

*S 55 normally gives double the air exchange efficiency than that from traditional displacement supply air diffusers. Furthermore, the thermal comfort in the room will be significantly improved, as the velocity of the supply air never exceeds 0.2 m/s in the occupied zone.*

- *Effectiv and energy-saving supply air*
- *Draught-free air distribution*
- *Silent at high pressure drop*
- *High integrated sound attenuation at low frequenses*
- *Delivered pre-adjusted for right air flow*

# STRAVENT S55

## Wall diffuser for stratifying ventilation

### Quick facts – S55

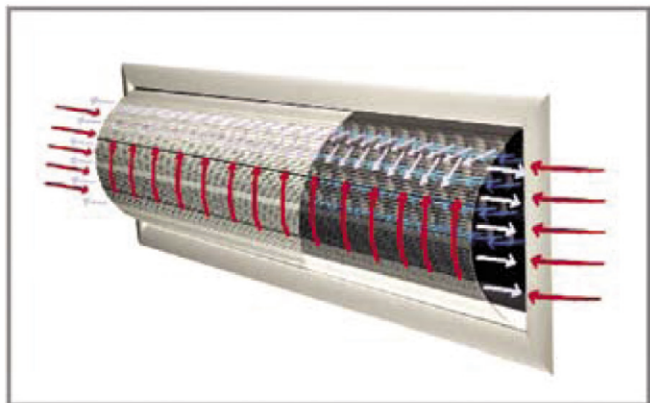
- Supply air flow .....Optional, max 60 l/s (90 Pa)
- Pressure drop.....Optional up to 150 Pa
- Soundlevel.....Always below 28 dB(A)
- Size (Ø) .....100, 125, 160 mm
- Dimensions (H x L) .....400 x 110, 500 x 135, 600 x 170 mm
- Finish ..... Powder coating RAL 9010
- ISO 9001 and ISO 14001

## Hybrid ventilation!

The Stravent-technology combines the benefits from mixing- and displacement-ventilation. Stravent technique creates stable stratification in the room.

Silent Stravent nozzles draw the supply air into jets inside the diffuser. Each jet attracts a great deal of air from the environment - and indirectly from the room. The mixed supply air flows simultaneously out of the diffuser in the opposite direction. The counter-directed air currents are mixed intensively with each other in the convex front and in the side openings. At the same time, the supply air's impulse is reduced dramatically.

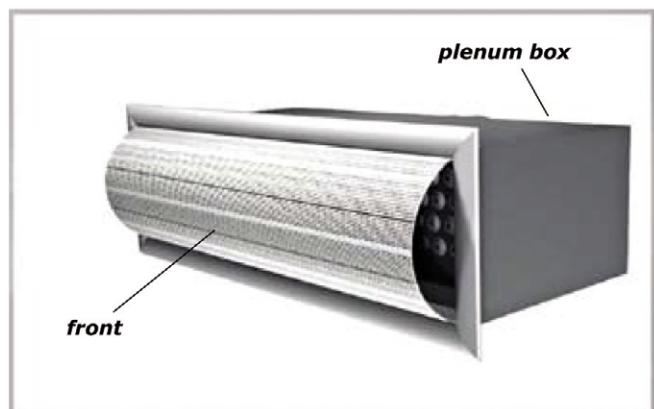
The supply air is reformed in this secondary mixing process into an "air mist", which at a low velocity flows out into the room - to the sides as well as forwards and downwards.



The spread pattern co-operates with the natural convection in the room. With the Stravent-technology, the supply air takes control and this results in a very high airchange rate, often over 70%. Traditional mixing ventilation has an air change rate of 30-50 %.

Muck up tests, CFD-simulations and delivered projects show that the Stravent-technique always gives you draught-free ventilation in the occupied zone.

### This is S55



S55 consists of two separate parts: plenum box and front.

