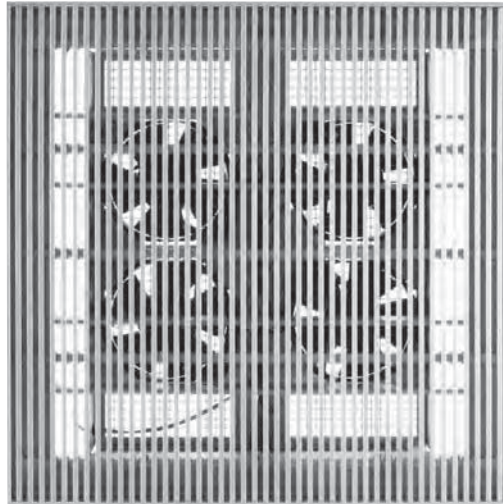


# Floor grilles for installation into raised access floors

## Type AFG



### Heavy / extra heavy duty floor grilles made of aluminium, with fixed horizontal blades

Single ventilation grilles suitable for raised access floor systems

- Nominal size 600 x 600
- Volume flow rate range 0 - 530 l/s or 0 - 1908 m<sup>3</sup>/h
- Grille face made of aluminium with powder-coat finish
- Front border, 6mm with 6mm wide blades
- Suitable for floor tile depths between 25mm and 50mm

Optional equipment and accessories

- Attachments for volume flow rate balancing
- 240v fan deck for low or zero pressure void applications

| Type |                                  | Page    |
|------|----------------------------------|---------|
| AFG  | General information              | 8.1 - 2 |
|      | Basic information & nomenclature | 8.1 - 3 |
|      | Quick sizing                     | 8.1 - 4 |
|      | Order code                       | 8.1 - 5 |
|      | Dimensions and weight            | 8.1 - 6 |
|      | Specification text               | 8.1 - 8 |

### Installation example

#### Floor installation



### Description

#### Application

- Floor grille of Type AFG as supply air for comfort zones and industrial zones
- For variable and constant volume flows
- For supply air to room air temperature differences from -12 to +4 K
- For installation in raised access floors

#### Variants

- AFG-A: Floor grille for pressurised floor void
- AFG-AG: Floor grille with rear mounted volume control damper)
- AFG-F1: Floor grille with rear mounted fan pack (230V)

#### Construction features

- 6 mm wide mitred border
- 6mm wide blades for straight (0°) air discharge

#### Materials and surfaces

- Border and blades made of aluminium
- P2: Border and blades powder-coated, RAL9006:25%
- P4: Border and blades powder-coated, RAL9005:20%
- N1: Border and blades powder-coated, with nylon reinforcing RAL9005

#### Parts and characteristics

- 6mm wide welded mitred border sections
- Fixed horizontal blades
- Vertical lateral mullions

#### Nominal sizes

- 600mm x 600mm

#### Attachments

- AG : For volume flow rate balancing
- F1 : 230V AC fan pack

#### Special characteristics

- Fixed blades
- Welded front border sections

#### Installation and commissioning

- Installation preferably in raised access floor systems with minimum depth of 25mm and maximum depth of 50mm

#### Standards and guidelines

- Sound power level of the air-regenerated noise measured according to EN ISO 5135
- Structural classification tested according to BS EN 13264:2001 (Heavy & Extra Heavy)

#### Maintenance

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

### Technical data

|   |                                   |
|---|-----------------------------------|
| Nominal size  | 600 mm x 600mm                    |
| Nominal frame depth   | 25mm up to 50mm                   |
| Maximum volume flow rate, with $L_{WA}$ max. 50 dB(A) without attachments | 530 l/s or 1908 m <sup>3</sup> /h |

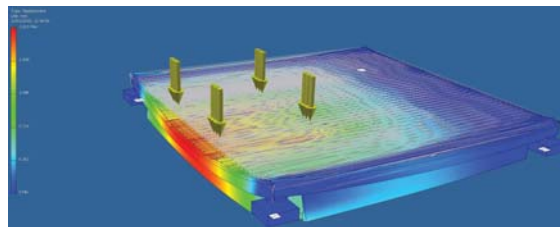
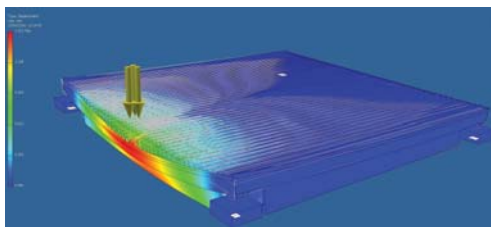
Volume flow rates for single grille.

