WATERLOO
A Swegon Group Company

Light Duty Floor Grilles

AFG Light Duty Floor Grille

Light Duty Floor Grilles

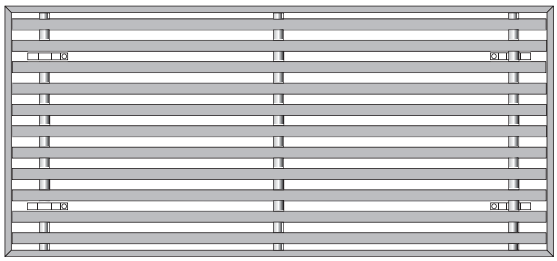
AFG

Introduction

The Waterloo Light Duty Floor Grille has been specifically designed for cill and floor applications where light foot traffic will be experienced.

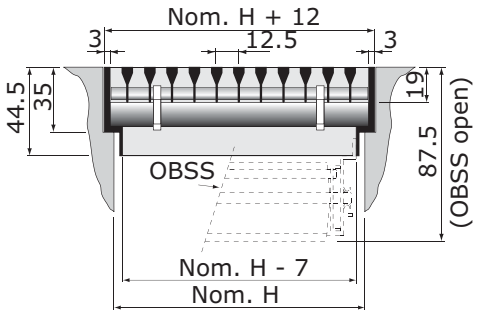
In addition, the AFG is available with any of the Airline cores. This makes the product ideal for sidewall applications where reinforced recessed frames are necessary.

The AFG is constructed from aluminium alloy extrusions with tube type cores and fully welded frames. The core is supported by rear reinforcing bars.



Product Description

AFG	Light Duty Floor Grille
OBSS	Allen key operated opposed blade damper
ED	Equalising Deflector
PBLG	Plenum Box



Features

- Removable cores for easy access and cleaning
- Core retaining clips for security/safety
- Various core styles
- Recessed frame detail
- Robust enough for light foot traffic on floors or cills
- Suitable for low level sidewall applications
- Solid extruded blades

Finishes

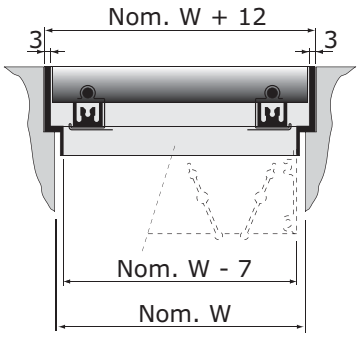
PPG9010 (RAL 9010 Gloss - 80% Gloss White)

PPM9010 (RAL 9010 Matt - 20% Gloss White)

PPM9006 (RAL 9006 Matt - 30% Gloss Silver)

Nylon Decanol

Other colours available on request



Weights

AFG 12 kg/m2 face area

OBSS 9.5 kg/m2 face area

Sizes

Minimum size - 150 x 50

Maximum size - N/A x 300

(Maximum single section 1800 x 200)

Free Area
49%

Order Example

AFG/1500/150/PPM9010

Type

Nominal Width

Nominal Height

Finish

Light Duty Floor Grilles

AFG

Selection Criteria

Performance data is based on isothermal conditions for a 1.25m long grille mounted adjacent to a wall surface. dBA is noise level based on a room absorption of 8dB for sound power ref 10^{-12} w.

Throw is the distance to where the envelope velocity equals 0.5m/s. For grilles mounted more than 500mm from a wall reduce the throw by $^1/_3$.

Selection Example AFG/2000/150

Air Volume 200 l/s/m

Throw = 6 m

25 dBA + 2 dB length correction = 27 dBA

Ps = 8 Pa

Terminal Velocity Correction Factors				
V_t (m/s)	0.6	0.5	0.4	0.3
Throw multiplier	0.8	1.0	1.3	1.66

Exhaust Air Correction Factors
Static pressure loss = supply pressure x 1.2
dBA level = supply + 4dB

Distributed load (typically foot traffic)		
Grille height (mm)	100	200
Max. static load (kg)	960	480
Max. shock load (kg)	384	192

