

ACOUSTIC ENCLOSURE SCHEDULE

[illegible]

Notes:					
Client	GENERAL DEVELOPMENT GROUP LTD	Rev	By	Date	Remarks
Project	1 CAMBRIDGE GATE, NW1	A	TC	MAB	STAGE F - ISSUED FOR TENDER
Ref	ACOUSTIC LOUVRE SCHEDULE				
Date	04/12/2009				
Created By	TC				
Checked By	MAB				

Client	GENERAL DEVELOPMENT GROUP LTD	Rev	By	Date	Remarks
Project	1 CAMBRIDGE GATE, NW1	A	TC	MAB	STAGE F - ISSUED FOR TENDER
Ref	ACOUSTIC LOUVRE SCHEDULE				
Date	04/12/2009				
Created By	TC				
Checked By	MAB				

ATTENUATOR SCHEDULE

FULCRUMCONSULTING

[illegible]

Notes:	Final details of sound spectrum & pressure drops to be confirmed.
--------	---

Client	GENERAL DEVELOPMENT GROUP LTD	Rev	By	Date	Remarks
Project	1 CAMBRIDGE GATE, NW1	A	TC	###	STAGE F - ISSUED FOR TENDER
Ref	ATTENUATOR SCHEDULE				
Date	04/12/2009				
Created By	TC				
Checked By	MAB				

Notes:

All equipment has been selected on a specific manufacturer, however, equal and approved alternatives will be acceptable

SELECTION MATRIX

environmodula 2.2.25ACS6

Acoustic enclosures for units with High Air Flow

Tel: 0870 383 3344

www.environ.co.uk

07 December 2009

CUSTOMER:		SITE / LOCATION / REFERENCE			
Fulcrum Consulting		1 Cambridge Gate			
MAKE:		MODEL:		AIR IN	AIR OUT
Daikin		REYQ16P8Y1B x 2		H - 3 Sides	V
Insert Equipment Make, Model, Dimensions, Airflow Orientation & dB(A)					
WIDTH (MM)	DEPTH (MM)	HEIGHT (MM)	AIRFLOW (M³S⁻¹)	DISTANCE (M)	SPL dB(A)
2440	760	1710	8	1	63

INNER CUBE DIMENSIONS			ENCLOSURE DETAIL		
3300	765	2265	4000	1500	2940
WIDTH (MM)	DEPTH (MM)	HEIGHT (MM)	WIDTH (MM)	DEPTH (MM)	HEIGHT (MM)
8.00	1.0	63	8.0	1.0	38
AIRFLOW (M³S⁻¹)	DISTANCE (M)	SPL dB(A)	AIRFLOW (M³S⁻¹)	DISTANCE (M)	SPL dB(A)

INLET AIRWAYS			DESIGN CRITERIA		
3300	300	2	OK	OK	OK
WIDTH (MM)	HEIGHT (MM)	NO.	UNIT SIZE	OUTLET	INLET

OUTLET AIRWAYS			AIRFLOW INFORMATION		
300	2915	2	19	4.6	4.0
WIDTH (MM)	HEIGHT (MM)	NO.	PD (NM²)	OUTLET (MS⁻¹)	INLET (MS⁻¹)

Select Inlet & Outlet Duct Sizes to Ensure Airflows are kept Below 7.0m/s

QUOTE INFORMATION			WIDTH (MM)	DEPTH (MM)	HEIGHT (MM)
INLET AIRWAY			3300		300
OUTLET AIRWAY			300		2915
EXTERNAL SIZE			4000	1500	3000
NOISE LEVEL @ 1 M (SOUND PRESSURE)			38	SPL dB(A) Free Field	

