OMITTED

The Former Mercedes Benz Garage, Blackburn Road, West Hampstead

RAMBOLL

Project Number : 6888
Date : 20/05/11
Revision: -

EQUIPMENT SCHEDULE

FANS - EXTRACT 2

Reference	EF.07	EF.08	EF.09	EF.10	EF.11	EF.12
Location	Basement Cycle sstore	Reception	1st Floor WC	Laundry	Plantroom	Plantroom
System	Extract Ventilation	Supply/Extract with Heat Recovery	Toilet Extract ventilation	Extract ventilation	Extract ventilation	Extract ventilation
Air Volume Flow Rate (l/s)	342 l/s	80 l/s	40 l/s	32 l/s	600 l/s	600 l/s
SFp	0.47				0.41	0.41
Static Pressure (Pa)	200 Pa				150 Pa	150 Pa
Fan Type	in-line	polymeric fan	backward curved centrifugal	backward curved centrifugal	backward curved mixed flow impellar	backward curved mixed flow impellar
Fan Speed (rpm)						
Weight (kg)	36 kg	10 kg			22 kg	22 kg
Number of Fans	1	2	1	1	1	1
Unit Size (mm l x mm w x mm h)	808 x 540 x 458	495 x 373 x 275	340 x 310 x 260	340 x 310 x 260		
Breakout Sound Power level dB (A) @3m	65 dB(A) @ 3m	43 dB (A)	36.8 dB (A)	36.8 dB (A)	55 dB (A)	55 dB (A)
Electrical Details						
Electrical Power Input (kW)						
Running Current (Amps)	2.47 Amps	2.10 Amps				
Starting Current (Amps)						
Electrical Supply (V,Ø,HZ)	220-240V, 1P, 50/60Hz	230V, 1P, 50/60Hz	230V, 1P, 50Hz	230V, 1P, 50Hz	220v - 240V, 1P, 50Hz	220v - 240V, 1P, 50Hz
Type of Starter						
Supplier Details						
Manufacturer	Vent Axia	Vent Axia	Vent Axia	Vent Axia	Vent Axia	Vent Axia
Model Reference	Sent400S	HR 200V	Sentinel Multivent MVDC-MSH	Sentinel Multivent MVDC-MSH	MFQ 350/4/1	MFQ 350/4/1
Acoustic Treatment	Refer to Acoutic Engineer	Refer to Acoutic Engineer	Refer to Acoutic Engineer	Refer to Acoutic Engineer	Refer to Acoutic Engineer	Refer to Acoutic Engineer
Controls / Accessories	Refer to Specification Section W60 for controls	Refer to Specification Section W60 for controls	PIR controls	Refer to Specification Section W60 for controls	Refer to Specification Section W60 for controls	Refer to Specification Section W60 for controls
Notes	slab mounted in student refuse area				silencer required	silencer required

