

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



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 23 - 3353 l/s or 83 - 12070 m³/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

- Grilles 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)

Type		Page
WAP	General information	WAP - 2
	Basic information & nomenclature	WAP - 4
	Quick sizing	WAP - 6
	Order code	WAP - 8
	Dimensions and weight	WAP - 11
	Specification text	WAP - 15

Installation example

Wall installation



Description

Application

- Ventilation grille of Type WAP 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

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

Front border

- WAP: 30 mm wide
- WAPR: 20 mm wide
- WAPP-V2: Plaster-in border

Fixing

- Countersunk holes (WAP 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)
- WAPP-V2 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)
- WAPP 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
(WAPP-V2: 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 surfaces

- Border and blades made of aluminium
- P3: Border and blades powder-coated, RAL9010:20%
- P6: Powder-coated RAL CLASSIC colour. Gloss level: 30%

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

Nominal sizes	300 × 75 to 1800 × 600 mm
Horizontal run section	H: 75 mm up to 300 mm
Minimum volume flow rate	23 – 1500 l/s or 83 – 5400 m ³ /h
Maximum volume flow rate, with L_{WA} max. 40 dB(A) without attachments	102 – 3353 l/s or 368 – 12070 m ³ /h
Supply air to room air temperature difference	–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 _{eff} m ²							
75	0.011	0.015	0.019	0.023	0.027	0.031	0.035	0.038
100	0.016	0.022	0.028	0.033	0.039	0.045	0.051	0.056
150	0.027	0.036	0.045	0.054	0.064	0.073	0.082	0.092
200	0.037	0.050	0.063	0.075	0.088	0.101	0.114	0.127
250	0.047	0.063	0.080	0.096	0.113	0.130	0.146	0.163
300	0.057	0.077	0.097	0.117	0.138	0.158	0.178	0.198
350	0.049	0.091	0.115	0.138	0.162	0.186	0.210	0.234
400	0.067	0.105	0.132	0.160	0.187	0.214	0.242	0.269
450	0.087	0.118	0.149	0.181	0.212	0.243	0.274	0.305
500	0.097	0.132	0.167	0.202	0.236	0.271	0.306	0.340
550	0.107	0.146	0.184	0.223	0.261	0.299	0.338	0.376
600	0.118	0.160	0.202	0.244	0.286	0.327	0.369	0.411

H	L [mm]							
	1100	1200	1300	1400	1500	1600	1700	1800
mm	A _{eff} m ²							
75	0.042	0.046	0.050	0.054	0.058	0.062	0.065	0.069
100	0.062	0.068	0.073	0.079	0.085	0.090	0.096	0.102
150	0.101	0.110	0.120	0.129	0.138	0.148	0.157	0.166
200	0.140	0.153	0.166	0.179	0.192	0.205	0.218	0.231
250	0.179	0.196	0.212	0.229	0.246	0.262	0.279	0.295
300	0.218	0.239	0.259	0.279	0.299	0.320	0.340	0.360
350	0.258	0.281	0.305	0.329	0.353	0.377	0.401	0.424
400	0.297	0.324	0.352	0.379	0.407	0.434	0.462	0.489
450	0.336	0.367	0.398	0.429	0.460	0.491	0.523	0.554
500	0.375	0.410	0.445	0.479	0.514	0.549	0.583	0.618
550	0.414	0.453	0.491	0.529	0.568	0.606	0.644	0.683
600	0.453	0.495	0.537	0.579	0.621	0.663	0.705	0.747

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} [m³/h] and [l/s]

Volume flow rate

l_s [m]

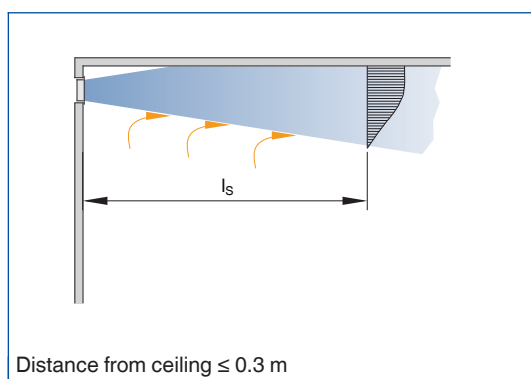
Distance from single grille or horizontal run section (throw distance)

Δp_t [Pa]

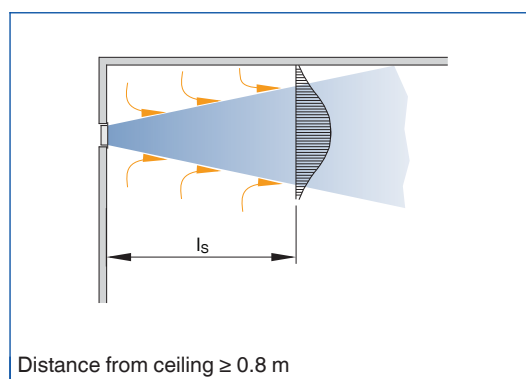
Total differential pressure

Air pattern

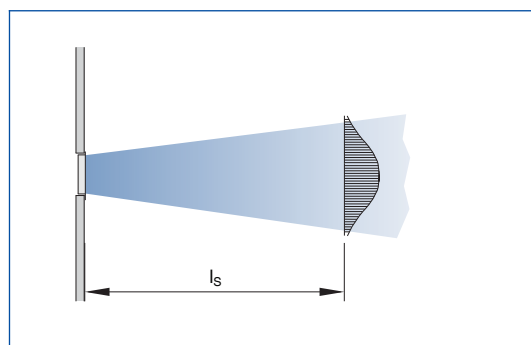
Air pattern with ceiling effect, sectional view



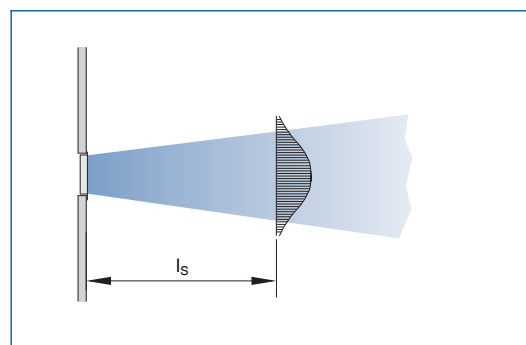
Air pattern without ceiling effect, sectional view



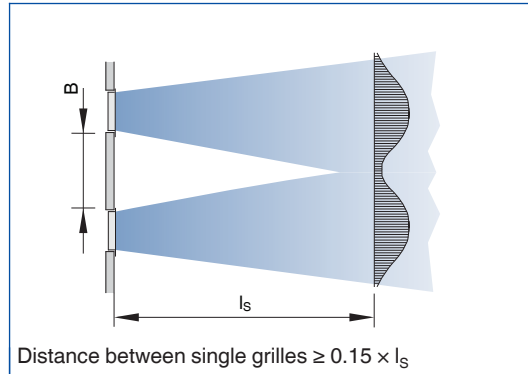
Air pattern with ceiling effect, top view



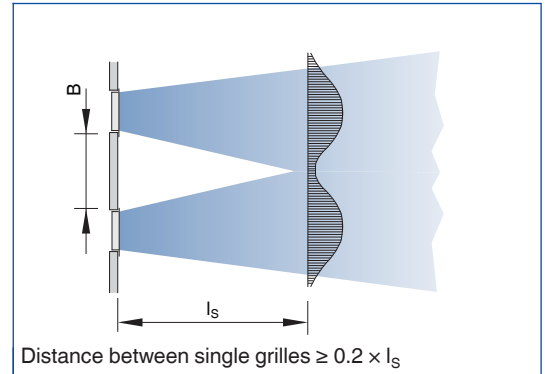
Air pattern without ceiling effect, top view



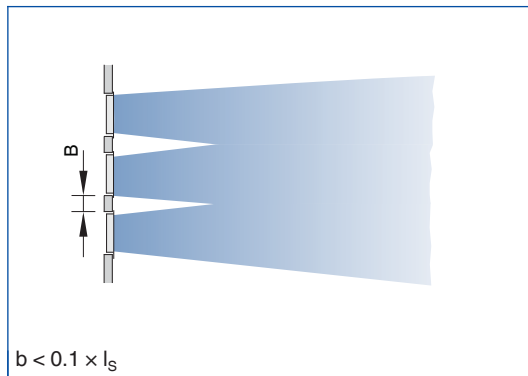
Air pattern with ceiling effect, group of grilles, top view



