



AIR CHILLED CEILING

Unobtrusively efficient

Tailor-made solutions for indoor climate



UNOBTRUSIVELY EFFICIENT

The Air chilled ceiling L11/L21 is a powerful air-cooling system that is particularly useful when there is no need for a water system (such as control rooms, server rooms). Due to the high cooling capacity, only a small part of the ceiling needs to be equipped with cooling elements. Due to the gentle and uncritical air introduction, the high performance and the visually appealing and inconspicuous design, this system is suitable for the effective ventilation and silent cooling of all types of rooms.

- Very high cooling capacity
- Noiseless and draft-free operation
- Low investment costs compared to water systems



CEILING APPEARANCE
closed

OPERATING PRINCIPLE
Radiation

AIR SUPPLY
visible

CAPACITY
Cooling: bis 240 W/m² (16 K), EN 14240

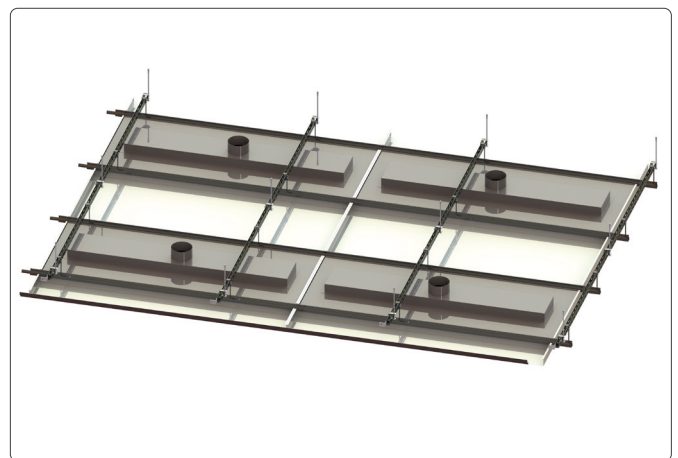
ACOUSTICS
 α_w : Type L11 up to 0,35 / Type L21 up to 0,55
Sound absorption class D, EN ISO 11654

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

AKTIVIERUNG

- Air system
For the cooling of the ceiling surface cooled supply air is used, which is supplied by special air cooling boxes. The supply air escapes into the room via the perforation and mixes completely with room air.

