

FabricAir

CEILING DIFFUSERS

Simplicity • Performance • Aesthetics


smart air
solutions.



EN METRIC VERSION

FabricAir® Ceiling Diffusers offer easy installation, reliable performance, a choice of aesthetic finishes and energy-friendly technology





Aesthetics, simplicity and performance

Smart Air solutions

Indoor air quality in the modern workplace is important for both comfort and health. The FabricAir® Ceiling Diffusers were developed to provide buildings with a draft-free indoor climate. It offers easy installation, flexible design, and eco-friendly technology.

FabricAir® Ceiling Diffusers are made from two standard fabric components – a plenum box and a flow panel.

Air is delivered through a flat flow panel, allowing the diffuser to match suspended ceiling tiles. Diffusers can be designed as needed – for supply and extract air. The plenum is fully insulated to prevent energy loss while providing quiet and draft-free operation. The diffusers are suitable for isothermal and cooling conditions.

Flexible design

Ceiling diffusers are available in a choice of fabric colors and prints to match your design aesthetics. A low plenum box (300 mm) ensures each diffuser easily fits into your suspended ceiling.

Simple installation

Installation can be completed in minutes. A simple tightening strap is all that is required to secure the ceiling diffuser to metal or flexible ducts.

Reliable performance

Because the ceiling diffusers are fully insulated, they prevent energy loss, eliminate any risk of condensation, and are therefore suitable for isothermal or cooling conditions, and can be deployed for supply and extract air. The diffusers are compliant with fire regulations, and each unit offers quiet, draft-free operation and well balanced air distribution. Every FabricAir® Ceiling Diffuser is protected by a full manufacturer's warranty.

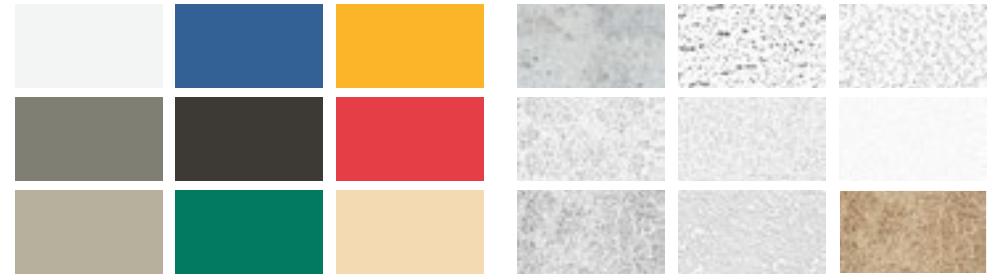


Pattern matched to complement surrounding tiles



Contrasting panels make a statement

Some of many color and printed texture options available for FabricAir diffusers



Design flexibility and aesthetics

Make a bold statement with bright colors or choose a discreet design to match the surrounding ceiling tiles. FabricAir® Ceiling Diffusers are available in a range of standard colors or custom prints according to your specification.

The ceiling diffuser doesn't require regular maintenance and can be adapted to certain needs quickly. If you are in a mood to change the appearance of your office, simply remove the existing flow panel and change with a new one!



White fabric for any setting



Peel off the flow panel



Fit the other flow panel on a plenum box

Simple installation

FabricAir® Ceiling Diffusers can be installed in a matter of minutes.

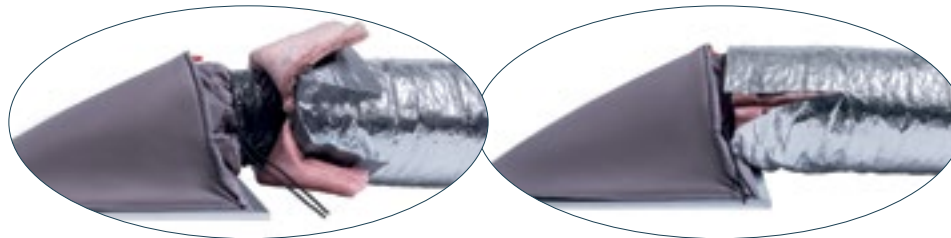
To install:

1. Drop in the diffuser.
2. Slide the diffuser's connection sleeve over the duct.
3. Tighten the supplied strap.

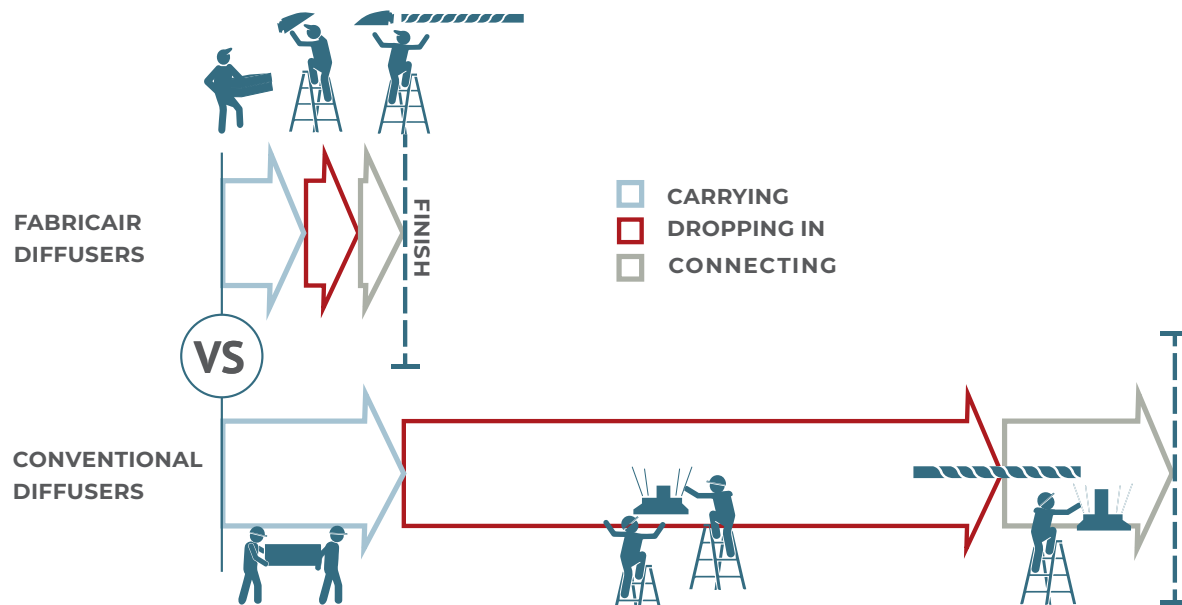
That's it.



