

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



## Ventilation grilles, made of aluminium, with fixed horizontal blades - also for horizontal runs

Single ventilation grilles and horizontal run sections with special profiled blades

- Nominal sizes 300 x 75 - 1800 x 600 mm and horizontal run sections
- Volume flow rate range 17 - 2500 l/s - 9000 m<sup>3</sup>/h
- Grille face made of aluminium with powder-coat finish
- Front border, 20 mm or 30 mm wide or plaster-in
- Straight (0°) or angled (15°) air discharge
- 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
- Concealed fixing or countersunk holes (only for 30 mm wide front border)

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### Installation example

#### Wall installation



### Description

#### Application

- Ventilation grille of Type AH as supply air or extract air variant for comfort zones and industrial zones
- Directed supply air discharge for mixed flow ventilation
- Blades for straight (0°) or angled (15°) air discharge 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

- AH: Single grille
- E, EL, ER, M: Horizontal run section

#### Front border

- AH: 30 mm wide
- AHR: 20 mm wide
- AHP: Plaster-in border

#### Fixing

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

#### Parts and characteristics

- Rectangular profile border sections
- Fixed horizontal blades
- Vertical lateral mullions
- Factory fitted perimeter seal

#### Nominal sizes

##### Single grille

- Nominal length: 300mm up to 1800mm (50mm increments)
- Nominal height: 75mm up to 600mm (25mm increments)
- AHP nominal height: 75mm up to 200mm (25mm increments)

Intermediate sizes upon request

##### Horizontal run section

- Nominal length of end section: 900mm up to 1799mm, (1mm increments)
- Nominal length of middle section: 1800 mm
- Nominal height: 75mm up to 300mm (25mm increments)
- AHP nominal height: 75mm up to 200mm (25mm increments)

Intermediate sizes upon request

#### Attachments

- AG, D, DG: For volume flow rate balancing and for air direction control  
(AHP: dampers installed within plenum box)

#### Accessories

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

#### Special characteristics

- Fixed blades
- Front border in two widths and plaster-in option
- Concealed fixing, or countersunk holes
- Also for continuous horizontal runs
- Optional installation subframe

### Construction features

- 20 mm or 30 mm wide border or plaster-in border
- Blades for straight (0°) or angled (15°) air discharge

### Materials and surface

- 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
- Installation 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

<b>Nominal sizes</b>	300 × 75 to 1800 × 600 mm
<b>Horizontal run section</b>	H: 75 mm up to 300 mm
<b>Minimum volume flow rate</b>	17 – 1085 l/s or 61 – 3906 m <sup>3</sup> /h
<b>Maximum volume flow rate , with L<sub>WA</sub> max. 40dB(A) without attachments</b>	75 – 2500 l/s or 270 – 9000 m <sup>3</sup> /h
<b>Supply air to room air temperature difference</b>	-12 to +4 K

Volume flow rates for single grille for supply air.

### Supply air

#### Effective air discharge area

H	L [mm]							
	300	400	500	600	700	800	900	1000
mm	A <sub>eff</sub> m <sup>2</sup>							
75	0.008	0.011	0.014	0.017	0.019	0.022	0.025	0.028
100	0.012	0.016	0.020	0.024	0.028	0.032	0.037	0.041
150	0.019	0.026	0.033	0.039	0.046	0.053	0.060	0.066
200	0.027	0.036	0.045	0.055	0.064	0.073	0.083	0.092
250	0.034	0.046	0.058	0.070	0.082	0.094	0.106	0.118
300	0.041	0.056	0.070	0.085	0.100	0.114	0.129	0.144
350	0.049	0.066	0.083	0.100	0.118	0.135	0.152	0.169
400	0.056	0.076	0.096	0.116	0.135	0.155	0.175	0.195
450	0.063	0.086	0.108	0.131	0.153	0.176	0.198	0.221
500	0.071	0.096	0.121	0.146	0.171	0.196	0.222	0.247
550	0.078	0.106	0.133	0.161	0.189	0.217	0.245	0.272
600	0.085	0.116	0.146	0.176	0.207	0.237	0.268	0.298

H	L [mm]							
	1100	1200	1300	1400	1500	1600	1700	1800
mm	A <sub>eff</sub> m <sup>2</sup>							
75	0.031	0.033	0.036	0.039	0.042	0.045	0.047	0.050
100	0.045	0.049	0.053	0.057	0.061	0.065	0.070	0.074
150	0.073	0.080	0.087	0.093	0.100	0.107	0.114	0.120
200	0.102	0.111	0.120	0.130	0.139	0.148	0.158	0.167
250	0.130	0.142	0.154	0.166	0.178	0.190	0.202	0.214
300	0.158	0.173	0.188	0.202	0.217	0.232	0.246	0.261
350	0.187	0.204	0.221	0.239	0.256	0.273	0.290	0.308
400	0.215	0.235	0.255	0.275	0.295	0.315	0.334	0.354
450	0.243	0.266	0.289	0.311	0.334	0.356	0.379	0.401
500	0.272	0.297	0.322	0.347	0.372	0.398	0.423	0.448
550	0.300	0.328	0.356	0.384	0.411	0.439	0.467	0.495
600	0.329	0.359	0.389	0.420	0.450	0.481	0.511	0.542

### 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

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

Volume flow rate

#### $l_s$ [m]

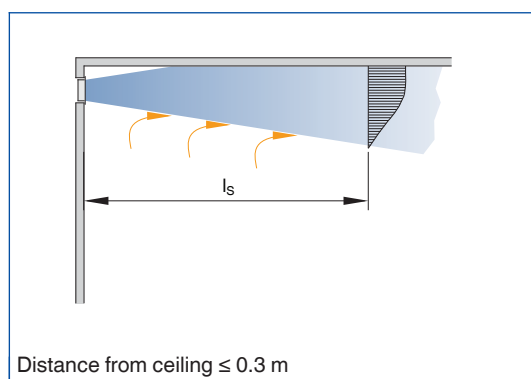
Distance from single grille or horizontal run section (throw distance)

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

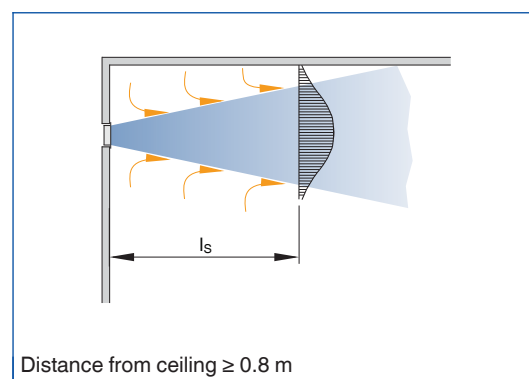
Total differential pressure

### Air pattern

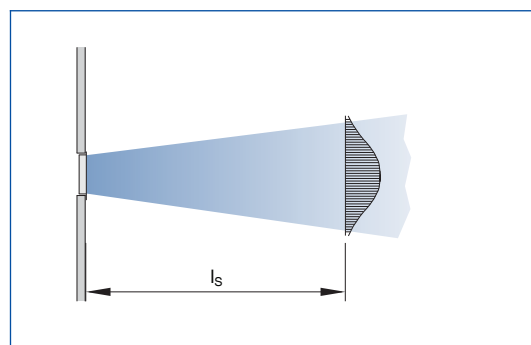
#### Air pattern with ceiling effect, sectional view



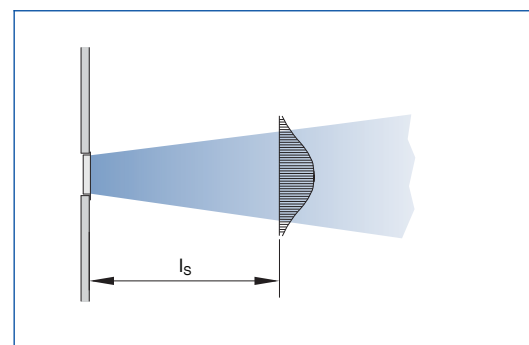
#### Air pattern without ceiling effect, sectional view



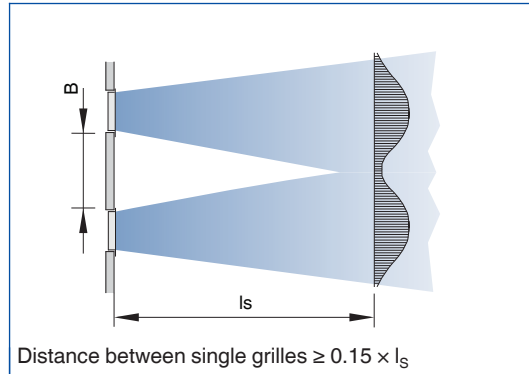
#### Air pattern with ceiling effect, top view



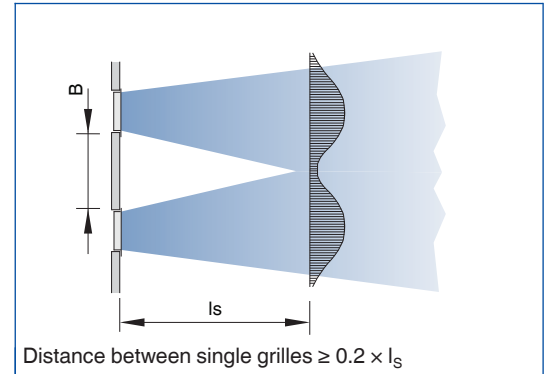
#### Air pattern without ceiling effect, top view



