



SL-A/825x225

TYPE SL

VENTILATION GRILLES, MADE OF SHEET STEEL, WITH INDIVIDUALLY ADJUSTABLE, HORIZONTAL BLADES AND DIFFUSER-TYPE FRONT BORDER – ALSO FOR HORIZONTAL RUNS

Single ventilation grilles and horizontal run sections with droplet shaped blades

- Nominal sizes 225 × 125 – 1225 × 525 mm and horizontal run sections
- Volume flow rate range 23 – 2000 l/s or 83 – 7200 m³/h
- Grille face made of sheet steel, powder-coated
- Diffuser-type front border, 28 mm wide longitudinal section, 20 mm wide transverse section
- Concealed screw fixing

Optional equipment and accessories

- Grille face in RAL CLASSIC colours
- Installation subframe
- Installation subframe for fitting filter media
- Attachments for volume flow rate balancing and air direction control

Application



Application

- Ventilation grille of Type SL as supply air or extract air variant for comfort zones and industrial zones
- Directed supply air discharge for mixed flow ventilation
- Blades are adjustable to meet different local requirements
- For variable and constant volume flows
- For supply air to room air temperature differences from –12 to +4 K
- For installation in walls, sills and rectangular ducts

Special characteristics

- Individually adjustable blades
- Diffuser-type front border
- Concealed screw fixing

Nominal sizes

Single grille

- Nominal length: 225, 325, 425, 525, 625, 825, 1025, 1225 mm
- Nominal height: 125, 225, 325, 425, 525 mm

Horizontal run section

- Nominal length of end section: 950 – 1970 mm, intermediate dimensions in 60 mm increments
- Nominal length of middle section: 2000 mm
- Nominal height: 125, 225, 325 mm

Description



Variants

- SL: Single grille

- E-SL, M-SL: Horizontal run section

Parts and characteristics

- Diffuser-type front border
- Individually adjustable, horizontal blades
- Factory fitted perimeter seal
- Vertical centre mullion for nominal lengths over 625 mm

Attachments

- AG, AS, D, DG: For volume flow rate balancing and for air direction control

Accessories

- Installation subframe: For the fast and simple installation of ventilation grilles
- Filter casing: Frame with filter element and spring clip fixing

Construction features

- Asymmetrically supported blades
- Front border without holes

Materials and surfaces

- Border and blades made of galvanised sheet steel
- Border and blades powder-coated RAL 9010, pure white
- P1: Border and blades powder-coated, RAL CLASSIC colour

Standards and guidelines

- Sound power level of the air-regenerated noise measured according to EN ISO 5135

Maintenance

- Maintenance-free as construction and materials are not subject to wear
- Inspection and cleaning to VDI 6022

TEKNISK INFORMATION

Function, Technical data, Quick sizing, Specification text, Order code



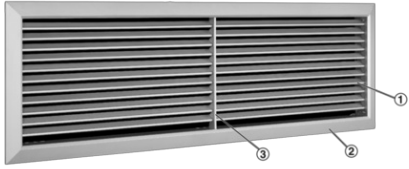
Functional description

Ventilation grilles are air terminal devices for the supply air and extract air of ventilation and air conditioning systems. They direct the supply air into the room. Ventilation grilles with adjustable blades allow for adapting the discharge direction to the local conditions. The result is a mixed flow ventilation in comfort zones and industrial zones, with good overall room ventilation.

Induction slows the airflow down, i.e. the airflow velocity decreases as the distance from the grille increases. The distance at which the airflow velocity reaches a certain defined value, e.g. 0.2 m/s, is called throw distance. The supply air jet from wall grilles that are installed near the ceiling achieves a larger throw distance than a free jet (from a grille that is not installed near the ceiling). Single grilles, groups of grilles and continuous horizontal runs all achieve different throw distances.

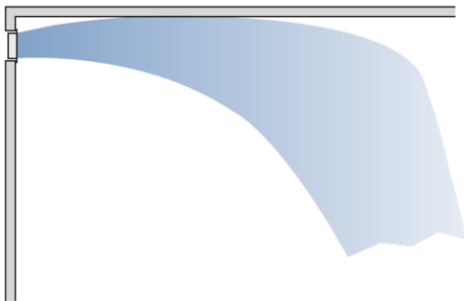
In cooling mode it is necessary to take account of the jet deviation towards the occupied zone, which increases as the supply air to room air temperature difference increases and the discharge velocity decreases. In heating mode the supply air jet deviates towards the ceiling. This has no negative effect on the airflow velocity in the occupied zone, but it may affect the complete ventilation of the room.

