

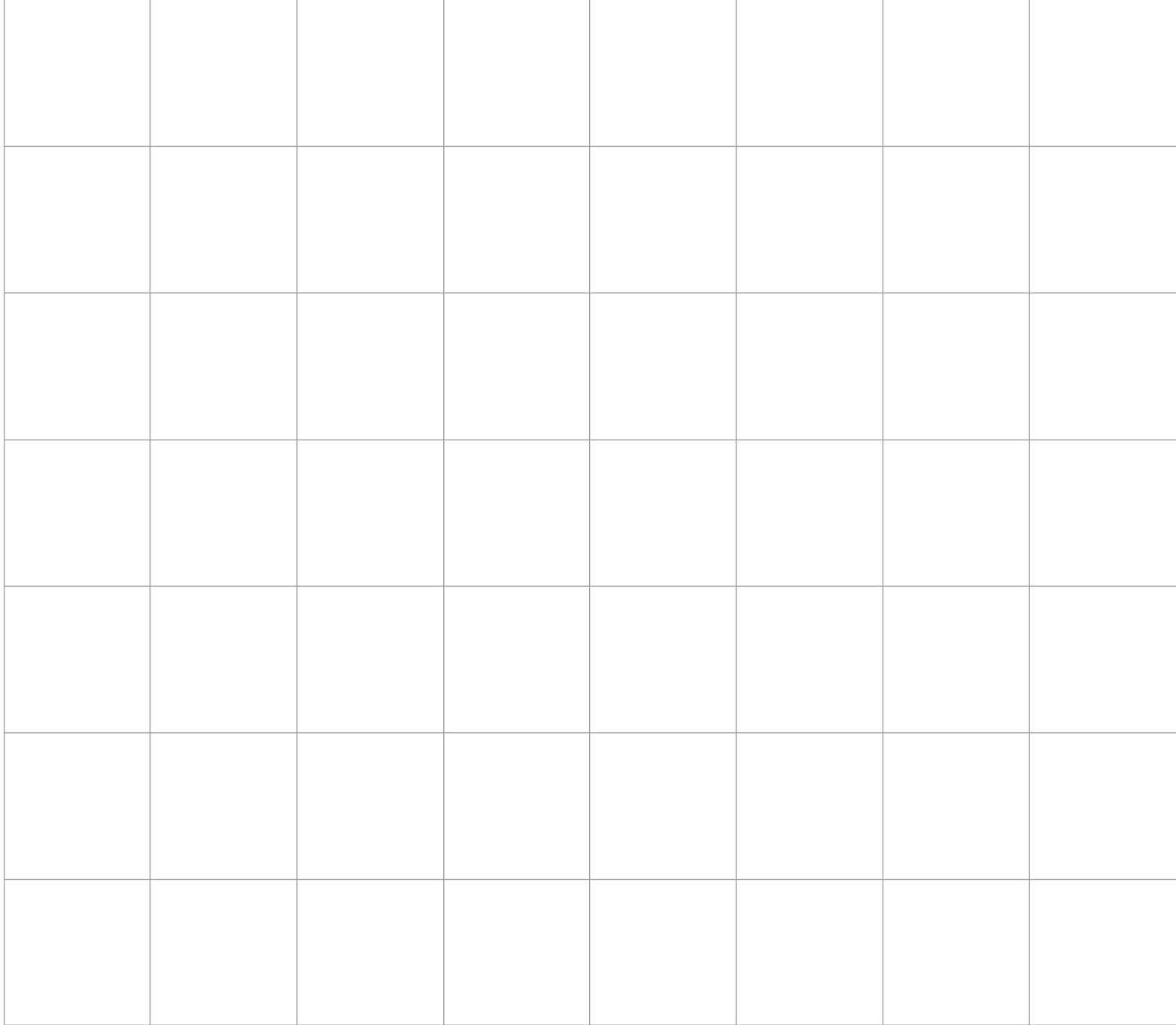


R002EN Heating and cooling radiant floor systems

PRODUCTS

Radiant floor and wall conditioning systems for residential and commercial installations, thermoregulation and air treatment.





RADIANT SYSTEMS

Irradiation represents the most natural physical principle for transferring heat and cold, thus becoming the most respectful of the individual's health and wellbeing.

All our radiant systems take inspiration from this principle.

And they are all completely designed and manufactured in-house.



We provide comfort with high energy efficiency

Radiant panels provide the human body with much greater comfort than traditional systems. They confer the ideal climate with a **constant and even temperature** and no convective currents, thus featuring a limited environment impact. Today

modern thermoregulation technologies enable to adopt radiant systems also for summer cooling, with a healthy difference between the inside and outside temperature of the building.

Heating and cooling radiant floors use water as the thermal fluid flowing through the plastic pipes concealed in the concrete layer which generally supports flooring materials such as ceramic, marble, granite, gres and wood.

Thermal transfer from the flooring to the surrounding ambient and surfaces is obtained through **irradiation**.

It has been proven that radiant floors properly dimensioned and realized according to modern technologies provide the human body with greater comfort and wellness levels compared to traditional heating systems. This ensures a constant and even temperature in the various ambients: a comparison of the comfort curves of various heating systems shows how the curve representing the comfort offered by radiant floors is the one closer to the ideal curve.



The temperature vertical distribution in a radiant floor system follows a comfort curve very close to the ideal.



The technologic evolution of thermoregulation devices has made radiant floors rapidly popular also for **summer cooling systems**. This winning alternative to air conditioning has become a **reversible system** exploitable for the entire thermal cycle of residential units.

However, as opposed to winter when the user just needs to increase the room air temperature, in summer temperature and humidity must be reduced to obtain the ideal comfort.

This function is assigned to a special dehumidification system which decreases the humidity level by balancing the latent thermal loads, while the radiant floor reduces the temperature eliminating the sensible thermal loads.

The Giacomini klimabus thermoregulation system best controls all these parameters so as to obtain the utmost efficiency at all times.

