CHILLED PLASTER CEILING

Extremely versatile

Tailor-made solutions for indoor climate

BARCOL-AIR

EXTREMELY VERSATILE

The Chilled plaster ceiling is visually indistinguishable from a normal plasterboard ceiling. Fixtures, as well as customised ceiling design using 3D elements or custom moulded parts are also well practicable. The activation module can be easily integrated into a standard substructure. Depending on the requirements, a perforated or non-perforated plaster ceiling can be used. The low installation height is ideal for rooms with limited space. The system can also be used as ceiling sail.

- Cooling and heating effect with high degree of radiation
- Low installation height: min. 120 mm
- Simple installation without fixed connections


Object: Studio di architettura CAIROLI & SCHITTONE

CEILING SYSTEM
closed
or as ceiling sail

OPERATING PRINCIPLE
Radiation

AIR SUPPLY
visible

CAPACITY
Cooling: up to 78 w/m² (8 K), EN 14240
Heating: up to 118 w/m² (15 K), EN 14037-3:2003

ACOUSTICS
α_w: up to 0,65
Sound absorption class C, EN ISO 11654

ROOM COMFORT
Thermal comfort according to EN ISO 7730, SIA 382/1

ACTIVATION

- Copper tube meander on a perforated aluminum sheet
- Copper tube: Ø outer 12 mm

FUNCTIONS

Cooling | Acoustics | Supply and exhaust air
Heating | Integral components | Compensation cold air drop

REFERENCES


Arbonia, Arbon – Chilled plaster ceiling perforated


Van Graaf, Spreitenbach – Chilled plaster ceiling sail non-perforated

Cover picture: Condair, Norderstedt GE

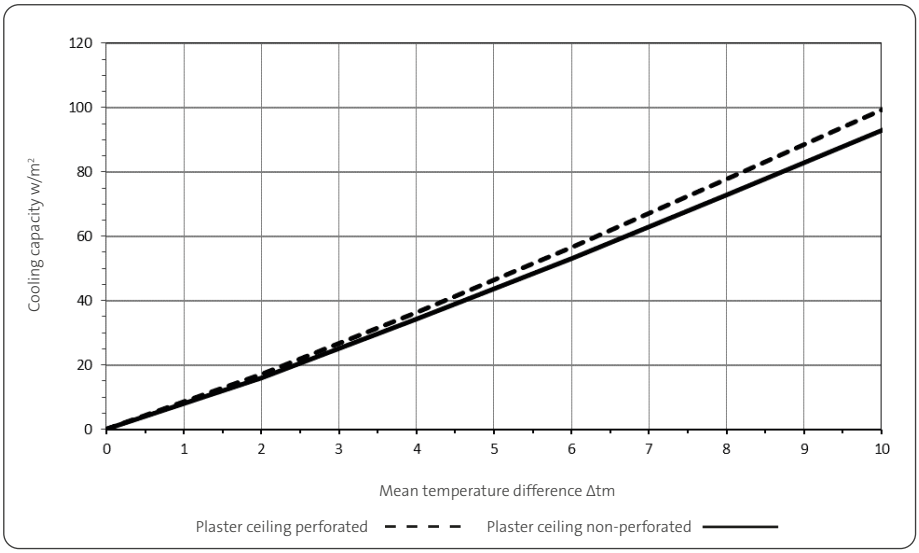
CAPACITY

Initial data

Chilled plaster ceiling closed	Plaster ceiling perforated	Plaster ceiling non-perforated
Activation module typ	260	345
Perforation plaster ceiling panel	R 8/18 – – – –	without ———
Installation height	300 mm	300 mm
Insulation	without	without
Occupancy rate	60 %	60 %

