Supply Specification Notes:

HEATER SECTION

LOADING	:24.0 kW	NO. OF STAGES	:1
ELEMENT TYPE	:SUIT THYRISTOR	ELECTRICAL SUPPLY	:415V 3Ph 50Hz
AIR ON	:-4.0 °C	AIR OFF	:4.0
VELOCITY	:2.49 m/s		

* NOTE: THYRISTOR CONTROL BY OTHERS
* NOTE: INCOMING POWER SUPPLY/ISOLATOR BY OTHERS

FILTER SECTION

GRADE & TYPE	:G4 PANEL (METAL CASING)		
QUANTITY & SIZE	:2@610x610x50	QUANTITY & SIZE	:2@610x305x50
PART NO.	:PP24242WOMMC	PART NO.	:PP24122WOMMC
QUANTITY & SIZE	:1@305x610x50	QUANTITY & SIZE	:N/A
PART NO.	:PP12242WOMMC		
CLEAN CONDITION	:52Pa	PART NO.	:N/A
DIRTY CONDITION	:100Pa	SPARE MEDIA SET	:1

PLATE HEAT EXCHANGER SECTION

FULL PART CODE :SV-100/-E/1695/BSK187,4P,H

DUTY	:38.6	kW	TEMP EFFICIENCY	:79.6	%
BYPASS DAMPER	:FITTED		EFFICIENCY (EnP)	:73.3	%

SUMMER CONDITIONS:

SUPPLY VOLUME	:2.35	m³/s	EXHAUST VOLUME	:2.35	m³/s
AIR ON	:32.0	°C	AIR ON	:24.0	°C
AIR OFF	:26.1	°C	AIR OFF	:29.9	°C
PRESSURE DROP	:210.0	Pa	PRESSURE DROP	:208.0	Pa

WINTER CONDITIONS:

SUPPLY VOLUME	:2.35	m³/s	EXHAUST VOLUME	:2.35	m³/s
AIR ON	:4.0	°C	AIR ON	:21.0	°C
AIR OFF	:17.5	°C	AIR OFF	:9.0	°C
PRESSURE DROP	:195.0	Pa	PRESSURE DROP	:200.0	Pa

FAN SECTION – EC (RUN/STANDBY)

TYPE	: SUPPLY	EXT. STATIC PRESS.	: 400 Pa
AIR VOLUME	: 2.35 m³/s	TOT. STATIC PRESS.	: 986 Pa
FAN SIZE	: GR56C-ZD.GQ.CR 116849/A01 CUBE		
BLADE TYPE	: BACKWARD	MOTOR POWER	: 2x 6.0 kW
FAN SPEED	: 1574 R.P.M.	FULL LOAD CURRENT	: 2x 9.4 Amps
POWER INPUT	: 3.496 kW	VOLTAGE SET POINT	: 8.5 V
EFFICIENCY	: 66.3 %	ELECTRICAL SUPPLY	: 400V 3Ph 50Hz

SOUND SPECTRUM	63	125	250	500	1K	2K	4K	8K	(Hz)
FAN INLET	80	82	80	77	74	72	67	64	(dB)
FAN OUTLET	85	88	86	84	82	78	73	69	(dB)

* NOTE: THE FAN MANUFACTURERS NOISE DATA WE HAVE DECLARED IS TESTED IN ACCORDANCE WITH DIN 463 PART 38 & 39, BS848 PART 2 & ISO 5136. IN ORDER TO ALLOW FOR THE EFFECTS IF INSTALLING A FAN IN AN AHU SECTION. APPLY A CORRECTION OF +6dB ACROSS THE SPECTRUM FROM 63Hz TO 8KHz

COIL SECTION – COOLING

COIL MODEL	:48-0540-8982				
MEDIUM	:R410A				
AIR ON	:26.1	°C	DUTY	:67.0	kW
RELATIVE HUMID.	:--	%	CIRC. LOAD	:22.33	kW
AIR OFF	:12.36	°C	EVAP. TEMPERATURE	:6.0	°C
RELATIVE HUMID.	:--	%	PRESSURE DROP	:--	kPa
FACE VELOCITY	:2.2	m/s	NO. OF CIRCUITS	:3	
AIR PRESS. DROP	:76.0	Pa	HOT GAS BYPASS	:--	
SENS. HEAT RATIO	:--		FLUID CONTENT	:20.0	dm3
TUBE MATERIAL	:COPPER		INLET CONN.	:3x 5/8"	
FIN MATERIAL	:ALUVER		OUTLET CONN.	:3x 1 1/8"	