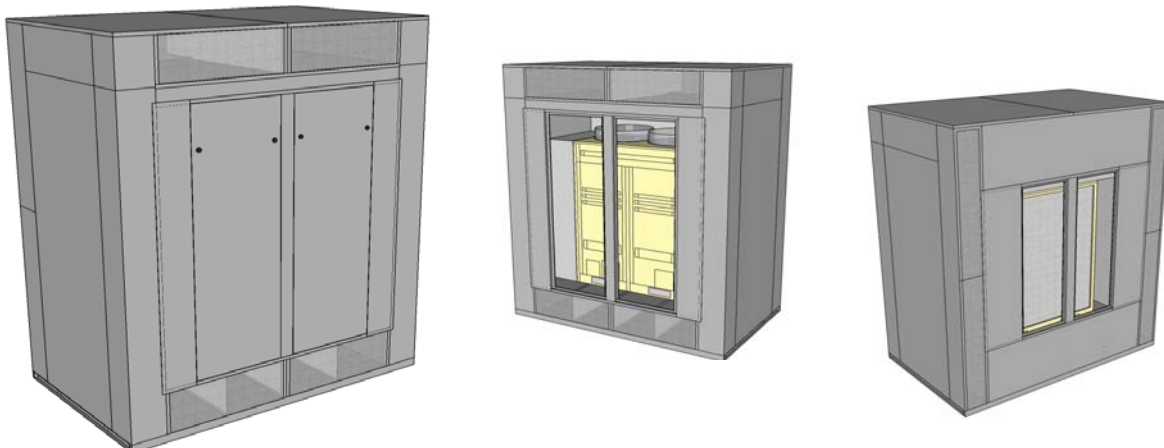
NOTES CONCERNING ENCLOSURE DESIGN

Daikin REYQ16P8Y1B - W 1300mm, D 765mm, H 1680mm - A/F 4.0m³/s - 60 dB(A)@1m

Daikin REYQ16P8Y1B - W 1300mm, D 765mm, H 1680mm - A/F 4.0m³/s - 60 dB(A)@1m

Combined Air Flow and Noise

Internal Plenums to Separate Air Flow of each unit



Environ acoustic designs are protected under patent

The information contained in this Selection Matrix is Confidential and shall not be disclosed or used for any unauthorised purposes

Quotation



To: Fulcrum Consulting
62-68 Rosebury Avenue
London
EC1R 4RR

Environ Technologies Ltd
Regus House, 1010 Cambourne Business Park
Cambourne, Cambridgeshire, UK CB23 6DP
Tel: +44 (0)870 383 3344
Fax: +44 (0)1223 598 001
www.environ.co.uk

Quotation No: **Q091076**
Date: 07 December 2009
Reference: **Mark Bragg - 020 7520 1324**

Registered in England No: 4222596
VAT Reg No: 887545759
UTR: 98988 16443

Customer Order No:		Environ Sales Contact	On Site Assembly Quote Ref	Ship Via		Tax ID	Lead Time
		Steve Cox					4-6 Weeks
Quantity	Item/SKU	Description		Unit Gross Price £GBP	Disc %	Unit Nett Price £GBP	Total £GBP
1	EM2.2.25ACS6	This quotation is for Supply & Assembly of Environ acoustic enclosure to house outdoor Refrig units at: 1 Cambridge Gate <u>Units to be enclosed:</u> Type: Daikin REYQ16P8Y1B x 2 Unit Size: W 1300mm x D 765mm x H 1680mm Air Flow: 4.0 m ³ /s Noise Level: 60 dB(A) at 1.0m (SPL Free Field) <u>environmodula acoustic enclosure - 'Flat Pack' prepared</u> Inlet Airway: W 3300mm x H 300mm x 2 No. Outlet Airway: W 300mm x H 2915mm x 2 No. External Size: W 4000mm x D 1500mm x H 3000mm Noise Level: 38 dB(A) at 1.0m (SPL Free Field) Weight: 1250kg (Approx) Colour: RAL Colour to be Specified (RAL7016 Std)		£9,935.00	10.0%	£8,941.50	£8,941.50
1		Delivery to site of 'Flat Pack' Enclosure		£275.00		£275.00	£275.00
1		On Site Assembly of Enclosure		£750.00		£750.00	£750.00

