

Aircell Polymer Range

S, D Aircell Adjustable Blade Grilles

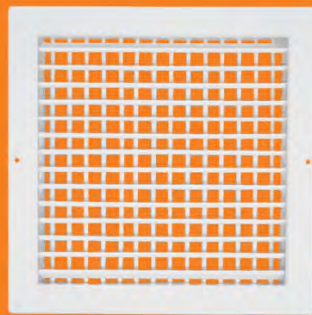
G, A Aircell Polymer Exhaust Grilles

T Aircell Polymer Air Transfer Grilles

E Aircell Polymer Eggcrate Grilles



Aircell - S



Aircell - D



Aircell - T



Aircell - G



Aircell - A



Aircell - E

Aircell Polymer Grilles

S / D / G / A / T / E

Introduction

The Aircell range of supply & exhaust grilles are injection moulded in self-coloured white.

Aircell S (Single deflection) and **Aircell D** (Double deflection) have individually adjustable vanes on a 19mm pitch to allow jet spread or deflection to be set within 45° of the duct axis.

Aircell G (0° fixed blade) has horizontal 0° fixed blades on a 20mm pitch.

Aircell A (45° fixed blade) can be used as a wall or ceiling mounted grille.

Aircell T (45° fixed blade) are supplied as a pair of reduced stack Aircell A grilles for door mounting.

Aircell E (Eggcrate) has a lattice core with a 13mm pitch and is suitable for all exhaust applications.

All types are available in 5 standard sizes, plus an E600 which has been specifically designed for full ceiling tile replacement.

The E600 has an overall size of 596mm x 596mm and for the North American market 603mm x 603mm overall (E603) and for the German Market, 621mm x 621mm overall (E621). Waterloo Aircell products can be used in any air distribution system where temperatures do not exceed 50°C.

Product Description

Aircell S Single deflection grille

Aircell D Double deflection grille

Aircell G 0° fixed blade grille

Aircell A 45° fixed blade grille

Aircell T 45° fixed blade grilles for door transfer

Aircell E 13mm Eggcrate grille

GO Opposed blade damper in black engineering polymer

N Neck reducer in black engineering polymer

OBSS Aluminium opposed blade damper for E600

NR Steel neck reducer for E600

Features

- Consistent high quality
- Moulded in easy to clean engineering polymer
- Suitable for high-cleaning regime and chlorinated environments

Fixing

Screw through face flange

Finishes

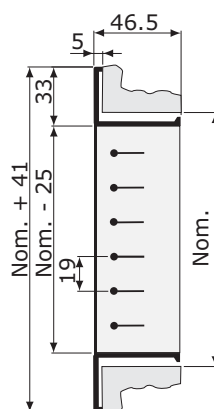
Self-coloured white

Advantages

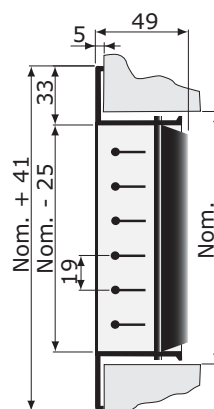
- Good size range
- Standard size neck reducers
- No visible mitres
- Available 'off the shelf'

Authority

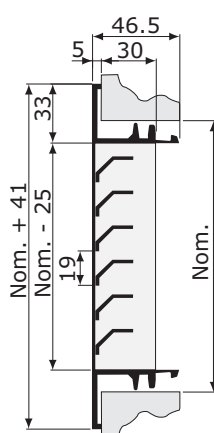
Fire Rating: BS476 Pt 7 Class 0.



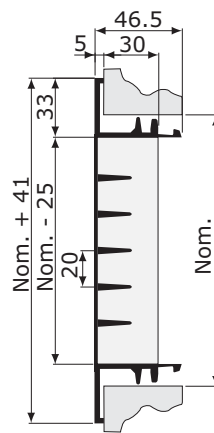
Aircell S



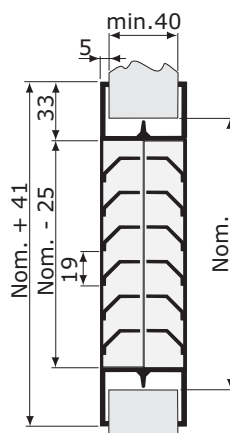
Aircell D



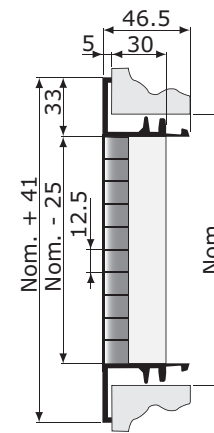
Aircell A



Aircell G



Aircell T



Aircell E

ORDER EXAMPLE

Aircell G/300/300/GO/N

Grille Type _____
Nominal Width _____
Nominal Height _____
Option 1 _____
Option 2 _____

