



## AE

### RETURN AIR GRILLES, MADE OF ALUMINIUM, WITH FIXED SQUARE PATTERN CORE

#### Single return air grilles

- Nominal sizes: AE/ RC-AE 150 × 100 – 1200 × 1200 mm, AEL 595 x 595, 1195 x 1195
- Volume flow rate maximum 2041 l/s or 7347 m<sup>3</sup>/h
- Grille face made of aluminium with powder-coat finish
- Front border, 30mm wide
- Visible screw fixing as standard

#### Optional equipment and accessories

- Grille face in RAL CLASSIC colours
- Attachments for opposed blade action volume control
- Screw fix border and border without punching available
- Optional subframe for secret fixing

## APPLICATION



### Application

- Ventilation grilles of Type AE as extract air variant for comfort zones and industrial zones
- Square pattern core for high volumes
- For variable and constant volume flows
- For installation in walls, ceilings and rectangular ducts

### Special characteristics

- Square pattern core
- Rectangular front border
- Countersunk holes

### Nominal sizes

#### AE

- Nominal length: 150 mm up to 1200 mm (25 mm increments)
- Nominal height: 100 mm up to 1200 mm (25 mm increments)
- Intermediate and larger sizes upon request

#### AEL

- Nominal sizes: 595 x 595, 1195 x 1195 mm
- Intermediate sizes upon request

#### RC-AE

- Nominal length: 150 mm up to 1200 mm (50 mm increments)
- Nominal height: 100 mm up to 600 mm (25 mm increments)
- Intermediate sizes upon request

## DESCRIPTION

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### Variants

- AE: Single grille
- AEL: Lay in ceiling tile replacement
- RC-AE: Single grille with removable core

### Front border

- AE: 30 mm wide
- AEL: 17.5 mm wide
- RC-AE: 39 mm wide

### Fixing

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

### Parts and characteristics

- Rectangular profile border sections
- Fixed square pattern
- Factory fitted perimeter seal

### Attachments

- AG: For volume flow control
- G4 Filter; FMR-G4-C15 22mm thick chemical fibre medium. Average resistance according to EN779-90%

### Construction features

- 30 mm wide border
- Fixed square pattern core

### Materials and surfaces

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

### Standards and guidelines

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

### Maintenance

- Maintenance free as construction and materials not subject to wear
- Inspection and cleaning to VDI 6022
- It is recommended to inspect and, if necessary, to clean or replace the filter every three months

## TECHNICAL INFORMATION

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

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## Functional description

Ventilation grilles are air terminal devices for the supply air and extract air of ventilation and air conditioning systems. They direct the supply air into the room. Ventilation grilles with adjustable blades allow for adapting the discharge direction to the local conditions. The result is a mixed flow ventilation in comfort zones and industrial zones, with good overall room ventilation.

Induction slows the airflow down, i.e. the airflow velocity decreases as the distance from the grille increases. The distance at which the airflow velocity reaches a certain defined value, e.g. 0.2 m/s, is called throw distance. The supply air jet from wall grilles that are installed near the ceiling achieves a larger throw distance than a free jet (from a grille that is not installed near the ceiling). Single grilles, groups of grilles and continuous horizontal runs all achieve different throw distances.

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

Nominal sizes	150 × 100 to 1200 × 600 mm
Maximum volume flow rate, with $L_{WA}$ max. 40 dB(A) without attachments	2041 l/s or 7347 m <sup>3</sup> /h

Volume flow rates for single grille for extract air.

### Technical data

#### Extract Air AE/AEL

The tables gives extract air volume flow rates, based on l/s/m for a maximum 5Pa, 10Pa, 15Pa or 20Pa limit.

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

Δpt (Pa)	Extract Air Volume		
	5	10	15
H (mm)	V (l/s/m)		
100	183	254	308
150	302	418	506
200	433	599	726
250	551	763	924
300	682	945	1110
350	827	1145	1274
400	945	1308	1437
450	1103	1527	1592
500	1221	1690	1751
550	1365	1890	1899
600	1490	2041	—

#### Extract Air RC-AE

Δpt (Pa)	Extract Air Volume		
	5	10	15
H (mm)	V (l/s/m)		
100	170	236	286
150	288	399	484
200	420	581	704
250	525	727	880
300	656	909	1100
350	787	1090	1216
400	906	1254	1371
450	1050	1454	1523
500	1166	1614	1674
550	1297	1796	1804
600	1424	1948	—

Ventilation grilles, rectangular, made of aluminium, for supply and extract air.  
 Rectangular profile border.  
 Preferably for wall and ceiling installation but also suitable for rectangular ducts.  
 Ready-to-install component which consists of a border and fixed horizontal blades.  
 Countersunk holes for fixing onto an installation surface.  
 Sound power level of the air-regenerated noise measured according to EN ISO 5135.