### Function

#### Functional description

Type AFG Heavy / Extra Heavy duty floor grilles are air terminal devices for the supply air of ventilation and air conditioning systems. They direct the supply air into the room from low level floor void supply systems. The result is a mixed flow ventilation in comfort zones and industrial zones, with good overall room ventilation.

Designed for use within commercial or industrial applications where prolonged foot traffic or rolling loads may be expected such as offices, atrium areas or data centres. TROX AFG series floor grilles can replace 600mm square floor tiles with depths from 25mm up to a maximum of 50mm and exceeds the requirements of **BS-EN 13264:2001** heavy & extra heavy structural classification.



### Nomenclature

**$L_{WA}$  [dB(A)]**

Sound power level of the air-regenerated noise

**$\Delta p_s$  [Pa]**

Floor void static pressure

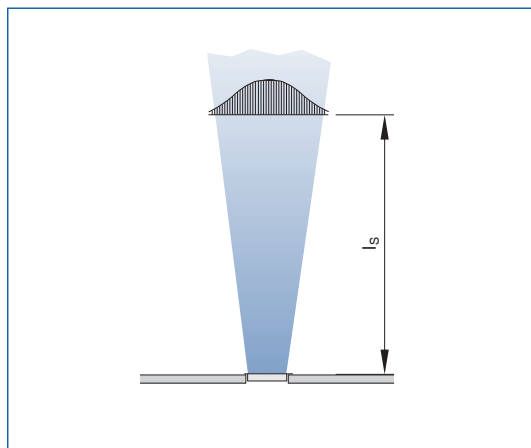
**$\dot{V}$  [m<sup>3</sup>/h] and [l/s]**

Volume flow rate

**$\Delta p_t$  [Pa]**

Total differential pressure

### Air pattern



### Technical data

Volume flow rates apply to a nominal grille size of 600mm x 600mm, max. sound power level of the air-regenerated noise of 50 dB(A) with an open damper unit (unrestricted airflow) and maximum 30Pa pressure drop.

Throw length [L<sub>s</sub>] provided to a maximum time average air velocity [V<sub>L</sub>] of 0.5m/s with supply air temperature differential of -10°K.

### AFG-A ...-AG Quick sizing – sound power level and total differential pressure

| Nominal size | ṽ    |      | Damper blade position |                          |                       |                          | Discharge height    |
|--------------|------|------|-----------------------|--------------------------|-----------------------|--------------------------|---------------------|
|              |      |      | 100%                  |                          | 50%                   |                          |                     |
|              |      |      | Δp <sub>t</sub><br>Pa | L <sub>WA</sub><br>dB(A) | Δp <sub>t</sub><br>Pa | L <sub>WA</sub><br>dB(A) | L <sub>s</sub><br>m |
| 600x600      | 100  | 360  | 1                     | <15                      | 1                     | <15                      | 0.7                 |
|              | 125  | 450  | 1                     | <15                      | 2                     | <15                      | 0.8                 |
|              | 150  | 540  | 2                     | <15                      | 3                     | <15                      | 0.9                 |
|              | 175  | 630  | 3                     | <15                      | 4                     | 18                       | 1.0                 |
|              | 200  | 720  | 4                     | 18                       | 5                     | 22                       | 1.2                 |
|              | 225  | 810  | 5                     | 22                       | 6                     | 26                       | 1.3                 |
|              | 250  | 900  | 6                     | 25                       | 8                     | 28                       | 1.5                 |
|              | 275  | 990  | 8                     | 28                       | 10                    | 32                       | 1.7                 |
|              | 300  | 1080 | 9                     | 31                       | 12                    | 35                       | 1.9                 |
|              | 325  | 1170 | 11                    | 34                       | 14                    | 37                       | 2.1                 |
|              | 350  | 1260 | 13                    | 36                       | 16                    | 40                       | 2.4                 |
|              | 375  | 1350 | 14                    | 38                       | 18                    | 42                       | 2.6                 |
|              | 400  | 1440 | 16                    | 41                       | 21                    | 44                       | 2.8                 |
|              | 425  | 1530 | 18                    | 43                       | 23                    | 46                       | 3.1                 |
|              | 450  | 1620 | 21                    | 44                       | 26                    | 48                       | 3.2                 |
|              | 475  | 1710 | 23                    | 46                       | 29                    | 50                       | 3.7                 |
| 500          | 1800 | 25   | 48                    | 32                       | 52                    | 4.0                      |                     |
| 525          | 1890 | 28   | 50                    | 35                       | 53                    | 4.3                      |                     |

