

RADIANT SYSTEMS

maximum comfort
for every building

www.eurotherm.info

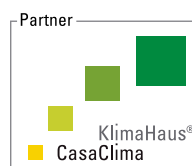


from 1984



For over 30 years we have
been striving to ensure
well-being and optimize
energy saving, all year round.

Eurotherm, has always focused on providing high-quality products and services and fostering on-going technological and material innovation, with the aim of offering an extensive range of cutting-edge systems and regulation mechanisms that utilize all surfaces in our homes: floors, ceilings and even walls are transformed into invisible and silent tools of indoor comfort. At the heart of the Eurotherm approach is the concept of all-round comfort, geared towards satisfying any need through tailor-made and highly versatile solutions applicable to both heating and cooling systems, all year round



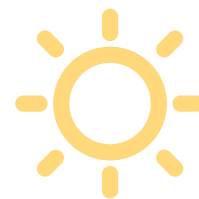
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We open up “new horizons”
to find the best solutions
for the future.

To provide advanced radiant heating and cooling solutions of the highest quality for any specific well-being necessities: this is the goal Eurotherm pursues thanks to its significant technical potential and on-going investment in research and development of new materials and technologies. Over the years, our engineers have registered several patents that have contributed significantly to the sector’s development, opening up new and revolutionary application possibilities: radiant floor systems have been flanked by wall and ceiling systems controlled by cutting-edge regulation units that work with the rhythm of the seasons. Besides heating, our systems also guarantee high-temperature summer cooling, in controlled humidity conditions. The energy efficiency issue constantly receives special emphasis during the development process.

AIR TREATMENT



HEATING



COOLING



DEHUMIDIFYING

Comfort in all its forms is an essential part of modern life

The ultra-quiet, invisible system that ensures your uninterrupted well-being 365 days a year, both in winter and summer.

Eurotherm radiating solutions see the end user as an individual, with a personal need for well being that is reflected in all the areas of their lives, from the private sphere to the working space. For Eurotherm, it is essential to satisfy these demands. Developing a heating/cooling system is therefore a task that involves a particular responsibility, in which there are a great many variables to be considered. It is essential to understand the actual characteristics of the environments and the specific demands perceived by the people who will be living in it. Different needs that change with the seasons, Eurotherm radiating systems successfully meet these changes using sophisticated regulations able to promptly manage the changeover from heating to cooling and back again, guaranteeing perfect temperatures at all times and in all places.



FLOOR RADIANT SYSTEM



CEILING RADIANT SYSTEM



WALL RADIANT SYSTEM



MANIFOLD AND DISTRIBUTION



SMART COMFORT 365 REGULATION



AIR TREATMENT AND VENTILATION

Smart 365 regulation



SmartOne **365**



SmartComfort **365**

365 days of comfort

The new evolution of Smartcomfort intelligent regulation system: SmartComfort 365 and SmartOne 365. They are equipped with a multitouch display with a more intuitive graphic and several updated features. The new display connects, via Wi-Fi, to a dedicated cloud platform and thanks to a personal account * it is possible to: monitor and fully manage the radiant system, the ventilation, request and receive assistance, take advantage of personalized and dedicated services. The intelligence of the device allows the voice management of the system through the most modern smart home applications that support Google Alexa or Google

Home. The Away function allows you to activate the radiant air conditioning system when we are close to our apartment **.

The App is renewed both in the graphics and in the "functionalities" and can manage one or more systems also located in different buildings and locations. All settings are synchronized with the main device (display) and the operation of the App is guaranteed even without connection.

With latest generation smartphones, you can use the NFC *** (Near Field Communication) function. By approaching the smartphone to the sensor, you can directly access the configuration of each rooms.









* all data are stored with the most up-to-date procedures and technologies to guarantee the security and protection of the user's privacy.

** unmonitored position.

*** requires the purchase of components supplied separately.



MAIN TECHNICAL DATA

86,1 x 86,1 x 38,7 mm		145,4 x 97,2 x 33,5 mm
4" multi touch capacitive full glass display		5" multi touch capacitive full glass display
heating / cooling single zone		heating / cooling multizone
temperature humidity movement VOC		temperature humidity movement VOC condensation
Wi-Fi and Bus (RS 485) connection		Wi-Fi and Bus (RS 485) connection
Connection to App (iOS/Android) and Cloud platform		Connection to App (iOS/Android) and Cloud platform
Air dehumidification		Advanced air treatment management
Optimum start/stop PID control strategy 0-10 V output		Optimum start/stop PID control strategy management of two-pipe or four-pipe systems SmartOne 365 as a room sensor NFC function KNX Ready

Smartcomfort 365 regulation

EVOLUTION OF TECHNOLOGY, GUARANTEE OF COMFORT

The new SmartComfort 365 simplifies the management of the radiant system both on Display and on App and working even without an internet connection.

The PID (Proportional Integral Derivative Strategy) algorithm allows to manage the radiant system with maximum efficiency, modulating the thermal power fed into each room. It is also possible to use the functions: Optimum start / stop, energy saving/ comfort and automatic detection of the master room and self-regulation of the climatic curve. It could be possible to manage advanced functions of air treatment as the air flow in the renewal mode, self-adaptation of the air flow according to the demand of dehumidification and integration of the rooms, free cooling setting, weekly scheduling of the renewal function. You can control the radiant system wherever you are, using the most popular voice-control systems, such as Amazon Alexa and Google Assistant.

Set the temperature in living room at 21°C.



App compatible with iOS and Android systems.



OPTIMISED COMFORT IN EVERY ROOM

Each room is unique and different in terms of characteristics and energy requirements. The control unit recognises the area with the greatest demand for energy and automatically sets the system parameters to meet it. Moreover, it redefines in real time the disadvantaged room as the climate conditions change – an essential aspect for a regulation system that manages installations in hot/cold mode.



Control unit with touchscreen display for managing the climate regulator.



SmartPoint ext

Blind probe for temperature/humidity or temperature.



SmartPoint wireless

Blind sensor for temperature/humidity or temperature connected with cable or wireless.



SmartPoint



SmartBase

Actuator module of the hydraulic part of the radiant system.



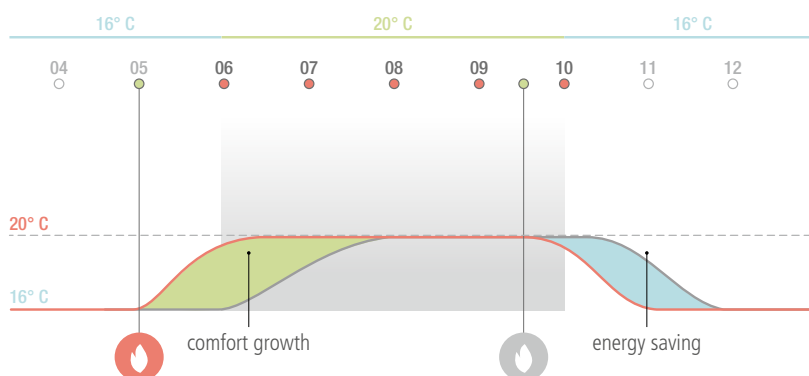
SmartAir

Actuator module capable of managing the air treatment.

THE RIGHT CLIMATE AT THE RIGHT TIME

In conventional regulation units, the temperature and duration of operation of the system are set manually by the user. The time it takes to reach full power varies depending on the system and on the environmental conditions. Consequently, a conventional regulation unit may cause loss of comfort and energy wastage. The Smartcomfort intelligent regulation unit continuously calculates the inertia in each room and starts or stops the system in advance.

