

Victoria Buildings | Albert Street | Lockwood | Huddersfield | HD1 3PR Tel : 01484 422625 Fax : 01484 430959

Project Details			
<b>Our Reference</b>	QA5449GT	<b>Prepared By</b>	Gary Tingle
<b>Project Reference</b>	Barnsley Fracture Clinic & SDEC	<b>AHU Reference</b>	AHU01 Fracture Clinic
<b>Date</b>	08 /10/2025	<b>AHU Number</b>	1

General Details			
<b>Supply Duty</b>	2.500 m <sup>3</sup> /s @ 500 external static Pa	<b>Extract Duty</b>	2.500 m <sup>3</sup> /s @ 500 external static Pa
<b>Unit arrangement</b>	Double deck	<b>Leakage Class</b>	L2
<b>Unit Location</b>	External	<b>Number Of Sections</b>	5

Unit Construction							
<b>AHU Construction Type</b>				HTM03 Specification			
<b>Frame Work</b>	50mm Frame	<b>Panel Type</b>	50mm Panels	<b>Panel Insulation</b>	Rock Wool	<b>Weather Proof</b>	Yes
<b>Internal Skins</b>	0.9mm White Plastisol	<b>External skins</b>	0.9mm Goosewing Grey Plastisol	<b>Base Type</b>	RSC 150X75	<b>Roof Type</b>	Single Pitch 100mm

#### Unit Construction Notes

Sections Dimensions & Weights				
Section No.	Width	Height	Length	Weight
A	2000 mm	1300 mm	1870 mm	352 kg
B	2000 mm	2400 mm	1900 mm	667 kg
C	2000 mm	1350 mm	4290 mm	1155 kg
D	2000 mm	1300 mm	970 mm	217 kg
E	2000 mm	1350 mm	1870 mm	466 kg

Overall Dimensions & Weights			
Width	Height	Length	Weight
2000 mm	2650 mm	8060 mm	2858 kg

#### Supply Components

Inlet Section							
<b>Air Flow</b>	2.500 m <sup>3</sup> /s	<b>Velocity</b>	1.20 m/s	<b>Flanged Spigot</b>	No	<b>Open End</b>	Onair
<b>Weather Louvre</b>	Yes	<b>Weather Cowl</b>	No	<b>Inlet guard</b>	No	<b>Bird Mesh</b>	Yes
<b>Damper</b>	Yes	<b>Actuator</b>	No	<b>Handle fitted</b>	No	<b>Dimensions</b>	1900 x 1100 mm

002 Accessories	
Dumbo test point fitted	
Low Profile LED light wired to an external switch	

Access Section							
<b>Type</b>	Hinged door	<b>View Port</b>	Yes	<b>Light</b>	Yes	<b>Aluminium Walk Way</b>	None

Frost/Fog Coil							
<b>Medium</b>	LTHW	<b>Tube Material</b>	Copper	<b>Fin Material</b>	No Fins	<b>Case Material</b>	Galvanised
<b>Air On Db</b>	-5.00 °C	<b>Air Off Db</b>	5.00 °C	<b>Duty</b>	(30.29 x 1) kW	<b>Stages</b>	6
<b>Water flow temp</b>	75.00°C	<b>Water return temp</b>	65.00°C	<b>Flow Rate</b>	(0.74 x 1) l/s	<b>Water Pressure</b>	14 KPa
<b>Rows</b>	4	<b>Fin Spacing</b>	99.00mm (0/inch)	<b>Inlet connection</b>	1¼"	<b>Outlet connection</b>	1¼"
<b>Glycol type</b>	None	<b>Glycol %</b>	0	<b>No of sets of conns</b>	1.00	<b>Eliminators</b>	None

Panel Filter							
<b>Type</b>	Cotton / Synthetic Fibre pre filter	<b>Class EN</b>	ISO Coarse 70% / (M5 EN779)	<b>Withdrawal</b>	Front	<b>qty/ size</b>	6 / 597x497
<b>View Port</b>	Yes	<b>Light</b>	Yes	<b>Filter Depth</b>	50 mm		
<b>Gauge Type</b>	None	<b>Design Pa</b>	Dirty	<b>Spare set</b>	1 Set		