Weights	
S	7.0 Kg/m ²
D	7.2 Kg/m ²
G	7.7 Kg/m ²
A	10.2 Kg/m ²
T	7.7 Kg/m ²
E	10.9 Kg/m ²
GO	7.6 Kg/m ²
N	6.4 Kg/m ²

W x H
150 x 150
200 x 200
250 x 250
300 x 150
300 x 300

Aircell Polymer Grilles

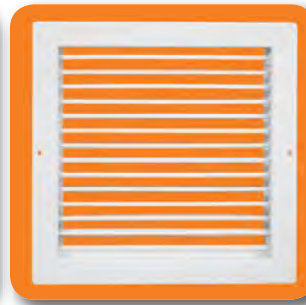
S / D / G / A / T / E

Selection Example
Aircell D-250 x 250
with straight blades

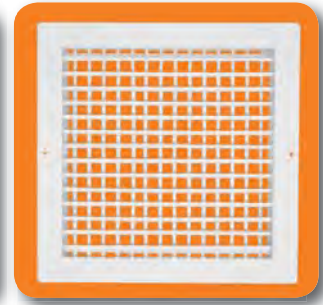
Air Volume 250 l/s
Throw 13.0 m
Pressure Drop 15 Pa
Noise Level dBA 29
 $V_t = 0.4 \text{ m/s}$
11°C cooling differential



Aircell - E



Aircell - S



Aircell - D

Performance Table

Aircell E		Extract					
m³/h	l/s		150 x 150	200 x 200	250 x 250	300 x 150	300 x 300
90	25	P _s	2				
		L _w	<20				
180	50	P _s	10	3		2	
		L _w	<20	<20		<20	
360	100	P _s	40	11	5	10	2
		L _w	38	<20	<20	<20	<20
540	150	P _s		26	11	22	5
		L _w		32	<20	32	<20
720	200	P _s		45	19	39	9
		L _w		41	28	41	<20
900	250	P _s		72	30	62	14
		L _w		49	36	48	21
1080	300	P _s			42	88	20
		L _w			43	54	28
1440	400	P _s			74		35
		L _w			53		40
1800	500	P _s					55
		L _w					49
2700	750	P _s					8
		L _w					<20
3600	1000	P _s					14
		L _w					27
4500	1250	P _s					21
		L _w					36
5400	1500	P _s					30
		L _w					44

45° Blade Angle Correction Factors For S & D		
Throw multiplier	dBA addition	Pa multiplier
0.55	+8dB	3.1

Aircell S Aircell D		Supply				
m³/h	l/s		150 x 150	200 x 200	250 x 250	300 x 150
90	25	T	2.1			
		P _s	1			
		L _w	<20			
180	50	T	4.7	3.4	2.6	2.9
		P _s	3	2	1	1
		L _w	<20	<20	<20	<20
360	100	T	8.5	6.4	5.1	6.0
		P _s	14	8	3	6
		L _w	34	<20	<20	<20
540	150	T	14	9.4	7.7	9.4
		P _s	29	18	6	12
		L _w	46	26	<20	20
720	200	T	18	12	10	12
		P _s	52	31	10	21
		L _w	54	35	22	33
900	250	T		16	13	15
		P _s		48	15	32
		L _w		42	29	40
1080	300	T		20	15	18
		P _s		66	21	45
		L _w		47	34	45
1440	400	T			20	
		P _s			36	
		L _w			43	

Aircell Polymer Grilles

S / D / G / A / T / E



Aircell - G

Performance Table

Aircell G			Extract				
m³/h	l/s		150 x 150	200 x 200	250 x 250	300 x 150	300 x 300
90	25	P _s	2	1			
		L _w	<20	<20			
180	50	P _s	10	3	1	3	
		L _w	<20	<20	<20	<20	
360	100	P _s	39	13	5	10	2
		L _w	33	28	<20	<20	<20
540	150	P _s	90	30	10	23	5
		L _w	42	38	19	30	18
720	200	P _s		53	18	40	9
		L _w		45	26	36	25
900	250	P _s		85	29	63	15
		L _w		51	32	41	29
1080	300	P _s			42	90	22
		L _w			36	45	33
1440	400	P _s			72		40
		L _w			44		39

Free Area						
	150 x 150	200 x 200	250 x 250	300 x 150	300 x 300	600 x 600
S	49%	53%	58%	53%	59%	-
D	49%	53%	58%	53%	59%	-
G	58%	60%	64%	62%	67%	-
A	32%	30%	37%	33%	36%	-
T	32%	30%	37%	33%	36%	-
E	44%	50%	51%	49%	53%	56%

Aircell Polymer Grilles

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Selection Criteria

Ceiling height 2.7m

dBA is noise level based on a room absorption of 8dB.

