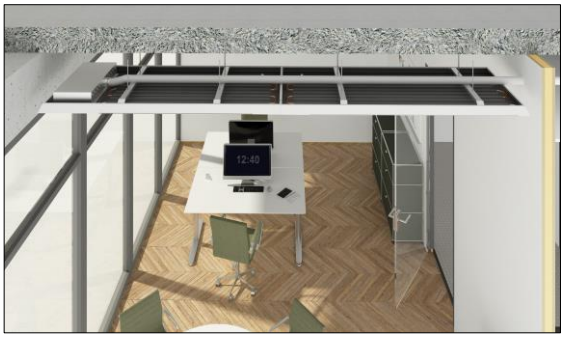
Plafotherm® DS AirHybrid

Hybrid Ventilation Element in Canopy Ceiling

Product description

Plafotherm® DS AirHybrid is a multifunctional canopy ceiling with guided supply air that can be used for the activation of the concrete core. The supply air element is integrated on the rear side of the ceiling panel and is not visible from below. Perforated ceiling panels and induction outlets in the ceiling void evenly distribute tempered fresh air above resp. below the ceiling without generating unpleasant draught. Comfort according to DIN, ISO and SIA as well as a pleasant room climate is guaranteed.

- multifunctional canopy ceiling with guided supply air
- thermoactive for the activation of the concrete core
- perfectly matched to Plafotherm® DS heated/chilled canopy ceilings
- homogeneous ceiling surface due to concealed hybrid ventilation hood
- inserts supply air trough panel perforation or induction outlets in the ceiling void
- comfort tested to DIN, ISO and SIA thanks to an even distribution of supply air
- hygienic and easy to clean



Project solutions

This product data sheet refers to the standard version of the product mentioned above.
We would be happy to work with you to find the right solution for your project. Adapted to your building project, you will receive a perfectly matched system. Project-specific constructions and adaptations can be found in the offer documents.

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Technical data | Hybrid ventilation element

	AirHybrid S60-50-110	AirHybrid S90-50-110	AirHybrid S90-50-160
Length (L)	600 mm	700 mm	700 mm
Width (B)	300 mm	300 mm	300 mm
Height (H)	110 mm	110 mm	160 mm
Connection	DN 80	2 x DN 80	DN 100
Volume flow rate	50 - 70 m³/h	70 - 90 m³/h	70 - 90 m³/h
Nominal volume flow rate	60 m³/h	90 m³/h	90 m³/h
Differential pressure	60 Pa	55 Pa	60 Pa
Sound power level L_{WA}	23 dB(A)	24 dB(A)	23 dB(A)
Weight	4.0 kg	4.5 kg	5.0 kg
Serviceability	removable and cleanable acc. VDI 6022	removable and cleanable acc. VDI 6022	removable and cleanable acc. VDI 6022

HVAC

Heating and cooling

Heating and cooling technology	AirHybrid S60-50-110	AirHybrid S90-50-110	AirHybrid S90-50-160
Plafotherm® Cu			
Waterside nominal cooling capacity (10 K) according to EN 14240 in relation to the active area	170 W/m²	176 W/m²	176 W/m²
Waterside nominal heating capacity (15 K) according to EN 14037:2003 in relation to the active area	195 W/m²	210 W/m²	210 W/m²
Plafotherm® V2A			
Waterside nominal cooling capacity (10 K) according to EN 14240 in relation to the active area	163 W/m²	166 W/m²	166 W/m²
Waterside nominal heating capacity (15 K) according to EN 14037:2003 in relation to the active area	195 W/m²	205 W/m²	205 W/m²
Thermal comfort			
Thermal comfort acc. EN ISO 77330	category A to B	category A to B	category A to B

Notice: The absolute humidity of the supply air must be selected in such a way that the dew point on the chilled ceiling is not undershot. If the supply air is too humid, condensation can occur on the chilled ceiling, which can lead to moisture problems and damage. By controlling the absolute humidity of the supply air, the dew point can be kept at an acceptable level to prevent condensation and ensure a comfortable indoor climate.