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004 Accessories							
Dumbo test point fitted							
Magnahelic guage 0 - 250 Pa							
Low Profile LED light wired to an external switch							
Access Section							
Type	Hinged door	View Port	Yes	Light	Yes	Aluminium Walk Way	None
Heat Recovery Section ( Plate Heat Exchanger)							
Type		Model	KV-100/P1/1884/BS K214,H-ErP-2018.000	Material	Aluminium	ERP 2018	2018: Min. 2018
PHX Face & Bypass	1=Yes, on side	Actuator	No	Dry Efficiency	73.710 %	Total Efficiency	74.100 %
SS Drain Tray	Full Fixed	Connection	22mm Plain	View Ports	Yes	Lights	Yes
Winter				Summer			
Fresh Air on Db	5.00 °C	Return Air On Db	21.00 °C	Fresh Air on Db	30.00 °C	Return Air On Db	21.00 °C
Fresh Air on Wb	5.00 °C	Return Air On Wb	14.60 °C	Fresh Air on Wb	22.00 °C	Return Air On Wb	14.60 °C
Supply Air Off Db	17.70 °C	Exhaust Air Off Db	9.30 °C	Supply Air Off Db	23.30 °C	Exhaust Air Off Db	27.70 °C
Supply Air Off Wb	11.00 °C	Exhaust Air Off Wb	9.30 °C	Supply Air Off Wb	20.00 °C	Exhaust Air Off Wb	17.00 °C
Supply Air Off RH	43.100 %	Duty	38.60 kW	Supply Air Off RH	73.900 %	Duty	20.60 kW
005 Accessories							
Low Profile LED light wired to an external switch							
Access Section							
Type	Hinged door PHX-4	View Port	Yes	Light	Yes	Aluminium Walk Way	None
Drain Pan							
Material	Stainless Steel (304)	Main Tray Size	350 x 1900 mm	Tray Type	Full Fixed	Intermediate Tray	No
006 Accessories							
Dumbo test point fitted							
Low Profile LED light wired to an external switch							
Access Section							
Type	Hinged door	View Port	Yes	Light	Yes	Aluminium Walk Way	None

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Plenum Fan			
<b>Air Volume</b>	2.500 m <sup>3</sup> /s	<b>Ext Static Pa</b>	500
<b>Model</b>	(N88-45702) GKH_CII 450 147.6IF IE+ (3x400V) V1	<b>Type</b>	Plenum
<b>Duty % Per Fan</b>	Single Fan	<b>Quantity</b>	1
<b>Impeller Type</b>	Backward Curve	<b>Make</b>	Rosenberg
<b>Drive type</b>	Direct Drive	<b>Motor Type</b>	EC
<b>Dynamic Pa</b>	60 Pa	<b>Fan Total Pa</b>	1014 Pa
<b>Abs Power</b>	3.71 kW	<b>Motor Power</b>	6.70 kW
<b>FLC Amps</b>	10.30 A	<b>Volts/Ph/Hz</b>	3/NaN/NaN
<b>Fan Speed</b>	2311 rpm	<b>Max Fan Speed</b>	0 rpm
<b>Control Volts</b>	7.84 V	<b>Speed Pot</b>	Yes
<b>View Port</b>	Yes	<b>Isolator</b>	Yes
<b>Light</b>	Yes	<b>Quick release</b>	Yes
<b>SFP Value @ Clean filters</b>	1.25kW/m3/s		

The graph plots static pressure (Pa) on the y-axis (0 to 2,200) against air volume (m³/h) on the x-axis (0 to 16,000). Multiple curves represent different supply voltages: 4V, 6V, 7V, 8V, 9V, and 10V. A pink dot marks the operating point at approximately 8,000 m³/h and 1,000 Pa.

**1 SWL Inside inlet duct (db)      2 SWL Inside outlet duct (db)**

Frequency Hz	63	125	250	500	1K	2K	4K	8K
Inlet 1	44	54	76	76	76	75	75	72
Inlet 2	56	60	83	83	83	80	79	73

**007 Accessories**

Dumbo test point fitted
Low Profile LED light wired to an external switch
Quick release fan terminal box fitted ( stainless steel)
Fan wired to speed potentiometre
Fan wired to Isolator IP65
test

**Access Section**

<b>Type</b>	Hinged door	<b>View Port</b>	Yes	<b>Light</b>	Yes	<b>Aluminium Walk Way</b>	None
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**Chilled Water Cooling Coil**

