

SUPPORTING INFORMATION

ON THE

PROPOSED EXTRACTION SYSTEM AND PLANT

AT

FORMER BED FACTORY, UPPER NEW STREET, BARNSLEY S70 1LP

1.0 PREMISES

Papa John's (GB) Ltd operate a national network of 350no take-away pizza outlets.

Our business is restricted to the preparation and cooking of pizza and "sides" such as chicken wings and potato wedges. All products are designed to be oven-cooked and, consequently, the only cooking equipment employed in a Papa John's outlet is a conveyor oven. The current model being installed in new stores is the gas fired Middleby Marshall PS 740G.

2.0 PLANS AND DRAWINGS

In order to assist with your understanding of the relationship between the property and the ventilation system, we refer you to the drawings of the property which form part of the application to which this document is attached. In addition, we draw your attention to the schematic drawing no. PJES/05 - Ventilation Scheme E of the ventilation system in Appendix A. The plans and elevations in the planning application show the proposed positions and layout of equipment as it is proposed to be installed while the schematic drawing of the ventilation system assists your understanding of the system's make up.

3.0 SYSTEM DESIGN CRITERIA

The system is designed to performance criteria set out by the manufacturer of the ovens, Middleby Marshall. The required airflow at the canopy is 2310cfm or 65m^3/m. This is achieved by selection of an in-line fan with the appropriate duty to meet these criteria on a site specific basis. In order to balance environmental conditions in the kitchen, make-up (also referred to as "supply") air is provided to supply the ovens with combustion air and ventilate the demise while the ovens and extract fans are running. The fresh air is fed from outside and is distributed around the oven by 4no ceiling mounted air supply grilles.

4.0 EXTRACT HOOD

The extract hood is a stainless steel (grade 304) island canopy with integral stainless steel grease baffle filters.

The dimensions of the hood are dictated by the size of the oven and, in the instance of the PS740, will be a maximum 2.4m x 2m. The size of hood allows for a 300mm overhang to all sides of the oven unit in order to comply with current gas safety regulations.

5.0 EXTERNAL DUCTWORK AND GRILLS

In this scheme, the extraction system is designed to discharge at high level; the definition of which is generally accepted as being 1m above eaves. This includes the installation of 500mm dia galvanised ductwork to the elevation of the property terminating 1m above eaves level.

Our system also required make-up air and this will be provided by way of a 600mmx600mm anodised aluminium louvre grill mounted on the elevation of the property.

6.0 FILTRATION AND ODOUR ABATEMENT

As mentioned above, the extract hood is fitted with grease baffle filters which are manufactured in stainless steel and are fully washable.

We propose the installation of the following odour control measures:

- in-line 'active' carbon filtration system as attached in Appendix B. The filtration system comprises a primary (or pre) filter and the main (or secondary) filter with a maximum dwell time of 0.2 seconds.

7.0 FANS

The fans specified for use in our extraction installations are Woods Powerbox (see Appendix C below). However, the contractor is permitted to install equal approved units from alternative manufacturers and, as the contractor is responsible for the design of the installation, they are required to meet noise criteria as part of that approval. When installed, all plant is mounted on anti-vibration mountings in order to isolate them from the structure and double flange flexible connectors between the flue and fan equipment to minimise vibration.

Our installations are designed to include podded silencers compatible with the fans which reduce the noise break-out. Product information for the proposed fans and silencers is included in Appendix C.

In this scheme, it is the intention to install all equipment internally and the acoustic properties of the building envelope means the fans will be further insulated from noise breakout to neighbouring properties.

This airflow criteria results in a minimum efflux velocity of 10 meters per second (m/s).

8.0 CONDENSING UNIT

A condensing unit is required to operate the internal cold store at the premises. Papa John's use Glendon for their cold store installations, including the operating plant. The unit specified for installation at this store is Karbox 2464 and the product information is included in Appendix D of this pack.