If using flexible ducts, cut open and peel back the outer layer of insulation. Insert the inner part of the flexible duct and tighten the strap.



Replace the outer layer of insulation.



Installation is many times faster, compared to conventional diffusers

Significant time savings

Installation of FabricAir® Ceiling Diffusers consists of three stages: carrying, dropping in, and connecting. With FabricAir diffusers you can achieve significant time savings, shortening installation time by 5 times.

Carrying

FabricAir® Ceiling Diffusers, depending on its size, weighs from 1,7 to 3,1 kg. Lightweight product design allows one person to carry up to 4 units at a time. In comparison to the conventional diffusers, fabric ones are 2-3 times lighter, which shortens the carrying process by around 2 times.

Dropping In

The dropping in process of FabricAir® Ceiling Diffusers is extremely fast. Because of the light weight, there is no need for additional ceiling anchors, seismic bracing, support cables, or rods. Since the only thing needed is the actual dropping in and there is no need for extra tools and materials, the process becomes 7 times faster.

Connecting

Connection of FabricAir® Ceiling Diffuser is the simplest process possible. The installer only needs to slide diffuser's opening over the duct and tighten the strap. Having that in mind, the connecting of the ceiling diffusers shortens by around 4 times.

Lightweight design allows several units to be carried at once





Reliable performance

FabricAir® Ceiling Diffusers offer a well-balanced air distribution without causing drafts in occupied zones. They create reliable, healthy indoor air quality even in rooms with low ceilings.

The shape and form of the FabricAir plenum box minimizes both noise and energy loss. The insulation of the plenum box reduces noise even further while also preventing energy loss and eliminating any risk of condensation.

Although developed for typical office environments, FabricAir diffusers are also suitable for schools, shops and other comfort ventilation applications with suspended ceilings.



Product features

Flexible deployment options

Suitable for use in supply and extract air, FabricAir diffusers are available in several sizes and connection positions for deployment in most settings. Quiet operation makes FabricAir diffusers ideal for use in offices, libraries, classrooms and more.

Energy-friendly technology

FabricAir® Ceiling Diffusers are designed to reduce the carbon footprint of your projects. Their lightweight fabric construction generates less CO₂ during production and transport than conventional diffusers.

FabricAir® Ceiling Diffusers also place less load stress on your construction, saving up to 11,5 kg per unit.

Each diffuser is fully insulated to prevent energy loss. The insulation also eliminates any risk of condensation. Low pressure drop across the diffuser ensures low operating costs.

Lifespan and warranty

Every unit is supplied with a full 10 year manufacturer's warranty, protecting you against manufacturing defects and other potential issues.

Hygienic operation

The operation of FabricAir® Ceiling Diffusers is extremely simple. The product does not require regular maintenance but can be washed and disinfected as desired.

Integrated architectural design

A range of custom print options allows FabricAir® Ceiling Diffusers to match the surrounding tiles keeping ceiling design consistent and integral with overall space design.

- Suitable for isothermal or cooling conditions
- Available for both supply and extract air
- Draft-free air distribution
- Satisfies fire regulations
- Eliminates any risk of condensation
- Doesn't require regular maintenance
- Antimicrobial fabric
- Quiet operation
- Suitable for T-profile based suspended ceiling types
- Available in standard and custom colors as well as custom prints and patterns
- Low product height (300 mm)
- Insulated plenum box to prevent energy loss
- A tightening strap connects the diffuser to metal or flexible ducts
- 10-year warranty

Vital statistics

Office area: 950 m²

Ceiling height: 2,40 m

Air volume: 8.300 m³/h

FabricAir diffuser sizes: 600 x 1200 mm, 1200 x 600 mm, 600 x 600 mm,
625 x 625 mm, 625 x 1250 mm, 1250 x 625 mm.

Maximum pressure loss: 23 Pa


67 diffusers in total (32 supply diffusers and 35 extract)

Sound power level, max: 21 dB(A)



“Subtle but effective, the FabricAir diffusers perfectly match the aesthetics of our new office. More importantly, they ensure good air circulation so that we are able to work in comfort, whatever the weather outside.”

Morten Bergsten, CEO,
Bergsten Timber, Denmark



Looks good, feels good

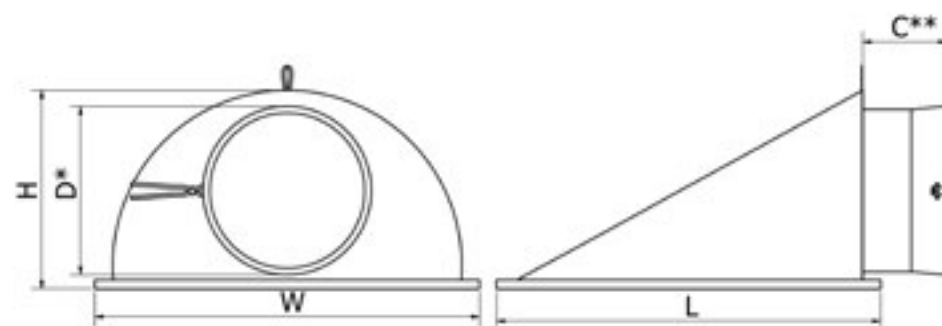
When Bergsten Timber opened a brand-new office building, they chose FabricAir to supply ceiling diffuser units. The air handling units are located in the basement transporting the air through a ventilation system across three floors. Then the air is distributed in the rooms at isothermal or cooling conditions (depending on the demand) through strategically placed FabricAir® Ceiling Diffusers, with additional VAV dampers to help regulate the air volume in each room.

