



SUPPORTING INFORMATION

ON THE

PROPOSED EXTRACTION SYSTEM AND PLANT

AT

47 Commercial Street, Brighthouse HD6 1AF

1.0 PREMISES

Papa John's (GB) Ltd operate a national network of 450 plus take-away pizza outlets.

Our business is restricted to the preparation and cooking of pizza and "sides" such as chicken wings. 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 740.

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 Mechanical Extract Scheme E (UV Ozone system) 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 extraction 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 65m³/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 and provide up to 80% of extract volumes. All systems to comply with DW172 specification .

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 low level. This includes the installation of a 600 x 600mm anodised aluminium louvre grille on the rear elevation.

Our system also requires 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:

HIGH LEVEL discharge -an Ozone odour control unit with capability to handle a duty of 1.43m³/s is an alternative option with less maintenance required no dwell time with this type of unit - PJ Note (More Expensive Option but less maintenance)

Such filtration measures are sufficient to comply with DEFRA guidance on odour control and the “risk” calculation is shown below:

Criteria	Description	Score	Detail
Dispersion	Poor	15	Not low level but below eaves or discharging at below 10m/s.
Proximity of receptor	Close	10	Closest sensitive receptor less than 20m from the kitchen discharge.
Size of kitchen	Small	1	Less than 30 covers or small take away.
Cooking type	Low	4	Most pubs, Italian, French, Pizza or Steakhouse
Total		30	High Level Odour Control – Ozone system Proposed

7.0 FANS

The fans specified for use in the extraction installations are Woods Powerbox (see Appendix C below) together with a 500JM woods axial fan for the supply Air. 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.

It is the contractor's responsibility to make sure the correct volumes required are installed

Our installations are designed to include podded 2D silencers compatible with the fans which reduce the sound break-out levels on both fans by 15db. 2D Silencers must be designed to provide the requested noise output volumes (site specific) but should always remain lower than 40db@ 3mtrs on external risers. Product information for the proposed fans 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 a Wintsys R404-A (WIN4517Z or WIN4519Z) 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

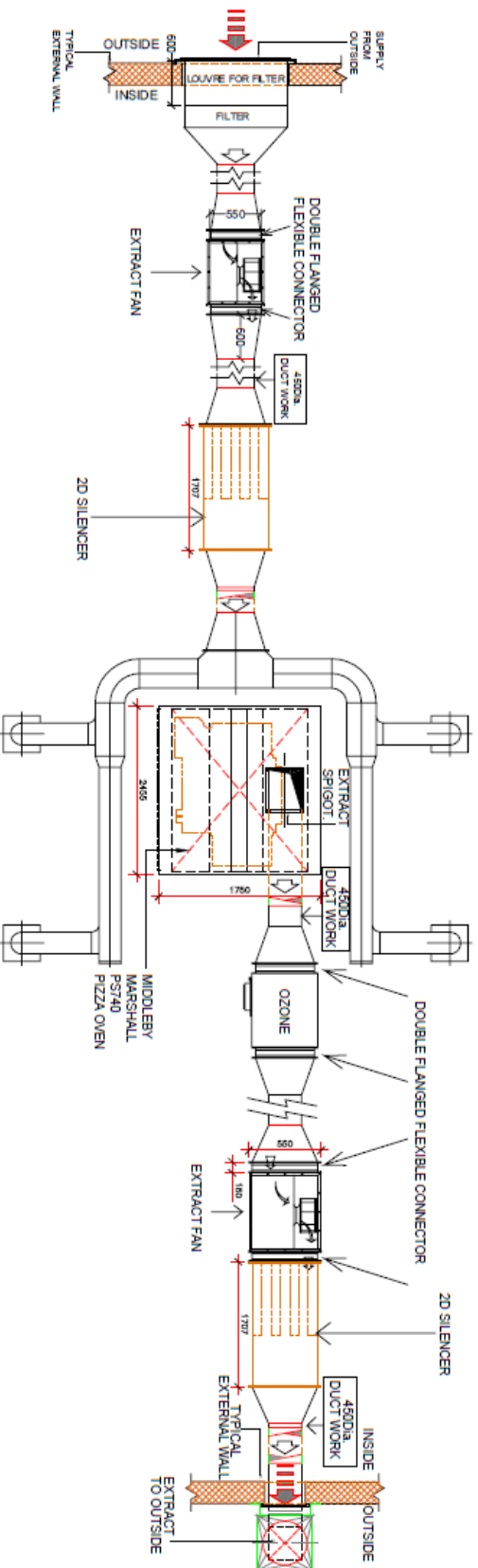
Each completed Papa John's store is provided with a Health and Safety File which is kept on site by the operator. The file, amongst other things, provides details on the operation and maintenance of the ventilation equipment. To summarise, the maintenance requirements are summarise as follows:

- 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 Carbon filters are changed as per the manufacturer's recommendation and no less than twice a year.
- pre-filters must be changed on a monthly basis to prolong the life span of the carbon filter and fan motor
- The fans are to be serviced bi- annually as recommended by the manufacturers.
- Ozone units are to be checked regular intervals to make sure lamps are in working order
- All replacement filters and parts can be purchased direct from Extract Provider company.

APPENDIX A - DRAWINGS

SCHEME E REVISION A

Extract & Supply System (UV Ozone Method)



NOTES:

- All Schemes With 3KW Entrance Door Heater.
- The Equipment Specified Is Recommended But Alternative Manufacturers Can Be Used.
- The Selection Of The Fan Will Depend On Each Site (i.e. Length Of Duct Runs Etc)
- All Supply And Extract Fans To Be Fitted On Anti-Vibration Mountings

PROJECT	ADDRESS	CLIENT	COMPANY	
MECHANICAL EXTRACTION	VARIOUS SITES			
LIST OF REVISIONS				
NO	DATE	BY	REASON	
1				
DRAWING TITLE				
SCHEME E			DATE	REV
			06/02/2010	5
			FILE	SHE
			M00100	Rev A
				NTS
				PJS/05
				Rev A

APPENDIX B – FILTER MEDIA

Grease Baffle Filters within Canopy :



Stainless Steel Grease baffle type filters are recommended

For canopies, standard dimension being 495mm x 495mm x 45mm but can differ dependant on canopy depth

Baffle Type Grease Filters are manufactured in Stainless Steel (Mirrored Finish Stainless Steel Grade 430. Housed in a channel framework, with a series of vertical 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.

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

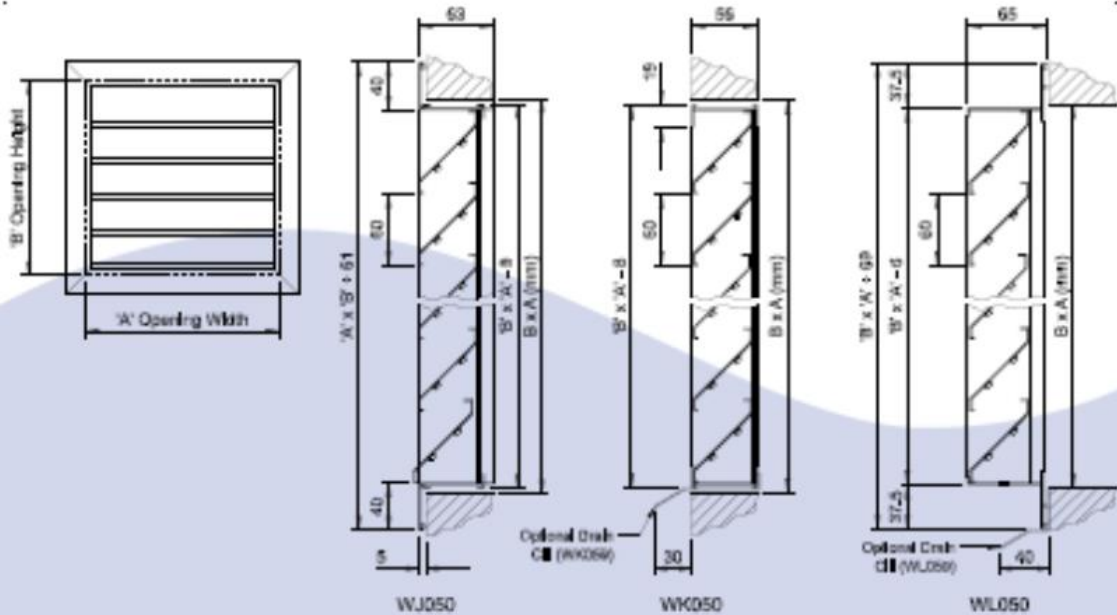
From extruded aluminium sections, frame and blades 1.6mm thick. Hairline mitre mechanically held, fitted as standard with rear galvanised steel bird mesh screen.

