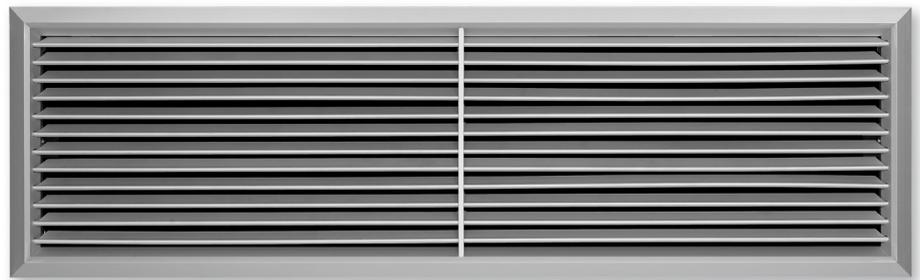


# Ventilation grilles for installation into walls, sills or rectangular ducts

## Type ASL



### **Ventilation grilles, made of aluminium, with individually adjustable, horizontal blades and diffuser-type front border**

Ventilation grille with droplet shaped blades

- Nominal sizes 225 × 125 – 1225 × 525 mm
- Volume flow rate range 23 – 2000 l/s or 83 – 7200 m<sup>3</sup>/h
- Grille face made of aluminium with anodised finish
- Diffuser-type front border, 28 mm wide
- Concealed screw fixing

Optional equipment and accessories

- Grille face in RAL CLASSIC colours
- Installation subframe
- Attachments for volume flow rate balancing and air direction control
- Spring clip fixing

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### Application

#### Application

- Ventilation grille of Type ASL 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 or spring clip fixing

#### Nominal sizes

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

Other dimensions upon request

### Description

#### Variants

##### Fixing

- Concealed screw fixing
- Spring clip fixing

#### 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

#### Construction features

- Asymmetrically supported blades
- Front border without holes

#### Materials and surfaces

- Border and blades made of aluminium
- Border and blades anodised, E6-C-0, natural colour
- 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

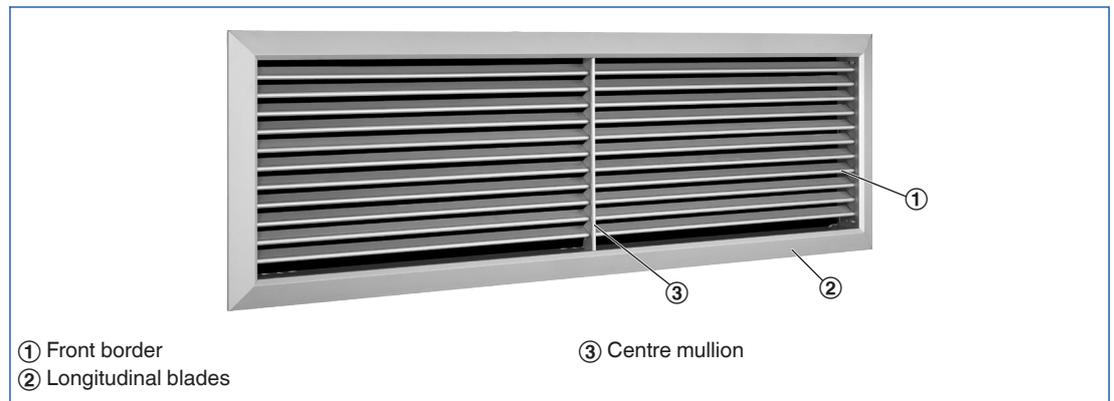
### Functional description

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

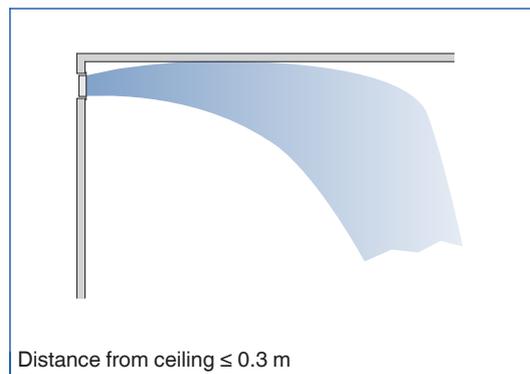
achieves a larger throw distance than a free jet (from a grille that is not installed near the ceiling). Single grilles, groups of grilles and continuous horizontal runs all achieve different throw distances.

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.

