

# Alumline Radiant Heating and Cooling Ceiling Panels

Catalog





# Zehnder Alumline: provides optimal comfort and energy savings whatever the season

With the reduction of CO<sub>2</sub> emissions and tightening of thermal regulations, the construction industry plays an important role in the fight against global warming. Of course, these changes affect thermal insulation and building design, but also heating and cooling systems. This is why the position of the heat exchanger and the operating temperatures, for example, play a critical role in reducing energy consumption.

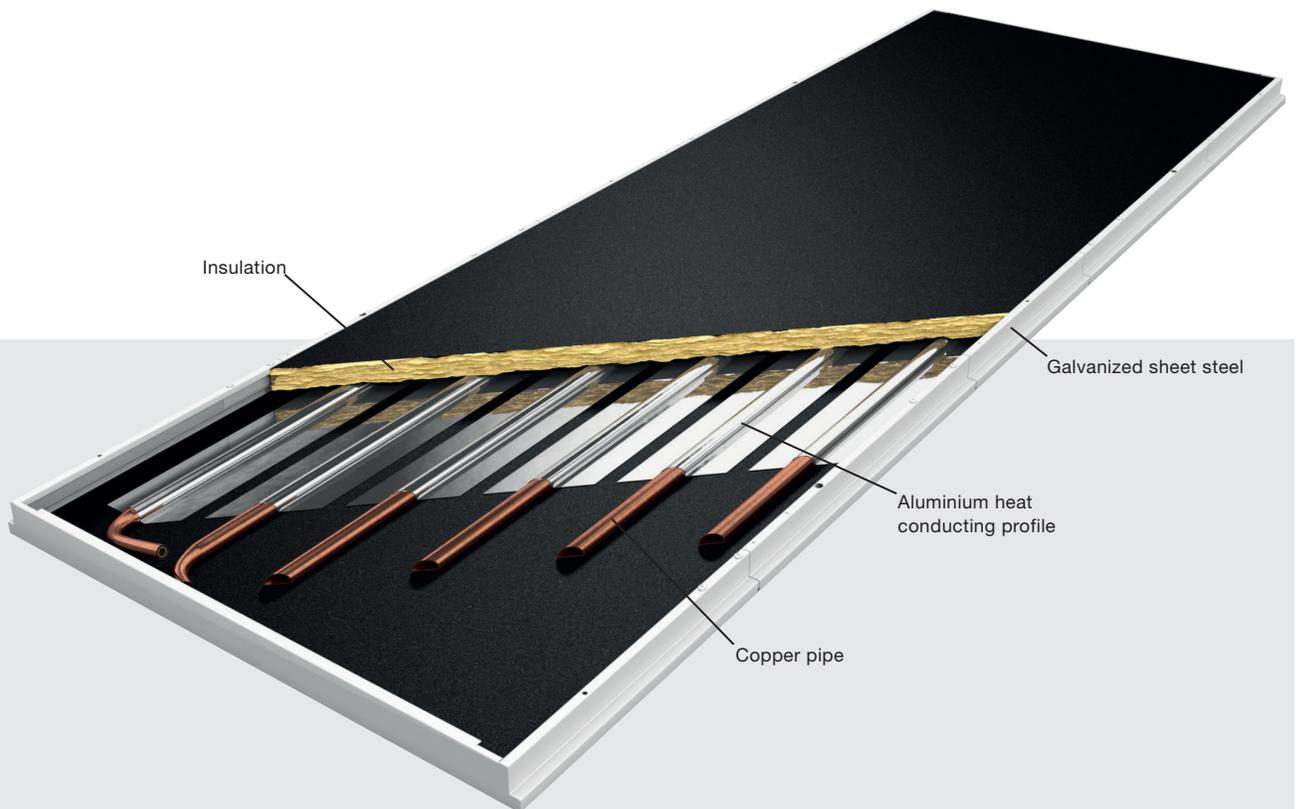
Due to a short response time to temperature changes, energy efficiency and architectural freedom, Zehnder Alumline enables functional solutions for heating and cooling.

The installation stage is made easier, due to a flexible system and professional support from Zehnder.

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## Special features of Zehnder Alumline

