



SUBMITTAL

Project

Fairfield Commerce Park

Date

Tuesday, November 15, 2022

**RTU-6, RTU-7 (p13) and RTU-11 (p45) will not change prior to us going onsite.
Dave will send updated submittals as needed for future engagements.**

Jeff Gries
Habegger Corp,

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Project: Fairfield Commerce Park
Prepared By: Jeff Gries

11/15/2022
02:06PM

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RTU-4,5

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

Unit Report For RTU-4,5

Project: Fairfield Commerce Park
 Prepared By: Jeff Gries

11/15/2022
 02:06PM

Unit Parameters

Unit Model: 48FCDM12A3M6-6F0A0
 Unit Size: 12 (10.0 Tons)
 Volts-Phase-Hertz: 460-3-60
 Heating Type: Gas
 Heat Control: Low Heat
 Duct Cfg: Vertical Supply / Vertical Return
 DX Options: Single Circuit, Two Stage Cooling

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

Unit Length: 7' 4.125"
 Unit Width: 4' 11.5"
 Unit Height: 4' 1.375"
Total Operating Weight: 1062 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: 4
 Return Air Filter Size: 20 x 20 x 2

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

Unit Configuration

High Static (EcoBlue)
 Al/Cu - Al/Cu - Louvered Hail Guards
 Electromechanical Controls w/W7220 Econo Controller
 Enthalpy Economizer w/ Barometric Relief
 Standard Packaging

Warranty Information

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

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
48FCDM12A3M6-6F0A0	Rooftop Unit	2
	Base Unit	
	High Static (EcoBlue)	
	Al/Cu - Al/Cu - Louvered Hail Guards	
	Std leak Enty Econo X with baro relief, W7220 control. Meets Calif. Title 24 FDD	
Field Installed Accessories		
CRRFCURB003A01	14-inch Tall Roof Curb	2

Certified Drawing for RTU-4,5

Project: Fairfield Commerce Park
Prepared By: Jeff Gries

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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	OUTDOOR COIL TYPE	J	K	H
48FC-M08	RTPF	41 1/4 [1048]	33 3/4 [857]	15 7/8 [403]
48FC-M09	RTPF	49 3/8 [1253]	36 3/8 [925]	15 7/8 [403]
48FC-M12	RTPF	49 3/8 [1253]	36 3/8 [925]	15 7/8 [403]

RTPF - ROUND TUBE, PLATE FIN (COPPER/ALUM)



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CONNECTION SIZES	
A	1 3/8" [35] DIA FIELD POWER SUPPLY HOLE
B	2 1/2" [64] 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 3/4"-14 NPT GAS CONNECTION
G	2" [51] DIA POWER SUPPLY KNOCK-OUT

THRU-THE-BASE CHART (FIELD INST)

THESE HOLES REQUIRED FOR USE WITH ACCY KITS:
CRBTMPWRO02A01: GAS THRU CURB
CRBTMPWRO04A01: GAS THRU BASEPAN

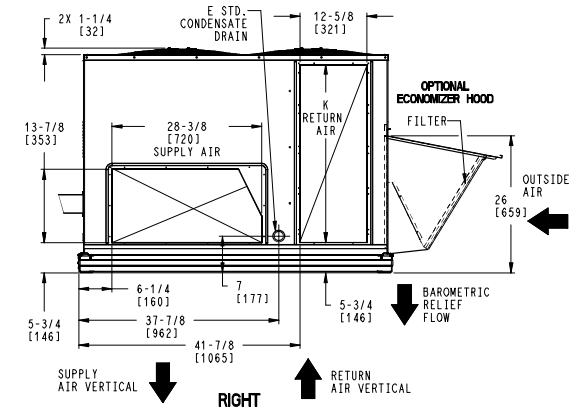
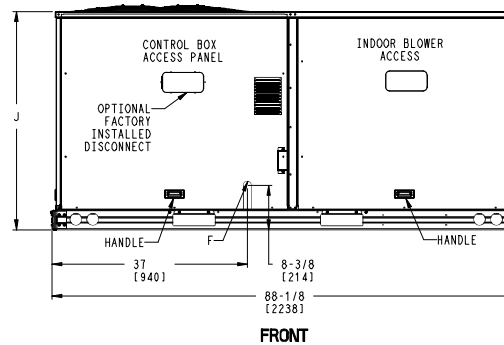
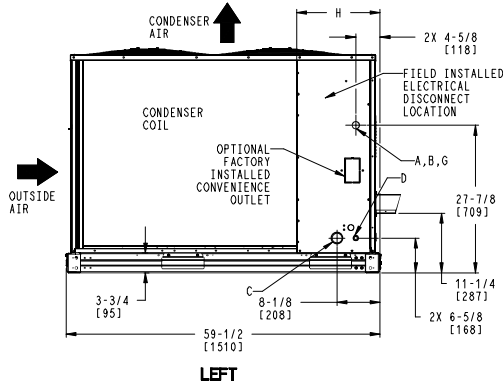
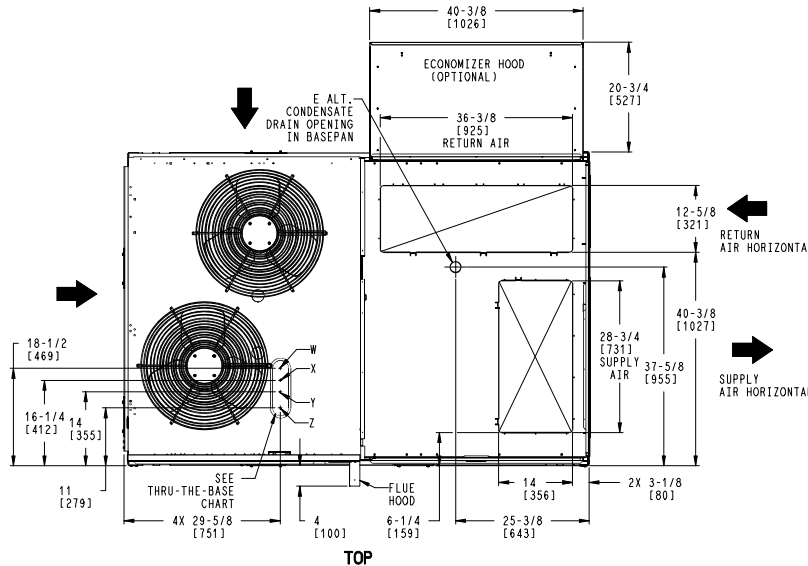
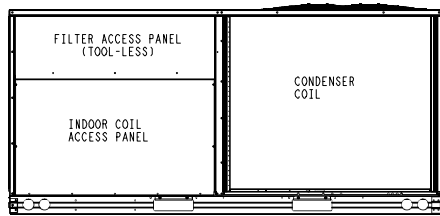
	THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
W	1/2"	ACC.	7/8" [22.2]
X	1/2"	24V	7/8" [22.2]
Y	1 1/4" (002,004)	POWER	1 3/4" [44.4]
Z *	(002) 3/4" FPT	GAS	1 3/4" [44.4]

* (002) PROVIDES 3/4" FPT THRU CURB FLANGE & FITTING. HOLE SIZE: 2" [50.8]

THRU-THE-BASE CHART (FIOP)

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

** FOR BELOW LISTED MODELS, A FIELD SUPPLIED 1/2" ADAPTER IS REQUIRED BETWEEN BASE PAN FITTING AND GAS VALVE: 48FCD, S*08, 09



ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	48FC 08-12 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM006295	REV
U.S. ECCN:NSR	1 OF 3	03/12/21	-			-

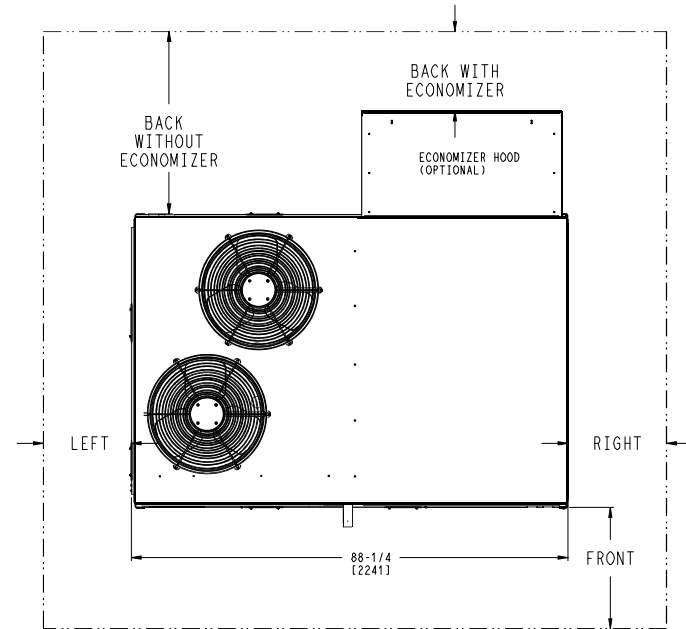
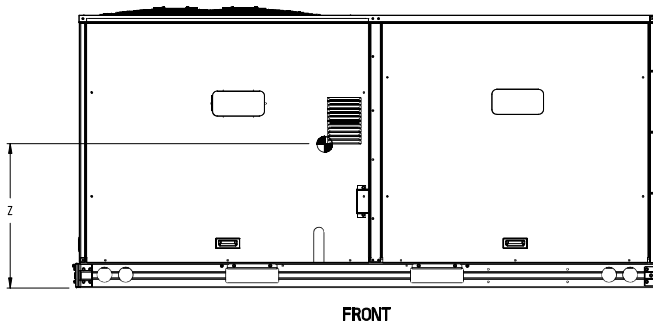
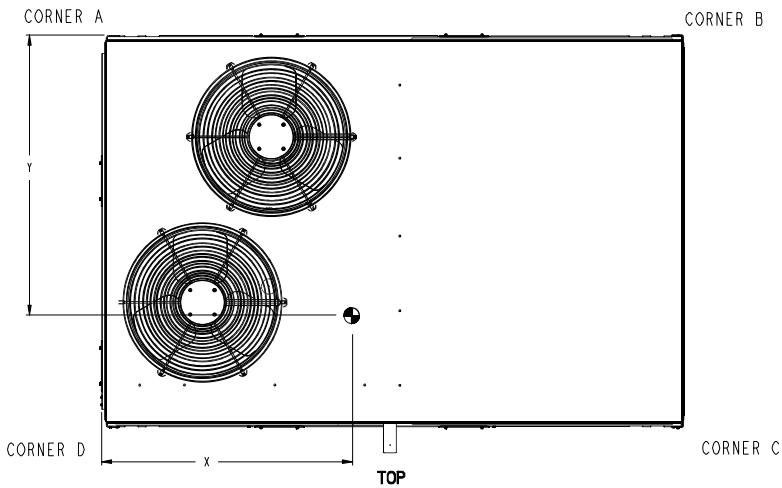
Certified Drawing for RTU-4,5

Project: Fairfield Commerce Park
Prepared By: Jeff Gries

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UNIT	OUTDOOR COIL TYPE	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	
48FC-M08	RTPF	787	357	181	82	150	68	207	94	249	113	40	1016	34 1/2 [876]	19 3/8 [492]
48FC-M09	RTPF	868	394	197	89	160	73	229	104	282	128	39 1/2 [1003]	35 [889]	18 5/8 [473]	
48FC-M12	RTPF	878	398	213	97	175	80	221	100	268	121	39 7/8 [1013]	33 1/4 [841]	18 1/2 [470]	

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



NOTE:

