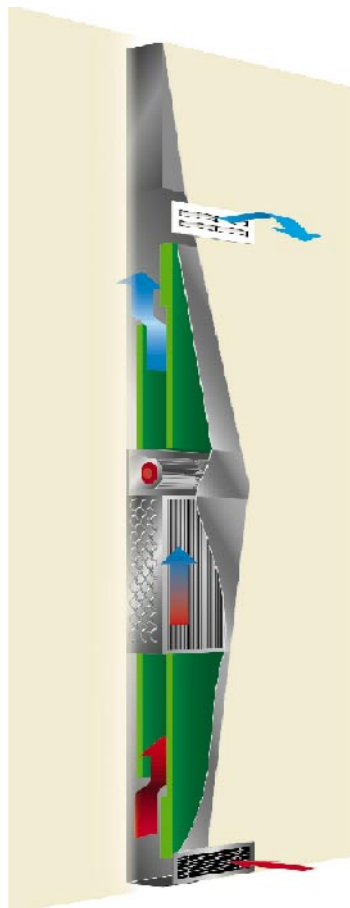




Climate Convector

CULTRA



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Fan Coil Unit Model CULTRA

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Fan Coil Unit Model CULTRA

Description

The room air-conditioning module CULTRA integrated in walls allows an absolutely free use of space, thus guaranteeing architectural flexibility. The room air-conditioning module CULTRA is recirculating-air cooling device for offices, medical practices, etc. It can be operated with fresh air and with both circulating and fresh air. The dimensions of the wall module is adjusted to the modular dimensions of lightweight partition walls and allows installation into walls, ceilings or floors. Later in-front-of-the-wall installation is also possible.

The plug-in room air-conditioning module and its dimensions adapted to lightweight wall construction (minimum height 2 m) allow a cost-efficient and quick installation. When room utilisation changes or reconstruction of the dry walls takes place, a quick moving of the room air-conditioning module is possible. The user can even take the air-conditioning module with him when moving, as if it were office furniture. A sound-decoupled suspension prevents structure-borne noise transmission to the ceiling and the single-plank wall.

The room air-conditioning module with the function to cool and heat can replace the conventional heating installation as well as expensive cooling ceiling technology. The sensible cooling capacity of max. 880 W is optimised to office spaces of up to 24 m². For larger rooms, several modules can be used. The air volume is 250 m³ per hour. To guarantee a minimum air change rate, a minimum fan speed can be pre-programmed. For flexible operation, it is possible to integrate room operating devices from a wide range of brands.

Room air is drawn in by the fan through the air intake grille and cleaned by the filter connected downstream. The integrated air deflection sound absorber reduces the flow-generated noise. The air is then taken through the cooling or heating register and is temperature-controlled. Another air deflection sound absorber is connected downstream for noise reduction. The temperature-controlled air is then blown out into the room again through the air intake grille.

A quick filter change is possible by means of the easy-to-disassemble air intake grille and for maintenance purposes the complete cover fitted to the device by means of a removable lock can be taken off. The register and the fan are readily accessible without requiring special tools.

Optional accessories for the room air-conditioning module as smooth wall element or with office equipment (white board, diary, media wall) or as room acoustic module with selected designs.

A wide range of supply and return air grilles allow a great freedom of creativity.

The sound-optimised room climate module can even be used in sound studios.

The fan coil unit CULTRA must be built in such it is readily accessible for inspection purposes.

Characteristics of each supply and return air diffuser:

DSC:

The support profile section blades create such a stable jet that, for the two-way air jet or round jet, just one blade has to be set alternately in one outflow direction. This achieves maximum induction while the temperature and velocity are effectively reduced. Due to the central housing of the support profile blades, the free cross-section always remains the same. Accordingly, when the blades are adjusted, the pressure loss and sound power level remain constant. An adjustment to the air outflow direction at a later stage is possible at any time, even when the diffuser has already been fitted. The DSC

The air diffuser design is fitted without blades as standard.

