

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

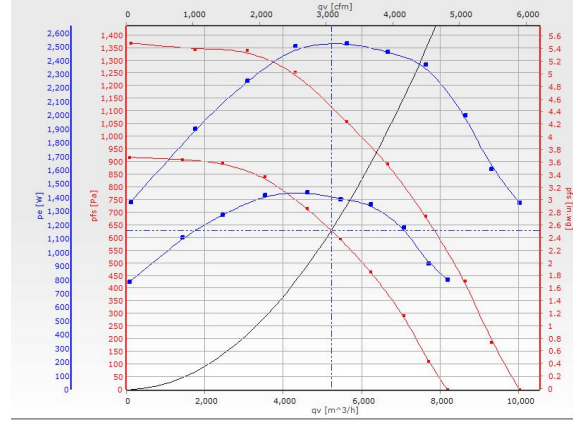
Project Details							
Our Reference	GT4681			Prepared By	Gary Tingle		
Project Reference	Barnsley Glass Works Phase 2			AHU Reference	AHU 1 MRI		
Date	16 /12/2022			AHU Number	AHU 1 MRI		
General Details							
Supply Duty	0.500 m³/s @ 175 external static Pa			Extract Duty	0.500 m³/s @ 175 external static Pa		
Unit arrangement	Double deck			Leakage Class	L2		
Unit Location	External			Number Of Sections	5		
Unit Construction							
AHU Construction Type			HTM03 Specification				
Frame Work	50mm Frame	Panel Type	50mm Panels	Panel Insulation	Rock Wool	Weather Proof	Yes
Internal Skins	0.9mm White Plastisol	External skins	0.9mm Goosewing Grey Plastisol	Base Type	FGB 150	Roof Type	Single Pitch 100mm
Sections Dimensions & Weights							
Section No.	Width		Height	Length		Weight	
A	950 mm		850 mm	2471 mm		216 kg	
B	950 mm		1500 mm	1600 mm		371 kg	
C	950 mm		900 mm	4070 mm		603 kg	
D	950 mm		850 mm	1520 mm		121 kg	
E	950 mm		900 mm	2471 mm		252 kg	
Overall Dimensions & Weights							
	Width		Height	Length		Weight	
	950 mm		1750 mm	8141 mm		1563 kg	
Supply Components							
Inlet Section							
Air Flow	0.500 m³/s	Velocity	.90 m/s	Flanged Spigot	No	Open End	Onair
Weather Louvre	Yes	Weather Cowl	No	Inlet guard	No	Bird Mesh	Yes
Damper	Yes	Actuator	No	Handle fitted	No	Dimensions	850 x 650 mm
002 Accessories							
Low Profile LED light wired to an external switch							
Dumbo test point fitted							
Access Section							
Type	Hinged door	View Port	Yes	Light	Yes	Aluminium Walk Way	None
Frost/Fog Coil							
Medium	LTHW	Tube Material	Copper	Fin Material	No Fins	Case Material	Galvanised
Air On Db	-5.00 °C	Air Off Db	5.00 °C	Duty	(6.06 x 1) kW	Stages	3
Water flow temp	50.00°C	Water return temp	45.00°C	Flow Rate	(0.29 x 1) l/s	Water Pressure	7 KPa
Rows	6	Fin Spacing	99.00mm (0/inch)	Inlet connection	1"	Outlet connection	1"
Glycol type	None	Glycol %	0	No of sets of conns	1.00	Eliminators	None
Panel Filter							
Type	Cotton / Synthetic Fibre pre filter	Class EN	ISO Coarse 70% / (M5 EN779)	Withdrawal	Front	qty/ size	1 / 597x497
View Port	Yes	Light	Yes	Filter Depth	50 mm		
Gauge Type	Minihelic	Design Pa	Dirty	Spare set	1 Set		
004 Accessories							

