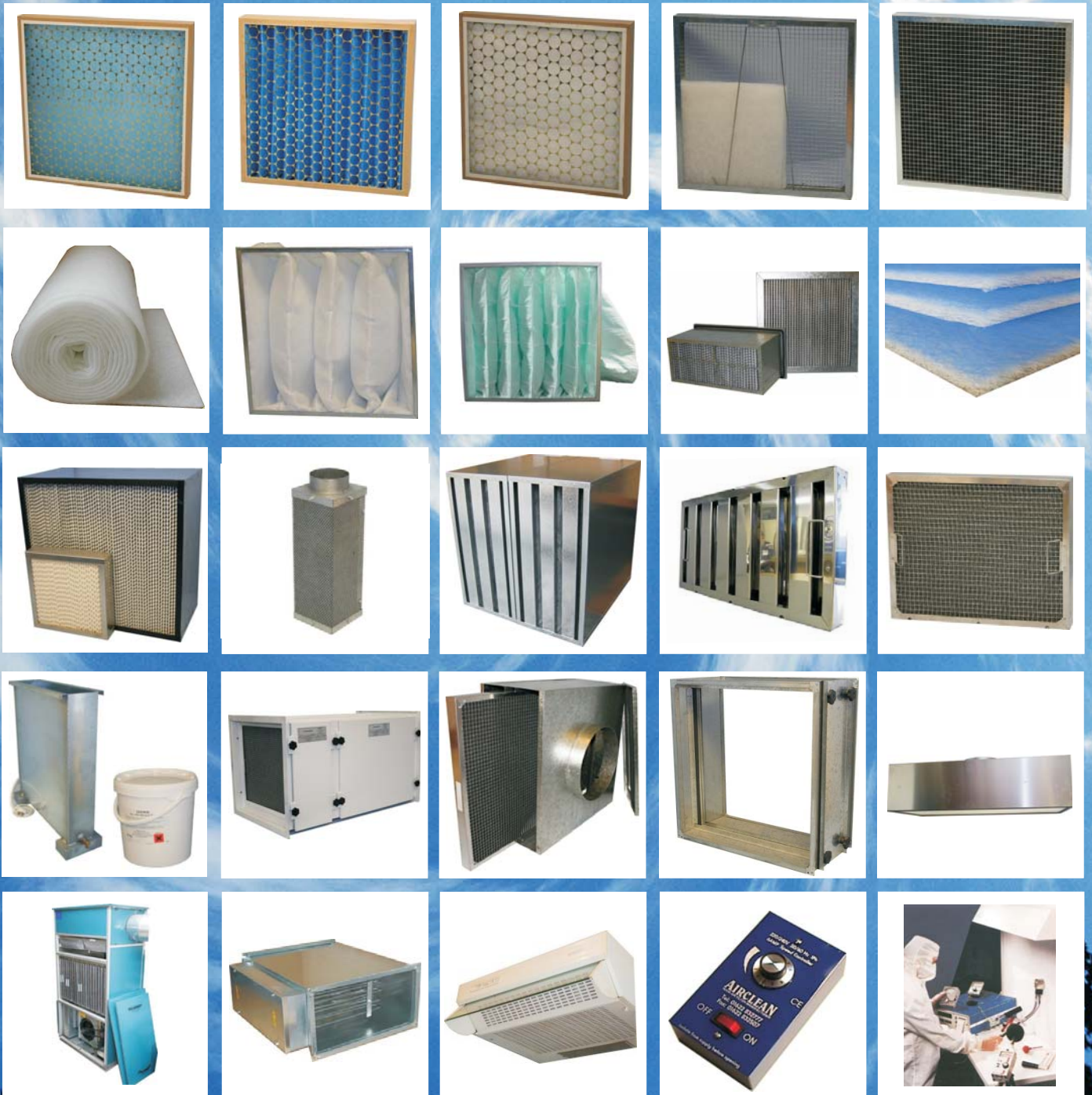


# AIRCLEAN

*YOUR AIR FILTER MANUFACTURER*

**CATALOGUE OCTOBER 2011**

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## Disposable Glass Panel

### Applications

The disposable glass fibre media panel filter is widely used in ventilation and air conditioning systems. Although inexpensive it offers a medium efficiency and can be used either as a main filter or as a pre-filter to extend the life of high efficiency systems.

### Construction

These filters consist of a coated graduated continuously spun glass filament in pad form, contained within either a rigid all cardboard casing, or a cardboard frame with perforated cap-punch grids.

Stiffening bars can be provided if required. Also, a scrim backing can be supplied on the outlet face for special applications.

Our method of manufacture for this style of filter utilises modern hot-melt adhesive techniques, which produce an extremely rigid and robust product.

### Technical

<b>Filter Classification:</b>	Grade G2 to EN779
<b>Maximum recommended face velocity:</b>	2.25m/s (450 ft/min)
<b>Maximum operating temperature:</b>	100°C (212°F)
<b>Dust Holding Capacity:</b>	800 g/m <sup>2</sup> EN779 (2" Panel)



Face Velocity								
m/s	1.25		1.5		2.0		2.25	
fpm	250		300		400		450	
Pressure Drop	Pa	"wg	Pa	"wg	Pa	"wg	Pa	"wg
1" Panel	38	0.15	45	0.18	60	0.14	66	0.26
2" Panel	40	0.16	50	0.20	65	0.25	73	0.29

Recommended discard resistance is 125 Pa (0.5"wg)  
in excess of the clean resistances shown above.

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## Typical Airflow Characteristics

### Capacity Chart

Data based on Face Velocity of 2.0 m/s (400 fpm)

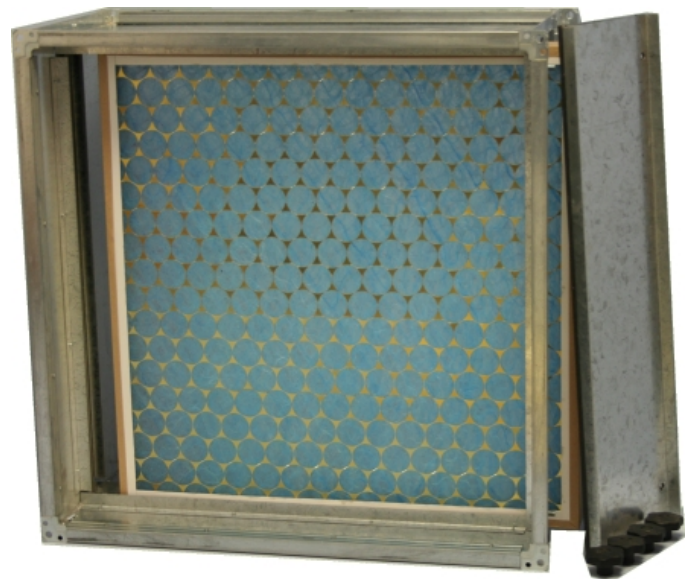
SIZE	SIZE	Flow Rate
OT Inches	Actual mm	m <sup>3</sup> /s
10 x 10	242 x 242	0.12
12 x 12	289 x 289	0.17
15 x 15	369 x 369	0.27
18 x 18	445 x 445	0.40
20 x 10	495 x 242	0.25
20 x 16	495 x 394	0.40
20 x 20	495 x 495	0.50
25 x 16	620 x 394	0.50
25 x 20	620 x 495	0.63
24 x 12	594 x 289	0.34
24 x 20	594 x 495	0.59
24 x 24	594 x 594	0.72

Actual Face Size = Nominal Size less 6mm (0.25")  
Actual thickness = Nominal thickness less 3mm (0.125")

### Holding Frames and Casings

Holding frames and casings for Disposable Glass Panels are available singularly or in multiples, and can be manufactured to suit non-standard sizes and special applications.

See leaflets (code AC8) for full information.



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## Disposable Synthetic Panels

### Applications

The disposable Synthetic Filter is a medium efficiency filter suitable for ventilation and air conditioning systems, providing a slightly better performance than the cheaper fibreglass filter.

The construction of the synthetic filter makes it less liable to shed fibres than the fibreglass filter, and therefore much more suitable for installations such as the food industry and hospitals.

### Construction

These filters consist of a dry, graduated, high loft and fully flame retardant synthetic fibre media, housed in either a rigid all cardboard casing, or a cardboard frame with perforated cap-punch grids.

Stiffening bars can be provided if required.

Our method of manufacture for this style of filter utilises modern hot-melt adhesive techniques, which produce an



### Technical

**Filter Classification:**

Grade G3 to EN779.

**Maximum recommended face velocity:**

2.25m/s (450 ft/min)

**Maximum operating temperature:**

100°C (212°F)

**Dust Holding Capacity:**

844 g/m<sup>2</sup> EN779 (2" Panel)

**Flammability - Media:**

Flame Retardant to DIN 53438

### Resistance to Airflow

m/s fpm	Face Velocity							
	1.25 250		1.50 300		2.0 400		2.25 450	
<b>Pressure Drop</b>	Pa	"wg	Pa	"wg	Pa	"wg	Pa	"wg
<b>1" Panel</b>	38	0.15	45	0.18	60	0.24	66	0.26
<b>2" Panel</b>	40	0.16	50	0.20	65	0.25	73	0.29

Recommended discard resistance is 125 Pa (0.5"wg)  
in excess of the clean resistances shown above.

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## Typical Airflow Characteristics

### Capacity Chart

Data based on Face Velocity of 2.0 m/s (400 fpm)

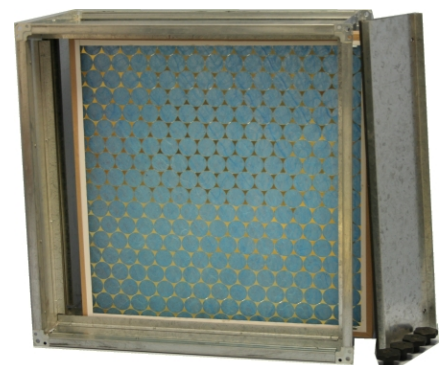
SIZE	SIZE	Flow Rate
OT Inches	Actual mm	m <sup>3</sup> /s
10 x 10	242 x 242	0.12
12 x 12	289 x 289	0.17
15 x 15	369 x 369	0.27
18 x 18	445 x 445	0.40
20 x 10	495 x 242	0.25
20 x 16	495 x 394	0.40
20 x 20	495 x 495	0.50
25 x 16	620 x 394	0.50
25 x 20	620 x 495	0.63
24 x 12	594 x 289	0.34
24 x 20	594 x 495	0.59
24 x 24	594 x 594	0.72

Actual Face Size = Nominal Size less 6mm (0.25")  
Actual thickness = Nominal thickness less 3mm (0.125")

### Holding Frames and Casings

Holding frames and casings for Disposable Synthetic Panels are available singularly or in multiples, and can be manufactured to suit non-standard sizes and special applications.

See leaflets (code AC8) for full information.



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## Pleated Panel Filters

### Applications

The Pleated Panel is a medium efficiency disposable filter, suitable for ventilation and air conditioning systems which require a higher efficiency and greater dust holding capacity than can be achieved with glass or synthetic panels.

The Pleated Panel can be used where glass panels are undesirable, such as in the food industry and hospitals.

### Construction

Pleated filters consist of a dry non-woven fabric media, pleated to give an extended surface area, producing a low initial resistance for the same air volume.

The pleated assembly is contained within either a rigid all cardboard casing, or a cardboard frame with perforated cap-punch retaining grids.



### Technical

**Filter Classification:**

Grade G4 to EN779.

**Pleated Material Flamability :**

Fire Resistant to :-

Underwriters Laboratories

Standard 900 class 2

**Maximum operating temperature:**

100°C (212°F)

**Dust Holding Capacity:**

840 g/m<sup>2</sup> (2") and 1260 g/m<sup>2</sup> (4") to EN779

### Resistance to Airflow

		Face Velocity									
m/s fpm		1.25 250		1.50 300		2.0 400		2.5 500		3.0 600	
Pressure Drop	2" Panel	Pa	"wg	Pa	"wg	Pa	"wg	Pa	"wg	Pa	"wg
		22	0.09	27	0.11	50	0.20	70	0.28	-	-
1" Panel		25	0.10	30	0.12	55	0.22	75	0.30	87	0.35

Recommended discard resistance is 125 Pa (0.5"wg) in excess of clean resistances shown above for a 2" panel and 150 Pa (0.6"wg) for 4" panel.

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## Capacity Chart (2" Pleated Panels)

Data based on Face Velocity of 2.5 m/s (500 fpm)

SIZE	SIZE	Flow Rate
OT Inches	Actual mm	m <sup>3</sup> /s
10 x 10	242 x 242	0.14
12 x 12	289 x 289	0.20
15 x 15	369 x 369	0.33
18 x 18	445 x 445	0.48
20 x 10	495 x 242	0.29
20 x 16	495 x 394	0.48
20 x 20	495 x 495	0.60
25 x 16	620 x 394	0.60
25 x 20	620 x 495	0.76
24 x 12	594 x 289	0.43
24 x 20	594 x 495	0.73
24 x 24	594 x 594	0.88

Actual Face Size = Nominal Size less 6mm (0.25")

## Capacity Chart (4" Pleated Panels)

Data based on Face Velocity of 3.0 m/s (600 fpm)

SIZE	SIZE	Flow Rate
OT Inches	Actual mm	m <sup>3</sup> /s
10 x 10	242 x 242	0.18
12 x 12	289 x 289	0.25
15 x 15	369 x 369	0.41
18 x 18	445 x 445	0.60
20 x 10	495 x 242	0.36
20 x 16	495 x 394	0.58
20 x 20	495 x 495	0.73
25 x 16	620 x 394	0.72
25 x 20	620 x 495	0.91
24 x 12	594 x 289	0.51
24 x 20	594 x 495	0.87
24 x 24	594 x 594	1.05

## Holding Frames and Casings

Holding frames and casings for Disposable Pleated Panels are available singularly or in multiples, and can be manufactured to suit non-standard sizes and special applications.

See leaflets (code AC8) for full technical information.

Code AC1/3b Ref 06/11

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## Frame and Pad System

### Applications

The Frame and Pad System is an alternative to disposable panel filters for use in ventilation and air conditioning systems.

Although initially more expensive than disposable panels, this system offers cheaper long-term maintenance costs since the metal frame is retained and only the media pad is discarded when dirty.

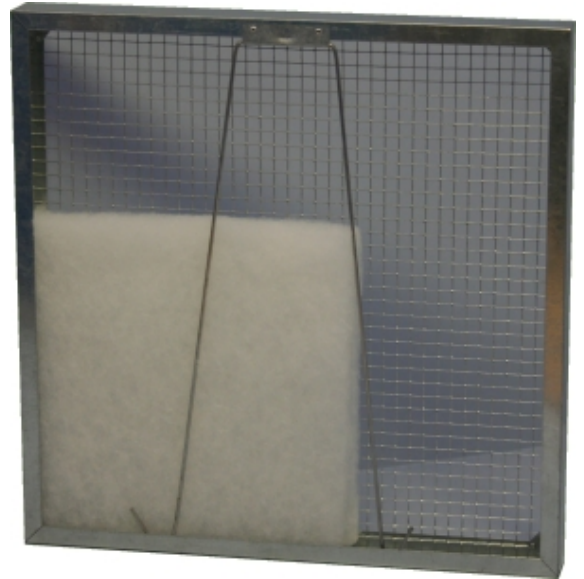
Also, the pad frame system offers the additional advantages that the system can be upgraded by the use of different media replacement pads, can be stored in considerably less space than complete panels, and carriage costs are reduced.

### Construction

The pad frame consists of an aluminium or galvanised channel frame with retaining mesh on the outlet face. Corner gussets provide additional rigidity.

A hinged pad retaining clip can be fitted to the face of the frame if required.

Either glass or synthetic media can be supplied for installation in the pad frame.



### Technical

Various types of pad can be used in these frames as detailed below:

- 1 **Glass fibre media** is available in 1 inch (25mm) or 2 inch (50mm) thicknesses. For performance see leaflet ref.AC1/1a.
- 2 **Synthetic Media** For performance see leaflet ref. Nos. AC1/2a and AC7.
- 3 **Washable Polyfoam media** For performance see leaflet ref. AC2/1a

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## Typical Capacity Chart

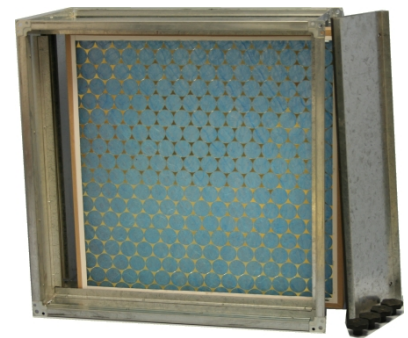
Data based on Face Velocity of 2.0 m/s (400 fpm)

SIZE	SIZE	Flow Rate
OT Inches	Actual mm	m <sup>3</sup> /s
10 x 10	242 x 242	0.12
12 x 12	289 x 289	0.17
15 x 15	369 x 369	0.27
18 x 18	445 x 445	0.40
20 x 10	495 x 242	0.25
20 x 16	495 x 394	0.40
20 x 20	495 x 495	0.50
25 x 16	620 x 394	0.50
25 x 20	620 x 495	0.63
24 x 12	594 x 289	0.34
24 x 20	594 x 495	0.59
24 x 24	594 x 594	0.72

- 1 Standard sizes listed are nominal.  
Actual Face dimensions = Nominal Size less 6mm (0.25").  
Actual Thickness = Nominal Size less 3mm (0.125").
- 2 Non-standard frames can be manufactured to specific dimensions.

### Holding Frames and Casings

Holding frames and casings for the frame and pad system are available singularly or in multiples, and can be manufactured to suit non-standard sizes and special applications.



See leaflet (code AC8) for full technical information.

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Code AC1/4b Ref 01/11

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## High Performance Pleated Panel Filters (F6, F7 and F8 to EN779)

### Applications

The High Performance Pleated Panel is a disposable filter that has capabilities of offering the higher grades of filter efficiency, where a typical bag filter is not practical due to size, access or orientation.

Offered as standard in 4" (97mm) cardboard frames these rigid filters can be supplied in F6, F7 or F8 Grades to EN779.

Pre filtration in the form of a Glass Fibre Panel Filter, or a Low Grade Pleated Panel Filter (G3/G4) are recommended to extend and maintain the life of this air filter.



### Construction

Pleated filters consist of a dry non-woven fabric media, pleated to give an extended surface area, producing a low initial resistance for the same air volume.

The pleated assembly is contained within either a rigid all cardboard casing, or a cardboard frame with perforated cap-punch retaining grids.

### Technical

**Filter Classification:**

Available Grades to EN779 — F6, F7 and F8  
100°C (212°F)

**Maximum operating temperature:**

SIZE OT Inches	SIZE Actual mm	Flow Rate m3/s	Clean Pressure Drops		
			F6 to EN779	F7 to EN779	F8 to EN779
10 x 10	242 x 242 x 97	0.18	80Pa	100Pa	140Pa
12 x 12	289 x 289 x 97	0.25	80Pa	100Pa	140Pa
15 x 15	369 x 369 x 97	0.41	80Pa	100Pa	140Pa
18 x 18	445 x 445 x 97	0.60	80Pa	100Pa	140Pa
20 x 10	495 x 242 x 97	0.36	80Pa	100Pa	140Pa
20 x 16	495 x 394 x 97	0.58	80Pa	100Pa	140Pa
20 x 20	495 x 495 x 97	0.73	80Pa	100Pa	140Pa
25 x 16	620 x 394 x 97	0.72	80Pa	100Pa	140Pa
25 x 20	620 x 495 x 97	0.91	80Pa	100Pa	140Pa
24 x 12	594 x 289 x 97	0.51	80Pa	100Pa	140Pa
24 x 20	594 x 495 x 97	0.87	80Pa	100Pa	140Pa
24 x 24	594 x 594 x 97	1.05	80Pa	100Pa	140Pa

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## Polyfoam Washable Panels

### Applications

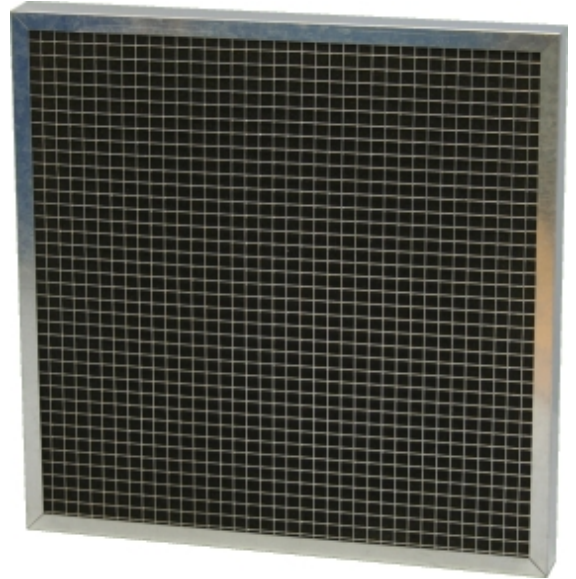
The Polyfoam Washable filter is a medium efficiency filter suitable for ventilation and air conditioning systems, where cleanability is required rather than a disposable cell.