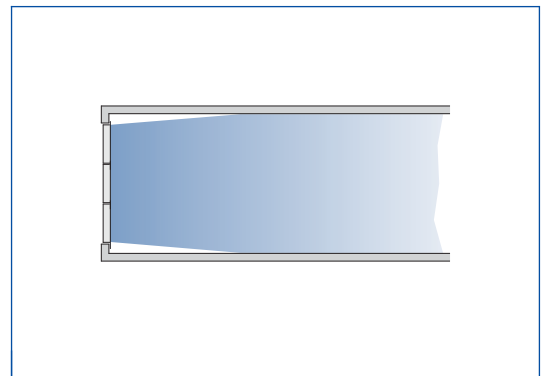
Air pattern without ceiling effect, group of grilles, top view



Air pattern, group of grilles, top view

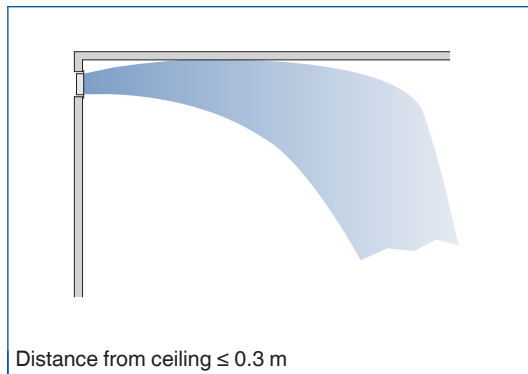


Air pattern, continuous horizontal run, top view

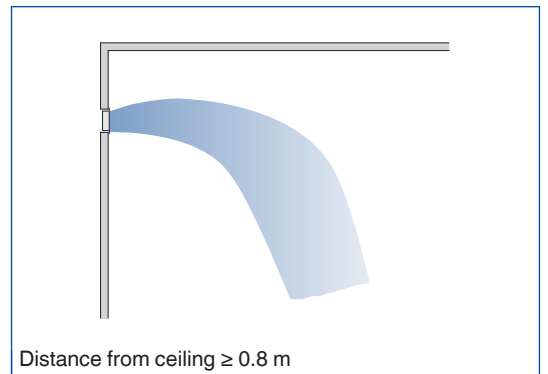


Several single grilles arranged in a row and with not much distance between them have the same effect as a continuous horizontal run.

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_s] provided in metres to a maximum time average velocity [V_L] 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_s] provided to a maximum time average air velocity [V_L] of 0.7m/s without rear deflection blades.

Supply air

Flow rate and throw distance														
V (l/s/m)	85	100	125	150	175	200	225	250	275	300	350	400	450	500
H (mm)	I _s (m)													
75	4.1	4.8	6.0	7.2										
100			5.0	5.9	6.9	7.9	8.9							
150						6.2	7.0	7.7	8.5	9.3	10.8			
200									7.2	7.9	9.2	10.5	11.8	13.1
250											8.1	9.3	10.4	11.6
300													9.5	10.5
350														9.7

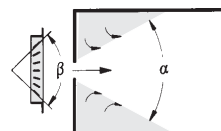
Flow rate and throw distance														
V (l/s/m)	550	600	650	700	750	800	850	900	950	1000	1100	1200	1300	1400
H (mm)	I _s (m)													
250	12.8	13.9	15.1											
300	11.6	12.6	13.7	14.7	15.8	16.8								
350	10.7	11.6	12.6	13.6	14.5	15.5	16.5	17.5	18.4					
400	9.9	10.8	11.7	12.6	13.6	14.5	15.4	16.3	17.2	18.1	19.9			
450			11.0	11.9	12.7	13.6	14.4	15.3	16.1	17.0	18.7	20.4		
500				11.3	12.1	12.9	13.7	14.5	15.3	16.1	17.7	19.3	20.9	
550						12.2	13.0	13.8	14.5	15.3	16.8	18.4	19.9	21.4
600							12.4	13.2	13.9	14.6	16.1	17.5	19.0	20.5

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 _i]	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 _s	x 0.7	x 0.5
Δt _L / Δt _Z	x 0.7	x 0.5
With ceiling effect B ≧	L _S x 0.2	L _S x 0.3
Without ceiling effect B ≧	L _S x 0.25	L _S x 0.3



Velocity correction

Velocity correction		
Maximum time average velocity	0.5 m/s	0.25 m/s
I _s	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.

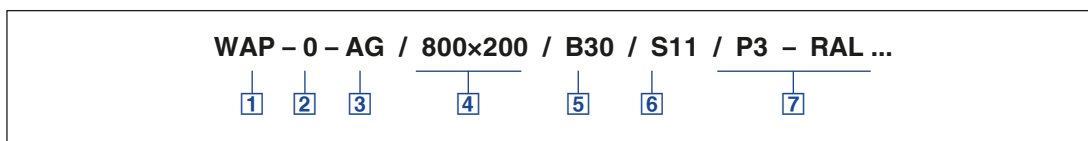
Maximum sound power level of the air-regenerated noise of 40 dB(A) with an open damper unit (unrestricted airflow)

Extract Air

Extract Air Volume			
Δpt (Pa)	5	10	15
H (mm)	V (l/s/m)		
75	108	153	188
100	156	220	270
150	251	355	435
200	346	490	600
250	442	625	-
300	537	759	-
350	632	894	-
400	727	1029	-
450	823	1164	-
500	918	1299	-
550	1013	1433	-
600	1109	1568	-

Single grille

WAP as a single grille



1 Type

- WAP** Single grille (30mm border)
- WAPR** Single grille (20mm border)
- WAPP-V2** 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 ¹⁾
- D** Air direction control, blades installed at 90° to the front blades ¹⁾
- DG** D combined with AG ¹⁾

4 Nominal size [mm]

L × H

5 Installation subframe ¹⁾

- 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) ¹⁾
- S11** Concealed fixing (In combination with installation subframe) ¹⁾

7 Exposed surface

- P3** RAL 9010:20%
- P6** Powder-coated RAL CLASSIC colour. Gloss level: 30%

¹⁾ WAP, WAPR only

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

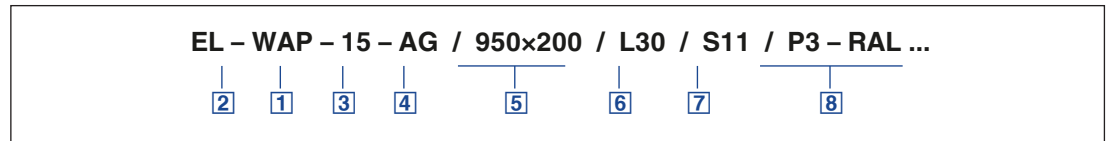
Order example

WAP-0-AG/800×200/B30/S11/P3

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

Horizontal run section

WAP, horizontal run section



1 Type

- WAP** Horizontal run section (30mm border)
- WAPR** Horizontal run section (20mm border)
- WAPP-V2** Horizontal run section (Plaster-in border)

2 Section

- E** End section (0°)¹⁾
- 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 ¹⁾
- D** Air direction control, blades installed at 90° to the front blades ¹⁾
- DG** D combined with AG ¹⁾

5 Nominal size [mm]

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

6 Installation subframe ¹⁾

- 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) ¹⁾
- S11** Concealed fixing (In combination with installation subframe) ¹⁾

8 Exposed surface

- P3** RAL 9010:20%
- P6** Powder-coated RAL CLASSIC colour. Gloss level: 30%

¹⁾ WAP, WAPR only

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

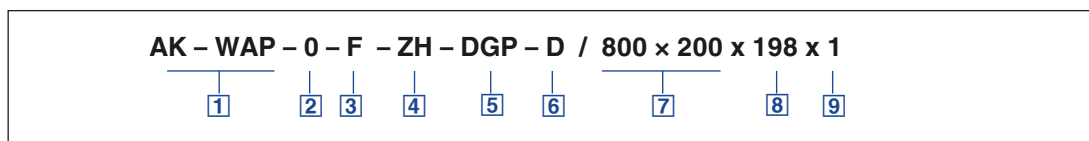
Order example

EL-WAP-15-AG/950x200/B30/S11/P3

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

Plenum box

AK-WAP, plenum box



1 Type

- AK-WAP** Plenum box to suit WAP grille
- AK-WAPR** Plenum box to suit WAPR grille
- AK-P** Plenum box to suit WAPP grille

