PROPOSED VENTILATION AND AIR CONDITIONING INSTALLATION FOR RANDALL & AUBIN

Version *<1.0>*

Date *31st MAY 2016*

Prepared By:-

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Air Conditioning

Air conditioning has been selected to provide heating and cooling for the restaurant to provide a comfortable dining space for customers. The efficiency of modern air conditioning systems will ensure the installation is more efficient and cost effective to run than a standard wet heating system while also providing the option to cool from the same system during warmer weather.

The installation proposed will include 4 no. Daikin AZQS125B8V1 condensing units to be installed within the light well at the centre of the building in place of the existing 4 no. condensers that currently serve the retail unit. See Appendix 1 showing the existing air conditioning condensers. The new systems will be positioned as per drawings RA_Manchester 03 Rev – Plant Space and RA_Manchester 04 Rev – Plant Space Elevation. See Appendix 2 for all technical information and Appendix 3 for a photograph showing the proposed position for the new units.

The new units will be installed on 'Big Foot' systems including anti vibration feet to prevent transfer of vibration/noise through the building. See Appendix 4 for further information. No fixings will be made into the building fabric as can be seen in the above mentioned drawings.

As there is existing air conditioning serving the retail unit other external installation locations have been discounted. Any other installation locations would have to be on an external wall of the building and would be visible from street level which we feel would be detrimental to the appearance of the surrounding area.

Kitchen Extract System

The kitchen extract system has been designed in accordance with DEFRA Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems and DW172.

The proposed installation will include 10 no. Plasma Clean Coil Filters within the cookline canopy. These filters are designed to capture up to 95% of grease particles. Installation of these filters significantly reduces duct cleaning requirements. These filters will be cleaned as part of the regular staff maintenance routine preventing the need for any specialist contractor attendance to maintain efficiency. See Appendix 5 for further technical information.

The extract rate has been calculated in accordance with DW172 and a high temperature rated extract fan has been selected. See Appendix 6 for further technical information. The fan will be mounted internally on anti vibration feet (Appendix 10) and connections either side of the fan will be made using (Appendix 11) preventing the transfer of vibration/noise through the system or building. There will also be attenuators installed both atmosphere and system side of the fan. See Appendix 7 for related technical information.

See drawing RA_Manchester 01 Rev – Ground Floor Plan for internal plant locations.

The duct will rise from the restaurant to the flat roof directly above within the light well with an attenuator being installed on the flat roof. The duct will then rise externally to the parapet of the building where it will terminate in a 'bird beak'.

See drawings RA_Manchester 03 Rev – Plant Space and RA_Manchester 04 Rev – Plant Space Elevation for external attenuator and duct locations.

Odour Control

Careful consideration has been given to the type of odour control system to be installed due to the restricted plant space available internally. The installation will comprise 2 no. Plasma Clean Xtract 2100 Ozone units. These units will be located at high level close to the start of the extract duct above the canopy and will be connected to the duct via 2 no. 100mm flex duct connections. See Appendix 9 for further technical information. A planned maintenance contract will be in place with the manufacturer following completion to ensure continual efficiency of these units.

Fresh Air Makeup System

The fresh air intake is at the rear of the building as shown on drawing RA_Manchester 02 Rev – Rear Elevation. Consideration has been given to the location and size of the external louvre to ensure minimal noise. See Appendix 12 for further information.

The fresh air fan has been selected to provide 85% make up air to the restaurant spaces, see Appendix 8. There will be an attenuator installed both atmosphere and system side of the fan, see Appendix 7. See enclosed drawing RA_Manchester 01 Rev – Ground Floor Plan for plant locations.

APPENDIX 1



APPENDIX 2

Roundflow cassette

FCQG-F / AZQS

Seasonal Inverter

Features	Benefits
Programmable air discharge outlets via remote control	Room configurations can be changed without re-positioning cassette
R22 Replacement technology	Re-use of existing R22 and R407C piping possible, allowing only fan-coil and condensers to be replaced
D3 connection as standard	Allows integration of split system into Daikin building management systems
Presence sensor	Controlling temperature set point based on occupancy can reduce running costs by up to 27%
Self-cleaning decoration panel	Automatic cleaning of air-filter can save up to 30% in running costs

Indoor Units			Single Phase				3 Phase		
			FCQG71F	FCQG100F	FCQG125F	FCQG140F	FCQG100F	FCQG125F	FCQG140F
Capacity	UK Total Cooling	kW	7.28	10.80	13.60	14.90	10.80	13.60	14.90
	UK Sensible Cooling	kW	4.99	7.44	9.30	10.25	7.44	9.30	10.25
	Nominal Cooling	kW	6.80	9.50	12.10	13.40	9.50	12.10	13.40
	Nominal Heating	kW	7.50	10.80	13.50	15.50	10.80	13.50	15.50
Seasonal Efficiency (EN14825) COOLING	Energy Label		A+	A	-	-	A	-	-
	Pdesign	kW	6.80	9.50	-	-	9.50	-	-
	SEER		5.70	5.50	-	-	5.50	-	-
	Annual Energy Consumption	kWh	418	605	-	-	605	-	-
Seasonal Efficiency (EN14825) HEATING	Energy Label		A	A	-	-	A	-	-
	Pdesign	kW	7.50	10.80	-	-	10.80	-	-
	SCOP		4.00	3.85	-	-	3.85	-	-
	Annual Energy Consumption	kWh	2116	2764	-	-	2764	-	-
Nominal Efficiency	EER / COP		B / A	A / B	B / B	C / B	A / B	B / B	C / B
	Energy Label		3.11 / 3.61	3.21 / 3.50	3.10 / 3.41	2.81 / 3.30	3.21 / 3.50	3.10 / 3.41	2.81 / 3.30
	Annual Energy Consumption	kWh	1093	1480	1952	2313	1480	1952	2313
Air Flow Rate	High / Low	m³/min	15 / 9.1	22.8 / 12.4	26 / 12.4	26 / 12.4	22.8 / 12.4	26 / 12.4	26 / 12.4
Dimensions (with Decoration Panel BYCQ140D)	Height	mm	204 (264)	246 (306)	246 (306)	246 (306)	246 (306)	246 (306)	246 (306)
	Width	mm	840 (950)	840 (950)	840 (950)	840 (950)	840 (950)	840 (950)	840 (950)
	Depth	mm	840 (950)	840 (950)	840 (950)	840 (950)	840 (950)	840 (950)	840 (950)
Weight (with Decoration Panel BYCQ140D)		kg	21 (26.4)	24 (29.4)	24 (29.4)	24 (29.4)	24 (29.4)	24 (29.4)	24 (29.4)
Sound Pressure	High / Low	dBA	33 / 28	37 / 29	41 / 29	41 / 29	37 / 29	41 / 29	41 / 29
Sound Power		dBA	51	54	58	58	54	58	58

Outdoor Units			AZQS71BV1	AZQS100B8V1	AZQS125B8V1	AZQS140B8V1	AZQS100BY1	AZQS125BY1	AZQS140BY1
Dimensions	Height x Width x Depth	mm	770 x 900 x 320	990 x 940 x 320		1430 x 940 x 320	990 x 940 x 320		1430 x 940 x 320
Weight		kg	67	81		102	82		101
Electrical Details	Power Supply		1ph				3ph		
	Running Current	A	8.95	12.10	15.94	18.92	4.55	6.00	7.12
	Starting Current	A	4	4	4	4	4	4	4
	Max Fuse Size	A	20	32	32	32	20	20	20
Interconnection Wiring	Core / Cable size		3+E / 1.5				3+E / 1.5		
Piping Connections	Liquid / Gas	inches	3/8 / 5/8	3/8 / 5/8	3/8 / 5/8	3/8 / 5/8	3/8 / 5/8	3/8 / 5/8	3/8 / 5/8
Pipework	Maximum Length	m	30	30	30	30	30	30	30
	Maximum Vertical Rise	m	15	15	15	15	15	15	15
	Precharged to	m	30	30	30	30	30	30	30
	Additional Charge	g/m	Refer to Installation Manual				Refer to Installation Manual		
	Holding Charge	kg	2.75	2.9	2.9	4.0	2.9	2.9	4.0
Sound Pressure	High	dBA	49	53	54	53	53	54	53
Sound Power		dBA	65	69	70	69	69	70	69

Accessories
Self cleaning deco-panel (BYCQ140DG)
White louvred deco-panel (BYCQ140DW)
Presence sensor (BRYQ140A)
Fresh air intake kit (KDDQ55B140)

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Daikin UK Recycling End of Life Air Con Units

Daikin Airconditioning UK Limited The Heights Brooklands Weybridge Surrey KT13 0NY Tel 0845 6419000 Fax 0845 6419009 daikin.co.uk

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APPENDIX 3



APPENDIX 4

Big Foot H Frame

Pipework I Ductwork I Cable Trays

Typical Application

The H Frame Set is a quick, versatile and economical solution for supporting pipework, ductwork, cable trays or any combination of these. You provide your own strut, keeping the duct and pipe installations low cost and totally flexible by fabricating the frameworks on-site.

Using inserts, the feet adapt to accomodate 41mm x 41mm off-the-shelf strut. The majority of installations require 305mm H Frames but where a greater load spread is required 450mm and 600mm H Frames are also available.

