300ºC
TEMPERATURE

Radiant panels of medium and high temperature, of 150ºC and 300ºC.

Characteristics:
Easy installation, economic and flexible: electric box and converters are not necessary. Panels can be added to an already existing installation.
Adjustable by means of an ambient thermostat.
2 or 3 units can be connected to different circuits, which allows reducing the absorbed current in not so cold periods.
Protection against moisture: it can be installed outdoors under cover.

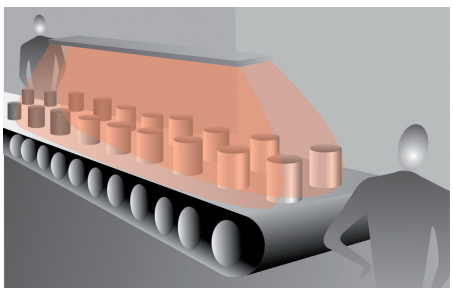
APPLICATIONS

Providing heating in great height and/or big volume enclosures (factory halls, workshops, warehouses, sport facilities).
Providing comfort in working areas located in bigger dimension enclosures without heating.
Drying processes of products, components and materials.

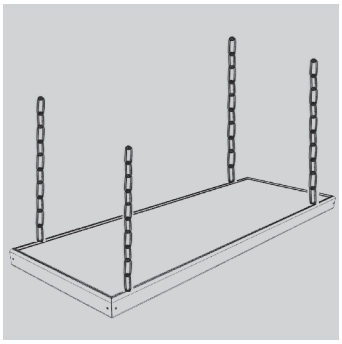
Factory halls, workshops, warehouses.

Working areas.

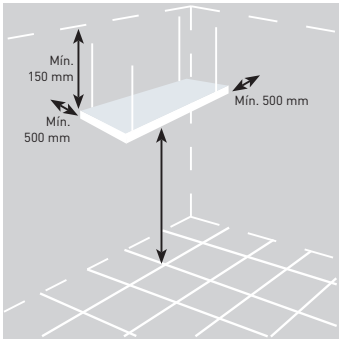
Supermarkets.



Drying processes.



Easy installation
It can be installed directly on the ceiling, on the wall, or in any other steady element, such as a beam.
It includes, in addition, 4 supports to be hanged from the ceiling by chains.



TERMOTECH-MT/HT:
Installation recommendations.

TECHNICAL CHARACTERISTICS

Model	Voltage (V)	Power (W)	Absorberd current (A)		Maximum superficial temperature (ºC)	Recommended installation height (m)	Protection	Insulation	Dimensions L x W x H (mm)	Weight (kg)
			230V	400V						
TERMOTECH-HT-1750	230V mono	1750	7,7		300	3,5 to 4,5	IP54	Class I	1675x220x75	8
TERMOTECH-HT-3500	230V mono / 400V 3-N *	3500	16,0	9,3	300	3,5 to 7	IP54	Class I	1675x400x75	12
TERMOTECH-HT-5250	230V mono / 400V 3-N	5250	24,0	13,5	300	3,5 to 7	IP54	Class I	1675x570x75	16

* 2/400: 2 fases

CALCULATION PROCEDURE OF GENERAL HEATING SYSTEMS (FOR THE 100% OF CLOSED AREAS) VIA RADIANT PANELS

Determine the density power

Densidad de potencia necesaria = 50 W/m²	C1	C2	C3	C4

Depending on the operation period of the system	C1
The heating operates constantly (24/7)	1
The heating only operates during daily period (less 20h/day)	1,4

Depending on the type of building insulation	C2
Good	1
Medium	1,2
Bad	1,4

Depending on the building height	C3
↖ 5 m.	1
6 m.	1,1
7 m.	1,2
8 m.	1,3
9 m.	1,5
10 m.	1,6
11 m.	1,8
12 m.	2,0
13 m.	2,2
14 m.	2,4

