



## **SUBMITTAL**

**Project**

92H Apartments

**Date**

Monday, February 7, 2022

# Table Of Contents

Project: 92H Apartments  
Prepared By:

02/07/2022  
05:05PM

<b>RTU-1</b> .....	<b>3</b>
Unit Report.....	4
Certified Drawing.....	5
Performance Summary.....	8
Unit Feature Sheet.....	11

**RTU-1**

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

## Unit Report For RTU-1

Project: 92H Apartments  
Prepared By:

02/07/2022  
05:05PM

### Unit Parameters

Unit Model:.....**48HCTD14A2A5-0A0G0**  
 Unit Size:.....**14 (12.5 Tons)**  
 Volts-Phase-Hertz:.....**208-3-60**  
 Heating Type:.....**Gas**  
 Duct Cfg:.....**Horizontal Supply / Horizontal Return**  
 Stainless Steel, High Heat  
 Two stage cooling models

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

Unit Length:.....**9' 7.875"**  
 Unit Width:.....**5' 3.375"**  
 Unit Height:.....**4' 9.375"**  
 \*\*\* Total Operating Weight:.....**1537 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:.....**3/4**  
 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**

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

### Unit Configuration

Medium Static Option - Belt Drive  
 Al/Cu - Al/Cu  
 Base Electromechanical Controls  
 Standard Packaging  
 2-Speed indoor fan motor controlled by VFD

### Warranty Information

1-Year parts  
 5-Year compressor parts  
 15-Year heat exchanger - Stainless Steel

No optional warranties were selected.

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

### Ordering Information

Part Number	Description	Quantity
48HCTD14A2A5-0A0G0	Rooftop Unit	1
	Base Unit	
	Medium Static Option - Belt Drive	
	None	
	2-Speed Indoor Fan (VFD) Controller	
<b>Field Installed Accessories</b>		
CRDUCTCV002A00	Supply Duct Cover	1

# Certified Drawing for RTU-1

Project: 92H Apartments  
Prepared By:

02/07/2022  
05:05PM

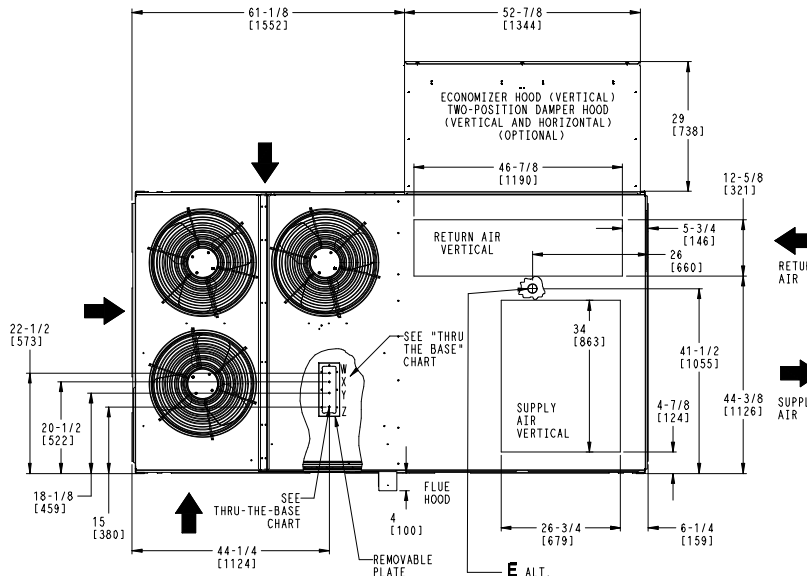
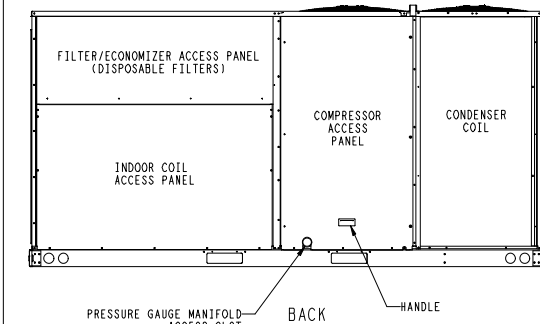
**NOTES:**

