

TECHNICAL SPECIFICATION SHEETS

Version:AHU SELECT

Version Date: 01/01/2017

PROJECT DETAILS

Date	02/12/2020	Project No	TKM Guide Prices	Unit No	TKM Guide Prices-2-0	Project Reference	SQ____-1220-3097
Customer	Hensall Mechanical Services Ltd	Rev Date	02/12/2020	EN 1886.	///	Customer Reference	AHU 02
Supply Flowrate	1.450 m ³ /s	Supply Velocity	1.480 m/s	Return Flowrate	1.450 m ³ /s	Return Velocity	1.480 m/s

UNIT CONSTRUCTION

Unit Location	External	Framework	40mm profile	Panel Thickness	25 mm	Panel Internal Sheet	Galv
Unit Model	Non-standard	Frame Coating	Natural	Panel External Sheet	Plastisol Merlin Grey	Panel Insulation	Mineral Wool 25
Access Side	Right	Base Frame	Aluminium 100x30	Roof Type	RF-SP-COR	Reinforced Floor	None

SECTION WEIGHTS AND DIMENSIONS

Section No.	Length mm	Width mm	Height mm	Weight kg
A	1210	1480	780	131
B	480	1480	1660	208
C	1070	1480	780	142
D	1070	1480	880	100
E	1210	1480	880	161

OVERALL UNIT DIMENSIONS AND CENTRE OF GRAVITY

Length mm	Width mm	Height mm	Weight kg	COG X mm
2760	1480	1660	742	1368

001 INLET SECTION

Air Flow	1.450 m ³ /s	Air Velocity	1.480 m/s	Pressure Drop	11 Pa	Depth	None	Dimension	1400 x 700 mm
Damper	None	Damper Class	None	Damper Material	None	Damper Blades	None	Product	Hood 45

002 ACCESS

Air Flow	1.450 m ³ /s	Length	500 mm
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002 ACCESS DOOR

Dimension	500 X 700 mm	Type	Hinged door
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003 PANEL AND BAG FILTER

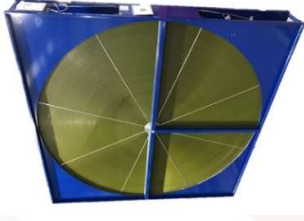
Class/Type	Clean Pd	Mean Pd	Dirty Pd	Qty/Size1	Qty/Size2	Qty/Size3
G4 / Panel	33.8 Pa	76.9 Pa	120 Pa	2 x 596 x 596 x 47 mm	None	None
Withdrawal	Length	Velocity	Model	Efficiency	Media	
Front	50 mm	2.070 m/s	Standard Media, Cardboard Case	ISO Coarse 70%	NonWoven synthetic media	
Class/ Type	Clean Pd	Mean Pd	Dirty Pd	Qty/Size1	Qty/Size2	Qty/Size3
F7 / Bag	61.7 Pa	255.9 Pa	450 Pa	2 x 592 x 592 x 380 mm	None	None
Withdrawal	Length	Velocity	Model	Efficiency	Media	
Front	380 mm	2.070 m/s	Soft Pocket Bag Filter	epm2.5 70%	100% Synthetic	



003 ACCESSORIES

Pressure Gauge (Magnehelic)/DIM,150,d,150,d
Pressure Gauge (Magnehelic)/DIM,300,d,300,d
Pressure Switch IP65 RH/DIM, 150,d,150,250
Pressure Switch IP65 RH/DIM, 300,d,300,250

004 HEAT WHEEL

Model	Qty	Motor Drive												
EM1400x1400-1350V-018-2DCCO-8ARI-A	1	8 = Standard Step Drive & Control												
External Dimensions (W x H x D)			Rotor Diameter											
1400.00 x 1400.00 x 316.00			1350.00											
WINTER														
Fresh Air						Exhaust Air								
m³/s	kW	Eff.%	Inlet °C	%	Outlet °C	Pa	m³/s	kW	Eff.%	Inlet °C	%	Outlet °C	Pa	
1.450	59.1	78	-5	100	15.4	136.2	1.450	59.1	78	21	50	-1.4	97.2	124.2



