

TECHNICAL SPECIFICATION SHEET

Date: 09 June 2015
Quote No: Q 8888

Project Reference: Alfred Place
Unit No: 8888-02-01

Unit Reference: AHU 2
Revision: 1

AHU Details

Design Supply Air Volume	0.94	m ³ /s
External Static Pressure	250	Pa
Unit Velocity	1.8	m/s
Design Extract Air Volume	0.94	m ³ /s
External Static Pressure	250	Pa
Unit Velocity	1.8	m/s

Energy Use

	Supply on Clean Filters	Extract on Clean Filters	Overall	
Specific Fan Power	1.02	0.87	1.88	kW/(m ³ /s)

AHU Construction

Framework	40 mm
Framework Coating	Anodised
Panel Depth	25 mm
External Panel Finish	GWG Plastisol with film 0.9mm
Internal Panel Finish	Galv Sheet 0.9mm
Panel Insulation	Mineral Wool 25mm

Construction

Unit Location	External
Weather Roof	Duo Pitch Roof
Baseframe	100 x 50 PFC

Overall Unit Dimensions

Length	Width	Height	Weight (Per Unit)
4150 mm	1290 mm	930 mm	1071 kg

Section Weights and Dimensions

Section No.	Length	Width	Height	Weight Approx +/-5%
A	1140 mm	645 mm	930 mm	181 kg
B	1170 mm	1290 mm	930 mm	196 kg
C	1840 mm	645 mm	930 mm	302 kg
D	1540 mm	645 mm	930 mm	217 kg
E	1140 mm	645 mm	930 mm	176 kg

Inlet Section

Component	Damper - Spigot
Air Pressure Drop	4.00 Pa

Construction

Casing	Aluminium
Control	Manual

Accessories

Damper actuators to be provided and fitted by others.

Attenuator

Type	AHU Mounted
Airway Velocity	3.01 m/sec
Air PD	5.00 Pa
Air way	365.00 mm
Size H X W	850.00x565.00 mm

Construction

Splitter Thickness	200 mm
Length of Splitter	900 mm
Splitter Insulation	Mineral Wool
Splitter Face	Full Length - Standard

Accessories

Acoustic analysis to be carried out by others.

Panel Filter

Clean PD	52 Pa
Mean	101 Pa
Recommended dirty	150 Pa

Construction

Grade	G4 (EN779:2012)
Media	Card Frame-Cotton/Synthetic Media
Withdrawal	Side
Size 1 / Qty	2 x 595 x 395 x 47 mm

Accessories

Factory fitted Dwyer Minihelic gauge (Range 0-250 Pa)

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Plate Heat Exchanger

Supply Air On (db/RH)	-5.0/100.0	°C/%
Supply Air Off (db/RH)	8.00/39.40	°C/%
Exhaust Air On (db/RH)	20.0/50.0	°C/%
Exhaust Air Off (db/RH)	9.80/81.70	°C/%
Heat Recovery	14.60	kW
Efficiency	51.90	%
Supply Pressure Drop	128.00	Pa
Exhaust Pressure Drop	127.00	Pa

Construction

Material Standard

Drain Pan

Size 1210 mm

Construction

Material Galvanised Steel

Accessories

Damper actuators to be provided and fitted by others.

Drain Tray

Type Standard
Width 1210 mm
Material Galvanised Steel
Connection Side Left

Supply Fan - Single Fan

Design Air Volume	0.94	m ³ /s
Total Fan Resistance	695	Pa
Fan Speed	2692	r/min
Frequency @ Design Speed	46.58	Hz
Max Frequency	57.00	Hz
Maximum Fan Speed	3230	r/min
Efficiency	77.20	%

Construction

Impeller Backward Curve
Internal Insulation Rubber

Motor Data

FLC	3.13	Amps
Total Input Power	1.08	kW
Motor Power	1.50	kW
Motor Speed	2890	r/min
Electrical Supply	400/3/50	

Construction

Type AC

Accessories

Over temperature protection thermister (For integration in to the controls system)

Removable wire mesh guard is fitted behind the fan access door.

Traffolyte Component label

Traffolyte Warning label - Fan run down

Traffolyte Danger label - Safety

Traffolyte Warning label - Electrical Isolation

The fan motor will be wired with screened cable to an externally mounted IP66 rated isolator.

An IP54 VSD drive will be mounted externally on the access side of the unit and wired to the fan motor with screened cable.

Factory fitted surround providing additional protection to externally factory fitted inverter.