Technical data

Supply unit, SMM

The FabricAir SMM ceiling diffusers are drop-in diffusers, suitable for T-profile-based suspended ceiling installations and are used for both cooling and isothermal air supply. They are quick to install and require no tools. The diffusers can be connected to both solid and flexible ducts. The plenum box – the upper and hidden part of the diffuser – is insulated. The connection sleeve is centered

Dimensions



Performance data

Tested in general accordance to standards EN 12238, ISO 3744 and ISO 7235, and ISO 3741 and ISO 5135. Tests performed with straight metal duct connection. Actual performance may vary in the field depending on upstream duct layout and when flexible duct is used.

Sizing Diagrams: air volume q [m^3/h], total pressure loss Δp_t [Pa], sound power level L_{WA} [dB(A)] and throw $l_{0,2}$ [m] are shown. The throw is specified as the

Code compliance

							Feature
EN 13501-1	UL 723	ULC s102.2	GOST 30244	NFP 92:507	DS 428	GB 8624	Anti-microbial
B-s1, d0	✓	✓	✓	M1	✓	B-s1, d0, t1	✓

on the end or side of the plenum box and it fits for duct sizes from $\text{Ø}125$ to $\text{Ø}250$ mm by adjusting the strap lock. The flow panel – the lower and visual part – is a fabric with a MicroFlow™ flow model and is available in alternative colors or printed patterns. FabricAir® Ceiling Diffusers are made from FabricAir Combi 80 and Combi 90 fabrics and they come with a 10-year warranty.

Performance data

Size mm	W (mm)	L (mm)	H (mm)	D* (mm)	C** (mm)		m (kg)
					Solid duct	Flexible duct	
600 x 600	595	595	300	260	205	110	1,7
600 x 1200	595	1195	300	260	205	110	2,8
1200 x 600	1195	595	300	260	205	110	2,8
625 x 625	620	620	300	260	205	110	1,9
625 x 1250	620	1245	300	260	205	110	3,1
1250 x 625	1245	620	300	260	205	110	3,1

Notes:

- * Fits for duct sizes $\text{Ø}125$ -250 mm by adjusting the strap lock.
- ** Length of the connection sleeve when fully extended. Length decreases with the size of the duct when connected. Smaller duct diameter results in a shorter length of the connection sleeve.

Disclaimer: Diffuser flow panels may experience a small amount of sagging during operation or at rest after extended use.

vertical distance from the diffuser to the jet average terminal velocity of 0,2 m/s. Recommended max. air volume 250 m^3/h (600 x 600, 625 x 625 mm) and 500 m^3/h (1200 x 600, 600 x 1200, 1250 x 625, 625 x 1250 mm). Recommended max. permissible difference between supply and room air temperature is ΔT of -5°C . The number of perforated holes is the same between the units 600 x 600 mm, 600 x 1200 mm, 1200 x 600 mm and 625 x 625 mm, 625 x 1250 mm, 1250 x 625 mm respectively. Hence the performance data is the same.

SMM 600 x 600 mm

SMM 625 x 625 mm

Sound attenuation, dB

Connecting duct diameter [mm]	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
125	-	-	-	-	3,2	0,8	2,6	4,3
160	-	-	-	-	5,2	-	0,4	3,0
200	-	0,6	-	-	6,5	1,5	1,6	4,1
250	-	0,2	-	0,1	5,8	2,5	3,7	3,8

Sound attenuation of the diffuser ΔL from duct to room in dB.

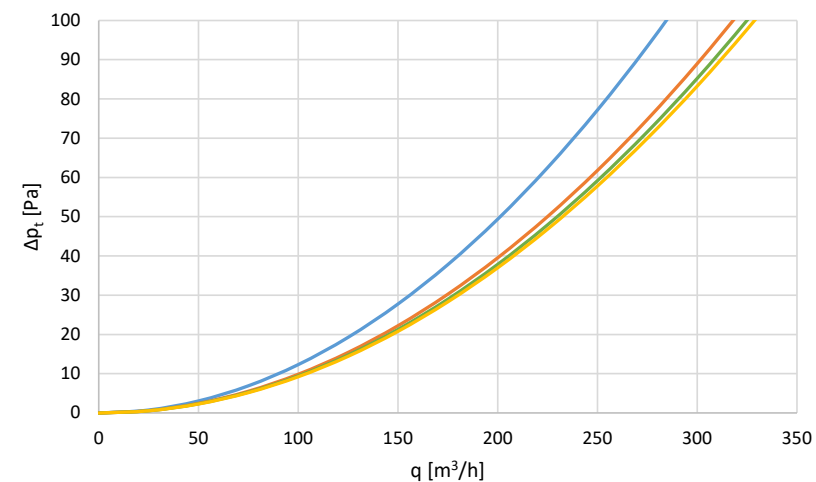
Dash (-) denotes attenuation was not determined.

