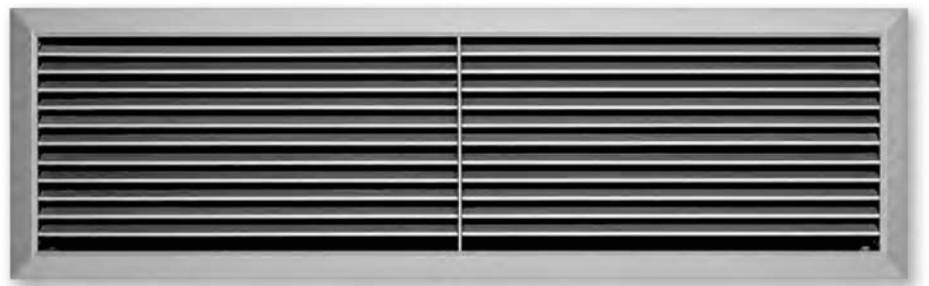


# Ventilation grilles for installation into walls, sills or rectangular ducts

## Type AT



### Ventilation grilles, made of aluminium, with individually adjustable horizontal blades

Ventilation grilles with droplet shaped blades

- Nominal sizes 150 x 100 - 1200 x 600 mm
- Volume flow rate range 13 - 2170 l/s or 47 - 7812 m<sup>3</sup>/h
- Grille face made of aluminium with powder-coat finish
- Front border, 32 mm
- Concealed fixing or countersunk holes

Optional equipment and accessories

- Grille face in RAL CLASSIC colours
- Installation subframe
- Attachments for volume flow rate balancing and air direction control
- Concealed fixing or countersunk holes

Type		Page
AT	General information	AT – 2
	Basic information and nomenclature	AT – 4
	Quick sizing	AT – 6
	Order code	AT – 8
	Dimensions and weight	AT – 10
	Specification text	AT – 13
	Accessories - Subframe	AT - 15
	Attachments - Dampers	AT - 19

### Installation example

### Wall installation



### Description

For detailed information on accessories see Chapter K1 – 3.6

For detailed information on attachments see Chapter K1 – 3.7

### 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

### Variants

- Front border
- 32 mm wide

### Fixing

- Countersunk holes
- X: Without holes (border drilling by customer)
- S11: Concealed fixings  
(In combination with installation subframe)

### Nominal sizes

- Nominal length: 150mm up to 1200mm (50mm increments)
- Nominal height: 100mm up to 600mm (50mm increments)

Intermediate sizes upon request

### Attachments

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

### Accessories

- Installation subframe: For the fast and simple installation of ventilation grilles

### Special characteristics

- Individually adjustable blades
- Angled front border
- Concealed fixing, or countersunk holes
- Optional installation subframe

### Parts and characteristics

- Angled front border with chamfered inside edge
- Individually adjustable, horizontal blades
- Factory fitted perimeter seal

### Construction features

- Asymmetrically supported blades

### Materials and surfaces

- Border and blades made of aluminium
- P3: Border and blades powder-coated, RAL9010:20%
- P6: Powder-coated RAL CLASSIC colour. Gloss level: 25%

### Installation and commissioning

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

### 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

### Technical data

Nominal sizes	150 × 100 to 1200 × 600 mm
Minimum volume flow rate	13 – 965 l/s or 47 – 3474 m <sup>3</sup> /h
Maximum volume flow rate, with L <sub>WA</sub> max. 40 dB(A) without attachments	54 – 2170 l/s or 195 – 7812 m <sup>3</sup> /h
Supply air to room air temperature difference	-12 to +4 K

Volume flow rates apply to supply air

### Supply air

#### Effective air discharge area

H	L [mm]							
	200	300	400	500	600	800	1000	1200
mm	A <sub>eff</sub> m <sup>2</sup>							
100	0.009	0.015	0.020	0.025	0.031	0.042	0.052	0.063
150	0.016	0.025	0.034	0.043	0.051	0.069	0.087	0.105
200	0.022	0.035	0.047	0.060	0.072	0.097	0.122	0.147
250		0.045	0.061	0.077	0.093	0.125	0.157	0.189
300		0.055	0.074	0.094	0.113	0.152	0.191	0.230
350			0.088	0.111	0.134	0.180	0.226	0.272
400			0.101	0.128	0.154	0.208	0.261	0.314
450				0.145	0.175	0.235	0.295	0.356
500				0.162	0.196	0.263	0.330	0.397
550					0.216	0.291	0.365	0.439
600					0.237	0.318	0.400	0.481

### Extract air

#### Effective air inlet area

H	L [mm]							
	200	300	400	500	600	800	1000	1200
mm	A <sub>eff</sub> m <sup>2</sup>							
100	0.007	0.011	0.015	0.020	0.024	0.032	0.040	0.048
150	0.012	0.019	0.026	0.033	0.040	0.054	0.068	0.081
200	0.017	0.026	0.036	0.046	0.056	0.075	0.095	0.115
250		0.034	0.047	0.059	0.072	0.097	0.122	0.148
300		0.042	0.057	0.073	0.088	0.119	0.150	0.181
350			0.067	0.086	0.104	0.141	0.177	0.214
400			0.078	0.099	0.120	0.163	0.205	0.247
450				0.112	0.136	0.184	0.232	0.280
500				0.126	0.152	0.206	0.260	0.313
550					0.168	0.228	0.287	0.347
600					0.185	0.250	0.315	0.380

### Function

#### 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. 0.5m/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.

### Principal dimensions

#### L [mm]

Nominal length of the ventilation grille

#### m [kg]

Weight

#### H [mm]

Nominal height of the ventilation grille

### 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

#### $l_s$ [m]

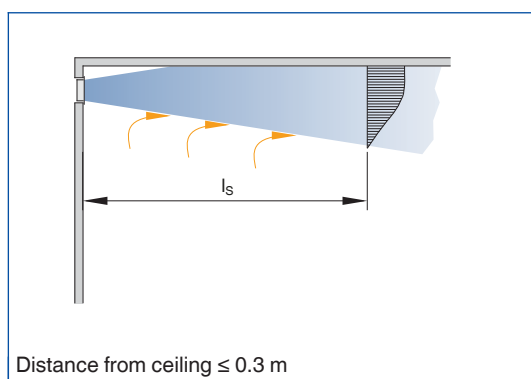
Distance from single grille or horizontal run section (throw distance)

#### $\Delta p_t$ [Pa]

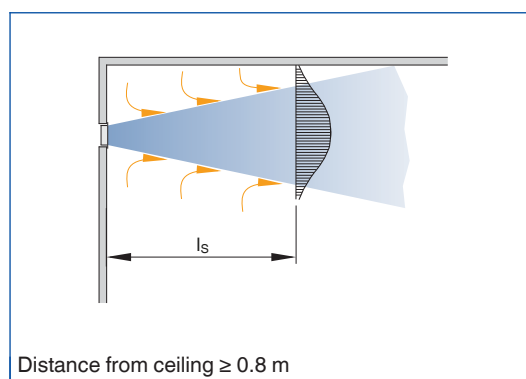
Total differential pressure

### Air pattern

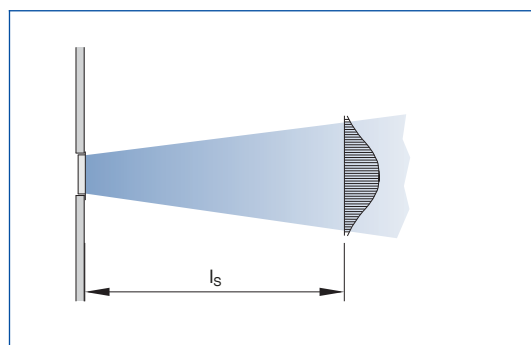
#### Air pattern with ceiling effect, sectional view



