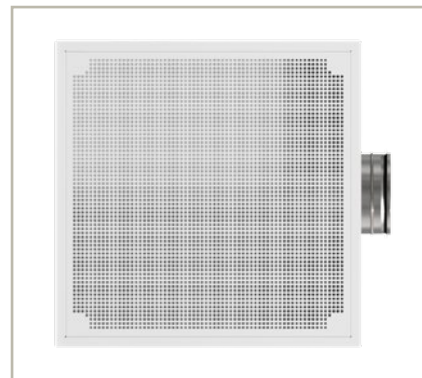


Perforated extract air diffuser **PSWC**

TECHNICAL DATA





PSWC is a perforated extract air diffuser with an integrated plenum box. It is recommended to be used in commercial application buildings such as offices, conference rooms, shops, etc.

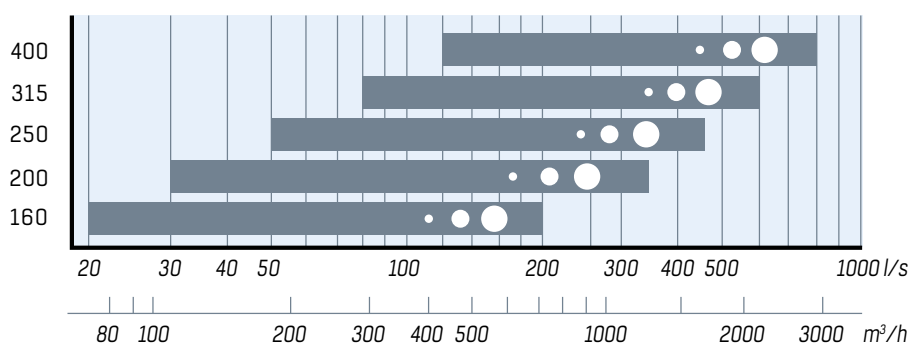
The diffuser is suitable for installation in suspended ceiling systems (600x600 mm). Fixed to the diffuser frame with magnets and safety strings, the diffuser plate is easy and safe to open.

High perforation rate of face panel, ensures very low sound level. The outlet is painted in RAL 9003 colour.

QUICK SELECTION

PSWC perforated extract diffuser airflow range

Duct connection diameter (mm)



The grey bar shows the airflow range.

The size of the circle shows at which airflow rate the sound pressure level is:

- 25 dB(A)
- 30 dB(A)
- 35 dB(A).

SPECIFICATIONS

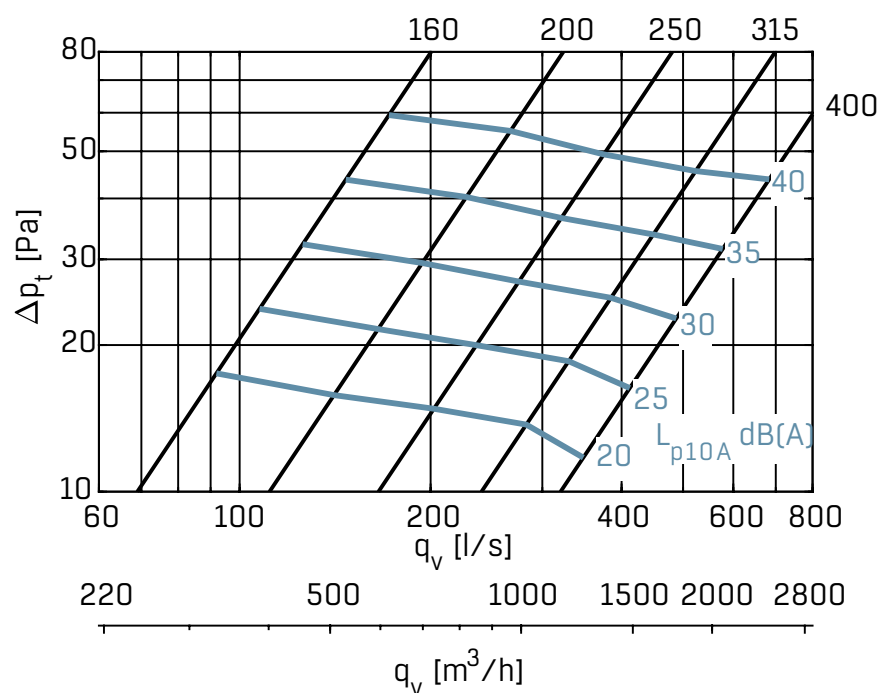
- Face panel size 600x600 mm
- Duct connection diameters 160-400 mm
- Suitable for an air extract
- Integrated plenum box with or without an attenuation material
- Wide airflow range
- Low sound level
- Outlet available in RAL 9003 finish.