### Technical data

Type AFG-F1 floor grille should be located at the front of the I.T / Comms cabinet experiencing hot spot conditions. Each cabinet should incorporate a perforated door to facilitate airflow through the cabinet.

Floor void static pressure should be considered during the selection process.

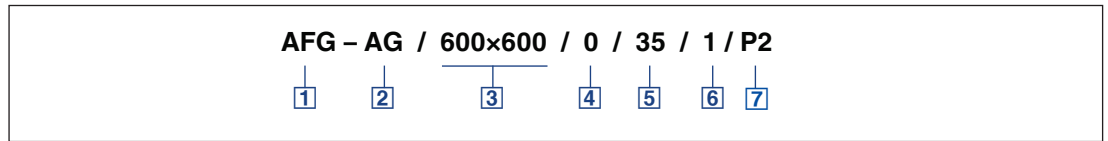
Sufficient void air (cooled by the others) must be available to be drawn by the AFG grille at the specific point of need.

### AFG-F1 Quick sizing – sound power level and total volume

|         | Floor void pressure<br>Δp <sub>s</sub><br>Pa | ṽ   |                   | L <sub>WA</sub> |
|---------|--|-----|-------------------|-----------------|
|         |  | l/s | m <sup>3</sup> /h | dB(A)           |
| 600x600 | -15  | 152 | 547               | 78              |
|         | -10  | 201 | 723               | 78              |
|         | -5   | 255 | 917               | 79              |
|         | 0  | 312 | 1122              | 79              |
|         | 5  | 369 | 1328              | 80              |
|         | 10   | 424 | 1526              | 80              |
|         | 15   | 475 | 1708              | 80              |
|         | 20   | 518 | 1865              | 80              |
|         | 25   | 552 | 1987              | 81              |

Order code

AFG...



**1** Type

**AFG** Floor grille

**2** Attachments

**A** Without (grille face only)  
**AG** Damper unit, opposed action blades  
**F1** 230V fan pack

**3** Nominal size

**600 x 600**

**4** Unit depth [AFG-F1 only]

**135** Standard

**5** Frame depth

**25** Standard  
**XX** 26mm to 50mm (1mm increments)

**6** Frame construction

**1** Stringer width 0-30mm  
**2** Stringer width 31-40mm

**7** Exposed surface

**P2** Powder-coated, RAL9006:25%  
**P4** Powder-coated, RAL9005:20%  
**N1** Powder-coated, with nylon reinforcing, RAL9005

Order example

**AFG-AG/600x600/0/35/1/P2**

|                         |                                       |
|-------------------------|---------------------------------------|
| <b>Attachments</b>      | Damper unit, opposed action blades    |
| <b>Nominal size</b>     | 600 x 600                             |
| <b>Floor tile depth</b> | 35mm                                  |
| <b>Stringer width</b>   | 30mm                                  |
| <b>Exposed surface</b>  | Powdercoat, RAL9006:25% (silver grey) |

