OVERVIEW

RADIANT CEILING SYSTEMS

Indoor climate with radiant ceiling products

zent-frenger by Swegon

Optimal indoor climate with Zent-Frenger radiant ceiling products

An optimal indoor climate means that you experience a comfortable temperature without hearing sounds and feeling draughts. You quite simply enjoy being in the room and can focus on your work in the office, in the conference room or relax in your hotel room.

Our radiant ceiling products use water as the energy carrier. Water is our natural source of life and the characteristics of water as a cooling and heating carrier give the capacity to temper each room effectively as required. The radiation principle means that the ceiling products temper the surfaces in a room without risks of draughts.

This principle allows to keep the air temperature for heating rather low and for cooling rather high, compared to a conventional system. The result is a comfortable indoor climate and people who feel good inside.

Our radiant ceiling products fit into all typical sheet-metal-ceiling systems like c-channel, clip-in, hook-on and sails as well as into special shapes. Furthermore we offer the perfect solution for activating plaster-board ceilings. With our system almost every shape of ceiling is possible.

All of our radiant ceiling products provide an optimal indoor climate!

‘The best indoor climate for people and the environment’

Thermal radiation – inspired by the sun

Thermal radiation is a very natural way of transferring thermal energy.

The principle of radiant ceiling products is basically the same as the principle of sunrays.

Electromagnetic radiation ensures the heat transfer between two objects.

With radiant ceiling products it is possible to temper the surfaces in a room and not only the air. The radiation percentage is over 60 %. The rest is natural convection. This effect leads to less energy consumption of the system and increases the well-being of people inside the building. With radiant ceilings no draughts will occur in a room and the air temperatures in summer and winter can be chosen more energy efficient without losing any comfort.

Radiant ceilings work perfectly together with renewable energy systems like heat pumps. The required operating temperatures during cooling period can be chosen rather high and during the heating period rather low, compared to traditional cooling and heating systems.

SPECTRA M

A unique heating and cooling register with the strength of a magnet

The SPECTRA M is as unique as our customers. The register fits into all typical metal ceiling systems. It is also possible to fulfill the special customer needs in their projects.

The huge benefit of the SPECTRA M is the easy installation in a panel. No additional tools or adhesive stripes are needed. It can be mounted into the cassette directly on site just before mounting the ceiling. The power of the magnetic stripes ensures a perfectly straight surface of the panels, even for large panel dimensions. So the overall appearance of the ceiling is very smooth and even.

The multiple options to mount the SPECTRA M registers open a wide range of installation opportunities.