<b>Medium</b>	Chilled Water	<b>Tube Material</b>	Copper	<b>Fin Material</b>	0.12 Copper/PreTinned	<b>Case Material</b>	Stainless Steel 304
<b>Air On Db</b>	32.00 °C	<b>Air Off Db</b>	18.00 °C	<b>Duty</b>	(71.36 x 1) kW	<b>Stages</b>	21
<b>Air On Wb</b>	22.00 °C	<b>Air Off Wb</b>	16.60 °C	<b>SS DrainTray</b>	Yes	<b>Connection</b>	22mm Plain
<b>Air On RH</b>	41.90 %	<b>Air Off RH</b>	87.40 %	<b>DT fixed</b>	Yes	<b>DT Cleanable</b>	Yes
<b>Water flow temp</b>	7.00°C	<b>Water return temp</b>	12.00°C	<b>Flow Rate</b>	(3.40 x 1) l/s	<b>Water Pressure</b>	24 KPa
<b>Rows</b>	3	<b>Fin Spacing</b>	2.82mm (9/inch)	<b>Inlet connection</b>	2½"	<b>Outlet connection</b>	2½"
<b>Glycol type</b>	None	<b>Glycol %</b>	0	<b>No of sets of conns</b>	1.00	<b>Eliminators</b>	not needed - Not Incl.

**Drain Pan**

<b>Material</b>	Stainless Steel (304)	<b>Main Tray Size</b>	400 x 1900 mm	<b>Tray Type</b>	Full Fixed	<b>Intermediate Tray</b>	No
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**009 Accessories**

Dumbo test point fitted
Low Profile LED light wired to an external switch

**Access Section**

<b>Type</b>	Hinged door	<b>View Port</b>	Yes	<b>Light</b>	Yes	<b>Aluminium</b>	None
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						<b>Walk Way</b>	
<b>LPHW Heating Coil</b>							
<b>Medium</b>	Hot Water	<b>Tube Material</b>	Copper	<b>Fin Material</b>	0.12 Copper	<b>Case Material</b>	Galvanised
<b>Air On Db</b>	12.00 °C	<b>Air Off Db</b>	26.00 °C	<b>Duty</b>	(42.40 x 1) kW	<b>Face Velocity</b>	1.69
<b>Water flow temp</b>	75.00°C	<b>Water return temp</b>	65.00°C	<b>Flow Rate</b>	(1.03 x 1) l/s	<b>Water Pressure</b>	19 KPa
<b>Rows</b>	1	<b>Fin Spacing</b>	3.18mm (8/inch)	<b>Inlet connection</b>	1¼"	<b>Outlet connection</b>	1¼"
<b>Glycol type</b>	None	<b>Glycol %</b>	0	<b>No of sets of conns</b>	1.00	<b>Eliminators</b>	None
<b>011 Accessories</b>							
Dumbo test point fitted							
Low Profile LED light wired to an external switch							
<b>Access Section</b>							
<b>Type</b>	Hinged door	<b>View Port</b>	Yes	<b>Light</b>	Yes	<b>Aluminium Walk Way</b>	None
<b>Bag Filter</b>							
<b>Type</b>	Metal hdr / Synthetic soft bag filter	<b>Class EN</b>	ISO ePM2.5 70% / (F7 EN779)	<b>Withdrawal</b>	Front	<b>qty/ size</b>	6 / 592x490
<b>View Port</b>	Yes	<b>Light</b>	Yes	<b>Filter Depth</b>	380 mm		
<b>Gauge Type</b>	None	<b>Design Pa</b>	Dirty	<b>Spare set</b>	1 Set		
<b>012 Accessories</b>							
Low Profile LED light wired to an external switch							
Dumbo test point fitted							
Magnahelic guage 0 - 250 Pa							
<b>Access Section</b>							
<b>Type</b>	Hinged door	<b>View Port</b>	Yes	<b>Light</b>	Yes	<b>Aluminium Walk Way</b>	None
<b>Outlet Section</b>							
<b>Air Flow</b>	2.500 m³/s	<b>Velocity</b>	1.20 m/s	<b>Flanged Spigot</b>	Yes	<b>Open End</b>	Ofair
<b>Weather Louvre</b>	No	<b>Weather Cowl</b>	No	<b>Inlet guard</b>	No	<b>Bird Mesh</b>	No
<b>Damper</b>	Yes	<b>Actuator</b>	No	<b>Handle fitted</b>	No	<b>Dimensions</b>	1900 x 1100 mm
<b>Extract Components</b>							
<b>Inlet Section</b>							
<b>Air Flow</b>	2.500 m³/s	<b>Velocity</b>	1.20 m/s	<b>Flanged Spigot</b>	Yes	<b>Open End</b>	Onair
<b>Weather Louvre</b>	No	<b>Weather Cowl</b>	No	<b>Inlet guard</b>	No	<b>Bird Mesh</b>	No
<b>Damper</b>	Yes	<b>Actuator</b>	No	<b>Handle fitted</b>	No	<b>Dimensions</b>	1900 x 1100 mm
<b>Panel Filter</b>							
<b>Type</b>	Cotton / Synthetic Fibre pre filter	<b>Class EN</b>	ISO Coarse 70% / (M5 EN779)	<b>Withdrawal</b>	Front	<b>qty/ size</b>	6 / 597x497
<b>View Port</b>	Yes	<b>Light</b>	Yes	<b>Filter Depth</b>	50 mm		
<b>Gauge Type</b>	None	<b>Design Pa</b>	Dirty	<b>Spare set</b>	1 Set		
<b>015 Accessories</b>							
Dumbo test point fitted							
Magnahelic guage 0 - 250 Pa							
Low Profile LED light wired to an external switch							
<b>Access Section</b>							
<b>Type</b>	Hinged door	<b>View Port</b>	Yes	<b>Light</b>	Yes	<b>Aluminium Walk Way</b>	None