These filters are initially more expensive than disposable panels, but can last several years.

Use of washable filters makes it unnecessary to have valuable space-consuming spares on the premises, and also obviates the need for frequent ordering of replacements.

### Construction

The filter media is dual density reticulated polyurethane foam, enclosed within a galvanised steel channel frame with a galvanised retaining mesh on the inlet and outlet faces. The frame is provided with corner gussets to provide added rigidity.



### Technical

<b>Filter Classification:</b>	Grade G4 to EN779
<b>Recommended face velocity:</b>	2 m/s (400 ft/min)
<b>Maximum operating temperature:</b>	100°C (212°F)
<b>Recommended final resistance:</b>	188 Pa (0.75" wg.)

### Resistance to Airflow

m/s	Face Velocity							
	1.25		1.5		2.0		2.5	
	250		300		400		500	
fpm	Pa	"wg	Pa	"wg	Pa	"wg	Pa	"wg
<b>1" Filter Combination (0.5",20) + (0.25",45)</b>	37	0.15	47	0.19	77	0.31	112	0.45
<b>2" Filter Combination (1.5",10) + (0.25",45)</b>	50	0.20	62	0.25	80	0.32	100	0.40
<b>2" Filter Combination (1.5",10) + (0.25",60)</b>	62	0.25	75	0.30	95	0.38	117	0.47

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## Capacity Chart

Data based on Face Velocity of 2.0 m/s (400 fpm)

SIZE	SIZE	Flow Rate
OT Inches	Actual mm	m <sup>3</sup> /s
10 x 10	242 x 242	0.12
12 x 12	289 x 289	0.17
15 x 15	369 x 369	0.2
18 x 18	445 x 445	0.40
20 x 10	495 x 242	0.24
20 x 16	495 x 394	0.39
20 x 20	495 x 495	0.49
25 x 16	620 x 394	0.49
25 x 20	620 x 495	0.61
24 x 12	594 x 289	0.35
24 x 20	594 x 495	0.59
24 x 24	594 x 594	0.71

Actual Face Size = Nominal Size less 6mm (0.25")  
Actual thickness = Nominal thickness less 3mm (0.125)

## Holding Frames and Casings

Holding frames and casings for Polyfoam Washable panels are available singularly or in multiples, and can be manufactured to suit non-standard applications.

See leaflets (code AC8) for full technical information.

The company reserves the right to change specifications without notice. E&OE



Code AC2/1b Ref 06/11

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## Metal Washable Filters

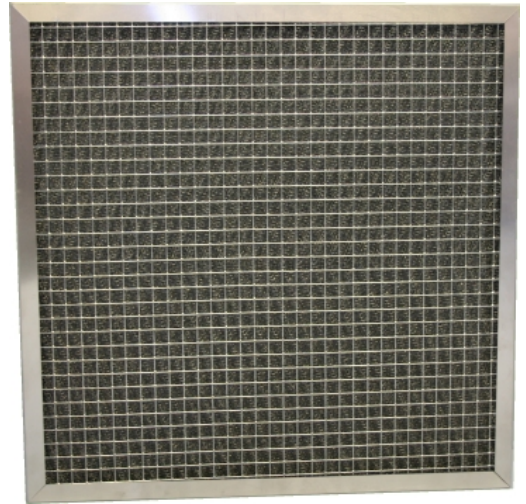
### Applications

The Metal Washable filter is a coarse filter suitable for ventilation and air conditioning systems, where cleanability is required and low efficiency can be accepted.

It is suitable for use at high air velocities, and hence when dealing with large air volumes. This filter is incombustible and is therefore especially suited to applications where fire is a potential hazard.

### Construction

The filtration media is crimped galvanised knitted wire mesh, which is enclosed in either an aluminium or more usually galvanised channel frame. Galvanised retaining meshes are fitted on both sides, and corner gussets provide rigidity. All stainless steel filters, or galvanised media with stainless steel frames, are also available.



### Technical

Recommended for use at velocities of up to 3m/s (600 ft/min) although it is possible to use these filters at higher velocities if required.

**Filter classification:** Typically G2 to EN779

For initial resistances see chart below:

### Resistance to Airflow

Face Velocity								
m/s	1.5		2.0		2.5		3.0	
fpm	300		400		500		600	
Pressure Drop	Pa	"wg	Pa	"wg	Pa	"wg	Pa	"wg
1" Panel	8	0.03	12	0.05	18	0.07	25	0.10
2" Panel	12	0.05	18	0.07	25	0.10	33	0.13

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## Capacity Chart

Data based on Face Velocity of 2.5 m/s (500 fpm)

SIZE	SIZE	Flow Rate
OT Inches	Actual mm	m <sup>3</sup> /s
10 x 10	242 x 242	0.12
12 x 12	289 x 289	0.17
15 x 15	369 x 369	0.27
18 x 18	445 x 445	0.40
20 x 10	495 x 242	0.24
20 x 16	495 x 394	0.39
20 x 20	495 x 495	0.49
25 x 16	620 x 394	0.49
25 x 20	620 x 495	0.61
24 x 12	594 x 289	0.35
24 x 20	594 x 495	0.59
24 x 24	594 x 594	0.71

Actual Face Size = Nominal Size less 6mm (0.25")  
Actual thickness = Nominal thickness less 3mm (0.125)

## Holding Frames and Casings

Holding frames and casings for Metal Washables are available singularly or in multiples, and can be manufactured to suit non-standard sizes and special applications.

See leaflets (code AC8) for full technical information.

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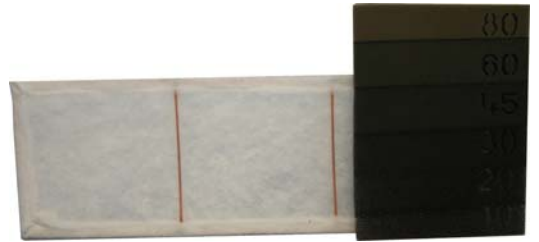
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## Rod Framed Filters

### Applications

The rod framed filter is a washable panel used widely in small air conditioning and fan coil units, warm air furnaces, refrigeration counters and electronic equipment cabinets. It is a low resistance filter often used to protect heat exchanger coils from dust, carpet fluff etc.



### Construction

The traditional Rod framed filter has the filter media supported by a coated rigid rod frame constructed from 3mm coated steel rod.

However, there are three versions available.

- (a) Synthetic A15/150 material (white) approximately 6mm thick, on wire frame
- (b) Polyurethane foam media normally 6mm thick, but thicker material can be supplied, on a wire frame.
- (c) Synthetic media A15/150 folded over and stapled to 12mm square, 1mm wire mesh, which provide a higher level of media rigidity

Pore sizes of the foam can be varied to suit requirements, but are usually in the range of 20 to 60 ppi, with 20 or 30 ppi being more common.

Handles or tapes/loops can be provided if required.

This type of filter can be manufactured to any reasonable size, typically 300mm x 1200mm max

### Technical

<b>Filter Classification</b>	Grade G3/G4 to EN 779
<b>Maximum Operating Temperature</b>	100°C (212°F)
<b>Maximum Recommended Face Velocity</b>	2.0 m/s (400 ft/min)

### Resistance To Airflow

Face Velocity		Type of Filter Media									
		A 15/150		0.25" 20 ppi		0.25" 30 ppi		0.25" 45 ppi		0.25" 60 ppi	
m/s	fpm	Pa	"wg	Pa	"wg	Pa	"wg	Pa	"wg	Pa	"wg
1.0	200	7	0.03	4	0.015	7	0.028	10	0.04	18	0.07
1.5	300	12	0.05	7	0.028	12	0.050	18	0.07	33	0.13
2.0	400	20	0.08	11	0.043	20	0.080	30	0.12	50	0.20
2.5	500	30	0.12	17	0.065	30	0.120	40	0.16	76	0.30

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## Grease Filters (Standard Mesh Type)

### Applications

Grease filters are generally installed in canopies above ranges of cooking equipment, to eliminate or greatly reduce the problem of cooking oil etc., being drawn into and settling in the extract ductwork.

This significantly reduces the frequency of expensive duct cleaning, and offers some protection against grease-fire hazards.

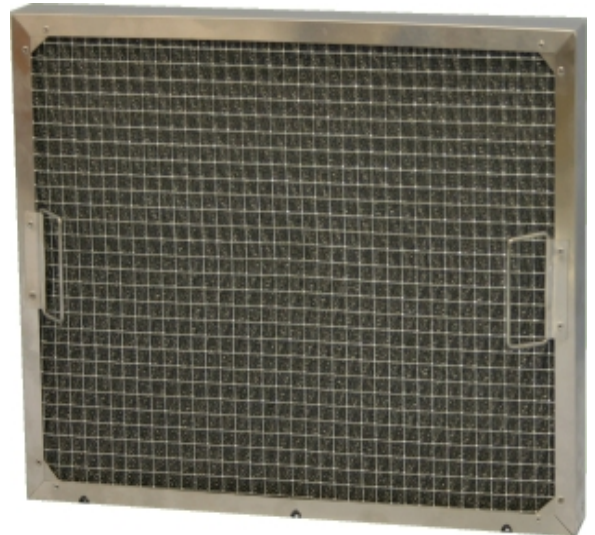
AIRCLEAN now have many thousands of these filters operating satisfactorily in leading restaurants, hotel kitchens and ships galleys.

### Construction

The filtration media is crimped galvanised knitted wire mesh, which is enclosed in either an aluminium or galvanised channel frame. Galvanised retaining meshes are fitted to both faces, and corner gussets provide rigidity.

Handles are normally desirable on grease filters for ease of removal and cleaning, but these are optional.

All stainless filters, or galvanised media with stainless frames, are also available.



### Technical

**Filter classification :**

Typically G2 to EN779

**Recommended face velocity :**

3.0 m/s (600 ft/min)

### Resistance to Airflow

m/s fpm	Face Velocity							
	1.5 300		2.0 400		2.5 500		3.0 600	
<b>Pressure Drop</b>	Pa	"wg	Pa	"wg	Pa	"wg	Pa	"wg
<b>1" Panel</b>	8	0.03	12	0.05	18	0.07	25	0.10
<b>2" Panel</b>	12	0.05	18	0.07	25	0.10	33	0.13

The company reserves the right to change specifications without notice. E&OE

Code AC3/1a Ref 01/11

# AIRCLEAN

YOUR AIR FILTER MANUFACTURER

P.O. BOX 147,  
MAIDSTONE, ME14 2LA.

TEL:01622 832777  
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sales@airclean.co.uk www.airclean.co.uk

## Capacity Chart

Data based on Face Velocity of 2.5 m/s (500 fpm)

SIZE	SIZE	Flow Rate
OT Inches	Actual mm	m <sup>3</sup> /s
10 x 10	242 x 242	0.15
12 x 12	289 x 289	0.21
15 x 15	369 x 369	0.34
16 x 16	394 x 394	0.39
18 x 9	445 x 216	0.24
18 x 18	445 x 445	0.50
20 x 10	495 x 242	0.30
20 x 16	495 x 394	0.49
20 x 20	495 x 495	0.62
25 x 16	620 x 394	0.62
25 x 20	620 x 495	0.77
24 x 24	594 x 594	0.91

Actual Face Size = Nominal Size less 12mm (0.5")  
Actual thickness = Nominal thickness less 3mm (0.125")

## Cleaning

It is important that grease filters are cleaned regularly (according to use). This can be carried out by steam cleaning, washing in an automatic dishwasher, or by immersion in a solution specially designed for this purpose.

AIRCLEAN have cleaning crystals and a range of tanks available which are described, in leaflet AC3/8.



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Code AC3/1b Ref 01/11

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## Baffle Grease Filters

### Applications

It is recognised that there is an increasing need to maintain and improve hygiene standards in kitchens and to reduce the fire hazards above the heat source.

The Airclean baffle filter reduces this fire hazard with their unique design concept of non-grease loading (negligible grease accumulation), and interlocking baffle walls which restrict the passage of flames into the ductwork.



### Construction

Housed in a stainless steel channel framework are a series of vertical stainless steel air baffles which are strategically aligned to change the direction of the grease-laden air. This action causes the deposition of the grease quickly, without re-entrainment onto the baffles whilst the grease-free air passes through the filter. The baffle's smooth surface enables deposited grease to run off via the drainage holes to collecting trays in the housing, minimising grease build-up.

The retractable handle facilitates easy removal from the housing.

### Materials available:

- Aluminium
- Stainless steel Grade 304
- Stainless steel Grade 430 - ECO.

### Capacity Chart

Data based on Face Velocity of 1.5 m/s (300 fpm)

SIZE	SIZE	Flow Rate	
		m <sup>3</sup> /s	Pa
OT Inches	Actual mm		
16 x 16	394 x 394	0.25	125
20 x 10	495 x 242	0.19	110
20 x 16	495 x 394	0.31	125
20 x 20	495 x 495	0.39	125
18 x 18	445 x 445	0.31	125
24 x 24	594 x 594	0.54	110

Actual Face Size = Nominal Size less 12mm (0.5")  
Actual thickness = Nominal thickness less 3mm (0.125")

Code AC3/3a Ref 01/11

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## **Heavy Duty Range**

Manufactured from Grade 304 Stainless Steel having a brushed finish.

## **Economy Range**

Manufactured from Grade 430 Stainless Steel having a mirror finish.

## **Cleaning**

It is important that grease filters are cleaned regularly (according to use). This can be carried out by steam cleaning, washing in an automatic dishwasher, or by immersion in a solution specially designed for this purpose.

AIRCLEAN have a range of cleaning crystals and tanks available which are described, in leaflet AC3/8.



The company reserves the right to change specifications without notice. E&OE

Code AC3/3b Ref 09/09

# AIRCLEAN

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## Grease Filters (Stainless Steel Gridmesh Type)

### Applications

Grease filters are generally installed in canopies above ranges of cooking equipment, to eliminate or greatly reduce the problem of cooking oil etc., being drawn into and settling in the extract ductwork.

This significantly reduces the frequency of expensive duct cleaning, and offers some protection against grease-fire hazards.

AIRCLEAN now have many thousands of these filters operating satisfactorily in leading restaurants, hotel kitchens and ships galleys.



### Construction

The filtration media is crimped stainless steel knitted wire mesh, which is enclosed in either a Grade 304 or Grade 430 (the ECO range) punched trays which are riveted together to form a high quality rigid filter.

Drain Holes and Layflat handles are standard in design.

### Technical

Filter classification :

Typically G2 to EN779

Recommended face velocity :

3.0 m/s (600 ft/min)

### Resistance to Airflow

m/s fpm	Face Velocity							
	1.5 300		2.0 400		2.5 500		3.0 600	
<b>Pressure Drop</b>	Pa	"wg	Pa	"wg	Pa	"wg	Pa	"wg
<b>1" Panel</b>	8	0.03	12	0.05	18	0.07	25	0.10
<b>2" Panel</b>	12	0.05	18	0.07	25	0.10	33	0.13

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## Capacity Chart

Data based on Face Velocity of 2.5 m/s (500 fpm)

SIZE		Flow Rate
OT Inches	Actual mm	m <sup>3</sup> /s
16 x 16	394 x 394	0.39
20 x 10	495 x 242	0.30
20 x 16	495 x 394	0.49
20 x 20	495 x 495	0.62
18 x 18	445 x 445	0.50
24 x 24	594 x 594	0.90

Actual Face Size = Nominal Size less 12mm (0.5")  
Actual thickness = Nominal thickness less 3mm (0.125")

## Cleaning

It is important that grease filters are cleaned regularly (according to use). This can be carried out by steam cleaning, washing in an automatic dishwasher, or by immersion in a solution specially designed for this purpose.

AIRCLEAN have cleaning crystals and a range of tanks available which are described, in leaflet AC3/8.



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## Cleaning Tanks and Crystals

### Cleaning Crystals

Grease filters should be cleaned regularly and this can be carried out in a number of ways.

Some installations are cleaned under contract by specialist contractors, but the majority of users make arrangements within their own premises for filter cleaning.

Airclean offer a convenient to use alkaline cleaner.

### Series 500 Cleaning Agent

This material is a powerful degreasing agent and its colloidal action removes oil, grease, etc. more efficiently than the usual degreasing agents such as caustic or ordinary washing soda; without the attendant disadvantages of using those materials.

A solution of 500 Cleaner can be kept for several weeks without its efficiency being impaired, so that it need not be discarded until its cleansing power has been fully utilised.

For cleaning grease filters, the solution should be 0.5 kg to 20 litres of water. For best results these crystals should be used with an Airclean Heated Cleaning Tank.

Series 500 is supplied in plastic tubs holding 10kg of cleaning agent..



### Warning

As a precaution for use, if hands are to be immersed in the solution, protective industrial gloves or gauntlets should be worn. Eye protection should be worn also. If the skin becomes splashed, the area should be washed profusely with water.  
Refer to data sheet code Series 500.

### Heated Cleaning Tanks

The above agent can be used in sinks or other containers, but usually means that the solution is discarded after cleaning the grease filter once. With this in mind, Airclean manufacture a vertical design tank, incorporating a heating element, waste valve and lid.

It is manufactured in 1.2mm galvanised sheet steel, with an approximate size of 650mm long x 635mm high x 170mm wide.

The company reserves the right to change specifications without notice.  
E&OE



Code AC3/8 Ref 10/09

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## General Purpose Bag Filters Grades G3,G4 & F5 to EN779

### Applications

These are an economical range of Bag Filters suitable for fresh air conditioning and ventilation systems where greater dust holding capacity is required than a Panel Filter can offer.

Ideal as a pre-filter to a higher efficiency Bag Filter system, and Activated Carbon Filters.

Suitable for the food industry.

They are simple to install and replace.



### Construction

The GP pocket filter comprises a corrosion resistant heavy gauge galvanised header frame housing the filter media which is supported by a copper coated rod assembly and tags which keep the media pockets from blinding each other. The pockets are of a lofted non-woven synthetic material.

### Technical

**Filter classification :**

Grade G3 , G4 or F5 to EN779

**Maximum operating temperature :**

100°C (212°F)

**Flammability :**

Flame Retardant to DIN 53438

Classes F1 & K1

### Performance Chart:

Part No. For Filter Grades			Nominal Size Height x Width x Length	Airflow Capacity		Initial PD Pa for Grade			No. of Pockets
G3	G4	F5		m <sup>3</sup> /s	cfm	G3	G4	F5	
1410-301	1410-401	1410-501	594 x 289 x 146	0.24	500	40	50	63	2
1410-302	1410-402	1410-502	594 x 289 x 222	0.35	750				
1410-303	1410-403	1410-503	594 x 289 x 294	0.47	1000				
1410-304	1410-404	1410-504	594 x 289 x 375	0.59	1250				
1410-305	1410-405	1410-505	594 x 289 x 445	0.71	1500				
1410-316	1410-416	1410-516	594 x 289 x 594	0.80	1700				
1410-311	1410-411	1410-511	594 x 492 x 146	0.40	850	40	50	63	3
1410-312	1410-412	1410-512	594 x 492 x 228	0.53	1275				
1410-313	1410-413	1410-513	594 x 492 x 294	0.80	1700				
1410-314	1410-414	1410-514	594 x 492 x 375	0.88	2100				
1410-315	1410-415	1410-515	594 x 492 x 445	1.20	2550				
1410-316	1410-416	1410-516	594 x 492 x 594	1.39	2950				
1410-321	1410-421	1410-521	594 x 594 x 146	0.47	1000	40	50	63	4
1410-322	1410-422	1410-522	594 x 594 x 228	0.71	1500				
1410-323	1410-423	1410-523	594 x 594 x 294	0.94	2000				
1410-324	1410-424	1410-524	594 x 594 x 375	1.18	2500				
1410-325	1410-425	1410-525	594 x 594 x 445	1.41	3000				
1410-326	1410-426	1410-526	594 x 594 x 594	1.65	3500				

Code AC4/1a Ref 10/11

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Non-standard sizes can be manufactured.

Headers thicknesses available: 16mm, 22mm, 25mm and 32mm

Actual header face sizes are 16mm less than nominal

Eg. Code GP3 12/15 is a 15" long two pocket bag with an actual header size of 594 x 289 x 22mm, and a Grade of G3 to EN779

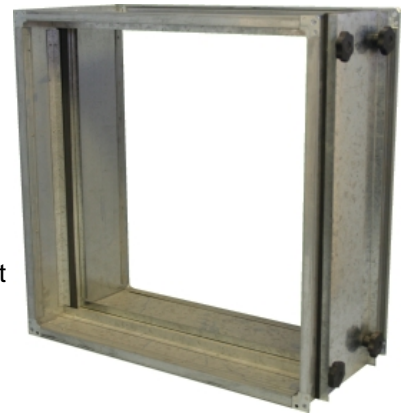
Recommended discard resistance is 200Pa (0.80" wg) above clean resistances shown above.

