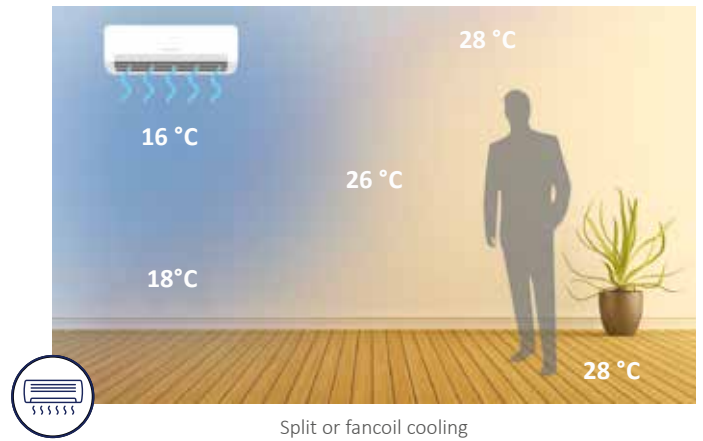
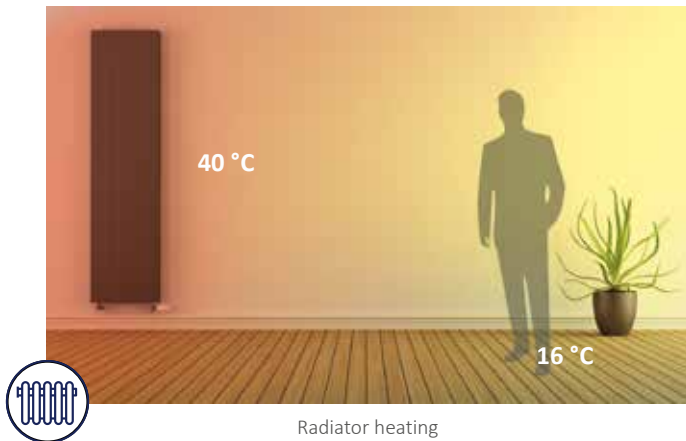
# WHY CHOOSE A CEILING RADIANT SYSTEM?

## IT DOES NOT REQUIRE MASONRY WORKS

Ceiling heating is an affordable solution because the installation of the radiant panels that make up the system does not require demolition or other masonry works.

## HEAT UNIFORMITY

In ceiling heating or cooling, the diffusion of heat is homogeneous and allows a fair exchange between the environment and the radiant system. It ensures air conditioning without temperature changes.



## EASE OF INSTALLATION AND VERSATILITY OF USE

The radiant panels are already arranged, pre-assembled and ideal both for the production of heat during the cold period and for cooling in the hottest time of the year.

## DIMENSIONS REDUCED TO A MINIMUM

Ceiling radiant panels are an invisible heating system with no overall dimensions. Their thickness is less than 50 mm and the type of installation does not in any way constrain the environments they are installed in.

## WIDE ARCHITECTURAL COMPATIBILITY

The ceiling heating system has high modularity and perfect architectural integration, allowing the panels to be adapted to any type of ceiling.

## REDUCTION OF MOISTURE, MOULD AND ODOURS

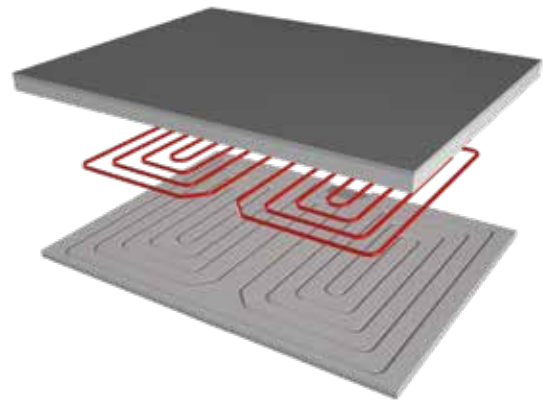
The diffusion of heat through heat exchange allows a reduction of humidity, mould and bad odours. An even more appreciable feature in the northern part of the house where the formation of unwanted microorganisms is more frequent.