PRODUCT CODE EXAMPLE

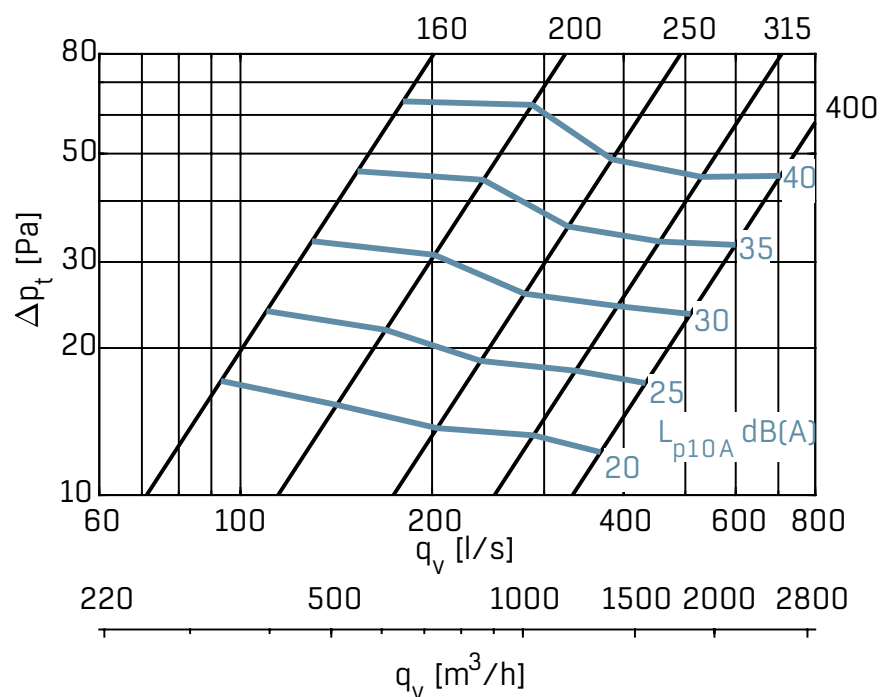
Perforated extract diffuser PSWC-20-60-1-1
duct connection diameter 200 mm, face panel 600x600 mm, with an attenuation material, painted in RAL 9003 colour.

AIR FLOW, PRESSURE DROP, SOUND LEVEL - WITHOUT DAMPER

PSWC PERFORATED EXTRACT DIFFUSER (WITHOUT ATTENUATION MATERIAL)



PSWC PERFORATED EXTRACT DIFFUSER (WITH ATTENUATION MATERIAL)