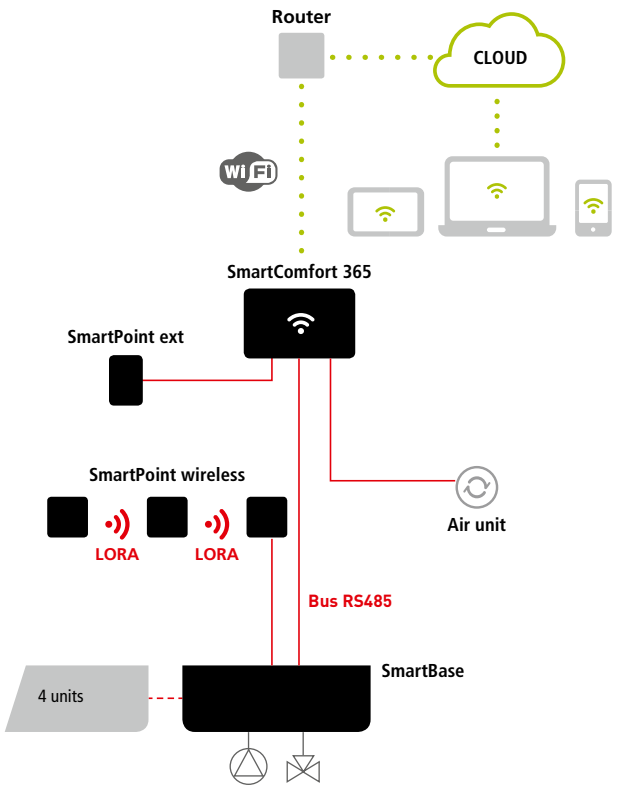
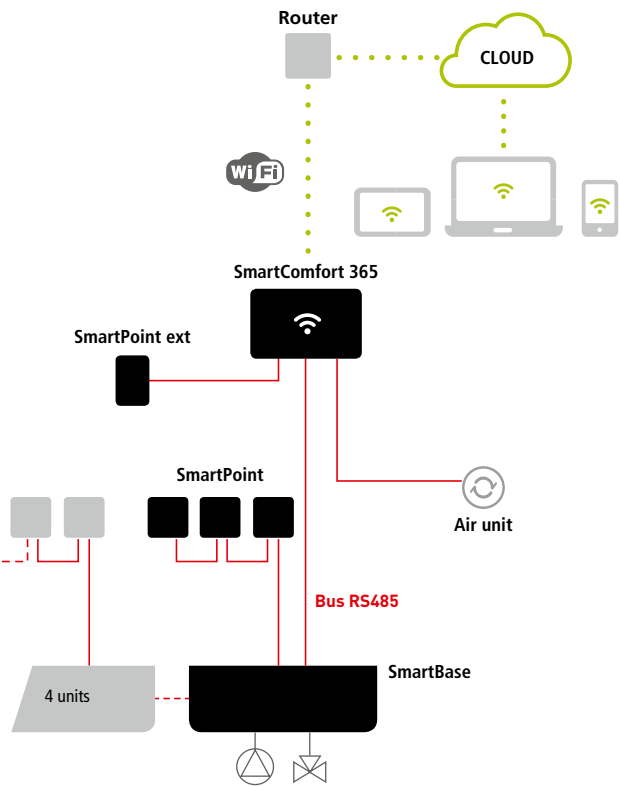
— Smartcomfort — Conventional regulation





SMARTCOMFORT 365 REGULATION SYSTEM:
BUS CONNECTION

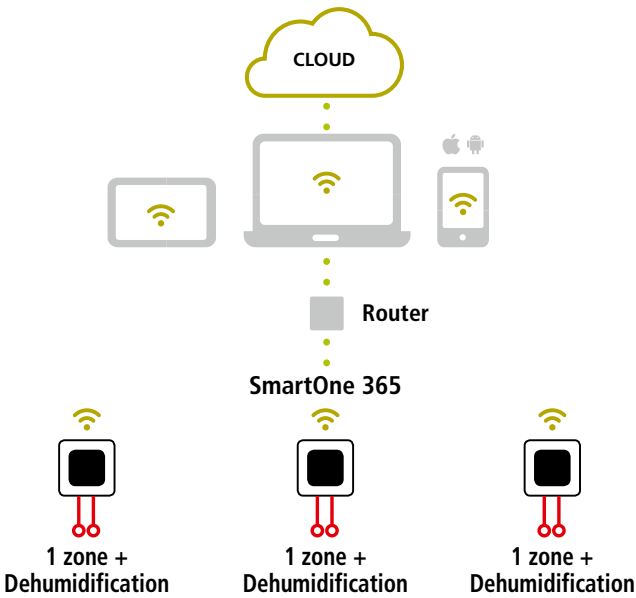
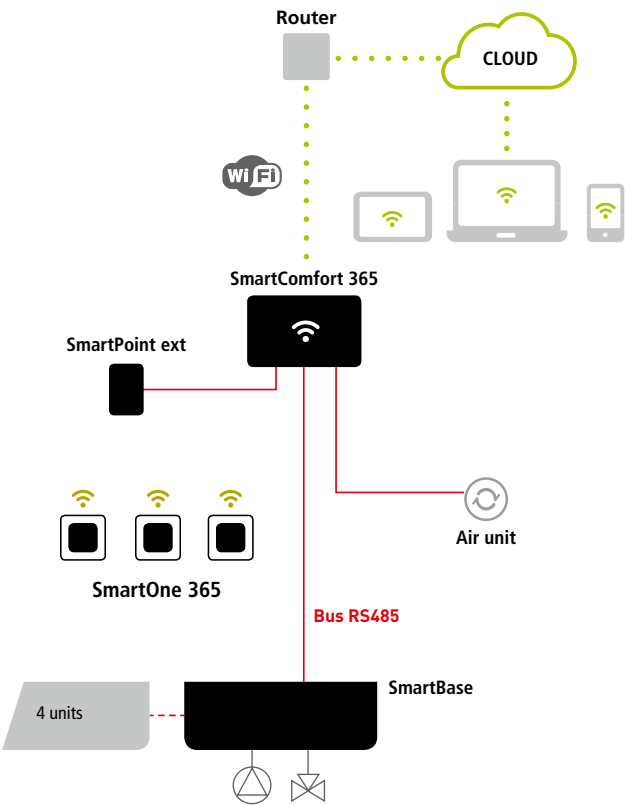
SMARTCOMFORT 365 REGULATION SYSTEM:
WIRELESS CONNECTION

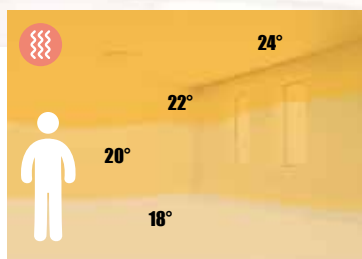




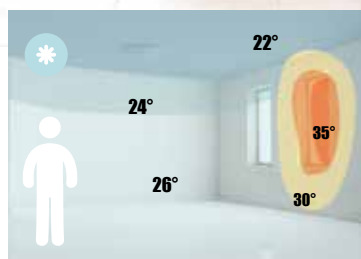
SMARTCOMFORT 365 + SMARTONE 365
AS A ROOM SENSORS

SMARTONE 365 REGULATION SYSTEM:
HEATING/COOLING/DEHUMIDIFICATION

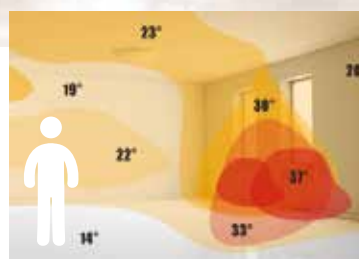




ceiling radiant heating in the winter season.



ceiling radiant cooling in the summer season.



radiator heating in the winter season.



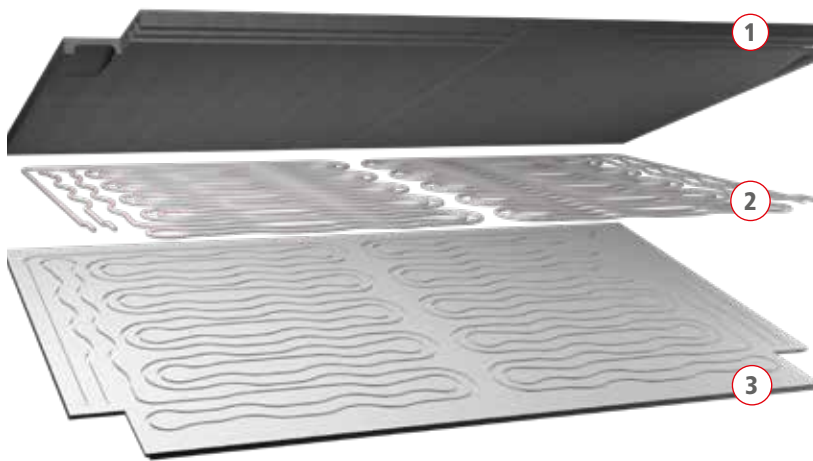
CEILING SYSTEM

Comfort must be a stable feature throughout the year, even though perceived requirements change with the seasons. The warm seasons brings us to defend ourselves from high outdoor temperatures, by creating a pleasant micro-climate indoors characterised by temperatures that shun extremes. Alongside floor-mounted solutions, innovative ceiling-mounted systems have been developed that guarantee optimal winter heating coupled with excellent summer cooling performances.



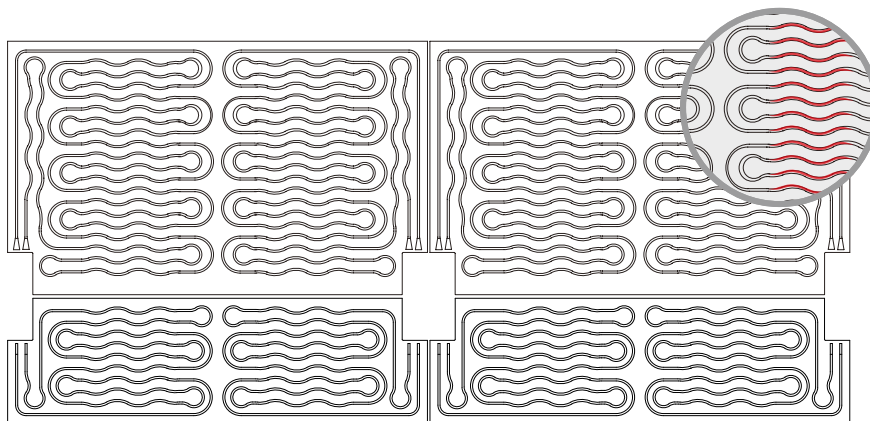
Leonardo radiant ceiling system

- ▶ WSP Lab-certified performance.
- ▶ Adduction lines pipes inserted in the board.
- ▶ Fittings without O-ring for maximum tightness over time.
- ▶ Straightforward assembly thanks to standard modularity.



