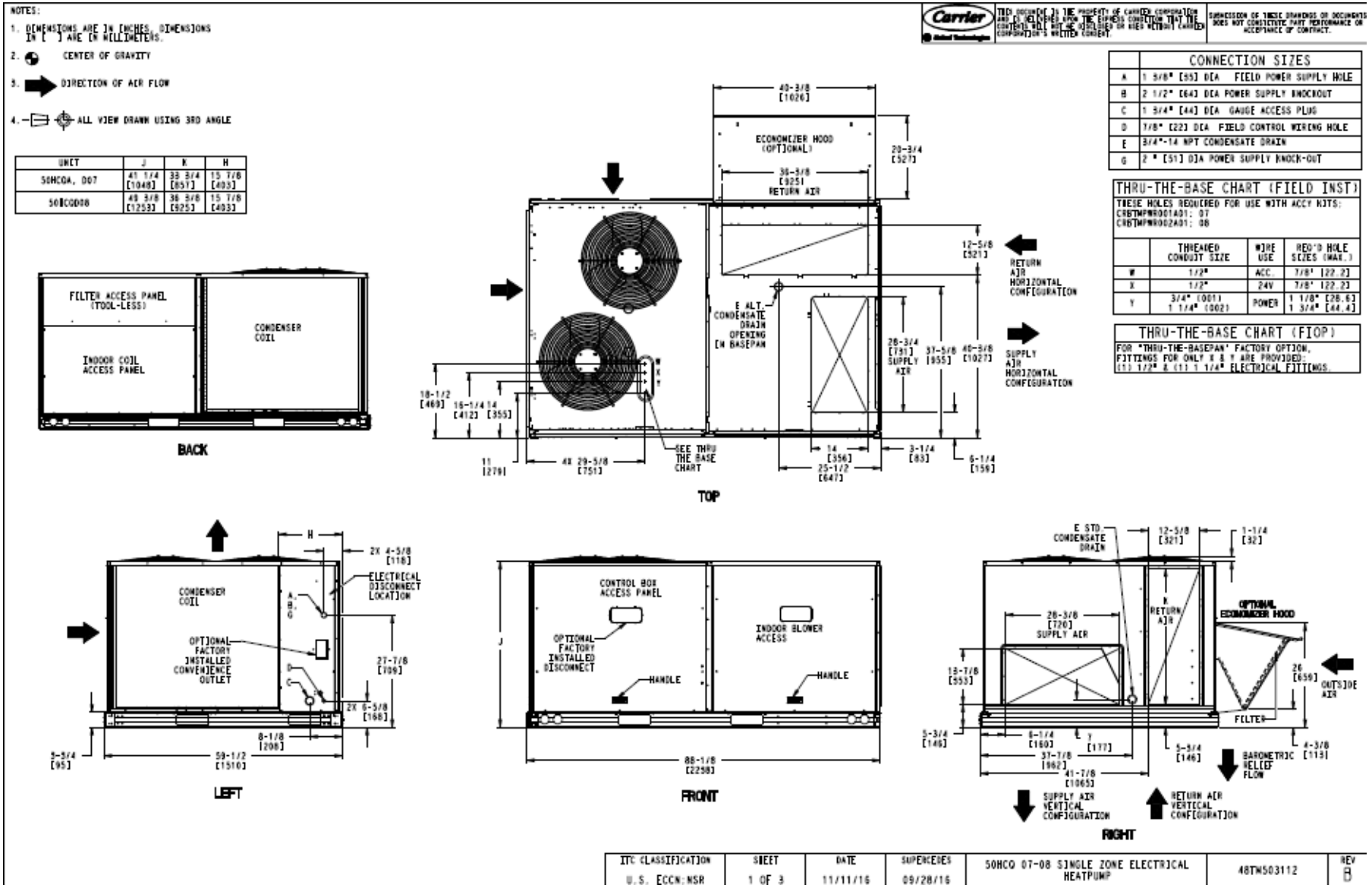
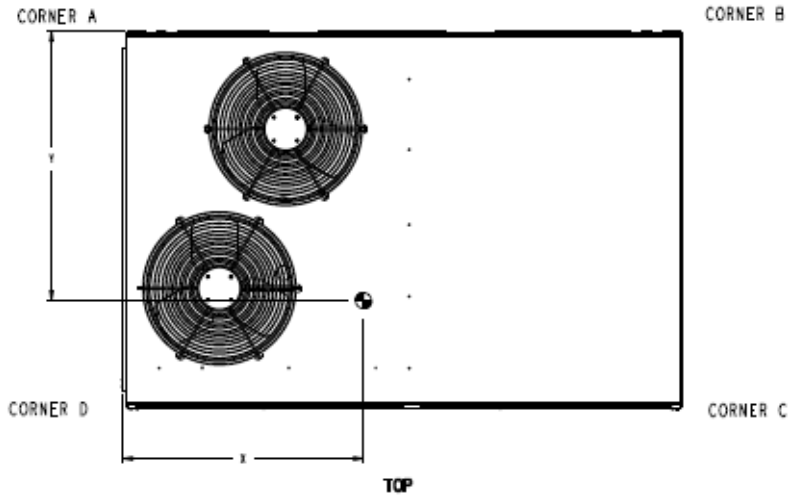
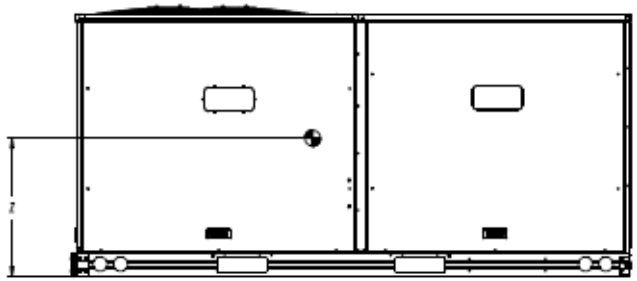