ENERGY SAVING

The small difference between the temperature of air conditioned ambients and the temperature of the air outside enables to reduce heat dispersion, thus offering an extremely interesting level of energy saving, complying with the latest rules.

In addition, delivery temperatures typical of radiant systems enable to use energy sources within a higher efficiency range (solar panels, heat pumps, condensing boilers).

THE ULTIMATE DECORATION FREEDOM

Flexibility of the domestic space and freedom to decorate are by now essential requirements for modern residential units. There is no limit to creativity for arranging furniture when it comes to radiant floor systems which eliminate the functional and aesthetical boundaries represented by traditional air conditioning units (radiators, fan coil units). This kind of system is also the perfect solution for historical buildings where it is almost impossible to install unconcealed heating elements: the ambient remains aesthetically unaltered, ensuring a state-of-the-art result.

ACOUSTIC INSULATION

The low speeds of the water circulating inside the synthetic piping guarantee the utmost operational quietness. In addition, the insulation panel used for the radiant package also works as a sound-absorbing device which greatly reduces the noise coming from the other dwelling floors.

LONG LASTING AND LIMITED MAINTENANCE

All the system components are long-lasting with an operational duration generally greater than the building service life.

The plastic pipes used for the distribution lines are not subject to breaks caused by corrosion. Once the insulation panels are installed under the radiant screed they are not affected by specific installation and environment stresses.

Also all the other components do not require specific care as the system includes very few mechanic parts.





PORTA NUOVA, MILAN

Stefano Boeri's out-of-the-box 'Bosco Verticale' translates in English as 'vertical forest'. The project is a total breakthrough for the city of Milan, a brand new way of living the home for Italy. It includes two landscaped towers that between them contain 113 apartments offering extensive and unique views across the city. The buildings, with its over 1,000 different species of trees and plants, are heated and cooled thanks to Giacomini radiant systems.

Radiant floor and wall conditioning systems for residential and commercial use

BASIC COMPONENTS



The system includes basic components: **insulation panels, pipes, wall edging strips, distribution manifolds.** Insulation panels represent the main support layer to install the synthetic pipes and drive the thermal energy towards the radiant screed, greatly reducing heat dispersions while the perimetrical band absorbs the mechanic dilations and thermal dispersions along the entire vertical surfaces (walls, pillars, etc.). The manifolds enable to distribute water inside the circuits or to control its flow and temperature.

THERMOREGULATION

Planners, installers and customers' thermoregulation requirements have steadily grown along the years.



A more adequate climate comfort, a sensitive reduction of energy consumption, optimized maintenance and greater safety are by now a must for every type of building, from the residential to the tertiary sector. We can achieve this by offering cutting-edge thermoregulation systems, designed according to the latest technologies and expressly targeted for climate thermoregulation of heating and cooling radiant installations.

AIR TREATMENT

Comfort means also quality and salubrity of the air we breathe in the ambients where we spend most of our time. Modern buildings, which are becoming more hermetic for energy saving purposes, must ensure an adequate air exchange and keep under control their hygrometric conditions. Our radiant systems are combined with machines designed specifically for summer humidity control, forced air exchange and heat recovery.

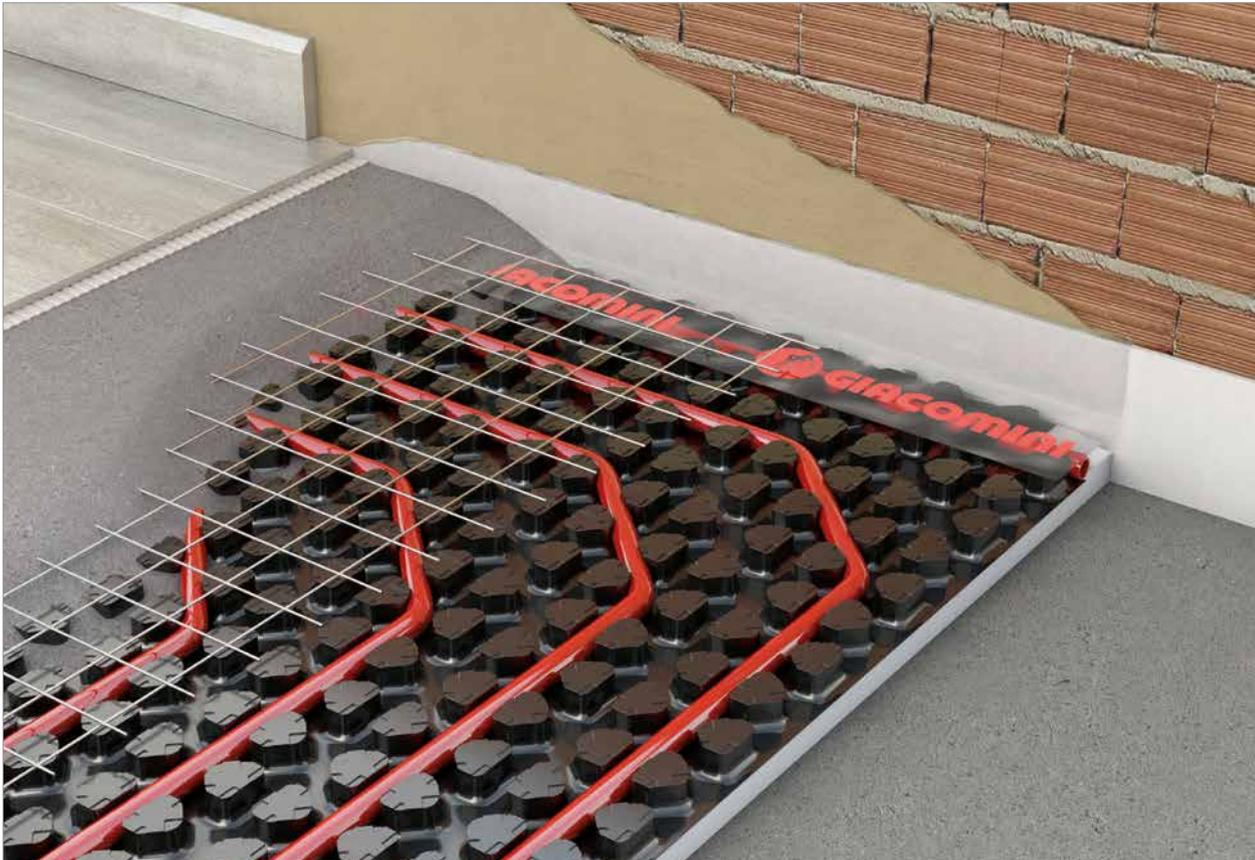




Klima New building

KLIMA NEW BUILDING is our radiant floor system designed for **new building** installations or situations where there is no limit of installation thickness. It can be assembled with preformed or smooth insulation panels to satisfy the most various needs: from the residential to the commercial sector.

