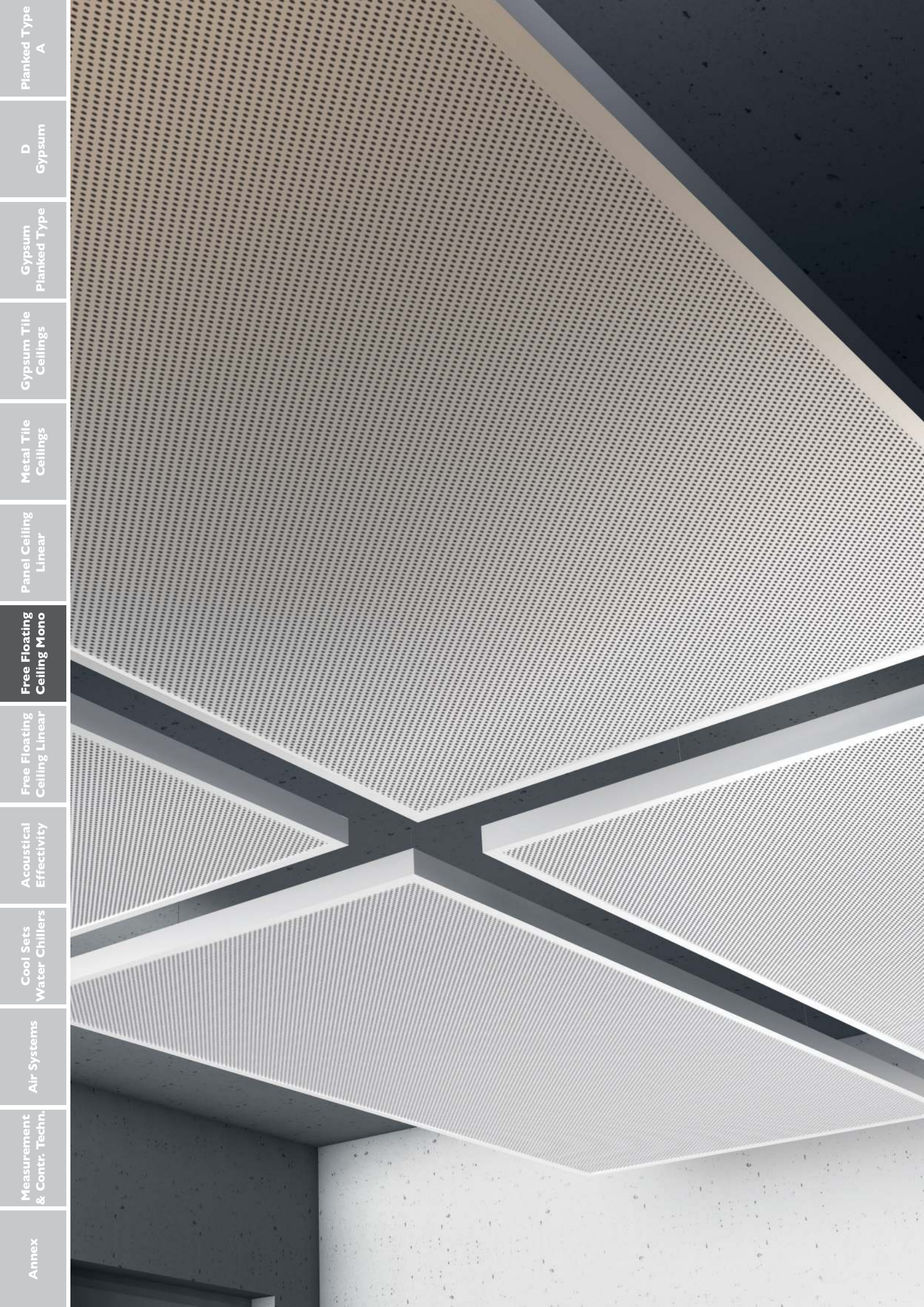


CLIMALINE

Free Floating Ceiling Mono

Monolithic, smooth, perforated

Technical Data	75
Construction	76
Assembly	78
Hydraulic Components	79
Performance Data	80
Design	80
Hydraulic Connection	81
CLIMALINE Ceiling Systems Checklist	82



Annex

Measurement
& Contr. Techn.