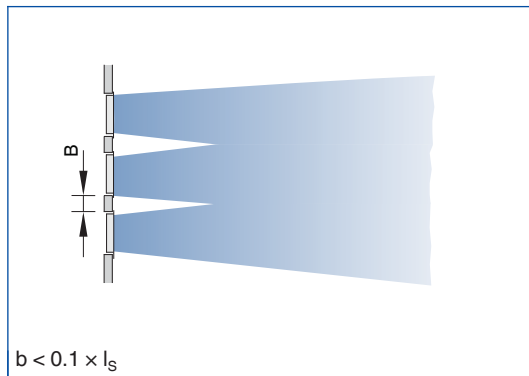
**Air pattern with ceiling effect, group of grilles, top view**



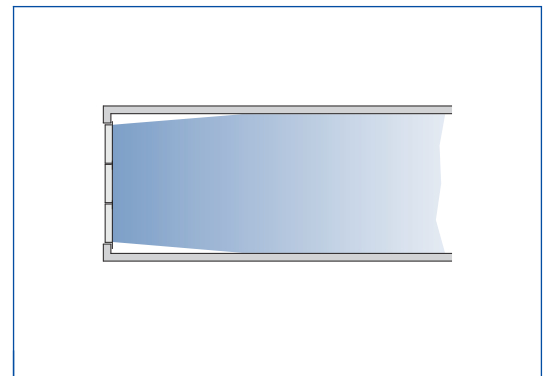
**Air pattern without ceiling effect, group of grilles, top view**



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

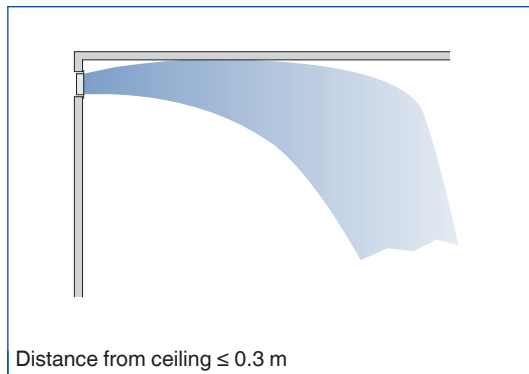


**Air pattern, continuous horizontal run, top view**

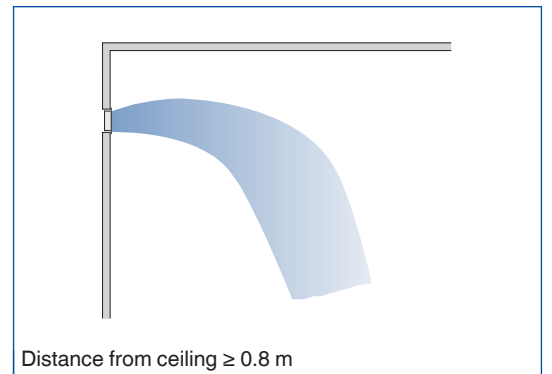


Several single grilles arranged in a row and with not much distance between them have the same effect as a continuous horizontal run.

**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)	60	85	100	125	150	175	200	225	250	275	300	350	400	450
H (mm)	I <sub>s</sub> (m)													
75	3.4	4.8	5.6	7.0										
100		4.0	4.7	5.8	7.0	8.1								
150					5.5	6.4	7.3	8.2	9.1					
200							6.2	7.0	7.7	8.5	9.3	10.8	12.4	
250									6.8	7.5	8.2	9.6	10.9	12.3
300											7.4	8.7	9.9	11.1
350												8.0	9.1	10.2
400													8.5	9.5
450														9.0

Flow rate and throw distance														
V (l/s/m)	500	550	600	650	700	750	800	850	900	950	1000	1100	1200	
H (mm)	I <sub>s</sub> (m)													
250	13.6													
300	12.4	13.6	14.8											
350	11.4	12.5	13.7	14.8	15.9	17.1								
400	10.6	11.7	12.7	13.8	14.9	15.9	17.0	18.0						
450	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0	18.0	19.0				
500		9.0	10.4	11.3	12.3	13.2	14.2	15.1	16.1	17.1	17.9	18.9	20.8	
550			9.9	10.8	11.7	12.6	13.5	14.4	15.3	16.2	17.1	18.0	19.8	21.6
600				10.8	11.7	12.6	13.5	14.4	15.3	16.2	17.1	18.0	19.8	21.6

### Nominal length correction

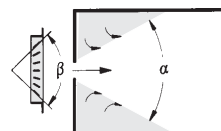
#### Throw length correction based on grille length

Nominal grille length [m]	0.3	0.6	0.9	1.0	1.2	1.5	1.8
Correction factor [K <sub>i</sub> ]	x 0.55	x 0.78	x 0.95	x 1.00	x 1.09	x 1.22	x 1.34

### 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

# Ventilation grilles

## Quick sizing

### 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

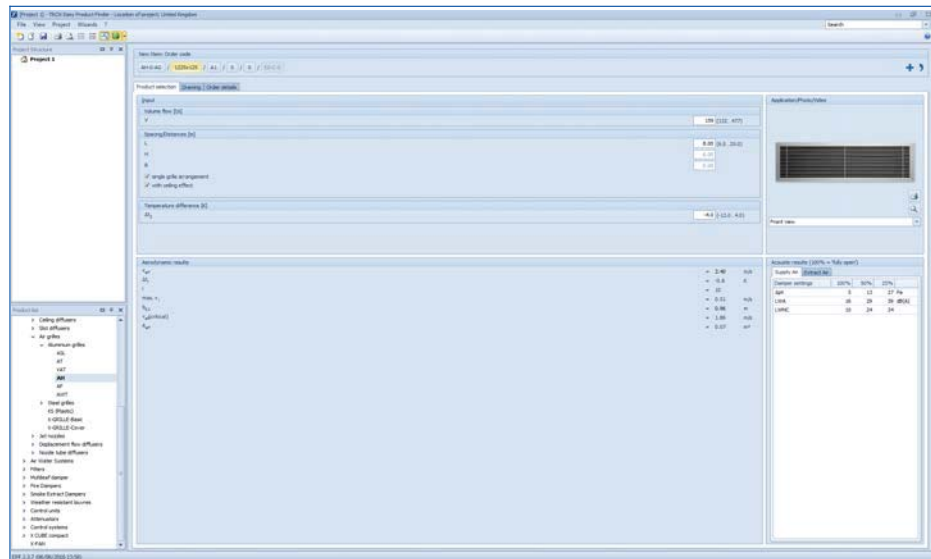
Extract Air Volume			
$\Delta p$ (Pa)	5	10	15
H (mm)	V (l/s/m)		
75	78	111	136
100	113	160	195
150	182	257	315
200	251	355	435
250	320	453	554
300	389	550	674
350	458	648	794
400	527	746	913
450	596	843	1033
500	665	941	1152
550	734	1039	1272
600	803	1136	1392

### Easy Product Finder



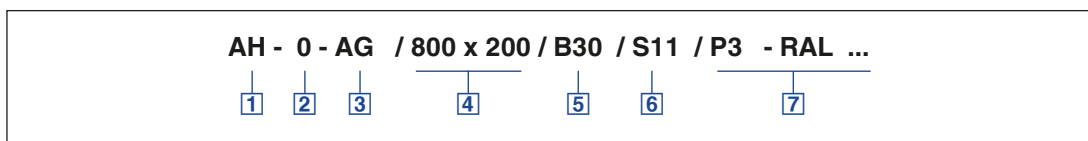
The Easy Product Finder allows you to size products using your project-specific data.

You will find the Easy Product Finder on our website.



Single grille

AH as a single grille



**1** Type

- AH** Single grille (30mm border)
- AHR** Single grille (20mm border)
- AHP** Single grille (Plaster-in border)

**2** Blade construction style

- 0** 0° blades (straight)
- 15** 15° blades (angled)

**3** Attachments

- A** Without (grille face only)
- AG\*** Damper unit, opposed action blades <sup>1)</sup>
- D\*** Air direction control, blades installed at 90° to the front blades <sup>1)</sup>
- DG\*** D combined with AG <sup>1)</sup>

**4** Nominal size [mm]

L × H

**5** Installation subframe <sup>1)</sup>

- 0** No subframe
- B30** 75mm subframe bracket (30mm borders) for finite grille
- B20** 75mm subframe bracket (20mm borders) for finite grille
- L30** 1800mm subframe bracket (30mm borders) for linear grille
- L20** 1800mm subframe bracket (20mm borders) for linear grille

**6** Fixing

- 0** Countersunk holes (30mm border)
- X** Without holes (border drilling by customer) <sup>1)</sup>
- S11** Concealed fixing (In combination with installation subframe) <sup>1)</sup>

**7** Exposed surface

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

<sup>1)</sup> AH, AHR only

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

Order example

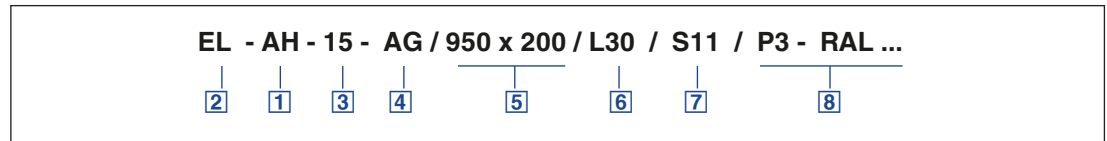
**AH-0-AG/800x200/B30/S11/P3**

<b>Attachments</b>	Damper unit, opposed action blades
<b>Blade construction style</b>	0°
<b>Nominal size</b>	800 × 200 mm
<b>Installation subframe</b>	With installation subframe for 30 mm wide front border
<b>Fixing</b>	Concealed fixing
<b>Exposed surface</b>	Powdercoat, RAL9010:20% (white)