Kit Includes

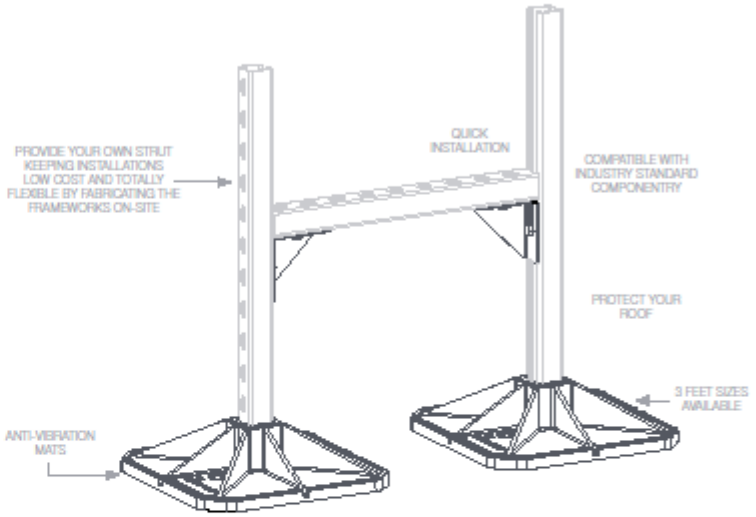
- 2 x Plastic feet
- 2 x Anti-vibration mats
- 2 x Strut Inserts
- Brackets and fixings
- Assembly Instructions

PLEASE NOTE: Strut is not included

FEET FLEECES
Recommended for use on PVC membrane roof surfaces to prevent migration of plasticizers.

ANGLED AV MATS
2.5° and 5° AV mats are also available for sloped roofs.





Material Specification

PLASTIC FOOT
Nylon 6 B601L 30% Glass Fibre Filled

ANTI-VIBRATION MAT
SBR-Recycled Rubber. Bound using a ratio of high quality moisture curing Polyurethane Pre-Polymer. BS7188:1989 & BS5696 Part 3:1979

BRACKET
Hot Dip Galvanised Mild Steel: BS EN 10219-1:1997. Welding Standard: BS EN ISO 15614-1
Galvanising: BS EN ISO 1461:1999
Salt Mist Testing: BSEN60068-2-52
Test Kb Severity 1

WORKING CONDITIONS
Suitable for internal or external applications in temperatures between -40°C to +80°C

Technical Information

Model	Part No.	Foot Size (mm)	Rec. Loading per Frame (kg)	Packaged Weight (kg)
Small	B6088	305	150	6.75
Large	B6089	450	300	13.35
Mega	B9222	600	450	20

APPENDIX 5



Plasma Clean Grease Filters

Plasma Clean Coil Filters are designed to capture oil and grease in commercial kitchen extraction canopies. The filters are designed to capture up to 95% of grease particles, in comparison to 20 - 40% grease capture using the more traditional baffle-type filters.

By preventing grease and oil particles entering into the ductwork using a high efficiency primary grease filter, the number of ductwork cleans is significantly reduced along with downstream equipment maintenance.

- ROI less than 12 months
- Proven grease reduction ability
- Excellent barrier against passage of flames
- Captured oil can be recycled

Plasma Clean Coil Filters versus traditional baffle filters:

- Significantly reduces duct cleaning requirements
- Reduces fire risk, which helps reduce insurance penalties
- Simple to clean
- Return on investment is less than 12 months

Product Specification

Model	CF475	CF375
Volume Flow Rate (m^3/s)	0.34	0.24
Face Velocity (m/s)	4-5	
Pressure Drop (Pa)	200	
Weight (kg)	3.65 (approx)	
Material	304 Stainless Steel	
Noise (dB)	50	
Max Dimensions (HxWxD)	150x475x161	150x375x161

Plasma Clean Limited, Broadstone Mill, Broadstone Road, Stockport
Cheshire, SK5 7DL UK
Email: sales@plasma-clean.com Tel: +44 (0)161 443 4125
www.plasma-clean.com

plasmaclean

How the Coil Filter works

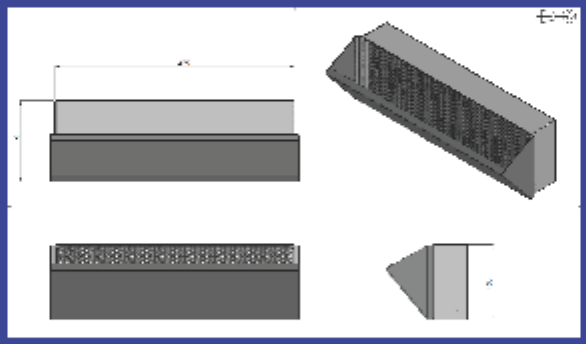
The purpose of the Coil Filter is to stop oil and grease from entering into the extraction system. There are four stages to the operation:

Stage 1 - oil vapours condense on the large surface area of the filter coils as heat is transferred from the air.

Stage 2 - the air is spun into a vortex and the droplets of oil and grease continue in a straight line.

Stage 3 - the oil and grease particles then collide with the filter coils, and the oil-coated filter surface traps more oil and grease due to its enhanced viscosity.

Stage 4 – the oil and grease droplets simply settle due to gravity and are collected for recycling.



Installation

Installation is simple, if you are producing a new canopy, let us know and we can advise on the design and dimensions of the Coil Filter mounting plate.

If you have an existing canopy, then an adaptor plate is available to enable the Coil Filters to be installed into existing kitchen canopies, replacing existing low efficiency baffle type filters.

Care

Oil and grease arrested by the unit is collected in the filter cup at the front of the unit, and can be recycled along with the spent oil from the frying range. The stainless steel filter can then be washed in warm soapy water or in the dishwasher. Depending on the level of cooking, the system can be washed daily or as part of a weekly cleaning routine. Remember that the oil trapped by the Coil Filter would otherwise have found its way into the ductwork, requiring routine duct cleaning.

Plasma Clean Ltd, Broadstone Knowledge Mill, Broadstone Road
Stockport, Cheshire, SK5 7DL. United Kingdom
Tel: +44(0) 161 443 4125
www.plasma-clean.com

plasmaclean

APPENDIX 6

systemair

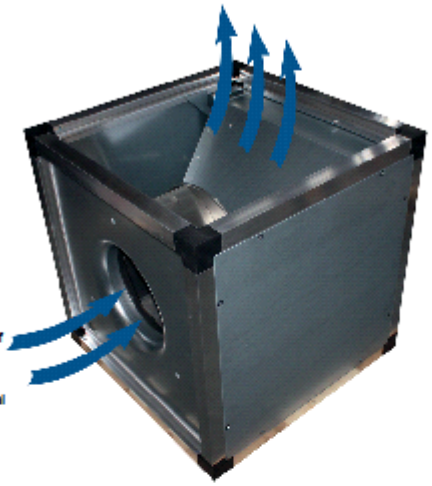
MUB/T 062 560EC POTI

Item no. 37205

Document type: Product card
Document date: 2016-05-04
Generated by: Systemair Online Catalogue

Description

- EC-motors, high level of efficiency
- 100% speed controllable
- Up to 120°C medium temperature, continuous operation
- Multi-functional use, e.g. for kitchen exhaust air
- Pre-assembled isolator is standard
- Low sound level
- Easy to maintain and reliable
- Motor outside the air stream
- Integrated motor protection
- Potentiometer included for ease of commissioning



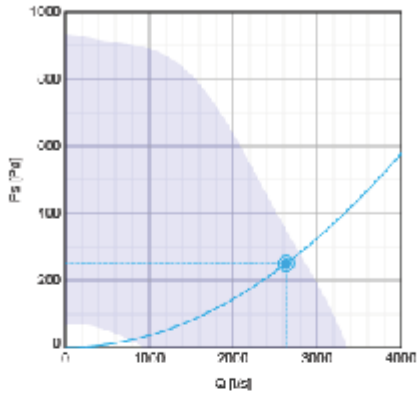
EC technology is intelligent technology; using integral electronic control which eliminates the slip losses in the motor and ensures that the motor always runs at optimal load and guarantees that the proportion of energy utilized effectively is many times higher and the energy usage considerably lower compared with AC motors. EC fans are notable for their economical use of energy and excellent ease of control. They can be varied in speed to match the airflow demand, and operate at high efficiency levels. For the same air volume, they consume distinctly less energy than AC fan drives. Another special feature of EC fans is their energy-saving potential not only at full load, but especially at part-load. When operating at part load, the energy used is much lower than with an asynchronous motor of equivalent output. Reduced energy usage guarantees a drop in operating costs. The power electronics are integrated in the motor housing. All MUB/T-EC models have one potential-free terminal for error message. All motors are suitable to be used for 50/60Hz. The input voltage for single phase units can vary between 200 and 277V. Speed control by a 0-10V signal. The fans are delivered with a pre-wired potentiometer (0-10 V) that allowes you to easily find the required working point. All MUB/T-EC fans have impellers with backward curved blades, manufactured from aluminium. The MUB/T-EC fans are suitable for medium temperatures up to 120°C continuously. The casing consists of an aluminium frame with fibreglass reinforced plastic corners and double skin, galvanised steel panels with a 20 mm mineral wool insulation. Panels are removable, allowing flexible ventilation solutions - the air direction can easily be changed. With quick lock access door. The MUB/T-EC bottom panel is shaped as a grease tray and incorporates a pre-mounted 1" drain plug. An isolator switch is mounted on the casing.
Several filter modules like f.e. activated carbon- or aluminum filters are available, calculated individually on the working point.