Air Systems

Cool Sets
Water Chillers

Acoustical
Effectivity

Free Floating
Ceiling Linear

Free Floating
Ceiling Mono

Panel Ceiling
Linear

Metal Tile
Ceilings

Gypsum Tile
Ceilings

Gypsum
Planked Type

D
Gypsum

Planked Type
A

The planning of cooling and heating areas in free floating geometries, without connections to adjacent building elements, offers a number of advantages. For cooling, this version basically leads to an enormous increase in the convective component and therefore to an enormous increase in performance. In architecture, too, planning with metal free floating ceilings also opens up very different possibilities and significantly simplifies the design of chain dimensioning.

Product Advantages

Significantly higher performance
Highly sound-absorbing
Homogeneous appearance
Easy planning of control zones
Simple hydraulic control

Areas of Application

Office floors
Training/seminar rooms
Sales areas
Open-plan offices
Meeting rooms

Technical Data

Colouring	according to RAL
Operational weight	approx. 15.0 kg/m ²
Water content	approx. 1.0 l/m ²
Pipe meander	copper 10 x 0.6 mm
Heat flux profiles	aluminium 51.5 mm wide

System Constructions

Monolithic
Braced by cross-bars
Suspended by stainless steel ropes

Technical Properties

Building material class

A2-s1, d0 according to EN 13501-1

Light reflection

Approx. 82 % (similar to RAL 9010)

Sound absorption

According to DIN EN 20354 (ISO 354)
ASTM C 423

Performance

Heating output according to DIN EN 14037
Cooling output according to DIN EN 14240

Durability

Stress class A
according to DIN EN 13964 table 7 and 8
Diffusion resistant according to DIN 4726