Air distribution pattern

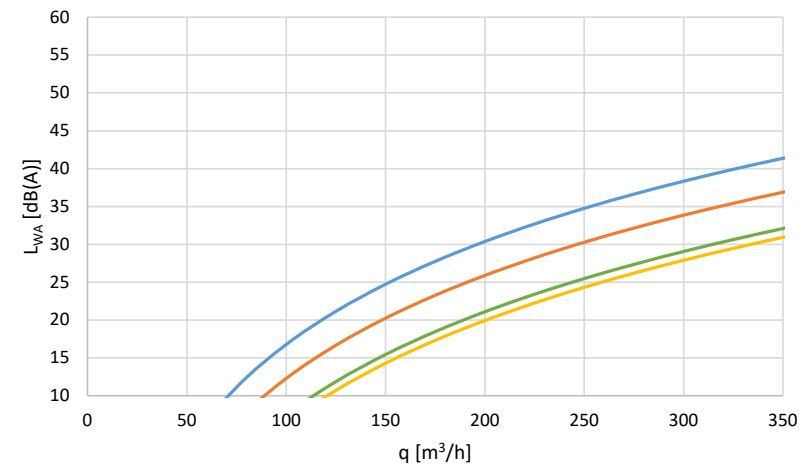


The air at isothermal or cooling conditions is distributed below the diffuser creating a low velocity air dispersion beneath it.

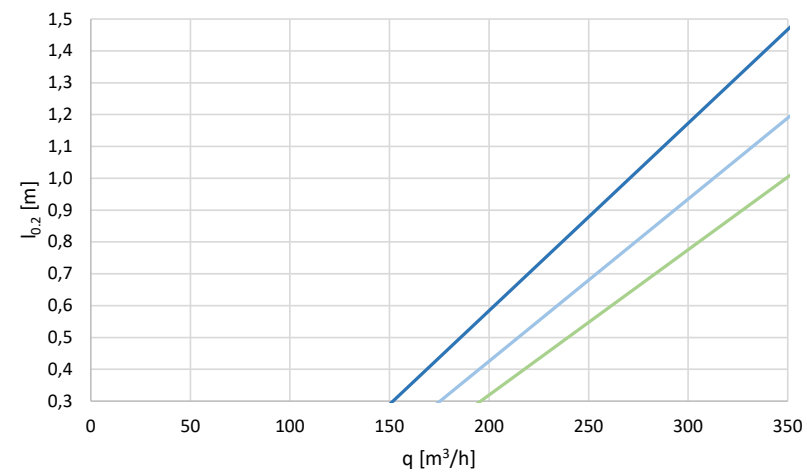
Sizing diagrams



— Ø125 — Ø160 — Ø200 — Ø250



— Ø125 — Ø160 — Ø200 — Ø250



— Isothermal — ΔT-2°C — ΔT-5°C

SMM 600 x 1200 mm

SMM 625 x 1250 mm

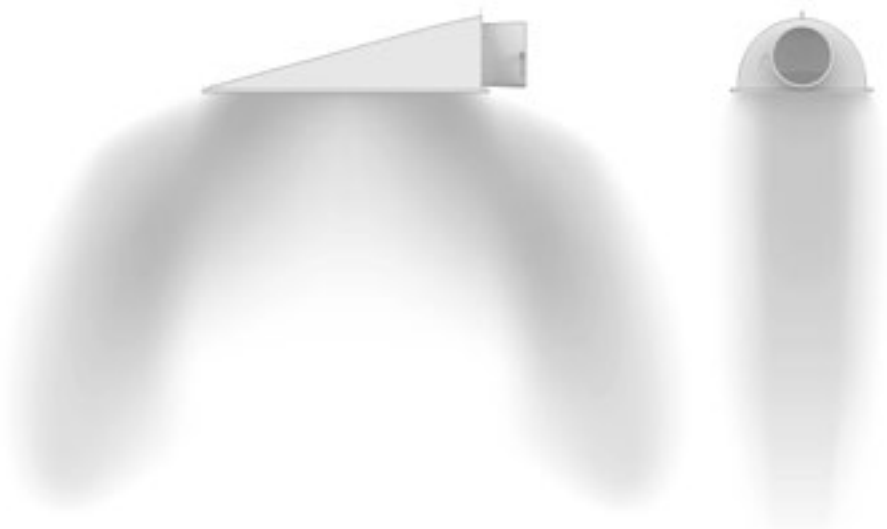
Sound attenuation, dB

Connecting duct diameter [mm]	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
125	0,1	0,1	-	-	5,6	1,0	2,0	6,6
160	0,6	0,2	-	-	5,5	1,4	0,5	3,3
200	0,8	0,5	-	-	4,7	3,6	-	4,3
250	1,6	1,0	-	1,0	6,4	5,9	3,1	7,1

Sound attenuation of the diffuser ΔL from duct to room in dB.

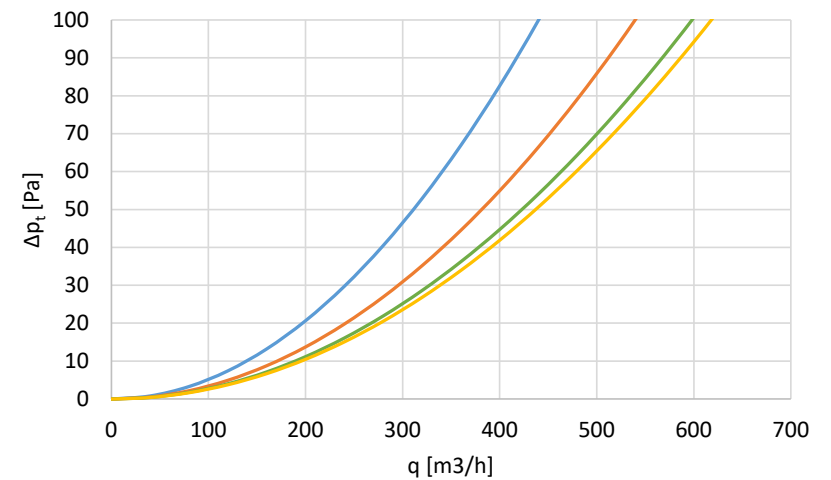
Dash (-) denotes attenuation was not determined.