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016 Accessories							
Dumbo test point fitted							
Low Profile LED light wired to an external switch							

Access Section							
<b>Type</b>	Hinged door	<b>View Port</b>	Yes	<b>Light</b>	Yes	<b>Aluminium Walk Way</b>	None

Plenum Fan			
<b>Air Volume</b>	2.500 m <sup>3</sup> /s	<b>Ext Static Pa</b>	500
<b>Model</b>	(N88-45702) GKH_CII 450 147.6IF IE+ (3x400V) V1	<b>Type</b>	Plenum
<b>Duty % Per Fan</b>	Single Fan	<b>Quantity</b>	1
<b>Impeller Type</b>	Backward Curve	<b>Make</b>	Rosenberg
<b>Drive type</b>	Direct Drive	<b>Motor Type</b>	EC
<b>Dynamic Pa</b>	60 Pa	<b>Fan Total Pa</b>	774 Pa
<b>Abs Power</b>	2.89 kW	<b>Motor Power</b>	6.70 kW
<b>FLC Amps</b>	10.30 A	<b>Volts/Ph/Hz</b>	3/NaN/NaN
<b>Fan Speed</b>	2143 rpm	<b>Max Fan Speed</b>	0 rpm
<b>Control Volts</b>	7.27 V	<b>Speed Pot</b>	Yes
<b>View Port</b>	Yes	<b>Isolator</b>	Yes
<b>Light</b>	Yes	<b>Quick release</b>	Yes
<b>SFP Value @ Clean filters</b>	1.1kW/m3/s		

**1 SWL Inside inlet duct (db)      2 SWL Inside outlet duct (db)**

Frequency Hz	63	125	250	500	1K	2K	4K	8K
Inlet 1	42	52	74	74	74	73	73	70
Inlet 2	54	58	81	81	81	78	77	71

017 Accessories							
Dumbo test point fitted							
Low Profile LED light wired to an external switch							
Quick release fan terminal box fitted ( stainless steel)							
Fan wired to speed potentiometre							
Fan wired to Isolator IP65							
test							

Access Section							
<b>Type</b>	Hinged door	<b>View Port</b>	Yes	<b>Light</b>	Yes	<b>Aluminium Walk Way</b>	None

Outlet Section							
<b>Air Flow</b>	2.500 m <sup>3</sup> /s	<b>Velocity</b>	1.20 m/s	<b>Flanged Spigot</b>	Yes	<b>Open End</b>	Ofair
<b>Weather Louvre</b>	No	<b>Weather Cowl</b>	No	<b>Inlet guard</b>	No	<b>Bird Mesh</b>	No
<b>Damper</b>	Yes	<b>Actuator</b>	No	<b>Handle fitted</b>	No	<b>Dimensions</b>	1900 x 1100 mm

018 Notes							
Duct to atmosphere by others							

**Acoustic Data Supply**

Frequency Hz	63	125	250	500	1K	2K	4K	8K	Overall dbA
Inlet	48	48	70	70	70	69	69	66	76
Outlet	53	53	76	76	76	73	72	66	80
Case Break Out To Atmosphere	38	38	56	47	40	35	31	25	49