R979 and R979N feature protuberances (or mushrooms) designed to easily and quickly lock the pipe in position without using clips. All models offer **great thermoacoustic insulation performances**.



WHY KLIMA NEW BUILDING?

- ideal for new constructions and when there is no installation thickness limit
- wide range of insulation panels
- certified and guaranteed products
- great thermoacoustic insulation performance

more details on
giacomini.com

THICKNESSES AND PIPE PITCH



R979

- > Thickness: 32/42/52/62/75 mm
- > Pipe pitch: multiples of 50 mm



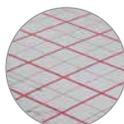
R979N

- > Thickness: 32/50/63 mm
- > Pipe pitch: multipli 50 mm



R982Q

- > Thickness: 37/50 mm
- > Pipe pitch: multipli 50 mm



R882A

- > Thickness: 30/40 mm

Types of panels



R979

Preformed insulation panel for radiant floors, made with sintered expanded polystyrene (EPS) and a black thermoformed polystyrene protection layer.



R979N

Preformed insulation panel for radiant floors suitable for diagonal piping laying. Made with expanded polystyrene (EPS) and a black thermoformed polystyrene protection layer.



R982Q

Preformed insulation panel for radiant floors, made with sintered expanded polystyrene (EPS) and a black thermoformed polystyrene protection layer.



R882A

Roll of smooth insulation panels for radiant floor systems. Made with expanded polystyrene and a grid pattern surface protection to easily position the pipes.

MINIMUM REQUIRED HEIGHT (PANEL + PIPE+ SCREED*)

Panels with protuberances			Smooth panels		
	H min [mm]		H min [mm]	H min [mm]	
R979Y043	62	R979NY003	60	R982QY013/33	37
R979Y044	72	R979NY005	80	R982QY015/35	50
R979Y045	82	R979NY006	93		
R979Y046	92				
R979Y047	105				
				R882AY002	60 + pipe Ø
				R882AY003	70 + pipe Ø

* 30 mm screed

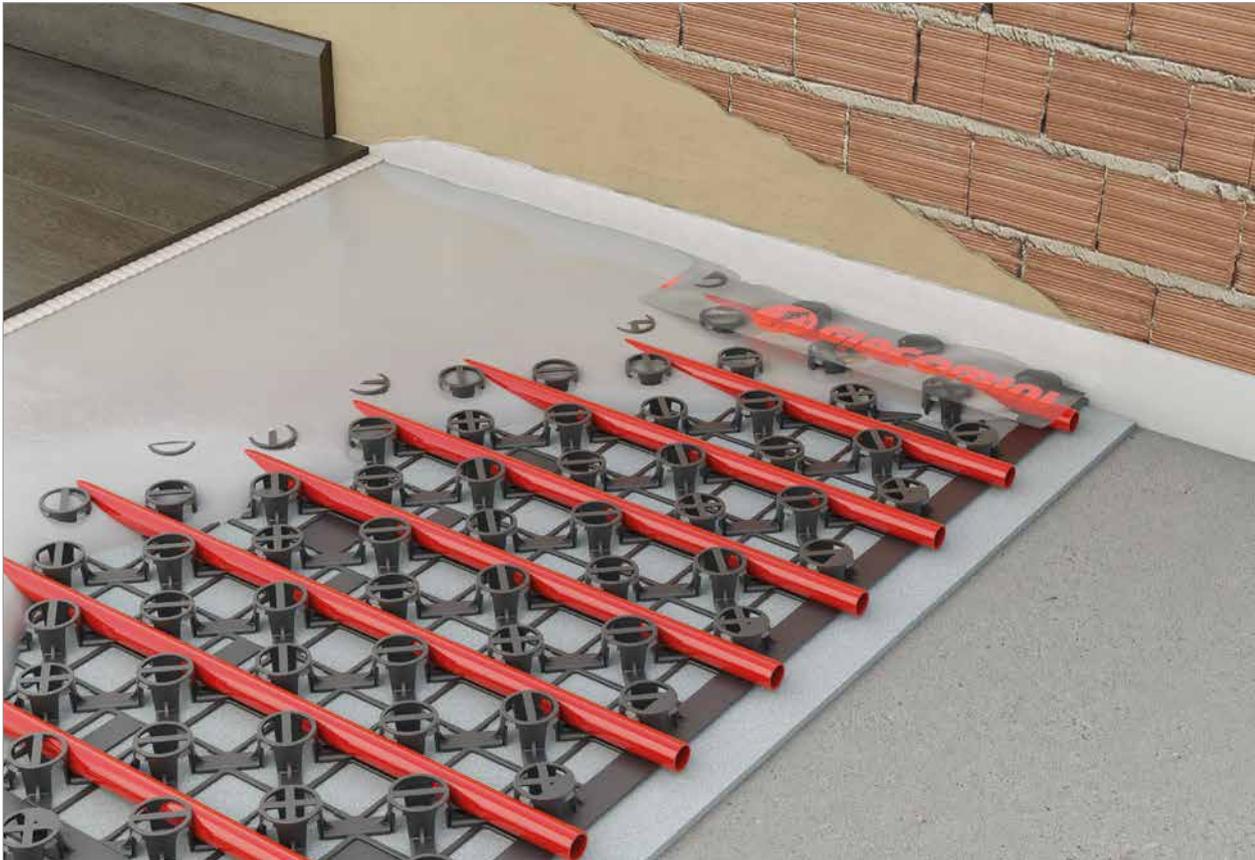
Klima Renew

KLIMA RENEW is designed to satisfy the growing need of installing radiant floor systems with very reduced thicknesses: the **perfect solution for renovation requirements**. The system is also available with the special **Spider** plastic panels where pipes with a 16-18 mm diameter are installed to ensure a reduced heat loss while

developing circuits identical to the more traditional versions.