The Eurotherm radiant ceiling system is designed to increase the active area of the ceiling to the fullest, thereby guaranteeing substantial energy saving and maximum comfort. Leonardo system allows for creating a radiant ceiling system for multiple applications. The system consists of modular plasterboard panels with pre-inserted MidiX Plus 10x1,3 mm piping, composed of 5 layers with oxygen barrier, arranged in a wave-like serpentine pattern. The panel is designed with integrated piping having two autonomous circuits. The plasterboard panel is supplied paired with an EPS insulating board ensuring high thermal performance.

1. Insulating board.
2. MidiX piping inserted in the plasterboard.
3. Plasterboard sheet
4. Indication of the passage of the piping.



ENERGY SAVING

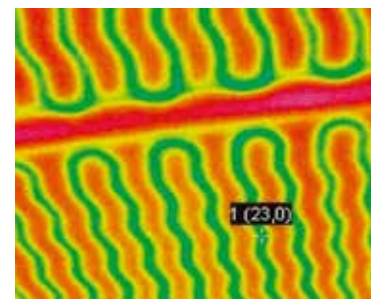
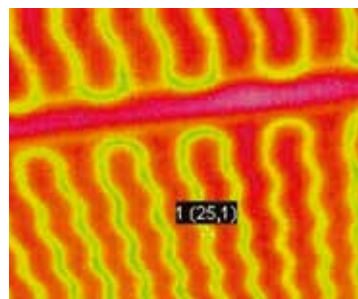
The Eurotherm radiant ceiling system is designed to increase the active area of the ceiling (the zone capable of heating and cooling the room) to the fullest, thereby guaranteeing substantial energy saving. For example, if during winter a conventional radiator requires a high supply temperature (70°C) due to its limited surface, with the radiant system the heat exchange over a broader surface decreases the supply temperature (roughly 32°C), thereby reducing running costs.

LOW THERMAL INERTIA

The diameter and thickness of the pipe used (MidiX Plus 10x1.3 mm), the piping integrated into the plasterboard and the special serpentine pattern of the piping make Leonardo a high-performance ceiling system with very low thermal inertia. Below are two thermographic pictures of the Leonardo system operating in cooling mode with an average water temperature of 18°C. As can be noticed, after 20 minutes the system has already reached full power.



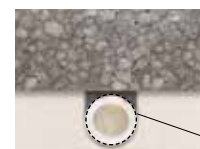
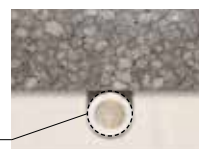
25° C



23° C

MIDIX PLUS 10x1.3 MM PIPING

Conventional pipe
8x1.1 mm



+25%

Leonardo pipe
10x1.3 mm

Leonardo radiant ceiling system

LEONARDO CEILING 10



Insulation	EPS sintered with graphite plasterboard
Piping	MidiX Plus 10x1.3 mm
Pitch	10 cm

LEONARDO CEILING 5.5



Insulation	EPS sintered with graphite plasterboard
Piping	MidiX Plus 10x1.3 mm
Pitch	5.5 cm

LEONARDO CEILING HYDRO



Insulation	EPS sintered with graphite hydro plasterboard
Piping	MidiX Plus 10x1.3 mm
Pitch	3.5 / 5.5 cm

LEONARDO CEILING 3.5



Insulation	EPS sintered with graphite plasterboard
Piping	MidiX Plus 10x1.3 mm
Pitch	3.5 cm

LEONARDO CEILING 3.5
HIGH PERFORMANCE



Insulation	EPS sintered with graphite plasterboard with graphite
Piping	MidiX Plus 10x1.3 mm
Pitch	3.5 cm

LEONARDO CEILING RF



Insulation	fibreglass plasterboard
Piping	MidiX Plus 10x1.3 mm
Pitch	5.5 10 cm

LEONARDO LUX



Insulation	EPS sintered with graphite plasterboard
Piping	MidiX Plus 10x1.3 mm

ACOUSTIC CEILING



Insulation	packed rock wool* 2 acoustic boards
Piping	MidiX Plus 10x1.3 mm
Pitch	6 cm

HIGH PERFORMANCE
ACOUSTIC CEILING



Insulation	packed rock wool* acoustic boards acoustic board with graphite
Piping	MidiX Plus 10x1.3 mm
Pitch	6 cm

*Optional insulation not included

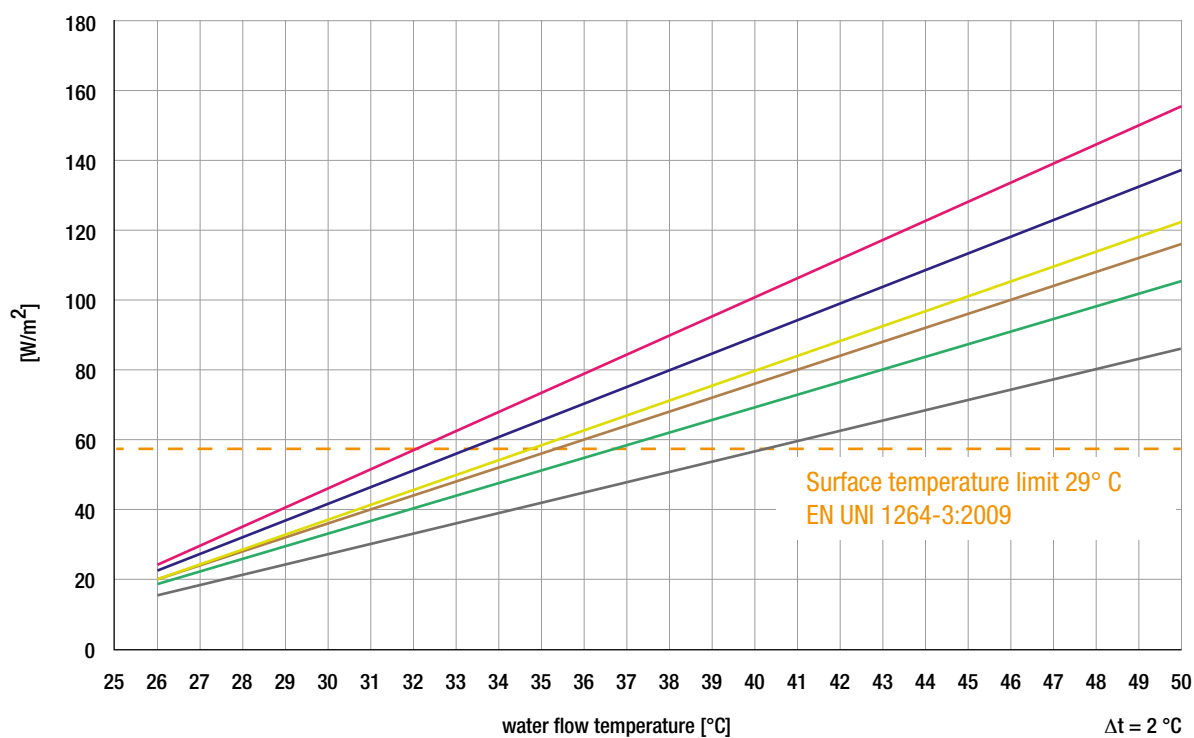
*Optional insulation not included



Heating

Curves deriving from the output certificates according to prEN 14037-5:2011 in heating mode