Quotation prepared by Steve Cox - Tel: +44 (0)7841 584649

Valid for **60 Days**

This is a quotation for Supply Only of the equipment named, subject to the conditions noted below:

Environ Technologies Ltd: Conditions of Sale (Available on Request)

Additional conditions pertaining to these prices and any additional terms of agreement:

Quotation prepared based on information provided by client - Site Survey if required £250

Delivery During Normal Working Hours to Kerbside for Unloading

Specialist Lifting Equipment required for Vehicle Unload or Crane Lifting is Not Included & Subject to separate quotation

Subtotal	£9,966.50
VAT @ 15%	
Shipping	
Miscellaneous	
Total	

Environ acoustic designs are protected under patent

This information contained in this Quotation is Confidential and shall not be disclosed or used for any unauthorised purpose

SELECTION MATRIX

environmodula 2.2.25ACS6

Acoustic enclosures for units with High Air Flow

Tel: 0870 383 3344

www.environ.co.uk

07 December 2009

CUSTOMER:	SITE / LOCATION / REFERENCE		
Fulcrum Consulting	1 Cambridge Gate		
MAKE:	MODEL:	AIR IN	AIR OUT
Daikin	REYQ16P8Y1B x 2	H - 3 Sides	V

Insert Equipment Make, Model, Dimensions, Airflow Orientation & dB(A)

WIDTH (MM)	DEPTH (MM)	HEIGHT (MM)	AIRFLOW (M ³ S ⁻¹)	DISTANCE (M)	SPL dB(A)
2440	760	1710	8	1	63

INNER CUBE DIMENSIONS			ENCLOSURE DETAIL		
3300	765	2265	4000	1500	2940
WIDTH (MM)	DEPTH (MM)	HEIGHT (MM)	WIDTH (MM)	DEPTH (MM)	HEIGHT (MM)
8.00	1.0	63	8.0	1.0	38
AIRFLOW (M ³ S ⁻¹)	DISTANCE (M)	SPL dB(A)	AIRFLOW (M ³ S ⁻¹)	DISTANCE (M)	SPL dB(A)
INLET AIRWAYS			DESIGN CRITERIA		
3300	300	2	OK	OK	OK
WIDTH (MM)	HEIGHT (MM)	NO.	UNIT SIZE	OUTLET	INLET
OUTLET AIRWAYS			AIRFLOW INFORMATION		
300	2915	2	19	4.6	4.0
WIDTH (MM)	HEIGHT (MM)	NO.	PD (NM ²)	OUTLET (MS ⁻¹)	INLET (MS ⁻¹)

Select Inlet & Outlet Duct Sizes to Ensure Airflows are kept Below 7.0m/s

QUOTE INFORMATION			WIDTH (MM)	DEPTH (MM)	HEIGHT (MM)
INLET AIRWAY			3300		300
OUTLET AIRWAY			300		2915
EXTERNAL SIZE			4000	1500	3000
NOISE LEVEL @ 1 M (SOUND PRESSURE)			38	SPL dB(A) Free Field	