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Technical data | Canopy ceiling

Length (L) | Plafotherm® DS 320	500 - 3,500 mm (depending on type of canopy ceiling)
Width (B) | Plafotherm® DS 320	700 - 1,250 mm (depending on type of canopy ceiling)
Material ceiling panel	galvanised sheet steel
Surface	powder coating on visible side
Weight	approx. 14 -16 kg/m² (with hybrid ventilation element)
Serviceability	removable without tools

Acoustics

Room acoustics

Equivalent sound absorption area per canopy	DIN EN ISO 354		
Rated sound absorption coefficient	DIN EN ISO 11654	α_w	0.55 - 1.00
Sound absorption class	DIN EN ISO 11654		D - A
Noise Reduction Coefficient	ASTM C 423	NRC	0.55 - 1.00
Notice	The evaluation of α_w and NRC can only be carried out in dependence and therefore is only an orientation value.		

Fire protection

Building material class

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

Durability

Exposure class	DIN EN 13964	A

Sustainability

Product self-declaration	Self-declaration according to ISO 14021
Environmental product declaration	EPD according to EN 15804 / ISO 14025 possible
Circular Economy	Cradle to Cradle Certified® Silver

Certification

CE marking	The ceiling system is a harmonised construction product acc. to regulation (EU) No.305/2011 (Construction Products Regulation) and EN 13964: Suspended ceilings – Requirements and test methods.
TAIM e. V.	The ceiling system fulfils the requirements of the "Technical Manual Metal Ceilings" (TMMC) of TAIM e. V. (Association of Industrial Metal Ceiling Manufacturers).

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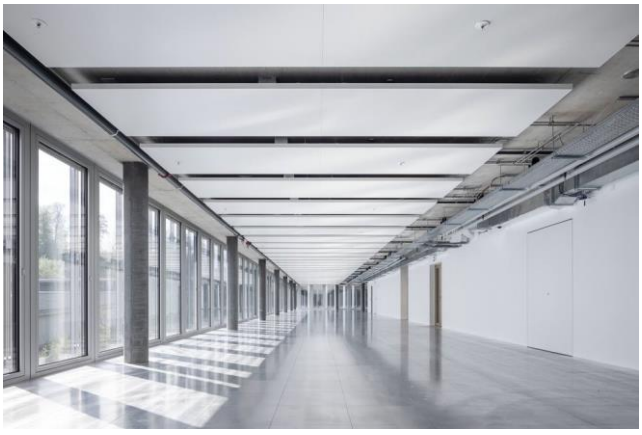
Surfaces

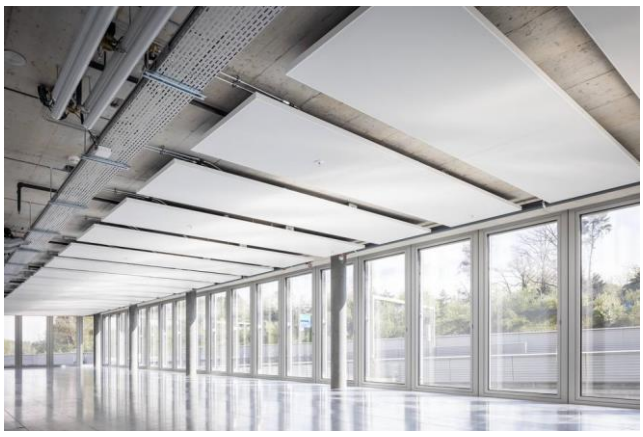
Powder coatings	COLOURline – Powder coating MOODline – Powder coating, deep matt ARTline – Decorative powder coating GRAPHICline – Digital print
Perforations	BASICline – Standard perforations REGULARline – Further perforations