## Holding frames and Casings

Holding frames and casings for bag filters are available singly or in multiples and can be manufactured to suit non-standard sizes and special applications.

See leaflet Codes AC8 for full technical information.

The company reserves the right to change specifications without notice. E&OE



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## High Performance Multi-Pocket Bag Filter Grade F5, F6,F7, F8, F9 to EN779

### Applications

The Airclean multi-pocket bag is a high efficiency filter and is designed for a wide range of air conditioning and general ventilation applications where large volumes of air are to be handled and systems dictate high dust holding capacity coupled with a low resistance.

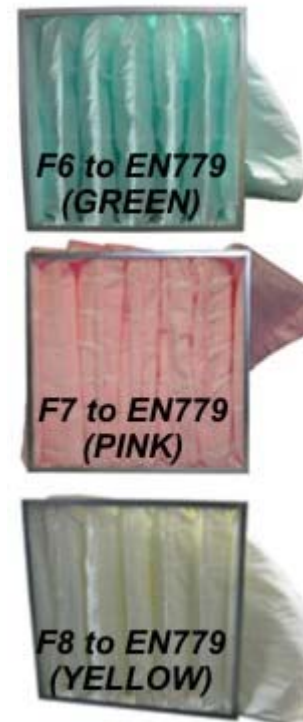
### Construction

They are available in three efficiency grades, which gives a choice of characteristics to meet customer requirements for dust holding capacity, efficiencies and pressure loss.

The H.P. Multi-pocket filter comprises of a corrosive resistant heavy gauge galvanised header frame supporting individual pockets on a welded wire frame of synthetic polyester media.

### Technical

**Filter classification :** HPS 5 Bag - F5 to EN779 Brown  
HPS 6 Bag - F6 to EN779 Green  
HPS 7 Bag - F7 to EN779 Pink  
HPS 8 Bag - F8 to EN779 Yellow  
HPS 9 Bag - F9 to EN779 Off White



**Maximum operating temperature :** 100°C (212°F)

**Flammability :** Fire resistant to :- Underwriters Laboratories Standard 900 Class 2 or Class 1.

Actual Filter	Flow Rate	Clean Pressure Drop (Pa)					Standard No. of Pockets
		HPS5	HPS6	HPS7	HPS8	HPS9	
Size (mm)	m <sup>3</sup> /s						
594h x 292w x 375d	0.29	75	85	110	140	150	3
594h x 292w x 550d	0.47	75	85	110	140	150	3
594h x 292w x 750d	0.59	75	85	110	140	150	3
594h x 492w x 375d	0.47	70	80	95	130	140	4
594h x 492w x 375d	0.76	70	80	95	130	140	4
594h x 492w x 375d	0.94	70	80	95	130	140	4
594h x 594w x 375d	0.59	75	85	110	140	150	6
594h x 594w x 550d	0.94	75	85	110	140	150	6
594h x 594w x 750d	1.18	75	85	110	140	150	6

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Non-standard sizes can be manufactured.

Actual standard face header sizes are 16mm less than nominal .

Recommended discard resistance is 300 Pa (1.2"wg)

Headers thicknesses available: 16mm, 22mm, 25mm and 32mm

## **Holding Frames and Casings**

Holding frames and casings are available singly or in multiples and can be manufactured to suit non-standard sizes and special applications.

See leaflet codes AC8 for full technical information.

The company reserves the right to change specifications without notice. E&OE



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## High Performance Rigid Pleats

### Applications

High performance rigid pleats can be used in a wide variety of air conditioning and general ventilating applications where large volumes of air are to be handled and systems dictate high dust holding capacity, coupled with low initial resistance.

The filters also have the advantage of an extended service life and out-perform other filters in this respect.

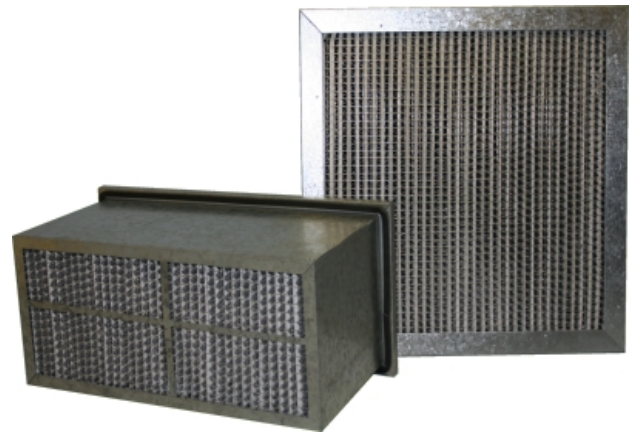
### Construction

A glass fibre filter paper is continuously folded around aluminum separators and sealed with polyurethane into a timber case.

### Technical

These filters provide an improved efficiency performance over traditional bag filters. They out perform bag filters in all facets of arrestance, efficiency, capacity, pressure drop and service life.

The filters can also be supplied to fit existing bag filter installations with fitted headers to suit.



Nominal Filter	Flow Rate
Size	m <sup>3</sup> /s
24 x 12 x 6	0.18
24 x 20 x 6	0.32
24 x 24 x 6	0.4
24 x 12 x 6H	0.24
24 x 20 x 6H	0.4
24 x 24 x 6H	0.48
24 x 12 x 12	0.36
24 x 20 x 12	0.65
24 x 24 x 12	0.79
24 x 12 x 12H	0.48
24 x 20 x 12H	0.8
24 x 24 x 12H	0.96

Filter Grade To EN779	Pressure Drop Pa	
	6" Deep	12" Deep
F6	50	120
F7	75	140
F8	80	145
F9	85	150

The company reserves the right to change specifications without notice. E&OE

Code AC4/5a Ref 06/11

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## Rigid Bag Filters

### Applications

Rigid Bag Filters can be used in a wide variety of air conditioning and general ventilating applications where large volumes of air are to be handled and systems dictate high dust holding capacity, coupled with low initial resistance.

### Construction

The filter contains 14m<sup>2</sup> of 100% polypropylene filter media made from a modified melt down process, in the form of eight individual slabs of 22mm deep pleated media. In addition to the media the filter contains extruded polypropylene separators which give a unique V configuration, these are all encased in a plastic frame.



### Technical

These filters provide an improved efficiency performance over traditional bag filters. They outperform bag filters in all facets of arrestance, efficiency, capacity, pressure drop and service life.

The filters can also be supplied to fit existing bag filter installations with fitted headers to suit.

Headers are available in both 20 and 25mm.

Header Size	Header Size	Flow Rate	Clean Pressure Drops			
OT Inches	Actual mm	m3/s	F6 to EN779	F7 to EN779	F8 to EN779	F9 to EN779
24 x 12 x 12	594 x 289 x 292	0.47	65Pa	80Pa	145Pa	150Pa
24 x 20 x 12	594 x 492 x 292	0.75	65Pa	80Pa	145Pa	150Pa
24 x 24 x 12	594 x 594 x 292	0.94	65Pa	80Pa	145Pa	150Pa

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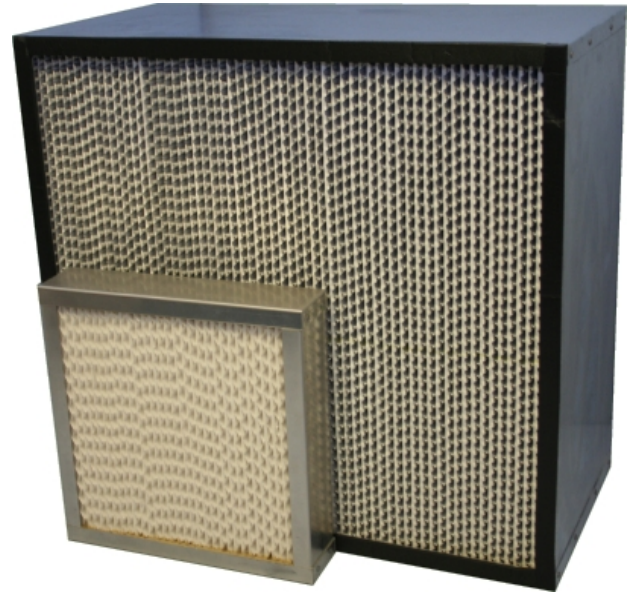
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## Absolute (HEPA) Filters—Deep Pleat

### Applications

Absolute (HEPA) filters are used in a wide range of applications such as clean rooms, operating theatres, research facilities, the electronic and micro-electronic industries, nuclear and pharmaceutical industries and high speed turbines.

Clean Rooms tend to employ the narrower 146mm deep filter and utilise a lower face velocity in accordance with the relevant Clean Room Standard Requirements, thus providing a laminar air flow either across the work area or across the complete room depending upon the application.



### Construction

The filtration medium is provided by microfine glass fibres formed into a paper-like surface, supplied in various grades depending upon filtration efficiency required. The filter paper is formed into a close pleated package to provide a large surface area. Corrugated spacers of either kraft paper or aluminium are inserted between each pleat to provide support for the pleat and also ensure that the entire surface of the filtering medium is used.

### Technical (Absolute Filters)

These can be provided to efficiencies and performance as shown below:

GRADE	Overall Efficiency	Local Value Efficiency	Suggested for ISO 14644 : 1999
H11	95%	-	
H12	99.5%	-	ISO Class 8
H13	99.95%	99.75%	ISO Class 6
H14	99.995%	99.975%	ISO Class 5
U15	99.9995%	99.9975%	ISO Class 4

### AIRFLOW CAPACITIES for Grade H11 to EN1822 STANDARD AND HIGH CAPACITY

SIZE			STANDARD Rated Airflow		HIGH CAPACITY Rated Airflow	
			Flow	Press	Flow	Pressure
H mm	W mm	D mm	m <sup>3</sup> /s	Pa	m <sup>3</sup> /s	Pa
305	305	146	0.06	150	-	-
508	508	146	0.16	150	-	-
609	609	146	0.24	150	-	-
609	609	292	0.47	150	0.80	200
450	600	292	0.22	150	0.41	200
305	609	292	0.23		0.40	200
593	593	292	0.45		0.75	200
288	593	292	0.21		0.37	200

Code AC5/1a Ref 10/11

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## AIRFLOW CAPACITIES Standard Flow Grade H12-H14 to EN1822

SIZE			Flow	Press
H mm	W mm	D mm	m <sup>3</sup> /s	Pa
508	508	75	0.12	200
609	609	75	0.17	200
609	762	75	0.21	200
609	918	75	0.25	200
609	1220	75	0.34	200
609	1524	75	0.42	200
609	1828	75	0.51	200
762	762	75	0.27	200
762	918	75	0.32	200
762	1220	75	0.42	200
762	1524	75	0.53	200
762	1828	75	0.64	200
305	305	146	0.06	250
457	457	146	0.10	250
508	508	146	0.16	250
609	609	146	0.24	250
609	762	146	0.30	250
609	918	146	0.35	250
609	1220	146	0.47	250
609	1524	146	0.59	250
609	1828	146	0.71	250
762	762	146	0.37	250
762	918	146	0.44	250
762	1220	146	0.59	250
762	1524	146	0.74	250
762	1828	146	0.89	250
918	918	146	0.53	250
918	1220	146	0.71	250
918	1524	146	0.89	250
918	1828	146	1.06	250
305	305	292	0.12	250
457	457	292	0.27	250
508	508	292	0.31	250
609	609	292	0.47	250
609	762	292	0.59	250
609	918	292	0.71	250
609	1220	292	0.94	250

## AIRFLOW CAPACITIES High Capacity Grade H12 to H14 to EN1822

SIZE			Flow	Press
H mm	W mm	D mm	m <sup>3</sup> /s	Pa
305	305	146	0.10	280
457	457	146	0.23	280
508	508	146	0.28	280
609	609	146	0.40	280
609	762	146	0.50	280
609	918	146	0.60	280
609	1220	146	0.80	280
609	1524	146	1.00	280
609	1828	146	1.20	280
762	762	146	0.63	280
762	918	146	0.75	280
762	1220	146	1.00	280
762	1524	146	1.25	280
762	1828	146	1.50	280
918	918	146	0.90	280
918	1220	146	1.20	280
918	1524	146	1.50	280
918	1828	146	1.80	280
305	305	292	0.20	280
457	457	292	0.45	280
508	508	292	0.56	280
609	609	292	0.80	280
609	762	292	1.00	280
609	918	292	1.20	280
609	1220	292	1.61	280

### NOTES:

75mm deep filters are fitted with 20x6mm gasket on clean face, giving an 81mm deep filter

146mm deep filters are fitted with 20x6mm gasket on clean face, giving an 152mm deep filter

292mm deep filters are fitted with 20x6mm gasket on clean face, giving an 298mm deep filter

Non Standard sizes are available upon request

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## Selection of Filter Construction:

### Spacers:

For temperatures in excess of 120°C and RH above 80% use aluminium spacers (up to 250°C and 100% RH for aluminium spacers).

### Casings:

For temperatures up to 120°C wood cased or aluminium cased filters can be used.  
For temperatures above 120°C use galvanised or zintec steel casings (up to 250°C).

### Sealants:

Standard Urethane Sealant is suitable for temperatures up to 120°C.  
For temperatures above 80C and up to 250C use cases as above and silicone sealant (2 part-pink)

### Gaskets:

Filter gaskets are closed cellular polyethylene with sealed butt joints at the corners usually 20mm x 6mm:

Suffix B - fitted both sides

Suffix C - fitted clean side

Suffix D - fitted dirty side

For temperatures above 80C and up to 250C use cases as detailed above and silicone gasket

### Grilles:

Grilles are available in either :

12 x 12 x 1.6mm Galv mesh for 292mm deep filters

white epoxy coated steel for 75mm and 146mm filters in cleanrooms.

### Filter Paper:

Filter paper used is water repellent (i.e. suitable for 100% RH but no free moisture).

## Holding Frames and Casings

Airclean Side Withdrawal Filter Housings for HEPA filters are fully wealded and painted housings. These housings are specifically designed to house HEPA air filters utilizing a full sealing face to ensure no leaks. Housings can be selected to also house pre filtration and multiple HEPA filters for large airflows. (See Section 8)



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YOUR AIR FILTER MANUFACTURER

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## Absolute Filter Requirements

(for clean room applications) *Only ISO14644 is current*

Federal Standard 209E	Maximum Particle Count (ft <sup>3</sup> )	Suggested Filter
10	10 greater than 0.5µm	Grade U16 to EN1822
100	100 greater than 0.5µm	Grade U15 to EN1822
10,000	10,000 greater than 0.5µm 70 greater than 5µm	Grade H14 to EN1822
100,000	100,000 greater than 0.5µm 700 greater than 5µm	Grade H11 to EN1822

BS 5295: 1989	ISO 14644:1999	Maximum Particle Count (m <sup>3</sup> )	Suggested Filter
Class D	ISO Class 4	350 greater than 0.5 µm Zero Particle Size 5µm and greater	U16 to EN1822
Class E	ISO Class 5	3500 greater than 0.5 µm Zero Particle Size 5µm and greater	U15 to EN1822
Class H	ISO Class 6	35,000 greater than 0.5 µm 200 greater than 5µm Zero greater than 10µm	H14 to EN1822
Class J	ISO Class 8	350,000 greater than 0.5 µm 2,000 greater than 5µm 450 greater than 10µm	H11 to EN1822

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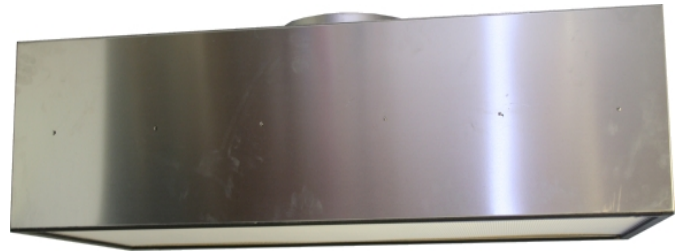
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## CASSETTE (HEPA) Filters

### Applications

The Cassette (HEPA) filters offer an economical method of installing a HEPA Filter into a Clean-room, Laminar Flow Cabinet or a specific application with the minimum of engineering.



The cassette filter ensures it yields only clean filtered air from the filter face, when connected to a duct system of fan via its spigot connection. This is without the concerns of clamping pressures, gaskets seals and the quality of the sealing mating face, associated with the traditional Terminal Housing. Once connected, only filtered air can leave the filter, as it has been factory tested and the cassette casing is the integral case of the HEPA filter as well.

Applications such as clean rooms, operating theatres, research facilities, the electronic and micro-electronic industries, nuclear and pharmaceutical industries and high speed turbines.

### Construction

Clean Rooms tend to employ the narrower 146mm filter pack for laminar flow conditions direct from the filter face. The cassette can have either a knife edge seal, into which can be laid a polyester eggcrate core, or a white powder coated grille, which affords good mechanical protection to the filter. The filter pack is sealed within a cassette which has a 300mm overall depth giving a suitable plenum behind the filter.

This overall size of the cassette can be reduced to 145mm, by utilising a minipleat pack, and in a few specifically engineered designs the traditional 292mm pack can be used giving an overall height of 500mm for the cassette. See Data sheet AC5/1 for filter construction.

### Technical (Absolute Filters)

These can be provided to efficiencies and performance as shown below:

GRADE	Overall Efficiency	Local Value Efficiency	Suggested for ISO 14644 : 1999
H11	95%	-	
H12	99.5%	-	ISO Class 8
H13	99.95%	99.75%	ISO Class 6
H14	99.995%	99.975%	ISO Class 5
U15	99.9995%	99.9975%	ISO Class 4

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## AIRFLOW CAPACITIES Standard Flow Grade H12-H14 to EN1822

SIZE			Flow	Press
H mm	W mm	D mm	m <sup>3</sup> /s	Pa
508	508	75	0.12	200
609	609	75	0.17	200
609	762	75	0.21	200
609	918	75	0.25	200
609	1220	75	0.34	200
305	305	146	0.06	250
457	457	146	0.10	250
508	508	146	0.16	250
609	609	146	0.24	250
609	762	146	0.30	250
609	918	146	0.35	250
609	1220	146	0.47	250

## AIRFLOW CAPACITIES High Capacity Grade H12 to H14 to EN1822

SIZE			Flow	Press
H mm	W mm	D mm	m <sup>3</sup> /s	Pa
508	508	146	0.28	280
609	609	146	0.40	280
609	762	146	0.50	280
609	918	146	0.60	280
609	1220	146	0.80	280

### NOTES:

References are typically:

AK/H14 FI-cass for an aluminium cased, Kraft separator grade H14 and a 20mm flange with a white powder coated grille.

AK/H13/K-cass for an aluminium cased, Kraft separator grade H13 and a 40mm knife edge protruding below the filter packf.

A simple damper can be installed in the neck of the spigot for flow adjustment.

DOP insertion Points can be added into the plenum of the cassette to facilitate DOP to be introduced into the filter for In-situ leak testing

Pressure tapping points can be included in the cassette for measuring upstream filter pressure.

Non Standard sizes are available

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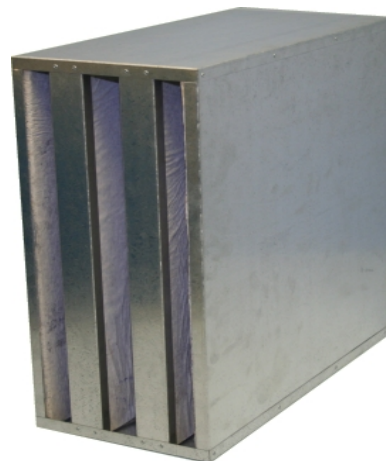
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## Activated Carbon Filters - Use and Selection

Carbon panels are normally supplied and fitted with an aluminium frame and can be made to any reasonable size to match existing panels of all makes. The depth of panel is restricted by our own imposed limits of not less than 10mm and not greater than 60mm Actual depth. Capacities shown for Panels & 'Discarb' units are based on a dwell time of 0.1 seconds, which is the normally accepted minimum for most applications.



Air Flow = Width x Length x Depth/Dwell Time  
or Air Flow = Width x Length x Face Velocity

As a guide,

Nominal thickness	Actual thickness	Pressure drop	Face velocity m/s
25mm	22mm	45 Pa	0.22 (43fpm)
22mm	19mm	40 Pa	0.19(37fpm)

For 'heavier' odours i.e. Indian cooking odours, a contact time of 0.3 seconds is recommended, which will effectively reduce the Face Velocity and rating to one third..

Where hot air is being filtered (e.g. extract from cooker hoods) the carbon cells should be positioned as far from the heat source as possible.

Air stream temperatures must be maintained below 40Deg C. and humidity levels below 80% RH. If temperatures or humidity in excess of either of these figure are anticipated, the airstream must be treated to ensure compliance. Additional fresh air, and or cooling may be considered as suitable measures.