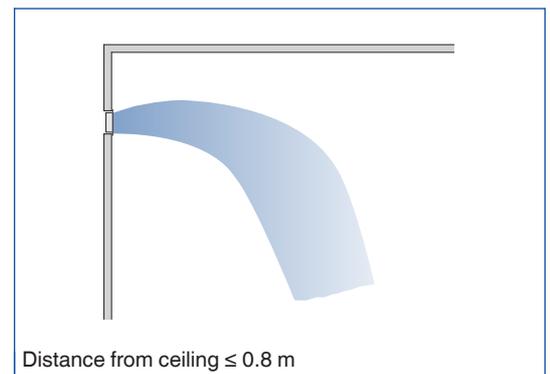
### Schematic illustration of a ventilation grille with longitudinal blades



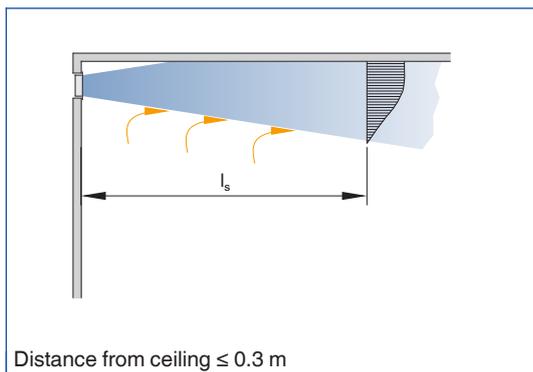
### Air pattern in cooling mode, with ceiling effect, sectional view



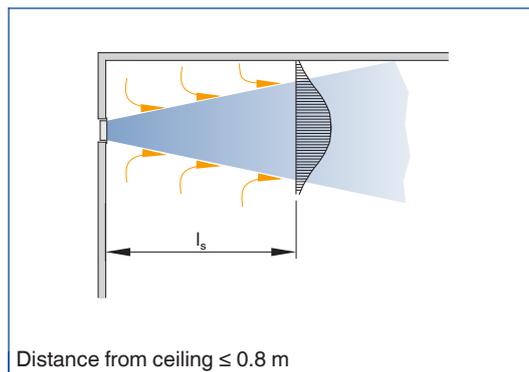
### Air pattern in cooling mode, without ceiling effect, sectional view



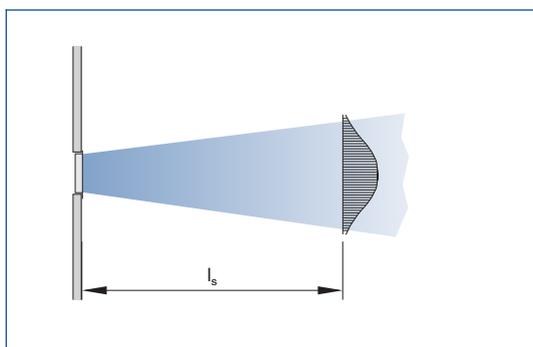
**Air pattern with ceiling effect, sectional view**



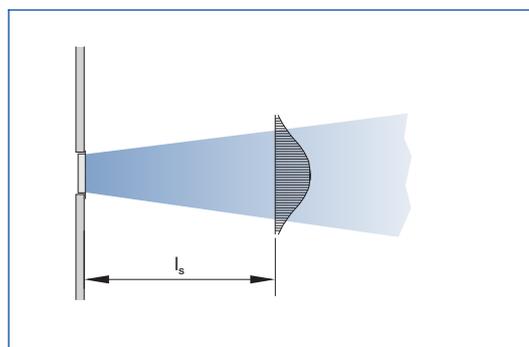
**Air pattern without ceiling effect, sectional view**



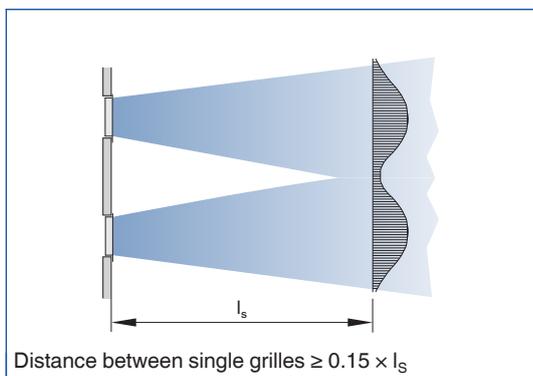
**Air pattern with ceiling effect, top view**