## DESCRIPTION

Ceiling Home Smart is the new system solution for the development of ceiling heating and/or cooling systems.

**The new panel has the characteristic of being divided into 3 sub-modules and is able to adapt to any room in which it will be installed.**

The plate with which Ceiling Home Smart was made is of a special type with increased core density (type D), made with chalk additive with glass fibres and wood fibres that give it a high degree of surface hardness and mechanical strength (type I-R). The plate is also characterized by a reduced water absorption (type H1), with an excellent seal in the presence of high humidity levels, and a reduced value of steam permeability (type E); this peculiarity makes the Tiemme modular panel suitable for any type of environment, including bathrooms, laundries, kitchens, etc...

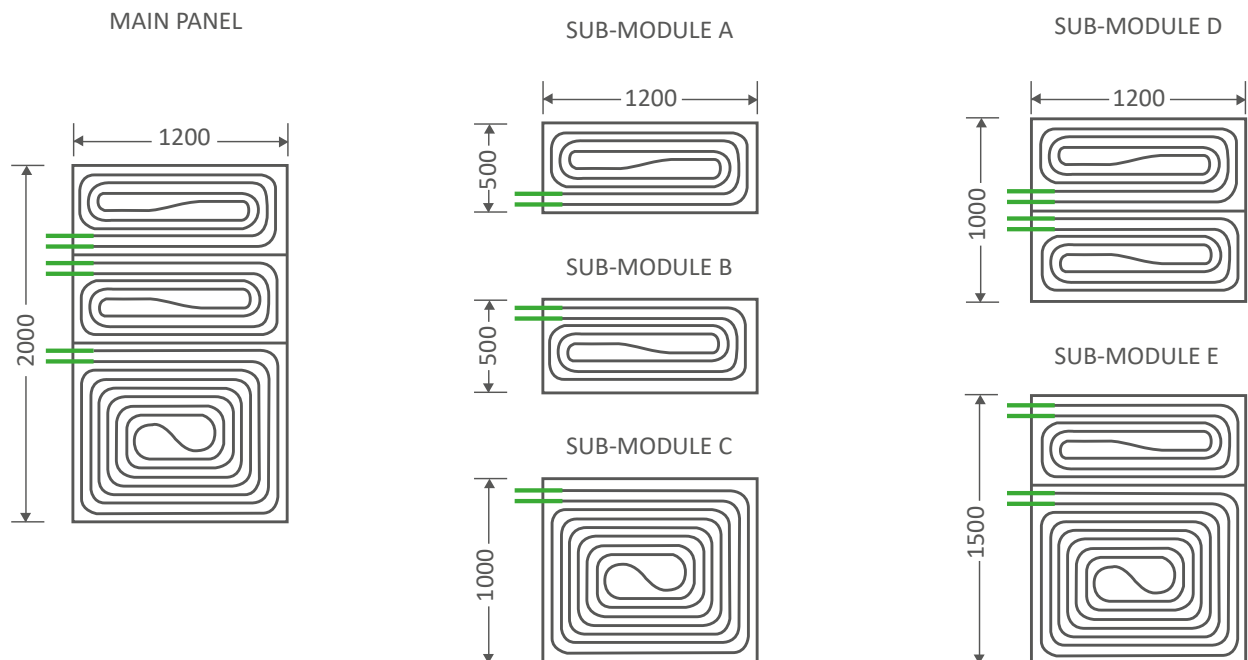


Ceiling Home Smart has 3 independent circuits, milled inside the plasterboard panel, with 50 mm distance, made with  $\varnothing 12 \times 1.1$  mm pipe. The complete circuit panel is coated with a 30 mm thick EPS plate.

The size of the panel is 1200 x 2000 mm, with a surface area of 2.4 m<sup>2</sup>.