Air distribution pattern

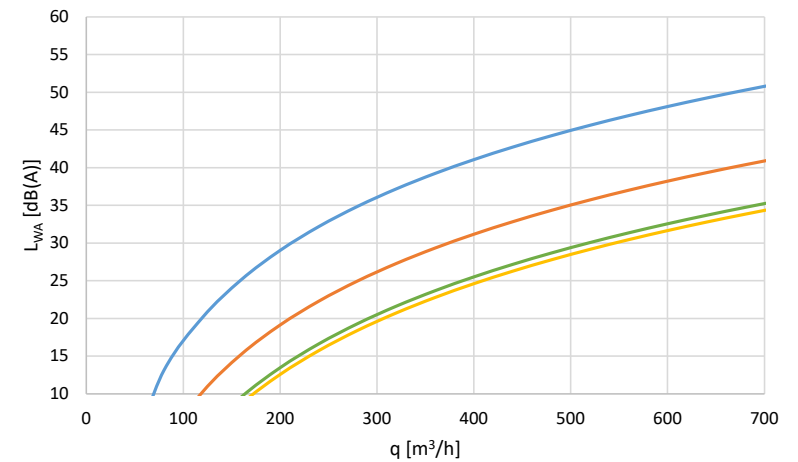


The air at isothermal or cooling conditions spreads wider beneath the diffuser. The effect becomes stronger as the air volume increases, allowing to cover a larger area of the room with the fresh air while preventing draft.

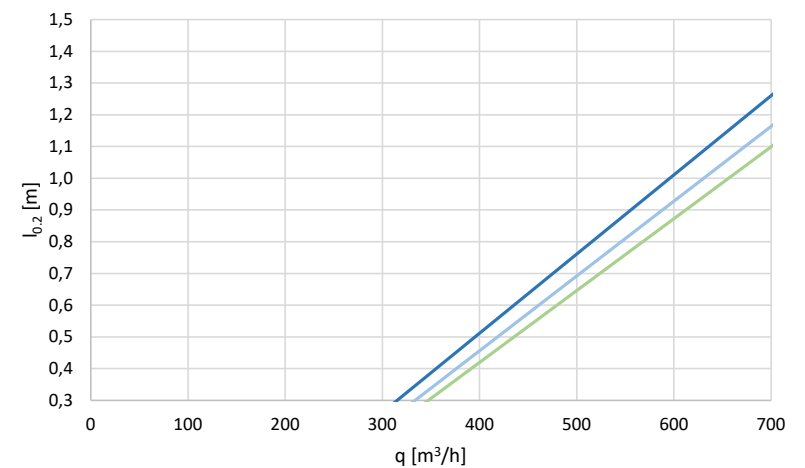
Sizing diagrams



— Ø125 — Ø160 — Ø200 — Ø250



— Ø125 — Ø160 — Ø200 — Ø250



— Isothermal — ΔT=2°C — ΔT=5°C

SMM 1200 x 600 mm

SMM 1250 x 625 mm

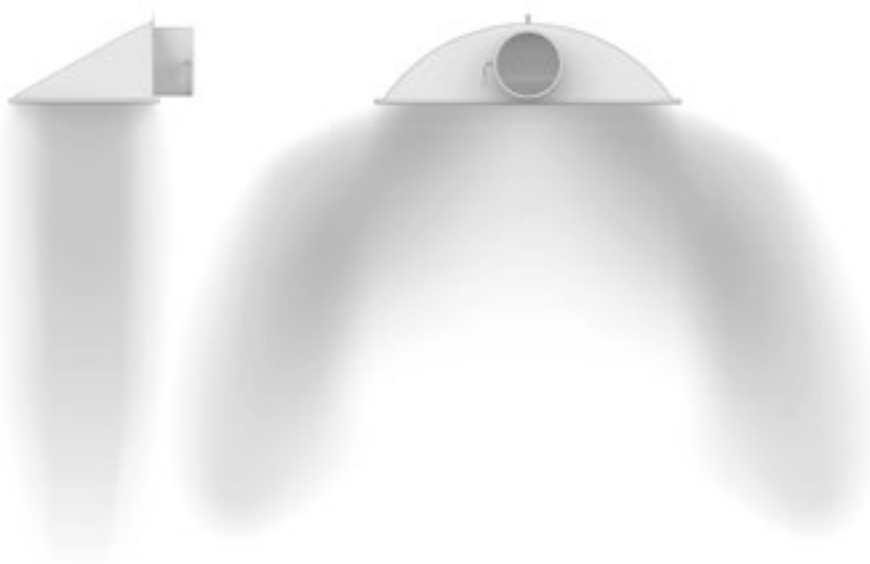
Sound attenuation, dB

Connecting duct diameter [mm]	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
125	-	0,3	-	-	6,7	3,1	3,8	1,1
160	-	0,1	-	-	6,9	3,0	2,9	1,8
200	-	0,7	0,1	-	9,4	5,3	5,3	3,4
250	-	1,0	1,7	1,1	10,0	4,0	4,5	6,2

Sound attenuation of the diffuser ΔL from duct to room in dB.

