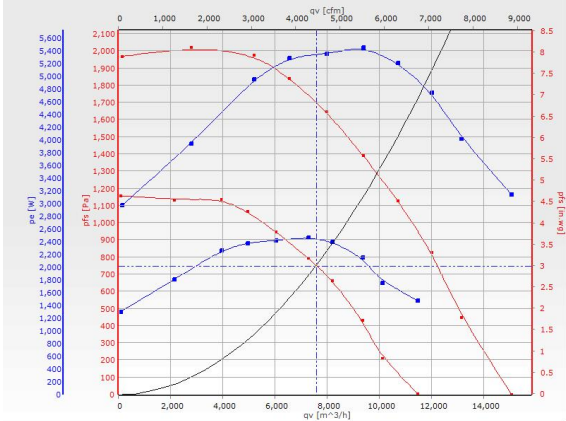


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Project Details											
Our Reference		GT4681			Prepared By			Gary Tingle			
Project Reference		Barnsley Glass Works Phase 2			AHU Reference			AHU 2 general/CT Rev1			
Date		04 /01/2023			AHU Number			AHU 2 REV1			
General Details											
Supply Duty		2.100 m³/s @ 350 external static Pa			Extract Duty			2.100 m³/s @ 350 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		1800 mm		1250 mm		2840 mm		893 kg			
B		1800 mm		2200 mm		500 mm		238 kg			
C		1800 mm		1250 mm		4590 mm		914 kg			
D		1800 mm		1200 mm		3520 mm		969 kg			
E		1800 mm		1200 mm		2840 mm		781 kg			
Overall Dimensions & Weights											
		Width		Height		Length		Weight			
		1800 mm		2450 mm		7930 mm		3795 kg			
Supply Components											
Inlet Section											
Air Flow	2.100 m³/s	Velocity	1.24 m/s	Flanged Spigot	Yes	Open End	Onair				
Weather Louvre	No	Weather Cowl	Yes	Inlet guard	No	Bird Mesh	No				
Damper	Yes	Actuator	No	Handle fitted	No	Dimensions	1700 x 1000 mm				
Sound Attenuator											
Air Way Vel	2.72	Face Vel	1.27	Number Full Splitters	5	Number Side Splitters	2				
Splitter Thickness	150	Splitter Insulation	Mineral Wool	Splitter Face	2	Melinex Lined	60kg/m3 (Scrim)				
Static Insertion loss			HZ	63	125	250	500	1K	2K	4K	8K
			db	11	11	15	21	17	11	9	8
002 Notes											
Melinex Lined											
003 Accessories											
Low Profile LED light wired to an external switch											
Access Section											
Type	Hinged door	View Port	Yes	Light	Yes	Aluminium Walk Way	None				
Frost/Fog Coil											
Medium	LTHW	Tube Material	CU	Fin Material	No Fins	Case Material	FeZn 1.5 mm				
Air On Db	-8.00 °C	Air Off Db	5.00 °C	Duty	(33.09 x 1) kW	Stages	5				
Water flow temp	70.00°C	Water return temp	50.00°C	Flow Rate	(0.40 x 1) l/s	Water Pressure	13.29 KPa				
Rows	7	Fin Spacing	No Fins	Inlet connection	3/4"	Outlet connection	3/4"				
Glycol type	None	Glycol %	0	No of sets of	1	Eliminators	None				