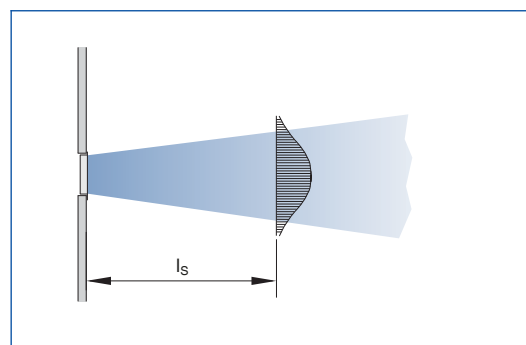
#### Air pattern without ceiling effect, sectional view



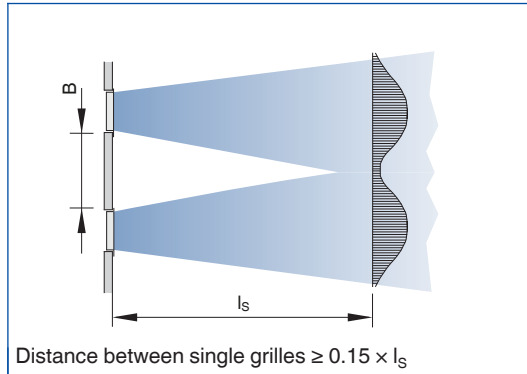
#### Air pattern with ceiling effect, top view



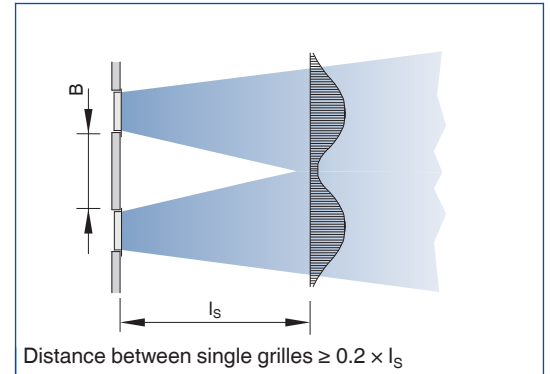
#### Air pattern without ceiling effect, top view



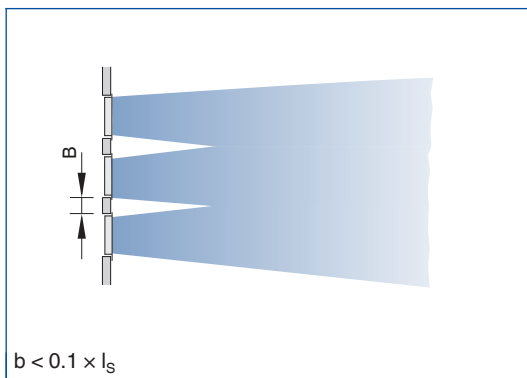
**Air pattern with ceiling effect, group of grilles, top view**



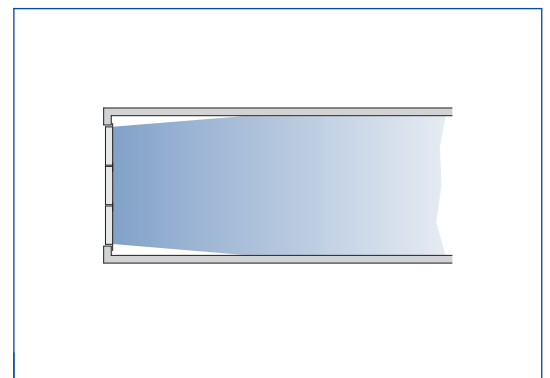
**Air pattern without ceiling effect, group of grilles, top view**



**Air pattern, group of grilles, top view**

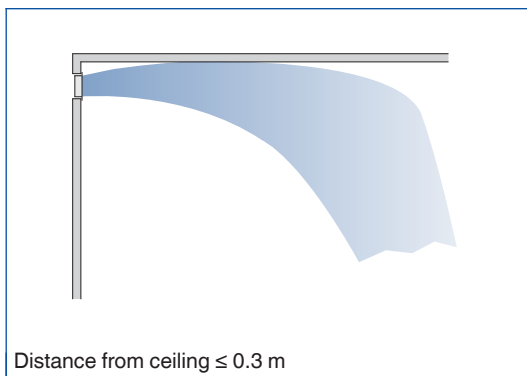


**Air pattern, continuous horizontal run, top view**

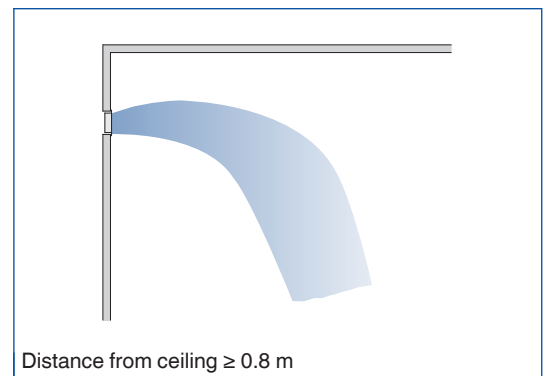


Several single grilles arranged in a row and with not much distance between them have the same effect as a continuous horizontal run.

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



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



### Sizing with the help of this catalogue

This catalogue provides convenient quick sizing tables for ventilation grilles. The volume flow rates apply to a nominal grille length [L] of 1000mm, maximum sound power level of the air-regenerated noise of 40 dB(A) with an open damper unit (unrestricted airflow) and maximum 15Pa pressure drop.

Throw length [I<sub>s</sub>] provided in metres to a maximum time average velocity [V<sub>L</sub>] of 0.7m/s without rear deflection blades.

For reduced throw applications, rear deflection blades ...-D, ...-DG should be used. Refer to correction factors for adjustment to the figures below.

Correction factors for other nominal grille lengths are provided below.

Correction factors for other terminal velocities are provided below.

### Technical data

The tables give supply air volume flow rates for all nominal sizes.

Volume flow rates apply to a nominal grille length [L] of 1000mm, max. sound power level of the air-regenerated noise of 40 dB(A) with an open damper unit (unrestricted airflow) and maximum 15Pa pressure drop.

Throw length [I<sub>s</sub>] provided to a maximum time average air velocity [V<sub>L</sub>] of 0.7m/s without rear deflection blades.

### Supply air

Flow rate and throw distance														
V (l/s/m)	125	150	175	200	225	250	275	300	325	350	375	400	450	500
H (mm)	I <sub>s</sub> (m)													
100	5.1	6.1	7.2	8.2	9.2									
150			5.6	6.4	7.1	7.9	8.7	9.5	10.3	11.1	11.9			
200						6.7	7.4	8.1	8.7	9.4	10.1	10.7	12.1	13.4
250									7.7	8.3	8.9	9.5	10.7	11.8
300												8.6	9.7	10.7
350														9.9

Flow rate and throw distance														
V (l/s/m)	550	600	650	700	750	800	850	900	950	1000	1100	1200	1300	1400
H (mm)	I <sub>s</sub> (m)													
250	13.0	14.2	15.4											
300	11.8	12.8	13.9	15.0	16.1	17.2								
350	10.8	11.8	12.8	13.8	14.8	15.8	16.8	17.8	18.7					
400	10.1	11.0	11.9	12.9	13.8	14.7	15.6	16.5	17.4	18.4				
450		10.4	11.2	12.1	12.9	13.8	14.7	15.5	16.4	17.3	19.0			
500				11.4	12.2	13.1	13.9	14.7	15.5	16.3	17.9	19.6		
550					11.7	12.4	13.2	14.0	14.8	15.5	17.1	18.6	20.2	
600						11.9	12.6	13.4	14.1	14.8	16.3	17.8	19.3	20.8

### Nominal length correction

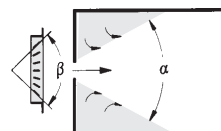
#### Throw length correction based on grille length

Nominal grille length [m]	0.3	0.6	0.9	1.0	1.2
Correction factor [K <sub>f</sub> ]	x 0.55	x 0.78	x 0.95	x 1.00	x 1.09

### Throw length correction

#### Throw length correction (for setting of blade divergence)

β	45°	90°
α	35°	60°
I <sub>s</sub>	x 0.7	x 0.5
Δt <sub>L</sub> / Δt <sub>Z</sub>	x 0.7	x 0.5
With ceiling effect B ≧	L <sub>S</sub> x 0.2	L <sub>S</sub> x 0.3
Without ceiling effect B ≧	L <sub>S</sub> x 0.25	L <sub>S</sub> x 0.3



### Velocity correction

#### Velocity correction

Maximum time average velocity	0.5 m/s	0.25 m/s
I <sub>s</sub>	x 1.4	x 2.8

## Technical data

The tables gives extract air volume flow rates, based on l/s/m for a maximum 5Pa, 10Pa or 15Pa limit.