COIL SECTION – HEATING

COIL MODEL	:48-0540-8982				
MEDIUM	:R410A				
AIR ON	:15.0	°C	DUTY	:25.51	kW
RELATIVE HUMID.	:--	%	CIRC. LOAD	:8.5	kW
AIR OFF	:24.0	°C	COND. TEMPERATURE	:40.0	°C
RELATIVE HUMID.	:--	%	PRESSURE DROP	:--	kPa
FACE VELOCITY	:2.2	m/s	NO. OF CIRCUITS	:3	
AIR PRESS. DROP	:55.0	Pa	FLUID CONTENT	:20.0	dm3
TUBE MATERIAL	:COPPER		INLET CONN.	:3x 1 1/8"	
FIN MATERIAL	:ALUVER		OUTLET CONN.	:3x 5/8"	

FILTER SECTION

GRADE & TYPE	:F7 HI FLO BAG		
QUANTITY & SIZE	:2@610x610x520	QUANTITY & SIZE	:2@610x305x520
PART NO.	:27606052PES	PART NO.	:27603052PES
QUANTITY & SIZE	:1@305x610x520	QUANTITY & SIZE	:N/A
PART NO.	:27306052PES		
CLEAN CONDITION	:54Pa	PART NO.	:N/A
DIRTY CONDITION	:175Pa	SPARE MEDIA SET	:1

Extract Specification Notes:

FILTER SECTION

GRADE & TYPE	:M5 BAG		
QUANTITY & SIZE	:2@610x610x370	QUANTITY & SIZE	:2@610x305x370
PART NO.	:25606037AB	PART NO.	:25603037AB
QUANTITY & SIZE	:1@305x610x370	QUANTITY & SIZE	:N/A
PART NO.	:25306037AB		
CLEAN CONDITION	:43Pa	PART NO.	:N/A
DIRTY CONDITION	:100Pa	SPARE MEDIA SET	:1

PLATE HEAT EXCHANGER SECTION

(SEE SUPPLY SPECIFICATION)

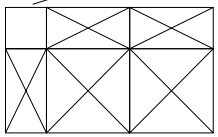
FAN SECTION – EC (RUN/STANDBY)

TYPE	: EXTRACT	EXT. STATIC PRESS.	: 400 Pa
AIR VOLUME	: 2.35 m³/s	TOT. STATIC PRESS.	: 898 Pa
FAN SIZE	: GR56C-ZD.GL.CR 116181/A01 SPIDER		
BLADE TYPE	: BACKWARD	MOTOR POWER	: 2x 5.0 kW
FAN SPEED	: 1393 R.P.M.	FULL LOAD CURRENT	: 2x 8.0 Amps
POWER INPUT	: 2.47 kW	VOLTAGE SET POINT	: 8.0 V
EFFICIENCY	: 66.4 %	ELECTRICAL SUPPLY	: 400V 3Ph 50Hz

SOUND SPECTRUM	63	125	250	500	1K	2K	4K	8K	(Hz)
FAN INLET	73	81	76	72	70	68	65	60	(dB)
FAN OUTLET	78	86	80	80	78	74	70	65	(dB)

* NOTE: THE FAN MANUFACTURERS NOISE DATA WE HAVE DECLARED IS TESTED IN ACCORDANCE WITH DIN 463 PART 38 & 39, BS848 PART 2 & ISO 5136. IN ORDER TO ALLOW FOR THE EFFECTS IF INSTALLING A FAN IN AN AHU SECTION. APPLY A CORRECTION OF +6dB ACROSS THE SPECTRUM FROM 63Hz TO 8KHz