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

UNITED TECHNOLOGIES SYRACUSE, NY 13221  
P.O. BOX 4800 CARRIER

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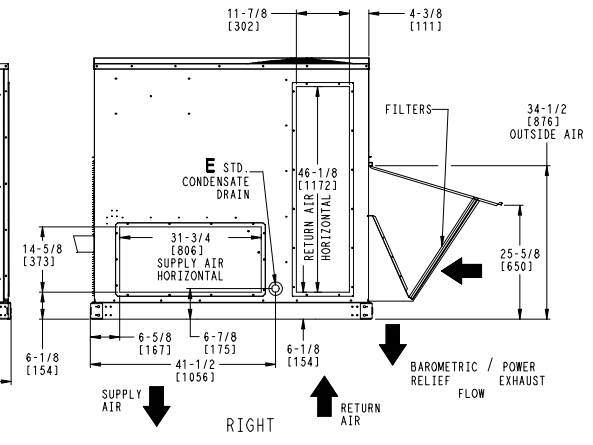
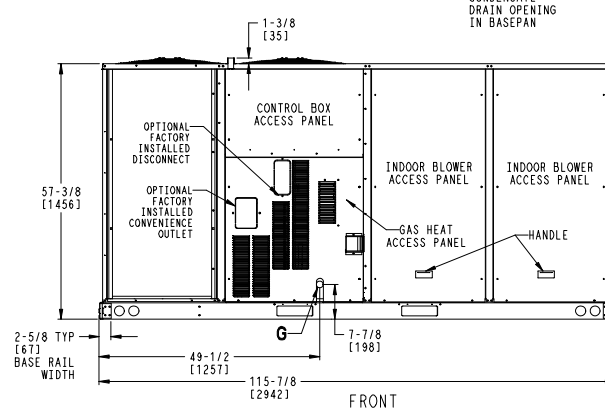
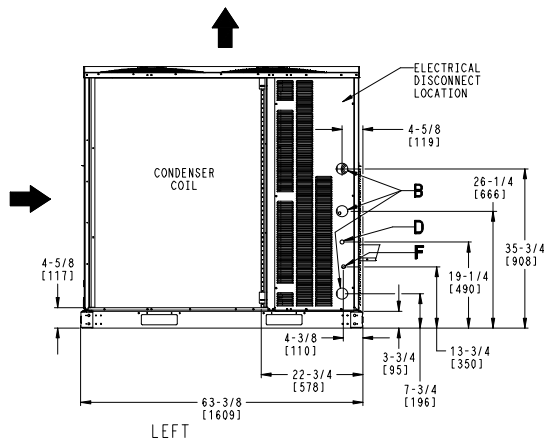
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CONNECTION SIZES	
B	2 1/2" [64] DIA POWER SUPPLY HOLE
D	7/8" [22] DIA FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	7/8" [22] DIA FIELD CONVENIENCE OUTLET HOLE
G	3/4"-14 NPT GAS CONNECTION

THRU-THE-BASE CHART THESE HOLES REQUIRED FOR USE CRBTMPWRO05A00, 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]	
	Y	1 1/4" POWER	1 1/2" [38.1]	
	Z	3/4" PIPE GAS	1 3/4" [44.5]	
006	W	1/2" ACC.	7/8" [22.2]	
	X	1/2" 24V	7/8" [22.2]	
	Y	1 1/2" POWER	2" [50.8]	
	Z	3/4" PIPE GAS	1 3/4" [44.5]	
007	W	1/2" ACC.	7/8" [22.2]	
	X	1/2" 24V	7/8" [22.2]	
	Y	2" POWER	2 1/2" [63.5]	
	Z	3/4" PIPE GAS	1 3/4" [44.5]	

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



DATE	SUPERCEDES	DESCRIPTION	PROJECT NO.	REV
06/15/11	-	48HCD 14 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	50TM501227	C