EN 13964

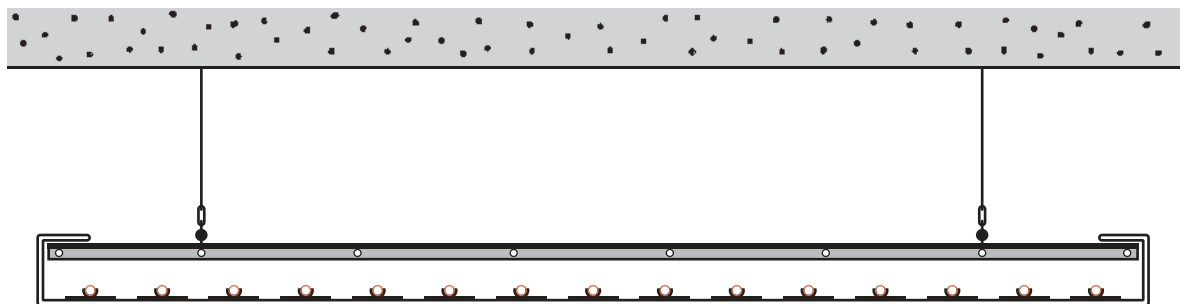
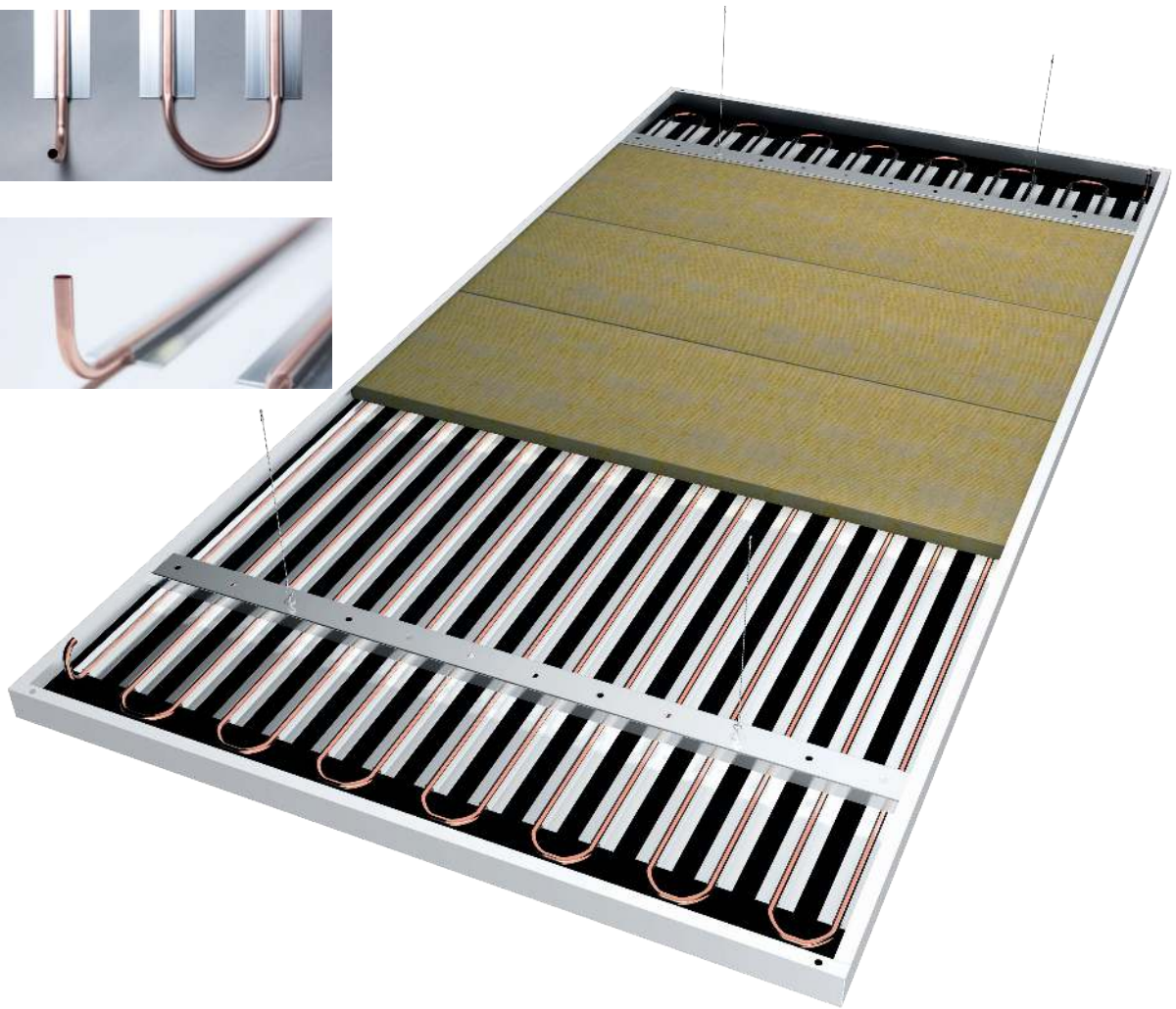
Metal tiles are
manufactured
according to the



quality standard

Construction

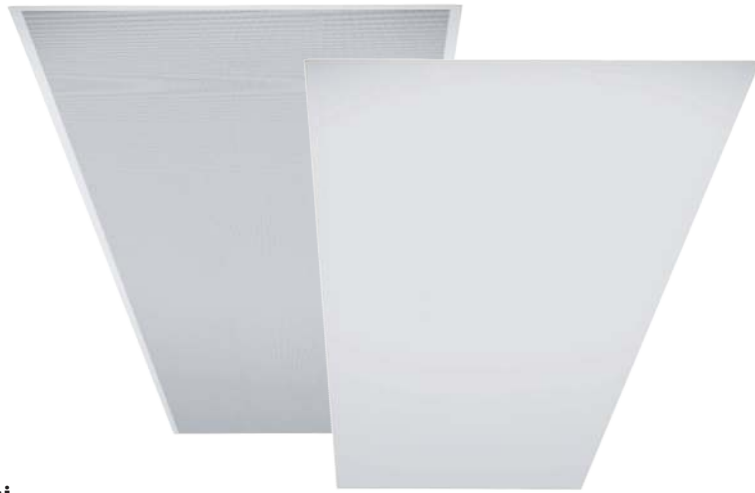
Each CLIMALINE free floating ceiling Mono is equipped with a pressed-in register. We either deliver a distributor for each free floating ceiling or we combine several free floating ceilings via one distributor. We plan the hydraulic connection and the individual control of each control zone to your specifications.