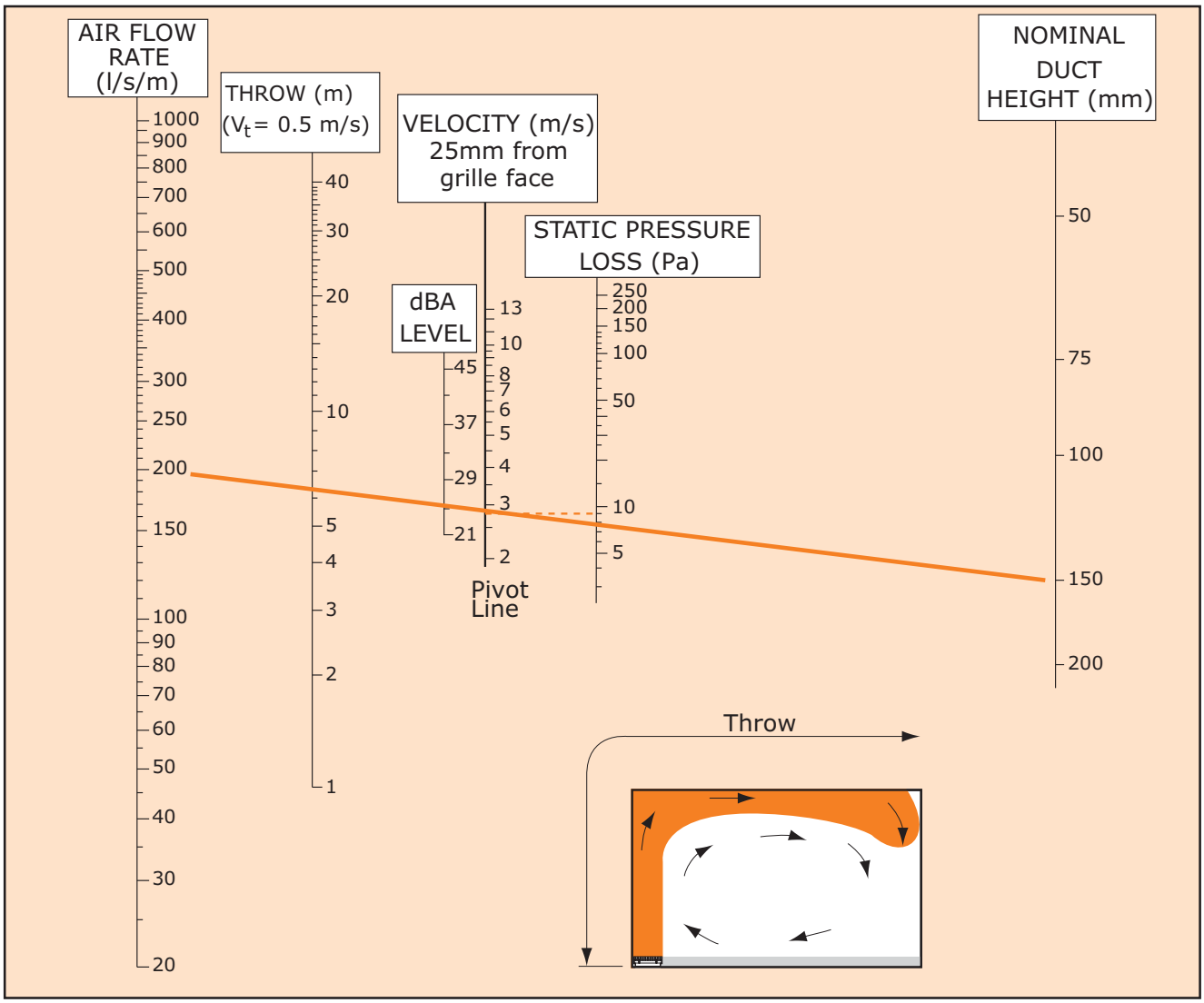
Safety factors: Static load = 2, Shock load = 5

Grille Length Correction Factors						
Length (m)	0.25	0.5	1.25	2	2.5	3
dBA addition	8	11	13	14	15	17
Throw x	0.9	0.9	1.0	1.0	1.1	1.1

Non-isothermal Jet Correction Factors			
Differential	10°c cooling	0°c	10°c heating
Sidewall throw	0.9	1.0	1.1
Cill throw	0.9	1.0	1.1

Point load (25x25mm point load over any 2 blades)	
Grille height (mm)	up to 200
Max. static load (kg)	105
Max. shock load (kg)	42

Performance Nomogram



Plenum Boxes

Introduction

Correct selection and sizing of distribution plenum chambers is critical because grille air resistance is very low relative to the distribution ductwork resistance. It is therefore recommended that whenever possible grilles are served by low velocity stub ducts from branch ducting systems fitted with correct balancing controls.
Where it is necessary to specify and use grille plenums a generous allowance for commissioned noise generation should be made.

Spigot Options

SE	Side Entry
TE	Top Entry
1CC	1- Circular Connection
1RC	1- Rectangular/Square Connection
1FO	1- Flat Oval Connection

Features

- Plated steel with stitched seam joints.
- Standard circular connection diameters: 97, 122, 157, 197, 247, 312 and 397 Ø
- Available with circular, square,rectangular or flat oval spigots in either top or side entry applications
- Standard or Low-line configurations
- Optional 6mm internal thermal/acoustic lining

Finish

PBG/NRG	Galvanised sheet steel

Dimensions

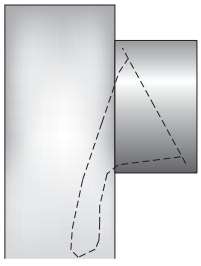
Length	Extract Grille length
Width	Extract Grille width
Height	SE – Spigot diameter or height + 100mm as standard
	TE – as specified by customer (200mm minimum recommended)

Order

When ordering plenum chambers please specify length, width & height, spigot size and position (Top or Side Entry) and control options. Please note that the plenum height should in general be 100mm greater that the spigot diameter (Side Entry applications).

