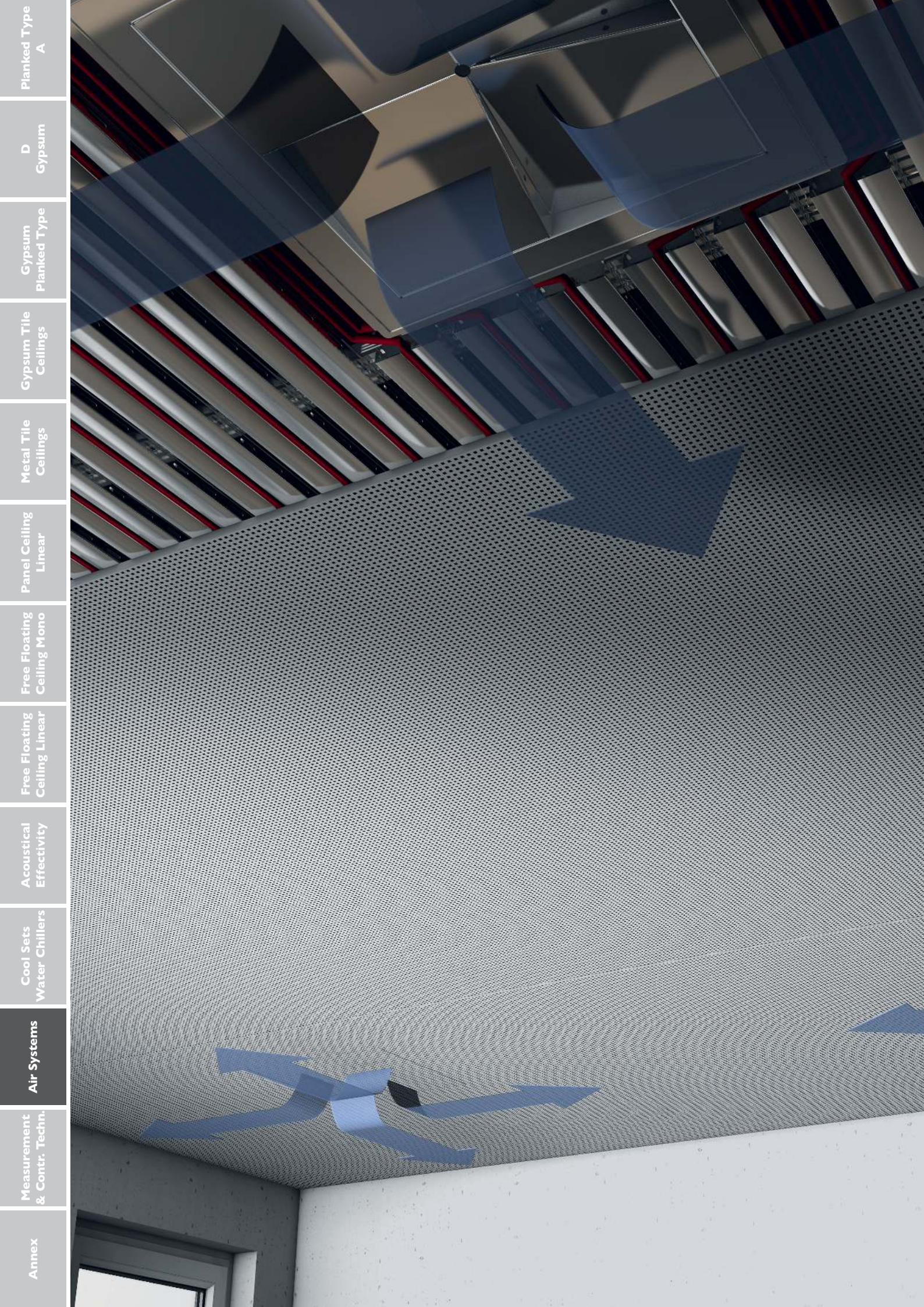


# CLIMALINE Air Systems

## Ventilation systems for thermally activated ceilings

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Annex

Measurement  
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Air Systems

Cool Sets  
Water Chillers

Acoustical  
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Free Floating  
Ceiling Linear