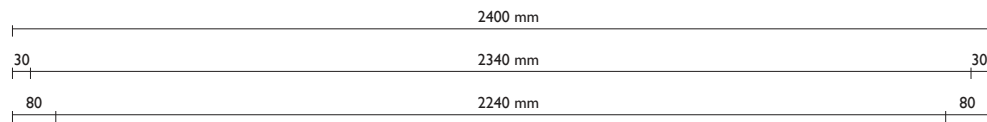
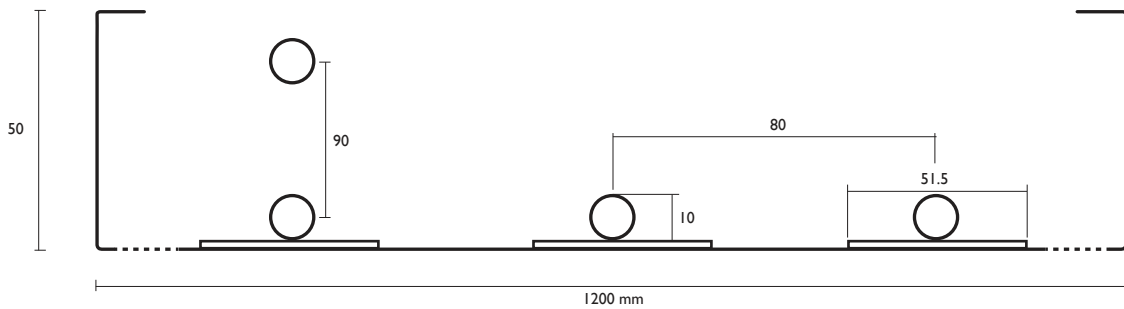
Planked Type A
D Gypsum
Gypsum Planked Type
Gypsum Tile Ceilings
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Free Floating Ceiling Linear
Acoustical Effectivity
Cool Sets Water Chillers
Air Systems
Measurement & Contr. Techn.
Annex

Visible side of the free floating ceiling

The visible area of the CLIMALINE Climaline free floating ceiling Mono is available in both a smooth and a perforated design.



