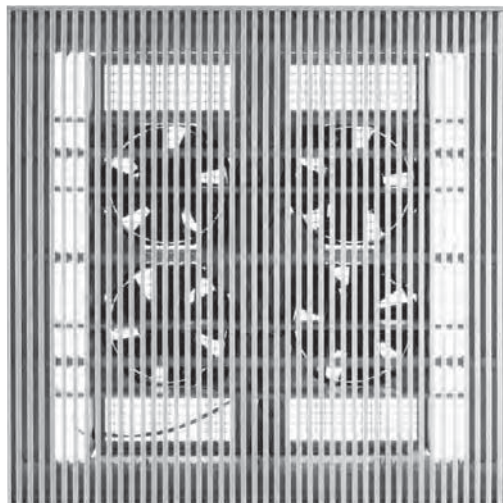


Floor grilles for installation into raised access floors

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 m³/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

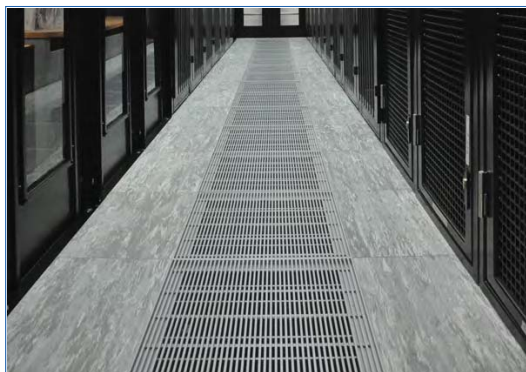
Optional equipment and accessories

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

Type		Page
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	Basic information & nomenclature	8.1 - 3
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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 ³ /h

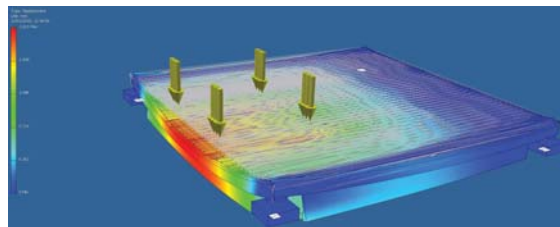
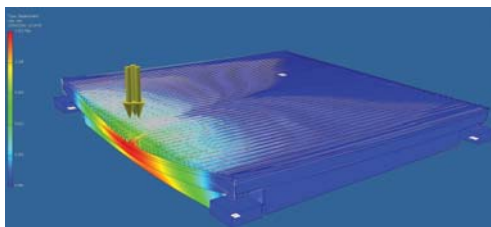
Volume flow rates for single grille.

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

Δp_s [Pa]

Floor void static pressure

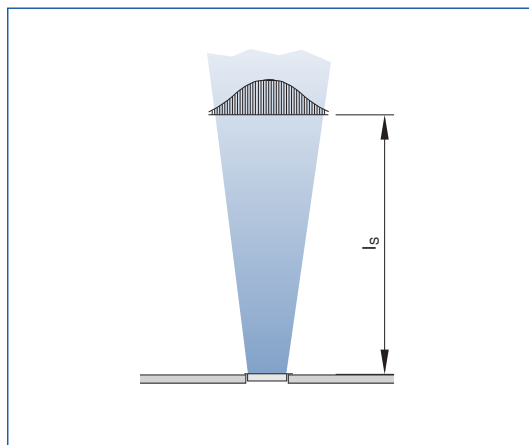
\dot{V} [m³/h] and [l/s]

Volume flow rate

Δp_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_s] provided to a maximum time average air velocity [V_L] 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 _t Pa	L _{WA} dB(A)	Δp _t Pa	L _{WA} dB(A)	L _s 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.

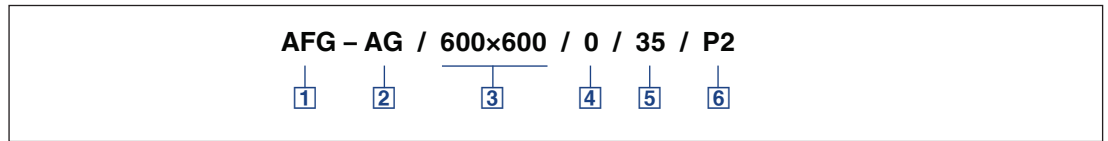
Sufficient void air (cooled by the others) must be available to be drawn by the AFG grille at the specific point of need.