KG:

Owing to its compact construction, front frame, blades for air distribution and the hit-and-miss damper for air volume regulation consist of a single component, as a result of which the compact grille requires only a small mounting depth.

This small mounting depth reduces vortex formation at the hit-and-miss damper, thus ensuring uniform air intake over the entire diffuser surface of the grille. This model consists of a front frame with visible screw mounting (SM), with pivoting horizontal or vertical air deflection blades and integrated hit-and-miss damper to regulate the air volume. A cover frame in modern design allows concealed mounting (VM) of the grille.

The air diffuser direction has been set in-factory to a horizontal throw, directed slightly upwards. The high induction ensures fast reduction of the air outflow velocity and of the temperature differential in cooling mode. The DSX-XXL-W is built in together with the end pieces.

DBB:

The support profile blades create a stable jet and are distinguished in particular by their high flexibility. The integrated blades allow many air distribution patterns even later on. Due to the central housing of the support profile blades, the free cross-section always remains the same. Accordingly, when the blades are adjusted, the pressure loss and sound power level remain constant. An adjustment to the air outflow direction at a later stage is possible at any time, even when the diffuser has already been fitted.

PA:

The ventilation grille type PA has front side fitted horizontal, fixed profile blades to direct the air. According to the required air throw pattern, the blade profiles can be selected from three different profiles (PA, PAS or PAZ).

Fan Coil Unit Model CULTRA

Construction

Diffuser DBB-A 525 / 215

- Faceplate made of sheet steel painted to RAL 9010 (white) with plastic blades painted to RAL 9005 (black) or RAL 9010 (white).

Diffuser DSC-404

- Length 500 mm, front cover made of aluminum anodised or painted to RAL 9010 (white) with plastic blades painted to RAL 9005 (black) or RAL 9010 (white), both sides with end pieces.

Diffuser DSX-XXL-W-P-2

- Length 500 mm, front cover made of aluminum anodised or painted to RAL 9010 (white) with plastic blades painted to RAL 9005 (black) or RAL 9010 (white), both sides with end pieces.

Diffuser KG 8 515 / 115

- Front frame with visible screw mounting (SM) made of galvanized sheet steel, painted to RAL 9010 (white), natural color anodized aluminum or stainless steel 1.4301 (V2A) with pivoting horizontal air deflection blades and integrated hit-and-miss damper to regulate the air volume.

Diffuser KG 15 515 / 115

- Front frame with visible screw mounting (SM) made of galvanized sheet steel, painted to RAL 9010 (white), natural color anodized aluminum or stainless steel 1.4301 (V2A) with pivoting vertical air deflection blades and integrated slot valve to regulate the air volume.

Diffuser PA 1 525 / 75

- Front frame and blades made of extruded aluminium profiles natural colour anodised (E6/EV1) with front side horizontal stationary profile blades.

Diffuser PA 2a 525 / 75

- Front frame and blades made of extruded aluminium profiles natural colour anodised (E6/EV1) with front side horizontal stationary profile blades, additionally with individually adjustable vertical droplet-forming blades.

- Pocket filter G2 (EU2)

Housing

- galvanised sheet steel

Air deflection sound absorber

- Galvanized sheet steel housing
- Insulation material, building material class B1 (standard) to DIN 4102
- Insulation material, building material class A2 (non-flammable) to DIN 4102 (at an extra charge)

Fan

- Cross flow fan
- Galvanized sheet steel housing
- Aluminium impeller

Heat exchanger

- 2-pipe circuit
- 4-pipe circuit
- Galvanised sheet steel frame
- Aluminium blades
- Copper pipes

Model

- CULTRA - Recirculating air module with air intake and outflow grilles, air deflection sound absorber, fan, filter and cooling and/or heating register.

Accessories

Room acoustic module (Audimin)

- Brochure on request

Quick selection

	V _{supply} at 35 dB(A)	
	m ³ /h	l/s
CULTRA-DSC 404	125	35
CULTRA-DSX-XXL-W-P-2	200	56
CULTRA-DBB 525/215	200	56
CULTRA-KG 8 515/115	250	69
CULTRA-KG 15 515/115	250	69
CULTRA-PA 2a 525/75	250	69

*valid for a minimum height of 2000 mm.