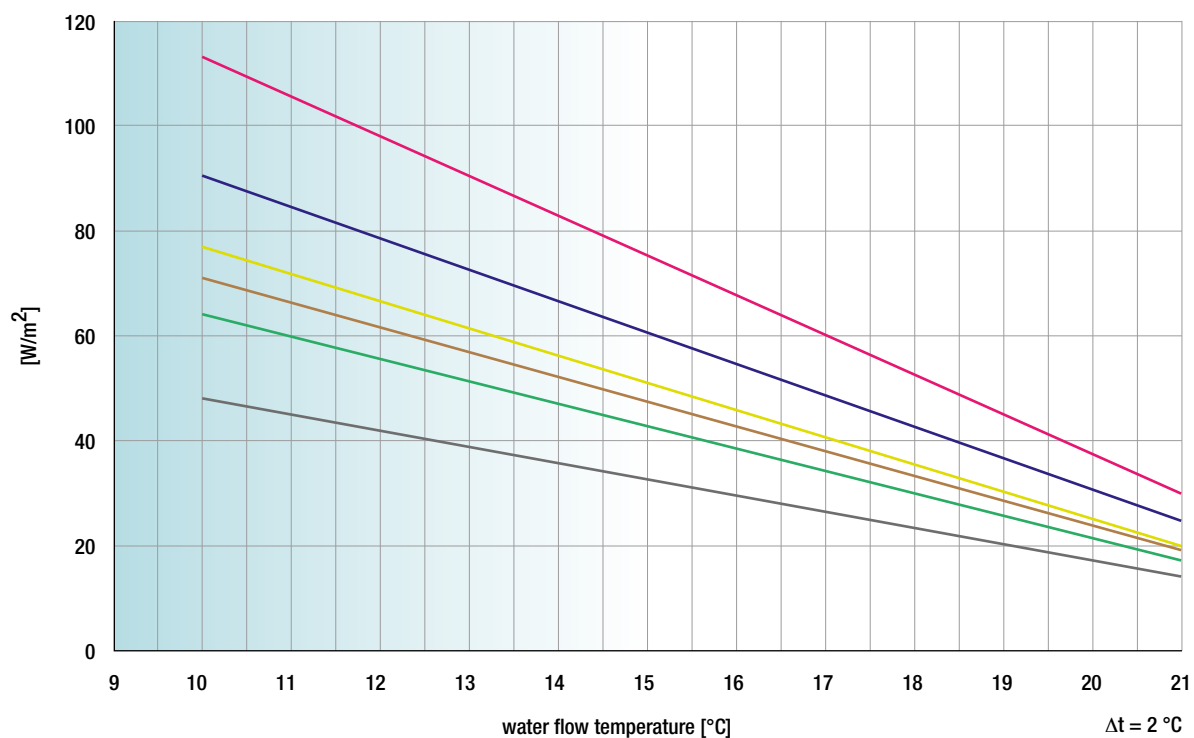
WSP_{lab}



Cooling

Curves deriving from the output certificates according to UNI EN 14240:2005 in cooling mode.

WSP_{lab}



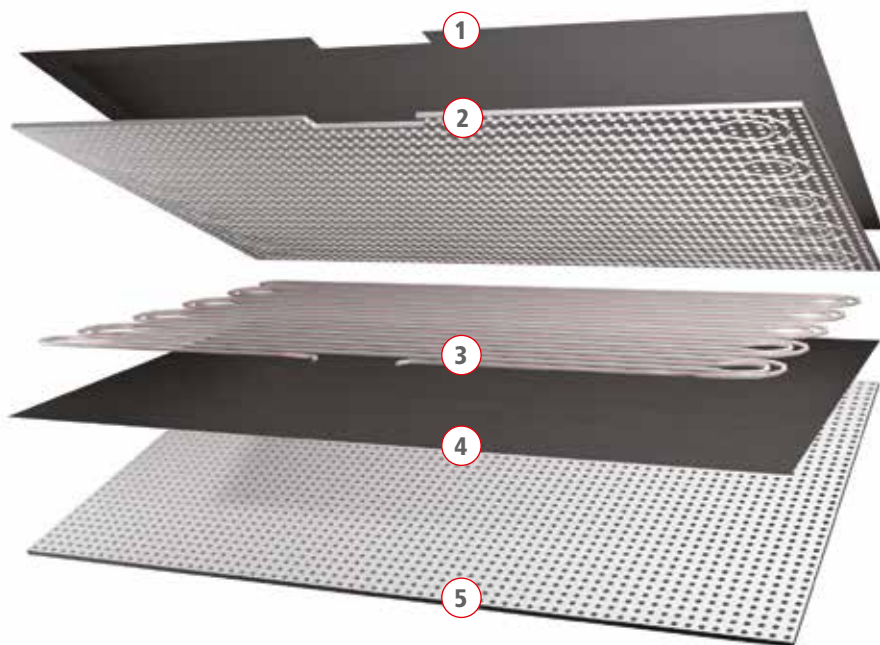
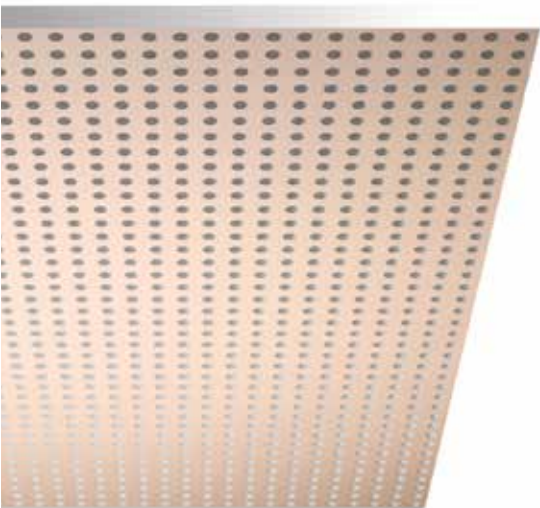
LEONARDO 5.5 / LUX	LEONARDO 3.5 HIGH PERFORMANCE	ACOUSTIC CEILING
LEONARDO 5.5 HYDRO	LEONARDO 3.5 / 3.5 HYDRO	HIGH PERFORMANCE ACOUSTIC CEILING
LEONARDO LUX	LEONARDO RF 5.5	
LEONARDO 10	LEONARDO RF 10	

Acoustic ceiling



Sound-absorbing radiant comfort

- ▶ WSP Lab-certified performance.
- ▶ High sound-absorption power.
- ▶ Reduction of pollutant concentration in the air.
- ▶ Broad active surface.
- ▶ Fittings without O-ring for maximum tightness over time.
- ▶ High cooling performance.

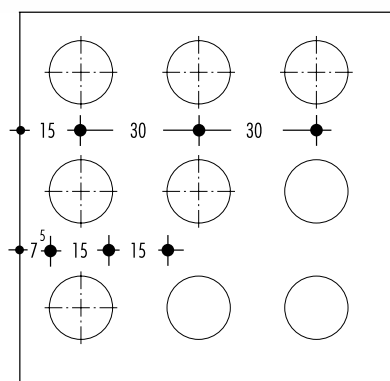


The acoustic ceiling system allows for creating a radiant ceiling system for multiple applications. This system is composed of modular plasterboard panels incorporating MidiX Plus piping. The active plasterboard panel is supplied paired.

1. Sound-absorbing felt.
2. Sound-absorbing plasterboard inclusive of MidiX Plus piping.
3. MidiX Plus piping.
4. Sound-absorbing felt.
5. Sound-absorbing plasterboard.

Cleaner air

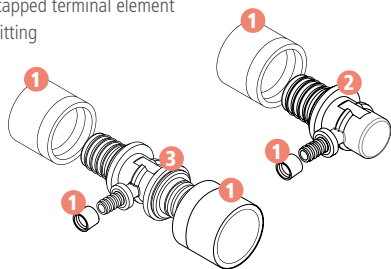
The special composition of the board – with a core made of gypsum and zeolite, a micro-porous natural rock – allows for reducing the concentration in the air of pollutants (cigarette smoke, kitchen odours, benzene, aromatic hydrocarbons, etc.)



O-RING-FREE FITTINGS

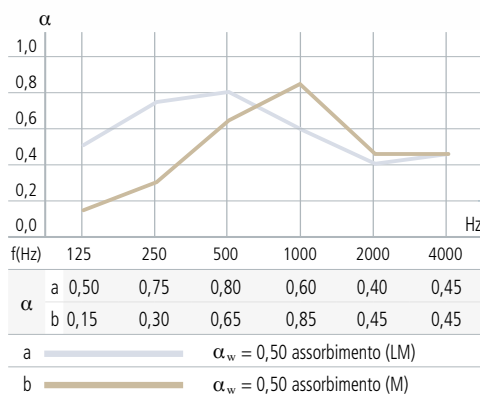
The use of special fittings without O-ring for the 10x1.3 mm pipe guarantees maximum tightness over time coupled with reduced head losses.

1. fitting ring
2. capped terminal element
3. fitting



MIDIX PLUS 10X1.3 MM PIPING

Compared to the 8x1.1 mm piping used in conventional radiant ceiling systems, the piping on the new acoustic ceiling has 10x1.3 mm diameter. With a diameter increase of 25%, the acoustic ceiling performs significantly better.