As an alternative we offer **fiber plaster** panels, with Ø12 mm polybutylene pipes lined with a self-leveling screed.

All KLIMA RENEW systems guarantee an extremely reduced thermal inertia.



WHY SPIDER?

- perfect for renovation works: reduced thicknesses available for installation
- reduced thermal inertia
- panels with high mechanical resistance
- use of standard diameter pipes (from 16 to 18 mm)

more details on
giacomini.com

THICKNESSES AND PIPE PITCH



R979SY001

- > Thickness: 22 mm
- > Pipe pitch: multiples of 50 mm
- > Suitable pipes: Ø 16-18 mm



R979SY011

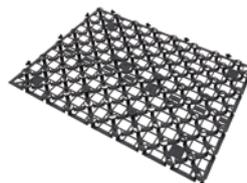
- > Thickness: 22 mm
- > Pipe pitch: multiples of 50 mm
- > Suitable pipes: Ø 16-18 mm



R979SY021

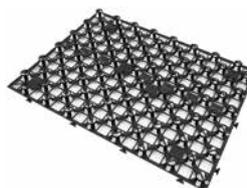
- > Thickness: 28 mm
(22 mm + 6 mm insulation)
- > Pipe pitch: multiples of 50 mm
- > Suitable pipes: Ø 16-18 mm

Types of Spider panels



R979SY001

Preformed panels for radiant floor systems with reduced thickness, made with high-resistance PPR and an adhesive base. Perfect for renovation works, the panel can be glued directly on top of the existing floor.



R979SY011

Preformed panels for radiant floor systems with reduced thicknesses, made with high-resistance PPR and pegs for fitting on insulation layer. Suitable for systems with an existing smooth insulation panel layer.



R979SY021

Preformed panels for radiant floor systems with a reduced thickness screed, made with high-resistance PPR and coupled with a 6 mm thick insulation sheet ($\lambda=0,028$ W/mK).

REQUIRED MINIMUM HEIGHT (PANEL + PIPE + SCREED)*

	H min [mm]	Type of screed
R979SY001	25	self-leveling
	35	anhydrite-based
	40	with sand+concrete
R979SY011	35	anhydrite-based
	40	with sand+concrete
R979SY021	30	self-leveling
	35	anhydrite-based
	40	with sand+concrete

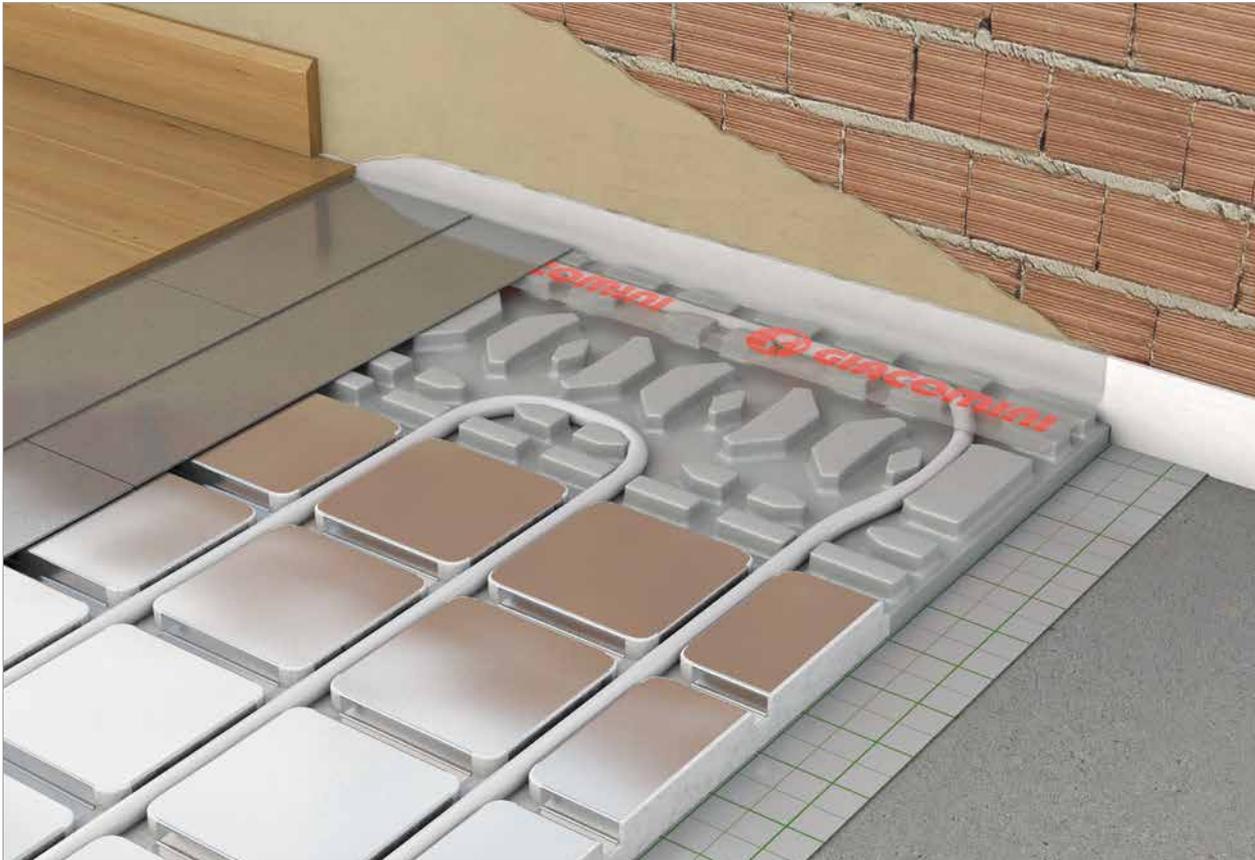
*The height specified above refers to minimum geometric constraints. Technical recommendations by screed manufacturers (in terms of installation techniques and thickness) should be followed precisely.