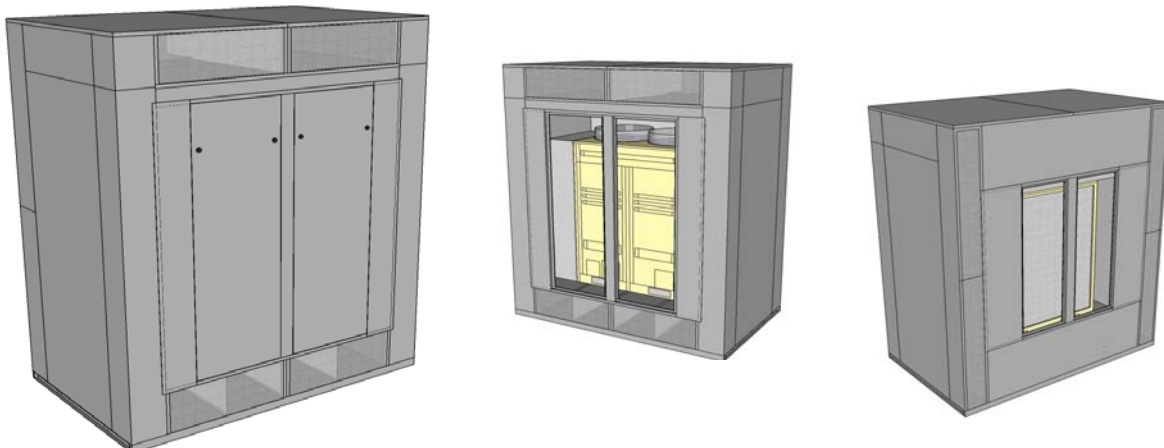
NOTES CONCERNING ENCLOSURE DESIGN

Daikin REYQ16P8Y1B - W 1300mm, D 765mm, H 1680mm - A/F 4.0m³/s - 60 dB(A)@1m

Daikin REYQ16P8Y1B - W 1300mm, D 765mm, H 1680mm - A/F 4.0m³/s - 60 dB(A)@1m

Combined Air Flow and Noise

Internal Plenums to Separate Air Flow of each unit



Environ acoustic designs are protected under patent

The information contained in this Selection Matrix is Confidential and shall not be disclosed or used for any unauthorised purposes



VES Andover Ltd.
Established since 1968
AIR HANDLING & VENTILATION PRODUCTS FOR
COMMERCIAL, INDUSTRIAL & PUBLIC BUILDINGS

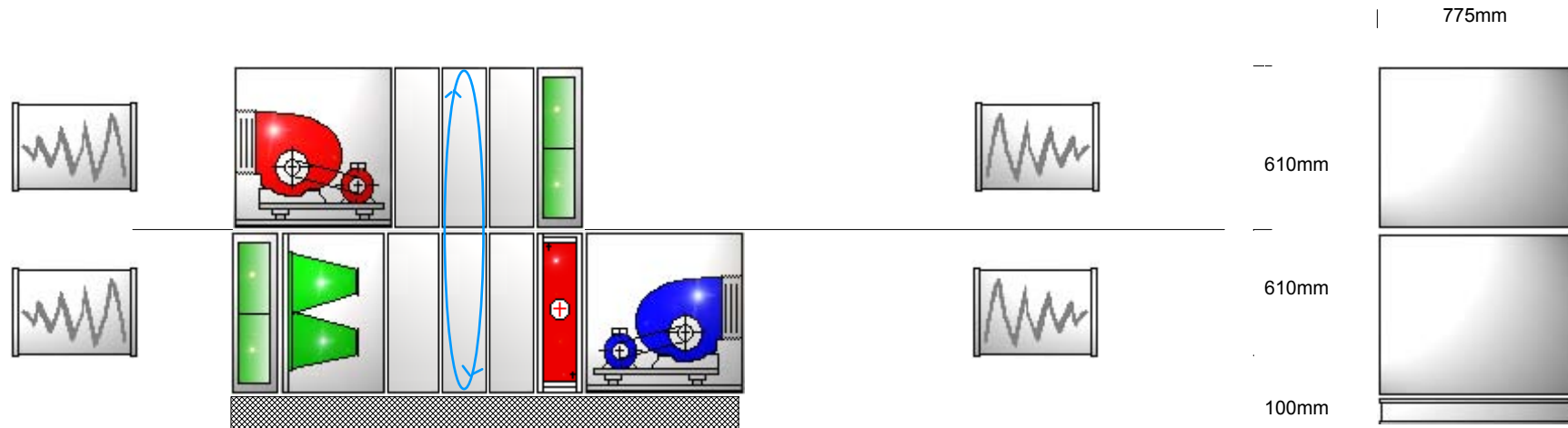
Eagle Close, Chandlers Ford Industrial Estate,
Chandlers Ford, Eastleigh, Hants, SO53 4NF.