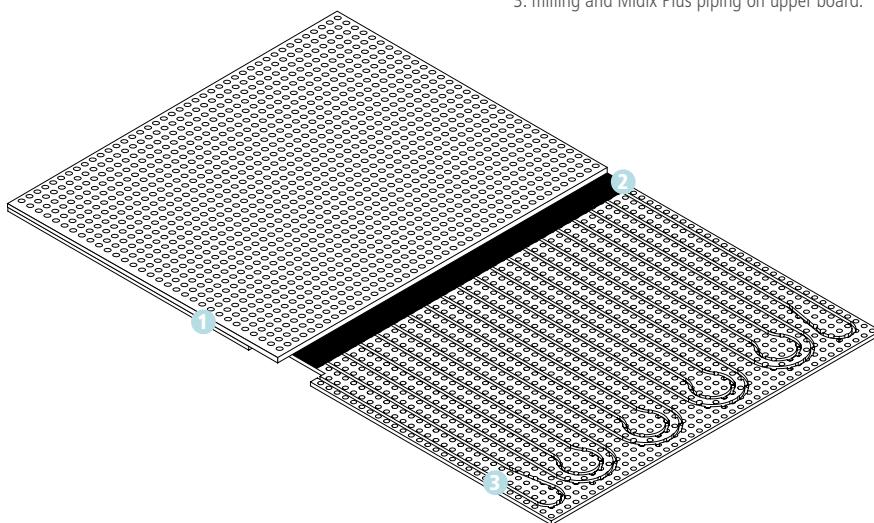


ACOUSTIC PERFORMANCE

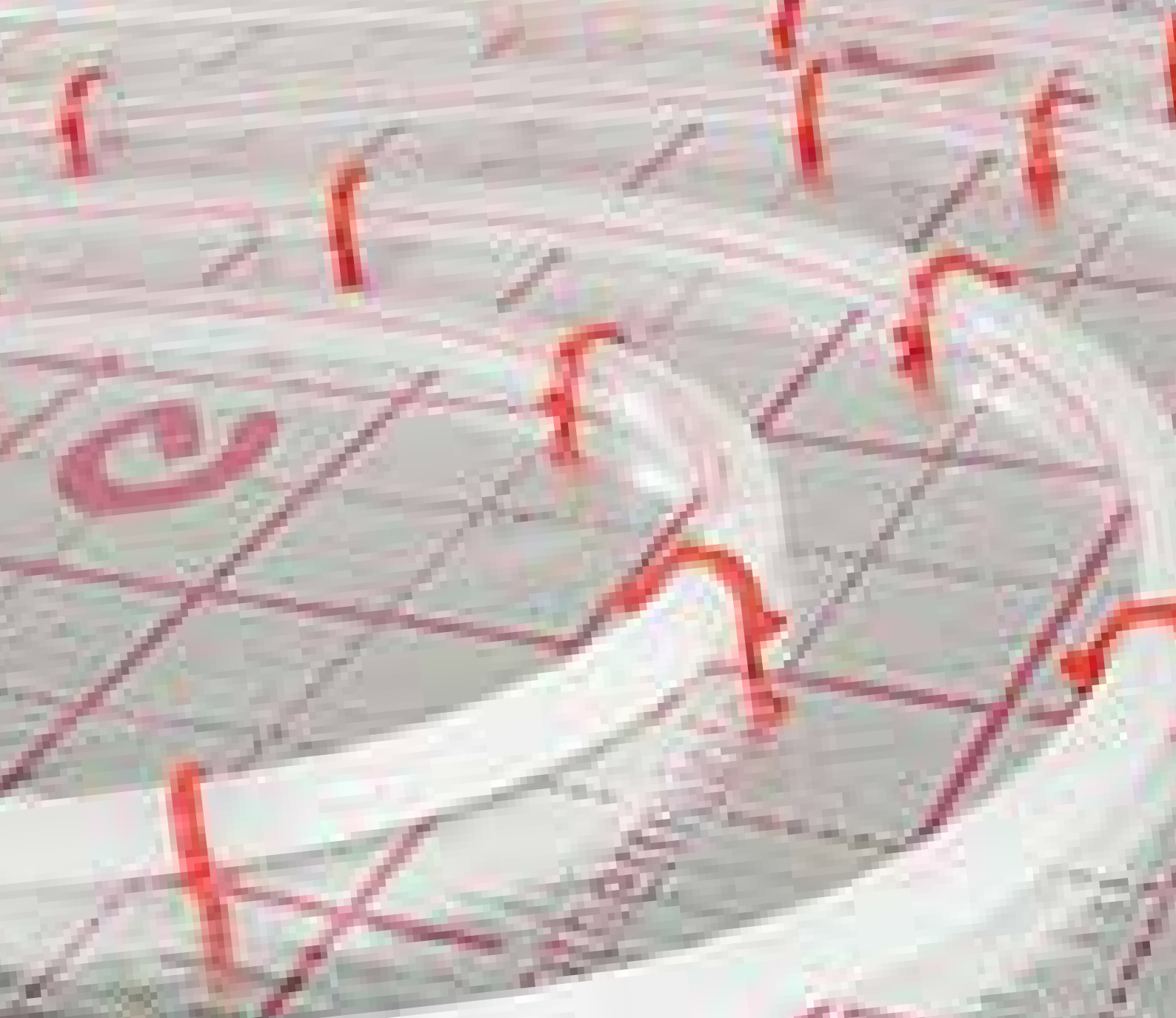
Thanks to the double plasterboard acoustic board, this system combines the climatic comfort advantages of a radiant ceiling system with a high sound-absorption power capable of eliminating the bothering effects of environmental reverberation.

Sound absorption values relative to the single sound-absorbing board (Knauf technical sheet data).
 Suspension: a = 200 mm | b = 60 mm

1. two paired sound-absorbing boards.
2. foil.
3. milling and Midix Plus piping on upper board.



View of the system from below.



Guaranteed comfort in every room

Eurotherm radiant floor systems offer a comprehensive and highly versatile range of applications capable of optimally satisfying any comfort requirement, whatever the domestic living context. Each system is the result of careful studies conducted on the technologies and materials, and features specific technical

characteristics developed for solving tangible demands, for example in terms of thermal and/or acoustic insulation or the eco-sustainability of components. Besides the technical specifications, the advantages shared by all Eurotherm systems include low operating temperatures – which translate into lower con-

sumption for running the system (resulting in considerably cheaper energy bills) – and high performance in both the heating and cooling modes. The performances are certified by renowned research institutes and universities, at both a national and international level, for guaranteed comfort under any aspect.

5 ANSWERS TO THE RADIANT FLOOR SYSTEM

What is a hydronic radiant floor system?

A radiant system consists of a series of pipes arranged in a circuit through which water flows to heat or cool and environment through radiation of a surface. With the so-called hypocaustum (hypocaust), the Ancient Romans had invented a system whereby hot air circulating in gaps beneath the floor could heat a room from below. In a more recent era, the Roman model was used to develop the modern radiant system based on a copper serpentine through which hot water flowed. Nowadays, the radiant system has evolved considerably both in terms of the technology used (intelligent domotic control system) and in the use of materials. Indeed, the outdated and highly costly copper pipes have been replaced by the more cost-convenient and efficient PE-RT (plastic) pipes equipped with an oxygen barrier, in which water flows at low temperatures (29-32°C): this system allows for saving more energy and avoiding blood circulation problems in the lower limbs.

How reliable is the radiant system over time?

All components of a radiant system are designed and tested to endure and guarantee long-lasting operation of the system. All insulating materials are manufactured to withstand alterations and the piping itself is guaranteed for at least 50 years. Unless installation errors or accidental punctures occur, the radiant system will not be subject to any leakages. However, should these unfortunate circumstances occur, a straightforward thermographic survey can rapidly and accurately identify the damage so that it can be repaired. Owing to their high construction quality and workmanlike installation, Eurotherm guarantees its radiant systems for life against original, production, assembly and/or design defects, and against involuntary damages caused by third parties.

What covering is compatible with the radiant floor system?

All coverings are compatible with the radiant floor system, provided that they do not jeopardise its heat performance (their thermal resistance must not exceed 0.15 m²k/W). Consequently, the type of covering and its thickness, once laid, determine the level of energy efficiency of the system. For example, materials such as marble, ceramic and granite are more suited to radiant floor systems due to their more efficient heat conductivity. It is nonetheless good practice to verify the most suitable type of covering material and its application method.

Can the system's temperature be adjusted?

The system's temperature can be adjusted based on time slots, room-by-room, so as to guarantee the ideal level of comfort in each environment and avoid useless energy wastages, such as during the night when the temperatures can be significantly lowered. Thanks to the Smartcomfort intelligent regulation system, Eurotherm guarantees full control of the radiant system for optimising its performance.

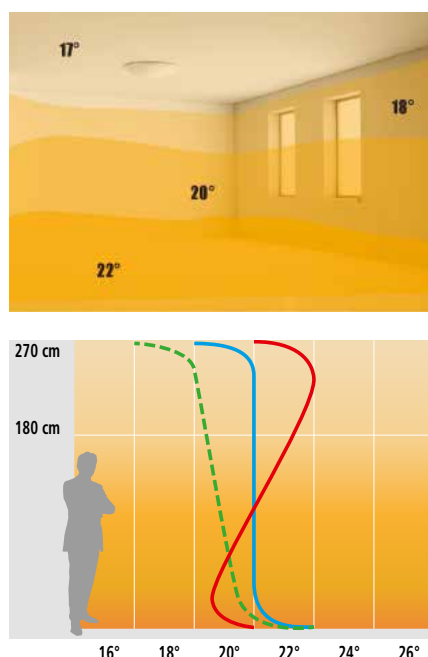
Can the radiant system be used for cooling?

Unlike conventional radiators, during summer the radiant floor system can be used for cooling purposes. Radiant cooling allows for avoiding annoying cold air jets, thus guaranteeing excellent comfort even during summer. To prevent potential condensate build-up, the radiant system is usually accompanied by an air treatment machine.

