

RTU-1,2

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

Unit Report For RTU-1,2

Project: First Financial - Roselawn
 Prepared By: Jeff Gries

12/13/2022
 03:29PM

Unit Parameters

Unit Model:..... **48FCEA05A2A5-0A0A0**
 Unit Size:..... **05 (4 Tons)**
 Volts-Phase-Hertz:..... **208-3-60**
 Heating Type:..... **Gas**
 Heat Control:..... **Medium Heat**
 Duct Cfg:..... **Vertical Supply / Vertical Return**
 DX Options: **Standard One Stage Cooling Models**

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

Unit Length:..... **6' 2.375"**
 Unit Width:..... **3' 10.625"**
 Unit Height:..... **2' 9.375"**
Total Operating Weight:..... 611 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

Gas Line Size: **1/2**
 Condensate Drain Line Size: **3/4**
 Return Air Filter Type: **Throwaway**
 Return Air Filter Quantity: **2**
 Return Air Filter Size: **16 x 25 x 2**

Selection includes construction throwaway filter into the base fan curve. This filter is not MERV Rated.

Unit Configuration

Direct Drive - EcoBlue - Medium Static
 Al/Cu - Al/Cu
 Base Electromechanical Controls
 Standard Packaging

Warranty Information

1-Year parts(std.)
 5-Year compressor parts(std.)
 10-Year heat exchanger - Aluminized(std.)

No optional warranties were selected.

Ordering Information

Part Number	Description	Quantity
48FCEA05A2A5-0A0A0	Rooftop Unit	2
	Base Unit	
	Direct Drive - EcoBlue - Medium Static	
Field Installed Accessories		
CRECOMZR076A00	EconoMi\$er X with solid-state W7220 controller & Barometric Relief	2
CRLVHLGD047A00	Louvered Condenser Coil Hail Guard	2
33CS2PP2S-03	7-Day Programmable Thermostat	2
D4120	Duct Mounted Smoke Detector w/ Sampling Tube & Annunciator	2
1-5005-4000	Curb Adapter	2

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NOTES:

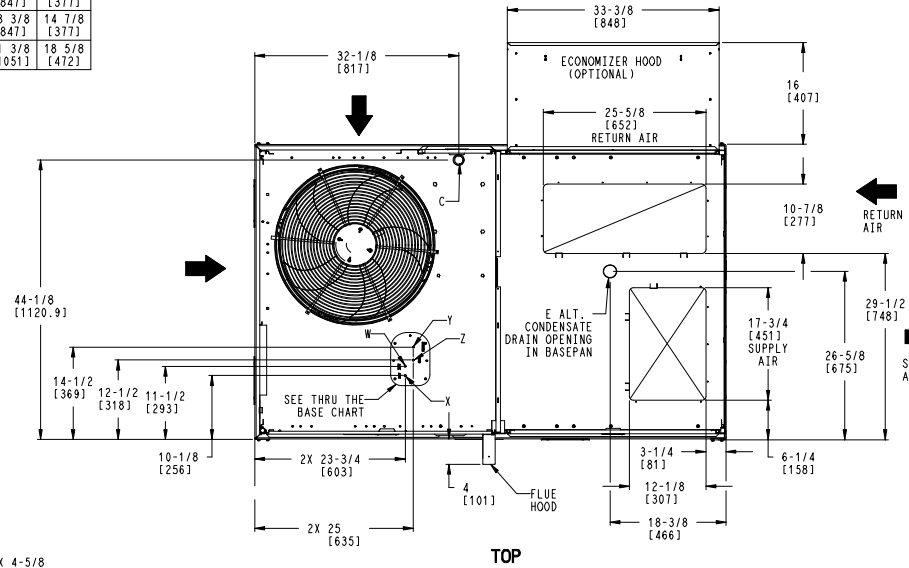
1. DIMENSIONS ARE IN INCHES. DIMENSIONS IN [] ARE IN MILLIMETERS.
2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW
4. ALL VIEW DRAWN USING 3RD ANGLE