2 Grille fixing

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

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)

¹⁾ WAP, WAPR 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

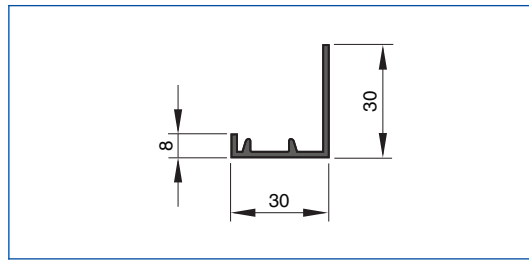
Order example

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

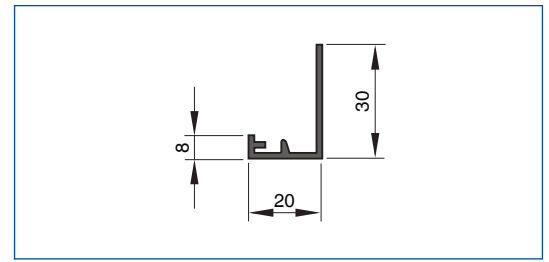
Grille fixing	Counterpunch border
Plenum style	Finite
Connection type	Horizontal (supply air)
Damper type	Opposed blade VCD + deflection blades (fitted to plenum)
Plenum lining	12mm foam lining
Plenum nominal size	800mm x 200mm
Spigot size	Ø198mm
Spigot quantity	1

Front border and blade

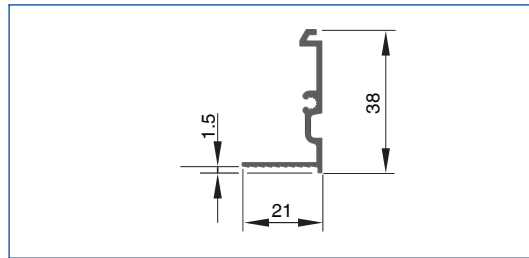
Front border WAP (30 mm)



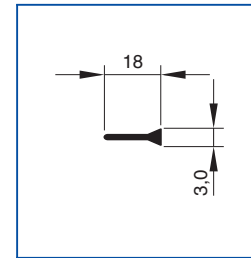
Front border WAPR (20 mm)



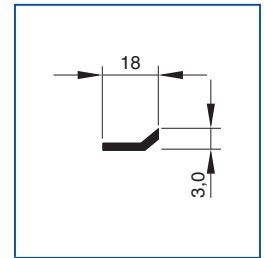
Front border WAPP-V2



Blade *-0



Blade *-15

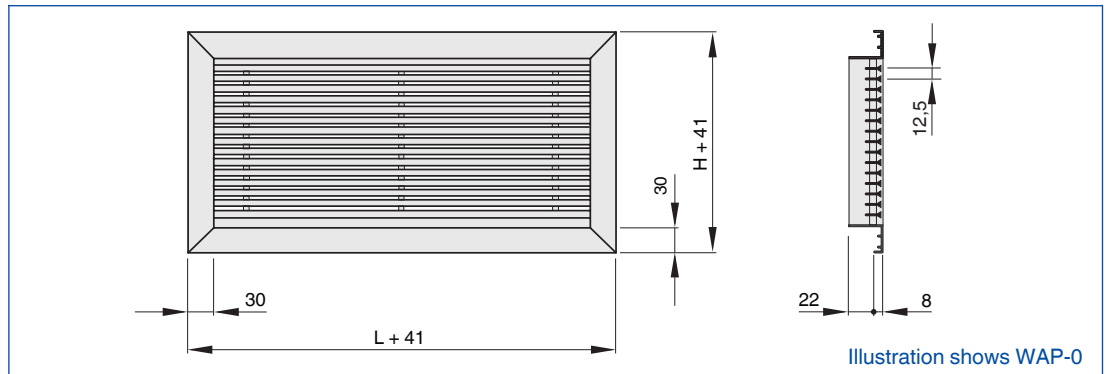


Single grille

WAP, 30 mm wide front border

L: Nominal length
H: Nominal height

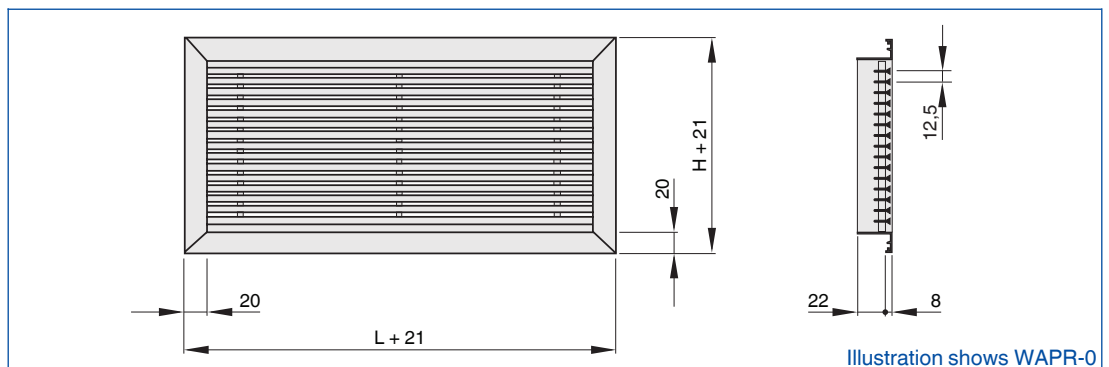
Cut out size;
Grille fixing ...-0, ...-X
H / L
Grille fixing ...-S11
H + 6 / L + 6



WAPR, 20 mm wide front border

L: Nominal length
H: Nominal height

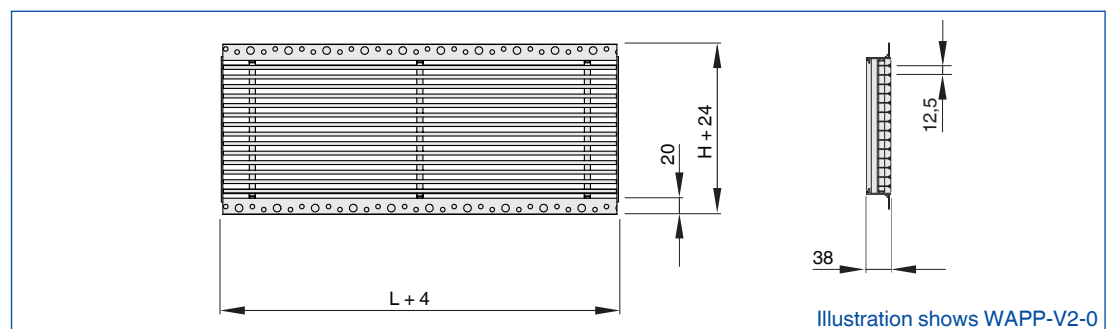
Cut out size;
Grille fixing ...-0, ...-X
H / L
Grille fixing ...-S11
H + 6 / L + 6



WAPP-V2, Plaster-in front border

L: Nominal length
H: Nominal height

Cut out size;
H - 2 / L + 6

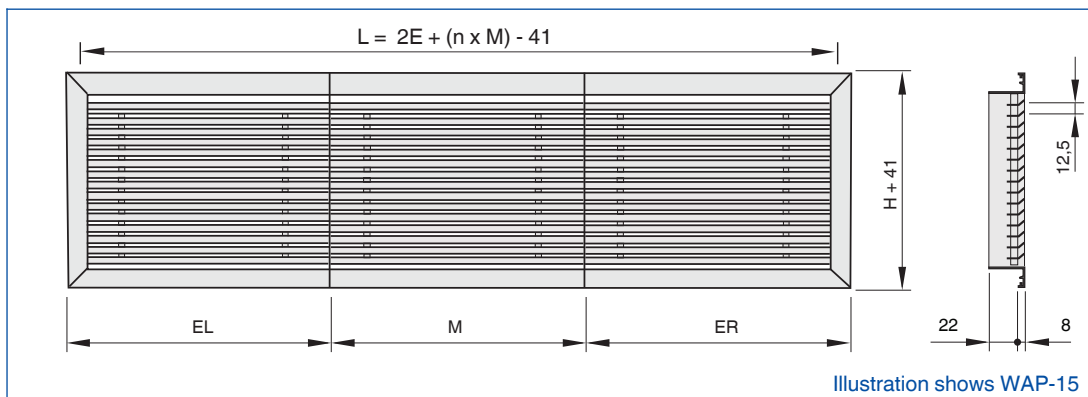


Horizontal run section

WAP, 30 mm wide front border, horizontal run section

E: End section (0°)
EL, ER: End section (15°)
M: Middle section
H: Nominal height