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EQUIPMENT SCHEDULE

FANS - EXTRACT 1

Reference	EF.01	EF.02	EF.03	EF.04	EF.05	EF.06
Location	Roof (Core A)	Roof (Core B)	Roof (Core C)	Roof (Core C/D)	Roof (Core D)	Student Refuse area
System	Extract Ventilation	Extract Ventilation	Extract Ventilation	Extract Ventilation	Extract Ventilation	Extract Ventilation
Type	Twin extract fan	Twin extract fan	Twin extract fan	Twin extract fan	Twin extract fan	Single Extract fan
Air Volume Flow Rate (l/s)	736 l/s	694 l/s	868 l/s	777 l/s	694 l/s	480 l/s
SFP (W/l/s)	0.79	0.77	0.64	0.8	0.77	0.39
Static Pressure (Pa)	300 Pa	350 Pa	250 Pa	300 Pa	300 Pa	150 Pa
Fan Type	in-line	in-line	in-line	in-line	in-line	in-line
Fan Speed (rpm)						
Weight (kg)	175 kg	175 kg	175 kg	175 kg	175 kg	36 kg
Number of Fans	2	2	2	2	2	1
Unit Size (mm l x mm w x mm h)	1590 x 1533 x 675	1590 x 1533 x 675	1590 x 1533 x 675	1590 x 1533 x 675	1590 x 1533 x 675	996 x 735 x 577
Breakout Sound Power level dB (A) @3m	35.8 dB(A) @ 3m	35.8 dB(A) @ 3m	35.8 dB(A) @ 3m	35.8 dB(A) @ 3m	35.8 dB(A) @ 3m	65 dB(A) @ 3m
Electrical Details						
Electrical Power Input (kW)						
Running Current (Amps)	2.10 Amps	2.10 Amps	2.10 Amps	2.10 Amps	2.10 Amps	2.47 Amps
Starting Current (Amps)						
Electrical Supply (V,Ø,HZ)	230V, 1P, 50/60Hz	230V, 1P, 50/60Hz	230V, 1P, 50/60Hz	230V, 1P, 50/60Hz	230V, 1P, 50/60Hz	220-240V, 1P, 50/60Hz
Type of Starter						
Supplier Details						
Manufacturer	Vent Axia	Vent Axia	Vent Axia	Vent Axia	Vent Axia	Vent Axia
Model Reference	Sent500T/WP	Sent500T/WP	Sent500T/WP	Sent500T/WP	Sent500T/WP	Sent400S
Acoustic Treatment	Refer to Acoutic Engineer	Refer to Acoutic Engineer	Refer to Acoutic Engineer	Refer to Acoutic Engineer	Refer to Acoutic Engineer	Refer to Acoutic Engineer
Controls / Accessories	Refer to Specification Section W60 for controls	Refer to Specification Section W60 for controls	Refer to Specification Section W60 for controls	Refer to Specification Section W60 for controls	Refer to Specification Section W60 for controls	Refer to Specification Section W60 for controls
Notes	Anti vibration mounts	Anti vibration mounts	Anti vibration mounts	Anti vibration mounts	Anti vibration mounts	Anti vibration mounts

nuaire SUMMARY FAN DATA SHEET

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Technical Data

ESX-DS - Xtractor Internal Duct Mounted, Double Skinned (Size 2-9)
Ecosmart Internal Duct Mounted

Fan Code:	**ESX6-DSES**
Installation Manual Links:	671158
Required Duty:	0.48 m³/s @ 150 Pa
Actual Duty:	0.582 m³/s @ 221 Pa
Actual at Required Flow:	0.48 m³/s @ 265 Pa
When Speed Controlled to Required Duty (82.4%):	
Motor Input Power:	**0.422 kW**
Specific Fan Power:	**0.878 W/(l/s)**
Motor Input Power:	0.753 kW
Specific Fan Power:	1.293 W/(l/s)
Nominal Fan Speed:	1,272 RPM
Electrical Supply:	1 Phase
Nominal Motor Rating:	1.11 kW
Motor Current:	flc: 4.84 A
Motor Current:	sc: 4.84 A
Max. Operating Temp.:	40°C
Weight:	57 kg

Sound Data

Acoustic perfomance to BS848 Part 2.2 and AMCA 300.
Breakout Noise (dBA): 31 dBA @ 3m
Breakout level is spherical. For hemi-spherical add 3 dBA.

Sound Power Levels re 1 pWatts (Hz):

Hz	63	125	250	500	1k	2k	4k	8k
Induct Inlet	84	79	72	63	61	60	57	52
Induct Outlet	90	85	78	74	74	75	74	68
Breakout	71	63	57	38	28	27	28	23
Above noise calculated speed controlled to required duty (82.4%)								
For 100% Speed:	+1	+1	+2	+3	+4	+4	+4	+4
Breakout Noise (dBA):	+2							

Values shown are for inlet Lw and outlet Lw sound power levels for: Installation Type D: ducted Inlet, ducted outlet. Ratings include the effects of duct end correction.

Project Details

Blackburn Road
West Hampstead
Location: EF.06 - STUDENT DEFUSE ADDA EXTRACT FAN

Specification

The Xtractor unit shall be manufactured from recyclable heavy gauge galvanised steel to BS 2989. The unit shall be suitable for internal mounting in any orientation and shall incorporate full size hinged / removable access panels. The unit shall incorporate the Nuaire "floating box" acoustic treatment providing an insulated double skinned acoustic casing. The inner an outer enclosures shall be separated by resilient mounts. The double layer acoustic treatment shall be of high density Class 0 acoustic foam. Fan modules shall incorporate high efficiency forward curved centrifugal impellers directly driven by motors constructed to BS5000, and be suitable for operation at up to 40°C. Hall Effect or thermal unit failure detection shall be incorporated as standard.