NOTES:
1. DIMENSIONS ARE IN INCHES. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW
4. ALL VIEW DRAWN USING 3RD ANGLE
UNIT | J | K | H
50HCQA, D07 | 41 1/4 [1048] | 33 3/4 [857] | 15 7/8 [403]
50HCQD08 | 49 3/8 [1253] | 36 3/8 [925] | 15 7/8 [403]
CONNECTION SIZES
A 1 5/8" [55] DIA FIELD POWER SUPPLY HOLE
B 2 1/2" [64] DIA POWER SUPPLY KNOCKOUT
C 1 3/4" [44] DIA GAUGE ACCESS PLUG
D 7/8" [22] DIA FIELD CONTROL WIRING HOLE
E 3/4"-14 NPT CONDENSATE DRAIN
G 2 " [51] DIA POWER SUPPLY KNOCK-OUT
THRU-THE-BASE CHART (FIELD INST)
THESE HOLES REQUIRED FOR USE WITH ACCY KITS:
CRBTMPWR001A01: 07
CRBTMPWR002A01: 08
THREADED CONDUIT SIZE | WIRE USE | REQ'D HOLE SIZES (MAX.)
W 1/2" | ACC. | 7/8" [22.2]
X 1/2" | 24V | 7/8" [22.2]
Y 3/4" (001) 1 1/4" (002) | POWER | 1 1/8" [28.6] 1 3/4" [44.4]
THRU-THE-BASE CHART (FIOP)
FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR ONLY X & Y ARE PROVIDED: (1) 1/2" & (1) 1 1/4" ELECTRICAL FITTINGS.
FILTER ACCESS PANEL (TOOL-LESS)
INDOOR COIL ACCESS PANEL
CONDENSER COIL
BACK
ECONOMIZER HOOD (OPTIONAL)
49-3/8 [1026]
38-5/8 [925] RETURN AIR
20-3/4 [527]
12-5/8 [321]
RETURN AIR HORIZONTAL CONFIGURATION
SUPPLY AIR HORIZONTAL CONFIGURATION
E ALT. CONDENSATE DRAIN OPENING IN BASEPAN
26-3/4 [791] SUPPLY AIR
37-5/8 [955]
46-5/8 [1027]
18-1/2 [469]
16-1/4 14 [413] [355]
11 [279]
4X 29-5/8 [751]
SEE THRU THE BASE CHART
14 [356]
25-1/2 [647]
3-1/4 [83]
6-1/4 [159]
TOP
H
2X 4-5/8 [118]
ELECTRICAL DISCONNECT LOCATION
CONDENSER COIL
OPTIONAL FACTORY INSTALLED CONVENIENCE OUTLET
27-7/8 [706]
2X 6-5/8 [168]
8-1/8 [206]
5-3/4 [95]
59-1/2 [1510]
LEFT
CONTROL BOX ACCESS PANEL
OPTIONAL FACTORY INSTALLED DISCONNECT
HANDLE
INDOOR BLOWER ACCESS
HANDLE
88-1/8 [2238]
FRONT
E STD. CONDENSATE DRAIN
12-5/8 [321]
1-1/4 [32]
OPTIONAL ECONOMIZER HOOD
RETURN AIR
26-3/8 [720] SUPPLY AIR
13-7/8 [353]
26 [659]
OUTSIDE AIR
FILTER
5-3/4 [146]
8-1/4 [160]
37-7/8 [962]
41-7/8 [1065]
BAROMETRIC RELIEF FLOW
4-3/8 [111]
SUPPLY AIR VERTICAL CONFIGURATION
RETURN AIR VERTICAL CONFIGURATION
RIGHT
ITC CLASSIFICATION: U.S. ECCN:NSR
SHEET: 1 OF 3
DATE: 11/11/16
SUPERCEDES: 09/28/16
50HCQ 07-08 SINGLE ZONE ELECTRICAL HEATPUMP
48TM503112
REV B