Depending on the outside minimum temperature	C4
→ 0 ºC	0,8
↖ 0 ºC	1

Determine the power needed

Power needed: power density x area to heat

Selection of the suitable panel

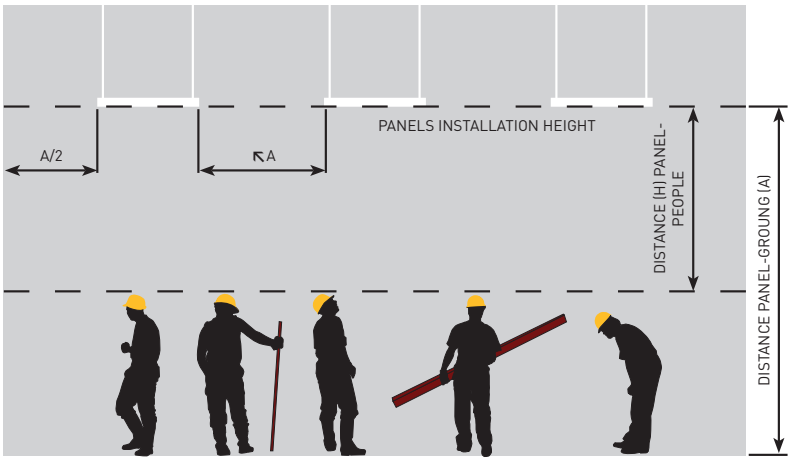
Power density (W/m²)	Distance panel-ground		
	from 3,5 to 4 m	from 4 to 5 m	more than 5 m
50-80	MT-1400	MT-1400	HT-1750
80-120	HT-1750	HT-1750	HT-3500
120-140	HT-1750	HT-3500	HT-3500
140-180	HT-3500	HT-3500	HT-5250
→180	HT-3500	HT-5250	HT-5250

Calculation example

- Factory hall area: 1000 m²
- Factory hall height: 7 m
- Panels installation height: 6 m
- Type of building insulation: Bad
- Heating operation: ← 20 h/día (night stop)
- Outside minimum temperature: ← 0 ºC

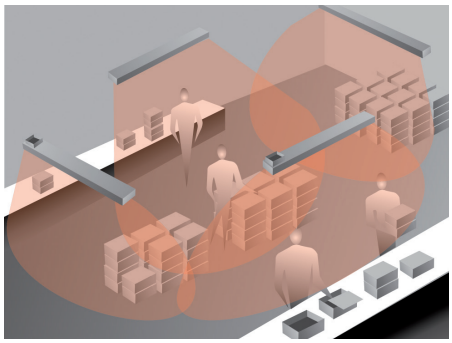
- Power density: 50 W/m² · 1,4 · 1,4 · 1,2 · 1 = **117,6 W/m²**
- Power needed: 117,6 W/m² · 1000 m² = **117.600 W**
- For panel height= 6 m, TERMOTECH-HT-3500 is recommended
- Solution with Termotech HT: **34 panels TERMOTECH-HT-3500**

Panel distribution



When continued occupancy during long periods of time, it is advisable a minimum distance of 1,5 to 2m between the panels (H) and people located in the heated area.