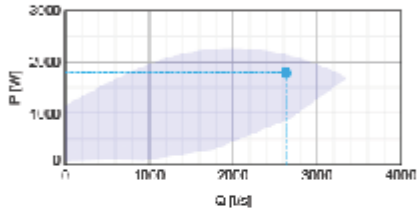
Technical parameters

Nominal data		
Voltage	400	V
Frequency	50/60	Hz
Phase	3	~
Input power (P1)	2274	W
Current	3,3	A
Max. airflow	3358	l/s
R.p.m.	1449	r.p.m.
Weight	95,8	kg
Temperature data		
Max. temperature of transported air	120	°C
Protection / Classification		
Insulation class	F	
Enclosure class, motor	IP55	IP
Sound data		
Sound pressure level at 3 m	52	dB(A)

Diagrams

Diagrams





Hydraulic data

	Required point		Working point						
	Q [l/s]	Ps [Pa]	Q [l/s]	Ps [Pa]	P [W]	n [r.p.m.]	I [A]	SFP [kW/m³/s]	U [V]
User	○ 2630	○ 250	● 2630	● 250	● 1789	1380	2,63	0,67	400

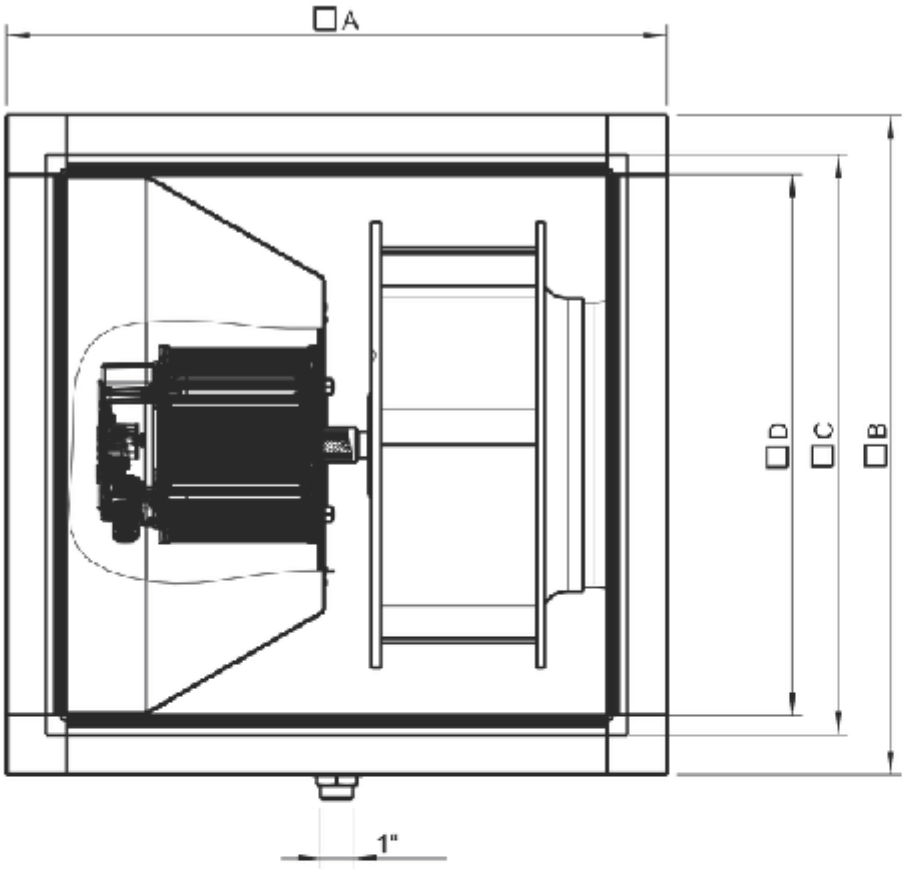
Acoustics

Mid-frequency band, Hz

	Hz	Tot	63	125	250	500	1k	2k	4k	8k
LwA Inlet	dB(A)	75	62	64	68	70	69	66	61	54
LwA Outlet	dB(A)	77	64	66	70	72	71	68	63	56
LwA Surrounding	dB(A)	60	47	49	53	55	54	51	46	39

Measuring point: qv = 1,8 m3/s, Ps = 701 Pa

Dimensions



	▭A	▯B	▯C	▯D	⌀E	⌀F
MUB/T 062 560EC	800	800	720	676	570	361

Wiring

MUB-T 042 500-560 EC-Poti_37204_DE-EN.pdf (966,96kB)

Accessories

Electric accessories

CO2RT-R-D Transmitter (6993)
Presence detector/IR24-P (6995)
RT 0-30 Room Thermostat (5151)
HR1 Room Humidistat IP21 (5150)
MTP 10, 10K, Speed control (32731)
EC-Vent Room Unit (3018)
EC-Vent control board (3115)
MTP 20, on/off, 3-step (310220)
MTV-1/010 Controller 0..10V+ (30650)
CXE/AV Digital regulator (30674)
EC-Basic-T temperature (24805)
EC-Basic-U universal 0-10V (24806)
EC-Basic-H humidity (24807)
EC-Basic-CO2 and temperature (24808)
CXE/AVC Modbus (37256)
S-SEC/FRQ (76738)

Accessories

CCM outlet MUB062 d630 (311681)
CCM outlet MUB062 d560 (311684)
SRKG 062/718-718 shutter valve (4870)
UGS 062/630 adapter flex. (4358)
FGV 062/716-716 flex. conn. (4198)
SDM Service Door MUB 062 comp. (32573)
WSD 062 (860x860x70) complete (31482)
M-SG 062/718x718 (301346)
CCM inlet MUB062 d560 (311782)
CCM inlet MUB062 d630 (311783)
WSG 062 MUB/T complete (36067)
SD-MUB Vibration pad set (37324)
CCMI outlet 062 d560 insul KIT (313847)
CCMI outlet 062 d630 insul KIT (313848)

Documentation

IMO_MUB-EC_151126_DE,EN_003_314464_web.pdf (2,20MB)

EC-declaration of conformity AxZent-KBT-KBR-MUB-K-MUB-T-DVV_DE-EN.pdf (103,14kB)

EC-DEC_MUB_151021_DE,GB_001.pdf (580,98kB)

Specification text

APPENDIX 7

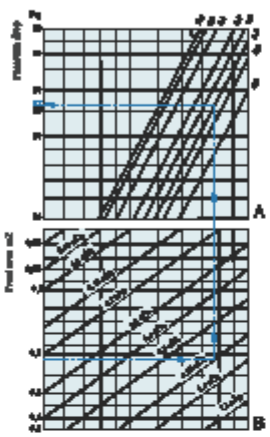
Systemair

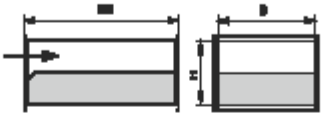
LDR Rectangular Silencer



Easily-fitted silencer immediately before or after the KE, KT, RS and RSI rectangular duct fans. Effectively suppresses noise transmitted to the duct.
The silencer should be used together with an insulated fan where there is a requirement for noise suppression both in the duct and in the surroundings as a whole. All silencers are supplied with a universal flange suitable for PG flange or Matu profile.

Noise suppression dB (mid-frequency Hz)							
LDR	125	250	500	1k	2k	4k	8k
30-15	7	15	10	25	25	19	19
40-20	5	9	15	25	15	12	10
50-25	10	15	25	25	25	15	12
60-30	9	15	25	25	12	14	11
60-50	6	15	25	25	13	14	11
80-30	7	13	17	15	15	10	8
70-40	7	11	14	14	10	8	6
80-50	5	6	10	11	8	6	5
100-60	5	6	10	11	9	6	5



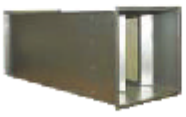


LDR	B	H	kg
30-15	300	150	10
40-20	400	200	15
50-25	500	250	17
50-30	500	300	19
60-30	600	300	21
60-50	600	500	25
70-40	700	400	27
80-50	800	500	34
100-60	1000	600	41

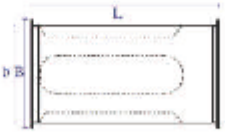
Pressure drop calculation for rectangular silencers
These calculations apply only if the silencer is connected to a duct at both ends.
Example: Calculation of pressure drop for the LDR 60-35 (with model RSI 60-35 MB--) using the diagram to the right.
1. Start by studying the facit scale, see the table below.
2. Move horizontally to the right until you reach the designated air flow in diagram B.
3. Go up vertically to diagram A and the nearest p-value (see the table).
4. Then continue horizontally to the left and read off the pressure drop.
In this example, the pressure drop is 27 Pa.