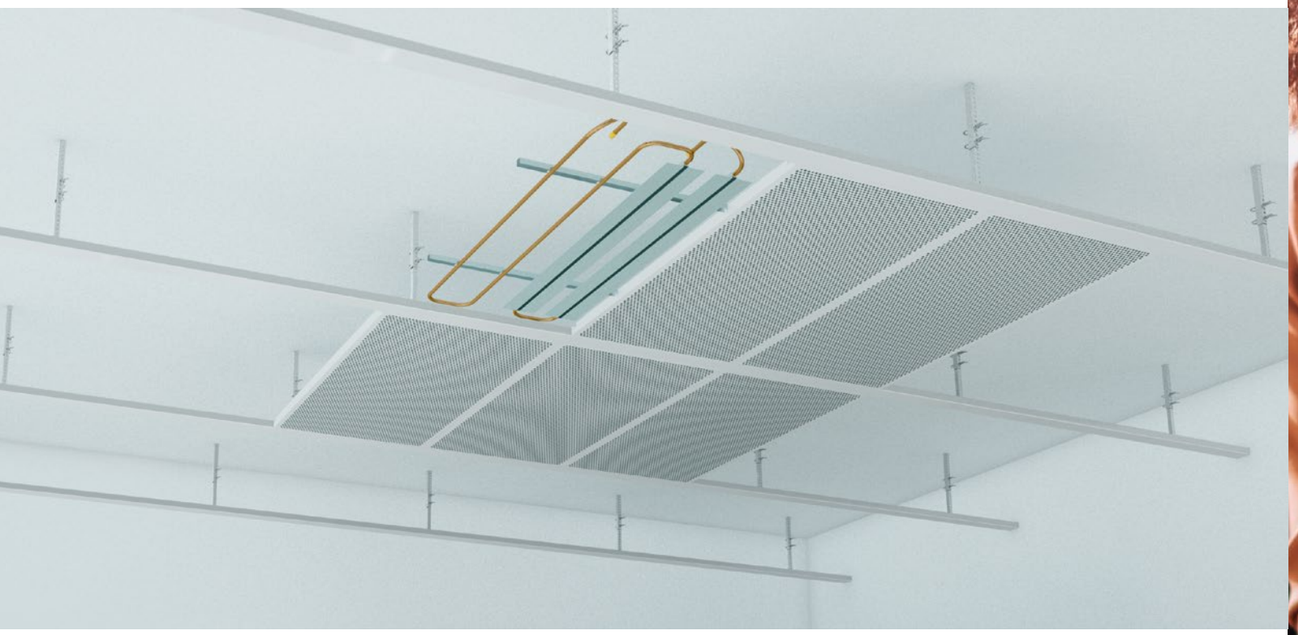
1. Magnetic technology as a unique solution
2. Easy installation of registers right on site
3. Suitable for a wide variety of metal ceiling systems
4. Great performance without any air draughts
5. Perfect for combination with renewable energy sources