FUNCTIONS



REFERENCES



AIR COOLING CAPACITY AND PRESSURE DROP

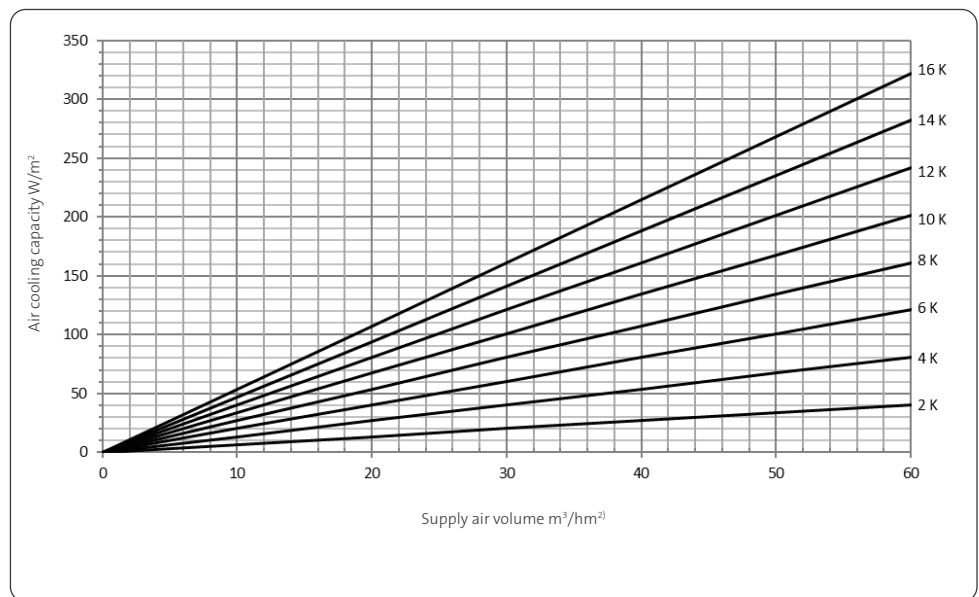
Initial data

Type	Air chilled ceiling type L11 ① —	Air chilled ceiling type L21 ② - - - -
Format ceiling panel	Square panel 600 x 600 mm	Rectangular panel
Perforation	Rg 0,5 – 0,8 %	Rg 1,5 – 11 %
Suspended height	400 mm	400 mm
Acoustic fleece	without	with

Air cooling capacity

- ① Type L11 up to $42 \text{ m}^3/\text{hm}^2$
- 8 K: 113 W/m^2
 - 12 K: 169 W/m^2
 - 16 K: 226 W/m^2

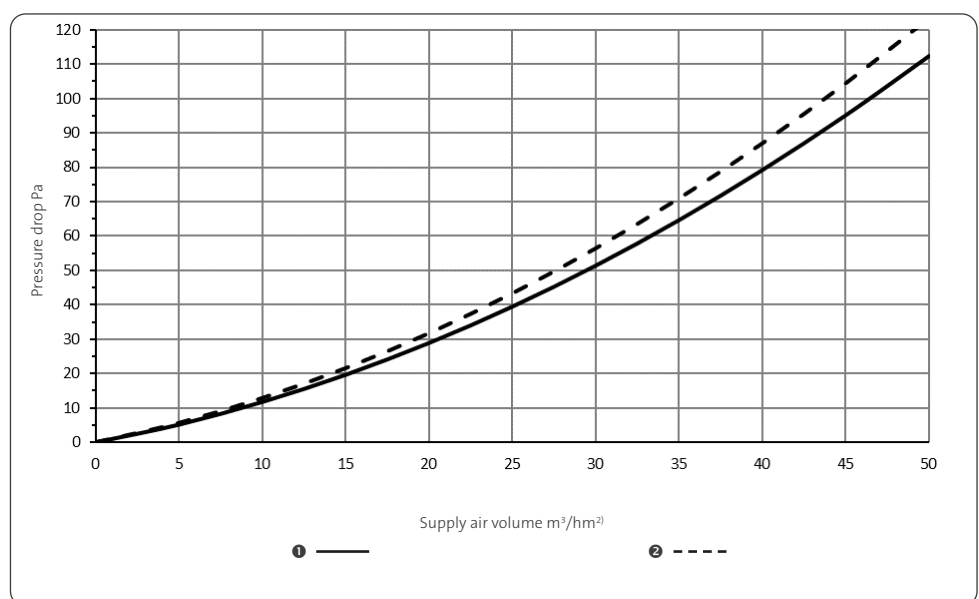
- ② Type L21 up to $45 \text{ m}^3/\text{hm}^2$
- 8 K: 121 W/m^2
 - 12 K: 181 W/m^2
 - 16 K: 240 W/m^2



Pressure drop

- ① Type L11 at $40 \text{ m}^3/\text{hm}^2$
- 79 Pa

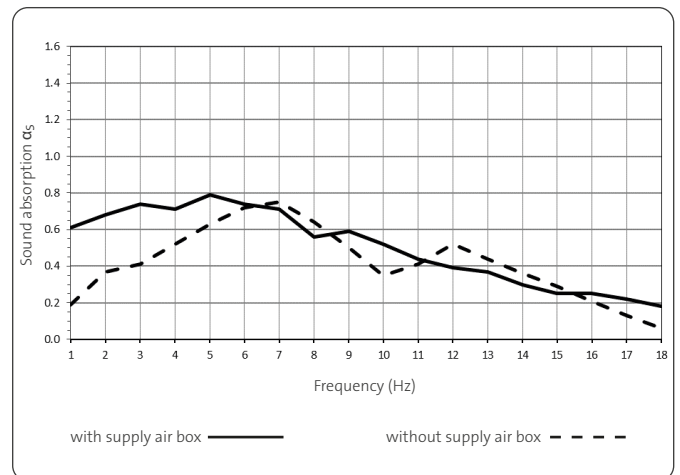
- ② Type L21 at $40 \text{ m}^3/\text{hm}^2$
- 87 Pa