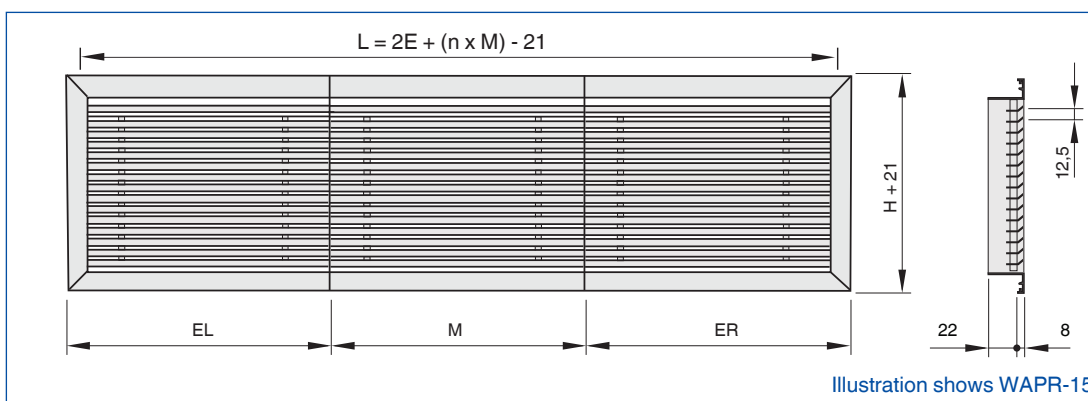
Cut out size;
 Grille fixing ...-0, ...-X H / L
 Grille fixing ...-S11 H + 6 / L + 6



WAPR, 20 mm wide front border, horizontal run section

E: End section (0°)
EL, ER: End section (15°)
M: Middle section
H: Nominal height

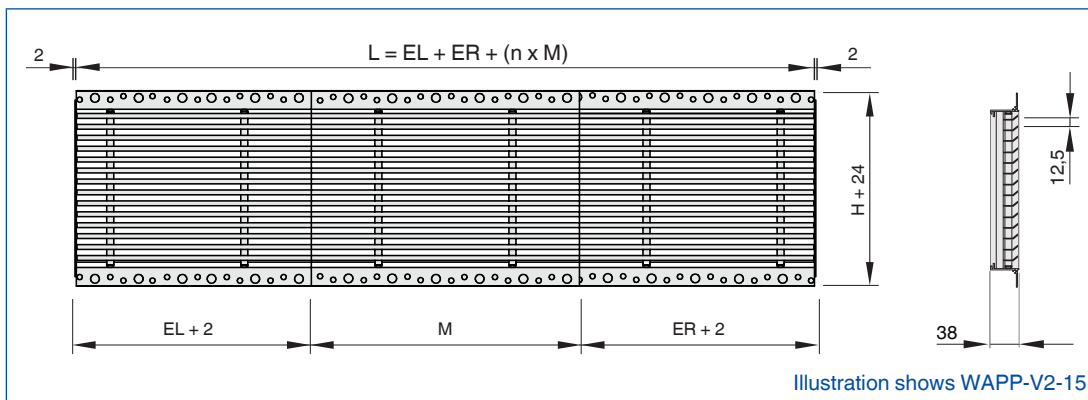
Cut out size;
 Grille fixing ...-0, ...-X H / L
 Grille fixing ...-S11 H + 6 / L + 6



WAPP-V2, Plaster-in front border, horizontal run section

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

Cut out size;
 H - 4 / L + 6



Middle section
 M: 1800 mm

End section
 E: 900 – 1799 mm
 1mm increments

Weights

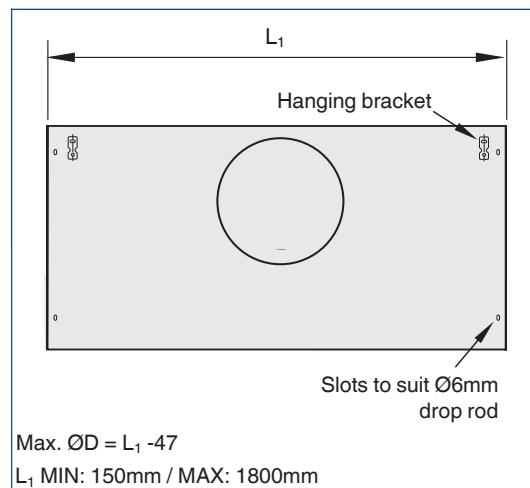
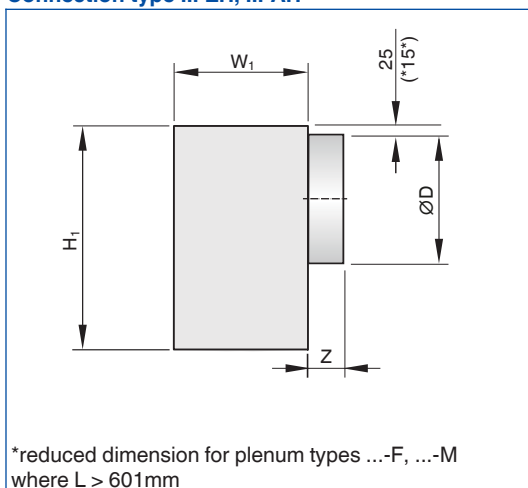
H	Single Grille	Horizontal Run	
		E	M
m			
mm	kg/m	kg	
75	1.2	1.2	2.0
100	1.5	1.4	2.4
150	1.9	1.9	3.1
200	2.4	2.3	3.9
250	2.8	2.8	4.7
300	3.3	3.2	5.5

H	Single Grille	Horizontal Run	
		E	M
m			
mm	kg/m	kg	
350	3.8	3.7	6.2
400	4.2	4.2	7.0
450	4.7	4.6	7.8
500	5.1	5.1	8.5
550	5.6	5.5	9.3
600	6.1	6.0	10.1

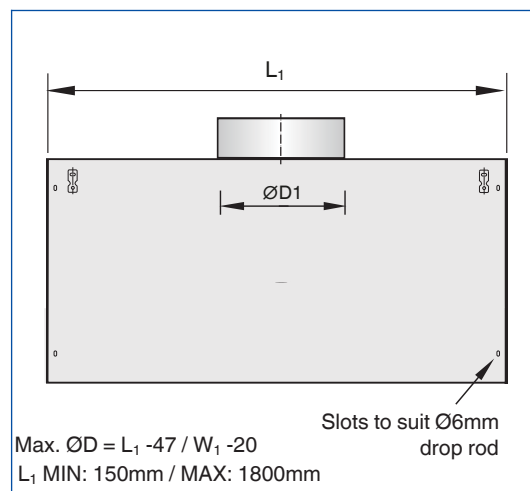
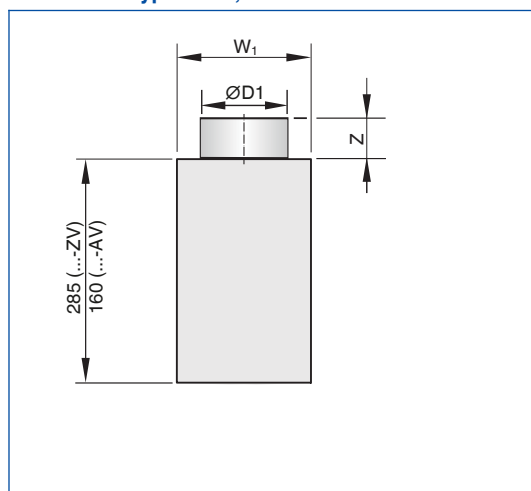
Weights apply to sections without attachments

Plenum Box **AK-WAP** **AK-WAPR** 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

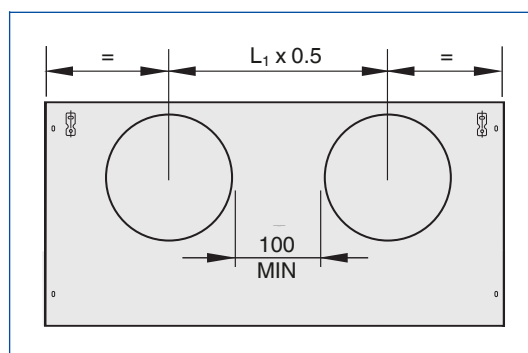
Overall plenum & grille assembled height;
 $H_1 +$ grille border depth

