



AT-A/825x225

## AT

### VENTILATION GRILLES, MADE OF ALUMINIUM, WITH INDIVIDUALLY ADJUSTABLE, HORIZONTAL BLADES

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
- Front border, 23 mm or 27 mm wide
- 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
- Spring clip fixing

## Application



### Application

- Ventilation grille of Type AT 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
- Front border in two widths
- Concealed screw fixing, spring clip fixing or countersunk holes
- Optional installation subframe and casing for the fitting of filter media

### 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

Front border

- 27 mm wide
- G11: 23 mm wide

Fixing

- Concealed screw fixing
- G11: Concealed screw fixing (23 mm)

- A11: Countersunk holes (only 27 mm)
- B11: Spring clip fixing (27 mm)
- H11: Spring clip fixing (23 mm)

#### Parts and characteristics

- Sloped border with chamfered inside edge
- 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 (only with 27 mm wide front border)

#### Construction features

- Asymmetrically supported blades

#### 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

## TEKNISK INFORMATION

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



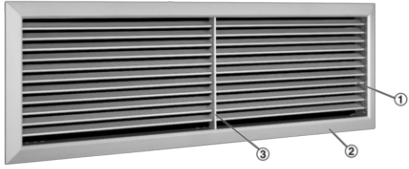
#### Functional description

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.

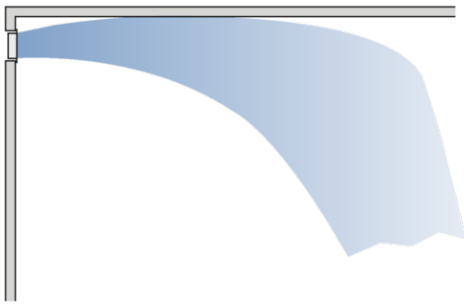
In cooling mode it is necessary to take account of the jet deviation towards the occupied zone, which increases as the supply air to room air temperature difference increases and the discharge velocity decreases. In heating mode the supply air jet deviates towards the ceiling. This has no negative effect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



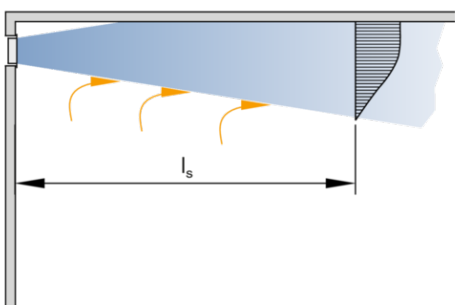
- ① Front border
- ② Longitudinal blades
- ③ Centre mullion

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



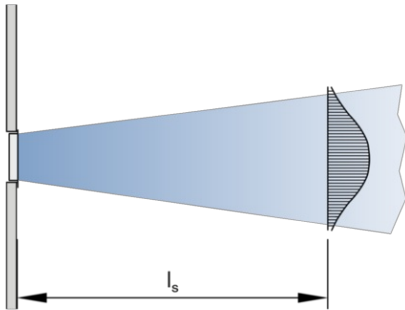
Distance from ceiling  $\leq 0.3$  m

Air pattern with ceiling effect, sectional view

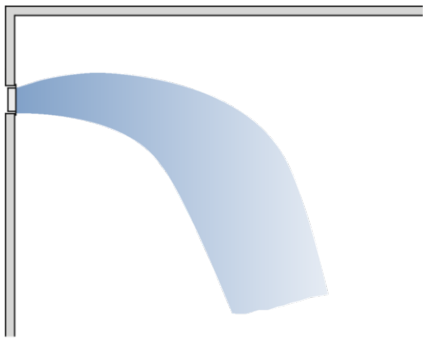


Distance from ceiling  $\leq 0.3$  m

Air pattern with ceiling effect, top view

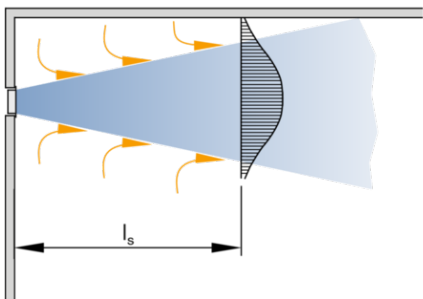


Air pattern in cooling mode, without ceiling effect, sectional view



Distance from ceiling  $\leq 0.8$  m

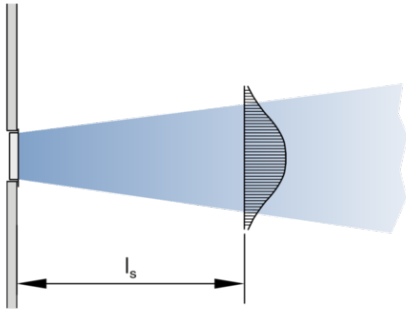
Air pattern without ceiling effect, sectional view



