SHOP DRAWING REVIEW

- [ ] NOT REVIEWED
- [ ] REVIEWED
- [x] REVIEWED AS NOTED
- [ ] REVISE AND RESUBMIT

This review by Hilditch Architect Inc. is for the sole purpose of ascertaining conformance with the general design concept features only, and does not in any way constitute review of the design of engineering elements which form part of the Contract Documents prepared by others. This review shall not mean that Hilditch Architect Inc. approves the design detail inherent in the shop drawings, responsibility for which shall remain with the Contractor submitting same, and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawings or of his responsibility for meeting all requirements of the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of the work of all trades.

***Hilditch** Architect Inc.*

By: Sasha Stairs

Project No: 1809

Date Rec'd:

Date Rev'd: 2024.12.21

GC/CM: 2024.12.10

Consultant: 2024.12.20

HAI; reviewed for architectural only; 25 pages total:

1. Refer to comments by Sustainglobe Ltd.
2. PCO-08 and SI-10 will be updated to included CCO E-3 and SI M-2 to reflect changes revealed in SD review.
3. GC to coordinate to ensure required clearances around AHUs.
4. Coordinate unit placement and openings with Structural.
5. Provide roof curbs and crickets as indicated.
6. Penetrations through roof to be weather tight.

Submittal No. 29

Air Handling Units - Shop

Drawing

Project Name:
Neshama Hospice

Owner:
Neshama

Prime Consultant:
Hilditch Architect Inc

General Contractor: Renokrew

SHOP DRAWING SUBMITTAL REVIEW	JOB NAME: Neshama Hospice JOB #: 24-130 DATE: Dec 10, 2024
REVIEWED REJECTED REVIEW & RESUBMIT REVIEW AS NOTED	This review is for general conformance of plans and specifications only. Approvals are subject to subcontractors performance within the confines of the contract documents. Review of dimensions will not serve to relieve the subcontractor of contractual responsibility for any deviation from the contract requirements. SPECIFICATION: 23 08 10 ✓SHOP DRAWING PRODUCT DATA DOCUMENTATION LETTER RENOKREW TORONTO | OTTAWA CHECKED BY: REVIEWED BY: TOTAL PAGES: 25

RENOKREW
TORONTO | OTTAWA

54 Audia Court, Unit 2
Concord, ON L4K 3N5
(905)-738-1400

Submittal 24-256-015

PROJECT NAME	PROJECT ADDRESS	DATE SUBMITTED
NESHAMA HOSPICE 24-256	3 Cadillac Avenue North York, ON M3H 1R9	Dec 10, 2024

TO	FROM
Taranjeet Singh	INZAMAN KHAN
COMPANY	COMPANY
1568796 ONTARIO INC. C/A RENOKREW	Consult Mechanical Inc.
EMAIL	EMAIL
taranjeet@renokrew.com	inzaman@consultmechanical.com
ADDRESS	ADDRESS
43 LEPAGE COURT TORONTO, ON M3J 1Z9	54 Audia Court, Unit 2 Concord, ON L4K 3N5

SustainGlobe Ltd.

THIS DRAWING REVIEWED SOLELY FOR GENERAL CONFORMITY WITH DESIGN CONCEPTS. QUANTITIES, DETAILS, DIMENSIONS AND DESIGNS INHERENT IN THE SHOP DRAWINGS ARE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY DATA WITH FIELD DIMENSIONS. CONTRACTOR IS SOLELY RESPONSIBLE FOR DESIGN OF MANUFACTURED ITEMS, FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION AND INSTALLATION OF EQUIPMENT.

DATE RECEIVED: December 11, 2024	✓ MECHANICAL ☐ ELECTRICAL ☐ OTHERS
THIS DRAWING IS: ☐ REVIEWED ✓ REVIEWED AS NOTED ☐ REVIEWED AND TO BE RESUBMIT	BY: TL DATE: December 20, 2024 PROJ. NO.: 18031

Title

Air Handling Units

Description

Tags#
AHU-1
AHU-2

Package Items

SPEC	SUBSECTION	ITEM	TYPE

SustainGlobe:
1. This shop drawing shall be forwarded to the supplier of the vibration isolation curb (E.H. Price) by the mechanical contractor to coordinate the exact dimensions, and weight of the unit.
2. This shop drawing shall be forwarded to the BAS contractor for coordination.
3. The supply air blower and return air blower speed of the AHU-1 will be adjusted by BAS to achieve the smoke control in the bedrooms according to the BAS Control sequence of operation.

DRAWING TRANSMITTAL SHEET

EngA® ENGINEERED AIR®

JOB NO. **65107(T17098)**

DATE **December 06, 2024**

☑ TORONTO SALES OFFICE
#30 5155 SPECTRUM WAY
MISSISSAUGA ON
L4W 5A1
(905) 602-4430

CANADIAN HEAD OFFICE
CALGARY AB

CANADIAN FACTORY
CALGARY AB
EDMONTON AB
NEWMARKET ON

OTHER CANADIAN SALES OFFICES
CALGARY, EDMONTON, HALIFAX, HAMILTON, KELOWNA, LONDON, MONCTON, MONTREAL, OTTAWA, REGINA, SASKATOON, SUDBURY, VANCOUVER, WINNIPEG

CONTRACTOR **CONSULT MECHANICAL INC**

ADDRESS **54 AUDIA COURT UNIT 2**

CONCORD ON

L4K 3N5

ENGINEER **SUSTAINGLOBE LTD**

JOB NAME **NESHAMA HOSPICE**

☑ THIS ORDER IS SUBJECT TO APPROVAL. MANUFACTURING IS HELD PENDING RETURN OF ONE APPROVED COPY OF THESE FORMS TO THE INDICATED OFFICE.

☐ THIS ORDER IS NOT SUBJECT TO APPROVAL AND IS BEING MANUFACTURED ACCORDING TO THE ATTACHED FORMS.

COPIES ENCLOSED	DESCRIPTION
1	EngA Submittal Record AHU-1
1	EngA Heat Pipe Performance Data Sheet AHU-1
1	TwinCity Supply Air Fan Performance Curve and Sound Data AHU-1
1	EngA Exhaust Air Fan Performance Curve and Sound Data AHU-1
1	EngA Mechanical Drawing 65107M-01-1
1	EngA Electrical Data Sheet AHU-1
1	EngA Field Wiring Diagram 65107F-01-1
1	EngA Submittal Record AHU-2
1	TwinCity Supply Air Fan Performance Curve and Sound Data AHU-2
1	EngA Exhaust Air Fan Performance Curve and Sound Data AHU-2
1	EngA Mechanical Drawing 65107M-02-1
1	EngA Electrical Data Sheet AHU-2
1	EngA Field Wiring Diagram 65107F-02-1
1	EngA Installation, Operation and Maintenance Manual (FW & UP Series)
1	TwinCity Fan Supplementary Installation, and Maintenance Manual

PER **LEISHA FERNANDO / GZ.**

EngA ENGINEERED AIR

SUBMITTAL RECORD

JOB NAME: NESHAMA HOSPICE **JOB NO:** 65107(T17098)

CUSTOMER: CONSULT MECHANICAL INC **ENGINEER:** SUSTAINGLOBE LTD

EngA MODEL: FWE263/C/O/CR/HRP/MV **QTY:** 1 **TAG:** AHU-1

SHIPPING AND APPROVAL INFORMATION

MOUNTING Outdoor Base Mounted c/w Isolated Vibration Roof Curb (By Others) **ACCESS** As Per Drawing

UNIT MINIMUM AMBIENT -20°F (-28.9°C) **SHIPPING WEIGHT** 9900 lb (4491 kg) **OPERATING WEIGHT** 9745 lb (4420 kg)

NO. OF PIECES 3 (Unit + 2 Hoods)

- Intertek $_{c}$ETL approval.

SUPPLY AIR DATA

AIR FLOW 6,000 CFM (2,832 l/s) **FAN SIZE** (1) 150 CL II BAE-DIDW **TSP** 5.5 in w.c. (1370 Pa) **RPM** 3320

MOTOR SIZE 10 HP (7.46 kW) **TYPE (RPM)** See Below [1] **ESP** 0.7 in w.c. (174 Pa) **BHP** 8.16 BHP (6.09 kW)

- [1] - Super 'E' TEFC (3450) w/ Aegis Ring
- Supply air fan/motor c/w pillow block bearings and shaft grounding ring.
- Drives have a service factor of 1.15.
- Unit mounted ABB adjustable speed drive c/w integral DC link reactors, vented control cabinet and manual bypass switch. Adjustable speed drive is designed for 2,100 CFM(991 l/s) minimum airflow at 21 Hz operating frequency.

EXHAUST AIR DATA

AIR FLOW 6,000 CFM (2,832 l/s) **FAN SIZE** (1) 15/15 FC DIDW **TSP** 2.65 in w.c. (660 Pa) **RPM** 1080

MOTOR SIZE 7 1/2 HP (5.6 kW) **TYPE (RPM)** See Below [1] **ESP** 0.5 in w.c. (125 Pa) **BHP** 4.53 BHP (3.38 kW)

- [1] - Super 'E' TEFC (1750) w/ Aegis Ring
- Exhaust air fan/motor c/w pillow block bearings and shaft grounding ring.
- Drives have a service factor of 1.15.
- Unit mounted ABB adjustable speed drive c/w integral DC link reactors, vented control cabinet and manual bypass switch. Adjustable speed drive is designed for 2,100 CFM(991 l/s) minimum airflow at 21 Hz operating frequency.

AIR OPENING DATA

AIR OPENING	LOCATION	DAMPER TYPE	OPERATION
SUPPLY AIR	Bottom		
RETURN AIR	See Below [1]		
OUTSIDE AIR	See Below [1]	See Below [2]	Two Position
EXHAUST AIR	See Below [1]	See Below [3]	Two Position

- [1] - See Mechanical Drawing
- [2] - TAMCO Series 1000 Low Leakage Aluminum Air-foil Parallel Blade
- [3] - TAMCO Series 8800 Heavy Duty Aluminum Air-foil Parallel Blade

CONSTRUCTION DATA

UNIT CABINET 18 gauge satin coat galvanized sheet metal c/w 2" (51 mm) 1.5 lb/ft³ (24 kg/m³) insulation on entire unit casing.

UNIT LINER 22 gauge satin coat galvanized solid liner throughout except DX coil section.
22 gauge 304 stainless steel liner on DX section.

UNIT UNDERSIDE No liner.

UNIT FLOOR 18 gauge satin coat galvanized sheet metal on entire unit floor.

EXTERIOR PAINT Electrostatically applied Alkyd Enamel in Aluminum Gray color - Level 1 on all exterior surface but not including unit underside.

AIRSIDE DOOR All access - hinged c/w lever type door handles

SERVICE DOOR All access - hinged c/w lever type door handles

JOB NAME: NESHAMA HOSPICE **JOB NO:** 65107(T17098)

EngA MODEL: FWE263/C/O/CR/HRP/MV **QTY:** 1 **TAG:** AHU-1

CONSTRUCTION DATA (CONTINUED)

DRAIN PAN	18 gauge 304 stainless steel deep crease drain pan c/w floor drain connection through base frame on DX coil section (extended 24" downstream of DX coil). 18 gauge satin coat galvanized drain pan c/w floor drain connection through base frame on O/A inlet and compressors sections. 18 gauge 304 stainless steel drain pan c/w floor drain connection through base frame on heat pipe supply and exhaust section . 18 gauge 304 stainless steel drain pan c/w floor drain connection through base frame on part of exhaust fan section (see mechanical drawing).

- Expanded steel grating over return air floor opening.
- 6"(406 mm) x 13"(330 mm) piping chase. (See mechanical drawing for details)
- Heat Pipe : (1) QDT Heat pipe energy reclaim coil installed (See attached performance data).

ELECTRICAL DATA

POWER SUPPLY	MINIMUM CIRCUIT AMPACITY	MAXIMUM FUSE(D.E.)	MAXIMUM BREAKER
208 / 3 / 60	165.4 AMPS	175 AMPS	175 AMPS

- See Electrical Data Sheet for details.
- Unit mounted non fused disconnect switch.
- MCA is based on '31 and 24' rated adjustable speed drive amps and installed supply and exhaust motor amps is not used .

SUPPLY PRE-FILTER SECTION DATA - Side Loaded

FILTER TYPE Pleated Filter with MERV 8 rating c/w Metal Frame

QTY/SIZE 4 - 24 x 24 x 2" (610 x 610 x 51 mm) **QTY/SIZE**

TOTAL GROSS AREA 16.00 SQ.FT. (1.49 SQ. MTRS) **FACE VELOCITY** 375 FPM (1.91 m/s)

- Filters may be shipped loose or mounted in the tracks
- P-XM analog pressure differential sensor across filter section.

SUPPLY FINAL FILTER SECTION DATA - Side Loaded

FILTER TYPE EngPac Syn Rigid Filter c/w header with MERV 14 rating c/w Metal Frame

QTY/SIZE 4 - 24 x 24 x 12" (610 x 610 x 305 mm) **QTY/SIZE**

TOTAL GROSS AREA 16.00 SQ.FT. (1.49 SQ. MTRS) **FACE VELOCITY** 375 FPM (1.91 m/s)

- Filters may be shipped loose or mounted in the tracks
- P-XM analog pressure differential sensor across filter section.

RETURN FILTER SECTION DATA - Side Loaded

FILTER TYPE Pleated Filter with MERV 8 rating c/w Metal Frame

QTY/SIZE 4 - 24 x 24 x 2" (610 x 610 x 51 mm) **QTY/SIZE**

TOTAL GROSS AREA 16.00 SQ.FT. (1.49 SQ. MTRS) **FACE VELOCITY** 375 FPM (1.91 m/s)

- Filters may be shipped loose or mounted in the tracks
- P-XM analog pressure differential sensor across filter section.

Continued on page 3

EngA ENGINEERED AIR

SUBMITTAL RECORD

JOB NAME: NESHAMA HOSPICE **JOB NO:** 65107(T17098)

EngA MODEL: FWE263/C/O/CR/HRP/MV **QTY:** 1 **TAG:** AHU-1

AIR COOLED DX SYSTEM DATA

COIL SIZE	37.5 (953) x 42 (1067) x 8R x 12 FPI	**VELOCITY**	549 FPM (2.79 m/s)
TOTAL CAPACITY	328,000 Btuh (96.1 kW)	**AIR P.D.**	1.62 in.wc. (403 Pa)
SENSIBLE CAPACITY	162,000 Btuh (47.5 kW)	**MOISTURE REMOVAL**	148.7 lb/hr (67.4 kg/hr)
ENTERING AIR DB / WB	80°F (26.7°C) / 71.4°F (21.9°C)	**LEAVING AIR DB / WB**	55.0°F (12.8°C) / 55.0°F (12.8°C)

DESIGN AMBIENT TEMP	95°F (35.0°C)	**SST/SCT**	48.1°F (8.9°C) / 126.5°F (52.5°C)	**REFRIGERANT TYPE**	R-410A
COMPRESSOR TYPE #1	Hermetic Scroll	**MODEL**	ZP103KCE-TF5-455	**QUANTITY**	1
COMPRESSOR TYPE #2	Hermetic Scroll	**MODEL**	ZP103KCE-TF5-455	**QUANTITY**	2

- DX cooling coil c/w 304 stainless steel casing, alternate tube circuiting and hot gas bypass on first 2 compressor circuits.
- For compressor system #1, each DX coil compressor circuit c/w TX valve, sight glass, liquid line filter/drier, liquid line shut-off valve, liquid line solenoid, liquid line/reheat stepper valve, suction accumulator, flooded head pressure control, discharge line check valve, low pressure control, high pressure control, pressure relief valve and liquid receiver.
- For compressor system #2, each DX coil compressor circuit c/w TX valve, sight glass, liquid line filter/drier, low pressure control and high pressure control.
- CENCON discharge air control c/w BMS interface - provides 3 stages of mechanical cooling interfaces with heating control.
- CENCON Integral low limit auto bypass; set @ 40°F (4.4°C).
- Mechanical cooling operates down to 58°F (14.4°C) ambient temperature.

REHEAT CONDENSER COIL DATA

COIL SIZE	35 (889) x 48 (1219) x 2R x 14 FPI	**VELOCITY**	514 FPM (2.62 m/s)
CAPACITY	145,200 Btuh (42.5 kW)	**AIR P.D.**	0.24 in.wc. (60 Pa)
ENTERING AIR DB	55°F (12.8°C)	**LEAVING AIR DB**	77.4°F (25.2°C)

- Condenser reheat is a part of compressor circuits #1.
- Modulating condenser reheat performance shown under design conditions.
- Modulating condenser reheat is controlled by CENCON discharge air controller.

HYDRONIC HEATING COIL DATA

COIL SIZE	33 (838) x 52 (1321) x 2R x 8 FPI	**VELOCITY**	511 FPM (2.60 m/s)
CAPACITY	465,500 Btuh (136.4 kW)	**AIR P.D.**	0.17 in.wc. (42 Pa)
ENTERING AIR DB	-4°F (-20.0°C)	**LEAVING AIR DB**	67.8°F (19.9°C)

FLUID MEDIUM	45% Propylene-Glycol	**CONN. SIZE (In & Out)**	2 in (51 mm)	**FLUID P.D.**	6.2 FT (19 kPa)
FLUID FLOW RATE	48 US.GPM (3.1 l/s)	**ENTERING FLUID TEMP**	180°F (82.2°C)	**LVG. FLUID TEMP**	158.8°F (70.4°C)

- Heating coil c/w threaded connections.
- Heating coil control valve by others and is controlled via 0-10 VDC by CENCON discharge air controller.
- Hydronic system of this unit is designed for maximum allowable work pressure 150 psig.

SHIPPED LOOSE ITEMS (See filter sections for filters)

1 - Inlet hood c/w 1"(25 mm) birdscreen.

1 - Exhaust hood c/w 1"(25 mm) birdscreen.

HEAT PIPE PERFORMANCE DATA
Version 1.2.13

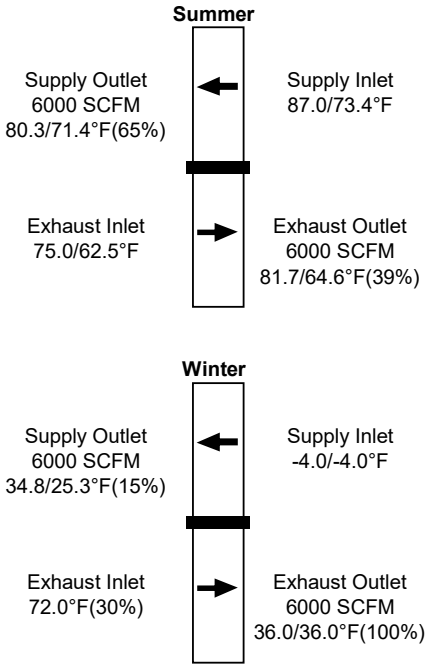
JOB NAME: NESHAMA HOSPICE **JOB NO:** 65107(T17098)

CUSTOMER: CONSULT MECHANICAL INC **ENGINEER:** SUSTAINGLOBE LTD

LOCATION: Toronto, ON **ALTITUDE:** 578 ft (176.2 m)

EngA MODEL: FWE263/C/O/CR/HRP/MV **QTY:** 1 **TAG:** AHU-1

Heat Pipe Selection Data - HVAC			
		Supply	Exhaust
Summer Design Without Evaporative Cooling	Fan Location	Heat Pipe Outlet	Heat Pipe Outlet
	Air Flow Through Pipe	6000 SCFM	6000 SCFM
	Standard Velocity Thr Pipe	554 fpm	554 fpm
	Entering Temp. DB/WB	87.0/73.4°F	75.0/62.5°F
	Leaving Temp. DB/WB(RH)	80.3/71.4°F(65%)	81.7/64.6°F(39%)
	Air Pressure Drop	0.78"wc	0.77"wc
	Energy Recovery	43.3 Mbh	
	Supply Efficiency	55.7%	
	ASHRAE Effectiveness	55.7%	
Winter Design (Note 1, 3)	Fan Location	Heat Pipe Outlet	Heat Pipe Outlet
	Air Flow Through Pipe	6000 SCFM	6000 SCFM
	Standard Velocity Thr Pipe	554 fpm	554 fpm
	Entering Temp. DB/WB(RH)	-4.0/-4.0°F	72.0°F(30%)
	Leaving Temp. DB/WB(RH)	34.8/25.3°F(15%)	36.0/36.0°F(100%)
	Air Pressure Drop	0.68"wc	0.78"wc
	Energy Recovery	251.1 Mbh	
	ASHRAE Effectiveness	58.2% (Note 2)	
	Tilt Control Factor		14392
	Moisture Condensed Out		0.2427263 Lbs/Min
	Frost Point		1.2°F



System: (1) Tru in an integrated tilt package
Type: Corrugate Aluminum fin, 5/8" O.D. aluminum tube

Unit ID	TRU Model	Face Height	Face Length	Row	Exh FPI	Sup FPI	Type	Exh Length	Sup Length	Weight (LBS)
1	**TRU-120**	**- 39**	**- 82**	**- 6**	**- 12E**	**- 12S**	**- AC5**	**- 40**	42 (2)	489

Unit	Weight in lbs
Total system weight	1123

Notes: 1. Pipe performance in the winter design section includes the effects of frost control.
2. Value is under no frost rating conditions.
3. Supply efficiency under winter design condition with frost control is 51.0%.
4. Tilt control is required for summer/winter operation. Tru cannot be installed level and achieve full recovery at winter design conditions.

