

SV2, SV1 Grilles



SV2 and SV1 grilles are designed for use as supply air devices for e.g. in offices and commercial premises. They are also suitable for exhaust and transfer air and have adjustable spread patterns and throws. The grilles which are intended for mounting on a wall, or in the ceiling, can be completed with mounting frame K or connection box TG/TGE, which has a silent measurement damper. As accessory there is also adjusting device S which makes it possible to adjust the air flow.

Quick Selection

supply air without connection box

Grill model	Air flow range l/s at sound level		
	25 dB(A)	30 dB(A)	35 dB(A)
SVn-aaaa-100	58-230	77-280	95-350
SVn-aaaa-150	100-300	130-390	160-490
SVn-aaaa-200	130-360	160-470	200-580
SVn-aaaa-300	220-460	290-600	360-750
SVn-aaaa-400	330-530	420-700	530-880
SVn-aaaa-500	420-650	550-850	700-1100

Specifications

- Low sound level
- Can be mounted without mounting frame
- Easy to adjust

Product code example

Grille SV2-1000-100

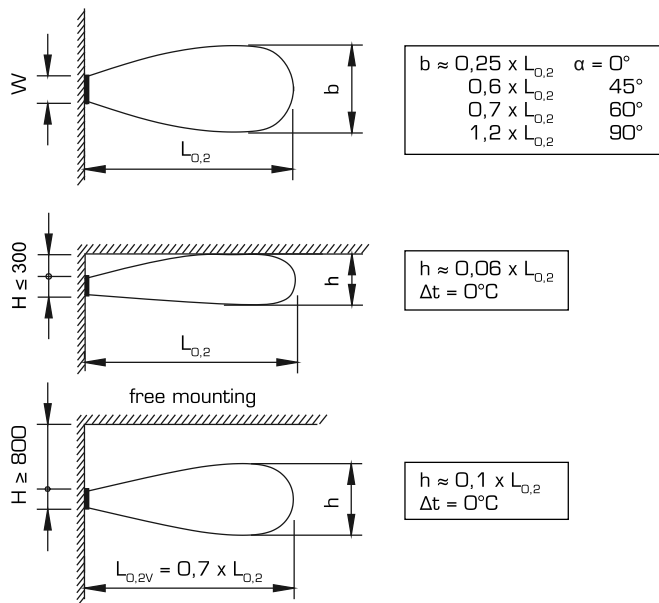
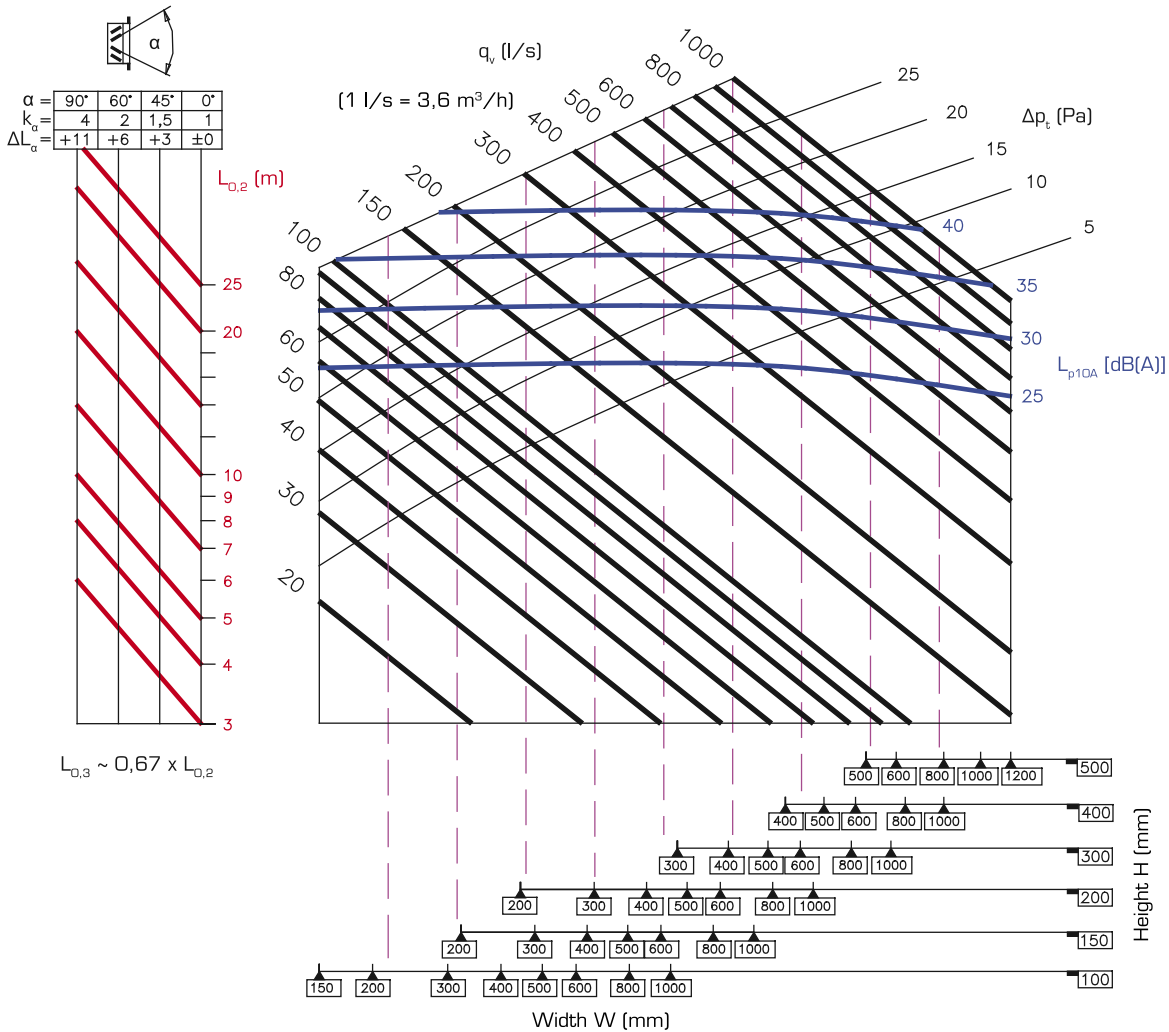
Connection box supply air
TG-1000-100-A

