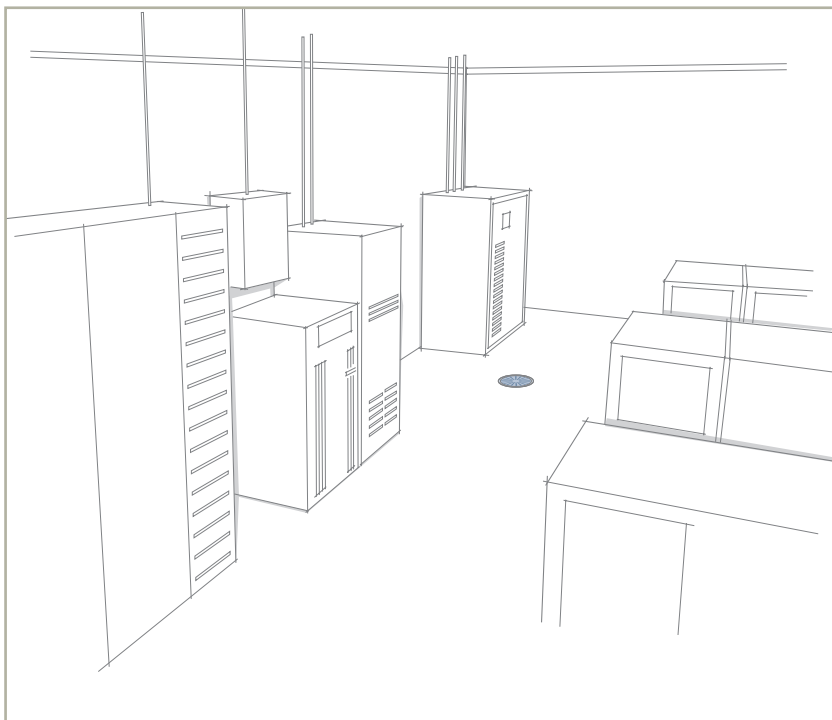


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Floor diffuser PWAA

TECHNICAL DATA





Floor-mounted air terminal PWAA is dedicated for all types of rooms, which require good ventilation to be provided in occupied zone, e.g. telecommunications rooms, data centres, offices. Diffuser supplies high inductive air, which quickly mix with indoor air to reach stable temperature. PWAA is suitable for the cooling and ventilation of electronic equipment standing on the floor.

Terminals are intended to be installed in raised floor tiles. Air is provided to diffusers directly from the space between the floors or through SKPA connection box.

Diffusers are made of mechanically durable and non-flammable plastic and available in two colours, grey (RAL 7040) or black (RAL 7021) colour.

QUICK SELECTION

Size	Air flow		Supply air temperature °C	Max temperature difference $t_s - t_r$, K	Maximum loading kg
	l/s	m³/h			
PWAA-20	15,3 - 48,6	55 - 175	17 - 31	±12	550

In rooms where large number of people are constantly present, the maximum air flow $q_{\text{supply}} = 33,3 \text{ l/s}$ ($120 \text{ m}^3/\text{h}$).

SPECIFICATIONS

- One size (200 mm)
- Available in two colours, grey RAL 7040 or black RAL 7021
- Made of durable plastic
- Easy to install