Electric Coil

Air On / Off	-5.0/20.00	°C/°C
Duty	28.33	kW
Maximum Heater Duty	30	kW
Air Pressure Drop	12.00	Pa

Construction

Control Type None
Voltage Three Phase
Number of Steps 1

Accessories

Factory fitted manual and auto reset high temperature cut out (For integration in to the controls system)

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DX Cooling Coil

			Construction	
Air On (db/wb)	30.0/20.0	°C/°C	Casing Material	Galvanised
Air Off (db/wb)	20.0/15.9	°C/°C	Tube Material	Copper
Duty	14.23	kW	Fin Material	Aluminium
Refrigerant	R407c		Connection Size	1 x 1 x 1,3/8"(F) / 1 x 1 x 1/2"(R)
Refrigerant PD	14	kPa	Eliminators	needed - fit P400
Evaporating Temp	6.0	°C	Drain Tray	6 S Steel Sloping draintray
Face Velocity	2.82	m/s		
Air Pressure Drop	86.00	Pa		

Accessories

DX coil supplied with capped ends and a small nitrogen charge. All refrigeration components and works by others.

Outlet Section

			Construction	
Component	Spigot		Casing	Not Applicable
Air Pressure Drop	4.00	Pa	Control	Not Applicable

Inlet Section

			Construction	
Component	Spigot		Casing	Not Applicable
Air Pressure Drop	4.00	Pa	Control	Not Applicable

Panel Filter

			Construction	
Clean PD	52	Pa	Grade	G4 (EN779:2012)
Mean	101	Pa	Media	Card Frame-Cotton/Synthetic Media
Recommended dirty	150	Pa	Withdrawal	Side
			Size 1 / Qty	2 x 595 x 395 x 47 mm

Accessories

Factory fitted Dwyer Minihelic gauge (Range 0-250 Pa)

Exhaust Fan - Single Fan

			Construction	
Design Air Volume	0.94	m ³ /s	Impeller	Backward Curve
Total Fan Resistance	596	Pa	Internal Insulation	Rubber
Fan Speed	2580	r/min		
Frequency @ Design Speed	44.89	Hz		
Max Frequency	51.00	Hz		
Maximum Fan Speed	2900	r/min		
Efficiency	76.84	%		

Motor Data

			Construction	
FLC	2.37	Amps	Type	AC
Total Input Power	0.93	kW		
Motor Power	1.10	kW		
Motor Speed	2875	r/min		
Electrical Supply	400/3/50			

Accessories

Over temperature protection thermister (For integration in to the controls system)

Removable wire mesh guard is fitted behind the fan access door.

Traffolyte Component label

Traffolyte Warning label - Fan run down

Traffolyte Danger label - Safety

Traffolyte Warning label - Electrical Isolation

The fan motor will be wired with screened cable to an externally mounted IP66 rated isolator.

An IP54 VSD drive will be mounted externally on the access side of the unit and wired to the fan motor with screened cable.

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Ventilation Equipment Ltd

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Attenuator

Type	AHU Mounted	
Airway Velocity	3.01	m/sec
Air PD	5.00	Pa
Air way	365.00	mm
Size H X W	850.00x565.00	mm

Construction

Splitter Thickness	200 mm
Length of Splitter	900 mm
Splitter Insulation	Mineral Wool
Splitter Face	Full Length - Standard

Outlet Section

Component	Damper - Spigot	
Air Pressure Drop	4.00	Pa

Construction

Casing	Aluminium
Control	Manual

Accessories

Damper actuators to be provided and fitted by others.

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AHU Acoustic Data:

Acoustic Data (Supply Fan Sound Power Level):

Frequency(Hz)	63	125	250	500	1K	2K	4K	8K
Supply Fan Inlet Lw (dB):	63	61	73	72	70	68	66	61
Supply Fan Outlet Lw (dB):	66	66	77	76	81	75	71	66

Acoustic Data (Extract Fan Sound Power Level):

Frequency(Hz)	63	125	250	500	1K	2K	4K	8K
Extract Fan Inlet Lw (dB)	63	61	71	71	70	67	65	61
Extract Fan Outlet Lw (dB)	66	65	76	75	80	75	70	65

Acoustic Data (Attenuator Insertion Loss - Supply):

Frequency(Hz)	63	125	250	500	1K	2K	4K	8K
Static Insertion Loss (dB)	5	9	16	30	39	39	31	26

Acoustic Data (Attenuator Insertion Loss - Extract):

Frequency(Hz)	63	125	250	500	1K	2K	4K	8K
Static Insertion Loss (dB)	5	9	16	30	39	39	31	26

Acoustic Data (Supply AHU Sound Resultant Level):

Frequency(Hz)	63	125	250	500	1K	2K	4K	8K
Supply AHU Inlet Lw (dB)	57	51	56	41	30	28	33	33
Supply AHU Outlet Lw (dB)	62	62	72	70	73	63	53	47

Acoustic Data (Extract AHU Sound Resultant Level):

Frequency(Hz)	63	125	250	500	1K	2K	4K	8K
Extract AHU Inlet Lw (dB)	62	60	70	70	69	66	63	59
Extract AHU Outlet Lw (dB)	59	54	57	41	36	29	31	30