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
50HCQA, D07	710	322	162	73.5	129	58.5	186	84.4	234	106	38 5/8 [981]	34 1/8 [867]	21 1/4 [540]
50HCQD08	875	397	190	86.2	160	72.6	253	114.8	284	128.8	40 [1016]	34 5/8 [879]	24 3/8 [619]

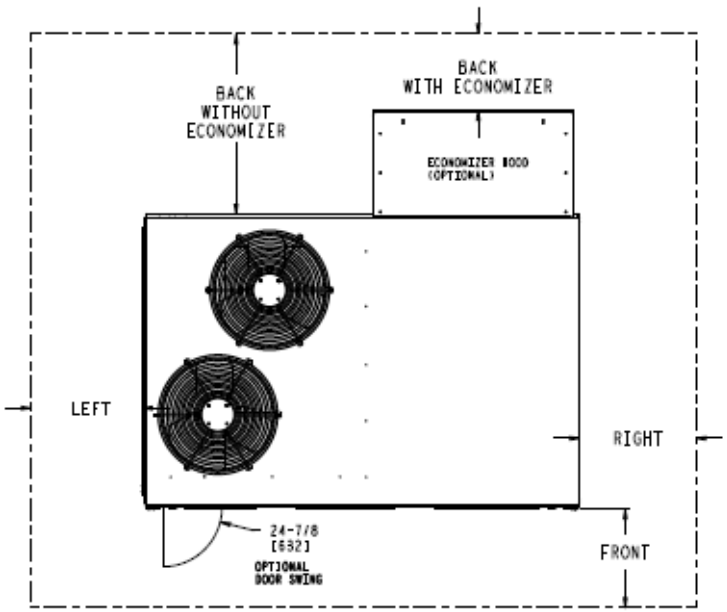
* STANDARD UNIT WEIGHT IS WITHOUT ELECTRIC HEAT AND WITHOUT PACKAGING.
FOR OTHER OPTIONS AND ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.



TOP



FRONT

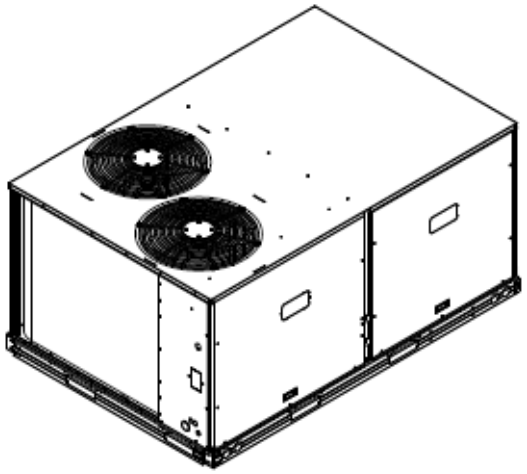


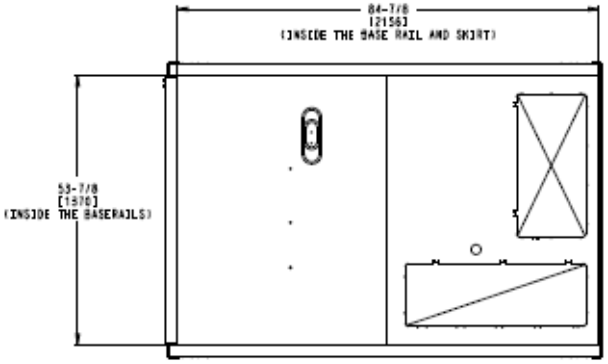
NOTE:

1. FOR ALL MINIMUM CLEARANCES LOCAL CODES OR JURISDICTIONS MAY PREVAIL.

	CLEARANCE		
	SERVICE WITH:	SERVICE WITH:	OPERATING
SURFACE	CONDUCTIVE BARRIER	NONCONDUCTIVE BARRIER	CLEARANCE
FRONT	48 [1219mm]	36 [914mm]	18 [457mm]
LEFT	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/ECON	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/O ECON	36 [914mm]	36 [914mm]	18 [457mm]
RIGHT	36 [914mm]	36 [914mm]	18 [457mm]
TOP	72 [1829mm]	72 [1829mm]	72 [1829mm]

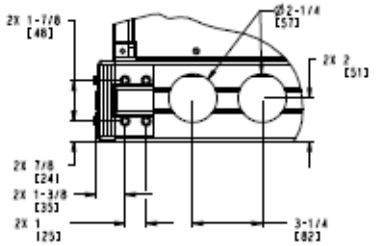
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:NSR	2 OF 3	11/11/16	09/28/16	50HCQ 07-08 SINGLE ZONE ELECTRICAL HEATPUMP	48TM503112	B