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Minihelic 250Pa							
Low Profile LED light wired to an external switch							
Dumbo test point fitted							
Access Section							
Type	Hinged door	View Port	Yes	Light	Yes	Aluminium Walk Way	None
005 Accessories							
Low Profile LED light wired to an external switch							
Dumbo test point fitted							
Access Section							
Type	Hinged door	View Port	Yes	Light	Yes	Aluminium Walk Way	None
Heat Recovery Section (Plate Heat Exchanger)							
Type	Standard	Model	FM AL 07 N 0834 R 1 AE SM ABBP100	Material	1 Aluminum (AL)	ERP 2018	5 ErP2018 Effectiveness 73 %
PHX Face & Bypass	2 BP Lateral with damper	Actuator	No	Dry Efficiency	73.67 %	Total Efficiency	73.68 %
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	25.00 °C	Fresh Air on Db	30.00 °C	Return Air On Db	18.00 °C
Fresh Air on Wb	4.30 °C	Return Air On Wb	17.89 °C	Fresh Air on Wb	22.00 °C	Return Air On Wb	12.14 °C
Supply Air Off Db	20.69 °C	Exhaust Air Off Db	12.17 °C	Supply Air Off Db	21.16 °C	Exhaust Air Off Db	26.84 °C
Supply Air Off Wb	11.63 °C	Exhaust Air Off Wb	12.17 °C	Supply Air Off Wb	19.39 °C	Exhaust Air Off Wb	15.54 °C
Supply Air Off RH	31.82 %	Duty	9.45 kW	Supply Air Off RH	85.03 %	Duty	5.33 kW
006 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 850 mm	Tray Type	Full Fixed	Intermediate Tray	No
007 Accessories							
Low Profile LED light wired to an external switch							
Dumbo test point fitted							
Access Section							
Type	Hinged door	View Port	Yes	Light	Yes	Aluminium Walk Way	None

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Plenum Fan			
Air Volume	0.500 m ³ /s	Ext Static Pa	175
Model	K3G280PS10J5	Type	Plenum
Duty % Per Fan	Single Fan	Quantity	1
Impeller Type	Backward Curve	Make	EBM
Drive type	Direct Drive	Motor Type	EC
Dynamic Pa	28 Pa	Fan Total Pa	582 Pa
Abs Power	0.48 kW	Motor Power	1.05 kW
FLC Amps	1.60 A	Volts/Ph/Hz	400/3/ 50/60
Fan Speed	2523 rpm	Max Fan Speed	3400 rpm
Control Volts	6.41 V	Speed Pot	??
View Port	Yes	Isolator	ISL
Light	Yes	Quick release	??
SFP Value @	.76kW/m ³ /s		
Clean filters			



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

Frequency Hz	63	125	250	500	1K	2K	4K	8K
Inlet 1	62	65	70	67	64	62	62	57
Inlet 2	67	68	75	72	72	70	66	63

008 Accessories

Quick release fan terminal box fitted (stainless steel)

Fan wired to Isolator IP65

Fan wired to speed potentiometre

Dumbo test point fitted

Low Profile LED light wired to an external switch

test

Access Section

Type	Hinged door	View Port	Yes	Light	Yes	Aluminium Walk Way	None
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DX Cooling Coil

Medium	Refrigerant R32	Tube Material	Copper	Fin Material	Copper/PreTinned	Case Material	Stainless Steel 304
Air On Db	30.00 °C	Air Off Db	16.0 °C	Duty	(13.45 x 1) kW	Face Velocity	1.83
Air On Wb	22.00 °C	Air Off Wb	14.9 °C	SS DrainTray	Yes	DT Connection	22mm Plain
Air On RH	50.0 %	Air Off RH	89.5 %	DT fixed	Yes	DT Cleanable	Yes
Evap Temp	7.0 °C	Eliminators	not needed - Not Incl.	sets of conns	1	Internal vol	3.70
Rows	3	Fin Spacing	2.31mm (11/inch)	Inlet connection	1 x 7/8"	Outlet connection	1 x 1/2"

Reverse Cycle Heating

On coil Temp	11	Delta T	10	Conds Temp	45.00	Duty	6
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Drain Pan

Material	Stainless Steel (304)	Main Tray Size	400 x 850 mm	Tray Type	Full Fixed	Intermediate Tray	No
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010 Accessories

Low Profile LED light wired to an external switch

Dumbo test point fitted

Access Section

Type	Hinged door	View Port	Yes	Light	Yes	Aluminium Walk Way	None
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LPHW Heating Coil