Maximum sound power level of the air-regenerated noise of 40 dB(A) with an open damper unit (unrestricted airflow)

## Extract Air

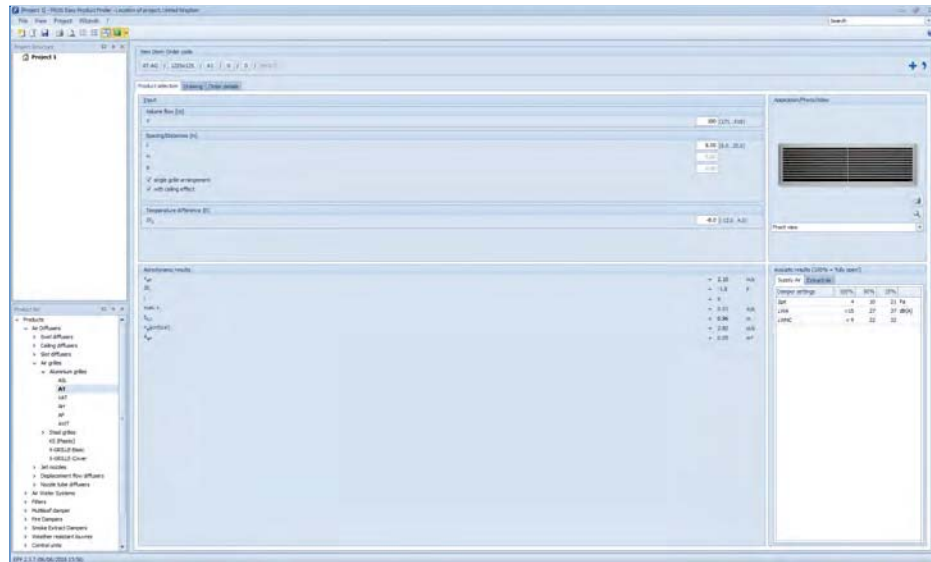
Extract Air Volume			
$\Delta p$ (Pa)	5	10	15
H (mm)	V (l/s/m)		
100	149	211	259
150	252	357	437
200	355	502	614
250	457	647	766
300	560	792	887
350	662	937	-
400	765	1082	-
450	867	1227	-
500	970	1372	-
550	1073	1517	-
600	1175	1662	-

## Easy Product Finder



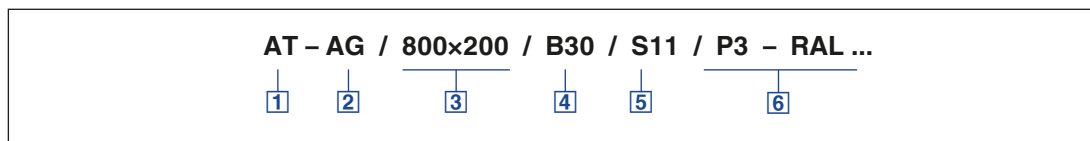
The Easy Product Finder allows you to size products using your project-specific data.

You will find the Easy Product Finder on our website.



## Order code

## AT

**1** Type**AT** Single grille**2** Attachments

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

**3** Nominal size [mm]

L x H

**4** Installation subframe

**0** No subframe  
**B30** 75mm subframe bracket for finite grille

**5** Fixing

**0** Countersunk holes  
**X** Without holes (border drilling by customer)  
**S11** Concealed fixing (In combination with installation subframe)

**6** Exposed surface

**P3** RAL 9010:20%  
**P6** Powder-coated RAL CLASSIC colour. Gloss level: 25%

\* Damper assembly to be specified within plenum box (when supplied)

## Order example

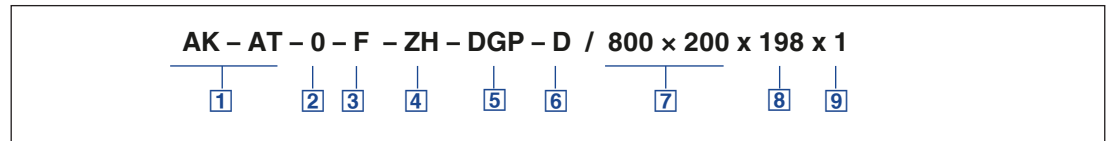
**AT-AG/800×200/B30/S11/P3**

<b>Attachments</b>	Damper unit with opposed action blades
<b>Nominal size</b>	800 × 200 mm
<b>Installation subframe</b>	With installation subframe
<b>Fixing</b>	Concealed fixing
<b>Exposed surface</b>	Powdercoat, RAL9010:20% (white)



Plenum box

AK-AT, plenum box



**1** Type

**AK-AT** Plenum box to suit AT grille

**2** Grille fixing

**0** Countersunk holes (30mm border)  
**X** Without holes  
**S11** Concealed fixing

**3** Plenum style

**F** Finite  
**M** Linear

**4** Connection type

**ZH** Horizontal (supply air)  
**AH** Horizontal (extract air)  
**ZV** Vertical (supply air)  
**AV** Vertical (extract air)

**5** Damper type

**0** Without damper  
**M** Perforated spigot damper  
**MC** Cord operated spigot damper  
**AGP** Opposed blade VCD (fitted to plenum)  
**DP** Deflection blades (fitted to plenum)  
**DGP** Opposed blade VCD + deflection blades (fitted to plenum)

**6** Internal lining

**0** No lining  
**D** 12mm foam lining

**7** Plenum nominal size [mm]

L x H

**8** Spigot size [mm]

Ø98, Ø123, Ø138, Ø148, Ø158, Ø178,  
 Ø198, Ø222, Ø248, Ø278, Ø298, Ø313,  
 Ø348, Ø353, Ø398, Ø448\*, Ø498\*, Ø558\*  
 \*Not in combination with ...-M, ...-MC\*

**9** Spigot quantity

Qty 1...4

Order example

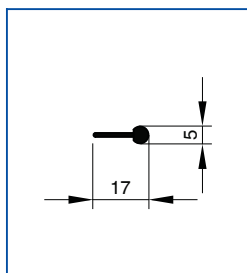
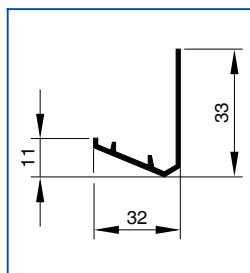
**AK-AT-0-F-ZH-DGP-D/800x200x198x1**

<b>Grille fixing</b>	Counterpunch border
<b>Plenum style</b>	Finite
<b>Connection type</b>	Horizontal (supply air)
<b>Damper type</b>	Opposed blade VCD + deflection blades (fitted to plenum)
<b>Plenum lining</b>	12mm foam lining
<b>Plenum nominal size</b>	800mm x 200mm
<b>Spigot size</b>	Ø198mm
<b>Spigot quantity</b>	1