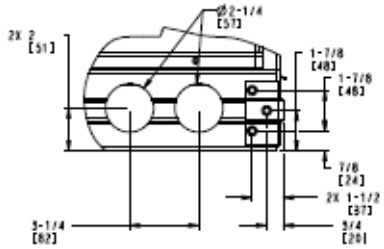


INSIDE BASERAIL DIMENSIONS

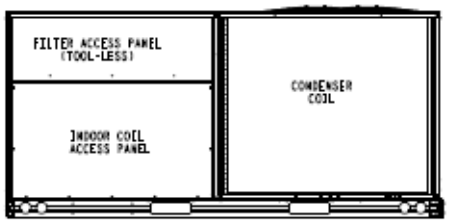
BOTTOM



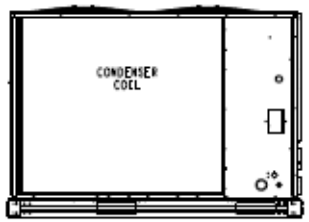
DETAIL **B**
TYP 2 PLCS



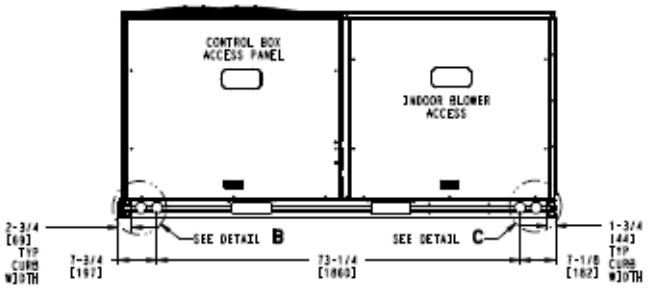
DETAIL **C**
TYP 2 PLCS



BACK



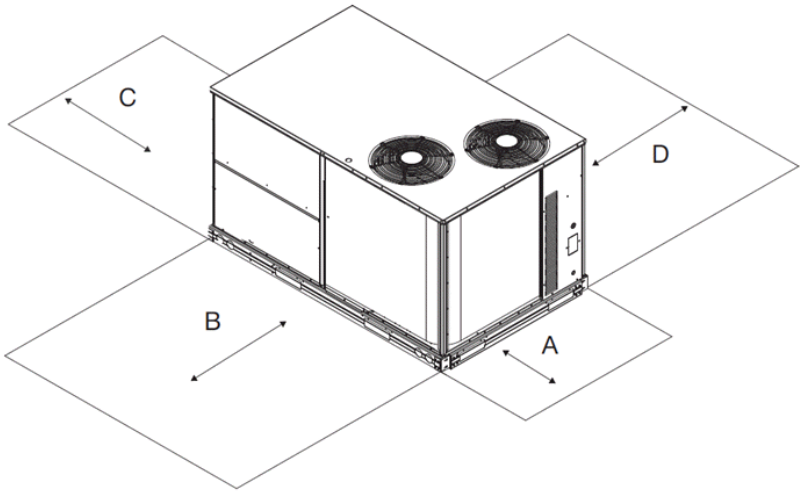
LEFT



FRONT

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	50HCQ 07-08 SINGLE ZONE ELECTRICAL HEATPUMP	48TM503112	REV
U.S. ECCN:NSR	3 OF 3	11/11/16	09/28/16			B

Service Clearance



C11247

LOCATION	DIMENSION	CONDITION
A	48-in (1219 mm)	• Unit disconnect is mounted on panel
	36-in (914 mm)	• If dimension-B is 12-in (305 mm)
	18-in (457 mm)	• No disconnect, convenience outlet option • Recommended service clearance (use electric screwdriver)
	12-in (305 mm)	• Minimum clearance (use manual ratchet screwdriver)
B	36-in (914 mm)	• Unit has economizer
	12-in (305 mm)	• If dimension-A is 36-in (914 mm)
	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 3-4a

Part Number:50HCQD08A2A5-0A0A0

ARI EER:	**12.10**	
Application EER (Rooftop Unit only):	**10.96**	
IEER:	**12.8**	

Base Unit Dimensions

Unit Length:	**88.1**	in
Unit Width:	**59.5**	in
Unit Height:	**49.4**	in

Operating Weight

Base Unit Weight:	**875**	lb
Medium Static Option Belt Drive:	**15**	lb
Total Operating Weight:	**890**	lb

Unit

Unit Voltage-Phase-Hertz:	**208-3-60**	
Air Discharge:	**Vertical**	
Fan Drive Type:	**Belt**	
Actual Airflow:	**3500**	CFM
Site Altitude:	**0**	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:	**31.44**	BTU/lb
Evaporator Leaving Air DB:	**60.1**	F
Evaporator Leaving Air WB:	**58.7**	F
Evaporator Leaving Air Enthalpy:	**25.47**	BTU/lb
Unit Discharge Air DB:	**61.4**	F
Unit Discharge Air WB:	**59.1**	F
Unit Discharge Air Enthalpy:	**25.78**	BTU/lb
Gross Cooling Capacity:	**94.00**	MBH
Net Cooling Capacity:	**89.11**	MBH
Gross Sensible Capacity:	**75.20**	MBH
Net Sensible Capacity:	**70.31**	MBH
Compressor Power Input:	**6.10**	kW
Coil Bypass Factor:	**0.093**	