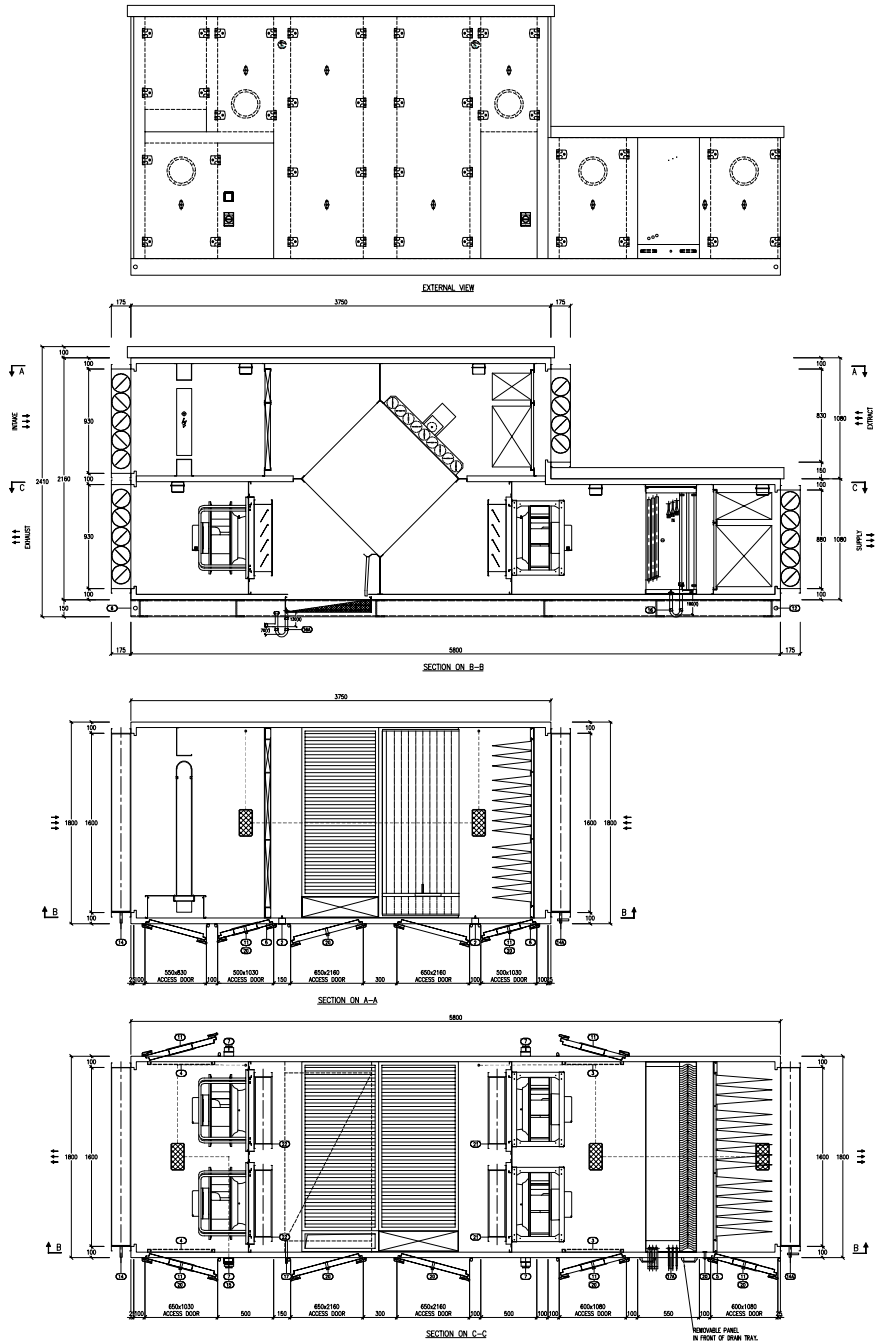
FILTER BLANKING PIECE



SFP int - 757.56 **W/(m³/s)**

SFP_V - 2.23 **W/l/s**

SFP_E - – **W/l/s**



ELECTRIC HEATER MANDATORY REQUIREMENTS

- HEATER MUST BE ELECTRICALLY INTERLOCKED WITH FAN BY OTHERS
- AIRFLOW PROOFING IS REQUIRED TO ENERGIZE THE HEATER BY OTHERS
- A FAN OVERRUN IS REQUIRED BY OTHERS TO DISSIPATE HEAT FROM THE ELEMENTS
- SHUT DOWN ON FIRE ALARM MUST BE A CONTROLLED SHUTDOWN INCLUDING FAN OVERRUN
- WHERE A SYSTEM IS VARIABLE AIR VOLUME THE FACE VELOCITY OVER THE HEATER ELEMENTS MUST NOT DROP BELOW 2.0 m/s AND THE HEATER MUST BE THYRISTOR CONTROLLED
- HEATER IS PROVIDED WITH HIGH TEMPERATURE CUT OUT FOR MANUAL RESET ONLY