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

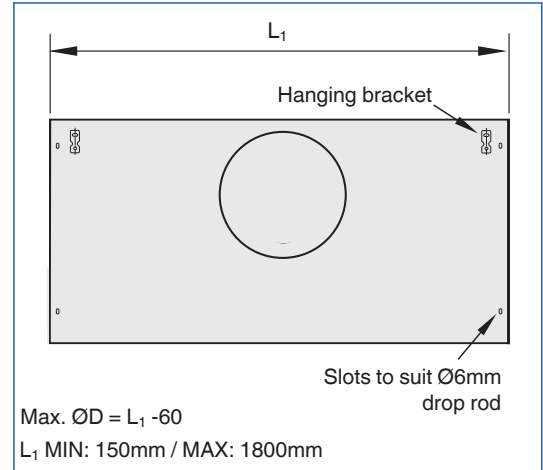
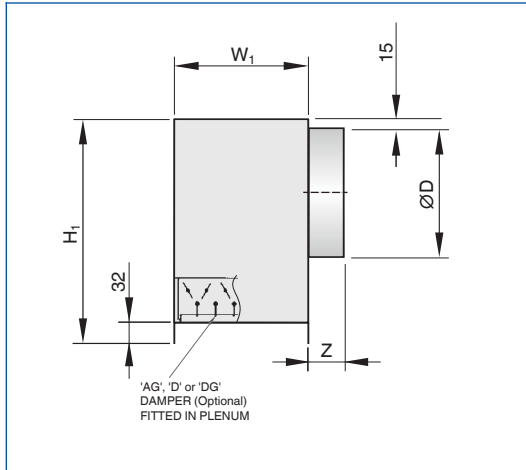


MAX. $\text{ØD} = (L_1 / \text{Spigot qty}) - 99$

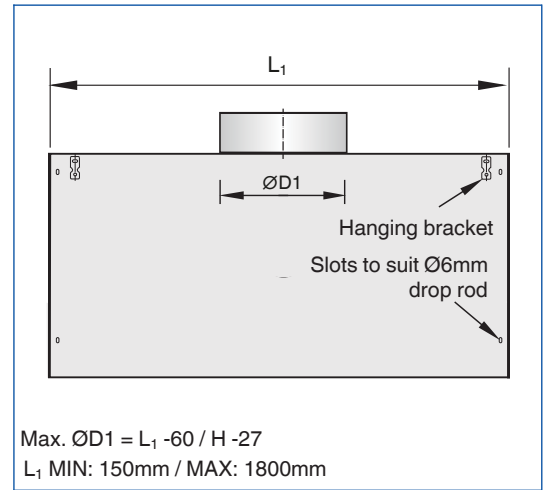
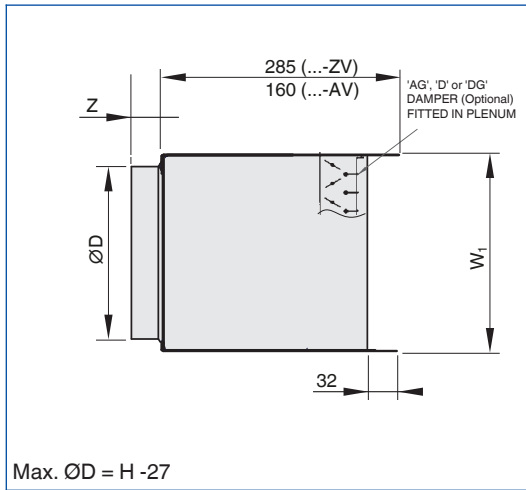
Spigot location equally spaced for side & top entry plenum boxes.

Plenum Box AK-WAPP Connection type ...ZH, ...AH

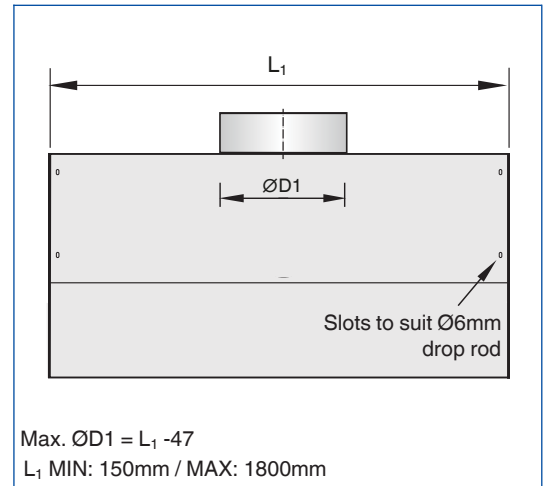
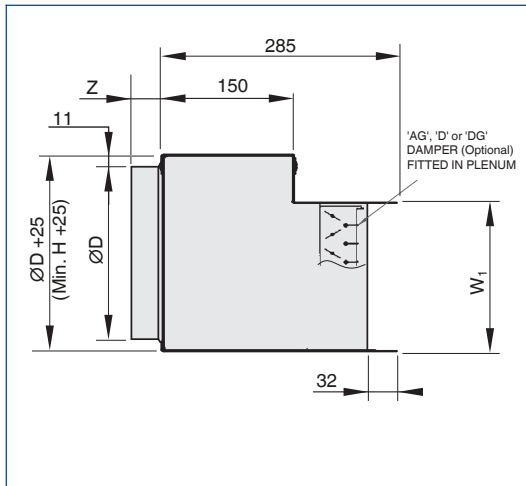
NOTE;
Hanging brackets only supplied where $L_1 > 300\text{mm}$



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
WAPP -V2	F / M	L -2	$\text{ØD} + 150$	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: 30%

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 m³/h
- Maximum volume flow rate (supply air),
at L_{WA} max. 40 dB(A) without attachments:
75 – 2500 l/s or 270 – 9000 m³/h
- Supply air to room air temperature difference:
-12 to +4 K

Sizing data

- \dot{V} _____ [l/s]
- Δp_t _____ [Pa]
- L_{WA} Air-regenerated noise _____ [dB(A)]

Order options

1 Type

- WAP** Single grille (30mm border)
WAPR Single grille (20mm border)
WAPP-V2 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 ¹⁾
D* Air direction control, blades installed
at 90° to the front blades ¹⁾
DG* D combined with AG ¹⁾

4 Nominal size [mm]

L × H

5 Installation subframe ¹⁾

- 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) ¹⁾
S11 Concealed fixing
(In combination with installation subframe) ¹⁾

7 Exposed surface

- P3** RAL 9010:20%
P6 Powder-coated RAL CLASSIC colour.
Gloss level: 30%

¹⁾ WAP, WAPR only

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

Horizontal run section

1 Type

- WAP** Horizontal run section (30mm border)
WAPR Horizontal run section (20mm border)
WAPP-V2 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 ¹⁾
D Air direction control, blades installed at 90° to the front blades ¹⁾
DG D combined with AG ¹⁾

5 Nominal size [mm]

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

¹⁾ WAP, WAPR only

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

6 Installation subframe ¹⁾

- 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) ¹⁾
S11 Concealed fixing (In combination with installation subframe) ¹⁾

8 Exposed surface

- P3** RAL 9010:20%
P6 Powder-coated RAL CLASSIC colour. Gloss level: 30%

Plenum box

1 Type

- AK-WAP** Plenum box to suit WAP grille
AK-WAPR Plenum box to suit WAPR grille
AK-P Plenum box to suit WAPP grille

2 Grille fixing

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

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)

¹⁾ WAP, WAPR only

6 Internal lining

- 0** No lining
D 12mm foam lining

7 Plenum nominal size [mm]

L × H

8 Spigot size [mm]

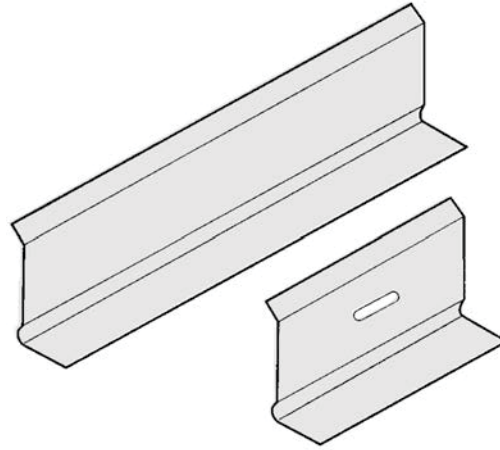
- Ø98, Ø123, Ø138, Ø148, Ø158, Ø178, Ø198, Ø222, Ø248, Ø278, Ø298, Ø313, Ø348, Ø353, Ø398, Ø448*, Ø498*, Ø558*
 Not in combination with ...-M, ...-MC

