

Acoustically insulated plenum for ceiling grille

Description and Function

The acoustically insulated plenum is our flagship commissioning box designed for airflow regulation with supply air diffusers, featuring a low construction height. The product is developed for ceiling installation and ideal for flush mounting in suspended (false) ceilings. The low build height is possible by the internal socket design of the diffuser connection, minimising the total height of the diffuser and box, when assembled together. The acoustically insulated plenum are available with 1 or 2-step dimension change between the air duct and the diffuser box connection. Compatible supply air diffusers: Econox perforated ceiling diffusers for supply- and exhaust air, Econox steel ceiling diffusers with round discharge and the Econox ceiling diffuser steel with round air outlet for supply- and exhaust air.

The acoustically insulated plenum features environment friendly sound absorbent insulation, a supply air distribution plate and a removable damper module for commissioning and measuring of the airflow. The sound insulation offers optimal sound level attenuation, ensuring quiet operation in order to improve comfort in various settings. The damper module is equipped with a measurement flange with hoses for precise measurement of the airflow and the damper blade is fitted with adjustment cords for easier commissioning and for securing the damper to the commissioned air flow. The box is commissioned with help of provided K-factors. This enables accurate control, ensuring efficient operation when commissioned properly. The removable damper module enables easy access when cleaning the air ducts. When the product is installed according to requirements, the cords also allow for simplified cleaning during service intervals and provides an efficient safety measure when resetting the damper to its commissioned setting after maintenance. The combination of precise airflow control, efficient space utilisation, and optimal sound attenuation properties, makes the The acoustically insulated plenum ideal for comfort applications demanding high capacity and ventilation efficiency.

sizes

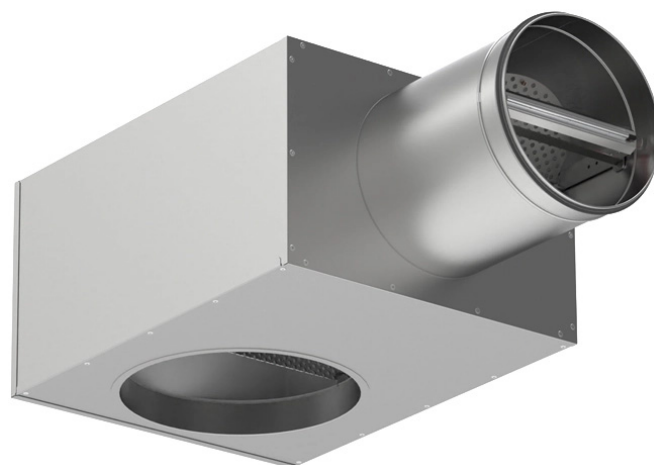
1-step	2-step
125-100	160-100
160-125	200-125
200-160	250-160
250-200	

Airflow range

50 - 2.520 m³/h (14 - 700 l/s)

Materials

Casing, distribution plate and flanged spigot from galvanised sheet steel with EPDM rubber gasket. Washable surface coated insulation from 100% recycled, non allergenic, hydrophobic PET material. Damper module of galvanised steel with cords of polyester. Measurement device of galvanized steel and aluminum pipe with silicone hose.



Main characteristics

- Low build, ensuring minimal height requirements
- Designed for high performance and silent operation
- Uniform airflow distribution with maximised room comfort
- Removable commissioning damper for easy maintenance and cleaning
- Compatible supply air diffusers: Econox perforated ceiling diffusers for supply- and exhaust air, Econox steel ceiling diffusers with round discharge and the Econox ceiling diffuser steel with round air outlet for supply- and exhaust air.

Installation

Note: In order to achieve the required accuracy, a straight section/ stretch of duct must be maintained before the product,- following obstacles in the airflow direction:

- Duct bend/Elbow: The box can be installed directly after a bend
- T-piece/Tee: The box must be installed after a straight stretch, equal or higher to 4 times the duct diameter ($\geq 4 \times \varnothing$)
- The box spigot is connected directly to a circular supply air duct.
- Connection to a flexible duct is possible but not recommended.
- The diffuser is connected directly to the box socket. The connection between diffuser and box can extended with circular duct:
- For installations in suspended/false ceilings, the MN accessory can be used to extend the connection by 40 mm.
- If the extension exceeds 500 mm, extending the measurement hoses and damper cords is necessary.