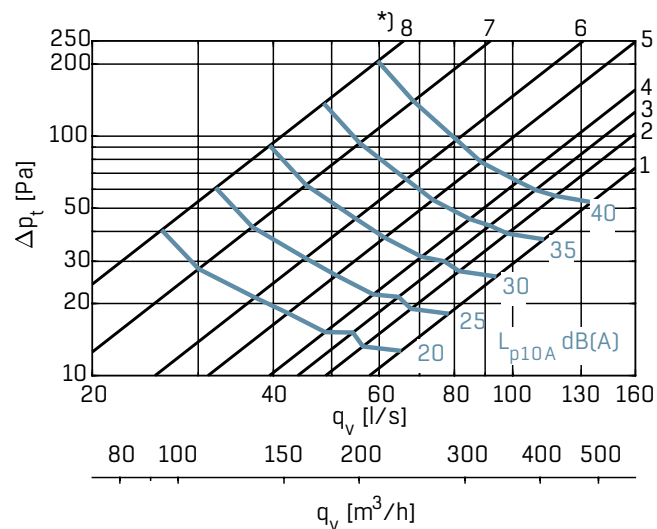


In the above graph the sound pressure levels are indicated in dB(A) for a reference room with 10 m² Sabine room absorption, equivalent to 4 dB room attenuation.

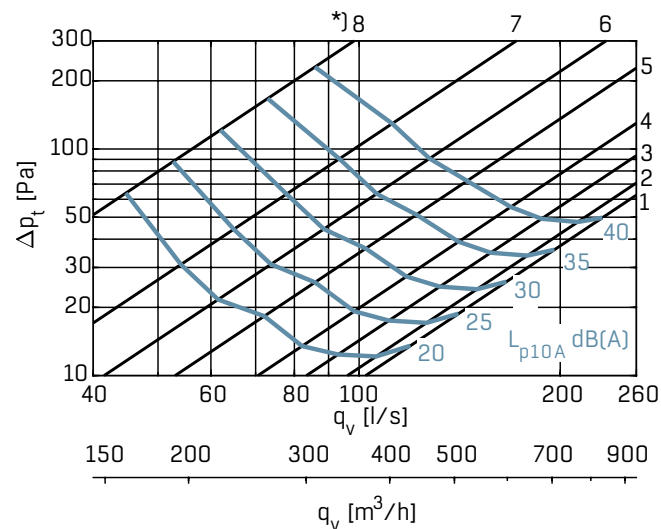
AIR FLOW, PRESSURE DROP, SOUND LEVEL - WITH IRIS REGULATION AND MEASURING DAMPER

PSWC PERFORATED EXTRACT DIFFUSER (WITHOUT ATTENUATION MATERIAL)