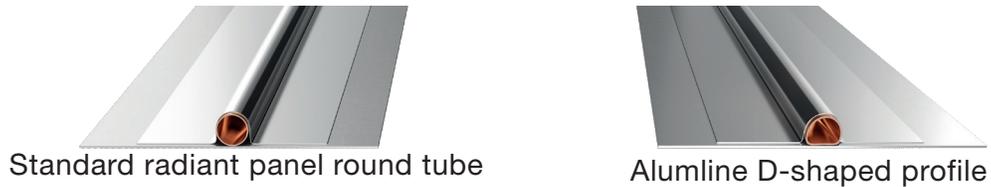
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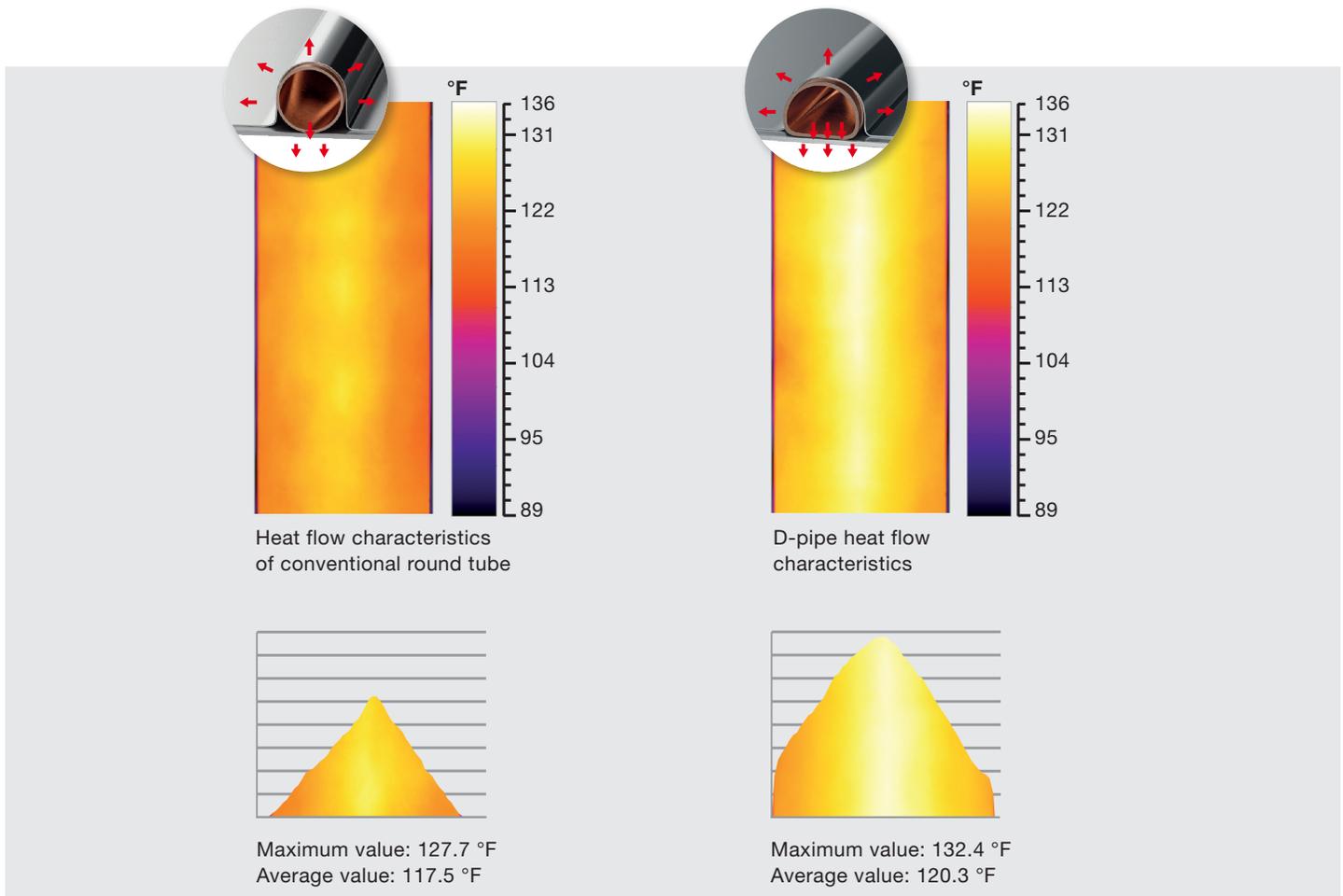
### + ADVANTAGE

- Energy saving thanks to a short system response time to temperature changes
- Operating temperatures perfectly suitable for low temperature system
- Can be installed in the suspended ceiling or as a freely suspended installation
- Simple installation: lightweight, delivered ready to install, simple hydraulic connection
- Integrated sound insulation (optional)
- The high-quality paint on the surface of the radiant ceiling panels guarantees the system's long service life
- Efficient thermal transfer leads to high energy savings
- Lightweight and long service life due to the aluminium profiles

The radiant panel system is activated by aluminium heat-conducting profiles and a D-shape meandering copper pipe.



The special D-shape of the copper pipe increases the surface area for thermal transfer to the aluminium heat-conducting profile and to the sheet steel. Moreover, the D-pipe ensures a turbulent flow even with a low mass flow, which enables optimal thermal transfer.



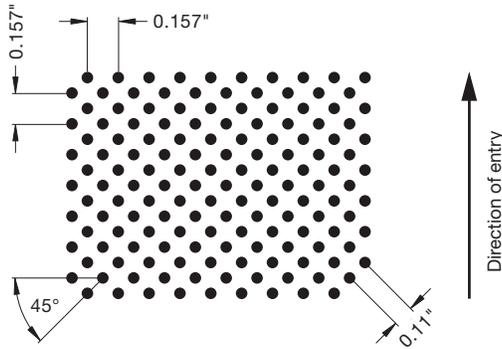
The thermograph shows that the D-pipe produces a more even and more pronounced thermal transfer than a conventional round tube. This is achieved thanks to better encapsulation of the pipe in the aluminium profile and on account of the large contact area of the pipe on the heating and cooling module. With the combination of the D-pipes and the aluminium profiles, a performance increase of 5% is possible depending on heat flow and application.

Together with Zehnder's expertise in the development and production of radiant ceiling panels for heating and cooling, these special properties enable very powerful systems that can easily be integrated into all spatial configurations.

# The ideal system for every project

The surface of the Zehnder Alumline radiant ceiling panels has a high-quality powder coating and can be delivered in a smooth or perforated design. The modules are available in the standard white color (RAL 9016), further RAL colors available on request.