9 Spigot quantity

Qty 1...4

Accessories

Installation Subframe



Installation subframes, made of 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	WAP – 18
	Installation details	WAP – 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

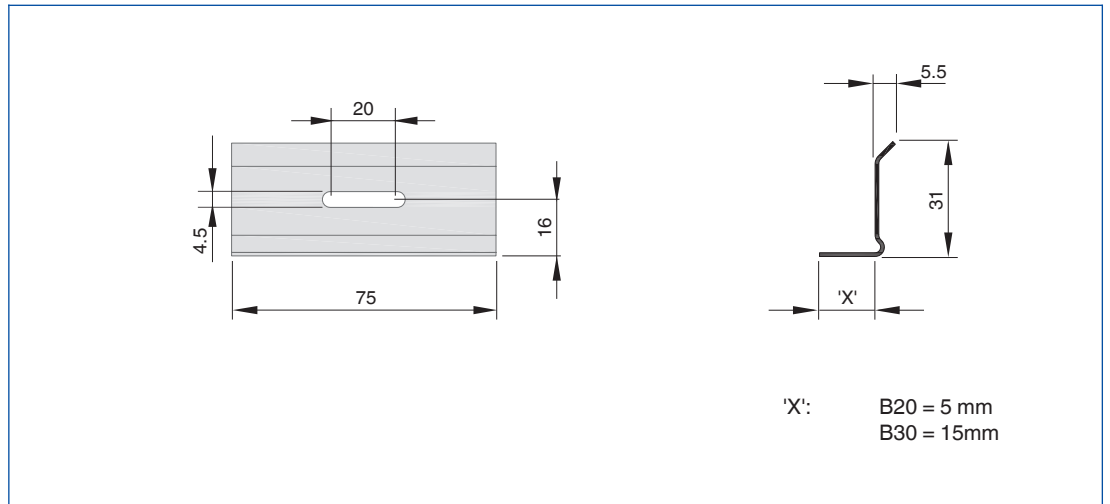
- Installation subframe consisting of angle sections

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

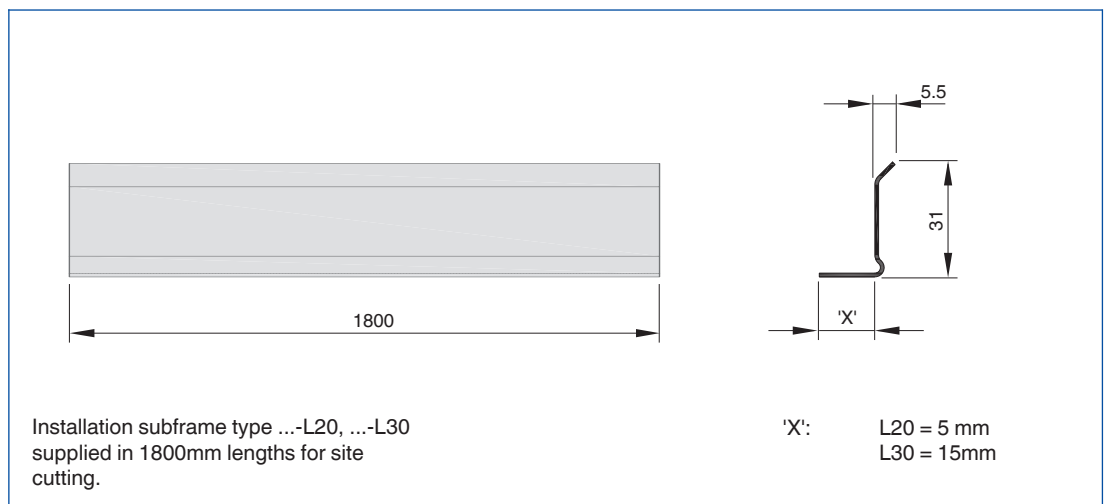
Installation subframe for ventilation grilles

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

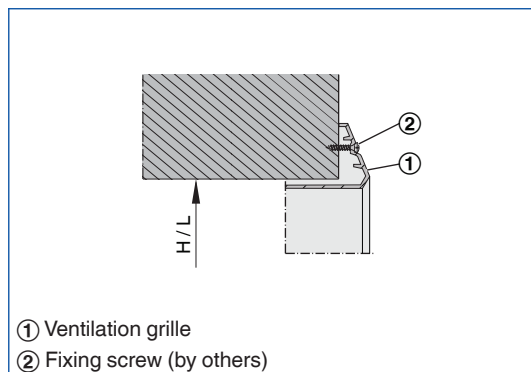
- The installation subframe consists of individual sections (...-B20, ...-B30)
- Fixing holes are provided for fixing the frame with screws to different wall structures

Horizontal run sections

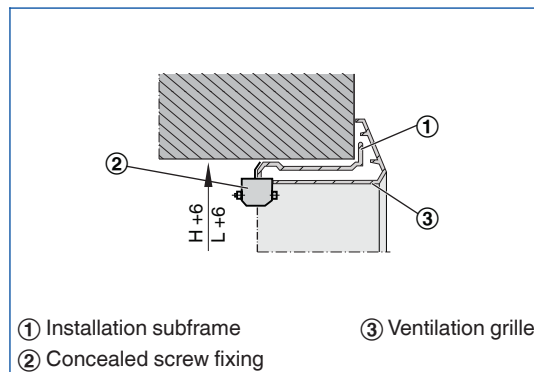
- The installation subframe consists of linear (1800mm) sections (...-L20, ...-L30) for site cutting as necessary
- Subframe can be installed as linear sections or cut down to suit site installation requirements.

Fixing of ventilation grilles

Ventilation grille with screw fixing

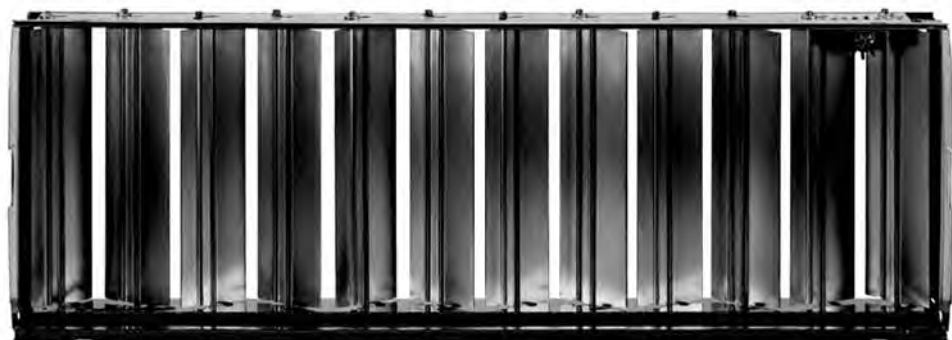


Ventilation grille with concealed screw fixing



Attachments

Types -AG, -D, -DG



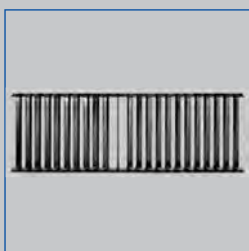
Attachments for ventilation grilles, made of sheet steel, for volume flow rate balancing and air direction control