Free Floating  
Ceiling Mono

Panel Ceiling  
Linear

Metal Tile  
Ceillings

Gypsum Tile  
Ceillings

Gypsum  
Planked Type

D  
Gypsum

Planked Type  
A

# CLIMALINE AirFrame

The smart combination of efficient ventilation and a thermally activated ceiling in the planning of climatic well working rooms is state of the art since long. To integrate the controlled air supply optical harmonic into the Climaline gypsum ceilings, there is the CLIMALINE AirFrame. It is mounted like an inspection hatch almost invisible in the ceiling. However conventional grills always are dominantly visible, the AirFrame guarantees through the ceiling an effective ventilation without draft. Due to the innovative fluid mechanics an optimal stream along the ceiling with even temperature distribution and with this a comfortable room climate is achieved.

## Product Advantages

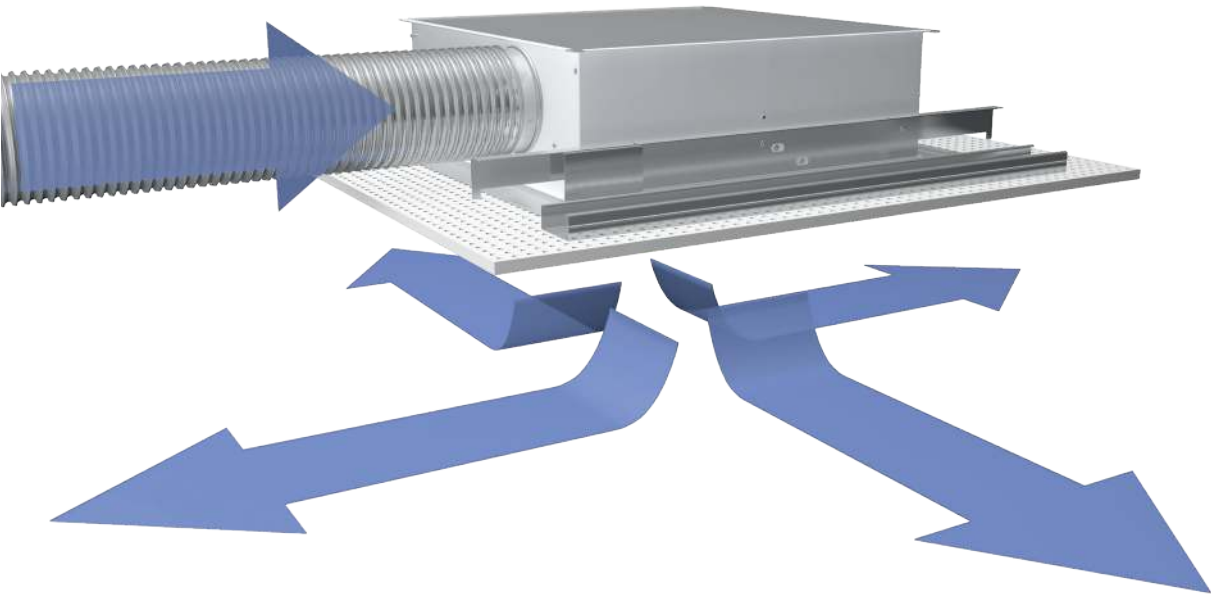
- Mounting like an inspection hatch
- Very little panel thickness
- Smooth integration into the gypsum ceiling
- Horizontal air distribution
- Air supply with high comfort without draft