## Sound-absorbing version, perforated plate

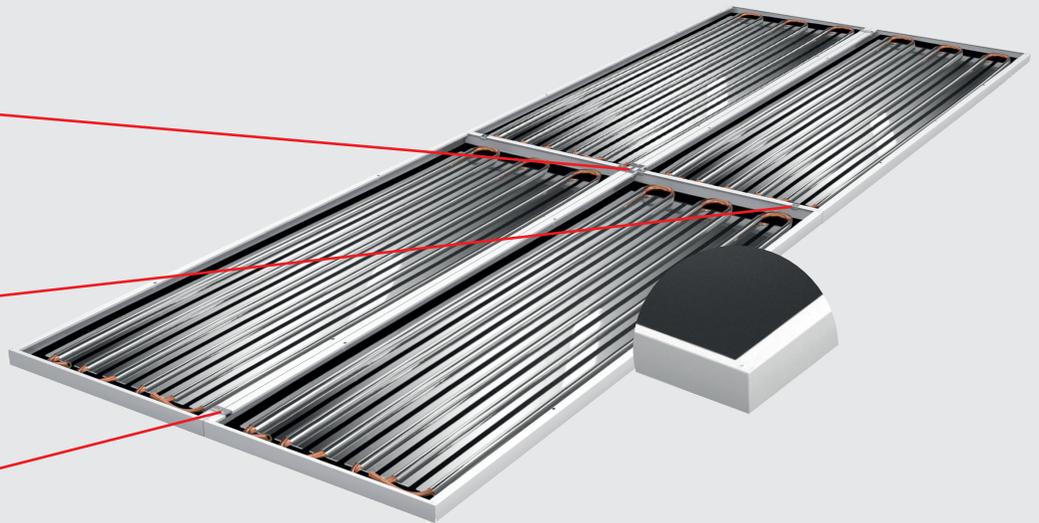


The Zehnder Alumline radiant ceiling panels can be perforated to provide optimized sound absorption. Sound waves pass through the perforations and are absorbed by the specially developed sound insulation. With sails, the sound waves are also absorbed by means of reverberation on the top of the product. This significantly reduces noise and the associated vibrations, especially in open-plan offices, call centers, schools, etc.

Hole diameter	0.059" (1.5 mm)
Open cross section	22%

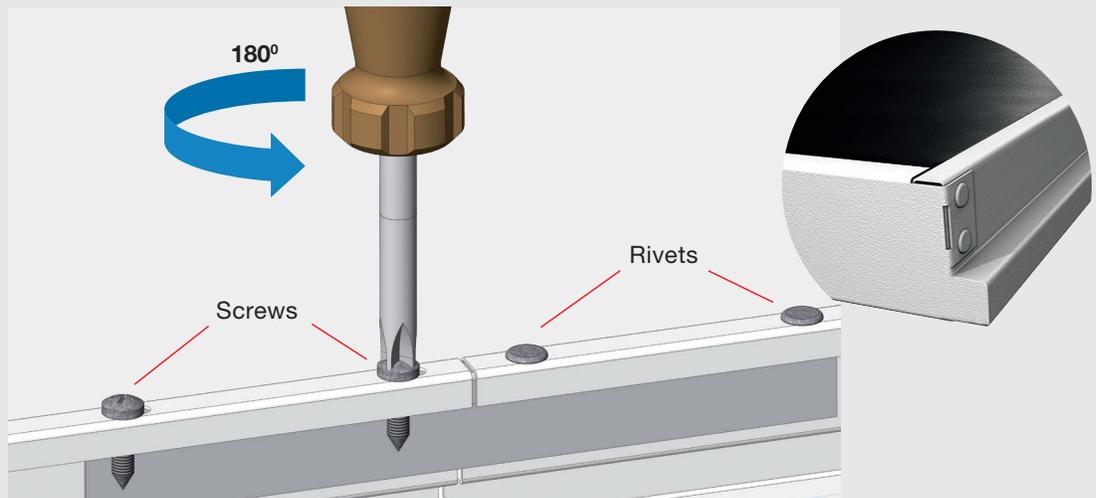
Variants	Ceiling sail perforation 0.059" Open cross section 22% with mineral wool in LDPE wrap	Ceiling sail perforation 0.059" Open cross section 22% with mineral wool in LDPE wrap	Smooth ceiling sail with mineral wool in LDPE wrap	Smooth ceiling sail with mineral wool in LDPE wrap	Closed ceiling perforation 0.059" Open cross section 22% with mineral wool in LDPE wrap	Closed ceiling perforation 0.059" Open cross section 22% with mineral wool in LDPE wrap
Activation	6 parallel pipes	None	6 parallel pipes	None	6 parallel pipes	None
Sound absorption coefficient $\alpha_w$ (EN 11654)	1	1	0.45	0.4	0.55	1

## Connecting clips for sail surfaces



The modules can be connected along the length and width and around the corners with the help of clips.

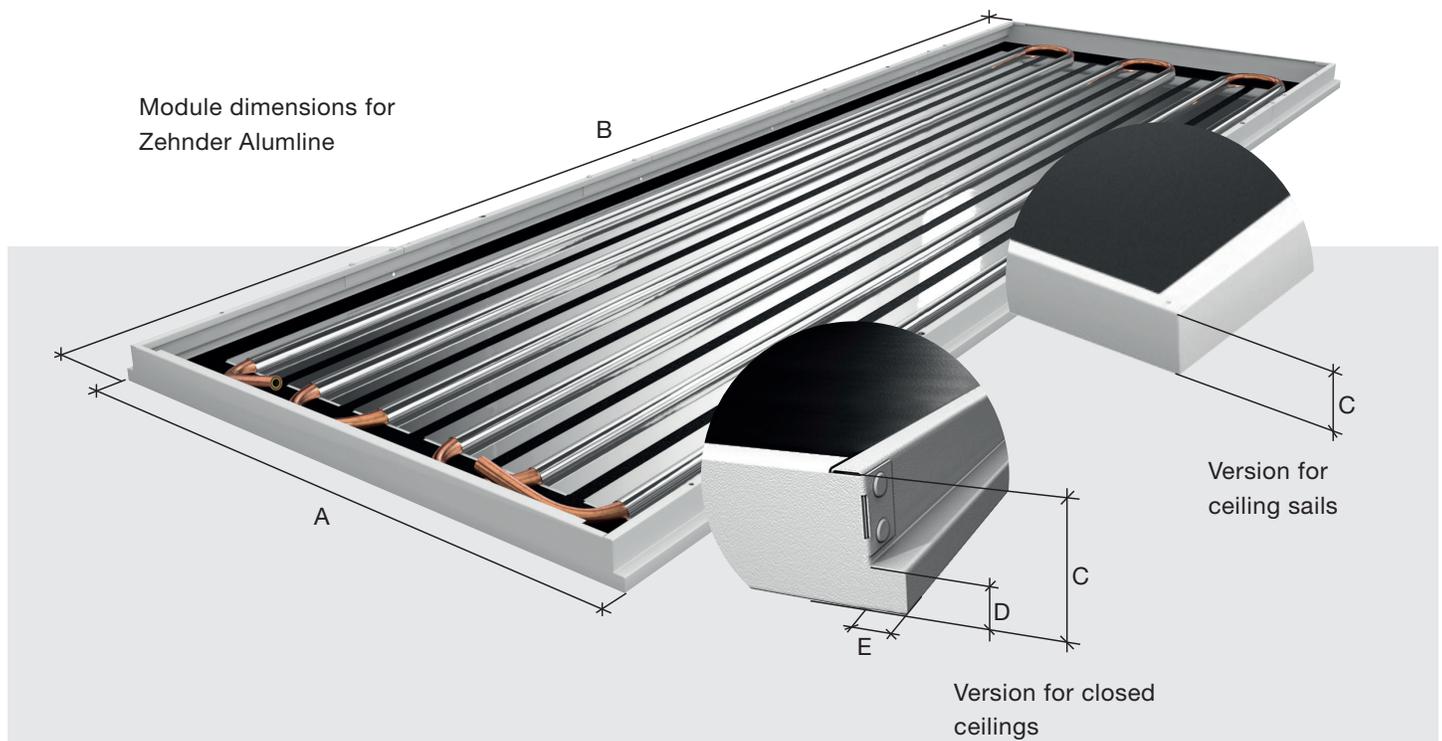
## Anti-flec technology for lay-in modules