NAV2
Resilient rubber anti-vibration mountings, supplied as a set of 4.

CFC40
Circular flexible connector without flanges. Flexible duct material is flameproof and resistance to heat up to 132°C, chemicals, ozone, oil and grease. The material is airtight, waterproof and tested to BS476 Part 7. Supplied complete with fixing straps.

(ES)
Unit fitted with full Ecosmart controls, BMS Interfaces and commissioning controls. Ecosmart fans incorporate (in a convenient separate enclosure) a control package providing full Ecosmart functionality. The fan shall have the following energy saving functions integrally mounted within the fan unit on a purpose made PCB, all components pre-wired by the manufacturer: integral maximum and minimum speed adjustment/setting; integral adjustable run on timer; integral BMS interfaces, 0-10v and volt free failure indication.

Selected Ancillaries

1 x NAV2	Anti-vibration mounting kit
2 x CFC40	Flexible connector

Wiring Information

For complete wiring details please refer to the Installation & Maintenance Manual reference 671158 on our website.

nuaire SUMMARY FAN DATA SHEET

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Whilst the information given on this data sheet is fan specific it is in summary and reference to the product selection catalogue and installation & maintenance documents is recommended
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Technical Data

ESX-DS - Xtractor Internal Duct Mounted, Double Skinned (Size 2-9)
Ecosmart Internal Duct Mounted

Fan Code:	**ESX5-DSES**
Installation Manual Links:	671158
Required Duty:	0.342 m³/s @ 200 Pa
Actual Duty:	0.386 m³/s @ 254 Pa
Actual at Required Flow:	0.342 m³/s @ 282 Pa
When Speed Controlled to Required Duty (88.7%):	
Motor Input Power:	**0.309 kW**
Specific Fan Power:	**0.902 W/(l/s)**
Motor Input Power:	0.442 kW
Specific Fan Power:	1.146 W/(l/s)
Nominal Fan Speed:	1,110 RPM
Electrical Supply:	1 Phase
Nominal Motor Rating:	0.66 kW
Motor Current:	flc: 2.95 A
Motor Current:	sc: 2.95 A
Max. Operating Temp.:	40°C
Weight:	49 kg

Sound Data

Acoustic perfomance to BS848 Part 2.2 and AMCA 300.
Breakout Noise (dBA): 25 dBA @ 3m
Breakout level is spherical. For hemi-spherical add 3 dBA.

Sound Power Levels re 1 pWatts (Hz):

Hz	63	125	250	500	1k	2k	4k	8k
Induct Inlet	75	70	66	57	57	53	48	43
Induct Outlet	80	75	73	71	70	68	64	59
Breakout	67	54	51	32	24	20	19	17
Above noise calculated speed controlled to required duty (88.7%)								
For 100% Speed:	+1	+1	+1	+2	+3	+3	+3	+3
Breakout Noise (dBA):	+1							

Values shown are for inlet Lw and outlet Lw sound power levels for: Installation Type D: ducted inlet, ducted outlet. Ratings include the effects of duct end correction.

Project Details

Blackburn Road
West Hampstead
Location: EF.07 - BASEMENT CYCLE STORE

Specification

The Xtractor unit shall be manufactured from recyclable heavy gauge galvanised steel to BS 2989. The unit shall be suitable for internal mounting in any orientation and shall incorporate full size hinged / removable access panels. The unit shall incorporate the Nuaire "floating box" acoustic treatment providing an insulated double skinned acoustic casing. The inner an outer enclosures shall be separated by resilient mounts. The double layer acoustic treatment shall be of high density Class 0 acoustic foam. Fan modules shall incorporate high efficiency forward curved centrifugal impellers directly driven by motors constructed to BS5000, and be suitable for operation at up to 40°C. Hall Effect or thermal unit failure detection shall be incorporated as standard.

NAV2
Resilient rubber anti-vibration mountings, supplied as a set of 4.

CFC40
Circular flexible connector without flanges. Flexible duct material is flameproof and resistance to heat up to 132°C, chemicals, ozone, oil and grease. The material is airtight, waterproof and tested to BS476 Part 7. Supplied complete with fixing straps.