## Areas of Application

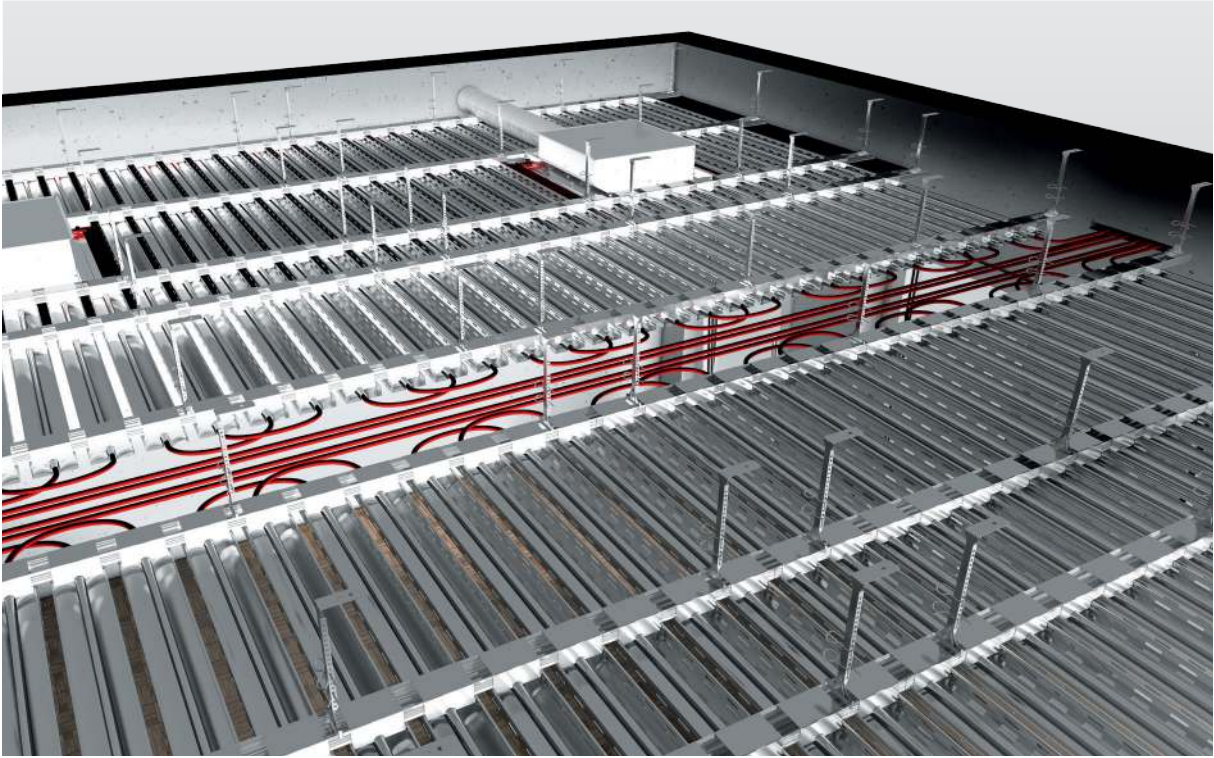
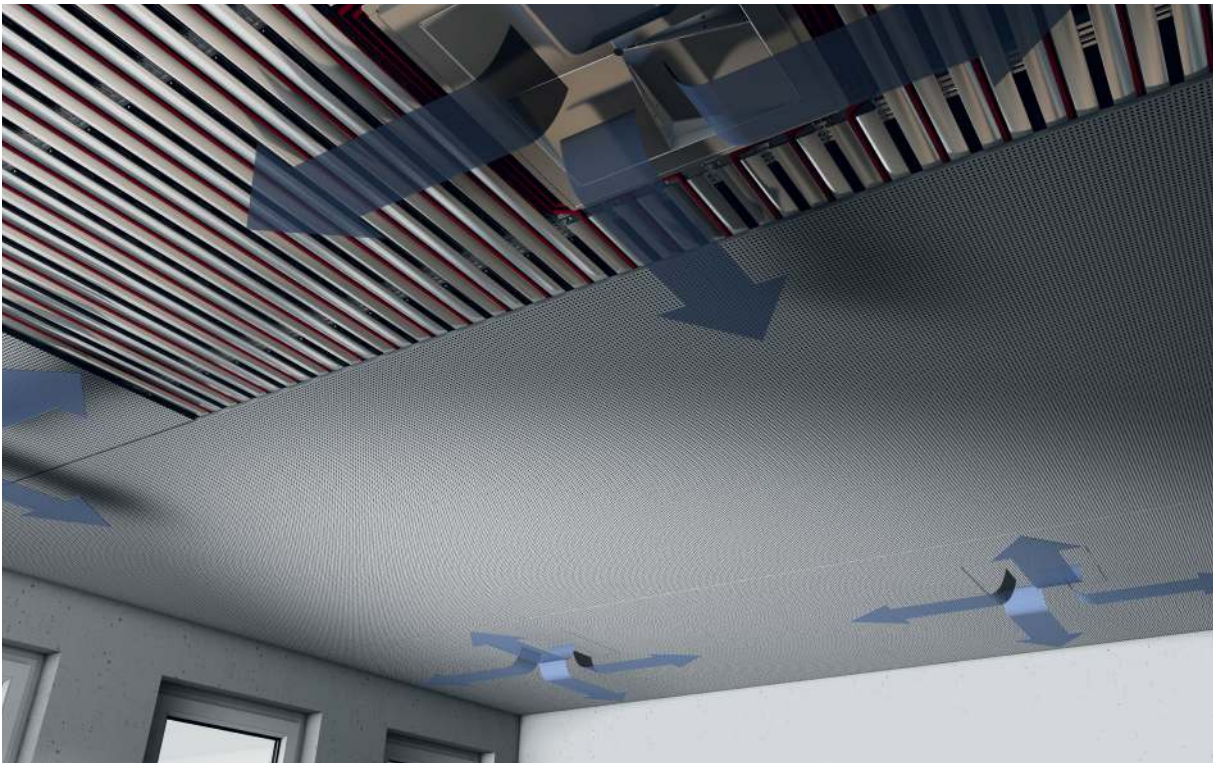
- Office buildings
- Hospitals
- Open-plan offices
- Foyers
- Ambulant clinics