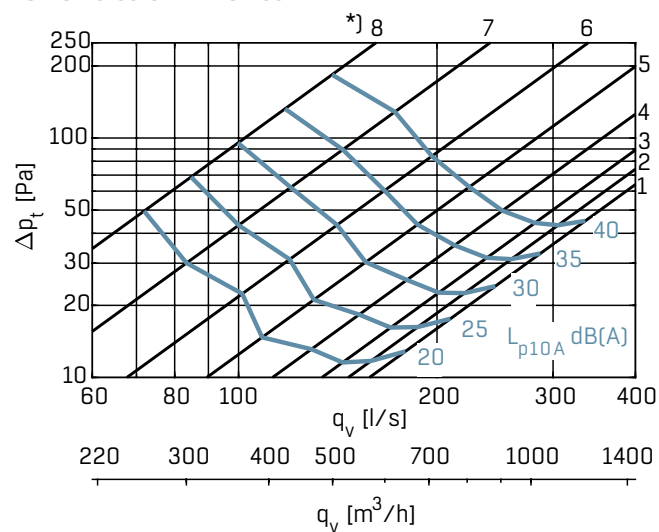
PSWC-16-60-0-1 + IRIS-160



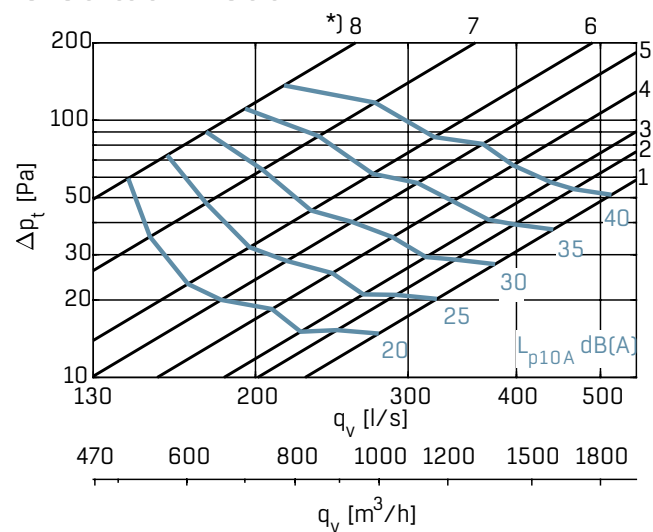
PSWC-20-60-0-1 + IRIS-200



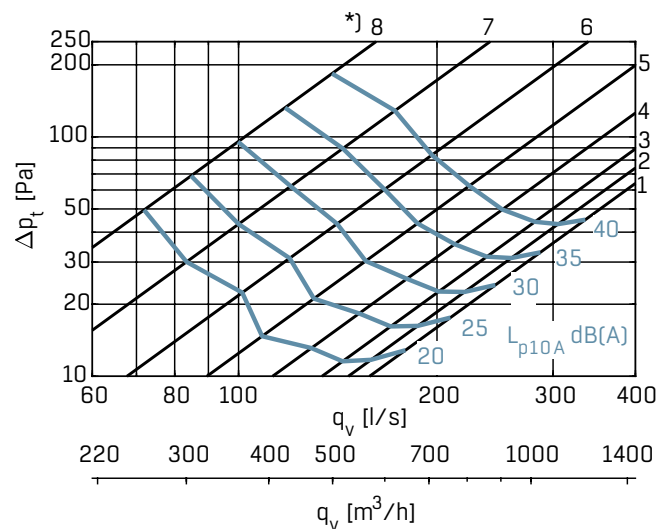
PSWC-25-60-0-1 + IRIS-250



PSWC-31-60-0-1 + IRIS-315



PSWC-40-60-0-1 + IRIS-400



*) IRIS damper adjustment position.

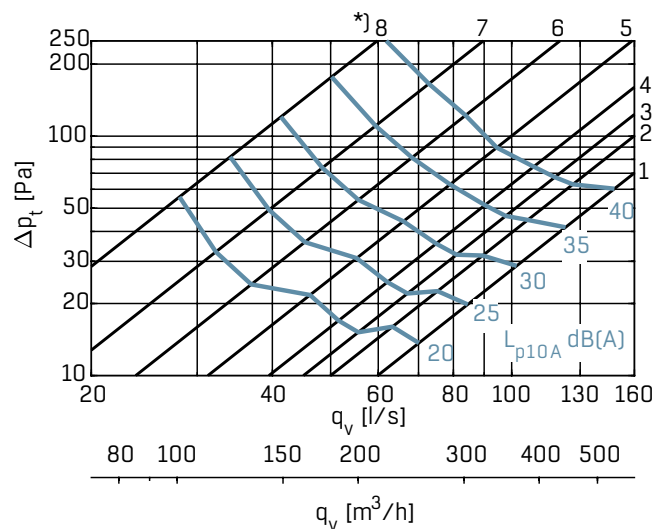
In the above graphs the sound pressure levels are indicated in dB(A) for a reference room with 10 m² Sabine room absorption, equivalent to 4 dB room attenuation.

Note: IRIS damper is not an integrated part of the plenum box

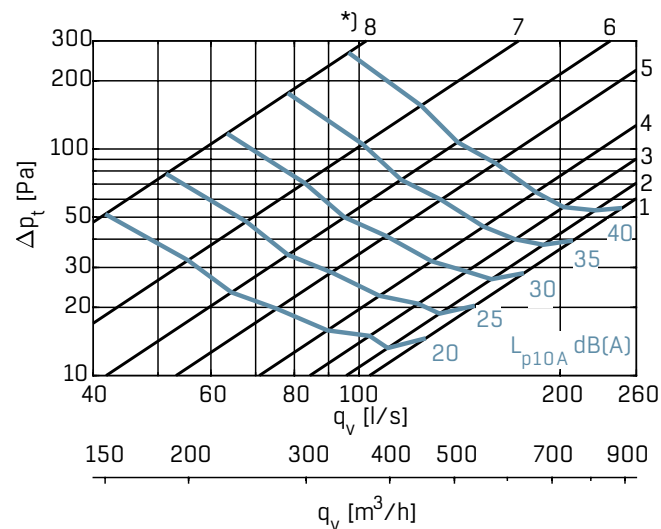
AIR FLOW, PRESSURE DROP, SOUND LEVEL - WITH IRIS REGULATION AND MEASURING DAMPER

