



REVISION 3

SUBMITTAL

Project

BCF - Pennsdale, PA #597

Date

Thursday, February 11, 2021

EXCLUSIONS and/or CLARIFICATIONS:

- **No** Unit Controllers.
- **No** BacNet Controls.
- **No** Curbs or Curb Adapters.

INSTALLING CONTRACTOR IS RESPONSIBLE FOR VERIFYING EQUIPMENT BEING SUPPLIED MATCHES FINAL BID DOCUMENTS and/or REPLACEMENT EQUIPMENT NEEDED FOR STORE (i.e. voltage, size, etc). Carrier will not be responsible for installation and/or removal of any incorrect units. Please report any discrepancies immediately.



STRATEGIC ACCOUNTS SUBMITTAL APPROVAL FORM

Review of the submittal is needed to validate conformance of equipment specifications to system design criteria. Installing contractor is responsible for verifying equipment being supplied matches final bid documents and/or replacement equipment needed. Carrier will not be responsible for installation and/or removal of any incorrect units. After review of the submittal, please select approval action and report any discrepancies in the comments section.

Submittal was reviewed for design conformity.

Job Name: _____

Job Location: _____

- Approve
- Reject/Revise/Resubmit

Comments: _____

Accepted By: _____

Title: _____

Company: _____

Date: _____

Table Of Contents

Project: BCF - Pennsdale, PA #597
Prepared By:

05/19/2021
11:26AM

RTU - 1-2	3
Unit Report	4
Certified Drawing.....	5
Performance Summary.....	9

RTU - 1-2

**Tag Cover Sheet
Unit Report
Certified Drawing
Performance Report**

Unit Report For RTU - 1-2

Project: BCF - Pennsdale, PA #597
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Unit Parameters

Unit Model:..... **50HCQD12J3A6-6W5K0**
 Unit Size:..... **12 (10 Tons)**
 Volts-Phase-Hertz:..... **460-3-60**
 Heating Type:..... **Heat Pump**
 Duct Cfg:..... **Vertical Supply / Vertical Return**
 Two-Stage Cooling Refrigeration Coil

Dimensions (ft. in.) & Weight (lb.) ***

Unit Length:..... **9' 7.875"**
 Unit Width:..... **5' 3.375"**
 Unit Height:..... **4' 9.375"**
 *** Total Operating Weight:..... **1824 lb**

*** Weights and Dimensions are approximate. Weight does not include unit packaging. Approximate dimensions are provided primarily for shipping purposes. For exact dimensions and weights, refer to appropriate product data catalog.

Lines and Filters

Condensate Drain Line Size:..... **3/4**
 Return Air Filter Type:..... **Throwaway**
 Return Air Filter Quantity:..... **6**
 Return Air Filter Size:..... **18 x 24 x 2**

Unit Configuration

Condensate Overflow Switch
 High Static Option Belt Drive
 Al/Cu - Al/Cu
 Electromechanical Controls w/W7220 Econo Controller
 Enthalpy Ultra Low Leak Econo w/Baro Relief
 Hinged Panels, Powered Convenience Outlet
 Thru-The-Base Connections
 Standard Packaging
 2-Speed indoor fan motor controlled by VFD

Warranty Information

1-year parts
 5-year compressor
 Start-up, First Unit
 Start-up, Each Additional Unit

NOTE: Please see Warranty Catalog 500-089 for explanation of policies and ordering methods.

Ordering Information

Part Number	Description	Quantity
50HCQD12J3A6-6W5K0	Rooftop Unit	2
	Base Unit	
	Condensate Overflow Switch	
	High Static Option Belt Drive	
	Hinged Panels, Powered Convenience Outlet	
	Ultra Low leak Enty Econo X with baro relief, W7220 control. Meets Calif. Title 24 FDD & Leak Rates	
	2 Speed Fan Controller (VFD) and Thru-The Base Connections	
Field Installed Accessories		
CRHEATER295A00	30.8/33.5 kW 460/480-3-60, 23.3 kw 400-3-50 Volt Electric Heater	2
CRSINGLE050A00	Single Point Kit	2
CRRFCURB072A00	14-inch Tall Roof Curb	2

Certified Drawing for RTU - 1-2

Project: BCF - Pennsdale, PA #597
 Prepared By:

05/19/2011
 11:26AM

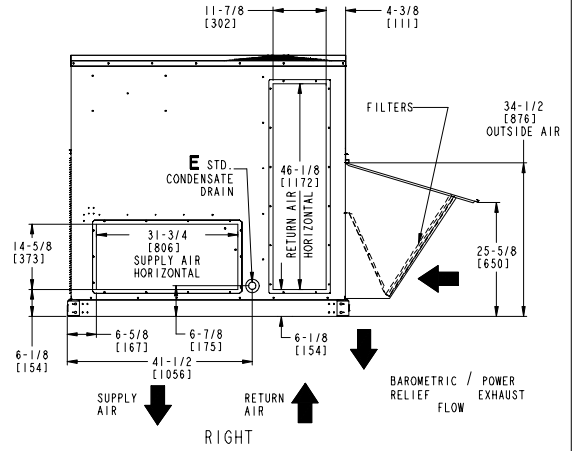
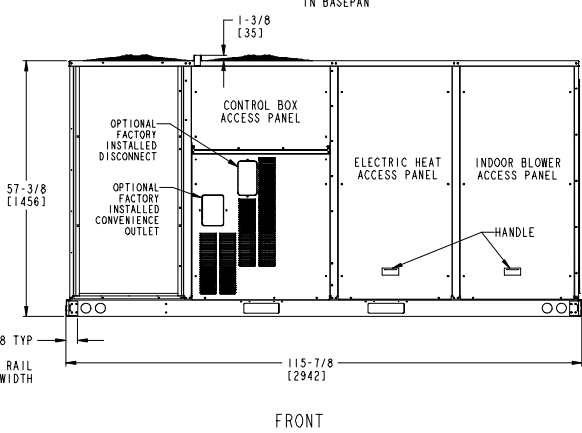
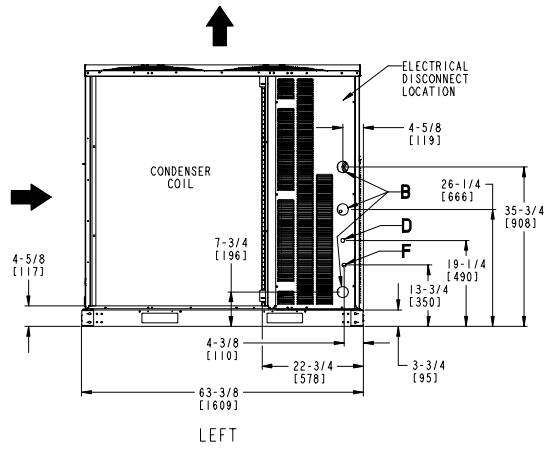
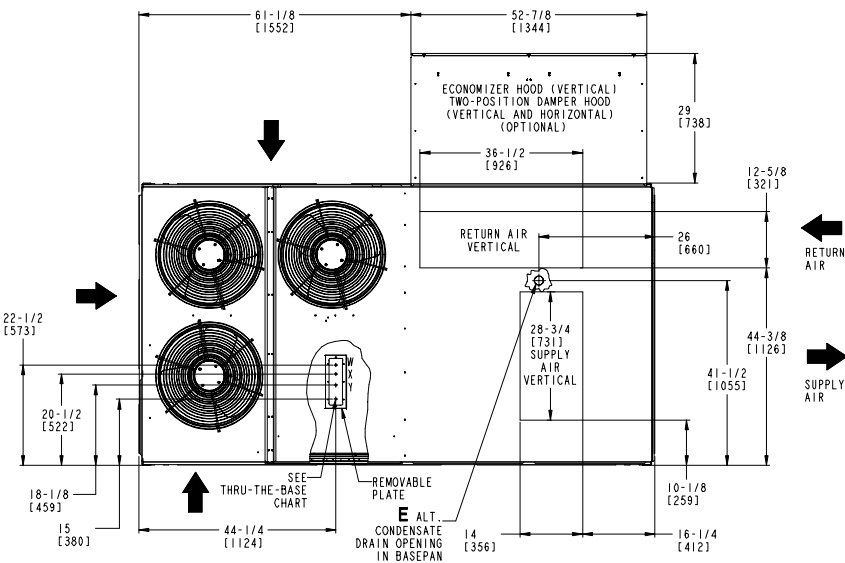
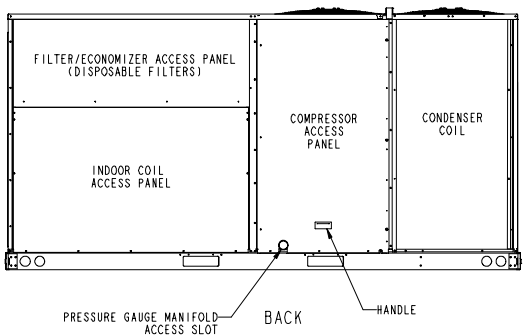
- NOTES:
1. DIMENSIONS ARE IN INCHES, DIMENSIONS IN [] ARE IN MILLIMETERS.
 2. CENTER OF GRAVITY
 3. DIRECTION OF AIR FLOW