Additional equipment

Hydraulic components	PlafoTube® MQC – Connecting/Connection hose with MultiQuickConnect Fittings – Distribution system
Ventilation components	AirBox S – Supply air elements AirBox E – Exhaust air elements
Luminaires	Lindner luminaires and luminaires from other manufacturers possible IS 17 – Integrated Luminaire for general areas IS 22 – Integrated Luminaire for monitor work stations QZI – Integrated luminaire with cell louvres

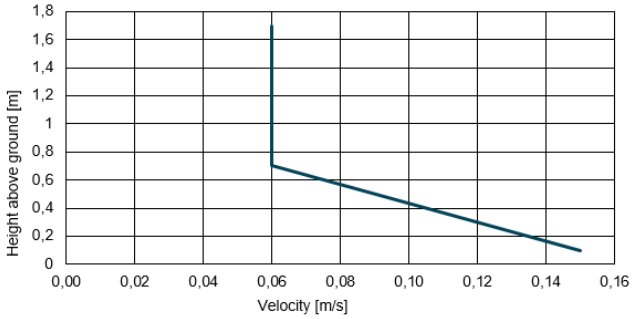
Applications





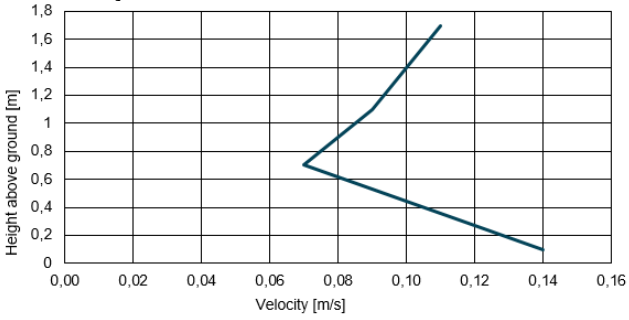
Diagrams | Flow velocity

Flow velocity
below AirHybrid ventilation element



AirHybrid S60-50-110

Flow velocity
below AirHybrid ventilation element



AirHybrid S90-50-110 | AirHybrid S90-50-160

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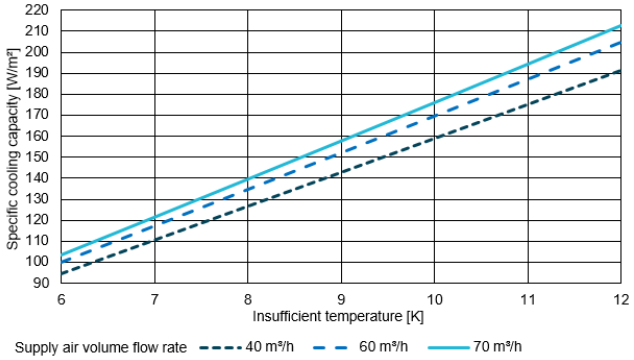
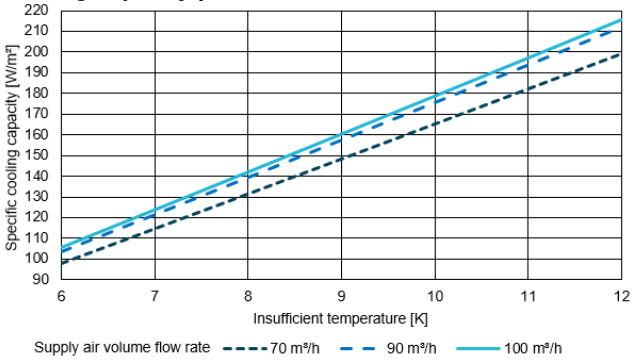
Diagrams | Plafotherm® Cu