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				conns				
005 Accessories								
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 (Thermal Wheel)								
Type	3:RRU_Screwed galv <2500	Model	RRU(eco)-P-E18-1330/1330-1280-No-E4-FanArr1-2x2.5 Purge	Material	0: Auto	ERP 2018	Yes	
Purge Section	2x2.5 Purge	Speed Controller	NONE	Dry Efficiency	73.74 %	Total Efficiency	71.6 %	
Motor	0.09 kW	Amps FLC	0.64	Volts/Ph/Hz	240/1/50	Isolator IP65	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	
Supply Air Off Db	19.77 °C	Return Air On Wb	10.95 °C	Supply Air Off Db	21.41 °C	Return Air On Wb	26.64 °C	
Supply Air Off Wb	12.78 °C	Exhaust Air Off Db	11.39 °C	Supply Air Off Wb	19.39 °C	Exhaust Air Off Db	15.53 °C	
Supply Air Off RH	44.2 %	Duty	46.94 kW	Supply Air Off RH	50.0 %	Duty	-22.16 kW	
Access Section								
Type	Hinged door	View Port	None	Light	None	Aluminium Walk Way	None	
007 Accessories								
Low Profile LED light wired to an external switch								
Access Section								
Type	Hinged door	View Port	Yes	Light	Yes	Aluminium Walk Way	None	
Plenum Fan								
Air Volume	2.100 m³/s	Ext Static Pa	350					
Model	K3G450PB2405	Type	Plenum					
Duty % Per Fan	Single Fan	Quantity	1					
Impeller Type	Backward Curve	Make	EBM					
Drive type	Direct Drive	Motor Type	EC					
Dynamic Pa	55 Pa	Fan Total Pa	805 Pa					
Abs Power	2.43 kW	Motor Power	5.25 kW					
FLC Amps	8.00 A	Volts/Ph/Hz	400/3/ 50/60					
Fan Speed	1990 rpm	Max Fan Speed	2600 rpm					
Control Volts	6.67 V	Speed Pot	??					
View Port	Yes	Isolator	ISL					
Light	Yes	Quick release	??					
SFP Value @ Clean filters	1.06kW/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	65	75	76	72	73	74	75	68
Inlet 2	67	77	76	78	87	81	78	73
008 Accessories								
Dumbo test point fitted								
Low Profile LED light wired to an external switch								
Quick realese fan terminal box fitted (stainless steel)								
Fan wired to speed potentiometre								
Fan wired to Isolator IP65								

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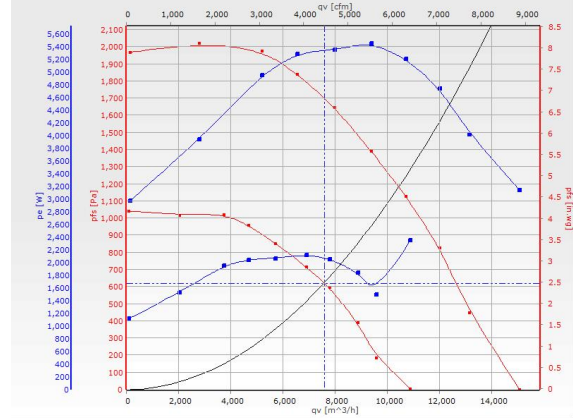
test							
Access Section							
Type	Hinged door	View Port	Yes	Light	Yes	Aluminium Walk Way	None
DX Cooling Coil							
Medium	Refrigerant R32	Tube Material	CU	Fin Material	AL-0.10	Case Material	FeZn 1.5 mm
Air On Db	29.90 °C	Air Off Db	12.0 °C	Duty	(62.62 x 1) kW	Face Velocity	1.79
Air On Wb	20.00 °C	Air Off Wb	11.3 °C	SS DrainTray	Yes	DT Connection	22mm Plain
Air On RH	40.2 %	Air Off RH	92.5 %	DT fixed	Yes	DT Cleanable	Yes
Evap Temp	7.00 °C	Eliminators	Integrated into coil	sets of conns	1	Internal vol	14.80
Rows	4	Fin Spacing	3.00	Inlet connection	5.00	Outlet connection	2x35 mm
Reverse Cycle Heating							
On coil Temp	11	Delta T		Conds Temp	45.00	Duty	
009 Notes							
3 stages							
Drain Pan							
Material	Stainless Steel (304)	Main Tray Size	660 x 1700 mm	Tray Type	Full Fixed	Intermediate Tray	No
010 Accessories							
Low Profile LED light wired to an external switch							
Access Section							
Type	Hinged door	View Port	Yes	Light	Yes	Aluminium Walk Way	None
LPHW Heating Coil							
Medium	Hot Water	Tube Material	CU	Fin Material	AL-0.11	Case Material	FeZn 1.5 mm
Air On Db	12.00 °C	Air Off Db	25.00 °C	Duty	(33.08 x 1) kW	Face Velocity	1.79
Water flow temp	70.00°C	Water return temp	50.00°C	Flow Rate	(0.40 x 1) l/s	Water Pressure	12.55 KPa
Rows	1	Fin Spacing	2.50	Inlet connection	3/4"	Outlet connection	3/4"
Glycol type	None	Glycol %	0	No of sets of conns	1	Eliminators	None
012 Accessories							
Low Profile LED light wired to an external switch							
Access Section							
Type	Hinged door	View Port	Yes	Light	Yes	Aluminium Walk Way	None
Bag Filter							
Type	Metal hdr / Synthetic soft bag filter	Class EN	ISO ePM2.5 70% / (F7 EN779)	Withdrawal	Front	qty/ size	2 / 592x592 ,1 / 287x592 ,2 / 592x287
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							
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	2.100 m³/s	Velocity	1.24 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	1700 x 1000 mm				
Exhaust Components											
Inlet Section											
Air Flow	2.100 m³/s	Velocity	1.24 m/s	Flanged Spigot	Yes	Open End	Onair				
Weather Louvre	No	Weather Cowl	No	Inlet guard	No	Bird Mesh	No				
Damper	Yes	Actuator	No	Handle fitted	No	Dimensions	1700 x 1000 mm				
Panel Filter											
Type	Cotton / Synthetic Fibre pre filter	Class EN	ISO Coarse 70% / (M5 EN779)	Withdrawal	Front	qty/ size	2 / 596x596 ,1 / 292x597 ,2 / 597x292				
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				
017 Accessories											
Low Profile LED light wired to an external switch											
Access Section											
Type	Hinged door	View Port	Yes	Light	Yes	Aluminium Walk Way	None				
Sound Attenuator											
Air Way Vel	2.72	Face Vel	1.27	Number Full Splitters	5	Number Side Splitters	2				
Splitter Thickness	150	Splitter Insulation	Mineral Wool	Splitter Face	2	Melinex Lined	60kg/m3 (Scrim)				
Static Insertion loss			HZ	63	125	250	500	1K	2K	4K	8K
			db	16	16	19	26	22	16	14	11
018 Notes											
Melinex Lined											
019 Accessories											
Low Profile LED light wired to an external switch											
Access Section											
Type	Hinged door	View Port	Yes	Light	Yes	Aluminium Walk Way	None				
020 Accessories											
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			
Air Volume	2.100 m ³ /s	Ext Static Pa	350
Model	K3G450PB2405	Type	Plenum
Duty % Per Fan	Single Fan	Quantity	1
Impeller Type	Backward Curve	Make	EBM
Drive type	Direct Drive	Motor Type	EC
Dynamic Pa	55 Pa	Fan Total Pa	677 Pa
Abs Power	2.05 kW	Motor Power	5.25 kW
FLC Amps	8.00 A	Volts/Ph/Hz	400/3/ 50/60
Fan Speed	1889 rpm	Max Fan Speed	2600 rpm
Control Volts	6.30 V	Speed Pot	??
View Port	Yes	Isolator	ISL
Light	Yes	Quick release	??
SFP Value @	.92kW/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	64	75	74	71	72	72	75	67
Inlet 2	66	77	75	77	87	79	78	72