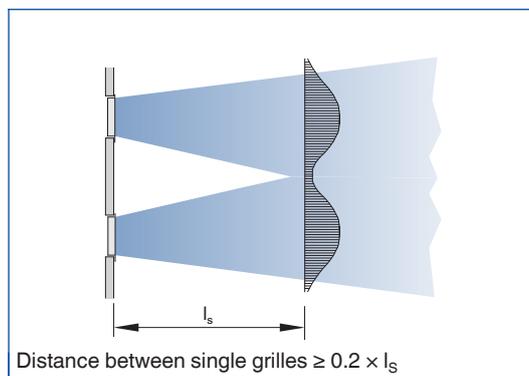
**Air pattern without ceiling effect, top view**



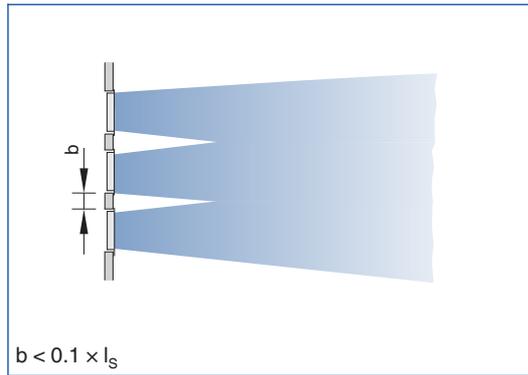
**Air pattern with ceiling effect, group of grilles, top view**



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



Air pattern, group of grilles, top view



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

<b>Nominal sizes</b>	225 × 125 to 1225 × 525 mm
<b>Minimum volume flow rate</b>	23 – 685 l/s or 83 – 2466 m <sup>3</sup> /h
<b>Maximum volume flow rate, with L<sub>WA</sub> max. 40 dB(A) without attachments</b>	115 – 2000 l/s or 414 – 7200 m <sup>3</sup> /h
<b>Supply air to room air temperature difference</b>	-12 to +4 K

Volume flow rates apply to supply air

**Geometric free area**

H	L [mm]							
	225	325	425	525	625	825	1025	1225
mm	<b>A<sub>geo</sub></b> m <sup>2</sup>							
125	0.013	0.020	0.026	0.033	0.040	0.052	0.066	0.079
225	0.026	0.040	0.054	0.067	0.079	0.106	0.133	0.160
325		0.061	0.081	0.099	0.120	0.160	0.200	0.241
425					0.161	0.214	0.268	0.323
525							0.336	0.404

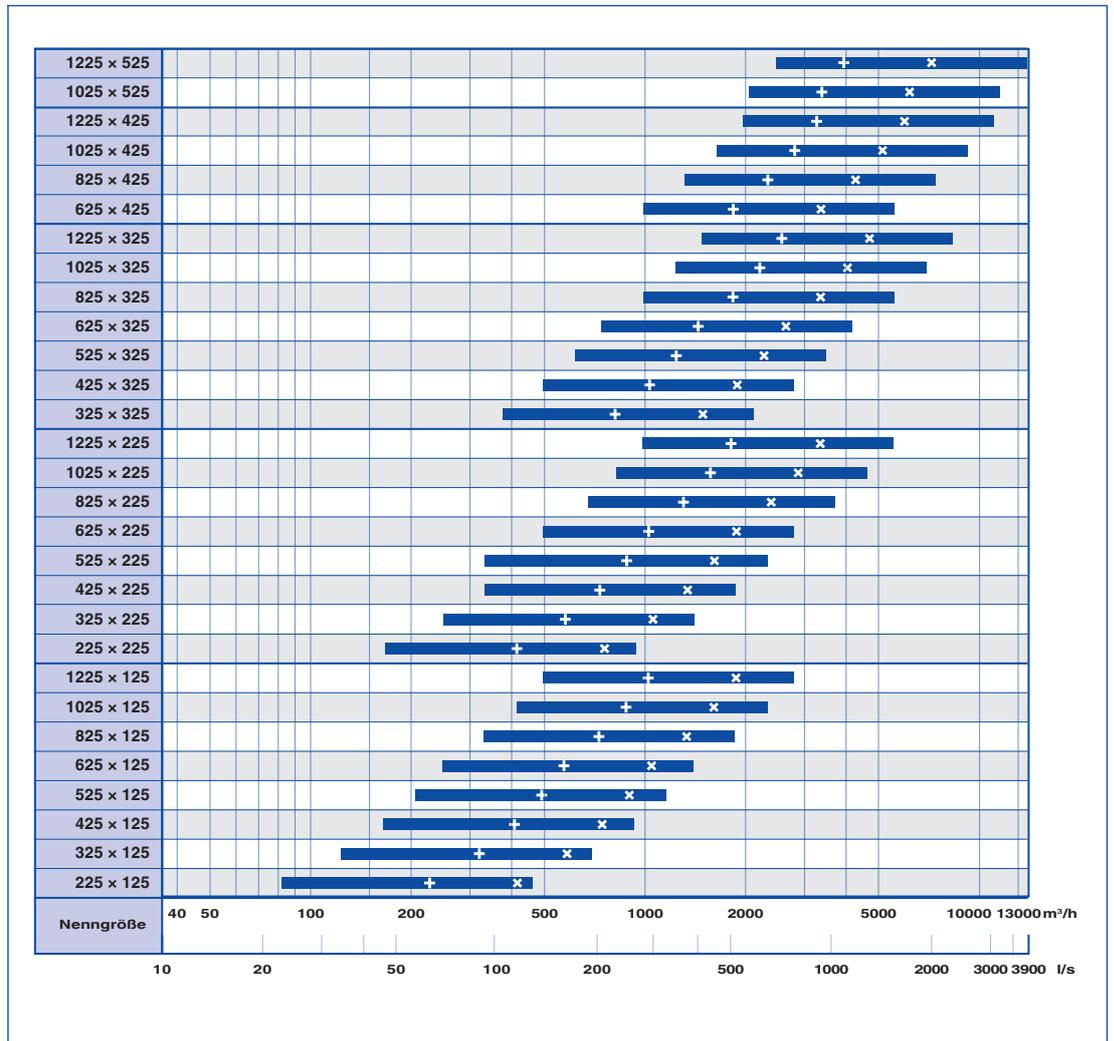
**Effective air discharge area (supply air)**