The Zehnder Alumline lay-in modules for grid ceilings are produced from a length of 5' with anti-flec technology. This ensures an even contact surface on the ceiling grid, even when heating at high temperatures.

After laying the modules in the grid, the anti-flec profiles are loosened in the ceiling grid by opening the screw pairs.

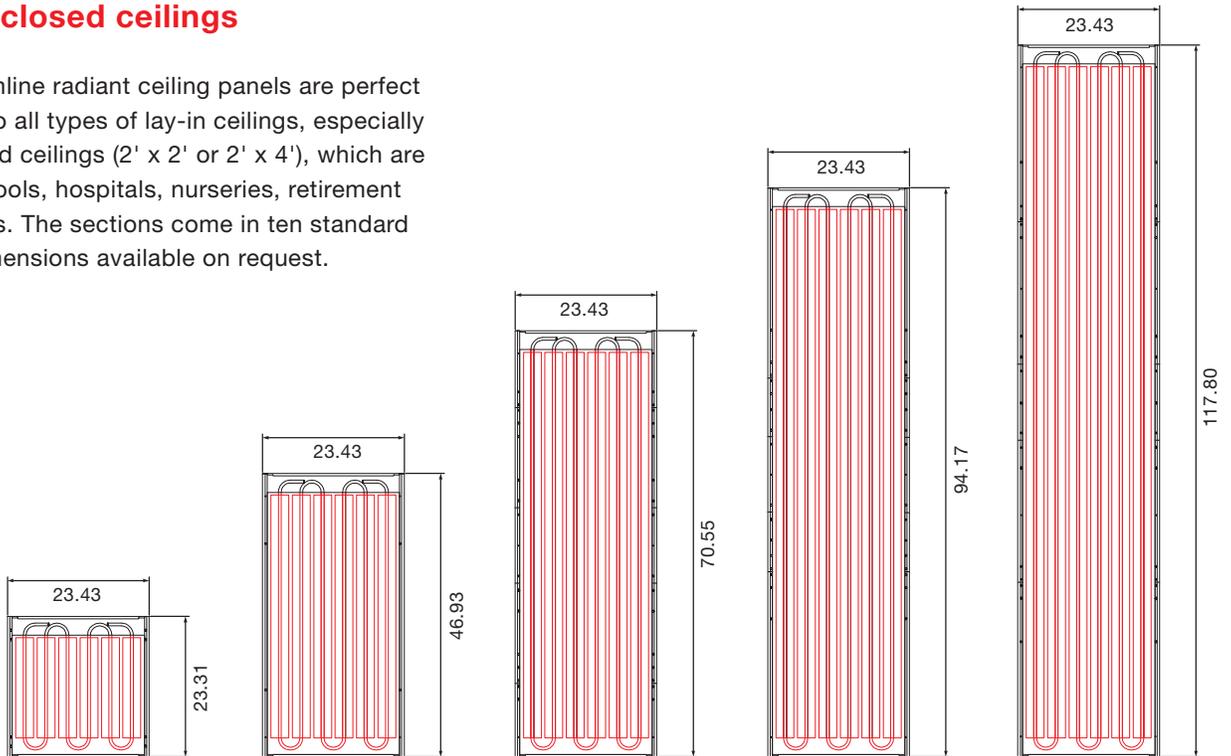
# Flexible installation options



Dimension	Description	Closed ceiling	Ceiling sails
Module 600		Dimension in inches	Dimension in inches
A	Overall width	23.62	23.62
B	Overall length	23.3 - 117.8	23.62 - 118.11
C	Total height	1.57	1.57
D	Height of the supporting edge	0.55	-
E	Width of the supporting edge	0.39	-