Klima Dry

KLIMA DRY is the **screed-free** radiant floor system ideal for situations where it is advisable not to position heavy concrete screeds on the structures as support to the finish surface.

To be used with R883-1 preshaped foam polystyrene panels and equipped with an aluminum diffusion layer which enhances

thermal exchange between the piping (multilayer recommended) and the surface. Head panels R884 allow for optimal pipe laying and support pipe bends. The layer which supports the finish surface provides for positioning of a dry double layer of galvanized steel sheets which ensure an even distribution of the mechanical loads.

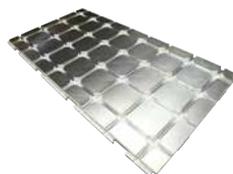


WHY KLIMA DRY?

- no concrete screed required
- reduced thickness and light
- ideal for renovation works and when reduced installation thicknesses are required
- reduced thermal inertia
- use of pipes with a 16-17 mm external diameter

more details on
giacomini.com

Types of panels



R883-1

Expanded polystyrene insulation panel for dry radiant floors. Fitted with a thermal conductor profile including a 0.3 mm thick aluminum sheet.



R884

Expanded polystyrene head panel with thermoformed and aluminized film.

THICKNESSES AND PIPE PITCH



R883-1

- > Thickness 28 mm
- > Pipe pitch: multiples of 150 mm
- > Suitable pipes: Ø 16-17 mm



R884

- > Thickness: 28 mm
- > Pipe pitch: multiples of 150 mm
- > Suitable pipes: Ø 16-17 mm



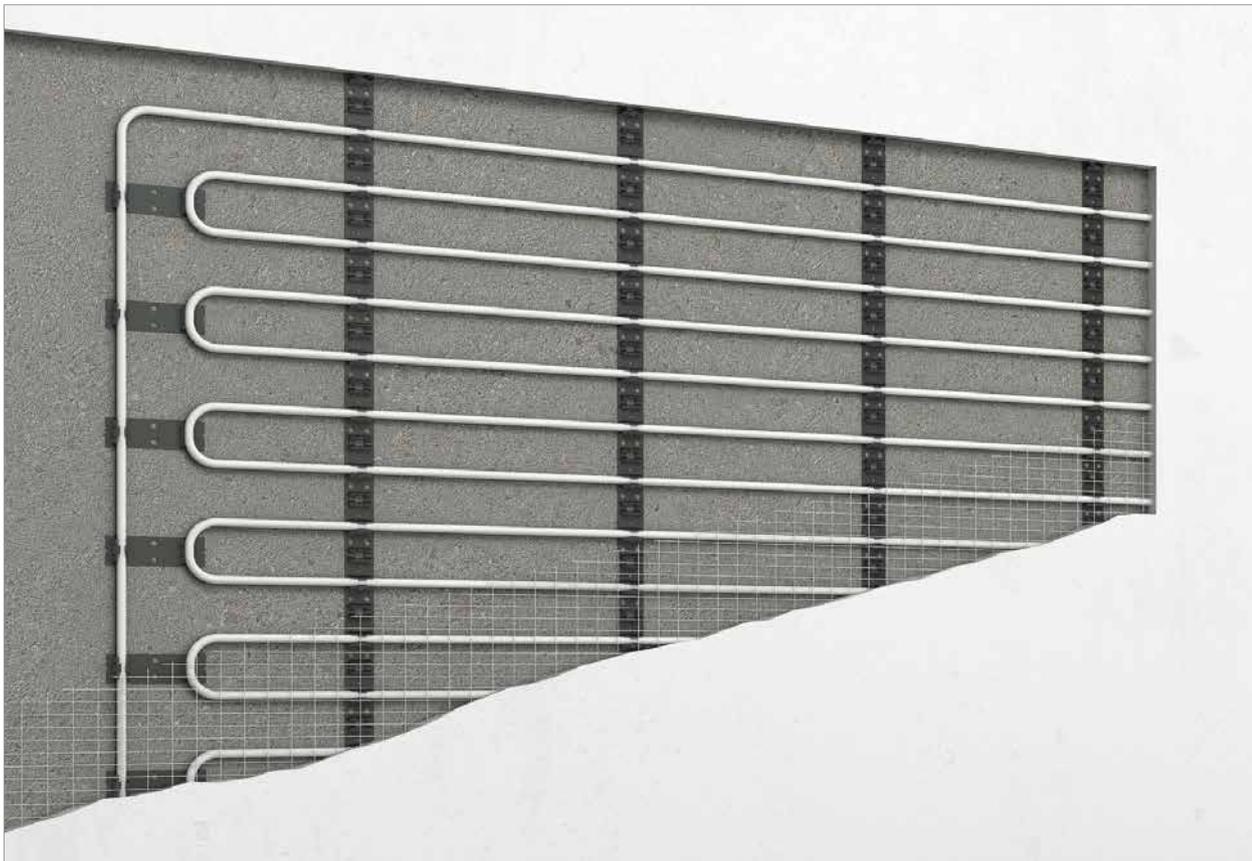
MINIMUM REQUIRED HEIGHT (PANEL + PIPE + STEEL SHEETS)

	H min [mm]
R883Y101	30

Klima Wall

KLIMA **WALL** is our radiant wall system. The perfect solution when no other radiant system can be installed or when a heat integration is required. The radiant wall circuits can derive directly from the distribution manifolds of the floor system.

The KLIMA **WALL** radiant system is installed with the convenient K389W rail available as 1 m rods easy to fit to one another so as to obtain the required support for the circuits. Fitting to the wall and pipes is quick and user-friendly.