H	L [mm]							
	225	325	425	525	625	825	1025	1225
mm	<b>A<sub>eff</sub></b> m <sup>2</sup>							
125	0.014	0.021	0.029	0.036	0.043	0.057	0.072	0.086
225	0.029	0.043	0.057	0.072	0.086	0.114	0.142	0.172
325		0.064	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
mm	<b>A<sub>eff</sub></b> m <sup>2</sup>							
125	0.013	0.019	0.026	0.033	0.040	0.053	0.066	0.080
225	0.027	0.040	0.053	0.066	0.080	0.105	0.133	0.160
325		0.061	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

ASL, volume flow rate ranges



× L<sub>WA</sub> = 40 dB(A) with unrestricted airflow + L<sub>WA</sub> = 40 dB(A) with airflow restricted by 50 %

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

Ventilation grilles, rectangular, made of aluminium, 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 or spring clip 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 or spring clip fixing

### Materials and surfaces

- Border and blades made of aluminium
- Border and blades anodised, E6-C-0, natural colour

- P1: Border and blades powder-coated, RAL CLASSIC colour

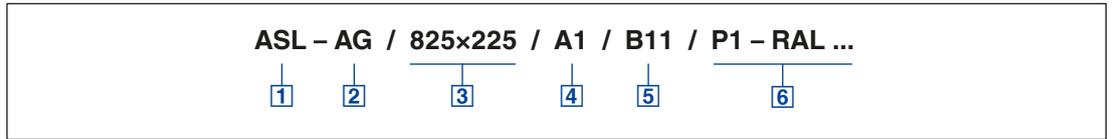
### Technical data

- Nominal sizes: 225 × 125 to 1225 × 525 mm
- Minimum volume flow rate (supply air): 23 – 685 l/s or 83 – 2466 m<sup>3</sup>/h
- Maximum volume flow rate (supply air), at L<sub>WA</sub> max. 40 dB(A) without attachments: 115 – 2000 l/s or 414 – 7200 m<sup>3</sup>/h
- Supply air to room air temperature difference: -12 to +4 K

### Sizing data

- $\dot{V}$  \_\_\_\_\_  
[m<sup>3</sup>/h]
  - $\Delta p_t$  \_\_\_\_\_  
[Pa]
- Air-regenerated noise
- L<sub>WA</sub> \_\_\_\_\_  
[dB(A)]

ASL



**1** Type

**ASL** 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 × H

**4** Installation subframe

No entry: none

**A1** With

**Order example: ASL-AG/625×225/A1**

<b>Attachments</b>	Damper unit, opposed action blades
<b>Nominal size</b>	625 × 225 mm
<b>Installation subframe</b>	With installation subframe
<b>Fixing</b>	Concealed screw fixing
<b>Exposed surface</b>	Anodised, E6-C-0, natural colour