DATE: 03-Dec-2024 **SUBMITTED BY:** GZ.

Job Name: Neshama Hospice

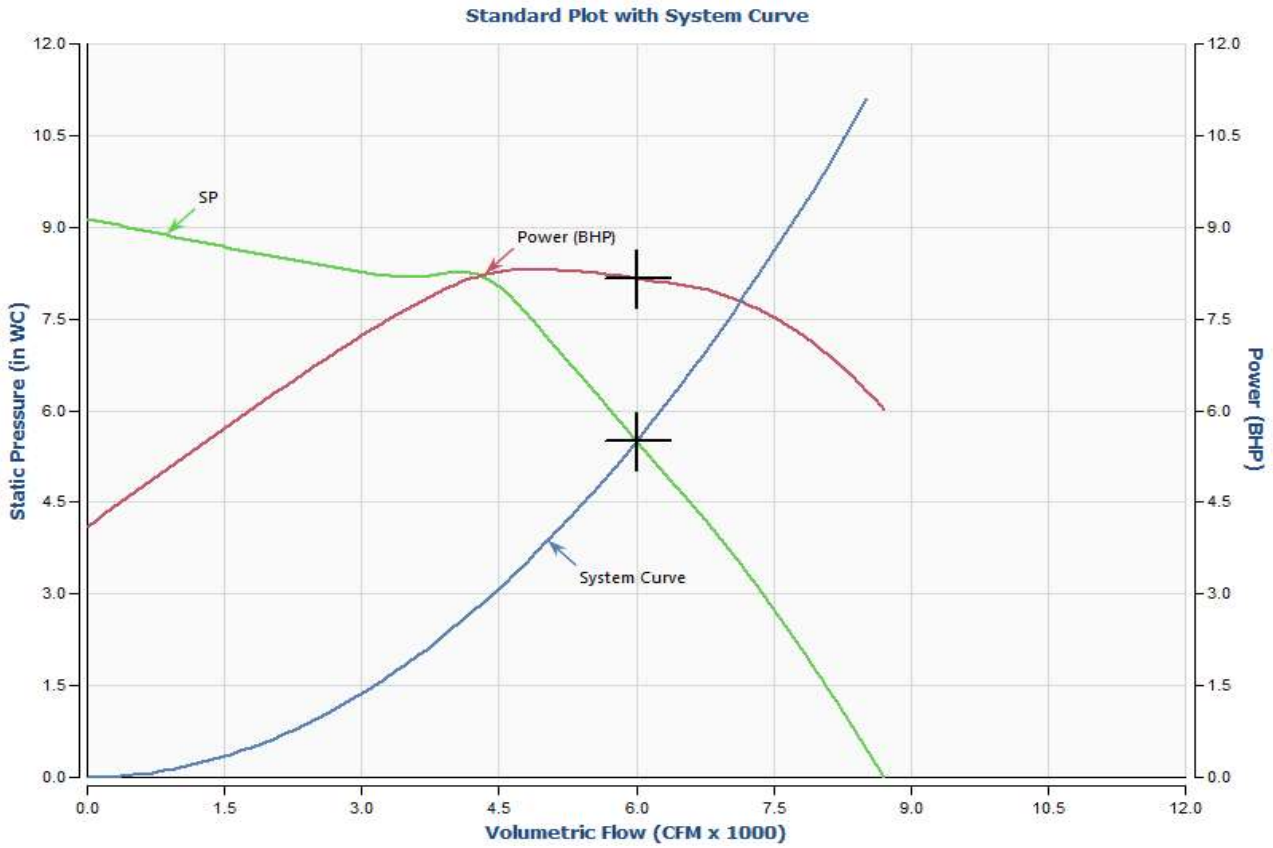
Customer:
Job ID: 65107
Date: November 29, 2024

Tag: AHU-1 S/A

Fan information

Size/Model	150/BAE-DW	Class	II	FEI	1.15
Volumetric Flow (CFM)	6000	Speed (RPM)	3320	System FEI	1.15
SP (in WC)	5.5	Max Speed	4,213 RPM @ 70 °F	FEP (KW)	7.00
		Power (BHP)	8.16	System FEP (KW)	7.00
		Outlet Vel (FPM)	2575	CA T20 Compliant/Exempt	Yes
		Density (lb/ft³)	0.0734		

Adjusted for Altitude: 578 ft



Job Name: Neshama Hospice

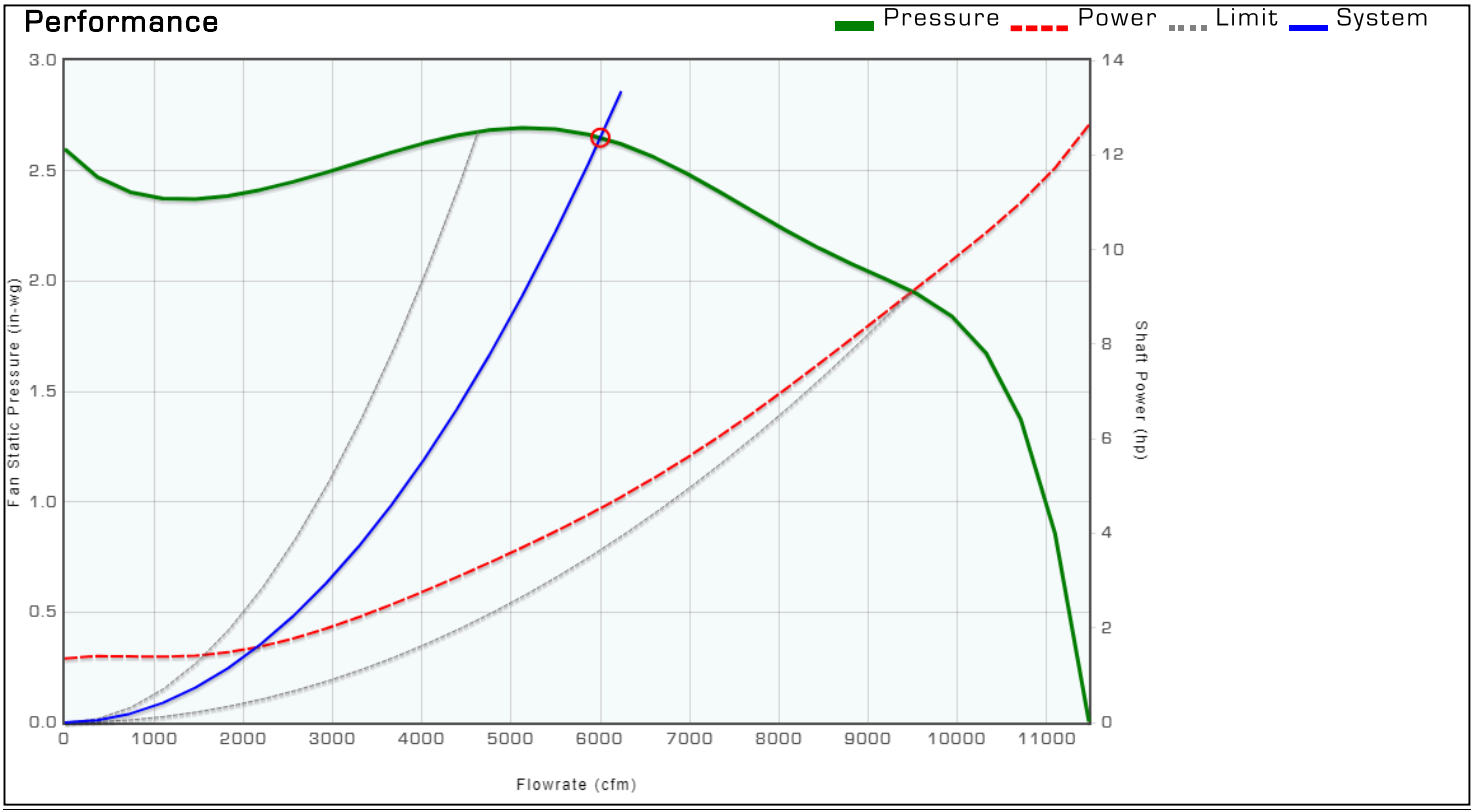
Customer:
Job ID: 65107
Date: November 29, 2024

Sound Power Ea.	Octave Bands	1	2	3	4	5	6	7	8	LwA	dBA
	Inlet dB	90	91	94	98	92	89	84	78	98	84
	Outlet dB	97	96	95	95	94	92	85	79	99	84

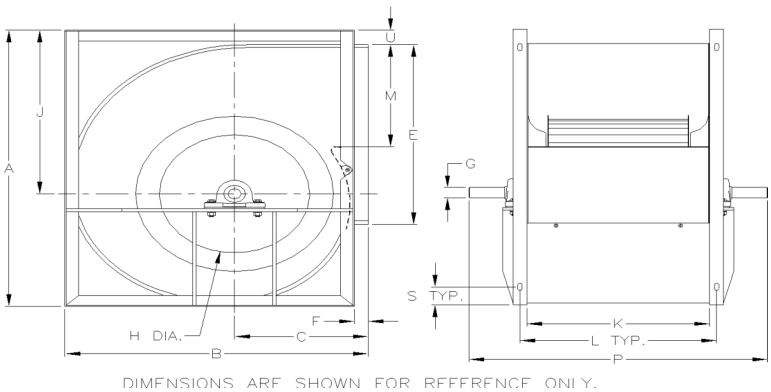
Date 4-12-2024

Job Name	65107				Submitted by/notes			
Model A15-15A	Flow 6000 cfm	Pressure 2.65 in-wg	Temperature 70 °F	Altitude 578 ft	Density 0.073 lb/ft^3	Q Derate 0 cfm	P Derate 0.00 in-wg	Vav Set Point 0.00 in-wg
Fan Tag	Flow 6000 cfm	Pressure 2.65 in-wg	Power 4.53 hp	Static Efficiency 55.4 %	Total Efficiency 66.7 %	Speed 1080 rpm	Outlet Velocity 2985 fpm	FEI 1.17
AHU-1 E/A	Impeller Dia 15.0 in	Outlet Area 2.01 ft^2	Max. Speed 1328 rpm	AMCA Class 0	Drive Belt Drive	Blades 51	P Volume 9.44 ft^3	TurnDown 100 %

Performance



Sound(Lwi)	63	125	250	500	1000	2000	4000	8000	Lw	LwA
	92	90	87	83	84	82	80	78	96	89



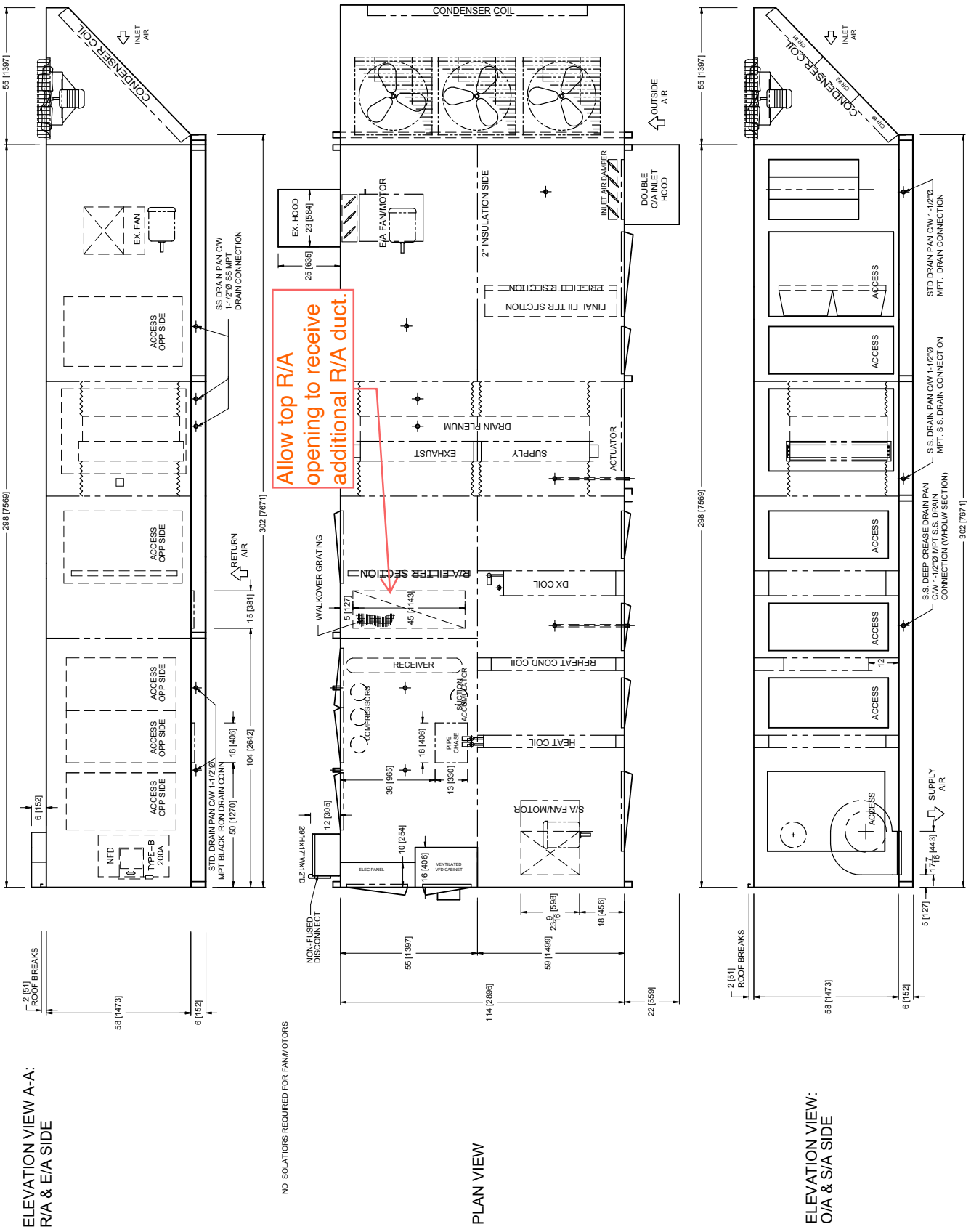
DIMENSIONS ARE SHOWN FOR REFERENCE ONLY.

Options Available
Available Bore (9 inch diameter wheels): 3/4, 1, 1-3/16, 1-7/16, 1-11/16,1-15/16, 2-1/4, 3 inch
Available Bore (11 inch diameter wheels): 3/4, 1 and 1-3/16 inch
Additional Bores (12 inch diameter wheels): 3, 4, and 4-1/2 inch
Additional Bores (15 through 20 inch diameter wheels): 3, 4, 4-1/2, 5 inch
Center disc lock style: Preslok
Adjustable motor base

A	B	C	E	F	G	H	J	K	L	M	P	S	U
25.50	22.94	10.50	15.88	1.00	1.19	12.62	14.56	18.62	20.37	9.69	27.88	1.00	1.00

Notes: Airflow performance data are obtained in accordance with AMCA 210-16. Installed performance will vary depending on extent of cabinet geometry.

Dimensions in inches



NO ISOLATIORS REQUIRED FOR FAN/MOTORS

ELEVATION VIEW A-A:
R/A & E/A SIDE

PLAN VIEW

ELEVATION VIEW:
O/A & S/A SIDE

DOOR SIZES AND INTERNAL COMPONENTS ARE APPROX. VALUES. DIMENSIONS SHOWN IN INCHES ONLY UNLESS OTHERWISE NOTED.

65107 (T17098)
TAG: AHU-1

FWE263/C/CR/O/HRP/MV
FWE/CR SERIES

EngA® ENGINEERED AIR® generated by ProUnit

REVISIONS:			
DATE: NOV 26 2024	DRWN BY: GZ	CHKD BY: LQ	DRWG NO.: **65107M-01-1**

EngA® ENGINEERED AIR®

ELECTRICAL DATA

JOB NAME: NESHAMA HOSPICE **JOB NO:** 65107(T17098)

EngA MODEL: FWE263/C/O/CR/HRP/MV **QTY:** 1 **TAG:** AHU-1

Power Supply	Minimum Circuit Ampacity	Terminal Block to Accept	Maximum Fuse (Dual Element)	Maximum Breaker
208 / 3 / 60	165.4 AMPS	00 Awg	175 AMPS	175 AMPS

Components	Model	Minimum Conductor Size	Ampacity FLA / LRA	SubFuse Group	Subfuse Group Fuse Size	Terminal Block to Subfuse
Reheat Compressor	ZP103KCE-TF5-455	4 Awg	30.1 / 225.0			
Compressor #2 and #3	ZP103KCE-TF5-455	4 Awg	30.1 / 225.0			
Supply Fan Motor	Super 'E' TEFC (3450) w/ Aegis Ring 10 HP	8 Awg	25.0	1	70	4 Awg
Exhaust Fan Motor	Super 'E' TEFC (1750) w/ Aegis Ring 7 1/2 HP	10 Awg	21.4			
Condenser Fan Motor #1 to #3	OPAO 0.75 HP	14 Awg	3.3	2	15	14 Awg
Crankcase Heater (3 total)	Fuse with main xfmr 93 VA	14 Awg	0.45			
Main Control Xfmr		14 Awg	1.7			
VFD Vent Control Xfmr		14 Awg	.7			

UNIT CONTROL PANEL(S) SHORT CIRCUIT CURRENT RATING (SCCR)
Short circuit current 5 kA rms symmetrical, 208 V maximum

WIRING DRAWING LEGEND					
APS	Air Proving Switch	DM	Damper Motor	NFD	Non Fused Disconnect
ASF	Auto Fan Switch	FR	Fan Relay	OL	Thermal Overload
AUX	Auxiliary Contact	GND	Ground	PS	Pressure Sensor
BM	Burner Motor	GV	Gas Valve	PV	Pilot Gas Valve
C	Contactor	HL	High Limit	R	Relay
CCH	Compressor Crankcase Heater	HPC	High Pressure Control	RevHL	Reverse Airflow High Limit
CFC	Condenser Fan Control	HR	Heating Relay	TB	Terminal Block
CLC	Compressor Loading Control	IGN	Ignition Control	TDF	Time Delay Fuse
CPM	Compressor Protection Module	ITP	Internal Thermo Protection	TDR	Time Delay Relay
CR	Cooling Relay	LPC	Low Pressure Control	TS	Temperature Sensor
CS	Current Sensor	M	Motor	VFD	Variable Frequency Drive
DHSS	Draft Hood Spill Switch	MV	Main Gas Valve	XFMR	Transformer

Continued on page 2

EngA® ENGINEERED AIR®

ELECTRICAL DATA

JOB NAME: NESHAMA HOSPICE **JOB NO:** 65107(T17098)

EngA MODEL: FWE263/C/O/CR/HRP/MV **QTY:** 1 **TAG:** AHU-1

UNIT FUNCTION

EMS is for display only, CENCON controller has full control. Communication via BACnet IP.