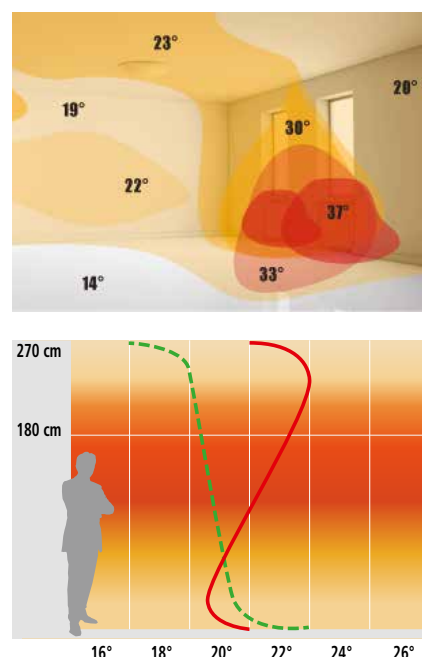
FLOOR SYSTEM

Radiant floor heating systems are powered at low temperature, enabling substantial energy saving in the form of lower consumption required for running the system. Heat spreads uniformly throughout the room and the perceived thermal comfort is achieved at 19°C rather than the 21°C required with a conventional radiator system.

ideal curve.
radiant curve.
radiator curve.



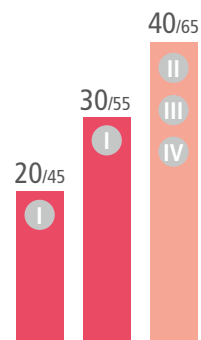
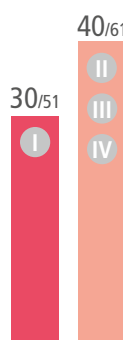
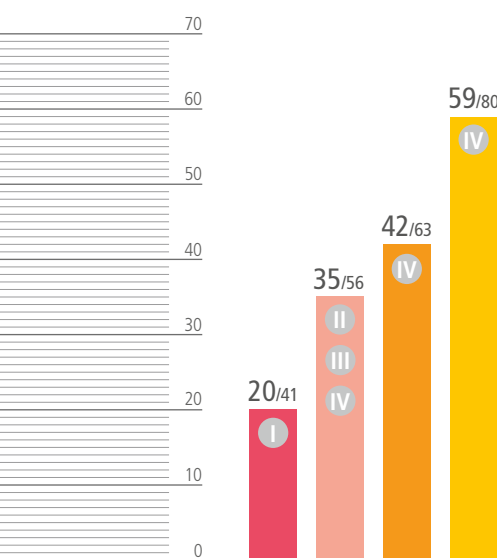
RADIATOR



The right thickness for any CASE

When installing a radiant floor system, the piping is laid on a panel which must have the thermal characteristics capable of guaranteeing conformity to the insulation requirements specified by the UNI EN 1264-4 standard. The right degree of insulation can be obtained with a high-thickness panel, if the latter has poor insulating properties, or with a low-thickness panel of high quality.

Case I	heated underlying environment	
Cases II - III	cool environments, heated in a non-continuous manner or in direct contact with the subsoil	
Case IV	outdoor air temperature $\geq 0^{\circ}\text{C}$	
Case IV	$-5^{\circ}\text{C} \leq \text{outdoor air temperature} \leq 0^{\circ}\text{C}$	
Case IV	$-15^{\circ}\text{C} \leq \text{outdoor air temperature} \leq 5^{\circ}\text{C}$	



euroflex extra system

STURDY STUDDED PANEL



- ▶ Extremely sturdy thermoformed panel
- ▶ Wide range of available thicknesses
- ▶ High thermal performances

The special shape of the stud allows for reducing contact between the pipe and the insulation – a common problem with studded systems. The thermoformed PS upper foil (0.8 mm) adds unparalleled mechanical strength to the studs, making them resistant to 'rough handling' on-site. Rooms with irregular perimeter are no longer a problem: the piping can be laid with any layout, even diagonally.

euroflex TF system

PRE-FORMED INSULATION PANEL

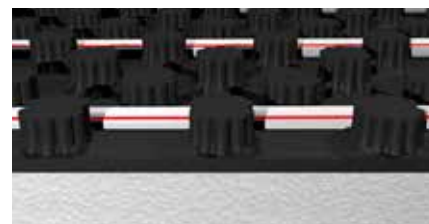


- ▶ Higher resistance
- ▶ Surface coating film with 0.6 mm thickness
- ▶ Quick and easy laying

Nob panel with thermoformed element especially designed nobs guarantees perfect fixing, the element is equipped on two sides with extra rows of nobs which allow a keyed and frictional connection preventing penetration of screed into the construction. Based on the high inherent stability the panel is well walk-on-able; made of expanded polystyrene grades EPS.

euroflex system

EPS NOB PANEL



- ▶ Joined with a special protection layer in PS
- ▶ Solid and precise housing for the pipe
- ▶ Quick and easy laying

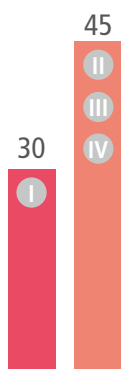
Preformed insulation boards are coupled to a polystyrene (PS) black film. This additional thickness allows to obtain excellent mechanical resistance of the shaped nobs, making laying operations easy and safe. The shape of the nobs makes it possible to lay the pipe preventing almost any springback that may occur where the direction changes and clips are generally used.

DOWNWARD INSULATION PURSUANT TO THE UNI EN 1264-4 STANDARD, PARAGRAPH 4.1.1.2

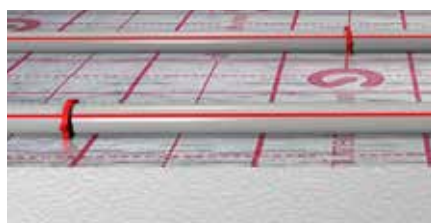
The thicknesses indicated in the table derive from the thermal conductivity λ_0 declared by the manufacturer according to the standards defined by the European reference regulations.

	R_t (m ² K/W)	MINIMUM REQUIRED THICKNESS (MM)		
		POLYURETHANE* $\lambda_0=0.025/\text{Wm}^2\text{K}$	EPS $\lambda_0=0.035/\text{Wm}^2\text{K}$	WOOD FIBRE $\lambda_0=0.040/\text{Wm}^2\text{K}$
Case I	0.75	19	27	29
Cases II - III	1.25	31	44	50
Case IV [outdoor T ≥ 0 °C]	1.25	31	44	50
Case IV [-5° C \leq outdoor T < 0 °C]	1.50	38	53	60
Case IV [-15° C \leq outdoor T < -5 °C]	2.00	50	70	61

*Polyurethane sandwiched between two aluminium sheets.



europlus-flex system EXCELLENT ENERGY RESULTS



- ▶ Good thermal performances
- ▶ Certified quality
- ▶ Flap to coupling the plate

This system guarantees excellent energy results, as it maximises the system's performance while ensuring good downward insulation. Laying the piping on a smooth board reduces the points of contact between the latter and the insulating panel. The panel is composed of an expanded polystyrene insulating material paired with an aluminised multi-layer foil marked with the pipe laying guidelines.

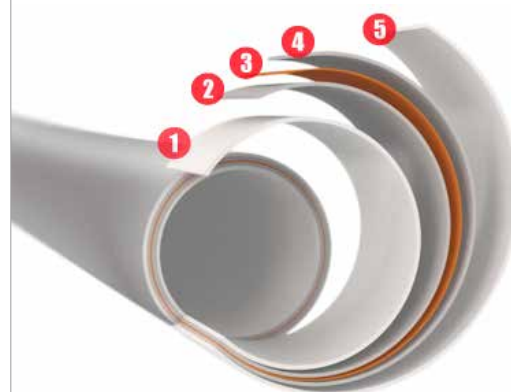


europlus-acoustic system ACOUSTIC PERFORMANCE



- ▶ Noise reduction
- ▶ Sintered EPS
- ▶ Flap to coupling the plate

Thanks to its construction characteristics it allows for reducing footfall noise by up to -28 decibels. Laying the piping on a smooth board reduces the points of contact between the latter and the insulating panel. The panel is composed of an sintered expanded polystyrene insulating material paired with an multi-layer foil marked with the pipe laying guidelines.



1. Polyethylene resistant to high temperatures
2. Adhesive layer
3. Oxygen barrier
4. Adhesive layer
5. Polyethylene resistant to high temperatures

Midix Plus pipe



kiwa
Partner for progress



- ▶ Piping composed of 5 layers with oxygen barrier
- ▶ High flexibility and long-lasting duration
- ▶ Pipe marked with the installed length and remaining length

Midix Plus type II PE-RT polyethylene resistant to high temperatures, with oxygen barrier of the same thickness as the pipe and permeability to oxygen. The piping's flexibility is a key factor for installation. With a new composition for the polyethylene layers resistant to high temperatures, Midix Plus features enhanced flexibility.

