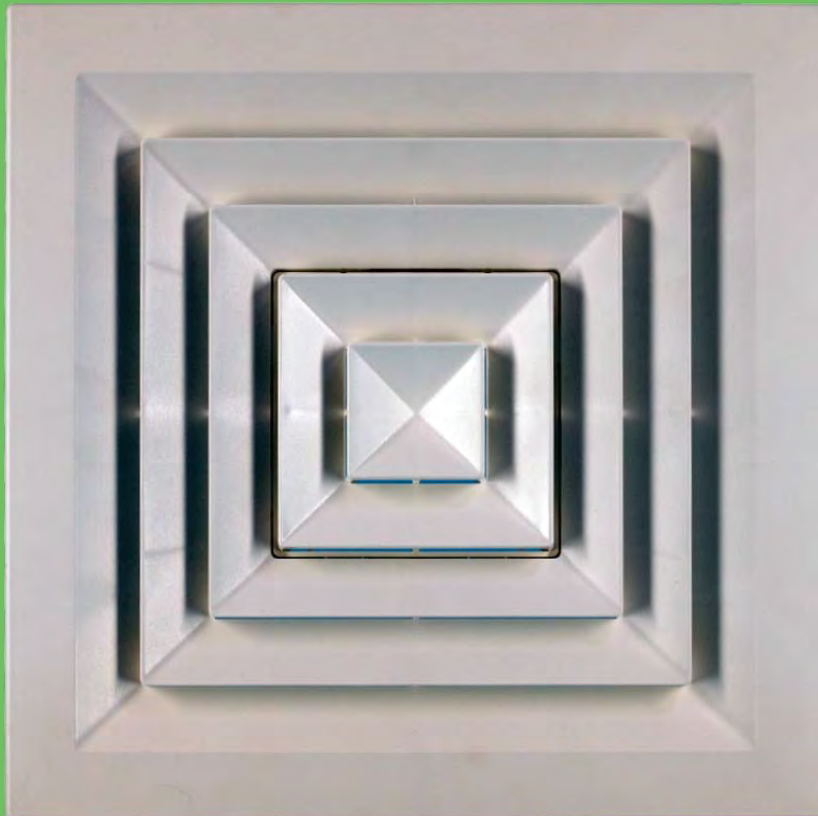


M Aircell Polymer Diffusers

M300	300 sq diffusers
M450	450 sq diffusers
M500	500 sq diffusers
M600	600 sq diffusers



M Aircell Polymer Louvre Face Diffusers

M300 / M450 / M500 / M600

Introduction

The Waterloo Aircell M series presents all the cost and design advantages of the 2000 series with the visual appeal of clean, unbroken lines on the traditional multicone design. The diffusers are available in a range of 4 sizes to integrate with standard 300mm and 600mm ceilings and the 500mm and 600mm European systems.

Product Description

M300	300 sq diffusers
M450	450 sq diffusers
M500	500 sq diffusers
M600	600 sq diffusers
O	Black polymer opposed blade damper
P	Black polymer plenum box
F	Fixing kit
BM	Blanking kit
R600	Reducer with 123 Ø spigot

Features

- Contemporary style designed for visual integration with luminaires and other ceiling elements
- Ease of installation with concealed, single point fixing into P series plenum or rigid ducting
- Full range of integrated accessories available including directional or core blanking kits, universal plenums and opposed blade dampers

Finishes

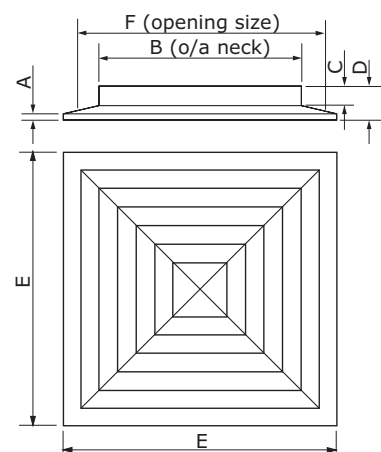
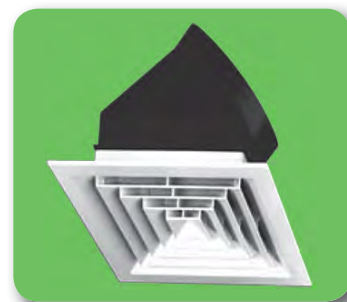
Diffusers are self-coloured white. Damper and plenum are self-coloured black

Weights

M300	0.6 kg
M450	1.4 kg
M500	1.6 kg
M600	2.6 kg

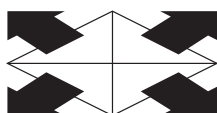
Authority

Patents: 2221530, 2223840, 8818337 others pending
Registered Designs: 1052716, 106216
Fire Rating: BS476 Pt 7 Class 0. BS476 Pt 5, P Rating.
Maximum supply air temperature must not exceed 50°C.