When installed, the condenser plant is fixed externally on wall mounting bracket incorporating anti-vibration mountings.

9.0 MAINTENANCE

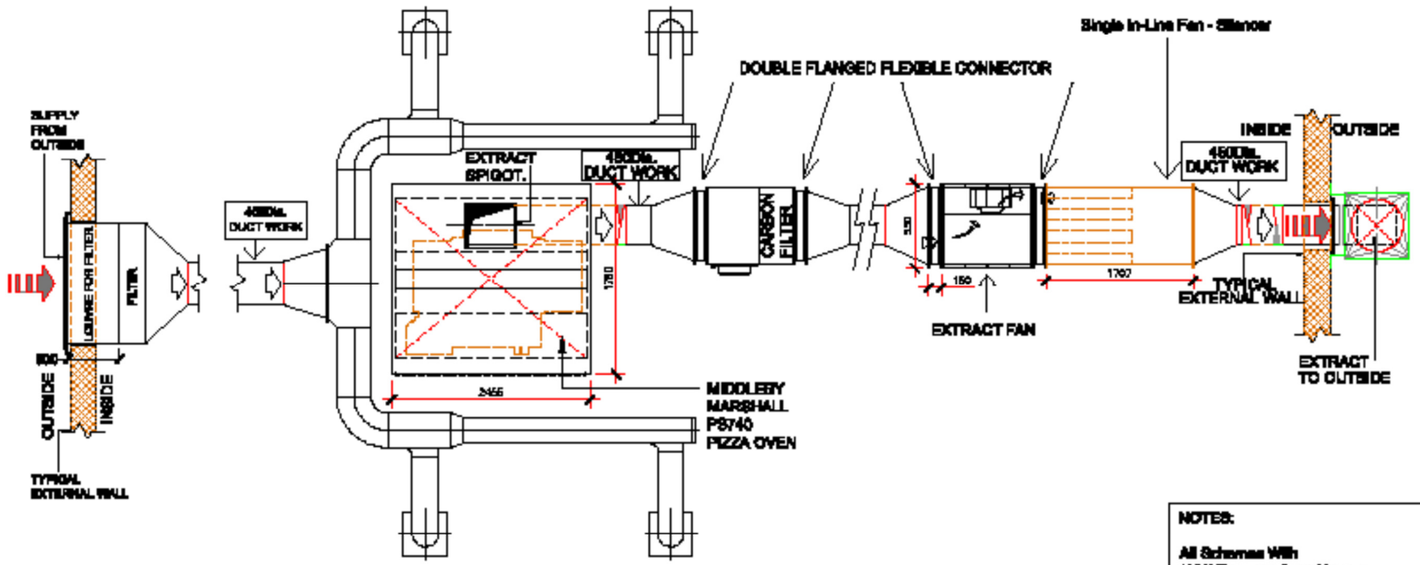
Each completed Papa John's store is provided with a Health and Safety File which is kept on site by the operator. The file, amongst other things, provides details on the operation and maintenance of the ventilation equipment. To summarise, the maintenance requirements are summarise as follows:

- The grease baffle filters are removable and washable. This can be done at any given time by the operator. The minimum recommended cleaning interval is once a week.
- The filters are changed as per the manufacturer's recommendation and no less than twice a year.
- The fans are to be serviced annually as recommended by the manufacturers.

APPENDIX A - DRAWINGS

SCHEME E
Extract & Passive Supply System
(No Noise Or Odour)

Do not scale from this drawing. All contractors must visit the site and be responsible for taking and checking their own dimensions relating to this work. The Copyright of this drawing is retained by SUMMERHILL GREEN and must not be reproduced without prior written permission



NOTES:

All Schemes With
3KW Entrance Door Heater.
To Papa Johns Specification.

The Equipment Specified Is Recommended But Alternative Manufacturers Can Be Used.