Medium	Hot Water	Tube Material	Copper	Fin Material	Copper	Case Material	Galvanised
Air On Db	10.00 °C	Air Off Db	23.00 °C	Duty	(7.88 x 1) kW	Face Velocity	1.83

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Water flow temp	50.00°C	Water return temp	45.00°C	Flow Rate	(0.38 x 1) l/s	Water Pressure	15 KPa
Rows	2	Fin Spacing	4.23mm (6/inch)	Inlet connection	1"	Outlet connection	1"
Glycol type	None	Glycol %	0	No of sets of conns	1.00	Eliminators	None

012 Accessories

Low Profile LED light wired to an external switch

Dumbo test point fitted

Access Section

Type	Hinged door	View Port	Yes	Light	Yes	Aluminium Walk Way	None
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Bag Filter

Type	Metal hdr / Synthetic soft bag filter	Class EN	ISO ePM2.5 70% / (F7 EN779)	Withdrawal	Front	qty/ size	1 / 592x490
View Port	Yes	Light	Yes	Filter Depth	380 mm		
Gauge Type	Minihelic	Design Pa	Dirty	Spare set	1 Set		

013 Accessories

Minihelic 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
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Outlet Section

Air Flow	0.500 m³/s	Velocity	.90 m/s	Flanged Spigot	Yes	Open End	Ofair
Weather Louvre	No	Weather Cowl	No	Inlet guard	No	Bird Mesh	No
Damper	Yes	Actuator	No	Handle fitted	No	Dimensions	850 x 650 mm

Exhaust Components

Inlet Section

Air Flow	0.500 m³/s	Velocity	.90 m/s	Flanged Spigot	No	Open End	Onair
Weather Louvre	No	Weather Cowl	No	Inlet guard	No	Bird Mesh	No
Damper	Yes	Actuator	No	Handle fitted	No	Dimensions	850 x 650 mm

Panel Filter

Type	Cotton / Synthetic Fibre pre filter	Class EN	ISO Coarse 70% / (M5 EN779)	Withdrawal	Front	qty/ size	1 / 597x497
View Port	Yes	Light	Yes	Filter Depth	50 mm		
Gauge Type	Minihelic	Design Pa	Dirty	Spare set	1 Set		

016 Accessories

Minihelic 250Pa

Low Profile LED light wired to an external switch

Dumbo test point fitted

Access Section

Type	Hinged door	View Port	Yes	Light	Yes	Aluminium Walk Way	None
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017 Accessories

Low Profile LED light wired to an external switch

Dumbo test point fitted

Access Section

Type	Hinged door	View Port	Yes	Light	Yes	Aluminium	None
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						Walk Way	
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018 Accessories

Low Profile LED light wired to an external switch

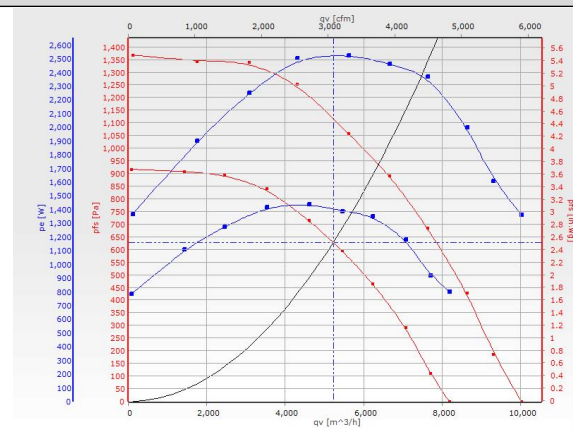
Dumbo test point fitted

Access Section

Type	Hinged door	View Port	Yes	Light	Yes	Aluminium Walk Way	None
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Plenum Fan

Air Volume	0.500 m ³ /s	Ext Static Pa	175
Model	K3G280PS10J5	Type	Plenum
Duty % Per Fan	Single Fan	Quantity	1
Impeller Type	Backward Curve	Make	EBM
Drive type	Direct Drive	Motor Type	EC
Dynamic Pa	28 Pa	Fan Total Pa	405 Pa
Abs Power	0.34 kW	Motor Power	1.05 kW
FLC Amps	1.60 A	Volts/Ph/Hz	400/3/ 50/60
Fan Speed	2228 rpm	Max Fan Speed	3400 rpm
Control Volts	5.58 V	Speed Pot	??
View Port	Yes	Isolator	ISL
Light	Yes	Quick release	??
SFP Value @ Clean filters	.62kW/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	60	62	64	62	61	59	60	53
Inlet 2	61	64	71	69	70	68	63	61