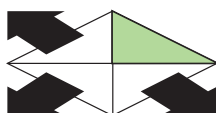


Aircell M	A	B	C	D	E	F
M300	6	230	36	56	296	235
M450	6	307	36	56	446	375
M500	6	307	36	56	496	375
M600	6	456	36	56	596	525

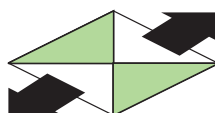
Blanking Arrangements



4 way



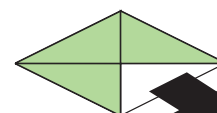
3 way



2 way



2 way



1 way

ORDER EXAMPLE

Aircell M300/O300/P300/F300/BM300

Type _____
Damper _____
Plenum _____
Fixing Kit _____
Blanking Kit _____

M Aircell Polymer Louvre Face Diffusers

M300 / M450 / M500 / M600

Selection Criteria

Ceiling Height 2.7 m
 Temperature Differential - 10K
 Average room velocity v_f 0.25 m/s
 Noise level = peak level on noise rating curves based on
 Sound Power Level less 8dB room absorption
 All performance data includes the plenum box

Selection Example Aircell M450

Air flow rate 180 l/s
 Throw 2.0m
 Static Pressure Loss 15 Pa
 Noise level 28 dBA
 Note: Sizes are overall

Performance Table

M		Supply				Supply				Supply				Extract	Extract	Extract
		M300				M450 - M500				M600				M300	M450 M500	M600
	l/s	4 way	3 way	2 way	1 way	4 way	3 way	2 way	1 way	4 way	3 way	2 way	1 way	4 way	4 way	4 way
34	T	1.0	1.2	1.6					1.5							
	P _s	9	15	33					9					10		
	L _w	-	-	-					-					-		
45	T	1.2	1.5						2.0							
	P _s	15	23						15					17		
	L _w	-	-						28					-		
56	T	1.5	1.7					1.3	2.2							
	P _s	23	34					7	23					25		
	L _w	-	25					23	33					-		
68	T	1.6						1.5	2.5							
	P _s	33						9	33					36		
	L _w	-						25	38					26		
79	T	2.0					1.3	1.7	3.0				2.0			
	P _s	43					8	12	43				9	47		
	L _w	26					20	32	41				30	29		
135	T					1.5	2.0	2.5					3.7			
	P _s					9	15	33					26		10	
	L _w					17	28	38					43		26	
180	T					2.0	2.3					2.2	4.6			
	P _s					15	25					12	44		17	
	L _w					28	34					32	50		31	
225	T					2.2	2.7					1.8	2.8			
	P _s					23	35					7	17		25	
	L _w					33	40					27	40		36	
270	T					2.5						2.2	3.7			
	P _s					33						12	26		36	
	L _w					38						33	43		41	
315	T					3.0				2.0	2.5	4.1				
	P _s					43				9	15	35			47	10
	L _w					41				30	37	46			44	33
405	T									2.5	3.6					
	P _s									15	25					17
	L _w									37	44					40
506	T									3.5	4.3					
	P _s									23	38					25
	L _w									42	47					45
608	T									4.0						
	P _s									33						36
	L _w									45						48
709	T									4.5						
	P _s									43						47
	L _w									49						52

Polymer Plenum Box to suit Aircell Diffusers

P

Introduction

The Aircell Polymer plenum boxes for M and 2 series Diffusers are designed for effective air mixing, as well as quick installation with snap-in locks and dual Top/Side Entry design.

They incorporate internal guide vanes and are made of Black ABS engineering polymer, with the same fire-resistance and non-corroding characteristics as the Terminals

The 'P' series plenum is aerodynamically profiled to provide ideal flow conditions with either top or side entry duct arrangements. Manufactured in black engineering grade polymer, the design incorporates features such as internal guide vanes to reduce air turbulence, and snap-in locks to retain the opposed blade damper and diffuser mounting bar.

The plenum can be fixed to the ceiling grid or suspended by drop rods from the slab. Either fixing method is carried out using patented mounting brackets which simply slide into the plenum retaining slots.

Product Description

P Polymer Plenum box for Aircell Diffusers (M300, M450, M500, M600, 2300, 2600)

Features

- Black FR grade ABS engineering polymer
- Unique spigot design to suit Side/Top Entry connections
- Snap-in locks for quick installation
- Internal vanes for reduced air turbulence

Finish

P Self finish

Weights

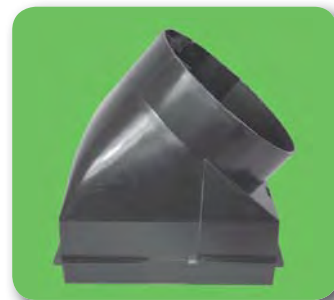
P300 0.7 kg, P450 1.0 kg, P600 1.7 kg

Neck Reducer R600

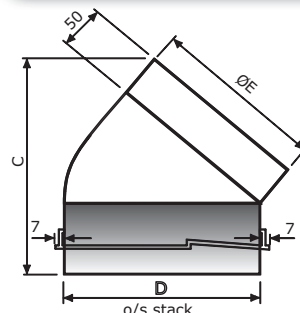
The R600 snap-fit neck reducer is available as an option to convert the P600 plenum spigot from 397 Ø to 312 Ø.