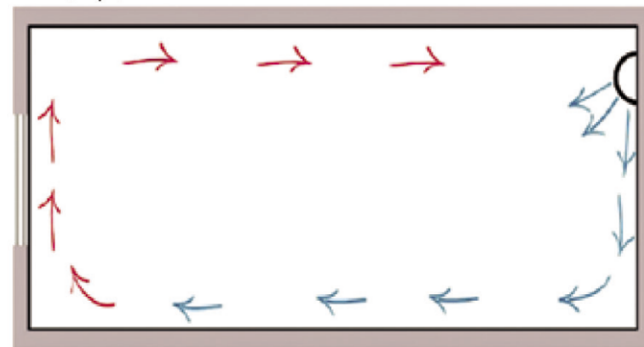
The front consists of an aluminium frame that conceals the periphery of the wall opening. The front is mounted to the plenum box with integrated clips. The plenum box houses a plate with Stravent nozzles. The plenum box has circular duct connections in the rear and on the side.

The convex front, made from special expanded metal, is fitted or detached using a handle. The mounting frame and front is finished in white RAL 9010 as standard. The mounting frame and front can also be finished in another colour or anodised.

## Planning

### Air flow development

The air mist flows out along the wall at a low velocity. If there are permanent workplaces close to the wall the front is turned upside down and down with a handle. The air is then forced a little further into the room, so that it cannot disturb the convection air flow from the workplace.



As a result of this new technology, the velocity of the supply air in the occupied zone will always be lower than 0.2 m/s, with 10K chilling.

The new process means that throw lengths, in the traditional meaning, do not occur or need to be considered.

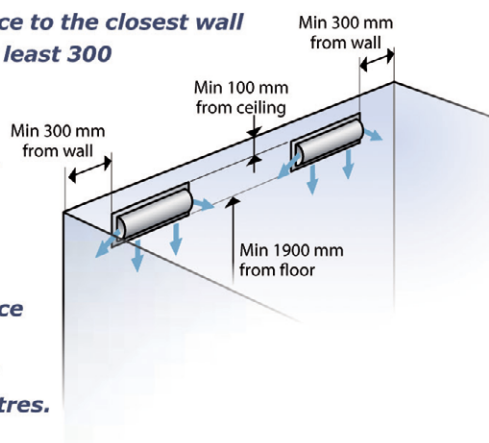
The same applies to the supply air, which is introduced into the room along the wall. Nevertheless, consider the following when placing the S 55 to ensure trouble free operation:

**– Several diffusers in a row should be spaced at least 1.2 metres from each other.**

**– The distance to the closest wall should be at least 300 mm.**

**– The distance to ceiling should be at least 100 mm.**

**– The distance to the floor should be at least 1.9 metres.**



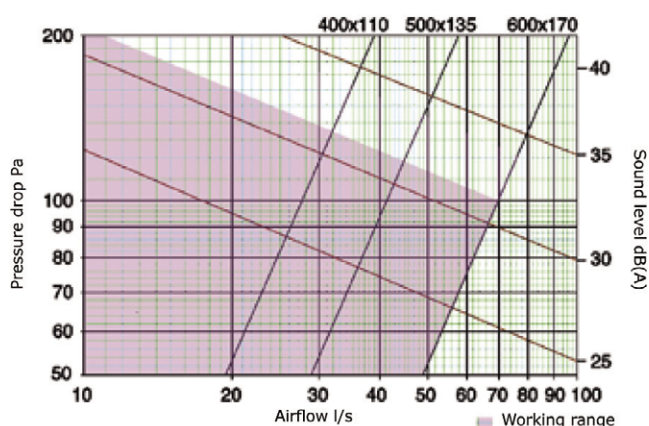


The optimal function from S55 is obtained with isothermal and chilled supply air. Use the S11 diffuser for heated air

### Assured silent operation - selecting an appropriate size

At a pressure drop of 80 Pa or more S44 can work in control in the system. This simplifies the system. In many cases dampers and silencers can be omitted.

The blue lines in the diagram show the maximum air flow for the three different sizes of diffuser. The air flow and pressure drop are optional up to the maximum air flow for each size. The soundlevel  $L_p$  are presented for rooms with normal acous-



tic absorption of 4 dB. S55 is supplied with a preset air flow, if this and the pressure drop across the diffuser are stated when ordering.