021 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

Type	Hinged door	View Port	Yes	Light	Yes	Aluminium Walk Way	None
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Sound Attenuator

Air Way Vel	2.72	Face Vel	1.27	Number Full Splitters		5		Number Side Splitters		2	
Splitter Thickness	150	Splitter Insulation	Mineral Wool	Splitter Face		2		Melinex Lined		60kg/m3 (Scrim)	
Static Insertion loss			HZ	63	125	250	500	1K	2K	4K	8K
			db	11	11	15	21	17	11	9	8

022 Notes

Melinex Lined

Outlet Section

Air Flow	2.100 m ³ /s	Velocity	1.24 m/s	Flanged Spigot	No	Open End	Ofair
Weather Louvre	Yes	Weather Cowl	No	Inlet guard	No	Bird Mesh	Yes
Damper	Yes	Actuator	No	Handle fitted	No	Dimensions	1700 x 1000 mm

Acoustic Data Supply

Frequency Hz	63	125	250	500	1K	2K	4K	8K	Overall dbA
Inlet	58	58	55	45	50	57	60	54	63
Outlet	70	70	69	71	80	74	71	66	82
Case Break Out To Atmosphere	55	55	49	42	44	36	30	25	48

Acoustic Data Exhaust

Frequency Hz	63	125	250	500	1K	2K	4K	8K	Overall dbA
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Inlet	53	53	49	39	44	50	55	50	58
Outlet	64	64	58	54	68	66	67	62	73
Case Break Out To Atmosphere	55	55	48	41	44	34	30	24	47