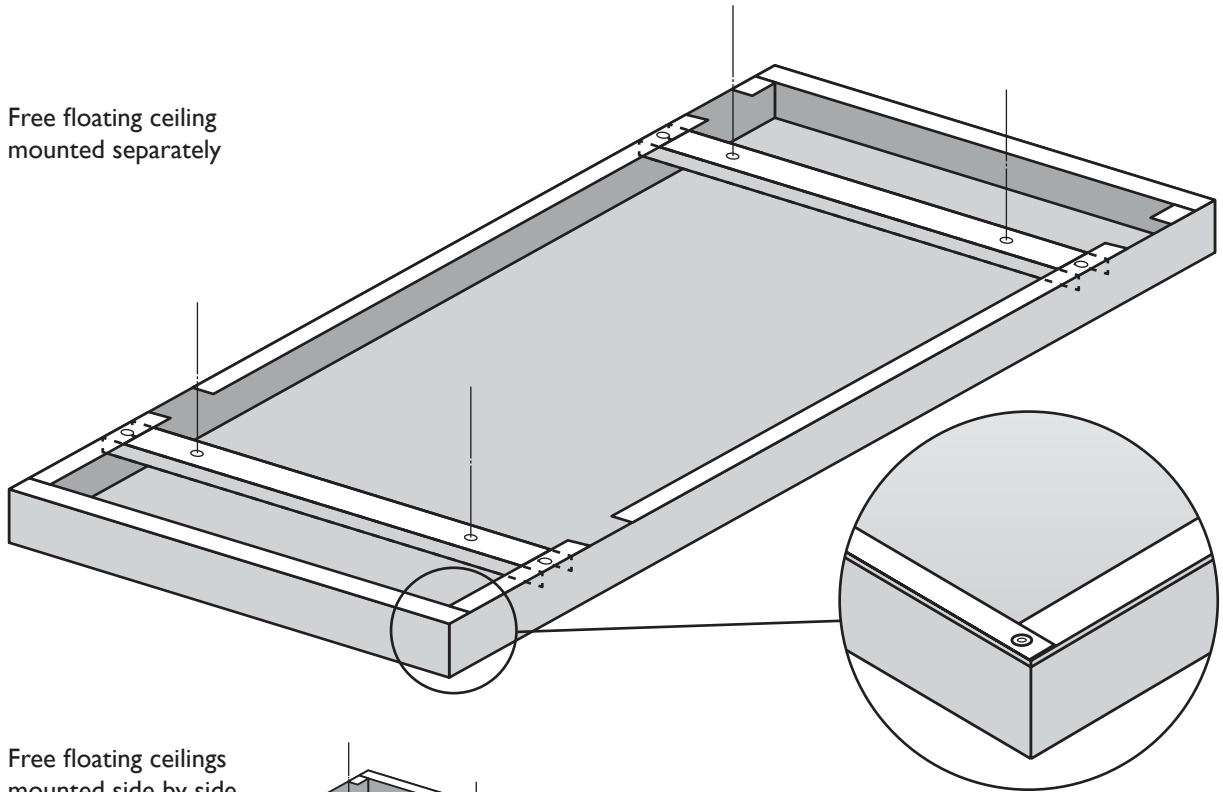
Free floating and register dimensi-



Assembly

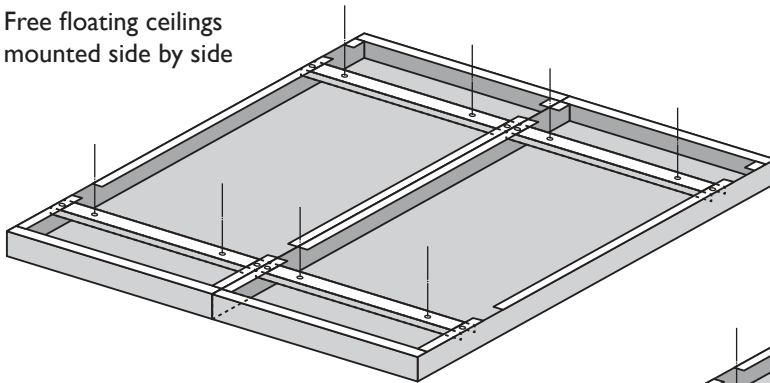
CLIMALINE free floating ceilings Mono can be mounted either individually or combined according to the planned use and room geometries. We also plan the design and hydraulic calculations according to your specifications.

Free floating ceiling mounted separately

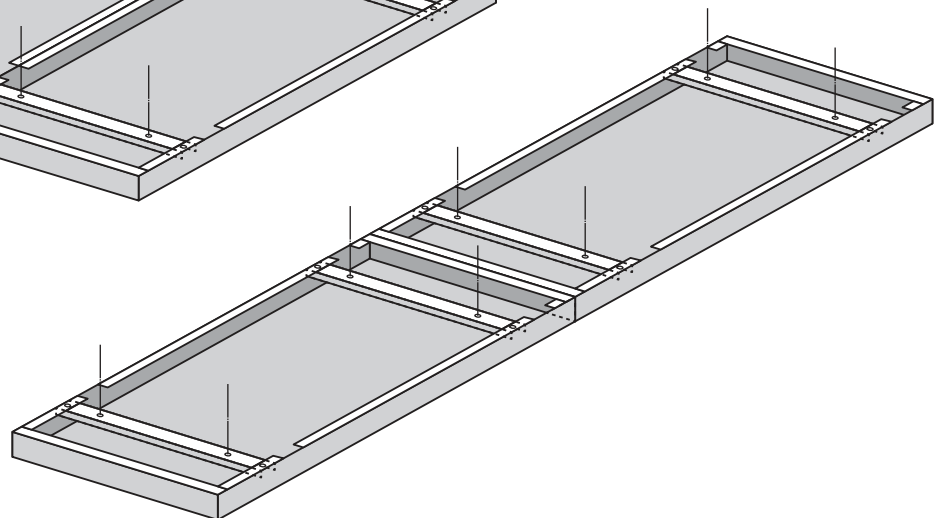


Rear surrounding edge can be riveted as an option

Free floating ceilings mounted side by side



Free floating ceilings mounted one behind the other



Hydraulic Components

Unless otherwise explicitly requested, we forego internal piping in the rooms in the hydraulic design. We thus remain true to our idea of equipping each control area with a distributor.