Order example

**AFG-F1/600x600/135/35/2/P2**

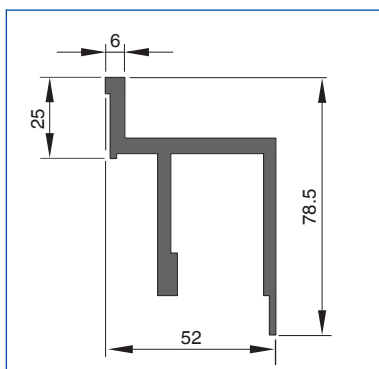
|                         |                                       |
|-------------------------|---------------------------------------|
| <b>Attachments</b>      | Standard 230v AC                      |
| <b>Nominal size</b>     | 600 x 600                             |
| <b>Unit depth</b>       | 135mm                                 |
| <b>Floor tile depth</b> | 35mm                                  |
| <b>Stringer width</b>   | 40mm                                  |
| <b>Exposed surface</b>  | Powdercoat, RAL9006:25% (silver grey) |

### Front border and blade

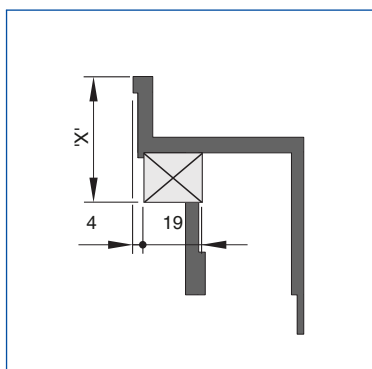
Optional shim factory installed in each corner where total frame depth ['X'] > 25mm.

Frame depth ['X'] is the depth from finished pedestal bearing surface to the floor level and should be checked before order.

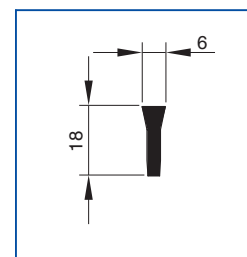
### Front border AFG...



### Optional shim 'X' 26...50



### Blade



### AFG-A ...-AG

Optional 'AG' oposed blade volume control damper factory installed to rear of AFG floor grille.

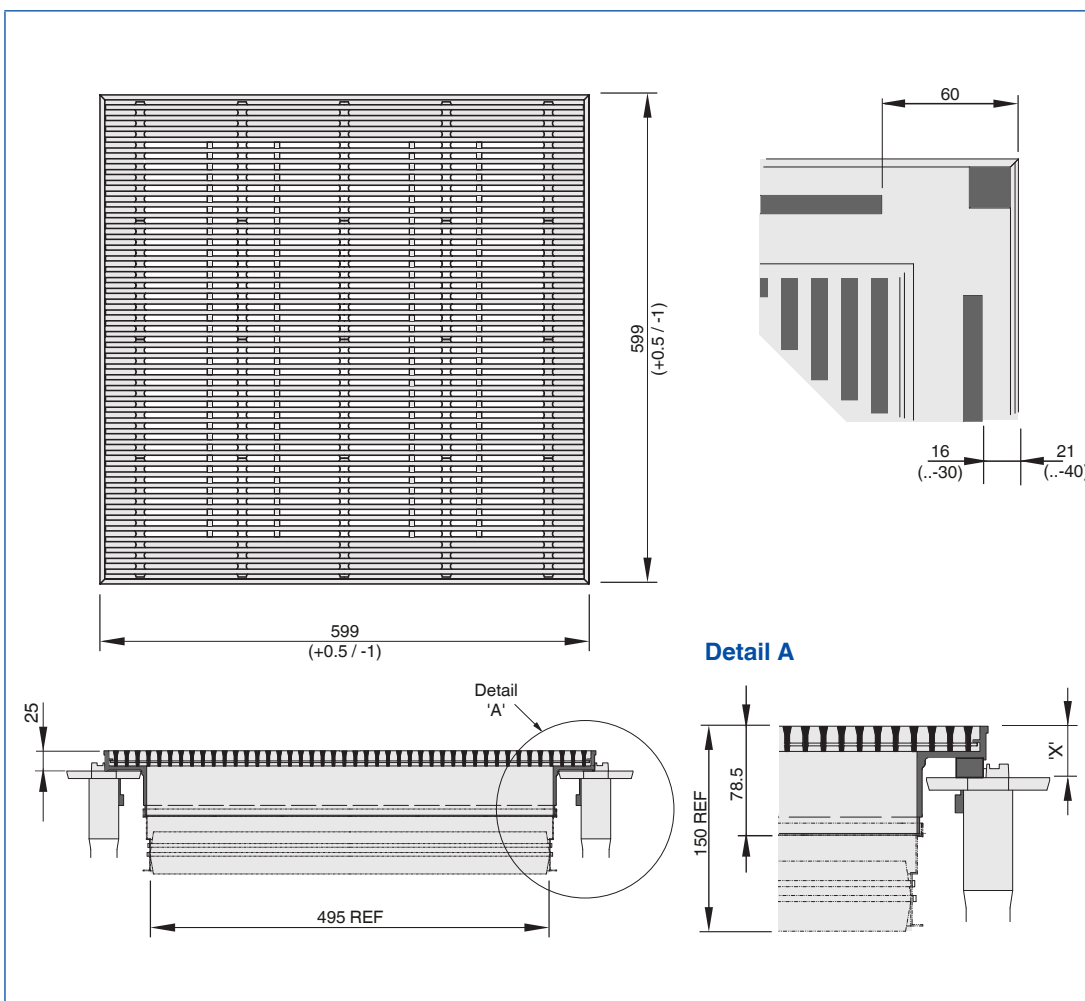
Damper operation possible through face of grille.