Unit mounted non-fused disconnect switch 'on', service switch 'on', fire alarm contacts (by others) 'closed' (jumper if not required) , duct high pressure limit (by others) 'closed', S/A and E/A VFDs fault contacts 'closed' or 'bypassed' (see Note 1), unit is ready for operation.

BAS Unit on/off contact (by others) 'closed', outside and exhaust air dampers open, blowers will run continuously down to a minimum airflow of 2100 CFM (21 Hz, 35% of maximum airflow). S/A and E/A VFDs blower/motor speed control via 0-10VDC signal (by others). The CENCON controller, with a BAS 0-10VDC setpoint signal (by others), will modulate heating and cooling (cycling 3 stages of compressors) to maintain the required discharge air temperature. The discharge air temperature control band is from 55°F (12.8°C) to 85°F (29.4°C).

If there is a call for heating, the CENCON will output a 0-10 VDC signal to the heating device (provided in field by others).

COOL MODE

If there is a call for cooling and the CENCON is in cooling mode, the C-XM controller module will begin staging on the mechanical cooling. The discharge air temperature control band is from 55°F (12.8°C) to 85°F (29.4°C). Mechanical cooling is locked out below 58°F (14.4°C) ambient temperature.

HEAT MODE

If there is a call for heating, and the CENCON is in heat mode, the CENCON will output a 0-10 VDC signal to the heating device (provided in field by others).

DEHUMIDIFICATION MODE

When BAS dehumidification on/off contact (by others) 'closed', and the CENCON is in dehumidification mode, the C-XM controller module will enable cooling, with DX discharge setpoint fixed at 55°F (12.8°C) to achieve the required relative humidity. The condenser reheat is also enabled to satisfy the required discharge air temperature.

ENERGY RECOVERY

The ER-XM will tilt the heatpipe as required to provide leaving air temperature regulation, summer/winter changeover, and frost control when required. When frost build up is detected on the heat recovery device, the ER-XM will enter defrost mode, the defrost setpoint is 35°F (1.7°C).

BAS Unit on/off contact (by others) 'open', outside and exhaust air dampers close, and blowers shut down. Unit is off.

If the fire alarm contacts 'open', equipment operation is disabled immediately. If the discharge air temperature falls below 40°F(4.4° C), the CENCON will shut down the blower, close dampers and indicate alarm.

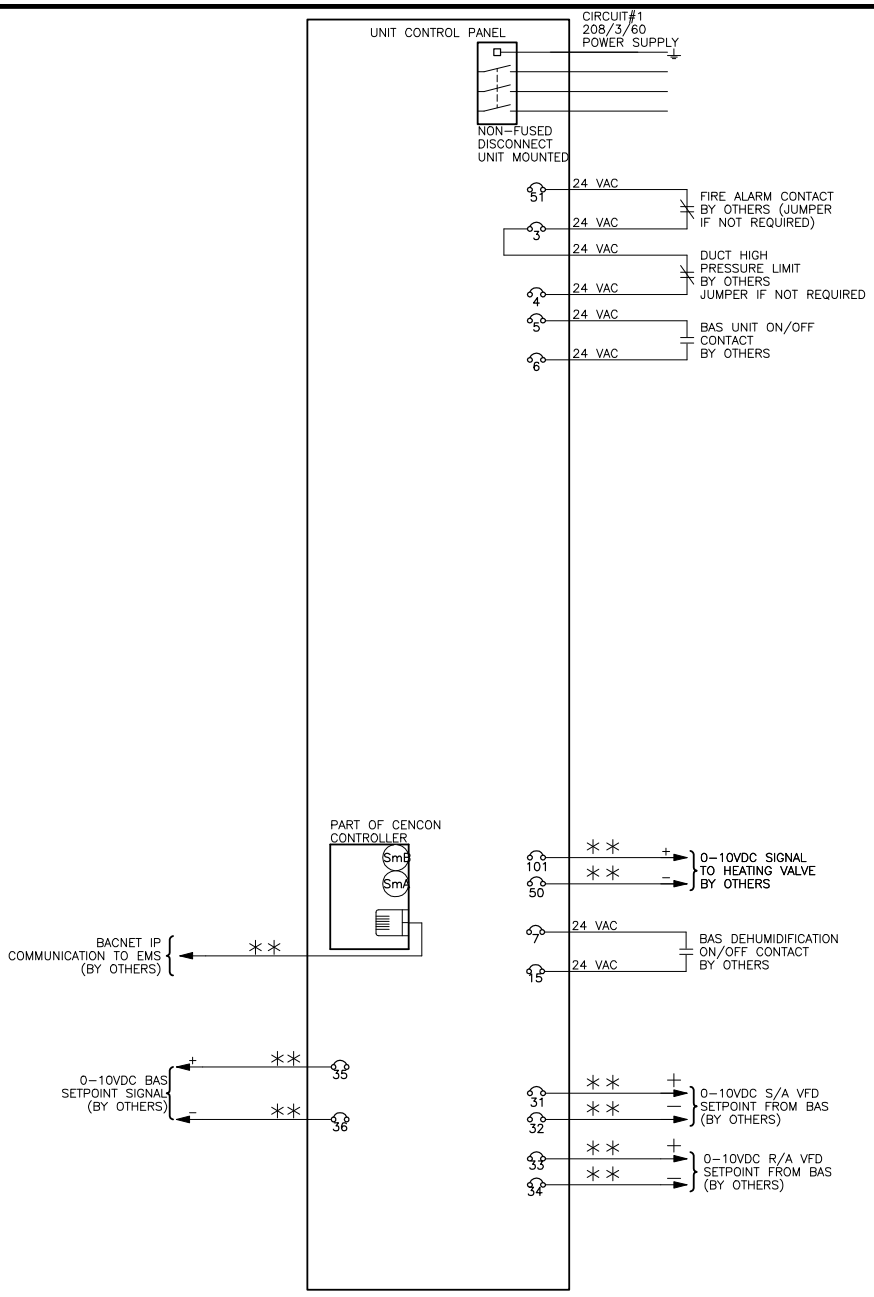
If non-fused disconnect switch 'off', or service switch 'off', or the fire alarm contact 'open', or duct high pressure limit 'open', or S/A and E/A VFDs fault contacts 'open' (in VFD mode), equipment operation is disabled immediately. If discharge air temperature falls below 40° F(4.4°C), the CENCON will shut down the blower, close dampers and indicate alarm.

Note 1 - VFD has an external bypass switch, when activated blowers and motors will operate at full speed (60Hz).

Note 2 - Refer to manuals shipped with unit for more detailed explanation of maintenance, components and controls.

Note 3 - Go to http://www.engineeredair.com/index.php/manuals/ for online manual details

Note 4 - Compressor(s) cycle has minimum run time, minimum off time, and interstage timing.



MAXIMUM CONTROL CIRCUIT AMPACITY 14.6 AMPS AT 24 VAC

** SHIELDED WIRE IS REQUIRED WITH BMS ANALOG SIGNALS.
TAPE THE GROUND WIRE AND SHIELD TO PREVENT GROUNDING.
TAPE THE ENDS OF ALL UNUSED WIRES.
ANALOG BMS SIGNALS ARE SUBJECT TO GROUND LOOP INTERFERENCE.
SIGNAL ISOLATION MAY BE REQUIRED.
REFER TO THE OPERATION MANUAL OF THE SPECIFIC CONTROLLER.

1. FIELD WIRING VOLTAGE DROP NOT TO EXCEED 10%.
2. ALL WIRING SHOWN SHALL BE COMPLETED BY INSTALLER.
3. ALL FIELD WIRING MUST COMPLY WITH ALL NATIONAL AND LOCAL ELECTRICAL CODES.

EngA® ENGINEERED AIR®

TAG: AHU-1

FIELD WIRING DIAGRAM
FWE/CR/HRP SERIES

REVISION:	DRN.BY: GZ	DWG.NO: 65107F-01-1
DATE: NOV 28/24	CHKD.BY: LQ	

EngA® ENGINEERED AIR®

SUBMITTAL RECORD

JOB NAME: NESHAMA HOSPICE **JOB NO:** 65107(T17098)

CUSTOMER: CONSULT MECHANICAL INC **ENGINEER:** SUSTAINGLOBE LTD

EngA MODEL: FWE143/C/O/CR/MV **QTY:** 1 **TAG:** AHU-2

SHIPPING AND APPROVAL INFORMATION

MOUNTING Outdoor Base Mounted c/w Isolated Vibration Roof Curb (By Others) **ACCESS** As Per Drawing

UNIT MINIMUM AMBIENT -20°F (-28.9°C) **SHIPPING WEIGHT** 5930 lb (2690 kg) **OPERATING WEIGHT** 5835 lb (2647 kg)

NO. OF PIECES 2 (Unit + Hood)

- Intertek $_{c}$ETL approval.

SUPPLY AIR DATA

AIR FLOW 4,000 CFM (1,888 l/s) **FAN SIZE** (1) 135 BAE-DIDW **TSP** 4.1 in w.c. (1021 Pa) **RPM** 2992

MOTOR SIZE 5 HP (3.73 kW) **TYPE (RPM)** See Below [1] **ESP** 0.7 in w.c. (174 Pa) **BHP** 3.91 BHP (2.92 kW)

- [1] - Super 'E' TEFC (3450) w/ Aegis Ring
- Supply air fan/motor c/w pillow block bearings and shaft grounding ring.
- Drives have a service factor of 1.15.
- Unit mounted ABB adjustable speed drive c/w integral DC link reactors, vented control cabinet and manual bypass switch. Adjustable speed drive is designed for 1,400 CFM(661 l/s) minimum airflow at 21 Hz operating frequency.

RETURN AIR DATA

AIR FLOW 4,000 CFM (1,888 l/s) **FAN SIZE** (1) 135 BAE-DIDW **TSP** 0.95 in w.c. (237 Pa) **RPM** 2220

MOTOR SIZE 2 HP (1.49 kW) **TYPE (RPM)** See Below [1] **ESP** 0.5 in w.c. (125 Pa) **BHP** 1.43 BHP (1.07 kW)

- [1] - Super 'E' TEFC (1750) w/ Aegis Ring
- Return air fan/motor c/w pillow block bearings and shaft grounding ring.
- Drives have a service factor of 1.15.
- Unit mounted ABB adjustable speed drive c/w integral DC link reactors, vented control cabinet and manual bypass switch. Adjustable speed drive is designed for 1,400 CFM(661 l/s) minimum airflow at 21 Hz operating frequency.

AIR OPENING DATA

AIR OPENING	LOCATION	DAMPER TYPE	OPERATION
SUPPLY AIR	Front		
RETURN AIR	See Below [1]	See Below [2]	Modulating
OUTSIDE AIR	See Below [1]	See Below [2]	Modulating
EXHAUST AIR	See Below [1]	EngA Single Blade Barometric	Gravity

- [1] - See Mechanical Drawing
- [2] - TAMCO Series 1000 Low Leakage Aluminum Air-foil Parallel Blade

CONSTRUCTION DATA

UNIT CABINET 18 gauge satin coat galvanized sheet metal c/w 2" (51 mm) 1.5 lb/ft³ (24 kg/m³) insulation on entire unit casing.

UNIT LINER 22 gauge satin coat galvanized solid liner throughout except DX coil section.
22 gauge 304 stainless steel liner on DX coil section.

UNIT UNDERSIDE No liner.

UNIT FLOOR 18 gauge satin coat galvanized sheet metal on entire unit floor.

EXTERIOR PAINT Electrostatically applied Alkyd Enamel in Aluminum Gray color - Level 1 on all exterior surface but not including unit underside.

AIRSIDE DOOR All access - hinged c/w lever type door handles

SERVICE DOOR All access - hinged c/w lever type door handles

EngA ENGINEERED AIR

SUBMITTAL RECORD

JOB NAME: NESHAMA HOSPICE **JOB NO:** 65107(T17098)

EngA MODEL: FWE143/C/O/CR/MV **QTY:** 1 **TAG:** AHU-2

CONSTRUCTION DATA (CONTINUED)

DRAIN PAN 18 gauge 304 stainless steel deep crease drain pan c/w drain connection through casing on DX coil section (extended 24" downstream of DX coil).

- EngA steel weather louver(s) c/w 1"(25 mm) bird screen.
- Piping vestibule c/w 16"(406 mm) x 13"(330 mm) piping chase. (See mechanical drawing for details)

ELECTRICAL DATA

POWER SUPPLY	MINIMUM CIRCUIT AMPACITY	MAXIMUM FUSE(D.E.)	MAXIMUM BREAKER
208 / 3 / 60	84.2 AMPS	100 AMPS	100 AMPS

- See Electrical Data Sheet for details.
- Unit mounted non fused disconnect switch.
- MCA is based on '16.7 and 7.5' rated adjustable speed drive amps and installed supply and return motor amps are not used .

PRE-FILTER SECTION DATA - Side Loaded

FILTER TYPE Pleated Filter with MERV 8 rating c/w Metal Frame

QTY/SIZE 4 - 20 x 20 x 2" (508 x 508 x 51 mm) **QTY/SIZE**

TOTAL GROSS AREA 11.11 SQ.FT. (1.03 SQ. MTRS) **FACE VELOCITY** 360 FPM (1.83 m/s)

- Filters may be shipped loose or mounted in the tracks
- P-XM analog pressure differential sensor across filter section.

FINAL FILTER SECTION DATA - Side Loaded

FILTER TYPE EngPac Syn Rigid Filter c/w header with MERV 14 rating

QTY/SIZE 4 - 20 x 20 x 12" (508 x 508 x 305 mm) **QTY/SIZE**

TOTAL GROSS AREA 11.11 SQ.FT. (1.03 SQ. MTRS) **FACE VELOCITY** 360 FPM (1.83 m/s)

- Filters may be shipped loose or mounted in the tracks
- P-XM analog pressure differential sensor across filter section.

AIR COOLED DX SYSTEM DATA

COIL SIZE 26.25 (667) x 42 (1067) x 8R x 8 FPI **VELOCITY** 520 FPM (2.65 m/s)

TOTAL CAPACITY 174,000 Btuh (51.0 kW) **AIR P.D.** 0.94 in.wc. (234 Pa)

SENSIBLE CAPACITY 115,000 Btuh (33.7 kW) **MOISTURE REMOVAL** 52.4 lb/hr (23.8 kg/hr)

ENTERING AIR DB / WB 80°F (26.7°C) / 67.0°F (19.4°C) **LEAVING AIR DB / WB** 53.5°F (11.9°C) / 52.9°F (11.6°C)

DESIGN AMBIENT TEMP 95°F (35.0°C) **SST/SCT** 46.1°F (7.8°C) / 119.1°F (48.4°C) **REFRIGERANT TYPE** R-410A

COMPRESSOR TYPE #1 Hermetic Scroll **MODEL** ZP54K5E-TF5-130 **QUANTITY** 1

COMPRESSOR TYPE #2 Hermetic Scroll **MODEL** ZP54K5E-TF5-130 **QUANTITY** 2

- DX cooling coil c/w 304 stainless steel casing, alternate tube circuiting and hot gas bypass on lead compressor circuit.
- For compressor system #1, each DX coil compressor circuit c/w TX valve, sight glass, liquid line filter/drier, liquid line shut-off valve, liquid line solenoid, liquid line/reheat stepper valve, suction accumulator, flooded head pressure control, discharge line check valve, low pressure control, high pressure control, pressure relief valve and liquid receiver.
- For compressor system #2, each DX coil compressor circuit c/w TX valve, sight glass, liquid line filter/drier and low pressure control.
- CENCON discharge air control c/w BMS interface - provides 3 stages of mechanical cooling .
- CENCON Integral low limit auto bypass; set @ 40°F (4.4°C).
- Mechanical cooling operates down to 50°F (10.0°C) ambient temperature.

EngA® ENGINEERED AIR®

SUBMITTAL RECORD

JOB NAME: NESHAMA HOSPICE **JOB NO:** 65107(T17098)

EngA MODEL: FWE143/C/O/CR/MV **QTY:** 1 **TAG:** AHU-2

REHEAT CONDENSER COIL DATA

COIL SIZE	20 (508) x 40 (1016) x 2R x 10 FPI	**VELOCITY**	720 FPM (3.66 m/s)
CAPACITY	75,020 Btuh (22.0 kW)	**AIR P.D.**	0.34 in.wc. (85 Pa)
ENTERING AIR DB	53.5°F (11.9°C)	**LEAVING AIR DB**	70.9°F (21.6°C)

- Condenser reheat is a part of compressor circuit #1.
- Modulating condenser reheat performance shown under design conditions.
- Modulating condenser reheat is controlled by CENCON discharge air controller.

HYDRONIC HEATING COIL DATA

COIL SIZE	28.5 (724) x 42 (1067) x 2R x 8 FPI			**VELOCITY**	503 FPM (2.56 m/s)
CAPACITY	164,200 Btuh (48.1 kW)			**AIR P.D.**	0.17 in.wc. (42 Pa)
ENTERING AIR DB	45°F (7.2°C)			**LEAVING AIR DB**	83.0°F (28.3°C)
FLUID MEDIUM	45% Propylene-Glycol	**CONN. SIZE (In & Out)**	1 1/2 in (38 mm)	**FLUID P.D.**	1.2 FT (4 kPa)
FLUID FLOW RATE	17 US.GPM (1.1 l/s)	**ENTERING FLUID TEMP**	180°F (82.2°C)	**LVG. FLUID TEMP**	158.9°F (70.5°C)

- Heating coil c/w threaded connections.
- Heating coil control valve by others and is controlled via 0-10 VDC by Cencon discharge air controller.
- Hydronic system of this unit is designed for maximum allowable work pressure 150 psig.

SHIPPED LOOSE ITEMS (See filter sections for filters)

1 - Exhaust hood c/w 1"(25 mm) birdscreen.