PSWC PERFORATED EXTRACT DIFFUSER (WITH ATTENUATION MATERIAL)

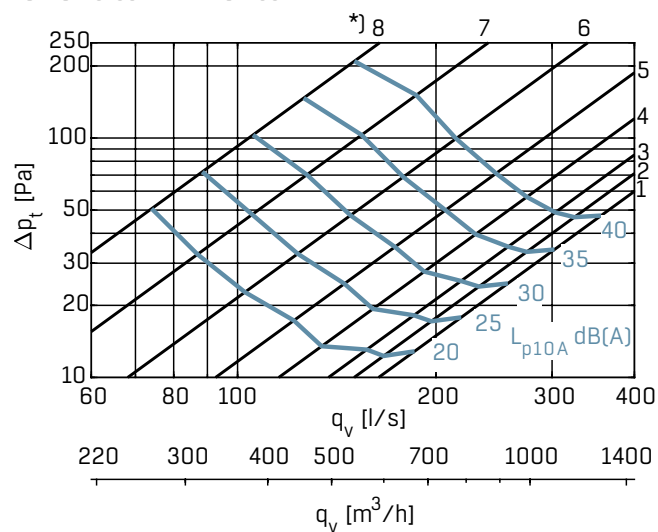
PSWC-16-60-1-1 + IRIS-160



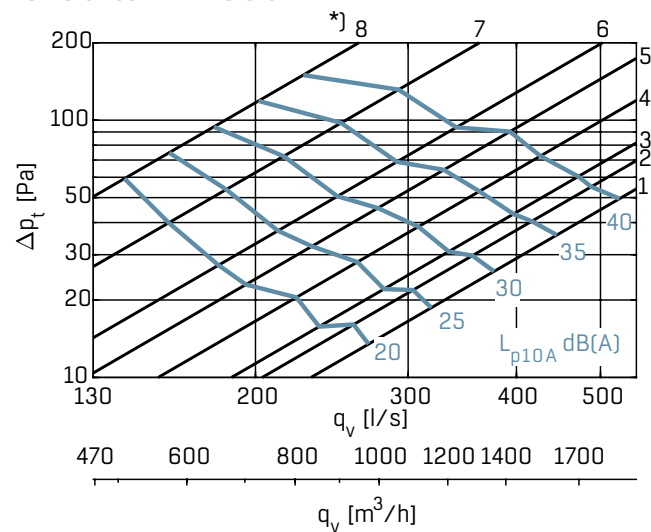
PSWC-20-60-1-1 + IRIS-200



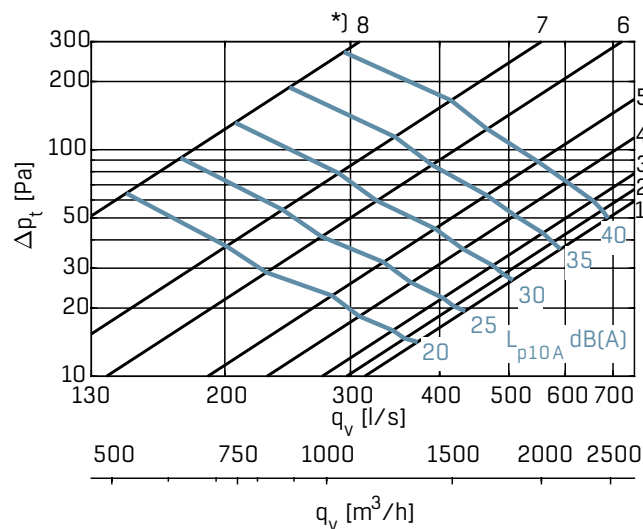
PSWC-25-60-1-1 + IRIS-250



PSWC-31-60-1-1 + IRIS-315



PSWC-40-60-1-1 + IRIS-400



*) IRIS damper adjustment position.