Horizontal run section

AH, horizontal run section



**1** Type

- AH** Horizontal run section (30mm border)
- AHR** Horizontal run section (20mm border)
- AHP** Horizontal run section (Plaster-in border)

**2** Section

- E** End section (0°)
- EL** End section: Left (15°) [blades down]
- ER** End section: Right (15°) [blades down]
- M** Middle section

**3** Blade construction style

- 0** 0° blades (straight)
- 15** 15° blades (angled)

**4** Attachments

- A** Without (grille face only)
- AG\*** Damper unit, opposed action blades <sup>1)</sup>
- D\*** Air direction control, blades installed at 90° to the front blades <sup>1)</sup>
- DG\*** D combined with AG <sup>1)</sup>

**5** Nominal size [mm]

- E (end section) × height H
- M (middle section) × height H

**6** Installation subframe <sup>1)</sup>

- 0** No subframe
- B30** 75mm subframe bracket (30mm borders) for finite grille
- B20** 75mm subframe bracket (20mm borders) for finite grille
- L30** 1800mm subframe bracket (30mm borders) for linear grille
- L20** 1800mm subframe bracket (20mm borders) for linear grille

**7** Fixing

- 0** Countersunk holes (30mm border)
- X** Without holes (border drilling by customer) <sup>1)</sup>
- S11** Concealed fixing (In combination with installation subframe) <sup>1)</sup>

**8** Exposed surface

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

<sup>1)</sup> AH, AHR only

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

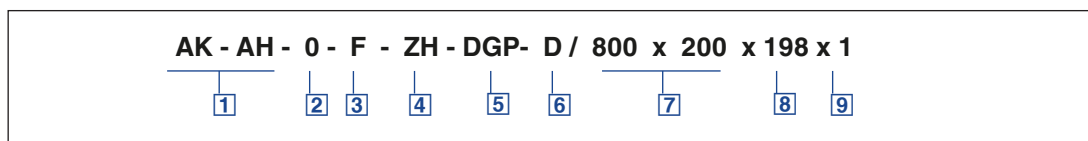
Order example

**EL-AH-15-AG/950x200/B30/S11/P3**

<b>Section</b>	End section: Left (15°) [blades down]
<b>Attachments</b>	Damper unit, opposed action blades
<b>Blade construction style</b>	15°
<b>Nominal size</b>	950 × 200 mm
<b>Installation subframe</b>	With installation subframe for 30 mm wide front border
<b>Fixing</b>	Concealed fixing
<b>Exposed surface</b>	Powdercoat, RAL9010:20% (white)

Plenum box

AK-AH, plenum box



**1** Type

- AK-AH** Plenum box to suit AH grille
- AK-AHR** Plenum box to suit AHR grille
- AK-AHP** Plenum box to suit AHP grille

**2** Grille fixing

- 0** Countersunk holes (30mm border)
- X** Without holes <sup>1)</sup>
- S11** Concealed fixing <sup>1)</sup>

**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 <sup>1)</sup>
- MC** Cord operated spigot damper <sup>1)</sup>
- AGP** Opposed blade VCD (fitted to plenum)
- DP** Deflection blades (fitted to plenum)
- DGP** Opposed blade VCD + deflection blades (fitted to plenum)

<sup>1)</sup> AH, AHR only

**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

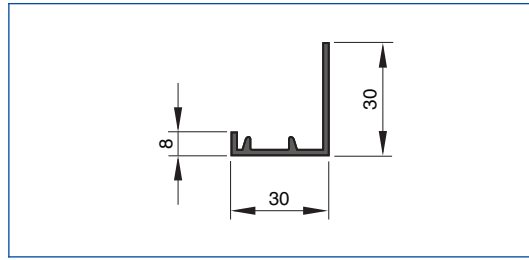
Order example

AK-AH-0-F-ZH-DGP-D/800x200x198x1

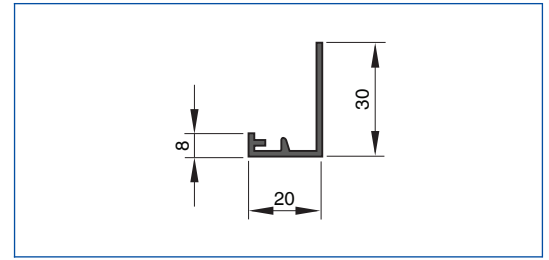
<b>Grille fixing</b>	Counterpunch border
<b>Plenum style</b>	Finite
<b>Connection type</b>	Horizontal (supply air)
<b>Damper type</b>	Opposed blade VCD + deflection blades (fitted to plenum)
<b>Plenum lining</b>	12mm foam lining
<b>Plenum nominal size</b>	800mm x 200mm
<b>Spigot size</b>	Ø198mm
<b>Spigot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

### Front border and blade

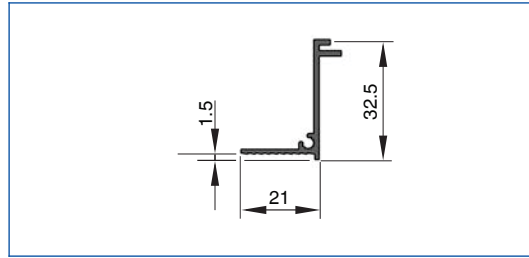
#### Front border AH (30 mm)



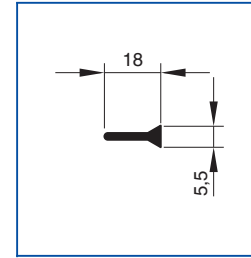
#### Front border AHR (20 mm)



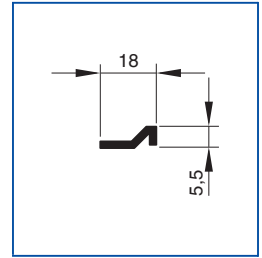
#### Front border AHP



#### Blade \*-0



#### Blade \*-15

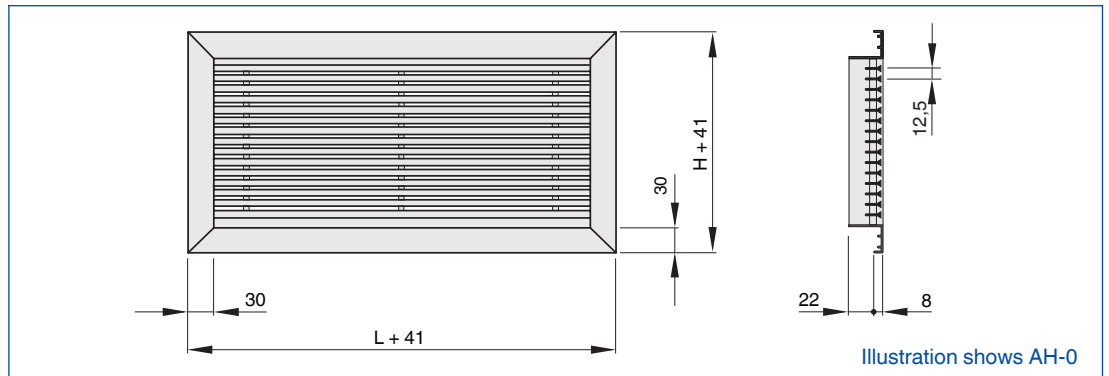


### Single grille

#### AH, 30 mm wide front border

L: Nominal length  
H: Nominal height

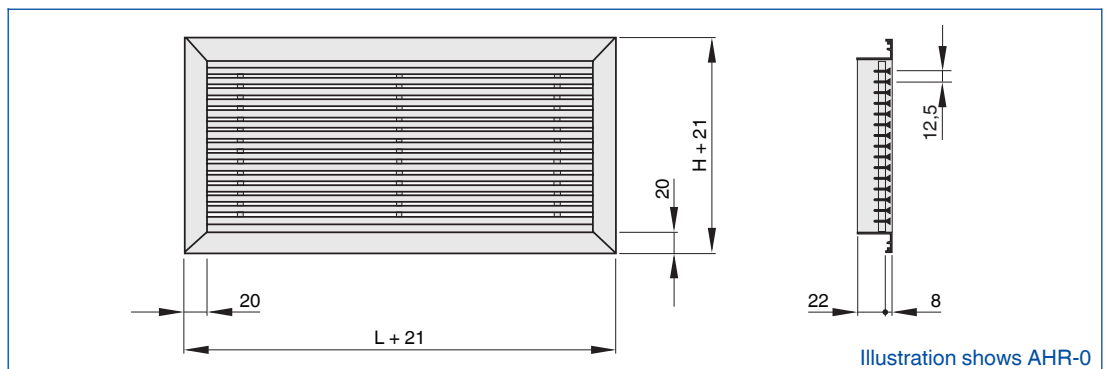
Cut out size;  
Grille fixing ...-0, ...-X  
H / L  
Grille fixing ...-S11  
H + 6 / L + 6