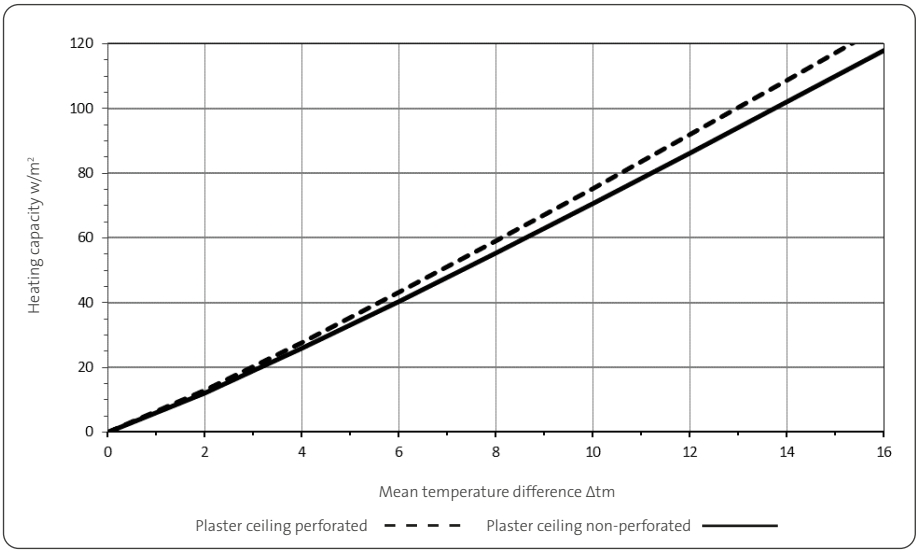
Cooling

- Plaster ceiling perforated: up to 78 w/m² (8 K)
- Plaster ceiling non-perforated: up to 73 w/m² (8 K)



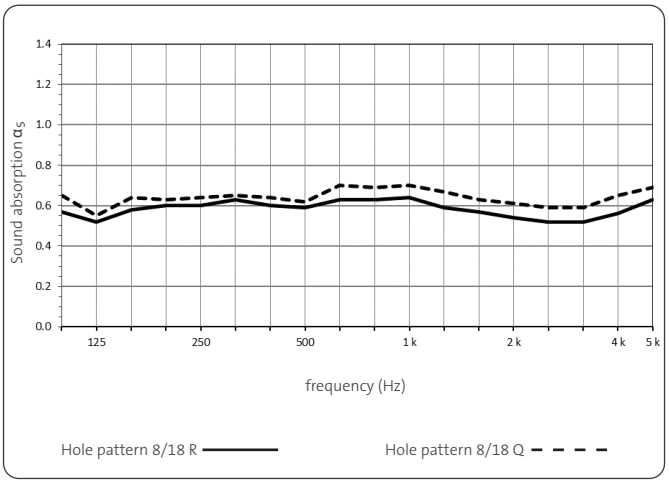
Heating

- Plaster ceiling perforated: up to 118 w/m² (15 K)
- Plaster ceiling non-perforated: up to 111 w/m² (15 K)



ACOUSTICS

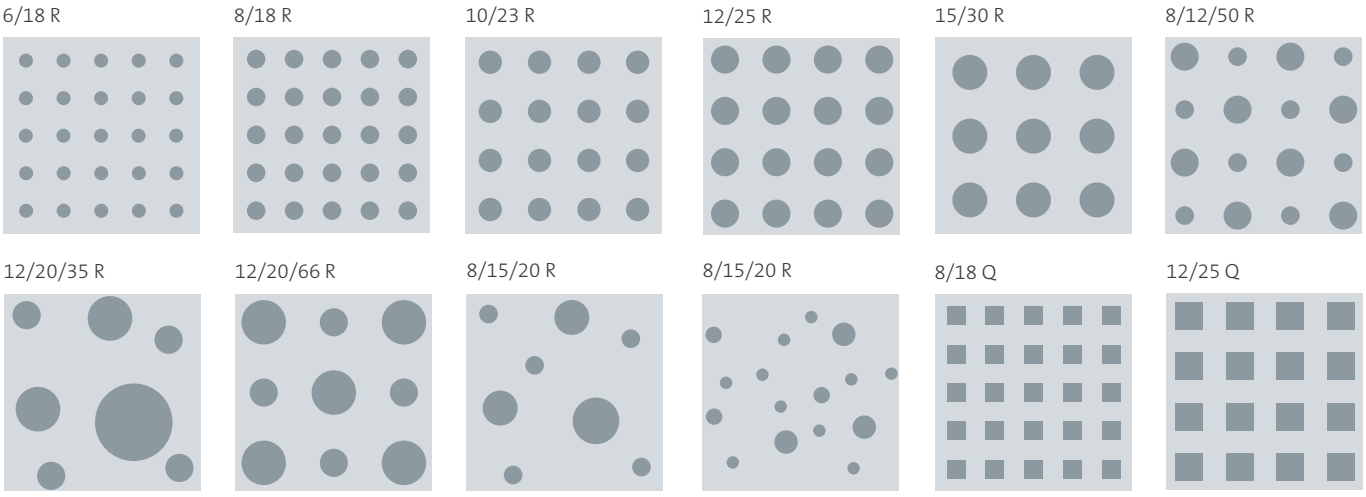
Ceiling appearance	closed	closed
Ceiling panel	VOGL Thermo-tec panel	VOGL Themo-tec panel
Hole pattern	8/18 R ———	8/18 Q – – – –
Sound absorption inlay	fleece	fleece
Occupancy rate	60 %	60 %
Sound absorption α_p	250: 0,70 500: 0,60 1k: 0,60 2k: 0,55 4k: 0,55	250: 0,75 500: 0,65 1k: 0,65 2k: 0,60 4k: 0,60
Sound absorption α_w	α_w: 0,60 (L)	α_w: 0,65 (L)
Sound absorption class	C (EN ISO 11654)	C (EN ISO 11654)



