

## **KITCHAVENT 2000 / 3000 / 4000** **Complete Grease, Smoke and Odour Control Solution**

### **Applications**

The Airclean Kitchavent System is designed to control nuisance grease, smoke and odour discharge from commercial kitchens in line with DW 172 and the DEFRA standards for nuisance control from kitchen extract systems.

The Kitchavent system can be installed in any convenient position within the kitchen extract duct run from the Canopy to the extract fan.

Various versions of the Kitchavent are available offering up to four stages of kitchen extract filtration using Grease, Bag, HEPA, and Activated Carbon filters to clean the air before being discharged.

These are distinguished between by the following.

<b>Kitchavent</b>	<b>Air Filter Combination</b>	<b>Filtration Offered</b>
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

The unique design of the Kitchavent housing ensures that all air is treated for grease, smoke and odour prior to discharge ensuring that there is no air leakage past the filters within the unit.

The modular system allows for airflows ranging from 0.2m<sup>3</sup>/s in the smallest module up to 2.12m<sup>3</sup>/s in the largest unit, and then multiple units can be utilised to cater for any larger airflows or greater contact times.

The Kitchavent System can be used to design systems that will meet any contact time required for odour control. Typically this is defined by local authority guidance, or advised by a systems designer. (Typically 0.1 seconds to 0.8 seconds depending on cuisine and discharge point.)

The Kitchavent grease, odour and smoke control unit is suitable for internal and external mounting, and is also available in a flat pack version for those tricky to reach situations.

### **Description**

The Kitchavent Housing is manufactured from pre-coated steel, having plain external flanges of 40mm, 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.

Air Filter Sealing faces and clips ensure that all air passes through the carbon and HEPA filters capturing 90% of odours, and up to 99% of smoke generated from modern commercial kitchens.

The simple design, along with a painted finish, ensures that the unit is not obtrusive, and is discrete for installations where the unit is on show, or where sensitive planning issues exist.



## **Technical**

### Contact Times

To ensure effective odour control, a suitable contact time must be maintained with the activated carbon. Contact times will vary depending upon cuisine styles and the sensitivity of the discharge point. Examples of typical contact times are as follows, or where it is required the “DEFRA Guidance on the control of odour and noise from commercial kitchen exhaust systems” can be consulted.

Contact Times (Seconds)	Typical Cuisines / Applications	DEFRA Guidance
0.1	Café / Tea Rooms / Fish and Chips / Low Odour Cuisine / High level Discharge	Low to Medium Level Odour Control
0.2 - 0.3	Take Away / Pub Restaurants / Burger Bars Medium Odour Cuisine	High Level Odour Control
0.4 – 0.8	Indian / Thai Restaurants Low Level Discharge / Sensitive Discharge	Very High Level Odour Control

### Positioning and Mounting

Where airflows greater than stated in the data sheets are required, multiple modules can be mounted in “parallel”.

Units are generally mounted horizontally, although where grease filters are not used (Kitchavent 2000) units can be modified to suit a vertical airflow.

Filter Change and maintenance can be carried out from both sides of the unit. 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 AC6/2 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.

### Kitchavent Selection Tables

The following tables offer selections for Kitchavents of all styles based on either 0.1 second contact times.

For 0.2 second contact times reduce the airflows in the 0.1 second tables by 50%, pressure drops will reduce to 50%.

For 0.3 second contact times reduce the airflows in the 0.1 second tables to 33.3%, pressure drops will reduce to 33.3%.

For 0.4 second contact times reduce the airflows in the 0.1 second tables to 25%, pressure drops will reduce to 25%.

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 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

<b>KITCHAVENT 4000 - 4 Stage Grease, Smoke, and Odour Control : 0.1 Second Contact Time</b>							
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

\*Duct size is overall less 80mm