LDR	Area (m²)	Facit
30-15	0.045	3.3
40-20	0.08	2.5
50-25	0.125	2.7
50-30	0.15	2.3
60-30	0.18	2.3
60-50	0.30	2.0
70-40	0.28	2.1
80-50	0.40	2.0
100-60	0.60	2.0

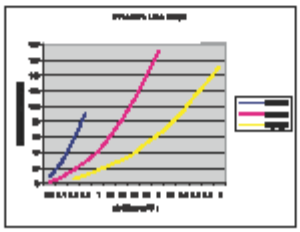
MUB SIL Multibox Silencer

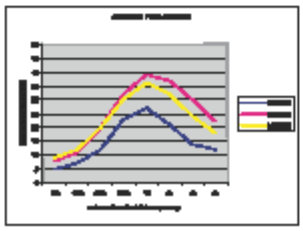


Inlet- outlet silencer
Suitable for MUB-fans – all 1200 mm long inc 300 mm plenum.



MUB	b	B	L	kg
025	370	410	1200	19
042	540	590	1200	34
052	670	710	1200	37
100	970	910	1200	49





APPENDIX 8

systemair

MUB 062 560EC POTI MULTIBOX

Item no. 37199

Version: 90° airflow

Document type: Product card
Document date: 2016-05-04
Generated by: Systemair Online Catalogue

Description

- 100 % speed controllable
- Integrated electronic motor protection
- Modular system
- Low noise level
- Flexible airflow direction due to removable panels
- Installation in any mounting position
- Safe and maintenance free operation
- Energy-saving



The MUB-EC fans are driven by EC-external rotor motors. These are energy saving motors with high efficiency. The power electronics are integrated in the motor housing. All models have one potential-free terminal for error message. All motors are suitable to be used for 50/60Hz. The input voltage for single phase units can vary between 200 and 277V, for three phase units between 380 and 480V. Speed control by a 0-10V signal. From size 450 the motor has an output voltage of 10V and 20V for an external potentiometer.

All models are equipped with impellers with backward curved blades, manufactured from aluminium.The casing consists of an aluminium frame with fibreglass reinforced plastic corners of PA6; highly shock-resistant. The double skin panels are manufactured from galvanized steel with 20 mm mineralwool insulation. To avoid condensation the profile is provided with a separate chamber to fix the screws. The panels are removable, any outlet side can be chosen, allowing flexible ventilation solutions.

The Multibox can also be used as extract- or supply air unit in air handling units. Installation in any mounting position is possible. MUB with additional modules (filters, heaters etc.) are available as air handling units "KD25, KD42 or KD62" on request!

Edited text (outdated)

Technical parameters

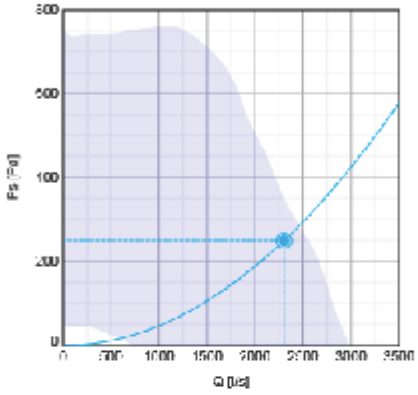
Default group		
Voltage	400	V
Frequency	50/60	Hz
Phase	3	~
Input power (P1)	1987	W
Current	3,05	A
Max. airflow	2997	l/s
R.p.m.	1358	r.p.m.
Max. temperature of transported air	60	°C
Max. temperature of transported air when speed-controlled	60	°C
Sound pressure level at 3 m	57	dB(A)

Weight	85,4	kg
Insulation class	F	
Enclosure class, motor	54	IP

ErP	
ErP ready	ErP 2016/ErP 2018

Diagrams

Diagrams



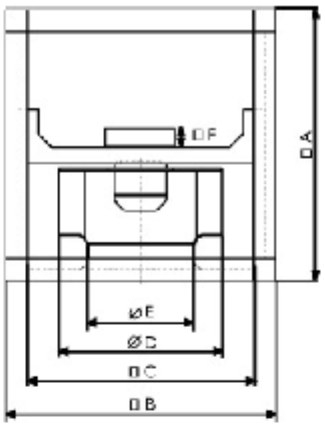
Hydraulic data

	Required point		Working point						
	Q [l/s]	Ps [Pa]	Q [l/s]	Ps [Pa]	P [W]	n [r.p.m.]	I [A]	SFP [kW/m³/s]	U [V]
User	2300	250	2300	250	1392	1260	-	0,604	400

Acoustic data

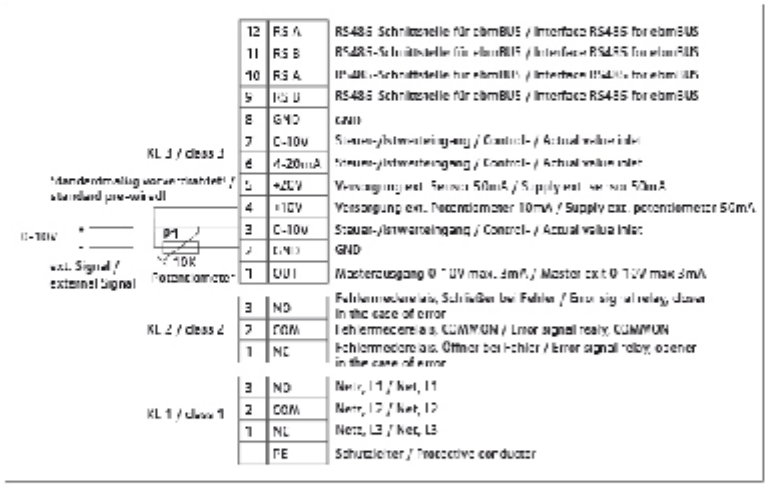
Sound power level		63	125	250	500	1k	2k	4k	8k	Tot
Inlet	dB(A)	55	72	77	76	72	70	65	62	81
Outlet	dB(A)	61	71	72	74	68	66	62	57	78
Surrounding	dB(A)	45	67	69	64	59	56	46	35	72

Dimensions



	□ A	□ B	□ C	øD	øE	□ F
MUB 062 560EC-A2	800	800	720	560	360	70

Wiring



Accessories

Electric accessories

CO2RT-R-D Transmitter (6993)
Presence detector/IR24-P (6995)
RT 0-30 Room Thermostat (5151)
HR1 Room Humidistat IP21 (5150)
MTP 10, 10K, Speed control (32731)
EC-Vent Room Unit (3018)
EC-Vent control board (3115)
MTP 20, on/off, 3-step (310220)
MTV-1/010 Controller 0...10V+ (30650)
CXE/AV Digital regulator (30674)
DMD-C Pressure controller (15793)
REV-SPOL/05 EC,3~,REV-switch (35757)
EC-Basic-T temperature (24805)
EC-Basic-U universal 0-10V (24806)
EC-Basic-H humidity (24807)
EC-Basic-CO2 and temperature (24808)
CXE/AVC Modbus (37256)
S-SEC/FRQ (76738)

Accessories

CCM outlet MUB062 d630 (311681)
CCM outlet MUB062 d560 (311684)
SRKG 062/718-718 shutter valve (4870)
UGS 062/630 adapter flex. (4358)
FGV 062/716-716 flex. conn. (4198)
WSG 062 MUB complete (31486)
SDM Service Door MUB 062 comp. (32573)
WSD 062 (860x860x70) complete (31482)
CCM inlet MUB062 d560 (311782)
CCM inlet MUB062 d630 (311783)
SD-MUB Vibration pad set (37324)
CCMI outlet 062 d560 insul KIT (313847)
CCMI outlet 062 d630 insul KIT (313848)

Documentation

IMO_MUB_2013-10_311722.pdf (3,18MB)

Operating and maintenance instructions.pdf (1,21MB)

EG-Konformitaetserklaerung MUB_DE-EN.pdf (472,59kB)

Eco design

Trade name	Systemair	
Product name	MUB 062 560EC Multibox	
ErP compliance	2018	
Unit category	NRVU	
Drive	External MSD or VSD	
Unit type	UVU	
Heat recovery type	None	
Temperature ratio (UVU)	Not applicable	
qv nom	1641	l/s
P nom	1946	W
Ps nom	678	Pa
Fan efficiency	57	%
External Leakage	5	%
Sound power	0	dB(A)

Specification text

Modular system: The frame is made up of aluminium with capsuled duct. The edges are made up of plastics PA 6, which is highly impact- proofed. The box is made up of double skin panels 20 millimetre out of electroplated steel plate with glazed inside and 20 millimetre rock wool- isolation. The blow- out direction is changeable at all times. The fan has a freewheeling, trough a twice curved noise optimized, backwards- curved blade made out of aluminium. The actuation is carried out by a speed- controllable EC- Motor. For protecting the engine a electronic control unit is integrated. The circuit points can be carried out over a flying wired electronics (cable length 1,2meter). The electronic box (IP54) can also be placed outside the gadget. The fan can easy be activated over a 0-10V input signal. Impeller according to VDI 2060, quality class Q6,3 and dynamically weigh heavy in two levels.

APPENDIX 9



Plasma Clean Xtract 2100

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

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

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.