Attachments with manually adjustable blades

- Volume flow rate balancing
- Air direction control



DG



D



AG

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

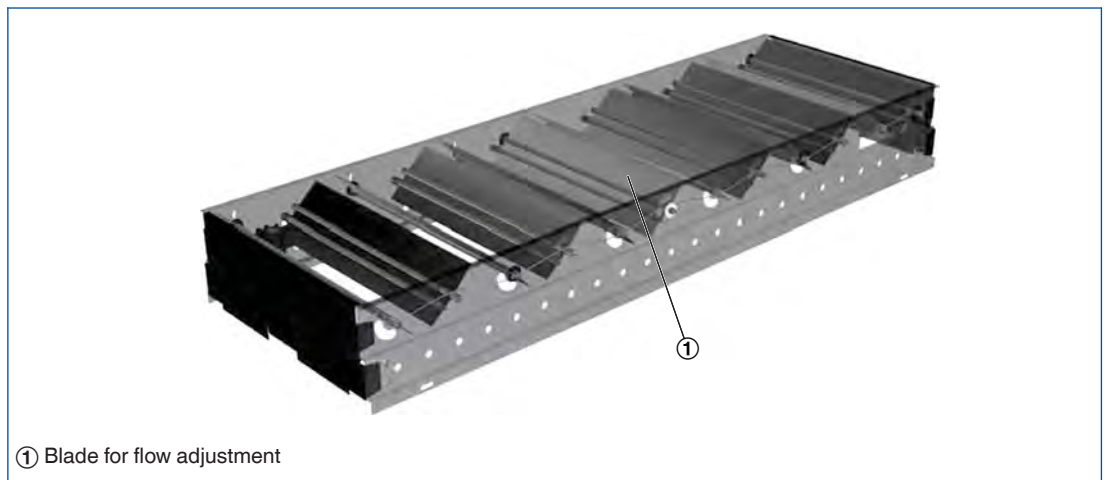
- For volume flow rate balancing
- Damper units simplify the volume flow rate balancing required for commissioning, for supply air and extract air
- Ventilation grille need not be removed for adjustment

Parts and characteristics

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

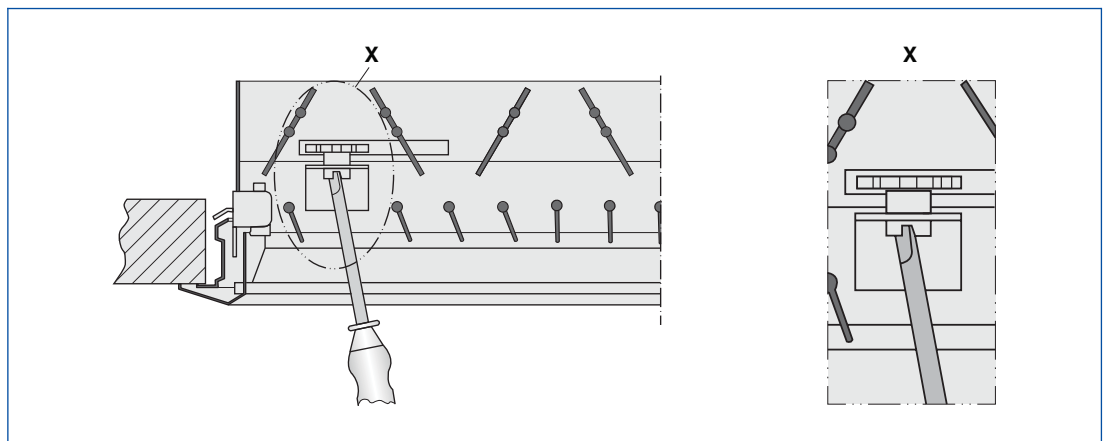
Function

Schematic illustration of -AG



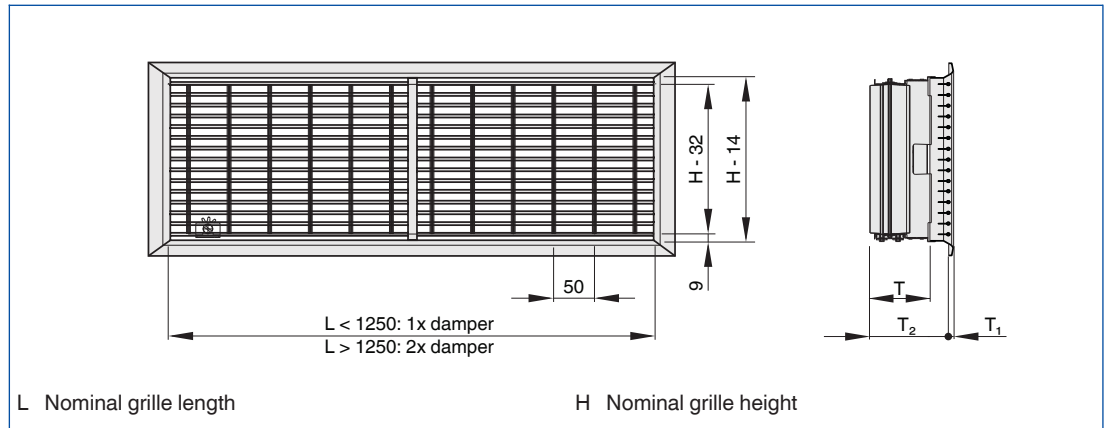
Commissioning

Volume flow rate balancing -*G



Attachments -AG, -DG

-AG



Dimensions

Product type	T	T ₁	T ₂
	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

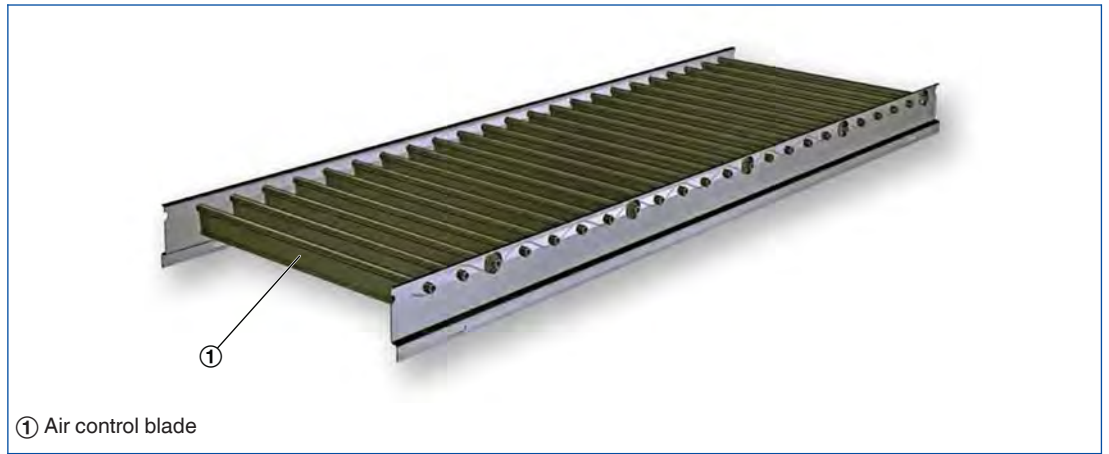
- For air direction control, for supply air
- Air control blades, which are fitted at 90° to the front blades, allow for other airflow directions
- Ventilation grille need not be removed for adjustment