CONSTRUCTION & FINISH

- PANEL THICKNESS : 50mm
- OUTER PANEL : GOOSEWING GREY PLASTISOL
- INNER PANEL : GALVANISED STEEL
- PANEL INFILL TYPE : FOAM (45Kg/m3)
- BASE REQUIRED : CHANNEL BASE PAINTED NCP/S2 – MATT BLACK
- INTERNALS : GALV STEEL (SELF FINISH)
- DOOR HINGE TYPE : UNIVERSAL COMPRESSION HINGE (SC – SAFETY CATCH FITTED)
- ROOF FITTED (TWIN PITCHED TYPE)

UNIT WEIGHT & DIMENSIONS

- AHU SUPPLIED TO SITE IN : ONE SECTION AHU LOCATION : EXTERNAL UNIT

SECTIONS	SIZE (WxHxL – mm)	WEIGHT (Kgs)
1	1800x2410x6150	2188

- SIZES EXCLUDE COIL CONNECTIONS AND ELECTRICAL COMPONENTS
- FACTORY ASSEMBLED SECTIONS TO BE FIXED TOGETHER AND BASE STEELS FIXED TO UNIT FRAME
- PLEASE REFER TO OFFICE FOR FURTHER DETAILS

- UNIT APPROX. TOTAL WEIGHT : 2188 Kgs (+/– 10%)

2	FLUSH MOUNTED 0–250 Pa PRESSURE GAUGE & FIXING – PART No : PC-DPG2-5000-250
3	SUPPLY FAN WIREMESH DOOR GUARD : 550Wx975H (x2)
4	EXTRACT FAN WIREMESH DOOR GUARD : 600Wx1000H (x2)
5	FILTER WITHDRAWAL TYPE : SIDE WITHDRAWAL
6	BASE MATERIAL : 150x75 R.S.C (SHOT BLASTED & PRIMED) – FULL PERIMETER
7	FOR MOTOR WIRED TO ISOLATOR ONLY – AHU MOTOR PREWIRED TO AN IP66 EXTERNAL ISOLATOR, INSTALLATION TO COMPLY WITH BS7671 IET REGULATIONS – CABLE TYPE: SY (STANDARD)
11	ø215mm POLYCARBONATE VIEWPORT : KIT PART – PCOBP035
12	LIFTING METHOD : ø65mm LIFTING POINT
14	LOW LOSS GALVANISED STEEL OPPOSED BLADE DAMPER CONTROL: MOTORISED BY OTHERS
14A	LOW LOSS GALVANISED STEEL OPPOSED BLADE DAMPER CONTROL: COMPLETE WITH MANUAL HAND QUADRANT
16	DRAIN TRAP : POSITIVE TRAP REQUIRED – SUPPLIED BY OTHERS DRAIN TRAP SEAL (X) = 190mm DRAIN TRAP DOES EXCEED BASE DIMENSIONS – SITE MODIFICATION MAY BE REQUIRED
16A	DRAIN TRAP : NEGATIVE TRAP REQUIRED – SUPPLIED BY OTHERS DRAIN TRAP SEAL (X) = 130mm – 'Y' TO BE AT LEAST 50% OF 'X' DRAIN TRAP DOES EXCEED BASE DIMENSIONS – SITE MODIFICATION MAY BE REQUIRED
17	FIXED TRAY MATERIAL : 20 SWG 304 2B STAINLESS STEEL DRAIN CONNECTION TYPE : 3/4" BSP STAINLESS STEEL (AHS) TRAY TYPE : HTM 1 (DP2) – STAINLESS TRAY & GALVANISED COVER
17A	FIXED TRAY MATERIAL : 20 SWG 304 2B STAINLESS STEEL DRAIN CONNECTION TYPE : 3/4" BSP STAINLESS STEEL (3T) TRAY TYPE : INTEGRAL – SUPPLIED WITH COIL
20	TEST POINT REQUIRED – STANDARD TYPE – PART No : DDTH
21	SUPPLY FAN BACK DRAUGHT DAMPER : 600x600mm (x2)
22	EXTRACT FAN BACK DRAUGHT DAMPER : 600x600mm (x2)

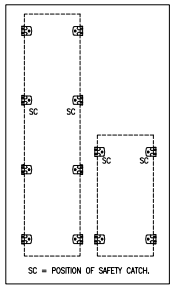
MANUFACTURING NOTES

ALL FIXED PANELS SECURED WITH DRILL SCREWS EXTERNAL TO AHU UNLESS SPECIFIED.