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CONNECTION SIZES			
B	2 1/2" [64]	DIA POWER SUPPLY HOLE	
D	7/8" [22]	DIA FIELD CONTROL WIRING HOLE	
E	3/4"-14 NPT	CONDENSATE DRAIN	
F	7/8" [22]	DIA FIELD CONVENIENCE OUTLET HOLE	

THRU-THE-BASE CHART THESE HOLES REQUIRED FOR USE CRBTMPWRO5A00,006A00,007A00			
ACCESSORY NO.	THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
005	W 1/2"	ACC.	7/8" [22.2]
	X 1/2"	24V	7/8" [22.2]
006	Y 1 1/4"	POWER	1 1/2" [38.1]
	W 1/2"	ACC.	7/8" [22.2]
007	X 1/2"	24V	7/8" [22.2]
	Y 1 1/2"	POWER	2" [50.8]
	W 1/2"	ACC.	7/8" [22.2]
	X 1/2"	24V	7/8" [22.2]
	Y 2"	POWER	2 1/2" [63.5]

FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR X & Y ARE PROVIDED AS SPECIFIED ON "006".



DATE 05/22/12	SUPERCEDES -	50HCQ 12 SINGLE ZONE ELECTRICAL HEAT PUMP	50TM501040	REV A
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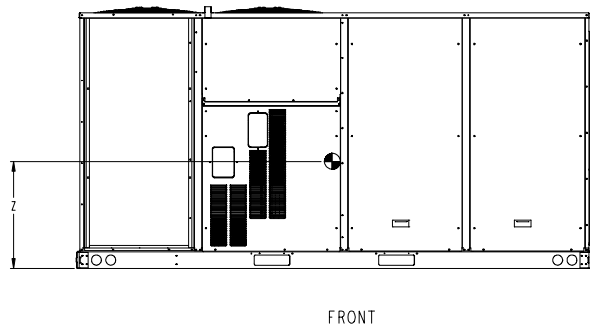
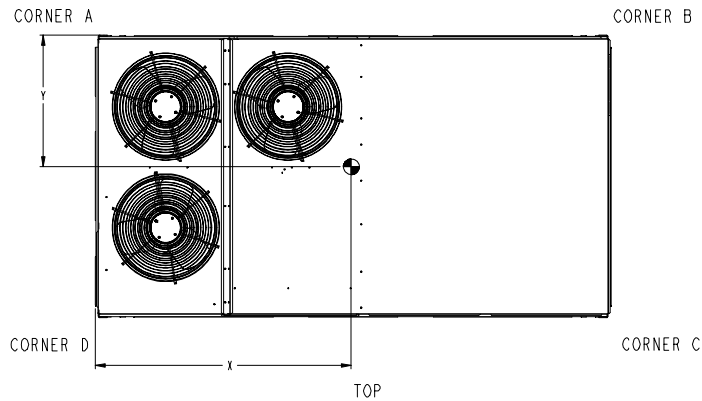
Certified Drawing for RTU - 1-2

Project: BCF - Pennsdale, PA #597
 Prepared By:

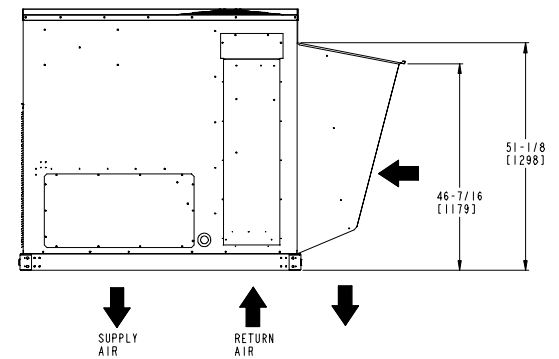
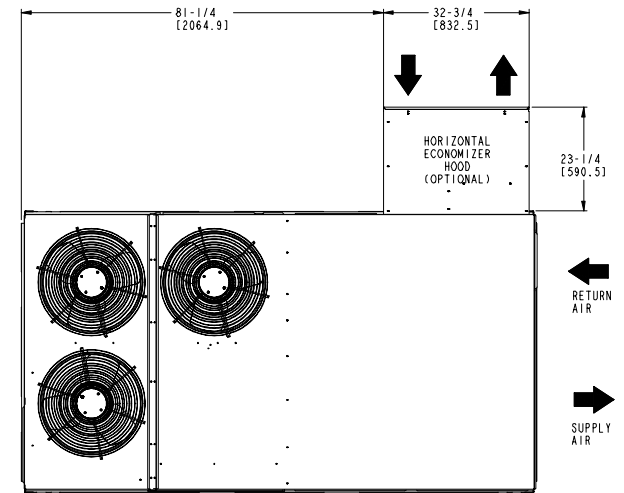
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UNIT	STD UNIT WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
50HCQD12	1390	632	356	162	344	156	339	154	351	160	57 [1448]	31 1/2 [800]	21 1/8 [537]

STANDARD UNIT WEIGHT IS WITHOUT ELECTRIC HEAT & WITHOUT PACKAGING.
 FOR OPTIONS & ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.



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HORIZONTAL ECONOMIZER

DATE 05/22/12	SUPERCEDES -	50HCQ 12 SINGLE ZONE ELECTRICAL HEAT PUMP	50TM501040	REV A
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Certified Drawing for RTU - 1-2

Project: BCF - Pennsdale, PA #597
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Service Clearance

C1057B

LOCATION	DIMENSION	CONDITION
A	48-in (1219 mm)	• Unit disconnect is mounted on panel
	18-in (457 mm)	• No disconnect, convenience outlet option • Recommended service clearance
	12-in (305 mm)	• Minimum clearance
B	42-in (1067 mm)	• Surface behind servicer is grounded (e.g., metal, masonry wall)
	36-in (914 mm)	• Surface behind servicer is electrically non-conductive (e.g., wood, fiberglass)
	Special	• Check for sources of flue products within 10-ft of unit fresh air intake hood
C	36-in (914 mm)	• Side condensate drain is used
	18-in (457 mm)	• Minimum clearance
D	48-in (1219 mm)	• No flue discharge accessory installed, surface is combustible material
	42-in (1067 mm)	• Surface behind servicer is grounded (e.g., metal, masonry wall, another unit)
	36-in (914 mm)	• Surface behind servicer is electrically non-conductive (e.g., wood, fiberglass)
	Special	• Check for adjacent units or building fresh air intakes within 10-ft of this unit's flue outlet