## Technical Data

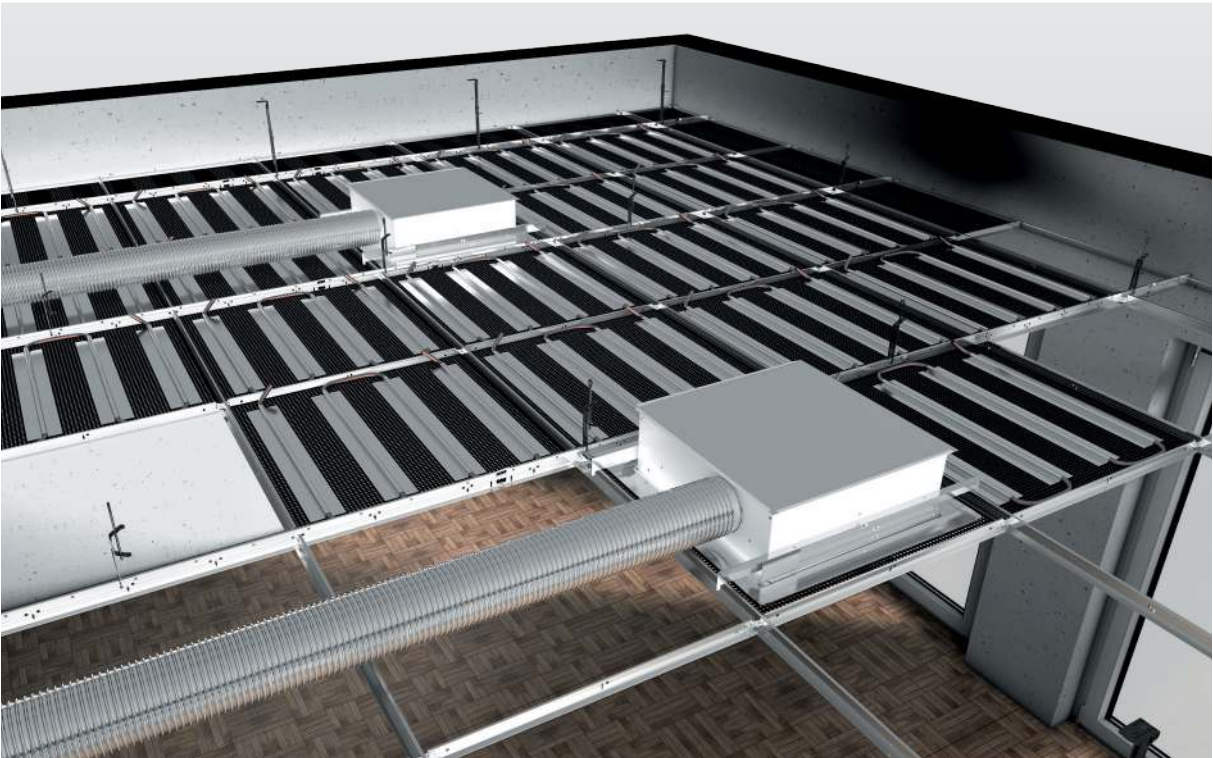
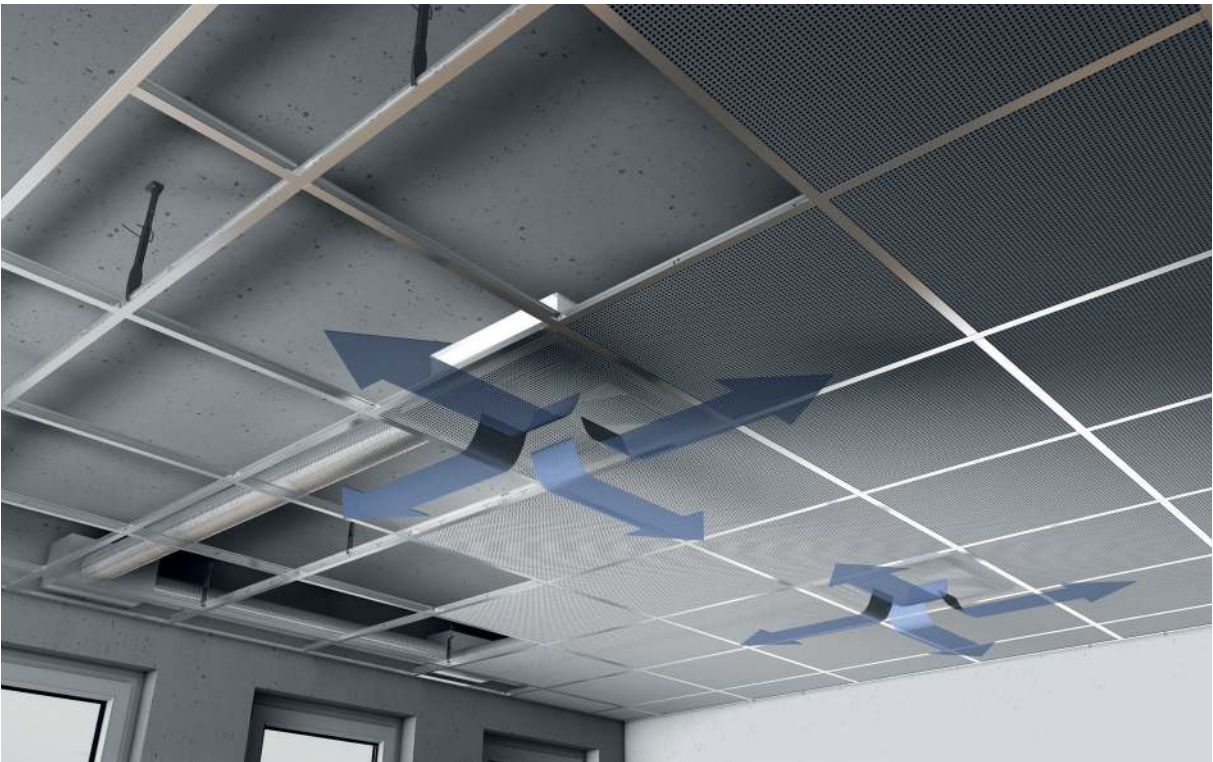
System suitability	Gypsum Planked Type A   Thermo Panel 4T
Amount of air	120 – 260 m³/h
Air distribution	360°
Dimension	601 x 601 mm
Thickness	210 mm
Weight	8.7 kg