Size and Weight

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

Product Specification

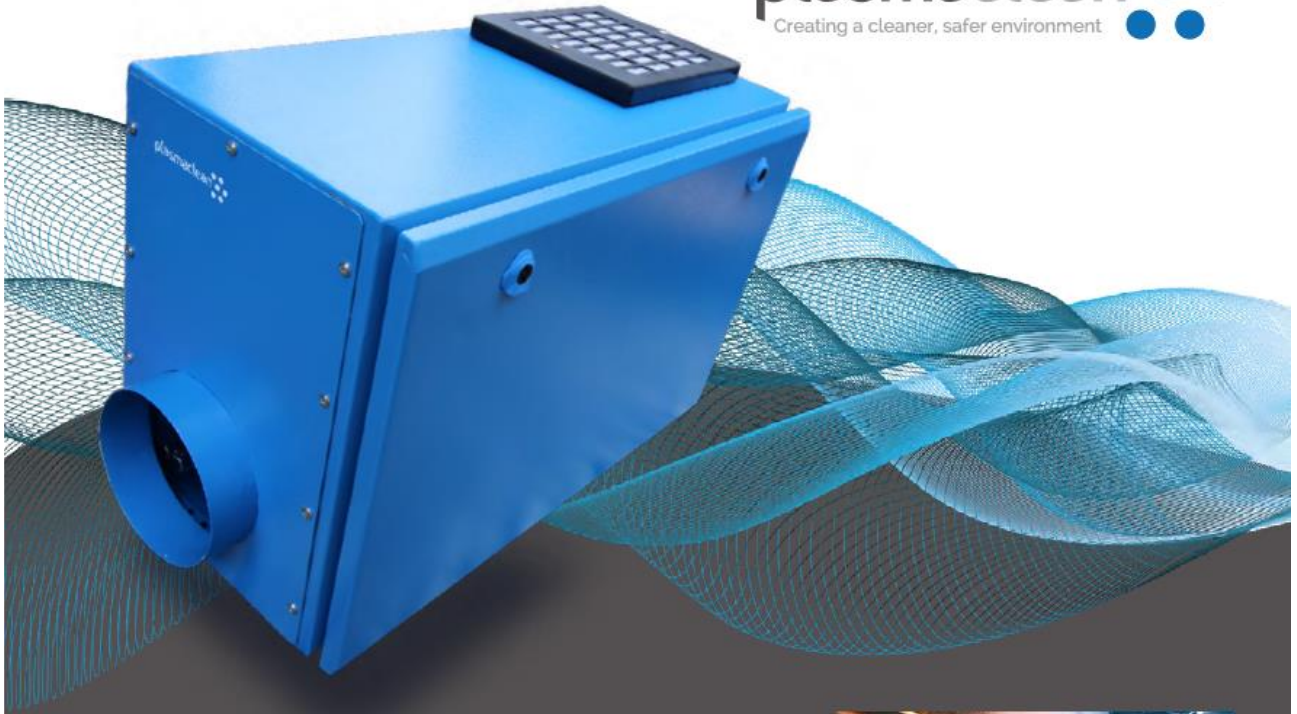
State Quantity, the product coding and the size Width x Height e.g. 10 Qty WJ050+0C 1500 x 1000.



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 CII
WL Reversed Angle Frame		0 None	

+

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



Xtract 4200

The Plasma Clean Xtract uses ozone - a well known disinfectant and odour neutralizer - which is released directly into the kitchen ventilation system. Here it immediately starts to act on the cooking odours.

Simple to install, with low maintenance and running costs, this versatile modular solution provides affordable and reliable odour control, making it the perfect partner for a wide range of cooking applications.