Heating Performance

Outdoor Ambient Temperature:	**47.0**	F
Entering Air Indoor Coil DB:	**70.0**	F
Leaving Air Indoor Coil DB:	**92.8**	F
Total Heating Capacity:	**86.33**	MBH
Integrated Heating Capacity:	**86.33**	MBH
Heating Power Input:	**6.47**	kW
High Temperature COP:	**3.4**	
Low Temperature COP:	**2.4**	

Supply Fan

External Static Pressure:	**1.00**	in wg
Fan RPM:	**841**	
Fan Power:	**1.68**	BHP
NOTE:	**Selected IFM RPM Range: 690 - 936**	

Electrical Data

Voltage Range:	**187 - 253**	
Compressor #1 RLA:	**13.1**	

Compressor #1 LRA: **83**
Compressor #2 RLA: **13.1**
Compressor #2 LRA: **83**
Indoor Fan Motor Type: **MED**
Indoor Fan Motor FLA: **6.9**
Power Supply MCA: **40**
Power Supply MOCP (Fuse or HACR): **50**
Disconnect Size FLA: **42**
Disconnect Size LRA: **229**
Electrical Convenience Outlet: **None**
Outdoor Fan [Qty / FLA (ea)]: **2 / 1.5**

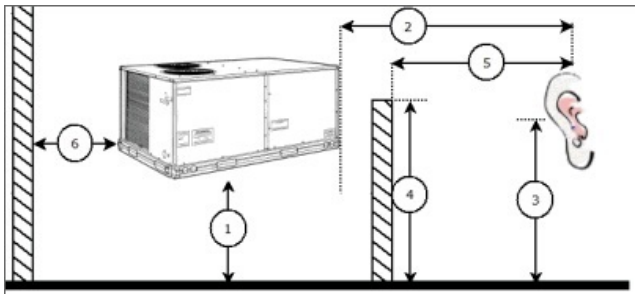
Control Panel SCCR: 5kA RMS at Rated Symmetrical Voltage

Acoustics

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

	Discharge	Inlet	Outdoor
63 Hz	90.4	86.3	87.3
125 Hz	84.7	79.2	81.6
250 Hz	70.7	66.1	79.7
500 Hz	69.2	65.1	80.6
1000 Hz	67.5	63.4	79.0
2000 Hz	64.4	57.7	73.5
4000 Hz	65.1	55.3	69.2
8000 Hz	61.4	49.6	66.1
A-Weighted	74.8	69.3	82.9