TEL: 08702 40 43 40 FAX: 08702 40 45 50
INTERNET: www.Ves.co.uk

Model Code: MAX/L/1-P/SE/S

| 875 | 475 | 375 | 475 | 275 |

Total Length: 2475 mm



Total Length: 3375 mm

| 275 | 600 | 475 | 375 | 475 | 300 | 875 |

Item : 01 / Rev : 00

Date : 09/12/2009

<- Extract Air Flow / Supply Air Flow ->

Project : Cambridge Gate

AHU Ref : AHU 1

Quote Number: 1054184

VES Andover Ltd

Air Handling & Ventilation Products for
Commercial, Industrial & Public Buildings



Eagle Close, Chandlers Ford Industrial Estate,
Chandlers Ford, Eastleigh, Hampshire, SO53 4NF

Tel: 08448 15 60 60 Fax: 023 8026 1204
www.ves.co.uk vesltd@ves.co.uk

Fulcrum Consulting
62 - 68 Rosebery Avenue
London
EC1R 4RR

Date : 09/12/2009

Tel: 0207 520 1324
E-mail: mark.bragg@fulcrumfirst.com

For the attention of Mark Bragg

Dear Sirs, Quote Number : Q1054184/Rev1/PJT/11

Project Reference: - Cambridge Gate

Thank you for your recent enquiry for Air Handling Equipment. We have pleasure in submitting our quotation for the equipment required.

VES Andover Ltd is an approved manufacturer to BS EN ISO 9001:1994, the international standard for Quality Management. Should we receive an order based on this quotation, then the equipment described will be manufactured to this international standard specification.

Quotation Summary

Ref.	Model	Unit Price	Silencers
AHU 1	MAX/E/1-P/SE/S	£5,308.00	£538.00

DIRECTORS: D.L. Peters (Chairman), J.R.J. Peters (Managing Director), R.M. Peters, C. White, T. Sands, K. White, S. Birks.
Registered in England No. 1492290, Registered Office as above.
Offices located in Manchester



Unit Reference :AHU 1

To Supply only : Item Number :01 / 00

Quantity :1 Model Code :MAX/E/1-P/SE/S

Supply Air Volume :0.465 m³/s External Resistance :200 Pa

Extract Air Volume :0.418 m³/s External Resistance :200 Pa

Unit is internally mounted and constructed using a 50 mm square tubular framed case with flush fitting 50 mm thick double skinned panels. The panels are plasterboard/rockwool lined to reduce the casing breakout.

Number of sections: 3

Unit Dimensions: - Stacked Configuration

Supply

Length: 3375 mm Width: 775 mm Height: 610 mm

Extract

Length: 2475 mm Width: 775 mm Height: 61 mm

Base Galvanised Pressed Steel

Length: 3375 mm Width: 775 mm Height: 100 mm

Panel Filter

Face Width : 550mm Width : 400mm Length : 100mm

No. Off : 1
Description : 4"Pleated
Filter Description : Disposable Pleated
Filter Grade : G4

Bag Filter

Face Width : 600mm Width : 400mm Length : 356mm

No. Off : 1
Description : EU5 Bag 14"
Filter Description : Bag Filter
Filter Grade : F5

Plenum

Plenum Type :Access Section Section Length :475 mm

Thermal Wheel

Supply

Non-Hygroscopic Variable Speed Rotor.