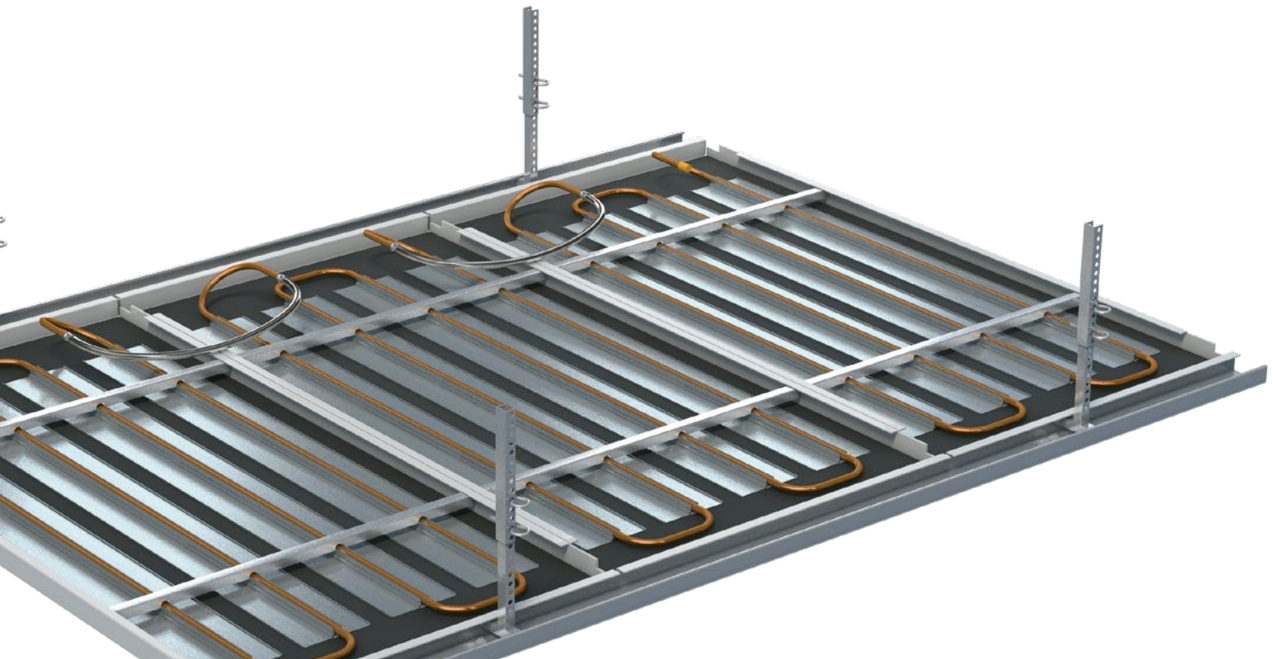
ECO M

The magnet register for cost-efficient solutions

The perfect solution for refurbishments on already existing ceilings. ECO M is easy to install. It can be just put on top of the existing metal ceiling panels. If necessary, special fixing rails can be used to increase stability.

ECO M has the same advantages as SPECTRA M. The magnetic power leads to a straight surface of the panels.