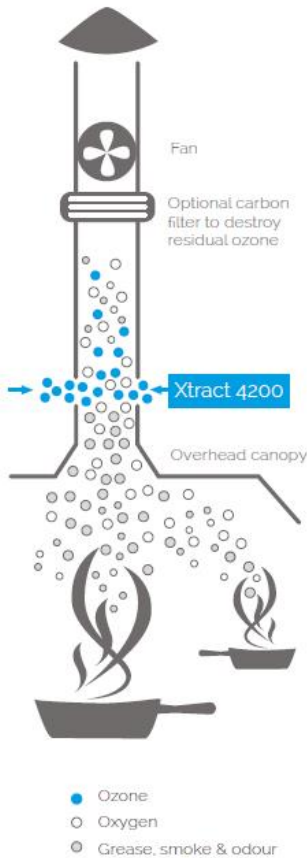
Product Specification	
Model	Xtract 4200
Capacity	Up to 3 m ³ /s
Power	600W
Pressure Drop (Pa)	0 (ozone injection)
Supply	230Vac / 1 phase / 50-60Hz
Dimensions	400H x 600W x 300D mm
Weight	25kg
Lamp life	9,000 hrs
Installation	Circuit Breaker 3A required Air flow proving switch installed Fan power supply interlock recommended Multiple units can be joined together for increased volume or efficiency



The compact and lightweight units have been designed for modern kitchens, where space is at a premium, and are an ideal solution for fast food bars, pubs and restaurants.

Xtract 4200 versus conventional odour control solutions

- Low capital and running costs
- Simple installation and maintenance
- No consumable chemicals
- Compact, lightweight and robust
- Quiet operation
- Environmentally friendly
- Tested to EN13725:2003



Oxidation using ozone and activated oxygen ions is used to treat odour emissions from commercial and industrial kitchen processes (DEFRA, 2005: Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems). The Plasma Clean Xtract injects ozone into the kitchen extraction canopy where it reacts with odour. The ozone itself is consumed during the process and is converted back into oxygen.

Compact and Lightweight

The unit has been designed to be compact 400mm (H) x 600mm (W) x 300mm (D) and lightweight (25kg) so that it can be installed in kitchen areas where space is at a premium and / or where there is little load bearing capacity.

Installation

The unit has been designed to attach to the wall adjacent to the kitchen canopy or adjacent ductwork. The outlet is then connected into the extraction system and the unit is plugged in or hardwired into mains electricity (230V / single phase / 50-60Hz) via a main fan control box. Full installation and operating instructions are provided.

Silent Operation

The unit sits outside of the kitchen extraction system and ozone is

drawn in by the existing fans. There is no need to upgrade the existing fan and the unit operates silently.

Servicing

Plasma Clean recommends a yearly service to ensure efficient operation, and can offer a planned maintenance contract.

Additional Options

A booster fan can be fitted in the unlikely event that the kitchen extraction fan can not draw air through the unit. A site survey option is available, as is a planned maintenance contract.

Any questions?

Contact one of our engineers who will be at hand to advise on the most appropriate odour control solution.

Email: ask@plasma-clean.com
Tel: +44 (0)161 870 2325



British innovation
Global distribution

plasmaclean
Creating a cleaner, safer environment

Plasma Clean Limited, SBIC
Broadstone Mill, Broadstone Road,
Stockport, Cheshire, SK5 7DL . UK

Email: ask@plasma-clean.com
Tel: +44 (0)161 870 2325
www.plasma-clean.com

www.plasma-clean.com

Plasma Clean is continuously improving its products and services and reserves the right to alter designs without prior notice.

APPENDIX C – FAN 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/1 ϕ
380-420V/50Hz/3 ϕ

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
 - 355 = Spigot Diameter size
 - 1 = 1 ϕ or 3 = 3 ϕ
- l₀, 50 = 500mm; 67 = 670mm;
80 = 800mm; 102 = 1020mm

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.