UNIT	J	K
48FC*04	33 3/8 [847]	18 5/8 [472]
48FC*05	33 3/8 [847]	14 7/8 [377]
48FC*06	33 3/8 [847]	14 7/8 [377]
48FC*07	41 3/8 [1051]	18 5/8 [472]



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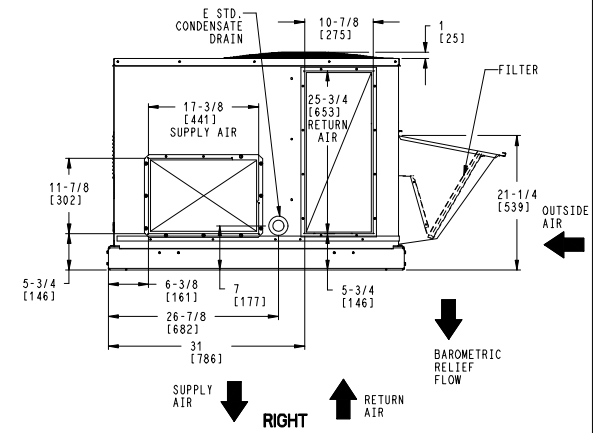
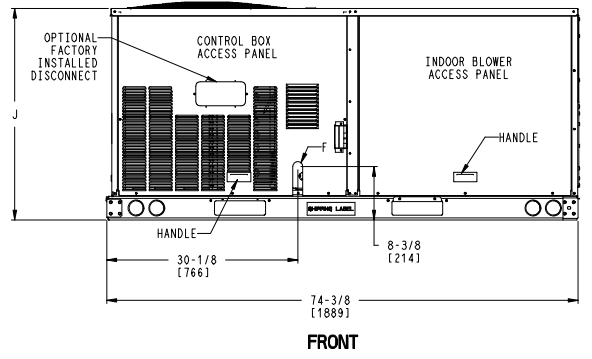
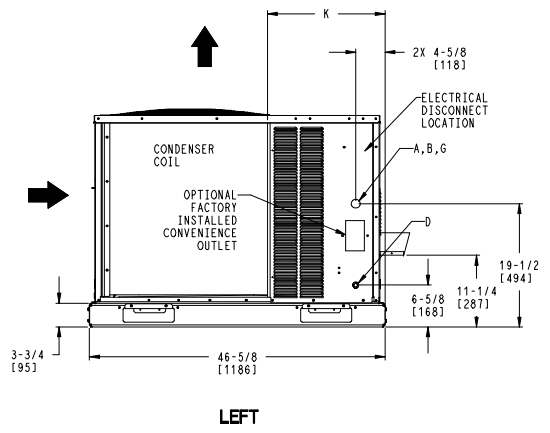


CONNECTION SIZES	
A	1 3/8" [35] DIA FIELD POWER SUPPLY HOLE
B	2" [50] DIA POWER SUPPLY KNOCKOUT
C	1 3/4" [51] DIA GAUGE ACCESS PLUG
D	7/8" [22] DIA FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	1/2"-14 NPT GAS CONNECTION
G	2 1/2" [64] DIA POWER SUPPLY KNOCK-OUT

THRU-THE-BASE CHART THESE HOLES REQUIRED FOR USE CRBTW008A00, 009A00			
	THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
W	1/2"	115V	7/8" [22.2]
X	1/2"	24V	7/8" [22.2]
Y	3/4"	POWER	1-1/8" [28.6]
Z*	(009A00) 1/2" FPT	GAS	1-1/8" [28.6]

FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR ONLY X, Y, & Z ARE PROVIDED

* (008A00) PROVIDES 3/4" FPT THRU CURB FLANGE & FITTING.



ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	DESCRIPTION	PROJECT	REV
U.S. ECCN: NSR	1 OF 3	09/07/18	06/22/18	48FC 04-07 SINGLE PACKAGE ELECTRICAL COOLING WITH GAS HEAT	48TC003093	REV A

Certified Drawing for RTU-1,2

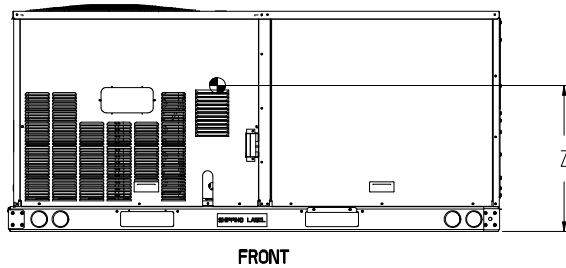
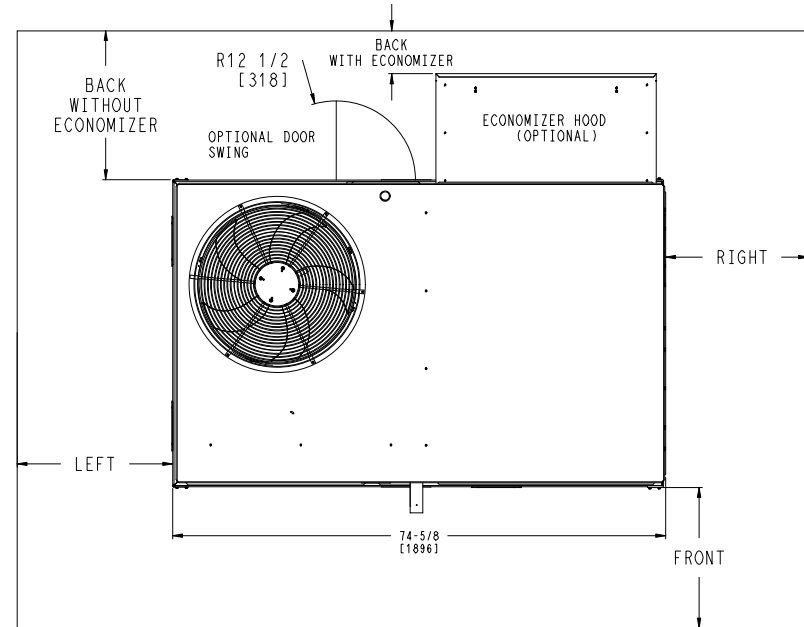
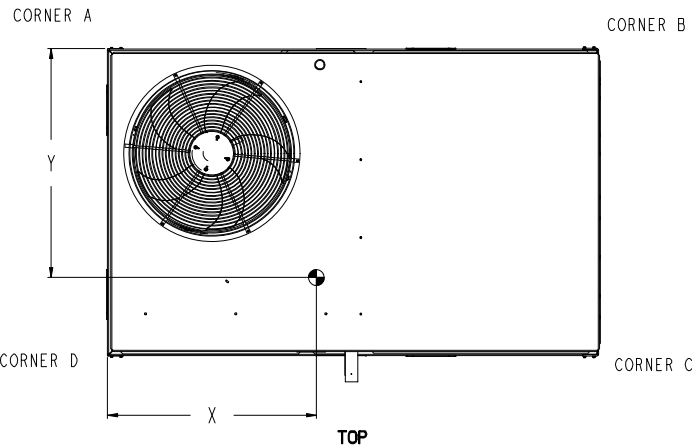
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UNIT	STD. UNIT WEIGHT *		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.			HEIGHT
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z	
48FC**04	482	219	113	51	116	53	128	58	125	57	37 5/8 [956]	24 9/16 [624]	18 1/4 [464]	
48FC**05	543	246	138	63	133	60	133	60	138	63	36 1/2 [927]	23 3/8 [594]	18 [457]	
48FC**06	556	252	142	64	136	62	136	62	142	64	36 1/2 [927]	23 3/8 [594]	18 [457]	
48FC**07	607	275	162	73	152	69	141	64	151	68	36 [914]	22 1/2 [572]	19 3/8 [492]	