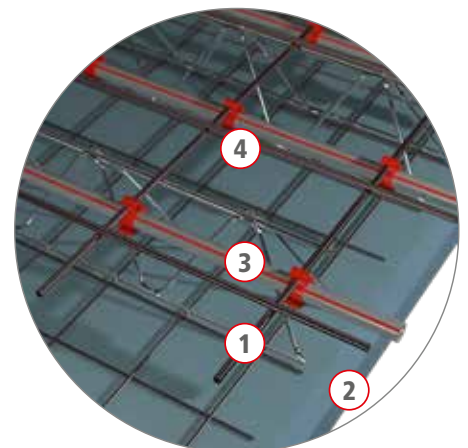
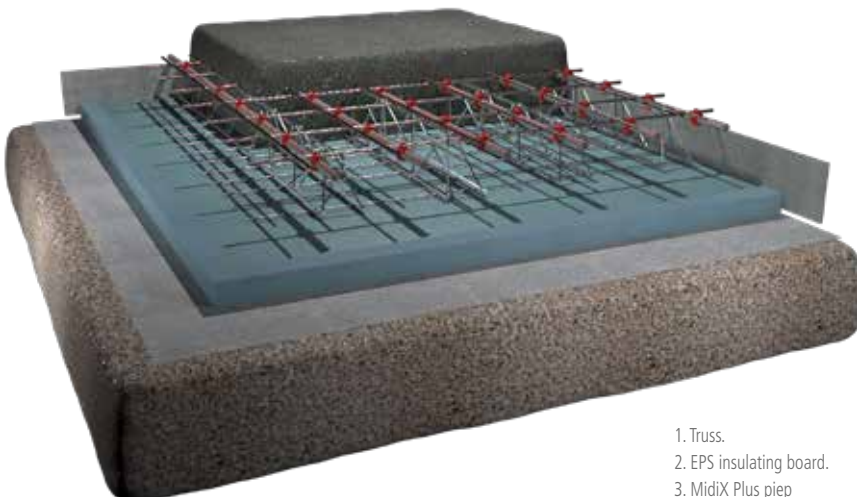


Maximum floor resistance

- Ideal for very high warehouses and industrial sheds in which the structural engineer has planned to reinforce the screed due to the high loads and/or unstable terrain.
- A high-performance system thanks to the special patented clip that allows for applying the piping in an optimal position within the reinforced screed.

Underfloor heating is the most effective and energy-efficient way of heating very high warehouses and industrial sheds. The euroindustry system consists of raised piping attached with special clips to an electro-welded mesh supported by a truss structure of the alternative system devised by the structural engineer according to the specific load requirements or geological conditions of the terrain on which the shed is built. In this way, the piping can be positioned

higher up, thereby reducing the thermal resistance above the piping and ensuring unparalleled thermal performance for the radiant floor. An alternative floor system, with the piping installed beneath the screed, would require operating temperatures ~ 10 K higher than those used in the euroindustry system. The upper mesh must have an 8 mm-thick wire for the euroindustry system to be applied on the truss devised by the structural engineer.



1. Truss.
2. EPS insulating board.
3. MidiX Plus piep
4. Euroindustry clip



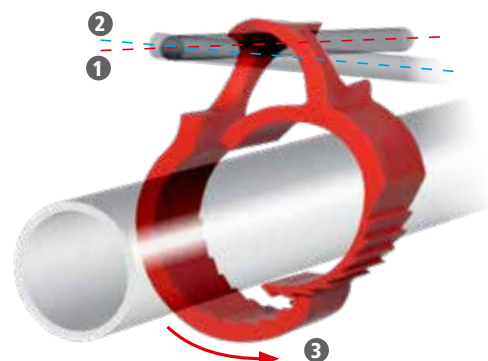
LOWER THERMAL RESISTANCE

The piping is raised as it is attached to an electro-welded mesh resting on trusses. By sensibly reducing the thermal resistance in this manner, the system can function at much lower output temperatures which helps to save on running costs.

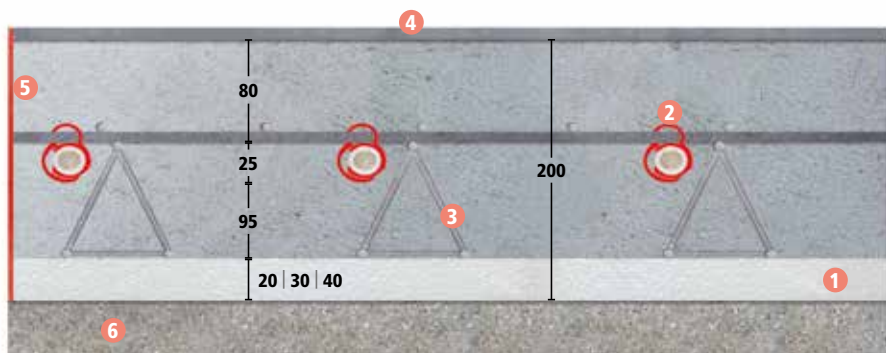


SPECIAL PATENTED CLIP

Thanks to the patented clip specially designed for the euroindustry system, installation of the piping is facilitated: the patented fastening system allows for tightly and easily securing the pipe to the metal mesh and orient it accordingly.



1. Parallel (to the mesh) attachment
2. Perpendicular (to the mesh) attachment
3. Closing of the clip



1. EPS board
2. clip+pipe
3. truss
4. covering
5. perimeter strip
6. floor slab

i dimensions in millimetres

Nuova compamat



Casing specially designed for preventing heat dispersion during heating and condensate build-up during cooling.



Possibility of installing the **regulation unit horizontally** or vertically

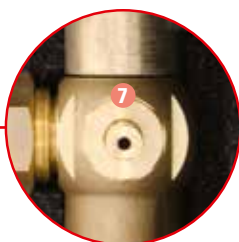
- ▶ High-efficiency circulators.
- ▶ High-linearity mixer for optimising comfort.
- ▶ Heat insulating casing included.
- ▶ Very compact dimensions.

Regulation unit for managing the radiant system at low temperature during heating and cooling, with expanded polystyrene anti-condensate insulating casing. The variable-speed pump is a circulator with permanent magnet synchronous motor controlled by an inverter with 230 VAC supply voltage at 50 Hz frequency and min. 3 W / max. 225 W consumption. The servo motor can receive a three-point command, has a stroke (open/close) time of 120 sec, 230 VAC power supply at 50 Hz frequency and 8 W consumption. The mixing valve has a rotating spherical element for optimising mixing precision. Suitable for installa-

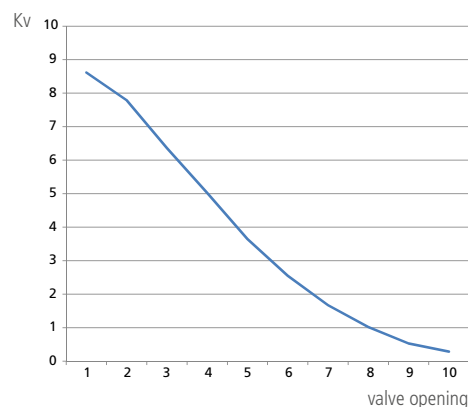
tion in central heating units and installable both horizontally or vertically. Recommended in combination with the Eurotherm Smartcomfort temperature regulation system. The regulation unit is composed of: electronic delayer, pocket for output probe, variable-speed pump, servo motor, 3-way mixing valve, full bore valve with thermometer for output temperature, full bore valve with thermometer for return temperature, inclusive of full bore shut-off valves. Kv of the entire regulation unit = 8.5. The maximum approximate flow rates are: 2000 l/h (R), 4000 l/h (TOP), 6000 l/h (SUPER).



1. return thermometer with ball valve
2. output thermometer with ball valve
3. safety thermostat with delayer
4. pocket for output probe
5. electronic circulator
6. anti-condensate casing
7. three-way mixing valve
8. Couplings $\varnothing 1 \frac{1}{4}$ with seal



VALVE LINEARITY



Command Mix SL



- ▶ 3-way mixing valve.
- ▶ Command Mix set pre-assembled in box.
- ▶ Version with variable-speed pump $EEL \leq 0.20$ (in accordance with European Commission Regulation no. 641/2009).
- ▶ Compatible with the Smartcomfort intelligent regulation system.