The Selection Of The Fan Will Depend On Each Site.
(Ie. Length Of Duct Runs Etc)

All Extract Fans To Be Fitted On Anti-Vibration Mountings.

PAPA JOHNS	PROJECT: PAPA JOHNS MECHANICAL EXTRACTION	ADDRESS: VARIOUS SITES	CLIENT: FRANCHISE TO BE ADVISED	COMPANY: PERFECT PIZZA LIMITED	LIST OF REVISIONS	DRAWING TITLE: SCHEME E	DRAWN BY: - / DATE: 18/02/09 / FILE:	SCALE: NTS / DRAWING NO: PJES/05 Rev -

APPENDIX B – FILTER MEDIA

Hood Baffle Filters:



photograph supplied courtesy of ICE S (South) Ltd

Filters For Kitchen Extract



Veevent Baffle Grease Filter

Baffle filters work very differently to the mesh style filters: rather than collecting the grease within the filter medium, the filters work by forcing the grease laden air to change direction and velocity as it passes through the filter. Because the grease droplets are unable to change direction as quickly, they become separated from the air and are deposited on the baffle blades and drained into drip trays. This method of grease filtration removes any potential risk of spread of fire, should a fire occur on the cooking surface below. Without a grease build up in the filter, there is no increase in the operating resistance allowing a constant airflow to be maintained, reducing energy consumption. The Veevent is manufactured in stainless steel and, unlike other baffle filters on the market, has aerodynamically profiled baffle blades. This ensures maximum airflow and grease retention whilst creating minimum pressure loss. Handles are fitted as standard to the shortest side, with drain holes in top and bottom leading edge, the filters can be fitted either way up. Five standard sizes are available from stock for next day delivery.

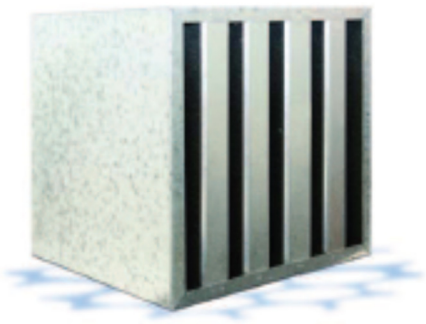
Data Sheet AF111

Active Carbon Filters:

ACE FILTRATION

Carbon Filters for Odour Removal

Activated carbon has for many years been used to reduce airborne odours and contaminants. Its use has expanded considerably improving conditions in line with environmental awareness. Carbon is commonly used to control extract emissions from kitchens, factories and chemical processes, but is equally effective on supply air odours, improving the air quality for the occupants of buildings located in the vicinity of airports, car parks, sewerage works and rubbish tips.

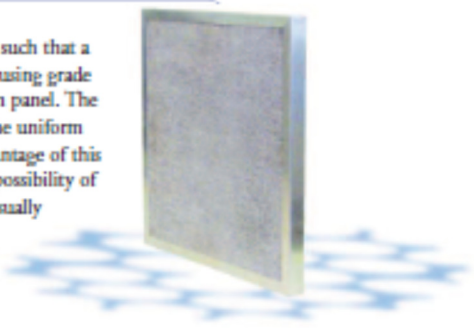


ACE Type ACD

ACE Type ACD carbon units are completely disposable, self contained units. They comprise of chemically bonded carbon panels assembled in a "V" formation and permanently sealed within a galvanised steel casing. Grade 207C carbon is used as standard, but special carbon can be provided to suit specific requirements. The filters can be manufactured to any reasonable size to suit existing ductwork or air handling units. Sizes and carbon weights can also be adjusted to suit existing installations or other units on the market. All ACD units are delivered sealed in polythene to prevent the carbon absorbing contaminants from the atmosphere.