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

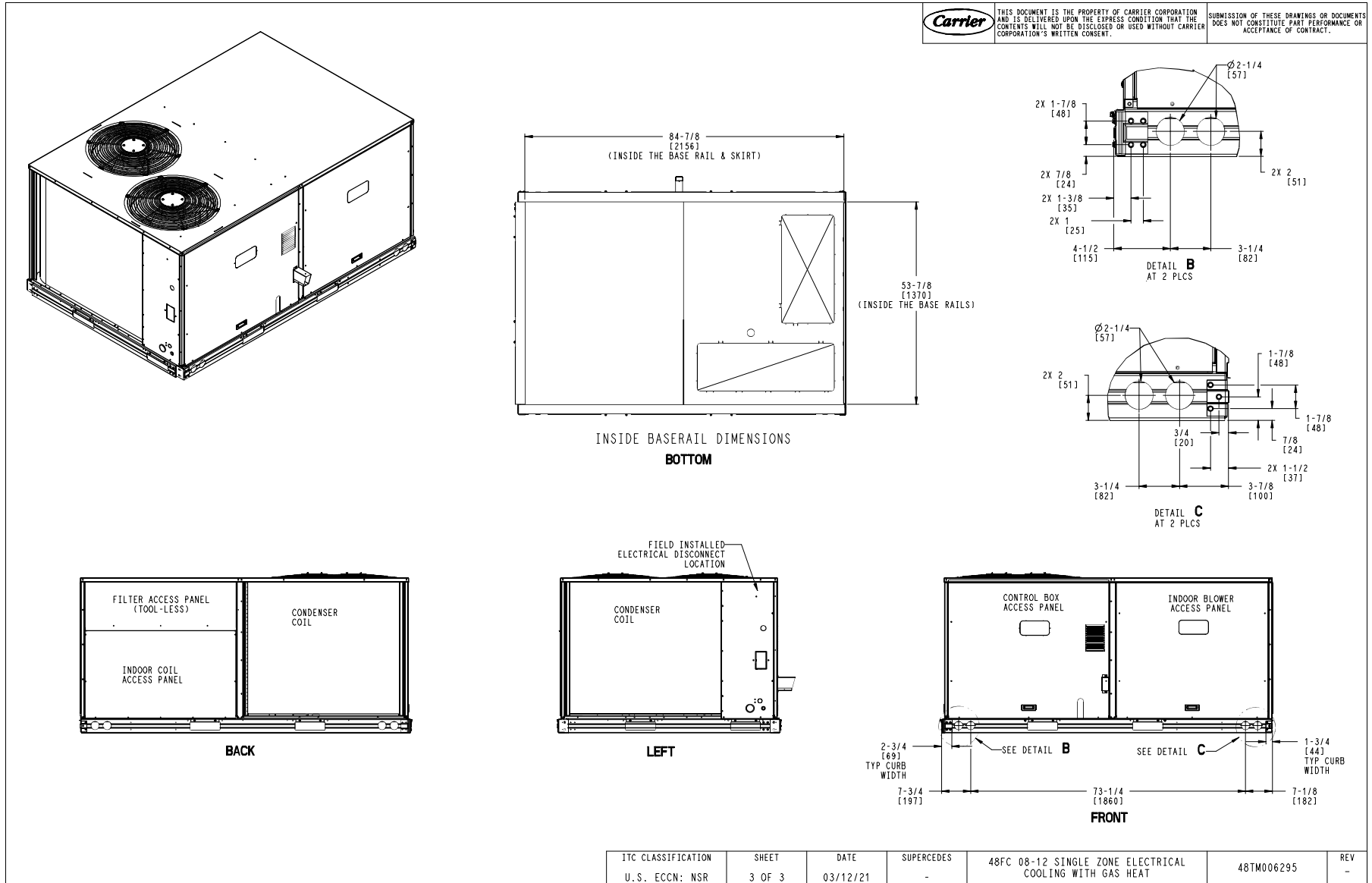
SURFACE	CLEARANCE		OPERATING CLEARANCE
	SERVICE WITH CONDUCTIVE BARRIER	SERVICE WITH NONCONDUCTIVE BARRIER	
FRONT	48 [1219mm]	36 [914mm]	18 [457mm]
LEFT	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/O ECON	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/ECON	36 [914mm]	36 [914mm]	18 [457mm]
RIGHT	36 [914mm]	36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

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	48FC 08-12 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	REV
U.S. ECCN:NSR	2 OF 3	03/12/21	-		-

Certified Drawing for RTU-4,5

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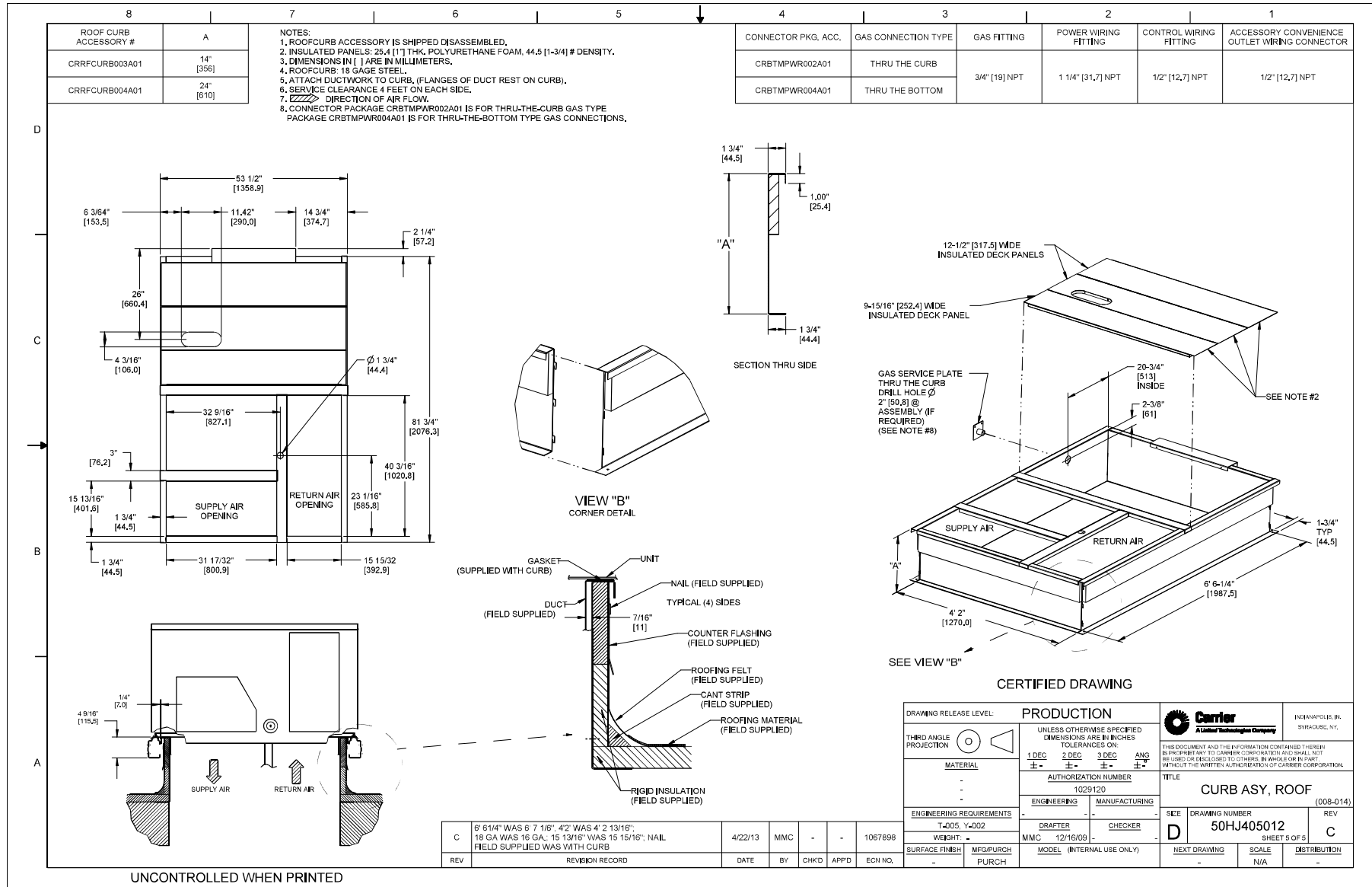


ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	48FC 08-12 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM006295	REV
U.S. ECCN: NSR	3 OF 3	03/12/21	-			-

Certified Drawing for RTU-4,5

Project: Fairfield Commerce Park
Prepared By: Jeff Gries

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Performance Summary For RTU-4,5

Project: Fairfield Commerce Park
 Prepared By: Jeff Gries

11/15/2022
 02:06PM

Part Number: 48FCDM12A3M6-6F0A0

ARI EER: 11.00
 IEER: 15.0

Base Unit Dimensions

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

Operating Weight

Base Unit Weight: 815 lb
 High Static (EcoBlue): 30 lb
 Al/Cu - Al/Cu - Louvered Hail Guards: 17 lb
 Enthalpy Economizer w/ Barometric Relief: 57 lb

Accessories

14-inch Tall Roof Curb: 143 lb
 Total Operating Weight: 1062 lb

Unit

Unit Voltage-Phase-Hertz: 460-3-60
 Air Discharge: Vertical
 Fan Drive Type: Vane Axial
 Actual Airflow: 4000 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: 57.7 F
 Evaporator Leaving Air WB: 57.1 F
 Evaporator Leaving Air Enthalpy: 24.45 BTU/lb
 Gross Cooling Capacity: 125.75 MBH
 Gross Sensible Capacity: 96.22 MBH
 Compressor Power Input: 9.17 kW
 Coil Bypass Factor: 0.052

Heating Performance

Heating Airflow: 4000 CFM
 Entering Air Temp: 70.0 F
 Leaving Air Temp: 104.3 F
 Gas Heating Input Capacity: 120.0 / 180.0 MBH
 Gas Heating Output Capacity: 98.0 / 148.0 MBH
 Temperature Rise: 34.3 F

Supply Fan

External Static Pressure: 1.20 in wg
 Options / Accessories Static Pressure
 Economizer: 0.20 in wg
 Application External Static (ESP + Unit Opts/Acc.): 1.40 in wg
 Fan RPM: 2038
 Fan Power: 3.03 BHP

NOTE: Selected IFM RPM Range: 1279 - 2200

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

Electrical Data

Voltage Range: 414 - 506

Performance Summary For RTU-4,5

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Compressor #1 RLA:	7.7
Compressor #1 LRA:	60
Compressor #2 RLA:	7.7
Compressor #2 LRA:	60
Indoor Fan Motor Type:	HIGH
Indoor Fan Motor FLA (Total):	5.6
Combustion Fan Motor FLA (ea):	0.25
Power Supply MCA:	25
Power Supply MOCP (Fuse or HACR):	30
Disconnect Size FLA:	26
Disconnect Size LRA:	132
Electrical Convenience Outlet:	None
Outdoor Fan [Qty / FLA (ea)]:	2 / 0.8

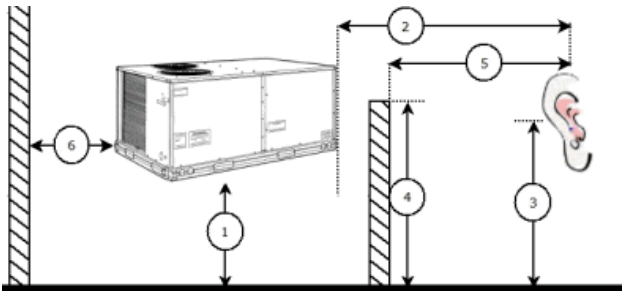
Control Panel SCCR: 5kA RMS at Rated Symmetrical Voltage

Acoustics

Sound Power Levels, db re 10E-12 Watts

	Discharge	Inlet	Outdoor
63 Hz	98.2	95.0	85.6
125 Hz	94.6	88.2	84.7
250 Hz	81.4	73.4	80.5
500 Hz	75.2	68.4	76.0
1000 Hz	71.8	66.4	72.4
2000 Hz	69.3	62.2	68.0
4000 Hz	72.7	62.7	62.8
8000 Hz	74.7	60.6	59.3
A-Weighted	82.9	76.0	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