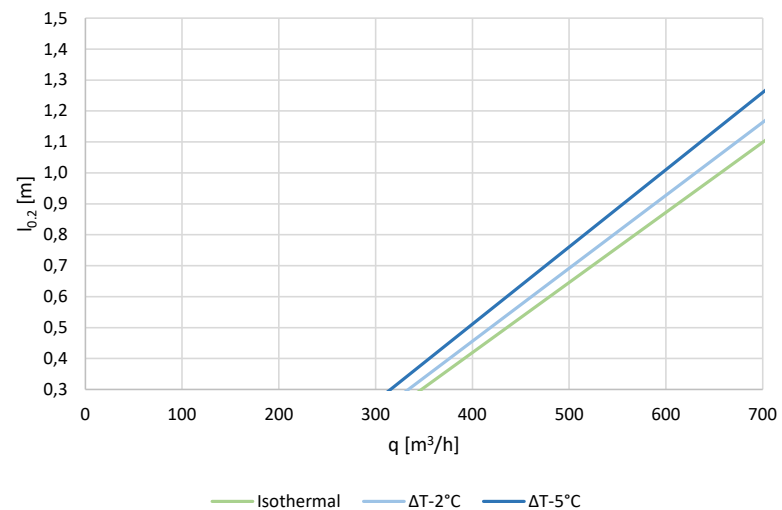
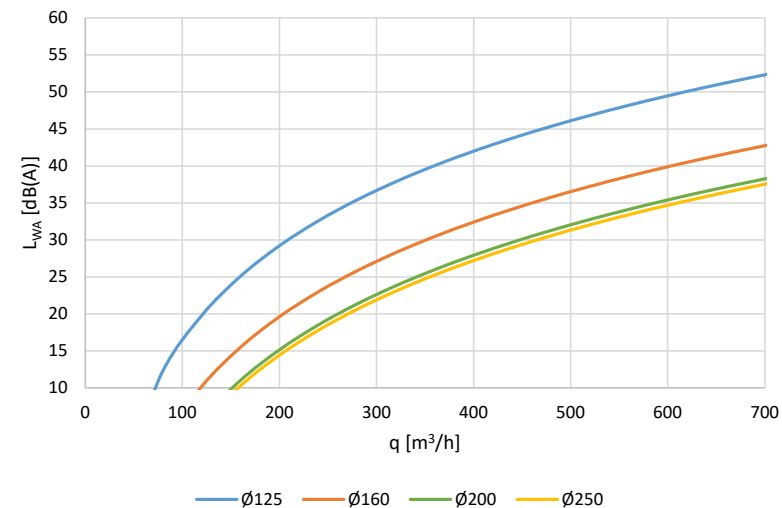
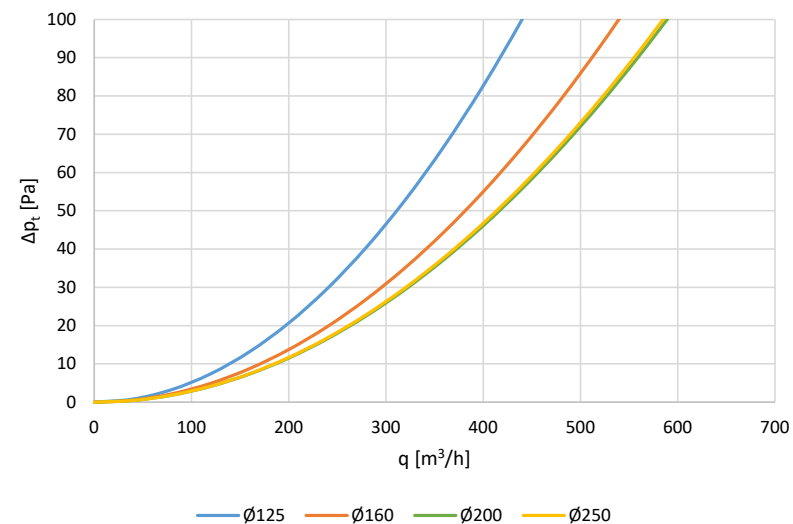
Dash (-) denotes attenuation was not determined.

Air distribution pattern



The air at isothermal or cooling conditions spreads wider beneath the diffuser. The effect becomes stronger as the air volume increases, allowing to cover a larger area of the room with the fresh air while preventing draft.

Sizing diagrams



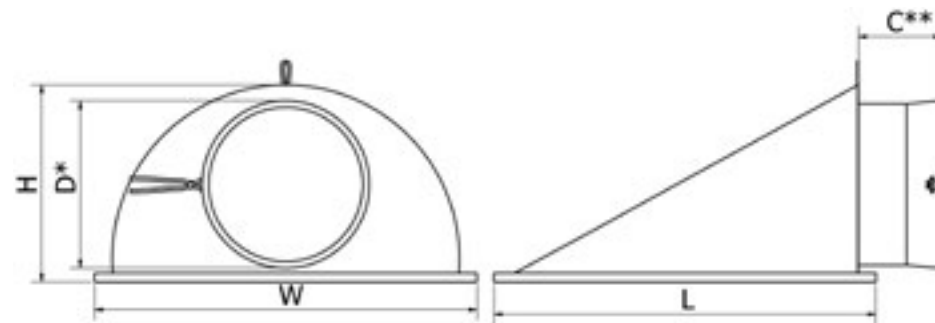
Technical data

Extract units, EPM

The FabricAir EPM is a drop-in unit, suitable for T-profile-based suspended ceiling installations and is used for air extraction. They are quick to install and require no tools. The units can be connected to both solid and flexible ducts. The plenum box – the upper and hidden part of the unit – is insulated. The connection sleeve is

centered on the end or side of the plenum box and it fits for duct sizes from Ø125 to Ø250 mm by adjusting the strap lock. The flow panel – the lower and visual part – is a fabric with a PerfoFlow™ flow model and is available in alternative colors or printed patterns. This unit is made from FabricAir Combi 80 and Combi 90 fabrics and it comes with a 10-year warranty.

Dimensions



Performance data

Size (mm)	W (mm)	L (mm)	H (mm)	D* (mm)	C** (mm)		m (kg)
					solid duct	flexible duct	
600 x 600	595	595	300	260	205	110	1,7
600 x 1200	595	1195	300	260	205	110	2,8
1200 x 600	1195	595	300	260	205	110	2,8
625 x 625	620	620	300	260	205	110	1,9
625 x 1250	620	1245	300	260	205	110	3,1
1250 x 625	1245	620	300	260	205	110	3,1

Notes:

- * Fits for duct sizes Ø125-250 mm by adjusting the strap lock.
- ** Length of the connection sleeve when fully extended. Length decreases with the size of the duct when connected. Smaller duct diameter results in a shorter length of the connection sleeve.

Disclaimer: Unit flow panels may experience a small amount of curve inwards during operation or sagging at rest after extended use.