SYSTEM / OPERATION

Construction

- Installation system (Substructure)
  - Nonius suspension from raw ceiling
  - Basic profile e.g. CD 60 x 27 mm
  - Mounting bracket
  - Supporting profile CD 60 x 27/62 x 27/50 x 25 mm
- Ceiling system (Plaster ceiling perforated / non-perforated)
  - VOGL Thermotec panel
  - VOGL Thermotec panel PLUS
  - Rigips Climafit
  - Knauf Thermo panel K713
- Hole pattern plaster ceiling (examples)



Water

Recommended:

- Temperature: cooling 16 – 18 °C, heating 28 – 37 °C
- Temperatur difference $\Delta t_{|in\text{-}out|}$: 2 – 3 K
- Pressure drop: 20 – 25 kPa
- Water flow: 80 – 150 l/h
- Max. operating pressure: up to 9 bar
- Water quality: SWKI BT 102-01 / BTGA 3.003 / VDI 2035

Surrounding

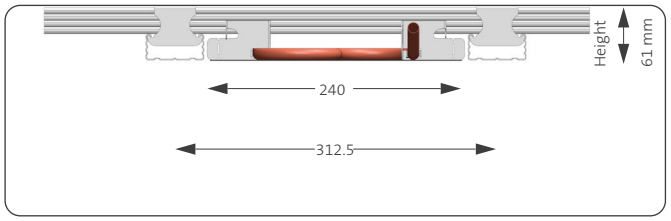
- Ambient temperatures: +5 – 50 °C
- Humidity: up to 90 % relative humidity

TECHNICAL SPECIFICATIONS

Activation module types

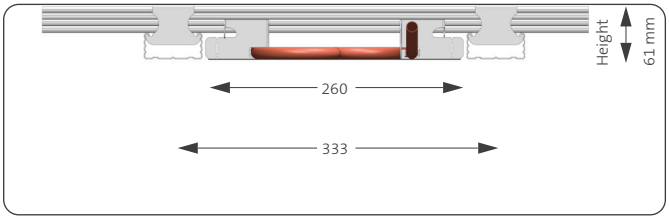
Activation module typ 240 (for plaster ceiling perforated)

Substructure grid (mm)	Module width (mm)	Module length (mm)
313	240	2000
313	240	1500
313	240	1000
313	240	500
313	240	500 – 2000



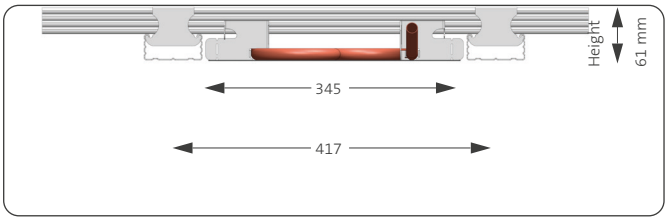
Activation module typ 260 (for plaster ceiling perforated)

Substructure grid (mm)	Module width (mm)	Module length (mm)
333	260	2000
333	260	1500
333	260	1000
333	260	500
333	260	500 – 2000



Activation module typ 345 (for plaster ceiling non-perforated)

Substructure grid (mm)	Module width (mm)	Module length (mm)
417	345	2000
417	345	1500
417	345	1000
417	345	500
417	345	500 – 2000



Dimensions and weight

Plaster ceiling	Substructure grid (mm)	Module width (mm)	Panel length (mm)	Panel width (mm)	Weight (incl. water)
Perforated	313 / 327 / 330 / 333 / 334	240 / 260	1875 – 2001	1188 – 1200	17,0 kg/m²
Non-perforated	417	345	2000	1250	18,2 kg/m²

FIRE PROTECTION

- Building material class A2-s1, d0 / B1-s1, d0

CERTIFICATION

- ISO 9001

BARCOLAIR.COM

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