Performance Summary For RTU-4,5

Project: Fairfield Commerce Park
 Prepared By: Jeff Gries

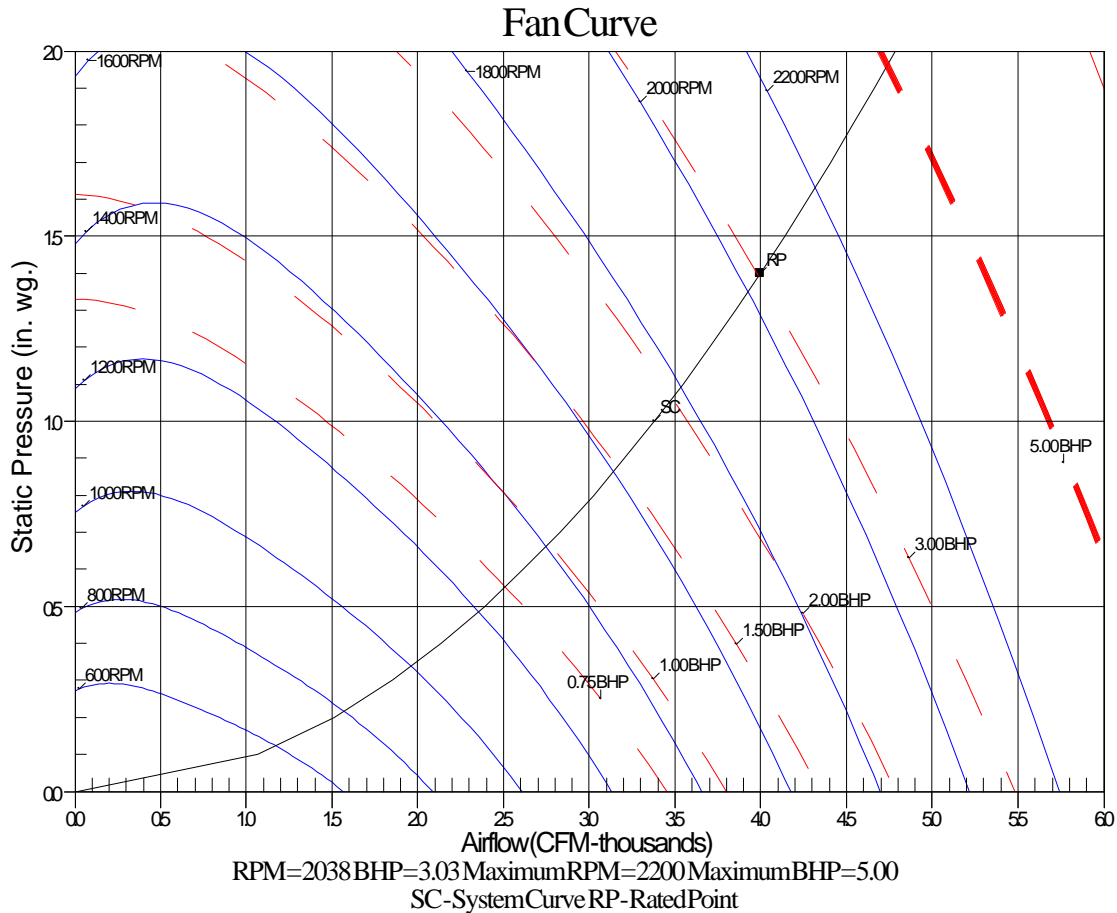
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B	59.4	68.6	71.9	72.8	72.4	69.2	63.8	58.2	78.5 LwA
C	53.2	52.3	48.1	43.6	40.0	35.6	30.4	26.9	56.8 Lp
D	27.0	36.2	39.5	40.4	40.0	36.8	31.4	25.8	46.1 LpA

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-4,5

Project: Fairfield Commerce Park
Prepared By: Jeff Gries

11/15/2022
02:06PM



- 48FC

PACKAGED ROOFTOP GAS HEATING/ELECTRIC COOLING UNITS –
15.0 IEER 7.5, 8.5, 10, 12.5, 15 TONS



ecoblue technology



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. All models use two stage cooling capacity control with a full active evaporator coil and new Ecoblue™ direct drive ECM indoor fan system

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.

For a complete list of options and accessories refer to Product Data

STANDARD FEATURES INCLUDE:

- Rated in accordance with AHRI Standards 340/360
- Puron (R-410A) HFC refrigerant
- Two-stage cooling capacity control on all models
- IEER's of 15.0, EER's up to 11.2
- Exceeds current DOE IEER efficiencies while meeting DOE's new stringent 2023 IEER efficiency requirements
- 2023 DOE, ASHRAE 90.1, and IECC - IEER energy compliant
- **New Direct Drive** - EcoBlue™ Technology Indoor fan system uses Vane Axial fan design and electronically commutated motor. Indoor fan motor also delivers Staged Air Volume (SAV) fan speed control.
- Non-corrosive composite condensate pan in accordance with ASHRAE 62 Standard, sloping design; side or center drain
- TXV refrigerant metering system on all models
- Standard cooling operating range up to 125°F (52°C), except 14 size models with 115°F (46°C) and down to 40°F (-4°C), except 14 size models with 0°F (-18°C) Low Ambient controls allows cooling operation down to 0°F (-18°C).
- Pre-painted exterior panels and primer-coated interior panels tested to 500 hours salt spray protection
- New Unit Control Board with intuitive quick fan speed adjustment
- Exclusive IGC solid-state control for on-board diagnostics with LED
- Induced draft gas heat combustion design
- Redundant gas valves with up to two stages of heating
- Low pressure, high pressure, mixed air temperature switch protection

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 slide out - Vane Axial evaporator-fan system has no fan belts, pulleys, blower shaft and blower bearings

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, 16 size requires a special supply duct cover kit.

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
- 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-13, 4" Return Air Filters
- Patented Humidi-MiZer® adaptive dehumidification system.
- Hinged access panels
- Integrated economizer system. Low and Ultra Low Leak versions
- Phase monitor and condensate overflow protection

RTU-6,7

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

Unit Report For RTU-6,7

Project: Fairfield Commerce Park
 Prepared By: Jeff Gries

11/15/2022
 02:06PM

Unit Parameters

Unit Model: **48FCEM24A3M6-6F0A0**
 Unit Size: **24 (20 Tons)**
 Volts-Phase-Hertz: **460-3-60**
 Heating Type: **Gas**
 Heat Control: **Medium Heat**
 Duct Cfg: **Vertical Supply / Vertical Return**
 DX Options: **Two Stage Cooling/Single Circuit**

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

Unit Length: **11' 9.5"**
 Unit Width: **7' 2.375"**
 Unit Height: **3' 11.75"**
Total Operating Weight: 2514 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: **20 x 25 x 2**

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

Unit Configuration

High Static Option - Vertical Models
 Al/Cu - Al/Cu - Louvered Hail Guard
 Electromechanical Controls w/W7220 Econo Controller
 Enthalpy Economizer w/ Barometric Relief. Vertical and Horizontal Air Flow.
 Standard Packaging

Warranty Information

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

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
48FCEM24A3M6-6F0A0	Rooftop Unit	2
	Base Unit	
	High Static Option - Vertical Models	
	Al/Cu - Al/Cu - Louvered Hail Guard	
	Low leak Enty Econo X with baro relief, W7220 control. Meets Calif. Title 24 FDD	
Field Installed Accessories		
CRRFCURB047A00	14-inch Tall Roof Curb	2

Certified Drawing for RTU-6,7

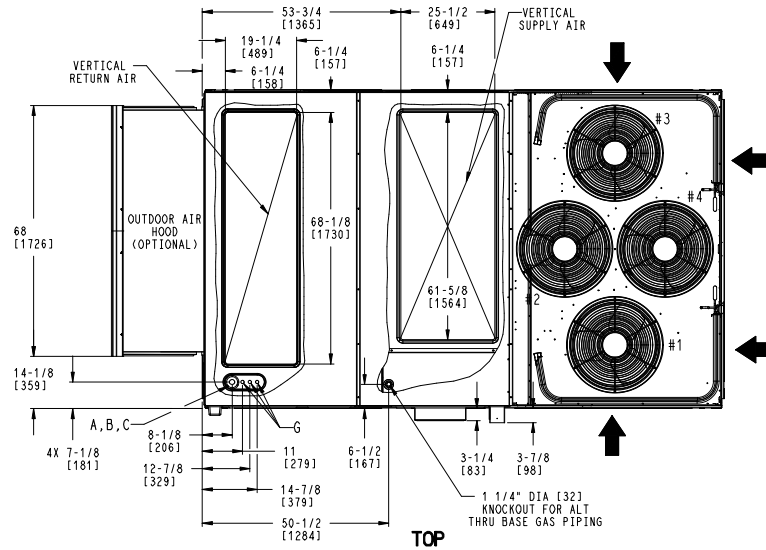
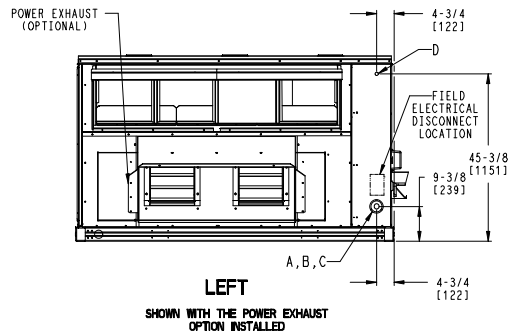
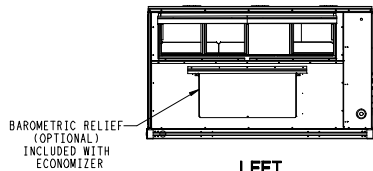
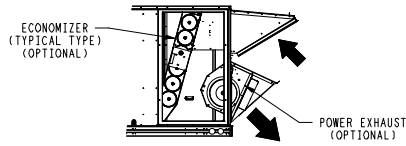
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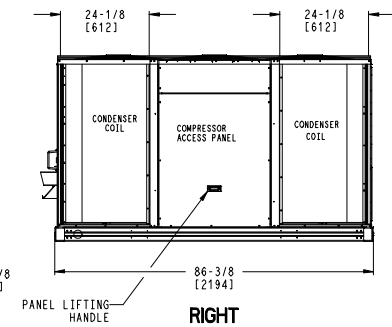
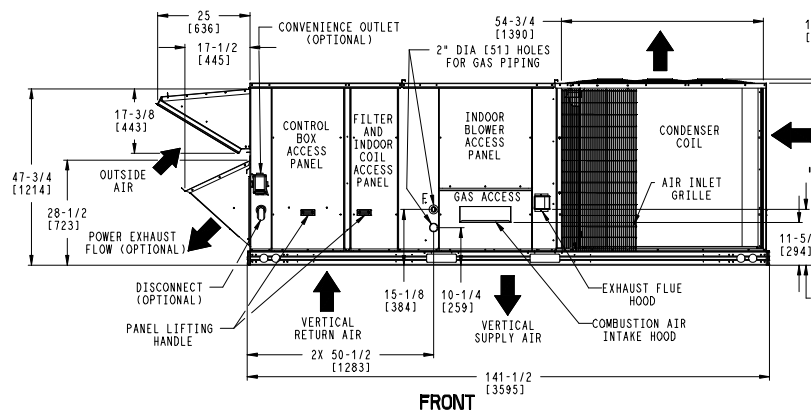
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CONNECTION SIZES	
A	1 3/8" DIA [35] FIELD POWER SUPPLY KNOCKOUT
B	3" DIA [76] FIELD POWER SUPPLY KNOCKOUT
C	3 5/8" DIA [92] FIELD POWER SUPPLY KNOCKOUT
D	7/8" DIA [22] FIELD CONTROL WIRING HOLE
F	3/4"-14 NPT GAS CONNECTION (NOT SHOWN)
G	7/8" DIA [22] FIELD CONTROL WIRING KNOCKOUT

UNIT	H
24 SIZE	49-3/8 [1253]
28 SIZE	57-3/8 [1456]