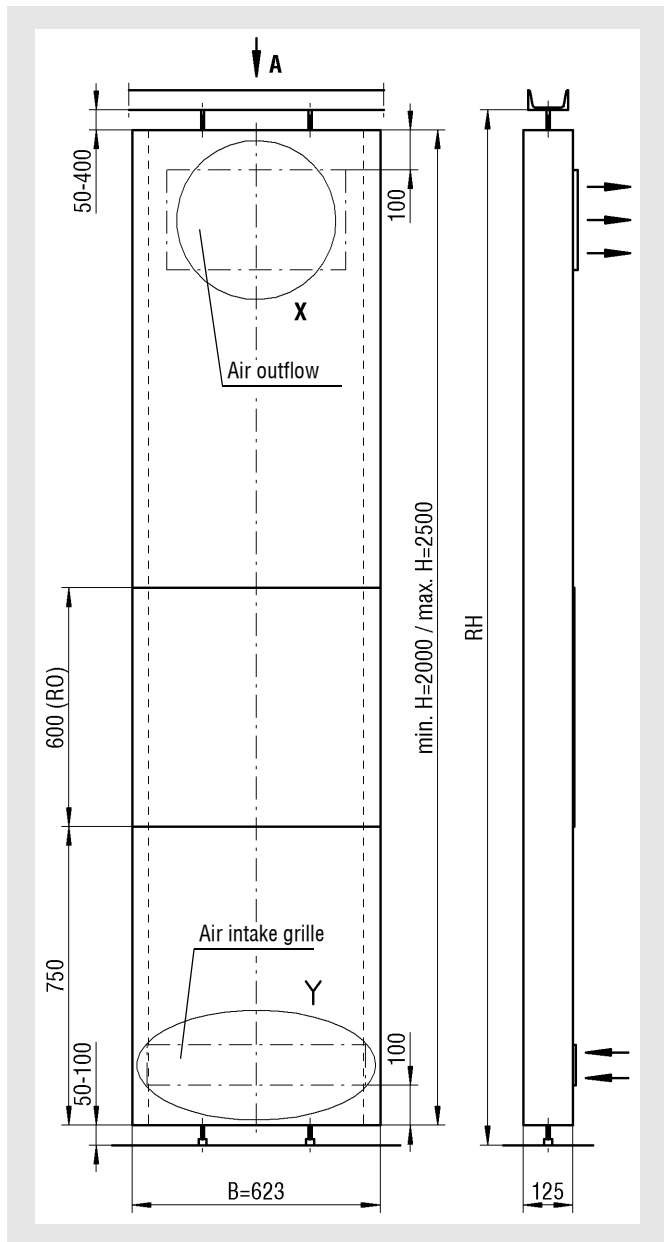
Lower heights reduce the noise level

Fan Coil Unit Model CULTRA

Models and dimensions

Dimensions

CULTRA



Possible diffusers:

Air outflow grille

Detail X

- DBB-A
- DSC-404
- DSX-XXL-W-P-2
- KG 8
- KG 15
- PA 2a

Air intake grille

Detail Y

- KG 8
- KG 15
- PA 1

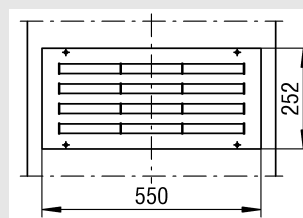
RO = Inspection opening

When ordering, specify room height (RH)!

