

Air Diffusion Systems

Linear Floor Diffuser LFD

Construction

The Strulik Type LFD is a linear supply air displacement flow diffuser which can be integrated in to the floor. It is used at the edges of spaces or placed close to room arrangements, e.g. in airport walkways.

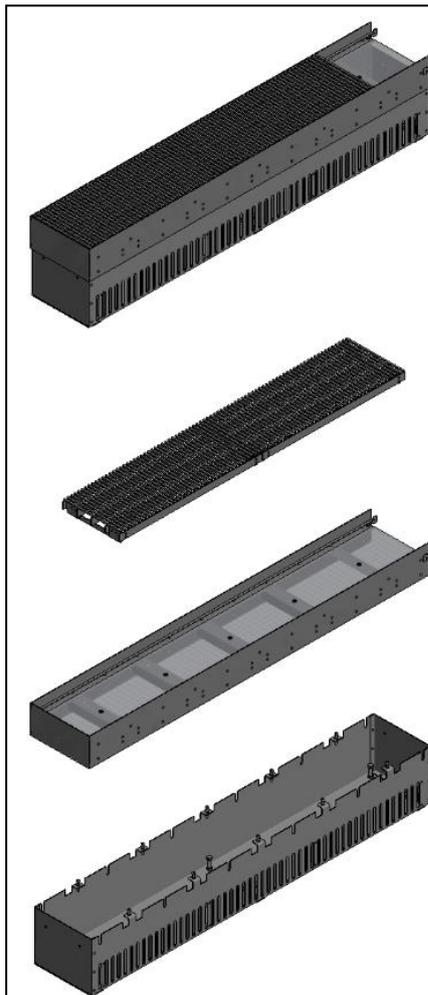
The LFD consists of a plenum box made of 2 mm thick galvanised sheet steel, which is fixed to the unfinished floor or to a substructure and it allows height adjustment. The supply air is fed from under the raised floor via vertical slots in the side wall(s). The air inlet can be regulated by a sliding damper. Alternatively, the supply air can also be fed in via a supply air spigot connected to a ducted system.

The height-adjustable 2 m stainless steel mounting frame is attached to the plenum box. This allows the height of the supply air diffuser to be exactly adapted to the height of the finished floor.

The upper section forms the air outlet grille and is made of triangular stainless steel profiles 5 mm wide. The grille has a free cross-sectional area of 59 %. After insertion, this face plate grille is firmly connected to the mounting frame via a spring snap lock and can only be removed using a special key.

Function

The LFD brings the cooled supply air into the room with an under-temperature of approximately 3 degrees Celsius and a front exit velocity of 0.15 to 0.25 m/s. The LFD then evenly distributes the air over the floor. From here the air mixes and rises due to heat load of the room and people. The air is then extracted at high level where it has gained its maximum heat.



Linear floor outlet assemblies

Front grille made of triangular stainless steel profiles with secured removal protection

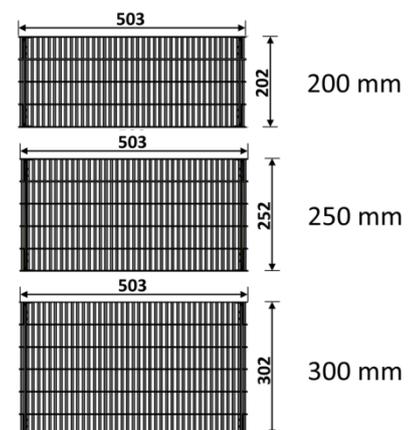
Mounting frame made of 2 mm stainless steel, height adjustable

Plenum box made of 2 mm galvanised sheet steel, height adjustable

Sizes and dimensions

The Type LFD linear supply air diffuser is available in standard nominal widths of 200 mm, 250 mm and 300 mm. Versions with a maximum width of 400 mm are available on request. The overall height is 185 or 250 mm. The overall length of the plenum boxes with mounting frame is generally between 1000 and 1500 mm. The standard length of the stainless steel air outlet grille is 503 mm, but make up pieces can be manufactured in any length.