#### NOTE:

Type AFG suitable for maximum pedestal head diameter of 90mm.

Type AFG suitable for maximum stringer width of 30mm (...-30) or 40mm (...-40).

Please check floor system and confirm at point of order.



### Weight

| Grille type | Weight |
|-------------|--------|
|             | kg     |
| AFG-A       | 11.5   |
| AFG-AG      | 13.5   |

### AFG-F1

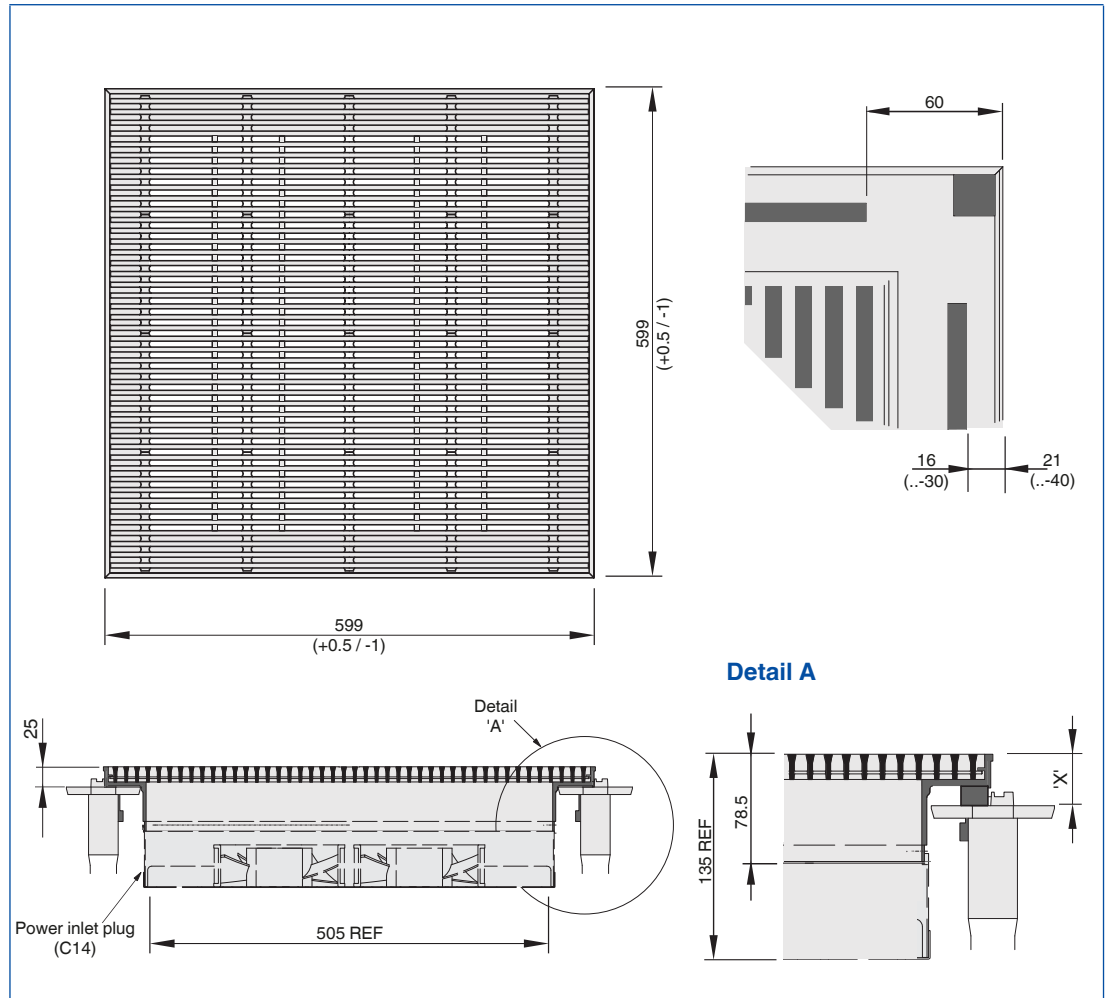
Standard construction type AFG-F1 including fan assembly is 135mm.