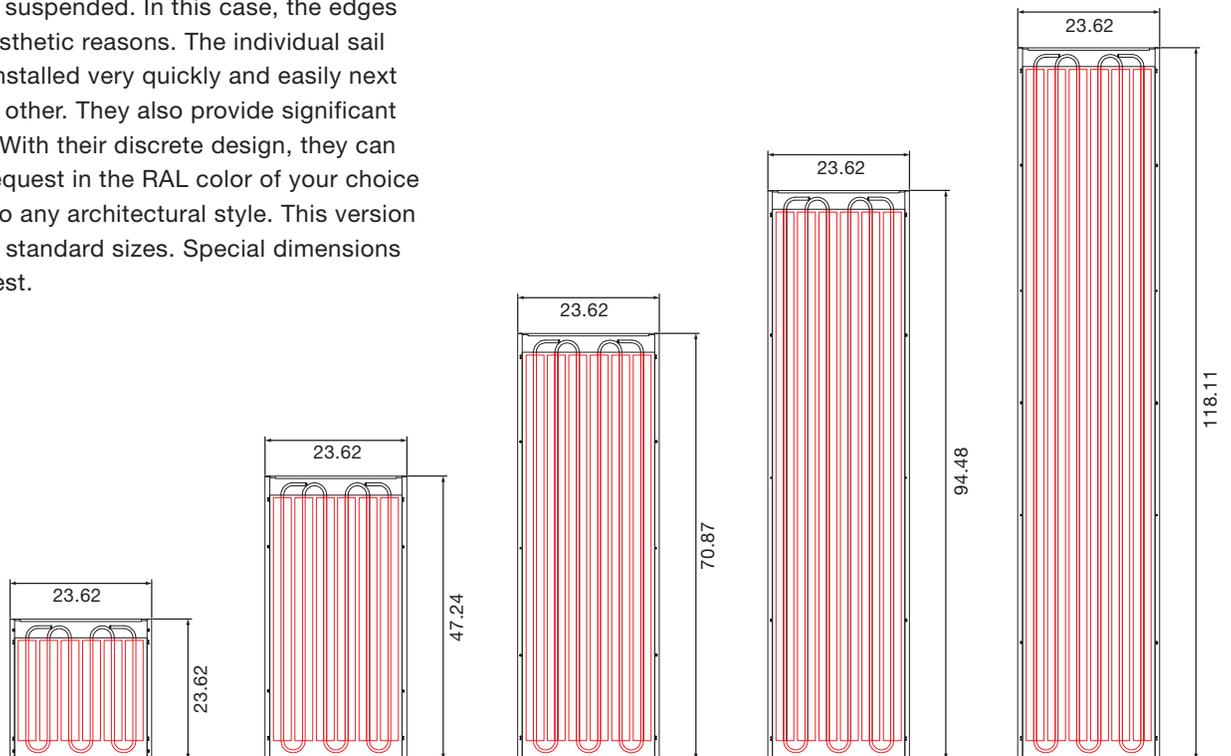
## Modules for closed ceilings

The Zehnder Alumline radiant ceiling panels are perfect for integration into all types of lay-in ceilings, especially into traditional grid ceilings (2' x 2' or 2' x 4'), which are often used in schools, hospitals, nurseries, retirement homes and offices. The sections come in ten standard sizes. Special dimensions available on request.



## Modules for ceiling sails

The Zehnder Alumline radiant ceiling panels can also be installed freely suspended. In this case, the edges are straight for aesthetic reasons. The individual sail modules can be installed very quickly and easily next to or behind each other. They also provide significant sound insulation. With their discrete design, they can be delivered on request in the RAL color of your choice and integrated into any architectural style. This version is available in five standard sizes. Special dimensions available on request.

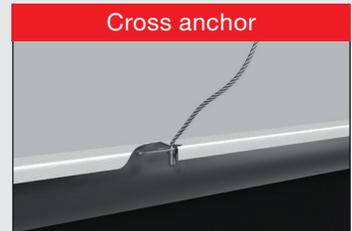


# Suspension system for lay-in module and sail

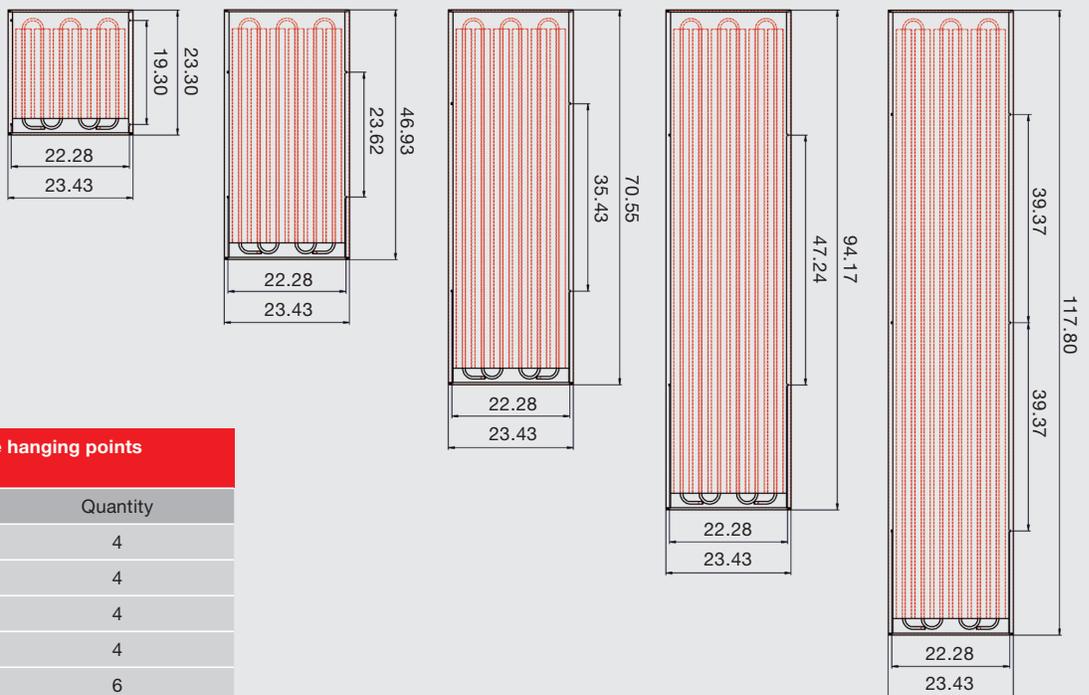
**Standard lay-in modules**



**Cross anchor**



Cables can be used to secure the modules.