Advanced Acoustics



Advanced Accoustics Parameters

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

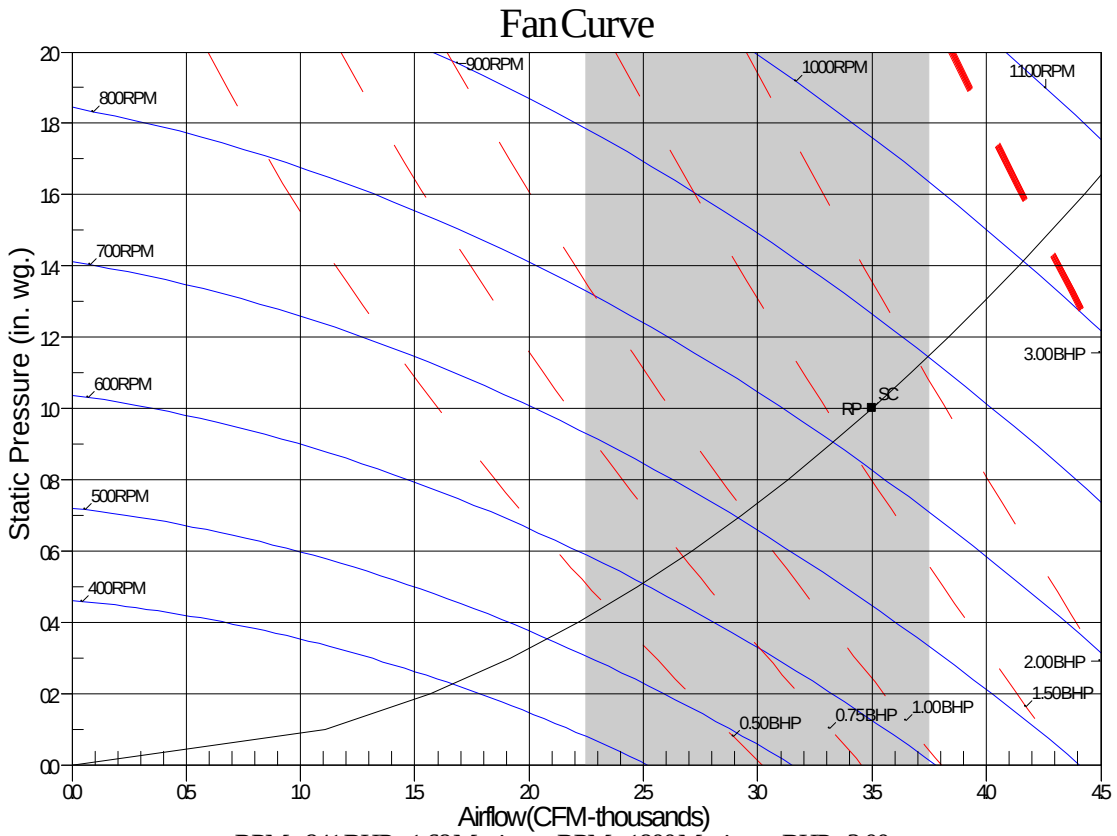
Detailed Acoustics Information

Octave Band Center Freq. Hz	63	125	250	500	1k	2k	4k	8k	Overall
A	87.3	81.6	79.7	80.6	79.0	73.5	69.2	66.1	90.0 Lw
B	61.1	65.5	71.1	77.4	79.0	74.7	70.2	65.0	82.9 LwA

C	54.9	49.2	47.3	48.2	46.6	41.1	36.8	33.7	57.6 Lp
D	28.7	33.1	38.7	45.0	46.6	42.3	37.8	32.6	50.5 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.



RPM=841 BHP=1.68 Maximum RPM=1800 Maximum BHP=3.00
Note: Please contact application engineering for selections outside the shaded region.
SC-System Curve RP-Rated Point

GUIDE SPECIFICATIONS – 50HCQD08A2A5-0A0A0

Rooftop Packaged Heat Pump

HVAC Guide Specifications

Size: 008

Part 1: Schedules for Decentralized HVAC Equipment

Decentralized Unitary HVAC Equipment Schedule

1.01. Rooftop unit schedule

A. Schedule is per the project specification requirements.

Part 2: HVAC Equipment Insulation

Decentralized, Rooftop Units:

2.01. Evaporator fan compartment:

A. Interior cabinet surfaces shall be insulated with a minimum 1/2-in. thick, minimum 1 1/2 lb density, flexible fiberglass insulation bonded with a phenolic binder, neoprene coated on the air side.

B. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

2.02. Electric heat compartment:

A. Aluminum foil-faced fiberglass insulation shall be used.

B. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

Part 3: Instrumentation and Control Devices for HVAC

Sensors and Transmitters

3.01. Thermostats

A. Thermostat must

1. have capability to energize 2 different stages of cooling, and 2 different stages of heating.
2. include capability for occupancy scheduling.

Part 4: Electric and Electronic Control System for HVAC

Decentralized, Rooftop Units:

4.01. General:

A. Shall be complete with self-contained low voltage control circuit protected by a resettable circuit breaker on the 24-v transformer side. Transformer shall have 75VA capability.

B. Shall utilize color-coded wiring.

C. Shall include a central control terminal board to conveniently and safely provide connection points for vital control functions such as: smoke detectors, phase monitor, economizer, thermostat, DDC control options, loss of charge, freeze switch, high pressure switches.

D. Unit shall include a minimum of one 8-pin screw terminal connection board for connection of control wiring.

E. Shall include integrated defrost system to prevent excessive frost accumulation during heating duty, and shall be controlled as follows:

1. Defrost shall be initiated on the basis of time and coil temperature.

2. A 30,60,90,120 minute timer shall activate the defrost cycle only if the coil temperature is low enough to indicate a heavy frost condition.
3. Defrost cycle shall terminate when defrost thermostat is satisfied and shall have a positive termination time of 10 minutes.

F. Defrost system shall also include:
1. Defrost Cycle Indicator LED.
2. Dip switch selectable defrost time between 30,60,90 and 120 minutes. Factory set at 30 minutes.
3. Molded plug connection to insure proper connection.

4.02. Safeties:
A. Compressor overtemperature, overcurrent.
B. Loss of charge switch.
1. Units with 2 compressors shall have different sized connectors for the circuit 1 and circuit 2 loss of charge switches. They shall physically prevent the cross-wiring of the safety switches between circuits 1 and 2.
2. Loss of charge switch shall use different color wire than the high pressure switch. The purpose is to assist the installer and service technician to correctly wire and or troubleshoot the rooftop unit.

C. High pressure switch.
1. Units with 2 compressors shall have different sized connectors for the circuit 1 and circuit 2 high pressure switches. They shall physically prevent the cross-wiring of the safety switches between circuits 1 and 2.
2. High pressure switch shall use different color wire than the low pressure switch. The purpose is to assist the installer and service technician to correctly wire and or troubleshoot the rooftop unit.