005 ACCESS

Air Flow	Length
1.450 m³/s	300 mm

005 ACCESS DOOR

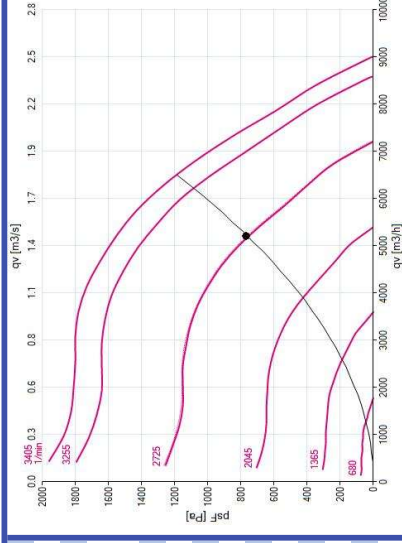
Dimension	Type
300 X 700 mm	Hinged door

TECHNICAL SPECIFICATION SHEETS

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006 SUPPLY PLENUM FAN

Fan Type	EC	Wheel Type	Backward Curve	Drive Type	Direct Drive
Model	GR35I-ZID.DG.CR-	Impeller Diam.	355 mm	Abs Power	1.66 kW
Quantity	116893/A01	Duty % Per Fan		Poles	
1		Single Fan			
Air Flow Volume	1.450 m ³ /s	Outlet Velocity	1.480 m/s	Motor Speed	3410 rpm
Ext Static Pressure	250 Pa	Fan Speed	2730 rpm	Power	3.3 kW
Unit Static Pressure	730.2 Pa	Static Efficiency	63.9%	FLC	4.2 A
Fan Total Pressure	764.6 Pa	VSD	Inbuilt	Volts/Ph/Hz	400/3/50



Frequency	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Inlet (1)	77	73	76	75	69	66	64	66
Outlet (2)	80	76	81	80	79	76	72	72

(1) SWL INSIDE The Inlet Duct (dB) (2) SWL INSIDE The Outlet Duct (dB)

006 PLENUM FAN NOTES

This fan cannot be controlled with a variable frequency drive

006 ACCESS DOOR

Dimension	500 X 700 mm	Type	Hinged door
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007 OUTLET SECTION

Air Flow	1.450 m ³ /s	Air Velocity	1.480 m/s	Pressure Drop	0 Pa	Depth	None	Dimension	1400 x 700 mm
Damper	None	Damper Class	None	Damper Material	None	Damper Blades	None	Product	Spigot 75

008 INLET SECTION

Air Flow	1.450 m ³ /s	Air Velocity	1.480 m/s	Pressure Drop	0 Pa	Depth	None	Dimension	1400 x 700 mm
Damper	None	Damper Class	None	Damper Material	None	Damper Blades	None	Product	Spigot 75

009 ACCESS

Air Flow	1.450 m ³ /s	Length	500 mm
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TECHNICAL SPECIFICATION SHEETS

Version: AHU SELECT
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009 ACCESS DOOR

Dimension	Type
500 X 700 mm	Hinged door

010 PANEL FILTER

Class/Type	Clean Pd	Mean Pd	Dirty Pd	Qty/Size1	Qty/Size2	Qty/Size3
G4 / Panel	33.8 Pa	76.9 Pa	120 Pa	2 x 596 x 596 x 47 mm	None	None
Withdrawal	Length	Velocity	Model	Efficiency	Media	
Front	50 mm	2.040 m/s	Standard Media, Cardboard Case	ISO Coarse 70%	Nonwoven synthetic media	