#### AH, 20 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

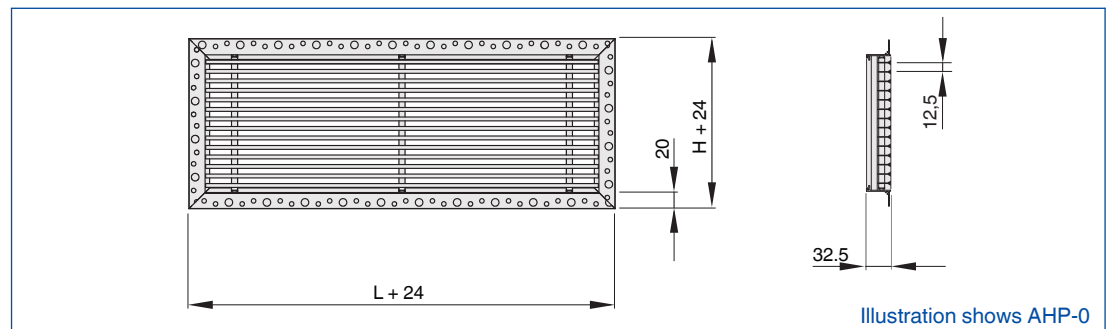


#### AHP, plaster-in front border

L: Nominal length

H: Nominal height

Cut out size;  
H - 4 / L - 4



### Horizontal run section

### AH, 30 mm wide front border, horizontal run section

**E, EL, ER:** End section  
**M:** Middle section  
**H:** Nominal height

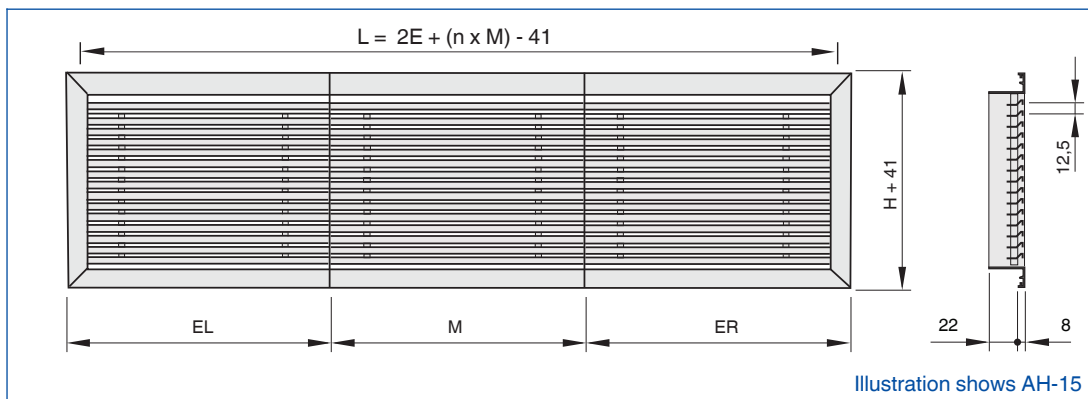
Cut out size;

Grille fixing ...-0, ...-X

H / L

Grille fixing ...-S11

H + 6 / L + 6



### AHR, 20 mm wide front border, horizontal run section

**E, EL, ER:** End section  
**M:** Middle section  
**H:** Nominal height

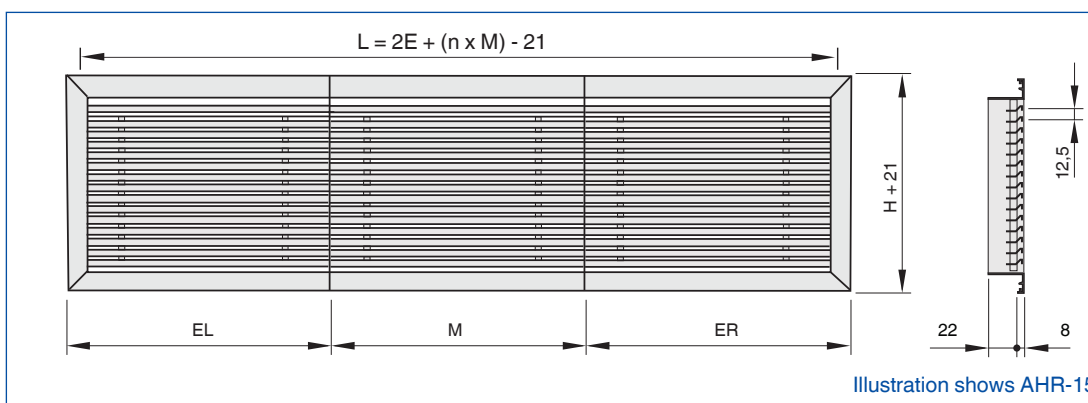
Cut out size;

Grille fixing ...-0, ...-X

H / L

Grille fixing ...-S11

H + 6 / L + 6

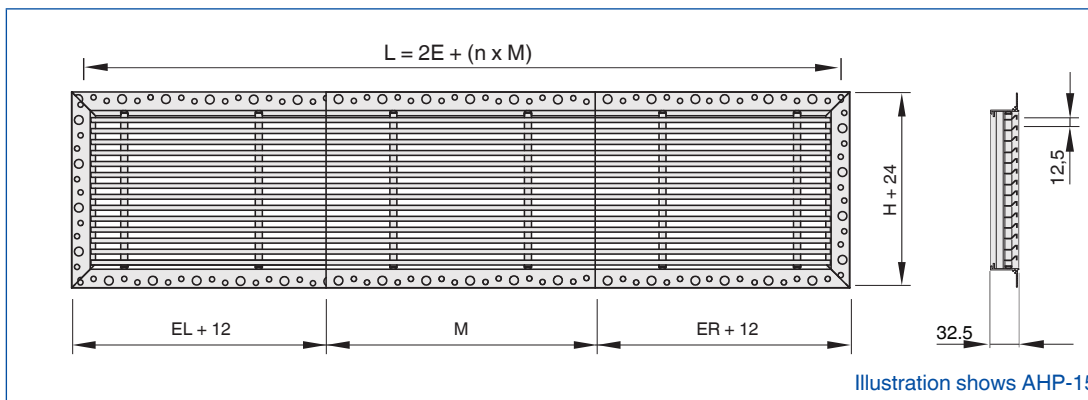


### AHP, Plaster-in front border, horizontal run section

**E, EL, ER:** End section  
**M:** Middle section  
**H:** Nominal height

Cut out size;

H - 4 / L - 4



Middle section  
M: 1800 mm

End section E:  
900 – 1799 mm in  
increments of 1 mm

### Weights

H	Single Grille	Horizontal Run	
		E	M
mm	kg/m	kg	
75	1.3	1.3	2.2
100	1.6	1.5	2.6
150	2.1	2.1	3.5
200	2.7	2.6	4.5
250	3.2	3.2	5.4
300	3.8	3.7	6.3

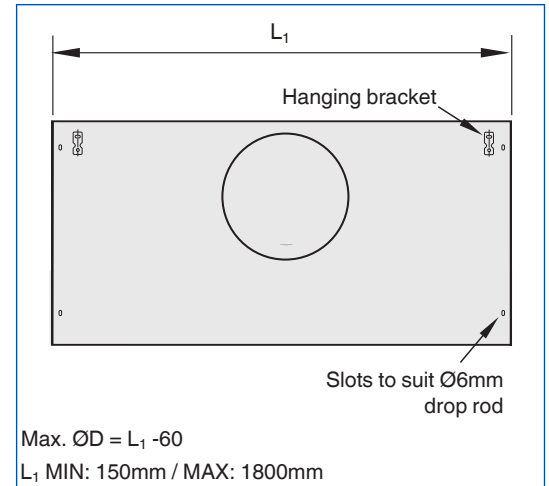
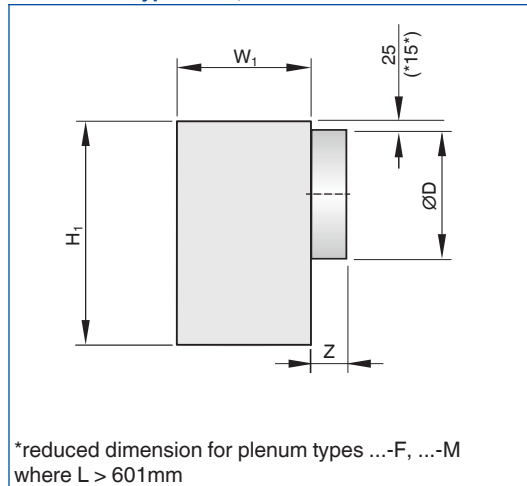
Weights apply to sections without attachments

H	Single Grille	Horizontal Run	
		E	M
mm	kg/m	kg	
350	4.3	4.3	7.3
400	4.9	4.8	8.2
450	5.4	5.3	9.1
500	6.0	5.9	10.0
550	6.5	6.4	11.0
600	7.0	7.0	11.9