**Number of highest possible hanging points  
Nominal 24" width**

Nominal overall length	Quantity
24"	4
48"	4
72"	4
96"	4
120"	6

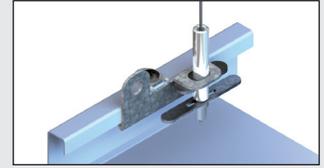
## Suspension system using multi-clips (sails)

The multi-clip is pushed into the lateral edge of the module.  
The suspension points can therefore be varied.

\*See the areas specified at the bottom of the drawings.



Multi-clip with carabiner



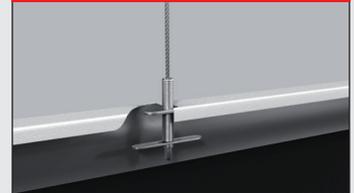
Multi-clip with wire cable and fine adjustment

### Standard sail

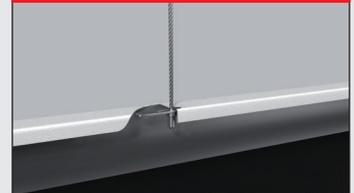


The suspension system must be at a right angle to the module on all planes.

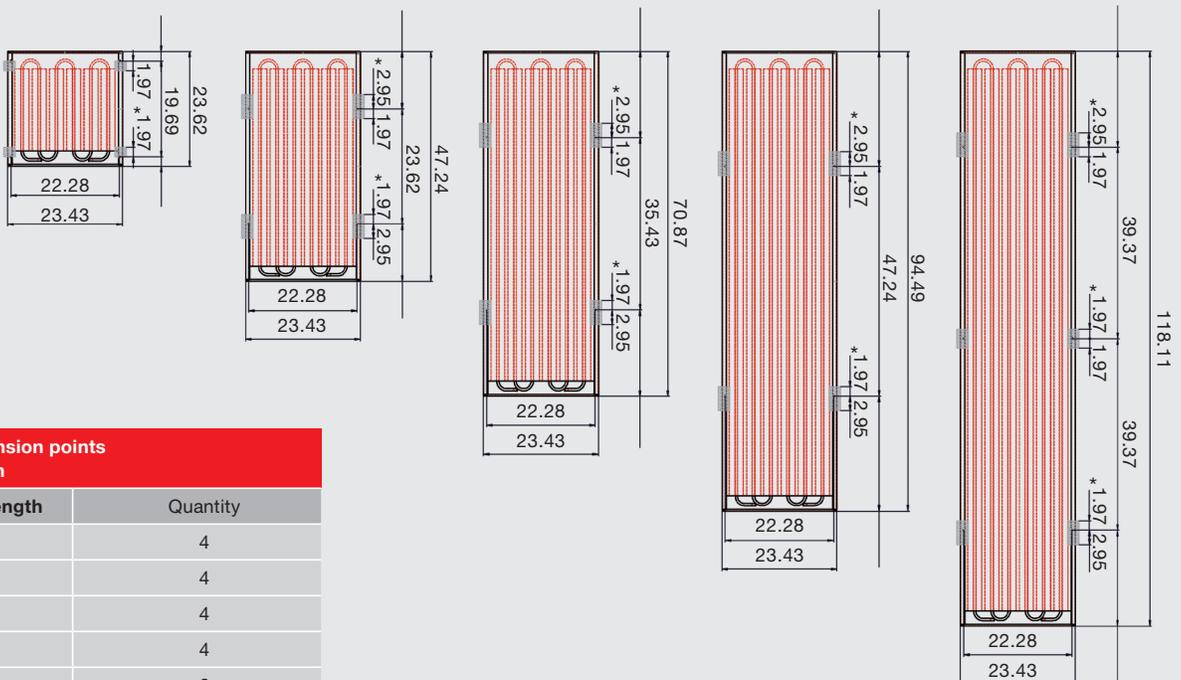
### Long hole with fine adjustment



### Cross anchor



Fine adjustments enable the module to be aligned exactly, which makes installation easier.



### Number of suspension points Nominal 24" width

Nominal overall length	Quantity
24"	4
48"	4
72"	4
96"	4
120"	6

## Special solutions

The Zehnder Alumline ceiling modules are extremely adaptable: in addition to the wide standard range, there are also a number of special solutions available. Therefore, whatever the room and whatever the project, we have exactly what you need.

### Large Sails

Zehnder Alumline large sails are available in widths up to 4 feet and lengths up to 11.5 feet. The modules are fixed to threaded rods or wire cable suspensions with suspension axes.



### Large Sails that can HINGED down

Zehnder holding brackets also make it possible to individually hinge down large sails connected in series. The suspensions are adapted for the specific project on site. Holding brackets can be combined with standard ceiling accessories currently on the market.



## Large Sails that can be hinged down - as a system

Zehnder offers various special solutions for large sails that can be hinged down.



## Sails with hook suspension

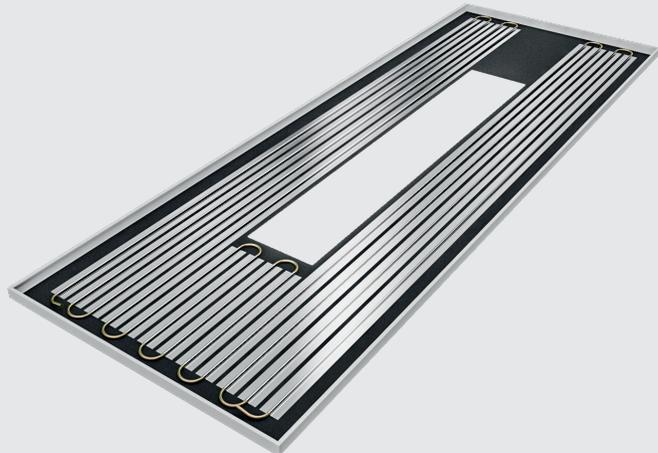
Zehnder hook suspensions make it possible to take down sails individually. During installation they are characterized by easy handling for suspension and ability to align the modules next to each other.