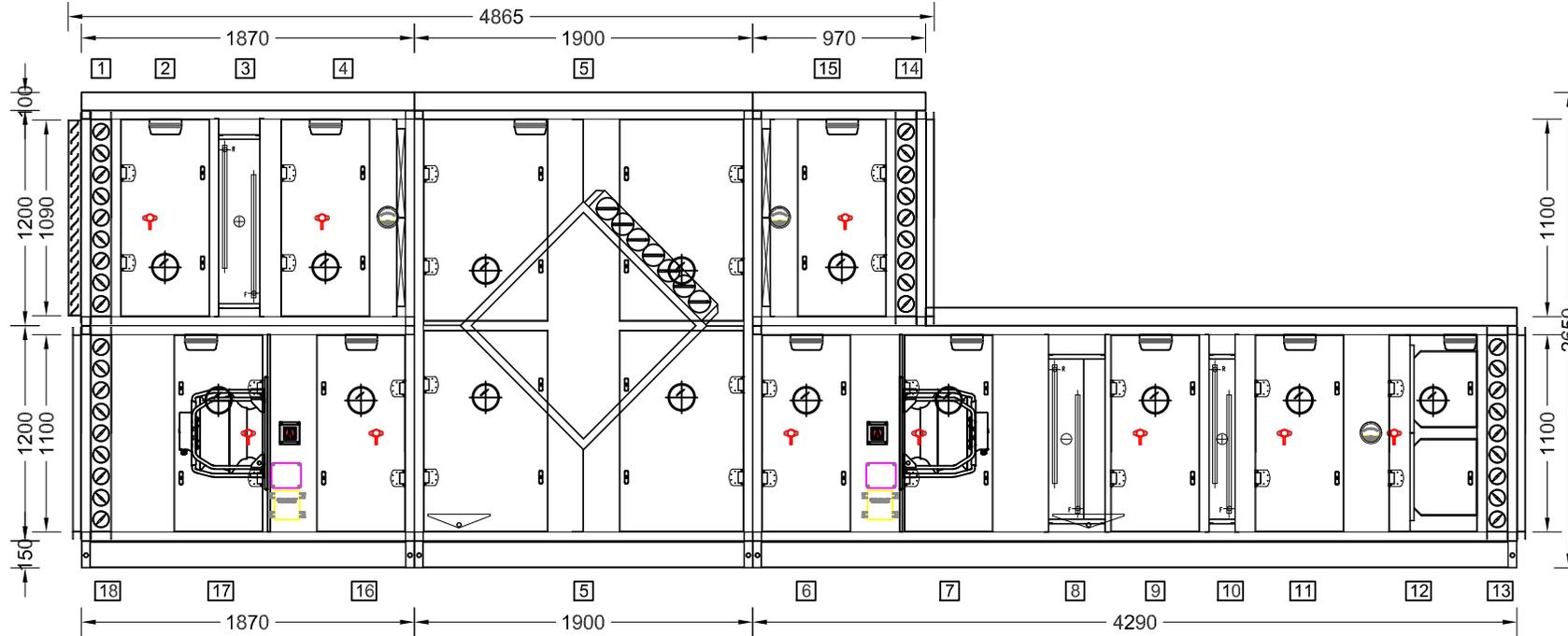
**Acoustic Data Exhaust**

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Frequency Hz	63	125	250	500	1K	2K	4K	8K	Overall dbA
Inlet	48	48	70	70	70	69	69	66	76
Outlet	56	56	79	79	79	76	75	69	84
Case Break Out To Atmosphere	36	36	54	45	38	33	29	23	48

Specific Fan Power Value							
<b>Supply Air Flow</b>	2.500 m <sup>3</sup> /s	<b>Supply SFPv</b>	1.25 kW/m <sup>3</sup> /s	<b>Extract Air Volume</b>	2.500 m <sup>3</sup> /s	<b>Extract SFPv</b>	1.1 kW/m <sup>3</sup> /s
<b>Supply Abs Power</b>	3.13 Kw	<b>Supply Filter State</b>	Clean	<b>Extract Abs Power</b>	2.74 Kw	<b>Extract Filter State</b>	Clean
<b>AHU Specific Fan Power Value</b>	2.35 kW/m <sup>3</sup> /s						