- 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



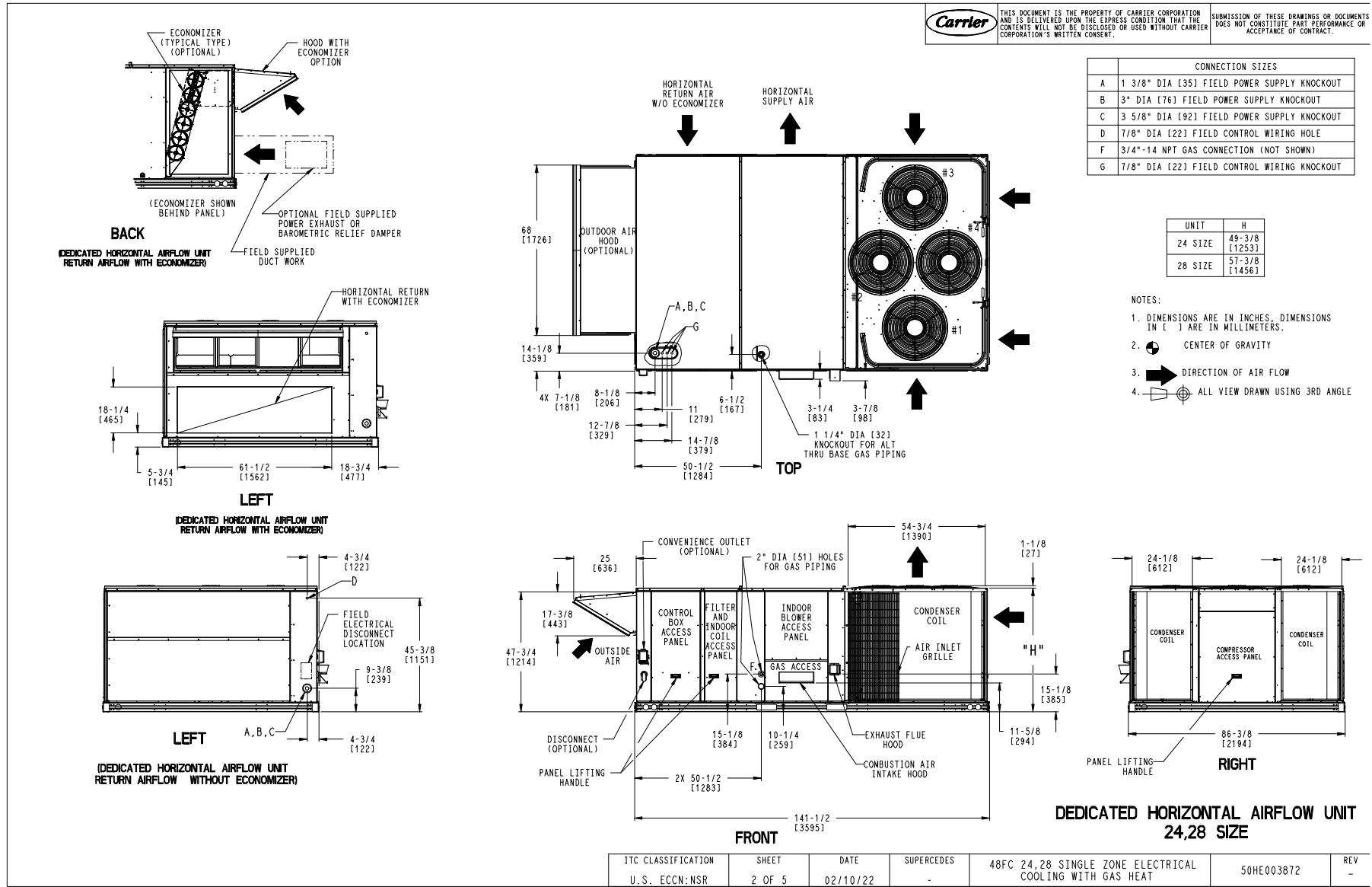
**DEDICATED VERTICAL AIRFLOW UNIT
24,28 SIZE**

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	48FC 24,28 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	50HE003872	REV
U.S. ECCN:NSR	1 OF 5	02/10/22	-			-

Certified Drawing for RTU-6,7

Project: Fairfield Commerce Park
Prepared By: Jeff Gries

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ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	48FC 24,28 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	50HE003872	REV
U. S. ECCN: NSR	2 OF 5	02/10/22	-			-

Certified Drawing for RTU-6,7

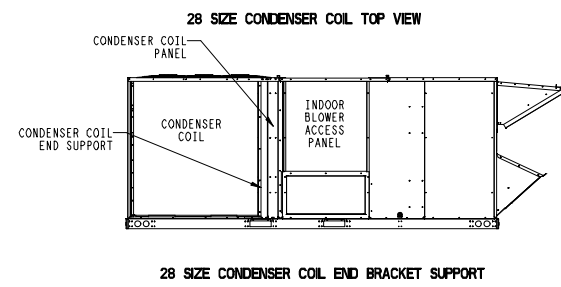
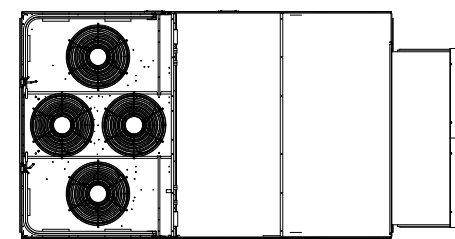
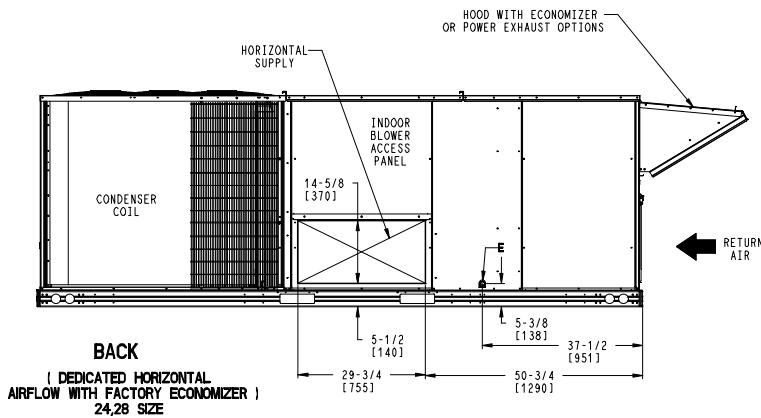
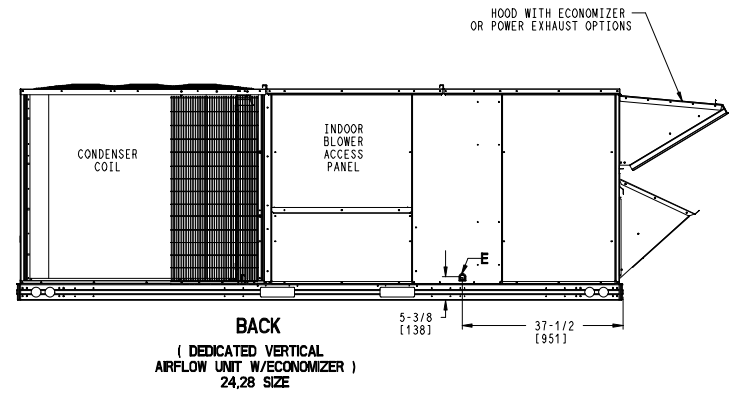
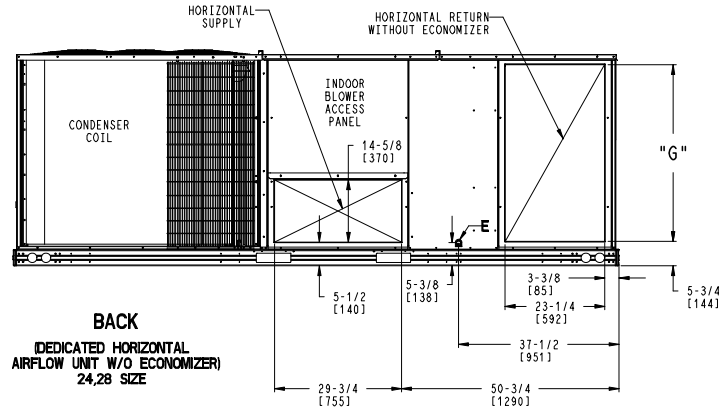
Project: Fairfield Commerce Park
Prepared By: Jeff Gries

11/15/2022
02:06PM

CONNECTION SIZES	
E	3/4"-14 NPT CONDENSATE DRAIN

UNIT	G
24 SIZE	41-3/8 [1049]
28 SIZE	49-1/4 [1251]


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ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	48FC 24,28 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	50HE003872	REV
U. S. ECCN: NSR	3 OF 5	02/10/22	-			-

Certified Drawing for RTU-6,7

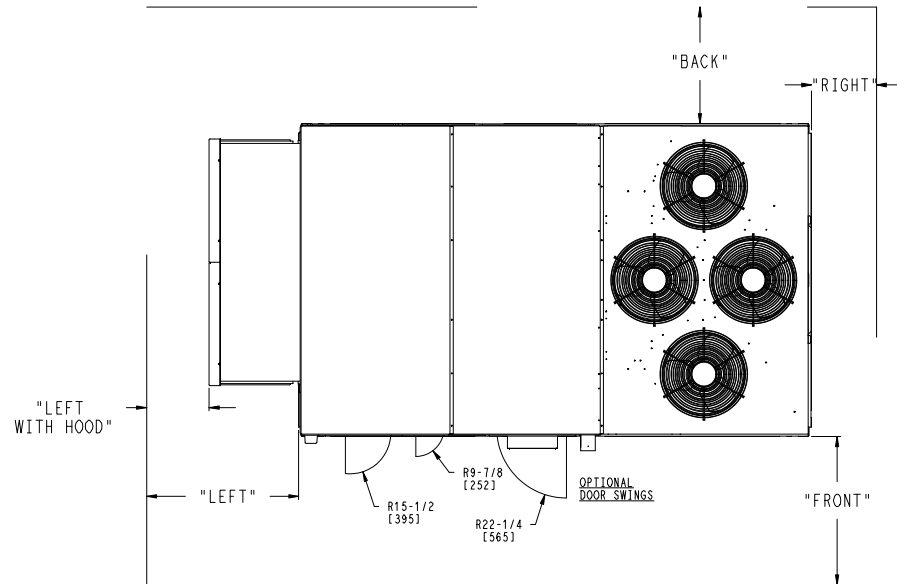
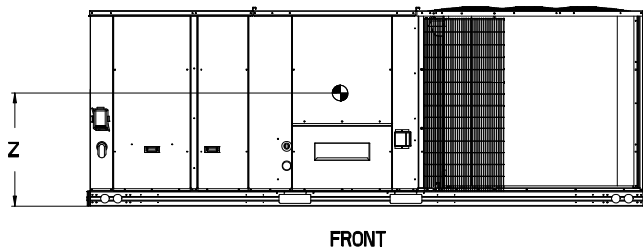
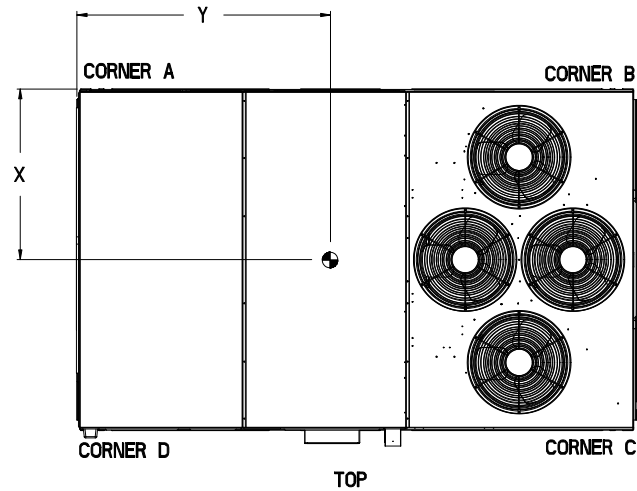
Project: Fairfield Commerce Park
Prepared By: Jeff Gries

11/15/2022
02:06PM

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			
48FC24	2000	907	429	195	505	229	576	261	489	222	76 1/2	[1943]	46	[1168]	16 1/2	[419]
48FC28	2174	986	458	208	583	264	634	288	498	226	79 1/4	[2013]	45	[1143]	19	[483]

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



NOTES:

- CLEARANCE ABOVE THE UNIT TO BE 72"
- FOR ALL MINIMUM CLEARANCES LOCAL CODES OR JURISDICTIONS MAY PREVAIL.