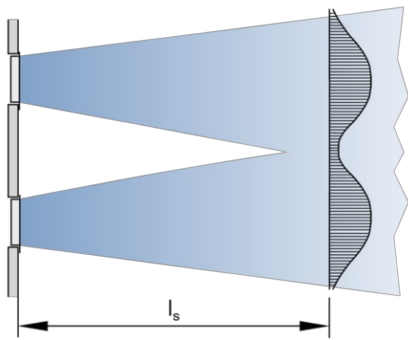
Distance from ceiling  $\leq 0.8$  m

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

Air pattern without ceiling effect, top view

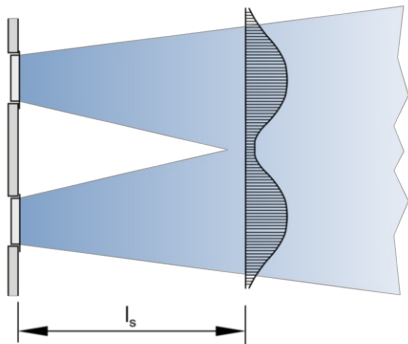


Air pattern with ceiling effect, group of grilles, top view



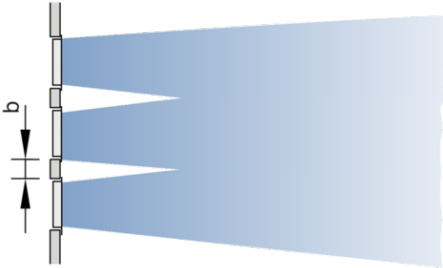
Distance between single grilles  $\geq 0.15 \times l_s$

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.

Nominal sizes	225 × 125 to 1225 × 525 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

Volume flow rates apply to supply air

Geometric free area

H	L [mm]							
	225	325	425	525	625	825	1025	1225
H	$A_{geo}$							
mm	m²							
125	0.013	0.020	0.027	0.033	0.040	0.054	0.067	0.081
225	0.027	0.041	0.055	0.068	0.082	0.109	0.136	0.164
325		0.062	0.091	0.120	0.149	0.209	0.205	0.248
425					0.164	0.244	0.274	0.330
525							0.343	0.413

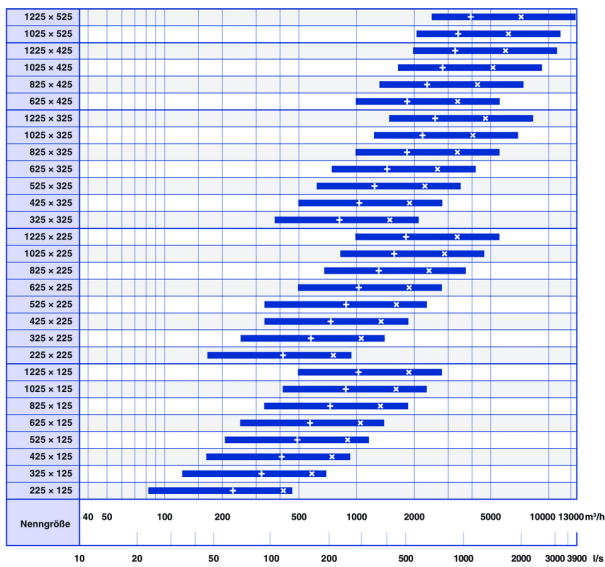
Effective air discharge area (supply air)

H	L [mm]							
	225	325	425	525	625	825	1025	1225
H	A <sub>eff</sub>							
mm	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
H	A <sub>eff</sub>							
mm	m <sup>2</sup>							
125	0.011	0.016	0.022	0.028	0.033	0.044	0.055	0.066
225	0.022	0.033	0.044	0.055	0.066	0.090	0.110	0.134
325		0.050	0.066	0.083	0.100	0.134	0.170	0.200
425					0.134	0.180	0.220	0.270
525							0.280	0.340

AT, 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 %

Ventilation grilles, rectangular, made of aluminium, for supply and extract air. Aesthetic sloped border with chamfered inside edge 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, spring clip fixing or countersunk holes, for installation into an installation subframe or fixing onto an installation surface.