ORDER EXAMPLE

2600/P600+4BKTS/F600
 Diffuser Type ☐
 Plenum Chamber ☐
 Fixing ☐



Type P plenum



Note: The connection between the diffuser 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.

Dimensions

Model	C	D	E
P300	245	224	197
P450	277	299	247
P600	366	449	397

Polymer Neck Reducer to suit Aircell M600 and 2600

R600

Introduction

The Aircell Polymer neck reducers for M600 and 2600 Diffusers are designed to be fitted on top of a P600 plenum box to bring the connection size down to Ø312mm.

They are made of Black ABS engineering polymer, with the same fire-resistance and non-corroding characteristics as the Terminals and Plenum Boxes

Product Description

R600 Polymer Plenum box for Aircell Diffusers (M600, 2600)

Features

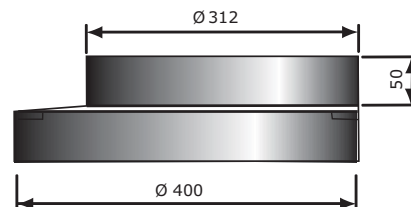
- Black FR grade ABS engineering polymer
- Reduces the spigot from Ø397mm to Ø312mm

Finish

R600 Self finish

ORDER EXAMPLE

2600/P600+4BKTS/F600/R600
 Diffuser Type ☐
 Plenum Chamber ☐
 Fixing ☐
 Neck Reducer ☐



R600 neck reducer

Aircell Diffusers

Performance

The unique integrated design of the plenum, damper and diffuser assembly has been specifically developed to promote smooth flow lines, ensuring an exceptional aerodynamic and acoustic performance.

Aircell products can be used in any air distribution system where temperatures do not exceed 50° C.

Opposed Blade Damper Type 'O'

Introduction

The 'O' series opposed blade damper is designed to integrate with the plenum and diffuser range to provide a simple means of flow regulation from the diffuser face. The unit is designed to snap-fit into the universal plenum, or alternatively can be easily screw or rivet fixed into steel ducting using the inbuilt mounting lugs. Manufactured in black engineering grade polymer, the damper is inherently smooth and positive in operation.

Available with our Aircell Diffusers, these ABS Polymer Opposed Blade Dampers are designed to integrate with the Diffusers and Plenum Boxes range to provide a simple means of flow regulation from the diffuser face. Adjustable with a screwdriver as standard, the OC version can be cord-operated.

Product Description

- O** Aircell Polymer Opposed Blade Damper
- OC** Aircell Polymer Opposed Blade Damper, Cord-operated

Features

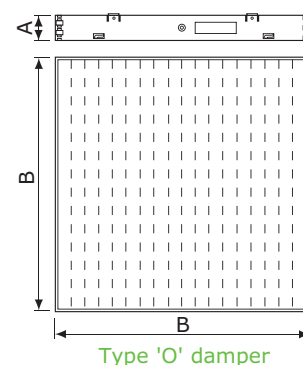
- Black class "0" fire rated ABS engineering polymer
- Snap-fit for quick installation