Type AFG-F1 is supplied with standard EN IEC 06320 power inlet plug (C14). Socket (C13) and fused power supply lead supplied by others.

**NOTE:**  
Type AFG-F1 suitable for maximum pedestal head diameter of 90mm.

Type AFG suitable for maximum stringer width of 30mm (...-30) or 40mm (...-40).

Please check floor system and confirm at point of order.



### Fan specification

| Data            | Result |
|-----------------|--------|
| Watts per motor | 26     |
| Total Watts     | 104    |
| Amps per motor  | 0.12   |
| Total Amps      | 0.48   |
| Motor 230V AC   | 50Hz   |

### Weight

| Grille type  | Weight |
|--------------|--------|
|              | kg     |
| AFG-F1 [125] | 15.5   |

### Standard text

This specification text describes the general properties of the product.

Extra heavy duty construction floor grille for computer rooms for supply air. Edge frames with welded mitred corners suitable for pedestal mounting (maximum Ø90mm) and stringer widths 0-30mm or 31-40mm. Height between pedestal face and face of grille to be selected with permanently factory fitted shims as necessary.

Options: with integrated fan assembly [F1] or static grille with optional opposed blade volume control damper assembly.

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

### Parts and characteristics

- 6mm wide welded mitred border sections
- Fixed horizontal blades
- Vertical lateral mullions

### Materials and surfaces

- Border and blades made of aluminium
- P2 : Border and blades powder-coat RAL9006:25%
- P4 : Border and blades powder-coat RAL9005:20%
- N1 : Border and blades powder-coat RAL9005, with nylon reinforcing

### Technical data

- Nominal size: 600 × 600
- Nominal frame depth: 25mm up to 50mm, (1mm increments)
- Maximum volume flow rate (supply air), at LWA max. 50 dB(A) without attachments: 530 l/s or 1908 m<sup>3</sup>/h

### Sizing data

- $\dot{V}$  \_\_\_\_\_ [l/s]
- $\Delta p_s$  \_\_\_\_\_ [Pa]
- $L_{WA}$  Air-regenerated noise \_\_\_\_\_ [dB(A)]

### Order options

#### 1 Type

**AFG** Floor grille

#### 2 Attachments

**A** Without (grille face only)  
**AG** Damper unit, opposed action blades  
**F1** 230V fan pack

#### 3 Nominal size

**600 x 600**

#### 4 Unit depth [AFG-F1 only]

**135** Standard

#### 5 Frame depth

**25** Standard  
**XX** 26mm to 50mm (1mm increments)

#### 6 Frame construction

**1** Stringer width 0-30mm  
**2** Stringer width 31-40mm

#### 7 Exposed surface

**P2** Powder-coated, RAL9006:25%  
**P4** Powder-coated, RAL9005:20%  
**N1** Powder-coated, with nylon reinforcing, RAL9005