**Special characteristics**

- Square pattern core
- Front border
- Countersunk holes

**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%

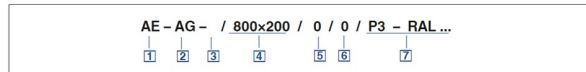
**Technical data**

- Nominal sizes::
- AE: 150 x 100 to 1200 x 600 mm
- RC-AE: 150 x 100 to 1200 x 600 mm
- AEL 595 x 595, 1195 x 1195 mm
- Maximum volume flow rate (extract air):  
 2041 l/s or 7347 m³/h  
 at LWA max. 40 dB(A) without attachments:

**Sizing data**

V \_\_\_\_\_ [m³/h]  
 Δpt \_\_\_\_\_ [Pa]  
 Air-regenerated noise LWA \_\_\_\_\_ [dB(A)]

**AE as a single grille**



- |  |   |
|--|---|
| <b>1</b> Type  | <b>5</b> Installation Subframe                            |
| <b>AE</b> Single grille (30mm border)                          | <b>0</b> Without subframe                                 |
| <b>AEL</b> Single grille (17.5mm border)                       | <b>B30</b> With 75mm subframe bracket <sup>2)</sup>       |
| <b>RC-AE</b> Single grille (39mm border)                       |   |
| <b>2</b> Attachments   | <b>6</b> Fixing   |
| <b>A</b> Grille face only                                      | <b>0</b> Countersunk holes (30mm border) <sup>2)</sup>    |
| <b>AG</b> Damper unit with opposed action blades <sup>3)</sup> | <b>X</b> Without holes                                    |
|  | <b>S11</b> Secret fixing                                  |
|  | (In combination with installation subframe) <sup>2)</sup> |
| <b>3</b> Filter <sup>1)</sup>                                  | <b>7</b> Exposed surface                                  |
| <b>0</b> Grille face only                                      | <b>P3</b> RAL 9010:20%                                    |
| <b>G4</b> Grade G4 filter                                      | <b>P6</b> Powder-coated RAL CLASSIC colour.               |
|  | Gloss level: 30%  |

**4** Nominal size [mm]  
 L x H  
 AE 150 x 100 to 1200 x 1200  
 AEL 595 x 595, 1195 x 1195  
 RC-AE 150 x 100 to 1200 x 600

\*Damper assembly to be specified within plenum box (when supplied). Only available for H<601  
 1)RC-AE only  
 2)AE only  
 3)Not with G4 filter

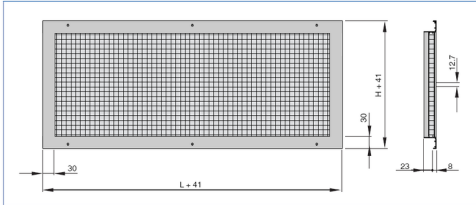


Single grille

AE, 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



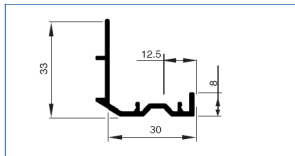
Weights

H	Single Grille	
	m	kg/m
mm		
100		0.9
150		1.0
200		1.1
250		1.3
300		1.4
350		1.5

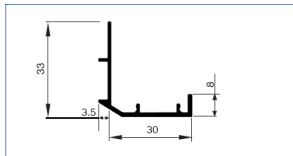
H	Single Grille	
	m	kg/m
mm		
400		1.6
450		1.7
500		1.9
550		2.0
600		2.1

Weights apply to sections without attachments

Front border AE...-0



Front border AE...-X

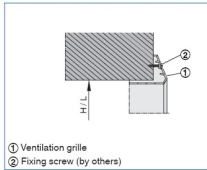


Installation details, Basic information and nomenclature



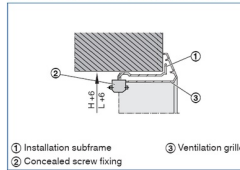
Fixing of ventilation grilles

Ventilation grille with screw fixing



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

Ventilation grille with Secret screw fixing



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

**Principal dimensions**

L [mm]

*Nominal length of the ventilation grille*

H [mm]

*Nominal height of the ventilation grille*

m [kg]

*Weight*

**Nomenclature**

LWA [dB(A)]

*Sound power level of the air-regenerated noise*

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

*Volume flow rate*

$\Delta p_t$  [Pa]

*Total differential pressure*