D. Freeze protection thermostat, evaporator coil.
E. Automatic reset, motor thermal overload protector.

Part 5: Sequence of Operations for HVAC Controls

Decentralized, Rooftop Units:

5.01. INSERT SEQUENCE OF OPERATION

Part 6: Panel Air Filters

Decentralized, Rooftop Units:

6.01. Standard filter section
A. Shall consist of factory-installed, low velocity, throwaway 2-in. thick fiberglass filters of commercially available sizes.
B. Unit shall use only one filter size. Multiple sizes are not acceptable.
C. Filters shall be accessible through an access panel with “no-tool” removal as described in the unit cabinet section of this specification (23 81 19.13.H).

Part 7: Self-Contained Air Conditioners

Small-Capacity Self-Contained Air Conditioners

7.01. General
A. Outdoor, rooftop mounted, electrically controlled, heating and cooling unit utilizing a(n) hermetic scroll compressor(s) for cooling duty and heat pump for heating duty.
B. Factory assembled, single piece heating and cooling rooftop unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, and special features required prior to field startup.
C. Unit shall use environmentally safe, Puron refrigerant.
D. Unit shall be installed in accordance with the manufacturer’s instructions.
E. Unit must be selected and installed in compliance with local, state, and federal codes.

7.02. Quality Assurance
A. Unit meets ASHRAE 90.1 minimum efficiency requirements.
B. Unit shall be rated in accordance with AHRI Standards 340/360.
C. Unit shall be designed to conform to ASHRAE 15, 2001.
D. Unit shall be UL-tested and certified in accordance with ANSI Z21.47 Standards and UL-listed and certified under Canadian standards as a total package for safety requirements.

E. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
F. Unit casing shall be capable of withstanding 500-hour salt spray exposure per ASTM B117 (scribed specimen).
G. Unit casing shall be capable of withstanding Federal Test Method Standard No. 141 (Method 6061) 5000-hour salt spray.
H. Unit shall be designed in accordance with ISO 9001, and shall be manufactured in a facility registered by ISO 9001.
I. Roof curb shall be designed to conform to NRCA Standards.
J. Unit shall be subjected to a completely automated run test on the assembly line. The data for each unit will be stored at the factory, and must be available upon request.
K. Unit shall be designed in accordance with UL Standard 1995, including tested to withstand rain.
L. Unit shall be constructed to prevent intrusion of snow and tested to prevent snow intrusion into the control box up to 40 mph.
M. Unit shake tested to assurance level 1, ASTM D4169 to ensure shipping reliability.
N. High Efficient Motors listed shall meet Section 313 of the Energy Independence and Security Act of 2007 (EISA 2007).

7.03. Delivery, Storage, and Handling
A. Unit shall be stored and handled per manufacturer's recommendations.
B. Lifted by crane requires either shipping top panel or spreader bars.
C. Unit shall only be stored or positioned in the upright position.

7.04. Project Conditions
A. As specified in the contract.

7.05. Project Conditions
A. As specified in the contract.

7.06. Operating Characteristics
A. Unit shall be capable of starting and running at 125°F (52°C) ambient outdoor temperature, meeting maximum load criteria of AHRI Standard 210/240 or 340/360 at ? 10% voltage.
B. Compressor with standard controls shall be capable of operation down to 30°F (-1°C), ambient outdoor temperatures. Accessory Low Ambient controls are available if mechanically cooling at ambient temperatures below 30°F (-1°C).
C. Unit shall be capable of simultaneous heating duty and defrost cycle operation when using accessory electric heaters.
D. Unit shall discharge supply air vertically or horizontally as shown on contract drawings.
E. Unit shall be factory configured for vertical supply & return configurations.
F. Unit shall be field convertible from vertical to horizontal configuration. No special kits.
G. Unit shall be capable of mixed operation: vertical supply with horizontal return or horizontal supply with vertical return.

7.07. Electrical Requirements
A. Main power supply voltage, phase, and frequency must match those required by the manufacturer.

7.08. Unit Cabinet
A. Unit cabinet shall be constructed of galvanized steel, and shall be bonderized and coated with a pre-painted baked enamel finish on all externally exposed surfaces.
B. Unit cabinet exterior paint shall be: film thickness, (dry) 0.003 inches minimum, gloss (per ASTM D523, 60°F): 60, Hardness: H-2H Pencil hardness.
C. Evaporator fan compartment interior cabinet insulation shall conform to AHRI Standards 210/240 or 340/360 minimum exterior sweat criteria. Interior surfaces shall be insulated with a minimum 1/2-in. thick, 1 lb density, flexible fiberglass insulation, neoprene coated on the air side. Aluminum foil-faced fiberglass insulation shall be used in the heat compartment.
D. Base of unit shall have a minimum of three locations for thru-the-base electrical connections (factory-installed or field-installed), standard.
E. Base Rail
1. Unit shall have base rails on a minimum of 2 sides.
2. Holes shall be provided in the base rails for rigging shackles to facilitate maneuvering and overhead rigging.
3. Holes shall be provided in the base rail for moving the rooftop by fork truck.
4. Base rail shall be a minimum of 16 gauge thickness.
F. Condensate pan and connections:

1. Shall be a sloped condensate drain pan made of a non-corrosive material.
2. Shall comply with ASHRAE Standard 62.
3. Shall use a 3/4-in. -14 NPT drain connection, possible either through the bottom or end of the drain pan. Connection shall be made per manufacturer's recommendations.