### Front border and blade

### Front border, 32 mm

### Blade



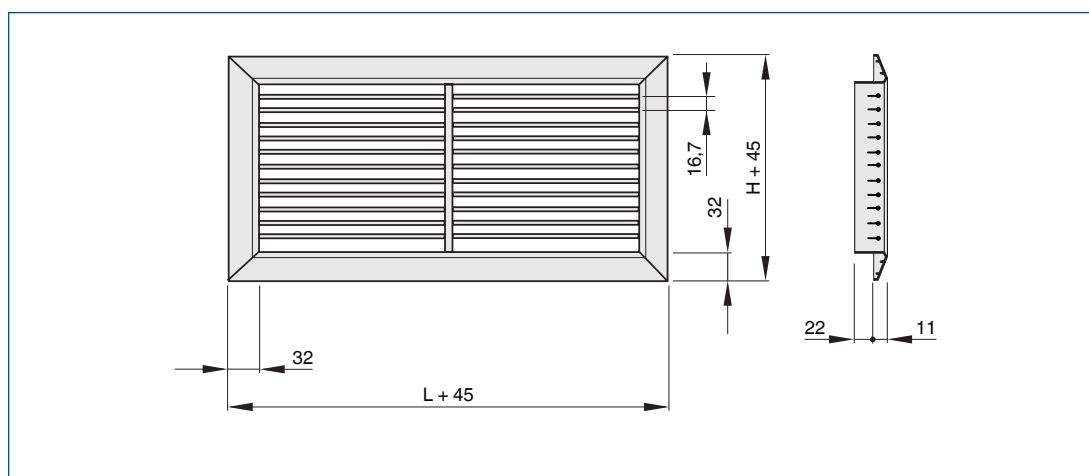
### AT, 32 mm wide front border

L: Nominal length  
H: Nominal height

Cut out size;  
Grille fixing ...-0, ...-X

H / L

Grille fixing ...-S11  
H + 6 / L + 6



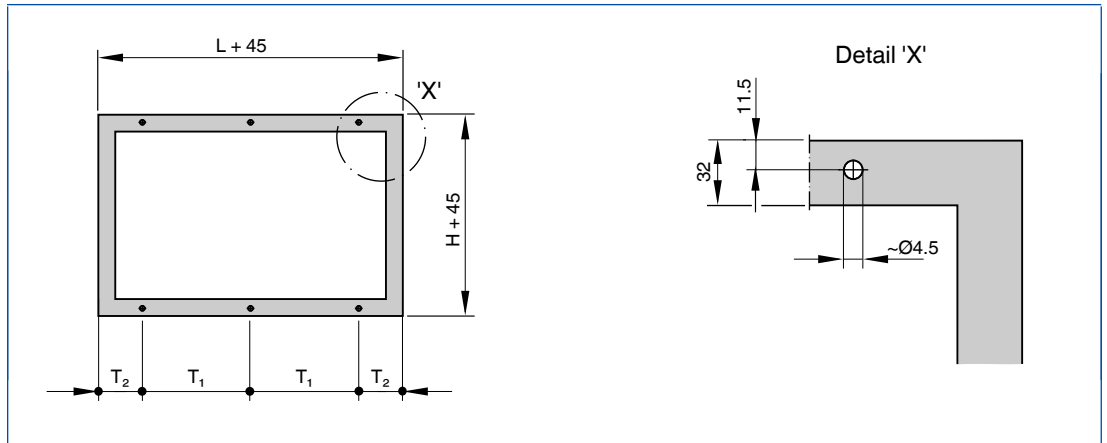
### Weights

H	L [mm]							
	200	300	400	500	600	800	1000	1200
mm	kg							
100	0.3	0.4	0.5	0.6	0.7	1.0	1.2	1.4
150	0.4	0.5	0.7	0.8	1.0	1.3	1.6	1.9
200	0.5	0.6	0.8	1.0	1.2	1.6	1.9	2.3
250	0.5	0.8	1.0	1.2	1.4	1.9	2.3	2.8
300	0.6	0.9	1.1	1.4	1.7	2.2	2.7	3.2
350	0.7	1.0	1.3	1.6	1.9	2.5	3.1	3.7
400	0.8	1.1	1.5	1.8	2.1	2.8	3.5	4.1
450	0.9	1.3	1.6	2.0	2.4	3.1	3.9	4.6
500	1.0	1.4	1.8	2.2	2.6	3.4	4.2	5.1
550	1.0	1.5	1.9	2.4	2.8	3.7	4.6	5.5
600	1.1	1.6	2.1	2.6	3.1	4.0	5.0	6.0

Weights apply to ventilation grilles without attachments

Border punch detail

AT, 32 mm wide front border

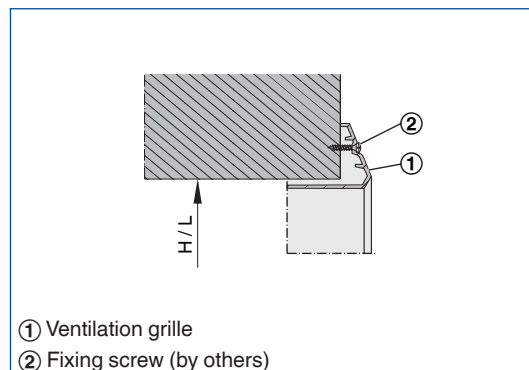


AT, standard sizes, width, no. of border fixing holes

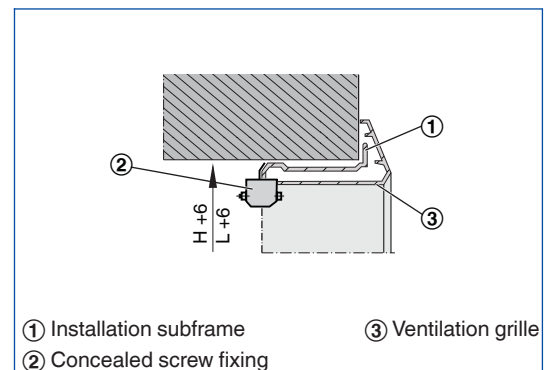
Length L mm	No. of holes n	mm	
		T <sub>1</sub>	T <sub>2</sub>
150	1	–	97.5
200	1	–	122.5
250	2	159.0	68
300	2	209.0	68
350	2	259.0	68
400	2	309.0	68
450	2	359.0	68
500	2	409.0	68
550	3	229.5	68
600	3	254.5	68
650	3	279.5	68
700	3	304.5	68
750	3	329.5	68
800	3	354.5	68
850	4	253.0	68
900	4	269.7	68
950	4	286.3	68
1000	4	303.0	68
1050	4	319.7	68
1100	4	336.3	68
1150	4	353.0	68
1200	4	369.7	68

Fixing of ventilation grilles

Ventilation grille with screw fixing



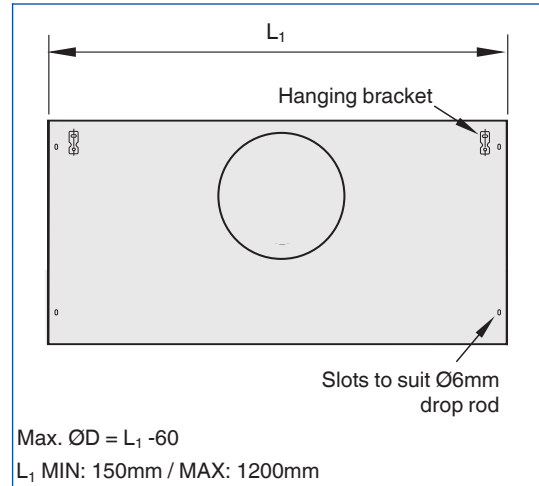
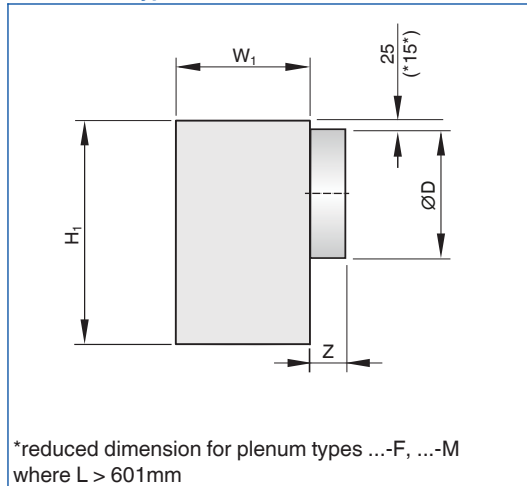
Ventilation grille with Secret screw fixing