## Special solutions tailored to customer requirements

We supply individual customer solutions – cut-outs, special perforations and special shapes. We will find a project-specific solution by working together with you and will gladly advise you.

The figure shows cut-outs for lights.

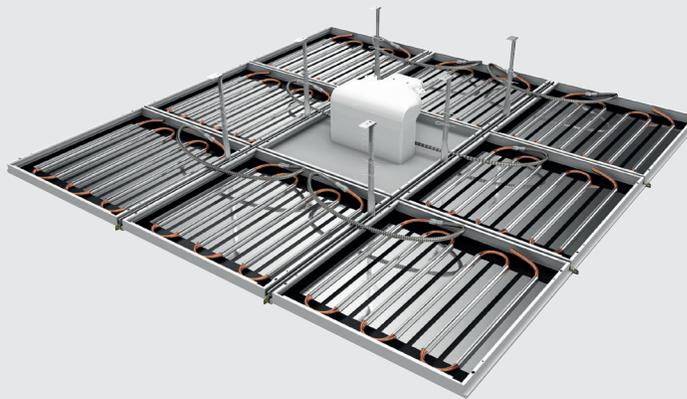


# Connection technology

## 6 parallel pipes

The Zehnder Alumline radiant ceiling panels can be installed as strips up to a maximum of 29.5 feet in length. In this case, the front-facing radiant ceiling panels have 2 serpentine circuits with hydraulic couplings on both sides of the panels, which enables a series connection.

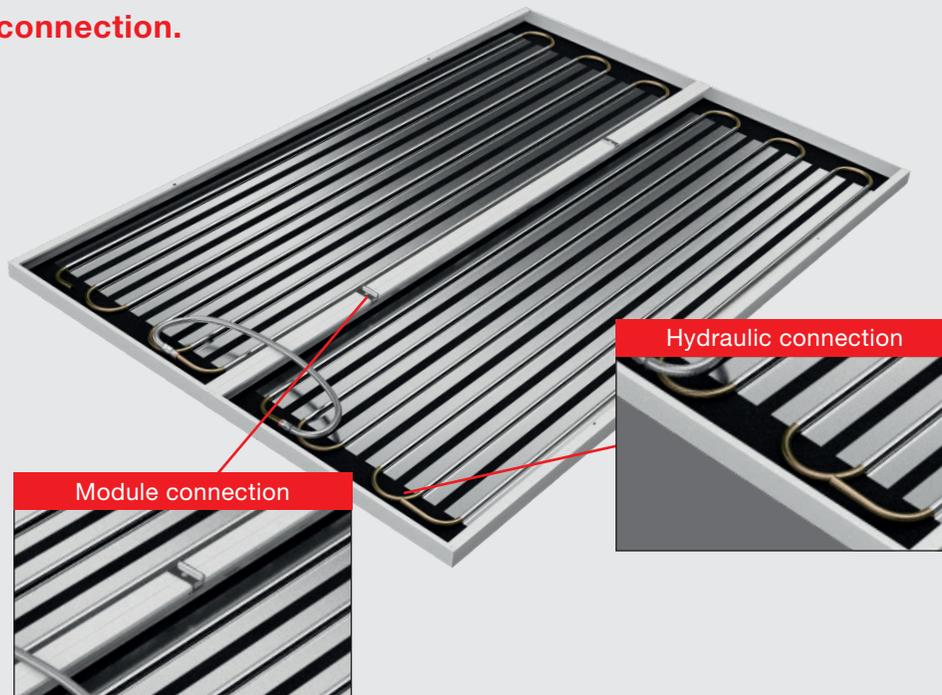
### Special solution



Cut-outs can be made in the Zehnder radiant ceiling panels in order to integrate external wall grilles, projectors, fire alarms, lights and other equipment.

Zehnder makes the required cut-outs in the radiant ceiling panels following your instructions.

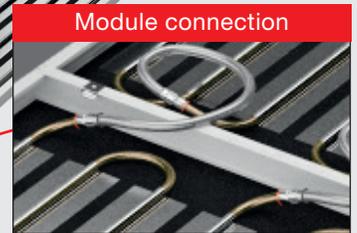
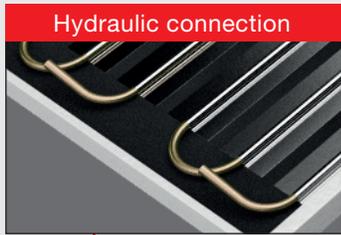
### Two modules in series with same-end connection.



Module connection

Hydraulic connection

**Three modules in series with same-end connection.**



**Two modules in series with center connection.**



# Technical specifications

## Technical specifications for 6-pipe activation



		Sail module for the ceiling sail					Lay-in module				
Dimensions	Unit of measurement										
Width type <sup>1</sup>	in	24					24				
Length type <sup>1</sup>	in	24	48	72	96	120	24	48	72	96	120
Actual width <sup>1</sup>	in	23.62					23.42				
Actual length <sup>1</sup>	in	23.62	47.24	70.37	94.49	118.11	23.31	46.93	70.55	94.17	117.80
Number of suspension points per module	Piece	4	4	4	4	6	4	4	4	4	6
No. of parallel pipes	Piece	6					6				
Tube spacing	in	3.5					3.5				
Pipe material / connection)	- / in	D copper pipe / 0.5 (0.62500)					D copper pipe / 0.5 (0.62500)				
Panel material	-	Galvanized steel					Galvanized steel				

### Operating Conditions

Max. operating temperature – standard version	°F	181					181				
Max. operating pressure	psi	87					87				

### Weight

Operating weight with water, without insulation	lbs	7.7	15.4	23.1	31.1	38.8	7.7	15.4	23.1	31.1	38.3
Operating weight with water, with insulation	lbs	8.3	16.6	25	33.6	42.1	8.3	16.6	25	33.6	42.1

<sup>1</sup> Intermediate lengths available on request.