PRODUCT AND ELECTRICAL DETAILS



Product Code	Product Number	Speed rpm	Motor Frame	Electrical Supply	Electrical Current			Wiring Diagrams	**Speed Controllers Transformer	Maximum Operating Temp°C	Breakout *Sound Level dB(A) (3m)
					Motor (kW)	Full Load Current (A)	Starting Current (A)				
ESTOC 50-355-1	UB503514	1325	Integral	220-240 V-50 Hz-1 Ph	0.29	1.25	2.5	C03028	TE10 1.5	55	33
ESTOC 67-400-1	UB674414	1360	Integral	220-240 V-50 Hz-1 Ph	0.53	2.4	4.9	C03028	TE10 2.2	45	45
ESTOC 67-450-1	UB674514	1270	Integral	220-240 V-50 Hz-1 Ph	0.76	3.5	7.35	C03028	TE10 3.5	45	41
ESTOC 67-500-1	UB675514	1310	Integral	220-240 V-50 Hz-1 Ph	1.57	7.3	18.79	C03028	TE10 7.5	40	45
ESTOC 50-355-3	8101216	1355	Integral	380-420V-50 Hz-3 Ph	0.3	0.66	2.18	C03030	IDDXF54 2.2	50	37
ESTOC 67-400-3	8101217	1335	Integral	380-420V-50 Hz-3 Ph	0.48	0.9	2.88	C03030	IDDXF54 2.2	50	34
ESTOC 67-450-3	8101218	1240	Integral	380-420V-50 Hz-3 Ph	0.67	1.33	3.46	C03030	IDDXF54 2.2	50	37
ESTOC 67-500-3	8101219	1380	Integral	380-420V-50 Hz-3 Ph	1.8	3.7	17.76	C03030	IDDXF54 3.7	40	44
ESTOC 80-560-3	8101220	1350	Integral	380-420V-50 Hz-3 Ph	2.5	4.8	20.16	C03030	IDDXF54 5.3	40	47
ESTOC 80-630-3	8101221	1380	Integral	380-420V-50 Hz-3 Ph	3.85	6.6	27.72	C03030	IDDXF54 7.2	45	55
ESTOC 102-710-3	8101222	890	Integral	380-420V-50 Hz-3 Ph	2.45	4.7	18.8	C03030	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.

Northern Fan Supplies Ltd

Performance Chart

JM Aerofoil



Project Name : jm single phase pdf

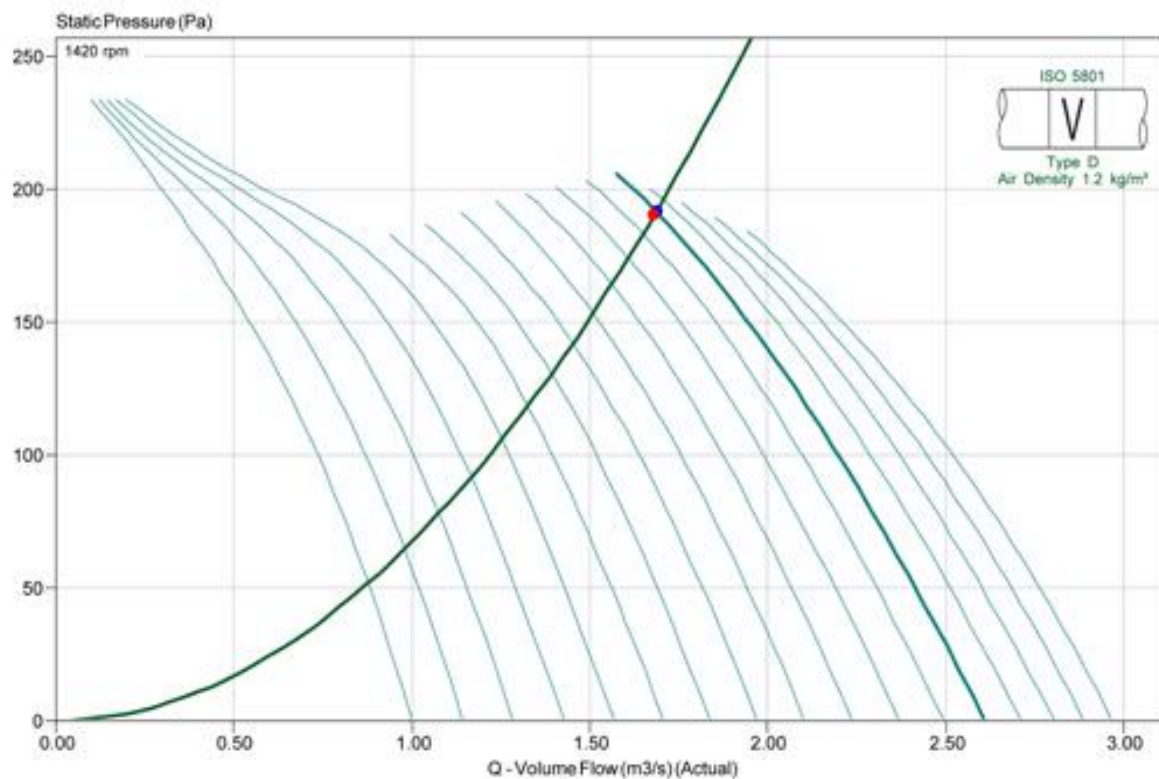
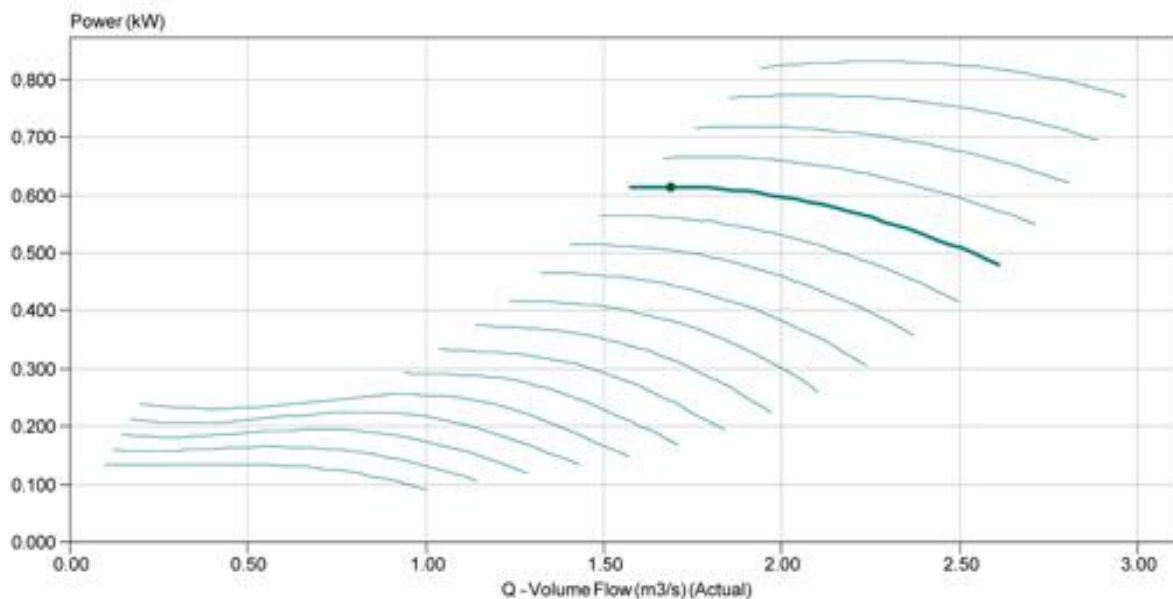
Quotation Number :