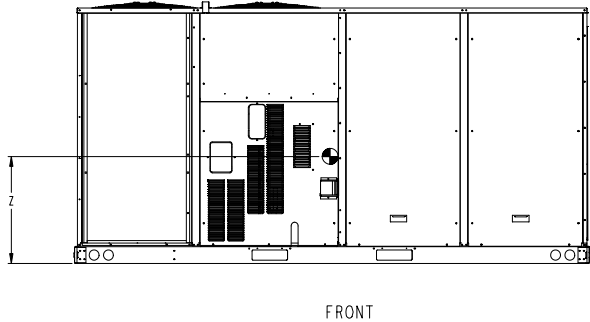
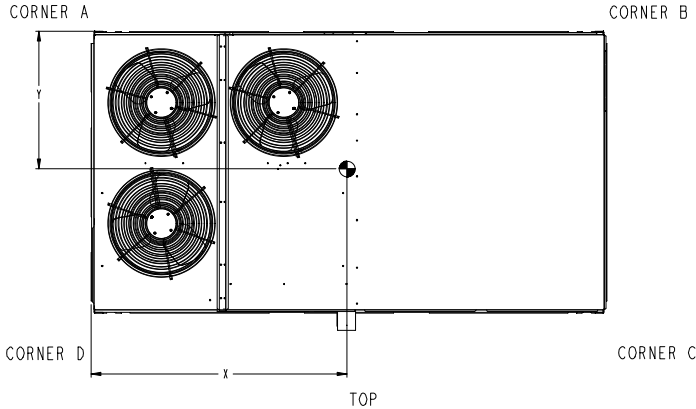
# Certified Drawing for RTU-1

Project: 92H Apartments  
 Prepared By:

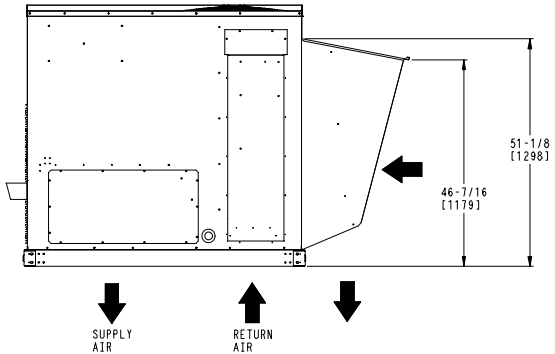
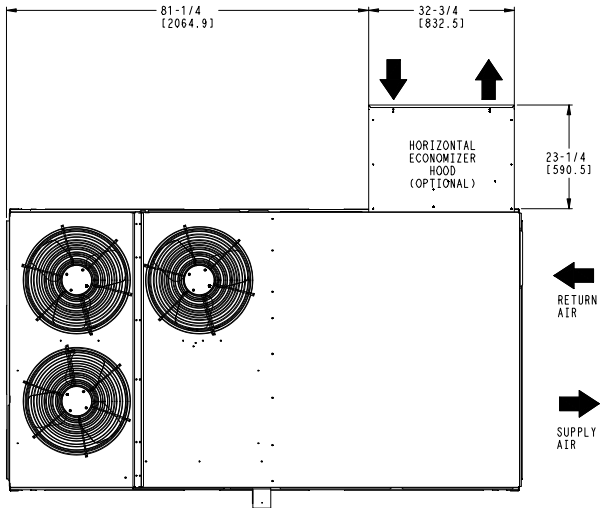
02/07/2022  
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UNIT	STD UNIT WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.					
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z			
48HCD 14	1430	649	342	155	377	171	372	169	338	153	60 3/4	[1543]	31 1/2	[800]	20 5/8	[524]

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



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### HORIZONTAL ECONOMIZER

DATE	SUPERCEDES	48HCD 14 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	50TM501227	REV
06/15/11	-			C

## Certified Drawing for RTU-1

Project: 92H Apartments  
Prepared By:

02/07/2022  
05:05PM

**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)
C	Special	• Check for sources of flue products within 10-ft of unit fresh air intake hood
	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

## Performance Summary For RTU-1

Project: 92H Apartments  
Prepared By:

02/07/2022  
05:05PM

### Part Number:48HCTD14A2A5-0A0G0

ARI EER:..... **12.20**  
IEER:..... **13.9**

#### Base Unit Dimensions

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

#### Operating Weight

Base Unit Weight:..... **1430** lb  
Stainless Steel, High Heat:..... **42** lb  
Medium Static Option - Belt Drive:..... **45** lb  
2-Speed Indoor Fan (VFD) Controller:..... **20** lb  
  
Total Operating Weight:..... **1537** lb

#### Unit

Unit Voltage-Phase-Hertz:..... **208-3-60**  
Air Discharge:..... **Horizontal**  
Fan Drive Type:..... **Belt**  
Actual Airflow:..... **5000** CFM  
Site Altitude:..... **39** ft

#### Cooling Performance

Condenser Entering Air DB:..... **95.0** F  
Evaporator Entering Air DB:..... **90.0** F  
Evaporator Entering Air WB:..... **67.0** F  
Entering Air Enthalpy:..... **31.38** BTU/lb  
Evaporator Leaving Air DB:..... **60.0** F  
Evaporator Leaving Air WB:..... **56.7** F  
Evaporator Leaving Air Enthalpy:..... **24.18** BTU/lb  
Gross Cooling Capacity:..... **161.69** MBH  
Gross Sensible Capacity:..... **161.69** MBH  
Compressor Power Input:..... **9.73** kW  
Coil Bypass Factor:..... **0.198**

#### Mixed Air

Outdoor Air Airflow:..... **5000** CFM  
Outdoor Air DB:..... **90.0** F  
Outdoor Air WB:..... **67.0** F  
Outdoor Air Htg. Temp.:..... **22.0** F  
Return Air DB:..... **76.0** F  
Return Air WB:..... **64.0** F  
Return Air Htg. Temp.:..... **70.0** F

#### Heating Performance

Heating Airflow:..... **5000** CFM  
Entering Air Temp:..... **35.0** F  
Leaving Air Temp:..... **71.2** F  
Gas Heating Input Capacity:..... **192.0 / 240.0** MBH  
Gas Heating Output Capacity:..... **156.0 / 195.0** MBH  
Temperature Rise:..... **36.2** F  
Thermal Efficiency (%):..... **81.0**

#### Supply Fan

External Static Pressure:..... **1.00** in wg  
Fan RPM:..... **751**  
Fan Power:..... **2.63** BHP  
NOTE:..... **Selected IFM RPM Range: 609 - 778**



# Performance Summary For RTU-1

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02/07/2022  
05:05PM

**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:	19.6
Compressor #1 LRA:	136
Compressor #2 RLA:	19.6
Compressor #2 LRA:	136
Indoor Fan Motor Type:	MED
Indoor Fan Motor FLA:	10.8
Combustion Fan Motor FLA (ea):	0.48
Power Supply MCA:	60
Power Supply MOCP (Fuse or HACR):	70
Disconnect Size FLA:	63
Disconnect Size LRA:	361
Electrical Convenience Outlet:	None
Outdoor Fan [Qty / FLA (ea)]:	3 / 1.5

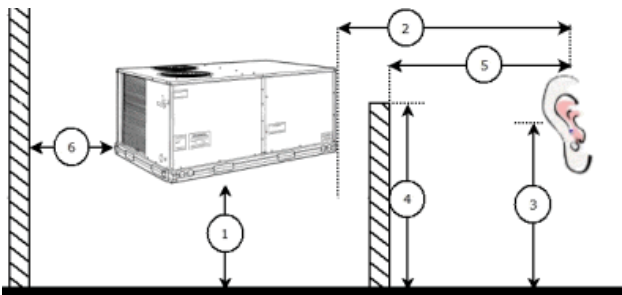
**Control Panel SCCR: 5kA RMS at Rated Symmetrical Voltage**