Job Name: Neshama Hospice

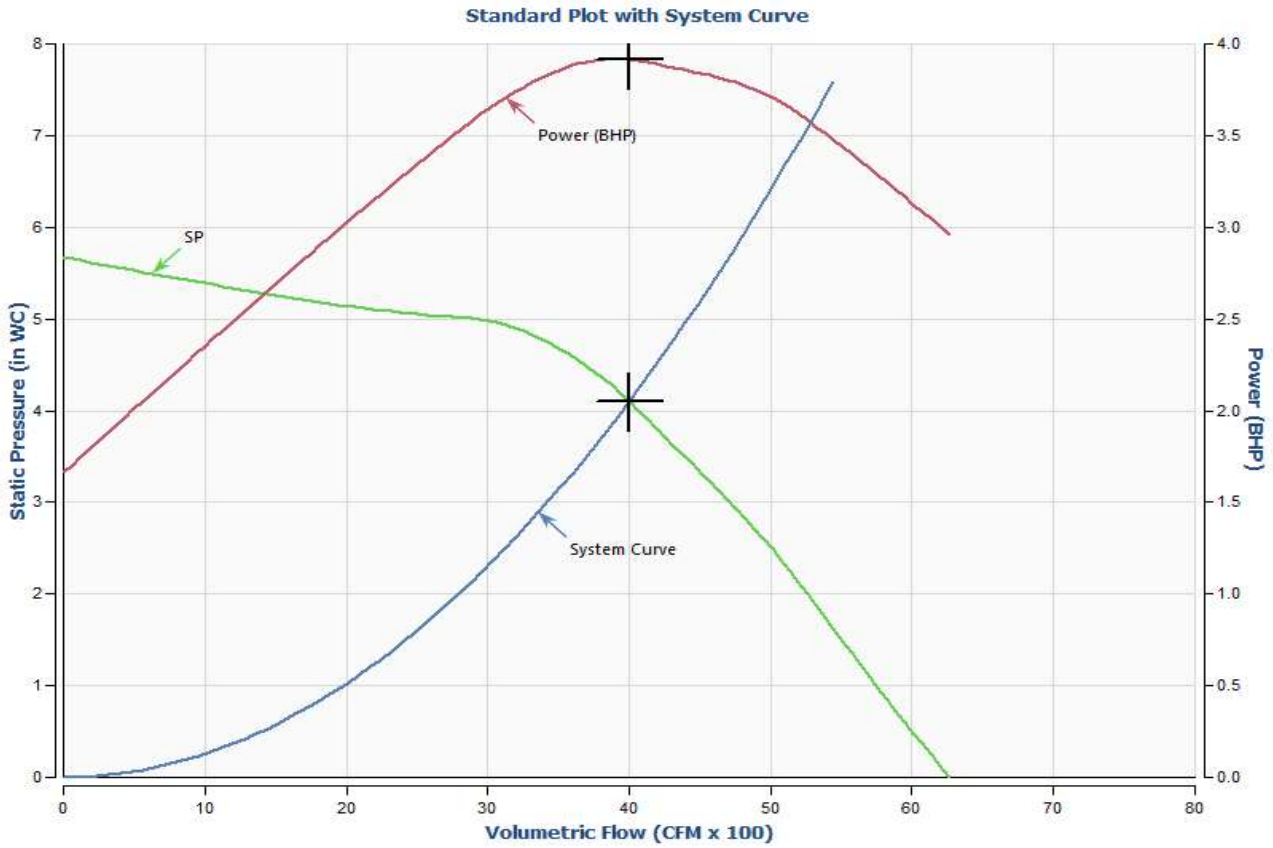
Customer:
Job ID: 65107
Date: November 29, 2024

Tag: AHU-2 S/A

Fan information

Size/Model	135/BAE-DW	Class	I	FEI	1.22
Volumetric Flow (CFM)	4000	Speed (RPM)	2992	System FEI	1.22
SP (in WC)	4.1	Max Speed	3,374 RPM @ 70 °F	FEP (KW)	3.46
		Power (BHP)	3.91	System FEP (KW)	3.46
		Outlet Vel (FPM)	2116	CA T20 Compliant/Exempt	Yes
		Density (lb/ft³)	0.0734		

Adjusted for Altitude: 578 ft



Job Name: Neshama Hospice

Customer:
Job ID: 65107
Date: November 29, 2024

Sound Power Ea.	Octave Bands	1	2	3	4	5	6	7	8	LwA	dBA
	Inlet dB	84	80	88	92	85	84	80	73	92	78
	Outlet dB	96	91	91	91	87	86	80	73	93	79

Job Name: Neshama Hospice

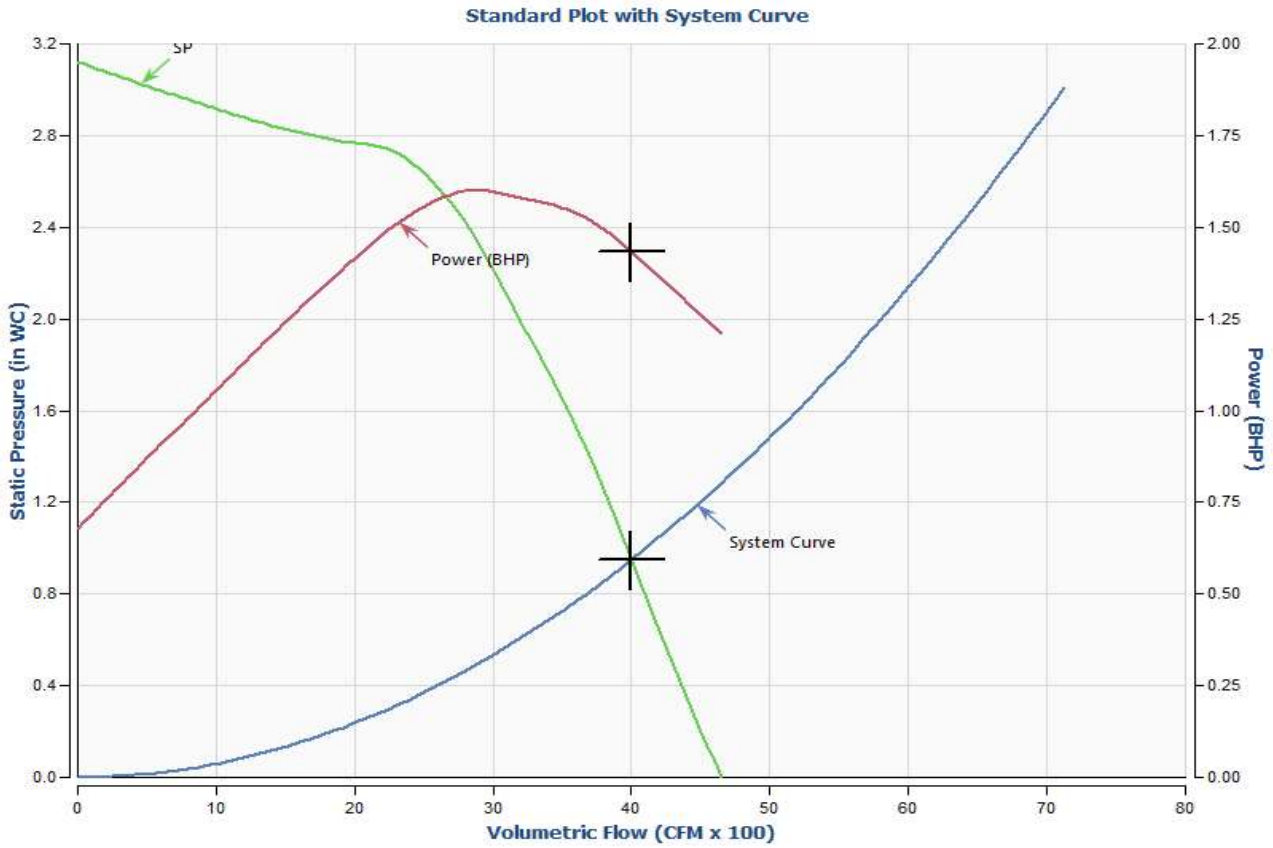
Customer:
Job ID: 65107
Date: November 12, 2024

Tag: AHU-2 R/A

Fan information

Size/Model	135/BAE-DW	Class	I	FEI	1.13
Volumetric Flow (CFM)	4000	Speed (RPM)	2220	System FEI	1.13
SP (in WC)	0.95	Max Speed	3,374 RPM @ 70 °F	FEP (KW)	1.36
		Power (BHP)	1.43	System FEP (KW)	1.36
		Outlet Vel (FPM)	2116	CA T20 Compliant/Exempt	Yes
		Density (lb/ft³)	0.0734		

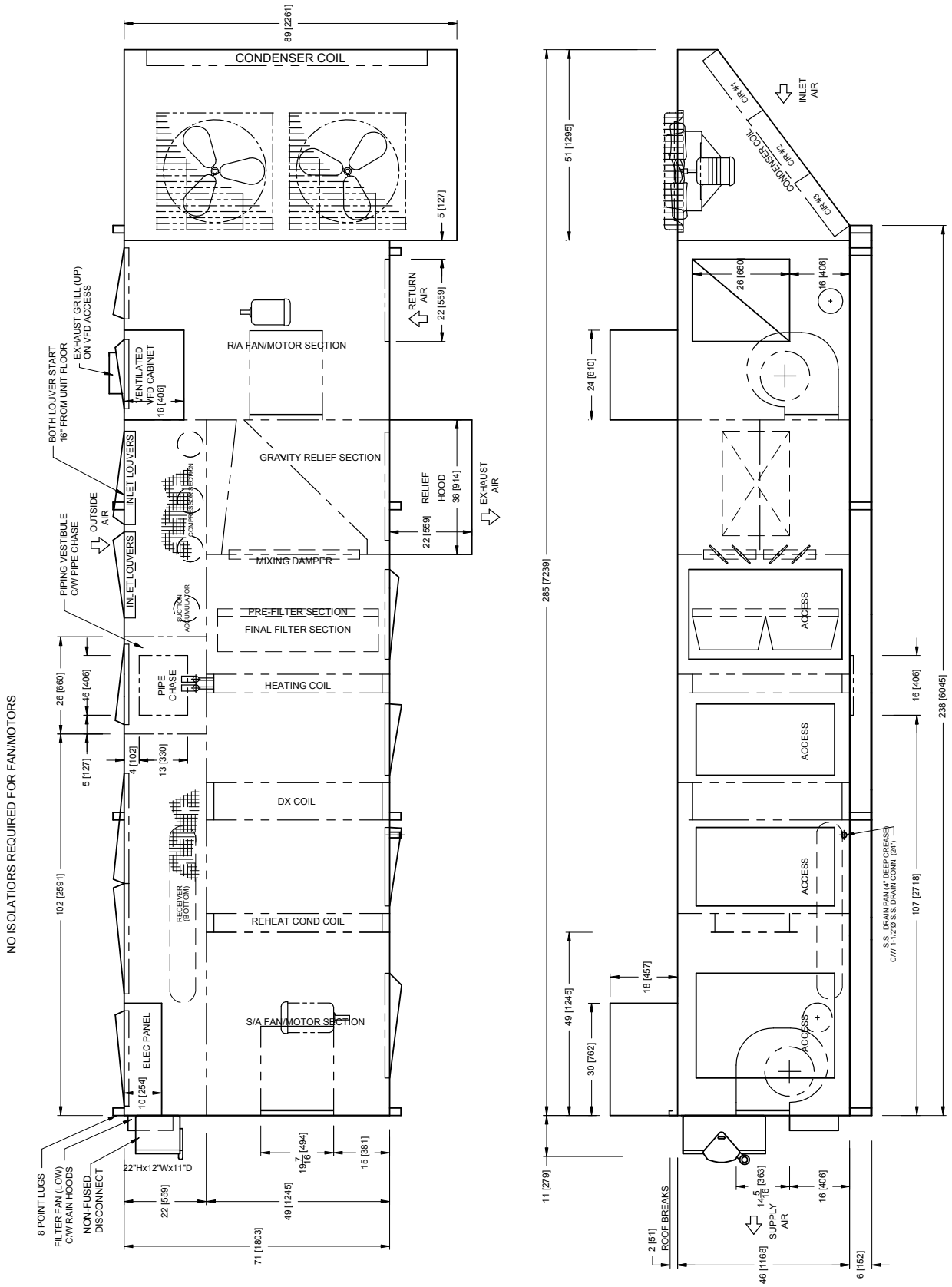
Adjusted for Altitude: 578 ft



Job Name: Neshama Hospice

Customer:
Job ID: 65107
Date: November 12, 2024

Sound Power Ea.	Octave Bands	1	2	3	4	5	6	7	8	LwA	dBA
	Inlet dB	76	74	84	83	81	79	72	65	86	71
	Outlet dB	89	84	89	86	83	81	73	66	88	74



DOOR SIZES AND INTERNAL COMPONENTS ARE APPROX. VALUES. DIMENSIONS SHOWN IN INCHES & [MM] UNLESS OTHERWISE NOTED.

65107 (T17098)
TAG: AHU-2

FWE143/C/O/CR/MV
HEAT/COOL UNIT

EngA® ENGINEERED AIR® generated by ProUnit

REVISIONS:			
DATE: NOV 14 2024	DRWN BY: GZ	CHKD BY: LQ	DRWG NO.: **65107M-02-1**

EngA® ENGINEERED AIR®

ELECTRICAL DATA

JOB NAME: NESHAMA HOSPICE **JOB NO:** 65107(T17098)

EngA MODEL: FWE143/C/O/CR/MV **QTY:** 1 **TAG:** AHU-2

Power Supply	Minimum Circuit Ampacity	Terminal Block to Accept	Maximum Fuse (Dual Element)	Maximum Breaker
208 / 3 / 60	84.2 AMPS	4 Awg	100 AMPS	100 AMPS

Components	Model	Minimum Conductor Size	Ampacity FLA / LRA	SubFuse Group	Subfuse Group Fuse Size	Terminal Block to Subfuse
Reheat Compressor #1	ZP54K5E-TF5-130	8 Awg	15.6 / 110.0			
Compressor #2, #3	ZP54K5E-TF5-130	8 Awg	15.6 / 110.0			
Crankcase Heater (3 total)		14 Awg	.0			
Supply Fan Motor	Super 'E' TEFC (3450) w/ Aegis Ring 5 HP	12 Awg	12.5	1	40	8 Awg
Return Fan Motor	Super 'E' TEFC (1750) w/ Aegis Ring 2 HP	14 Awg	6.7			
Condenser Fan Motor #1 and #2	OPAO 0.75 HP	14 Awg	3.3			
Main Control Xfmr		14 Awg	1.7			
VFD Vent Control Xfmr		14 Awg	.7			

UNIT CONTROL PANEL(S) SHORT CIRCUIT CURRENT RATING (SCCR)
Short circuit current 5 kA rms symmetrical, 208 V maximum

WIRING DRAWING LEGEND					
APS	Air Proving Switch	DM	Damper Motor	NFD	Non Fused Disconnect
ASF	Auto Fan Switch	FR	Fan Relay	OL	Thermal Overload
AUX	Auxiliary Contact	GND	Ground	PS	Pressure Sensor
BM	Burner Motor	GV	Gas Valve	PV	Pilot Gas Valve
C	Contactor	HL	High Limit	R	Relay
CCH	Compressor Crankcase Heater	HPC	High Pressure Control	RevHL	Reverse Airflow High Limit
CFC	Condenser Fan Control	HR	Heating Relay	TB	Terminal Block
CLC	Compressor Loading Control	IGN	Ignition Control	TDF	Time Delay Fuse
CPM	Compressor Protection Module	ITP	Internal Thermo Protection	TDR	Time Delay Relay
CR	Cooling Relay	LPC	Low Pressure Control	TS	Temperature Sensor
CS	Current Sensor	M	Motor	VFD	Variable Frequency Drive
DHSS	Draft Hood Spill Switch	MV	Main Gas Valve	XFMR	Transformer

UNIT FUNCTION

EMS is for display only, CENCON controller has full control. Communication via BACnet IP.

Unit mounted non-fused disconnect switch 'on', service switch 'on', fire alarm contacts (by others) 'closed' (jumper if not required), duct high pressure limit (by others) 'closed', S/A and R/A VFDs fault contacts 'closed' or 'bypassed' (see Note 1), unit is ready for operation.

Occupied Mode

BAS Unit on/off contact (by others) 'closed', and BAS Occupied/unoccupied on/off contact (by others) 'closed', outside air dampers open to the integral minimum position setpoint of 35% (adjustable at CENCON display). S/A and R/A blowers will delay on and run continuously down to a minimum airflow of 1400 CFM (21 Hz, 35% of maximum airflow). S/A and R/A VFDs blower/motor speed control via BAS 0-10VDC signal (by others). The CENCON controller, with a BAS 0-10VDC setpoint signal (by others) will modulate economizer /cooling (cycling 3 stages of compressors) to maintain the required discharge air temperature. The discharge air temperature control band is from 55°F (12.8°C) to 85°F (29.4°C).

HEAT MODE

 Continued on page 2

UNIT FUNCTION CONTINUED

If there is a call for heating, and the CENCON is in heat mode, the CENCON will output a 0-10 VDC signal to the heating device (in field by others).

ECONOMIZER MODE

In economizer mode, the CENCON will modulate the mixed air dampers to maintain the discharge air temperature setpoint, with a minimum position of 35% outside air. Mixing dampers revert to minimum position if the ambient temperature exceeds 70°F(21.1° C).

COOL MODE

If there is a call for cooling and the CENCON is in cooling mode, the C-XM controller module will begin staging on the mechanical cooling. The discharge air temperature control band is from 55°F (12.8°C) to 85°F (29.4°C). Mechanical cooling is locked out below 50°F (10°C) ambient temperature.

DEHUMIDIFICATION MODE

When BAS dehumidification on/off contact (by others) 'closed', and the CENCON is in dehumidification mode, the C-XM controller module will enable cooling, with DX discharge setpoint fixed at 55°F (12.8°C) to achieve the required relative humidity. The condenser reheat is also enabled to satisfy the required discharge air temperature.

Unoccupied Mode

BAS Unit on/off contact (by others) 'closed', and BAS Occupied/unoccupied on/off contact (by others) 'open', damper to 100% return air. Blowers operation is intermittent, if there is a call for heating, and the CENCON is in heat mode, blowers start on and Cencon controller will send 10 VDC to heating device (in field by others).

BAS Unit on/off contact (by others) 'open', outside air damper closes, and blowers shut down. Unit is off.

If the fire alarm contacts 'open', equipment operation is disabled immediately. If the discharge air temperature falls below 40°F(4.4° C), the CENCON will shut down the blower, close dampers and indicate alarm.

If non-fused disconnect switch 'off', or service switch 'off', or the fire alarm contact 'open', or duct high pressure limit 'open', or S/A and E/A VFDs fault contacts 'open' (in VFD mode), equipment operation is disabled immediately. If discharge air temperature falls below 40° F(4.4°C), the CENCON will shut down the blower, close dampers and indicate alarm.

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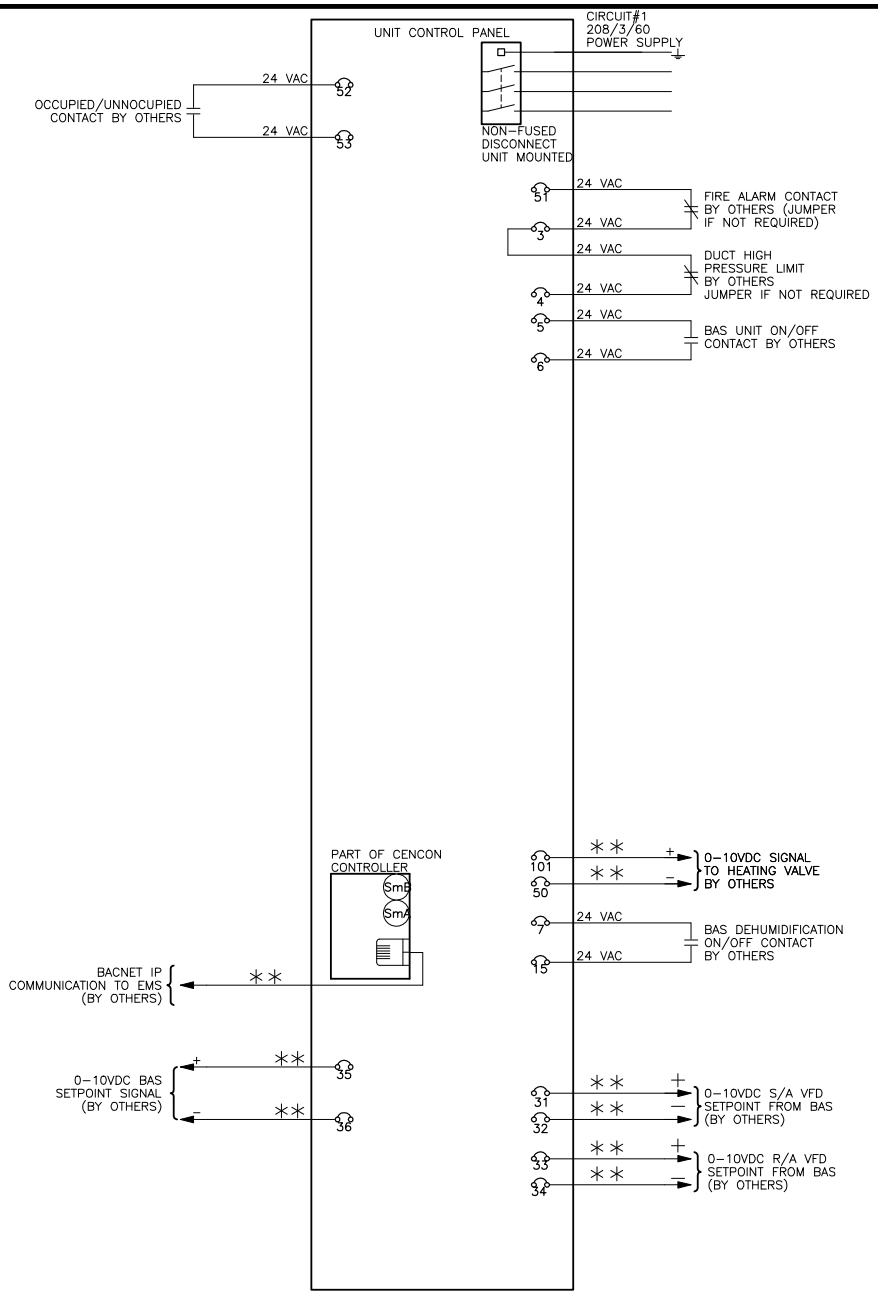

MAXIMUM CONTROL CIRCUIT AMPACITY 14.6 AMPS AT 24 VAC

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3. ALL FIELD WIRING MUST COMPLY WITH ALL NATIONAL AND LOCAL ELECTRICAL CODES.