Always the best climate for

# SMART IDEAS

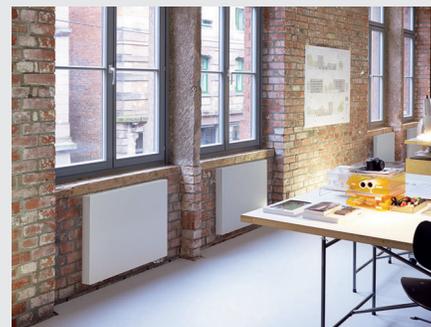
**zohndel**  
always the  
best climate

A large grid of graph paper for taking notes, consisting of a 20x30 grid of small squares.

The brand with the best indoor climate solutions.

## FOUR COMPLEMENTARY PRODUCT LINES

The broad and clearly structured portfolio from the Zehnder Group is split into four product lines. Consequently, we can provide the right product, the perfect system and the matching service for all types of projects - from new builds to renovations, single- or multiple- family homes, as well as commercial projects. This variety ensures that our wealth of experience is continuously expanding, providing tangible added value to our customers on a daily basis.



### Decorative radiators

Our individual decorative radiators for living and bathrooms not only make a home warmer but also more attractive. Created by renowned designers, they impress with excellent functionality.

## NUMBERS THAT SPEAK FOR THEMSELVES

MANUFACTURER OF THE

**1<sup>ST</sup>**

STEEL RADIATOR IN THE WORLD

**121**

YEARS OF INNOVATIVE TRADITION

AROUND

**3,000**

EMPLOYEES

FOUNDED IN

**1895**

REPRESENTED IN COUNTRIES

**19**

**1,800,000**

TONNES OF CO<sub>2</sub> SAVED SINCE 2005

## WARRANTY

Zehnder guarantees its products to be free from defects in material and workmanship for a period of five years from date of shipment from our factory.

Should there be any defects in the good(s), the purchaser should promptly notify Zehnder. Upon receipt of written consent from Zehnder, the purchaser shall return the defective good(s) to the factory for inspection with freight prepaid. If inspection shows the goods to be defective, Zehnder will at its discretion repair or replace the said item(s). Defects arising from damage due to shipment, improper installation, negligence or misuse by others are not covered by this warranty.



### Comfortable indoor ventilation

Our comfortable indoor ventilation is energy-efficient and provides a healthy indoor climate. It promotes the well-being of the occupants and increases the value of the property.



### Heating and cooling ceiling systems

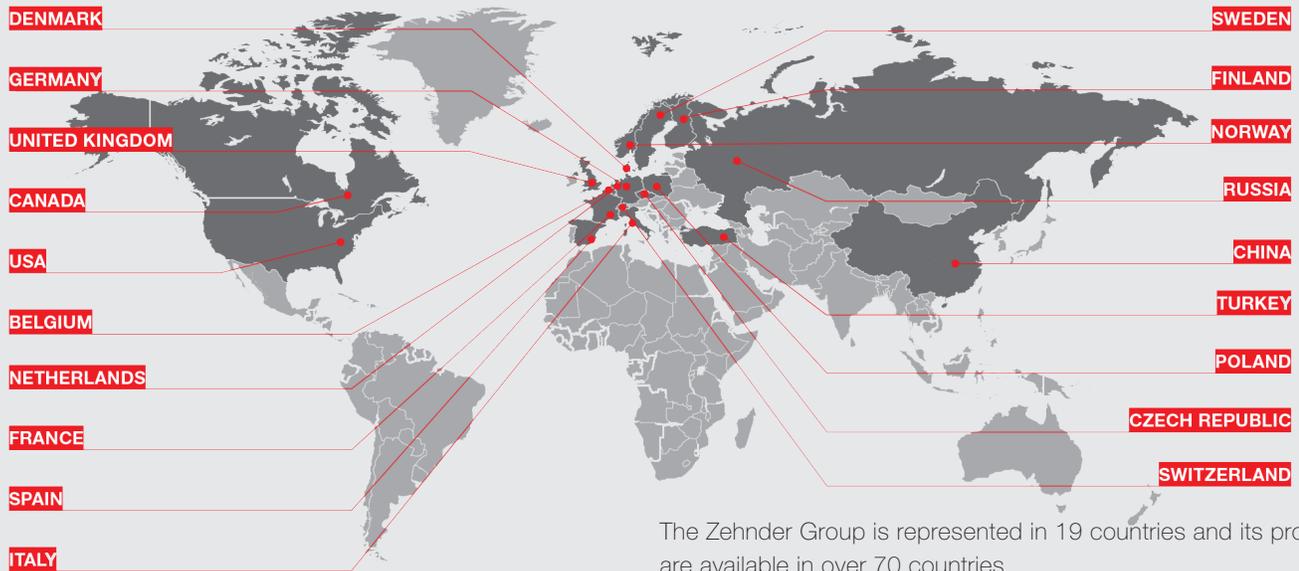
Zehnder heating and cooling ceiling systems are convenient and energy-efficient for heating and cooling. They are perfectly attuned to the relevant environment.



### Clean air solutions

Clean air solutions from Zehnder reduce the level of dust in the air, create a healthier working climate and reduce the amount of cleaning required.

## BEST CLIMATE IN THE WORLD



This warranty is extended only to the original purchaser from Zehnder .

**IMPORTANT: Approved submittal documentation, specific to each project, supersedes the general guidelines contained within this document.**



The Zehnder brand offers excellent indoor climate solutions within the sectors of decorative radiators, clean air solutions, comfortable indoor ventilation and heating and cooling ceiling systems.