CALCULATION PROCEDURE OF GENERAL HEATING SYSTEMS (FOR THE 100% OF CLOSED AREAS) VIA RADIANT PANELS



Power needed: 300 W/m²

Exclusively use of high temperature panels TERMOTECH-HT

Installation height

recommended: 3 - 3,5 m
minimum: 2,5 m
maximum: 4 m

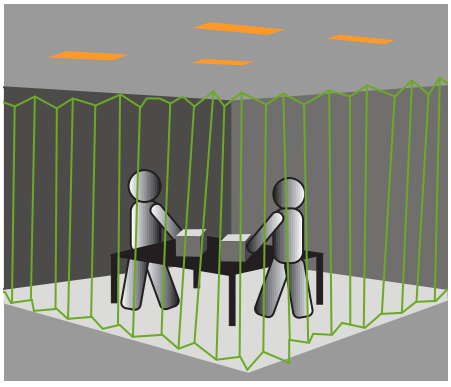
In case of important airflows (max. 0.3m/s), screens should be created to avoid them. The Panels should be distributed homogeneously in all the area to heat. In little working spaces it is advisable to place them around the perimeter, ensuring radiaton to all directions.
The calculation of requirements for the power heating needed in a room determines the use of a certain number of panels. Sometimes it is important to take into account that is better meet this requirements by having a bigger number of devices with lower power, for a better distribution of them in the comfot area.

Calculation examples

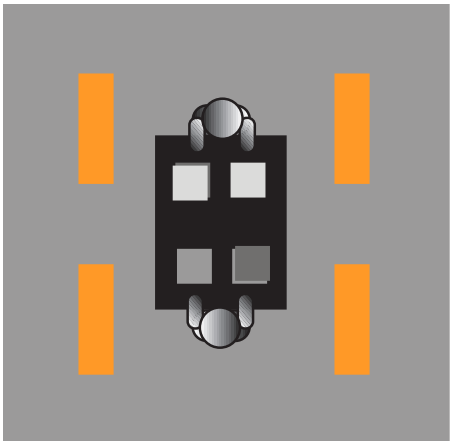
- Working area, island type of 3,5 x 6 m = 21 m²
- Total power needed= 21 m² · 300 W/m² = 6.300 W

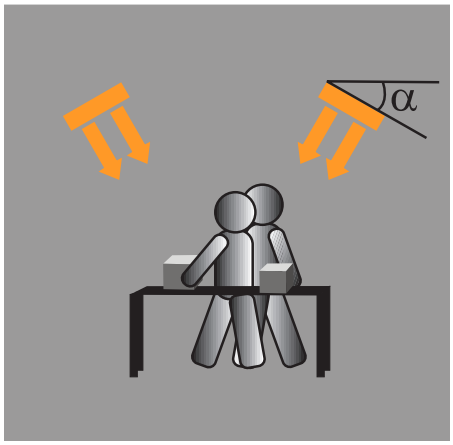
Solution: **4 panels TERMOTECH-HT-1750**

- Maximum inclination of panels: 15º
- If there are important airflows (→0,3 m/s) it is required to screen the working area.



Maximum inclination of the panels α: 15º





Comfort area covered by the models TERMORTECH-MT/HT:

Model	Power (kW)	Comfort area (m²)	Recommended installation height (m)
TERMOTECH-HT-1750	1,75	6	3-3,5
TERMOTECH-HT-3500	3,5	12	3-3,5
TERMOTECH-HT-5250	5,25	18	3-3,5

* Minimum height: 2,5m. Maximum height: 4m.
It is advisable the use of chains that allow adjusting precisely the height of the panels, with the aim of achieving the desired comfort.

ACCESSORIES: REMOTE CONTROL UNITS

CR-TEMP
Dimensions LxAxH (mm):
100x95x25

CR-TEMP: Room temperature controller according with Regulation (EU) 2015/1188 implementing Directive 2009/125/EC with regard to ecodesign requirements for local space heaters.
Ambient temperature controller
with an electronic sensor inside. Allows for manual or automatic control of ON/OFF switch with the following functions:
- Setpoint temperature
- Weekly programming that can switch on and off twice a day
- Detects open windows from quick drop in temperature
- Manual override. Includes an electronic sensor that reads room temperature.

Each remote unit can control up to 5 units of the same model in series.

CONTROL ETT-6
Dimensions LxAxH (mm):
156x110x72

CONTROL ETT-6
Electronic step controller for control activation of up to 6 devices.
In combination with the CR-TEMP control, it allows the gradual start to be activated according to the selected temperature.
Each unit can control up to 6 devices activation (6A max.).