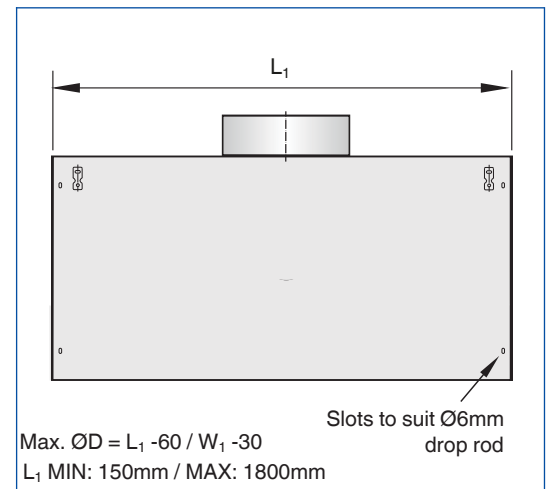
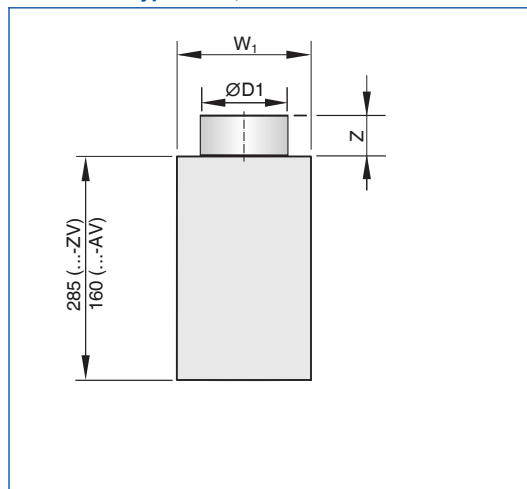
### Plenum Box AK-AH AK-AHR

#### 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

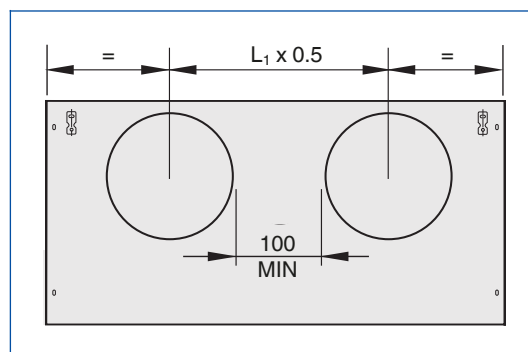
Overall plenum & grille assembled height;  
 $H_1 +$  grille border depth

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



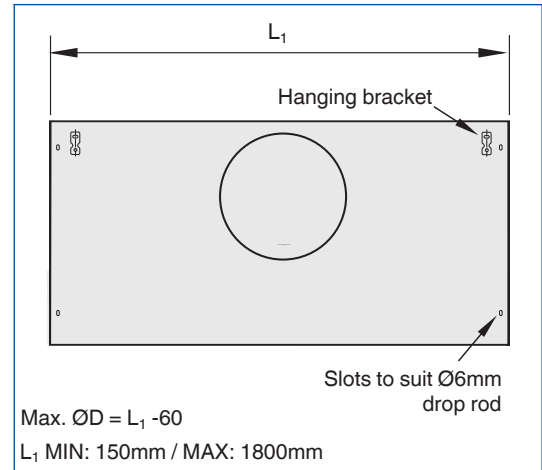
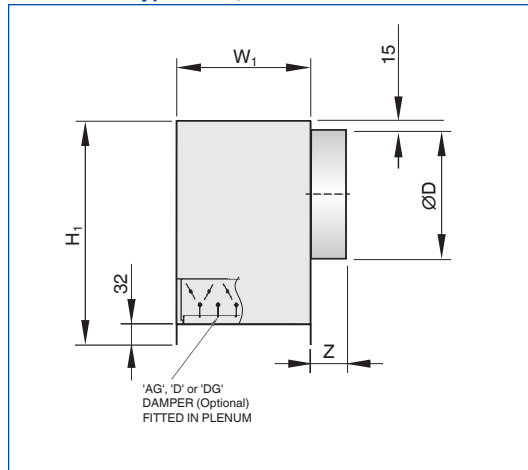
MAX.  $\text{ØD} = [(L_1 - 60) / \text{Spigot qty}] - 100$

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

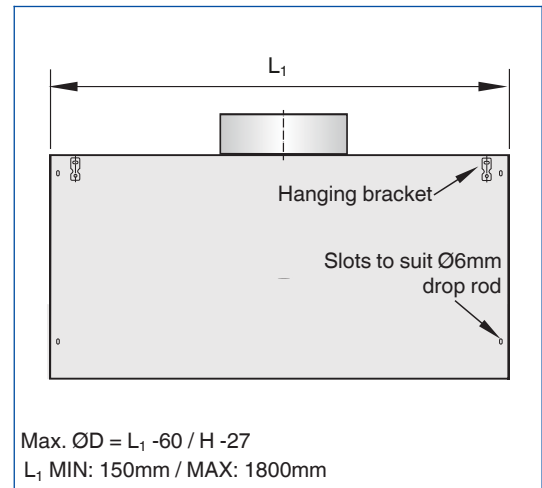
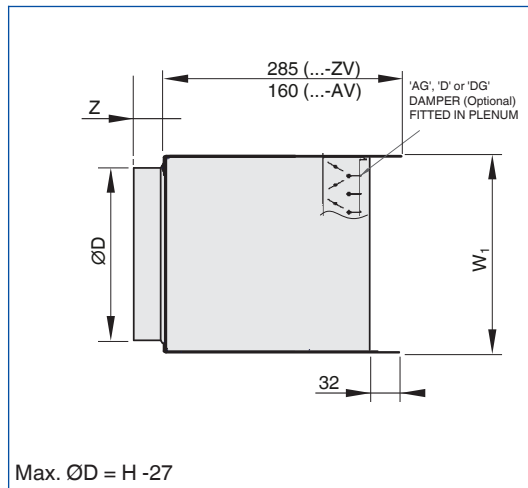
### Plenum box AK-AHP

### Connection type ...-ZH, ...-AH

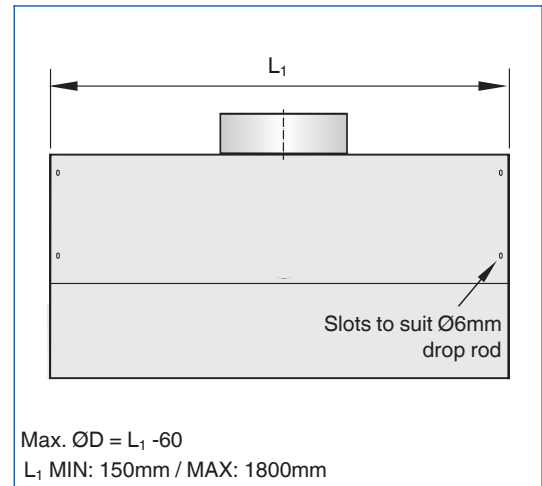
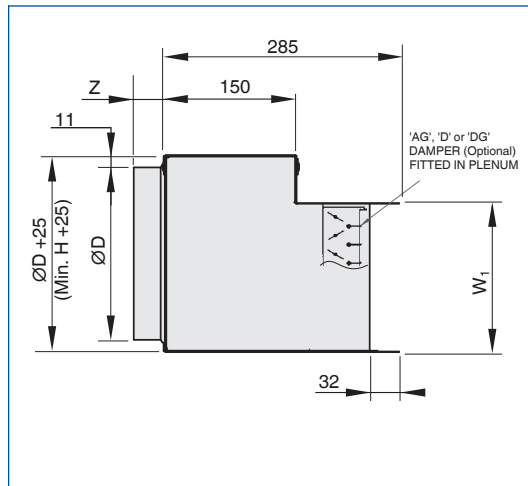
**NOTE;**  
Hanging brackets only supplied where  $L_1 > 300\text{mm}$



### Connection type ...-ZV, ...-AV [ $\text{ØD} < H - 27$ ]



### Connection type ...-ZV, ...-AV [ $\text{ØD} > H - 27$ ]



### Dimensions

$H_1$  dimension excludes grille border

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

Grille Type	Dimensions				
	Plenum Type	$L_1$	$H_1$	$W_1$	Z
AHP	F / M	$L - 5$	$\text{ØD} + 150$	$H - 5$	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)

### 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. Rectangular profile border. Preferably for wall and sill installation but also suitable for rectangular ducts. Ready-to-install component which consists of a border and fixed 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

- Fixed blades
- Front border in two widths
- Concealed or countersunk holes
- Also for continuous horizontal runs
- 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: 300 × 75 to 1800 × 600 mm
- Horizontal run section, height: 75 – 300 mm
- Minimum volume flow rate (supply air): 17 – 1085 l/s or 61 – 3906 m<sup>3</sup>/h
- Maximum volume flow rate (supply air), at L<sub>WA</sub> max. 40 dB(A) without attachments: 75 – 2500 l/s or 270 – 9000 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

- AH** Single grille (30mm border)
- AHR** Single grille (20mm border)
- AHP** Single grille (plaster in border)

#### 2 Blade construction style

- 0** 0° blades (straight)
- 15** 15° blades (angled)

#### 3 Attachments

- A** Without (grille face only)
- AG\*** Damper unit, opposed action blades <sup>1)</sup>
- D\*** Air direction control, blades installed at 90° to the front blades <sup>1)</sup>
- DG\*** D combined with AG <sup>1)</sup>

#### 4 Nominal size [mm]

L × H

#### 5 Installation subframe <sup>1)</sup>

- 0** No subframe
- B30** 75mm subframe bracket (30mm borders) for finite grille
- B20** 75mm subframe bracket (20mm borders) for finite grille
- L30** 1800mm subframe bracket (30mm borders) for linear grille
- L20** 1800mm subframe bracket (20mm borders) for linear grille

#### 6 Fixing

- 0** Countersunk holes (30mm border)
- X** Without holes (border drilling by customer) <sup>1)</sup>
- S11** Concealed fixing (In combination with installation subframe) <sup>1)</sup>