Pre-filters should be fitted in the ventilation system to protect the carbon filters in all installations from particulate contamination. We do not consider a glass panel to be suitable and recommend a filter having a minimum grade of F5 to EN779.

Some cooking operations give off large amounts of smoke, which is extremely detrimental if allowed to reach the carbon filters( smoke is a particulate).

In most cases this can be overcome by the use of a good quality pre-filter. e.g. an F8 Grade Bag Filter or better, depending upon circumstances. In some instances a HEPA Filter grade H14 is necessary.

'Discarb' Cells can be 'tailor-made' to any reasonable size to fit ducting, air-handling units etc.

Activated carbons are graded as follows :

**Grade 20 Activity** Carbons are rated 30% on their ability to 'adsorb' carbon tetrachloride (CTC) in testing; and have a typical surface area per weight of between 700-800 m<sup>2</sup>/g by the BET N2 method (the area being a measure of the area of the walls of the cavern like structure of the activated carbon): Bulk density is between 0.55 - 0.59 g/cc

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**Grade 50 Activity** Carbons are rated 55% on their ability to 'adsorb' carbon tetrachloride (CTC) in testing; have a typical surface area per weight of between 1100-1200 m<sup>2</sup>/g by the BET N<sub>2</sub> method (the area being a measure of the area of the walls of the cavern like structure of the activated carbon): Bulk density is between 0.49 - 0.53 g/cc

## Guide to the Gaseous Adsorption Level for Grade 50 Activity Carbon

A = 20 - 50% adsorption  
B = 10 - 20%

C = 1 - 10%  
D = under 1%

	Chemical	Index	Common Source of Chemical
1	ACETALDEHYDE	C	REAGENT
2	ACETIC ACID	A	REAGENT, SOUR VINEGAR
3	ACETIC ANHYDRIDE ACID	A	
4	ACETONE	B	SOLVENT
5	ACETYLENE	D	WELDING AND CUTTING
6	ACROLEIN	B	
7	ACRYLALDEHYDE	B	AEROLEIN, BURNING FATS
8	ACRYLIC ACID	A	
9	ADHESIVES	A	
10	AMINES	C	
11	AMMONIA	D	
12	AMYL ACETATE	A	LACQUER SOLVENT
13	AMYL ALCOHOL	A	FUSEL OIL
14	AMYL ETHER	A	
15	ANILINE	A	
16	ANIMAL ODOURS	A	
17	BENZALDEHYDE	A	
18	BENZENE	A	BENZOL, PAINT SOLVENT & REMOVER
19	BROMINE	A	
20	BUTADIENE	C	
21	BUTANE	C	HEATING GAS
22	BUTYL ACETATE	A	LACQUER SOLVENT
23	BUTYL ALCOHOL	A	SOLVENT
24	BUTYL CHLORIDE	A	SOLVENT
25	BUTYL ETHER	A	SOLVENT
26	BUTYLENE	B	
27	BUTYRALDEHYDE	B	PRESENT IN INTERNAL COMBUSTION EXHAUST - DIESEL
28	BUTYRIC ACID	A	
29	BUTYRIC ACID	A	SWEAT, BODY ODOUR
30	CAMPHOR	A	
31	CAPROALDEHYDE	A	
32	CAPRYLIC ACID	A	ANIMAL ODOUR

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33	CARBOLIC ACID	A	
34	CARBON DIOXIDE	A	
35	CARBON DISULPHIDE	B	
36	CARBON MONOXIDE	D	
37	CARBON TETRACHLORIDE	A	SOLVENT,CLEANING FLUID,FIRE EXTINGUISHER
38	CELLOSOLVE ACETATE	A	
39	CELLOSOLVE ETHER	A	
40	CHLORINE	B	
41	CHLORO PICRIN	A	
42	CHLOROBENZINE	A	
43	CHLOROBUTADEINE	A	
44	CHLOROFORM	A	
45	CHLORONITROPROPANE	A	
46	CITRUS FRUITS	A	
47	COOKING ODOURS	A	
48	CRESOL	A	WOOD PRESERVATIVE
49	CRONTONALDEHYDE	A	SOLVENT,TEAR GAS
50	CYCLOHEXANE	A	
51	CYCLOHEXANOL	A	
52	DECANE	A	INGREDIENT OF KEROSENE
53	DEGREASING SOLVENTS	A	
54	DEODERISERS	B	
55	DETERGENTS	A	
56	DIBROMOETHANE	A	
57	DICHLOROBENZINE	A	
58	DICHLORODIFLUORO ETHANE	A	
59	DICHLORODIFLUORO METHANE	B	
60	DICHLOROETHANE	A	
61	DICHLOROETHYL ETHER	A	
62	DICHLOROETHYLENE	A	
63	DICHLOROMETHANE	A	
64	DICHLOROMONOFUORO METHANE	B	
65	DICHLOROPROPANE	A	
66	DICHLOROTETRAFLUORO ETHANE	B	
67	DIETHYL AMINE	B	
68	DIETHYL ANILINE	A	
69	DIETHYL KETONE	A	SOLVENT
70	DIMETHYL AMINE	B	
71	DIMETHYL SULPHATE	A	
72	DIOXAN ETHER	A	
73	DIPROPYL KETONE	A	
74	ETHANE	D	
75	ETHYL ACETATE	A	LACQUER SOLVENT
76	ETHYL ACRYLATE	A	
77	ETHYL ALCOHOL	A	GRAIN ALCOHOL Code AC6/1c Ref 05/06

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78	ETHYL AMINE	B	
79	ETHYL BROMIDE	B	
80	ETHYL CHLORIDE	B	REFRIGERANT, ANESTHETIC
81	ETHYL ETHER	B	MEDICAL ETHER, REAGENT
82	ETHYL FORMATE	B	
83	ETHYL MERCAPTAN	A	GARLIC, ONION, SEWER
84	ETHYLENE	D	MORE RETENTIVITY BY REACTION,
85	ETHYLENE CHLOROHYDRIN	A	
86	ETHYLENE DICHLORIDE	A	
87	ETHYLENE OXIDE	B	
88	EXYLENE	A	
89	FLUOROTRICHLOROMETHANE	B	
90	FORMALDEHYDE	C	DISINFECTANT, PLASTIC INGREDIENT
91	FORMIC ACID	B	REAGENT
92	FREON	C	
93	GARLIC	A	
94	HEPTANE	A	INGREDIENT OF GASOLINE
95	HEPTYLENE	C	
96	HEXANE	B	INGREDIENT OF GASOLINE
97	HOSPITAL ODOURS	A	
98	HUMAN ODOURS	A	
99	HYDROGEN BROMIDE	C	
100	HYDROGEN CHLORIDE	C	
101	HYDROGEN CYANIDE	B	
102	HYDROGEN FLUORIDE	C	
103	HYDROGEN IODIDE	B	
104	HYDROGEN SULPHIDE	C	OXIDIZES TO INCREASE RETENTIVITY CONSIDERABLY
105	INDOLE	A	IN EXCRETIA
106	IODINE	A	
107	IODOFORM	A	ANTISEPTIC
108	ISO BUTANE	B	
109	ISOPROPYL ACETATE	A	LACQUER SOLVENT
110	ISOPROPYL ALCOHOL	A	SOLVENT
111	ISOPROPYL ETHER	A	SOLVENT
112	LACTIC ACID	A	
113	LEATHER	A	
114	MERCAPTANS	A	
115	MESITYL OXIDE	A	
116	METHANE	D	
117	METHANOL (METHYL)	B	

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118	METHYL ACETATE	B	SOLVENT
119	METHYL ACRYLATE	A	
120	METHYL ALCOHOL	B	WOOD ALCOHOL
121	METHYL BROMIDE	B	
122	METHYL BUTYLKETONE	A	
123	METHYL CELLOSOLVE	Q	
124	METHYL CHLORIDE	B	REFRIGERANT
125	METHYL ETHER	A	
126	METHYL FORMATE	B	
127	METHYL ETHYLKETONE	A	SOLVENT
128	METHYL FORMATE	B	
129	METHYL ISOBUTYLKETONE	A	SOLVENT
130	METHYL MERCAPTAN	A	
131	METHYLENE CHLORIDE	A	
132	MONOCHLOROBENZINE	A	
133	MONOFLUOROTRICHORO METHANE	B	
134	n-DECANE	D	
135	n-HEPTANE	D	
136	n-NONANE	D	
137	n-OCTANE	D	
138	n-OCTYLENE	D	
139	NAPHTHALENE	A	REAGENT, MOTH BALLS
140	NICOTINE	A	TOBACCO
141	NITRIC ACID FUMES	B	
142	NITROBENZENE	A	OIL OF BITTER ALMONDS, OIL OF MIRBANE
143	NITROETHANE	A	
144	NITROGEN DIOXIDE	C	HYDROLYZES TO INCREASE RETENTIVITY
145	NITROGLYCERENE	A	
146	NITROMETHANE	A	
147	NITROPROPANE	A	
148	NITROTOLUENE	A	
149	NONANE	A	INGREDIENT OF KEROSENE
150	OCTANE	A	INGREDIENT OF GASOLENE
151	OZONE	A	GENERATED BY ELECTRICAL DISCHARGE
152	PALMITIC ACID	A	PALM OIL
153	PARADICHLOROBENZENE	A	
154	PENTANE	B	LIGHT NAPHTHA

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155	PERCHLOROETHYLENE	A	
156	PERFUMES	A	
157	PETROL	A	
158	PHENOL ACID	A	CARBOLIC ACID, PLASTIC INGREDIENT
159	PHOSGENE	B	
160	PLASTIC	A	
161	POULTRY ODOURS	A	
168	PROPYL CHLORIDE	A	
169	PROPYL ETHER	A	
170	PROPYL MERCAPTAN	A	
171	PROPYLENE	B	COAL GAS
172	PURIFYING ODOURS	B	
173	PUTRESCINE	A	DECAYING FLESH
174	PYRIDINE	A	BURNING TOBACCO
175	RANCID OILS & FATS	A	
176	RESINS	A	
177	RUBBER	A	
178	SKATOLE	A	IN EXCRETA
179	STABLE ODOURS	A	
180	STALE ODOURS	A	
181	STYRENE MONOMER	A	
182	SULPHUR TRIOXIDE	B	HYDROLYZES TO SULPHURIC ACID
183	SULPHUR DIOXIDE	C	OXIDIZES TO SULPHUR TRIOXIDE, COMMON IN CITY ATMOSPHERES
184	SULPHURIC ACID	A	
185	TAR ODOURS	A	
186	TETRACHLORO ETHANE	A	
187	TETRACHLORO ETHYLENE	A	
188	TETRAHYDROTHIOPHENE	A	
189	TOBACCO SMOKE	C	
190	TOILET ODOURS	A	
191	TOLUENE	A	MANUFACTURE OF TNT
192	TOLUIDINE	A	

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193	TRICHLORO ETHYLENE	A	
194	TURPENTINE	A	SOLVENT
195	UREA	A	
196	URIC ACID	A	
197	VALERALDEHYDE	A	
198	VALERIC ACID	A	SWEAT, BODY ODOUR, CHEESE
199	VALERIC ALDEHYDE	A	
200	VARNISH	A	
201	VENTILATION SYSTEMS	A	
202	VINEGAR	A	
203	VINYL CHLORIDE	B	
204	WOOD ALCOHOL	B	
205	XYLENE	A	SOLVENT

## Free Carbon Testing Service

It is extremely difficult to calculate in advance the life expectancy of an activated carbon filter.

Generally speaking, accurate information regarding concentration and details of all contaminants in the airstream are not available and in any case these are often constantly changing.

However, reasonably accurate life expectancy levels can be obtained by a method known as CTC testing.

Either a small sample of carbon from one of the cells, or a complete panel, should be returned to us together with the date of installation. From this information the contamination level will be assessed in the laboratory, which will indicate the likely remaining useful life of the carbon.

This testing service is totally free of charge to our customers.

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## Activated Carbon Filters—Panels

### Applications

The disposable activated carbon filter panel, can be sized and used in a wide variety of odour reduction applications. They can be fitted into duct mounted casings to provide the required contact time and airflow.

### Construction

The panels are generally manufactured using the bonding process to provide a rigid panel which is framed in a metal channel. The panel is finished in a "fabric facia" which minimises the dusting from the panel.

Panels can also be produced using a loose fill technique, whilst this offers an improved rate of adsorbancy, the activated capacity remains the same. The panels are designed to minimise the risk of by pass due to settlement, and for this reason their installation should be designed to be horizontal,



### Technical:

**Maximum Operating Temperature:** 40 Deg C  
**Maximum Operating Humidity** 80% RH

Nominal thickness	Actual thickness	Pressure drop	Face velocity m/s
25mm	22mm	45 Pa	0.22 (43fpm)
22mm	19mm	40 Pa	0.19(37fpm)

SIZE	Nominal Inches	SIZE	Actual mm
	12" x 12" x 1"		302 x 302 x 22mm
	15" x 15" x 1"		379 x 379 x 22mm
	18" x 18" x 1"		454 x 454 x 22mm
	20" x 20" x 1"		505 x 505 x 22mm
	24" x 24" x 1"		606 x 606 x 22mm

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Code AC6/1h Ref 06/06

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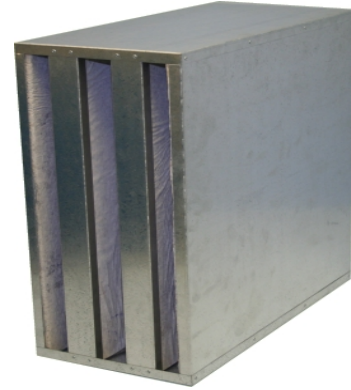
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## Metal Cased Discarbs

The metal cased 'Discarb' cells have the highest carbon loading in our range, and have standard or heavy-duty carbon panels permanently sealed into a galvanised sheet steel casing. This construction gives a very strong unit capable of handling large air volumes or where conditions dictate, increased contact time. The advantage of this unit is that with panels sealed in, there is no possibility of air leakage. Also, these units can be manufactured to almost any reasonable size, the limiting factors being the overall weight for handling purposes and the size of individual panels. When the unit has finished its useful life it is discarded and replaced with a complete new cell.



Standard Duty Cells							
Nominal Size	Actual Size mm	Number of	Carb.	Discarb	Airflow		Pressure
W x H x L	W x H x L	Panels	Weight	Weight	m <sup>3</sup> /s	cfm	Pa
12" x 12" x 12"	292 x 292 x 292	6	5 kg	9 kg	0.10	212	75
12" x 12" x 18"	292 x 292 x 445	6	8 kg	14 kg	0.15	318	95
12" x 12" x 24"	292 x 292 x 597	6	10 kg	18 kg	0.22	466	140
18" x 18" x 12"	445 x 445 x 292	8	10 kg	17 kg	0.21	445	55
18" x 18" x 18"	445 x 445 x 445	8	15 kg	25 kg	0.31	657	70
18" x 18" x 24"	445 x 445 x 597	8	21 kg	33 kg	0.41	868	105
24" x 24" x 12"	597 x 597 x 292	12	20 kg	31 kg	0.41	868	70
24" x 24" x 18"	597 x 597 x 445	12	31 kg	45 kg	0.61	1292	90
24" x 24" x 24"	597 x 597 x 597	12	42 kg	59 kg	0.81	1716	130
12" x 24" x 24"	298 x 597 x 597	6	21 kg	35 kg	0.40	847	130
Extra Duty Cells							
Nominal Size	Actual Size	No. of	Carb.	Discarb	Airflow		Pressure
W x H x L	W x H x L	Panels	weight	weight	m <sup>3</sup> /s	cfm	Pa
12" x 12" x 12"	292 x 292 x 292	6	6 kg	10 kg	0.13	275	125
12" x 12" x 18"	292 x 292 x 445	6	9 kg	15 kg	0.20	424	175
12" x 12" x 24"	292 x 292 x 597	6	12 kg	20 kg	0.27	572	250
18" x 18" x 12"	445 x 445 x 292	8	12 kg	19 kg	0.30	635	95
18" x 18" x 18"	445 x 445 x 445	8	19 kg	28 kg	0.41	868	125
18" x 18" x 24"	445 x 445 x 597	8	25 kg	37 kg	0.54	1144	185
24" x 24" x 12"	597 x 597 x 292	12	25 kg	35 kg	0.54	1144	125
24" x 24" x 18"	597 x 597 x 445	12	38 kg	52 kg	0.80	1694	150
24" x 24" x 24"	597 x 597 x 597	12	51 kg	68 kg	1.06	2245	225
12" x 24" x 24"	298 x 597 x 597	6	26 kg	46 kg	0.53	1122	225

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Code AC6/2a Ref 02/09

# AIRCLEAN

YOUR AIR FILTER MANUFACTURER

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## Technical

The capacities shown are based on a dwell time of 0.1 seconds .

For contact times of 0.3 seconds, reduce rated airflow to 1/3rd, pressure drop will also reduce to 1/3rd.

Max Temperature 40 Deg C

Max Humidity 80% RH

## Non-standard sizes

Other sizes are available to suit individual requirements. Our Technical Department will be pleased to advise.

## Holding Frames and Casings

For Activated Carbon housing solutions Airclean manufacture a range of Side Withdrawal Housings for industrial applications (See Section 8), and the Kitchavent Range specifically for commercial kitchen extract grease, smoke and odour control (See Section 11.).

Both these systems are heavy duty fully welded painted housings, and incorporate a specially designed clamping and sealing system to ensure minimal air bypass of the carbon filters, ensuring maximum efficiencies.



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## Activated Carbon Filters - Can Filter

### Applications

The carbon can filter is available in various sizes to suit the overall application, but they are more usually selected against specific in line fans,

They are effective at removing odours on a small scale system, such as hydroponic growing areas, or removing of odour nuisance in hospital and residential rooms.

### Construction

The filters are manufactured from galvanised steel using expanded metal to retain the pelletised activated carbon. A polyester media sleeve is provided to fit over the outer case to act as a particulate filter to protect the activated carbon. These sleeves are replaceable and we would recommend changing them every 3 months.

These filters are designed to be disposable, but it is possible to recharge them, but the spent activated carbon must be disposed of in an appropriate manner, according to current legislation



### Technical:

**Maximum Operating Temperature:**  
**Maximum Operating Humidity**

**40 Deg C**  
**80% RH**

Part No.	Spigot Dia	Size X section x length	Air Flow m <sup>3</sup> /hr @ 25 Pa	Approx Car- bon Weight
1630-101	100mm	110x110x300	100	1.6 kg
1630-102	100mm	110x110x600	200	3.2 kg
1630-103	150mm	160x160x300	150	2.1 kg
1630-104	150mm	160x160x600	300	4.2 kg
1630-105	200mm	210x210x300	200	3.2 kg
1630-106	200mm	210x210x600	400	6.4 kg
1630-107	310mm	320x320x300	250	4.9 kg
1630-108	310mm	320x320x600	500	9.4 kg

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## Carbon Impregnated Bag Filters

### Applications

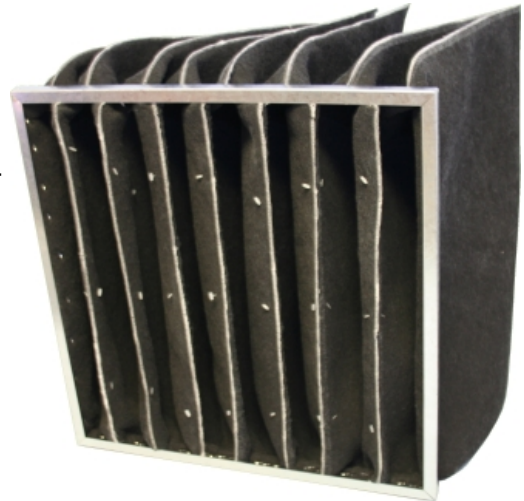
The Activated Carbon impregnated bag filter, can be utilised to remove the slight general odours associated with towns and cities. When the filter is used in the extract systems of light duty catering establishments, such as coffee shops, the life of it will be very short, as the odour retention is directly proportional to the weight of activated carbon on the product.

Airclean will not recommend this product for new installations for odour removal.

### Construction

The fully cured coating of the activated carbon powder on the polyester non woven filter material is formed into pockets which are stitched and tagged to minimise blinding from each other.

The formed pockets are supported by a copper coated rod assembly which with the media is sealed into the corrosion resistant galvanised steel header frame.



### Technical

<b>Filter Classification :</b>	Grade G4 to EN779
<b>Maximum Operating Temperature :</b>	40°C (104°F)
<b>Maximum Operating Humidity:</b>	80% RH

### Performance Chart

Filter Code		Nominal Size (inches) H X W x L	Airflow		Initial Resistance		No. of Pockets
			m <sup>3</sup> /s	cfm	Pa	“wg	
ICB	12/12	24”x 12” x 12”	0.38	800	70	0.28	3
ICB	12/20	24” x 12” x 20”	0.47	1000	70	0.28	3
ICB	20/12	24” x 20” x 12”	0.5	1060	70	0.28	4
ICB	20/20	24” x 20” x 20”	0.64	1350	70	0.28	4
ICB	24/12	24” x 24” x 12”	0.75	1600	70	0.28	6
ICB	24/20	24” x 24” x 20”	0.94	2000	70	0.28	6

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## Free Carbon Testing Service

It is extremely difficult to calculate in advance the life expectancy of an activated carbon filter.