Plasma Clean Xtract versus conventional odour control solutions:

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

Product Specification | Xtract 2100 Series

	Xtract 2100	Xtract 2100+
Volume Flow rate	Up to 1.5 m³/s	Up to 2.0 m³/s
Power consumption	160 W	220 W
Power supply	230V/ 1 ph / 50Hz	
Size HxDxL	307x185x343 mm	
Weight	12kg	
Safety	Circuit breaker 5A required Air flow proving switch installed Fan power supply interlock	
Operation	Fully automatic	

Plasma Clean Limited, Broadstone Mill, Broadstone Road, Stockport
Cheshire, SK5 7DL UK
Email: sales@plasma-clean.com Tel: +44 (0)161 443 4125
www.plasma-clean.com

plasmaclean

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, grease and smoke. These are oxidized in a chemical reaction which results in the production of carbon dioxide and water vapour. The ozone itself is consumed during the process and is converted back into oxygen.

Compact and Lightweight

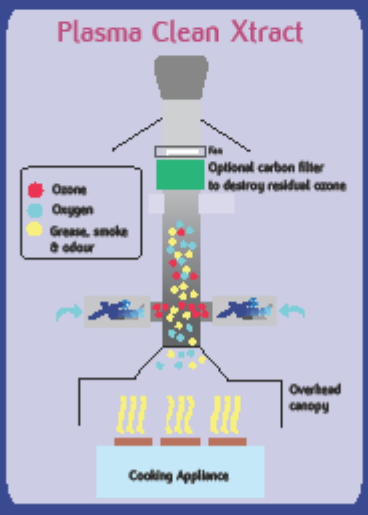
The unit has been designed to be compact (343mm(L)X185mm(D)X307mm(H)) and lightweight (12kg) so that it can be installed in kitchen areas where space is at a premium and / or where there is little load bearing capacity.

Installation

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

Silent Operation

The unit sits outside of the kitchen extraction canopy and ozone is drawn into the kitchen canopy 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 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.

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

Plasma Clean Limited, Broadstone Mill, Broadstone Road, Stockport
Cheshire, SK5 7DL UK
Email: sales@plasma-clean.com Tel: +44 (0)161 443 4125
www.plasma-clean.com

APPENDIX10

systemair

SD-MUB VIBRATION PAD SET

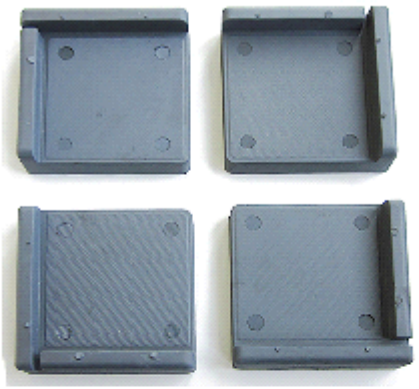
Item no. 37324

Document type: Product card
Document date: 2016-05-13
Generated by: Systemair Online Catalogue

Description

Vibration pad

Vibration pads are elastic rubber elements.
They stop the transmission of vibrations.
A set consists four vibration pads.
They are designed for a weight of up to 560 kg.



Technical parameters

Other		
Weight	0,72	kg

Dimensions

APPENDIX11

systemair

FGV 062/716-716 FLEX. CONN.

Item no. 4198

Document type: Product card
Document date: 2016-05-13
Generated by: Systemair Online Catalogue

Description

Flexible connection

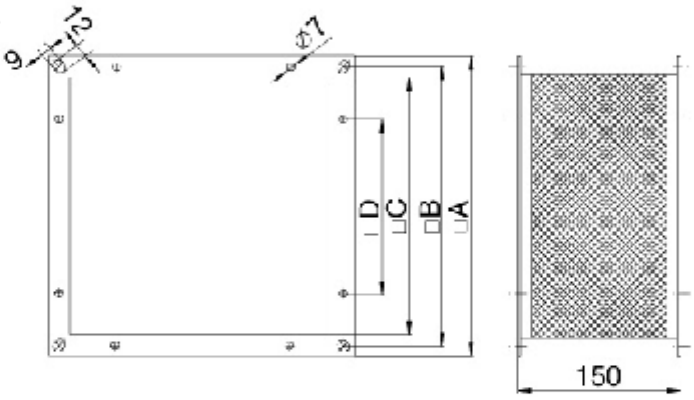
Manufactured from aluminium with neoprene coated fabric. For temperature up to 60°C. On both sides there are holes for mounting to the duct system.

Suitable for MUB.



Dimensions

	A	B	C	D
FGV 025/416-416	416	396	376	190
FGV 042/586-586	586	566	546	350
FGV 062/716-716	716	696	676	418
FGV 100/916-916	916	896	876	400



Specification text

APPENDIX12

HVC

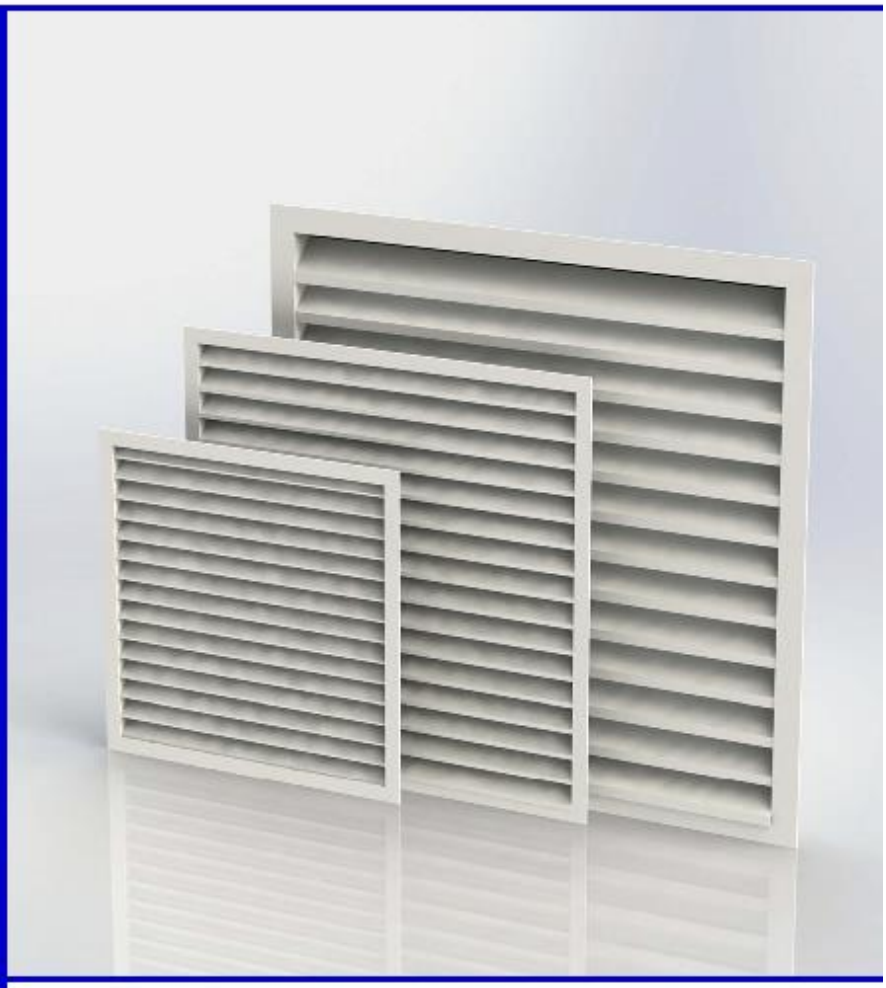
Incorporating

NEAE

Louvre systems

Series WL
Standard weather louvres

- Standard range of single bank louvres as used in countless installations worldwide
- Good resistance to water ingress, with low resistance to airflow
- Approximately 50% free area on all models
- Polyester powder coating to the full range of RAL and BS colours
- WL38's in popular square sizes held in stock for immediate despatch
- Now available with security bars



WL: February 2016

Index

Introduction

3 - Product overview and features

Testing and certification

4 - Product testing

Technical information

5 - Technical drawings - Flanged and recessed frame louvres

6 - Technical drawings - Reversed and concealed frame louvres

7 - Stop gaps, frame types and large units

8 - Fixings

Options

9 - Additional options

Face mounted drip cill

Rear mounted drip tray

10 - Security bars

Further information

11 - Selection data

14 - Finish details and ordering codes

Quality assurance

HVC Supplies (Stourbridge) Ltd is an ISO 9001 certified company.

Assessed to ISO 9001
Cert/Ref No. 1188

Series WL

Series WL standard weather louvres are the standard weather louvre used in countless installations throughout the world.

Available in four formats to suit any size installation, all WL types have a single bank of blades with a 45° face for good levels of rain resistance in the majority of conditions. Minimal resistance to airflow is assured with an approximate free area of 50% on all series.

Advised break points for switching between series:

WL38: Up to 1m² (not manufactured above)
WL50: Up to 2m²
WL75: Anything above 2m²
WL100: By request only



Design features

Material	Extruded aluminium
	BZP steel screws or aluminium pop rivets
Blade	Various pitches (40, 50, 75 and 90mm) all with 45° face slope
Core	Fixed
Frame	Standard: Flanged Optional: Recessed, reversed and concealed
Fixings	Standard: None Optional: See page 8
Finish	Standard: Mill aluminium Optional: See page 14
Mass/m² face area	**WL38**: 12 kg **WL50**: 12 kg **WL75**: 15 kg **WL100**: 16 kg
Free area	Approx. 50% (varies with size)

Important note:

Free area is not a reliable guide to performance.