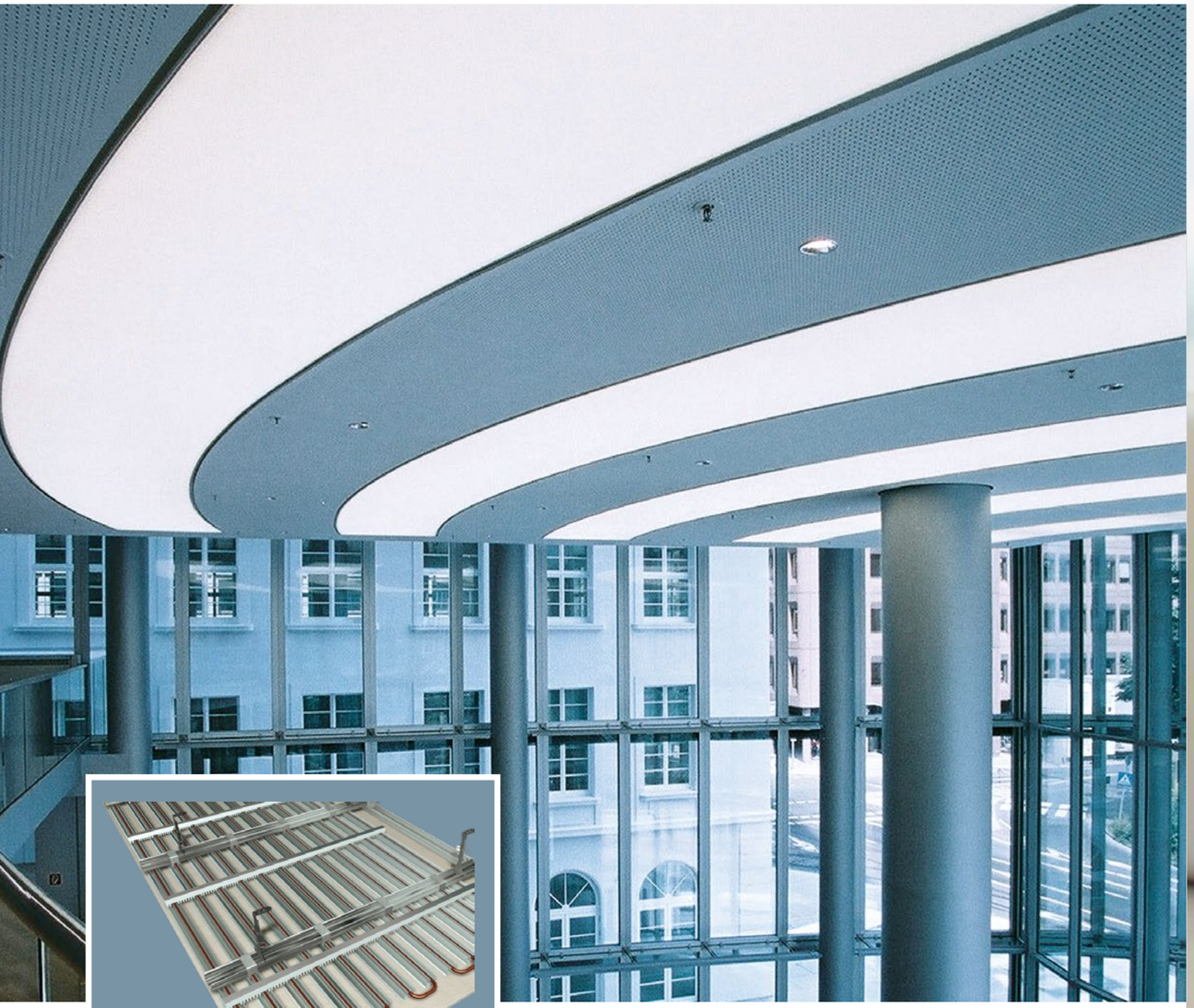


1. Perfect for refurbishments on existing ceilings
2. Magnetic technology for easy installation
3. Our most economical alternative in terms of acquisition price
4. Perfect for combination with renewable energy sources

VARICOOL UNI

The thermal active plasterboard ceiling

VARICOOL UNI is the ideal product for high architectural standards. With a plasterboard ceiling, it is possible to create a seamless ceiling in different shapes, so the layout is very flexible. The special design of VARICOOL UNI registers allows a high degree of thermal activated area and less need of additional substructure comparing to other manufacturers. Due to flexible register design, it is easy to install components like speakers, sprinklers or lighting into the ceiling. The ceiling also fulfills high acoustic requirements.



1. High degree of thermal active area
2. Seamless ceiling in different shapes
3. Flexible installation of components
4. High degree of sound absorption
5. Perfect for combination with renewable energy sources

VELUM

The slim high performance panel

A very slim and elegant free hanging system for high expectations on performance and architecture.

The VELUM is able to cool the room and also operate together with a concrete core activation, if required. With this hybrid function a lot of energy can be saved. This product also fulfills high acoustic requirements due to integrated sound absorbers.

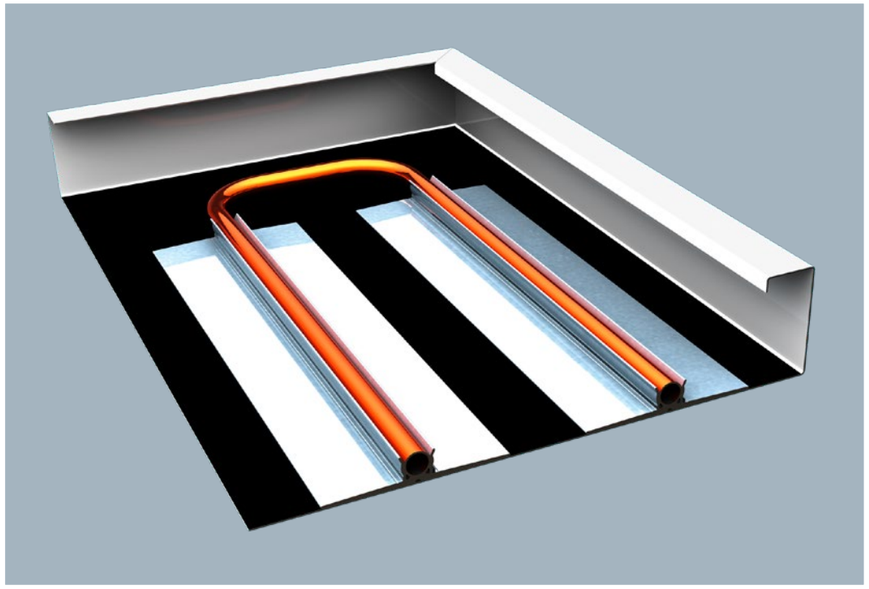
With its flat construction the VELUM sail fits perfectly into the room.