Generally speaking, accurate information regarding concentration and details of all contaminants in the air stream are not available and in any case these are often constantly changing.

However, reasonably accurate life expectancy levels can be obtained by a method known as CTC testing.

Either a small sample of carbon from one of the cells, or a complete panel, should be returned to us together with the date of installation. From this information the contamination level will be assessed in the laboratory, which will indicate the likely remaining useful life of the carbon.

This testing service is totally free of charge to our customers.

## Carbon Test Cell

### Applications

For those occasions when it is not possible to return a carbon sample back to Airclean, for the free CTC test the Carbon Test Cell offers a simple method of testing the life expectancy of a carbon filter in situ.

This Carbon Cell and holding frame can be easily installed using self tapping screws into the duct run between the pre filters the Activated Carbon Filters.

After a pre determined period of time (1-2 months), the cell can be removed from its frame, and returned to Airclean for a free CTC test and report.

### Construction

The holding frame is made from folded galvanized steel, and is approximately 150mm square x 25mm Deep. The Activated Carbon Panel is manufactured from Grade 50 Activated Carbon and comes complete with a frame for ease of removal.

### Technical

**Max Operating Temperature:** 40 Degrees Centigrade

**Max Operating Humidity:** 80% RH

Results are an estimation / guideline only, and are only available for bonded and loose fill carbon cells.



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## Filter Media

### Applications

Three basic types of media are available:

- (a) Reticulated Polyurethane Foam
- (b) Synthetic Fibre
- (c) Glass Fibre

Each can be used in ventilation and air conditioning systems, either as a main filter or as a pre-filter to higher efficiency units.

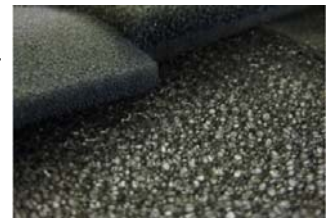
In pad form, each would normally be used in conjunction with the Pad Frame system described in leaflet AC1/4, but can be supplied in pad, sheet or roll form to fit existing installations or clients own holding frames.



### Polyurethane Foam Media (a)

Reticulated (de-membrane) polyurethane foam is available in varying densities designated from 10ppi to 60ppi.(pores per inch).

This washable material can be used in any practical thickness and the range of pore sizes available covers a wide area of efficiencies, particularly since different porosities can be bonded together in tandem to produce the desired efficiency using a graded filtration mechanism.



Flammability ISO3795 mm/ min FMVSS 302  
Flame Retardant to FMVSS 302  
Vo available upon request.

Below is a table of the most popular types of media, cut pads are also available.

NOMINAL THICKNESS	SHEET SIZE
6mm	1m x 2m
12mm	1m x 2m
19mm	1m x 2m
25mm	1m x 2m
38mm	1m x 2m
19mm Dual Density (12mm of 20ppi and 6mm of 45ppi )	1m x 2m
38mm Dual Density (39mm of 20ppi and 6mm of 45pp)	1m x 2m

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## Synthetic Fibre Media (b)

Manufactured from synthetic fibres which when laid produce a range of multi-directional fibrous material of differing weights and thicknesses.

These are available to meet a wide range of filter requirements from coarse to fine, some products being able to withstand a cleaning operation, others being disposable.



Below is a table of the most popular types of media, cut pads are also available.

TYPE	NOMINAL THICKNESS	ROLL SIZE	MAX TEMP.	Grade to EN779
A70	6mm	2m x 40m	100 °C (212 °F)	G2/3
A15/150	6-9mm	2m x 20m	100 °C (212 °F)	G3
A15/350	15mm	2m x 20m	100 °C (212 °F)	G4
A15/500	16mm	2m x 20m	100 °C (212 °F)	F5 +
A290	25mm	2m x 20m	100 °C (212 °F)	G4
A560G	15mm	2m x 20m	100 °C (212 °F)	F5 ++
A1B	25mm	2m x 20m	100 °C (212 °F)	G4
A2B	50mm	2m x 20m	100 °C (212 °F)	G4

+ Spray Booth

++ Spray Booth Ceiling Panel - Polyester backed and impregnated  
Flame Retardant to DIN53438 classes F1 & K1

## Resistance to Airflow

TYPE	VELOCITY		PRESSURE DROP	
	m/s	ft/min	Pa	"wg
A70	1.5	300	12	0.5
A15/150	1.5	300	20	0.1
A15/350	1.5	300	75	0.30
A15/500	1.5	300	75	0.30
A290	1.5	300	45	0.18
A560G	0.6	120	40	0.16
A1B	1.5	300	45	0.18
A2B	1.5	300	50	0.20

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## Glass Fibre Media (c)

This material is produced from a continuously spun glass filament into a graded blanket. A finer laminate baking increases the dust holding capacity and efficiency.

The media is normally supplied coated with a viscous agent, which is applied during the manufacturing process and increases the dust holding capacity and efficiency.

This media is a low efficiency media for use in spray booths and air conditioning systems.



Below is a table of the most popular types and sizes of media, cut pads are available.

ACTUAL	12mm OILED	25mm OILED	50mm OILED	50mm DRY	100mm DRY
WIDTH	180m ROLL	90m ROLL	60m ROLL	20m ROLL	20m ROLL
495mm	NA	Available	Available	Available	Available
597mm	NA	Available	Available	Available	Available
762mm	Available	Available	Available	Available	Available
914mm	NA	Available	Available	Available	Available
1000mm	NA	NA	NA	Available	Available

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## Filter Frames and Casings - Front Withdrawal

### Front Withdrawal frames

These are manufactured from galvanised sheet steel and are fitted with four retaining clips and a foam gasket onto which the filter will seal. The individual frames are supplied undrilled and can be bolted, pop-riveted or spot-welded together on site.

These frames are suitable for various types of panel filter, bag filter or a combination of both.

The frames have overall dimensions of 19mm (0.75") larger than the ACTUAL face dimensions of the filter or bag header they retain and are 75mm (3") in depth.

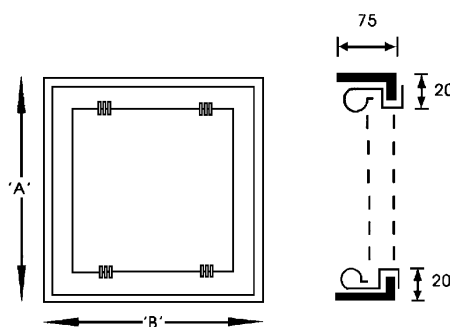
Filter retaining clips are available to accept 1", 2", 3" and 4" thick filters.



### Materials

Normally 0.9mm GSS. self-finished. Foam Filter Sealing Gasket. Frame fitted with Stainless Steel Filter Retaining Clips.

### Dimensions



A & B = Actual Filter size plus 19mm (0.75")

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## Filter Frames and Casings - Side Access

### Side Withdrawal Casings

Manufactured from galvanised sheet steel, flanged with MEZ 120L at both ends for connection to ductwork. A removable access door is provided, with seals, on one side of the casing (if casing is rectangular, specify on which side the door is required).

Channel slides are provided internally on 3 sides of the casing to accommodate the filter. The slide is sealed at the back and on the door to reduce air bypass.

These casings can be manufactured to hold various thicknesses of panel filter or bag header.

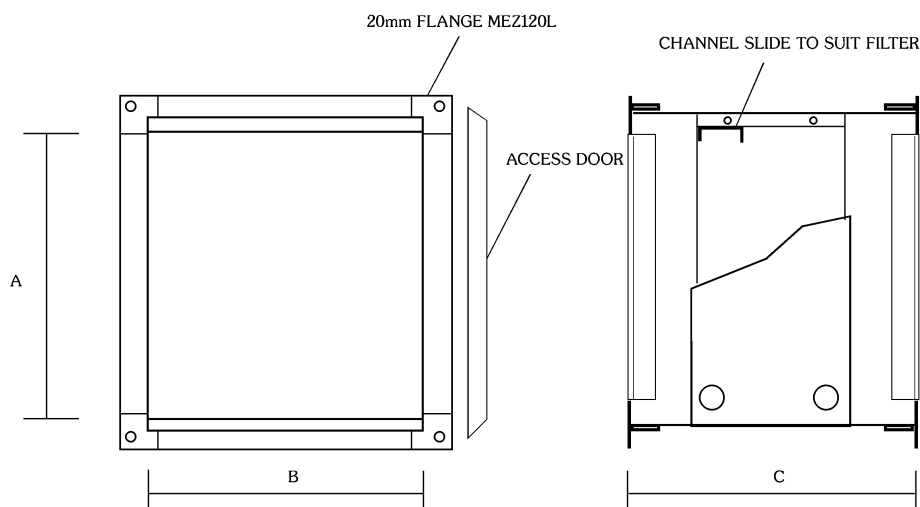
Units for multiple filter installations are available.



### Materials

Normally 1.2mm GSS. self-finished  
Flanges MEZ 120L

### Dimensions



A = actual filter size plus 6mm (0.25")  
B = actual filter size plus 6mm (0.25")  
C = 305mm

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## Filter frames and Casings - Duct Mounted

### Duct Mounted Filter Boxes

The range of Duct Mounted Filter Boxes are designed to fit directly with spiral wound ducting. They are manufactured in galvanised sheet steel and include either a Grade G2 Glass Panel Filter or a Grade G4 General Purpose Bag Filter.

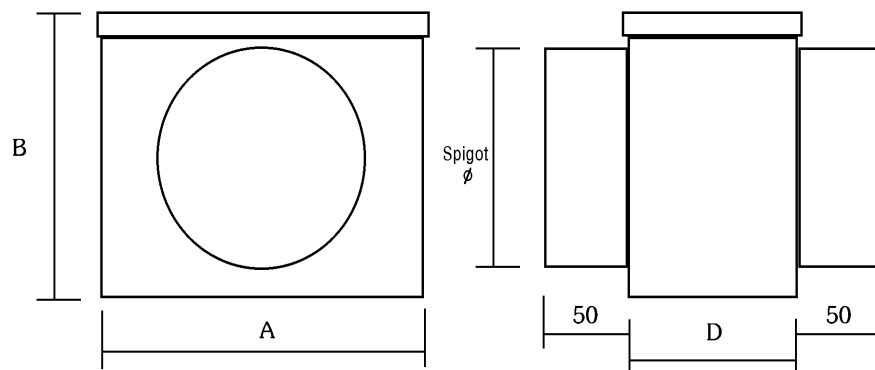
They have a removable lid with closed cell gasket. The unit can be rotated at time of installation to provide side or top access.



### Materials

Normally 0.9mm G.S.S self finished.  
Lid retained by self-tapping screws.

### Dimensions



See Overleaf for Tables of Dimensions

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## Duct Mounted Filter Boxes - Panel Filter

Part No.	DUCT SIZE mm	AIR FLOW m <sup>3</sup> /s	Pressure Drop Pa	Case Size A x B x D	Panel Filter Size Grade G2 to EN779
1825-101	100	0.10	75	200x200x122mm ACT	190x190x47mm ACT
1825-102	125	0.10	75	200x200x122mm ACT	190x190x47mm ACT
1825-103	150	0.10	75	200x200x122mm ACT	190x190x47mm ACT
1825-104	160	0.10	75	200x200x122mm ACT	190x190x47mm ACT
1825-105	200	0.16	75	300x300x122mm ACT	290x290x47mm ACT
1825-106	250	0.16	75	300x300x122mm ACT	290x290x47mm ACT
1825-107	315	0.30	75	400x400x122mm ACT	390x390x47mm ACT
1825-108	355	0.30	75	400x400x122mm ACT	390x390x47mm ACT
1825-109	400	0.38	75	445x445x122mm ACT	435x435x47mm ACT
1825-110	450	0.55	75	545x545x122mm ACT	535x535x47mm ACT
1825-111	500	0.55	75	545x545x122mm ACT	535x535x47mm ACT
1825-112	560	0.78	75	645x645x122mm ACT	635x635x47mm ACT
1825-113	610	0.78	75	645x645x122mm ACT	635x635x47mm ACT
1825-114	630	0.78	75	645x645x122mm ACT	635x635x47mm ACT

## Duct Mounted Filter Boxes - Bag Filter

Part No.	DUCT SIZE	AIR FLOW m <sup>3</sup> /s	Pressure Drop Pa	Case Size A x B x D	Bag Filter Size Grade G4 to EN779
1825-201	100	0.14	70	200x200x450mm ACT	190x190x250mm ACT 2P 22H
1825-202	125	0.14	70	200x200x450mm ACT	190x190x250mm ACT 2P 22H
1825-203	150	0.14	70	200x200x450mm ACT	190x190x250mm ACT 2P 22H
1825-204	160	0.14	70	200x200x450mm ACT	190x190x250mm ACT 2P 22H
1825-205	200	0.35	70	300x300x550mm ACT	290x290x310mm ACT 2P 22H
1825-206	250	0.35	70	300x300x550mm ACT	290x290x310mm ACT 2P 22H
1825-207	315	0.58	70	400x400x600mm ACT	390x390x400mm ACT 2P 22H
1825-208	355	0.58	70	400x400x600mm ACT	390x390x400mm ACT 2P 22H
1825-209	400	1.03	70	445x445x650mm ACT	435x435x450mm ACT 3P 22H
1825-210	450	1.30	70	545x545x650mm ACT	535x535x450mm ACT 4P 22H
1825-211	500	1.30	70	545x545x650mm ACT	535x535x450mm ACT 4P 22H
1825-212	560	1.55	70	645x645x650mm ACT	635x635x450mm ACT 4P 22H
1825-213	610	1.55	70	645x645x650mm ACT	635x635x450mm ACT 4P 22H
1825-214	630	1.55	70	645x645x650mm ACT	635x635x450mm ACT 4P 22H

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## Filter frames and Casings - Combination

### Absolute (HEPA) Front Withdrawal Casings

These consist of a knife-edged sheet steel casing with 4 removable M8 fixing clips to clamp the HEPA filter in place manufactured in 1.5mm Zintec, finished with Black Etch Primer or Powder Coated.



### Absolute (HEPA) Side Withdrawal Casings

These consist of a flanged powder coated steel casing with a steel frame fitted internally and sealed into the casing.

Flanges are normally provided undrilled and will be 40mm unless otherwise specified.

Access doors are provided on one or both sides as required by the design.

Casings will be finished in Black Etch Primer or a Grey painted finish

### SIDE WITHDRAWAL CASES-

1.5mm Zintec finished in Silver Grey Paint

40mm External sheet metal flanges

Access Doors on both sides of unit

Max face size of Filter 609 x 609

**Extras:** Casing can be supplied fitted with pressure differential switches and/or manometers if required.

Filter Combinations	No. of Doors Each side + Width	Max Airflow m3/s	Pressure Drop Pa	Unit Length mm
4" G4 Panel Filter	1 x 274	1.09	87	380
12" F5 Bag Filter	1 x 274	0.94	63	525
4" G4 Panel + 30" F8 Bag Filter	2 x 419	1.1	225	1182
12" F5 Bag Filter + 12" X Duty Carbon	1x274+1x419	0.54	175	877
12" F5 Bag Filter + 24" X Duty Carbon	1x274+1x724	1.06	300	1182
6" H13 HEPA	1 x 274	0.35	280	380
12" H13 HEPA	1 x 419	0.75	280	525
4" G4 Panel Filter + 12" H13 HEPA	1x274+1x419	0.47	270	877
12" G4 Panel Filter + 12" H13 HEPA	1x274+1x419	0.47	270	1022
12" F5 Bag Filter + 12" X Duty Carbon + 12" H10 HEPA	3x419	0.54	370	1519
12" F5 Bag Filter + 24" X Duty Carbon + 12" H10 HEPA	2x419+1x724	0.94	520	1824
2" Grease + 12" F5 Bag Filter + 24" X Duty Carbon	1x274+1x724	0.94	300	1182

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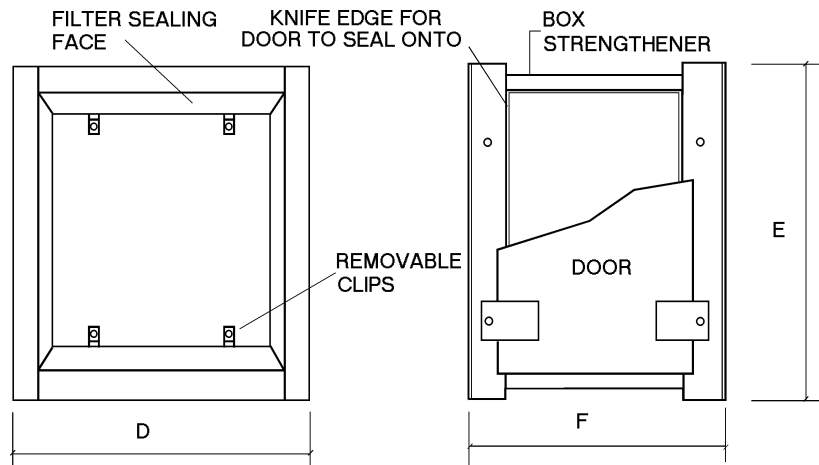
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Notes: Standard Door dimensions( opening dimensions) 274 ( 252) , 419 ( 397) , 724 ( 702)mm

End door posts are 64mm and central posts are 100mm

## SIDE ACCESS CASE

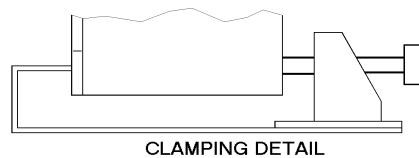
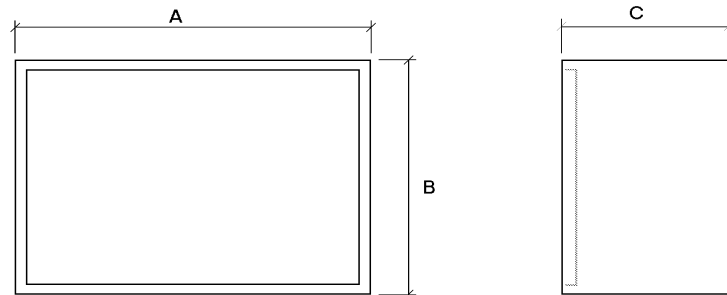


## FRONT WITHDRAWAL FRAME

### Dimensions

A = Filter width plus 14mm  
B = Filter height plus 14mm  
D = Filter width plus 90mm  
E = Filter height plus 90mm

Filter Depth	C	F
292mm	350mm	525mm
146mm	206mm	380mm
75mm	133mm	380mm



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## TERMINAL HOUSING—HEPA Filter

### Applications

The Terminal Housing is the traditional method for fitting HEPA Filters into a ductwork system ensuring high quality clean air is supplied directly to the clean room or equipment where it is required.

The Terminal Housing allows air from the HEPA filter fitted within the housing, to have a minimal time period in which to collect contamination from the surrounding parts of the housing.

The HEPA Filter is changed from within the cleanroom, by removing the 4 way grille and the clamping bolts/ removeable clips, releasing the HEPA filter from its knife edge or liquid seal, sealing face.

In some applications changing the filter from within the cleanroom could compromise its cleanliness, and for this application a rear or side withdrawal system has been devised.

Airflow enters the housing from a spigoted connection which is circular on the back of the housing, or where roof void space is limited a rectangular side entry can be utilised.

Where negative pressure or containment facilities are built the terminal housing with a side entry spigot can be used for the return air installed within the side walls of the facility, with airflow passing in the reverse direction through housing.

### Construction

Fabricated from mild steel the various designs of housing can accommodate the wide range of HEPA filters available, utilizing the traditional EPDM gasket against a knife edge or liquid seal filters.

The grille can be either a 2,3, or 4 way blow grille or an egg crate grille for reverse airflow applications, all with a removable core for access to the clamping system.

DOP insertion points and upstream pressure tapping points along with balancing dampers can be factory fitted as required.

See Data sheet AC5/1 for filter information.