ACOUSTICS

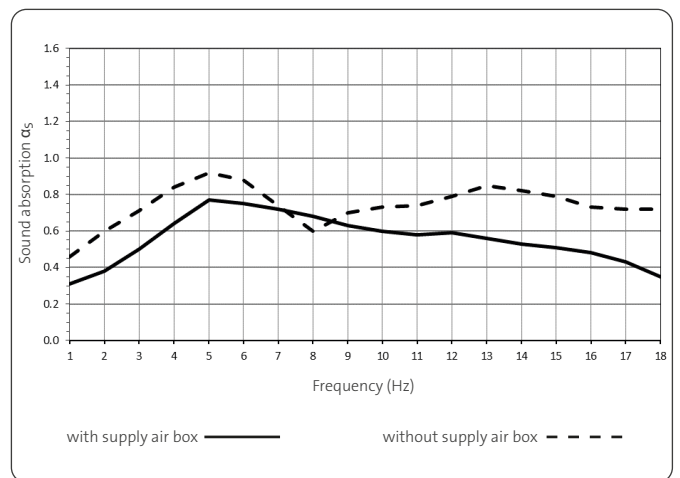
Air chilled ceiling type L11

Ceiling panel	activ with supply air box ————	inactive without supply air box -----
Perforation	Rg 0,5 – 0,8 %	Rg 0,5 – 0,8 %
Free cross section	0,8 %	0,8 %
Suspended height	200 mm	200 mm
Sound absorption inlay	without	without
Sound absorption α_p	250: 0,75 500: 0,60 1k: 0,45 2k: 0,30 4k: 0,20	250: 0,60 500: 0,65 1k: 0,45 2k: 0,35 4k: 0,15
Sound absorption α_w	α_w : 0,35 (LM)	α_w : 0,35 (LM)
Sound absorption class	D (EN ISO 11654)	D (EN ISO 11654)



Air chilled ceiling type L21

Ceiling panel	activ with supply air box ————	inactive without supply air box -----
Perforation	Rg 1,5 – 11 %	Rg 1,5 – 11 %
Free cross section	11 %	11 %
Suspended height	400 mm	400 mm
Sound absorption inlay	Acoustic fleece	Acoustic fleece
Sound absorption α_p	250: 0,70 500: 0,70 1k: 0,60 2k: 0,55 4k: 0,40	250: 0,90 500: 0,70 1k: 0,75 2k: 0,80 4k: 0,70
Sound absorption α_w	α_w : 0,55 (L)	α_w : 0,75 (L)
Sound absorption class	D (EN ISO 11654)	C (EN ISO 11654)



SYSTEM / OPERATION

Construction

- Ceiling systems
 - Square and rectangular panels
 - Stepped ceilings and further special solutions
- Installation systems
 - Lay-in system
 - Hook-on system
 - C-channel systems

Supply air

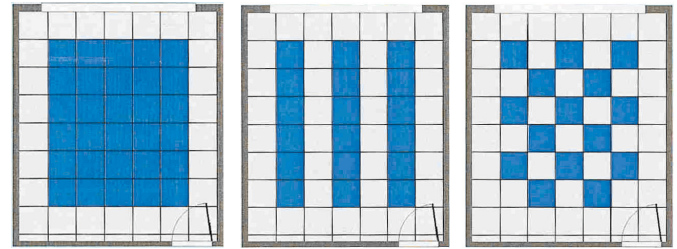
- Supply air flow: 45 m³/h per m²
- Supply air temperature:
 - Cooling 0 K up to -16 K
 - Heating up to ±0 K (heating is not recommended)