Activated Carbon Panels

There are many applications for carbon filters where the air volume is such that a single carbon panel will be effective. Carbon panels are manufactured using grade 207C carbon granules which are chemically bonded to form a uniform panel. The panels have a cloth covering which makes them clean to handle and the uniform panel structure ensures an even air resistance across the face. One advantage of this construction when compared to "loose fill" panels, is that there is no possibility of settlement of the carbon which can create air bypass. The panels are usually fitted with an aluminium frame.



Please Note: Because the absorption capacity of activated carbon is dependant on a variety of operating conditions, we recommend that you discuss your requirements with our Sales Office who will be delighted to answer your questions and advise you on the use of carbon filters.

External Louvre Grills:

60mm Weather Louvres

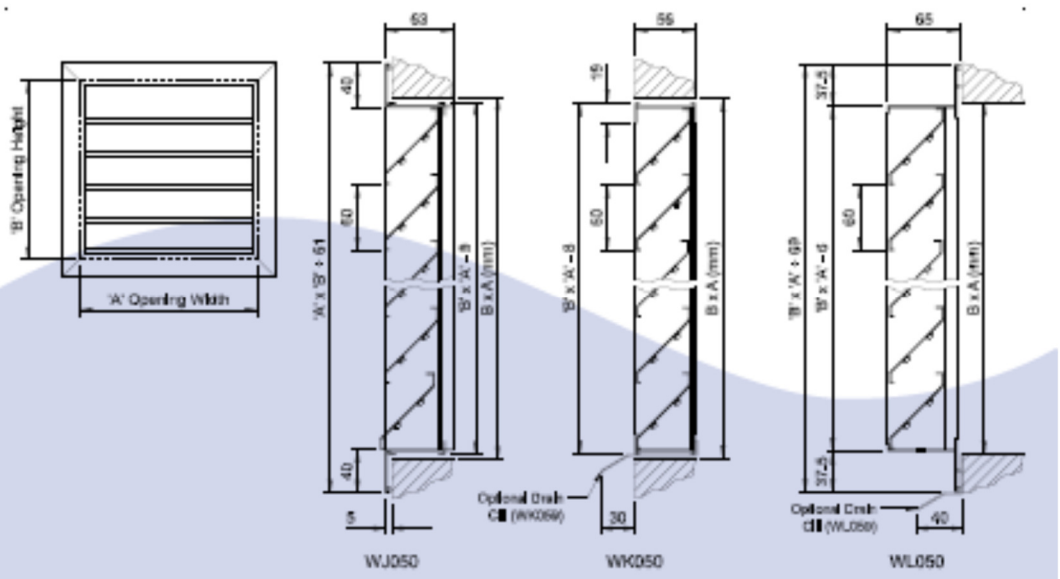
Description
For intake or extract air, the 45° blades are fixed at 60mm centres and have excellent integral rain defence features. Suitable for external mounting and is economically priced.

Construction
From extruded aluminium sections, frame and blades 1.6mm thick. Hairline mitres mechanically held, fitted as standard with rear galvanised steel bird mesh screen.

Size and Weight
From 300 x 300 up to 2500 x 1800. Concealed rear mullions when width exceeds 1200mm.
Weight approximately 12kg/m².
Free area 48%.

Product Specification
State Quantity, the product coding and the size Width x Height e.g. **10 Qty:WJ050+0C 1500 x 1000.**





Frame Style		Panel Options	Mesh Options	Accessories
WJ	40mm Flange	0 Single Panel	5 Bird Mesh	0 None
WK	Recessed Frame		7 Insect Mesh	9 Drain Cill
WL	Reversed Angle Frame		0 None	

+

Fixings		Finish	
0	None	D	Mill Finish
1	Flange Holes	C	PPC BS / RAL Colour
4	Rear Fixing Lugs		

GDL Air Systems Ltd, Woolley Bridge Road, Hadfield, Derbyshire SK13 1AB. Tel: 01457 861538 Fax: 01457 866010 Email: sales@gdlle.co.uk