Standard widths

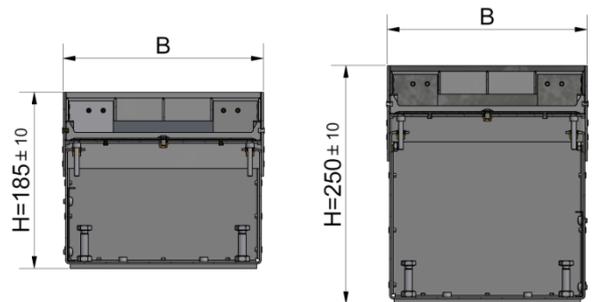


Linear Floor Diffuser

Dimensions Assemblies

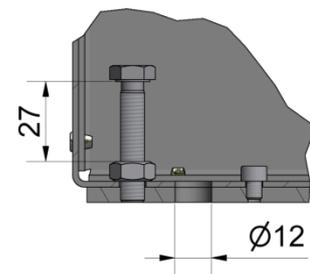
Type LFD Linear floor supply air Diffusers - Dimensions

The standard widths of linear floor diffusers are 208, 258 and 308 mm. The two standard heights are 185 and 250 mm. The minimum length is 300 mm, the maximum overall length for individual elements is 1800 mm. Longer lengths are supplied in individual segments between 1000 mm and 1500 mm.

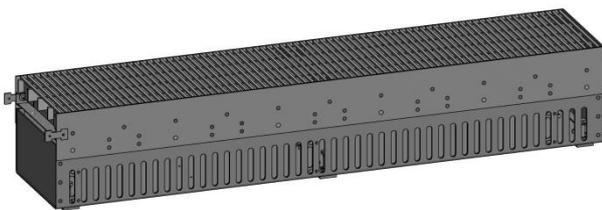


Sub-assembly Plenum box

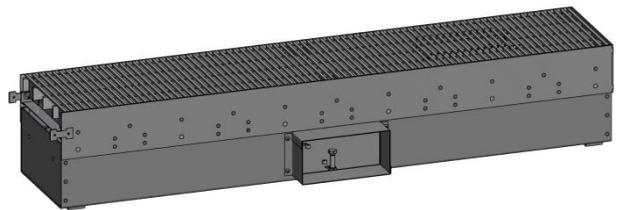
The plenum box made of 2 mm thick (Elo) galvanised steel sheet. It is fixed to the unfinished floor or a substructure and can be adjusted in height by +/- 10 mm using the adjustment screws located at the bottom of the plenum box. The supply air is fed in via longitudinal slots with sliding damper in one or both of the longest sides, or via air supply spigots attached to the side of the plenum box.



Screws for height adjustment to the floor



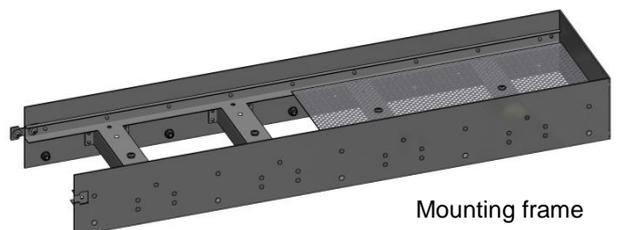
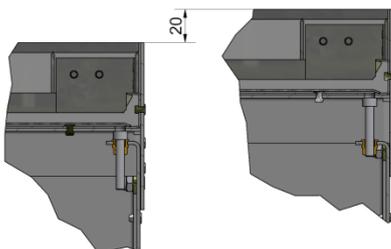
Side air inlet with sliding damper



Side entry air spigot

Assembly Mounting frame

The mounting frame on the plenum box is made of 2 mm stainless steel and can be adjusted 10 mm up and down in height to suit the height of the finished floor.



Mounting frame

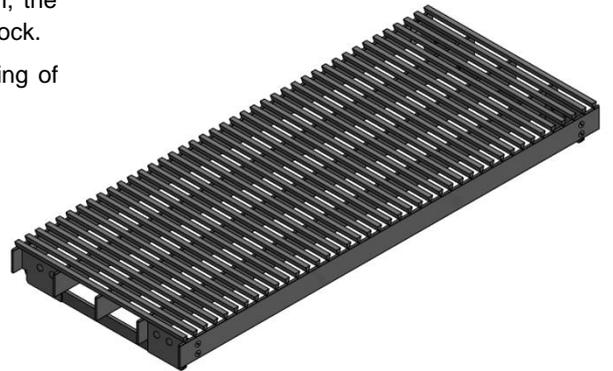
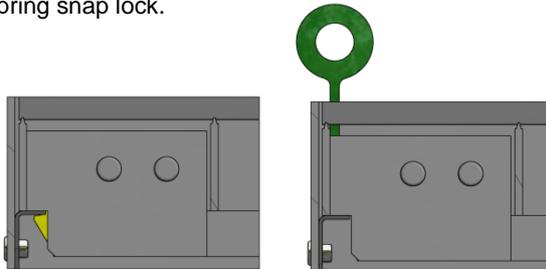
Linear Floor Diffuser