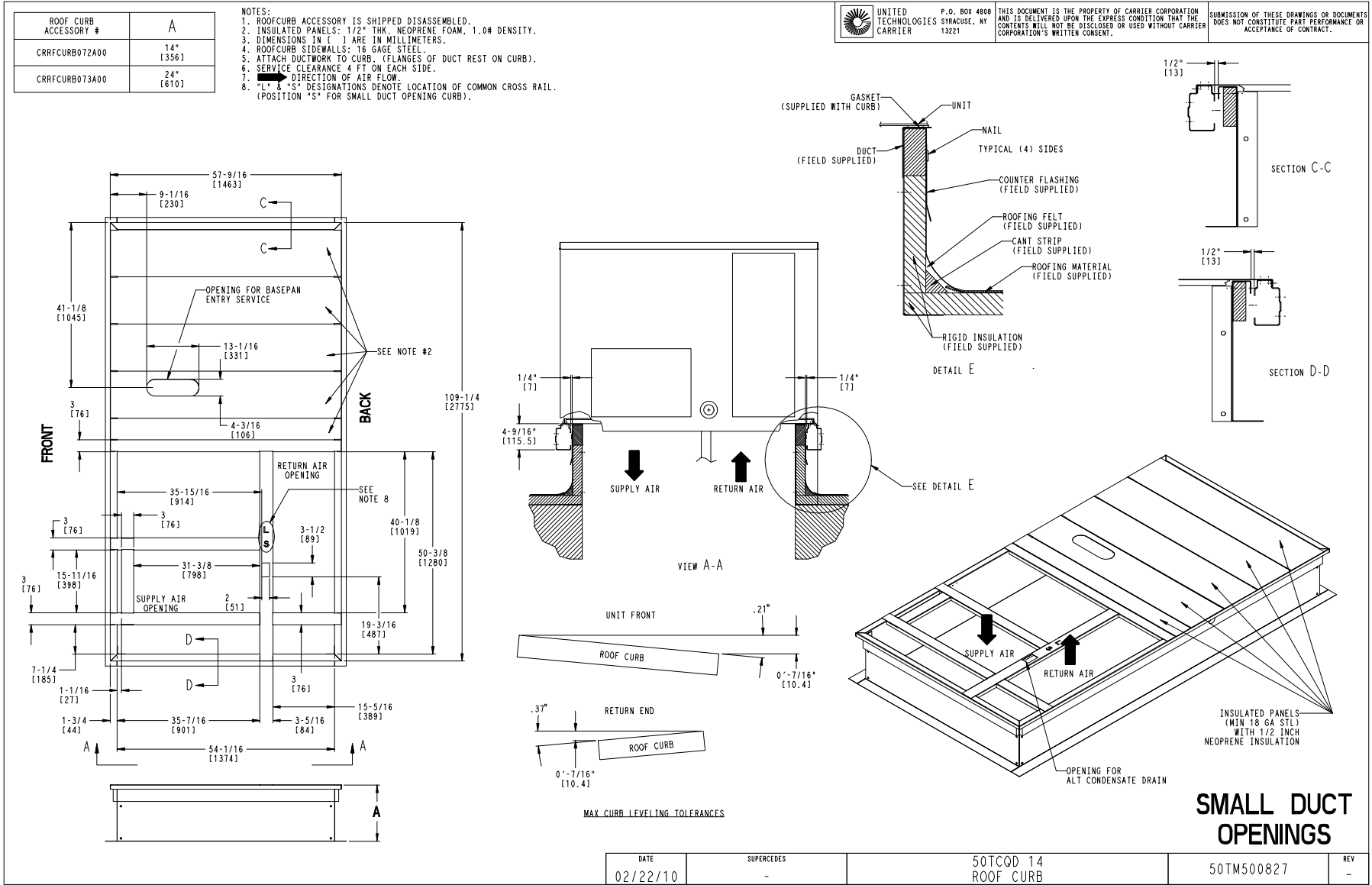
NOTE: Unit not designed to have overhead obstruction. Contact Application Engineering for guidance on any application planning overhead obstruction or vertical clearances.

Chassis 5

Certified Drawing for RTU - 1-2

Project: BCF - Pennsdale, PA #597
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05/19/2021
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Performance Summary For RTU - 1-2

Project: BCF - Pennsdale, PA #597
Prepared By:

05/19/2021
11:26AM

Part Number:50HCQD12J3A6-6W5K0

ARI EER: 12.30
IEER: 13.6

Base Unit Dimensions

Unit Length: 115.9 in
Unit Width: 63.4 in
Unit Height: 57.4 in

Operating Weight

Base Unit Weight: 1390 lb
Condensate Overflow Switch: 5 lb
High Static Option Belt Drive: 45 lb
Enthalpy Ultra Low Leak Econo w/Baro Relief: 103 lb
Hinged Panels, Powered Convenience Outlet: 40 lb
2 Speed Fan Controller (VFD) and Thru-The Base Connections: 24 lb

Field Installed Accessories

30.8/33.5 kW 460/480-3-60, 23.3 kw 400-3-50 Volt Electric Heater: 25 lb
Single Point Kit: 12 lb
14-inch Tall Roof Curb: 180 lb

Total Operating Weight: 1824 lb

Unit

Unit Voltage-Phase-Hertz: 460-3-60
Air Discharge: Vertical
Fan Drive Type: Belt
Actual Airflow: 4000 CFM
Site Altitude: 361 ft

Cooling Performance

Condenser Entering Air DB: 95.0 F
Evaporator Entering Air DB: 80.0 F
Evaporator Entering Air WB: 67.0 F
Entering Air Enthalpy: 31.65 BTU/lb
Evaporator Leaving Air DB: 58.3 F
Evaporator Leaving Air WB: 57.3 F
Evaporator Leaving Air Enthalpy: 24.71 BTU/lb
Gross Cooling Capacity: 123.15 MBH
Gross Sensible Capacity: 92.70 MBH
Compressor Power Input: 7.85 kW
Coil Bypass Factor: 0.117