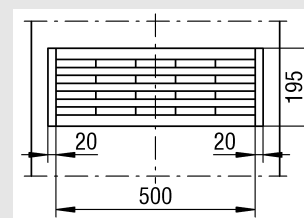
Air outflow grille

Detail X

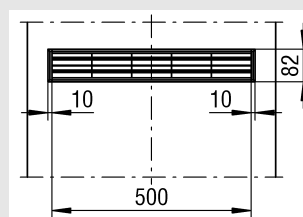
CULTRA-DBB-A 525/215



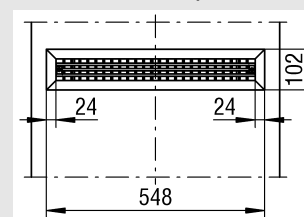
CULTRA-DSC-404



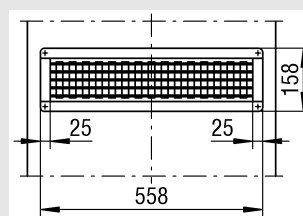
CULTRA-DSX-XXL-W-P-2



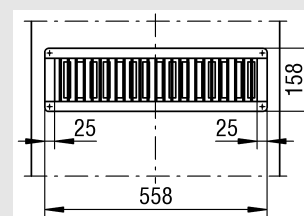
Cultra-PA 2a 525/75



CULTRA-KG 8 515/115



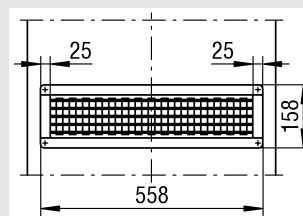
CULTRA-KG 15 515/115



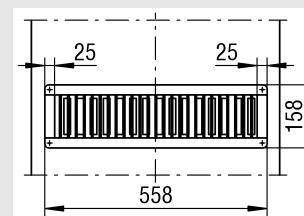
Air intake grille

Detail Y

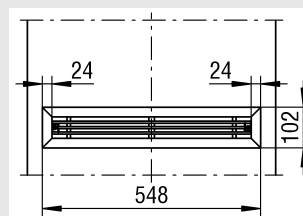
CULTRA-KG 8 515/115



CULTRA-KG 15 515/115