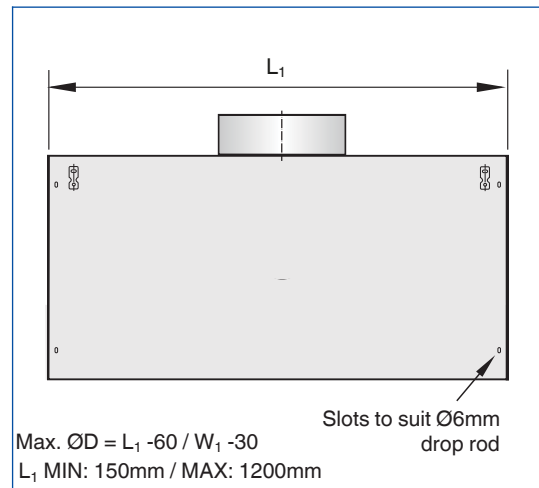
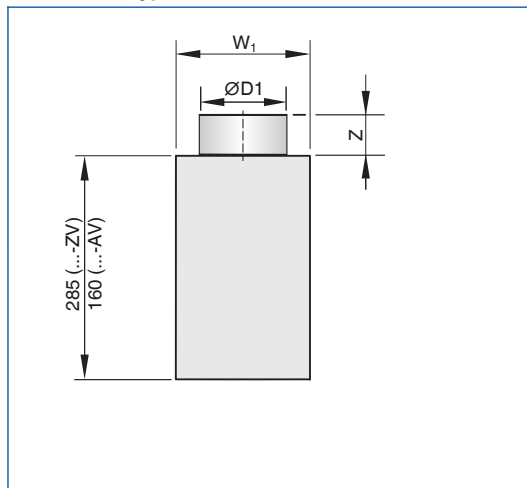
**Plenum Box AK-AT**

**Connection type ...ZH, ...AH**

**NOTE;**  
Hanging brackets only supplied where  $L_1 > 300\text{mm}$



**Connection type ...ZV, ...AV**



**Dimensions**

$H_1$  dimension excludes grille border

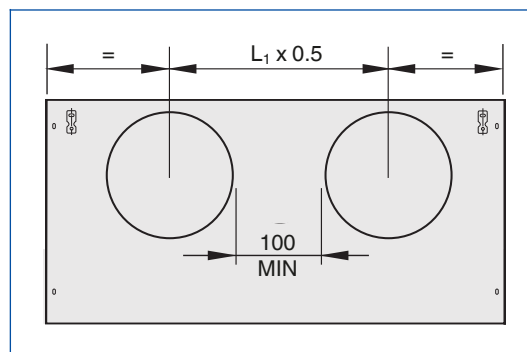
Overall plenum & grille assembled height;  
 $H_1$  + grille border depth

Grille Fixing	Dimensions					
	Plenum Type	$L_1$	$H_1$	$\text{ØD1}$	$W_1$	Z
...-O	F / M	L -5	$\text{ØD} + 150$	L / H -30	H -5	40 (*75)
...-X	F	L -12	$\text{ØD} + 150$	L / H -40	H -12	40 (*75)
	M	L -5	$\text{ØD} + 150$	H -40	H -12	40 (*75)
...-S11	F	L +2	$\text{ØD} + 165$	L / H -25	H +2	40 (*75)
	M	L -20	$\text{ØD} + 165$	H -25	H +2	40 (*75)

\*Spigot Z\*  
...-0 (without spigot damper): 40mm  
...-M / ...-MC : 75mm

Plenum type F: Finite (nominal plenum length = nominal grille length)  
M: Linear (nominal plenum length < nominal grille length)

**Multi Spigot**



**MAX.  $\text{ØD} = [(L_1 - 60) / \text{Spigot qty}] - 100$**

Spigot location equally spaced for side & top entry plenum boxes.

### Standard text

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. Aesthetic angled front 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 fixing in combination with an installation subframe or countersunk holes for fixing onto an installation surface. Sound power level of the air-regenerated noise measured according to EN ISO 5135.

### Special characteristics

- Individually adjustable blades
- Angled front border
- Concealed fixing, or countersunk holes
- Optional installation subframe

### Materials and surfaces

- Border and blades made of aluminium
- P3: Border and blades powder-coat RAL9010:20%
- P6: Powder-coated RAL CLASSIC colour. Gloss level: 25%

### Technical data

- Nominal sizes: 150 × 100 to 1200 × 600 mm
- Minimum volume flow rate (supply air): 11 – 520 l/s or 40 – 1872 m<sup>3</sup>/h
- Maximum volume flow rate (supply air), at L<sub>WA</sub> max. 40 dB(A) without attachments: 54 – 1520 l/s or 195 – 5472 m<sup>3</sup>/h
- Supply air to room air temperature difference: -12 to +4 K

### Sizing data

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

### Order options

#### 1 Type

**AT** Single grille

#### 2 Attachments

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

#### 3 Nominal size [mm]

L x H

#### 4 Installation subframe

- 0** No subframe  
**B30** 75mm subframe bracket for finite grille

#### 5 Fixing

- 0** Countersunk holes  
**X** Without holes (border drilling by customer)  
**S11** Concealed fixing (In combination with installation subframe)

#### 6 Exposed surface

- P3** RAL 9010:20%  
**P6** Powder-coated RAL CLASSIC colour. Gloss level: 25%

\* Damper assembly to be specified within plenum box (when supplied)

### Plenum Box

#### 1 Type

**AK-AT** Plenum box to suit AT grille

#### 2 Grille fixing

**0** Countersunk holes (30mm border)

**X** Without holes

**S11** Concealed fixing

#### 3 Plenum style

**F** Finite

**M** Linear

#### 4 Connection type

**ZH** Horizontal (supply air)

**AH** Horizontal (extract air)

**ZV** Vertical (supply air)

**AV** Vertical (extract air)

#### 5 Damper type

**0** Without damper

**M** Perforated spigot damper

**MC** Cord operated spigot damper

**AGP** Opposed blade VCD (fitted to plenum)

**DP** Deflection blades (fitted to plenum)

**DGP** Opposed blade VCD + deflection blades (fitted to plenum)

#### 6 Internal lining

**0** No lining

**D** 12mm foam lining

#### 7 Plenum nominal size [mm]

L × H

#### 8 Spigot size [mm]

Ø98, Ø123, Ø138, Ø148, Ø158, Ø178,

Ø198, Ø222, Ø248, Ø278, Ø298, Ø313,

Ø348, Ø353, Ø398, Ø448\*, Ø498\*, Ø558\*

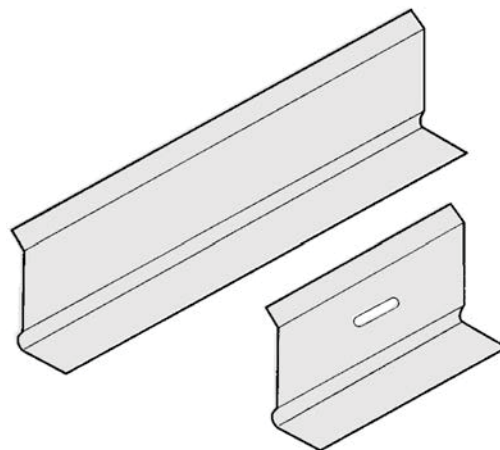
\*Not in combination with ...-M, ...-MC\*

#### 9 Spigot quantity

Qty 1...4

# Accessories

## Installation Subframe



### **Installation subframes, made of galvanised sheet steel, for the fast and simple installation of ventilation grilles**

Installation subframe for the simple and precise installation of ventilation grilles

- Angle sections made of galvanised steel
- Individual frame sections or linear sections for site cutting

Type		Page
-B20, B30, L20, L30	General information	AT – 16
	Installation details	AT – 18

**Description**

**Application**

- For the installation of ventilation grilles in walls and sills
- Simplified installation
- Subframe allows for the fast, simple and precise installation of ventilation grilles
- Required for the installation of single grilles and horizontal run sections with concealed fixing