**Acoustics**

Sound Power Levels, db re 10E-12 Watts

	Discharge	Inlet	Outdoor
63 Hz	98.1	92.9	89.3
125 Hz	96.4	85.7	86.0
250 Hz	82.5	71.9	82.9
500 Hz	74.8	64.0	80.7
1000 Hz	70.1	63.7	78.5
2000 Hz	67.9	63.8	73.6
4000 Hz	75.2	66.0	69.6
8000 Hz	75.4	64.4	64.5
A-Weighted	84.0	74.7	83.0

**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**

# Performance Summary For RTU-1

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Prepared By:

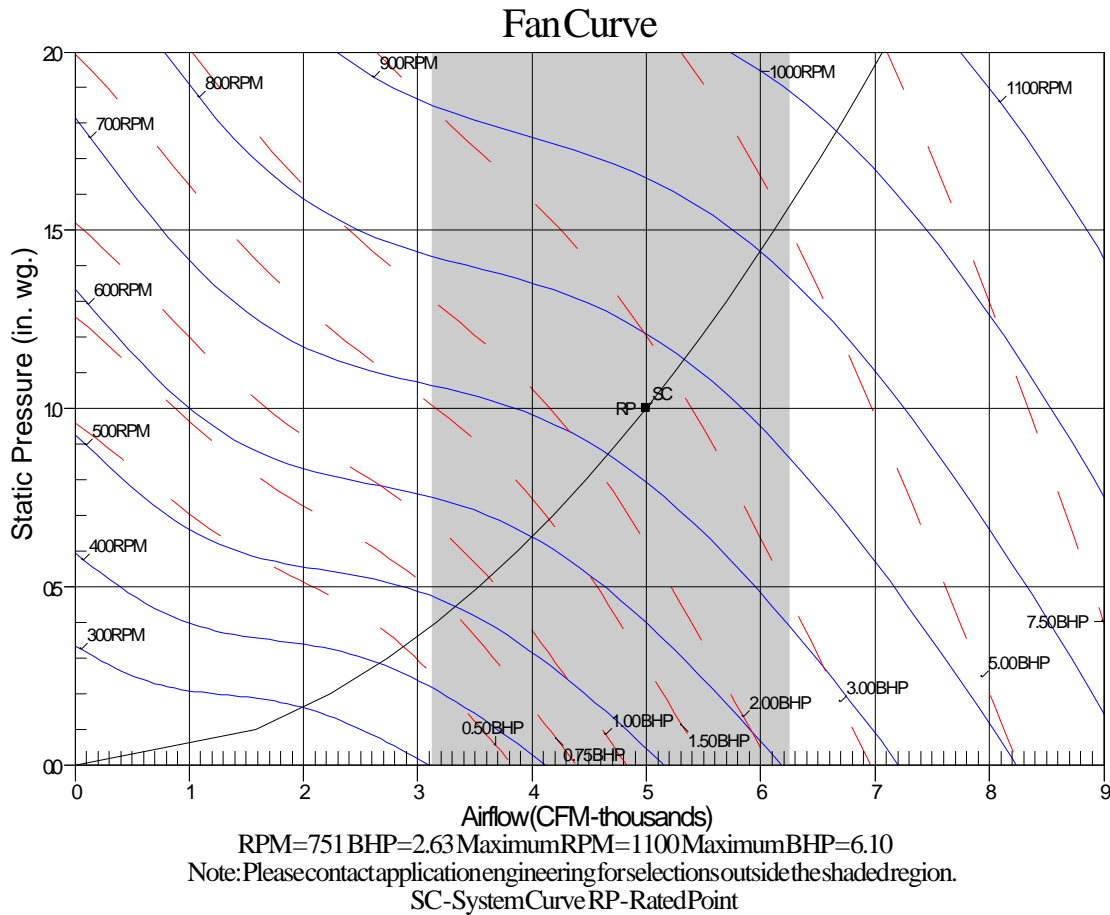
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Octave Band Center Freq. Hz	63	125	250	500	1k	2k	4k	8k	Overall
A	89.3	86.0	82.9	80.7	78.5	73.6	69.6	64.5	92.2 Lw
B	63.1	69.9	74.3	77.5	78.5	74.8	70.6	63.4	83.2 LwA
C	56.9	53.6	50.5	48.3	46.1	41.2	37.2	32.1	59.8 Lp
D	30.7	37.5	41.9	45.1	46.1	42.4	38.2	31.0	50.8 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.