Performance data

Tested in general accordance to standards ISO 3744 and ISO 7235, ISO 3741 and ISO 5135. Tests performed with straight metal duct connection. Actual performance may vary in the field depending on upstream duct layout and when flexible duct is used.

Sizing diagrams: air volume q [m³/h], total pressure loss Δp_t [Pa] and sound power level L_{WA} [dB(A)] are shown. The number of perforated holes is the same between the units 600 x 600 mm, 600 x 1200 mm, 1200 x 600 mm and 625 x 625 mm, 625 x 1250 mm, 1250 x 625 mm respectively. Hence the performance data is the same.

Code compliance

							Feature
EN 13501-1	UL 723	ULC s102.2	GOST 30244	NFP 92:507	DS 428	GB 8624	Anti-microbial
B-s1, d0			✓	M1	✓	B-s1, d0, t1	✓

EPM 600 x 600 mm

EPM 625 x 625 mm

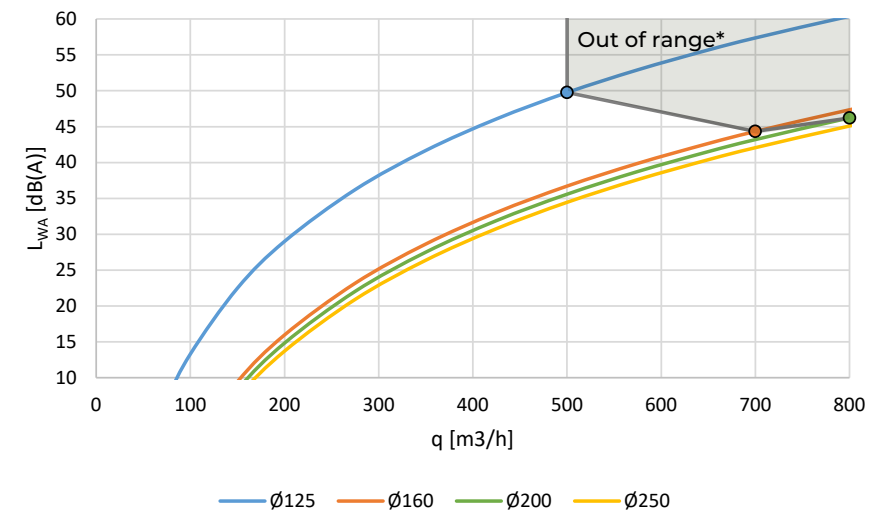
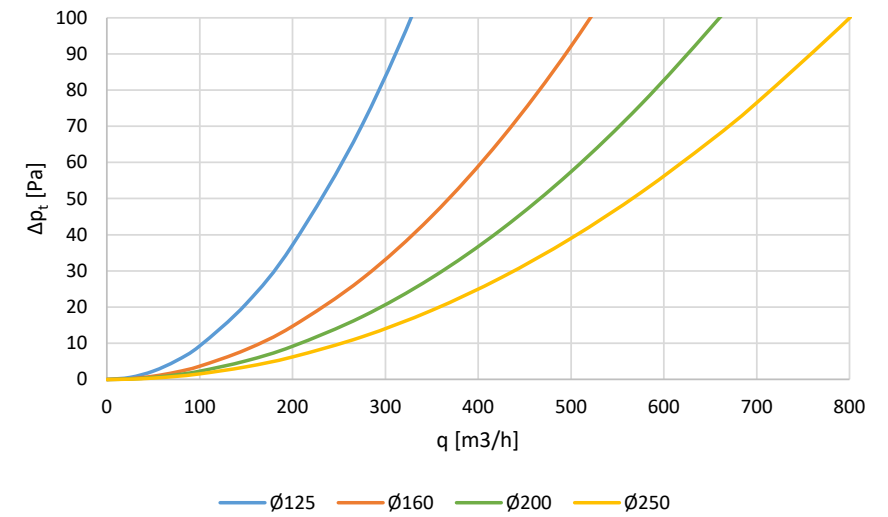
Sound attenuation, dB

Connecting duct diameter [mm]	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
125	-	0,1	-	-	1,4	0,4	2,5	3,5
160	-	-	-	-	3,3	-	-	3,6
200	-	0,5	-	-	5,2	1,7	3,3	3,6
250	-	-	-	-	3,6	3,1	3,6	3,7

Sound attenuation of the diffuser ΔL from duct to room in dB.

Dash (-) denotes attenuation was not determined.

Sizing diagrams



* Exceeds the recommended air volume. Neglecting may cause vibrations and performance disturbances.