**Materials and surfaces**

- Installation subframes, made of formed galvanised sheet steel

**Maintenance**

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

**Parts and characteristics**

- Installation subframe consisting of angle sections

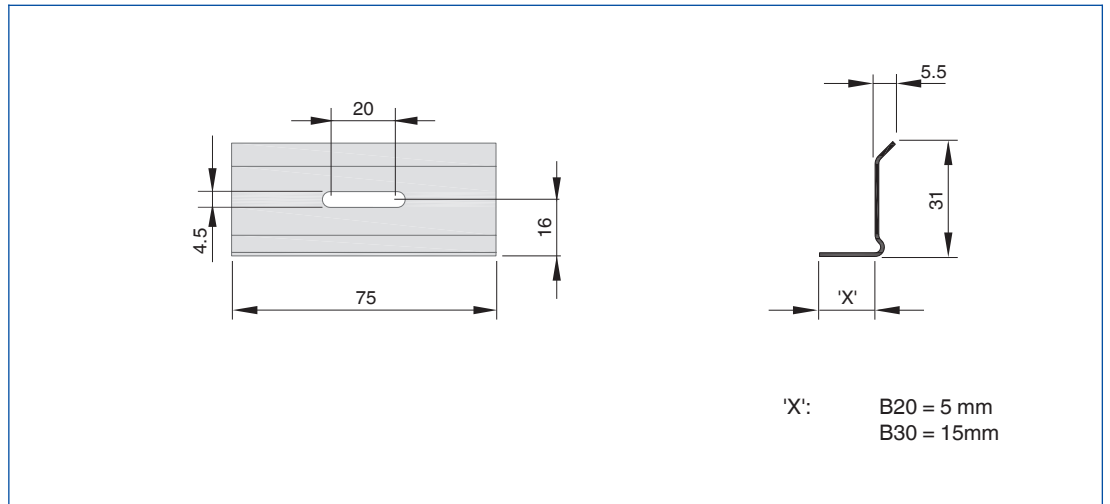
Any accessories are defined with the order code of the ventilation grille.

**Installation subframe for ventilation grilles**

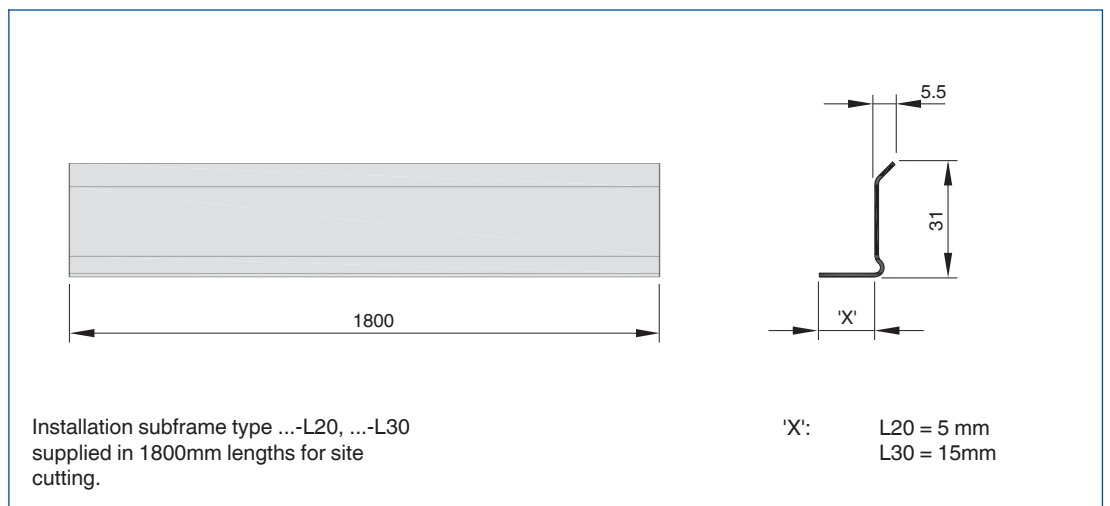
Type of ventilation grille	Grille Type	
	Finite	Linear
	[L < 1800]	[L > 1800]
<b>Installation into walls, sills or rectangular ducts</b>		
<b>AT</b>	B30	–
<b>VAT</b>	B30	–
<b>AH</b>	B30	L30
<b>AHR</b>	B20	L20
<b>WAP</b>	B30	L30
<b>WAPR</b>	B20	L20



Installation subframe ...-B20, ...-B30 for ventilation grilles



Installation subframe ...L20, ...L30 for ventilation grilles



**Description**

**Installation information**

- Installation and making connections to be performed by others

Single grille

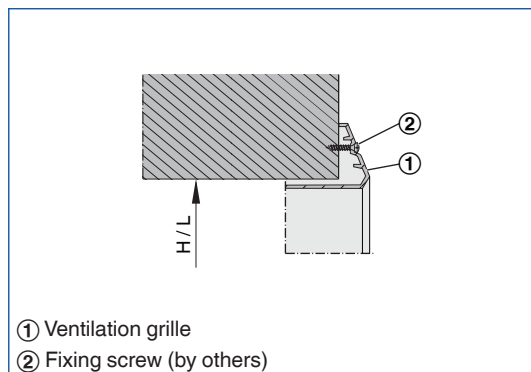
- The installation subframe consists of individual sections (...-B20, ...-B30)
- Fixing holes are provided for fixing the frame with screws to different wall structures

Horizontal run sections

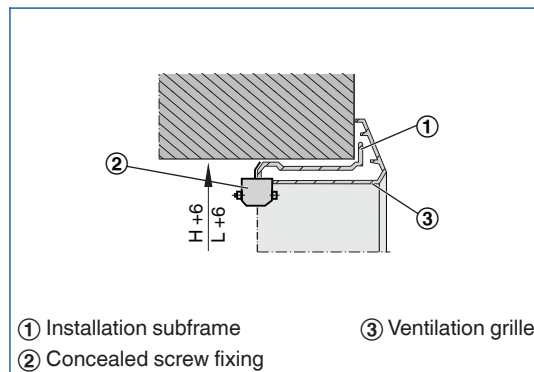
- The installation subframe consists of linear (1800mm) sections (...-L20, ...-L30) for site cutting as necessary
- Subframe can be installed as linear sections or cut down to suit site installation requirements.

**Fixing of ventilation grilles**

**Ventilation grille with screw fixing**

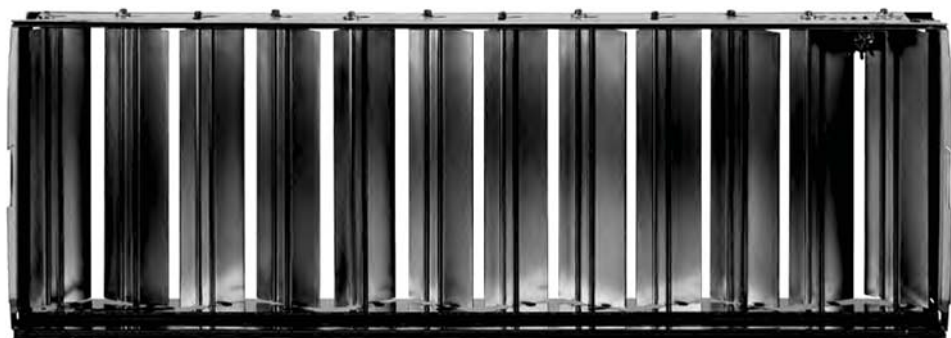


**Ventilation grille with concealed screw fixing**



# Attachments

## Types -AG, -D, -DG



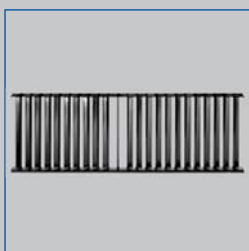
**Attachments for ventilation grilles, made of sheet steel, for volume flow rate balancing and air direction control**

Attachments with manually adjustable blades

- Volume flow rate balancing
- Air direction control



DG



D



AG

Type		Page
-AG, -D, -DG	General information	AT – 20
	Special information – -AG	AT – 21
	Special information – -D	AT – 23
	Special information – -DG	AT – 25

**Description**

**Application**

- Attachments for ventilation grilles offer additional functions
- For volume flow rate balancing and/or for air direction control
- Damper units simplify the volume flow rate balancing required for commissioning, for supply air and extract air
- Air control blades, which are fitted at 90° to the front blades, allow for other airflow directions, for supply air
- Ventilation grille need not be removed for adjustment

**Variants**

- AG: Damper unit with opposed action blades
- D: Air direction control
- DG: Damper unit with opposed action blades and blades for air direction control

**Maintenance**

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

Any accessories are defined with the order code of the ventilation grille.