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

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

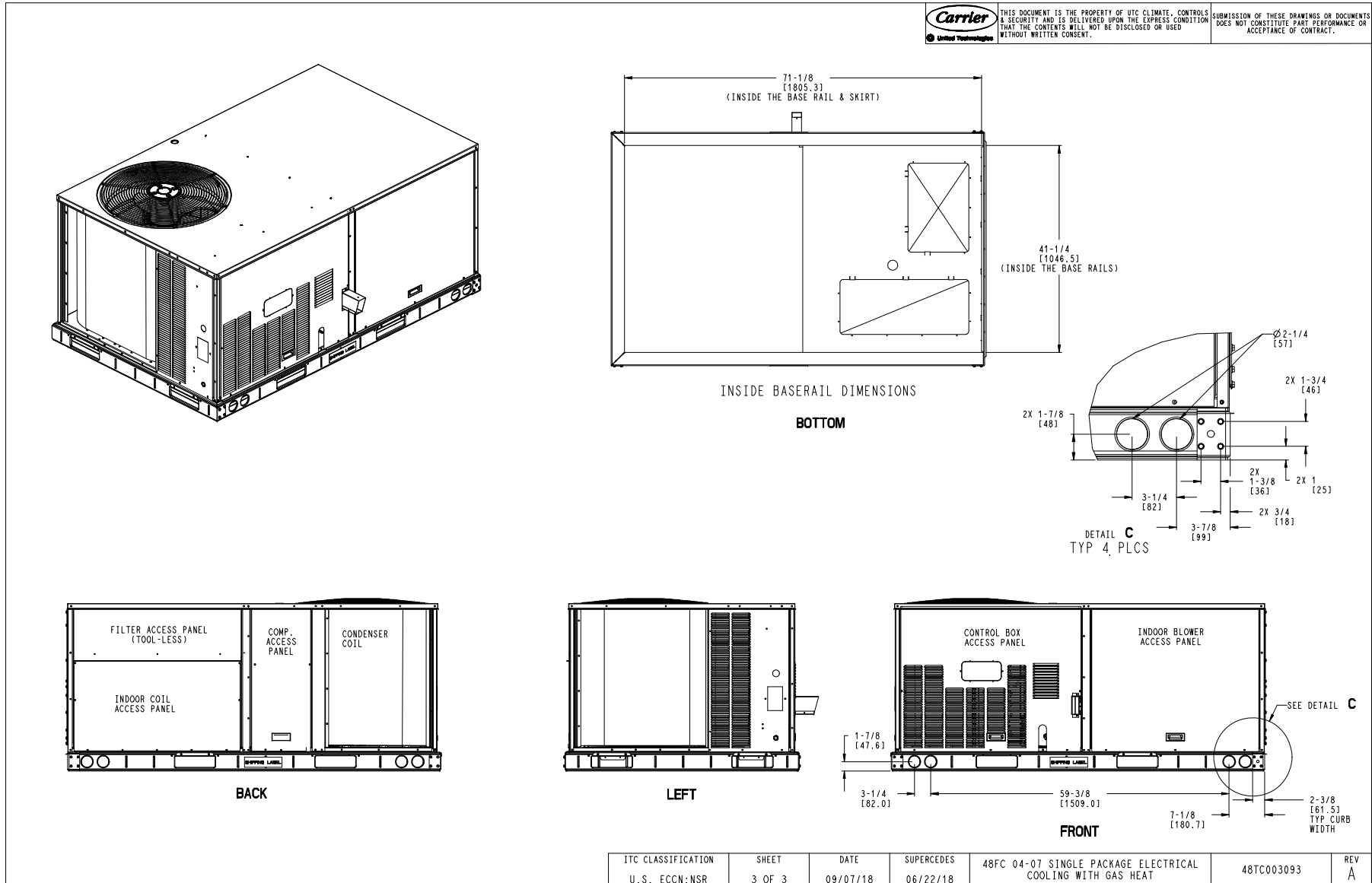
SURFACE	CLEARANCE		OPERATING CLEARANCE
	SERVICE WITH: CONDUCTIVE BARRIER	SERVICE WITH: NONCONDUCTIVE BARRIER	
FRONT	48 [1219mm]	36 [914mm]	18 [457mm]
LEFT	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/HOOD	36 [914mm]	36 [914mm]	18 [457mm]
RIGHT	36 [914mm]	36 [914mm]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