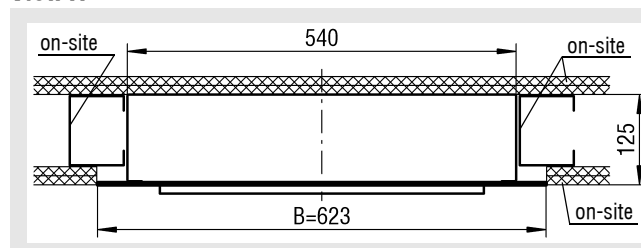


CULTRA-PA 1 525/75



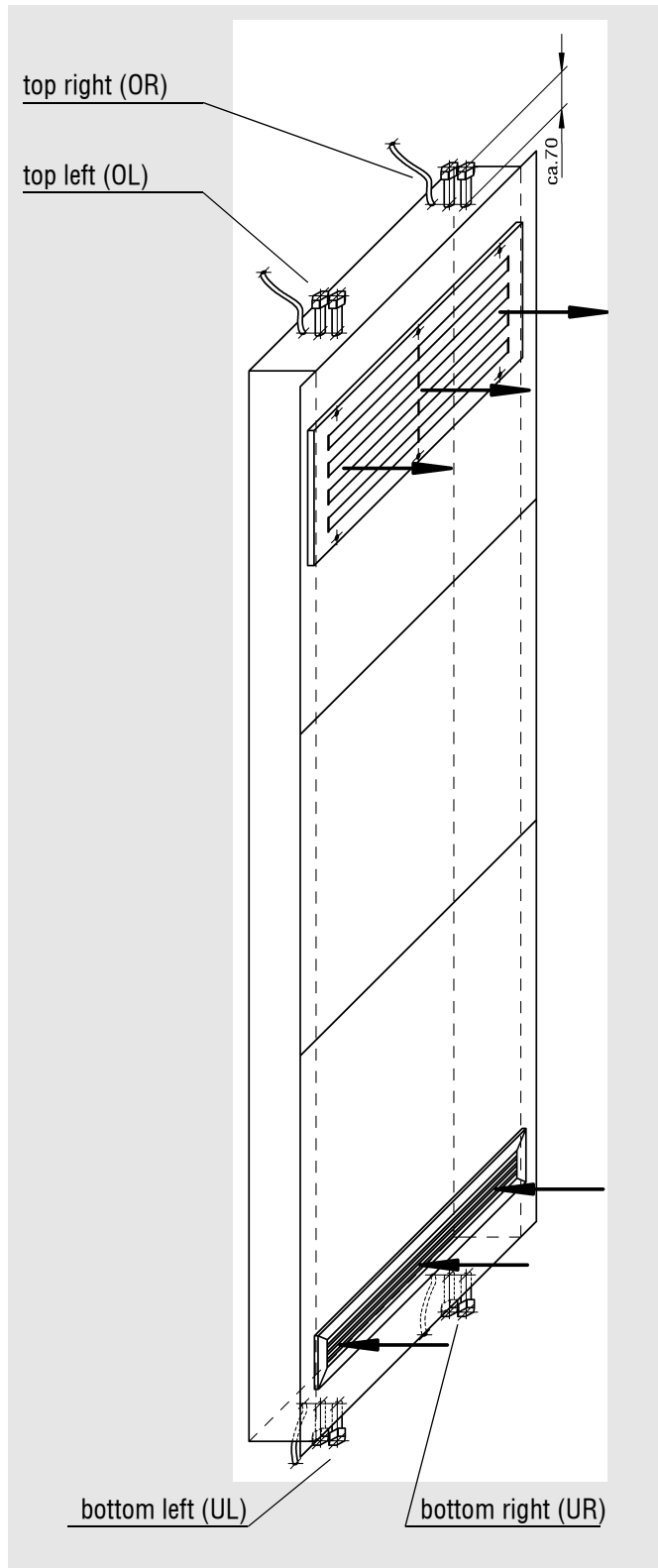
Assembly detail

View A



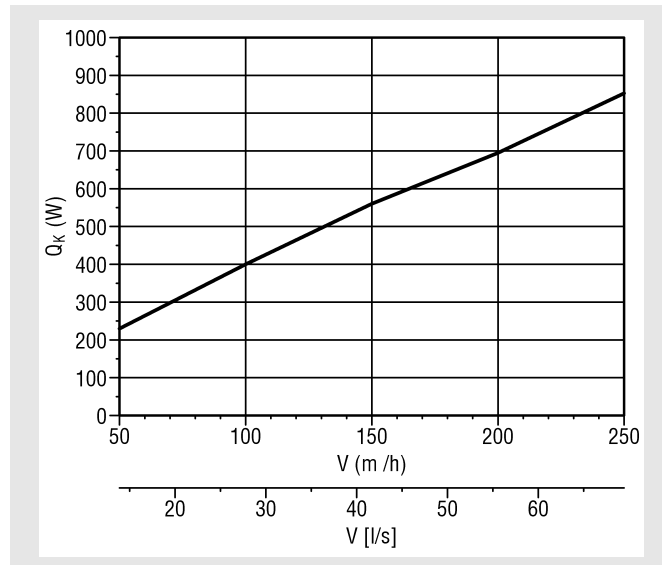
Fan Coil Unit Model CULTRA

Water connection / electric connection



Technical Data

Cooling capacity / Volumetric flow



at: Room temperature t_R = 27°C
 Return flow temperature t_r = 19°C
 Supply temperature t_v = 16°C
 relative humidity = 46%

when cooling at $t_v/t_r = 16/19^\circ\text{C}$, the temperature does not drop below the dew point temperature, i.e., no condensate is formed.