010 ACCESSORIES

Pressure Gauge (Magnehelic)
Pressure Switch IP21

0011 ACCESS

Air Flow	Length
1.450 m³/s	300 mm

011 ACCESS DOOR

Dimension	Type
300 X 700 mm	Hinged door

012 EXHAUST PLENUM FAN

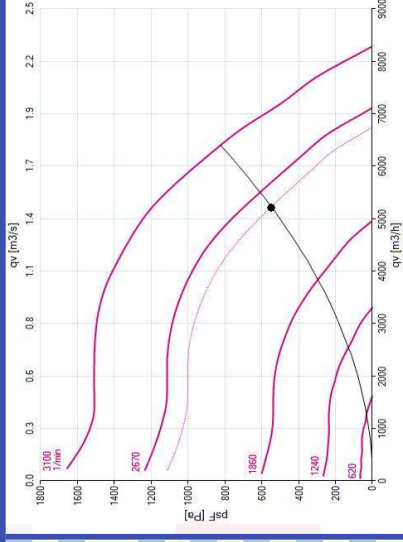
Fan Type	Wheel Type	Drive Type						
EC	Backward Curve	DirectDrive						
Model	Impeller Diam.	Abs Power						
GR35I-ZID.DC.CR-116892/A01	355 mm	1.26 kW						
Quantity	Duty % Per Fan	Poles						
1	Single Fan							
Air Flow Volume	Outlet Velocity	Motor Speed						
1.450 m³/s	1.480 m/s	3100 rpm						
Ext Static Pressure	Fan Speed	Power						
250 Pa	2529 rpm	2.5 kW						
Unit Static Pressure	Static Efficiency	FLC						
513.2 Pa	59.2%	3.2 A						
Fan Total Pressure	VSD	Volts/Ph/Hz						
547.6 Pa	Inbuilt	400/3/50						
Frequency	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Inlet (1)	77	76	76	76	69	65	63	66
Outlet (2)	77	78	82	79	79	75	71	72

(1) SWL INSIDE The Inlet Duct (dB)

(2) SWL INSIDE The Outlet Duct (dB)

The graph displays the relationship between static pressure (Pa) on the y-axis and air flow (m³/s) on the x-axis for different fan frequencies. The y-axis ranges from 0 to 1800 Pa, and the x-axis ranges from 0.0 to 2.5 m³/s. The curves show that as frequency increases, the pressure capability of the fan decreases for a given air flow. A black dot indicates the operating point at approximately 1.45 m³/s and 513.2 Pa, which corresponds to the 250 Hz curve.

Frequency (Hz)	Pressure (Pa) at 1.45 m³/s
63	~1600
125	~1200
250	~513
500	~250
1k	~120
2k	~60
4k	~30
8k	~15



(1) SWL INSIDE The Inlet Duct (dB)

(2) SWL INSIDE The Outlet Duct (dB)

TECHNICAL SPECIFICATION SHEETS

Version: AHU SELECT

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012 PLENUM FAN NOTES

This fan cannot be controlled with a variable frequency drive

012 ACCESS DOOR

Dimension	Type
650 X 700 mm	Hinged door

013 OUTLET SECTION

Air Flow	Air Velocity	Pressure Drop	Depth	Dimension
1.450 m ³ /s	2.590 m/s	62 Pa	None	800 x 700 mm
Damper	Damper Class	Damper Material	Damper Blades	Product
None	None	None	None	WL50