EngA® ENGINEERED AIR®	TAG: AHU-2		FIELD WIRING DIAGRAM FW/CR SERIES
	REVISION:	DRN.BY: GZ	DWG.NO: 65107F-02-1
	DATE: NOV 25/24	CHKD.BY: LQ	

Submittal No. 29

Air Handling Units - Shop

Drawing

Project Name:
Neshama Hospice

Owner:
Neshama

Prime Consultant:
Hilditch Architect Inc

General Contractor: Renokrew

SHOP DRAWING SUBMITTAL REVIEW	JOB NAME: Neshama Hospice JOB #: 24-130 DATE: Dec 10, 2024
REVIEWED REJECTED REVIEW & RESUBMIT REVIEW AS NOTED	This review is for general conformance of plans and specifications only. Approvals are subject to subcontractors performance within the confines of the contract documents. Review of dimensions will not serve to relieve the subcontractor of contractual responsibility for any deviation from the contract requirements. SPECIFICATION: 23 08 10 ✓SHOP DRAWING PRODUCT DATA DOCUMENTATION LETTER RENOKREW TORONTO | OTTAWA CHECKED BY: REVIEWED BY: TOTAL PAGES: 25

RENOKREW
TORONTO | OTTAWA

54 Audia Court, Unit 2
Concord, ON L4K 3N5
(905)-738-1400

Submittal 24-256-015

PROJECT NAME	PROJECT ADDRESS	DATE SUBMITTED
NESHAMA HOSPICE 24-256	3 Cadillac Avenue North York, ON M3H 1R9	Dec 10, 2024

TO	FROM
Taranjeet Singh	INZAMAN KHAN
COMPANY	COMPANY
1568796 ONTARIO INC. C/A RENOKREW	Consult Mechanical Inc.
EMAIL	EMAIL
taranjeet@renokrew.com	inzaman@consultmechanical.com
ADDRESS	ADDRESS
43 LEPAGE COURT TORONTO, ON M3J 1Z9	54 Audia Court, Unit 2 Concord, ON L4K 3N5

SustainGlobe Ltd.

THIS DRAWING REVIEWED SOLELY FOR GENERAL CONFORMITY WITH DESIGN CONCEPTS. QUANTITIES, DETAILS, DIMENSIONS AND DESIGNS INHERENT IN THE SHOP DRAWINGS ARE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY DATA WITH FIELD DIMENSIONS. CONTRACTOR IS SOLELY RESPONSIBLE FOR DESIGN OF MANUFACTURED ITEMS, FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION AND INSTALLATION OF EQUIPMENT.

DATE RECEIVED: December 11, 2024	✓ MECHANICAL ☐ ELECTRICAL ☐ OTHERS
THIS DRAWING IS: ☐ REVIEWED ✓ REVIEWED AS NOTED ☐ REVIEWED AND TO BE RESUBMIT	BY: TL DATE: December 20, 2024 PROJ. NO.: 18031

Title

Air Handling Units

Description

Tags#
AHU-1
AHU-2

Package Items

SPEC	SUBSECTION	ITEM	TYPE

SustainGlobe:
1. This shop drawing shall be forwarded to the supplier of the vibration isolation curb (E.H. Price) by the mechanical contractor to coordinate the exact dimensions, and weight of the unit.
2. This shop drawing shall be forwarded to the BAS contractor for coordination.
3. The supply air blower and return air blower speed of the AHU-1 will be adjusted by BAS to achieve the smoke control in the bedrooms according to the BAS Control sequence of operation.

DRAWING TRANSMITTAL SHEET

EngA® ENGINEERED AIR®

JOB NO. **65107(T17098)**

DATE **December 06, 2024**

☑ TORONTO SALES OFFICE
#30 5155 SPECTRUM WAY
MISSISSAUGA ON
L4W 5A1
(905) 602-4430

CANADIAN HEAD OFFICE
CALGARY AB

CANADIAN FACTORY
CALGARY AB
EDMONTON AB
NEWMARKET ON

OTHER CANADIAN SALES OFFICES
CALGARY, EDMONTON, HALIFAX, HAMILTON, KELOWNA, LONDON, MONCTON, MONTREAL, OTTAWA, REGINA, SASKATOON, SUDBURY, VANCOUVER, WINNIPEG

CONTRACTOR **CONSULT MECHANICAL INC**

ADDRESS **54 AUDIA COURT UNIT 2**

CONCORD ON

L4K 3N5

ENGINEER **SUSTAINGLOBE LTD**

JOB NAME **NESHAMA HOSPICE**

☑ THIS ORDER IS SUBJECT TO APPROVAL. MANUFACTURING IS HELD PENDING RETURN OF ONE APPROVED COPY OF THESE FORMS TO THE INDICATED OFFICE.

☐ THIS ORDER IS NOT SUBJECT TO APPROVAL AND IS BEING MANUFACTURED ACCORDING TO THE ATTACHED FORMS.

COPIES ENCLOSED	DESCRIPTION
1	EngA Submittal Record AHU-1
1	EngA Heat Pipe Performance Data Sheet AHU-1
1	TwinCity Supply Air Fan Performance Curve and Sound Data AHU-1
1	EngA Exhaust Air Fan Performance Curve and Sound Data AHU-1
1	EngA Mechanical Drawing 65107M-01-1
1	EngA Electrical Data Sheet AHU-1
1	EngA Field Wiring Diagram 65107F-01-1
1	EngA Submittal Record AHU-2
1	TwinCity Supply Air Fan Performance Curve and Sound Data AHU-2
1	EngA Exhaust Air Fan Performance Curve and Sound Data AHU-2
1	EngA Mechanical Drawing 65107M-02-1
1	EngA Electrical Data Sheet AHU-2
1	EngA Field Wiring Diagram 65107F-02-1
1	EngA Installation, Operation and Maintenance Manual (FW & UP Series)
1	TwinCity Fan Supplementary Installation, and Maintenance Manual

PER **LEISHA FERNANDO / GZ.**

EngA ENGINEERED AIR

SUBMITTAL RECORD

JOB NAME: NESHAMA HOSPICE **JOB NO:** 65107(T17098)

CUSTOMER: CONSULT MECHANICAL INC **ENGINEER:** SUSTAINGLOBE LTD

EngA MODEL: FWE263/C/O/CR/HRP/MV **QTY:** 1 **TAG:** AHU-1

SHIPPING AND APPROVAL INFORMATION

MOUNTING Outdoor Base Mounted c/w Isolated Vibration Roof Curb (By Others) **ACCESS** As Per Drawing

UNIT MINIMUM AMBIENT -20°F (-28.9°C) **SHIPPING WEIGHT** 9900 lb (4491 kg) **OPERATING WEIGHT** 9745 lb (4420 kg)

NO. OF PIECES 3 (Unit + 2 Hoods)

- Intertek $_{c}$ETL approval.

SUPPLY AIR DATA

AIR FLOW 6,000 CFM (2,832 l/s) **FAN SIZE** (1) 150 CL II BAE-DIDW **TSP** 5.5 in w.c. (1370 Pa) **RPM** 3320

MOTOR SIZE 10 HP (7.46 kW) **TYPE (RPM)** See Below [1] **ESP** 0.7 in w.c. (174 Pa) **BHP** 8.16 BHP (6.09 kW)

- [1] - Super 'E' TEFC (3450) w/ Aegis Ring
- Supply air fan/motor c/w pillow block bearings and shaft grounding ring.
- Drives have a service factor of 1.15.
- Unit mounted ABB adjustable speed drive c/w integral DC link reactors, vented control cabinet and manual bypass switch. Adjustable speed drive is designed for 2,100 CFM(991 l/s) minimum airflow at 21 Hz operating frequency.

EXHAUST AIR DATA

AIR FLOW 6,000 CFM (2,832 l/s) **FAN SIZE** (1) 15/15 FC DIDW **TSP** 2.65 in w.c. (660 Pa) **RPM** 1080

MOTOR SIZE 7 1/2 HP (5.6 kW) **TYPE (RPM)** See Below [1] **ESP** 0.5 in w.c. (125 Pa) **BHP** 4.53 BHP (3.38 kW)

- [1] - Super 'E' TEFC (1750) w/ Aegis Ring
- Exhaust air fan/motor c/w pillow block bearings and shaft grounding ring.
- Drives have a service factor of 1.15.
- Unit mounted ABB adjustable speed drive c/w integral DC link reactors, vented control cabinet and manual bypass switch. Adjustable speed drive is designed for 2,100 CFM(991 l/s) minimum airflow at 21 Hz operating frequency.

AIR OPENING DATA

AIR OPENING	LOCATION	DAMPER TYPE	OPERATION
SUPPLY AIR	Bottom		
RETURN AIR	See Below [1]		
OUTSIDE AIR	See Below [1]	See Below [2]	Two Position
EXHAUST AIR	See Below [1]	See Below [3]	Two Position

- [1] - See Mechanical Drawing
- [2] - TAMCO Series 1000 Low Leakage Aluminum Air-foil Parallel Blade
- [3] - TAMCO Series 8800 Heavy Duty Aluminum Air-foil Parallel Blade

CONSTRUCTION DATA

UNIT CABINET 18 gauge satin coat galvanized sheet metal c/w 2" (51 mm) 1.5 lb/ft³ (24 kg/m³) insulation on entire unit casing.

UNIT LINER 22 gauge satin coat galvanized solid liner throughout except DX coil section.
22 gauge 304 stainless steel liner on DX section.

UNIT UNDERSIDE No liner.

UNIT FLOOR 18 gauge satin coat galvanized sheet metal on entire unit floor.

EXTERIOR PAINT Electrostatically applied Alkyd Enamel in Aluminum Gray color - Level 1 on all exterior surface but not including unit underside.

AIRSIDE DOOR All access - hinged c/w lever type door handles

SERVICE DOOR All access - hinged c/w lever type door handles

JOB NAME: NESHAMA HOSPICE **JOB NO:** 65107(T17098)

EngA MODEL: FWE263/C/O/CR/HRP/MV **QTY:** 1 **TAG:** AHU-1

CONSTRUCTION DATA (CONTINUED)

DRAIN PAN	18 gauge 304 stainless steel deep crease drain pan c/w floor drain connection through base frame on DX coil section (extended 24" downstream of DX coil). 18 gauge satin coat galvanized drain pan c/w floor drain connection through base frame on O/A inlet and compressors sections. 18 gauge 304 stainless steel drain pan c/w floor drain connection through base frame on heat pipe supply and exhaust section . 18 gauge 304 stainless steel drain pan c/w floor drain connection through base frame on part of exhaust fan section (see mechanical drawing).

- Expanded steel grating over return air floor opening.
- 6"(406 mm) x 13"(330 mm) piping chase. (See mechanical drawing for details)
- Heat Pipe : (1) QDT Heat pipe energy reclaim coil installed (See attached performance data).

ELECTRICAL DATA

POWER SUPPLY	MINIMUM CIRCUIT AMPACITY	MAXIMUM FUSE(D.E.)	MAXIMUM BREAKER
208 / 3 / 60	165.4 AMPS	175 AMPS	175 AMPS

- See Electrical Data Sheet for details.
- Unit mounted non fused disconnect switch.
- MCA is based on '31 and 24' rated adjustable speed drive amps and installed supply and exhaust motor amps is not used .

SUPPLY PRE-FILTER SECTION DATA - Side Loaded

FILTER TYPE Pleated Filter with MERV 8 rating c/w Metal Frame

QTY/SIZE 4 - 24 x 24 x 2" (610 x 610 x 51 mm) **QTY/SIZE**

TOTAL GROSS AREA 16.00 SQ.FT. (1.49 SQ. MTRS) **FACE VELOCITY** 375 FPM (1.91 m/s)

- Filters may be shipped loose or mounted in the tracks
- P-XM analog pressure differential sensor across filter section.

SUPPLY FINAL FILTER SECTION DATA - Side Loaded

FILTER TYPE EngPac Syn Rigid Filter c/w header with MERV 14 rating c/w Metal Frame

QTY/SIZE 4 - 24 x 24 x 12" (610 x 610 x 305 mm) **QTY/SIZE**

TOTAL GROSS AREA 16.00 SQ.FT. (1.49 SQ. MTRS) **FACE VELOCITY** 375 FPM (1.91 m/s)

- Filters may be shipped loose or mounted in the tracks
- P-XM analog pressure differential sensor across filter section.

RETURN FILTER SECTION DATA - Side Loaded

FILTER TYPE Pleated Filter with MERV 8 rating c/w Metal Frame

QTY/SIZE 4 - 24 x 24 x 2" (610 x 610 x 51 mm) **QTY/SIZE**

TOTAL GROSS AREA 16.00 SQ.FT. (1.49 SQ. MTRS) **FACE VELOCITY** 375 FPM (1.91 m/s)

- Filters may be shipped loose or mounted in the tracks
- P-XM analog pressure differential sensor across filter section.

Continued on page 3

EngA ENGINEERED AIR

SUBMITTAL RECORD

JOB NAME: NESHAMA HOSPICE **JOB NO:** 65107(T17098)

EngA MODEL: FWE263/C/O/CR/HRP/MV **QTY:** 1 **TAG:** AHU-1

AIR COOLED DX SYSTEM DATA

COIL SIZE	37.5 (953) x 42 (1067) x 8R x 12 FPI	**VELOCITY**	549 FPM (2.79 m/s)
TOTAL CAPACITY	328,000 Btuh (96.1 kW)	**AIR P.D.**	1.62 in.wc. (403 Pa)
SENSIBLE CAPACITY	162,000 Btuh (47.5 kW)	**MOISTURE REMOVAL**	148.7 lb/hr (67.4 kg/hr)
ENTERING AIR DB / WB	80°F (26.7°C) / 71.4°F (21.9°C)	**LEAVING AIR DB / WB**	55.0°F (12.8°C) / 55.0°F (12.8°C)

DESIGN AMBIENT TEMP	95°F (35.0°C)	**SST/SCT**	48.1°F (8.9°C) / 126.5°F (52.5°C)	**REFRIGERANT TYPE**	R-410A
COMPRESSOR TYPE #1	Hermetic Scroll	**MODEL**	ZP103KCE-TF5-455	**QUANTITY**	1
COMPRESSOR TYPE #2	Hermetic Scroll	**MODEL**	ZP103KCE-TF5-455	**QUANTITY**	2

- DX cooling coil c/w 304 stainless steel casing, alternate tube circuiting and hot gas bypass on first 2 compressor circuits.
- For compressor system #1, each DX coil compressor circuit c/w TX valve, sight glass, liquid line filter/drier, liquid line shut-off valve, liquid line solenoid, liquid line/reheat stepper valve, suction accumulator, flooded head pressure control, discharge line check valve, low pressure control, high pressure control, pressure relief valve and liquid receiver.
- For compressor system #2, each DX coil compressor circuit c/w TX valve, sight glass, liquid line filter/drier, low pressure control and high pressure control.
- CENCON discharge air control c/w BMS interface - provides 3 stages of mechanical cooling interfaces with heating control.
- CENCON Integral low limit auto bypass; set @ 40°F (4.4°C).
- Mechanical cooling operates down to 58°F (14.4°C) ambient temperature.

REHEAT CONDENSER COIL DATA

COIL SIZE	35 (889) x 48 (1219) x 2R x 14 FPI	**VELOCITY**	514 FPM (2.62 m/s)
CAPACITY	145,200 Btuh (42.5 kW)	**AIR P.D.**	0.24 in.wc. (60 Pa)
ENTERING AIR DB	55°F (12.8°C)	**LEAVING AIR DB**	77.4°F (25.2°C)

- Condenser reheat is a part of compressor circuits #1.
- Modulating condenser reheat performance shown under design conditions.
- Modulating condenser reheat is controlled by CENCON discharge air controller.

HYDRONIC HEATING COIL DATA

COIL SIZE	33 (838) x 52 (1321) x 2R x 8 FPI	**VELOCITY**	511 FPM (2.60 m/s)
CAPACITY	465,500 Btuh (136.4 kW)	**AIR P.D.**	0.17 in.wc. (42 Pa)
ENTERING AIR DB	-4°F (-20.0°C)	**LEAVING AIR DB**	67.8°F (19.9°C)

FLUID MEDIUM	45% Propylene-Glycol	**CONN. SIZE (In & Out)**	2 in (51 mm)	**FLUID P.D.**	6.2 FT (19 kPa)
FLUID FLOW RATE	48 US.GPM (3.1 l/s)	**ENTERING FLUID TEMP**	180°F (82.2°C)	**LVG. FLUID TEMP**	158.8°F (70.4°C)

- Heating coil c/w threaded connections.
- Heating coil control valve by others and is controlled via 0-10 VDC by CENCON discharge air controller.
- Hydronic system of this unit is designed for maximum allowable work pressure 150 psig.

SHIPPED LOOSE ITEMS (See filter sections for filters)

1 - Inlet hood c/w 1"(25 mm) birdscreen.

1 - Exhaust hood c/w 1"(25 mm) birdscreen.

HEAT PIPE PERFORMANCE DATA
Version 1.2.13

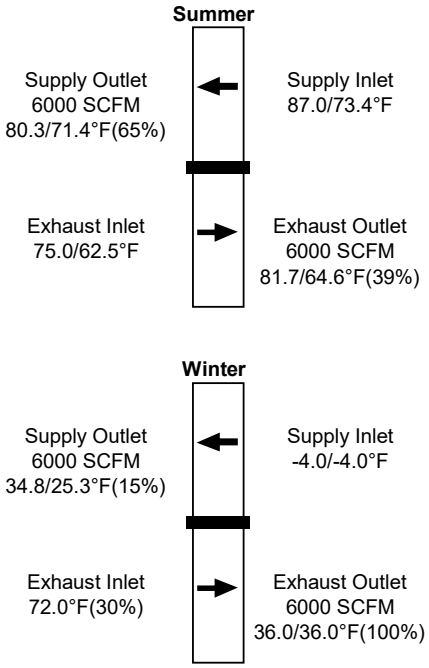
JOB NAME: NESHAMA HOSPICE **JOB NO:** 65107(T17098)

CUSTOMER: CONSULT MECHANICAL INC **ENGINEER:** SUSTAINGLOBE LTD

LOCATION: Toronto, ON **ALTITUDE:** 578 ft (176.2 m)

EngA MODEL: FWE263/C/O/CR/HRP/MV **QTY:** 1 **TAG:** AHU-1

Heat Pipe Selection Data - HVAC			
		Supply	Exhaust
Summer Design Without Evaporative Cooling	Fan Location	Heat Pipe Outlet	Heat Pipe Outlet
	Air Flow Through Pipe	6000 SCFM	6000 SCFM
	Standard Velocity Thr Pipe	554 fpm	554 fpm
	Entering Temp. DB/WB	87.0/73.4°F	75.0/62.5°F
	Leaving Temp. DB/WB(RH)	80.3/71.4°F(65%)	81.7/64.6°F(39%)
	Air Pressure Drop	0.78"wc	0.77"wc
	Energy Recovery	43.3 Mbh	
	Supply Efficiency	55.7%	
	ASHRAE Effectiveness	55.7%	
Winter Design (Note 1, 3)	Fan Location	Heat Pipe Outlet	Heat Pipe Outlet
	Air Flow Through Pipe	6000 SCFM	6000 SCFM
	Standard Velocity Thr Pipe	554 fpm	554 fpm
	Entering Temp. DB/WB(RH)	-4.0/-4.0°F	72.0°F(30%)
	Leaving Temp. DB/WB(RH)	34.8/25.3°F(15%)	36.0/36.0°F(100%)
	Air Pressure Drop	0.68"wc	0.78"wc
	Energy Recovery	251.1 Mbh	
	ASHRAE Effectiveness	58.2% (Note 2)	
	Tilt Control Factor		14392
	Moisture Condensed Out		0.2427263 Lbs/Min
	Frost Point		1.2°F



System: (1) Tru in an integrated tilt package
Type: Corrugate Aluminum fin, 5/8" O.D. aluminum tube

Unit ID	TRU Model	Face Height	Face Length	Row	Exh FPI	Sup FPI	Type	Exh Length	Sup Length	Weight (LBS)
1	**TRU-120**	**- 39**	**- 82**	**- 6**	**- 12E**	**- 12S**	**- AC5**	**- 40**	42 (2)	489

Unit	Weight in lbs
Total system weight	1123

Notes: 1. Pipe performance in the winter design section includes the effects of frost control.
2. Value is under no frost rating conditions.
3. Supply efficiency under winter design condition with frost control is 51.0%.
4. Tilt control is required for summer/winter operation. Tru cannot be installed level and achieve full recovery at winter design conditions.