Supply:  
 Size: Non-standard  
 Airflow: 2.5 m3/s  
 E.S.P.: 500 Pa  
 Exhaust:  
 Size: Non-standard  
 Airflow: 2.5 m3/s  
 E.S.P.: 500 Pa  
 Unit Wgt: 2857.93 kg



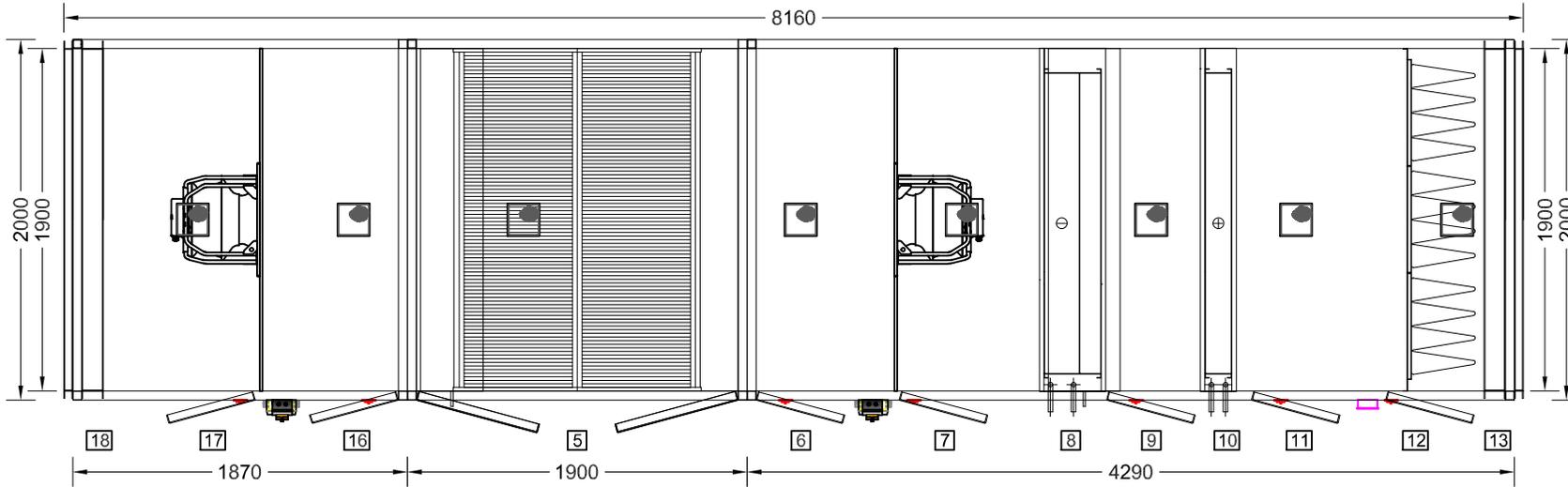
Section A:	
S.No	Module
1	Inlet Section
2	Access Section
3	Fog / Frost Heating Coils
4	Panel Filter
Section B:	
S.No	Module
5	Plate heat exchanger
Section C:	
S.No	Module
6	Access Section
7	IE Motor Plug Fan
8	Cooling Coil
9	Access Section
10	Heating Coil
11	Access Section
12	Bag Filter
13	Outlet Section
Section D:	
S.No	Module
14	Inlet Section
15	Panel Filter
Section E:	
S.No	Module
16	Access Section
17	IE Motor Plug Fan
18	Outlet Section

### ELEVATION

		AHU No.	1	Not To Scale All Dimensions shown are in mm		All dimensions shown are estimated. Detailed drawings to be produced on receipt of order.		<b>FREDSHAW</b>	No.	Revision	Date
Our Reference		Model	Non-standard	Selected	Initial	Date					
Project	Barnsley Fracture Clinic & SDEC	Air flow	2.5	Approved							
Location	External	Quantity	1	Dwg No.							