AHU ACOUSTIC DATA SUPPLY SECTION

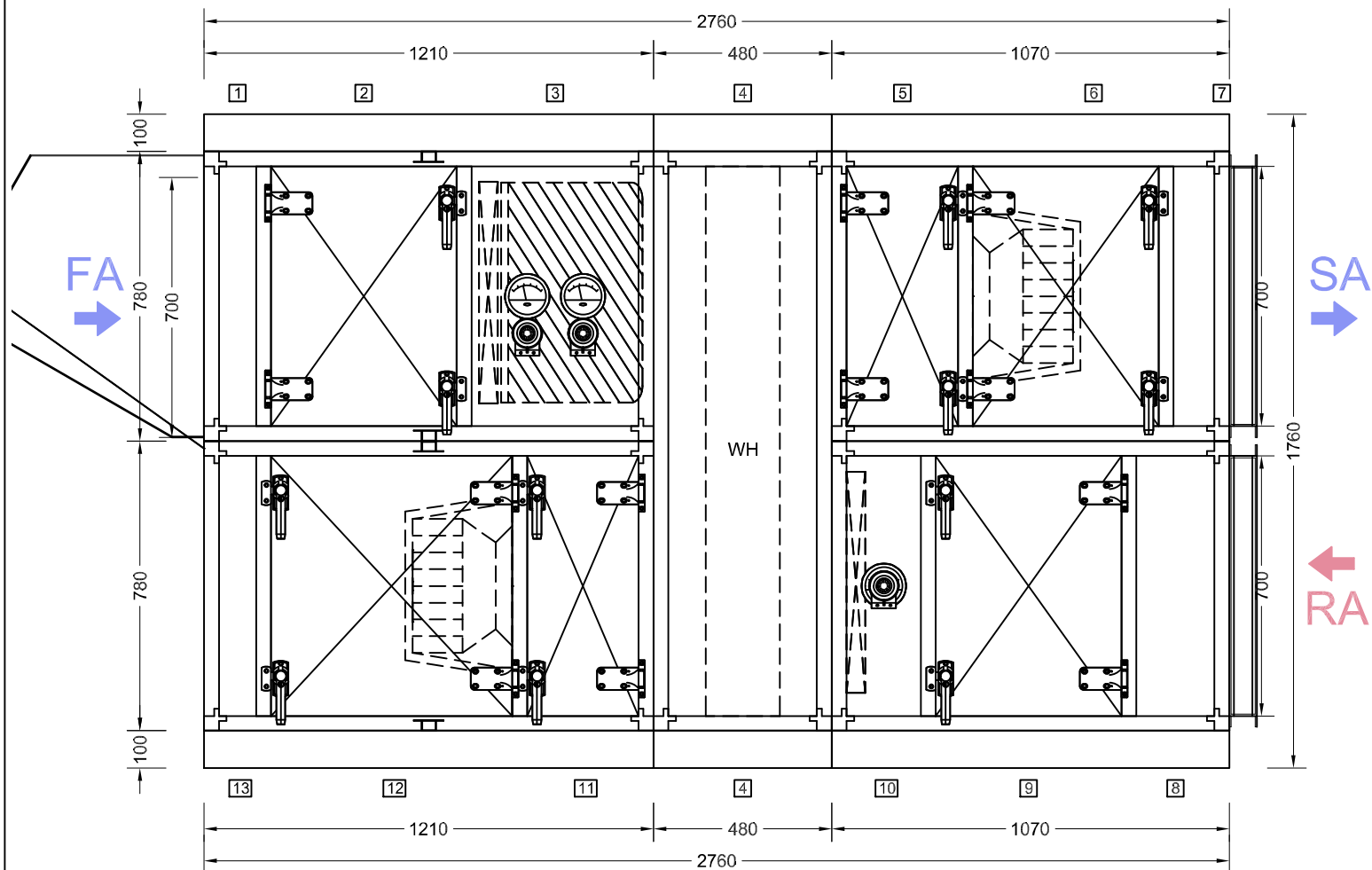
Description	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	Overall dB(A)
Outlet Sound Power(dB)		76	81	80	79	76	72	72	84
Inlet Sound Power(dB)		67	69	67	57	51	44	45	67
Case Breakout sound power (dB)		59	54	42	40	43	40	32	50

AHU ACOUSTIC DATA EXHAUST SECTION

Description	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	Overall dB(A)
Outlet Sound Power(dB)		78	82	79	79	75	71	72	83
Inlet Sound Power(dB)		72	71	70	60	51	43	45	69
Case Breakout sound power (dB)		62	55	41	39	42	39	33	51

SPECIFIC FAN POWER

Supply Fan	Extract Fan
Filter Conditions	Filter Conditions
Clean	Clean
Absorbed Power	Absorbed Power
1.22 Kw	1.18 Kw
Drive Efficiency	Drive Efficiency
100%	100%
Inverter Efficiency	Inverter Efficiency
100%	100%
Motor Efficiency	Motor Efficiency
100%	100%
Air Volume	Air Volume
1.450 m ³ /s	1.450 m ³ /s
Motor Efficiency Class	Motor Efficiency Class
EC	EC
AHU SFP	
1.66 Kw/m ³ /s	