Air on :-1 °C
Air off :14.5 °C
Relative Humidity :51.3 %
Efficiency :70.6 %
Nominal Rotor Speed :10 rpm

Plenum

Plenum Type :Access Section Section Length :475 mm

Hot Water Heater

Heater Type	:Main Heater	Medium	:Water only
Air on Temp	:14.5 °C	Air off Temp Result	:23 °C
Water Inlet	:82 °C	Water Outlet	:71 °C
Fin Material	:Aluminium	Heating Duty	:4.8 kW
Flow Rate	:0.107 l/s	Connection Type	:Screwed BSP
Fluid P.D.	:3 kPa	Connection Size	:1" (28mm'X'+3mm Cap)

Supply Fan

Model	:TLZ 180	Working RPM	:2290 RPM
Efficiency	:56 %	Outlet Velocity	:8.9 m/s
Absorbed Power	:0.52 kW	EFF 1 Motor	:1.1 kW
Fan Blade Type	:Forward	Motor Type	:Three Phase, Single Speed
FLC	:2.6 A		

AHU Specific Fan Power	:2.3 W/l/s
------------------------	------------

Sound Power Level

	PWL:	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Total
Inlet-	dB:	76	75	72	70	69	67	63	59	82
Outlet-	dB:	79	78	77	73	73	78	74	70	85

AHU Casing Breakout	:NR35 @ 3 metres
---------------------	------------------

The fan and motor sit on a common sub-frame within the casing that is fully vibration isolated.

The fan also has a fitted discharge flexible connection.

Where this unit has to pass through restricted access ways, it may be necessary to supply the fan section in more than one piece.

This will then require the fan/motor assembly and casing to be being bolted together, by others, on site.

Extract Panel Filter

Face Width : 550mm	Width	: 400mm	Length	: 100mm
No. Off	:	1		
Description	:	4"Pleated		
Filter Description	:	Disposable Pleated		
Filter Grade	:	G4		

Plenum

Plenum Type	:Access Section	Section Length	:475 mm
-------------	-----------------	----------------	---------

Thermal Wheel

Extract

Air on	:21 °C
Relative Humidity	:50 %
Recovery of Moisture	:3.56 kg/h

Plenum

Plenum Type	:Access Section	Section Length	:475 mm
-------------	-----------------	----------------	---------

Extract Fan

Model	:TLZ 180	Working RPM	:2091 RPM
Efficiency	:56 %	Outlet Velocity	:8 m/s
Absorbed Power	:0.4 kW	EFF 1 Motor	:1.1 kW
Fan Blade Type	:Forward	Motor Type	:Three Phase, Single Speed
FLC	:2.6 A		

Sound Power Level

	PWL:	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	Total
Inlet-	dB:	74	73	70	68	67	65	61	57	80
Outlet-	dB:	80	81	74	73	76	73	70	67	86

The fan and motor sit on a common sub-frame within the casing that is fully vibration isolated.

The fan also has a fitted discharge flexible connection.

Where this unit has to pass through restricted access ways, it may be necessary to supply the fan section in more than one piece.

This will then require the fan/motor assembly and casing to be being bolted together, by others, on site.

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>	<u>Total Price ex Works £</u>
1	AHU 1	MAX/L/1-P/SE/S	5,523.00

Remote Duct Mounted Silencer - Supply Inlet

Selected Criteria:

Sound Level	:82 dB	Noise Level	:35 NR
Lining Option	:Rockwool	Location Options	:Inlet Silencer
Splitter Type	:Pointed		

Selected Results:

Model Code: VA4-60-30-120P/STD			
Width	:600 mm	Height	:300 mm
Length	:1200 mm	Noise Level Reduction	:47 NR
Face Velocity	:7.75 m/s	Pressure Drop	:28.12 Pa

Hz:	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz
I.L db:	6	12	23	40	51	51	41	29

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>	<u>Total Price ex Works £</u>
1	Silencer	VA4-60-30-120P/STD	124.00

Remote Duct Mounted Silencer - Supply Discharge

Selected Criteria:

Sound Level	:85 dB	Noise Level	:35 NR
Lining Option	:Rockwool	Location Options	:Outlet Silencer
Splitter Type	:Pointed		

Selected Results:

Model Code: VA4-60-30-120P/STD			
Width	:600 mm	Height	:300 mm
Length	:1200 mm	Noise Level Reduction	:50 NR
Face Velocity	:7.75 m/s	Pressure Drop	:28.12 Pa