APPENDIX C – FAN SPECIFICATION SHEETS

Fan Unit Specification Sheets:

POWERBOX FANS - ESTOC

FEATURES
- Sizes from 355 to 710 mm diameter
- Air flow up to 5.2 m³/s
- Static pressures up to 1130 Pa
- Speed controllable external rotor motors
- Multiple outlet orientations
- All panels interchangeable to offer flexible outlet position

ELECTRICAL SUPPLY
220-240V/50Hz/1ϕ
380-420V/50Hz/3ϕ

TEMPERATURE RANGE
Maximum temperature from +40°C to +70°C (depending on the model)

SIZES
355, 400, 450, 500, 560, 630 and 710.

FEATURES AND CONSTRUCTION
The Estoc casing is made from galvanized sheet steel with PentaPost construction and acoustic insulation made from mineral wool with a thickness of 20 mm.

IMPELLER
The Estoc has a backward curved centrifugal impellers made of plastic with galvanised steel support plates for those up to 450 mm. Fans with a diameter of 500 mm and larger have high efficiency backward curved centrifugal impellers made of aluminium.

MOTOR
The impellers together with the external rotor motors are dynamically balanced to quality standard G2,5 DIN ISO 19410

SPEED CONTROLLERS
Speed is 100% infinitely variable using auto transformers or inverter control (please see pages 219-267).

NB; Performance reduction in straight through configuration. Please refer to performance curve



PRODUCT CODE
Estoc 50-355-3
- ESTOC - Product Name
- 50 = Box Size ie, 50 = 500mm; 67 = 670mm; 80 = 800mm; 102 = 1020mm
- 355 = Spigot Diameter size
- 1 = 1ϕ or 3 = 3ϕ

ACCESSORIES (Pages 143-150) - **CONTROLLERS** (Pages 219-267)

The range of accessories include dampers, flexible connectors, service doors, outlet covers, guards, side covering and insulating connections. A quick reference guide is shown below.