It is possible to have two louvres with identical geometric free areas but different airflow characteristics.

Wherever possible use a tested airflow coefficient, as stated on the following page or available in the test certificate WL75 louvres which is available on request.

BSRIA Testing

WL75 standard weather louvres have been tested against:

BS EN 13030:2001

The testing was carried out in April 2013 by BSRIA in Bracknell, Berkshire, England.

Copies of the test reports are available on request.

Performance

Louvres are subjected to simulated rainfall of 75mm per hour, with a wind speed of 13m/s (29mph).

Rain ingress is then measured at various draw speeds through the louvre, this is in addition to the constant 13m/s simulated wind speed.

WL75 louvres were tested with an optional rear mounted drip tray, this will have had negligible impact on airflow but a large impact on rain resistance.

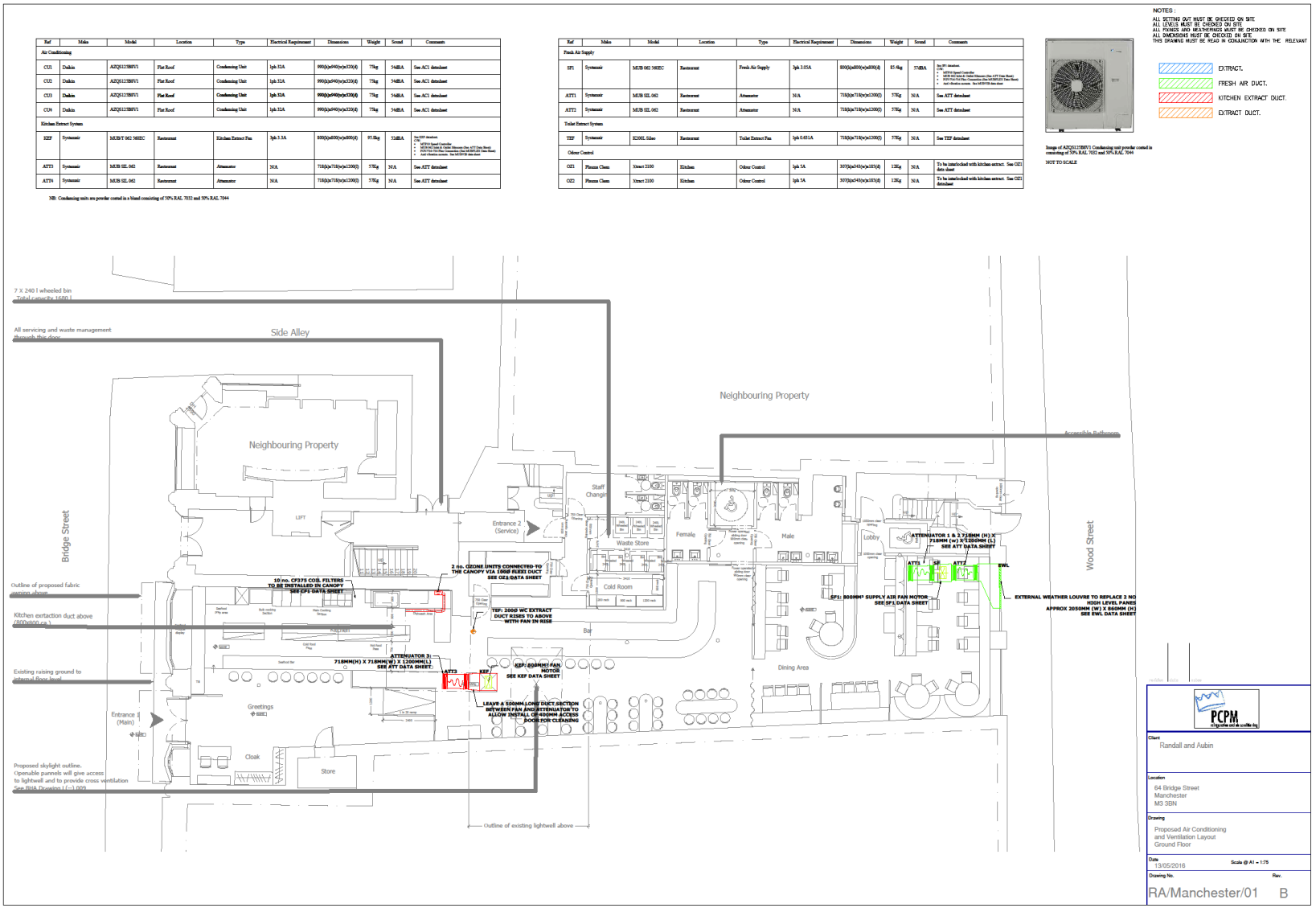
Headline figures are shown here, a copy of the full test report is available on request.

WL75 - DT: (WL75 complete with rear mounted drip tray)

Mean airflow coefficient: 0.252 (Class 3)

Rain rejection: Class C up to approx. 1.4 m/s draw velocity
Class D above approx. 1.4 m/s draw velocity

APPENDIX 13


Ref | Make | Model | Location | Type | Electrical Requirement | Dimensions | Weight | Sound | Comments
Air Conditioning
CU1 | Daikin | AZQS112BBV1 | Flat Roof | Condensing Unit | 1ph 32A | 990(h)x940(w)x320(d) | 75kg | 54dBA | See AC1 datasheet
CU2 | Daikin | AZQS112BBV1 | Flat Roof | Condensing Unit | 1ph 32A | 990(h)x940(w)x320(d) | 75kg | 54dBA | See AC1 datasheet
CU3 | Daikin | AZQS112BBV1 | Flat Roof | Condensing Unit | 1ph 32A | 990(h)x940(w)x320(d) | 75kg | 54dBA | See AC1 datasheet
CU4 | Daikin | AZQS112BBV1 | Flat Roof | Condensing Unit | 1ph 32A | 990(h)x940(w)x320(d) | 75kg | 54dBA | See AC1 datasheet
Kitchen Extract System
KEF | Systemair | MUB/T 062 560EC | Basement | Kitchen Extract Fan | 3ph 3.3A | 800(h)x800(w)x800(d) | 95.0kg | 52dBA | See KEF datasheet
ATT3 | Systemair | MUB SIL 062 | Basement | Attenuator | N/A | 718(h)x718(w)x1200(l) | 57Kg | N/A | See ATT datasheet
ATT4 | Systemair | MUB SIL 062 | Basement | Attenuator | N/A | 718(h)x718(w)x1200(l) | 57Kg | N/A | See ATT datasheet
NB: Condensing units are powder coated in a blend consisting of 50% RAL 7032 and 50% RAL 7044
Ref | Make | Model | Location | Type | Electrical Requirement | Dimensions | Weight | Sound | Comments
Fresh Air Supply
SF1 | Systemair | MUB 062 560EC | Basement | Fresh Air Supply | 3ph 2.05A | 800(h)x800(w)x800(d) | 85.4kg | 57dBA | See SF1 datasheet. • MUB Speed Controller • MUB-KIT Inlet & Outlet Silencers (See ATT Data Sheet) • PAN-FAI-Flat Flanconnection (See SAF/RAF/ETA Data Sheet) • Anti-vibration mounts - See MUB/TSB data sheet
ATT1 | Systemair | MUB SIL 062 | Basement | Attenuator | N/A | 718(h)x718(w)x1200(l) | 57Kg | N/A | See ATT datasheet
ATT2 | Systemair | MUB SIL 062 | Basement | Attenuator | N/A | 718(h)x718(w)x1200(l) | 57Kg | N/A | See ATT datasheet
Toilet Extract System
TEF | Systemair | K200L Silos | Basement | Toilet Extract Fan | 1ph 0.651A | 718(h)x718(w)x1200(l) | 57Kg | N/A | See TEF datasheet
Odour Control
OZ1 | Plasma Clean | Xtract 2100 | Kitchen | Odour Control | 1ph 5A | 307(h)x743(w)x1851(d) | 12Kg | N/A | To be interlocked with kitchen extract. See OZ1 data sheet
OZ2 | Plasma Clean | Xtract 2100 | Kitchen | Odour Control | 1ph 5A | 307(h)x743(w)x1851(d) | 12Kg | N/A | To be interlocked with kitchen extract. See OZ1 datasheet
Image of AZQS112BBV1 Condensing unit powder coated in consisting of 50% RAL 7032 and 50% RAL 7044
NOT TO SCALE
NOTES :
ALL SETTING OUT MUST BE CHECKED ON SITE
ALL LEVELS MUST BE CHECKED ON SITE
ALL PIPWORK AND HEATHERWICK MUST BE CHECKED ON SITE
ALL DIMENSIONS MUST BE CHECKED ON SITE
THIS DRAWING MUST BE READ IN CONJUNCTION WITH THE RELEVANT
EXTRACT.
FRESH AIR DUCT.
KITCHEN EXTRACT DUCT.
EXTRACT DUCT.
7 X 240 l wheeled bin
Total capacity 1680 l
All servicing and waste management through this door
Side Alley
Neighbouring Property
Neighbouring Property
Accessible Bathroom
Bridge Street
Wood Street
Outline of proposed fabric awning above
Kitchen extraction duct above (800x600 ca.)
Existing raising ground to external floor level
Proposed skylight outline. Openable panels will give access to lightwell and to provide cross ventilation See RHA Drawing (-)-1.009
Outline of existing lightwell above
Entrance 1 (Main)
Entrance 2 (Service)
LIFT
Staff Changing
Waste Store
Female
Male
Lobby
Cold Room
Bar
Dining Area
Greetings
Cloak
Store
10 no. CP375 COIL FILTERS TO BE INSTALLED IN CANOPY SEE CP1 DATA SHEET
2 no. OZONE UNITS CONNECTED TO THE CANOPY VIA 150Ø FLEXI DUCT SEE OZ1 DATA SHEET
TEF: 200Ø WC EXTRACT DUCT RISES TO ABOVE WITH FAN IN RISE
ATTENUATOR 3: 718MM(H) X 718MM(W) X 1200MM(L) SEE ATT DATA SHEET.
ATT3
KEF
KEF: 800MM² FAN MOTOR SEE KEF DATA SHEET
LEAVE A 500MM LONG DUCT SECTION BETWEEN FAN AND ATTENUATOR TO ALLOW INSTALL OF 450MM ACCESS DOOR FOR CLEANING
ATTENUATOR 1 & 2 718MM (H) X 718MM (w) X 1200MM (L) SEE ATT DATA SHEET
ATT 1
SF
ATT 2
EWL
SF1: 800MM² SUPPLY AIR FAN MOTOR SEE SF1 DATA SHEET
EXTERNAL WEATHER LOUVRE TO REPLACE 2 NO HIGH LEVEL PANES APPROX 2050MM (W) X 860MM (H) SEE EWL DATA SHEET
PCPM
Client
Randall and Aubin
Location
64 Bridge Street
Manchester
M3 3BN
Drawing
Proposed Air Conditioning and Ventilation Layout Ground Floor
Date
13/05/2016
Scale @ A1 = 1:75
Drawing No.
RA/Manchester/01
Rev.
B