Heat exchanger:

Max. cooling capacity: 880 W
 relative humidity 46%
 Mass flow
 Pressure loss 0.082 bar
 Water supply/return 16/19°C
 Air intake 27°C
 Air outlet 18°C
 Water connection 10 mm

Fan:

Voltage 230 V AC/
 50 Hz
 Capacity 94 W
 max. volumetric flow (V_{max}) 250 m³/h

Heating capacity at:

Water supply/return
 40/30°C: approx. 1250 W

Cooling capacity at:

$t_R = 27^\circ\text{C}$: max. 880 W

Radiated noise

Sound power level in dB at 250 m³/h
 Sound power $L=33$ dB(A)

Hz	125	250	500	1000	2000	4000	8000
dB	41	36	33	26	17	12	10

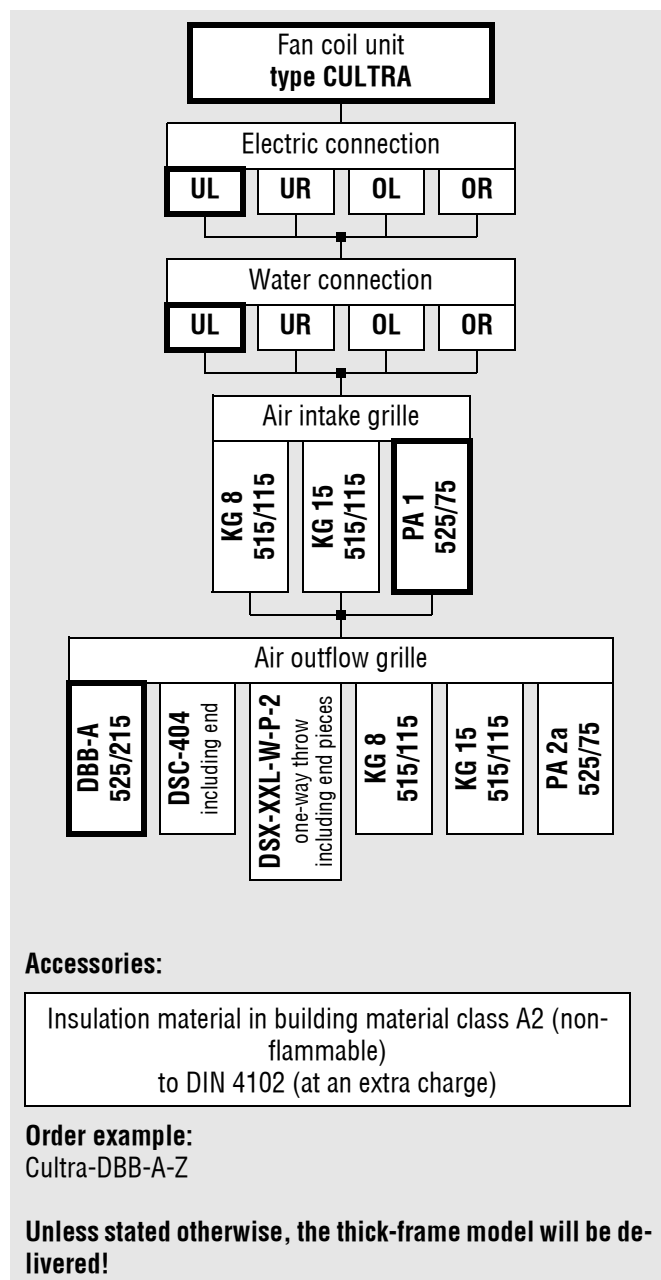
Valid for a minimum height of 2000 mm.
 Lower heights reduce the noise level

Fan Coil Unit Model CULTRA

Legend

V	(m ³ /h)	= Volumetric flow
V	[l/s]	= Volumetric flow
Q _K	(W)	= Cooling capacity
Q _H	(W)	= Heating capacity
Q _{ges}	(kW)	= Total capacity
t _r	(°C)	= Return flow temperature
t _v	(°C)	= Supply temperature
t _R	(°C)	= Room temperature

Order details



Fan Coil Unit Model CULTRA

Specification texts

The plug-in room air-conditioning module for offices, practices, etc., for cooling and heating. The dimensions are adapted to lightweight partition walls. For installation in walls, ceilings or floors or for in-front-of-the-wall installation. Easy to install and uninstall when room utilisation changes. Structure-borne noise transmission is prevented by means of a sound-decoupled suspension. Simple filter change through easily disassembled air intake grille. For inspection purposes, quick and easy to open by means of a removable lock without requiring special tools. Control via 3-speed control or a room temperature sensor as a function of room temperature.