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

**Special characteristics**

- Individually adjustable blades
- Front border in two widths
- Concealed screw fixing, spring clip fixing or countersunk holes
- Optional installation subframe and casing for the fitting of filter media

**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 m³/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 m³/h
- Supply air to room air temperature difference: –12 to +4 K

**Sizing data**

- V \_\_\_\_\_ [m³/h]
- Δp<sub>t</sub> \_\_\_\_\_ [Pa]

**Air-regenerated noise**

- L<sub>WA</sub> \_\_\_\_\_ [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: AT-AG/825×225/B1/G11**

Attachments	Damper unit, opposed action blades
Nominal size	825 × 225 mm
Installation subframe	With installation subframe for 27 mm wide front border
Fixing	Concealed screw fixing
Exposed surface	Anodised, E6-C-0, natural colour

**Order example: AT-EF-AS/1025×125/P1-RAL 9010**

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



## AT – AG / 825x225 / A1 / B11 / P1 – RAL ...



### 1 Type

AT 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 For front border width F = 27 mm

B1 For front border width F = 23 mm

### 5 Fixing

No entry: concealed screw fixing, F = 27 mm

G11 Concealed screw fixing, F = 23 mm

A11 Countersunk holes, F = 27 mm

B11 Spring clip fixing, F = 27 mm

H11 Spring clip fixing, F = 23 mm

### 6 Exposed surface

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

P1 Powder-coated, specify RAL CLASSIC colour

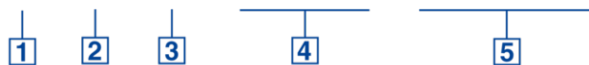
Gloss level

RAL 9010 50 %

RAL 9006 30 %

All other RAL colours 70 %

## AT – EF – AS / 825x225 / P1 – RAL ...



### 1 Type

AT Single grille, 27 mm wide front border

### 2 Construction

EF Installation subframe with filter element and spring clip fixing

### 3 Attachments

A Without  
AS Hit and miss damper

### 4 Nominal size [mm]

L × H

### 5 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 %

## E-EF / 825x225



### 1 Type

E-EF Replacement filter medium

### 2 Nominal size [mm]

L × H



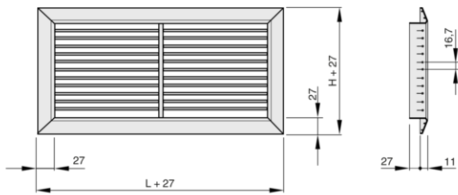
The weight table shows the available nominal sizes

**AT**

H	L [mm]							
	225	325	425	525	625	825	1025	1225
H	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

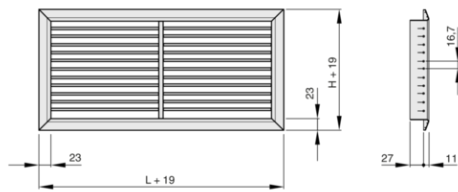
Weights apply to ventilation grilles without attachments

**AT, 27 mm wide front border**



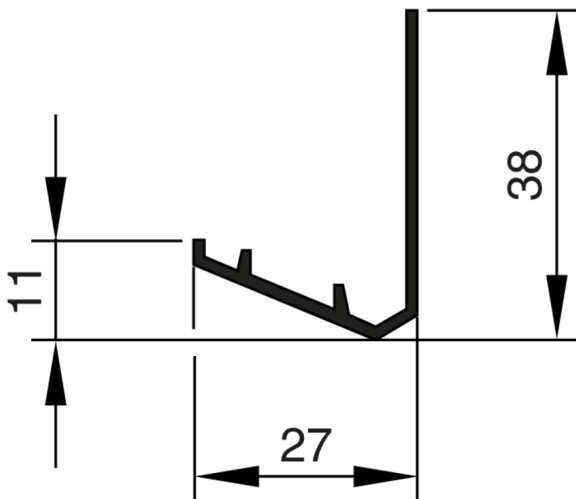
L Nominal length Vertical centre mullion if L > 625 mm  
H Nominal height