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

	Floor void pressure Δp _s Pa	ṽ		L _{WA} dB(A)
		l/s	m ³ /h	
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 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/P2

Attachments	Damper unit, opposed action blades
Nominal size	600 x 600
Floor tile depth	35mm
Exposed surface	Powdercoat, RAL9006:25% (silver grey)

Order example

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

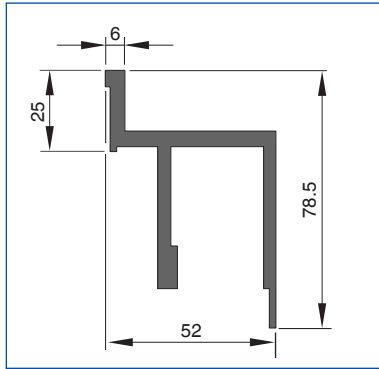
Fan pack	Standard 230v AC
Nominal size	600 x 600
Unit depth	135mm
Floor tile depth	35mm
Exposed surface	Powdercoat, RAL9006:25% (silver grey)

Front border and blade

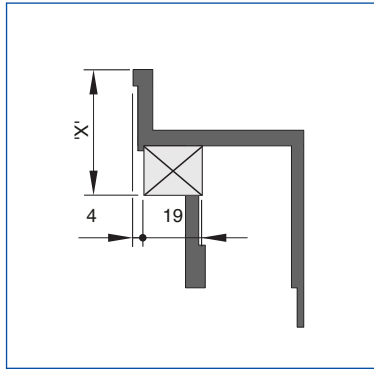
Optional shim factory installed in each corner where total frame depth ['X'] > 25mm.

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

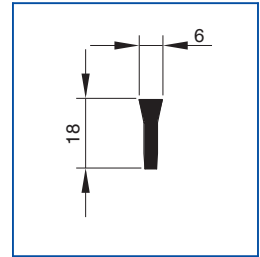
Front border AFG...



Optional shim 'X' 26...50



Blade



AFG-A ...-AG

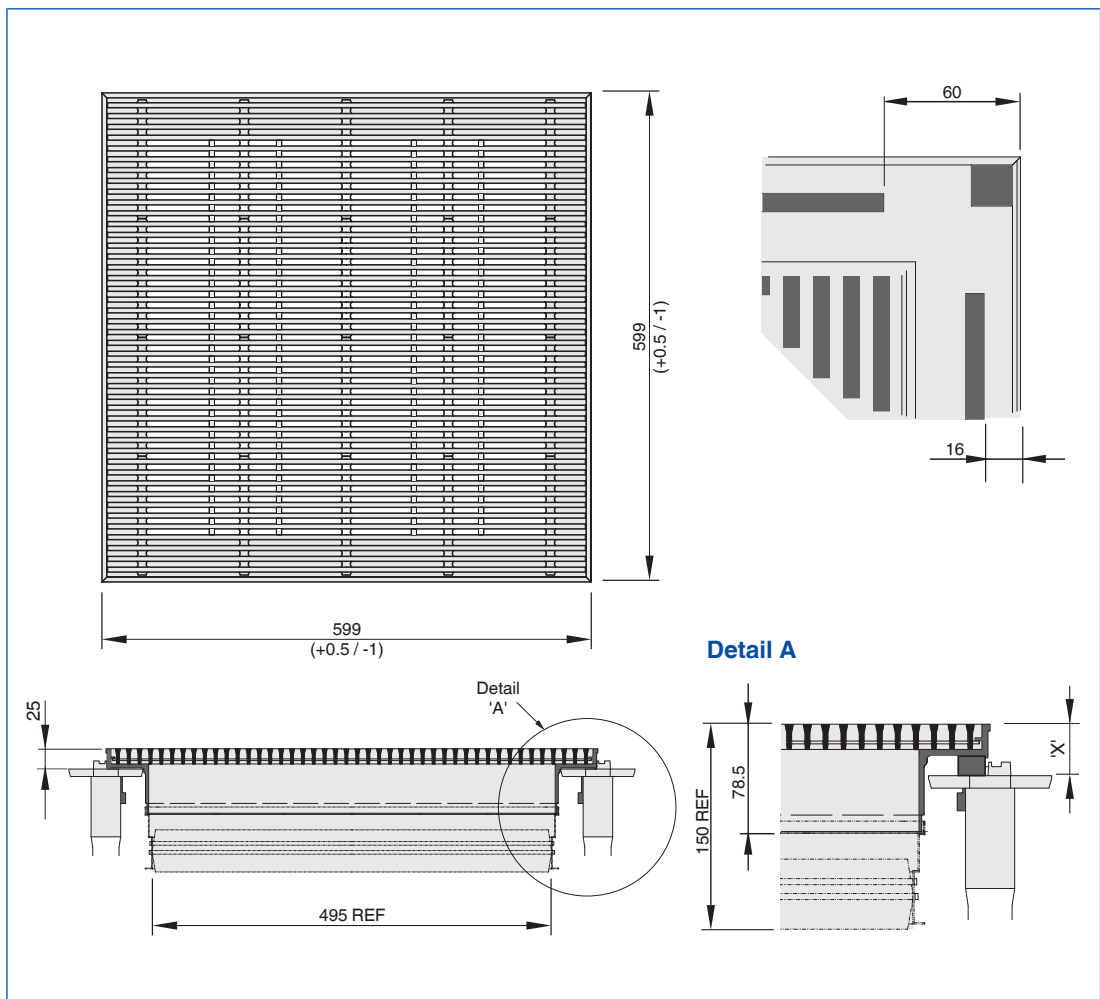
Optional 'AG' oposed blade volume control damper factory installed to rear of AFG floor grille.