Schematic illustration of a ventilation grille with longitudinal blades



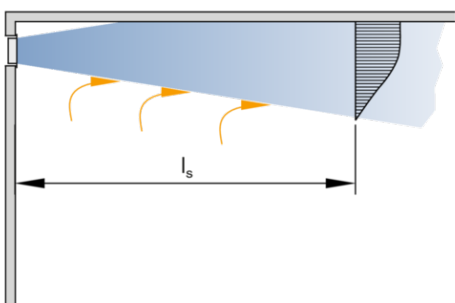
- ① Front border
- ② Longitudinal blades
- ③ Centre mullion

Air pattern in cooling mode, with ceiling effect, sectional view



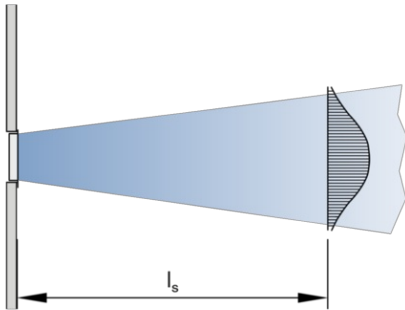
Distance from ceiling ≤ 0.3 m

Air pattern with ceiling effect, sectional view

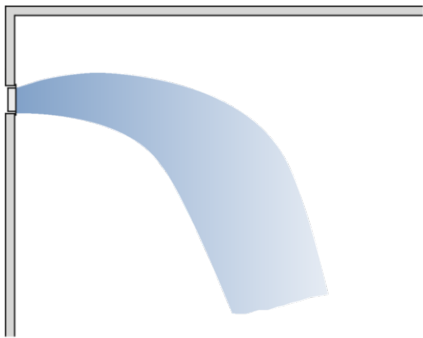


Distance from ceiling ≤ 0.3 m

Air pattern with ceiling effect, top view

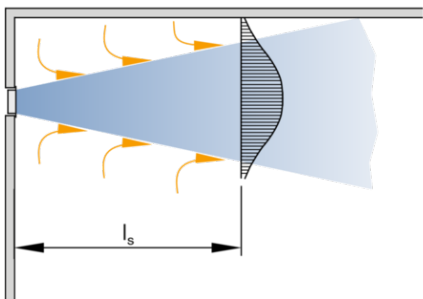


Air pattern in cooling mode, without ceiling effect, sectional view



Distance from ceiling ≤ 0.8 m

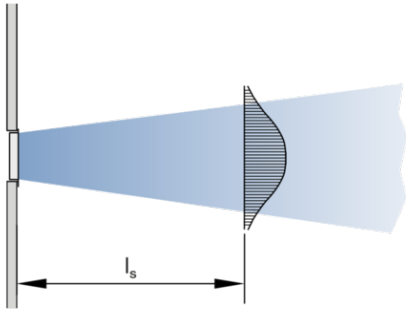
Air pattern without ceiling effect, sectional view



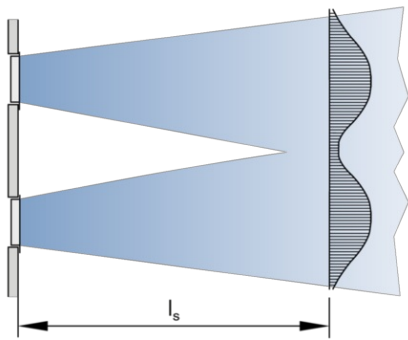
Distance from ceiling ≤ 0.8 m

Without a ceiling effect the way of the air jet is shorter than with a ceiling effect.

Air pattern without ceiling effect, top view

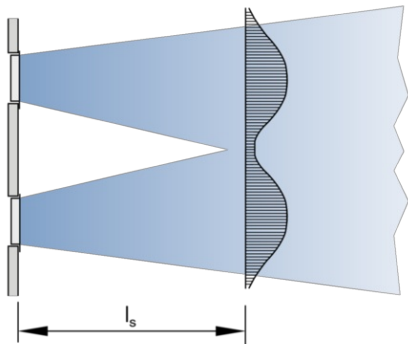


Air pattern with ceiling effect, group of grilles, top view



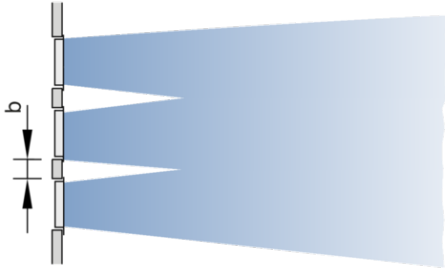
Distance between single grilles $\geq 0.15 \times l_s$

Air pattern without ceiling effect, group of grilles, top view



Distance between single grilles $\geq 0.2 \times l_s$

Air pattern, group of grilles, top view



$$b < 0.1 \times l_s$$

Several single grilles arranged in a row and with not much distance between them have the same effect as a continuous horizontal run.