DATE: 03-Dec-2024 **SUBMITTED BY:** GZ.

Job Name: Neshama Hospice

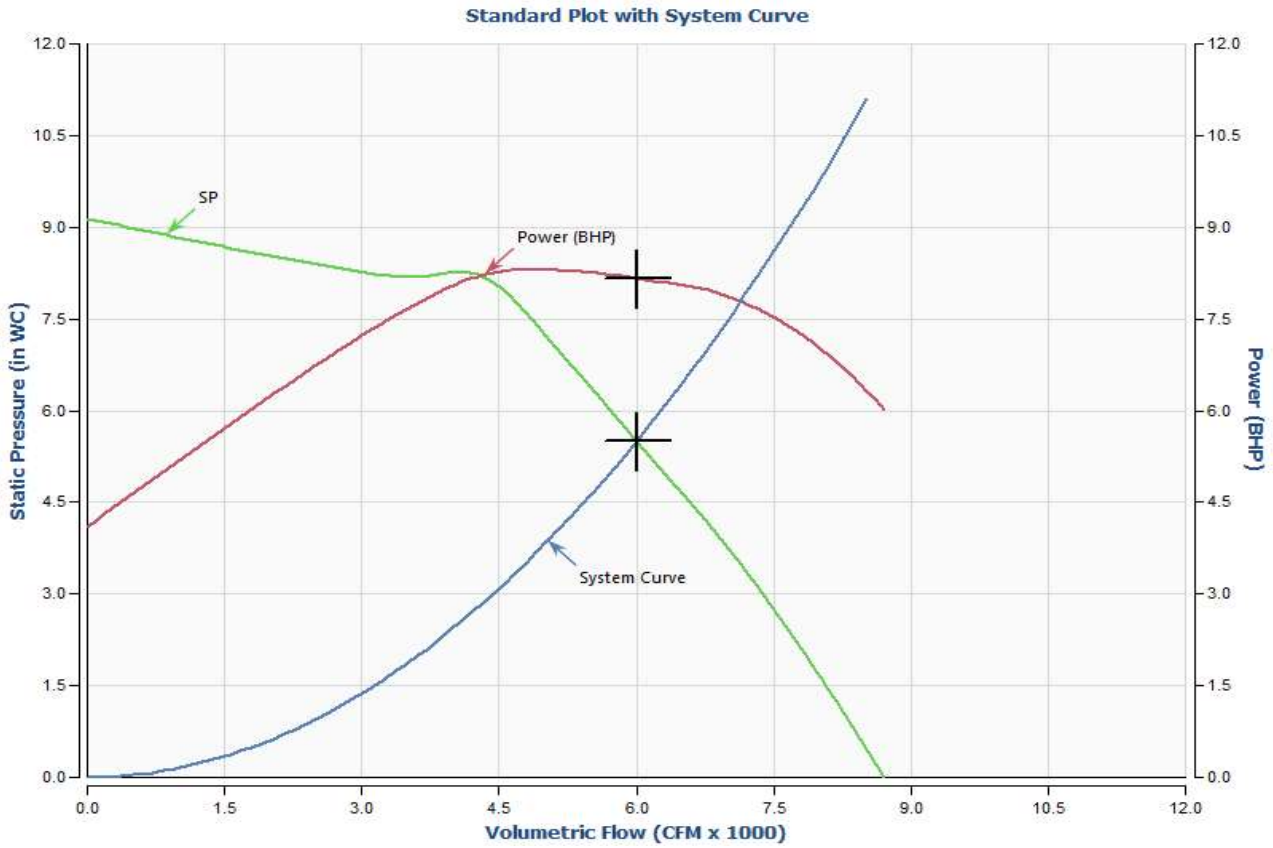
Customer:
Job ID: 65107
Date: November 29, 2024

Tag: AHU-1 S/A

Fan information

Size/Model	150/BAE-DW	Class	II	FEI	1.15
Volumetric Flow (CFM)	6000	Speed (RPM)	3320	System FEI	1.15
SP (in WC)	5.5	Max Speed	4,213 RPM @ 70 °F	FEP (KW)	7.00
		Power (BHP)	8.16	System FEP (KW)	7.00
		Outlet Vel (FPM)	2575	CA T20 Compliant/Exempt	Yes
		Density (lb/ft³)	0.0734		

Adjusted for Altitude: 578 ft



Job Name: Neshama Hospice

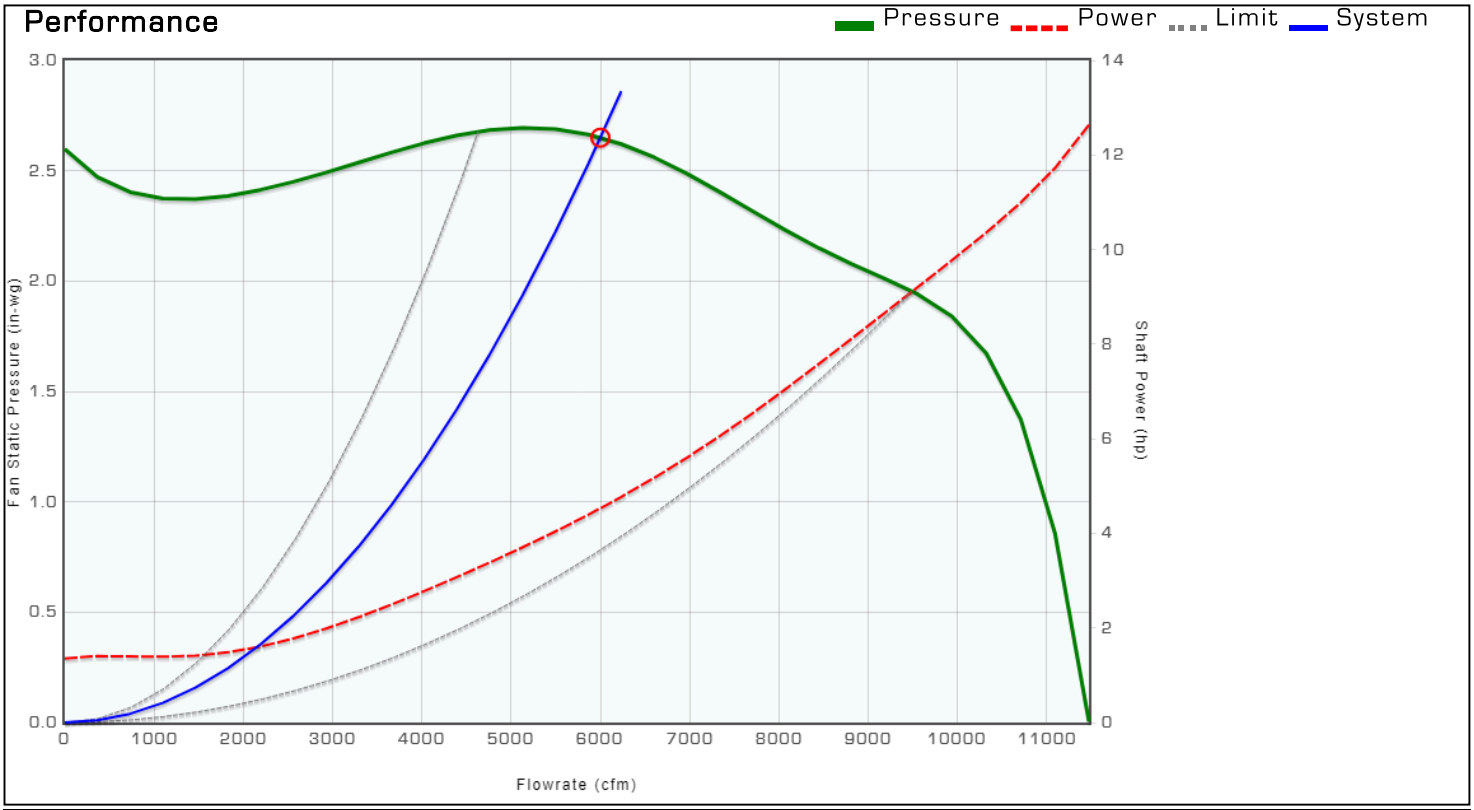
Customer:
Job ID: 65107
Date: November 29, 2024

Sound Power Ea.	Octave Bands	1	2	3	4	5	6	7	8	LwA	dBA
	Inlet dB	90	91	94	98	92	89	84	78	98	84
	Outlet dB	97	96	95	95	94	92	85	79	99	84

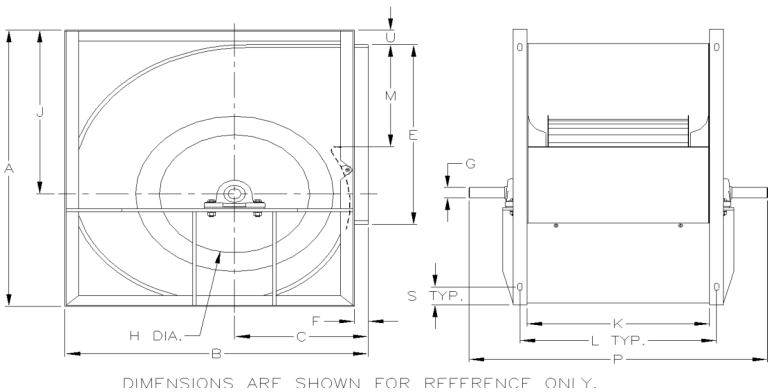
Date 4-12-2024

Job Name	65107				Submitted by/notes			
Model A15-15A	Flow 6000 cfm	Pressure 2.65 in-wg	Temperature 70 °F	Altitude 578 ft	Density 0.073 lb/ft^3	Q Derate 0 cfm	P Derate 0.00 in-wg	Vav Set Point 0.00 in-wg
Fan Tag	Flow 6000 cfm	Pressure 2.65 in-wg	Power 4.53 hp	Static Efficiency 55.4 %	Total Efficiency 66.7 %	Speed 1080 rpm	Outlet Velocity 2985 fpm	FEI 1.17
AHU-1 E/A	Impeller Dia 15.0 in	Outlet Area 2.01 ft^2	Max. Speed 1328 rpm	AMCA Class 0	Drive Belt Drive	Blades 51	P Volume 9.44 ft^3	TurnDown 100 %

Performance



Sound(Lwi)	63	125	250	500	1000	2000	4000	8000	Lw	LwA
	92	90	87	83	84	82	80	78	96	89



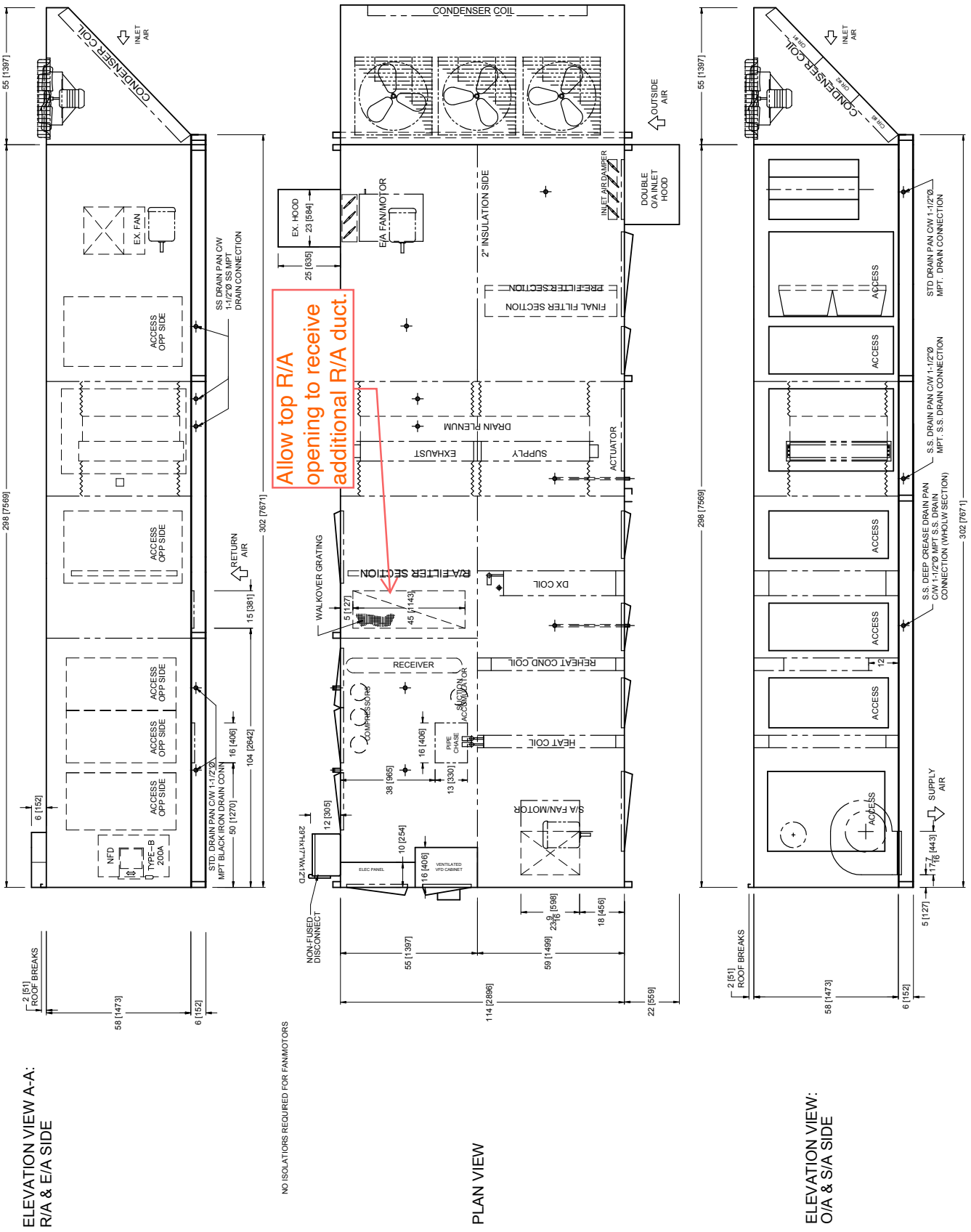
DIMENSIONS ARE SHOWN FOR REFERENCE ONLY.

Options Available
Available Bore (9 inch diameter wheels): 3/4, 1, 1-3/16, 1-7/16, 1-11/16,1-15/16, 2-1/4, 3 inch
Available Bore (11 inch diameter wheels): 3/4, 1 and 1-3/16 inch
Additional Bores (12 inch diameter wheels): 3, 4, and 4-1/2 inch
Additional Bores (15 through 20 inch diameter wheels): 3, 4, 4-1/2, 5 inch
Center disc lock style: Preslok
Adjustable motor base

A	B	C	E	F	G	H	J	K	L	M	P	S	U
25.50	22.94	10.50	15.88	1.00	1.19	12.62	14.56	18.62	20.37	9.69	27.88	1.00	1.00

Notes: Airflow performance data are obtained in accordance with AMCA 210-16. Installed performance will vary depending on extent of cabinet geometry.

Dimensions in inches



NO ISOLATIORS REQUIRED FOR FAN/MOTORS

ELEVATION VIEW A-A:
R/A & E/A SIDE

PLAN VIEW

ELEVATION VIEW:
O/A & S/A SIDE

DOOR SIZES AND INTERNAL COMPONENTS ARE APPROX. VALUES. DIMENSIONS SHOWN IN INCHES ONLY UNLESS OTHERWISE NOTED.

65107 (T17098)
TAG: AHU-1

FWE263/C/CR/O/HRP/MV
FWE/CR SERIES

EngA® ENGINEERED AIR® generated by ProUnit

REVISIONS:			
DATE: NOV 26 2024	DRWN BY: GZ	CHKD BY: LQ	DRWG NO.: **65107M-01-1**

EngA® ENGINEERED AIR®

ELECTRICAL DATA

JOB NAME: NESHAMA HOSPICE **JOB NO:** 65107(T17098)

EngA MODEL: FWE263/C/O/CR/HRP/MV **QTY:** 1 **TAG:** AHU-1

Power Supply	Minimum Circuit Ampacity	Terminal Block to Accept	Maximum Fuse (Dual Element)	Maximum Breaker
208 / 3 / 60	165.4 AMPS	00 Awg	175 AMPS	175 AMPS

Components	Model	Minimum Conductor Size	Ampacity FLA / LRA	SubFuse Group	Subfuse Group Fuse Size	Terminal Block to Subfuse
Reheat Compressor	ZP103KCE-TF5-455	4 Awg	30.1 / 225.0			
Compressor #2 and #3	ZP103KCE-TF5-455	4 Awg	30.1 / 225.0			
Supply Fan Motor	Super 'E' TEFC (3450) w/ Aegis Ring 10 HP	8 Awg	25.0	1	70	4 Awg
Exhaust Fan Motor	Super 'E' TEFC (1750) w/ Aegis Ring 7 1/2 HP	10 Awg	21.4			
Condenser Fan Motor #1 to #3	OPAO 0.75 HP	14 Awg	3.3	2	15	14 Awg
Crankcase Heater (3 total)	Fuse with main xfmr 93 VA	14 Awg	0.45			
Main Control Xfmr		14 Awg	1.7			
VFD Vent Control Xfmr		14 Awg	.7			

UNIT CONTROL PANEL(S) SHORT CIRCUIT CURRENT RATING (SCCR)
Short circuit current 5 kA rms symmetrical, 208 V maximum

WIRING DRAWING LEGEND					
APS	Air Proving Switch	DM	Damper Motor	NFD	Non Fused Disconnect
ASF	Auto Fan Switch	FR	Fan Relay	OL	Thermal Overload
AUX	Auxiliary Contact	GND	Ground	PS	Pressure Sensor
BM	Burner Motor	GV	Gas Valve	PV	Pilot Gas Valve
C	Contactor	HL	High Limit	R	Relay
CCH	Compressor Crankcase Heater	HPC	High Pressure Control	RevHL	Reverse Airflow High Limit
CFC	Condenser Fan Control	HR	Heating Relay	TB	Terminal Block
CLC	Compressor Loading Control	IGN	Ignition Control	TDF	Time Delay Fuse
CPM	Compressor Protection Module	ITP	Internal Thermo Protection	TDR	Time Delay Relay
CR	Cooling Relay	LPC	Low Pressure Control	TS	Temperature Sensor
CS	Current Sensor	M	Motor	VFD	Variable Frequency Drive
DHSS	Draft Hood Spill Switch	MV	Main Gas Valve	XFMR	Transformer

Continued on page 2

EngA® ENGINEERED AIR®

ELECTRICAL DATA

JOB NAME: NESHAMA HOSPICE **JOB NO:** 65107(T17098)

EngA MODEL: FWE263/C/O/CR/HRP/MV **QTY:** 1 **TAG:** AHU-1

UNIT FUNCTION

EMS is for display only, CENCON controller has full control. Communication via BACnet IP.

Unit mounted non-fused disconnect switch 'on', service switch 'on', fire alarm contacts (by others) 'closed' (jumper if not required) , duct high pressure limit (by others) 'closed', S/A and E/A VFDs fault contacts 'closed' or 'bypassed' (see Note 1), unit is ready for operation.

BAS Unit on/off contact (by others) 'closed', outside and exhaust air dampers open, blowers will run continuously down to a minimum airflow of 2100 CFM (21 Hz, 35% of maximum airflow). S/A and E/A VFDs blower/motor speed control via 0-10VDC signal (by others). The CENCON controller, with a BAS 0-10VDC setpoint signal (by others), will modulate heating and cooling (cycling 3 stages of compressors) to maintain the required discharge air temperature. The discharge air temperature control band is from 55°F (12.8°C) to 85°F (29.4°C).

If there is a call for heating, the CENCON will output a 0-10 VDC signal to the heating device (provided in field by others).