Specific Fan Power Value							
Supply Air Flow	2.100 m ³ /s	Supply SFPv	1.06 kW/m ³ /s	Extract Air Volume	2.100 m ³ /s	Extract SFPv	.92 kW/m ³ /s
Supply Abs Power	2.22 Kw	Supply Filter State	Clean	Extract Abs Power	1.93 Kw	Extract Filter State	Clean
AHU Specific Fan Power Value	1.98 kW/m ³ /s						

Supply:
 Size: Non-standard
 Airflow: 2.1 m3/s
 E.S.P.: 350 Pa
 Exhaust:
 Size: Non-standard
 Airflow: 2.1 m3/s
 E.S.P.: 350 Pa
 Unit Wgt: 3794.78 kg



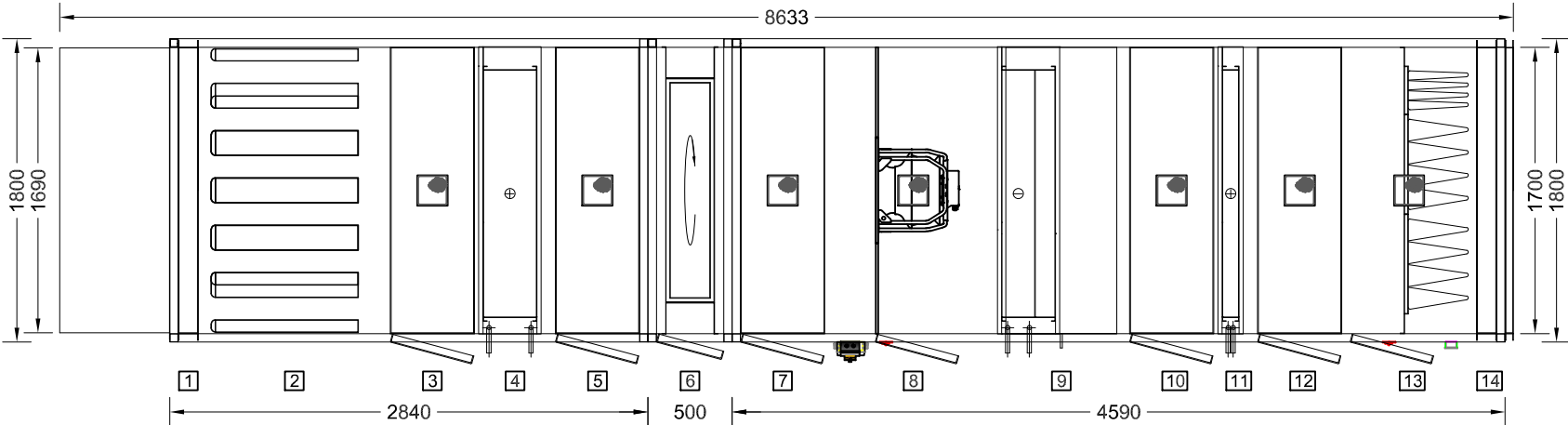
Section A:	
S.No	Module
1	Inlet Section
2	Attenuator
3	Access Section
4	Fog / Frost Heating Coil
5	Access Section
Section B:	
S.No	Module
6	Thermal Wheel
Section C:	
S.No	Module
7	Access Section
8	IE Motor Plug Fan
9	DX Cooling Coil
10	Access Section
11	Heating Coil
12	Access Section
13	Bag Filter
14	Outlet Section
Section D:	
S.No	Module
15	Inlet Section
16	Panel Filter
17	Access Section
18	Attenuator
19	Access Section
Section E:	
S.No	Module
20	Access Section
21	IE Motor Plug Fan
22	Attenuator
23	Outlet Section

ELEVATION

Our Reference		AHU No.	AHU 2 REV1		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		Model	Non-standard		Selected	Initial	Date					
Location		Air flow	2.1	m3/s	Approved							
		Quantity	1	Nos.	Dwg No.							
Barnsley Glass Works Phase 2												
External												

Supply:
Size: Non-standard
Airflow: 2.1 m3/s
E.S.P.: 350 Pa
Exhaust:
Size: Non-standard
Airflow: 2.1 m3/s
E.S.P.: 350 Pa
Unit Wgt: 3794.78 kg