Ceiling System Gypsum Planked Type A with Climaline Air-



Gypsum Tile Ceiling Thermo Panel 4T with Climaline Air-



Planked Type  
A

D  
Gypsum

Gypsum  
Planked Type

Gypsum Tile  
Ceilings

Metal Tile  
Ceilings

Panel Ceiling  
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Free Floating  
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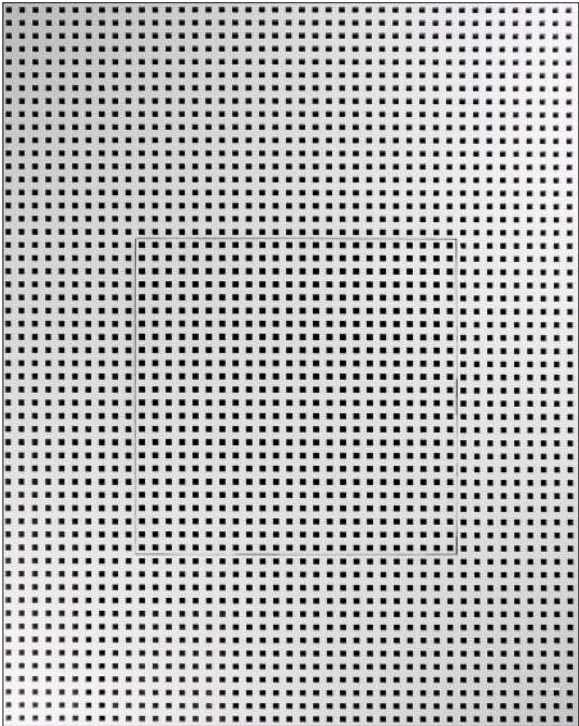
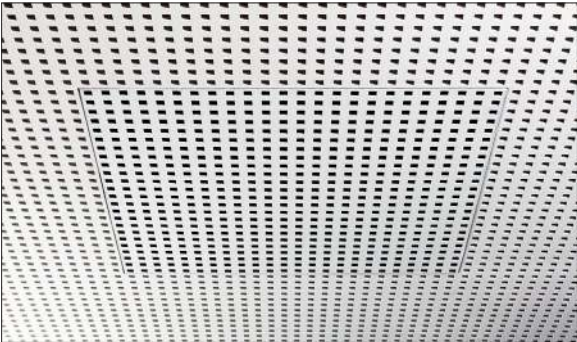
## Assembly of the Ventilation Unit

The ventilation unit is simply laid into the frame. During the assembly the air supply hose is plugged onto the element (see picture no. 5).



Detail Sights

The whole technique is placed in the void, fully integrated into the substructure of the ceiling. Only a 2 mm thin gap around the inspection hatch remains in the gypsum ceiling.

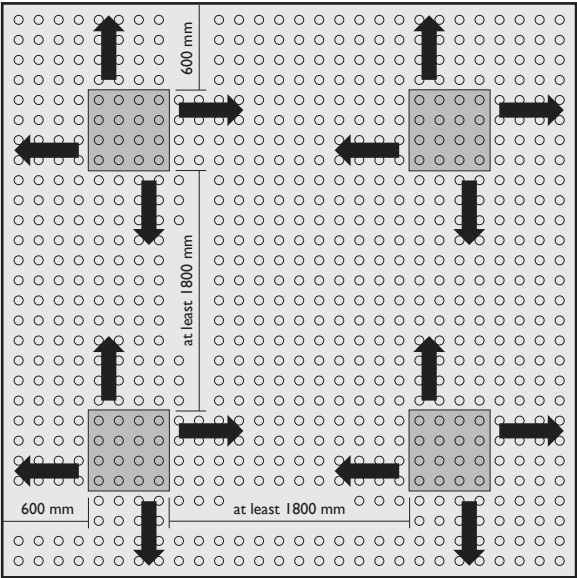


Planked Type A
D Gypsum
Gypsum Planked Type
Gypsum Tile Ceilings
Metal Tile Ceilings
Panel Ceiling Linear
Free Floating Ceiling Mono
Free Floating Ceiling Linear
Acoustical Effectivity
Cool Sets Water Chillers
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Annex

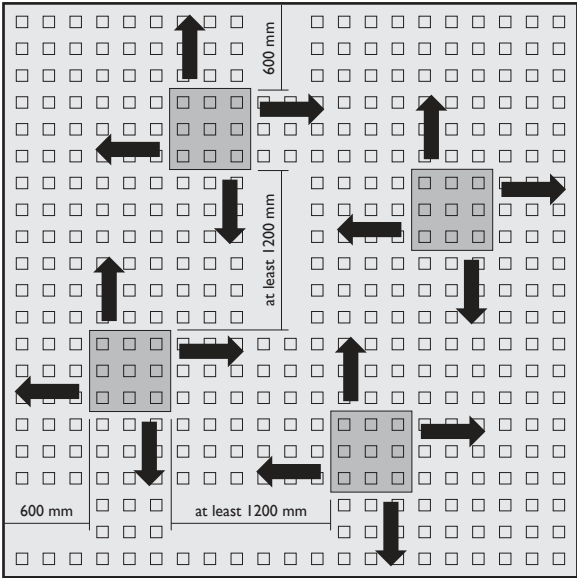
Construction

Formation of the AirFrames

The number of the AirFrames depends on the size of the room and of course on the amount of air required. For the either linear or offset mounting different measures and distances got to be considered.