ACCESS DOORS HINGED FOR LEFT & RIGHT HAND OPERATION, THE ACCESS DOORS ARE DE-MOUNTABLE BUT CARE MUST BE TAKEN DURING LIFTING, ESPECIALLY WHERE DOOR WEIGHT EXCEEDS 20Kg (PANEL WEIGHT – 15Kg/m2).

AHU MANUFACTURED IN ACCORDANCE WITH HEVAC DW143 CLASS B & BS EN 1886 L2.

- AHU SECTIONS AIRFLEX NUMBERS :
  SEC 1 : AF067



SC = POSITION OF SAFETY CATCH.

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ahs™ innovation through heritage

CLIENT: RICHARD STEPHENS & PARTNERSHIP

PROJECT: ROYAL FREE HOSPITAL, TEMP ITU

UNIT REF: AHU 1

DRAWN BY: GM **ENG:** STEPHEN BROWNLEE-DIXON **CHK BY:**

DRAWING NUMBER: **4463-20929-1** **REV:** 1

SCALE: 1:25 @ A1 **DATE:** 20/05/20

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FIRST ANGLE PROJECTION

SITE INSTALLATION NOTES

- FOR REMOVAL OF SINGLE PIECE COILS CLEARANCE REQUIRED SHOULD EQUAL OR BE GREATER THAN THE WIDTH OF THE AHU. SPLIT COILS REQUIRE HALF AHU WIDTH.
- FOR REMOVAL OF ANY FILTER MEDIA CLEARANCE REQUIRED WILL BE 650mm MINIMUM.
- ALL DUCTWORK MUST BE SELF SUPPORTED TO ENSURE NO LOADS ARE IMPOSED ON THE AHU CONNECTIONS.
- ANY CABLE/ PIPE PANEL PENETRATIONS MUST BE SEALED APPROPRIATELY AFTER CORRECTLY SIZED GLAND PLATES HAVE BEEN FITTED.
- TO AVOID DAMAGE TO PIPE CONNECTIONS PLEASE ENSURE NO WEIGHT IS APPLIED WHEN CONNECTING TO SERVICES.
- HIGH LEVEL ACCESS EQUIPMENT TO BE SUPPLIED BY OTHERS.
- IT IS THE RESPONSIBILITY OF OTHERS TO ENSURE THAT ANY EXTERNALLY MOUNTED FIELD DEVICES EITHER SUPPLIED BY AHS OR OTHERS ARE FULLY WEATHER PROTECTED.
- ELECTRICAL CABLE ENTRY TO ELECTRIC HEATER TO BE BY OTHERS AND SHOULD UTILISE A WEATHERPROOF GLANDED ADAPTABLE BOX.
- WHERE ISOLATORS, JUNCTION BOXES OR LIGHT SWITCHES ARE INSTALLED ON THE SIDE OF AN AIR HANDLING UNIT CASING AND FAN REMOVAL IS REQUIRED, IT IS ESSENTIAL THAT ALL POWER SUPPLIES INSTALLED BY OTHERS ARE PROVIDED IN FLEXIBLE CONDUIT TO ALLOW FOR THE CASING & PANEL REMOVAL.
- UNIT MUST BE INSTALLED ON A FLAT LEVEL SURFACE OR PLATFORM, FAILURE TO DO SO MAY INVALIDATE WARRANTY.

SPARES OR LOOSE ITEMS FOR THIS AHU:

SPARES SUPPLIED WITH AHU	COMPONENTS SUPPLIED LOOSE WITH AHU
• FILTER – SET 1 (SEE SEPARATE SHEET)	• 3x DX CONDENSERS – 2246
• –	• –
• –	• –
• –	• –
• –	• –
• –	• –
• –	• –
• –	• –

REVISION	DATE	AMENDMENT	CAD INITIALS
R1	21/05/20	TEST POINTS ADDED.	GM