



S11 is ideal for use in schools and offices, production and business premises, sport halls and warehouses.

The indoor climate and economy will be significantly improved with S11 in buildings where air diffusers are positioned at high heights.

STRAVENT S11

Supply air diffuser for stratifying ventilation

Quick facts

- Supply air flow Optional up to 178 l/s
- Pressure drop Optional up to 150 Pa
- Diameter Ø 125, 160, 200 and 250 mm.
- Length From 600 to 2500 mm
- Design Seamed sheet metal, galvanised or stainless steel. Natural or enamelled.

A Stravent - diffuser is always silent

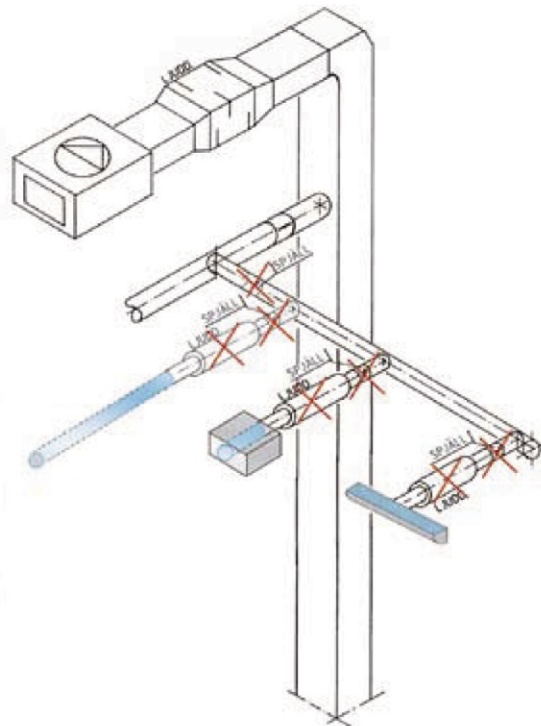
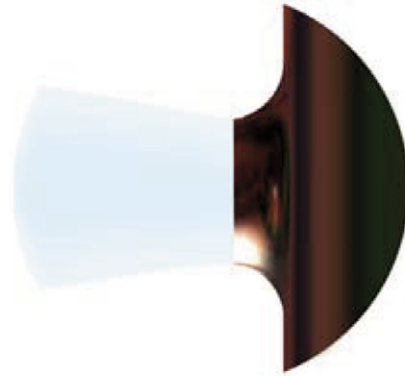
Aerodynamically optimised Stravent nozzles give the diffuser the correct air flow. Sound producing dampers are not needed. This makes S11 more than 10 dB(A) quieter than traditional supply air diffusers with a sound dampening plenum box.

Silent S11 facilitates installation

As S11 is so quiet, you can set a higher pressure across the diffuser - 80 to 150 Pa.

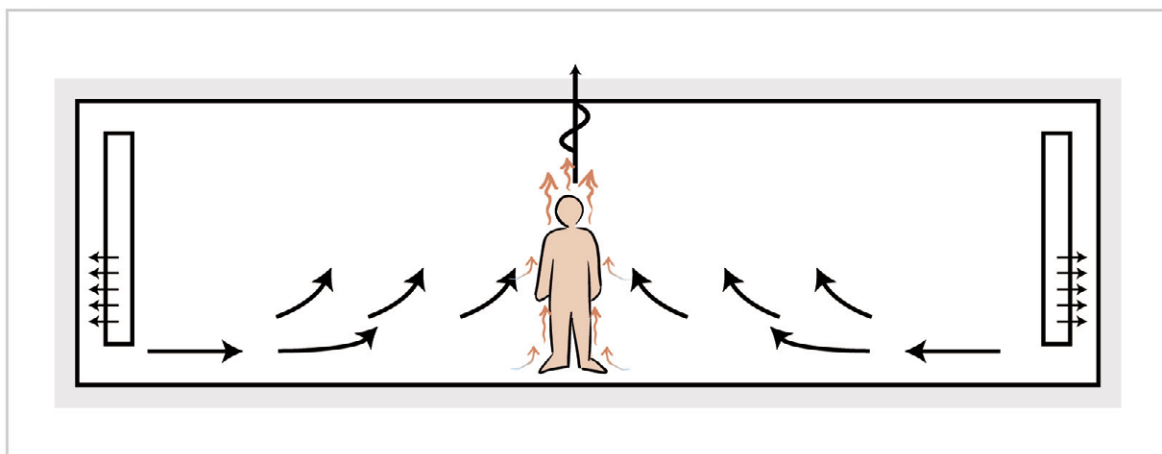
You can then let the diffusers take control in the system. This simplifies installation:

- Diffusers can be supplied with a preset air flow rate.
- Adjustable dampers and silencers can be omitted from branch and connection ducts.
- Without dampers and silencers electrical efficiency is normally higher at pressure drops up to approximately 110 Pa.