PRODUCT CODE EXAMPLE

Floor diffuser PWAA-20-1-1-1-2

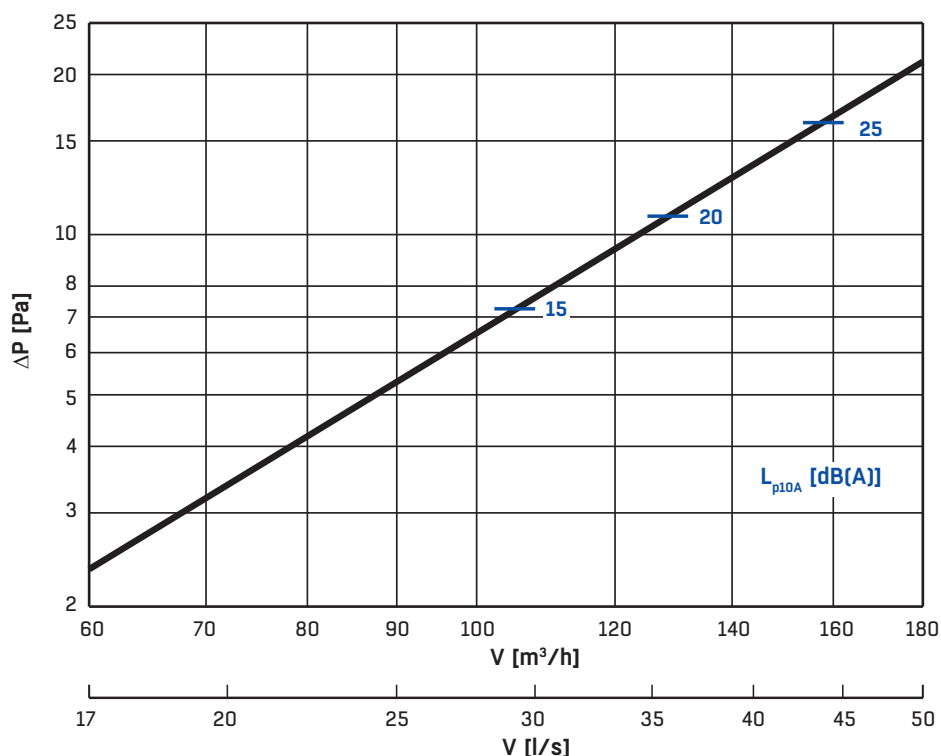
Floor-mounted air terminal size 20, with installation flange, mounting ring and dirt basket, colour RAL 7021.

Connection box SKPA-12-1-0

Duct connection diameter of 125 mm, with sound attenuation material, without damper.

AIR FLOW, PRESSURE DROP, SOUND LEVEL, ACOUSTICAL DATA

PWAA DIFFUSER WITHOUT CONNECTION BOX



In the above graph the sound pressure levels are indicated in dB(A) for a reference room with 10 m² Sabine room absorption, equivalent to 4 dB room attenuation.

SOUND POWER LEVEL

Size	Correction of sound level K_{oct} in dB for octave bands, mean frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
20	14	9	8	2	-3	-10	-16	-27

The sound power levels for different octave bands are obtained by adding together the sound pressure level L_{p10A} , in dB(A), and the corrections K_{oct} for the octave bands in the table with the help of the following formula:

$$L_W = L_{p10A} + K_{oct}$$

Correction K_{oct} is the mean value for the range of application of PWAA.

SOUND ATTENUATION

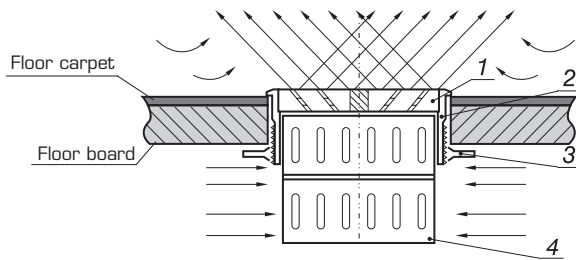
Size	Sound attenuation in ΔL dB for octave bands, mean frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
20	14	8	6	4	3	4	4	6

DEFINITIONS

q	air flow	l/s, m³/h
Δp_t	total pressure drop	Pa
h	throw	m
v_{max}	air velocity at the distance x	m
t_{supply}	supply air temperature	°C
t_e	extract air temperature	°C
t_{room}	room temperature	°C
L_{p10A}	sound pressure level with a room attenuation of 4 dB (10 m ² room absorption area)	dB(A)
L_W	sound power level	dB
K_{oct}	octave band correction	dB
ΔL	sound attenuation from the duct to the room	dB