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## Technical

CASING			DIFFUSER		STYLE	FILTER SIZE			FLOW	PD	Part No.
H	W	D	H	W		H	W	D	m <sup>3</sup> /s	Pa	
346	346	370	355	355	Top Entry	305	305	146	0.06	250	1835101
591	591	370	597	597	T Grid Top Entry	550	550	146	0.19	250	1835102
591	591	520	597	597	T Grid Top Entry	550	550	292	0.38	250	1835103
591	591	430	597	597	T Grid Side Entry	550	550	146	0.19	250	1835104
591	591	580	597	597	T Grid Side Entry	550	550	292	0.38	250	1835105
650	650	370	659	659	Top Entry	609	609	146	0.23	250	1835106
650	650	520	659	659	Top Entry	609	609	292	0.47	250	1835107
650	650	430	659	659	Side Entry	609	609	146	0.23	250	1835108
650	650	580	659	659	Side Entry	609	609	292	0.47	250	1835109
591	1191	370	597	1197	T Grid Top Entry	550	1150	146	0.40	250	1835110
650	1261	370	659	1267	Top Entry	609	1220	146	0.47	250	1835111
<b>NON STANDARD</b>											1835999

### NOTES

\* 4 way blow diffuser as standard. Egg crate grilles for 597x1197, 659x1267

# AIRCLEAN

YOUR AIR FILTER MANUFACTURER

P.O. BOX 147,  
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TEL:01622 832777  
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## Eazibreeth - Cleans the air around you

### Applications

The unit is designed to clean the air around you, and it can be mounted under the bed, behind the sofa, or on the floor. The filters will remove pollen, tobacco, mould spores, pet dander and other irritant particles from the air

Other filter combinations are available which remove minor gaseous contaminants .

### Description

The unit is designed to run 24 hours per day, and has a two speed fan to facilitate a quieter night time operation. It accommodates a prefilter which should be changed monthly, and a HEPA filter which requires changing every 6 months or annually depending upon the environment it is working within.



**It will: Reduce Pollen levels      Reduce dust mites in the air      Reduce allergy causing particles**

### Construction

The unit is constructed from plastic coated steel offering a dove grey leatherette appearance or the more distinctive ocean blue. The prefilter and HEPA filter are user replaceable but do require the use of an allen key (supplied).

The HEPA Filters within it are capable of removing particles from the air down to 0.3 micron.

### Technical

#### Filtration Medias

**Prefilter:** Grade G2 to EN779  
**HEPA** Grade H13 to EN1822

Height: 400mm  
Width: 265mm  
Depth: 640mm  
Weight: 16kg

**Supply: 230 Volt 50 Hz**  
**Power Consumption 200 watts**



### Part Numbers

1907-100	EAZIBREETH Air Filter Unit—Dove Grey	240 Volt operation
1907-101	EAZIBREETH Air Filter Unit—Ocean Blue	240 Volt operation
1907-120	Replacement HEPA FILTER	Qty: 1
1907-121	Prefilters, Grade G3	Pack of 10
1970-122	Activated Carbon Filters	Qty: 1

Code AC9/1 Ref 05/06

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## Air Pressurisation Unit

### Applications

Airclean Air Pressurisation unit is supplied in kit form to offer a solution to pressurising small rooms with filtered air.

The kit contains the following:-

- Fan Air Handling Unit
- Speed Controller
- F5 Bag Pre Filter
- Flexible Duct Connection
- H14 HEPA Cassette Filter



### Construction

The Air Handling Unit is a single skinned painted unit housing a direct drive centrifugal forward curved fan, and F5 Grade Bag Pre Filter. A fully adjustable speed controller is mounted to the side of the Air Handling Unit allowing the user to adjust the output of the volume of air to the HEPA Filter, and into the room to be pressurised.



The HEPA cassette filter is manufactured with a spigot to the rear, and a white powder coated grille offering a sealed and contained HEPA filter solution that can be mounted in a false ceiling. The HEPA Cassette is a completely disposable unit and can simply be swapped out at the end of its life.

### Technical

- Airflow Operating Range: Up to 0.32m<sup>3</sup>/s
- 3m, 300mm Diameter Flexible Connection
- PAT Certified

Component Dimensions	W	L	H
Air Handling Unit	650	650	650
H14 HEPA Cassette Filter	1185	585	315

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## Laminar Flow Cabinets

### Applications

A commercial range of Vertical Laminar Flow Cabinets, operating to ISO Class 5 of ISO 14644-1999. They are constructed from zinc coated steel which is finished in a white powder coat RAL9010.

### Construction

The HEPA filter is fed air from a D.I.D.W. Centrifugal forward curved fans having an integral motor.

The unit is fitted with an electronic speed controller adjusted externally to provide control over the laminar air flow speed from the HEPA filter.



### Technical

- Airflow Quality ISO Class 5 to ISO 14644-1999
- HEPA Filter leak tested to 0.001% +/- 20%
- Airflow Operating Range 0.45m/s +/- 20%
- PAT Certified
- 1.2m IEC Lead
- Single Phase 240V, 50 Hz operation, Max Current Rating 6A

Model	W	L	H	Airflow	Replacement HEPA Filters	Pre Filter Pad
600	685	685	800	0.16 m3/s	GA/H13/C2Gr-H 600x600x146	1 600x600 A290
1200	685	1285	800	0.32m3/s	GA/H13/C2Gr-H 1200x600x146	1 600x600 A290
1800	685	1285	800	0.48 m3/s	GA/H13/C2Gr-H 1800x600x146	2 600x600 A290

Model	Sound Power Levels dbW in Spectrum Hz							
	63	125	250	500	1k	2k	4k	8k
600	65	73	79	77	76	73	69	63
1200	65	73	79	77	76	73	69	63
1800	65	73	79	77	76	73	69	63

The company reserves the right to change specifications without notice. E&OE  
Code 1845

Code AC9/2 Ref 06/06

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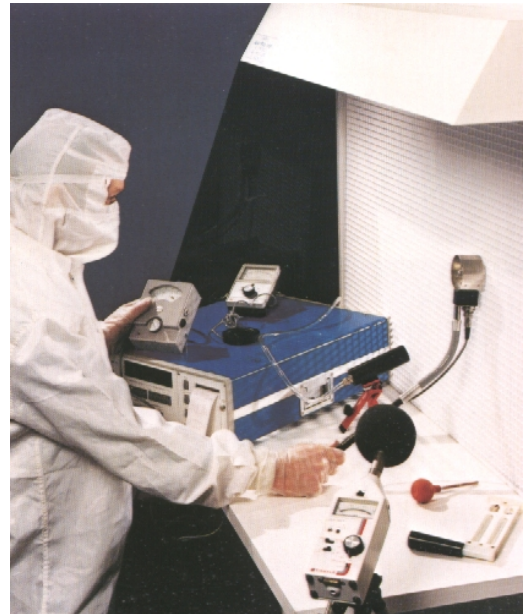
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## CLEANROOM CERTIFICATION

### Cleanroom Certification

Our Engineers are fully equipped and trained to perform clean room and clean room equipment certification, ranging from the standard particle counting analysis in accordance with ISO14644:1999, to the insitu leak testing of the HEPA filters and air entrainment testing of the whole facility. We can also perform airflow checks and airflow pattern analysis in addition to noise studies and lighting level testing.



### LEV Testing

This is a legal requirement on all employers, to test and check the local exhaust ventilation systems are working to the required levels and that they have not deteriorated from the last test performed, which must be within 13 months of the current test.

### MSC. Testing

The Microbiological Safety Cabinet requires numerous performance checks to ensure its continued level of containment. These include the usual airflow tests for laminar flow within the cabinets, in rush at the sash and exhaust airflows, the in-situ leak testing of all HEPA filters within the cabinet, and the particle analysis of the air quality within the cabinet. The containment effectiveness is measured using the Ki-Discus test apparatus, which measures the contamination from within the cabinet to the operator outside.

### Consultancy

We have many years of experience in the design and certification of a wide variety of specialized systems from Clean rooms through to specialized Nuclear applications, to performing "safechange" filter changes, and the design of specialized filters and systems. This knowledge based can be tapped into through our consultants, who operate independently of Airclean Ltd.

### Test Equipment Available:

Particle Analysis  
DOP Photometers  
Smoke Generators  
Pitot Tubes  
Manometers  
Vane anemometers  
Hot Wire Anemometers

Ki Discuss  
Lux Meter  
Noise Level Meters  
Temperature measurement  
Humidity Measurement  
Infra Red temperature Measurement  
Temperature / Humidity loggers

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## Electric Heater Battery Manufacture

### Applications

Airclean Heater Batteries are designed for the Heating and Ventilation industry, offering an independent heating solution away from air handling units.

Airclean manufacture both "Stab in Heaters" for retrofit solutions, and also "Duct Mounted Heaters" in both spiral and rectangular flanged units.

### Description

Electric Heater Batteries must be sized to operate at a face velocity within the duct of between 2 and 6 m/s.

Units can be supplied in either single or 3 phase configurations. Single step units are available where a thyristor controller is to be used, or alternatively we are able to offer a multi staged heater for a more traditional control system.

Full control systems are available with our heaters upon request.

Each unit is fitted with one automatic and one manual reset thermal cut outs, which is compliant with the latest IEE wiring regulations.

### Technical

Thermal Cut Outs:

Auto Reset Set Temperature : 120 Degrees Centigrade

Manual Reset Set Temperature : 70 Degrees Centigrade

Bus Bars Standard on multi neutral points.

Earth Bond 6mm Diameter within Terminal Cover

Air Velocity Range 2 to 6 m/s



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## Electric Speed Controller

### Applications

This unit is suitable for all applications using suitably specified single phase induction motors.

Designed for continuous operation with 6 amp loads respectively at 30°C ambient on single phase 220/240V v 50 HZ supply.



### Description

Unit utilises triac semi-conductor solid state technology.

Housed in plastic boxes complete with an aluminium fascia which acts as a heatsink, and so can be warm in operation.

### Technical

For single phase induction motors  
Rotary knob allows infinite control  
Solid state technology  
To take 6 amp load

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## Drive Belts

### Applications

Fan Drive belts are often replaced along with air filters on regular maintenance schedules, to ensure the efficient running of an air handling unit, or independent fan.

Airclean offer a full range of drive belts, and have the technical back up of a good independent local supplier who offer us the service that our clients need to meet demand.

### Construction

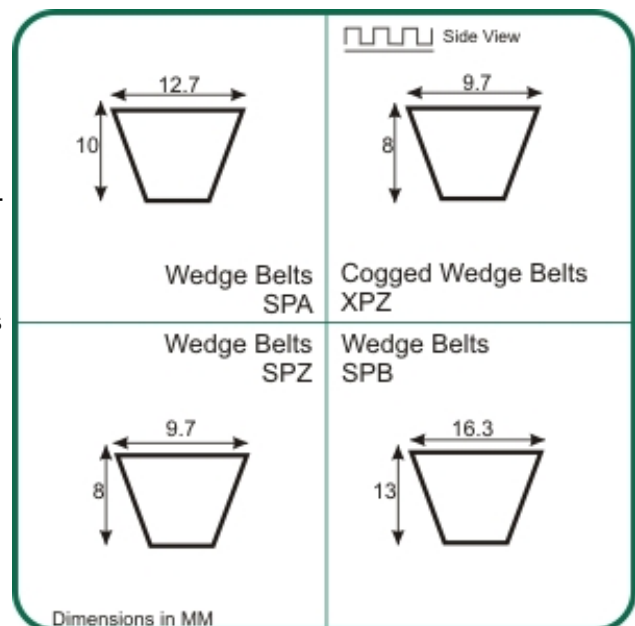
We can typically offer two grades of drive belts to our clients.

**Budget Range** : This range usually matches the quality of belts offered on large tenders, or maintenance schedules where price is of importance.

**Quality Range** : These drive belts we offer on those "Problem" or "Important" jobs, where price is not so important. These belts have a longer life expectancy and are made of harder wearing materials ensuring their reliability.

### Technical

- Standard Styles Available: SPA, XPZ, SPZ, SPB, Others available upon request.
- Heat Resistant
- Oil Resistant.
- Anti - static



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## Binks Bullows - Spray Booth Filter

### Applications

The Binks Bullows filter is used in spray booths for removing wet and dry over spray from the air stream.

### Construction

Constructed from two sheets of heavy paper containing staggered rows of perforations, paint and particulate deposits in the air attach themselves to the filter as they hit the surfaces within before leaving the filter.

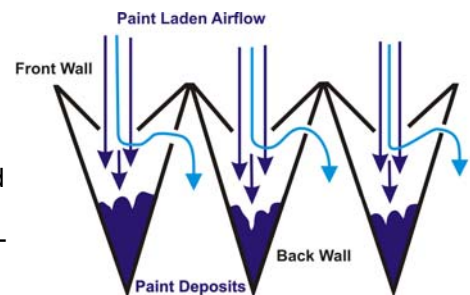
### Technical

Binks Bullows are installed across the width of a spray booth with one end clipped in place and the working section of the filter pulled across the spray booth and secured. Once the filter becomes too dirty to use, it can be cut and removed allowing for a new filter section to be pulled across.

**Maximum Recommended Face Velocity :** 0.25 to 1m/s

**Clean Pressure Drop :** 55Pa at 1m/s

**Recommended Max Pressure Drop:** 128Pa



## Dry Glass Fibre Media

### Applications

Supplied in rolls, dry glass fibre filter media is used in spray booths to catch wet and dry over spray. This can be used with the Air-clean Pad Frame System and Front Withdrawal Frame to create a large area of filters in a Spray Booth.

### Construction

This material is produced from a continuously spun glass filament into a graded blanket. A finer laminate baking increases the dust holding capacity and efficiency.

This product is available in 20m rolls with widths ranging from 495 to 1000mm, to suit spray booth requirements.

### Technical

**Filter Classification:** G2 to EN779

**Maximum Recommended Face Velocity:** 2.25m/s



The company reserves the right to change specifications without notice.

Code AC9/7 Ref 07/11

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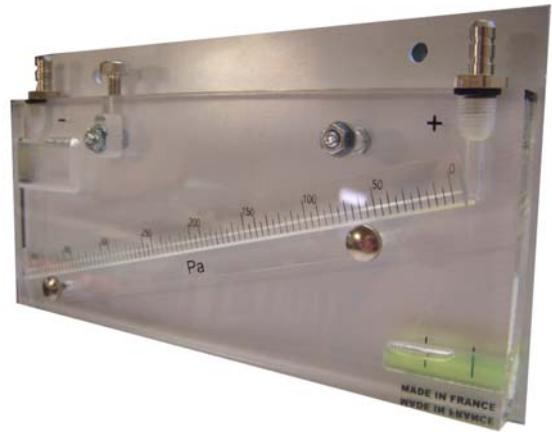
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## Inclined Manometers

### Applications

Inclined manometers offer a method of measuring the differential pressure across air filters as an indication of their life. These can be easily fitted to duct mounted filter sections or Air Handling Units as a maintenance guide.

Red liquid within the inclined manometer will clearly and accurately indicate the differential pressure across bag and panel filter sections, and also pressurised rooms, clean rooms and ventilation networks.



### Construction

Our inclined manometers are machined from 25mm thick Altuglas (PMMA), and come complete with a white PVC mounting plate for installation. A built in spirit level allows for the quick and simple mounting, where after the zero point can be adjusted and set. A fluid expansion tank is included to allow for accidental over pressure.

### Technical

**Accuracy** : 2% at 20 Degrees Centigrade

**Dimensions** : 192W x 105H x 25Dmm

**Measuring Range** : 0 - 400Pa

## Magnehelic Gauge

### Applications

This accurate gauge offers a method of measuring differential pressure accurately and easily across filter sections to indicate dirty air filters, room and duct pressures.

### Construction

The magnahelic gauge's body and bezel is manufactured from die cast aluminium, and has a clear acrylic PVC facia, giving this product a quality finish and a long service life. Its clear print, and orange indicator pin offers an "easy to read" display.



### Technical

**Measuring Range** : 0 - 400Pa (Other scales available upon request)

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## Filter Test Standards EN779 and EN1822

### PANEL AND BAG FILTERS to EN779

GRADE	ARRESTANCE % (AVERAGE)	EFFICIENCY % (AVERAGE)	AIRCLEAN REF
G1	A < 65		
G2	65 < A < 80		Glass T/A's
G3	80 < A < 90		Synthetic T/A's GP3 Bags
G4	A < 90		Pleated T/A's GP4 Bags
F5		40 < E < 60	FP5 Bags
F6		60 < E < 80	HP6 Bags /HPS6 Bags/ Rigid Pleats
F7		80 < E < 90	HP7 Bags /HPS7 Bags/ Rigid Pleats
F8		90 < E < 95	HP8 Bags /HPS8 Bags/ Rigid Pleats
F9		E > 95	HP9 Bags /HPS9 Bags/ Rigid Pleats

### HIGH EFFICIENCY ABSOLUTE FILTERS to EN1822

GRADE	INTEGRAL VALUE Efficiency %	LOCAL VALUE Efficiency %	AIRCLEAN REF
H10	85	-	HEPA
H11	95	-	HEPA
H12	99.5	97.5	HEPA
H13	99.95	99.75	HEPA
H14	99.995	99.975	HEPA
U15	99.9995	99.9975	ULPA
U16	99.99995	99.99975	ULPA
U17	99.999995	99.9999	ULPA

### NON CLASSIFIED FILTERS

Grease Filters  
Polywashable Filters  
Carbon Filters

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## Conversion Factors

Basic Conversion Factors  
Simple Values are stated  
Length - Pressure - Volumes - Weights

### Lengths

metres to millimetres	x 1000
metres to centimetres	x 100
centimetres to millimetres	x 10
metres to yards	x 1.09
inches to millimetres	x 25.4
inches to centimetres	x 2.54

### Pressure

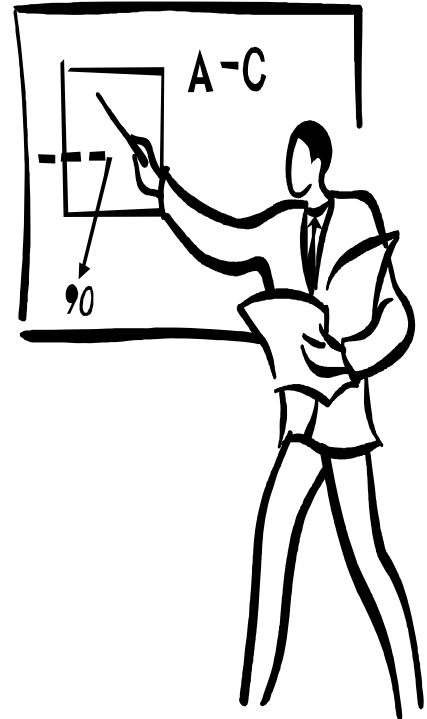
inches wg to Pascals	x 250
inches wg to millimetres wg	x 25
Pascals to N/m <sup>2</sup>	x 1
mBar to Pascals	x 100
atmospheres to N/m <sup>2</sup>	x 100000

### Volumes

cubic metre to litres	x 1000000
cubic metres to cu ft	x 35.3
cubic feet to UK gallons	x 6.2

### Weights

kilogrammes to grammes	x 1000
kilogrammes to Pounds	x 2.2
tonne to kilogrammes	x 1000



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			10/11
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Disposable Synthetic Panels	1	AC1/2a & b	06/11
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Code AC10/4a Ref 06/11

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## Kitchen Grease and Odour Control

Kitchen extract systems are designed to effectively draw residual grease and odours from the cooking process away from the "cooking zone" and kitchen environment to keep food clean and safe, and also to offer chefs and kitchen staff a cool, safe and clean working environment.

The grease and odour laden atmosphere is captured by the canopy above the cooking range, and is drawn away from the kitchen through the ductwork system by an extract fan.

Efforts must be made in the design of the kitchen extract system to prevent grease, smoke and odours being discharged from the kitchen extract, through capture and containment. This requirement is backed up by current legislation and environmental health due to the risk of fire hazard and also nuisance created by smoke and odours to the local surroundings.

Grease must be captured as early as possible in the extract system, to minimise fire risks. Grease is captured primarily in the canopy using baffle type grease filters, which utilise centrifugal force to capture the grease within the filters. The more traditional mesh type grease filters are often seen in commercial kitchens and these use impingement to capture the grease. Neither of these filters are 95% efficient, so additional grease collection methods will be required to ensure an effective grease collection, such as bag filters, or Electrostatic Precipitator filters.

### Baffle Type Filters : Data Sheet KAC3/3



- Centrifugal Action collects grease from air stream.
- Recommended by Specification DW 172
- Easily Cleaned and Maintained

### Grid Mesh Type Filters : Data Sheet KAC3/4



- Impingement Filtration Mechanism
- Low Resistance to Airflow

Smoke is a particulate, and can be removed by either HEPA filtration, or by using an Electrostatic Precipitator Filter. Both methods have been proven to be very effective with efficiencies of up to 95%. Both of these methods will also clean up any carry over of grease, left in the air stream.

### HEPA Filters : Data Sheet KAC5/1



- Effective against sub-micron particles
- 95% efficiency against smoke and grease
- Disposable

### Electrostatic Precipitator Filters : Data Sheet KAC11/2



- 95% efficiency against smoke and grease
- Low resistance to air flow

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Odours can be captured using Activated Carbon filters which adsorb the odours within the cells. As an alternative Ultra Violet light can provide an effective method of odour control through the generation of Ozone. Ozone is a powerful oxidising agent due to its unstable nature by holding three oxygen atoms (O<sub>3</sub>). Ozone wants to stabilise itself to its natural O<sub>2</sub> state, and therefore loses an oxygen atom which will then latch onto other molecules in the air stream. The result of this chemical reaction is changing the state, and breaking down the odorous organic compounds in the air stream, and so reducing overall odours in the extract discharge.