Customer : nfs

Date : Saturday, August 20, 2011

Fan Code : 50JM/20/4/6/32

Item Reference :



APPENDIX D – CONDENSING UNIT SPECIFICATION SHEET

R-404A

COMMERCIAL POSITIVE REFRIGERATION



WINTSYS®



Models	Technology	Rated voltage code Imax [A]	Capacity in W EN 13215 Ambient temperature 32 °C Superheating 10K Subcooling 3K Evaporation temperature:					EN 13215 to -10°C evaporation and 32 °C ambient Suction gas 20 °C		Pressure at 10 m	Pressure at 1 m	Acoustic power	Airflow	Diameter of connection		Other available voltages	Receiver volume	Net / Gross weight	Panels
			-15 °C	-10 °C	-5 °C	0 °C	5 °C	Cooling capacity [W]	Power input [W]					Acoustics dB(A)*	m³/h				
WINR5IZ		FZ / 4,5	400	750	920	1120	1350	829	647	31	51	62	900	3/8	1/4	-	0,75	48 / 51	1
WINR4IZ		FZ / 4,7	700	870	1070	1290	1540	949	525	30	50	61	900	3/8	1/4	-	0,75	59 / 62	1
WINR7IZ		FZ / 4,4	810	1000	1210	1460	1730	1114	624	31	51	62	900	3/8	1/4	-	0,75	49 / 52	1
WINR8IZ		FZ / 4,9	850	1050	1270	1520	1790	1182	719	33	53	64	900	1/2	3/8	TZ	1,5	57 / 60	1
WINF5IZ		FZ / 8,2	1020	1250	1500	1780	2080	1419	881	33	53	64	900	5/8	3/8	TZ	1,5	56 / 59	1
WINF5IZ		FZ / 10,4	1180	1450	1740	2030	2350	1658	1035	34	54	65	900	5/8	3/8	TZ	1,5	56 / 59	1
WINI5IZ		FZ / 13,2	1570	1940	2350	2820	3320	2182	1243	40	60	71	1700	5/8	3/8	TZ	2,35	72 / 75	2
WINI5IZ		FZ / 15,7	1940	2370	2830	3320	3850	2484	1404	40	60	71	1700	5/8	3/8	TZ	2,35	74 / 77	2
WINI2IZ		TZ / 7,7	2030	2550	3110	3720	4400	2903	1845	43	63	74	1700	5/8	3/8	FZ	2,35	84 / 87	2
WINI3IZ		TZ / 8,8	2940	3720	4560	5450	6410	4133	2319	48	68	79	3000	7/8	1/2	FZ	3,9	94 / 97	3
WINI4IZ		TZ / 10	3600	4400	5270	6220	7260	5011	3091	51	71	82	3000	7/8	1/2	FZ	3,9	99 / 102	3