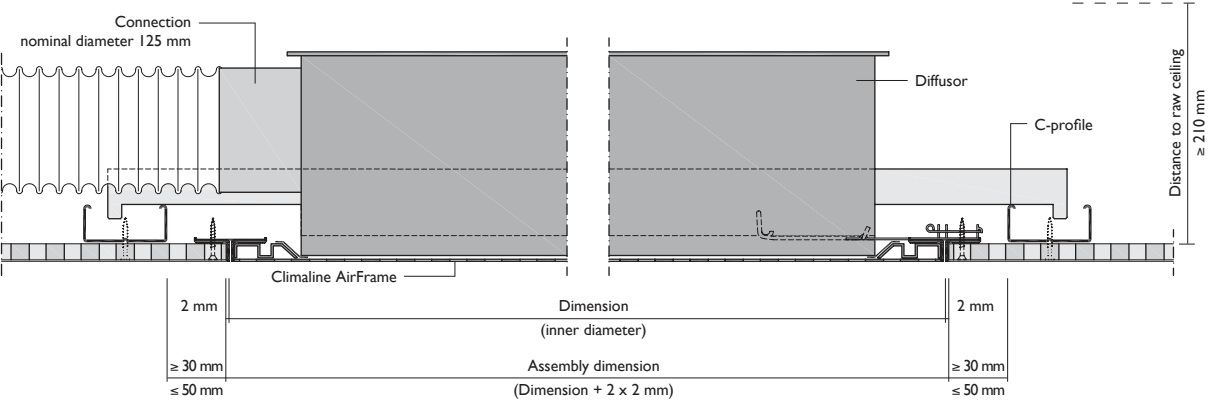
Linear formation



Offset formation

Construction and assembly measures

Due to its little panel thickness the CLIMALINE AirFrame can be integrated into the suspended ceiling very space-savingly.



## CLIMALINE AirFlow

The CLIMALINE AirFlow is an optimal addition to the Climaline cooling ceilings. In rooms, where by reason of the use, the quality of the building envelope or the geographic position the determined sensitive cooling loads cannot be achieved, the AirFlow supports then. Technically considered the AirFlow is a fan coil. The device consists of a convector and an inductive slit outlet and is a silent and optically pleasant system solution for the thermal peaks. The Climaline Airflow has the function to bring air into the room as effective as possible without producing an uncomfortable draft.

### Product Advantages

- Easy assembly
- Clear separation of drylining and HVAC
- Same system temperatures as the chilled ceiling
- High thermal comfort due to 3D-distribution
- Low operating costs
- Easy maintenance through slit outlet

### Areas of Application

- Meeting rooms
- Corner offices
- Open-plan offices
- Foyers
- Rooms with high internal cooling loads

### Technical Data

	Type 60	Type 80	Type 100
Construction size	Gypsum Planked	Gypsum Planked	Gypsum Planked
System suitability	Type A	Type A	Type A
Operational weight	20 kg	25 kg	30 kg
Construction height	294 mm	294 mm	294 mm
Unit width	337 mm	337 mm	337 mm
Unit length	994 mm	1194 mm	1394 mm
Size of the visible diffuser	129 x 1000 mm	129 x 1200 mm	129 x 1400 mm
Water content	0.9 l	1.2 l	1.5 l
Power supply	< 20 W	< 20 W	< 20 W



## Design CLIMALINE AirFlow Type 60

The below mentioned lists picture the performance data of the AirFlow devices under non-condensing operation. In the tables you find a few examples with system temperatures recommended by us.

### Cooling System: CLIMALINE AirFlow Type 60

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	724.9 W	693.0 W	602.8 W	656.7 W	616.0 W	511.5 W
Mass flow	281 kg/h	179 kg/h	117 kg/h	256 kg/h	160 kg/h	100 kg/h
Pressure loss	520 mbar	230 mbar	110 mbar	440 mbar	190 mbar	80 mbar
L <sub>p</sub> (at 6 dB sound absorption)	40 dB(A)	40 dB(A)	40 dB(A)	40 dB(A)	40 dB(A)	40 dB(A)