The preset air flow can easily be changed using the formel below:

$$q_v = \sqrt{\Delta p} \times 0,030 \times n$$

$q_v$  = Air flow,  $dm^3/s$   
 $\sqrt{\Delta p}$  = Pressure drop, Pa  
 0,030 = Constant  
 $n$  = number of active/open nozzles

### Correction of sound levels to sound effect levels

Sound effect levels are obtained in the different octave bands by correcting the sound level from the diagram with the figures in the table below.

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

### Integrated sound attenuation

In the lower frequences, 63 to 250 Hz the integrated sound attenuation is up to 18 dB higher than for traditional diffusers.

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

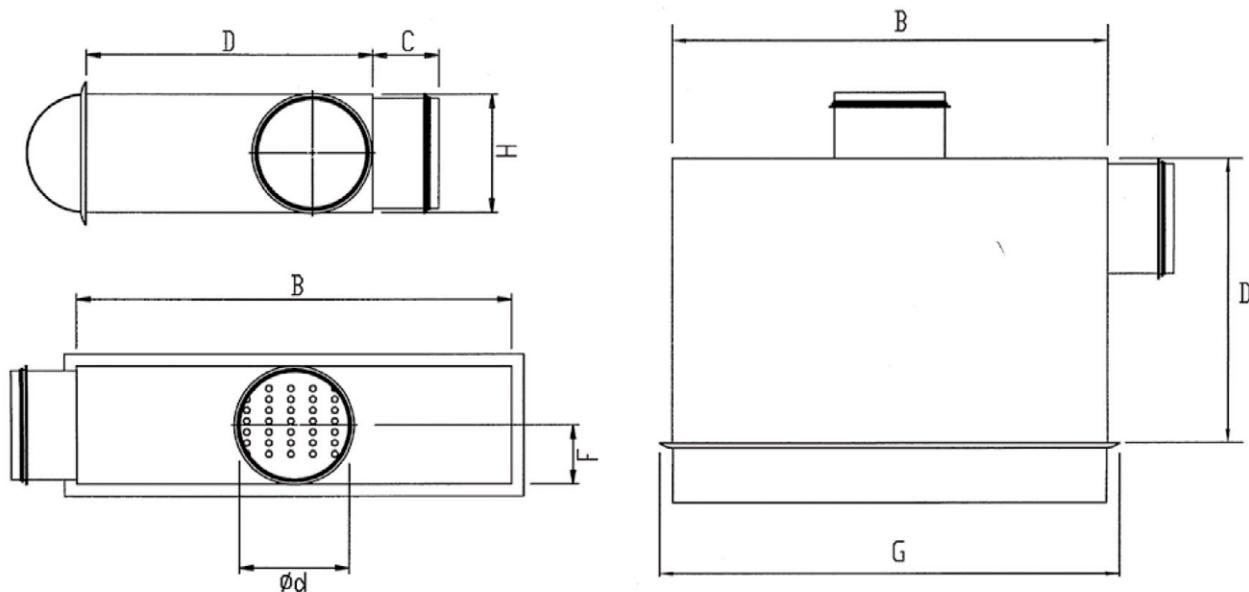
### Sizes - Connections

#### Nominal measurement Connection

400 x 110 mm	.....	Ø100
500 x 135 mm	.....	Ø125
600 x 170 mm	.....	Ø160

Hole measurements must not be larger than the nominal measurements.

MEASUREMENTS	H	B	D	C	F	G	ød
400 x 110 mm	..... 105	..... 395	..... 260	..... 40	..... 52,5	..... 417	..... 100
500 x 135 mm	..... 130	..... 495	..... 285	..... 40	..... 65	..... 517	..... 125
600 x 170 mm	..... 165	..... 595	..... 320	..... 40	..... 82,5	..... 617	..... 160



## Specification

### Stravent S 55 – a – b – c – d

- a. Size - width x height** .....400 x 110, 500 x 135, 600 x 170 mm  
**b. Air flow** .....Stated in l/s  
**c. Pressure drop** .....Stated in Pa  
**d. Surface treatment**.....Standard, white RAL 9010. State other surface finish

**Example:**                      **Stravent S 55 – 400 x 110 mm - 20 l/s – 100 Pa**

We reserve the right to change the technical specification without prior notice