Cooling capacity | Plafotherm® Cu



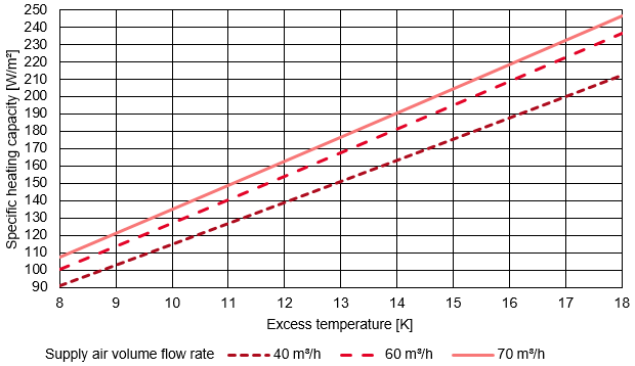
AirHybrid S60-50-110

Cooling capacity | Plafotherm® Cu



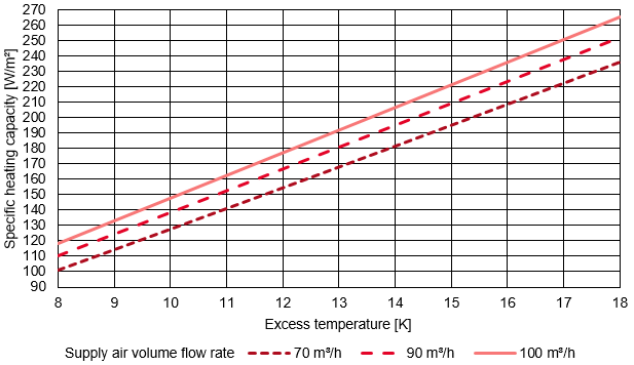
AirHybrid S90-50-110 | AirHybrid S90-50-160

Heating capacity | Plafotherm® Cu



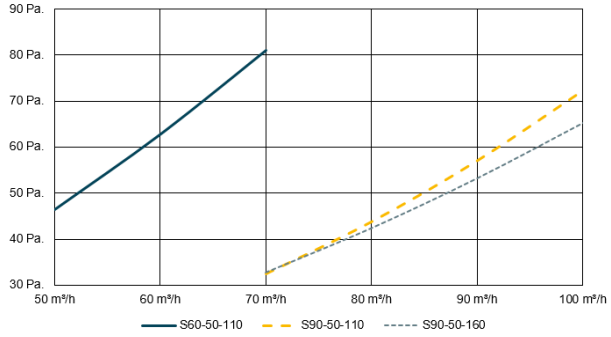
AirHybrid S60-50-110

Heating capacity | Plafotherm® Cu



AirHybrid S90-50-110 | AirHybrid S90-50-160

Pressure



Sound power level L_{WA}

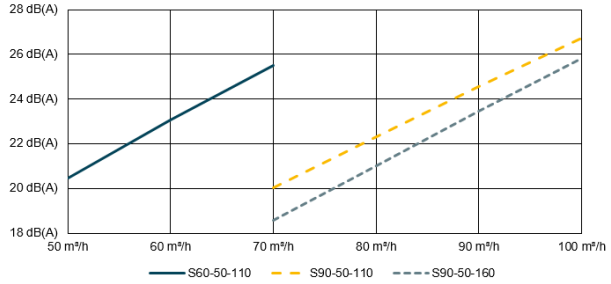


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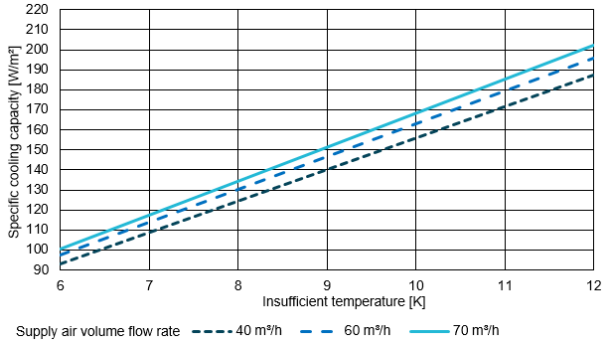
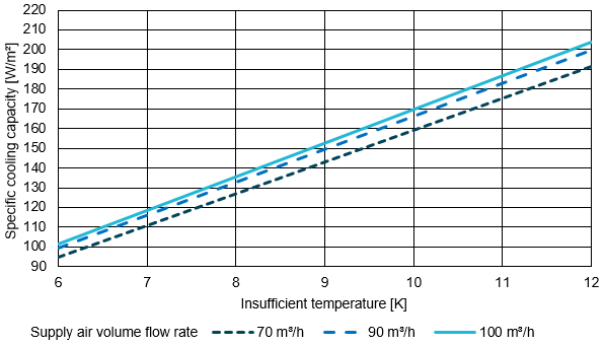
Diagramme | Plafotherm® V2A