Designation	Art. no.	Material	Dimension	Illustration
Connection hoses between the registers Length: 0.6 m Length: 0.8 m Length: 1.0 m Length: 1.5 m Length: 2.0 m Length: 2.5 m	293493 293495 293497 293532 293587 293597	Stainless steel/polyethylene	Fitting 10 mm	
Hoses connecting the registers to the distributor Length: 1.0 m Length: 1.5 m Length: 2.0 m Length: 2.5 m Length: 3.0 m Length: 4.0 m Length: 5.0 m Length: 6.0 m Length: 7.0 m Length: 8.0 m Length: 10.0 m	293575 293581 293586 293592 313515 313516 313517 313518 313519 313520 313521	Stainless steel/polyethylene	Fitting 10 x 12 mm	
CLIMALINE VR adapter for distributor, 2 pieces per circuit	317807	Plastic	16 mm	
CLIMALINE brass adapter for internal piping to flex hose, 2 pieces per circuit	317806	Brass	16 x 12 mm	
CLIMALINE circuit distributor for 2 circuits for 3 circuits for 4 circuits for 5 circuits for 6 circuits for 7 circuits for 8 circuits for 9 circuits for 10 circuits for 11 circuits for 12 circuits	317793 317794 317795 317796 317797 317798 317799 317800 317801 317802 317803	Stainless steel	for VR adapter 16 mm	

Performance Data

Cooling output acc. to DIN EN 14240 per m²

Heating output acc. to DIN EN 14037 per m²

CLIMALINE free floating ceiling Mono	
Pipe row spacing	80 mm
Δt	10 Kelvin
Cooling output	102 Watt
Active area ratio	1.00

CLIMALINE free floating ceiling Mono	
Pipe row spacing	80 mm
Δt	15 Kelvin
Heating output	122 Watt
Active area ratio	1.00

Design

The following tables show the pressure losses and flow depending on the cooling capacity per free floating ceiling at the specified system temperatures. The calculation of pressure losses and the required mass of water is explicitly performed for every application.

Cooling System: Free floating ceiling Mono 2400 x 1200 mm, pipe rows /spacing: 15/80 mm