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

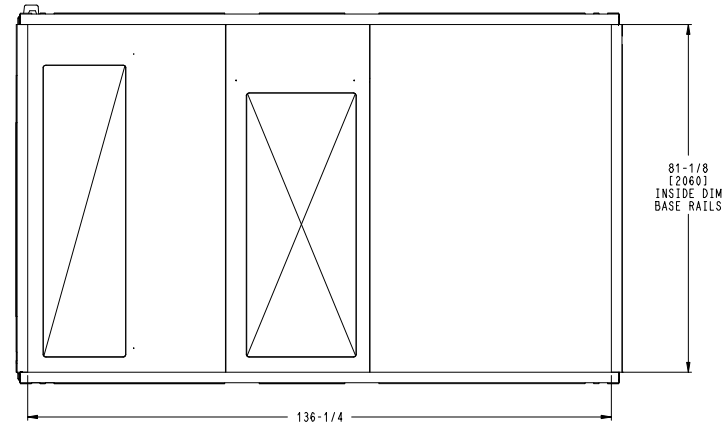
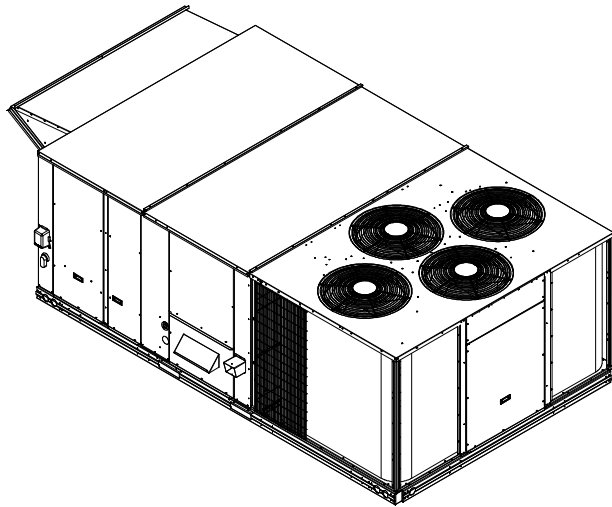
ITC CLASSIFICATION U.S. ECCN: NSR	SHEET 4 OF 5	DATE 02/10/22	SUPERCEDES -	48FC 24, 28 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	50HE003872	REV -
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Certified Drawing for RTU-6,7

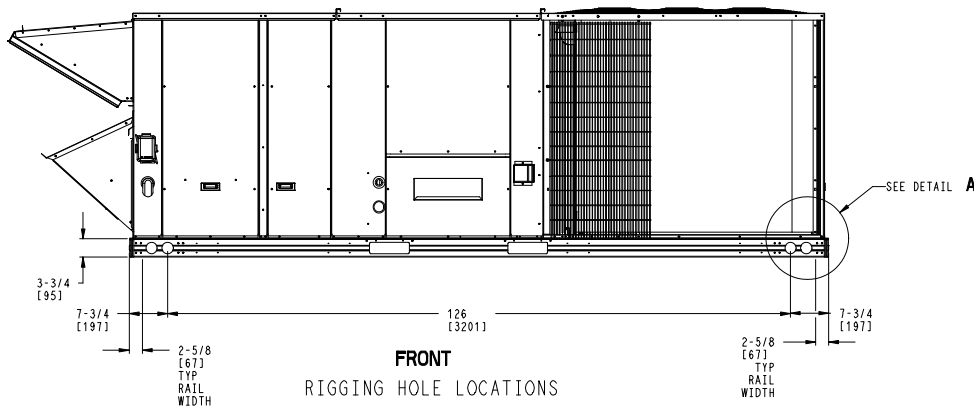
Project: Fairfield Commerce Park
Prepared By: Jeff Gries

11/15/2022
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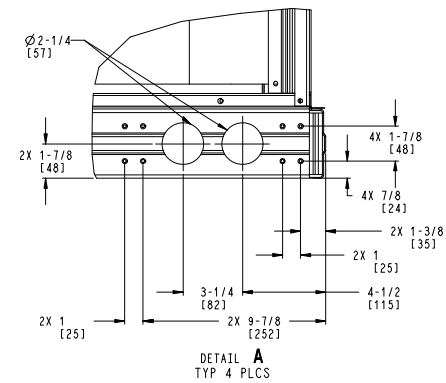
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BOTTOM
INSIDE BASERAIL DIMENSIONS



FRONT
RIGGING HOLE LOCATIONS



DETAIL A
TYP 4 PLCS

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	48FC 24,28 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	50HE003872	REV
U. S. ECCN: NSR	5 OF 5	02/10/22	-			-

Performance Summary For RTU-6,7

Project: Fairfield Commerce Park
 Prepared By: Jeff Gries

11/15/2022
 02:06PM

Part Number: 48FCEM24A3M6-6F0A0

ARI EER: **10.00**
 IEER: **14.5**

Base Unit Dimensions

Unit Length: **141.5** in
 Unit Width: **86.4** in
 Unit Height: **47.8** in

Operating Weight

Base Unit Weight: **1873** lb
 Medium Heat: **21** lb
 High Static Option - Vertical Models: **30** lb
 Al/Cu - Al/Cu - Louvered Hail Guard: **90** lb
 Enthalpy Economizer w/ Barometric Relief, Vertical and Horizontal Air Flow.: **245** lb

Accessories

14-inch Tall Roof Curb: **255** lb

Total Operating Weight: **2514** lb

Unit

Unit Voltage-Phase-Hertz: **460-3-60**
 Air Discharge: **Vertical**
 Fan Drive Type: **Vane Axial**
 Actual Airflow: **8000** 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: **58.6** F
 Evaporator Leaving Air WB: **56.9** F
 Evaporator Leaving Air Enthalpy: **24.32** BTU/lb
 Gross Cooling Capacity: **256.07** MBH
 Gross Sensible Capacity: **184.89** MBH
 Compressor Power Input: **20.65** kW
 Coil Bypass Factor: **0.113**

Heating Performance

Heating Airflow: **8000** CFM
 Entering Air Temp: **70.0** F
 Leaving Air Temp: **99.1** F
 Gas Heating Input Capacity: **248.0 / 310.0** MBH
 Gas Heating Output Capacity: **200.0 / 251.0** MBH
 Temperature Rise: **29.1** F
 Thermal Efficiency (%): **81.0**

Supply Fan

External Static Pressure: **1.30** in wg
 Options / Accessories Static Pressure
 Economizer: **0.08** in wg
 Application External Static (ESP + Unit Opts/Acc.): **1.38** in wg
 Fan RPM: **1998**
 Fan Power: **5.90** BHP

NOTE: **Selected IFM RPM Range: 250 - 2200**

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

Electrical Data

Performance Summary For RTU-6,7

Project: Fairfield Commerce Park
 Prepared By: Jeff Gries

11/15/2022
 02:06PM

Voltage Range:.....	414 - 506
Compressor #1 RLA:.....	.16
Compressor #1 LRA:.....	140
Compressor #2 RLA:.....	.16
Compressor #2 LRA:.....	140
Indoor Fan Motor Type:.....	HIGH
Indoor Fan Motor FLA (Total):.....	5.6
Combustion Fan Motor FLA (ea):.....	0.3
Power Supply MCA:.....	50.8
Power Supply MOCP (Fuse or HACR):.....	60
Disconnect Size FLA:.....	54
Disconnect Size LRA:.....	304
Electrical Convenience Outlet:.....	None
Outdoor Fan [Qty / FLA (ea)]:.....	4 / 0.9

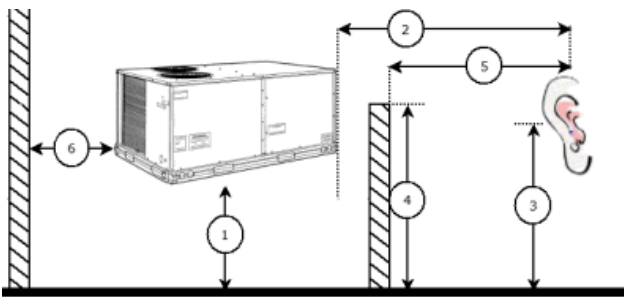
Control Panel SCCR: 5kA RMS at Rated Symmetrical Voltage

Acoustics

Sound Power Levels, db re 10E-12 Watts

	Discharge	Inlet	Outdoor
63 Hz	95.2	95.4	95.6
125 Hz	90.4	79.5	87.5
250 Hz	82.8	73.0	84.2
500 Hz	81.8	64.9	84.2
1000 Hz	76.8	59.9	81.7
2000 Hz	74.9	55.8	77.9
4000 Hz	74.4	49.0	73.2
8000 Hz	66.7	38.0	66.3
A-Weighted	84.1	72.1	87.0

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
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Performance Summary For RTU-6,7

Project: Fairfield Commerce Park
 Prepared By: Jeff Gries

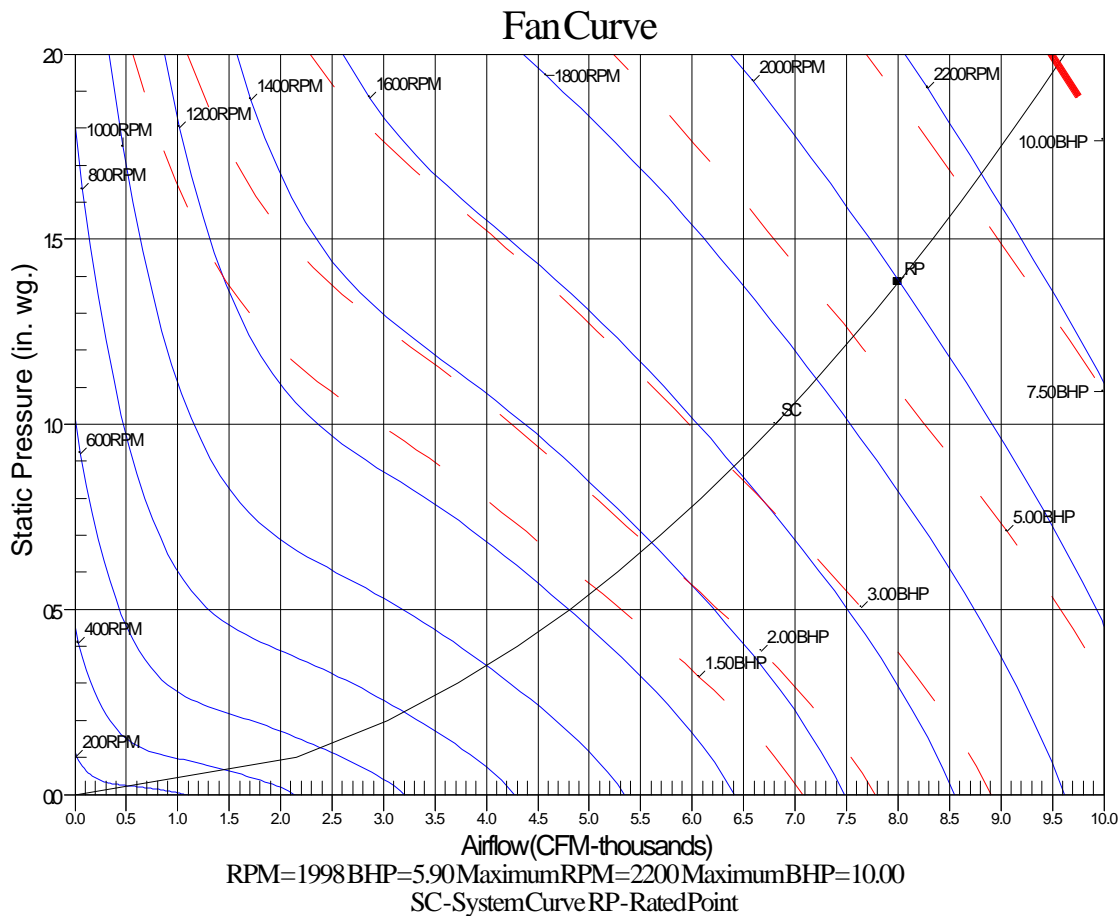
11/15/2022
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A	95.6	87.5	84.2	84.2	81.7	77.9	73.2	66.3	96.9 Lw
B	69.4	71.4	75.6	81.0	81.7	79.1	74.2	65.2	86.5 LwA
C	63.2	55.1	51.8	51.8	49.3	45.5	40.8	33.9	64.5 Lp
D	37.0	39.0	43.2	48.6	49.3	46.7	41.8	32.8	54.1 LpA

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-6,7

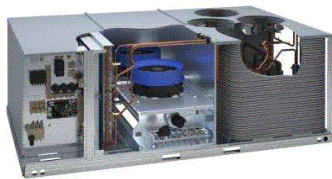
Project: Fairfield Commerce Park
Prepared By: Jeff Gries

11/15/2022
02:06PM



– 48FC

PACKAGED ROOFTOP GAS HEATING/ELECTRIC COOLING UNITS – WITH ECOBLUE TECHNOLOGY 17.5, 20, 25, 27.5 TONS



ecoblue™ technology



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. All models use two stage cooling capacity control with a full active evaporator coil and new Ecoblue™ direct drive ECM indoor fan system

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.