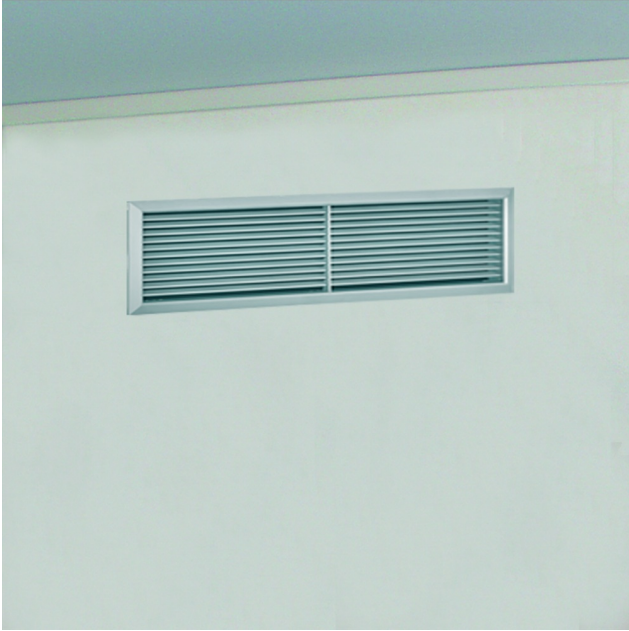
**AT, 23 mm wide front border**



L Nominal length Vertical centre mullion if L > 625 mm  
H Nominal height

Front border, 27 mm





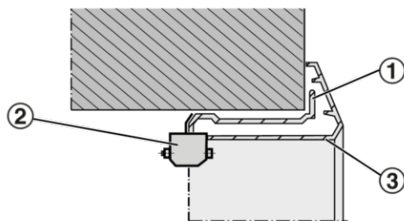
Nominal length over 625 mm: with vertical centre mullion

#### Installation and commissioning

- Installation preferably in walls, sills and rectangular ducts
- Installation with installation subframe is recommended
- If no installation subframe is used, the border should be fixed with screws

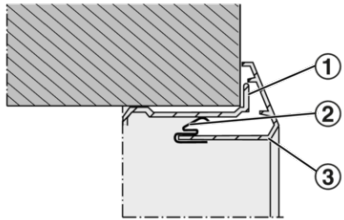
These are only schematic diagrams to illustrate installation details.

#### Ventilation grille with concealed screw fixing



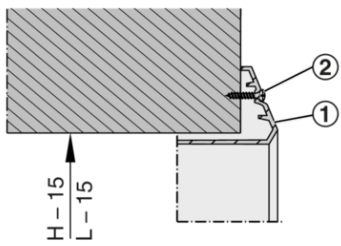
- ① Installation subframe
- ② Concealed screw fixing
- ③ Ventilation grille

#### Ventilation grille with spring clip fixing



- ① Installation subframe
- ② Spring clip
- ③ Ventilation grille

Ventilation grille with screw fixing



- ① Ventilation grille
- ② Fixing screw (by others)

**Volume flow rate balancing**

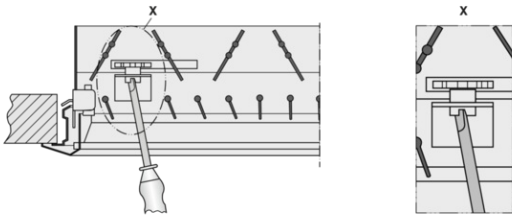
When several ventilation grilles are installed on the same duct, it may be necessary to balance the volume flow rates.

- 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**

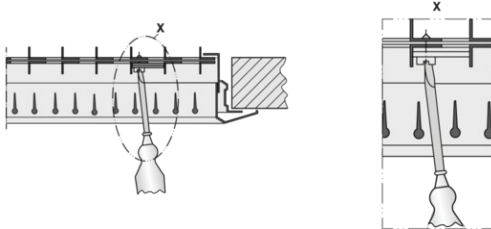
- Adjustable blades: Set the air control blades individually or together and depending on the local conditions
- D, DG: Air control blades, fitted at 90° to the front blades, can be adapted to the local conditions

**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<sub>WA</sub> [dB(A)]**

Sound power level of the air-regenerated noise

**V [m<sup>3</sup>/h] and [l/s]**

Volume flow rate

**Δp<sub>t</sub> [Pa]**

Total differential pressure

**l<sub>s</sub> [m]**

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