# Unit Feature Sheet for RTU-1

Project: 92H Apartments  
Prepared By:

02/07/2022  
05:05PM



## WeatherMaster® – 48HC

PACKAGED ROOFTOP GAS HEATING/ELECTRIC COOLING UNITS  
3, 4, 5, 6, 7.5, 8.5, 10 and 12.5 TONS



Optional Louvered Hail Guard Shown



### WEATHERMASTER SERIES

WeatherMaster (48HC) units are high efficiency, single packaged gas heating, electric cooling units that are pre-wired and charged with Puron® (R-410) refrigerant. They are factory tested in both heating and cooling modes, and rated in accordance with AHRI Standards 210/240 (04-06 sizes) and 340/360 (07-14 sizes). WeatherMaster units are designed in accordance with UL Standard 1995, and listed by UL or ETL.



- OF -



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](http://www.ahridirectory.org).

For a complete list of options and accessories refer to the product data catalog.

#### STANDARD FEATURES INCLUDE:

- Puron® (R-410A) HFC refrigerant charged
- ASHRAE 90.1 compliant and Energy Star qualified
- Scroll compressors with internal line break and overload protection
- Single-stage cooling capacity control on all 04-07 models
- Two-stage cooling capacity control on 07-14 models
- SEERs up to 15.6 and EERs up to 13.0
- IEEERs up to 14.0 with single speed indoor fan motor
- IEEERs up to 16.0 with 2-speed/VFD indoor fan motor
- TXV metering device on each independent circuit
- 04-06 models use X-13 (5 Speed/Torque) Direct Drive Motor standard
- Belt drive fan and pulley combinations - all three phase models
- Exclusive non-corrosive composite condensate pan in accordance with ASHRAE Standard 62, sloping design, side or center drain
- Standard cooling operation to 125°F (52°C) to 35°F (2°C)
- Units use high performance copper tube / aluminum coils
- Pre-painted exterior panels and primer-coated interior panels tested to 500 hours salt spray protection
- Exclusive IGC solid-state control for on-board diagnostics with LED error code designation burner control logic and energy saving indoor fan motor delay
- Low NOx models that meet California Air Quality Management
- 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
- New terminal board facilitating simple safety circuit troubleshooting and simplified control box arrangement
- Exclusive IGC solid-state control for on-board diagnostics with LED error code designation, burner control logic and energy saving indoor fan motor delay

#### 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
- Convertible from vertical to horizontal airflow for slab mounting

#### STANDARD PARTS WARRANTY:

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

#### OPTIONS INCLUDE BUT ARE NOT LIMITED TO:

- PremierLink™ and Multi-Protocol Direct Digital Controls (DDC)
- ComfortLink controls (except on two stage 07 models and 11 size models with Humidi-Mizer)
- Supply and Return Air Smoke Detectors, high static motors
- Louvered condenser coil guards and coil coating options
- Economizer, disconnect and convenience outlet options
- Stainless Steel heat exchanger (standard with Low NOx)
- Hinged access panels
- Humidi-Mizer adaptive dehumidification system
- Foil faced insulation throughout entire cabinet
- Low ambient cooling operation controls
- HACR circuit breaker
- Condensate overflow switch



Date:

Weight: 53lbs (US) 24.04kg (Metric)

Part Number: OA2-SRT05SA-D00S

RTU:

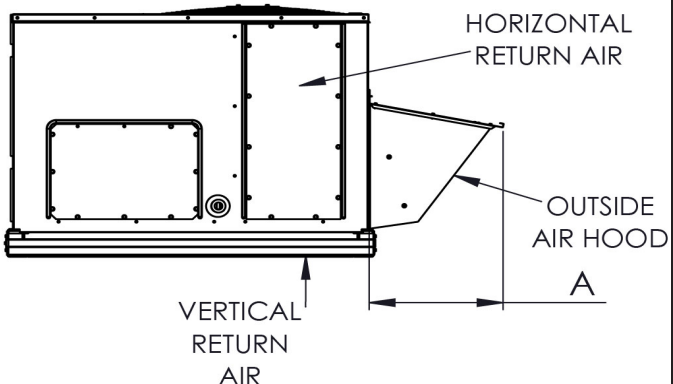
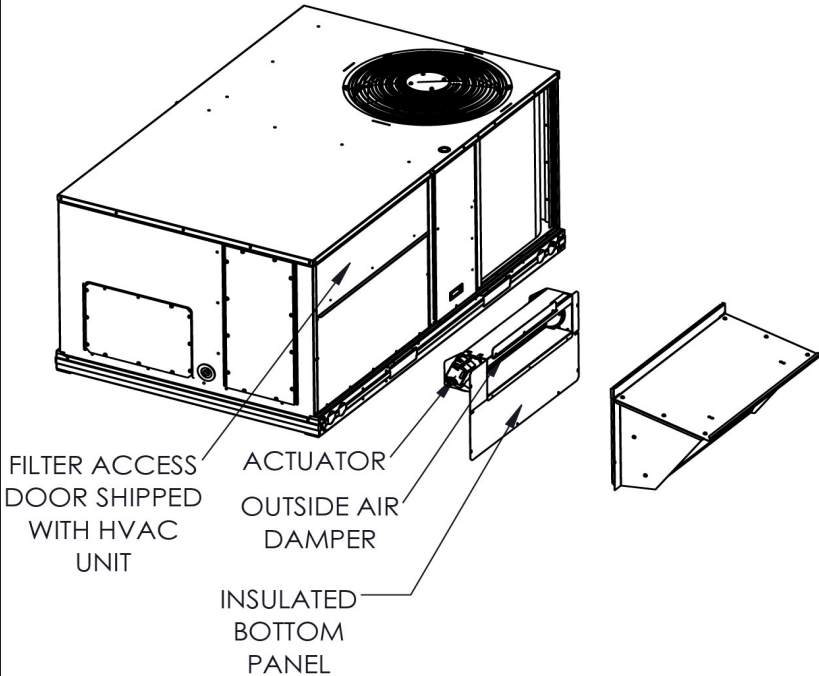
Submitted to:

Approved by:

Notes:

Hood - Unit Specific - Motorized Damper - 2-Position- 100% Outside Air , 100% Outside Air - 53 X 33.375 X 30.35 , Aluminium Air Filter , Painted Color Gray. Includes Outside Air Hood, 2 Position Actuator, May Be Used With A Vertical Or Horizontal Discharge Unit

CARRIER RTU MODELS	MICROMETL PART NUMBER	A	WEIGHT
48/50HC, LC 04-06 48/50TC 04-07 50TCQ 04-07 50HCQ 04-06 50KCQ 04-06 48/50KC 04-06	OA2-SRT12SA-D00S	17.43"	40 LBS
48/50HC 07-12 48/50TC 08-14 50TCQ 08-12 50HCQ 07-09	OA2-SRT34SA-D00S	22.28"	47 LBS
48/50HC 14 48/50TC 16 50TCQ 14 50HCQ 12	OA2-SRT05SA-D00S	30.35"	53 LBS



1. MAY BE USED IN A VERTICAL OR HORIZONTAL APPLICATION.
2. OUTSIDE AIR HOOD, DAMPER ACTUATOR ONLY
3. IF USING HINGED FILTER ACCESS DOOR, AN ADDITIONAL HOOD ANGLE PART MUST BE ORDERED SEPARATELY. FOR OA2-SRT12SA-D00S, ORDER 0640-0100-HDANGL OR CARRIER PART # CRPECONV003A00. FOR OA2-SRT34SA-D00S, ORDER 0640-0200-HDANGL OR CARRIER PART # CRPECONV004A00. FOR OA2-SRT05SA-D00S, ORDER 0640-0300-HDANGL OR CARRIER PART # CRPECONV007B00.

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