Heating Performance

Outdoor Ambient Temperature: 47.0 F
Entering Air Indoor Coil DB: 70.0 F
Leaving Air Indoor Coil DB: 96.9 F
Total Heating Capacity: 114.76 MBH
Integrated Heating Capacity: 114.76 MBH
Heating Power Input: 9.53 kW
High Temperature COP: 3.5
Low Temperature COP: 2.4
Electric Heating Capacity: 30.80 kW
Unit Leaving Air Temp: 121.6 F

Supply Fan

External Static Pressure: 1.00 in wg
Options / Field Installed Accessories Static Pressure
Electric Heaters: 0.02 in wg
Economizer: 0.02 in wg

Performance Summary For RTU - 1-2

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05/19/2021
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Total Application Static (ESP + Unit Opts/Acc.): **1.04** in wg
 Fan RPM: **732**
 Fan Power: **1.98** BHP
 NOTE: **The Selected Indoor Fan Motor requires a Field-Supplied Drive (RPM Range: 792 - 971).**

Electrical Data

Voltage Range: **414 - 506**
 Compressor #1 RLA: **7.7**
 Compressor #1 LRA: **52**
 Compressor #2 RLA: **7.7**
 Compressor #2 LRA: **52**
 Actual Electric Heater kW: **30.8**
 Electric Heater FLA: **40.3**
 Indoor Fan Motor Type: **HIGH**
 Indoor Fan Motor FLA: **10.2**
 Power Supply MCA: **84**
 Power Supply MOCP (Fuse or HACR): **90**
 Disconnect Size FLA: **81**
 Disconnect Size LRA: **198**
 Electrical Convenience Outlet FLA (based on unit line voltage): **2.2**
 Outdoor Fan [Qty / FLA (ea)]: **3 / 0.8**
 Electric Heater Part Number: **295A**
 Electric Heater Number of Stages: **2**
 NOTE: Convenience outlet must be field connected to the line/load side of the unit disconnect per local code.

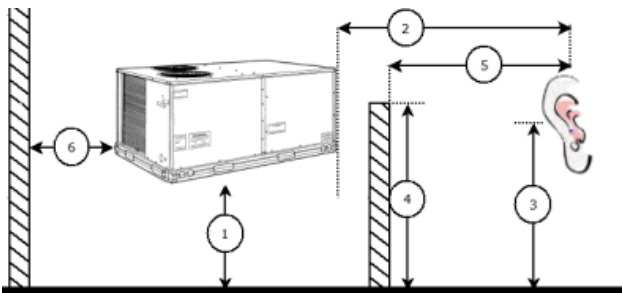
Control Panel SCCR: 5kA RMS at Rated Symmetrical Voltage

Acoustics

Sound Rating: **83.0** db
 Sound Power Levels, db re 10E-12 Watts

	Discharge	Inlet	Outdoor
63 Hz	90.1	86.5	61.0
125 Hz	85.9	79.7	67.3
250 Hz	71.7	66.3	75.1
500 Hz	71.4	66.0	77.7
1000 Hz	69.8	64.7	78.1
2000 Hz	66.8	59.0	75.5
4000 Hz	67.8	56.6	71.2
8000 Hz	63.5	50.5	66.7
A-Weighted	76.6	70.2	82.2

Advanced Acoustics



Advanced Acoustics Parameters

1. Unit height above ground: **30.0** ft

Performance Summary For RTU - 1-2

Project: BCF - Pennsdale, PA #597
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05/19/2021
 11:26AM

- 2. Horizontal distance from unit to receiver:**50.0** ft
- 3. Receiver height above ground:**5.7** ft
- 4. Height of obstruction:**0.0** ft
- 5. Horizontal distance from obstruction to receiver: **.0.0** ft
- 6. Horizontal distance from unit to obstruction:**0.0** ft

Detailed Acoustics Information

Octave Band Center Freq. Hz	63	125	250	500	1k	2k	4k	8k	Overall
A	61.0	67.3	75.1	77.7	78.1	75.5	71.2	66.7	83.3 Lw
B	34.8	51.2	66.5	74.5	78.1	76.7	72.2	65.6	82.2 LwA
C	28.6	34.9	42.7	45.3	45.7	43.1	38.8	34.3	50.9 Lp
D	2.4	18.8	34.1	42.1	45.7	44.3	39.8	33.2	49.8 LpA