In the above graphs 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.

Note: IRIS damper is not an integrated part of the plenum box

SOUND DATA, DEFINITIONS

SOUND POWER LEVEL L_w

PSWC extract air diffuser (without attenuation material, without damper)

Size	Correction of sound level K_{oct} in dB for octave bands, mean frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
16-60	5	9	9	1	-5	-9	-17	-19
20-60	6	10	8	1	-3	-7	-15	-19
25-60	6	10	6	2	-2	-7	-15	-19
31-60	9	11	5	2	-1	-7	-15	-19
40-60	9	9	4	2	-1	-6	-16	-19
+/-	6	3	2	2	2	2	2	3

PSWC extract air diffuser (with attenuation material, without damper)

Size	Correction of sound level K_{oct} in dB for octave bands, mean frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
16-60	7	11	9	1	-6	-9	-16	-19
20-60	7	10	7	1	-3	-6	-13	-19
25-60	7	11	6	1	-2	-6	-14	-19
31-60	9	11	6	2	-2	-7	-15	-19
40-60	10	10	4	1	-1	-6	-16	-19
+/-	6	3	2	2	2	2	2	3

PSWC extract air diffuser (without attenuation material, with IRIS damper)

Size	Correction of sound level K_{oct} in dB for octave bands, mean frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
16-60	4	6	8	3	-5	-8	-15	-20
20-60	5	8	7	2	-2	-6	-14	-19
25-60	6	10	6	0	-1	-6	-14	-19
31-60	8	11	5	-1	-1	-4	-13	-19
40-60	9	11	4	1	-2	-4	-11	-16
+/-	6	3	2	2	2	2	2	3

PSWC extract air diffuser (with attenuation material, with IRIS damper)

Size	Correction of sound level K_{oct} in dB for octave bands, mean frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
16-60	3	7	9	2	-7	-8	-15	-20
20-60	6	9	8	1	-3	-6	-13	-19
25-60	8	11	7	0	-2	-6	-14	-19
31-60	9	12	5	-1	-2	-5	-13	-19
40-60	10	12	4	1	-2	-5	-12	-16
+/-	6	3	2	2	2	2	2	3

Sound power levels by octave bands are obtained by adding to total sound pressure level L_{p10A} , dB(A), the correction K_{oct} presented in the table according to the following formula:

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

Correction K_{oct} is average value in range of use of the device.

SOUND ATTENUATION ΔL

PSWC extract air diffuser (without attenuation material)

Size	Sound attenuation ΔL in dB for octave bands, mean frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
16-60	18	9	3	5	3	2	2	4
20-60	15	7	1	5	4	2	2	3
25-60	12	5	2	7	3	2	2	2
31-60	10	3	3	7	3	2	2	3
40-60	10	2	5	3	3	2	2	3
+/-	6	3	2	2	2	2	2	3

PSWC extract air diffuser (with attenuation material)

Size	Sound attenuation ΔL in dB for octave bands, mean frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
16-60	17	9	4	9	8	6	5	8
20-60	14	8	3	9	7	4	5	7
25-60	12	5	3	11	7	5	5	6
31-60	10	4	4	9	6	5	6	8
40-60	9	4	6	5	6	5	6	7
+/-	6	3	2	2	2	2	2	3