1. Slim and esthetic free hanging system
2. High cooling performance
3. High rate of sound absorption
4. Compatible with concrete core activation

SPECTRA K

Fits into every cassette, no matter what material

Sometimes the customer requires a pre-fabricated panel with a glued heating and cooling register in it for his project. Then the SPECTRA K is the perfect product. The heating and cooling register is glued directly into the panel and creates an inextricable link, no matter what material for the cassette is chosen. SPECTRA K is also ideal for metal cassettes in grid systems, so it is easy to replace an old ceiling and turn it into a heating and cooling ceiling. The SPECTRA K register and the panel is completely pre-mounted in our factory.

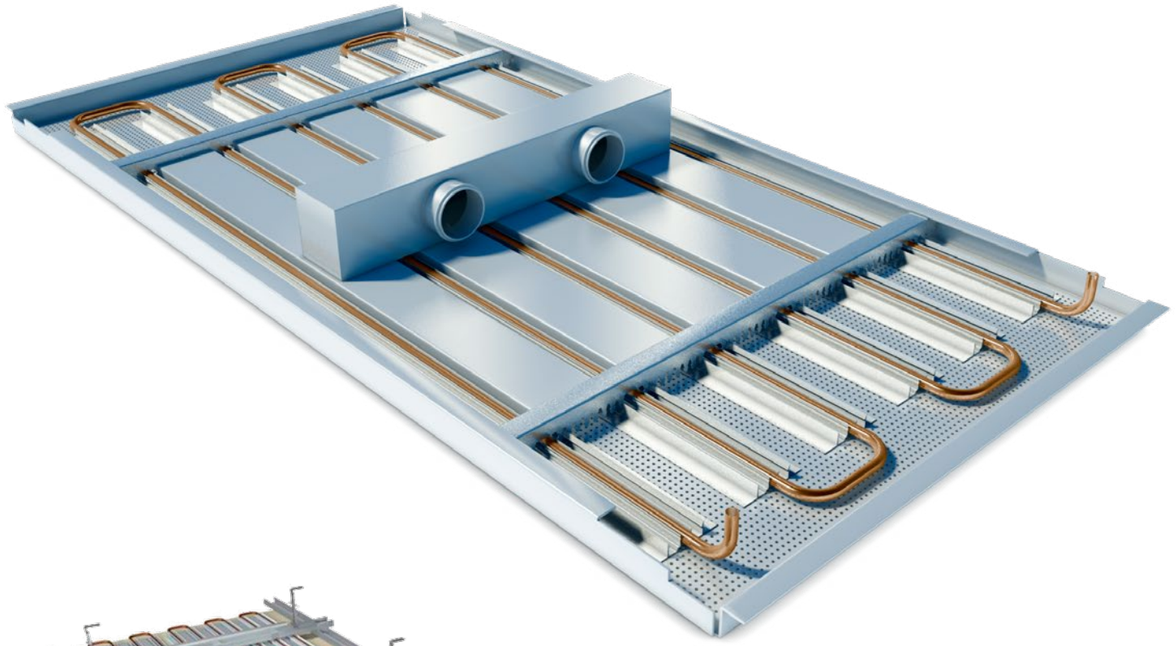


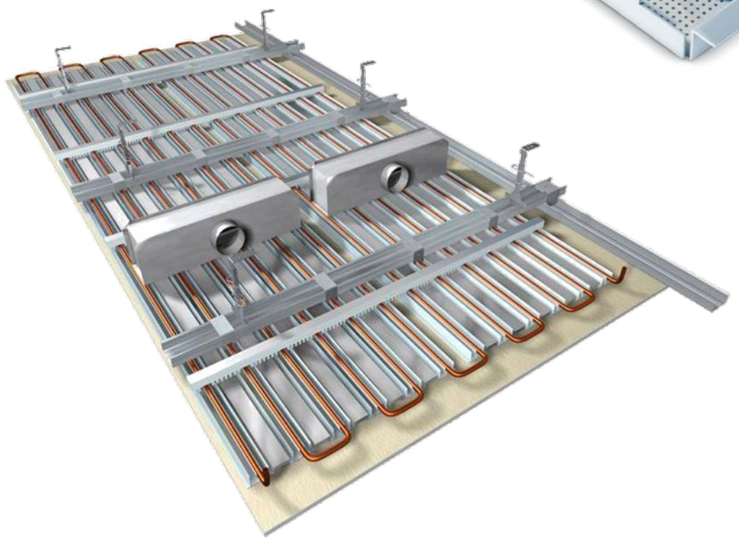
1. Suitable also for non-magnetic materials
2. Registers and panels delivered as one unit
3. Perfect for panels with slim edges
4. Perfect for combination with renewable energy sources