DIMENSIONS, INSTALLATION ALTERNATIVES

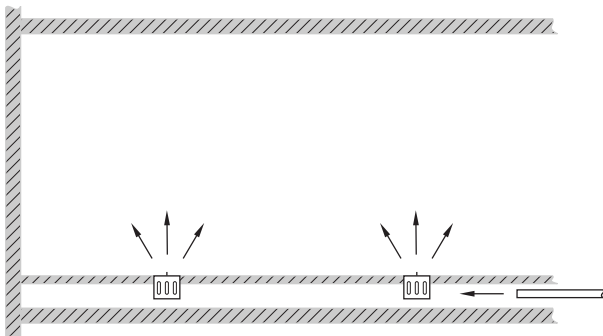
PRODUCT DESCRIPTION



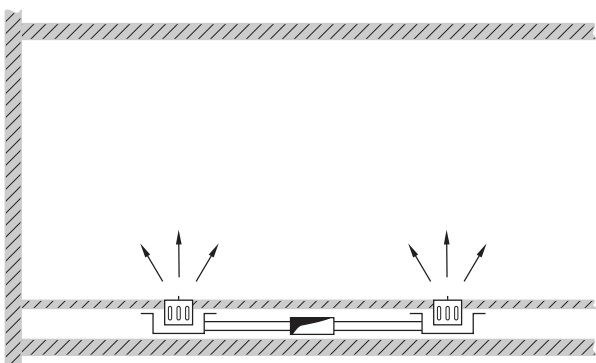
Floor diffuser consists of the following components:

1. Swirl outlet
2. Installation flange
3. Mounting ring
4. Dirt basket

INSTALLATION ALTERNATIVES

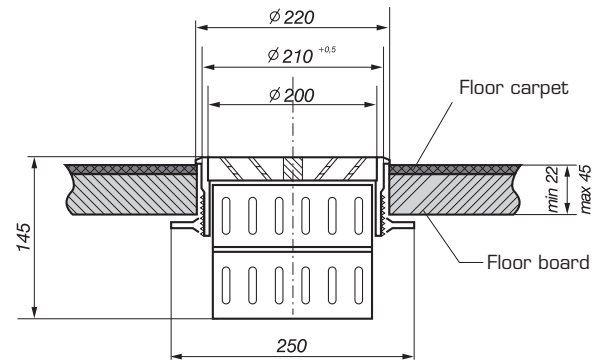


Air is delivered into the space under the raised floor. Air supply into the room space is forced by static pressure.



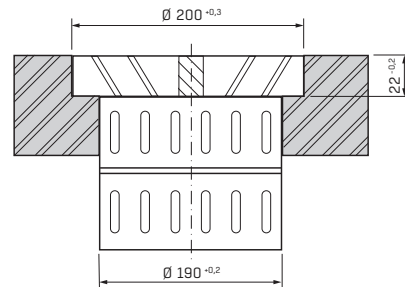
The diffusers are connected to the supply air duct via SKPA connection boxes.

PWAA SWIRL DIFFUSER - RAISED FLOOR WITH CARPET



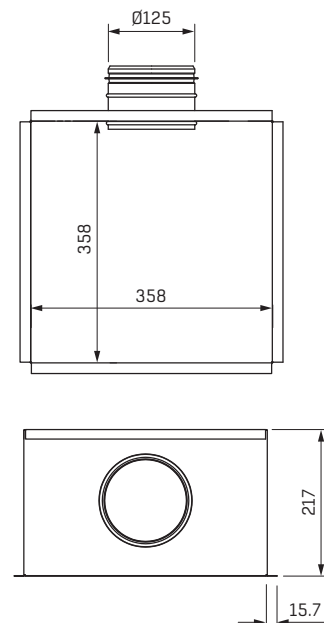
NOTE! Necessary hole in floor tile = $\text{Ø}210+0,5$

PWAA SWIRL DIFFUSER - HARD FLOOR INSTALLATION (WITHOUT FLANGE AND MOUNTING RING)