On the lower edge of the plate there is the screen printing of the radiant circuit and the cutting line of the panel in the sub-modules:

- 1200 x 500 mm (n°2) + 1200 x 1000 mm (n°1)
- or
- 1200 x 1500 mm (n°1) + 1200 x 500 mm (n°1)
- or
- 1200 x 1000 mm (n°2)



## STRENGTHS



**LOW  
THERMAL INERTIA**



**SUITABLE FOR  
NEW BUILDINGS  
AND RENOVATIONS**



**SIMPLE AND QUICK  
TO INSTALL**



**HIGH VERSATILITY**



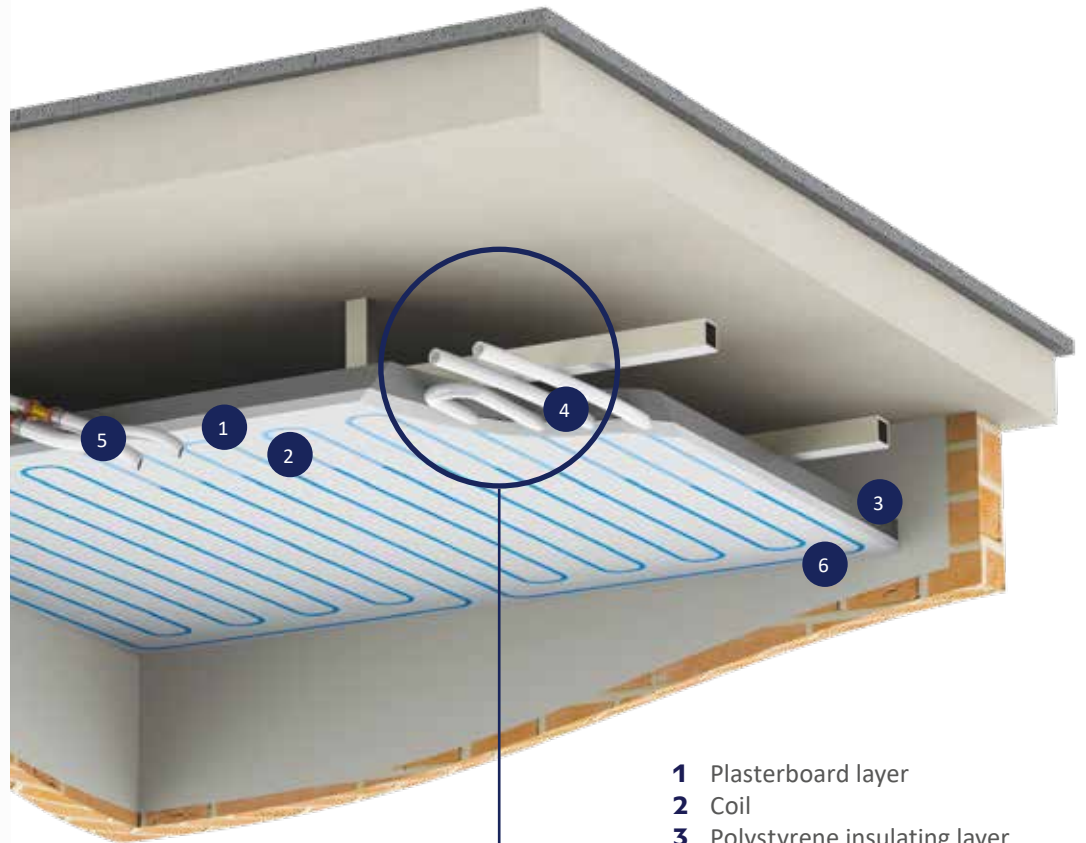
**MODULAR PANEL**



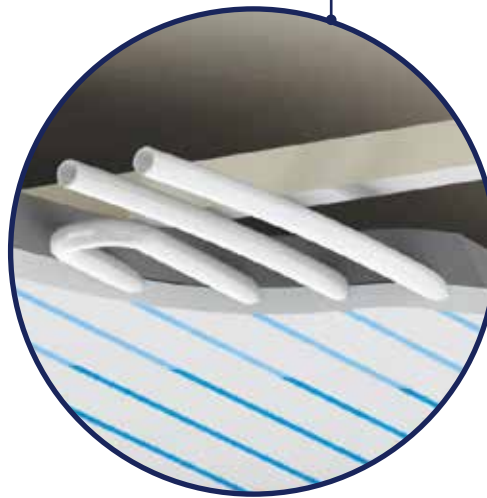
**MOISTURE  
RESISTANT**



**NEUTRALIZES  
FORMALDEHYDE  
PRESENT IN THE AIR**



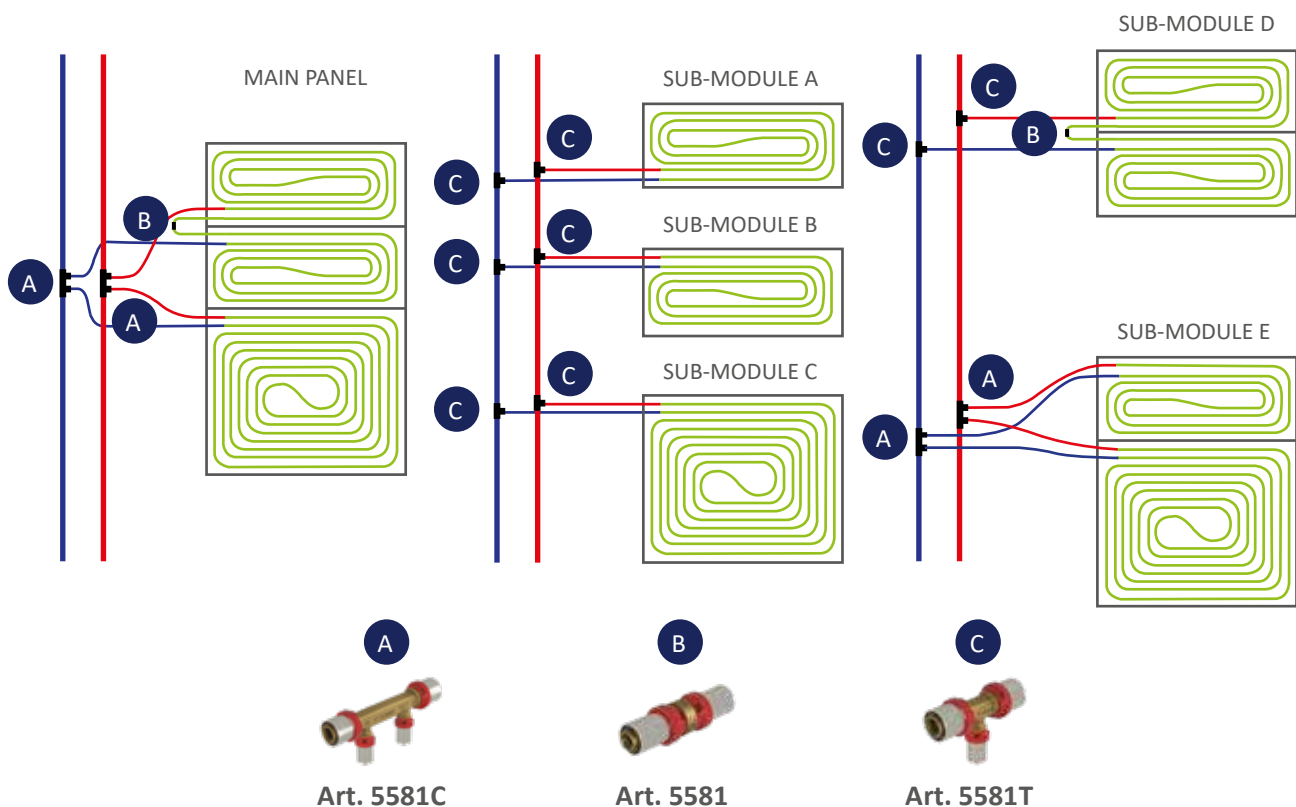
- 1** Plasterboard layer
- 2** Coil
- 3** Polystyrene insulating layer
- 4** PE-X pipe  $\varnothing$  12 x 1.1 mm
- 5** Multilayer pipe  $\varnothing$  20 x 2.0 mm (upright columns)
- 6** Radiant panel