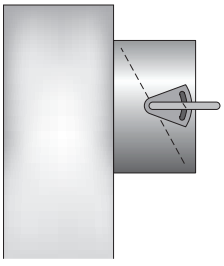
Note: The connection between the grille and plenum is adequately sealed for most installations, although secondary additional sealing may be required at the discretion of the installers, if the leakage rate required is particularly low.

Control Options



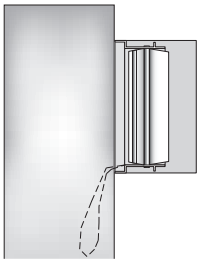
FDC

Cord operated flap damper for mounting within circular spigots to plenum chambers. The cord should be fed through the air terminal device ready for commissioning.



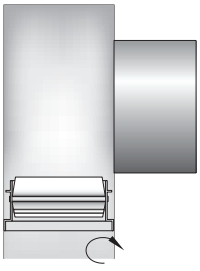
FDQ

Flap damper with external quadrant control for mounting within circular spigots to plenum chambers. The quadrant is accessible from outside the duct and the damper can be locked in any position.



OBCO

Cord operated opposed blade damper for installation within square or rectangular spigots to plenum chambers. The cord should be fed through the air terminal device ready for commissioning.



OBSS / ED

Standard opposed blade damper for diffuser or duct mounting. Adjustable by screwdriver inside the duct or through the face of the air terminal device. The ED is an individually adjustable blade device for equalising airflow across the diffuser.

Control Options - Grille Mounted

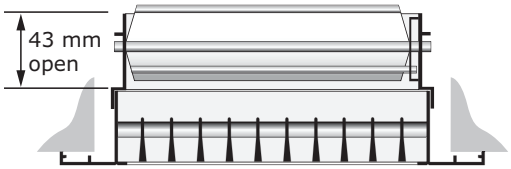
OBSS Opposed Blade Damper (Volume Control Damper)

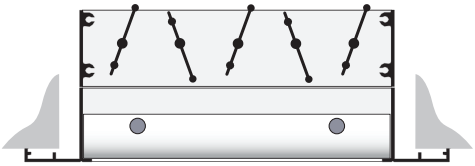
Introduction

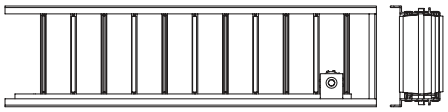
Waterloo OB Opposed Blade Dampers are manufactured to suit virtually the whole of our square / rectangular Air Terminal range and can be fitted to the neck of the terminals or inside plenum box.

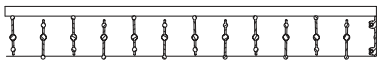
They are adjustable from the front of the Grille or Diffuser with a screwdriver as standard, but are also available with cord- or lever-operation.

Manufactured with linked aluminium extruded blades, in sizes to suit any Waterloo Grille or Diffuser, they are useful for fine airflow regulation and can be adjusted from fully open to closed low-leakage position.









Product Description

OBSS	Opposed Blade Damper, Screwdriver operated
OBCO	Opposed Blade Damper, Cord operated
OBSL	Opposed Blade Damper, Short Lever operated
OBLL	Opposed Blade Damper, Long Lever operated
BLACK	Painted black to prevent through vision

Features

- Linked aluminium extrusions for limited extra weight
- Large choice of adjustments to suit any configuration
- Can be fitted to virtually any Waterloo Grille or Diffuser

Finishes

Extruded aluminium blades

Sizes

Minimum Size - 100 x 75

Minimum Size for Plasterline - 100 x 50

Maximum Size - single section 800x600mm

Multiple sections will be banked to accommodate larger terminal sizes.

Order Example

OBSS/Black/600/200/For ALN

- Damper type
- Options
- Terminal Length
- Terminal Width
- Terminal type

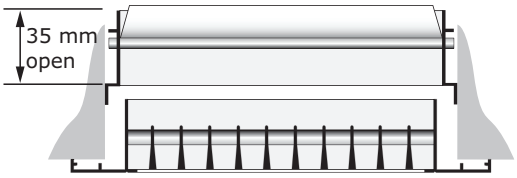
ED Equalising Dampers (Directional Blades Incapable of Shut Off)

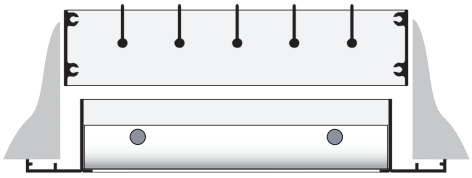
Introduction

Waterloo ED Equalising Dampers are manufactured to suit virtually the whole of our square / rectangular Air Terminal range and can be fitted to the neck of the terminals or inside plenum box.