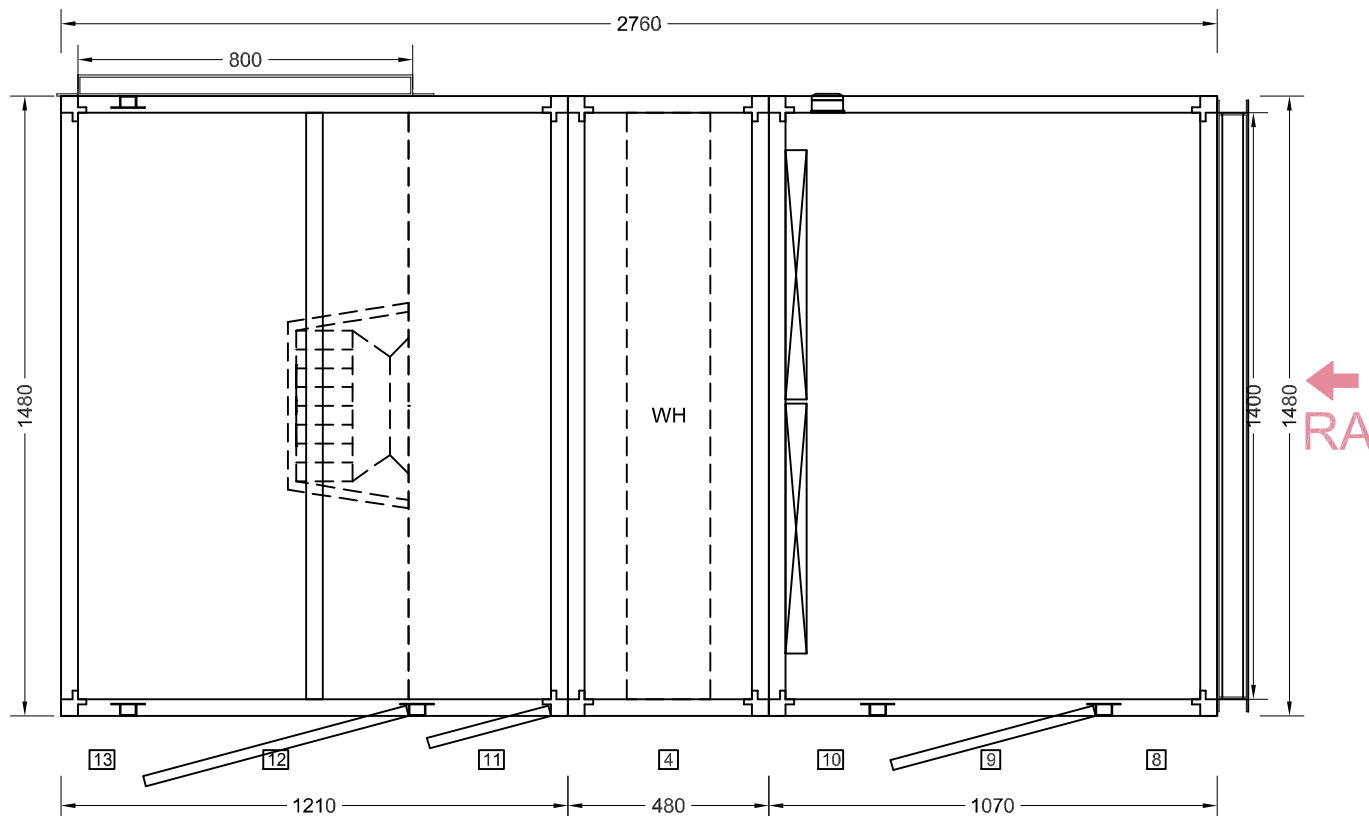
Supply:
 Size: Non-standard
 Airflow: 1.4500 m3/s
 E.S.P.: 250 Pa
 Exhaust:
 Size: Non-standard
 Airflow: 1.4500 m3/s
 E.S.P.: 250 Pa
 Unit Wgt: 741.59 kg

