

Our Ref: 35834 v2



ALLAWAY ACOUSTICS
LIMITED

Client: Aura Consulting (UK) Ltd
288 Bishopsgate, London,
EC2M 4QP

Project: Lincoln's Inn, 2 New Square, London

Plant Noise Assessment

Lincoln's Inn, 2 New Square, London

Plant Noise Assessment



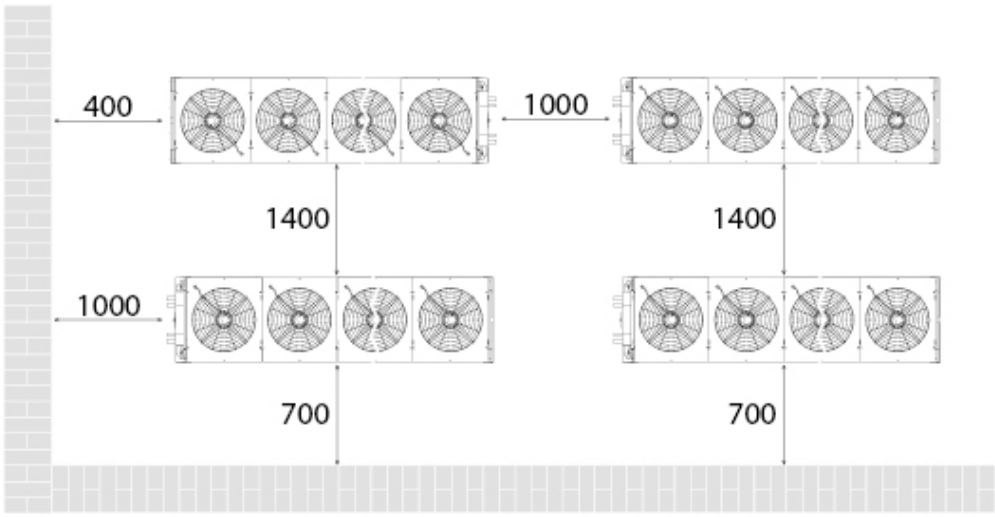
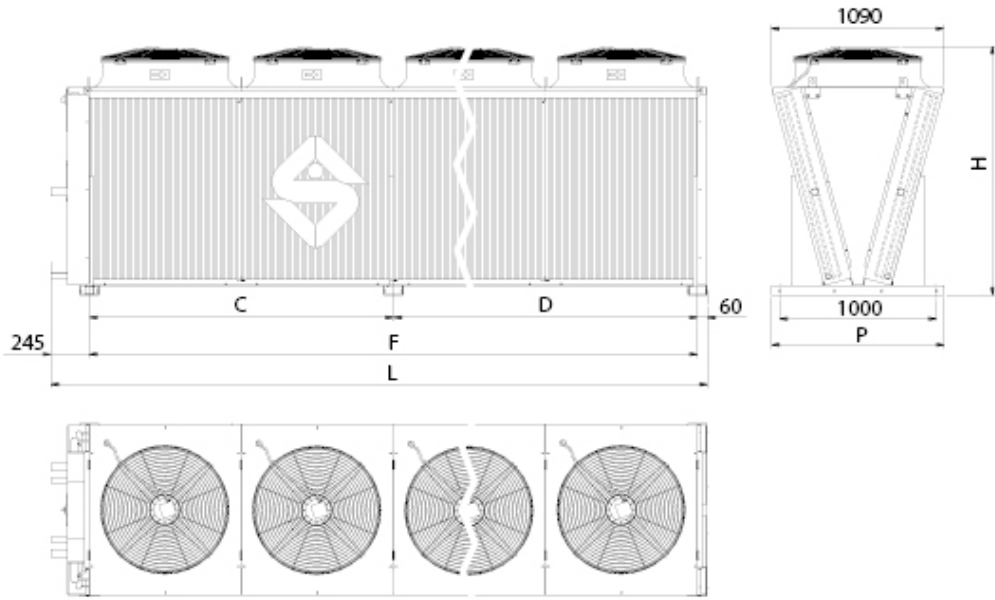
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1. Plant data