Connection box exhaust air
TGE-1000-100-B

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SV2, SV1 Dimensioning

Air flow, pressure drop, sound level



Exhaust air

The diagrams are valid for supply air. When used for exhaust air the sound level grows approx. 5 dB and the pressure drop falls with 10%.

Supply air

When using chilled air, recommended height H is ≤ 200 mm and max chilled air $\Delta t =$ approx. -5°C .

Increase in sound level and pressure drop caused by back blades:

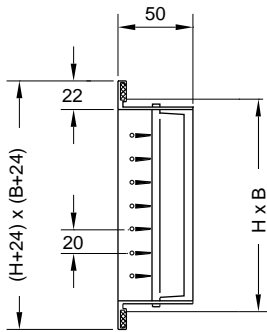
$$L_{p10A(\text{tot})} = L_{p10A} + \Delta L_7$$

$$\Delta p_{t(\text{tot})} = K_s \times \Delta p_t$$

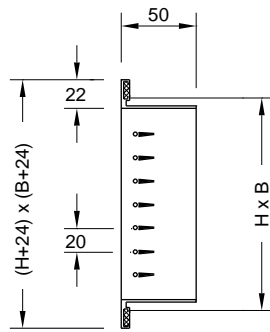
When connection box TG or TGE is used, see acoustical and pressure data for each product

Dimensions

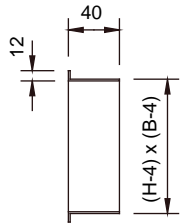
Grille SV2



Grille SV1



Mounting frame K



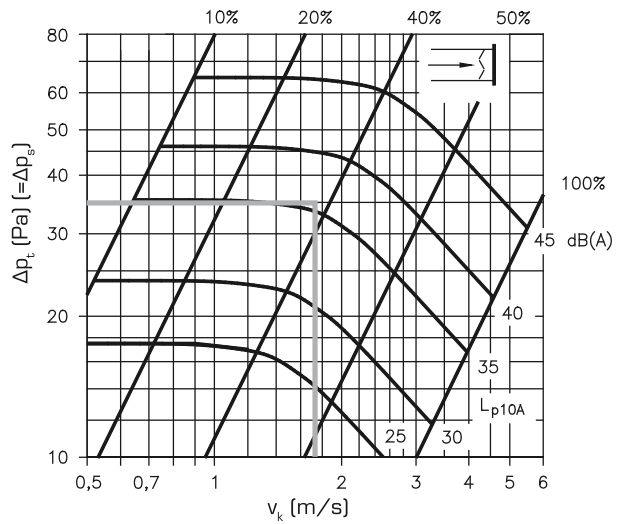
Adjusting device S



For dimensions H and B see below heading "Dimensioning" on previous pages.

Adjusting device S

Adjusting device S, supply air



Sound level of adjusting device:

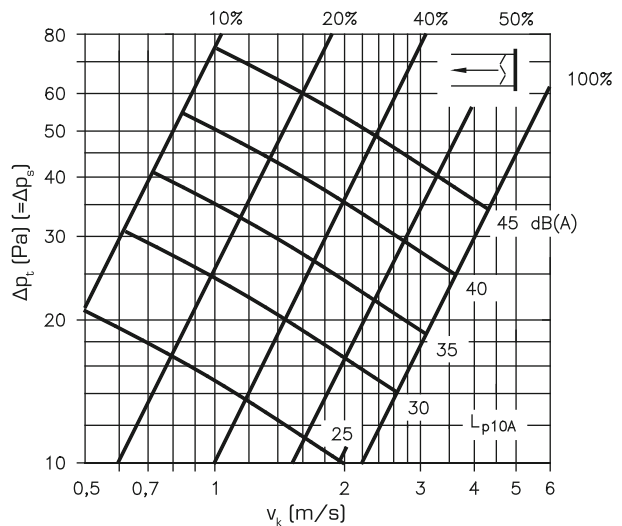
$$L_{P10As} = L_{P10A} + K_A$$

Velocity of the face area: $v_k = (q_v / W \times H)$ [(m³/s)/m²]