Finish

- O / OC** Black class "0" fire rated ABS engineering polymer

Weights

O300 0.5 kg, O450 1.0 kg, O600 2.2 kg



Dimensions

Model	A	B	C	D	E
O300	41	215	-	-	-
O450	41	290	-	-	-
O600	41	440	-	-	-

ORDER EXAMPLE

2600/OC600
Diffuser Type ☐
Damper Type ☐

Aircell Diffusers

Installation and Specification

Installation

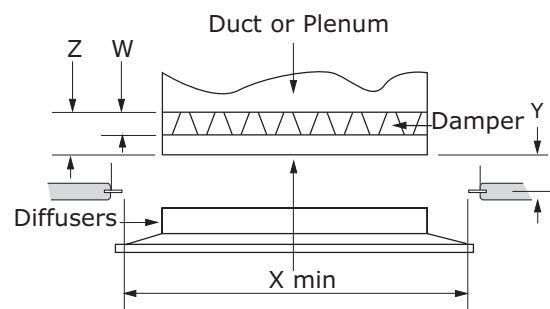
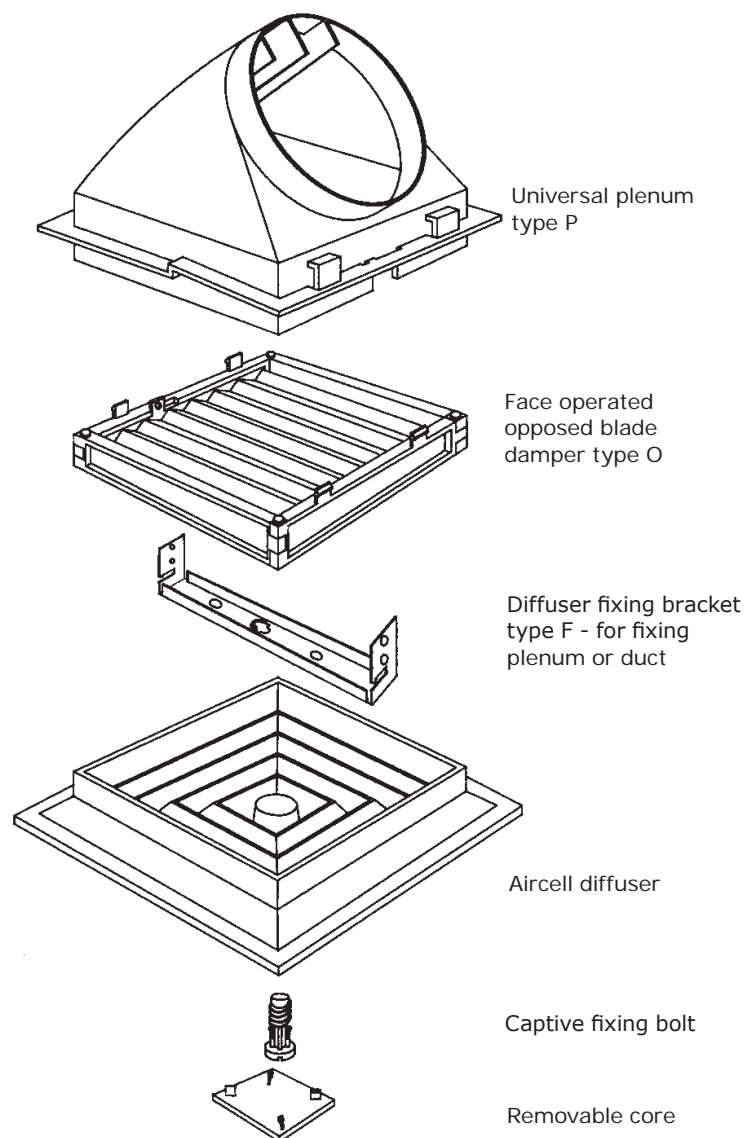
Particular attention has been paid to the installation method to minimise site fixing time. The plenum is easily installed using the slide-in brackets as support legs from above the ceiling 'T', or with drop rods from the slab. The damper and diffuser support bar can then be clipped in place, with the diffuser finally being secured by the single centre fixing screw.

Specification

Aircell are manufactured from injection moulded engineering polymer, in self-coloured white as standard. Overall diffuser size shall be nominally 300 or 600mm to suit standard ceiling grids.

A captive centre line polymer fixing bolt and metal fixing bracket kit shall be provided. Directional blanking is obtained with snap-in plates to provide 1, 2 or 3 way air patterns or reduced area blanking. Opposed blade dampers (type 'O') is manufactured from injection moulded engineering polymer in self-coloured black as standard, operable through the diffuser face.

Plenum box (type 'P') is manufactured from injection moulded engineering polymer of a universal design and in self-coloured black, incorporating guide vanes and bracket location slots.



W = Damper depth
 X = Ceiling opening (+5 -0)
 Y = Face of T bar to underside of Duct or Plenum (+0 -10)
 Z = Underside of duct to underside of damper

Model	W	X	Y	Z
2300	45	269	41	88
2600	45	546	41	88

Note:

Specially designed clips mean that you can use a type 'O' damper with a diffuser without a universal Plenum.

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

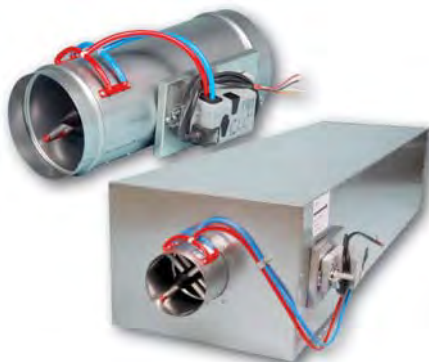
Designed to be installed in various ceiling systems, we have a complete range to suit both performance and aesthetic requirements. Most diffusers are made from aluminium and can be ordered with or without plenum boxes for easy duct work. Diffusers can be ordered in customer specified colours (PPM/G); 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.



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