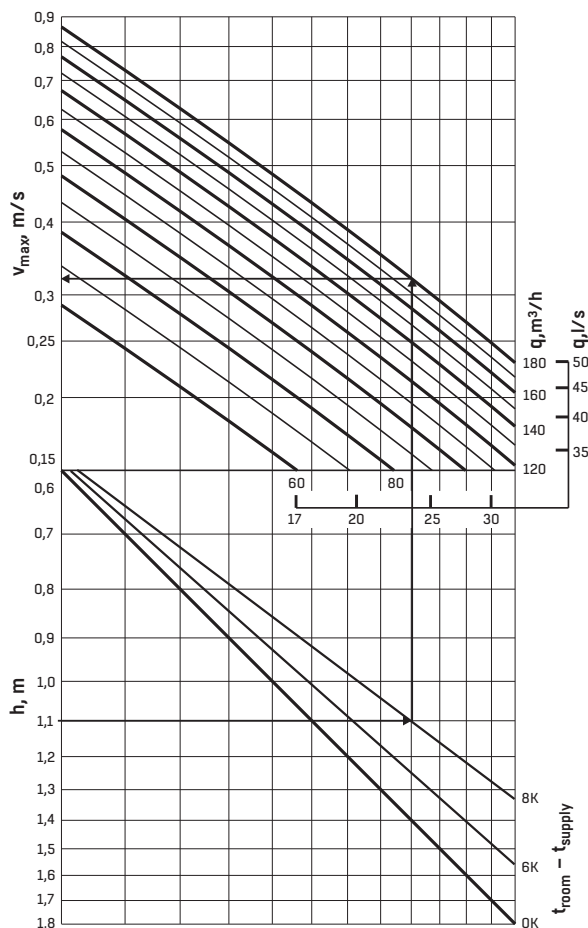
NOTE! Necessary hole in floor tile = $\text{Ø}190+0,2$

SKPA CONNECTION BOX

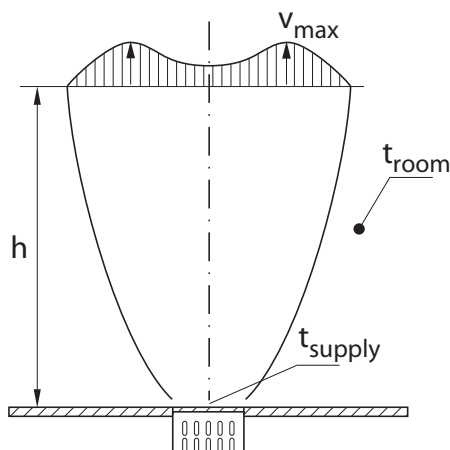


PROJECT DESIGN, GENERAL

PROJECT DESIGN



At maximum air flow and with the cooling function, vertical temperature gradient between supply air t_{supply} and indoor air t_{room} in the range from 1.1 m to 1.7 m is less than 1°C .



CONSTRUCTION AND FUNCTION

PWAA is suitable to be used as a supply air terminal device in rooms with raised floor systems. It consists of terminal, mounting ring, installation flange and dirt basket. Swirl outlet is removable in order to enable cleaning.

SKPA connection box is available in two versions, with or without sound attenuation lining.

MATERIAL AND SURFACE FINISH

Diffuser's swirl outlet is made of durable and non-flammable polycarbonate resin. The standard colours are RAL 7024 and 7040.

Plenum box is made of galvanized steel sheet. Sound attenuation lining is made of elastomeric foam based on synthetic rubber.

INSTALLATION, ADJUSTMENT AND MAINTENANCE

The instructions for installation, adjustment and maintenance are available at www.flaktgroup.com

TECHNICAL DATA AND DIMENSIONING

For complete design details, please see the FläktGroup product selection program SELECT. The program can be found on the Internet at www.flaktgroup.com.

SPECIFICATIONS TEXT EXAMPLE

PWAA diffuser is recommended to be used in rooms where raised floor systems are designed. It supplies high inductive air directly into occupied zone providing quick mixing with indoor air. Terminal is suitable for the cooling and ventilation of electronic equipment standing on the floor.

PRODUCT CODE, ACCESSORIES

PRODUCT CODE

Floor diffuser

PWAA-20-a-b-c-d-e

Terminal (a)

0 = without

1 = with

Mounting ring (b)

0 = without

1 = with

Installation flange (c)

0 = without

1 = with

Dirt basket (d)

0 = without

1 = with

Colour (e)

1 = colour RAL 7040 (grey)

2 = colour RAL 7021 (black)

Connection box

SKPA-aa-b-c

Size (aa)

12

Sound attenuation material (b)

0 = without

1 = with

Damper (c)

0 = without

ACCESSORIES

Damper

BDEP-1-bbb-c

Size (bbb)

012

Model (c)

1 = standard

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