Front Grille Options

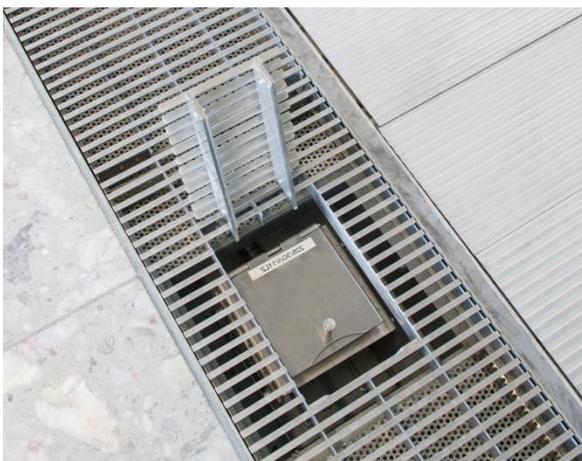
Front grille assembly

The faceplate is a stainless steel grille made of 5 mm wide triangular profiles and has a 50 % cross-sectional free area. The supports are 25 x 2 mm mounted in the longest direction and are 50 mm apart. After insertion, the front grille is secured against unauthorised removal with a spring snap lock.

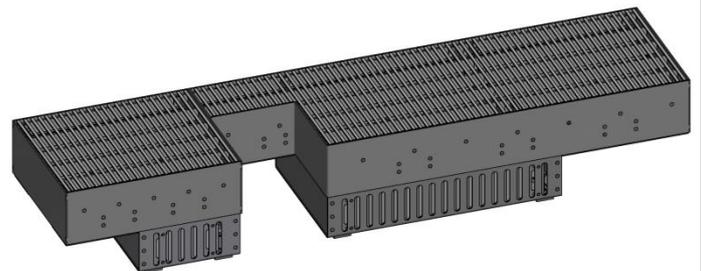
A special key is required to remove the grille. This allows the unlocking of the spring snap lock.



Option: Integrated electrical socket for floor cleaning machines etc.



Option: Cut out sections and inactive areas

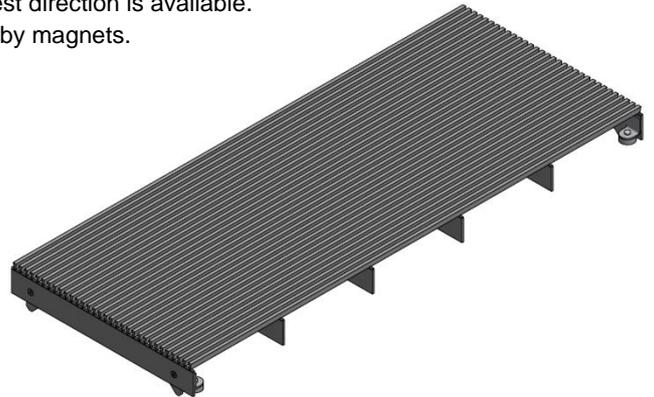


Linear Floor Diffuser

Technical Data

Other grille options

As an option a front grille with 3.3 mm wide profile wires in the longest direction is available. The cross-sectional free area is 45 %. The grille is secured in place by magnets.



Technical data

The following diagrams show the pressure drop and sound power level for a standard floor supply air diffuser, 200 mm wide and 1000 mm long for various damper settings and with one-sided or two-sided supply air installation.

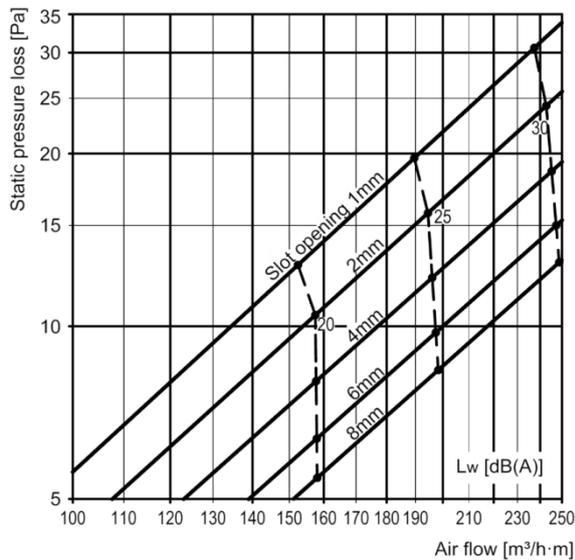


Fig. 1: Sound power level and pressure loss for linear floor diffuser in relation to airflow and damper position. Supply diffuser 200 mm wide, 1000 mm long. Air supply via one side - slide plate with damper.