WHY KLIMA WALL?

- the ideal solution when no other radiant system can be installed
- even heat distribution
- reduced thermal inertia
- easy to install
- use of pipes with a 16-17 mm external diameter

more details on
giacomini.com

PIPE PITCH



- > Pipe pitch: multiples of 50-100 mm
- > Suitable pipes: Ø 12-22 mm

MINIMUM REQUIRED THICKNESS (RAIL+PIPE+PLASTER+MESH)

	H min [mm]
K389WY001	40

Components



K389W

Pipe installation rail with rapid-fitting system for various elements, radiant floor or wall circuits.



R996T

PEX-b cross-linked polyethylene pipe, with external antioxygen barrier. Great flexibility.



R999

PEX-Al-PEX metal-plastic multilayer pipe made by two PEX-b layers, internal and external, and an intermediate aluminum layer butt welded with laser technology.



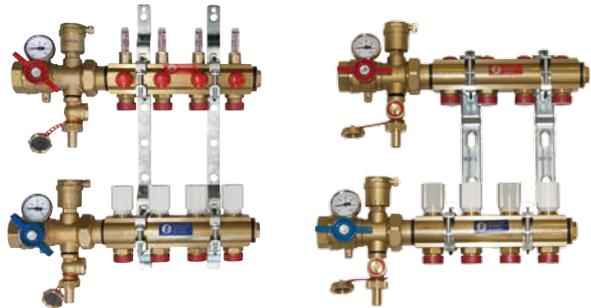
A support mesh is required to reinforce the plaster.
Minimum coating upon the system required 10 mm.

Manifolds

Distribution manifolds play a key role in radiant panel systems: they provide every single circuit with the flow required for the best performance. Every system has different needs: that is why Giacomini has engineered a full range to satisfy every type of requirement.

From basic distribution manifolds up to preassembled groups integrating water mixing and distribution. Brass or plastic. The right plumbing solution for every type of radiant system.

Basic distribution manifolds



R553FK / R553DK - The perfect solution for water distribution within radiant conditioning systems. The group, preassembled on fitting brackets or clamps, includes a delivery manifold equipped with balancing lockshield valves and flow meters (only R553FK), and a return manifold with interception valves on which the electro-thermal actuators can be installed. It is also equipped with the convenient R269T multifunction valves by which the user can intercept the water flow, display the temperature, load/empty the system or discharge the air.

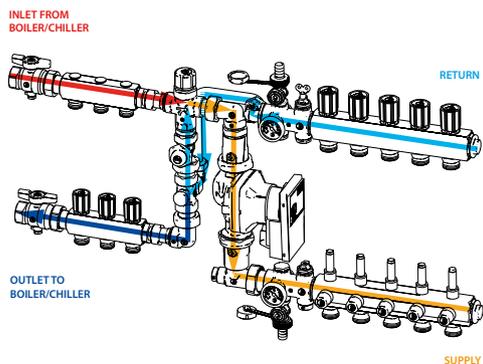


R553FP - A techno-polymer manifold ideal for cooling systems: no insulation is required as this function is already provided by its plastic material. It includes a delivery manifold, equipped with balancing lockshield valves and flow meters, and a return manifold with interception valves on which the electro-thermal actuators can be installed. Its modular configuration enables to add or remove the elements (outputs). Plumbing seal is ensured by special o-rings while special plastic clips provide mechanic fitting. This model too includes R269T multifunction valves.

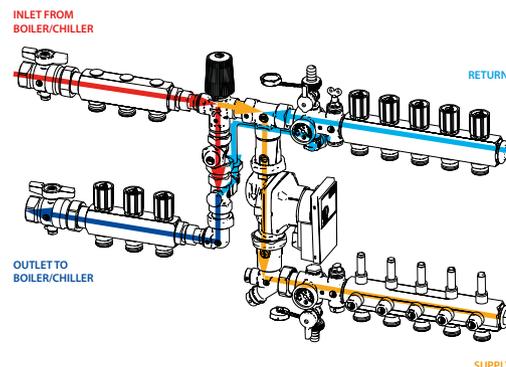
Water mixing and distribution manifolds



R559N - Preassembled group for heating and cooling control of mixed systems, that is where there is joint installation of heating elements operating at high temperature (towel rail warmers or radiators), low temperature (fan coils and dehumidifiers for dehumidification and cooling integration) and radiant panel circuits requiring properly mixed water. The temperature is controlled electronically through a motorized mixing device managed by the klimabus thermoregulation system available separately, like the specific kits designed for mixed systems. It features a self-modulating circulator complying with energy saving directive ErP 2009/125/CE.



R557R-2 - Preassembled mixing group with fixed point control for radiant heating floors. The temperature of the water delivered to the radiant circuits is controlled by a 3-ways valve equipped with a thermostatic head. Special kits to install mixed systems to supply high temperature heating elements at the same time (towel warmer rails or radiators) are available separately. This product includes a variable flow circulator, complying with energy saving directive ErP 2009/125/CE, and the safety thermostat K373.



Piping

The synthetic pipes installed on insulation panels play a key role in radiant systems. They are highly reliable on the long term as they feature a mechanic resistance to stress caused by operational temperatures and pressures, they are corrosion-free, as opposed to metal (the piping is concealed in the floor offering this great advantage), they have an excellent installation versatility as piping flexibility enables



to easily install the radiant circuits with spiral and coil configurations. Giacomini's range includes **PEX** (cross-linked polyethylene) pipes, **PE-RT** (polyethylene with enhanced thermal resistance) pipes, **Pb** (polybutylene) pipes and **PEX/Al/PEX** (Multilayer). Pipes are manufactured in-house according to an extrusion process which transforms the basic material (polymer pellets) into the finished product. During this process an EVOH resin film is also placed on the pipe to provide an anti-oxygen barrier. This makes the already reduced oxygen percentage that may permeate inside the circuits negligible. Every production step is performed according to the rules in force and is technically tested in compliance with the directive standards.