1.1 We understand that the following (or similar) plant is to be installed externally at roof level of No. 2 New Square.

- Chiller CVR 833 ST Star

Date	03/01/2012	
Model	CVR 833 ST	
Heating capacity	[kW]	148.16
Ambient air temperature	[°C]	35.00
Condensing temperature	[°C]	50.00
Refrigerant	R410A	
altitude a.s.l.	[m]	0.00
Air flow	[m³/h]	41000
Noise level at 10 m *1	[dB(A)]	39
Dimension H	[mm]	1590
Dimension L	[mm]	3210
Dimension P	[mm]	1100
Dimension F	[mm]	2710
Input connections diameter	[mm]	2x42
Output connections diameter	[mm]	2x28
Net weight	[kg]	600
Gross weight	[kg]	---
Internal Volume	[dm³]	2x30
Packings number	1	
Packings dimension	[mm]	1610x3225x1112
Single packing weight	[kg]	120
Fans number	3	
Fans diameter	[mm]	800
Electrical connection	star	
Supply voltage	[V]	400
Phases	[n]	3
Frequency	[Hz]	50
Input current	[A]	3.3
Input power	[W]	1700
Fans speed	[rpm]	540





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- Condenser Unit RXS50F

Outdoor Unit				RXS50F2V1B
Dimensions	(Height x Width x Depth)	mm		735x825x300
Weight		kg		48
Sound pressure level	Cooling	MPSL	dB(A)	47 / 44
	Heating	MPSL	dB(A)	48 / 45
Sound power level	Cooling	H	dB(A)	61
	Heating	H	dB(A)	61
Operation Range	Cooling	Min-Max	°CDB	-10-46
	Heating	Min-Max	°CWB	-15-16
Refrigerant		Type		R-410A
Power Supply				1-220-240V/50Hz
Piping connections	Liquid (DD)/Gas/Drain	mm		6.35 / 12.7 / 20
Piping length (Maximum)		m		50
Max. install level difference		m		20

- Toilet Extract Fan Nuaire EST5-X

TWIN FANS
QUIETSCROLL
TECHNICAL INFORMATION



QUIETSCROLL EXTERNAL TWIN FANS EST-X

ELECTRICAL, SOUND & WEIGHT														
Code/ Curve	Phase	RPM	Motor power (kW)	FLC (amps)	SC (amps)	Inlet Sound Power levels dB re 1pW (+ correction open outlet)							Breakout dB(A)@3m	Weight (Kg)
						125	250	500	1K	2K	4K	8K		
EST5-X	3	1110	0.66	2.95	2.95	68(+8)	58(+10)	49(+14)	49(+19)	50(+18)	48(+17)	43(+17)	40	69



2. Plant Assessment and acoustic recommendations

2.1 Based on the published plant data the predicted noise level at the nearest noise sensitive location (approximately 5m from the plant location) would be:

Plant	dB(A)
Chiller	44
Condenser Unit	36
Toilet Extract	44
Cumulative Lp at listner	47
Target Noise Level	37
Excess	10

2.2 In order to achieve the specified target noise level the following equipment will be required:

- Chiller CVR 833 ST Star – Appropriate acoustic enclosure incorporating intake acoustic louvers and discharge skirts etc.

We would offer our chiller package AA203 (data sheet attached) - Our price for the design, supply and installation of this enclosure would be approx. £8,000.

- Condenser unit – no acoustic treatment required.
- Toilet extract fan – suitably designed discharge attenuator;

We would offer our duct-mounted silencer, type A02E (data sheet attached), approximately* 900mm long x 350mm wide x 350mm high at the price of £79 (supply only).

*final selection to be verified upon receipt of further details

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Chris Swiejkowski BSc/MSc AMIOA
10 April 2012