APPENDIX 14

Ref	Make	Model	Location	Type	Electrical Requirement	Dimensions	Weight	Sound	Comments
Air Conditioning									
CU1	Daikin	AZQS125BBV1	Flat Roof	Condensing Unit	1ph 32A	990(h)x940(w)x330(d)	75kg	54dBA	See AC1 datasheet
CU2	Daikin	AZQS125BBV1	Flat Roof	Condensing Unit	1ph 32A	990(h)x940(w)x330(d)	75kg	54dBA	See AC1 datasheet
CU3	Daikin	AZQS125BBV1	Flat Roof	Condensing Unit	1ph 32A	990(h)x940(w)x330(d)	75kg	54dBA	See AC1 datasheet
CU4	Daikin	AZQS125BBV1	Flat Roof	Condensing Unit	1ph 32A	990(h)x940(w)x330(d)	75kg	54dBA	See AC1 datasheet
Kitchen Extract System									
KEF	Systemair	MUB/T 042 560EC	Restaurant	Kitchen Extract Fan	3ph 3.3A	800(h)x800(w)x800(d)	95.8kg	52dBA	See KEF datasheet CDM: • MTR-S Speed Controller • MUB 042 Inlet & Outlet Silencers (See ATT Data Sheet) • RGV/TGV-250 Fire Connection Duct (MUB/EF/T Data Sheet) • Anti vibration mounts. See MUB/TDR data sheet.
ATT3	Systemair	MUB SIL 062	Restaurant	Attenuator	N/A	710(h)x710(w)x1200(l)	57Kg	N/A	See ATT datasheet
ATT4	Systemair	MUB SIL 062	Restaurant	Attenuator	N/A	710(h)x710(w)x1200(l)	57Kg	N/A	See ATT datasheet

NB: Condensing units are powder coated in a blend consisting of 50% RAL 7032 and 50% RAL 7044

Ref	Make	Model	Location	Type	Electrical Requirement	Dimensions	Weight	Sound	Comments
Fresh Air Supply									
SF1	Systemair	MUB 042 560EC	Restaurant	Fresh Air Supply	3ph 3.05A	800(h)x800(w)x800(d)	85.4kg	57dBA	See SF1 datasheet. CDM: • MTR-S Speed Controller • MUB 042 Inlet & Outlet Silencers (See ATT Data Sheet) • RGV/TGV-250 Fire Connection Duct (MUB/EF/T Data Sheet) • Anti vibration mounts. See MUB/TDR data sheet.
ATT1	Systemair	MUB SIL 062	Restaurant	Attenuator	N/A	710(h)x710(w)x1200(l)	57Kg	N/A	See ATT datasheet
ATT2	Systemair	MUB SIL 062	Restaurant	Attenuator	N/A	710(h)x710(w)x1200(l)	57Kg	N/A	See ATT datasheet
Toilet Extract System									
TEF	Systemair	K200L Silec	Restaurant	Toilet Extract Fan	1ph 0.63A	710(h)x710(w)x1200(l)	57Kg	N/A	See TEF datasheet
Odour Control									
OZ1	Plasma Clean	Xtract 2100	Kitchen	Odour Control	1ph 5A	307(h)x343(w)x185(d)	12Kg	N/A	To be interlocked with kitchen extract. See OZ1 data sheet
OZ2	Plasma Clean	Xtract 2100	Kitchen	Odour Control	1ph 5A	307(h)x343(w)x185(d)	12Kg	N/A	To be interlocked with kitchen extract. See OZ1 datasheet



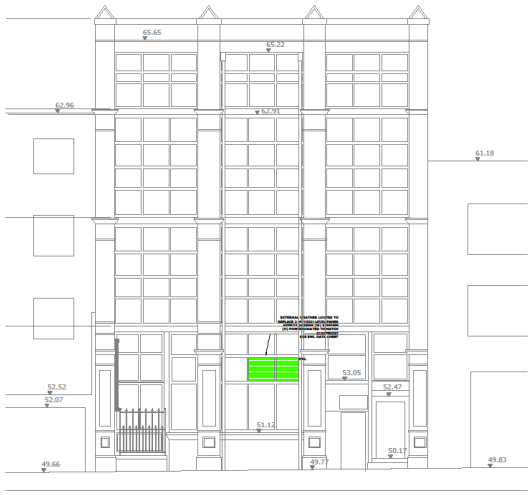
Image of AZQS125BBV1 Condensing unit powder coated in a blend consisting of 50% RAL 7032 and 50% RAL 7044

NOT TO SCALE

NOTES :

ALL SETTING OUT MUST BE CHECKED ON SITE
ALL LEVELS MUST BE CHECKED ON SITE
ALL FIXINGS AND MEASUREMENTS MUST BE CHECKED ON SITE
ALL DIMENSIONS MUST BE CHECKED ON SITE
THIS DRAWING MUST BE READ IN CONJUNCTION WITH THE RELEVANT

EXTRACT.
FRESH AIR DUCT.
KITCHEN EXTRACT DUCT.
EXTRACT DUCT.





Photograph of rear elevation and proposed section of window to be replaced with EWL

PCPM
Client
Randall and Aubin

Location
64 Bridge Street
Manchester
M3 3BN

Drawing
Proposed Air Conditioning and Ventilation Layout Rear Elevation

Date
13/05/2016
Scale @ A1 = 1:75

Drawing No.
RA/Manchester/02
Rev.
B

APPENDIX 15

Ref	Make	Model	Location	Type	Electrical Requirement	Dimensions	Weight	Sound	Comments
Air Conditioning									
CU1	Daikin	AZQG112MV1	Flat Roof	Condensing Unit	1ph 32A	990(h)x945(w)x330(d)	75kg	54dBA	See AC1 datasheet
CU2	Daikin	AZQG112MV1	Flat Roof	Condensing Unit	1ph 32A	990(h)x945(w)x330(d)	75kg	54dBA	See AC1 datasheet
CU3	Daikin	AZQG112MV1	Flat Roof	Condensing Unit	1ph 32A	990(h)x945(w)x330(d)	75kg	54dBA	See AC1 datasheet
CU4	Daikin	AZQG112MV1	Flat Roof	Condensing Unit	1ph 32A	990(h)x945(w)x330(d)	75kg	54dBA	See AC1 datasheet
Kitchen Extract System									
EF1	Systemair	MUB/T 042 560EC	Restaurant	Kitchen Extract Fan	1ph 3.3A	830(h)x830(w)x830(d)	95.8kg	52dBA	See EF1 datasheet • MPM Control Controller • 3000 Hrs Fixed Timer Clearance (See ATT Data Sheet) • 3000 Hrs Fit Flat Connection (See EF1/MUB/T Data Sheet) • Anti-Vibration mounts. See EF1/PCPM data sheet
ATT3	Systemair	MUB-SIL 042	Restaurant	Attenuator	N/A	710(h)x710(w)x1200(l)	57Kg	N/A	See ATT datasheet
ATT4	Systemair	MUB-SIL 042	Restaurant	Attenuator	N/A	710(h)x710(w)x1200(l)	57Kg	N/A	See ATT datasheet

NB: Condensing units are powder coated in a blend consisting of 50% RAL 7032 and 50% RAL 7044