#### 7 Exposed surface

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

<sup>1)</sup> AH, AHR only

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

### Horizontal run section

#### 1 Type

- AH** Horizontal run section (30mm border)
- AHR** Horizontal run section (20mm border)
- AHP** Horizontal run section (plaster-in border)

#### 2 Section

- E** End section (0°)
- EL** End section: Left (15°) [blades down]
- ER** End section: Right (15°) [blades down]
- M** Middle section

#### 3 Blade construction style

- 0** 0° blades (straight)
- 15** 15° blades (angled)

#### 4 Attachments

- A** Without (grille face only)
- AG\*** Damper unit, opposed action blades <sup>1)</sup>
- D\*** Air direction control, blades installed at 90° to the front blades <sup>1)</sup>
- DG\*** D combined with AG <sup>1)</sup>

#### 5 Nominal size [mm]

- E (end section) × height H
- M (middle section) × height H

<sup>1)</sup> AH, AHR only

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

#### 6 Installation subframe <sup>1)</sup>

- 0** No subframe
- B30** 75mm subframe bracket (30mm borders) for finite grille
- B20** 75mm subframe bracket (20mm borders) for finite grille
- L30** 1800mm subframe bracket (30mm borders) for linear grille
- L20** 1800mm subframe bracket (20mm borders) for linear grille

#### 7 Fixing

- 0** Countersunk holes (30mm border)
- X** Without holes (border drilling by customer) <sup>1)</sup>
- S11** Concealed fixing (In combination with installation subframe) <sup>1)</sup>

#### 8 Exposed surface

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

### Plenum box

#### 1 Type

- AK-AH** Plenum box to suit AH grille
- AK-AHR** Plenum box to suit AHR grille
- AK-AHP** Plenum box to suit AHP grille

#### 2 Grille fixing

- 0** Countersunk holes (30mm border)
- X** Without holes <sup>1)</sup>
- S11** Concealed fixing <sup>1)</sup>

#### 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 <sup>1)</sup>
- MC** Cord operated spigot damper <sup>1)</sup>
- AGP** Opposed blade VCD (fitted to plenum)
- DP** Deflection blades (fitted to plenum)
- DGP** Opposed blade VCD + deflection blades (fitted to plenum)

<sup>1)</sup> AH, AHR only

#### 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\*

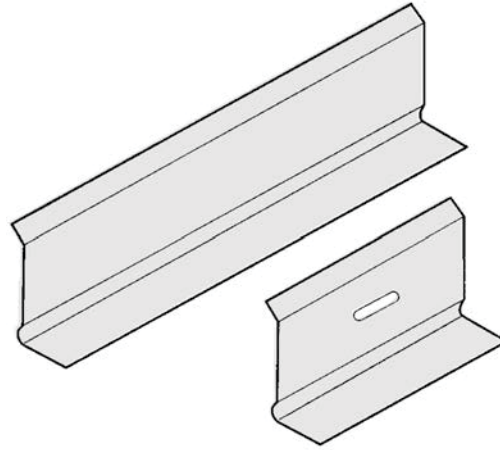
#### 9 Spigot quantity

Qty 1...4



# Accessories

## Installation Subframe



### **Installation subframes, made of galvanized 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 galvanized steel
- Individual frame sections or linear sections for site cutting

Type		Page
-B20, B30, L20, L30	General information	AH – 18
	Installation details	AH – 20

**Description**

**Application**

- For the installation of ventilation grilles in walls and sills
- Simplified installation
- The 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**

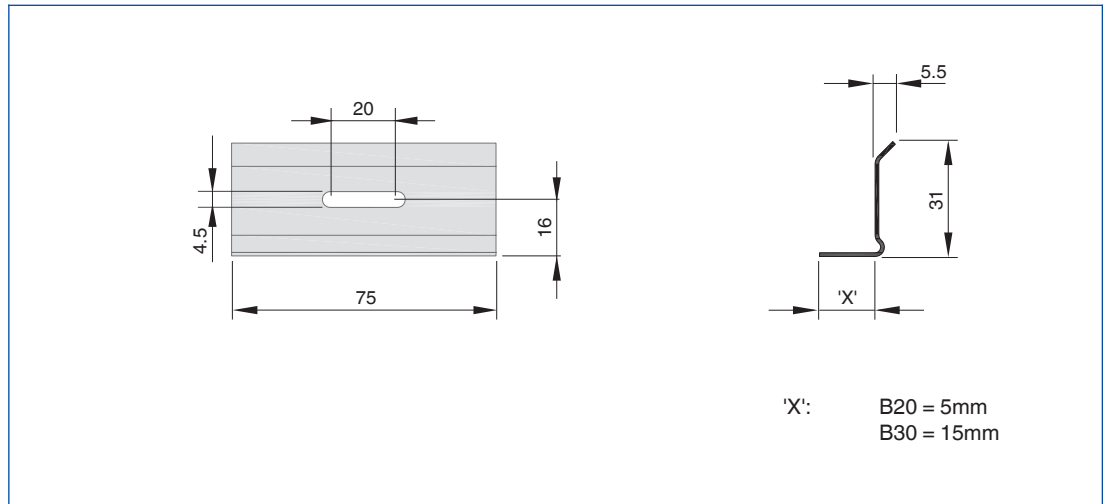
- Installation subframe consisting of angle sections

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

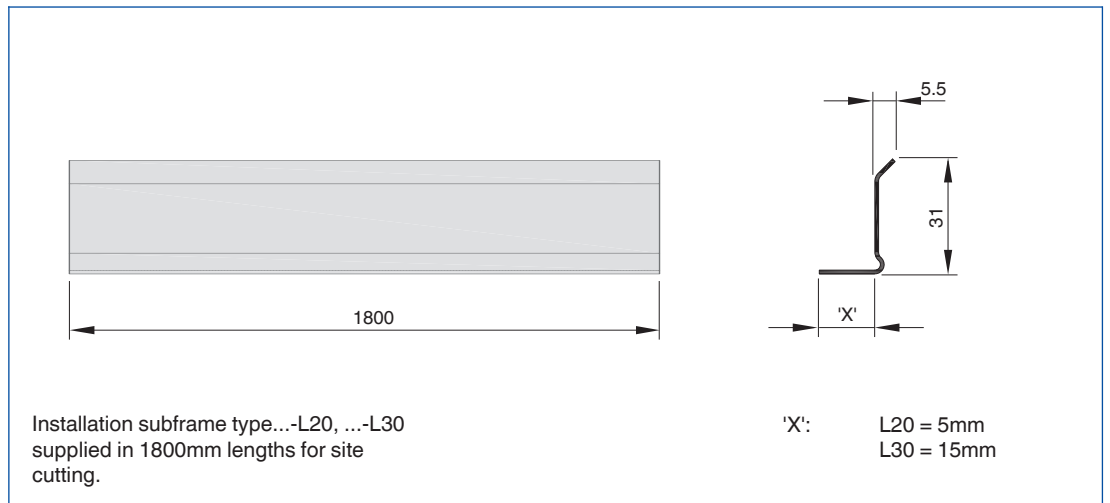
**Installation subframe for ventilation grilles**

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

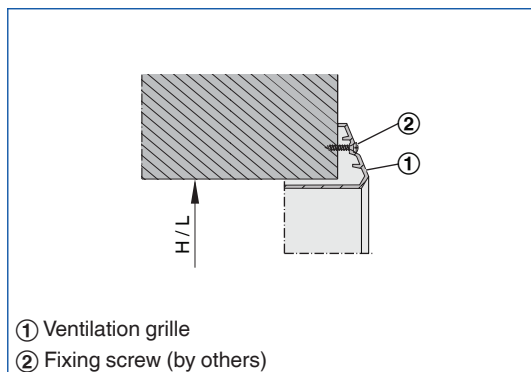
- The installation subframe consists of individual sections (...-B20, ...-B30)
- Fixing holes are provided for fixing the frame with screws to different wall structures

Horizontal run sections

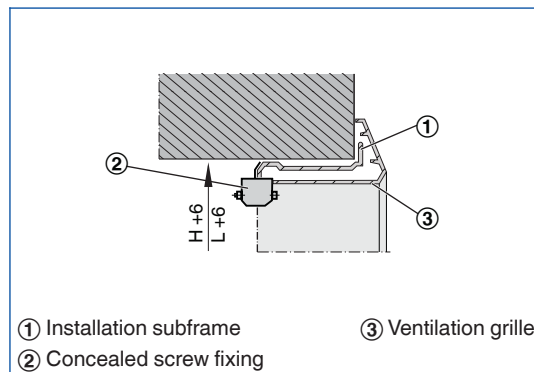
- The installation subframe consists of linear (1800mm) sections (...-L20, ...-L30) for site cutting as necessary
- Subframe can be installed as linear sections or cut down to suit site installation requirements.