Selection Example

Aircell A-200 x 200

Air Volume 50 l/s

Pressure Drop 15 Pa

Noise Level 33 dBA

Performance Table

Aircell A		Extract					
m³/h	l/s		150 x 150	200 x 200	250 x 250	300 x 150	300 x 300
90	25	P _s	10	4	2	2	
		L _w	26	20	<20	<20	
180	50	P _s	40	15	6	10	3
		L _w	40	33	<20	30	<20
360	100	P _s		57	24	39	11
		L _w		47	33	43	25
540	150	P _s			50	88	25
		L _w			44	51	36
720	200	P _s					45
		L _w					44
900	250	P _s					70
		L _w					50

For performance of the Aircell T series, please multiply the above pressure loss by 2 and add 3db to the dBA level.

Accessories

Aircell GO Opposed Blade Damper

Aircell GO series opposed blade dampers are manufactured from injection moulded components in self-coloured black engineering polymer. Adjustable through the grille face, the damper can be clipped directly onto the grille without fixings.

Aircell N Neck Reducer

Aircell N series neck reducers are injection moulded in self coloured black engineering polymer. The units are available in five sizes to suit the grille range and are designed to snap fit over the opposed blade damper or directly onto the grille stack.

All reducers have standard size circular spigots related to the grille height (see dimensional details).

OBSS damper and NR neck reducer for E600 series

The OBSS aluminium opposed blade damper and NR steel neck reducer are available for the E600 series to allow volume control and circular duct connection directly onto the E600 grille.

Please state spigot size required when ordering.

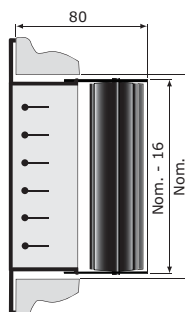


Aircell - T

Aircell - A

Grille W x H	Spigot ØD	Maximum Volume	
		m³/h	l/s
150 x 150	97	99	28
200 x 200	147	223	62
250 x 250	197	396	110
300 x 150	97	99	28
300 x 300	247	619	172

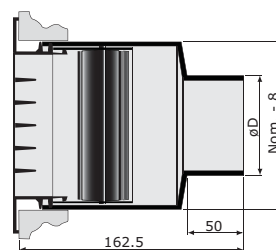
Please note that when using the N series neck reducer, air volumes must not exceed the following guidelines.



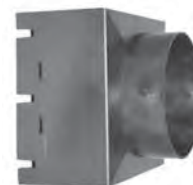
Aircell D + GO



GO Polymer Opposed
Blade Dampers

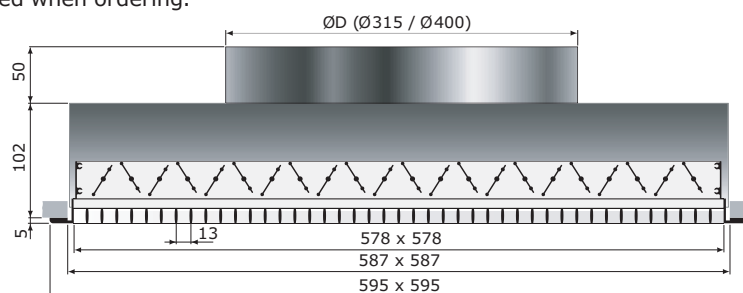


Aircell G + GO + N



N Polymer Neck Reducer

E600 + OBSS + NR





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

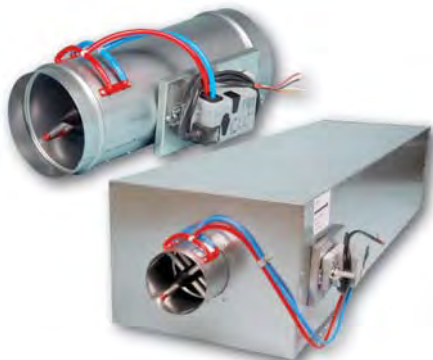
Designed to be installed in various ceiling systems, we have a complete range to suit both performance and aesthetical requirements. Most diffusers are made from aluminium and can be ordered with or without plenum chambers for easy duct work. Diffusers can be ordered in customer specified colours (PPM/G);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



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