They are individually adjustable to control air direction and may be used for localised blanking.

Manufactured with aluminium extruded blades, in sizes to suit any Waterloo Grille or Diffuser, they can be adjusted manually by removing the Grille or Diffuser core.





Product Description

ED	Equalising deflector
BLACK	Painted black to prevent through vision

Features

- Aluminium extrusions for limited extra weight
- Individually adjustable for fine airflow regulation
- Can be fitted to virtually any Waterloo Grille or Diffuser

Finishes

Extruded aluminium blades

Sizes

Minimum Size - 100 x 50

Maximum Size - single section 800x600mm

Multiple sections will be banked to accommodate larger terminal sizes.

Order Example

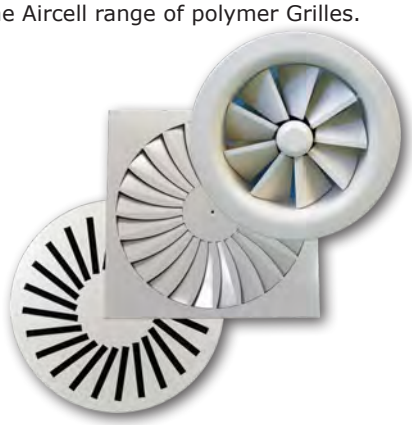
ED/Black/600/200/For A CSF

- Damper type
- Options
- Terminal Length
- Terminal Width
- Terminal type

Waterloo Product Range

GRILLES

A complete range of products suitable for all wall, ceiling and floor applications. Most grilles are made from aluminium and have a range of fixed or moveable blades designed to give performance whilst remaining aesthetically pleasing to the eye. Grilles are made to customer specified sizes and colours (PPM/G); standard colour PPM9010 (20% Gloss White). The range is complemented by the Aircell range of polymer Grilles.



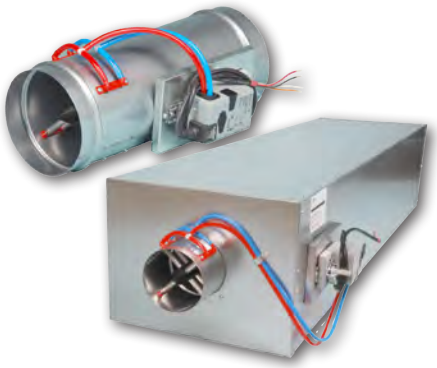
DIFFUSERS

Designed to be installed in various ceiling systems, we have a complete range to suit both performance and aesthetical requirements. Most diffusers are made from aluminium and can be ordered with or without plenum chambers for easy duct work. Diffusers can be ordered in customer specified colours (PPM/G); standard colour is PPM 9010 (20% Gloss White). This range is complemented by the Aircell range of polymer Diffusers.

ACTIVE AND PASSIVE CHILLED BEAMS

The finest quality range of high output active beams, used for ventilated heating and cooling applications. These units have 4 pipe coils to allow heating and cooling circuits to run simultaneously, giving constant and responsive control. The design allows a large optimum capacity and also allows the customer to specify the nozzle type and pitch for individual circumstances.

Active beams are made from steel to a large range of customer specified sizes and as such are suitable for various different ceiling systems. Standard finish is PPM 9010, however other (PPM/G) colours are available on request.



AIR VOLUME CONTROL DAMPERS

Pressure independent Variable Air Volume and Constant Air Volume dampers made from zintec plate. Most volume dampers are regulated with an electronic motor and sensors and are calibrated to customer specifications before delivery.

The Constant Air Volume damper requires no power source as it is controlled via a mechanical device and calibrated before delivery. All volume dampers can be ordered with a single or double (insulation) skin.

EXTERNAL LOUVRES

A quality range of products for external wall applications. Made from aluminium, with birdscreen or insect screen options. All louvres are made to customer specified sizes and (PPM/G) colours; standard colour is PPM 9006.

DISPLACEMENT

A full range of recessed, semi-recessed, floor, wall and corner units providing high ventilation efficiency and excellent comfort. The very low pressure involved also offer quiet installations. Displacement units are available as wall or floor mounted, or indeed integrated within the architectural design.

WATERLOO
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bsi. ISO 9001:2015 Quality Management
FM 27823

bsi. ISO 14001:2015 Environmental Management
EMS 590755

Waterloo declare that, at the time of print, all products are in accordance with relevant directives, as identified by HEVAC and other European Organisations and will display the CE Marking where required.

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