**Attachments for ventilation grilles**

Type of ventilation grille	Attachment		
	-AG	-D	-DG
	Damper unit	Air direction control	Damper unit Air direction control
<b>Installation into walls, sills or rectangular ducts</b>			
AT	●	●	●
VAT	●	●	●
AH	●	●	●
AHR	●	●	●
WAP	●	●	●
WAPR	●	●	●
AF	●	●	●
AFW	●	●	●
AFH	●	●	●

**Description**



AG

- AG /

Order code detail

**Application**

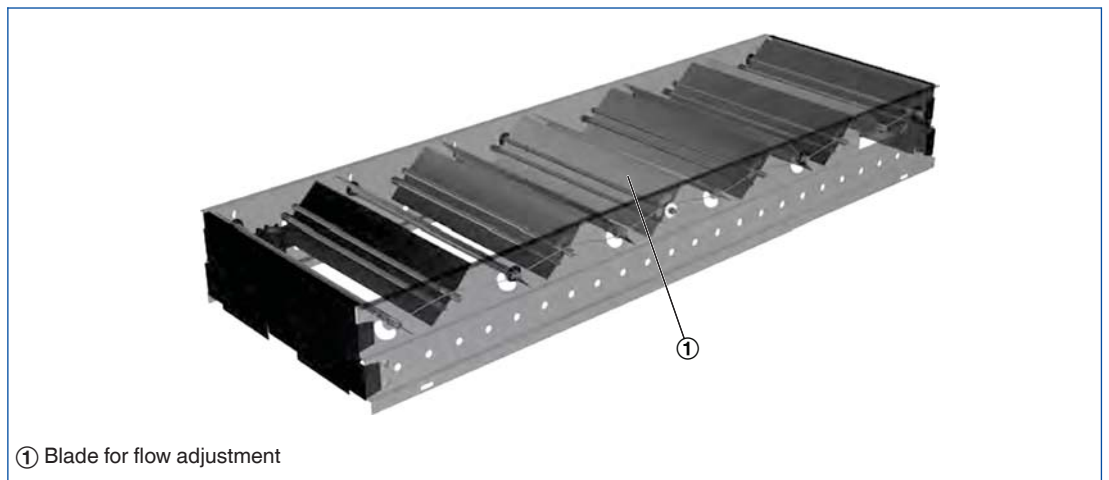
- For volume flow rate balancing
- Damper units simplify the volume flow rate balancing required for commissioning, for supply air and extract air
- Ventilation grille need not be removed for adjustment

**Parts and characteristics**

- Opposed action blades
- Can be adjusted and set with screws

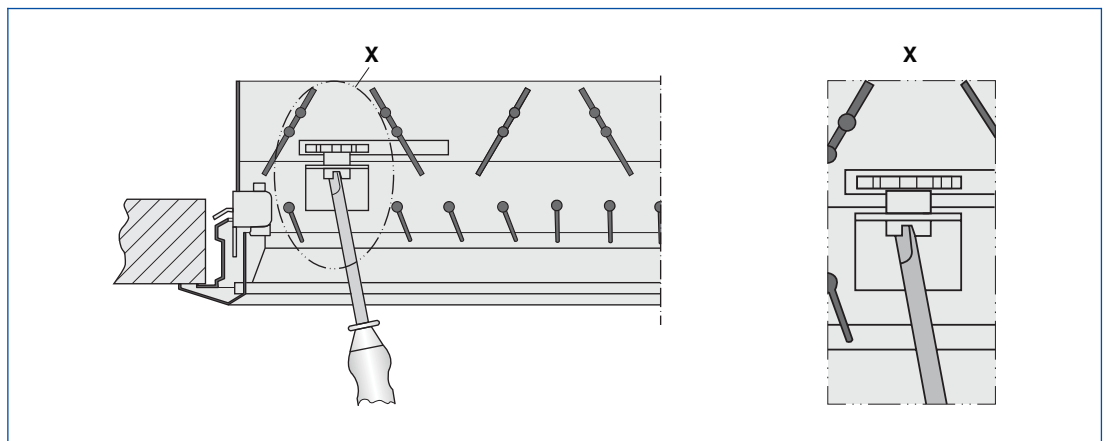
**Function**

**Schematic illustration of -AG**



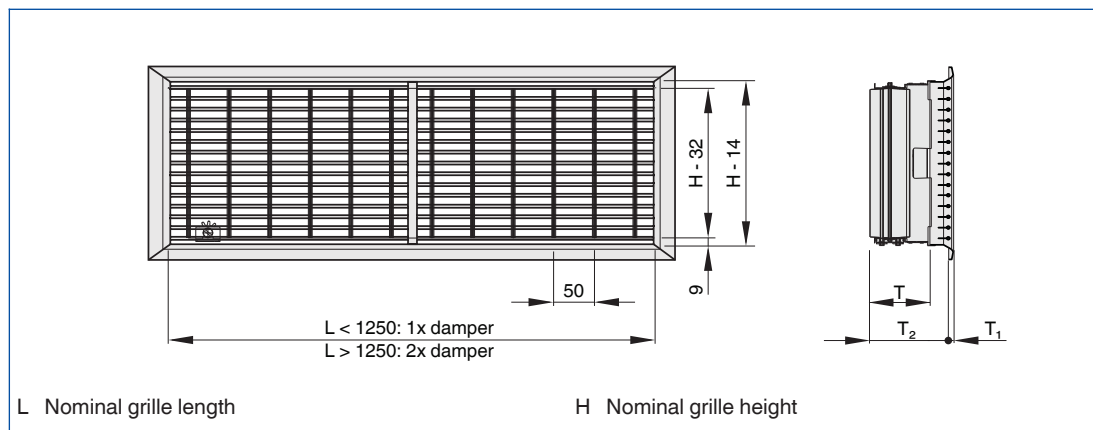
**Commissioning**

**Volume flow rate balancing -\*G**



Attachments -AG, -DG

-AG



### Dimensions

Product type	T	T <sub>1</sub>	T <sub>2</sub>
	mm		
AT	70	11	92
VAT	70	11	92
AH	70	8	92
AHR	70	8	92
WAP	70	8	92
WAPR	70	8	92
AF	70	0	123
AFH	70	0	123
AFW	70	0	123

**Description**



D

- D /

Order code detail

**Application**

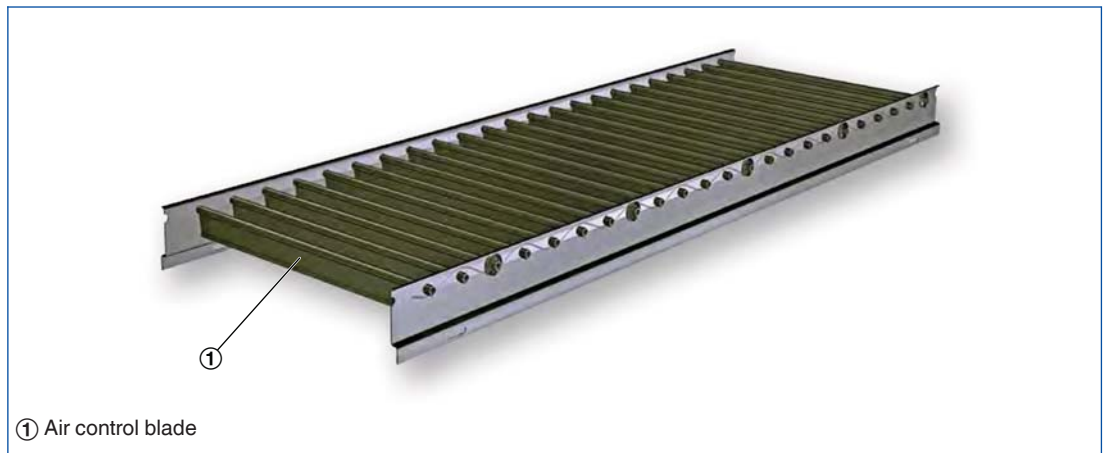
- For air direction control, for supply air
- Air control blades, which are fitted at 90° to the front blades, allow for other airflow directions
- Ventilation grille need not be removed for adjustment