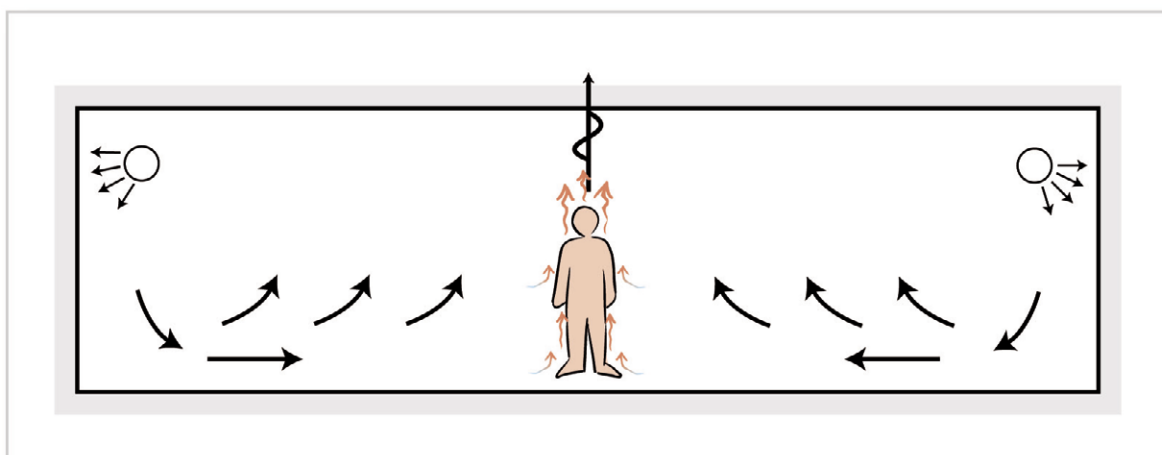


Jets from S11 improve the air in the room

The cleanest room air and the most effective supply air, currently possible using available techniques, can be achieved by directing the jets from S11 towards the wall at an appropriate angle. (This angle is specified in the instructions supplied on delivery). The supply air will spread along the wall without the risk of causing draughts in the occupied zone, even if the supply air is chilled to +5 °C or heated to 35 °C.



Air movement in the room with S11 placed against the wall.



Air movement in the room with S11 placed in the corner of the wall-ceiling.

This is S11

Stravent S11 consists of a cylinder, a removable end cap and two brackets for installation on the wall.

Material: Stainless steel galvanised sheet.

Cylinder diameter = the diffuser's size = Ø 125, 160, 200 or 250 mm.

Size 125 has a length of 600 mm.

Size 160 has a length of 900 mm.

Size 200 has a length of 1250 mm.

Size 250 has a length of 2500 mm.

The Stravent nozzles are fitted in the body of the cylinder. These spread the supply air in one direction.

The diffuser can be turned through 360°. The direction of the supply air from the diffuser can be set optionally through 360°

S11 has duct dimension.

As standard S11 has a natural finish.

Connections are made using duct fittings.



Types

Type R is manufactured of stainless steel. Wall brackets for S11 in stainless steel are specially designed to match the most exclusive environments.

Type G is manufactured of galvanised sheet. Type G can be finished on request in any colour.

Demand controlled supply air

When the pressure drop across the diffusers is set to 80 Pa or more S11 can take control of the supply air flow to the different rooms from the same branch duct. The air flow can then be temporarily increased without this affecting the other rooms too much.

Each room is equipped with two S11 terminals, one diffuser with a basic flow and one diffuser with forced flow, with this type of demand controlled supply air. The Forcing unit is opened by a signal from a switch or occupancy detector.

This is how you plan with Stravent- technology

Jets optimise the air and heat exchange with the room air.

The openings in the diffuser draw the supply air into silent jets. The air exchange between the room air and the supply air will then more than double, compared with traditional supply air diffusers. This also means the heat exchange between the room air and the supply air can increase to the same extent.