Parts and characteristics

- Individually adjustable blades

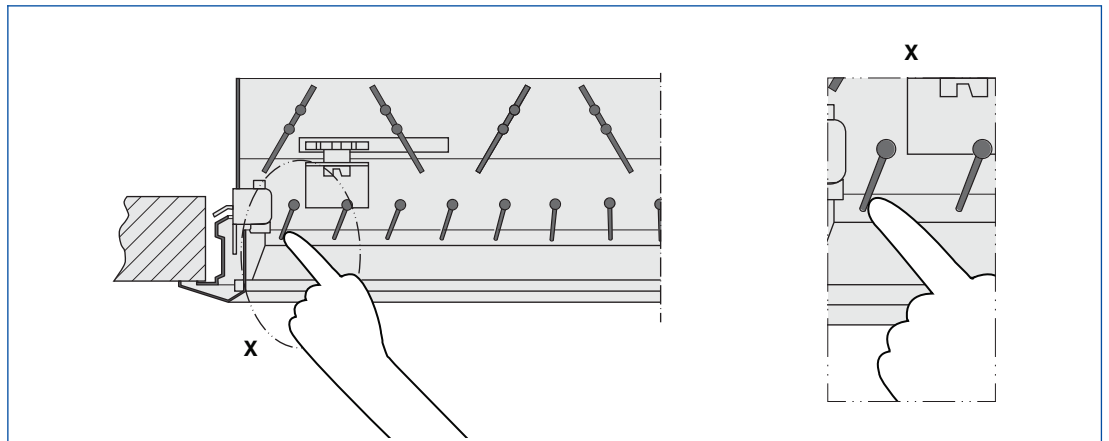
Function

Schematic illustration of -D



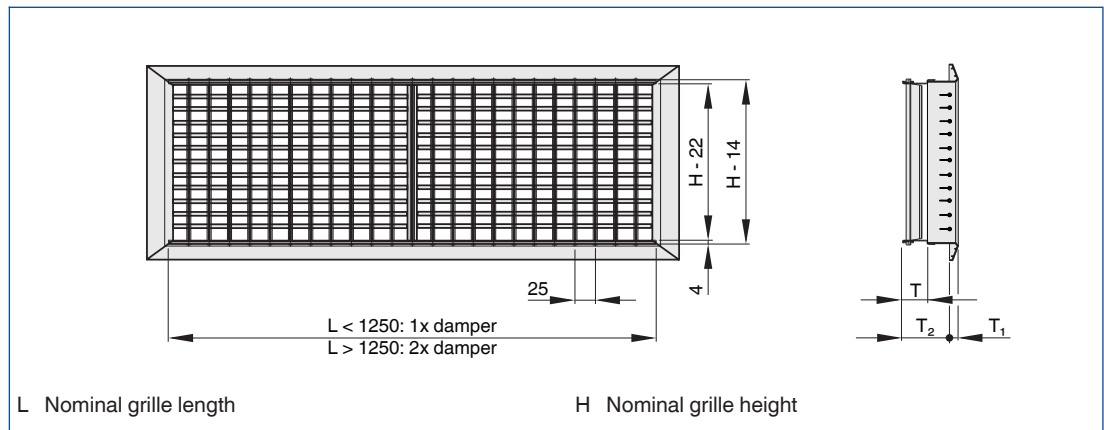
Commissioning

Air direction control -D



Attachments -D, -DG

-D



Dimensions

Product type	T	T ₁	T ₂
	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

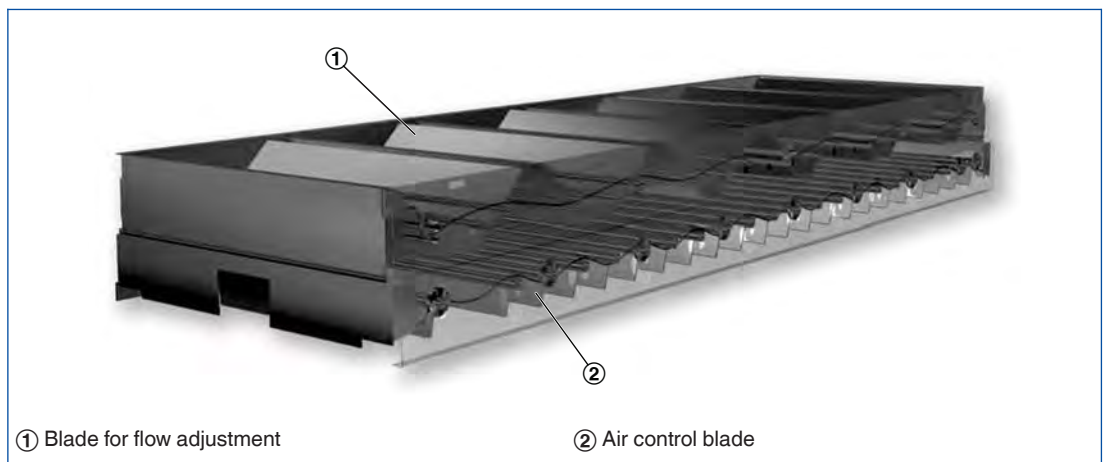
- For volume flow rate balancing and additionally for air direction control, for supply air
- Damper units simplify the volume flow rate balancing required for commissioning
- Air control blades, which are fitted at 90° to the front blades, allow for other airflow directions
- Ventilation grille need 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

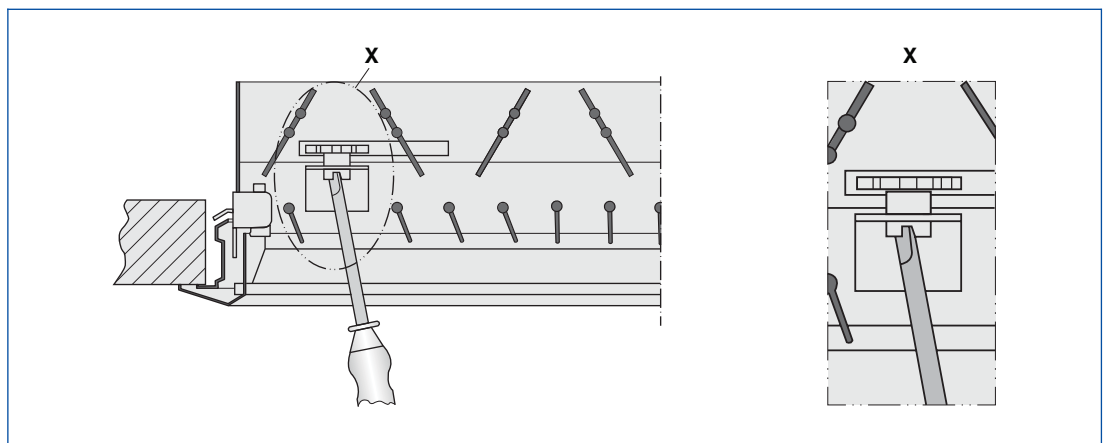
Function

Schematic illustration of -DG



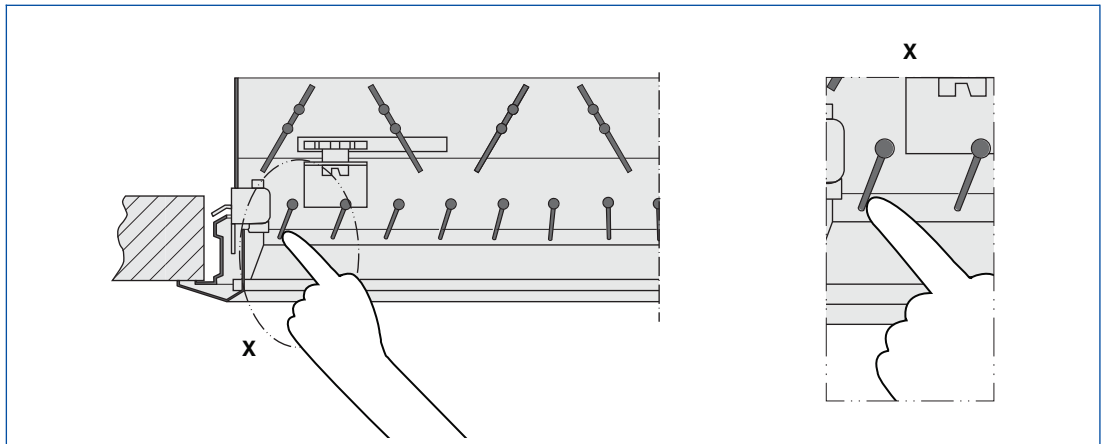
Commissioning

Volume flow rate balancing -*G



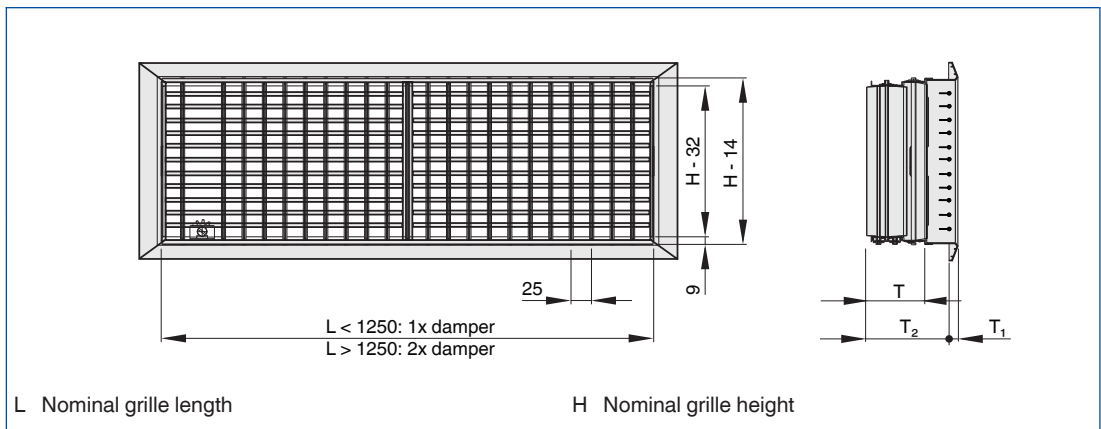
Attachments -AG, -DG

Air direction control -D



Attachments -D, -DG

-DG



Dimensions

Product type	T	T ₁	T ₂
	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