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.



Weight

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

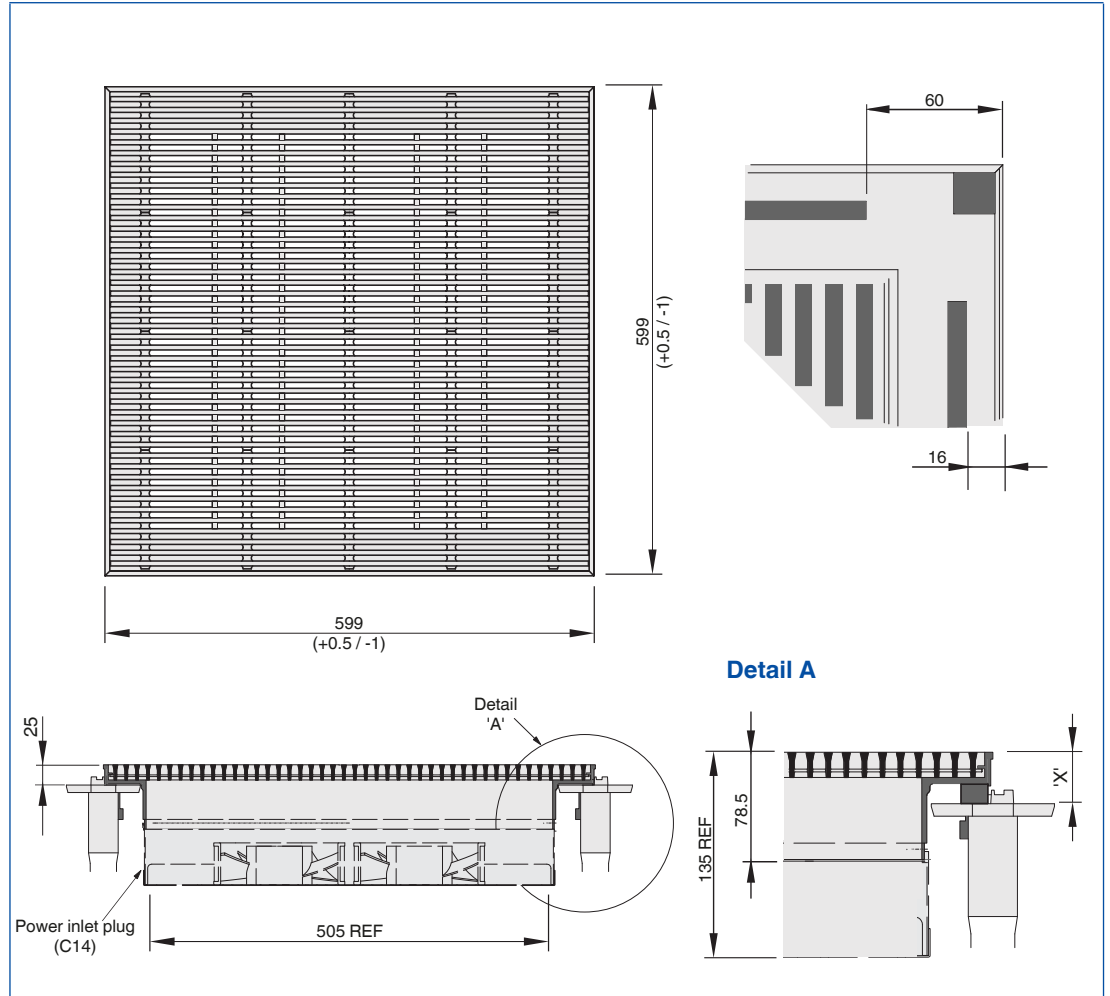
AFG-F1

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-F1 suitable for maximum stringer width of 30mm.



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.

Heavy duty construction floor grille for computer rooms for supply air. Edge frames with welded mitred corners suitable for pedestal mounting. Front profiled blade sections welded to edge frame. 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 m³/h

Sizing data

- \dot{V} _____ [l/s]
- Δp_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 Exposed surface

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