R996T PEX PIPE - The PEX pipe is no doubt the most exploited in radiant systems. The level of cohesion between the molecules of the basic polymer used for its production, PE polyethylene, is not enough to guarantee a satisfying performance in terms of resistance and duration in time: this is the reason why the cross-linking process adding chemical-molecular bonds to the existing ones is so important as it enhances its resistance to mechanical stress and high temperatures. This enhancing process may be performed according to two different methods: chemical and physical. Giacomini manufactures all its plastic pipes directly, cross-linking them according to the silane chemical method (PEX-b). The PEX-b pipes from the R996T series feature a high thermal resistance combined to a small but very flexible elastic module. This makes them easy and quick to install and greatly reduces the levels of possible stress.



R978 PE-RT PIPE - The R978 PE-RT Polyethylene pipe with enhanced thermal resistance is very different from the renowned cross-linked PEX, right from the raw material used to manufacture it, as the compound used for PE-RT is specific for this kind of production. On a molecular level it is a polyethylene polymeric chain also containing a minimum percentage of the 1-octene molecule, which greatly enhances its thermal resistance compared to classic polyethylene (non cross-linked). The resistance of PE-RT pipes to the combined “pressure/ temperature” stress makes this item the perfect solution for the distribution of mixed water in radiant panel systems.



R986-1 POLYBUTYLENE PIPE - The Pb polybutylene pipe is manufactured starting from the 1-butene monomer, then performing a chemical polymerization assisted by specific catalysts: this enables to obtain crystal ordered molecular structures with enhanced mechanical characteristics. It stands out for its high flexibility, offering great benefits such as functionality and quickness of installation. It is used for hot and cold water distribution in heating and cooling radiant panel systems.



R999 PEX/AL/PEX MULTILAYER PIPE - The PEX/AL/PEX metal-plastic multilayer pipe includes two layers, internal and external, of PEX-b and one intermediate layer of aluminum longitudinally welded by laser. The special intermediate adhesive layers evenly fit the aluminum to the internal and external PEX-b layers. It combines the mechanic characteristic of metal pipes to the excellent resistance to wear and tear and possible electrochemical interactions which generally affect plastic piping. The aluminum intermediate layer, butt welded with laser technology, works as a safe protection barrier against oxygen and other gases and easily bends with reduced radiuses of curvature, while maintaining the positioning shape when installing the circuits. The PEX/Al/PEX R999 multilayer pipe is widely used for heating/cooling radiant systems - among which radiant panel systems – and for domestic water distribution.

Cooling and air treatment

Summer cooling has become a must for modern radiant conditioning systems, including those installed in residential units. In winter the user just needs to increase the room temperature of the heating system, but in summer one must reduce both temperature (cooling) and humidity (dehumidification) to avoid discomfort, possibly by preventing excessive sudden changes of temperature between the inside and the outside and by guaranteeing the required safety against moisture. Radiant floors combined to machines specifically designed for air dehumidification stand as a valid installation option to achieve an adequate thermohygrometric comfort and significant energy saving along the entire yearly cycle of use of the ambients. Giacomini has designed a full range of dehumidification solutions to be integrated within the radiant systems which includes high-performance duct-type machines, for concealed wall mounting installation (KDP) or counter-ceiling installation (KDS) available both with dehumidification only (isotherm dehumidifiers) and possible integration of sensible power and primary air treatment (dehumidifiers with sensible cooling integration). The KDV model represents the top of our range, available with water or air dissipative condenser: in addition to dehumidification and sensible thermal power integration, it can provide air exchange, with or without heat recovery, and free-cooling through a high-efficiency air-air heat recovery unit.

Our dehumidification machines offer multiple benefits:

- > they work with water at 15-18 °C, the same temperature required for radiant cooling floors, and enable refrigerating groups to operate with water temperatures higher than the traditional 7 °C required for hydronic conditioning systems, thus translating in enhanced energy saving (EER – Energy Efficiency Ratio)
- > with a high latent power/air flow ratio: up to 2.5 W for every m³/h, they reduce the quantity of air required to cover the latent loads, offering greater quietness, absence of air currents and reduced consumption of electric energy.

The thermoregulation device by Giacomini controls the entire system by constantly managing water and air temperature, as well as room humidity, and regulating the activation of the dehumidification machines as required.



KDP



KDS



KDV

KDP / KDS DEHUMIDIFICATION AND INTEGRATION UNITS - The KDP and KDS machines are monoblock units for concealed wall installation (KDP) or counter-ceiling installation (KDS). The latter is a duct-type model and represents the perfect solution for the air treatment of multiple rooms.

They generally include a removable filtering section, a refrigerating unit (with pre- and post-treatment coil), a finned exchanger and a centrifugal fan. The machine structure is made with galvanized panels coated with sound-absorbing material.

The KDP wall-mounted model is equipped with a metal outer casing and a front panel made with white lacquered wood. Specific models may provide an integration of sensible power in addition to dehumidification of the ambient to be conditioned: in this case the temperature of the outflowing air is lower than the incoming air.

KDV CONTROLLED DEHUMIDIFICATION AND MECHANIC VENTILATION UNIT

The KDV machines are dehumidification, integration and primary air treatment monoblock units. They are duct-type machines to be installed inside the counter-ceiling. They are equipped with a high efficiency air-air heat recovery unit (higher than 86 %), a removable filtering section, two centrifugal fans, five motorized dampers (for delivery, recirculation, extraction, external socket, ejection), refrigerating circuit, exchange coils. According to the model, these machines can be equipped with a water or air dissipative condenser. The air released inside the room may include two different flows: the air exchange flow and the air recirculation flow, with variable percentages based on the type of treatment desired for the incoming air.

The air flows can be set from the control panel: 80÷160 m³/h for the exchange air; 260÷300 m³/h for the total incoming air.