G. Top panel:
1. Shall be a single piece.

H. Electrical Connections
1. All unit power wiring shall enter unit cabinet at a single, factory prepared, knock-out location.
2. Thru-the-base capability
   a. Standard unit shall have a thru-the-base electrical location(s) using a raised, embossed portion of the unit basepan.
   b. Optional, factory approved, watertight connection method must be used for thru-the-base electrical connections.
   c. No basepan penetration, other than those authorized by the manufacturer, is permitted.

I. Component access panels (standard)
1. Cabinet panels shall be easily removable for servicing.
2. Unit shall have one factory-installed, tool-less, removable, filter access panel.
3. Panels covering control box, indoor fan, indoor fan motor, gas components (where applicable), and compressors shall have molded composite handles.
4. Handles shall be UV modified, composite, permanently attached, and recessed into the panel.
5. Screws on the vertical portion of all removable access panels shall engage into heat resistant, molded composite collars.
6. Collars shall be removable and easily replaceable using manufacturer recommended parts.

7.09. Coils

A. Standard Aluminum/Copper Coils: on all models.
1. Standard evaporator and condenser coils shall have aluminum lanced plate fins mechanically bonded to seamless internally grooved copper tubes with all joints brazed.
2. Evaporator coils shall be leak tested to 150 psig. Pressure tested to 450 psig and qualified to UL 1995 burst test at 1775 psig.
3. Condenser coils shall be leak tested to 150 psig. Pressure tested to 650 psig and qualified to UL 1995 burst test at 1980 psig.

7.10. Refrigerant Components

A. Refrigerant circuit shall include the following control, safety, and maintenance features:
1. Thermostatic Expansion Valve (TXV) shall help provide optimum performance across the entire operating range. Shall contain removable power element to allow change out of power element and bulb, without removing the valve body.
2. Refrigerant filter drier on each refrigerant circuit.
3. Service gauge connections on suction and discharge lines.
4. Suction line accumulator to provide protection in all operating modes from cooling, heating and reverse cycle switching, standard on each refrigerant circuit.

B. Compressors
1. Unit shall use one fully hermetic, scroll compressor for each independent refrigeration circuit.
2. Models shall be available with dual compressor design.
3. Compressor motors shall be cooled by refrigerant gas passing through motor windings.
4. Compressors shall be internally protected from high discharge temperature conditions.
5. Compressors shall be protected from an over-temperature and over-amperage conditions by an internal, motor overload device.
6. Compressor shall be factory mounted on rubber grommets.
7. Compressor motors shall have internal line break thermal, current overload and high pressure differential protection.
8. Crankcase heaters shall be utilized on all models to protect compressor with specific refrigerant charge.

7.11. Filter Section

A. Filters access is specified in the unit cabinet section of this specification.
B. Filters shall be held in place by a pivoting filter tray, facilitating easy removal and installation.
C. Shall consist of factory-installed, low velocity, throw-away 2-in. thick fiberglass filters.
D. Filters shall be standard, commercially available sizes.
E. Only one size filter per unit is allowed.

7.12. Evaporator Fan and Motor

A. Evaporator fan motor:
   1. Shall have permanently lubricated bearings.
   2. Shall have inherent automatic-reset thermal overload protection or circuit breaker.
   3. Shall have a maximum continuous bhp rating for continuous duty operation; no safety factors above that rating shall be required.
B. Belt-driven Evaporator Fan:
   1. Belt drive shall include an adjustable pitch motor pulley.
   2. Shall use sealed, permanently lubricated ball-bearing type.
   3. Blower fan shall be double inlet type with forward curved blades.
   4. Shall be constructed from steel with a corrosion resistant finish and dynamically balanced.
   5. Standard on all 07-12 size models, optional on all 04-06 3-phase models.

7.13. Condenser Fans and Motors

A. Condenser fan motors:
   1. Shall be a totally enclosed motor.
   2. Shall use permanently lubricated bearings.
   3. Shall have inherent thermal overload protection with an automatic reset feature.
   4. Shall use a shaft down design.
B. Condenser Fans:
   1. Shall be a direct driven propeller type fan.
   2. Shall have aluminum blades riveted to corrosion resistant steel spiders and shall be dynamically balanced.

7.14. Special Features, Options and Accessories

A. Medium Static Indoor Fan Motor and Drive:
   1. Medium and high static motor(s) and drive(s) shall be factory-installed to provide additional performance range.