Air pattern, continuous horizontal run, top view



Nominal sizes	225 × 125 to 1225 × 525 mm
Horizontal run section	H: 125, 225, 325 mm
Minimum volume flow rate	23 – 685 l/s or 83 – 2466 m³/h
Maximum volume flow rate, with L_{WA} max. 40 dB(A) without attachments	115 – 2000 l/s or 414 – 7200 m³/h
Supply air to room air temperature difference	–12 to +4 K

Volumen flow rates for single grille for supply air.

Geometric free area

H	L [mm]							
	225	325	425	525	625	825	1025	1225
H	A _{geo}							
mm	m ²							
125	0.015	0.022	0.029	0.036	0.044	0.058	0.072	0.087
225		0.044	0.059	0.074	0.089	0.117	0.147	0.176
325			0.096	0.126	0.156	0.177	0.221	0.266
425					0.178	0.236	0.296	0.355
525							0.370	0.445

Effective air discharge area (supply air)

H	L [mm]							
	225	325	425	525	625	825	1025	1225
H	A _{eff}							
mm	m ²							
125	0.014	0.021	0.029	0.036	0.043	0.057	0.072	0.086
225		0.043	0.057	0.072	0.086	0.114	0.142	0.172
325			0.086	0.108	0.129	0.172	0.214	0.256
425					0.172	0.228	0.285	0.342
525							0.355	0.427

Effective area of extract air grille

H	L [mm]							
	225	325	425	525	625	825	1025	1225
H	A _{eff}							
mm	m ²							
125	0.013	0.019	0.026	0.033	0.040	0.053	0.066	0.080
225		0.040	0.053	0.066	0.080	0.105	0.133	0.160
325			0.080	0.100	0.120	0.160	0.200	0.240
425					0.160	0.220	0.270	0.320
525							0.330	0.400

Sizing example

Given data

$V = 335 \text{ l/s}$ ($1206 \text{ m}^3/\text{h}$)

Ventilation grilles, made of steel, with adjustable blades

Maximum sound power level of 40 dB(A), with the airflow restricted by 50 %

Nominal height as low as possible

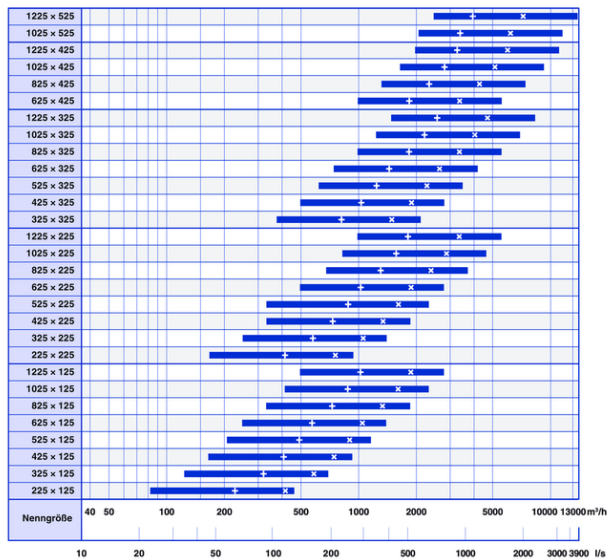
Quick sizing

Type SL or TR

Nominal sizes: 825 × 225, 525 × 325, 625 × 425

Selected: SL/825 × 225

SL, volume flow rate ranges



× $L_{WA} = 40 \text{ dB(A)}$ with unrestricted airflow + $L_{WA} = 40 \text{ dB(A)}$ with airflow restricted by 50 %

Ventilation grilles, rectangular, made of sheet steel, for supply and extract air. Special design with diffuser-type front border. Preferably for wall and sill installation but also suitable for rectangular ducts.

Ready-to-install component which consists of a border and individually adjustable, horizontal blades.

Concealed screw fixing for installation into an installation subframe.

Sound power level of the air-regenerated noise measured according to EN ISO 5135.