Section A:	
S.No	Module
1	Inlet Section
2	Access Section
3	Panel & Bag Filter
Section B:	
S.No	Module
4	Heat Wheel
Section C:	
S.No	Module
5	Access Section
6	Plenum Fan
7	Outlet Section
Section D:	
S.No	Module
8	Inlet Section
9	Access Section
10	Panel Filter
Section E:	
S.No	Module
11	Access Section
12	Plenum Fan
13	Outlet Section

ELEVATION

Customer: Hensall Mechanical Services Ltd		AHU No. 2	Model: Non-standard	Not To Scale All Dimensions shown are in mm	All dimensions shown are estimated. Detailed drawings to be produced on receipt of order.		 UNIT B, NATIONAL COURT FOX WAY, LEEDS, LS10 1PS Ph: (+44) 0113 218 6100 Fax: (+44) 0113 218 6101	No.	Revision	Date
Project: SQ_-1220-3097		Air flow: 1.45	m3/s	Selected	Initial	Date				
Location: AHU 02		Quantity: 1	Nos.	Approved						
				Dwg No.						

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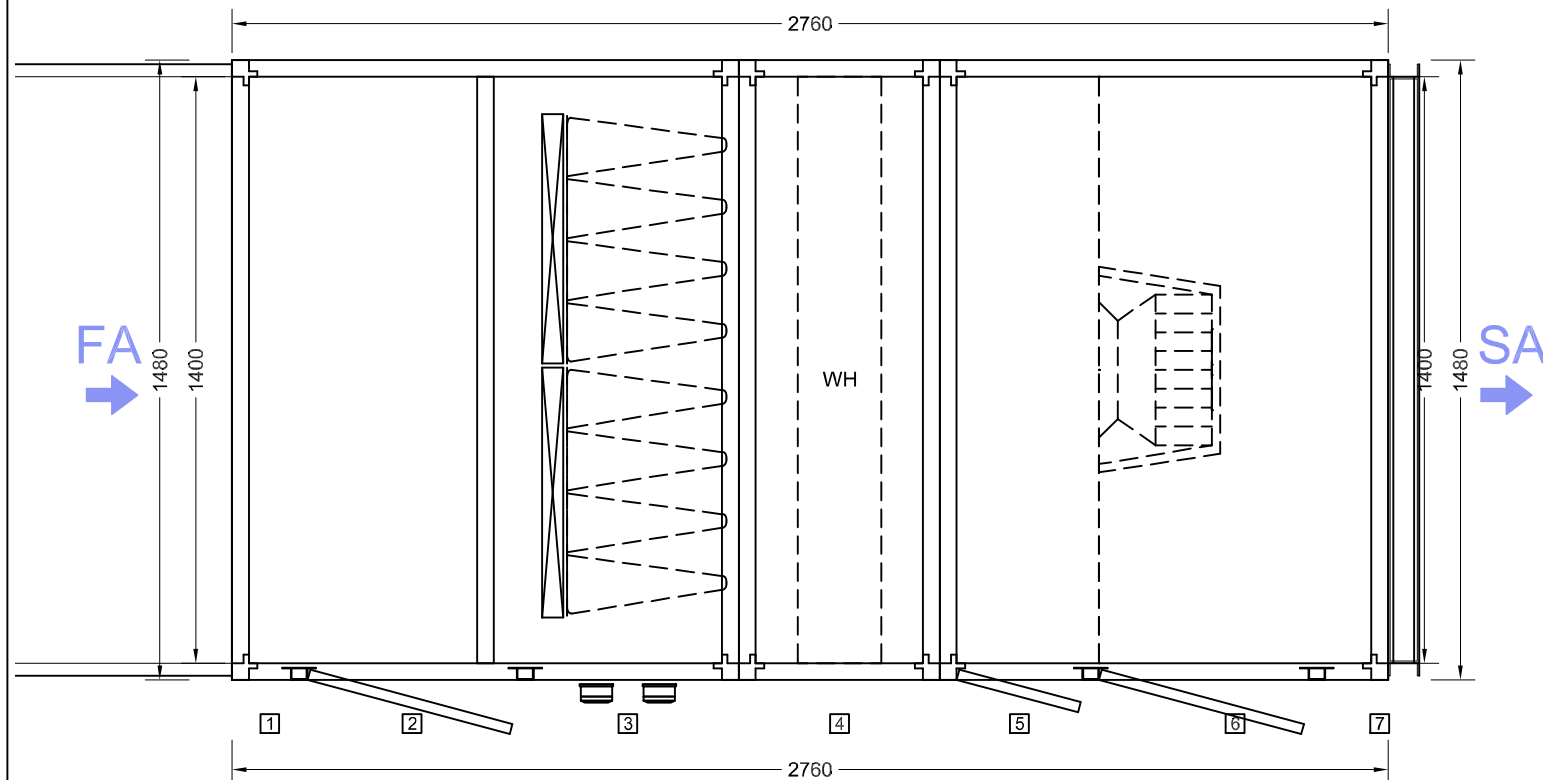