Quello Air Distribution

Invisible displacement-ventilation without any draughts

Air quality is one of the most important parameters we have to take care of. To ensure a high level of air quality and also fulfill architectural requirements, the Quello Air Distribution is the ideal product. The construction allows an invisible air distribution through the panels perforation. The air outlet fits perfectly into the whole ceiling without being noticed by the customer. The ventilation principle is according to a displacement ventilation. That means no noises, very low air velocities and no draughts in the occupied areas in a room.



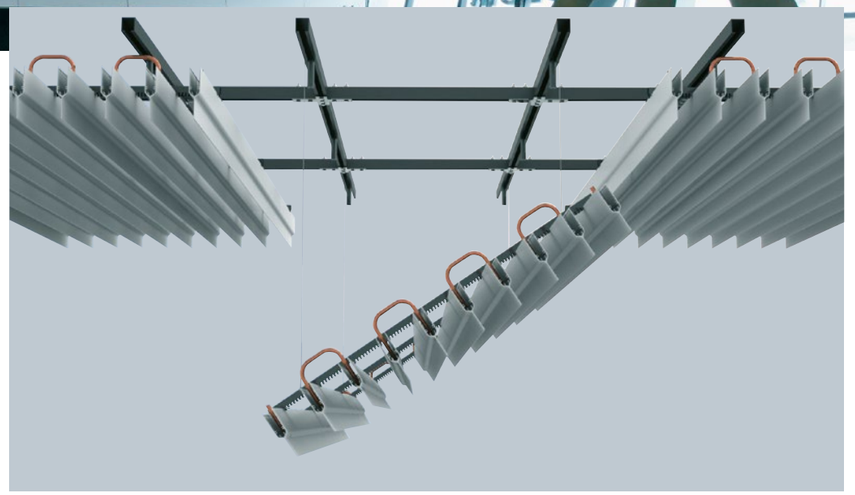


1. Invisible air distribution
2. Perfect integration into ceilings
3. No draughts and noises
4. Suitable for SPECTRA M, UNI and VELUM

OPTI Y

The lamella ceiling for maximum cooling performance

The OPTI Y is an open ceiling system with a high convection rate. The aluminium profiles have the shape of the letter Y and a corrugated surface. With this characteristics, OPTI Y reaches the maximum cooling performance. This product is ideal for areas with high demands on cooling capacity like hallways in airports or train stations, but it is also suitable for offices, cinemas and museums. Due to the open design, it is easy to integrate lighting, sprinklers or speakers in-between the profiles.

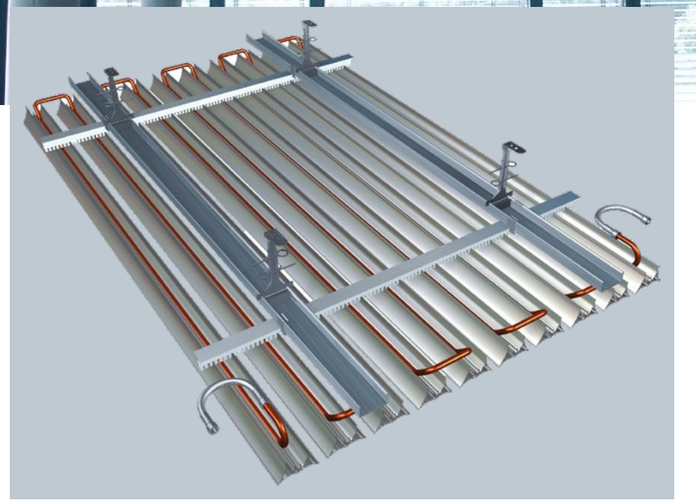


1. High cooling capacity due to high convection rate
2. Open design or covered with expanded metal ceilings
3. Easy implementation of different installations
4. Perfect for combination with renewable energy sources