For a complete list of options and accessories refer to Product Data

STANDARD FEATURES INCLUDE:

- Puron (R-410A) HFC refrigerant
- Two-stage/single-circuit cooling capacity control on all models
- IEER's up to 14.5
- Exceeds current DOE IEER efficiencies while meeting DOE's new stringent 2023 IEER efficiency requirements
- 2023 ASHRAE 90.1, and IECC – IEER energy compliant
- **NEW Direct Drive** – EcoBlue™ Technology Indoor fan system uses Vane Axial fan design and electronically commutated motor. Indoor fan motor also delivers Staged Air Volume (SAV) fan speed control.
- Non-corrosive composite condensate pan in accordance with ASHRAE 62 Standard, sloping design; side or center drain
- Gas efficiencies up to 81%
- Induced draft combustion design
- Redundant gas valve, with up to 2 stages of heating
- Pre-painted exterior panels and primer-coated interior panels tested to 500 hours salt spray protection
- TXV refrigerant metering device on all models
- Insulated cabinet
- Exclusive IGC solid-state control for on-board diagnostics with LED error code designation, burner control logic and energy saving indoor fan motor delay
- Cooling operating range up to 125°F (52°C), and down to 40°F (4°C)
- Rated in accordance with AHRI Standard 340/360
- Low pressure, high pressure, mixed air temperature switch protection

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 slide out - Vane Axial evaporator-fan system has no fan belts, pulleys, blower shaft and blower bearings

INSTALLATION FEATURES:

- Standard thru-the-bottom power entry capability
- Single point gas and electric connections
- Full perimeter base rail with built-in rigging adapters and fork slots
- Dedicated Vertical and Horizontal air flow models. No field kits required

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
- 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-13, 4" Return Air Filters
- Patented Humidi-MiZe® adaptive dehumidification system.
- Hinged access panels
- Integrated economizer system. Low and Ultra Low Leak versions
- Phase monitor and condensate overflow protection

RTU-8,9,12

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

Unit Report For RTU-8,9,12

Project: Fairfield Commerce Park
 Prepared By: Jeff Gries

11/15/2022
 02:06PM

Unit Parameters

Unit Model: **48FCEA06A3M6-6F0A0**
 Unit Size: **06 (5 Tons)**
 Volts-Phase-Hertz: **460-3-60**
 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: 744 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 - High Static
 Al/Cu - Al/Cu - Louvered Hail Guards
 Electromechanical Controls w/W7220 Econo Controller
 Enthalpy Economizer w/ Barometric Relief
 Standard Packaging

Warranty Information

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

No optional warranties were selected.

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

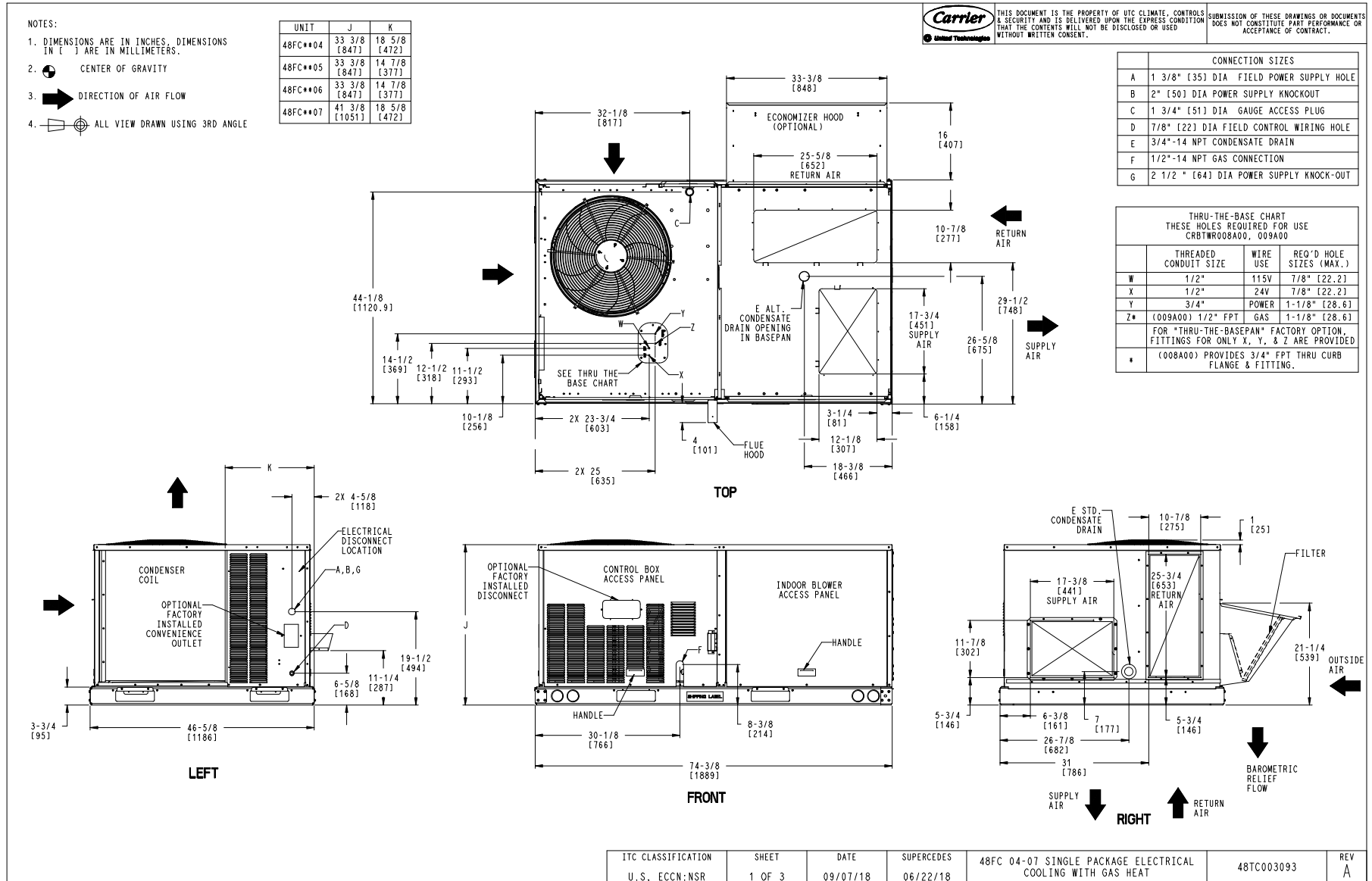
Ordering Information

Part Number	Description	Quantity
48FCEA06A3M6-6F0A0	Rooftop Unit	3
	Base Unit	
	Direct Drive - EcoBlue - High Static	
	Al/Cu - Al/Cu - Louvered Hail Guards	
	Std leak Enty Econo X with baro relief, W7220 control. Meets Calif. Title 24 FDD	
Field Installed Accessories		
CRRFCURB001A01	14-inch Tall Roof Curb	3

Certified Drawing for RTU-8,9,12

Project: Fairfield Commerce Park
Prepared By: Jeff Gries

11/15/2022
02:06PM



Certified Drawing for RTU-8,9,12

Project: Fairfield Commerce Park
Prepared By: Jeff Gries

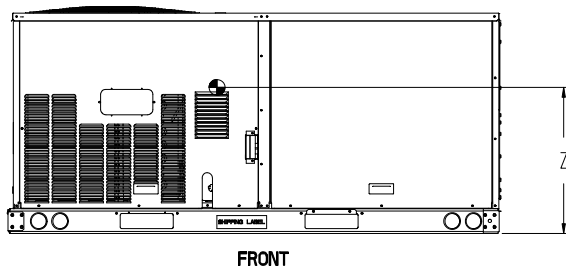
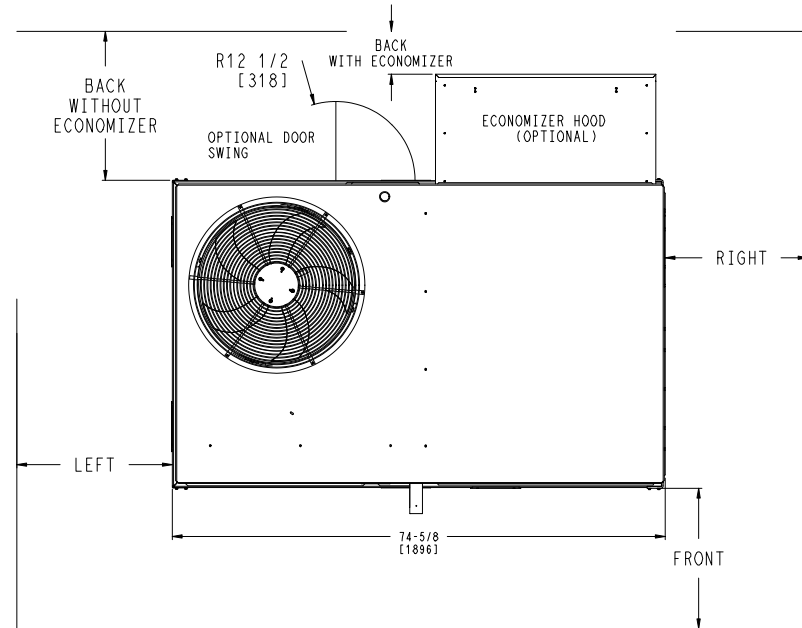
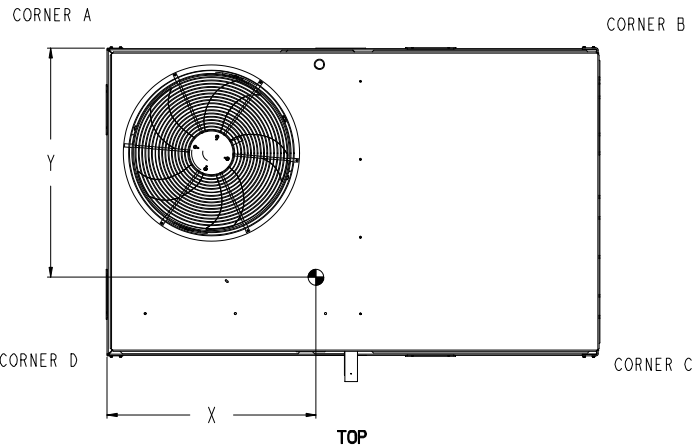
11/15/2022
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UNIT	STD. UNIT WEIGHT #		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.			HEIGHT
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z	
48FC**04	482	219	113	51	116	53	128	58	125	57	37 5/8 [956]	24 9/16 [624]	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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NOTES:

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

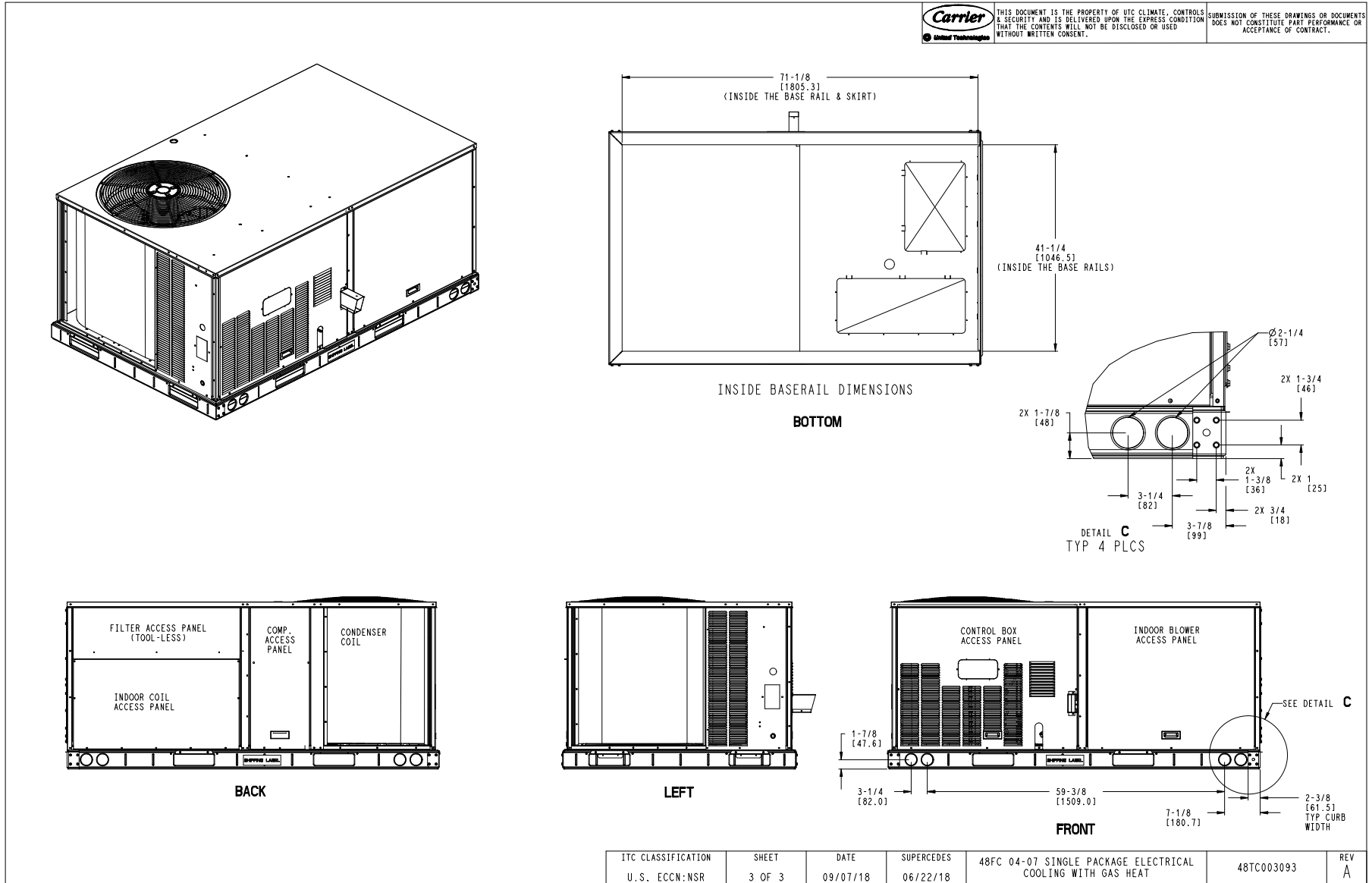
SURFACE	CLEARANCE		OPERATING CLEARANCE
	SERVICE WITH: CONDUCTIVE BARRIER	SERVICE WITH: NONCONDUCTIVE BARRIER	
FRONT	48 [1219mm]	36 [914mm]	18 [457mm]
LEFT	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/HOOD	36 [914mm]	36 [914mm]	18 [457mm]
RIGHT	36 [914mm]	36 [914mm]	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-8,9,12

Project: Fairfield Commerce Park
Prepared By: Jeff Gries

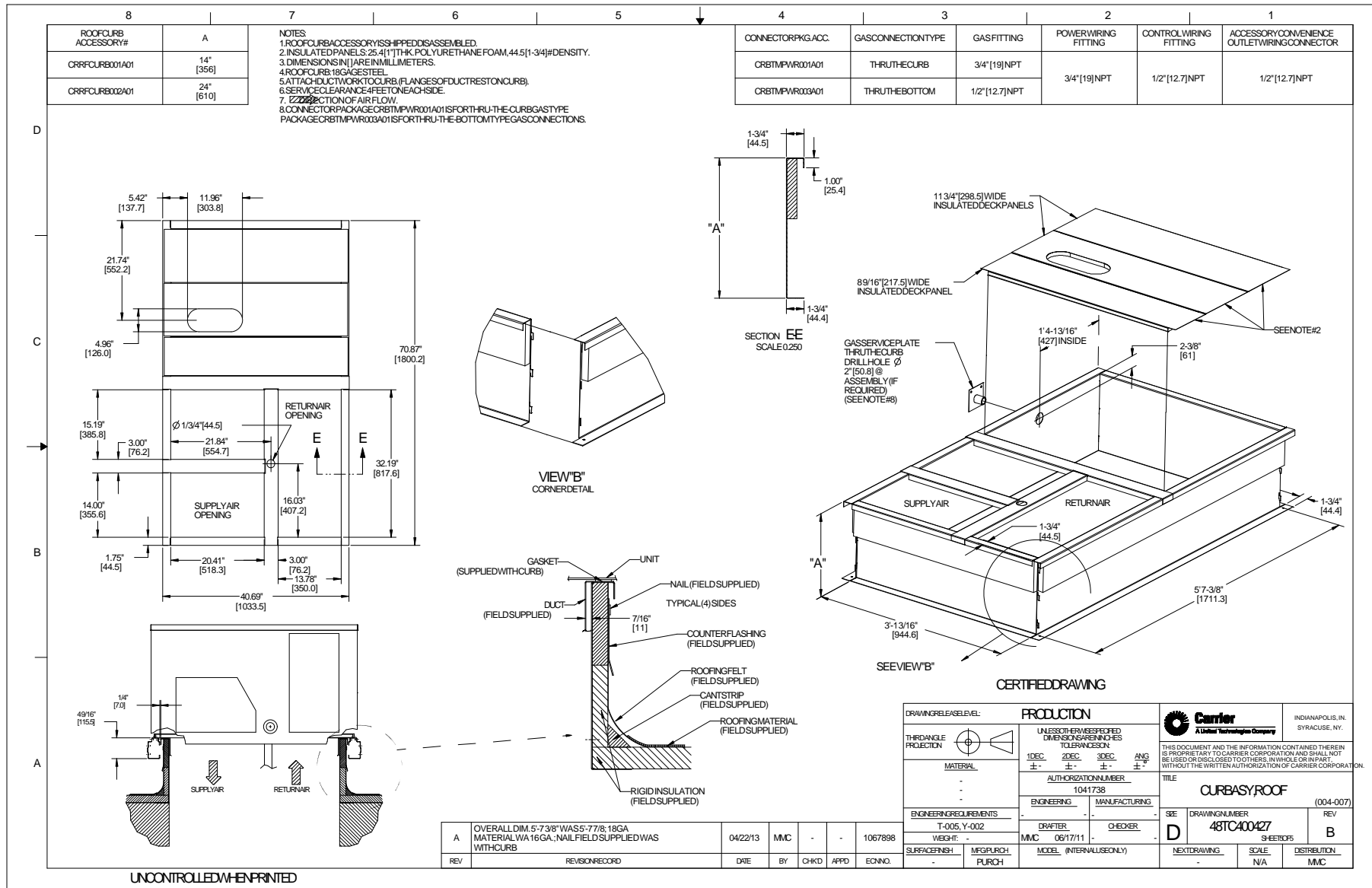
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Certified Drawing for RTU-8,9,12

Project: Fairfield Commerce Park
Prepared By: Jeff Gries

11/15/2022
02:06PM



Performance Summary For RTU-8,9,12

Project: Fairfield Commerce Park
Prepared By: Jeff Gries

11/15/2022
02:06PM

Part Number:48FCEA06A3M6-6F0A0

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:.....511 lb
Medium Heat:.....63 lb
Direct Drive - EcoBlue - High Static:.....5 lb
Al/Cu - Al/Cu - Louvered Hail Guards:.....13 lb
Enthalpy Economizer w/ Barometric Relief:.....37 lb

Accessories

14-inch Tall Roof Curb:.....115 lb
Total Operating Weight:.....744 lb

Unit

Unit Voltage-Phase-Hertz:.....460-3-60
Air Discharge:.....Vertical
Fan Drive Type:.....Vane Axial
Actual Airflow:.....2000 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:.....59.3 F
Evaporator Leaving Air WB:.....57.7 F
Evaporator Leaving Air Enthalpy:.....24.85 BTU/lb
Gross Cooling Capacity:.....59.31 MBH
Gross Sensible Capacity:.....44.73 MBH
Compressor Power Input:.....4.14 kW
Coil Bypass Factor:.....0.163

Mixed Air

Outdoor Air Airflow:.....420 CFM
Outdoor Air DB:.....95.0 F
Outdoor Air WB:.....77.0 F
Outdoor Air Htg. Temp.:.....35.0 F
Return Air DB:.....76.0 F
Return Air WB:.....64.0 F
Return Air Htg. Temp.:.....70.0 F

Heating Performance

Heating Airflow:.....2000 CFM
Entering Air Temp:.....70.0 F
Leaving Air Temp:.....110.7 F
Gas Heating Input Capacity:.....110.0 MBH
Gas Heating Output Capacity:.....88.0 MBH
Temperature Rise:.....40.7 F
Thermal Efficiency (%):.....80.0

Supply Fan

External Static Pressure:.....1.10 in wg
Options / Accessories Static Pressure

Performance Summary For RTU-8,9,12

Project: Fairfield Commerce Park
Prepared By: Jeff Gries

11/15/2022
02:06PM

Economizer:.....	0.12	in wg
Application External Static (ESP + Unit Opts/Acc.):.....	1.22	in wg
Fan RPM:.....	2475	
Fan Power:.....	1.63	BHP
NOTE:.....	Selected IFM RPM Range: 1478 - 2831	

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

Electrical Data

Voltage Range:.....	414 - 506
Compressor #1 RLA:.....	7.8
Compressor #1 LRA:.....	52
Indoor Fan Motor Type:.....	HIGH
Indoor Fan Motor FLA (Total):.....	3.1
Combustion Fan Motor FLA (ea):.....	0.25
Power Supply MCA:.....	14
Power Supply MOCP (Fuse or HACR):.....	20
Disconnect Size FLA:.....	13
Disconnect Size LRA:.....	58
Electrical Convenience Outlet:.....	None
Outdoor Fan [Qty / FLA (ea)]:.....	1 / 0.8

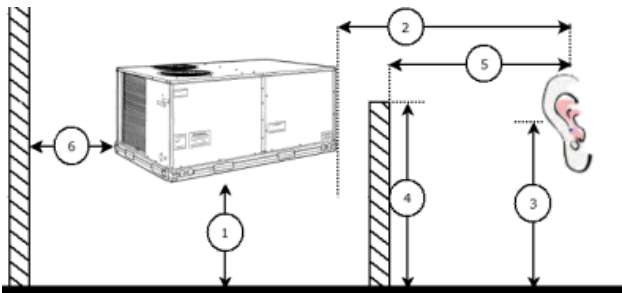
Control Panel SCCR: 5kA RMS at Rated Symmetrical Voltage

Acoustics

Sound Power Levels, db re 10E-12 Watts

	Discharge	Inlet	Outdoor
63 Hz	96.8	92.2	85.6
125 Hz	88.8	84.4	84.7
250 Hz	82.9	74.8	80.5
500 Hz	78.0	71.6	76.0
1000 Hz	75.7	72.6	72.4
2000 Hz	73.3	64.3	68.0
4000 Hz	68.1	57.3	62.8
8000 Hz	62.8	51.0	59.3
A-Weighted	82.1	76.4	79.0

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

Performance Summary For RTU-8,9,12

Project: Fairfield Commerce Park
 Prepared By: Jeff Gries

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6. Horizontal distance from unit to obstruction:.....**0.0** ft

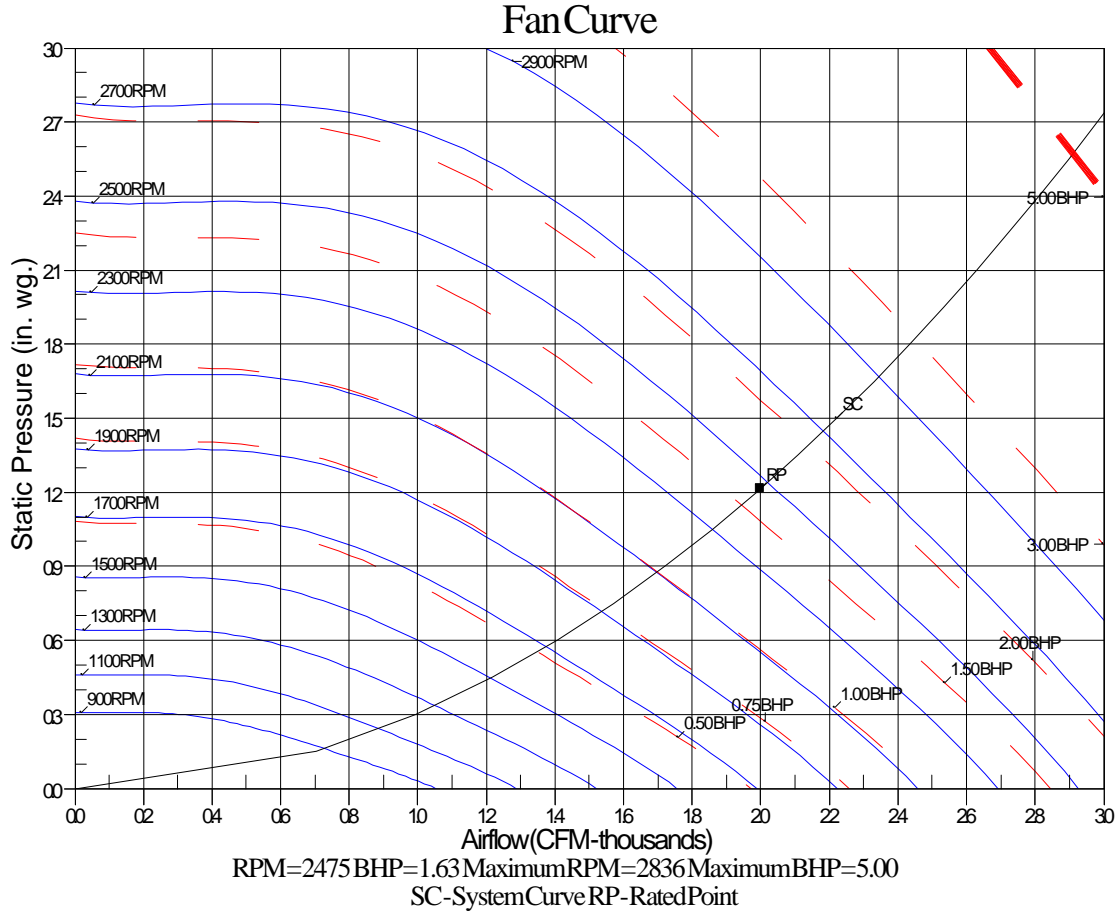
Detailed Acoustics Information

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

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-8,9,12

Project: Fairfield Commerce Park
Prepared By: Jeff Gries

11/15/2022
02:06PM



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™ Mark indicates a manufacturer's participation in the program. For verification of certification for individual products, go to www.ahricertified.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.