019 Accessories

Quick release fan terminal box fitted (stainless steel)

Fan wired to Isolator IP65

Fan wired to speed potentiometre

Dumbo test point fitted

Low Profile LED light wired to an external switch

test

Access Section

Type	Hinged door	View Port	Yes	Light	Yes	Aluminium Walk Way	None
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Plenum Section

Type	None	View Port	No	Light	None	Dimensions	500.0000 mm
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021 Accessories

Low Profile LED light wired to an external switch

Dumbo test point fitted

Access Section

Type	Hinged door	View Port	Yes	Light	Yes	Aluminium Walk Way	None
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Outlet Section

Air Flow	0.500 m ³ /s	Velocity	.90 m/s	Flanged Spigot	Yes	Open End	Ofair
Weather Louvre	No	Weather Cowl	No	Inlet guard	No	Bird Mesh	No
Damper	Yes	Actuator	No	Handle fitted	No	Dimensions	850 x 650 mm

022 Notes

Duct to atmosphere is by others

Acoustic Data Supply

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Frequency Hz	63	125	250	500	1K	2K	4K	8K	Overall dbA
Inlet	58	58	63	60	57	55	55	50	63
Outlet	61	61	68	65	65	63	59	56	70
Case Break Out To Atmosphere	46	46	48	36	29	25	18	15	41

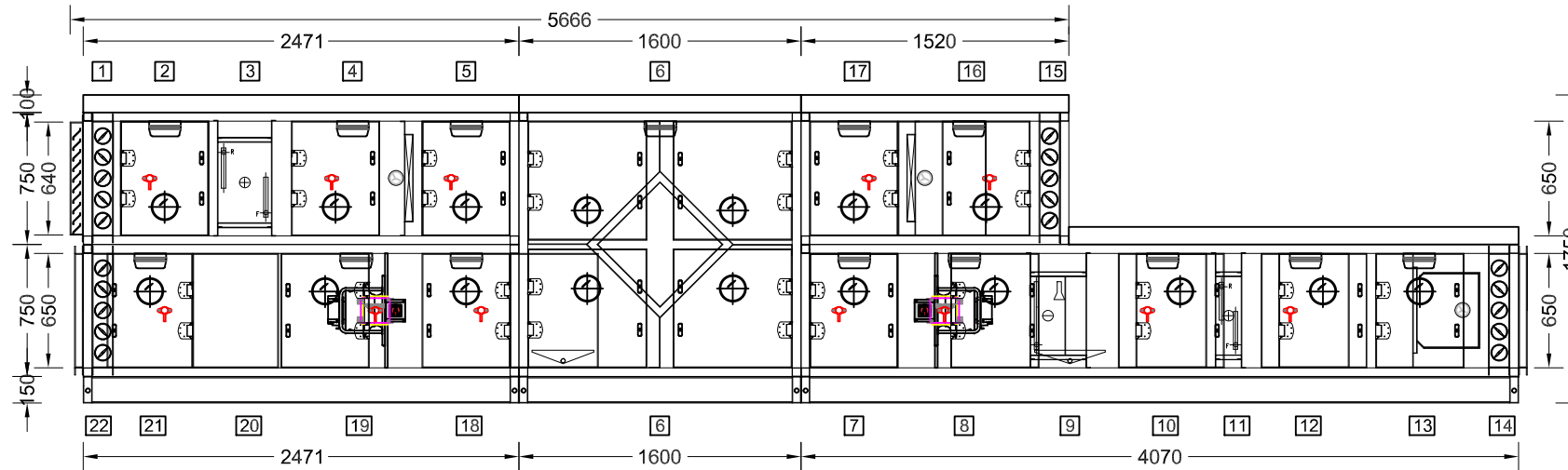
Acoustic Data Exhaust

Frequency Hz	63	125	250	500	1K	2K	4K	8K	Overall dbA
Inlet	57	57	59	57	56	54	55	48	62
Outlet	61	61	68	66	67	65	60	58	71
Case Break Out To Atmosphere	42	42	44	33	27	23	15	13	38

