



## AR

### RETURN AIR GRILLES, MADE OF ALUMINIUM, WITH FIXED ANGLED HORIZONTAL BLADES

#### Single return air grilles

- Nominal sizes 150 x 100 - 1200 x 600 mm
- Volume flow rate maximum 1202 l/s or 4327 m<sup>3</sup>/h
- Grille face made of aluminium with powder-coat finish
- Front border, 32 mm 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

## APPLICATION

---

### Application

- Ventilation grilles of Type AR as extract air variant for comfort zones and industrial zones
- Blades at a fixed angle to block view
- For variable and constant volume flows
- For installation in walls, ceilings, and rectangular ducts

### Special characteristics

- Fixed blades
- Angled front border
- Countersunk holes

### Nominal sizes

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

## DESCRIPTION

---

### Variants

#### Front border:

- AR: 32 mm wide

#### Fixing:

- 0: Countersunk holes
- X: Without holes (border drilling by customer)

### Parts and characteristics

- Angled front border with chamfered inside edge
- Fixed horizontal blades
- Factory fitted perimeter seal

#### Attachments

- AG: For volume flow control

#### Construction features

- 32 mm wide border
- Fixed angle horizontal blades

#### Materials and surfaces

- Border and blades made of aluminium
- P3: Border and blades powder-coated, RAL9010:20%
- P6: Powder-coated RAL CLASSIC colour, gloss level: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 are not subject to wear
- Inspection and cleaning to VDI 6022

## TECHNICAL INFORMATION

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



#### Functional description

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

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

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

Nominal sizes	150 × 100 to 1200 × 600 mm
Maximum volume flow rate, with $L_{WA}$ max. 40 dB(A) without attachments	1202 l/s or 4327 m <sup>3</sup> /h

Volume flow rates for single grille for extract air.

#### Technical data

#### Extract Air

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	20
H (mm)	V (l/s/m)			
100	63	90	111	129
150	106	151	185	215
200	148	211	260	301
250	198	283	348	403
300	244	347	427	495
350	294	419	515	597
400	342	487	599	694
450	401	570	702	813
500	445	634	780	904
550	509	725	891	1033
600	551	785	966	1119

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

- Fixed blades
- 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

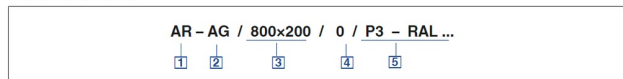
Nominal sizes:: 150 x 100 to 1200 x 600 mm

Maximum volume flow rate (extract air): 1202 l/s or 4327 m<sup>3</sup>/h at LWA max. 40 dB(A) without attachments:

#### Sizing data

V \_\_\_\_\_ [m<sup>3</sup>/h]  
Δpt \_\_\_\_\_ [Pa]  
Air-regenerated noise LWA \_\_\_\_\_ [dB(A)]

#### AR as a single grille



##### 1) Type

AR Single grille (32mm border)

##### 2) Attachments

A Grille face only

AG Damper unit with opposed action blades\*

##### 3) Nominal size [mm]

L x H

##### 4) Fixing

0 Countersunk holes (30mm border)  
X Without holes<sup>1)</sup>

##### 5) Exposed surface

P3 RAL 9010:20%

P6 Powder-coated RAL CLASSIC colour.  
Gloss level: 30%

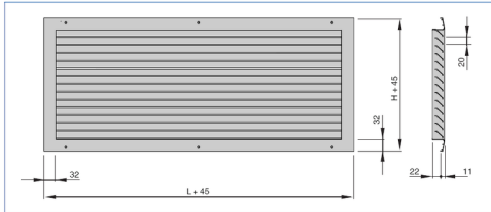
\* Damper assembly to be specified within plenum box (when supplied)  
<sup>1)</sup>Not in conjunction with AG attachment

Single grille

AR, 32 mm wide front border

L: Nominal length  
H: Nominal height  
Cut out size:  
Grille fixing ...-0, ...-X

H / L



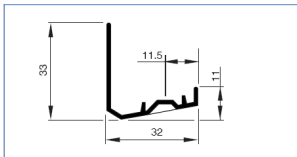
Weights

H	Single Grille
	m
mm	kg/m
100	1.6
150	1.9
200	2.2
250	2.4
300	2.7
350	3.0

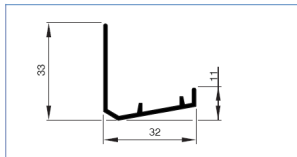
H	Single Grille
	m
mm	kg/m
400	3.3
450	3.6
500	3.9
550	4.1
600	4.5

Weights apply to sections without attachments

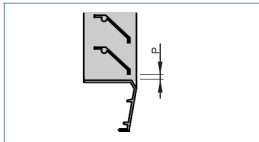
Front border AR...-0



Front border AR...-X

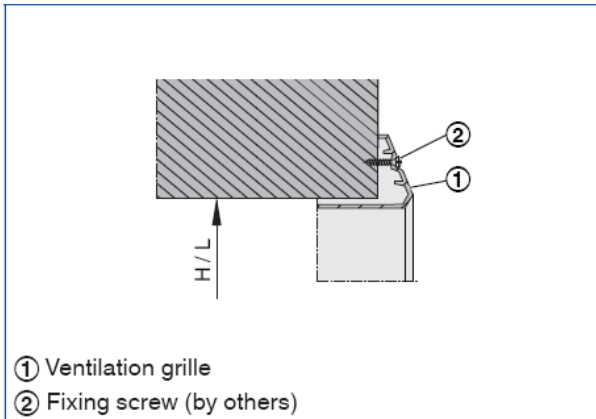


Blade gap



Nominal height: 100, 200, 300, 400, 500, 600	P = 4 mm
Nominal height: 150, 250, 350, 450, 550	P = 14 mm

## Ventilation grille with screw fixing



### 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*