SOFTLINE 4

An esthetic ceiling with high cooling capacity

The SOFTLINE 4 offers a wide range of installation opportunities. With the filigree design, the ceiling fits perfectly in showrooms, offices and hallways. It is possible to install lighting in-between the aluminium profiles or under the profiles as pendant lights.



1. Appealing design for high architectural requirements
2. Easy implementation of different installations
3. High cooling capacity
4. Perfect for combination with renewable energy sources

SPECTRA M

Magnetic technology for various ceiling solutions

- Heating and cooling register for steel-metal panels
- Connection to panel with magnetic force
- Magnetic force reduces deflection to a minimum
- Possibility to install registers before mounting cassettes
- Detachable connection leads to an optimized recycling process at the end of the product lifetime

Capacity: *

Cooling: up to 84 W/m² (ΔT: 8 K) for closed ceilings and 101 W/m² (ΔT: 8 K) for free hanging systems

Heating: up to 122 W/m² (ΔT: 15 K) for closed ceilings and 153 W/m² (ΔT: 15 K) for free hanging systems

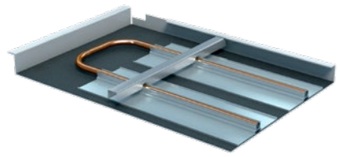
Sizes register:

Length: max. 2.650 mm

Width: max. 1.000 mm

ECO M

The light version, ideal for refurbishments



- Heating and cooling register for steel-metal panels
- Connection to panel with magnetic force
- Magnetic force reduces deflection to a minimum
- Perfect to refurbish existing ceilings
- Detachable connection leads to an optimized recycling process at the end of the product lifetime

Capacity: *

Cooling: up to 72 W/m² (ΔT: 8 K) for closed ceilings

Heating: up to 110 W/m² (ΔT: 15 K) for closed ceilings

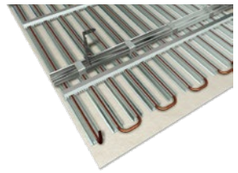
Sizes register:

Length: max. 1.800 mm

Width: max. 800 mm

VARICOOL UNI

Thermal activation for plasterboard ceilings



- Heating and cooling register for plasterboard ceilings
- Flexible installation
- Seamless ceiling in various shapes
- High degree of thermal active area
- Registers are also part of substructure, that saves additional substructure

Capacity: *

Cooling: up to 70 W/m² (ΔT: 8 K) for closed ceilings

Heating: up to 110 W/m² (ΔT: 15 K) for closed ceilings

Sizes register:

Length: max. 2.650 mm

Width: max. 800 mm

* cooling capacity according to DIN EN 14240
heating capacity according to DIN EN 14037

VELUM

Esthetic and slim free hanging system

- Sails for high architectural requirements
- High cooling capacity
- Compatible with concrete core activation

Capacity: *

Cooling: up to 105 W/m² (ΔT: 8 K)

Heating: up to 153 W/m² (ΔT: 15 K)

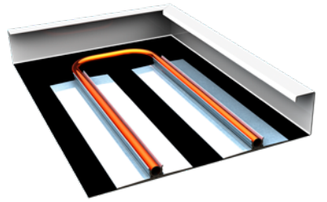
Sizes register:

Length: max. 2.500 mm

Width: max. 1.250 mm

SPECTRA K

Adhesive technology, suitable for several materials



- heating and cooling register as a finished pre-fabricated product
- Registers and panels delivered as one unit
- Perfect for panels with slim edges