Product: SCHAKO Typ CULTRA-...

Room height _____ m

- Electric connection:
 - bottom left (UL) (standard)
 - bottom right (UR)
 - top left (OL)
 - top right (OR)
- Water connection:
 - bottom left (UL) (standard)
 - bottom right (UR)
 - top left (OL)
 - top right (OR)

Air intake grille type: ... from SCHAKO

- KG 8: size 515/115 mm (BxH), with pivoting horizontal air deflection blades. With integrated hit-and-miss damper for air volume regulation. With visible screw mounting (SM).
 - Front frame, air deflection blades and hit-and-miss damper made of:
 - galvanised sheet steel
 - galvanised sheet steel, front side painted, colour RAL 9010 (white),
 - Aluminium natural colour anodised E6/EV1
 - Stainless steel 1.4301 (V2A)
- KG 15: size 515/115 mm (BxH), with pivoting vertical air deflection blades. With integrated hit-and-miss damper for air volume regulation. With visible screw mounting (SM).
 - Front frame, air deflection blades and hit-and-miss damper made of:
 - galvanised sheet steel
 - galvanised sheet steel, front side painted, colour RAL 9010 (white),
 - Aluminium natural colour anodised E6/EV1
 - Stainless steel 1.4301 (V2A)
- PA 1: size 525/75 mm (BxH). Front frame made of extruded aluminium profile, natural colour anodised (E6/EV1) With front side horizontal stationary profile blades made of extruded aluminium profiles natural colour anodised (E6/EV1). Blade profile: PA. With concealed mounting (VM 12).

Air outflow grille type: ... from SCHAKO

- DBB-A-Z: size 525/215 mm (BxH). Sheet steel faceplate painted to RAL 9010 (white). With visible screw mounting (SM).
 - with pivoting air deflection blades individually adjustable and made of plastic in the colours:
 - RAL 9005 (black),
 - RAL 9010 (white) or
 - Aluminium painted to the same RAL colour as the frame. Subsequent adjusting of blades not possible.
- DSC 404: 4-slot, length 500 mm. Front cover made of aluminium natural colour anodised (E6/EV1) or aluminium painted to RAL 9010 (white) With end pieces on both sides
 - with pivoting air deflection blades in support blade profile shape made of plastic (hard PVC)
 - RAL 9005 (black),
 - RAL 9010 (white) or
 - Aluminium painted to the same RAL colour as the frame. Subsequent adjusting of blades not possible.
- DSX-XXL-W-P-2: 2-slot, length: 500 mm, one-way throw Front cover made of aluminium natural colour anodised (E6/EV1) or aluminium painted to RAL 9010 (white) Blades made of plastic RAL 9005 (black) or RAL 9010 (white) With end pieces on both sides
- KG 8: size 515/115 mm (BxH), with pivoting horizontal air deflection blades. With integrated hit-and-miss damper for air volume regulation. With visible screw mounting (SM).
 - Front frame, air deflection blades and hit-and-miss damper made of:
 - galvanised sheet steel
 - galvanised sheet steel, front side painted, colour RAL 9010 (white),
 - Aluminium natural colour anodised E6/EV1
 - Stainless steel 1.4301 (V2A)
- KG 15: size 515/115 mm (BxH), with pivoting vertical air deflection blades. With integrated hit-and-miss damper for air volume regulation. With visible screw mounting (SM).
 - Front frame, air deflection blades and hit-and-miss damper made of:
 - galvanised sheet steel
 - galvanised sheet steel, front side painted, colour RAL 9010 (white),
 - Aluminium natural colour anodised E6/EV1
 - Stainless steel 1.4301 (V2A)
- PA 2a: size 525/75 mm (BxH). Front frame made of extruded aluminium profile, natural colour anodised (E6/EV1) With front side horizontal stationary profile blades made of extruded aluminium profiles natural colour anodised (E6/EV1). Blade profile: PA. Additionally with vertical, separately adjustable droplet-forming blades. With concealed mounting (VM 12).