(ES)
Unit fitted with full Ecosmart controls, BMS interfaces and commissioning controls. Ecosmart fans incorporate (in a convenient separate enclosure) a control package providing full Ecosmart functionality. The fan shall have the following energy saving functions integrally mounted within the fan unit on a purpose made PCB, all components pre-wired by the manufacturer: integral maximum and minimum speed adjustment/setting; integral adjustable run on timer; integral BMS interfaces, 0-10v and volt free failure indication.

Selected Ancillaries

1 x NAV2	Anti-vibration mounting kit
2 x CFC40	Flexible connector

Wiring Information

For complete wiring details please refer to the Installation & Maintenance Manual reference 671158 on our website.

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Whilst the information given on this data sheet is fan specific, it is in summary and reference to the product selection catalogue and installation & maintenance documents is recommended.
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Technical Data

MEVDC - Multi Point Extract
Multi Point Extract System

Fan Code:	**MEVDC-H**
Installation Manual Links:	671382
Required Duty:	0.04 m³/s @ 0 Pa
Actual Duty:	0.109 m³/s @ 0 Pa
Actual at Required Flow:	0.04 m³/s @ 332 Pa
Motor Input Power:	0.052 kW
Specific Fan Power:	0.477 W/(l/s)
Electrical Supply:	1 Phase
Motor Current:	flc: 0.37 A
Max. Operating Temp.:	40°C
Weight:	5 kg

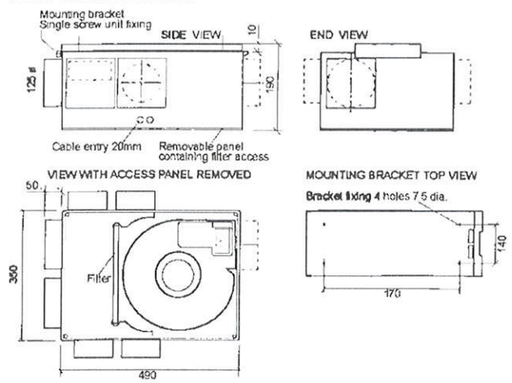
Sound Data

Acoustic perfomance to BS848 Part 2.2 and AMCA 300.
Breakout Noise (dBA): 34 dBA @ 3m
Breakout level is hemi-spherical. For spherical deduct 3 dBA.

Sound Power Levels re 1 pWatts (Hz):

Hz	63	125	250	500	1k	2k	4k	8k
Open Inlet	39	39	44	36	31	22	21	18
Open Inlet	40	42	46	41	37	28	24	18
Open Inlet	43	43	50	46	41	31	28	27
Open Inlet	45	44	54	52	44	35	31	28

Fan Dimensions



The drawing is for dimensional purposes only. Dimensions in mm.

Project Details

Blackburn Road
West Hampstead
Location: EF.09 - 1ST FLOOR WC EXTRACT FAN. AND CLEANERS ROOM EXTRACT FAN.

Selected Ancillaries

1 x [H]	Humidistat
1 x 230-PIRNT	PIR without run on timer

Specification

The casing shall be of ABS moulded plastic with a part lined lid of high density class "O" flame retardant acoustic insulation. Maximum breakout shall be 34dBA (hemi-spherical radiation). A low profile single point mounting bracket allows for horizontal or vertical mounting. When installed the unit shall not project any further than 190mm from the surface onto which it installed. Air discharge shall be via 125mm diameter tapered spigot for easy connection to ducting. The unit shall be capable of multiple air inlets formatting. The unit casing allows the connection (via tapered air inlet spigots supplied with the unit) of up to 4 100mm diameter and 2 125mm diameter air inlet ducts. A quick release access panel allows for easy maintenance if filter is fitted. The unit shall incorporate a fully speed adjustable low energy, high efficiency DC fan/motor assembly with sealed for life ball bearings designed to operate continuously at a pre-set "background" design airflow rate with the ability to increase to a pre-set "boost" design airflow rate as and when required. It shall operate up to an ambient temperature of 40°C and be fitted with a one shot thermal overload protective device. A centrifugal backward curved impellor is dynamically balanced directly onto the motor. The unit incorporates electrical connections to allow for the unit's "boost" airflow to be triggered by either a switched live signal or a remote speed control. When "boost" has been triggered by the switched live signal the unit shall incorporate an adjustable "run on" facility (optional).

Wiring Information

For complete wiring details please refer to the Installation & Maintenance Manual reference 671382 on our website.

Performance Curve