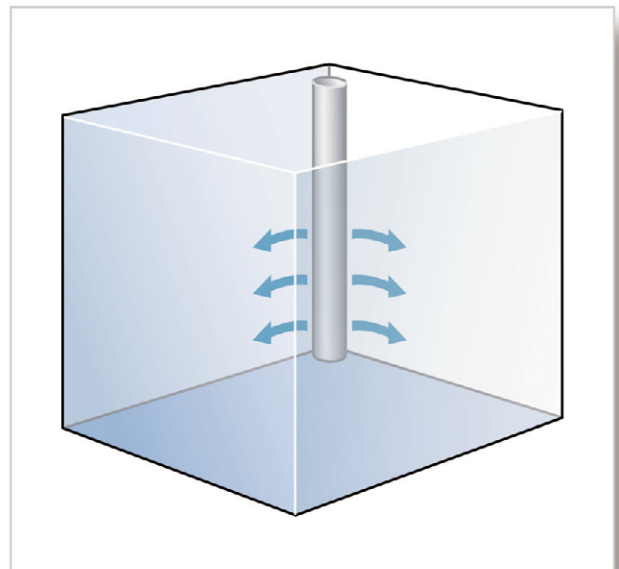
Accordingly, the jets activate the room air and, in addition, take control of all the air in the room. The distribution of the supply air in the room will also be known and distinct.

Optimising the efficiency of the supply air and quality

If you allow the supply air to be introduced into the room according to the principles of the Softflo technology, the air in the room will be stratified with cleaner air in the occupied zone and used air up by the ceiling.

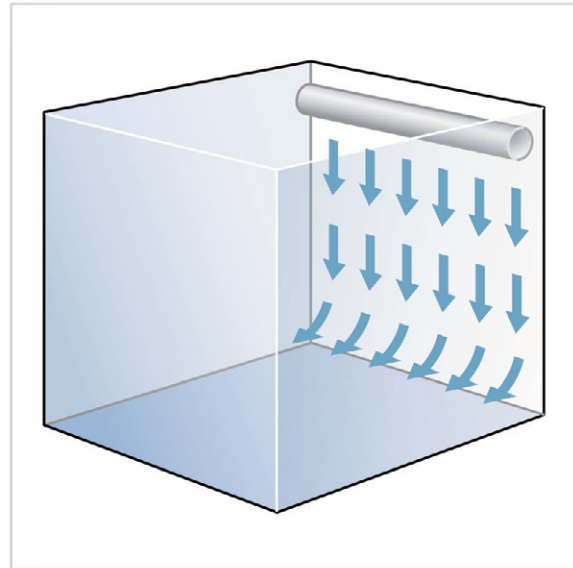
When S11 is positioned vertically in the corner of the ceiling-wall and the jets are directed against the wall the room air will then be stratified.

This results in the particle content in the occupied zone falling to less than half than if the ventilation had been mixing.



In this case the efficiency of the supply air will be about 80 percent.

As stratification with Stravent technology is more distinct and stable than that achievable with low-impulse diffusers, you also obtain very high general air exchange efficiency - usually between 70 and 80 percent. [Compared with normal mixing ventilation - 30 to 40 percent.]



In this case the efficiency of the supply air will be about 69 to 80 percent.

Calculation example

Stravent S11 instead of traditional supply air diffusers

1. New research findings confirm that, even if the ventilation air from S11 is halved, the air we breathe will still contain fewer particles and will be and feel fresher.
2. The exchange of heat between the ventilation air and the room air will increase by at least 40 per cent. Consequently, if S11 is to heat or cool the room, the desired output can be reduced by the factor 0.72. The result in the room will still be the same.

Example: Desired cooling effect to the room = 600 watt. Using S11 it is sufficient with $0.72 \times 600 = 432$ watt to obtain a cooling effect of 600 watt with traditional supply air diffuser.

However, in order for this unique function to be obtained you need to consider the instructions in the separate brochure, Planning tips.

Ensuring a room without draughts

If you place S11 vertically in any position and height on the wall - preferably in a corner - but at least 200 mm from the floor and direct the supply air towards the wall, the room air movement will always be lower than 0.20 m/s in the occupied zone due to the supply air. This rule also applies even if the supply air is chilled to +10 °C.

If you place S11 horizontally in the corner of the ceiling-wall and direct the supply air against the wall, a velocity than 0.20 m/s can be obtained on the room air in the occupied zone.

The direction of the jets is optional, as S11 can be turned through 360°. Even if a draught is experienced in some part of the room due to furniture obstruction, this can also be easily rectified. Instructions are supplied on delivery.