SFC


SWR


CIG


SOC


Mounting track/SMT


Controls Inverter


Controls Transformer

Specifications are subject to alteration without notice

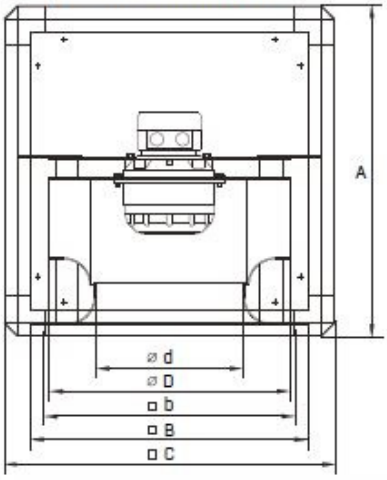
PRODUCT AND ELECTRICAL DETAILS

Product Code	Product Number	Speed rpm	Motor Frame	Electrical Supply	Electrical Current: Motor (kW)	Full Load Current (A)	Starting Current (A)	Wiring Diagrams	**Speed Controllers: Transformer	Maximum Operating Temp(°C)	Breakout: *Sound Level dB(A) (3m)
ESTDC 50-355-1	**UB503514**	**1325**	**Integral**	**220-240 V-50 HZ-1 Ph**	**0.29**	**1.25**	**2.5**	**CD3028**	**TEID 1.5**	**55**	**33**
ESTDC 67-400-1	**UB674414**	**1360**	**Integral**	**220-240 V-50 HZ-1 Ph**	**0.53**	**2.4**	**4.9**	**CD3028**	**TEID 2.2**	**45**	**45**
ESTDC 67-450-1	**UB674514**	**1270**	**Integral**	**220-240 V-50 HZ-1 Ph**	**0.76**	**3.5**	**7.35**	**CD3028**	**TEID 3.5**	**45**	**41**
ESTDC 67-500-1	**UB675514**	**1310**	**Integral**	**220-240 V-50 HZ-1 Ph**	**1.57**	**7.3**	**18.78**	**CD3028**	**TEID 7.5**	**40**	**45**
ESTDC 50-355-3	B101216	1355	Integral	380-420V-50 Hz-3 Ph	0.3	0.88	2.16	CD3030	IDDXF54 2.2	50	34
ESTDC 67-400-3	B101217	1335	Integral	380-420V-50 Hz-3 Ph	0.48	0.9	2.66	CD3030	IDDXF54 2.2	50	37
ESTDC 67-450-3	**B101218**	**1240**	**Integral**	**380-420V-50 HZ-3 Ph**	**0.87**	**1.33**	**3.46**	**CD3030**	**IDDXF54 2.2**	**50**	**37**
ESTDC 67-500-3	**B101219**	**1360**	**Integral**	**380-420V-50 HZ-3 Ph**	**1.8**	**3.7**	**17.76**	**CD3030**	**IDDXF54 3.7**	**40**	**44**
ESTDC 80-560-3	**B101220**	**1350**	**Integral**	**380-420V-50 HZ-3 Ph**	**2.5**	**4.8**	**20.16**	**CD3030**	**IDDXF54 5.3**	**40**	**47**
ESTDC 80-630-3	**B101221**	**1360**	**Integral**	**380-420V-50 HZ-3 Ph**	**3.65**	**6.8**	**27.72**	**CD3030**	**IDDXF54 7.2**	**45**	**55**
ESTDC 102-710-3	**B101222**	**880**	**Integral**	**380-420V-50 HZ-3 Ph**	**2.45**	**4.7**	**18.8**	**CD3030**	**IDDXF54 5.3**	**45**	**49**

*Sound power levels are average dBA at 3 metres distance over sphere, under free field conditions and are presented for comparative purposes only. Values shown are those at the mid-point of the performance curve.

** For speed controllers, please see pages 219-267. For ErP efficiency ratings and grades please refer to our Fan Selector for more information.

DRAWING AND DIMENSIONS



Product Code	A	B	b	C	ØD	Ød	Weight max (kg)
ESTDC 50-355	500	450	420	500	365	224	33
ESTDC 67-400	670	620	590	670	404	253	49
ESTDC 67-450	670	620	590	670	454	288	58
ESTDC 67-500	670	620	590	670	504	321	68
ESTDC 80-560	800	720	690	800	570	361	95
ESTDC 80-630	800	720	690	800	634	407	105
ESTDC 102-710	1020	940	910	1020	718	436	157

All dimensions shown in mm

Products in **bold** are available from our UK Distributors on next day delivery, if ordered by 4pm. Please call to confirm availability on 01206 222 555.

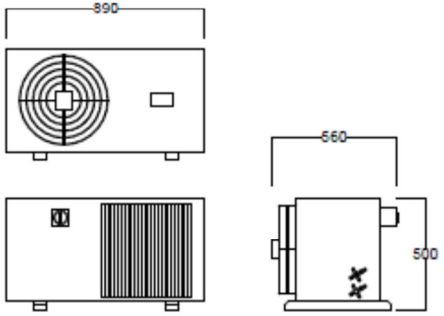
Specifications are subject to alteration without notice

APPENDIX D – CONDENSING UNIT SPECIFICATION SHEET

HOUSED HERMETIC CONDENSING UNIT

Model	Karbox 2464
Compressor	CAJ2464Z
Duty	
@ -6°c Evaporating	3100 watts*
@ -30°c Evaporating	1125 watts*
Dimensions	
Width	890
Depth	560
Height	500
Connections	
Suction	1/2"
Liquid	3/8"
Voltage	1~ - 220v-240v- 50Hz
Current	
Start	39 amps
Run	10.5 amps
Noise Level	
@ 1 metre	56dBA
@ 5 metre	48dBA
@ 10 metre	34dBA





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* based on condensing temperature of 55 °c