### Activated Carbon Filter : KAC6/1a, AC6/2



- Effective Gas Adsorption removing the odours from airstream
- Minimum contact times required
- Disposable Filter Units

### Odour Neutraliser : UV Ozone : KAC11/3



- Odour removal by oxidation of organic compounds
- No pressure differential
- Low maintenance

It must be noted that despite its effectiveness and advantages there are risks involved with the use of UV Ozone, and any residual ozone that may be discharged at low level or near public spaces must be either removed or neutralised. This can be achieved by using either activated carbon, or an Ultra Violet neutraliser which can be offered.

### Ozone Neutraliser : KAC11/4



- Ultra violet Ozone Neutraliser operating at 253nm
- Stab in style
- Also can be used as an air purifier killing up to 99% of all germs and viruses in the air stream.

Odour neutralisers and maskers are the last line of odour removal in a duct. These can be used where there are bursts of excess odours which can't be accommodated by Activated Carbon or UV Ozone. The odour neutraliser is a chemical which can be injected into the duct run, to work on the odours and further reduce, and / or mask the odours that are left in the duct.

### Atomising Odour Neutraliser / Masker : KAC11/5



- Neutralising agent injected into duct.
- Effective with strong odour purges.
- No pressure differential
- Masking scents also available.

# AIRCLEAN

YOUR AIR FILTER MANUFACTURER

P.O. BOX 147,  
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## What do I need in a kitchen extract system?

Not all of the components offered are required for all kitchen extract systems. When designing the system consideration must be made to all the potential components, to ensure that all of the requirements are met with regards, to Hygiene, Health and Safety and any Nuisance Discharge.

The following table shows the various combinations of Airclean Kitchen Extract Products, and what they offer to the system. We have your solution but it is up to you decide what you want to achieve.

<b><i>Kitchen Extract Grease, Odour and Smoke Removal System Configurations</i></b>						
	Baffle Gridmesh F5 Bag Activated Carbon	Baffle Gridmesh F5 Bag Activated Carbon HEPA	Baffle E.S.P. UV Ozone	Baffle E.S.P. F5 Bag Activated Carbon	Baffle E.S.P. UV Ozone UV Neutraliser	Baffle E.S.P. UV Ozone F5 Bag Activated Carbon
<b>Grease Removal</b>	✓	✓	✓	✓	✓	✓
<b>Odour Removal</b>	✓	✓	✓	✓	✓	✓
<b>Smoke Removal</b>	✗	✓	✓	✓	✓	✓
<b>Pressure Drop</b>	HIGH	VERY HIGH	LOW	HIGH	LOW	HIGH
<b>Ozone Emissions</b>	NO	NO	YES	NO	MINIMAL	MINIMAL
<b>Purchasing Cost</b>	£	££	£££	££	£££	£££
<b>Maintenance Cost per year</b>	££	£££	£	££	£	£££

For further information or assistance please contact our technical team.

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## Baffle Grease Filters

### Applications

- Primary Grease Removal
- Fire Prevention
- Readily Cleaned
- Recommended by Specification DW172

The Airclean Baffle filter is designed to use centrifugal forces to remove grease from the air stream directly above the cooking range. This style of grease filter offers protection against fire due to the interlocked blades, with no direct route through for flames.



### Construction

Housed in a stainless steel channel framework are a series of vertical stainless steel air baffles which are strategically aligned to change the direction of the grease-laden air. This action causes the deposition of the grease quickly, without re-entrainment onto the baffles whilst the grease-free air passes through the filter. The baffle's smooth surface enables deposited grease to run off via the drainage holes to collecting trays in the housing, minimising grease build-up.

The retractable handle facilitates easy removal from the housing.

### Materials available:

- Aluminium
- Stainless steel Grade 304 (Brushed Finish)
- Stainless steel Grade 430 - ECO (Mirror Finish)

### Resistance to Airflow

Data based on Face Velocity of 1.5 m/s (300 fpm)

SIZE Nominal (mm)	SIZE Nominal (Ins)	Flow Rate			
		m <sup>3</sup> /s	Pa	cfm	“wg
508 x 254 x 50	20 x 10 x 2	0.19	110	512	0.44
508 x 406 x 50	20 x 16 x 2	0.31	125	630	0.50
457 x 457 x 50	18 x 18 x 2	0.31	125	640	0.50
508 x 508 x 50	20 x 20 x 2	0.39	125	800	0.56
609 x 609 x 50	24 x 24 x 2	0.90	110	1906	0.44

Actual Face Size = Nominal Size less 12mm (0.5")  
Actual thickness = Nominal thickness less 3mm (0.125")

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## Grease Filters (Stainless Steel Gridmesh Type)

### Applications

Grease filters are generally installed in canopies above ranges of cooking equipment, to eliminate or greatly reduce the problem of cooking oil etc., being drawn into and settling in the extract ductwork.

This significantly reduces the frequency of expensive duct cleaning, and offers some protection against grease-fire hazards.

AIRCLEAN now have many thousands of these filters operating satisfactorily in leading restaurants, hotel kitchens and ships galleys.



### Construction

The filtration media is crimped stainless steel knitted wire mesh, which is enclosed in either a Grade 304 or Grade 430 (the ECO range) punched trays which are riveted together to form a high quality rigid filter.

Drain Holes and Layflat handles are standard in design.

### Technical

Filter classification :

Typically G2 to EN779

Recommended face velocity :

3.0 m/s (600 ft/min)

### Resistance to Airflow

	Face Velocity							
	1.5 300		2.0 400		2.5 500		3.0 600	
m/s fpm	Pa	"wg	Pa	"wg	Pa	"wg	Pa	"wg
Pressure Drop 1" Panel	8	0.03	12	0.05	18	0.07	25	0.10
2" Panel	12	0.05	18	0.07	25	0.10	33	0.13

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## HEPA Filters : for kitchen extracts

### Applications

- Residual Grease and Smoke Removal
- Up to 99.997% Efficient against Smoke
- Disposable

HEPA (Absolute) filters can be used following a pre filter in the kitchen extract system to remove smoke created by cooking styles such as char grilling, from the air stream.

The HEPA filter will also benefit the kitchen extract by removing any residual grease in the air stream and therefore protecting the costly Activated Carbon Filter.



### Construction

The filtration medium is provided by microfine glass fibres formed into a paper-like surface, supplied in various grades depending upon filtration efficiency required. The filter paper is formed into a close pleated package to provide a large surface area. Corrugated aluminium spacers are inserted between each pleat to provide support for the pleat and also ensure that the entire surface of the filtering medium is used.

### Technical (Absolute Filters)

Two grades of HEPA filtration can be offered which are used in the kitchen extract depending on the requirements of the system, whether it be a low pressure drop or complete smoke removal.

Size	Grade	Efficiency @ 0.3 micron	Rated Airflow	Clean Pressure Drop
610 x 610 x 292	H10	95%	0.80	150
610 x 305 x 292	H10	95%	0.40	150
457 x 457 x 292	H10	95%	0.45	150
305 x 305 x 292	H10	95%	0.20	150

Size	Grade	Efficiency @ 0.3 micron	Rated Airflow	Clean Pressure Drop
610 x 610 x 292	H14	99.997%	0.80	280
610 x 305 x 292	H14	99.997%	0.40	280
457 x 457 x 292	H14	99.997%	0.45	280
305 x 305 x 292	H14	99.997%	0.20	280

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## Electrostatic Precipitator Filter

### Applications

- Secondary grease and particulate removal
- 95% efficient against grease and smoke
- Low Resistance to Airflow
- Requires regular maintenance



### Construction

The Airclean Electrostatic Air Cleaner is manufactured from 1.5mm Galvanised Steel and finished with an Epoxy Powder Coat. The two metal washable filters within the unit are manufactured with an aluminium frame and an aluminium knitted mesh filter pad.

The Ioniser and Collector in the unit are combined in a single aluminium cell using stainless steel spiked ionisers operating at 12kV, with the collector charged at 5.9kV and alternate plates at earth potential.

### Technical

**Filter Classification:**

Grade F8 to EN779

**Maximum recommended face velocity:**

2.5m/s

**Maximum operating temperature:**

60°C

	1H x 1W	1H x 2W	2H x 2W	3H x 2W	4H x 2W
Airflow Rating (m <sup>3</sup> /s)	0.37 - 0.61	0.62 - 1.23	1.24 - 2.25	2.26 - 3.68	3.69 - 4.9
Optimum Airflow (m <sup>3</sup> /s)	0.43	0.92	2.06	3.21	4.29
Pressure Drop (Pa)	100	100	100	100	100
Overall Casing Height (mm)	533	533	1066	1599	2132
Overall Casing Width (mm)	626	1087	1087	1087	1087
Overall Casing Depth (mm)	635	635	635	635	635
Duct Height (mm)	432	432	965	1498	2034
Duct Width (mm)	397	857	857	857	857
Weight (kg)	44	80	160	240	320
No. of Cells	1	2	4	6	8

Supply Voltage 240 Volt Single Phase 50Hz

### Extras

Control Panel Handing (Left / Right of Airflow), Oil Drain Point, Suspension Bolts, BMS Relay Contacts

### Maintenance

The cell requires regular removal and cleaning using a proprietary cleaning fluid available in concentrate form in drums of 19, 113 and 208 litres.

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## Activated Carbon Filters

### Applications

- Odour removal through Adsorption
- Highly effective on organic odours
- Minimal contact times required
- Disposable
- Effective Ozone Removal

### Construction

Three constructions of activated carbon filters are available as follows.

**Discarbs** - These filters have the highest carbon loading in our range, with carbon panels permanently sealed into a galvanised steel frame. These are capable of handling large air volumes, with no possibility of air leakage.

**Bonded Carbon Panel** - An aluminium frame surrounds the carbon panel, to create a manageable panel for installation where access is limited. Multiple panels need to be used to create the required contact times.

**Loose Fill Carbon Panel** - These galvanized steel panels constructed from expanded mesh are filled with pellets of activated carbon to offer a lower pressure differential, compared to bonded carbon panels. These can also allow the use of impregnated carbon for specific nuisance odours.

### Technical

Activated Carbon Filters must be protected from contact with particulates, such as grease and smoke, and it is recommended that the air is filtered to a minimum grade of F5 to EN779, before passing through the Carbon. This can be achieved with an Airclean General Purpose Bag Filter.

To ensure effective removal of odours, guidelines must be followed depending upon the type of cuisine that is being cooked. These guidelines are often advised by Environmental Health and therefore must be adhered to, but Airclean usually work on the following basis :-

**0.1 Seconds Contact Time** - Suitable for most odour removal in English and Chinese cuisine (Light Odours)

**0.3 Seconds Contact Time** - Suitable for Indian and Thai cuisine (Heavy Odours)

For Specific odour removal, please refer to our "Guide to Gaseous Adsorption" (Catalogue AC6/1b , Section 6), or contact our technical team.

Activated Carbon Filters will not operate effectively in temperatures above 40 Degrees Centigrade, or above 80% Room Humidity.



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## Odour Neutraliser : UV Ozone

### Applications

- Odour Reduction from Kitchen Extracts
- Grease Reduction
- Retrofittable

The Airclean Odour Neutraliser is capable of neutralising odours created in the commercial kitchen environment.

Utilising Ultra Violet technology, ozone is produced from a bank of low pressure UV lamps designed to operate at a specific wavelength of 184nm, which generates ozone.

Ozone is then injected into the airstream where it mixes with and oxidizes odourous organic compounds present, breaking them down into Carbon Dioxide and water, along with some residual ozone, thus rendering them odourless. The oxidation process will also act upon grease present in the air stream leading to a reduction in duct cleaning costs.



### Technical

The units are fitted adjacent to the Kitchen Canopy or Ductwork for out of air stream UV Ozone production and can treat up to 1.5m<sup>3</sup>/s of air effectively assuming a reasonable contact time is achieved.

Should a greater amount of air need to be treated multiple units can be utilised, and also used in conjunction with Airclean Kitchavent Products to achieve improved odour control.

<b>Housing Material</b>	<b>1.2 Grade 304 Stainless Steel</b>
<b>Dimensions:</b>	<b>253L x 313D x 558H</b>
<b>Weight:</b>	<b>13.7kg</b>
<b>Operating Conditions:</b>	<b>MAX : 38 Deg C</b>
<b>Max Air Volume Per Unit :</b>	<b>1.5m<sup>3</sup>/s</b>
<b>Supply:</b>	<b>230V Single Phase 50Hz</b>
<b>UV Lamp Type:</b>	<b>Single 135Watt Quartz (12000 Hrs)</b>

The safe operation of the system should be checked regularly in line with all electrical appliances ensuring the total effectiveness of the safety micro switches to protect the user from UV exposure.

### Manufacture and Cleaning

The unit is located within the "normal" kitchen atmosphere and is not subject to the grease laden atmosphere of the extract system which minimises the requirement for regular cleaning unlike Inline systems.

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## Ultra Violet Steriliser

### Applications

- Air Stream Sterilisation
- Kills Bacteria and Virus
- Eradicates Mould Growth
- Residual Ozone Converter

The Airclean Ultra Violet Steriliser offers a stab in solution to air cleaning with minimal pressure loss. Utilising UV-C at a wavelength of 254nm, this proven technology can provide air stream sterilisation killing both bacteria and viruses that may be present.

The Ultra Violet Steriliser will also work along side the Airclean UV Ozone Generator, converting any residual ozone that may still be present upon discharge, removing any potential human risk. The 254nm wavelength of the Ultra Violet lamps will convert Ozone into water and oxygen, ensuring a safe discharge of air.



### Construction

Manufactured from 1.2mm Galvanised steel, the stab in lamp housing securely encases controls and 12 UV lamps operating at 254nm. A pressure switch is incorporated into the system to prevent any user from looking directly at operational lamps which can cause harm.

### Technical

<b>Dimensions:</b>	<b>600 x 600mm over flange</b>
<b>Stab in Dimension:</b>	<b>423 x 423 x 500mm</b>
<b>Controls:</b>	<b>2 Pole On / Off Switch + Operation and Warning Lights</b>
<b>Input Voltage:</b>	<b>240 Volt Single Phase 50Hz</b>

The safe operation of the system should be checked regularly in line with all electrical appliances ensuring the total effectiveness of the safety micro switches to protect the user from UV exposure.

### Maintenance and Cleaning

The UV lamps have an estimated operating life of 9000 hours, but it is recommended that the lamps are changed on a yearly basis to ensure that the system remains effective.

The unit should be inspected 3 monthly by a trained engineer, for faults, and to ensure that they are kept clean.

Dirty lamps reduce the effectiveness of the unit, so it is essential that pre filtration is utilised for the removal of particulates, and to maintain air sterilisation.

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## Atomising Odour Neutraliser / Masker

### Applications

- Odour Neutralisation for peak odour loads
- Agent injected into air stream
- Easily Retrofitted
- No pressure loss

To assist other odour reduction control methods, at those periods when the cooking loads exceed the design point, e.g. at peak loads.

To neutralise and mask the odours from adjacent facilities, industrial or catering, which are drawn in to the air conditioning system.



### Construction

The unit is installed adjacent to the extract duct at a point where regular user servicing can be accommodated, and at a point near to the discharge. A delivery tube feeds the neutralizing mist into the duct from the unit. The unit is housed within a robust stainless steel box, which also contains the reservoir of neutralising agent.

The unit in addition to the usual on / off, uses a pressure sensor switch to ensure the unit only operates when the kitchen extract is running. An LCD display located on the front of the unit shows clear instructions for the units run time, and when the reservoir requires re filling. An automatic cut out is present should the reservoir be empty to protect the atomizing equipment.

### Technical

Supply:	240V Single Phase 50Hz
Dosing:	User Adjustable
Reservoir:	5 Litre

### Manufacture and Cleaning

The unit will require regular user maintenance with regards to refilling the neutralising agent. Regular checks should be carried out with regards to the atomiser to ensure that it is working effectively. This can be carried out by a trained user, or by an engineer.

## Neutralising Agent

The neutralising agent used in conjunction with the Atomising Odour Neutraliser available in bottles of 5 litres and can be diluted to create up to 50 litres of neutralizing agent. The agent actually works on the odours to neutralise the odours being generated, to ensure a minimal odour output. Where required a masking smell can be incorporated into the agent to give off a pleasant scent at the point of discharge.



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## Kitchavent 2000 / 3000 / 4000

### Applications

- Complete grease, smoke, and odour solution
- 2 / 3 / or 4 Stage Filtration
- Duct Mounted
- Modules and combinations to suit all airflows
- Suitable for all cuisines

The Airclean Kitchavent can be installed into any convenient position in the duct run from the hood to the extract fan, offering a filtration solution for grease, smoke and cooking odours present in a kitchen extract.



### Stage 1 : Grease Filter

A washable filter that will filter and remove any grease that has passed through the initial pre filters in the cooker hood.

### Stage 2 : F5 Bag Filter

A disposable secondary filter to protect, prolong and ensure the working life of the HEPA and Activated Carbon Filter.

### Stage 3 : HEPA Filter

If "Blue Smoke" is a problem from char grilling a HEPA filter will ensure the removal of smoke to an efficiency of up to 99.997%.

### Stage 4 : Activated Carbon Filter

The final stage of filtration actually adsorbs the odourous organic compounds remaining in the air. By determining the type of cuisine the kitchen is cooking, a contact time can be determined to ensure the removal of any pertinent odours.

### Construction

The casing is manufactured from pre-coated steel, having plain external flanges of 40mm, two access doors on both sides, and a painted finish. The Grease Filter is located in a grease trough to facilitate regular cleaning of the unit.

### Maintenance

The cleaning regime is set by the user, and should be in accordance with HVCA document TR/17. Generally the Bag filter will require changing at least every 3 months and the Activated Carbon Filter when odours are being let by.

A sample of the activated carbon can be submitted to ourselves for analysis after 2 months of use, the results will provide a guide prediction as to when the unit will require changing. (See Section 6 of catalogue AC6/4 "Free Carbon Testing Service")

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## Technical

### The Kitchavent Series

The Kitchavent is available with varying styles and levels of filtration to meet specific kitchen requirements.

KITCHAVENT	Air Filter Combination	Filtration Offered
2000	F5 Bag Filter / Activated Carbon Filter	Light Grease / Odours
3000	G2 Grease Filter / F5 Bag Filter / Activated Carbon Filter	Medium to Heavy Grease / Odours
4000	G2 Grease Filter / F5 Bag Filter / HEPA Filter / Activated Carbon Filter	Medium to Heavy Grease / Smoke / Odours

### Contact Times

Typically recommended contact times :-

**0.1 Seconds Contact Time :** Suitable for most odour removal in English and Chinese Cuisine. (Light Odours)

**0.3 Seconds Contact Time :** Suitable for most odour removal in Indian and Thai Cuisine. (Heavy Odours)

For Specific odour removal please refer to our "Guide to Gaseous Adsorption" (Catalogue AC6/1b, Section 6), or contact our technical team.

### Positioning and Mounting

Units having a grease filter must be installed with horizontal airflow direction, and can be multiplied up for larger installations. If the Grease filter is not installed (Kitchavent 2000), then a vertically down airflow can be used.

Filter Changes and maintenance can be carried out from both sides of the units. Consideration must be made for manual handling and mounting as the weights of the Activated Carbon Filters and the actual units are high. (See below, and Catalogue AC6/2a Section 6).

Where installation access is difficult, **flat pack AHU** style Kitchavents are available for engineers to simply put together on site.