Heating the room with S11

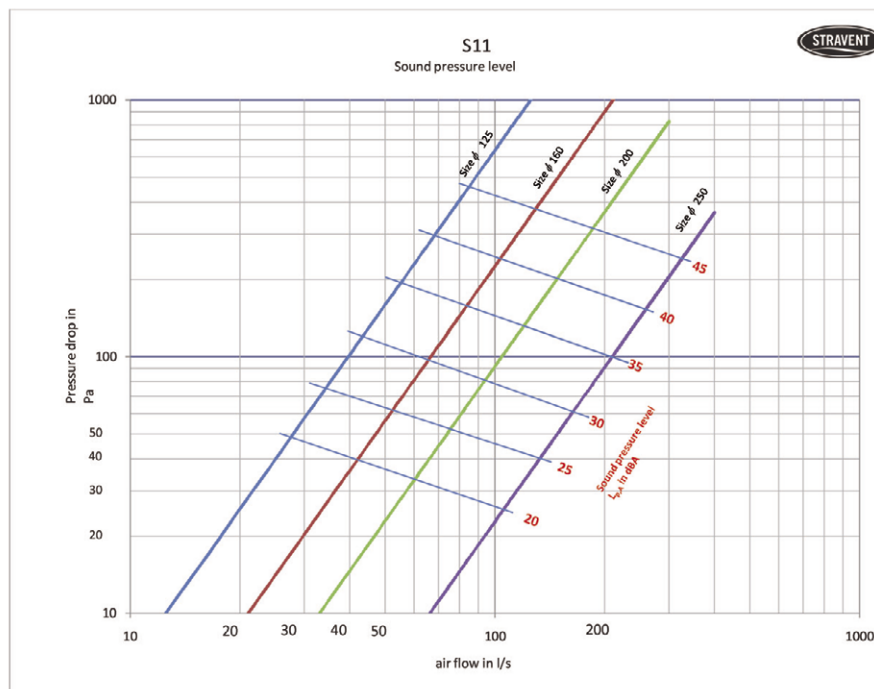
The high mixture of indoor air in to the jets means that you can - without thermal disadvantage - cool the supply air to +5 °C. In the same way, you can also heat the room efficiently with supply air up to +35 °C.

Sound levels apply if the connecting duct has a straight section that is equal to the diffuser's diameter x 6.

Selecting an appropriate size

The air flow and pressure drop is optional for sizes 125, 160, 200 and 250 in the diagram within each working area.

S11 is supplied with a preset air flow, if the air flow and pressure drop are stated when ordering.



Example: Max flow at 100 Pa is for S 11 - 125, 35 l/s with all nozzles open.

Correction of the sound levels to sound effect levels

Correcting the sound level from the diagram with the figures in the table, a sound effect level is obtained in the different octave bands.

Hz							
63	125	250	500	1K	2K	4K	8K
-12	-8	-5	-3	-2	-2	-4	-4

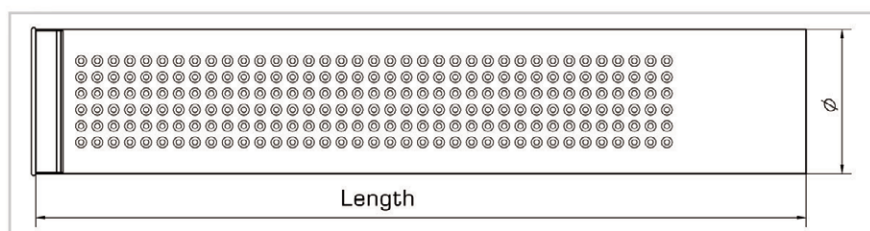
Integrated sound attenuation (dB)

Hz							
63	125	250	500	1K	2K	4K	8K
33	27	22	16	10	6	2	1

Installation

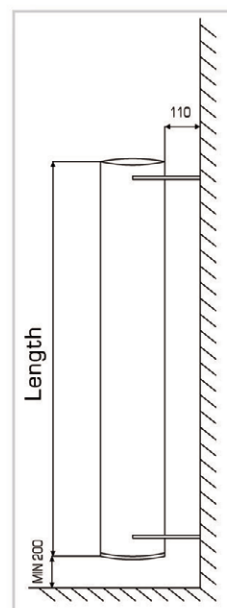
Two wall brackets are supplied with each S11. Instructions are supplied on delivery.

Dimensions



Size Ø mm	Length mm
125	600
160	900
200	1250
250	2500

The two wall brackets mount the diffuser 110 mm from the wall.



Specification

Stravent S 11 - A - B - C - D	
Designation	Description
A. Type	Type R in stainless steel or Type G in galvanised sheet - standard.
B. Size/ diameter	Size/diameter 125, 160, 200, 250 mm.
C. Air flow	Stated in l/s.
D. Pressure drop	Stated in Pa.
Specification example	
Supply air diffuser S 11 - R - 125 - 20 - 100.	

The Forcing unit is specified as a standard supply air diffuser.

Subject to design alteration.