Legend

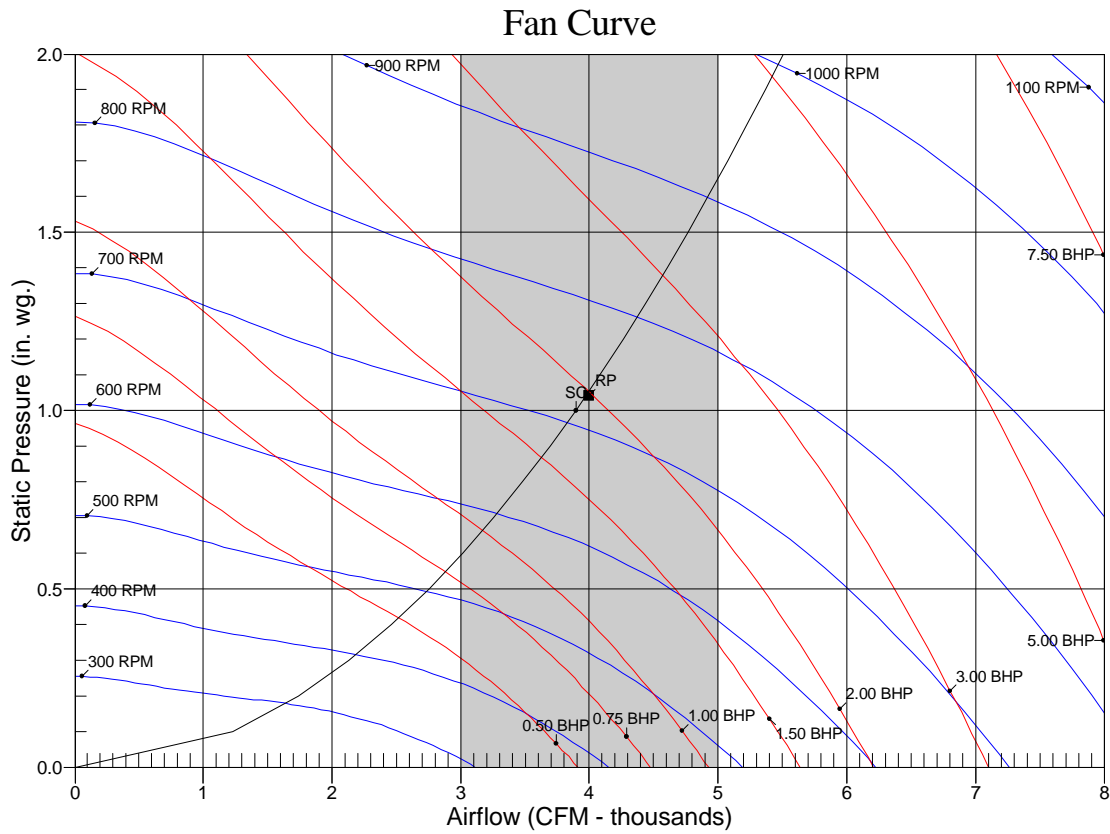
- A Sound Power Levels at Unit's Acoustic Center, Lw
- B A-Weighted Sound Power Levels at Unit's Acoustic Center, LwA
- C Sound Pressure Levels at Specific Distance from Unit, Lp
- D A-Weighted Sound Pressure Levels at Specific Distance from Unit, LpA

Calculation methods used in this program are patterned after the ASHRAE Guide; other ASHRAE Publications and the AHRI Acoustical Standards. While a very significant effort has been made to insure the technical accuracy of this program, it is assumed that the user is knowledgeable in the art of system sound estimation and is aware of the tolerances involved in real world acoustical estimation. This program makes certain assumptions as to the dominant sound sources and sound paths which may not always be appropriate to the real system being estimated. Because of this, no assurances can be offered that this software will always generate an accurate sound prediction from user supplied input data. If in doubt about the estimation of expected sound levels in a space, an Acoustical Engineer or a person with sound prediction expertise should be consulted.

Performance Summary For RTU - 1-2

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RPM = 732 BHP = 1.98 Maximum RPM = 1100 Maximum BHP = 6.10
Note: Please contact application engineering for selections outside the shaded region.
SC - System Curve RP - Rated Point