ITC CLASSIFICATION U.S. ECCN:NSR	SHEET 2 OF 3	DATE 09/07/18	SUPERCEDES 06/22/18	48FC 04-07 SINGLE PACKAGE ELECTRICAL COOLING WITH GAS HEAT	48TC003093	REV A
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Certified Drawing for RTU-1,2

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Performance Summary For RTU-1,2

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Part Number:48FCEA05A2A5-0A0A0

ARI SEER:..... 14.00

Base Unit Dimensions

Unit Length:..... 74.4 in
Unit Width: 46.6 in
Unit Height: 33.4 in

Operating Weight

Base Unit Weight: 498 lb
Medium Heat:..... 63 lb

Accessories

STANDARD LEAK - Vertical EconoMiser X with solid-state W7220 controller:..... 50 lb

Total Operating Weight: 611 lb

Unit

Unit Voltage-Phase-Hertz: 208-3-60
Air Discharge: Vertical
Fan Drive Type:..... Vane Axial
Actual Airflow: 1600 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: 57.5 F
Evaporator Leaving Air Enthalpy: 24.71 BTU/lb
Gross Cooling Capacity: 48.41 MBH
Gross Sensible Capacity: 34.31 MBH
Compressor Power Input: 3.44 kW
Coil Bypass Factor: 0.129

Heating Performance

Heating Airflow: 1600 CFM
Entering Air Temp: 70.0 F
Leaving Air Temp: 120.9 F
Gas Heating Input Capacity: 110.0 MBH
Gas Heating Output Capacity: 88.0 MBH
Temperature Rise: 50.9 F
Thermal Efficiency (%): 80.0

Supply Fan

External Static Pressure:..... 0.75 in wg
Options / Accessories Static Pressure
Economizer: 0.07 in wg
Application External Static (ESP + Unit Opts/Acc.): 0.82 in wg
Fan RPM: 2009
Fan Power: 0.87 BHP
NOTE: Selected IFM RPM Range: 1262 - 2170

Selection includes construction throwaway filter into the base fan curve. This filter is not MERV Rated.

Electrical Data

Voltage Range: 187 - 253
Compressor #1 RLA: 13.7
Compressor #1 LRA: 83

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Indoor Fan Motor Type:.....	MED
Indoor Fan Motor FLA (Total):.....	7.1
Combustion Fan Motor FLA (ea):.....	0.48
Power Supply MCA:.....	26
Power Supply MOCP (Fuse or HACR):.....	30
Disconnect Size FLA:.....	26
Disconnect Size LRA:.....	97
Electrical Convenience Outlet:.....	None
Outdoor Fan [Qty / FLA (ea)]:.....	1 / 1.5

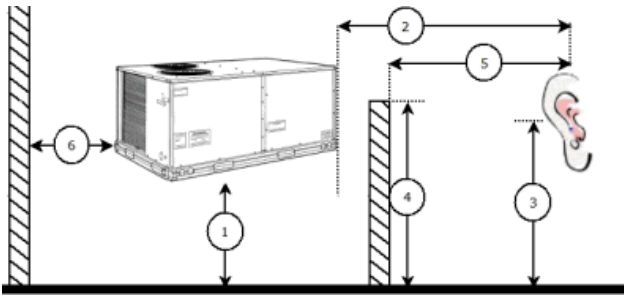
Control Panel SCCR: 5kA RMS at Rated Symmetrical Voltage