Cooling capacity | Plafotherm® V2A



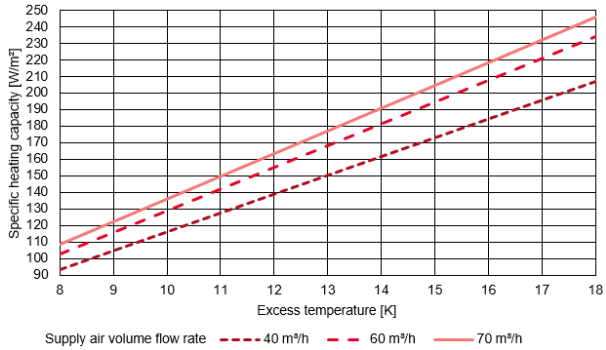
AirHybrid S60-50-110

Cooling capacity | Plafotherm® V2A



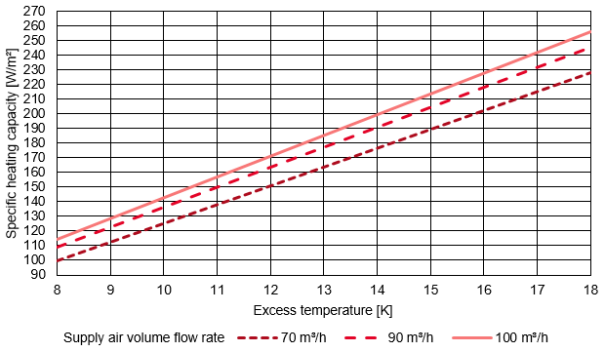
AirHybrid S90-50-110 | AirHybrid S90-50-160

Heating capacity | Plafotherm® V2A



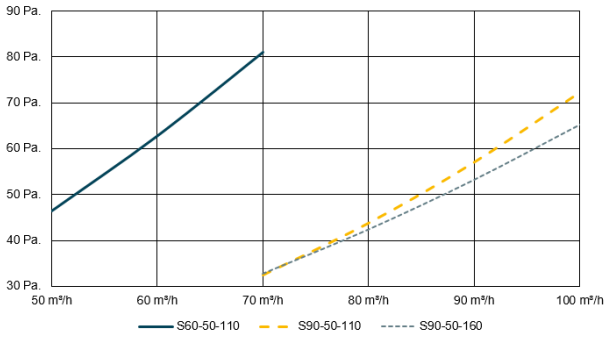
AirHybrid S60-50-110

Heating capacity | Plafotherm® V2A

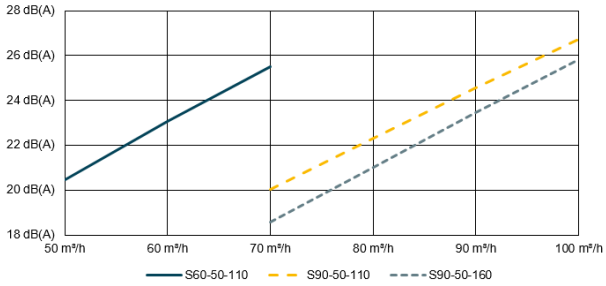


AirHybrid S90-50-110 | AirHybrid S90-50-160

Pressure



Sound power level L_{WA}



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