# TECHNICAL AND CONSTRUCTION CHARACTERISTICS

Characteristic	Description
Insulation thickness	30 mm
Thickness of plasterboard plate	15 mm
Total thickness	45 mm
Radiant circuits pipe type	PE-X $\varnothing$ 12 x 1.1 mm
Plasterboard plate	Additive chalk layer with fiberglass and wood
Fire resistance EN 13501-1 (Euroclass)	E
Insulator type	EPS 150, white
Insulating thermal conductivity UNI EN 12667	0.034 W/mK
Pipe distance	50 mm
Permissible temperature range of the carrier fluid	8-50 °C
Maximal allowed temperature	60 °C
Minimum working temperature	8 °C
Maximum allowable pressure	6 bar
Maximum circuit test pressure	4 bar
Elemental circuit pressure drop $\varnothing$ 12 x 1.1 mm	4 kPa
Fluid speed	12 m/min.
Elemental circuit water volume	1,40 l + 0,70 l + 0,70 l
Elemental circuit length	19.3 m + 9 m + 9 m
Active / passive panel weight	16.5 kg/m <sup>2</sup>

## EXAMPLES OF HYDRAULIC CONNECTIONS



Art. 5581C

Art. 5581

Art. 5581T

## THE RANGE



**Art. RU50**  
**Code 450 0701**  
Active radiant panel



**Art. RNU**  
**Code 450 0702**  
Buffer panel

## CEILING HOME SMART SYSTEM ACCESSORIES



**Art. 3670**  
Y strainer



**Art. 5570**  
Automatic deaerator to expel air bubbles or micro bubbles with insulation



**Art. 4539**  
Protects against the corrosion of metal particles with universal bactericide and fungicide for heating and cooling systems



**Art. 5581**  
Brass double straight press fitting



**Art. 5581T**  
Brass T-shaped distributor press fitting



**Art. 5581C**  
Brass double-line T-distributor press fitting



**Art. 1677**  
Brass end press fitting



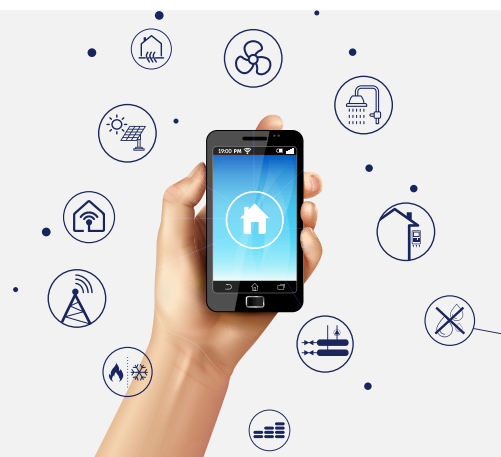
**Art. 1695TM03**  
TIEMME MINI battery press for pipes from  $\varnothing$  14 to  $\varnothing$  32 included



**Art. 1681MINI**  
TH profile pliers - custom TIEMME for MINI Press

## CEILING HOME SMART A COMPLETE SOLUTION

Ceiling Home Smart is not only radiant panels, but also an integrated solution complete with Climav 2.0 Building Management thermoregulation system and air treatment machines that allow you to better manage the temperature of water and environments as well as constantly control humidity and air quality, to optimize energy consumption and ensure a high level of environmental comfort. Thus the climate is designed exactly according to the needs, in every season.





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