Acoustics

Sound Power Levels, db re 10E-12 Watts

	Discharge	Inlet	Outdoor
63 Hz	93.7	89.7	85.6
125 Hz	84.9	79.7	84.7
250 Hz	78.6	72.5	80.5
500 Hz	73.2	65.9	76.0
1000 Hz	70.0	67.8	72.4
2000 Hz	67.2	59.2	68.0
4000 Hz	63.6	52.8	62.8
8000 Hz	60.0	46.6	59.3
 A-Weighted	 77.3	 72.1	 79.0

Advanced Acoustics



Advanced Acoustics 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	85.6	84.7	80.5	76.0	72.4	68.0	62.8	59.3	89.2 Lw
B	59.4	68.6	71.9	72.8	72.4	69.2	63.8	58.2	78.5 LwA
C	53.2	52.3	48.1	43.6	40.0	35.6	30.4	26.9	56.8 Lp
D	27.0	36.2	39.5	40.4	40.0	36.8	31.4	25.8	46.1 LpA

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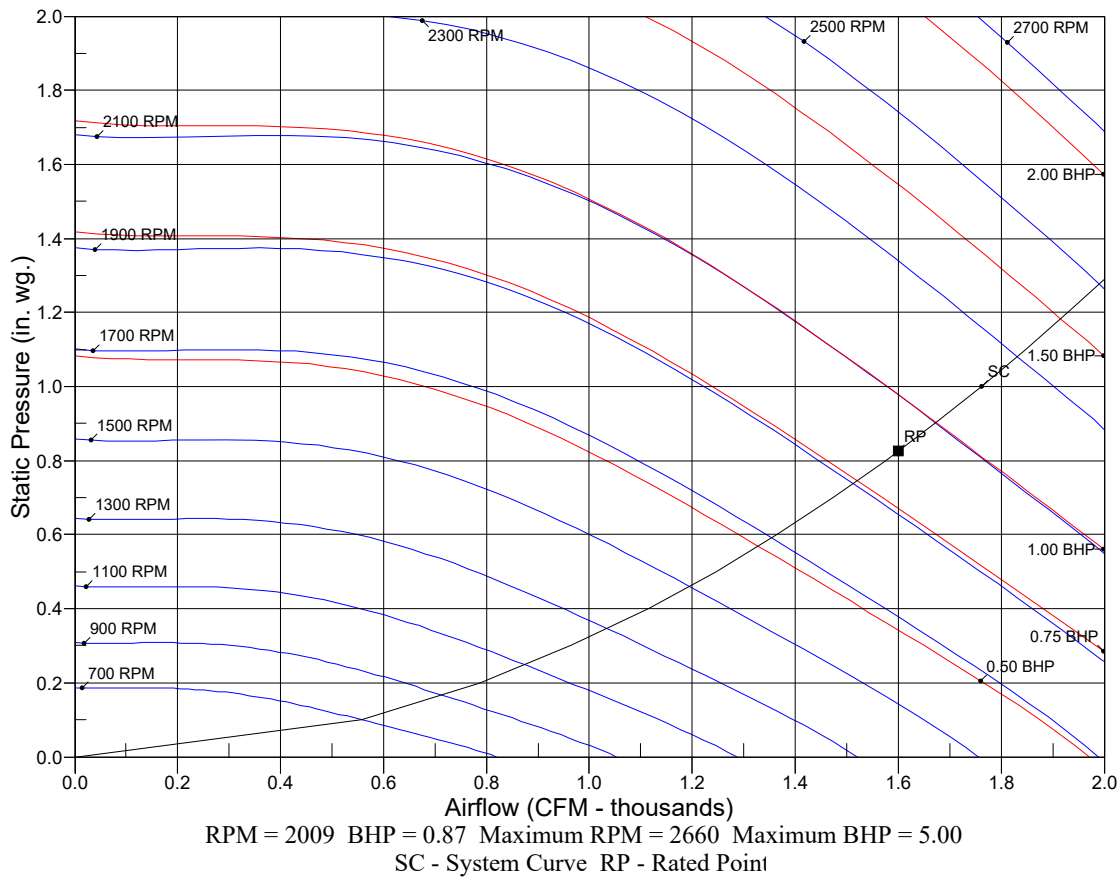
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Legend

- 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.