Ref	Make	Model	Location	Type	Electrical Requirement	Dimensions	Weight	Sound	Comments
Fresh Air Supply									
SF1	Systemair	MUB 042 560EC	Restaurant	Fresh Air Supply	1ph 3.05A	800(h)x800(w)x800(d)	85.4kg	57dBA	See SF1 datasheet • MPM Control Controller • 3000 Hrs Fixed Timer Clearance (See ATT Data Sheet) • 3000 Hrs Fit Flat Connection (See MUB/T Data Sheet) • Anti-Vibration mounts. See EF1/PCPM data sheet
ATT1	Systemair	MUB-SIL 042	Restaurant	Attenuator	N/A	710(h)x710(w)x1200(l)	57Kg	N/A	See ATT datasheet
ATT2	Systemair	MUB-SIL 042	Restaurant	Attenuator	N/A	710(h)x710(w)x1200(l)	57Kg	N/A	See ATT datasheet
Toilet Extract System									
TEF	Systemair	KSBE Silen	Restaurant	Toilet Extract Fan	1ph 0.451A	710(h)x710(w)x1200(l)	57Kg	N/A	See TEF datasheet
Odour Control									
OZ1	Plasma Clean	Xtract 2100	Kitchen	Odour Control	1ph 5A	307(h)x543(w)x187(d)	12Kg	N/A	To be interlocked with kitchen extract. See OZ1 data sheet
OZ2	Plasma Clean	Xtract 2100	Kitchen	Odour Control	1ph 5A	307(h)x543(w)x187(d)	12Kg	N/A	To be interlocked with kitchen extract. See OZ1 datasheet



Image of AZQG112MV1. Condensing unit powder coated in a blend consisting of 50% RAL 7032 and 50% RAL 7044

NOT TO SCALE

NOTES :
ALL SETTING OUT MUST BE CHECKED ON SITE
ALL LEVELS MUST BE CHECKED ON SITE
ALL FIXINGS AND HEATHERINGS MUST BE CHECKED ON SITE
ALL DIMENSIONS MUST BE CHECKED ON SITE
THIS DRAWING MUST BE READ IN CONJUNCTION WITH THE RELEVANT

EXTRACT.
FRESH AIR DUCT.
KITCHEN EXTRACT DUCT.
EXTRACT DUCT.



Figure A:
Example of Big Foot Support

NOT TO SCALE

PCPM

Client
Randall and Aubin

Location
64 Bridge Street
Manchester
M3 3BN

Drawing
Proposed Air Conditioning and Ventilation Layout First Floor Flat Roof

Date
13/05/2016
Scale @ A1 = 1:75

Drawing No.
RA/Manchester/03
Rev.
B

APPENDIX 16

Ref	Make	Model	Location	Type	Electrical Requirement	Dimensions	Weight	Sound	Comments
Air Conditioning									
CU1	Daikin	AZQG112MV1	Flat Roof	Condensing Unit	1ph 32A	990(h)x940(w)x330(d)	75kg	54dBA	See AC1 datasheet
CU2	Daikin	AZQG112MV1	Flat Roof	Condensing Unit	1ph 32A	990(h)x940(w)x330(d)	75kg	54dBA	See AC1 datasheet
CU3	Daikin	AZQG112MV1	Flat Roof	Condensing Unit	1ph 32A	990(h)x940(w)x330(d)	75kg	54dBA	See AC1 datasheet
CU4	Daikin	AZQG112MV1	Flat Roof	Condensing Unit	1ph 32A	990(h)x940(w)x330(d)	75kg	54dBA	See AC1 datasheet
Kitchen Extract System									
EF	Systemair	MUB/T 042 560EC	Restaurant	Kitchen Extract Fan	1ph 3.3A	800(h)x800(w)x400(d)	95.8kg	53dBA	See EF datasheet • MPDS Speed Controller • 3 Speed Rotary Switch Wireless (See ATT Data Sheet) • RTP-TH Flat Plate Transmitter (See MUB/EF Data Sheet) • Anti-Vibration mounts. See MUB/EF data sheet
ATT1	Systemair	MUB SIL 042	Restaurant	Attenuator	N/A	710(h)x710(w)x1200(l)	57Kg	N/A	See ATT datasheet
ATT4	Systemair	MUB SIL 042	Restaurant	Attenuator	N/A	710(h)x710(w)x1200(l)	57Kg	N/A	See ATT datasheet

NB: Condensing units are powder coated in a blend consisting of 50% RAL 7032 and 50% RAL 7044

Ref	Make	Model	Location	Type	Electrical Requirement	Dimensions	Weight	Sound	Comments
Fresh Air Supply									
SF1	Systemair	MUB 042 560EC	Restaurant	Fresh Air Supply	1ph 3.05A	800(h)x800(w)x400(d)	85.4kg	57dBA	See SF1 datasheet • MPDS Speed Controller • 3 Speed Rotary Switch Wireless (See ATT Data Sheet) • RTP-TH Flat Plate Transmitter (See MUB/EF Data Sheet) • Anti-Vibration mounts. See MUB/EF data sheet
ATT1	Systemair	MUB SIL 042	Restaurant	Attenuator	N/A	710(h)x710(w)x1200(l)	57Kg	N/A	See ATT datasheet
ATT2	Systemair	MUB SIL 042	Restaurant	Attenuator	N/A	710(h)x710(w)x1200(l)	57Kg	N/A	See ATT datasheet
Toilet Extract System									
TEF	Systemair	EGHEL 62sw	Restaurant	Toilet Extract Fan	1ph 0.41A	710(h)x710(w)x1200(l)	57Kg	N/A	See TEF datasheet
Odour Control									
OZ1	Plasma Clean	Atmos 2100	Kitchen	Odour Control	1ph 5A	307(h)x345(w)x1051(d)	12Kg	N/A	To be interlocked with kitchen extract. See OZ1 data sheet
OZ2	Plasma Clean	Atmos 2100	Kitchen	Odour Control	1ph 5A	307(h)x345(w)x1051(d)	12Kg	N/A	To be interlocked with kitchen extract. See OZ2 datasheet



Image of AZQG112MV1 Condensing unit powder coated in a blend consisting of 50% RAL 7032 and 50% RAL 7044

NOT TO SCALE

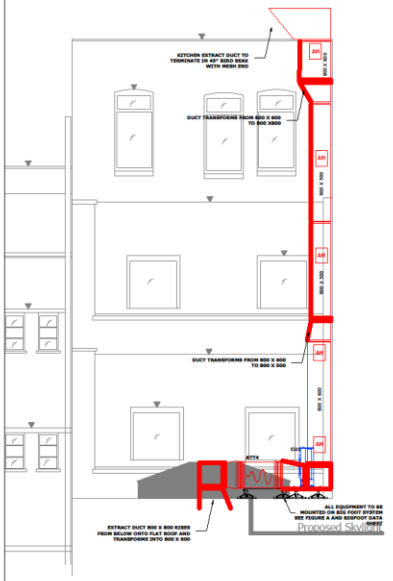
NOTES :
ALL SETTING OUT MUST BE CHECKED ON SITE
ALL LEVELS MUST BE CHECKED ON SITE
ALL FINISHES AND MEATHERINGS MUST BE CHECKED ON SITE
ALL DIMENSIONS MUST BE CHECKED ON SITE
THIS DRAWING MUST BE READ IN CONJUNCTION WITH THE RELEVANT

EXTRACT.
FRESH AIR DUCT.
KITCHEN EXTRACT DUCT.
EXTRACT DUCT.

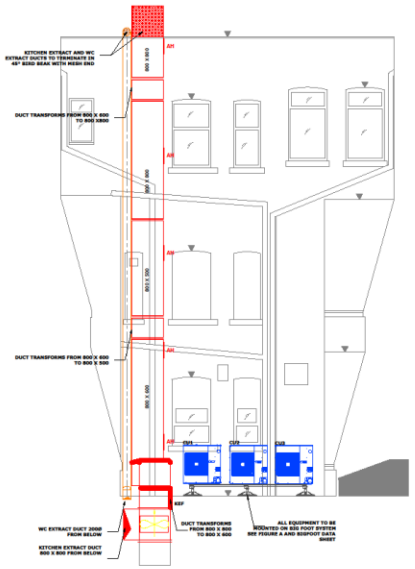


Figure A:
Example of Big Foot Support

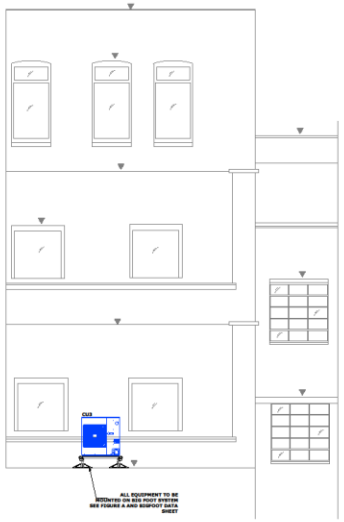
NOT TO SCALE



Elevation 6



Elevation 7



Elevation 8

PCPM

Client
Randall and Aubin

Location
64 Bridge Street
Manchester
M3 3BN

Drawing
Proposed Air Conditioning and Ventilation Layout
First Floor Flat Roof Elevations

Date
13/05/2016

Scale @ A1 = 1:50

Drawing No.
RA/Manchester/04

Rev.
B