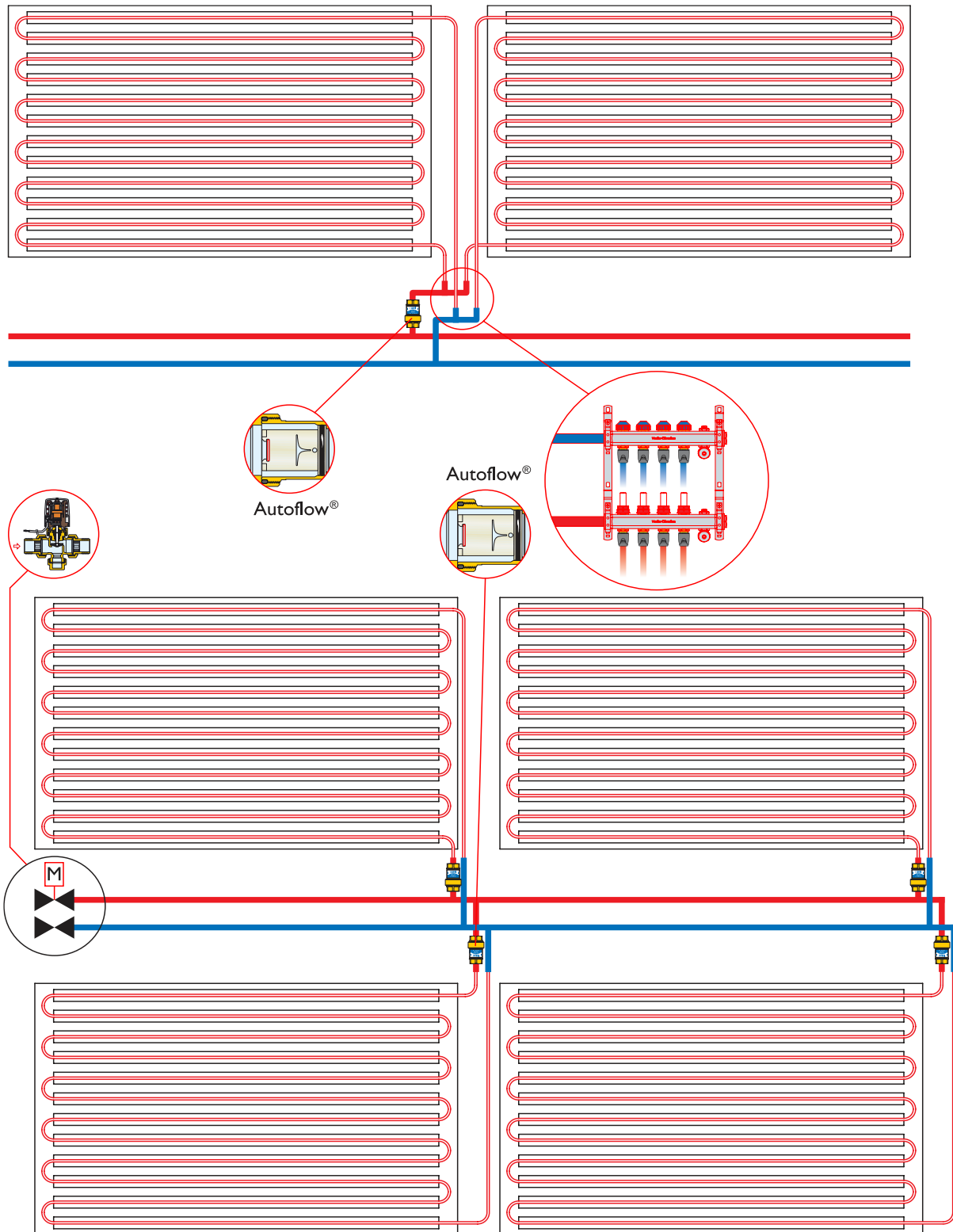
System temperature						
Supply temperature	15 °C	15 °C	15 °C	16 °C	16 °C	16 °C
Return temperature	17 °C	18 °C	19 °C	18 °C	19 °C	20 °C
Room temperature	26 °C	26 °C	26 °C	26 °C	26 °C	26 °C
Cooling output per free float. ceiling	293.76 W	279.07 W	264.38 W	264.38 W	249.69 W	235.00 W
Mass flow per free float. ceiling	126.32 kg/h	80.00 kg/h	63.70 kg/h	113.69 kg/h	71.58 kg/h	61.80 kg/h
Pressure loss per free float. ceiling	316.32 mbar	142.23 mbar	93.63 mbar	263.06 mbar	117.07 mbar	90.53 mbar

Heating System: Free floating ceiling Mono 2400 x 1200 mm, pipe rows /spacing: 15/80 mm

System temperature						
Supply temperature	35 °C	35 °C	35 °C	32 °C	32 °C	32 °C
Return temperature	32 °C	30 °C	28 °C	29 °C	27 °C	25 °C
Room temperature	20 °C	20 °C	20 °C	20 °C	20 °C	20 °C
Heating output per free float. ceiling	316.22 W	292.80 W	269.36 W	245.95 W	222.53 W	199.09 W
Mass flow per free float. ceiling	90.65 kg/h	50.36 kg/h	33.09 kg/h	70.51 kg/h	38.28 kg/h	24.46 kg/h
Pressure loss per free float. ceiling	177.00 mbar	63.28 mbar	30.35 mbar	114.02 mbar	38.15 mbar	17.88 mbar

Hydraulic Connection

The hydraulic connection of the CLIMALINE free floating ceilings Mono is explicitly planned for every area of application.



Planked Type A
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CLIMALINE Ceiling Systems Checklist

1. System selection

- Gypsum ceiling system
 Metal ceiling system
 Free floating ceiling
 Thermo Panel 4T

2. System

- Suspended assembly
 Heating → System temperature: supply: _____ return: _____
 Cooling → System temperature: supply: _____ return: _____
- Direct assembly
 Heating → System temperature: supply: _____ return: _____
 Cooling → System temperature: supply: _____ return: _____

3. Building

- Floor plan
 PDF format
 DWG format
- Heating load calculation
 available
 required*
 fixed value: _____ watts/m²
- Cooling load calculation
 available
 required*
 fixed value: _____ watts/m²

4. Measurement and control technology

- Climate control
 wired → Comfort Object
 wireless → Comfort Object
- Accessories
 Zone valve
 Automatic mass flow limiter

*A list of components with U-values and a floor plan in DWG format are required to calculate heating and cooling loads.