**Parts and characteristics**

- Individually adjustable blades

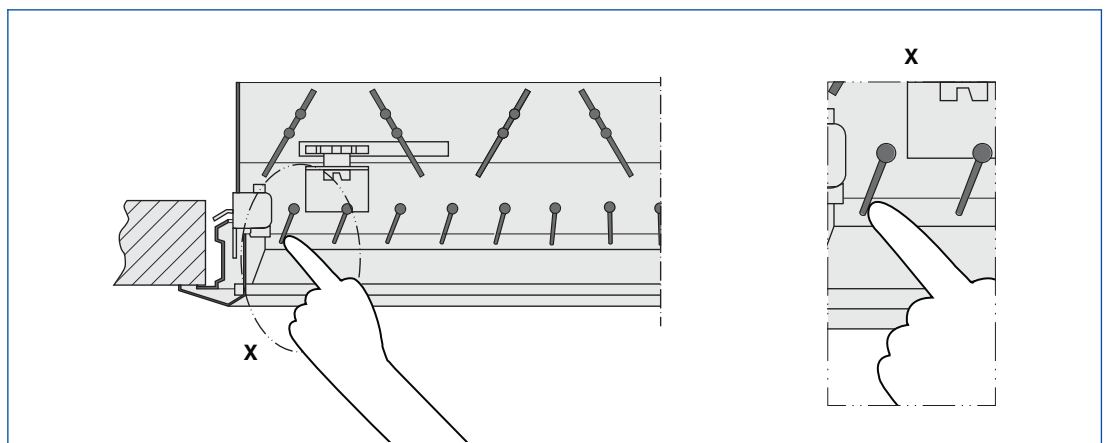
**Function**

**Schematic illustration of -D**



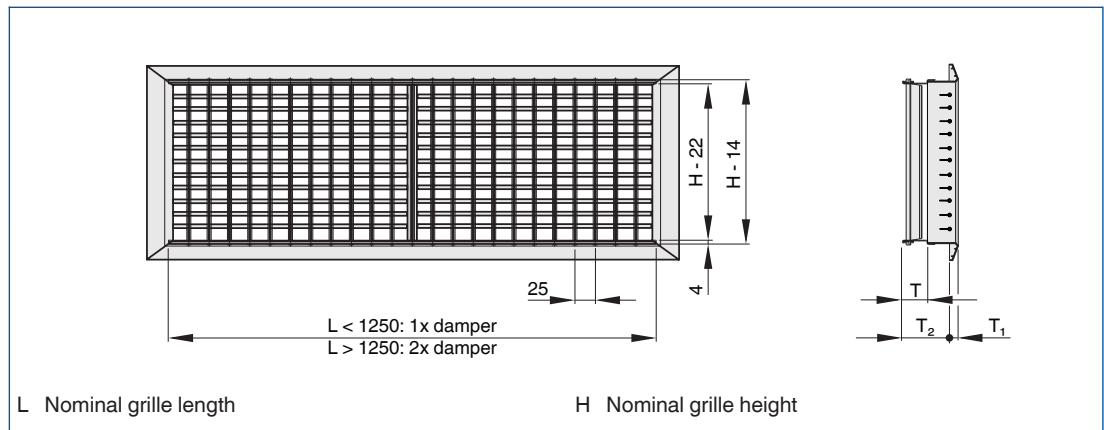
**Commissioning**

**Air direction control -D**



Attachments -D, -DG

-D



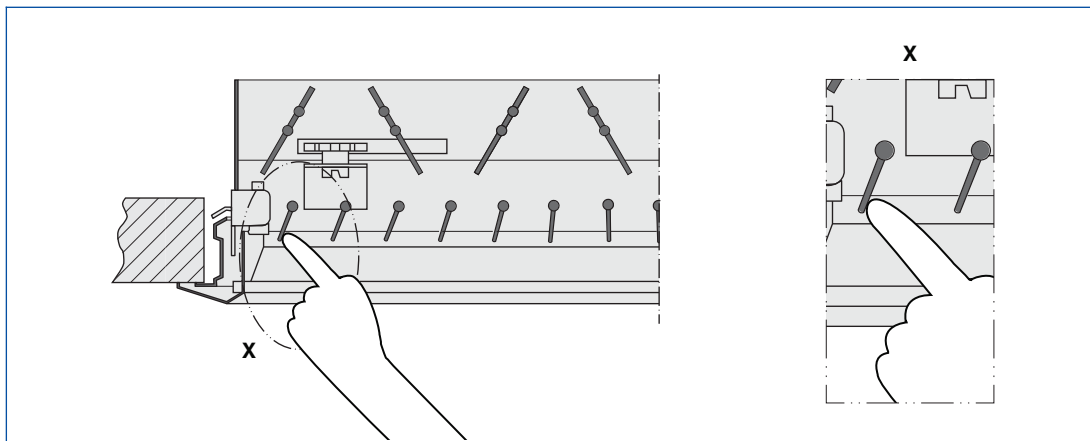
### Dimensions

Product type	T	T <sub>1</sub>	T <sub>2</sub>
	mm		
AT	28	11	50
VAT	28	11	50
AH	28	8	50
AHR	28	8	50
WAP	28	8	50
WAPR	28	8	50
AF	28	0	81
AFH	28	0	81
AFW	28	0	81



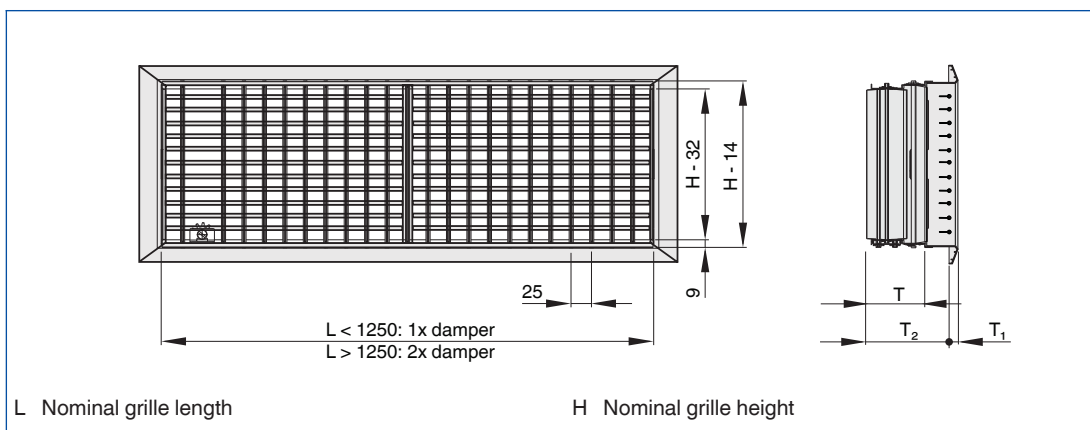


Air direction control -D



Attachments -D, -DG

-DG



Dimensions

Product type	T	T <sub>1</sub>	T <sub>2</sub>
	mm		
AT	70	11	92
VAT	70	11	92
AH	70	8	92
AHR	70	8	92
WAP	70	8	92
WAPR	70	8	92
AF	70	0	123
AFH	70	0	123
AFW	70	0	123