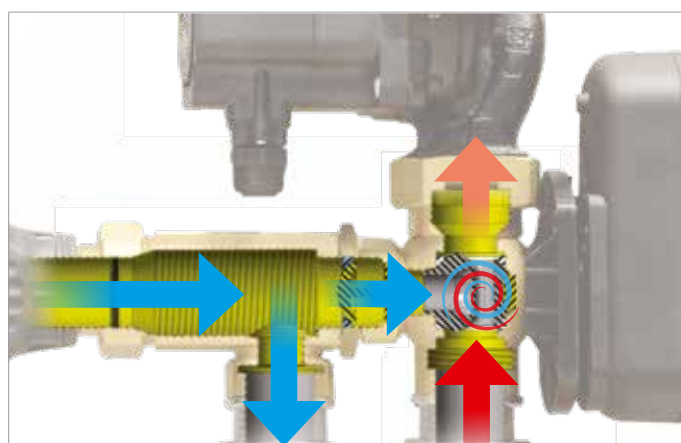
Regulation unit for managing the radiant system at low temperature in heating and cooling mode. The variable-speed pump is a circulator (E.E.I. ≤ 0.20) with permanent magnet synchronous motor controlled by an inverter with 230 VAC supply voltage at 50 Hz frequency and min. 3 W / max. 42 W consumption. The servo motor can receive a three-point command, has a stroke (open/close) time of 120 sec, 230 VAC power supply at 50 Hz frequency and 8 W consumption. The mixing valve has a rotating spherical element for optimising mixing

precision. Suitable for connection with Elite Black-Line or SL manifold for Command Mix with variable length depending on the fittings. Recommended in combination with the Eurotherm Smartcomfort temperature regulation system. The regulation unit is composed of: electronic delayer, pocket for output probe, variable-speed pump, servo motor, 3-way mixing valve, valves for output and return from primary circuit, thermometer for output temperature, thermometer for return temperature.



Compatible with the Eurotherm regulation system

SmartComfort **365**



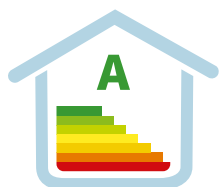
- ▶ Efficiency: optimal management of radiant temperatures.
- ▶ Optimisation: micro-regulation of the flow and of the flow rates.
- ▶ Saving: ideal for SmartComfort regulation.



SILENT COOLING AND FRESH AIR

Quality of the air means well-being: rich in oxygen and fresh air is sucked/injected from the outside then filtered and dehumidified. Eurotherm offers a complete range of machines specifically designed to combine radiant systems with air recirculation and hygrometric control in summer.

Modern buildings are increasingly airtight hampering proper air circulation. These ventilation systems that provide a change of air and a controlled humidity can guarantee a healthy environment, the maximum comfort and add to the property value.



More efficiency

With the installation of a high-performance air ventilation machine, an integrated solution for the intelligent use of energy can be achieved, which contributes significantly to increasing the efficiency of the entire building system. It could be possible to get an intelligent solution of using energy, which contributes to raising the level of efficiency of the whole building system.



More well-being

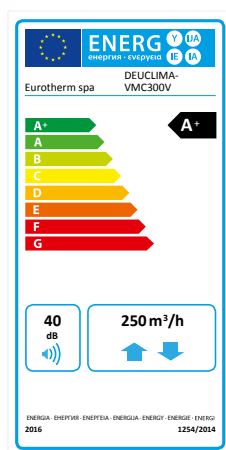
The air ventilation machine, combined with a radiant air conditioning system, guarantees the best level of comfort during the whole year, eliminating the risk of condensation in the summer and preserving the right hygrometric balance and the airiness of the air.

VMC with high efficiency heat recovery and air treatment

VMC, dehumidification and air integration for indoor wall applications, for the optimization of comfort in rooms equipped with radiant systems for heating and cooling. The VMC has a high efficiency dual-flow recovery, a motorized shutter system to switch from recirculation and / or air exchange and 2 high head EC fans. It can perform dehumidification (using dedicated refrigeration cycle), integration and renewal with heat recovery by means of heat recovery dual-flow high efficiency and free cooling (internal shutter). It is equipped with an insulation panel in order to maintain high performance even with temperature's variations, in which the machine is installed. There are easily removable filters for cleaning. Automatic control of the air intake temperature. Available CO₂ probe (optional).

- ▶ High- efficiency inverter-controlled fans with constant flow rate.
- ▶ High-efficiency heat recovery unit.
- ▶ Dehumidification of the indoor air as well.
- ▶ Possibility of winter and summer thermal integration.
- ▶ Low power consumption.
- ▶ High filtration efficiency.

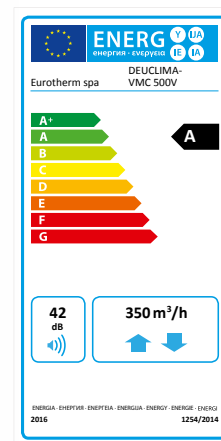
Deuclima-VMC 300 V



FILTER
ePM1 55%
(ISO 16890)
ACCESSORY

Apartments up to 130 m²
Dimensions: 1392 x 700 x 343 mm
Condensing capacity (recirculation): 36 l / g
Power in cold: 920 W
Max 230 m³ / h outdoor air
Nominal treated air flow: 300 m³ / h
External air flow: 100-250 m³ / h
Energy class according to Reg. 1254/2014: A+

Deuclima-VMC 500 V



FILTER
ePM1 55%
(ISO 16890)
ACCESSORY

Apartments up to 200 m²
Dimensions: 1700 x 700 x 421 mm
Condensing capacity (recirculation): 48 l / g
Power in cold: 1,500 W
Max 350 m³ / h outdoor air
Nominal treated air flow: 500 m³ / h
External air flow: 100-350 m³ / h
Energy class according to Reg. 1254/2014: A



CERTIFICATO DI GARANZIA EUROTHERM EUROTHERM WARRANTY CERTIFICATE EUROTHERM-GARANTIEZERTIFIKAT

Eurotherm, per garantire la sicurezza e la tranquillità dei propri Clienti si è dotata delle necessarie coperture assicurative al fine di tutelarne l'interesse, affidandosi a ITAS Mutua. La garanzia prevede:

- Assicurazione della Responsabilità Civile del Produttore, **senza limite di tempo, su tutti i prodotti e per l'intera durata contrattuale assicurativa**, per difetti originari di produzione, assemblaggio e/o progettazione, istruzione, imballaggio, contro i danni involontariamente cagionati a Terzi.
I massimali assicurati sono i seguenti:
per sinistro **€ 10.000.000,00**
- Assicurazione della responsabilità Civile dell'Attività, contro Terzi e su tutti i lavori di manutenzione e installazione effettuati da personale specializzato Eurotherm (Eurass).
I massimali assicurati sono i seguenti:
per sinistro, limite per persona e limite per danni a cose **€ 10.000.000,00**
Copertura valida per segnalazione sinistro entro 24 mesi da messa in pressione con prova tenuta impianto.

ITAS garantisce quindi contro i danni sopra descritti fino alla concorrenza dei massimali indicati nelle certificazioni assicurative allegate e nell'ambito delle rispettive condizioni contrattuali di assicurazione.
La garanzia vale in tutto il mondo escluso USA/CAN/MEX.

To guarantee our Clients' safety and peacefulness, Eurotherm has entered into the proper insurance covers with ITAS Mutua in order to protect our clients' interest. The warranty includes:

- A product liability insurance, **without any temporal limitation, on all products and throughout the entire duration of the contract**, for flaws due to imperfect production, assembly and/or planning, instruction and packaging against damages accidentally caused to Third parties.
The covered limit of liability are:
per accident **€ 10.000.000,00**
- A business liability insurance against Third parties and on all the maintenance and installation works fulfilled by Eurotherm (Eurass) expert staff.
The covered limit of liability are:
per accident, limit per person and limit per damage to goods **€ 10.000.000,00**
The coverage is valid whether the accident is alerted within 24 months from the pressurization with plant tightness test.

Hence, ITAS guarantees against the above-described damages within the limits laid down in the attached insurance certifications and within the consequent insurance's terms and conditions. La garanzia vale in tutto il mondo escluso USA/CAN/MEX.

Um die Sicherheit und Zufriedenheit seiner Kunden zu garantieren, hat Eurotherm einen Versicherungsschutz für alle notwendigen Fälle mit ITAS Mutua abgeschlossen. Die Garantie umfasst wie folgt:

- **Unbefristete Haftpflichtversicherung, für alle Produkte und für die gesamte Dauer des Versicherungsvertrages**, für Fabrikationsfehler, Montage- und/oder Konstruktionsfehler, Fehler in der Anleitung oder Verpackungsfehler, Haftpflichtversicherung gegenüber Dritten.
Die Obergrenzen sind wie folgt:
€ 10.000.000,00 pro Schadensfall
- Haftpflichtversicherung gegenüber Dritte und für Wartungs- und Installationsarbeiten, die von Spezialisten von Eurotherm (Eurass) ausgeführt werden.
Obergrenzen sind wie folgt:
€ 10.000.000,00 pro Schadensfall, Höchstgrenze pro Person und für Sachschäden
Versicherungsdeckung gültig bei Schadenseröffnung innerhalb von 24 Monaten nach Druckprüfung der Anlage.

ITAS garantiert daher gegen die oben genannten Schäden innerhalb der in den beigefügten Versicherungsbescheinigungen angegebenen Höchstgrenzen und im Rahmen der jeweiligen vertraglichen Versicherungsbedingungen. La garanzia vale in tutto il mondo escluso USA/CAN/MEX.

MORE QUALITY AT THE CLIMATE.
MORE VALUE TO WEEL-BEING.

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