Specific Fan Power Value

Supply Air Flow	0.500 m ³ /s	Supply SFPv	.76 kW/m ³ /s	Extract Air Volume	0.500 m ³ /s	Extract SFPv	.62 kW/m ³ /s
Supply Abs Power	.38 Kw	Supply Filter State	Clean	Extract Abs Power	.31 Kw	Extract Filter State	Clean
AHU Specific Fan Power Value		1.38 kW/m ³ /s					

Supply:
 Size: Non-standard
 Airflow: 0.5 m3/s
 E.S.P.: 175 Pa
 Exhaust:
 Size: Non-standard
 Airflow: 0.5 m3/s
 E.S.P.: 175 Pa
 Unit Wgt: 1562.58 kg



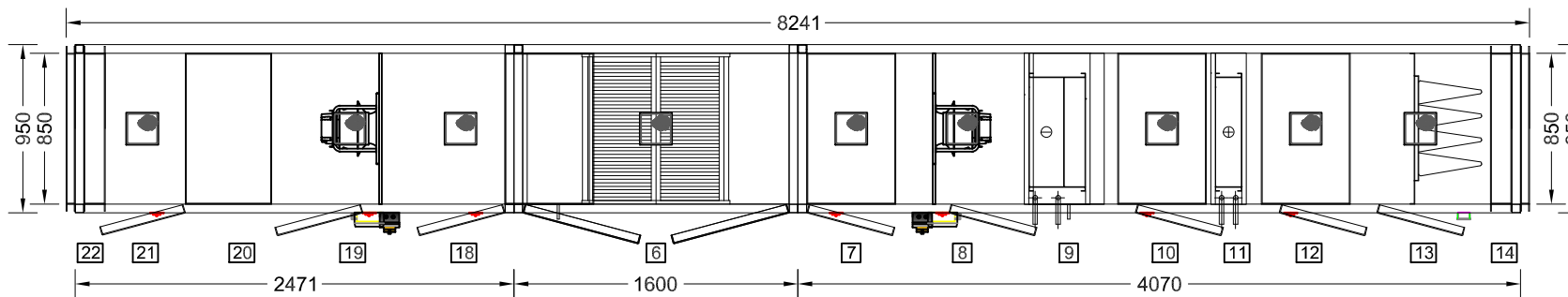
Section A:	
S.NoModule	Length(mm)
1 Inlet Section	186
2 Access Section	550
3 Fog / Frost Heating Coil	20
4 Panel Filter	740
5 Access Section	575
Section B:	
S.NoModule	Length(mm)
6 Plate heat exchanger	1600
Section C:	
S.NoModule	Length(mm)
7 Access Section	575
8 IE Motor Plug Fan	700
9 DX Cooling Coil	500
10 Access Section	550
11 Heating Coil	260
12 Access Section	550
13 Bag Filter	740
14 Outlet Section	195
Section D:	
S.NoModule	Length(mm)
15 Inlet Section	195
16 Panel Filter	750
17 Access Section	575
Section E:	
S.NoModule	Length(mm)
18 Access Section	575
19 IE Motor Plug Fan	700
20 Plenum Section	550
21 Access Section	536
22 Outlet Section	110

ELEVATION

Our Reference		AHU No.	AHU 1 MRI	Model	Non-standard	Initial	Date	FREDSHAW	No.	Revision	Date
Project	Barnsley Glass Works Phase 2	Air flow	0.5	m3/s		Selected					
Location	External	Quantity	1	Nos.		Approved					
						Dwg No.					