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Designations

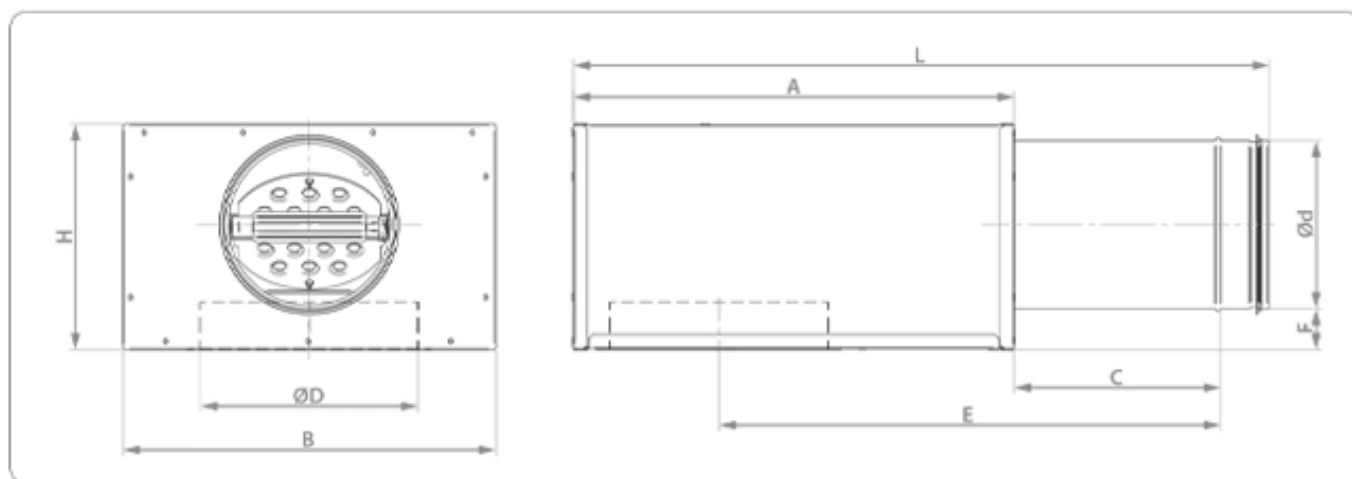
Size designation of the the acoustically insulated plenum commissioning box refers to the connections in mm, according to:

- PRODUCT – DIFFUSER DIM – DUCT DIM (e.g. -125-100), indicating a box with a diffuser connection (socket) of Ø125 mm and a duct connection (spigot) of Ø100 mm.

The terms “1-step” and “2-step” refer to the difference between the connections of the box:

- 1-step – indicates a difference of one duct dimension between the diffuser side and the duct side: -125-100, -160-125, -200-160, -250-200.

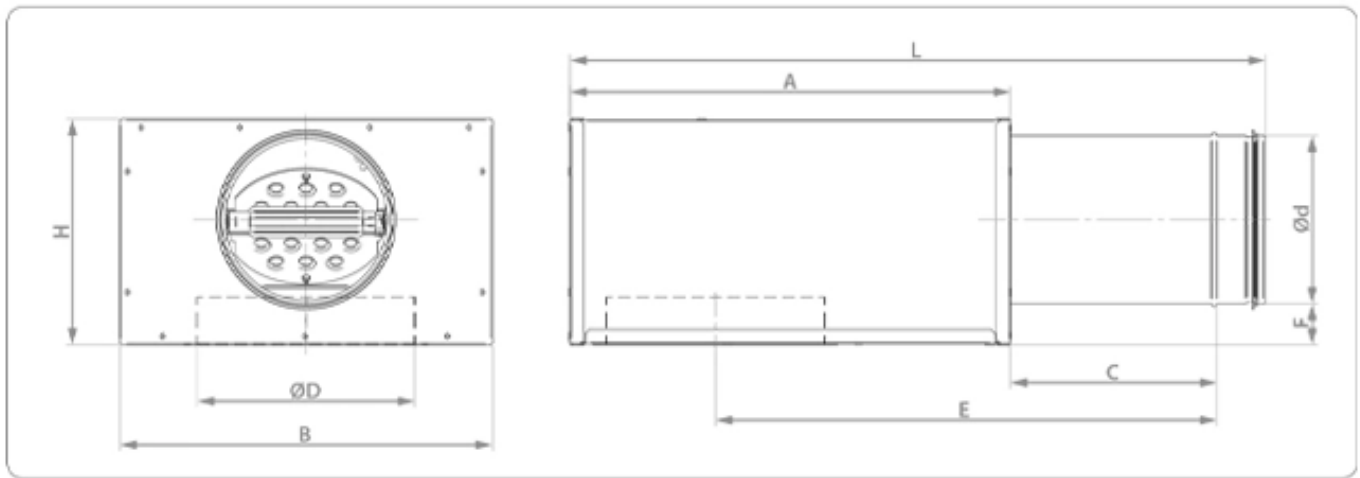
- 2-step – indicates a difference of two duct dimensions between the diffuser side and the duct side: -160-100, -200-125, -250-160.



commissioning box - 1-step type

Size	ØD*	Ød*	A	B	C	E	F	H	L	Weight [kg]
125-100	125	100	255	238	129	294	30	140	420	1,84
160-125	160	125	325	273	152	370	30	165	513	2,53
200-160	200	160	395	313	173	441	30	200	604	3,47
250-200	250	200	475	368	194	517	30	240	705	4,76

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commissioning box - 2-step type

Size	ØD*	Ød*	A	B	C	E	F	H	L	Weight [kg]
160-100	160	100	325	273	129	347	30	140	490	2,24
200-125	200	125	395	313	152	420	30	165	583	3,02
250-160	250	160	475	368	173	496	30	200	684	4,18

K-factor for calculating air volume

Size	K-factor
125-100	6,13
160-100	6,13
160-125	10,8
200-125	10,8
200-160	17,3
250-160	17,3
250-200	27,2