**Fixing of ventilation grilles**

**Ventilation grille with screw fixing**

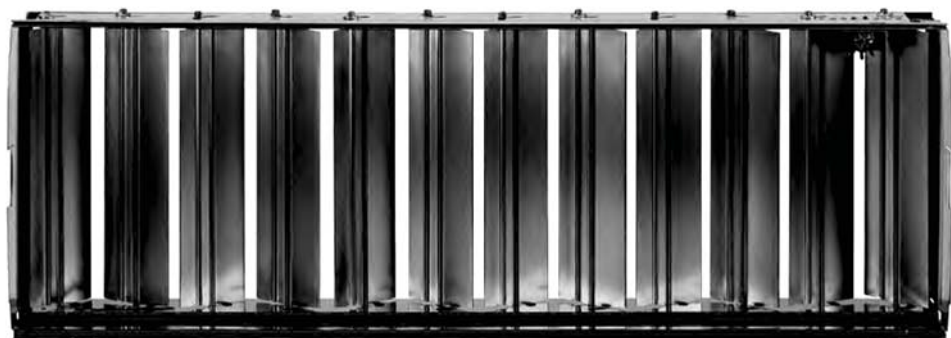


**Ventilation grille with concealed screw fixing**



# Attachments

## Types -AG, -D, -DG



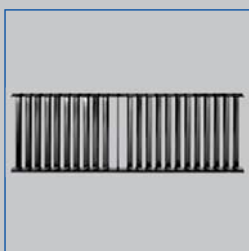
**Attachments for ventilation grilles, made of sheet steel, for volume flow rate balancing and air direction control**

Attachments with manually adjustable blades

- Volume flow rate balancing
- Air direction control



DG



D



AG

Type		Page
-AG, -D, -DG	General information	AH – 22
	Special information – -AG	AH – 23
	Special information – -D	AH – 25
	Special information – -DG	AH – 27

## 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
Installation into walls, sills or rectangular ducts			
AT	●	●	●
VAT	●	●	●
AH	●	●	●
AHR	●	●	●
WAP	●	●	●
WAPR	●	●	●
AF	●	●	●
AFW	●	●	●
AFH	●	●	●

**Description**



AG

- AG /

Order code detail

**Application**

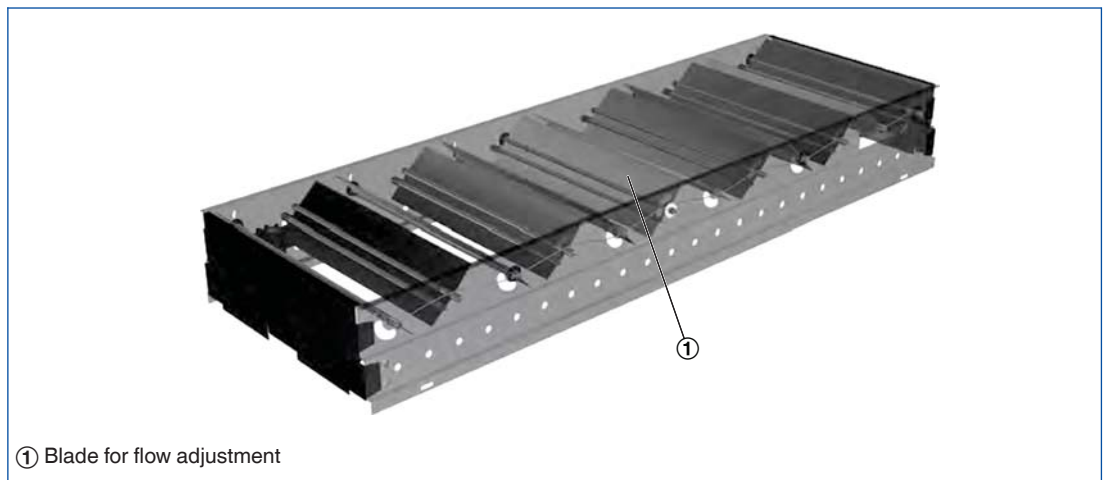
- For volume flow rate balancing
- Damper units simplify the volume flow rate balancing required for commissioning, for supply air and extract air
- Ventilation grille need not be removed for adjustment

**Parts and characteristics**

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

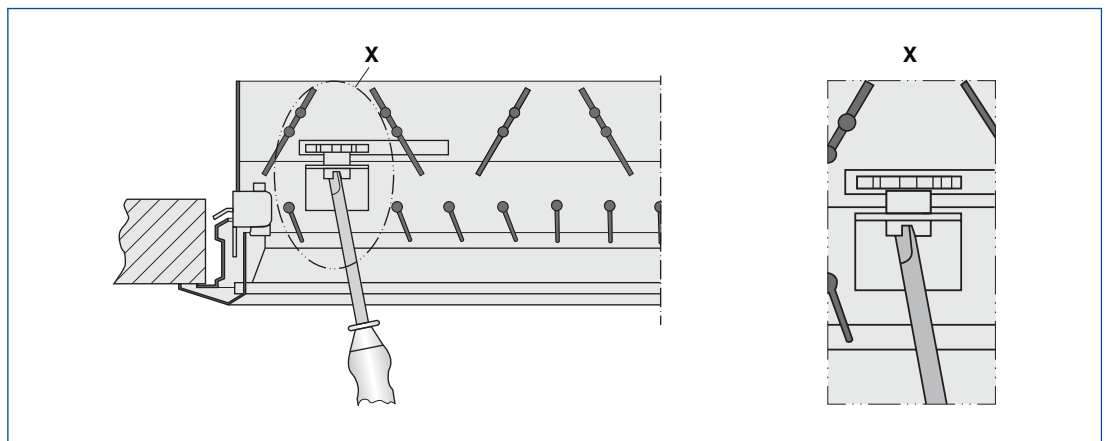
**Function**

**Schematic illustration of -AG**



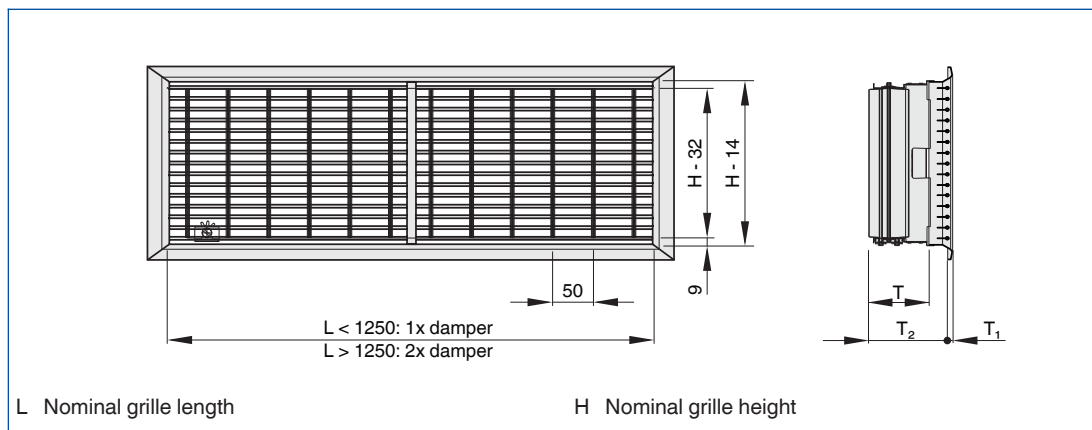
**Commissioning**

**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



Order code detail

**Application**

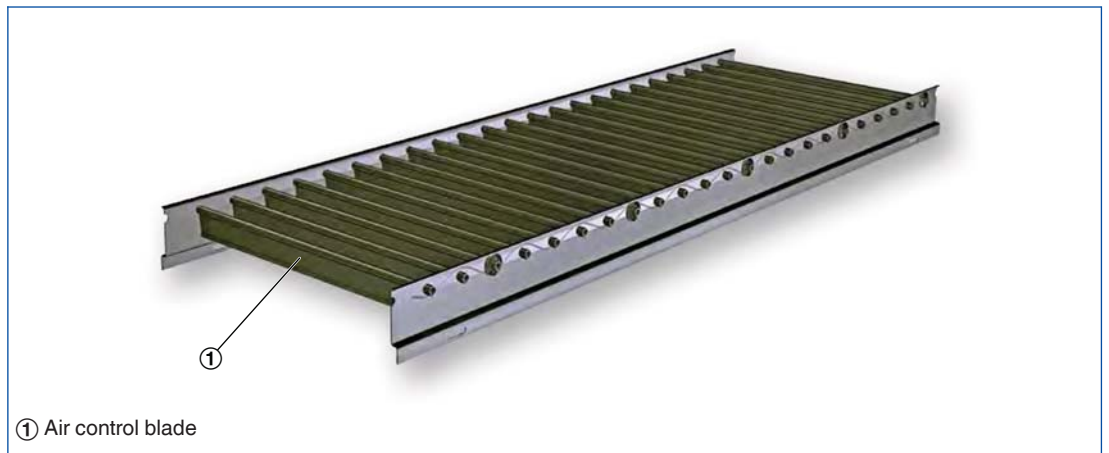
- For air direction control, for supply air
- Air control blades, which are fitted at 90° to the front blades, allow for other airflow directions
- Ventilation grille need not be removed for adjustment