Hz:	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz
I.L db:	6	12	23	40	51	51	41	29

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>	<u>Total Price ex Works £</u>
1	Silencer	VA4-60-30-120P/STD	124.00

Remote Duct Mounted Silencer - Supply Discharge

Selected Criteria:

Sound Level	:80 dB	Noise Level	:35 NR
Lining Option	:Rockwool	Location Options	:Return Air Silencer
Splitter Type	:Pointed		

Selected Results:

Model Code: VA4-60-30-120P/STD
Width :600 mm
Length :1200 mm
Face Velocity :6.97 m/s

Height :300 mm
Noise Level Reduction :45 NR
Pressure Drop :22.73 Pa

Hz: 63Hz 125Hz 250Hz 500Hz 1KHz 2KHz 4KHz 8KHz
I.L db: 6 12 23 40 51 51 41 29

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>	<u>Price ex Works £ / each</u>
1	Silencer	VA4-60-30-120P/STD	124.00

Remote Duct Mounted Silencer - Extract Discharge

Selected Criteria:

Sound Level	:86 dB	Noise Level	:35 NR
Lining Option	:Rockwool	Location Options	:Outlet Silencer
Splitter Type	:Pointed		

Selected Results:

Model Code: VA4-60-30-150P/STD
Width :600 mm
Length :1500 mm
Face Velocity :6.97 m/s

Height :300 mm
Noise Level Reduction :51 NR
Pressure Drop :22.73 Pa

Hz: 63Hz 125Hz 250Hz 500Hz 1KHz 2KHz 4KHz 8KHz
I.L db: 8 15 26 43 53 53 45 32

<u>Qty</u>	<u>Description</u>	<u>Part Number</u>	<u>Price ex Works £ / each</u>
1	Silencer	VA4-60-30-150P/STD	166.00

All prices shown on this quotation are each, ex works and subject to VAT and our latest standard terms and conditions of sale.

Despatch date at time of quoting is 5 - 6 weeks plus delivery period, as detailed below, from receipt of your order and full and final instructions, including handings, thus enabling us to proceed.

Drawings will be sent to you for your approval if required. There may be small differences from this quotation and they will represent the final agreed details. Please therefore check all drawings carefully before approving them. The delivery period includes approximately 3 days for your approval. A longer approval period may affect delivery times.

For non-approval units VES Andover accepts no responsibility for items purchased by the customer before the order acknowledgement has been received and details are confirmed.

Delivery times quoted are based upon our current production loading's, these do fluctuate and we would be pleased to discuss your actual delivery requirements at time of order.

All items other will be despatched carriage paid on our standard delivery providing the nett ex-works value of the order is not less than £1000.00 and delivery is within the UK mainland.

Standard delivery, assumes a 3 days delivery period using a National Carrier, the complete order despatched in one consignment and delivered during normal working hours. All standard delivery vehicles will be fixed roof curtain sided without off loading facilities.

Next Day Delivery, will be subject to an additional charge as detailed below:

Next Working Day plus **POA**
Next Day (Saturday) plus **POA**

Timed deliveries will be subject to an additional charge as detailed below:

Before 12.00 noon plus **POA**
Before 10.30 am. plus **POA**
09.00 am. plus **POA**

Saturday Premium:
Before 12.00 noon plus **POA**
Before 10.30 am. Plus **POA**
09.00 am. Plus **POA**

Any deviations, such as dedicated vehicles to meet cranes or to suit special site conditions will carry additional charges. Please contact our Sales Office for further details.

We exclude off loading, site storage, electrical controls, installation, commissioning and any item not specifically mentioned.

This quotation is valid for 30 days.

We trust the above meets with your approval, however should you have any further queries please do not hesitate to contact this office.

Yours faithfully

Phill Thomas
Sales Office - Extension 237
Email Address - phillip.thomas@ves.co.uk
VES Andover Ltd.