* Presentation of the acoustic values in maximum ventilation speed in free field according to the reference point of standard EN 33215. We comply with the acoustic standard EN ISO 3383-1. The refrigeration performances are given for information purposes and may change, without prior notice, with improvements that Tecumseh Europe is always making to its products.

Options/Kits

Traditional units

- High temperature compressor (except for AJN and HGA)
- Variable speed Kits for the fan
- Condensing unit without receiver
- Specific connection



Wintsys®

- Automatic HP and LP pressure switch kit
- Fan speed control kit
- Pump Down kit (non-fitted solenoid valve + LP pressure switch)
- Fuse plug



Voltage codes

Previous code letter	New code letter	Description
F	FZ	220-240V-50Hz
K	KZ	220V 3-50Hz 220V 3-60Hz
T	TZ	400V 3-50Hz 400V 3-60Hz
A	XA	100V 1-50Hz 115V 1-60Hz
G	GZ	208-220V 1-60Hz

APPENDIX E – DEFRA GUIDANCE DOCUMENT ANNEXE C

Appendix 3: Risk Assessment for Odour

Odour control must be designed to prevent odour nuisance in a given situation. The following score methodology is suggested as a means of determining odour control requirements using a simple risk assessment approach. The odour control requirements considered here are consistent with the performance requirements listed in this report.

Impact Risk	Odour Control Requirement	Significance Score*
Low to Medium	Low level odour control	Less than 20
High	High level odour control	20 to 35
Very high	Very high level odour control	more than 35

* based on the sum of contributions from dispersion, proximity of receptors, size of kitchen and cooking type:

Criteria	Score	Score	Details
Dispersion	Very poor	20	Low level discharge, discharge into courtyard or restriction on stack.
	Poor	15	Not low level but below eaves, or discharge at below 10 m/s.
	Moderate	10	Discharging 1m above eaves at 10 -15 m/s.
	Good	5	Discharging 1m above ridge at 15 m/s.
Proximity of receptors	Close	10	Closest sensitive receptor less than 20m from kitchen discharge.
	Medium	5	Closest sensitive receptor between 20 and 100m from kitchen discharge.
	Far	1	Closest sensitive receptor more than 100m from kitchen discharge ¹ .
Size of kitchen	Large	5	More than 100 covers or large sized take away.
	Medium	3	Between 30 and 100 covers or medium sized take away.
	Small	1	Less than 30 covers or small take away ¹ .
Cooking type (odour and grease loading)	Very high	10	Pub (high level of fried food), fried chicken, burgers or fish & chips. <i>Turkish, Middle Eastern or any premises cooking with solid fuel</i>
	High	7	<i>Vietnamese, Thai, Indian, Japanese, Chinese, steakhouse</i>
	Medium	4	<i>Cantonese, Italian, French, Pizza (gas fired),</i>
	Low	1	<i>Most pubs (no fried food, mainly reheating and sandwiches etc), Tea rooms¹</i>

Note 1: A planner may take a pragmatic view when assessing whether certain low risk kitchens require any odour abatement to be fitted. In reaching this decision the Planner may consider the nature of the food being cooked and/or the size of kitchen and/or its location.