



Air diffusion systems

Staircase diffuser SZD 125

Application

The staircase diffuser SZD is designed for draught-free introduction of supply air into cinemas, theatres, lecture halls and other assembly rooms. It is vertically mounted into the steps and introduces the supply air near the ground. The staircase diffuser SZD 125 is used for volume flow rates from 20 to 40 m³/h with temperature differences between supply air and room air of up to ± 6 K.

Construction

The visible part of the staircase diffuser is a round (or square) perforated plate, behind which the diffuser with 8 blades (2) and inlet spigot (3) is located. The perforated plate (4) is used as flow straightener as well as a variable flow controller.

Function

The swirling jets leave the diffuser with radial action and flow towards the floor. The air velocity and temperature difference is rapidly reduced. This guarantees draught-free conditions at a short distance between the diffuser and legs of the audience.

Mounting

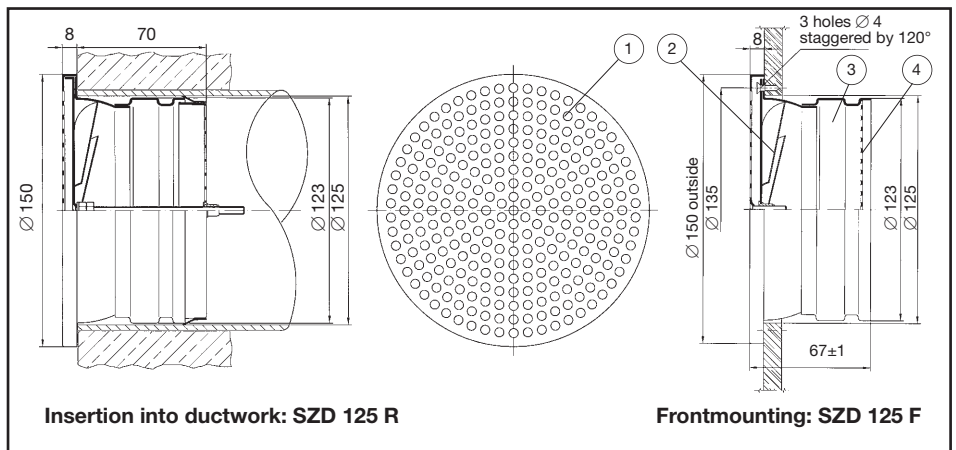
Two types of installation are possible.

Front mounting: SZD 125 F

The diffuser is screw fixed to the front side of the step and is then fastened to the diffuser perforated plate.

Insertion into ductwork: SZD 125 R

The entire diffuser is inserted into a duct having an inside diameter of 125 mm and fastened by tightening the middle screw. This enables an easy, quick and extremely inexpensive mounting procedure.



Staircase diffuser SZD 125

Technical data

Velocity profile vs. supply flow rate

The staircase diffuser type SZD ist usually used with a volume flow between 20 and 40 m³/h. Figure 1 shows the velocity profile of 0.2 m/s for 20, 30 and 40 m³/h at a temperature difference of 3 K (cooling) between supply air and room air at a height of 100 mm.

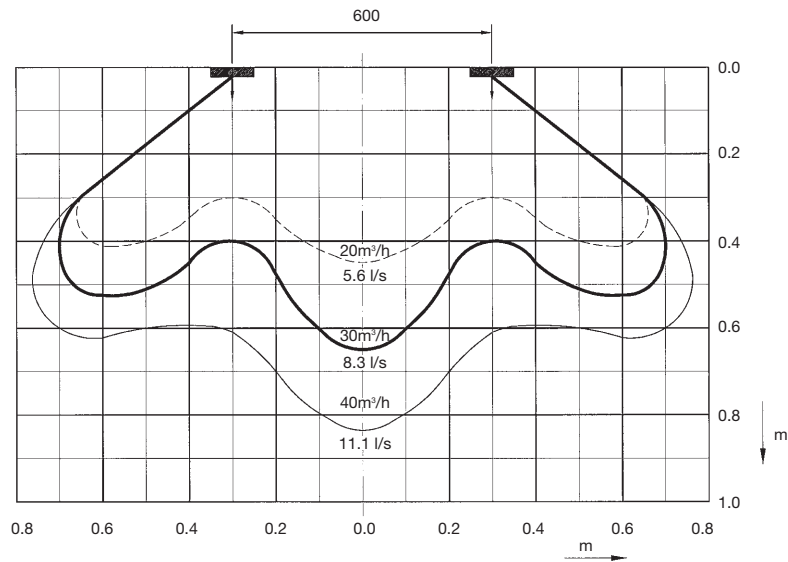


Fig. 1: Velocity isovels 0.2 m/s for volume flows from 20 to 40 m³/h at 3 K (cooling).

Pressure loss and noise level

Figure 2 shows the pressure loss and noise level for the individual diffuser against volume flow. The diffuser resistance can be varied without affecting the noise level by changing the free air of the perforated plate.

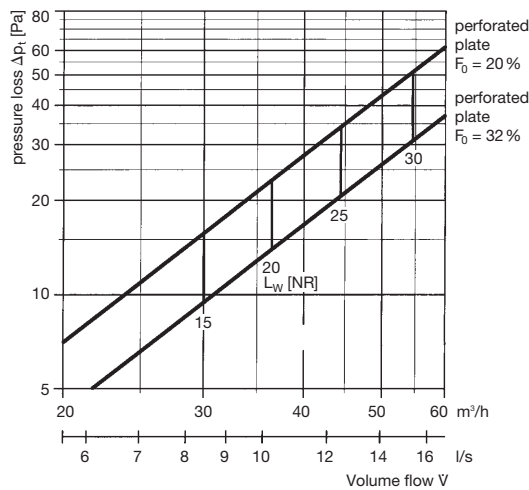


Fig. 2: Pressure loss and noise level against volume flow.

Tender text

Staircase diffuser SZD for the introduction of supply air through a step.

Diffuser consisting of base plate with punched swirl blades and inlet spigot DN 125, perforated front plate as well as internal straightener for an uniform approach flow.

Mounting:

- Insertion of the diffuser unit into ductwork having an inside diameter of 125 mm (SZD 125 R)
- Front mounting for fastening with screws at the step (SZD 12 F)

Material: Sheet steel
Surface powder coated to RAL 9010

Volume flow: m³/h
Maximum noise level: dB(A)
Maximum pressure loss: Pa

Manufacturer: **Strulik**
Type: **SZD**
Product: Staircase diffuser