Special characteristics

- Individually adjustable blades
- Diffuser-type front border
- Concealed screw fixing

Materials and surfaces

- Border and blades made of galvanised sheet steel
- Border and blades powder-coated RAL 9010, pure white
- P1: Border and blades powder-coated, RAL CLASSIC colour

Technical data

- Nominal sizes: 225 × 125 to 1225 × 525 mm
- Horizontal run section, height: 125 – 325 mm
- Minimum volume flow rate (supply air): 23 – 685 l/s or 83 – 2466 m³/h
- Maximum volume flow rate (supply air), at L_{WA} max. 40 dB(A) without attachments: 115 – 2000 l/s or 414 – 7200 m³/h
- Supply air to room air temperature difference: –12 to +4 K

Sizing data

- V _____ [m³/h]
- Δp_t _____ [Pa]

Air-regenerated noise

- L_{WA} _____ [dB(A)]

This specification text describes the general properties of the product. Texts for variants can be generated with our Easy Product Finder design programme.

Order example: SL-AG/825×225/M1

Attachments	Damper unit, opposed action blades
Nominal size	825 × 225 mm
Installation subframe	With
Exposed surface	Powder-coated RAL 9010, pure white

Order example: E-SL/1430×225

Section	End section
Attachments	None
Nominal size	1430 × 225 mm
Installation subframe	Without
Exposed surface	Powder-coated RAL 9010, pure white

Order example: SL-EF-AS/1025x125

Attachments	Hit and miss damper
Nominal size	1025 x 125 mm
Exposed surface	Powder-coated RAL 9010, pure white

SL – AG / 825x225 / M1 / P1 – RAL ...



1 Type

SL Single grille

2 Attachments

A Without (grille face only)
 AG Damper unit, opposed action blades
 AS Hit and miss damper
 D Air direction control, blades installed at 90° to the front blades, independently adjustable
 DG D combined with AG

3 Nominal size [mm]

L x H

4 Installation subframe

No entry: none
 M1 With

5 Exposed surface

No entry: powder-coated RAL 9010, pure white
 P1 Powder-coated, specify RAL CLASSIC colour

Gloss level
 RAL 9010 50 %
 RAL 9006 30 %
 All other RAL colours 70 %

E – SL – AG / 950x225 / N1 / P1 – RAL ...



1 Type

SL Horizontal run section

2 Section

E End section
 M Middle section

3 Attachments

A Without (grille face only)
 AG Damper unit, opposed action blades
 D Air direction control, blades installed at 90° to the front blades, independently adjustable
 DG D combined with AG

4 Nominal size [mm]

E (end section) x height H
 M (middle section) x height H

5 Installation subframe

No entry: none
 N1 For end section
 E1 For middle section

6 Exposed surface

No entry: powder-coated RAL 9010, pure white
 P1 Powder-coated, specify RAL CLASSIC colour

Gloss level
 RAL 9010 50 %
 RAL 9006 30 %
 All other RAL colours 70 %

SL – EF – AS / 825x225 / P1 – RAL ...



1 Type

SL Single grille

4 Nominal size [mm]

L x H

2 Construction

EF Installation subframe with filter element and spring clip fixing

5 Exposed surfaceNo entry: powder-coated RAL 9010, pure white
P1 Powder-coated, specify RAL CLASSIC colour**3** AttachmentsA Without
AS Hit and miss damperGloss level
RAL 9010 50 %
RAL 9006 30 %
All other RAL colours 70 %**E-EF / 825x225****1** Type

E-EF Replacement filter medium

2 Nominal size [mm]

L x H

Dimensions and weight, Product details



The weight table shows the available nominal sizes

SL, single grille

H	L [mm]							
	225	325	425	525	625	825	1025	1225
H	m							
mm	kg							
125	0.6	0.8	1.0	1.2	1.3	1.7	2.1	2.4
225		1.2	1.5	1.7	2.0	2.5	3.0	3.6
325			2.0	2.3	2.7	3.4	4.0	4.7
425					3.3	4.2	5.0	5.9
525							6.0	7.0

Weights apply to ventilation grilles without attachments

SL, horizontal run section

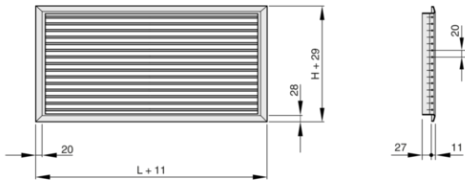
H	Section	
	E	M
mm	kg/m	kg
125	2.0	4.0
225	3.0	6.0
325	4.0	8.0