Capacity: *

Cooling: up to 77 W/m² (ΔT: 8 K) for closed ceilings and 93 W/m² (ΔT: 8 K) for free hanging systems

Heating: up to 108 W/m² (ΔT: 15 K) for closed ceilings and 153 W/m² (ΔT: 15 K) for free hanging systems

Sizes register:

Length: max. 1.800 mm

Width: max. 800 mm

Quello Air

Invisible air distribution for sheet-metal and plasterboard ceilings

- Displacement ventilation through perforation
- Perfect integration into ceilings
- No draughts or noises
- Suitable for SPECTRA M, UNI and VELUM

Airflow:

Airflow: max. 204 m³/h

Size:

max. 7 air rails per register

max. lenghts air rails: 900 mm

* cooling capacity according to DIN EN 14240
heating capacity according to DIN EN 14037

OPTI Y

Lamella ceiling for maximum cooling performance

- High convection rate > 60 %
- Open design or covered with expanded metal ceiling panels
- High cooling capacity
- Easy installation of different components like lighting, sprinklers etc.
- Detachable connection leads to an optimized recycling process at the end of the product lifetime

Capacity: *

Cooling: up to 184 W/m² (ΔT: 8 K)

Heating: up to 176 W/m² (ΔT: 15 K)

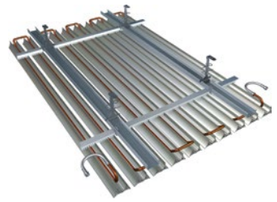
Sizes register:

Length: max. 2.500 mm

Width: max. 1.000 mm

SOFTLINE 4

Esthetic ceiling with high cooling capacity



- Design for high architectural requirements
- Easy installation of different components like lighting, sprinklers etc.
- High cooling capacity
- Detachable connection leads to an optimized recycling process at the end of the product lifetime

Capacity: *

Cooling: up to 133 W/m² (ΔT: 10 K)

Heating: up to 98 W/m² (ΔT: 15 K)

Sizes register:

Length: max. 2.500 mm

Width: max. 1.000 mm

* cooling capacity according to DIN EN 14240
heating capacity according to DIN EN 14037

Optimal indoor climate

1. Efficient cooling, heating and ventilation
2. Easy to adapt to all needs and to install and maintain
3. Noiseless and draught-free
4. Low operating costs and a good environmental choice
5. Connectable control system for controlling the room temperature and air quality

A long-term partner

Decades of experience

Zent-Frenger is your long-term partner with decades of experience in building and installing radiant ceilings in many countries all over the wolrd.

Help & support

Zent-Frenger supports the client from the first idea of his project through all stages until commissioning of the ceiling.

Expertise

Our employees have solid expertise in radiant ceiling systems.

We are comitted to maintaining our industry lead and attaches great importance to training and upskilling our technicians on the latest advances in the industry.

In this way, we always have the right resources and capabilities to assist you in achieving and maintaining dependable systems.

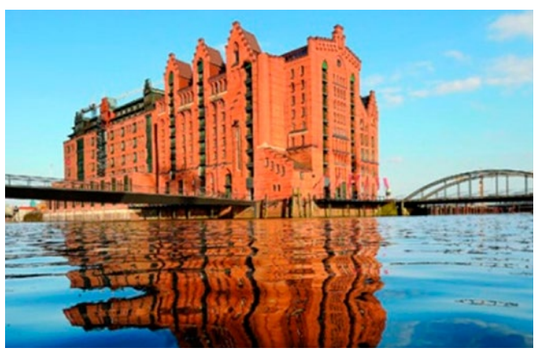
Zent-Frenger in the world

Vector Informatik GmbH, Stuttgart

The Porsche Museum, Stuttgart

Kunstgalerie, Stuttgart

Das Auge, Darmstadt



Maritimes Museum, Hamburg

Mekkah Clock Tower, Mekka

Visit our website

2023-02-23

Feel good **inside**

zent-frenger
by Swegon