COOL MODE

If there is a call for cooling and the CENCON is in cooling mode, the C-XM controller module will begin staging on the mechanical cooling. The discharge air temperature control band is from 55°F (12.8°C) to 85°F (29.4°C). Mechanical cooling is locked out below 58°F (14.4°C) ambient temperature.

HEAT MODE

If there is a call for heating, and the CENCON is in heat mode, the CENCON will output a 0-10 VDC signal to the heating device (provided in field by others).

DEHUMIDIFICATION MODE

When BAS dehumidification on/off contact (by others) 'closed', and the CENCON is in dehumidification mode, the C-XM controller module will enable cooling, with DX discharge setpoint fixed at 55°F (12.8°C) to achieve the required relative humidity. The condenser reheat is also enabled to satisfy the required discharge air temperature.

ENERGY RECOVERY

The ER-XM will tilt the heatpipe as required to provide leaving air temperature regulation, summer/winter changeover, and frost control when required. When frost build up is detected on the heat recovery device, the ER-XM will enter defrost mode, the defrost setpoint is 35°F (1.7°C).

BAS Unit on/off contact (by others) 'open', outside and exhaust air dampers close, and blowers shut down. Unit is off.

If the fire alarm contacts 'open', equipment operation is disabled immediately. If the discharge air temperature falls below 40°F(4.4° C), the CENCON will shut down the blower, close dampers and indicate alarm.

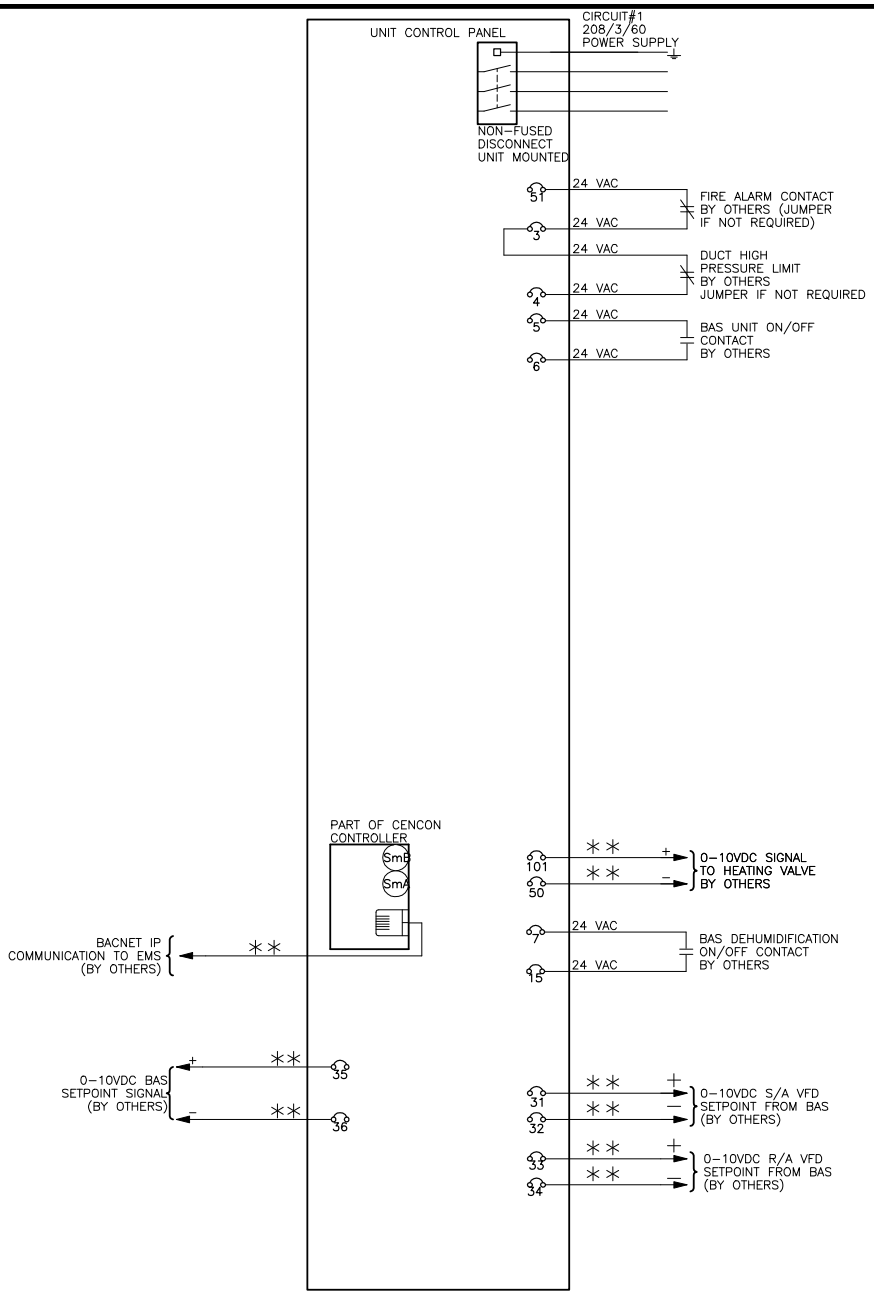
If non-fused disconnect switch 'off', or service switch 'off', or the fire alarm contact 'open', or duct high pressure limit 'open', or S/A and E/A VFDs fault contacts 'open' (in VFD mode), equipment operation is disabled immediately. If discharge air temperature falls below 40° F(4.4°C), the CENCON will shut down the blower, close dampers and indicate alarm.

Note 1 - VFD has an external bypass switch, when activated blowers and motors will operate at full speed (60Hz).

Note 2 - Refer to manuals shipped with unit for more detailed explanation of maintenance, components and controls.

Note 3 - Go to http://www.engineeredair.com/index.php/manuals/ for online manual details

Note 4 - Compressor(s) cycle has minimum run time, minimum off time, and interstage timing.



MAXIMUM CONTROL CIRCUIT AMPACITY 14.6 AMPS AT 24 VAC

** SHIELDED WIRE IS REQUIRED WITH BMS ANALOG SIGNALS.
TAPE THE GROUND WIRE AND SHIELD TO PREVENT GROUNDING.
TAPE THE ENDS OF ALL UNUSED WIRES.
ANALOG BMS SIGNALS ARE SUBJECT TO GROUND LOOP INTERFERENCE.
SIGNAL ISOLATION MAY BE REQUIRED.
REFER TO THE OPERATION MANUAL OF THE SPECIFIC CONTROLLER.

1. FIELD WIRING VOLTAGE DROP NOT TO EXCEED 10%.
2. ALL WIRING SHOWN SHALL BE COMPLETED BY INSTALLER.
3. ALL FIELD WIRING MUST COMPLY WITH ALL NATIONAL AND LOCAL ELECTRICAL CODES.

EngA® ENGINEERED AIR®

TAG: AHU-1

FIELD WIRING DIAGRAM
FWE/CR/HRP SERIES

REVISION:	DRN.BY: GZ	DWG.NO: 65107F-01-1
DATE: NOV 28/24	CHKD.BY: LQ	

EngA® ENGINEERED AIR®

SUBMITTAL RECORD

JOB NAME: NESHAMA HOSPICE **JOB NO:** 65107(T17098)

CUSTOMER: CONSULT MECHANICAL INC **ENGINEER:** SUSTAINGLOBE LTD

EngA MODEL: FWE143/C/O/CR/MV **QTY:** 1 **TAG:** AHU-2

SHIPPING AND APPROVAL INFORMATION

MOUNTING Outdoor Base Mounted c/w Isolated Vibration Roof Curb (By Others) **ACCESS** As Per Drawing

UNIT MINIMUM AMBIENT -20°F (-28.9°C) **SHIPPING WEIGHT** 5930 lb (2690 kg) **OPERATING WEIGHT** 5835 lb (2647 kg)

NO. OF PIECES 2 (Unit + Hood)

- Intertek $_{c}$ETL approval.

SUPPLY AIR DATA

AIR FLOW 4,000 CFM (1,888 l/s) **FAN SIZE** (1) 135 BAE-DIDW **TSP** 4.1 in w.c. (1021 Pa) **RPM** 2992

MOTOR SIZE 5 HP (3.73 kW) **TYPE (RPM)** See Below [1] **ESP** 0.7 in w.c. (174 Pa) **BHP** 3.91 BHP (2.92 kW)

- [1] - Super 'E' TEFC (3450) w/ Aegis Ring
- Supply air fan/motor c/w pillow block bearings and shaft grounding ring.
- Drives have a service factor of 1.15.
- Unit mounted ABB adjustable speed drive c/w integral DC link reactors, vented control cabinet and manual bypass switch. Adjustable speed drive is designed for 1,400 CFM(661 l/s) minimum airflow at 21 Hz operating frequency.

RETURN AIR DATA

AIR FLOW 4,000 CFM (1,888 l/s) **FAN SIZE** (1) 135 BAE-DIDW **TSP** 0.95 in w.c. (237 Pa) **RPM** 2220

MOTOR SIZE 2 HP (1.49 kW) **TYPE (RPM)** See Below [1] **ESP** 0.5 in w.c. (125 Pa) **BHP** 1.43 BHP (1.07 kW)

- [1] - Super 'E' TEFC (1750) w/ Aegis Ring
- Return air fan/motor c/w pillow block bearings and shaft grounding ring.
- Drives have a service factor of 1.15.
- Unit mounted ABB adjustable speed drive c/w integral DC link reactors, vented control cabinet and manual bypass switch. Adjustable speed drive is designed for 1,400 CFM(661 l/s) minimum airflow at 21 Hz operating frequency.

AIR OPENING DATA

AIR OPENING	LOCATION	DAMPER TYPE	OPERATION
SUPPLY AIR	Front		
RETURN AIR	See Below [1]	See Below [2]	Modulating
OUTSIDE AIR	See Below [1]	See Below [2]	Modulating
EXHAUST AIR	See Below [1]	EngA Single Blade Barometric	Gravity

- [1] - See Mechanical Drawing
- [2] - TAMCO Series 1000 Low Leakage Aluminum Air-foil Parallel Blade

CONSTRUCTION DATA

UNIT CABINET 18 gauge satin coat galvanized sheet metal c/w 2" (51 mm) 1.5 lb/ft³ (24 kg/m³) insulation on entire unit casing.

UNIT LINER 22 gauge satin coat galvanized solid liner throughout except DX coil section.
22 gauge 304 stainless steel liner on DX coil section.

UNIT UNDERSIDE No liner.

UNIT FLOOR 18 gauge satin coat galvanized sheet metal on entire unit floor.

EXTERIOR PAINT Electrostatically applied Alkyd Enamel in Aluminum Gray color - Level 1 on all exterior surface but not including unit underside.

AIRSIDE DOOR All access - hinged c/w lever type door handles

SERVICE DOOR All access - hinged c/w lever type door handles

EngA ENGINEERED AIR

SUBMITTAL RECORD

JOB NAME: NESHAMA HOSPICE **JOB NO:** 65107(T17098)

EngA MODEL: FWE143/C/O/CR/MV **QTY:** 1 **TAG:** AHU-2

CONSTRUCTION DATA (CONTINUED)

DRAIN PAN 18 gauge 304 stainless steel deep crease drain pan c/w drain connection through casing on DX coil section (extended 24" downstream of DX coil).

- EngA steel weather louver(s) c/w 1"(25 mm) bird screen.
- Piping vestibule c/w 16"(406 mm) x 13"(330 mm) piping chase. (See mechanical drawing for details)

ELECTRICAL DATA

POWER SUPPLY	MINIMUM CIRCUIT AMPACITY	MAXIMUM FUSE(D.E.)	MAXIMUM BREAKER
208 / 3 / 60	84.2 AMPS	100 AMPS	100 AMPS

- See Electrical Data Sheet for details.
- Unit mounted non fused disconnect switch.
- MCA is based on '16.7 and 7.5' rated adjustable speed drive amps and installed supply and return motor amps are not used .

PRE-FILTER SECTION DATA - Side Loaded

FILTER TYPE Pleated Filter with MERV 8 rating c/w Metal Frame

QTY/SIZE 4 - 20 x 20 x 2" (508 x 508 x 51 mm) **QTY/SIZE**

TOTAL GROSS AREA 11.11 SQ.FT. (1.03 SQ. MTRS) **FACE VELOCITY** 360 FPM (1.83 m/s)

- Filters may be shipped loose or mounted in the tracks
- P-XM analog pressure differential sensor across filter section.

FINAL FILTER SECTION DATA - Side Loaded

FILTER TYPE EngPac Syn Rigid Filter c/w header with MERV 14 rating

QTY/SIZE 4 - 20 x 20 x 12" (508 x 508 x 305 mm) **QTY/SIZE**

TOTAL GROSS AREA 11.11 SQ.FT. (1.03 SQ. MTRS) **FACE VELOCITY** 360 FPM (1.83 m/s)

- Filters may be shipped loose or mounted in the tracks
- P-XM analog pressure differential sensor across filter section.

AIR COOLED DX SYSTEM DATA

COIL SIZE 26.25 (667) x 42 (1067) x 8R x 8 FPI **VELOCITY** 520 FPM (2.65 m/s)

TOTAL CAPACITY 174,000 Btuh (51.0 kW) **AIR P.D.** 0.94 in.wc. (234 Pa)

SENSIBLE CAPACITY 115,000 Btuh (33.7 kW) **MOISTURE REMOVAL** 52.4 lb/hr (23.8 kg/hr)

ENTERING AIR DB / WB 80°F (26.7°C) / 67.0°F (19.4°C) **LEAVING AIR DB / WB** 53.5°F (11.9°C) / 52.9°F (11.6°C)

DESIGN AMBIENT TEMP 95°F (35.0°C) **SST/SCT** 46.1°F (7.8°C) / 119.1°F (48.4°C) **REFRIGERANT TYPE** R-410A

COMPRESSOR TYPE #1 Hermetic Scroll **MODEL** ZP54K5E-TF5-130 **QUANTITY** 1

COMPRESSOR TYPE #2 Hermetic Scroll **MODEL** ZP54K5E-TF5-130 **QUANTITY** 2

- DX cooling coil c/w 304 stainless steel casing, alternate tube circuiting and hot gas bypass on lead compressor circuit.
- For compressor system #1, each DX coil compressor circuit c/w TX valve, sight glass, liquid line filter/drier, liquid line shut-off valve, liquid line solenoid, liquid line/reheat stepper valve, suction accumulator, flooded head pressure control, discharge line check valve, low pressure control, high pressure control, pressure relief valve and liquid receiver.
- For compressor system #2, each DX coil compressor circuit c/w TX valve, sight glass, liquid line filter/drier and low pressure control.
- CENCON discharge air control c/w BMS interface - provides 3 stages of mechanical cooling .
- CENCON Integral low limit auto bypass; set @ 40°F (4.4°C).
- Mechanical cooling operates down to 50°F (10.0°C) ambient temperature.

EngA® ENGINEERED AIR®

SUBMITTAL RECORD

JOB NAME: NESHAMA HOSPICE **JOB NO:** 65107(T17098)

EngA MODEL: FWE143/C/O/CR/MV **QTY:** 1 **TAG:** AHU-2

REHEAT CONDENSER COIL DATA

COIL SIZE	20 (508) x 40 (1016) x 2R x 10 FPI	**VELOCITY**	720 FPM (3.66 m/s)
CAPACITY	75,020 Btuh (22.0 kW)	**AIR P.D.**	0.34 in.wc. (85 Pa)
ENTERING AIR DB	53.5°F (11.9°C)	**LEAVING AIR DB**	70.9°F (21.6°C)

- Condenser reheat is a part of compressor circuit #1.
- Modulating condenser reheat performance shown under design conditions.
- Modulating condenser reheat is controlled by CENCON discharge air controller.

HYDRONIC HEATING COIL DATA

COIL SIZE	28.5 (724) x 42 (1067) x 2R x 8 FPI			**VELOCITY**	503 FPM (2.56 m/s)
CAPACITY	164,200 Btuh (48.1 kW)			**AIR P.D.**	0.17 in.wc. (42 Pa)
ENTERING AIR DB	45°F (7.2°C)			**LEAVING AIR DB**	83.0°F (28.3°C)
FLUID MEDIUM	45% Propylene-Glycol	**CONN. SIZE (In & Out)**	1 1/2 in (38 mm)	**FLUID P.D.**	1.2 FT (4 kPa)
FLUID FLOW RATE	17 US.GPM (1.1 l/s)	**ENTERING FLUID TEMP**	180°F (82.2°C)	**LVG. FLUID TEMP**	158.9°F (70.5°C)

- Heating coil c/w threaded connections.
- Heating coil control valve by others and is controlled via 0-10 VDC by Cencon discharge air controller.
- Hydronic system of this unit is designed for maximum allowable work pressure 150 psig.

SHIPPED LOOSE ITEMS (See filter sections for filters)

1 - Exhaust hood c/w 1"(25 mm) birdscreen.

Job Name: Neshama Hospice

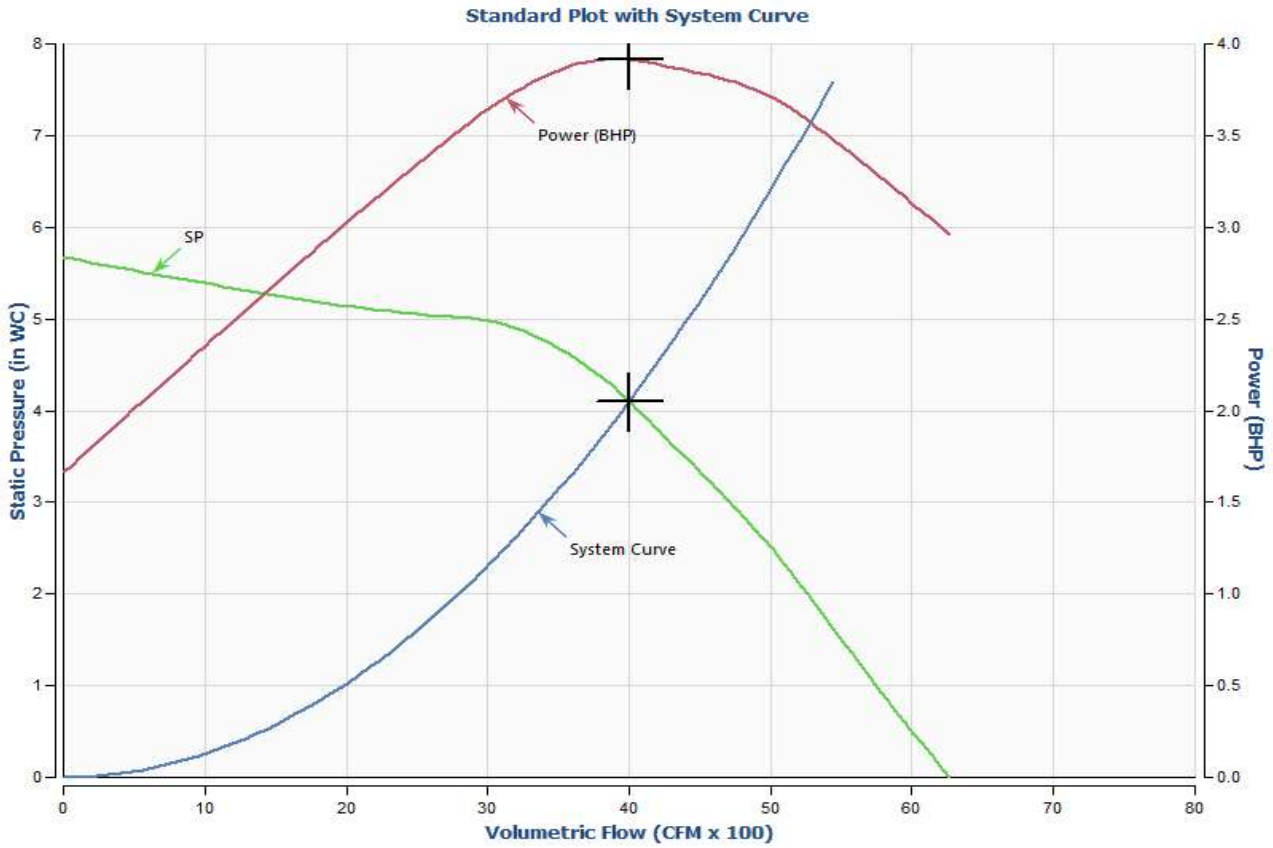
Customer:
Job ID: 65107
Date: November 29, 2024