**5** Fixing

No entry: concealed screw fixing

**B11** Spring clip fixing

**6** Exposed surface

No entry: anodised, E6-C-0, natural colour

**P1** Powder-coated, specify RAL CLASSIC colour

Gloss level

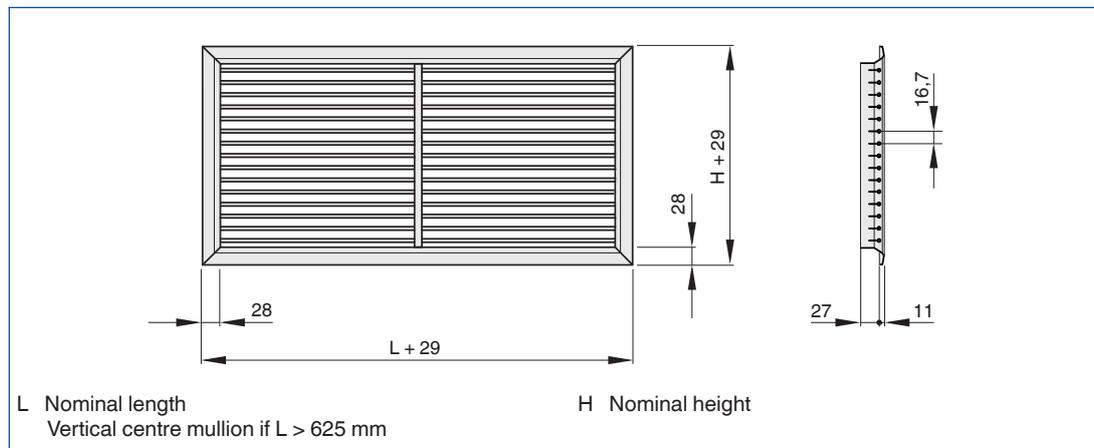
RAL 9010 50 %

RAL 9006 30 %

All other RAL colours 70 %

The weight table shows the available nominal sizes

### ASL, 28 mm wide front border

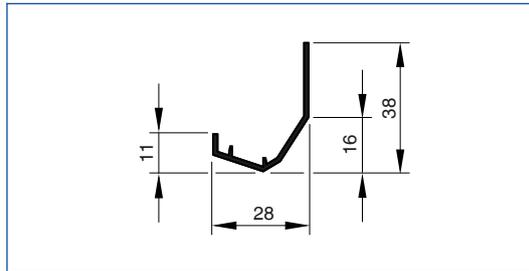


### ASL

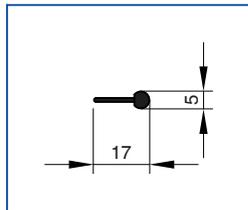
H	L [mm]							
	225	325	425	525	625	825	1025	1225
	m							
mm	kg							
125	0.3	0.4	0.5	0.6	0.7	0.9	1.1	1.2
225	0.5	0.6	0.8	0.9	1.1	1.4	1.6	1.8
325		0.8	1.0	1.2	1.4	1.8	2.1	2.5
425					1.7	2.2	2.7	3.1
525							3.2	3.7

Weights apply to ventilation grilles without attachments

Front border, 28 mm



Blade



Wall installation



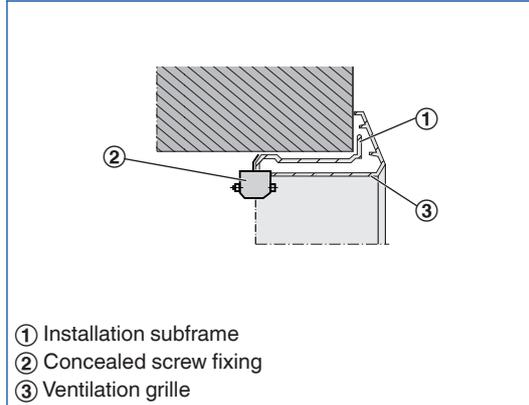
Nominal length over 625 mm: with vertical centre mullion

### Installation and commissioning

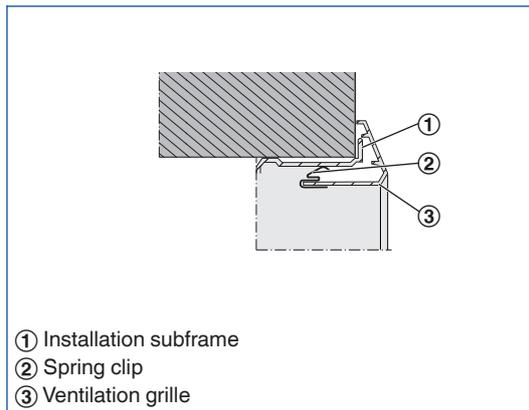
- Installation preferably in walls, sills and rectangular ducts
- Installation with installation subframe is recommended

These are only schematic diagrams to illustrate installation details.