Fan Curve



Unit Feature Sheet for RTU-1,2

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PACKAGED ROOFTOP GAS HEATING/ELECTRIC COOLING UNITS – 3, 4, 5 TON - 13.4 SEER2 and 14.0 SEER, 6 TON - 15.0 IEER



WEATHERMAKER SERIES

48FC units are single packaged gas heating, electric cooling units that are pre-wired and charged with Puron (R-410) refrigerant. The units are factory tested in both heating and cooling modes. 3-5 ton models use single stage cooling capacity control. 6 ton model uses two stage cooling capacity control.

Approved and certified by:



Use of the AHRI Certified TM Mark indicates a manufacturer's participation in the program. For verification of certification for individual products, go to www.ahridirectory.org.

STANDARD FEATURES INCLUDE:

- Puron (R-410A) HFC refrigerant
- Meets or exceeds ASHRAE 90.1 energy efficiency levels
- Scroll compressors with internal line break and overload protection
- Single-stage cooling capacity 04-06 models, Two Stage on 07 models
- SEER2's up to 13.8
- SEER's to 14.0, IEER's to 15.0
- Acutrol™ refrigerant metering system on 04-06 models, TXV on 07 size models
- Exclusive non-corrosive composite condensate pan in accordance with ASHRAE Standard 62, sloping design, side or center drain
- Standard cooling operation up to 115°F (46°C) and down to 40°F (4°C) - down to 25° F (-4° C) with winter start kit.
- Pre-painted exterior panels and primer-coated interior panels tested to 500 hours salt spray protection
- Fully insulated cabinet
- NEW Direct Drive – EcoBlue™ Technology Indoor fan system uses Vane Axial fan design and electronically commutated motor
- New Unit Control Board with intuitive quick fan speed adjustment
- Exclusive IGC solid-state control for on-board diagnostics with LED error code designation burner control logic
- Induced draft gas heat combustion design
- Redundant gas valves with up to two stages of heating
- Low pressure and high pressure switch protected.

MAINTENANCE FEATURES:

- Access panels with easy grip handles
- Innovative easy starting, no-strip screws on unit access panels
- Two-inch disposable return air filters and Tool-less filter access door
- New unit control board to facilitate simple safety circuit troubleshooting and simplified control box arrangement

INSTALLATION FEATURES:

- Thru-the-bottom power entry capability
- Single point gas and electric connections
- Full perimeter base rail with built-in rigging adapters and fork slots
- Field convertible from vertical to horizontal airflow

STANDARD WARRANTY:

- 10-year heat exchanger – 15-year stainless steel option
- 5-year compressor
- 3-year SystemVu™
- 1-year parts
- Many optional upgrades also available

OPTIONS INCLUDE BUT ARE NOT LIMITED TO:

- Intelligent SystemVu communicating controls
- RTU Open Multi-Protocol DDC Controls
- Supply and Return Air Smoke Detectors, high static motors
- Louvered condenser coil guards
- Disconnect switch and convenience outlet options
- Stainless Steel heat exchanger option
- Corrosion resistant coil coating.
- MERV-8 and 13 Return Air Filters
- Patented Humidi-MiZer® adaptive dehumidification system.
- Hinged access panels
- Integrated economizer system. Low and Ultra Low Leak versions
- Phase Monitor Protection
- Condensate Overflow Protection

For a complete list of options and accessories refer to the Product Data Catalog for this unit.