### Operating Conditions

**Max allowable air on conditions to the unit are 40 Degree Centigrade and 80% Relative Humidity, if these conditions are exceeded then the activated carbon filter will be ineffective.**

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## KITCHAVENT 2000 - 2 Stage Odour Control : 0.1 Second Contact Time

Airflow Rating @ 0.1 Second Contact Time		Overall Casing Size (mm) *				Cell Qty.	Part Numbers
m3/s	P.D. (Pa)		Height	Width	Depth		Casing / F5 Bag / Activated Carbon
	Clean	Dirty					
0.13	160	195	383	383	877	1	(1x) 1815201 / (1x) 1410621 / (1x) 1620601
0.26	160	195	383	681	877	2	(1x) 1815202 / (2x) 1410621 / (2x) 1620601
0.39	160	195	383	979	877	3	(1x) 1815203 / (3x) 1410621 / (3x) 1620601
0.52	160	195	383	1277	877	4	(1x) 1815204 / (4x) 1410621 / (4x) 1620601
0.27	322	400	383	383	1182	1	(1x) 1815211 / (1x) 1410621 / (1x) 1620602
0.54	322	400	383	681	1182	2	(1x) 1815212 / (2x) 1410621 / (2x) 1620602
0.81	322	400	383	979	1182	3	(1x) 1815213 / (3x) 1410621 / (3x) 1620602
1.08	322	400	383	1277	1182	4	(1x) 1815214 / (4x) 1410621 / (4x) 1620602
0.3	132	169	535	535	877	1	(1x) 1815221 / (1x) 1410623 / (1x) 1620603
0.6	132	169	535	985	877	2	(1x) 1815222 / (2x) 1410623 / (2x) 1620603
0.54	253	321	535	535	1182	1	(1x) 1815231 / (1x) 1410623 / (1x) 1620604
1.08	253	321	535	985	1182	2	(1x) 1815232 / (2x) 1410623 / (2x) 1620604
0.53	296	367	688	383	1182	1	(1x) 1815251 / (1x) 1410624 / (1x) 1620606
1.06	296	367	688	681	1182	2	(1x) 1815252 / (2x) 1410624 / (2x) 1620606
1.59	296	367	688	979	1182	3	(1x) 1815253 / (3x) 1410624 / (3x) 1620606
2.12	296	367	688	1277	1182	4	(1x) 1815254 / (4x) 1410624 / (4x) 1620606

## KITCHAVENT 2000 - 2 Stage Odour Control : 0.3s Contact Time

Airflow Rating @ 0.3 Second Contact Time		Overall Casing Size (mm) *				Cell Qty.	Part Numbers
m3/s	P.D. (Pa)		Height	Width	Depth		Casing / F5 Bag / Activated Carbon
	Clean	Dirty					
0.04	53	65	383	383	877	1	(1x) 1815201 / (1x) 1410621 / (1x) 1620601
0.09	53	65	383	681	877	2	(1x) 1815202 / (2x) 1410621 / (2x) 1620601
0.13	53	65	383	979	877	3	(1x) 1815203 / (3x) 1410621 / (3x) 1620601
0.17	53	65	383	1277	877	4	(1x) 1815204 / (4x) 1410621 / (4x) 1620601
0.09	107	133	383	383	1182	1	(1x) 1815211 / (1x) 1410621 / (1x) 1620602
0.18	107	133	383	681	1182	2	(1x) 1815212 / (2x) 1410621 / (2x) 1620602
0.27	107	133	383	979	1182	3	(1x) 1815213 / (3x) 1410621 / (3x) 1620602
0.36	107	133	383	1277	1182	4	(1x) 1815214 / (4x) 1410621 / (4x) 1620602
0.10	44	56	535	535	877	1	(1x) 1815221 / (1x) 1410623 / (1x) 1620603
0.20	44	56	535	985	877	2	(1x) 1815222 / (2x) 1410623 / (2x) 1620603
0.18	84	107	535	535	1182	1	(1x) 1815231 / (1x) 1410623 / (1x) 1620604
0.36	84	107	535	985	1182	2	(1x) 1815232 / (2x) 1410623 / (2x) 1620604
0.18	99	122	688	383	1182	1	(1x) 1815251 / (1x) 1410624 / (1x) 1620606
0.35	99	122	688	681	1182	2	(1x) 1815252 / (2x) 1410624 / (2x) 1620606
0.53	99	122	688	979	1182	3	(1x) 1815253 / (3x) 1410624 / (3x) 1620606
0.71	99	122	688	1277	1182	4	(1x) 1815254 / (4x) 1410624 / (4x) 1620606

\* Duct Size is overall size Less 80mm.

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## KITCHAVENT 3000 - 3 Stage Grease and Odour Control : 0.1 Second Contact Time

Airflow Rating @ 0.1 Second Contact Time			Overall Casing Size (mm) *			Cell Qty.	Part Numbers
m3/s	P.D. (Pa)		Height	Width	Depth		Casing / Grease / F5 Bag / Activated Carbon
	Clean	Dirty					
0.13	178	231	383	383	877	1	(1x) 1815301 / (1x) 1310601 / (1x) 1410621 / (1x) 1620601
0.26	178	231	383	681	877	2	(1x) 1815302 / (2x) 1310601 / (2x) 1410621 / (2x) 1620601
0.39	178	231	383	979	877	3	(1x) 1815303 / (1x) 1310601 / (3x) 1410621 / (3x) 1620601
0.52	178	231	383	1277	877	4	(1x) 1815304 / (1x) 1310601 / (4x) 1410621 / (4x) 1620601
0.27	354	464	383	383	1182	1	(1x) 1815311 / (1x) 1310601 / (1x) 1410621 / (1x) 1620602
0.54	354	464	383	681	1182	2	(1x) 1815312 / (2x) 1310601 / (2x) 1410621 / (2x) 1620602
0.81	354	464	383	979	1182	3	(1x) 1815313 / (2x) 1310601 / (3x) 1410621 / (3x) 1620602
1.08	354	464	383	1277	1182	4	(1x) 1815314 / (2x) 1310601 / (4x) 1410621 / (4x) 1620602
0.3	150	205	535	535	877	1	(1x) 1815321 / (1x) 1310603 / (1x) 1410623 / (1x) 1620603
0.6	150	205	535	985	877	2	(1x) 1815322 / (2x) 1310603 / (2x) 1410623 / (2x) 1620603
0.54	286	387	535	535	1182	1	(1x) 1815331 / (1x) 1310603 / (1x) 1410623 / (1x) 1620604
1.08	286	387	535	985	1182	2	(1x) 1815332 / (2x) 1310603 / (2x) 1410623 / (2x) 1620604
0.53	331	437	688	383	1182	1	(1x) 1815351 / (1x) 1310604 / (1x) 1410624 / (1x) 1620606
1.06	331	437	688	681	1182	2	(1x) 1815352 / (2x) 1310604 / (2x) 1410624 / (2x) 1620606
1.59	331	437	688	979	1182	3	(1x) 1815353 / (3x) 1310604 / (3x) 1410624 / (3x) 1620606
2.12	331	437	688	1277	1182	4	(1x) 1815354 / (4x) 1310604 / (4x) 1410624 / (4x) 1620606

## KITCHAVENT 3000 - 3 Stage Grease and Odour Control : 0.3 Second Contact Time

Airflow Rating @ 0.3 Second Contact Time			Overall Casing Size (mm) *			Cell Qty.	Part Numbers
m3/s	P.D. (Pa)		Height	Width	Depth		Casing / Grease / F5 Bag / Activated Carbon
	Clean	Dirty					
0.04	59	77	383	383	877	1	(1x) 1815301 / (1x) 1310601 / (1x) 1410621 / (1x) 1620601
0.09	59	77	383	681	877	2	(1x) 1815302 / (2x) 1310601 / (2x) 1410621 / (2x) 1620601
0.13	59	77	383	979	877	3	(1x) 1815303 / (1x) 1310601 / (3x) 1410621 / (3x) 1620601
0.17	59	77	383	1277	877	4	(1x) 1815304 / (1x) 1310601 / (4x) 1410621 / (4x) 1620601
0.09	118	155	383	383	1182	1	(1x) 1815311 / (1x) 1310601 / (1x) 1410621 / (1x) 1620602
0.18	118	155	383	681	1182	2	(1x) 1815312 / (2x) 1310601 / (2x) 1410621 / (2x) 1620602
0.27	118	155	383	979	1182	3	(1x) 1815313 / (2x) 1310601 / (3x) 1410621 / (3x) 1620602
0.36	118	155	383	1277	1182	4	(1x) 1815314 / (2x) 1310601 / (4x) 1410621 / (4x) 1620602
0.10	50	68	535	535	877	1	(1x) 1815321 / (1x) 1310603 / (1x) 1410623 / (1x) 1620603
0.20	50	68	535	985	877	2	(1x) 1815322 / (2x) 1310603 / (2x) 1410623 / (2x) 1620603
0.18	95	129	535	535	1182	1	(1x) 1815331 / (1x) 1310603 / (1x) 1410623 / (1x) 1620604
0.36	95	129	535	985	1182	2	(1x) 1815332 / (2x) 1310603 / (2x) 1410623 / (2x) 1620604
0.18	110	146	688	383	1182	1	(1x) 1815351 / (1x) 1310604 / (1x) 1410624 / (1x) 1620606
0.35	110	146	688	681	1182	2	(1x) 1815352 / (2x) 1310604 / (2x) 1410624 / (2x) 1620606
0.53	110	146	688	979	1182	3	(1x) 1815353 / (3x) 1310604 / (3x) 1410624 / (3x) 1620606
0.71	110	146	688	1277	1182	4	(1x) 1815354 / (4x) 1310604 / (4x) 1410624 / (4x) 1620606

\* Duct Size is overall size Less 80mm.

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## KITCHAVENT 4000 - 4 Stage Grease, Smoke, and Odour Control : 0.1 Second Contact Time

Airflow Rating @ 0.1 Second Contact Time		Overall Casing Size (mm) *			Cell Qty.	Part Numbers
m3/s	P.D. (Pa)		Height	Width	Depth	Casing / Grease / F5 Bag / HEPA / Activated Carbon
	Clean	Dirty				
0.13	275	425	383	383	1519	1 (1x) 1815401 / (1x) 1310601 / (1x) 1410621 / (1x) 1510801 / (1x) 1620601
0.26	275	425	383	681	1519	2 (1x) 1815402 / (2x) 1310601 / (2x) 1410621 / (2x) 1510801 / (2x) 1620601
0.39	275	425	383	979	1519	3 (1x) 1815403 / (3x) 1310601 / (3x) 1410621 / (3x) 1510801 / (3x) 1620601
0.52	275	425	383	1277	1519	4 (1x) 1815404 / (4x) 1310601 / (4x) 1410621 / (4x) 1510801 / (4x) 1620601
0.20	418	651	383	383	1824	1 (1x) 1815401 / (1x) 1310601 / (1x) 1410621 / (1x) 1510801 / (1x) 1620602
0.40	418	651	383	681	1824	2 (1x) 1815402 / (2x) 1310601 / (2x) 1410621 / (2x) 1510801 / (2x) 1620602
0.60	418	651	383	979	1824	3 (1x) 1815403 / (3x) 1310601 / (3x) 1410621 / (3x) 1510801 / (3x) 1620602
0.80	418	651	383	1277	1824	4 (1x) 1815404 / (4x) 1310601 / (4x) 1410621 / (4x) 1510801 / (4x) 1620602
0.30	254	413	535	535	1519	1 (1x) 1815421 / (1x) 1310603 / (1x) 1410623 / (1x) 1510803 / (1x) 1620603
0.60	254	413	535	985	1519	2 (1x) 1815422 / (2x) 1310603 / (2x) 1410623 / (2x) 1510803 / (2x) 1620603
0.43	373	599	535	535	1824	1 (1x) 1815421 / (1x) 1310603 / (1x) 1410623 / (1x) 1510803 / (1x) 1620604
0.86	373	599	535	985	1824	2 (1x) 1815422 / (2x) 1310603 / (2x) 1410623 / (2x) 1510803 / (2x) 1620604
0.40	401	632	688	383	1824	1 (1x) 1815451 / (1x) 1310604 / (1x) 1410624 / (1x) 1510804 / (1x) 1620606
0.80	401	632	688	681	1824	2 (1x) 1815452 / (2x) 1310604 / (2x) 1410624 / (2x) 1510804 / (2x) 1620606
1.20	401	632	688	979	1824	3 (1x) 1815453 / (3x) 1310604 / (3x) 1410624 / (3x) 1510804 / (3x) 1620606
1.60	401	632	688	1277	1824	4 (1x) 1815454 / (4x) 1310604 / (4x) 1410624 / (4x) 1510804 / (4x) 1620606

## KITCHAVENT 4000 - 4 Stage Grease, Smoke, and Odour Control : 0.3 Second Contact Time

Airflow Rating @ 0.3 Second Contact Time		Overall Casing Size (mm) *			Cell Qty.	Part Numbers
m3/s	Clean P.D. (Pa)		Height	Width	Depth	Casing / Grease / F5 Bag / HEPA / Activated Carbon
	Clean	Dirty				
0.04	92	142	383	383	1519	1 (1x) 1815401 / (1x) 1310601 / (1x) 1410621 / (1x) 1510801 / (1x) 1620601
0.09	92	142	383	681	1519	2 (1x) 1815402 / (2x) 1310601 / (2x) 1410621 / (2x) 1510801 / (2x) 1620601
0.13	92	142	383	979	1519	3 (1x) 1815403 / (3x) 1310601 / (3x) 1410621 / (3x) 1510801 / (3x) 1620601
0.17	92	142	383	1277	1519	4 (1x) 1815404 / (4x) 1310601 / (4x) 1410621 / (4x) 1510801 / (4x) 1620601
0.07	139	217	383	383	1824	1 (1x) 1815401 / (1x) 1310601 / (1x) 1410621 / (1x) 1510801 / (1x) 1620602
0.13	139	217	383	681	1824	2 (1x) 1815402 / (2x) 1310601 / (2x) 1410621 / (2x) 1510801 / (2x) 1620602
0.20	139	217	383	979	1824	3 (1x) 1815403 / (3x) 1310601 / (3x) 1410621 / (3x) 1510801 / (3x) 1620602
0.27	139	217	383	1277	1824	4 (1x) 1815404 / (4x) 1310601 / (4x) 1410621 / (4x) 1510801 / (4x) 1620602
0.10	85	138	535	535	1519	1 (1x) 1815421 / (1x) 1310603 / (1x) 1410623 / (1x) 1510803 / (1x) 1620603
0.20	85	138	535	985	1519	2 (1x) 1815422 / (2x) 1310603 / (2x) 1410623 / (2x) 1510803 / (2x) 1620603
0.14	124	200	535	535	1824	1 (1x) 1815421 / (1x) 1310603 / (1x) 1410623 / (1x) 1510803 / (1x) 1620604
0.29	124	200	535	985	1824	2 (1x) 1815422 / (2x) 1310603 / (2x) 1410623 / (2x) 1510803 / (2x) 1620604
0.13	134	211	688	383	1824	1 (1x) 1815451 / (1x) 1310604 / (1x) 1410624 / (1x) 1510804 / (1x) 1620606
0.27	134	211	688	681	1824	2 (1x) 1815452 / (2x) 1310604 / (2x) 1410624 / (2x) 1510804 / (2x) 1620606
0.40	134	211	688	979	1824	3 (1x) 1815453 / (3x) 1310604 / (3x) 1410624 / (3x) 1510804 / (3x) 1620606
0.53	134	211	688	1277	1824	4 (1x) 1815454 / (4x) 1310604 / (4x) 1410624 / (4x) 1510804 / (4x) 1620606

\* Duct Size is overall size Less 80mm.

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## Activated Carbon Unit

### Applications

- Odour Control
- Residual ozone collection
- Combined fan / filter unit for extract systems

### Construction

Manufactured from anodised aluminium framework with 25mm thick double skinned panels filled with 60kg/m<sup>3</sup> mineral wool insulation. The air stream enters at the top of the unit passing vertically down through the Grade F5 Bag Filters into the Activated Carbon Cell yielding a 0.1 second contact time, then into the fan. The air is then discharged from the fan into the noise attenuator duct travelling vertically up to the spigotted discharge connection. The fan speed is controlled by an electrical inverter to provide the required airflow through the units.

### Technical

**Airflow:** 1m<sup>3</sup>/s

**External Resistance Available:** 200Pa

**Contact Time at Rated Airflow:** 0.1 seconds



### Manufacture and Cleaning

The unit is installed with an activated carbon test cell, which when returned along with the number of hours it has been run for, can be analysed in our test facility to provide an estimate as to the remaining life of the carbon filter.

The Pre Filter should be changed when the pressure drop across the filter measured by the magnehelic pressure gauge reads twice the "as installed" pressure for the filter.

**For further technical details on this product please contact Airclean.**

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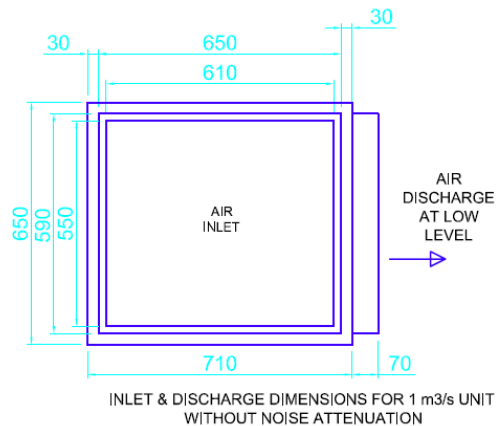
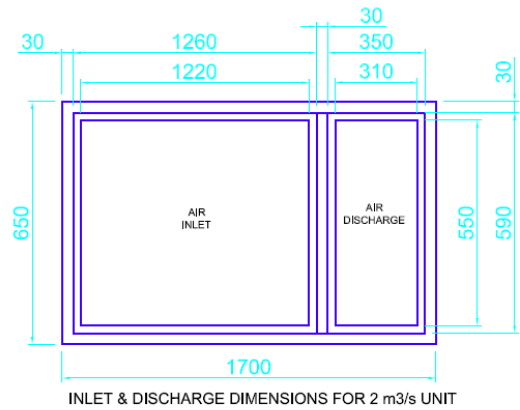
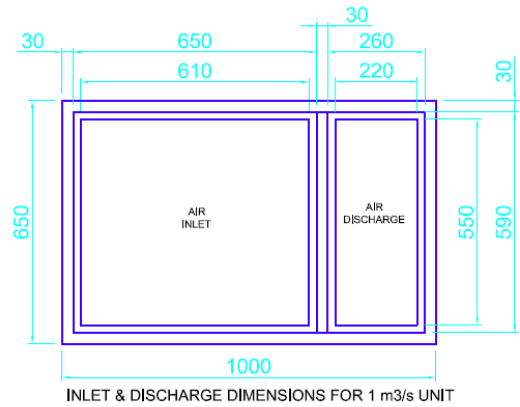
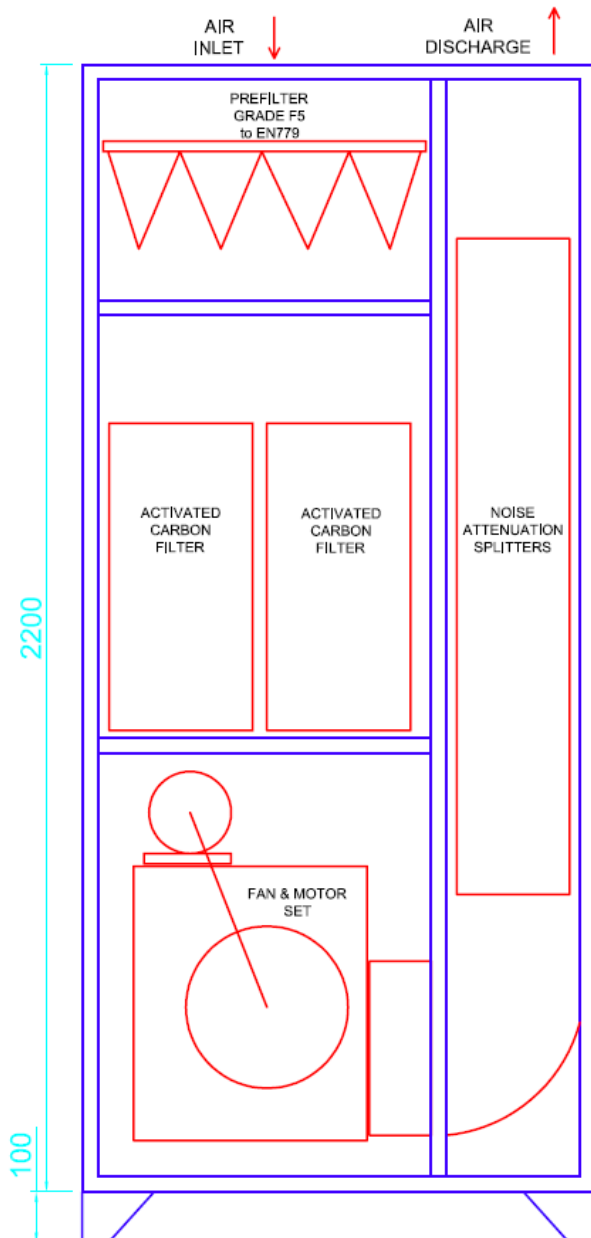
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## Schematics



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## Air Handling Units : The Variety Of Our Work

### Traditional Air Handling Unit

External Application  
RSC Support Base



### Larger Air Handling Unit

External Application  
RSC Support Base  
Crane Lifting Points



The company reserves the right to change specifications without notice. E & OE

Code AC12/1a Ref 06/11

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Heat Recovery  
Colour Options



## Large Scale Heat Recovery



## Gas Burners : 44kW



## Wetted Cell Humidifiers



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- Schools
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- Factories / Warehouses



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Working closely with our clients help reach the best solution with the end user in mind.

We are about meeting your wants and needs, on time and on budget.