Machine main characteristics:

- > summer and winter air exchange with high-efficiency heat recovery
- > summer dehumidification with adjustment of the inflowing temperature
- > works with water at the same temperature of the radiant floor system, 15-18 °C in summer, 35-40 °C in winter
- > extraction of foul air
- > room air recirculation
- > free-cooling management (only KDVRAY300)
- > the inflowing air temperature can be adjusted from the control panel
- > possibility to define the activation time frames
- > separation from the external area when the machine is off by closing the dampers.

Thermoregulation

The Giacomini thermoregulation line offers a wide range of devices to be combined with radiant systems and it can satisfy every installation requirement, from basic up to the most refined and automatized ones, features which are becoming more and more popular in modern buildings. This is an evolved climate control system able to manage the indoor comfort, both for winter and summer conditioning, with a corresponding air exchange and humidity control.

It is articulated as:

- > ambient control (secondary):
the ambient thermostats, with possibly an integrated relative humidity probe, enable the user to set the desired comfort conditions
- > control unit regulation (primary):
according to the user's preferences and set through the thermostat set-points, the electronic control unit (**→30**) – or master regulator - controls the mixing groups, the activation of the generators, the centralized seasonal summer/winter commutation and, for the klimabus system, also the air treatment and dehumidification.

The entire range of thermostats and control units is classified in two different technologic classes: the stand alone and the klimabus series.

stand alone



K490I
> Digital electronic chronothermostat



K492D
> Electronic chronothermostat with humidistat



K494I
> Ambient thermostat



K494
> Ambient thermostat

The **stand alone** series includes thermostats and chronothermohumidistats able to work as units independent from the control units. Interfacing between primary control – inside the central heating plant – and the secondary in the ambient is obtained basically through a clean contact. The simplicity of this control technique represents its greatest benefit: a complex system is successfully controlled through a reduced number of devices. Its limit however is that it cannot exploit to the best the power of the radiant floor when using the cooling setting.

klimabus



K492B

> Ambient thermostat with temperature and humidity probe



K495L

> Ambient thermostat with temperature and humidity probe



K493T

> Ambient touch thermostat with temperature and humidity probe



K495B

> Display-free ambient thermostat with temperature and humidity probe

Giacomini designed the **klimabus** system according to the most advanced technologies and it is expressly targeted for climate control of radiant systems to achieve the highest levels of efficiency and comfort.

The devices are in fact connected through a special wiring used to transfer specifically encoded messages. Klimabus includes electronic control units, blind probes and thermostats with relative humidity probe which are part of a logic and articulated system controlling at its best summer and winter operations.

When set on cooling, the control unit interfaces with the ambient thermohumidistats through the field bus, reading the dew temperature of each zone. According to these temperatures it can determine the temperature set-point of the water to be delivered to the circuits, thus enhancing its yield power while preventing the formation of moisture.

It is not sufficient to centrally adjust the temperature of the water delivered to the radiant circuits to best exploit energy: this may cost in terms of comfort and may needlessly overheat some ambients. The users' needs are different based on the individual perception of heat and cold, intended use of the ambients, their geographic exposition or the free external or internal energy supplies. **Individual thermoregulation** offers a rational and convenient solution to this problem and enables to enjoy the most suitable temperature in every ambient and zone, combining comfort and energy saving at their best. Electro-thermal actuators or motorized zone valves act on the single radiant floor circuit by interfacing ambient thermostats.



HOTEL TITILAKA, MACHU-PICCHU

1300 square meters of Giacomini floor heating system, are used for thermoregulation in a hotel on Lake Titicaca, between Bolivia and Perú, nearby Machu Picchu. The hotel sits at 3900 m above sea level and has to withstand extreme weather conditions.





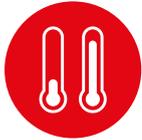
THE SHARD, LONDON

Once at the top of the Shard, the tallest skyscraper in Europe, you will see London as you have never seen it before. A true vertical city designed by Renzo Piano, the building reshapes the city skyline and serves as an inspiration for change. The panoramic platform - split between floor 69th and 72nd - where visitors enjoy unparalleled 360 degree views for up to 40 miles, features Giacomini underfloor radiant systems.

Advantages of a radiant floor system



Ideal comfort



One single system functioning both in a heating
and cooling mode



High efficiency energy savings



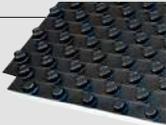
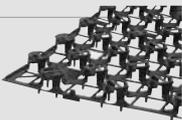
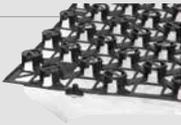
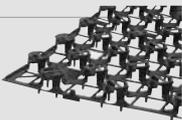
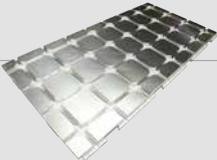
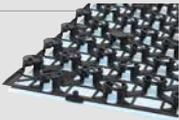
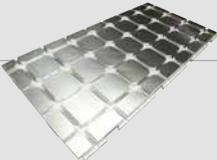
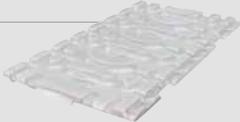
Ultimate freedom in decorating and no constraints
in terms of space usage



Silent operation and top acoustic insulation

Catalogue

Insulation panels

		code R979
		code R979N
		code R982Q
		code R882A
		code R979S with self-adhesive
		code R979S with pins
		code R979S with density 6 mm insulation
		code R883-1
		code R884

Manifolds

code **R553FP**code **R553DK**code **R553FK**code **R559N**code **R557R-2**

Pipes

code **R996T**code **R978**code **R986-1**code **R999**

**Thermoregulation units
and accessories**



code **KMP30**



code **KMP31**



code **KMP35**



code **KD201**



code **K463P / K465P**

**Stand alone
thermoregulation units**



code **K494**



code **K494I**



code **K492D**



code **K490I**

**Klimabus
thermoregulation units**code **K492B**code **K495L**code **K493T**code **K495B**code **K493I**

**Cooling
and air treatment**code **KDP**code **KDS**code **KDV**

**Accessories
and other installation
components**



code **K369A**



code **K369D**



code **R872D**



code **K389**



code **K389W**



code **K393**



code **K375**



code **K376**



code **R179
R179AM**