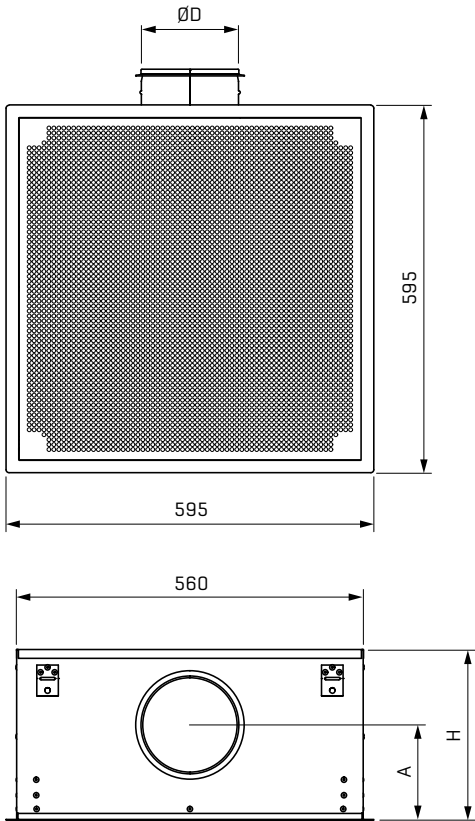
The average sound attenuation ΔL from duct to room including the end reflection of the connecting duct in ceiling installation, is obtained in the table above.

DEFINITIONS

q	air flow	l/s, m³/h
Δp_t	total pressure drop	Pa
L_{02}	throw	m
L_{p10A}	sound pressure level with a room attenuation of 4 dB (10 m² 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 AND WEIGHT

PSWC - EXTRACT AIR DIFFUSER WITH INTEGRATED PLENUM BOX



Model	Ø Dn (mm)	A (mm)	H (mm)	Weight (kg)
PSWC-16-60-0-1	160	154	276	8.1
PSWC-20-60-0-1	200	180	322	8.7
PSWC-25-60-0-1	250	206	373	9.3
PSWC-31-60-0-1	315	244	444	10.1
PSWC-40-60-0-1	400	301	543	11.3
PSWC-16-60-1-1	160	154	276	8.6
PSWC-20-60-1-1	200	180	322	9.3
PSWC-25-60-1-1	250	206	373	10.0
PSWC-31-60-1-1	315	244	444	10.9
PSWC-40-60-1-1	400	301	543	12.2

GENERAL, PRODUCT CODE AND ACCESSORIES

CONSTRUCTION AND FUNCTION

The PSWC is a quiet, ceiling-mounted and perforated extract air diffuser. The frame of the outlet is integrated with the plenum box and face panel is attached to it with the magnet holders. The diffuser is openable and enables access for the cleaning purposes. The PSWC is available in two versions: with or without sound attenuation lining.

MATERIAL AND SURFACE FINISH

The perforated face panel is made of galvanised steel and it is painted in RAL 9003 colour, 70% gloss level. It has a perforation rate of 44 %. The plenum box is made of galvanised steel sheet. The sound attenuation lining is made of polyester fibre.

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.

SPECIFICATION TEXT EXAMPLE

The PSWC is a quiet, ceiling-mounted and perforated extract air diffuser available in size 600x600 mm. The frame of the outlet is integrated with the plenum box and the face panel is attached to it with the magnet holders. The diffuser is openable and enables access for the cleaning purposes. High perforation rate of face panel, ensures very low sound level. The outlet is painted in RAL 9003 colour.

PRODUCT CODE

Perforated extract diffuser

PSWC-aa-bb-c-d

Duct connection size, cm (aa)

16, 20, 25, 31, 40

Face panel size, cm (bb)

60

Sound attenuation material (c)

0 = without

1 = with

Colour RAL (d)

1 = standard RAL 9003

X = any other colour from RAL palette

ACCESSORIES

Regulation and measuring device

IRIS-aaa

Diameter in mm (aaa)

160, 200, 250, 315, 400

EXCELLENCE IN SOLUTIONS

FläktGroup is the European market leader for smart and energy efficient Indoor Air and Critical Air solutions to support every application area. We offer our customers innovative technologies, high quality and outstanding performance supported by more than a century of accumulated industry experience. The widest product range in the market, and strong market presence in 65 countries worldwide, guarantee that we are always by your side, ready to deliver Excellence in Solutions.

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