### Cooling System: CLIMALINE AirFlow Type 60

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	564.3 W	561.0 W	436.7 W	514.8 W	459.8 W	370.7 W
Mass flow	220 kg/h	201 kg/h	85 kg/h	200 kg/h	119 kg/h	72 kg/h
Pressure loss	330 mbar	130 mbar	60 mbar	330 mbar	110 mbar	50 mbar
L <sub>p</sub> (at 6 dB sound absorption)	35 dB(A)	35 dB(A)	35 dB(A)	35 dB(A)	35 dB(A)	35 dB(A)

**Because of the cold air which is led along the surface of the thermally activated ceiling, enforced convection is generated which naturally leads to an improvement in performance. This additional convection performance is already considered in the calculations with 10 %.**

**According to VDI 2569 a sound pressure of 40 dB(A) is absolutely permissible.**

## Design CLIMALINE AirFlow Type 80

The below mentioned lists picture the performance data of the AirFlow devices under non-condensing operation. In the tables you find a few examples with system temperatures recommended by us.

### Cooling System: CLIMALINE AirFlow Type 80

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	1036.2 W	936.1 W	910.8 W	949.3 W	854.7 W	812.9 W
Mass flow	359 kg/h	243 kg/h	177 kg/h	359 kg/h	222 kg/h	158 kg/h
Pressure loss	1020 mbar	510 mbar	290 mbar	1020 mbar	430 mbar	230 mbar
L <sub>p</sub> (at 6 dB sound absorption)	40 dB(A)	40 dB(A)	40 dB(A)	40 dB(A)	40 dB(A)	40 dB(A)

### Cooling System: CLIMALINE AirFlow Type 80

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	743.6 W	729.3 W	680.9 W	676.5 W	660.0 W	599.5 W
Mass flow	288 kg/h	189 kg/h	133 kg/h	263 kg/h	172 kg/h	117 kg/h
Pressure loss	690 mbar	320 mbar	170 mbar	580 mbar	270 mbar	140 mbar
L <sub>p</sub> (at 6 dB sound absorption)	35 dB(A)	35 dB(A)	35 dB(A)	35 dB(A)	35 dB(A)	35 dB(A)

**Because of the cold air which is led along the surface of the thermally activated ceiling, enforced convection is generated which naturally leads to an improvement in performance. This additional convection performance is already considered in the calculations with 10 %.**

**According to VDI 2569 a sound pressure of 40 dB(A) is absolutely permissible.**

## Design CLIMALINE AirFlow Type I00

The below mentioned lists picture the performance data of the AirFlow devices under non-condensing operation. In the tables you find a few examples with system temperatures recommended by us.

### Cooling System: CLIMALINE AirFlow Type I00

System temperature						
Supply temperature	15 °C	15 °C	15 °C	16 °C	16 °C	16 °C
Return temperature	17.6 °C	18 °C	19 °C	18.4 °C	19 °C	20 °C
Room temperature	26 °C	26 °C	26 °C	26 °C	26 °C	26 °C
Cooling output	1215.5 W	1122.0 W	1103.3 W	1113.2 W	1019.7 W	1002.1 W
Mass flow	359 kg/h	291 kg/h	214 kg/h	359 kg/h	265 kg/h	195 kg/h
Pressure loss	1180 mbar	810 mbar	3470 mbar	1180 mbar	690 mbar	400 mbar
L <sub>p</sub> (at 6 dB sound absorption)	40 dB(A)	40 dB(A)	40 dB(A)	40 dB(A)	40 dB(A)	40 dB(A)

### Cooling System: CLIMALINE AirFlow Type I00

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	932.8 W	872.3 W	851.4 W	816.2 W	797.5 W	764.5 W
Mass flow	349 kg/h	226 kg/h	166 kg/h	318 kg/h	207 kg/h	149 kg/h
Pressure loss	1130 mbar	450 mbar	300 mbar	950 mbar	380 mbar	240 mbar
L <sub>p</sub> (at 6 dB sound absorption)	35 dB(A)	35 dB(A)	35 dB(A)	35 dB(A)	35 dB(A)	35 dB(A)

**Because of the cold air which is led along the surface of the thermally activated ceiling, enforced convection is generated which naturally leads to an improvement in performance. This additional convection performance is already considered in the calculations with 10 %.**

**According to VDI 2569 a sound pressure of 40 dB(A) is absolutely permissible.**