### Ventilation grille with concealed screw fixing



### Ventilation grille with spring clip fixing



### Volume flow rate balancing

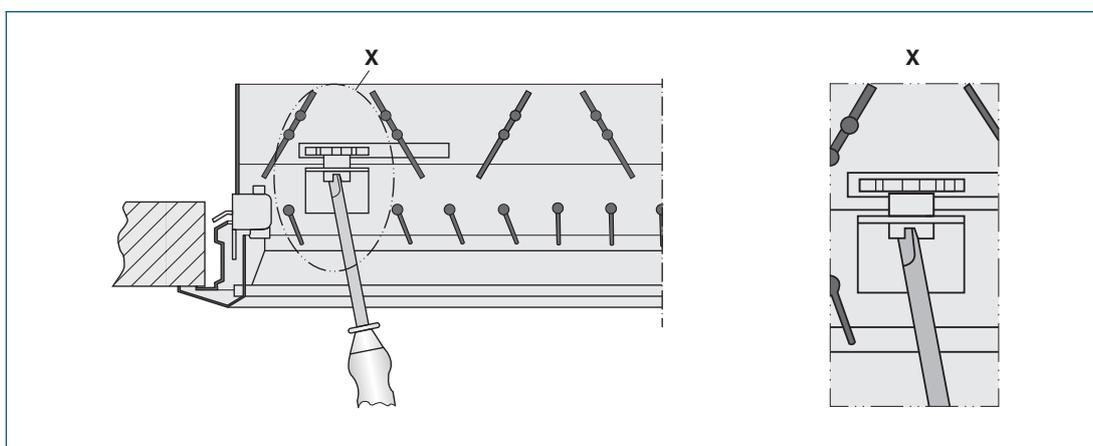
When several ventilation grilles are installed on the same duct, it may be necessary to balance the volume flow rates.

- 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

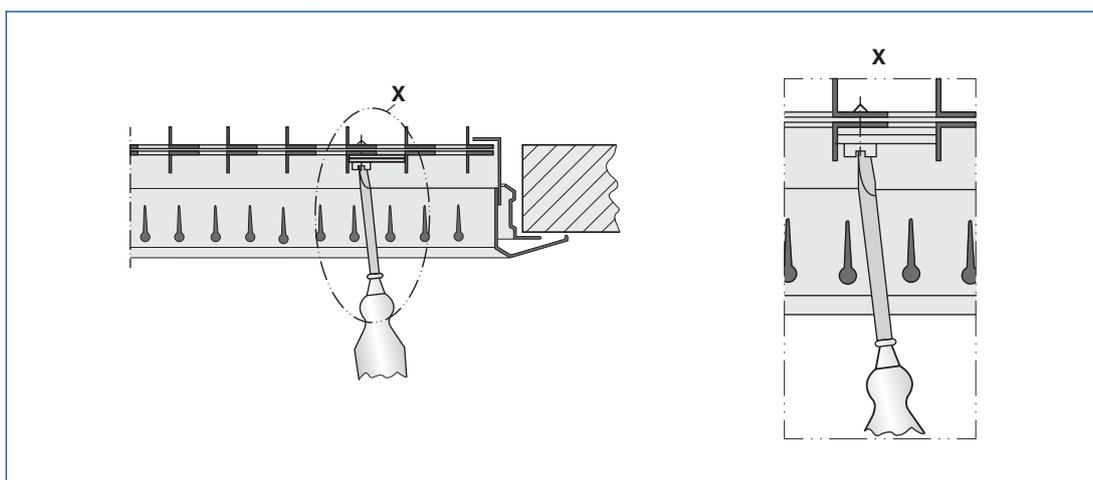
- Adjustable blades: Set the air control blades individually or together and depending on the local conditions
- D, DG: Air control blades, fitted at 90° to the front blades, can be adapted to the local conditions

### 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

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**Nomenclature**

**$L_{WA}$  [dB(A)]**

Sound power level of the air-regenerated noise

**$\dot{V}$  [m<sup>3</sup>/h] and [l/s]**

Volume flow rate

**$\Delta p_t$  [Pa]**

Total differential pressure

**$l_s$  [m]**

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