Section A:	
S.No	Module
Length(mm)	
1	Inlet Section
2	Attenuator
3	Access Section
4	Fog / Frost Heating Coils
5	Access Section
Section B:	
S.No	Module
Length(mm)	
6	Thermal Wheel
Section C:	
S.No	Module
Length(mm)	
7	Access Section
8	IE Motor Plug Fan
9	DX Cooling Coil
10	Access Section
11	Heating Coil
12	Access Section
13	Bag Filter
14	Outlet Section
Section D:	
S.No	Module
Length(mm)	
15	Inlet Section
16	Panel Filter
17	Access Section
18	Attenuator
19	Access Section
Section E:	
S.No	Module
Length(mm)	
20	Access Section
21	IE Motor Plug Fan
22	Attenuator
23	Outlet Section

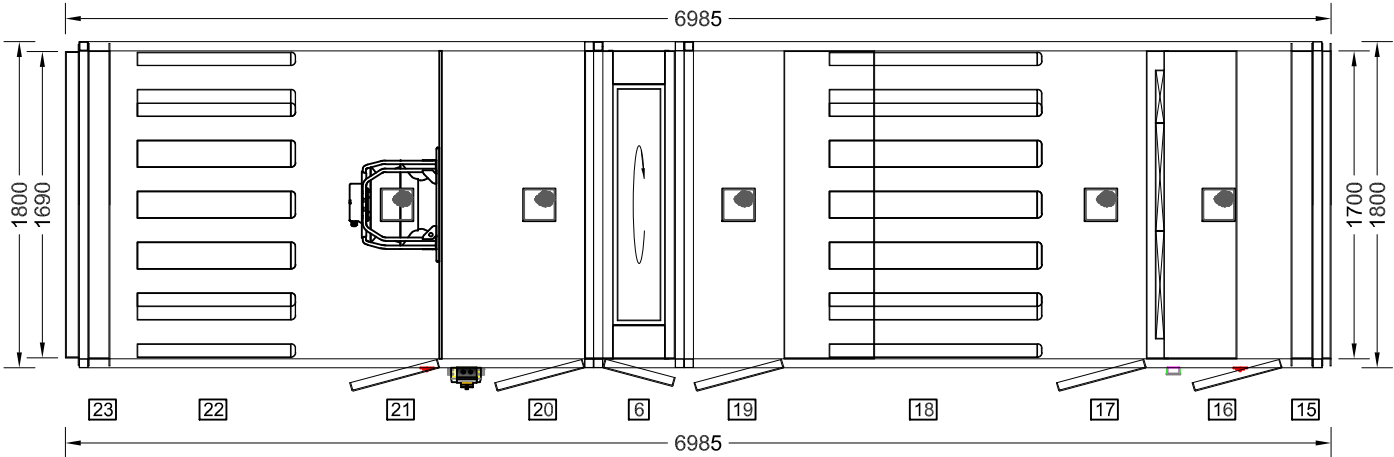


PLAN LOWER DECK

		AHU No.	AHU 2 REV1		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	2.1	m3/s	Selected							
					Approved							
Location	External	Quantity	1	Nos.	Dwg No.							

Supply:
Size: Non-standard
Airflow: 2.1 m3/s
E.S.P.: 350 Pa
Exhaust:
Size: Non-standard
Airflow: 2.1 m3/s
E.S.P.: 350 Pa
Unit Wgt: 3794.78 kg

Section A:	
<u>S.No</u>	<u>Module</u>
1	Inlet Section
2	Attenuator
3	Access Section
4	Fog / Frost Heating Coil
5	Access Section
Section B:	
<u>S.No</u>	<u>Module</u>
6	Thermal Wheel
Section C:	
<u>S.No</u>	<u>Module</u>
7	Access Section
8	IE Motor Plug Fan
9	DX Cooling Coil
10	Access Section
11	Heating Coil
12	Access Section
13	Bag Filter
14	Outlet Section
Section D:	
<u>S.No</u>	<u>Module</u>
15	Inlet Section
16	Panel Filter
17	Access Section
18	Attenuator
19	Access Section
Section E:	
<u>S.No</u>	<u>Module</u>
20	Access Section
21	IE Motor Plug Fan
22	Attenuator
23	Outlet Section



PLAN UPPER DECK

		AHU No.	AHU 2 REV1		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	2.1	m3/s	Selected							
					Approved							
Location	External	Quantity	1	Nos.	Dwg No.							