Middle section M: 2000 mm

End section E: 950 – 2025 mm in increments of 1 mm

Weights apply to sections without attachments

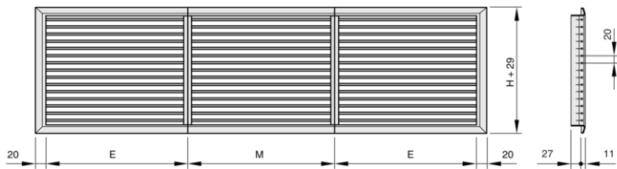
SL, front border width 28 mm (L) and 20 mm (H)



L Nominal length Vertical centre mullion if $L > 625$ mm

H Nominal height

SL, front border width 28 mm (L) and 20 mm (H), horizontal run section

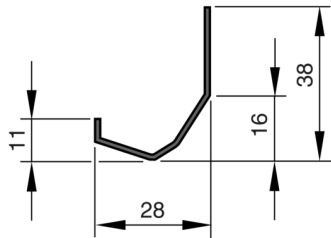


E End section

M Middle section

H Nominal height

Front border M1 – longitudinal section (L)



Installation examples, Installation details, Commissioning, Basic information and nomenclature



Wall installation



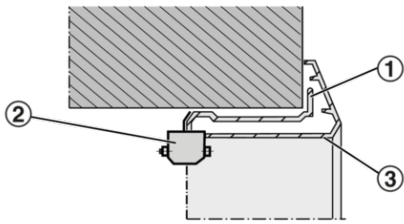
Nominal length over 625 mm: with vertical centre mullion

Installation and commissioning

- Installation preferably in walls, sills and rectangular ducts
- Installation with installation subframe is recommended

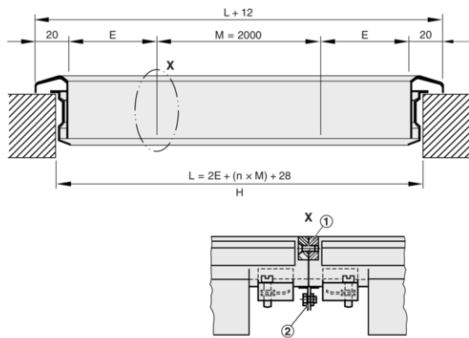
These are only schematic diagrams to illustrate installation details.

Ventilation grille with concealed screw fixing



- ① Installation subframe
- ② Concealed screw fixing
- ③ Ventilation grille

SL, horizontal run sections with butt joint



- ① Joined grille faces, screw fixed
- ② Joined installation subframes, screw fixed

Volume flow rate balancing

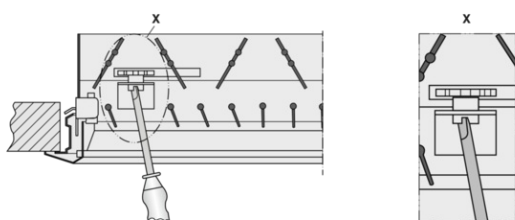
When several ventilation grilles are installed on the same duct, it may be necessary to balance the volume flow rates.

- AG: Damper unit with opposed action blades, adjustable, secured with a locking screw
- AS: Damper unit with hit and miss damper, adjustable, secured with a locking screw

Air pattern

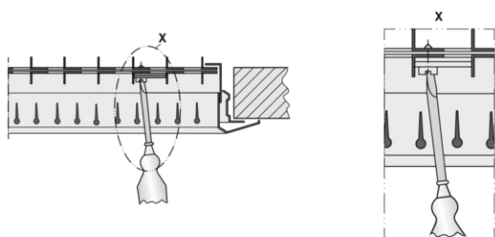
- Adjustable blades: Set the air control blades individually or together and depending on the local conditions
- D, DG: Air control blades, fitted at 90° to the front blades, can be adapted to the local conditions

Volume flow rate balancing -*G



Attachments -AG, -DG and Types AGW, DGW

Volume flow rate balancing -S



Attachments -AS, -KS, -RS and Type ASW

Principal dimensions

L [mm]

Nominal length of the ventilation grille

H [mm]

Nominal height of the ventilation grille

m [kg]

Weight

Nomenclature

L_{WA} [dB(A)]

Sound power level of the air-regenerated noise

V [m³/h] and [l/s]

Volume flow rate

Δp_t [Pa]

Total differential pressure

l_s [m]

Distance from single grille or horizontal run section (throw distance)

Lindpro AB

□

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