Supply:
 Size: Non-standard
 Airflow: 1.4500 m³/s
 E.S.P.: 250 Pa
 Exhaust:
 Size: Non-standard
 Airflow: 1.4500 m³/s
 E.S.P.: 250 Pa
 Unit Wgt: 741.59 kg

Section A:		
<u>S.No</u>	<u>Module</u>	<u>Length(mm)</u>
1	Inlet Section	140
2	Access Section	540
3	Panel & Bag Filter	490
Section B:		
<u>S.No</u>	<u>Module</u>	<u>Length(mm)</u>
4	Heat Wheel	440
Section C:		
<u>S.No</u>	<u>Module</u>	<u>Length(mm)</u>
5	Access Section	340
6	Plenum Fan	690
7	Outlet Section	
Section D:		
<u>S.No</u>	<u>Module</u>	<u>Length(mm)</u>
8	Inlet Section	250
9	Access Section	540
10	Panel Filter	240
Section E:		
<u>S.No</u>	<u>Module</u>	<u>Length(mm)</u>
11	Access Section	340
12	Plenum Fan	690
13	Outlet Section	140

PLAN LOWER DECK

		AHU No.	2		Not To Scale All Dimensions shown are in mm		All dimensions shown are estimated. Detailed drawings to be produced on receipt of order.		 UNIT B, NATIONAL COURT FOX WAY, LEEDS, LS10 1PS Ph: (+44) 0113 218 6100 Fax: (+44) 0113 218 6101	No.	Revision	Date
Customer	Hensall Mechanical Services Ltd	Model	Non-standard		Selected	Initial	Date					
Project	SQ -1220-3097	Air flow	1.45	m3/s	Approved							
Location	AHU 02	Quantity	1	Nos.	Dwg No.							



Supply:
 Size: Non-standard
 Airflow: 1.4500 m³/s
 E.S.P.: 250 Pa
 Exhaust:
 Size: Non-standard
 Airflow: 1.4500 m³/s
 E.S.P.: 250 Pa
 Unit Wgt: 741.59 kg

Section A:	
S.No	Module
1	Inlet Section
2	Access Section
3	Panel & Bag Filter
Section B:	
S.No	Module
4	Heat Wheel
Section C:	
S.No	Module
5	Access Section
6	Plenum Fan
7	Outlet Section
Section D:	
S.No	Module
8	Inlet Section
9	Access Section
10	Panel Filter
Section E:	
S.No	Module
11	Access Section
12	Plenum Fan
13	Outlet Section

PLAN UPPER DECK

Customer: Hensall Mechanical Services Ltd		AHU No. 2	Model: Non-standard		Not To Scale All Dimensions shown are in mm		All dimensions shown are estimated. Detailed drawings to be produced on receipt of order.		 UNIT B, NATIONAL COURT FOX WAY, LEEDS, LS10 1PS Ph: (+44) 0113 218 6100 Fax: (+44) 0113 218 6101	No.	Revision	Date
Project	SQ____-1220-3097	Air flow	1.45	m ³ /s	Selected	Initial	Date					
Location	AHU 02	Quantity	1	Nos.	Approved							
					Dwg No.							