Supply:
 Size: Non-standard
 Airflow: 0.5 m3/s
 E.S.P.: 175 Pa
 Exhaust:
 Size: Non-standard
 Airflow: 0.5 m3/s
 E.S.P.: 175 Pa
 Unit Wgt: 1562.58 kg

Section A:	
S.NoModule	Length(mm)
1 Inlet Section	186
2 Access Section	550
3 Fog / Frost Heating Coil	120
4 Panel Filter	740
5 Access Section	575
Section B:	
S.NoModule	Length(mm)
6 Plate heat exchanger	1600
Section C:	
S.NoModule	Length(mm)
7 Access Section	575
8 IE Motor Plug Fan	700
9 DX Cooling Coil	500
10 Access Section	550
11 Heating Coil	260
12 Access Section	550
13 Bag Filter	740
14 Outlet Section	195
Section D:	
S.NoModule	Length(mm)
15 Inlet Section	195
16 Panel Filter	750
17 Access Section	575
Section E:	
S.NoModule	Length(mm)
18 Access Section	575
19 IE Motor Plug Fan	700
20 Plenum Section	550
21 Access Section	536
22 Outlet Section	110

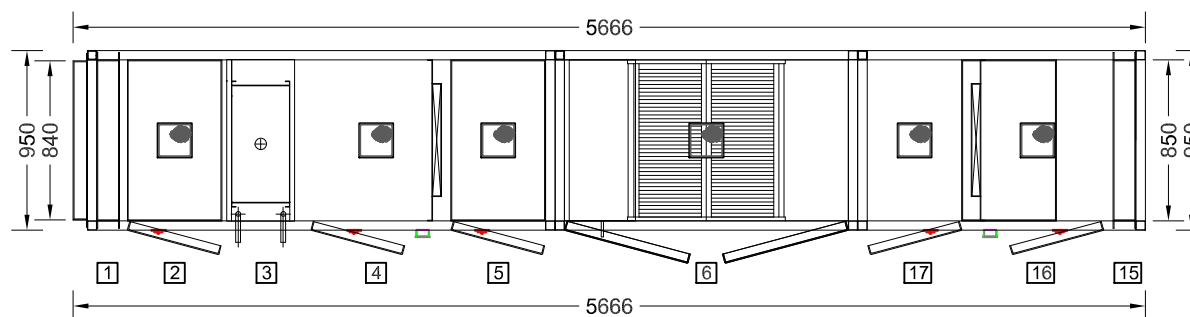


PLAN LOWER DECK

Our Reference .		AHU No.	AHU 1 MRI		Not To Scale All Dimensions shown are in mm		All dimensions shown are estimated. Detailed drawings to be produced on receipt of order.		FREDSHAW	No.	Revision	Date
Project	Barnsley Glass Works Phase 2	Model	Non-standard		Selected	Initial	Date					
Location	External	Air flow	0.5	m3/s	Approved							
		Quantity	1	Nos.	Dwg No.							

Supply:
 Size: Non-standard
 Airflow: 0.5 m3/s
 E.S.P.: 175 Pa
 Exhaust:
 Size: Non-standard
 Airflow: 0.5 m3/s
 E.S.P.: 175 Pa
 Unit Wgt: 1562.58 kg

Section A:		
S.No	Module	Length(mm)
1	Inlet Section	186
2	Access Section	550
3	Fog / Frost Heating Coil	120
4	Panel Filter	740
5	Access Section	575
Section B:		
S.No	Module	Length(mm)
6	Plate heat exchanger	1600
Section C:		
S.No	Module	Length(mm)
7	Access Section	575
8	IE Motor Plug Fan	700
9	DX Cooling Coil	500
10	Access Section	550
11	Heating Coil	260
12	Access Section	550
13	Bag Filter	740
14	Outlet Section	195
Section D:		
S.No	Module	Length(mm)
15	Inlet Section	195
16	Panel Filter	750
17	Access Section	575
Section E:		
S.No	Module	Length(mm)
18	Access Section	575
19	IE Motor Plug Fan	700
20	Plenum Section	550
21	Access Section	536
22	Outlet Section	110



PLAN UPPER DECK

		AHU No.	AHU 1 MRI		Not To Scale All Dimensions shown are in mm		All dimensions shown are estimated. Detailed drawings to be produced on receipt of order.		FREDSHAW	No.	Revision	Date
Our Reference		Model	Non-standard			Initial	Date					
Project	Barnsley Glass Works Phase 2	Air flow	0.5	m3/s	Selected							
Location	External	Quantity	1	Nos.	Approved							
					Dwg No.							