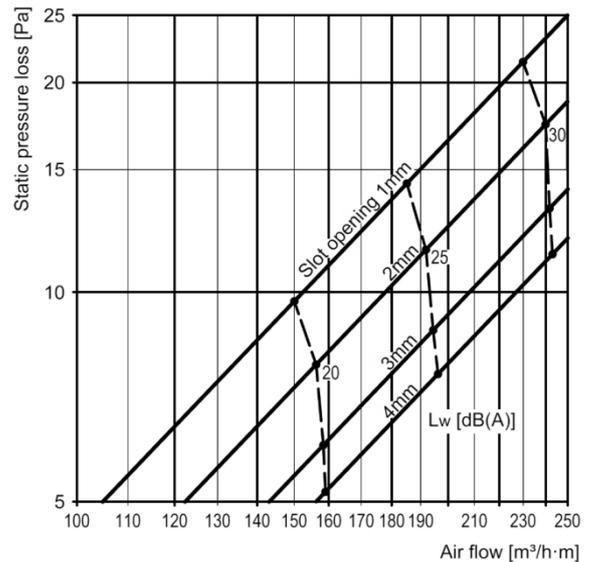


Fig. 2: Sound power level and pressure loss for linear floor diffuser in relation to air flow and damper position. Supply diffuser 200 mm wide, 1000 mm long. Air supply via two sides - slide plate with damper.

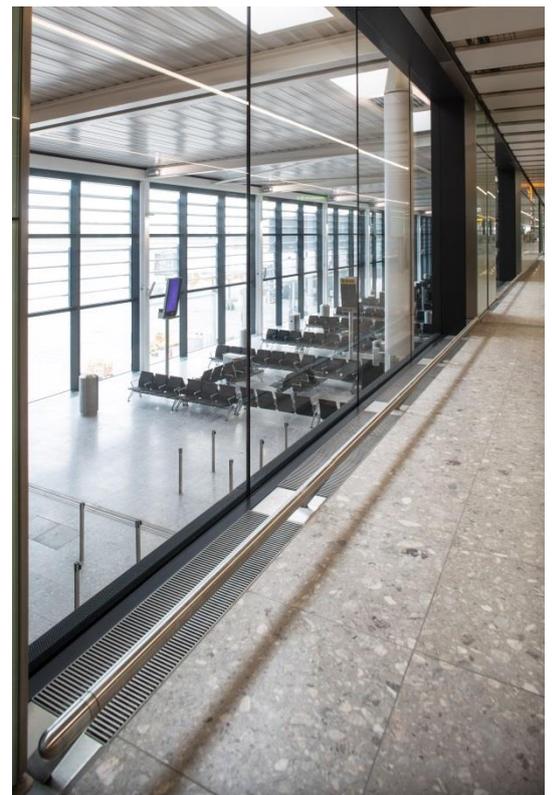
Linear Floor Diffuser

Installation applications

Installation applications for LFD supply air linear floor diffusers



Installation in front of an external façade



Installation in front of an internal façade



Installation in front of a booking counter

Linear Floor Diffuser

Installation applications



Installation around a booking counter



Installation next to an inner wall



Installation by room dividers

Linear Floor Diffuser

Installation applications



Installation alongside a travelling walkway



Installation next to balustrades and parapets

Tender text

Position	Description	No. of units	Unit price	Extended price
	<p>Strulik Type LFD Linear floor supply air diffuser for creating a draught-free and low-noise displacement air supply system</p> <p>Floor mounted supply air displacement diffuser assembly consisting of a plenum box, a mounting frame and front grille modules. Plenum box made of 2 mm thick galvanised sheet steel with height adjustment device to the supporting floor. Mounting frame made of 2 mm stainless steel with an integrated 20 mm height adjustment to the finished floor. Front grille consisting of stainless steel triangular profiles of 5 mm width, free cross-sectional area of 59 % with supports for load absorption of 25 x 2 mm at 50 mm intervals. The front grille is secured against unauthorised removal by a key release spring snap lock.</p> <p>Dimensions</p> <p><u>Normal Built Height:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> 185 mm <input type="checkbox"/> 250 mm <p><u>Width:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> 208 mm <input type="checkbox"/> 258 mm <input type="checkbox"/> 308 mm <p>Supply air supply:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Longitudinal slots in side wall with sliding restrictor <ul style="list-style-type: none"> <input type="radio"/> One-sided <input type="radio"/> Both sides <input type="checkbox"/> Supply air spigot in side wall <p>Overall length:..... mm</p> <p>Options:</p> <p>Integrated socket: Number..... of pieces</p> <p>Integrated dummy elements:..... pieces</p> <p>Cut-outs in the grid band:..... pieces</p> <p>Volume flow per m:..... m³/h·m</p> <p>Required pressure drop:..... Pa</p> <p>Manufacturer: Strulik</p> <p>Type: Linear Floor Diffuser LFD</p>			