Influence of the face area (A_k) to the sound pressure level:

A _k = WxH	0,03	0,06	0,12	0,2	0,4	m ²
K _A	±0	+3	+8	+11	+15	dB

Adjusting device S, exhaust air



Total sound level of grille and adjusting device:

Difference of sound levels between grille and adjusting device	0 - 1	2 - 3	4 - 9	≥10	dB
Addition to the higher sound pressure level	3	2	1	0	dB

Calculation example

1. The required isothermal supply air q_v to room is 200 l/s.
2. Throw suitable for the size of the room is $L_{0,2} \approx 8$ m.
3. Required sound pressure level in the room $L_{p10A} = 50$ dB(A).
4. Ensure that the duct system can be adjusted.

Solution:

1. SV2-600-200 is selected.
2. With angle $\alpha = 60^\circ$ of the back blades is $L_{0,2} \approx 8$ m, $L_{p10A(\text{tot})} \approx 20 + 6 = 26$ dB(A) and $\Delta p_{t(\text{tot})} \approx 2 \times 2 = 4$ Pa.
3. Allowed sound pressure level L_{p10A} , paying attention to the real room attenuation, the influence of the number of supply and exhaust devices etc., is f. e.g. 44 dB(A).
4. When using the adjusting device S the adjustment is $v_k = [(0.2 \text{ m}^3/\text{s}) / (0.6 \times 0.2 \text{ m}^2)] \approx 1.7$ m/s ; $A_k = 0.12 \text{ m}^2$
 $\rightarrow K_A = +8$ dB

Allowed sound pressure $L_{p10A} = 44 - 8 = 36$ dB(A).

Difference of sound pressure levels of the grille and adjusting device $= 36 - 26 \geq 10$ dB (the grille does not raise the total sound pressure level in this case).

The adjustment range achieved with the adjusting device $\Delta p_t \approx 35$ Pa.

The adjustment range achieved with connection box TG is 200 Pa in this case.

General

Construction

SV2: horizontal, directional front blades (flow pattern can be steplessly directed upwards and downwards) and vertical directional back blades (flow pattern and throw can be regulated steplessly)

SV1: horizontal, directional front blades (exhaust air use)

Grilles, larger than width $W > 2000$ and/or height $H > 1500$ are available with modular construction. In case of modular construction the dimensions of the installation whole $B \times H$ (mm) should be stated. Max. height of the adjusting device S is 600 mm. Adjusting devices, larger than width $W > 600$ are available with modular construction.

Material and surface finish

The grilles are manufactured from aluminium profiles. Mounting frame K and adjusting device S are manufactured from hot galvanized sheet steel. The regulation blades are manufactured from aluminium.

The devices are powder coated for a high surface finish and good impact and scratch resistance.

Standard colour White RAL 9010. Other colours on request

Installation

Grilles SV2, SV1 are fitted into mounting frame K or connection box TG with springs or screwed directly on the wall or ceiling. If the grille is screwed on the ceiling, this should be stated in the order. The springs are ready in all sizes, screw holes in sizes $W \geq 600$ mm or $H \geq 300$ mm. If screw holes are needed for a smaller grille, this should be stated in the order.

Placement	SV2	SV1
Wall, supply and exhaust	o	o
Ceiling, supply and exhaust	o	o

Instructions

Instructions for installation, adjustment and maintenance are described in detail in our technical instructions also available on the Internet at: www.flaktgroup.com.

Technical data

For complete dimensioning, please see FläktGroup product selection program. This is applicable especially when connection box TG/TGE is in use because device and box is not accounted for in the catalogue material. Contact our nearest sales office for further information.

Descriptive text

Grille e.g. SV2 in size 500 x 100 mm manufactured by FläktGroup.

Product code

Grille (supply, exhaust, transfer air)	SV2-aaaa-bbb SV1-aaaa-bbb
Width, mm (aaaa)	
Height, mm (bbb)	
Grille with mounting frame	SV2-aaaa-bbb-K SV1-aaaa-bbb-K
Width, mm (aaaa)	
Height, mm (bbb)	
Mounting frame installed (K)	

Accessories

Connection box supply air	TG-aaaa-bbb-c
Connection box exhaust air	TGE-aaaa-bbb-c
Length of grille connection, mm (aaaa)	
Height of grille connection, mm (bbb)	
Connection alternative (c)	
A = from the side	
B = from the rear	
C = from above / from below	
Mounting frame	K-aaaa-bbb
Adjusting frame	S-aaaa-bbb
Width of grille in mm (aaaa)	
Height of grille in mm (bbb)	