EPM 600 x 1200 mm

EPM 625 x 1250 mm

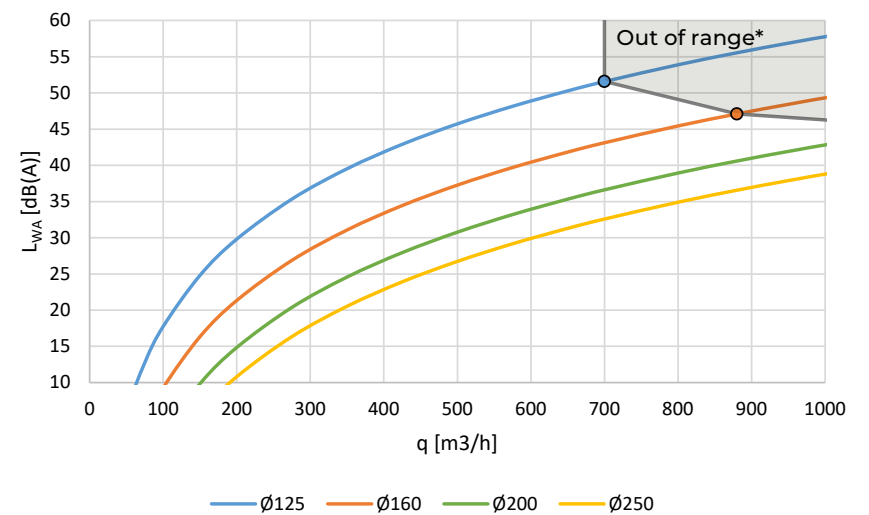
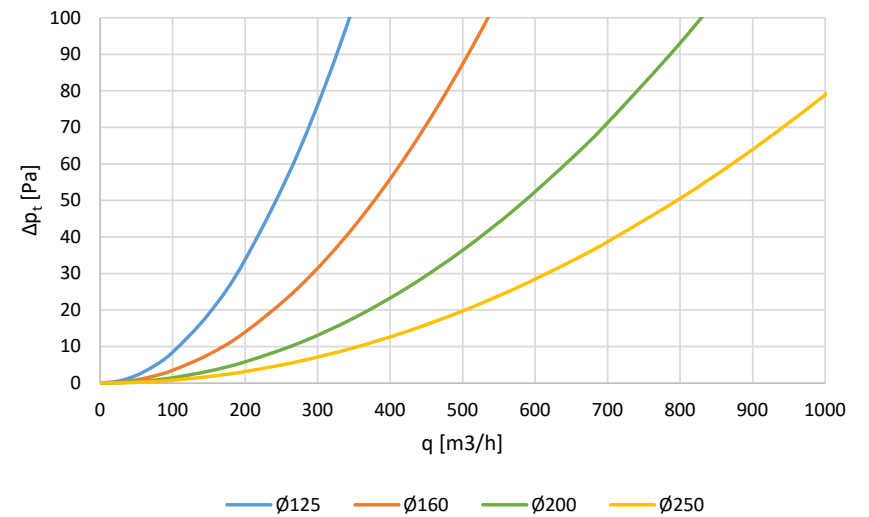
Sound attenuation, dB

Connecting duct diameter [mm]	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
125	0,2	-	-	-	5,0	-	0,3	5,0
160	0,5	0,2	-	-	4,4	0,1	0,3	2,0
200	0,6	0,5	-	-	5,5	3,1	2,0	4,0
250	1,4	1,1	-	-	5,6	5,3	3,9	7,3

Sound attenuation of the diffuser ΔL from duct to room in dB.

Dash (-) denotes attenuation was not determined.

Sizing diagrams



* Exceeds the recommended air volume. Neglection may cause vibrations and performance disturbances.

EPM 1200 x 600 mm

EPM 1250 x 625 mm

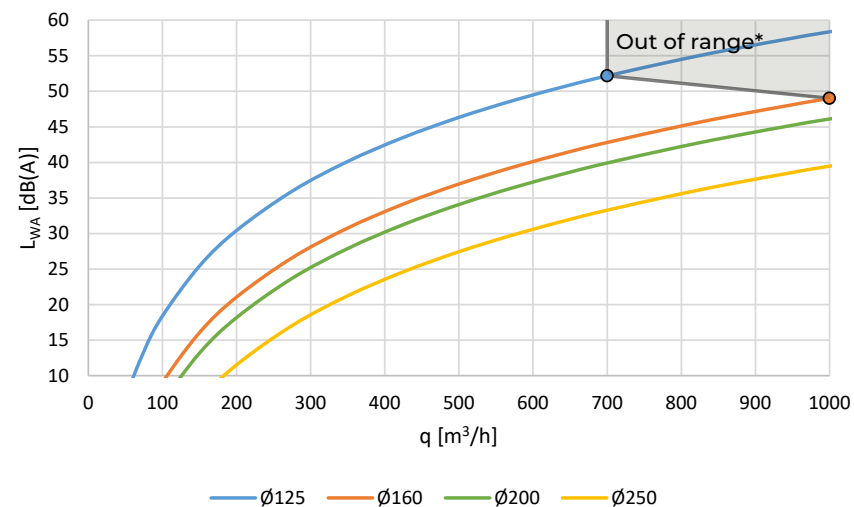
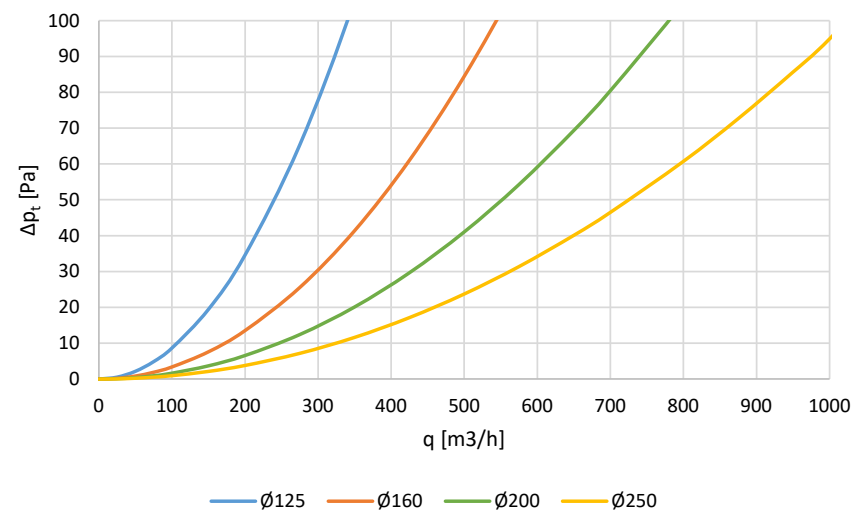
Sound attenuation, dB

Connecting duct diameter [mm]	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
125	-	-	-	-	8,4	3,7	4,6	0,5
160	-	-	-	-	5,6	4,0	3,5	1,1
200	-	0,6	-	-	8,7	5,8	6,5	3,2
250	-	1,0	1,5	1,6	8,8	3,6	4,7	4,6

Sound attenuation of the diffuser ΔL from duct to room in dB.

Dash (-) denotes attenuation was not determined.

Sizing diagrams



* Exceeds the recommended air volume. Neglecting may cause vibrations and performance disturbances.

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