Supply:  
 Size: Non-standard  
 Airflow: 2.5 m3/s  
 E.S.P.: 500 Pa  
 Exhaust:  
 Size: Non-standard  
 Airflow: 2.5 m3/s  
 E.S.P.: 500 Pa  
 Unit Wgt: 2857.93 kg

Section A:	
S.NoModule	Length(mm)
1	Inlet Section 195
2	Access Section 550
3	Fog / Frost Heating Coils 550
4	Panel Filter 775
Section B:	
S.NoModule	Length(mm)
5	Plate heat exchanger 1900
Section C:	
S.NoModule	Length(mm)
6	Access Section 575
7	IE Motor Plug Fan 1060
8	Cooling Coil 350
9	Access Section 550
10	Heating Coil 260
11	Access Section 550
12	Bag Filter 750
13	Outlet Section 195
Section D:	
S.NoModule	Length(mm)
14	Inlet Section 195
15	Panel Filter 775
Section E:	
S.NoModule	Length(mm)
16	Access Section 575
17	IE Motor Plug Fan 1060
18	Outlet Section 235

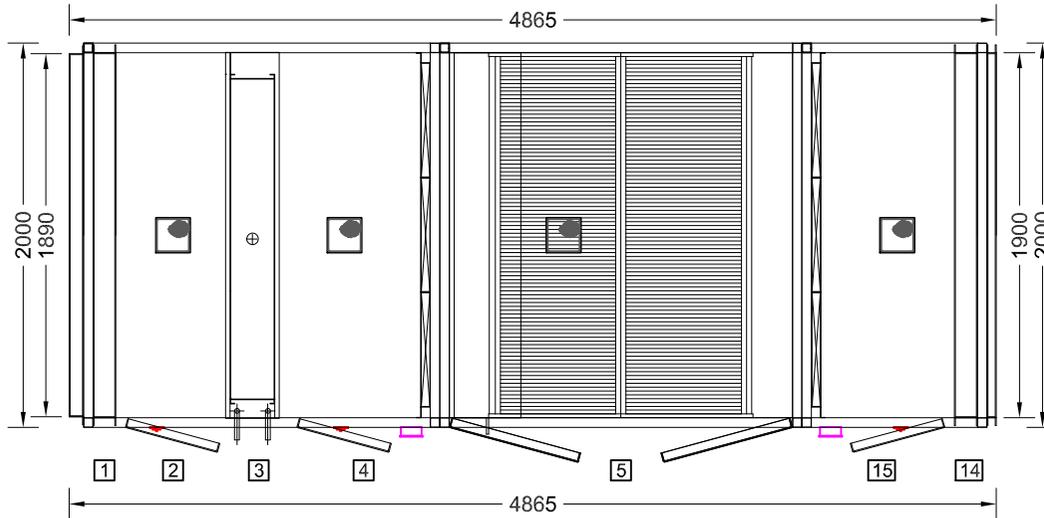


PLAN LOWER DECK

		AHU No.	1		Not To Scale All Dimensions shown are in mm		All dimensions shown are estimated. Detailed drawings to be produced on receipt of order.		<b>FREDSHAW</b>	No.	Revision	Date
Our Reference		Model	Non-standard		Selected	Initial	Date					
Project	Barnsley Fracture Clinic & SDEC	Air flow	2.5	m3/s	Approved							
Location	External	Quantity	1	Nos.	Dwg No.							

Supply:  
 Size: Non-standard  
 Airflow: 2.5 m3/s  
 E.S.P.: 500 Pa  
 Exhaust:  
 Size: Non-standard  
 Airflow: 2.5 m3/s  
 E.S.P.: 500 Pa  
 Unit Wgt: 2857.93 kg

Section A:	
S.NoModule	Length(mm)
1	Inlet Section 195
2	Access Section 550
3	Fog / Frost Heating Coils 550
4	Panel Filter 775
Section B:	
S.NoModule	Length(mm)
5	Plate heat exchanger 1900
Section C:	
S.NoModule	Length(mm)
6	Access Section 575
7	IE Motor Plug Fan 1060
8	Cooling Coil 350
9	Access Section 550
10	Heating Coil 260
11	Access Section 550
12	Bag Filter 750
13	Outlet Section 195
Section D:	
S.NoModule	Length(mm)
14	Inlet Section 195
15	Panel Filter 775
Section E:	
S.NoModule	Length(mm)
16	Access Section 575
17	IE Motor Plug Fan 1060
18	Outlet Section 235



PLAN UPPER DECK

		AHU No.	1		Not To Scale All Dimensions shown are in mm		All dimensions shown are estimated. Detailed drawings to be produced on receipt of order.		<b>FREDSHAW</b>	No.	Revision	Date
Our Reference		Model	Non-standard		Selected	Initial	Date					
Project	Barnsley Fracture Clinic & SDEC	Air flow	2.5	m3/s	Approved							
Location	External	Quantity	1	Nos.	Dwg No.							