**Parts and characteristics**

- Individually adjustable blades

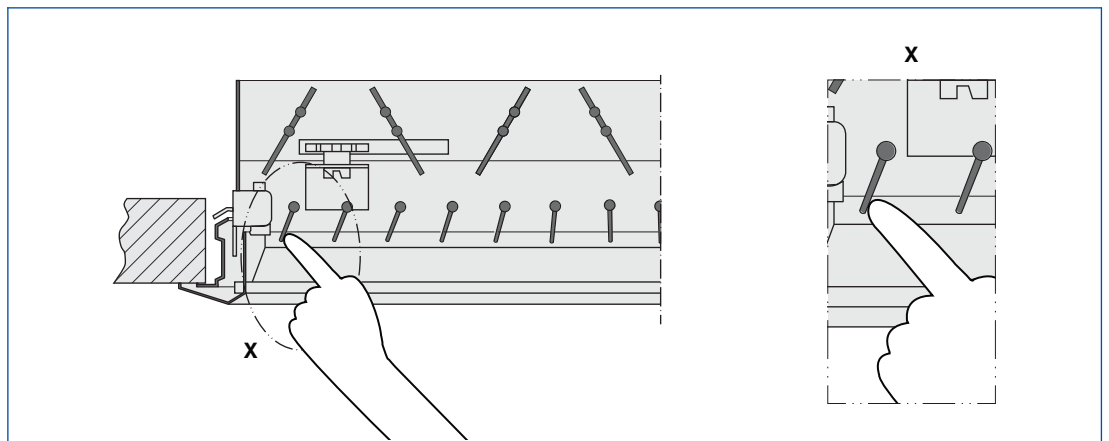
**Function**

**Schematic illustration of -D**



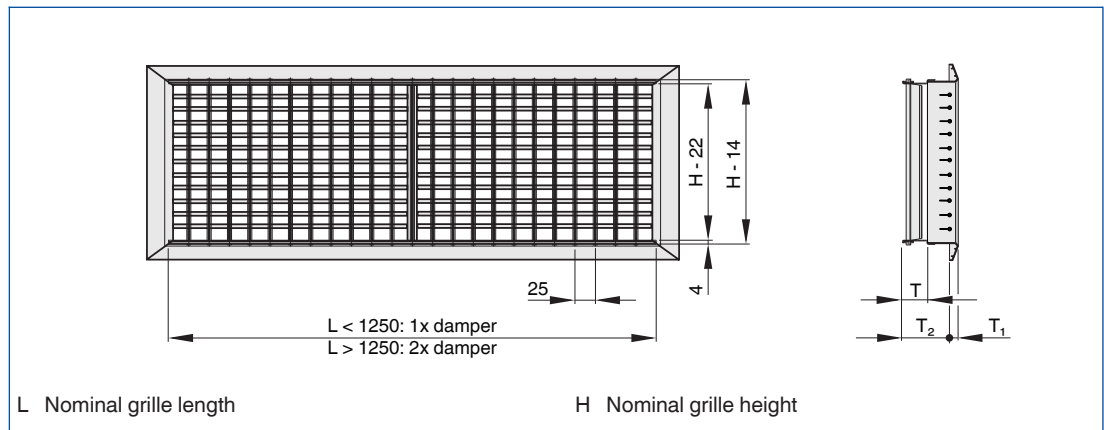
**Commissioning**

**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

**Description**



DG

**- DG /**

Order code detail

**Application**

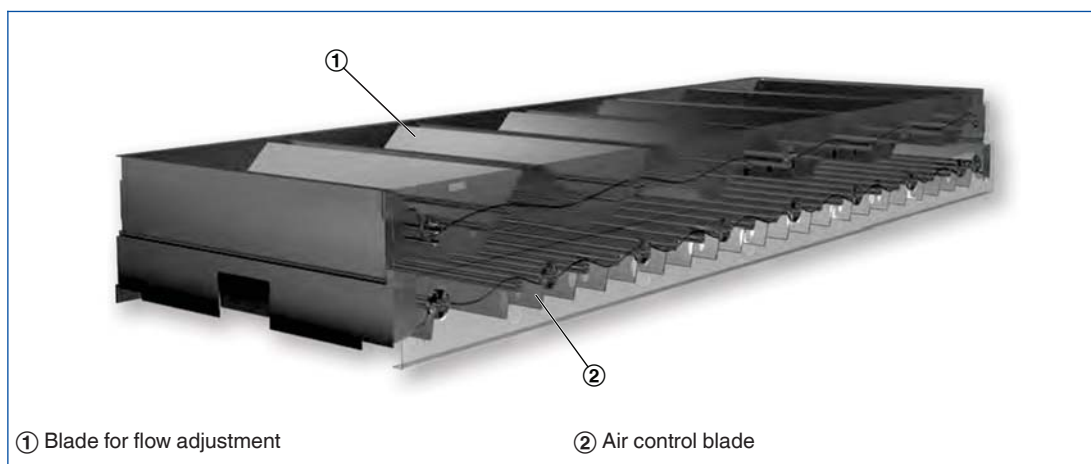
- For volume flow rate balancing and additionally for air direction control, for supply air
- Damper units simplify the volume flow rate balancing required for commissioning
- Air control blades, which are fitted at 90° to the front blades, allow for other airflow directions
- Ventilation grille need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

**Parts and characteristics**

- Volume flow rate balancing: opposed action blades
- Air direction control: adjustable air control blades
- Can be adjusted and set with screws

**Function**

**Schematic illustration pf -DG**

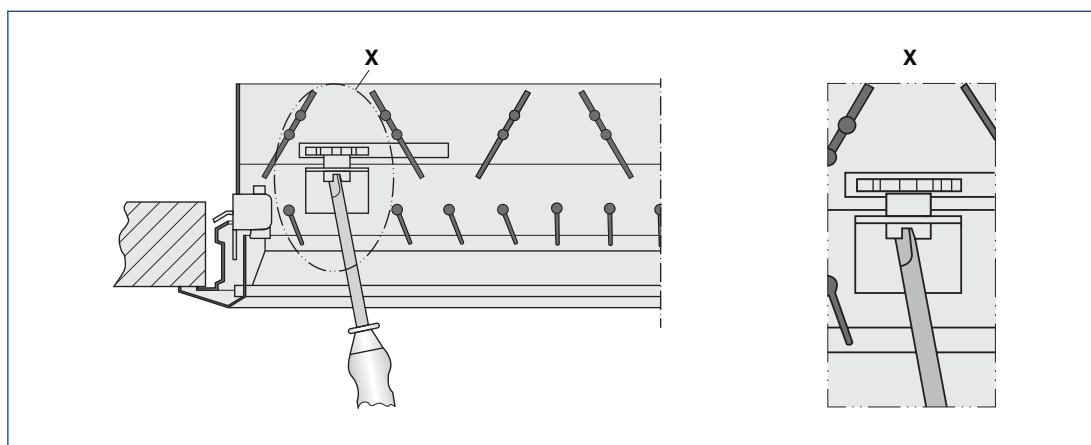


① Blade for flow adjustment

② Air control blade

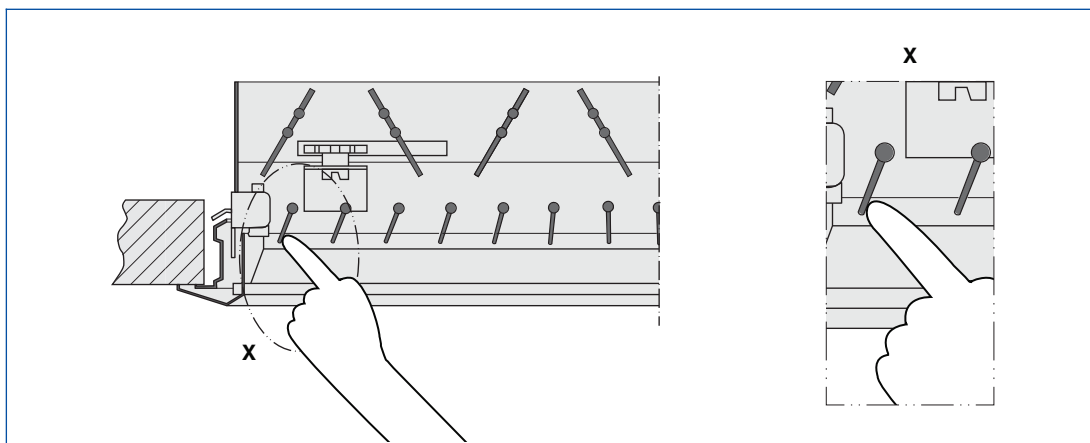
**Commissioning**

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



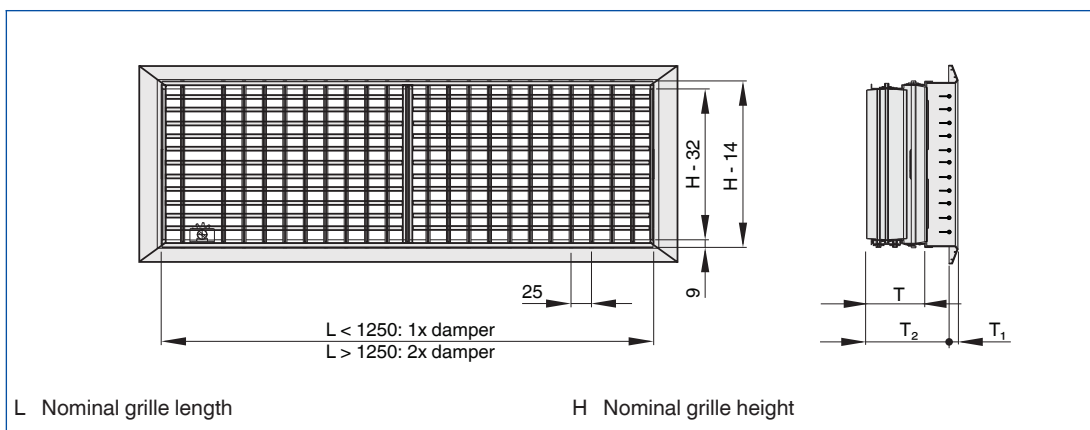
Attachments -AG, -DG

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