Surrounding

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

System versions

In the implementation up to 7 supply air boxes in series are possible.



full area

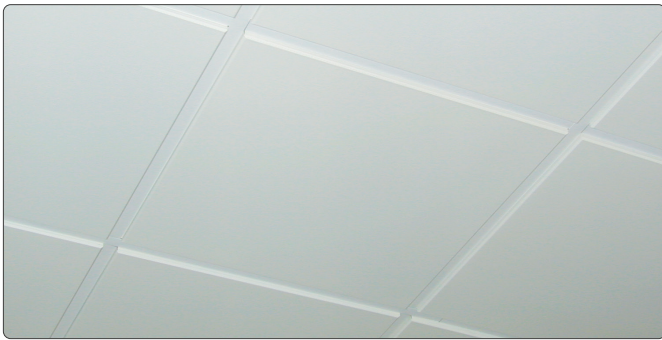
in row

chessboard

TECHNICAL SPECIFICATIONS

Air chilled ceiling type L11

- Square panels in two formats
- Micro perforation Rg 0,5 – 0,8 %



Dimensions type L11

- Square panels: 600 x 600 mm
- Square panels: 625 x 625 mm
- Installation height: min. 160 mm

Material and weight type L11

- Material: Steel 0,5 – 0,7 mm
- Weight: 11 kg/m²

Versions type L11

- Surface:
 - Powder coating
 - Digital printing on request
- Colours:
 - Standard RAL 9010 and 9016
 - Other RAL or NCS colours on request
- Perforations:
 - Hole diameter 0,5 mm – 0,8 mm
 - Free cross section < 2 %
 - Only micro perforation without fleece inlay

Air chilled ceiling type L21

- Rectangular panels in standard dimensions
- Standard perforations



Dimensions type L21

- Panel length: 400 – 2500 mm
- Panel width: 200 – 1200 mm
- Installation height: min. 75 mm

Material and weight type L21

- Material: Steel 0,5 – 0,7 mm
- Weight: 7 – 11 kg/m²

Versions type L21

- Surface:
 - Powder coating
 - Digital printing on request
- Colours:
 - Standard RAL 9010 and 9016
 - Other RAL or NCS colours on request
- Perforations:
 - Hole diameter up to 1,5 mm
 - Free cross section up to 11 %
 - Standard perforations with fleece inlay
 - Other perforations on request

FIRE PROTECTION

- Building material class A2-s1, d0, EN 13501-1

CERTIFICATION

- ISO 9001

SWITZERLAND



Barcol-Air Group AG

Wiesenstrasse 5
8603 Schwerzenbach
T +41 58 219 40 00
F +41 58 218 40 01
info@barcolair.com

Barcol-Air AG

Wiesenstrasse 5
8603 Schwerzenbach
T +41 58 219 40 00
F +41 58 218 40 01
info@barcolair.com

Barcol-Air AG

Via Bagutti 14
6900 Lugano
T +41 58 219 45 00
F +41 58 219 45 01
ticino@barcolair.com

GERMANY

Barcol-Air GmbH

Bahnhofstrasse 39
21614 Buxtehude
T +49 4161 800 28 0
F +49 4161 800 28 20
verkauf-deutschland@barcolair.com

FRANCE

Barcol-Air France SAS

Parc Saint Christophe
10, avenue de l'Entreprise
95861 Cergy-Pontoise Cedex
T +33 134 24 35 26
F +33 134 24 35 21
france@barcolair.com

ITALY

Barcol-Air Italia S.r.l.

Via Leone XIII n. 14
20145 Milano
T +41 58 219 45 40
F +41 58 219 45 01
italia@barcolair.com