Tag: AHU-2 S/A

Fan information

Size/Model	135/BAE-DW	Class	I	FEI	1.22
Volumetric Flow (CFM)	4000	Speed (RPM)	2992	System FEI	1.22
SP (in WC)	4.1	Max Speed	3,374 RPM @ 70 °F	FEP (KW)	3.46
		Power (BHP)	3.91	System FEP (KW)	3.46
		Outlet Vel (FPM)	2116	CA T20 Compliant/Exempt	Yes
		Density (lb/ft³)	0.0734		

Adjusted for Altitude: 578 ft



Job Name: Neshama Hospice

Customer:
Job ID: 65107
Date: November 29, 2024

Sound Power Ea.	Octave Bands	1	2	3	4	5	6	7	8	LwA	dBA
	Inlet dB	84	80	88	92	85	84	80	73	92	78
	Outlet dB	96	91	91	91	87	86	80	73	93	79

Job Name: Neshama Hospice

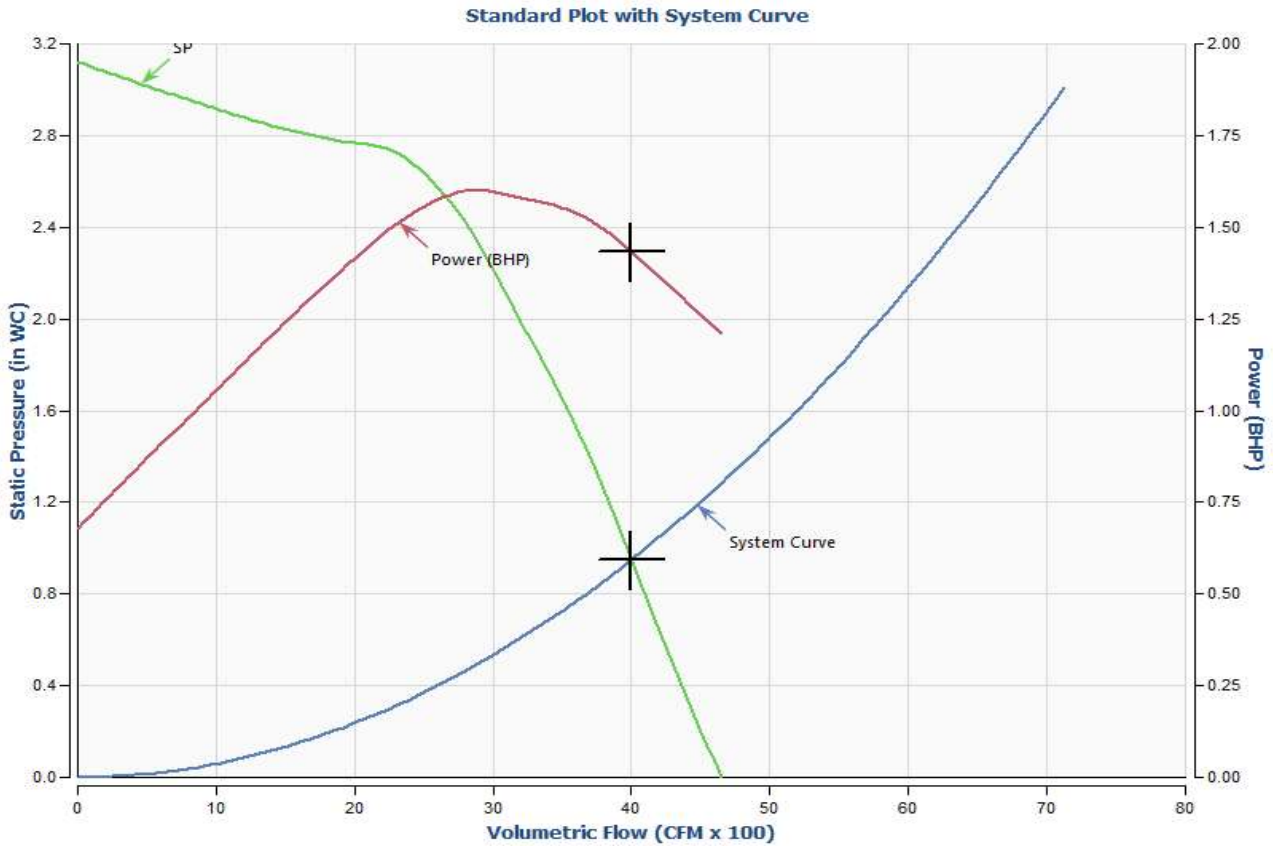
Customer:
Job ID: 65107
Date: November 12, 2024

Tag: AHU-2 R/A

Fan information

Size/Model	135/BAE-DW	Class	I	FEI	1.13
Volumetric Flow (CFM)	4000	Speed (RPM)	2220	System FEI	1.13
SP (in WC)	0.95	Max Speed	3,374 RPM @ 70 °F	FEP (KW)	1.36
		Power (BHP)	1.43	System FEP (KW)	1.36
		Outlet Vel (FPM)	2116	CA T20 Compliant/Exempt	Yes
		Density (lb/ft³)	0.0734		

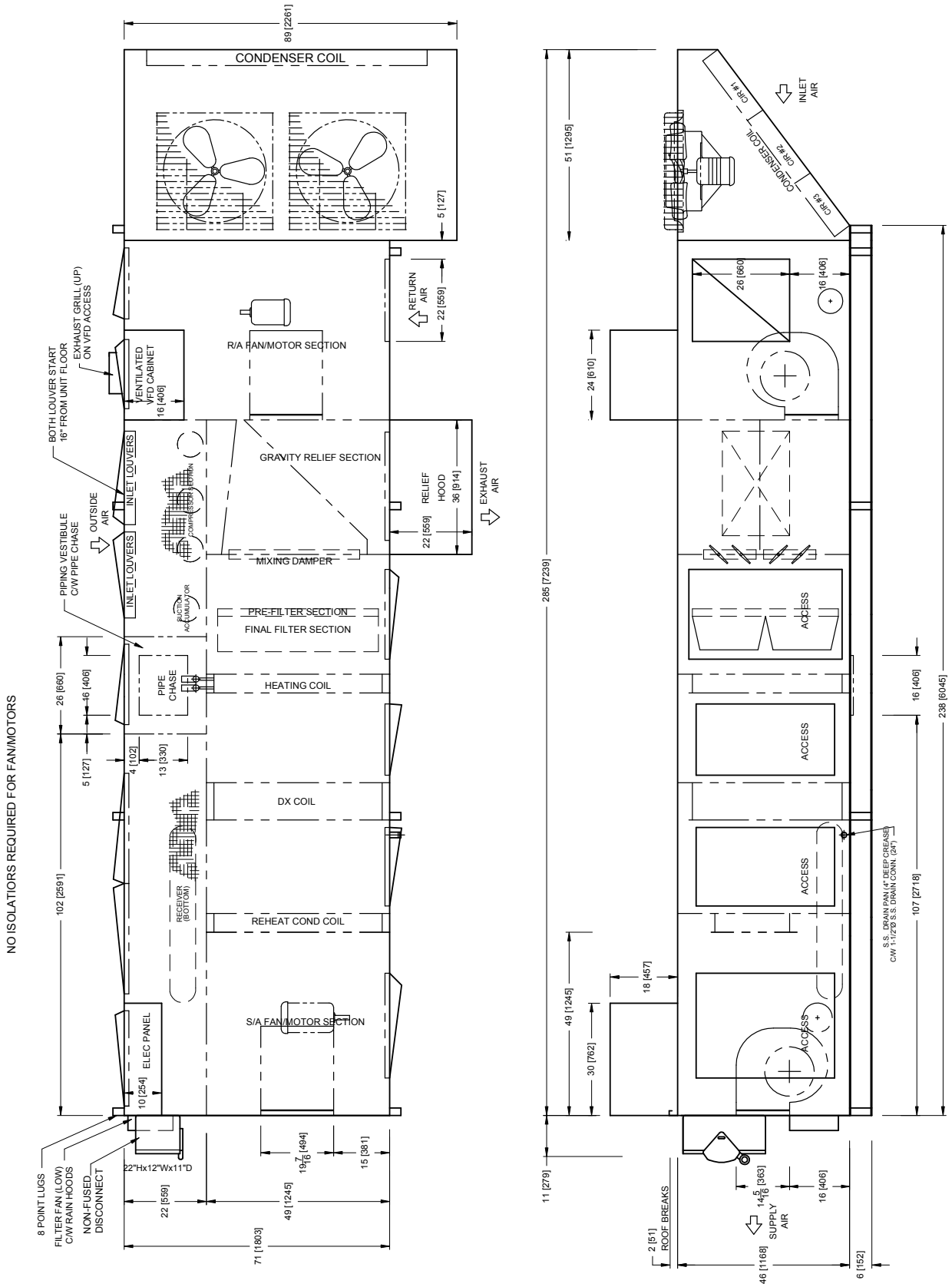
Adjusted for Altitude: 578 ft



Job Name: Neshama Hospice

Customer:
Job ID: 65107
Date: November 12, 2024

Sound Power Ea.	Octave Bands	1	2	3	4	5	6	7	8	LwA	dBA
	Inlet dB	76	74	84	83	81	79	72	65	86	71
	Outlet dB	89	84	89	86	83	81	73	66	88	74



DOOR SIZES AND INTERNAL COMPONENTS ARE APPROX. VALUES. DIMENSIONS SHOWN IN INCHES & [MM] UNLESS OTHERWISE NOTED.

65107 (T17098)
TAG: AHU-2

FWE143/C/O/CR/MV
HEAT/COOL UNIT

EngA® ENGINEERED AIR® generated by ProUnit

REVISIONS:			
DATE: NOV 14 2024	DRWN BY: GZ	CHKD BY: LQ	DRWG NO.: **65107M-02-1**

EngA® ENGINEERED AIR®

ELECTRICAL DATA

JOB NAME: NESHAMA HOSPICE **JOB NO:** 65107(T17098)

EngA MODEL: FWE143/C/O/CR/MV **QTY:** 1 **TAG:** AHU-2

Power Supply	Minimum Circuit Ampacity	Terminal Block to Accept	Maximum Fuse (Dual Element)	Maximum Breaker
208 / 3 / 60	84.2 AMPS	4 Awg	100 AMPS	100 AMPS

Components	Model	Minimum Conductor Size	Ampacity FLA / LRA	SubFuse Group	Subfuse Group Fuse Size	Terminal Block to Subfuse
Reheat Compressor #1	ZP54K5E-TF5-130	8 Awg	15.6 / 110.0			
Compressor #2, #3	ZP54K5E-TF5-130	8 Awg	15.6 / 110.0			
Crankcase Heater (3 total)		14 Awg	.0			
Supply Fan Motor	Super 'E' TEFC (3450) w/ Aegis Ring 5 HP	12 Awg	12.5	1	40	8 Awg
Return Fan Motor	Super 'E' TEFC (1750) w/ Aegis Ring 2 HP	14 Awg	6.7			
Condenser Fan Motor #1 and #2	OPAO 0.75 HP	14 Awg	3.3			
Main Control Xfmr		14 Awg	1.7			
VFD Vent Control Xfmr		14 Awg	.7			

UNIT CONTROL PANEL(S) SHORT CIRCUIT CURRENT RATING (SCCR)
Short circuit current 5 kA rms symmetrical, 208 V maximum

WIRING DRAWING LEGEND					
APS	Air Proving Switch	DM	Damper Motor	NFD	Non Fused Disconnect
ASF	Auto Fan Switch	FR	Fan Relay	OL	Thermal Overload
AUX	Auxiliary Contact	GND	Ground	PS	Pressure Sensor
BM	Burner Motor	GV	Gas Valve	PV	Pilot Gas Valve
C	Contactor	HL	High Limit	R	Relay
CCH	Compressor Crankcase Heater	HPC	High Pressure Control	RevHL	Reverse Airflow High Limit
CFC	Condenser Fan Control	HR	Heating Relay	TB	Terminal Block
CLC	Compressor Loading Control	IGN	Ignition Control	TDF	Time Delay Fuse
CPM	Compressor Protection Module	ITP	Internal Thermo Protection	TDR	Time Delay Relay
CR	Cooling Relay	LPC	Low Pressure Control	TS	Temperature Sensor
CS	Current Sensor	M	Motor	VFD	Variable Frequency Drive
DHSS	Draft Hood Spill Switch	MV	Main Gas Valve	XFMR	Transformer

UNIT FUNCTION

EMS is for display only, CENCON controller has full control. Communication via BACnet IP.

Unit mounted non-fused disconnect switch 'on', service switch 'on', fire alarm contacts (by others) 'closed' (jumper if not required), duct high pressure limit (by others) 'closed', S/A and R/A VFDs fault contacts 'closed' or 'bypassed' (see Note 1), unit is ready for operation.

Occupied Mode

BAS Unit on/off contact (by others) 'closed', and BAS Occupied/unoccupied on/off contact (by others) 'closed', outside air dampers open to the integral minimum position setpoint of 35% (adjustable at CENCON display). S/A and R/A blowers will delay on and run continuously down to a minimum airflow of 1400 CFM (21 Hz, 35% of maximum airflow). S/A and R/A VFDs blower/motor speed control via BAS 0-10VDC signal (by others). The CENCON controller, with a BAS 0-10VDC setpoint signal (by others) will modulate economizer /cooling (cycling 3 stages of compressors) to maintain the required discharge air temperature. The discharge air temperature control band is from 55°F (12.8°C) to 85°F (29.4°C).

HEAT MODE

 Continued on page 2

UNIT FUNCTION CONTINUED

If there is a call for heating, and the CENCON is in heat mode, the CENCON will output a 0-10 VDC signal to the heating device (in field by others).

ECONOMIZER MODE

In economizer mode, the CENCON will modulate the mixed air dampers to maintain the discharge air temperature setpoint, with a minimum position of 35% outside air. Mixing dampers revert to minimum position if the ambient temperature exceeds 70°F(21.1° C).

COOL MODE

If there is a call for cooling and the CENCON is in cooling mode, the C-XM controller module will begin staging on the mechanical cooling. The discharge air temperature control band is from 55°F (12.8°C) to 85°F (29.4°C). Mechanical cooling is locked out below 50°F (10°C) ambient temperature.

DEHUMIDIFICATION MODE

When BAS dehumidification on/off contact (by others) 'closed', and the CENCON is in dehumidification mode, the C-XM controller module will enable cooling, with DX discharge setpoint fixed at 55°F (12.8°C) to achieve the required relative humidity. The condenser reheat is also enabled to satisfy the required discharge air temperature.

Unoccupied Mode

BAS Unit on/off contact (by others) 'closed', and BAS Occupied/unoccupied on/off contact (by others) 'open', damper to 100% return air. Blowers operation is intermittent, if there is a call for heating, and the CENCON is in heat mode, blowers start on and Cencon controller will send 10 VDC to heating device (in field by others).

BAS Unit on/off contact (by others) 'open', outside air damper closes, and blowers shut down. Unit is off.

If the fire alarm contacts 'open', equipment operation is disabled immediately. If the discharge air temperature falls below 40°F(4.4° C), the CENCON will shut down the blower, close dampers and indicate alarm.

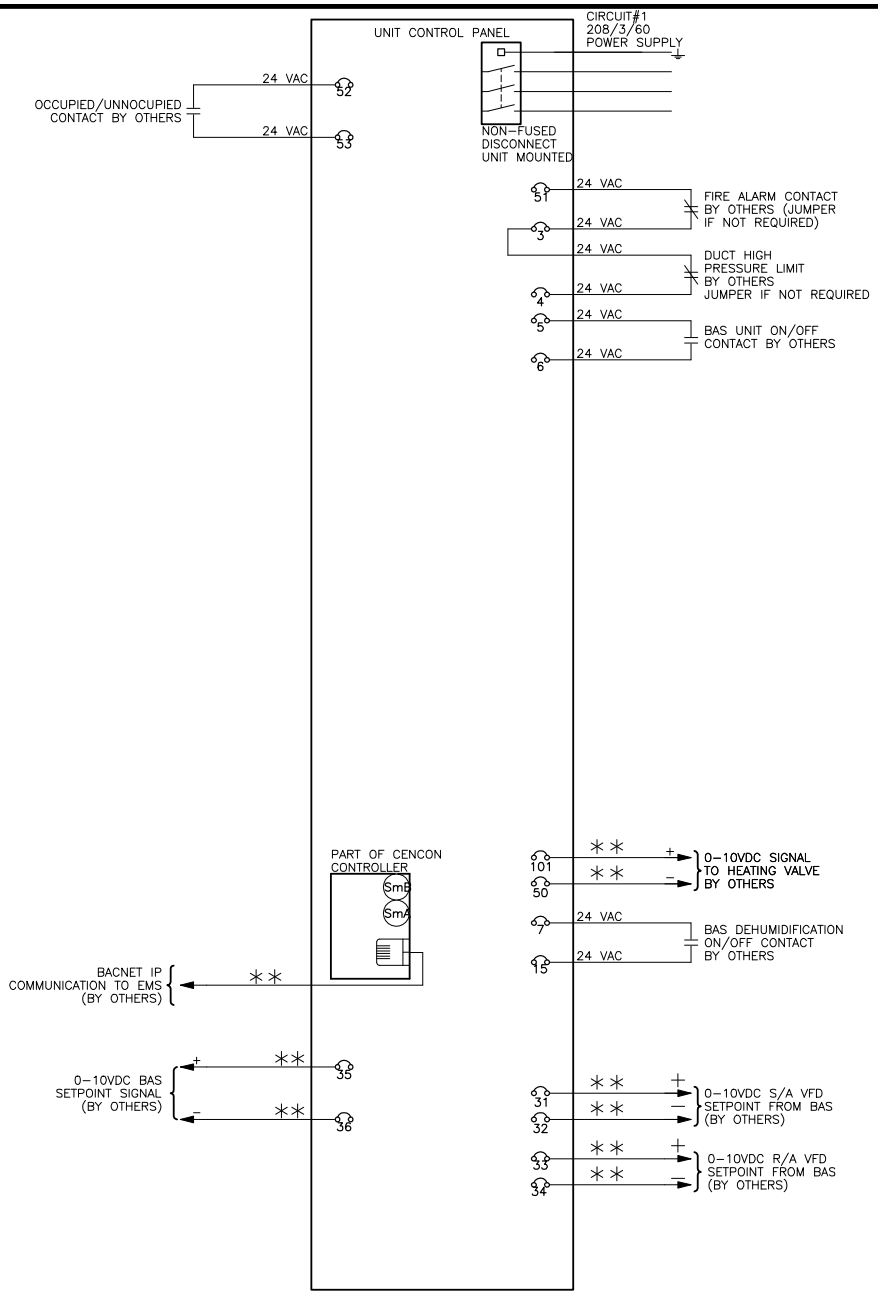
If non-fused disconnect switch 'off', or service switch 'off', or the fire alarm contact 'open', or duct high pressure limit 'open', or S/A and E/A VFDs fault contacts 'open' (in VFD mode), equipment operation is disabled immediately. If discharge air temperature falls below 40° F(4.4°C), the CENCON will shut down the blower, close dampers and indicate alarm.

Note 1 - VFD has an external bypass switch, when activated blowers and motors will operate at full speed (60Hz).

Note 2 - Refer to manuals shipped with unit for more detailed explanation of maintenance, components and controls.

Note 3 - Go to http://www.engineeredair.com/index.php/manuals/ for online manual details

Note 4 - Compressor(s) cycle has minimum run time, minimum off time, and interstage timing.



MAXIMUM CONTROL CIRCUIT AMPACITY 14.6 AMPS AT 24 VAC

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3. ALL FIELD WIRING MUST COMPLY WITH ALL NATIONAL AND LOCAL ELECTRICAL CODES.

EngA® ENGINEERED AIR®	TAG: AHU-2		FIELD WIRING DIAGRAM FW/CR SERIES
	REVISION:	DRN.BY: GZ	DWG.NO: 65107F-02-1
	DATE: NOV 25/24	CHKD.BY: LQ	