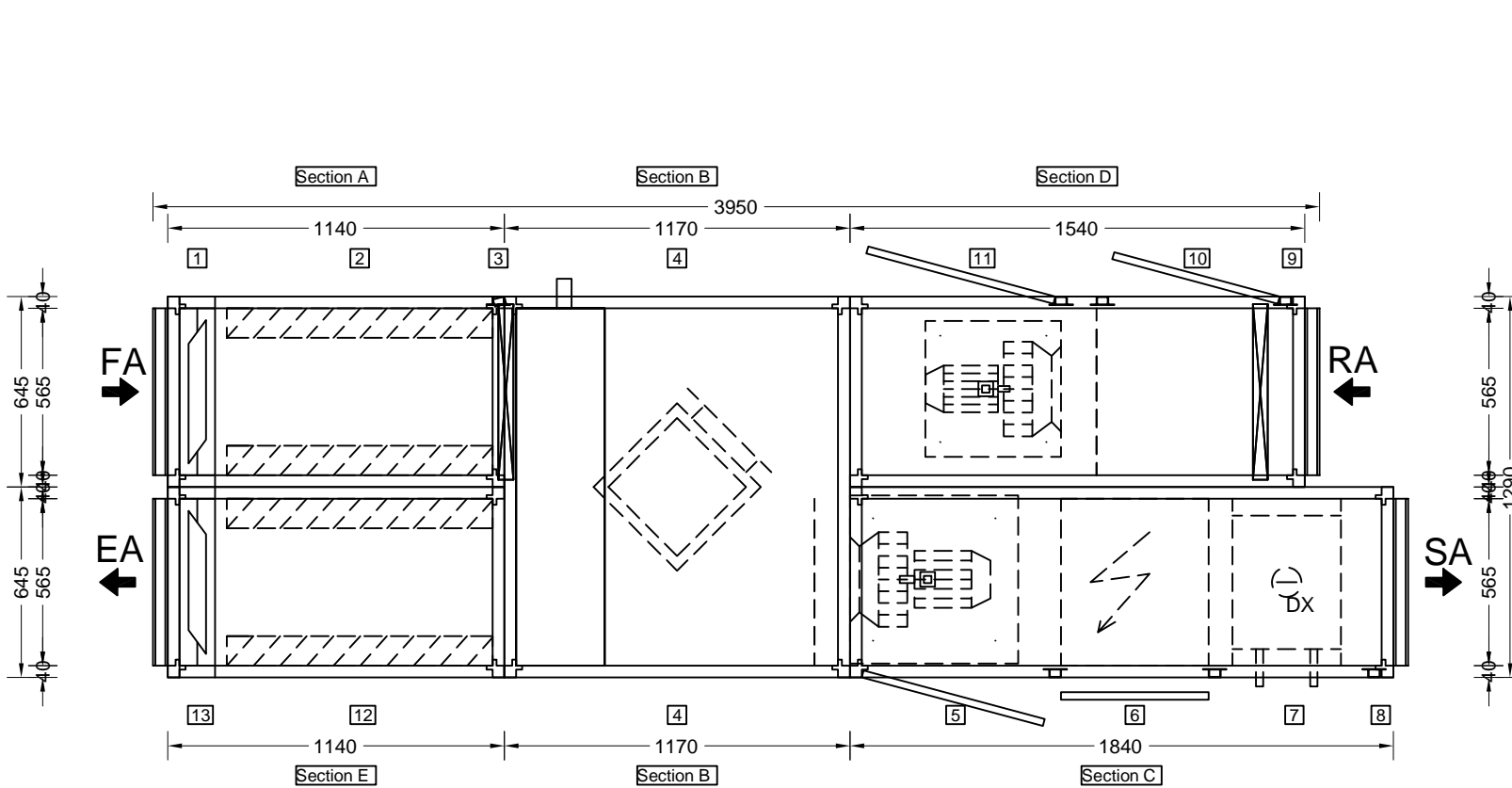
Resultant AHU Breakout

Frequency (Hz)	63	125	250	500	1K	2K	4K	8K
Supply Lw (dB)	58	57	63	49	53	47	44	40
Extract Lw (dB)	58	56	62	48	52	47	43	39
AHU Spectrum Lw (dB)	61	60	66	52	56	50	47	43
Resultant AHU Level @ 3m	43	42	48	34	38	32	29	25
Overall AHU "A" weighted Breakout @ 3m	43							

The In-duct Sound Power Level Spectra are in dB re-1pW.

The overall A-weighted sound pressure level is at a distance of 3m with spherical free-field propagation. It is expressed in dB re-20 µPa and is presented for comparative purposes only.

Resultant sound pressure includes all selected AHU component losses within the above calculation.



Unit Height including base 1030mm

Unit Width 1290mm

Section A: Weight = 181Kgs

Components

- 1 Inlet
- 2 Attenuator
- 3 Panel Filter

Section B: Weight = 196Kgs

Components

- 4 Plate Heat Exchanger

Section C: Weight = 302Kgs

Components

- 5 Plug Fan
- 6 Electric Heater
- 7 DX Cooling Coil
- 8 Outlet

Section D: Weight = 217Kgs

Components

- 9 Inlet
- 10 Panel Filter
- 11 Plug Fan

Section E: Weight = 176Kgs

Components

- 12 Attenuator
- 13 Outlet

PLAN DECK



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