RTU-10

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

Unit Report For RTU-10

Project: Fairfield Commerce Park
 Prepared By: Jeff Gries

11/15/2022
 02:06PM

Unit Parameters

Unit Model: 48FCDM09A2A6-6F0A0
 Unit Size: 09 (8.5 Tons)
 Volts-Phase-Hertz: 460-3-60
 Heating Type: Gas
 Heat Control: Low Heat
 Duct Cfg: Vertical Supply / Vertical Return
 DX Options: Single Circuit, Two Stage Cooling

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

Unit Length: 7' 4.125"
 Unit Width: 4' 11.5"
 Unit Height: 4' 1.375"
Total Operating Weight: 1015 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: 4
 Return Air Filter Size: 20 x 20 x 2

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

Unit Configuration

Standard/Medium Static (EcoBlue)
 Al/Cu - Al/Cu
 Electromechanical Controls w/W7220 Econo Controller
 Enthalpy Economizer w/ Barometric Relief
 Standard Packaging

Warranty Information

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

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
48FCDM09A2A6-6F0A0	Rooftop Unit	1
	Base Unit	
	Std leak Enty Econo X with baro relief, W7220 control. Meets Calif. Title 24 FDD	
Field Installed Accessories		
CRRFCURB003A01	14-inch Tall Roof Curb	1

Certified Drawing for RTU-10

Project: Fairfield Commerce Park
Prepared By: Jeff Gries

11/15/2022
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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	OUTDOOR COIL TYPE	J	K	H
48FC-M08	RTPF	41 1/4 [1048]	33 3/4 [857]	15 7/8 [403]
48FC-M09	RTPF	49 3/8 [1253]	36 3/8 [925]	15 7/8 [403]
48FC-M12	RTPF	49 3/8 [1253]	36 3/8 [925]	15 7/8 [403]

RTPF - ROUND TUBE, PLATE FIN (COPPER/ALUM)



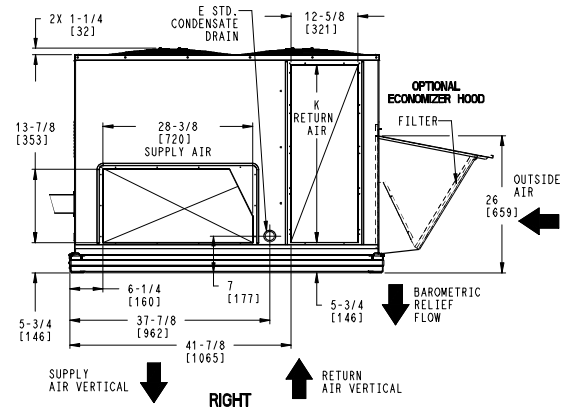
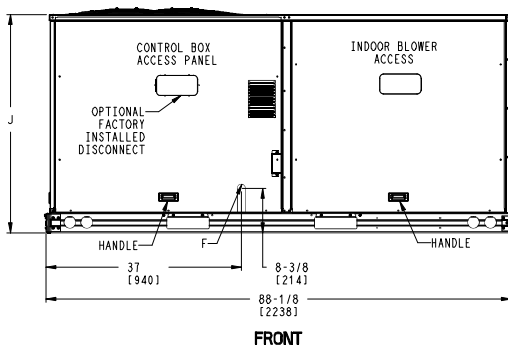
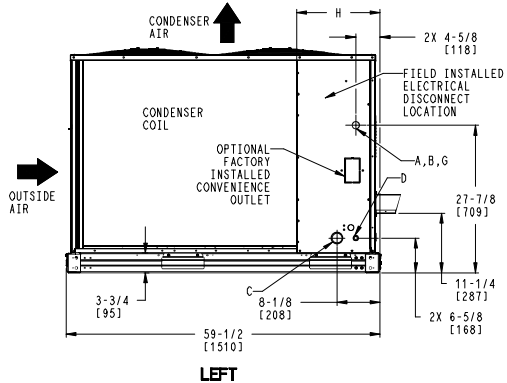
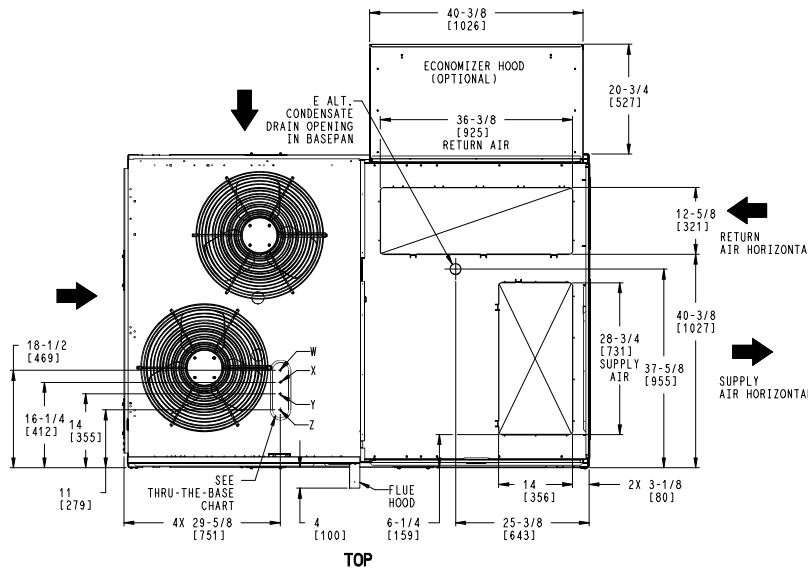
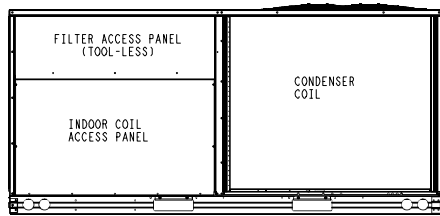
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CONNECTION SIZES	
A	1 3/8" [35] DIA FIELD POWER SUPPLY HOLE
B	2 1/2" [64] DIA POWER SUPPLY KNOCKOUT
C	1 3/4" [51] DIA GAUGE ACCESS PLUG
D	7/8" [22] DIA FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	1/2"-14 NPT GAS CONNECTION 3/4"-14 NPT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

THRU-THE-BASE CHART (FIELD INST)			
THESE HOLES REQUIRED FOR USE WITH ACCY KITS: CRBTMPWRO02A01: GAS THRU CURB CRBTMPWRO04A01: GAS THRU BASEPAN			
	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	1 1/4" (002,004)	POWER	1 3/4" [44.4]
Z *	(004) 3/4" FPT	GAS	1 3/4" [44.4]
*	(002) PROVIDES 3/4" FPT THRU CURB FLANGE & FITTING. HOLE SIZE: 2" [50.8]		

THRU-THE-BASE CHART (FIOP)	
FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR ONLY X, Y, & Z ARE PROVIDED. **	
** FOR BELOW LISTED MODELS, A FIELD SUPPLIED 1/2" ADAPTER IS REQUIRED BETWEEN BASE PAN FITTING AND GAS VALVE: 48FCD, S*08, 09	



ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	48FC 08-12 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM006295	REV
U.S. ECCN:NSR	1 OF 3	03/12/21	-			-

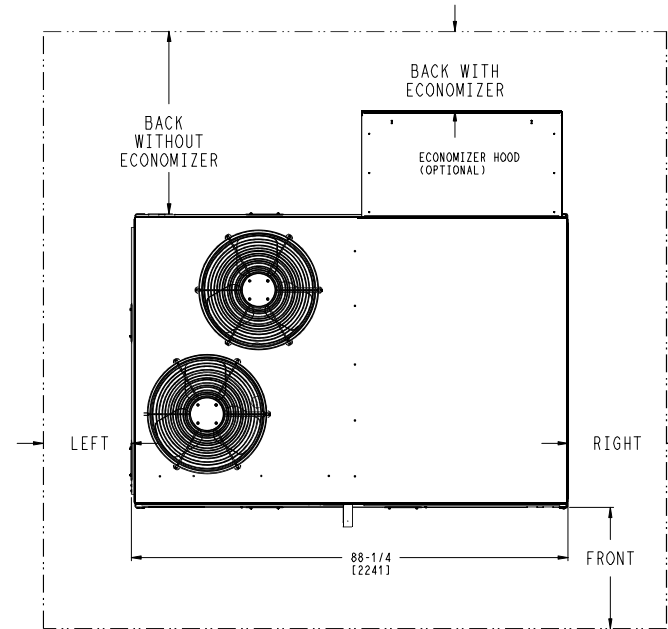
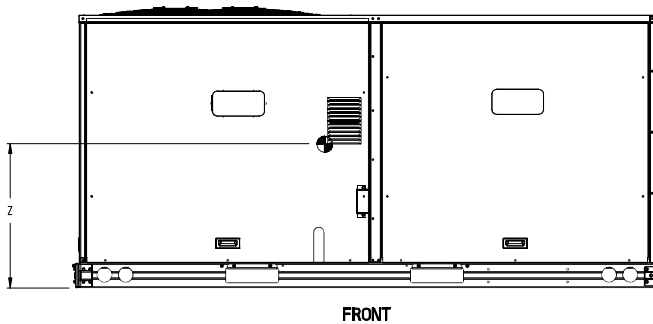
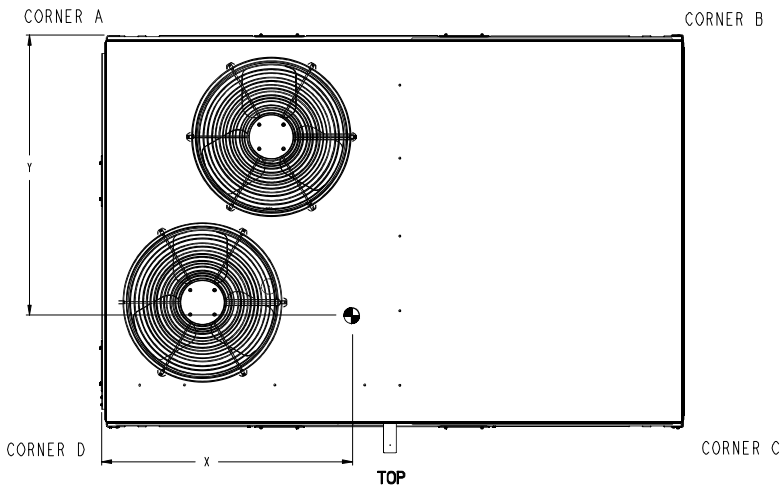
Certified Drawing for RTU-10

Project: Fairfield Commerce Park
Prepared By: Jeff Gries

11/15/2022
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UNIT	OUTDOOR COIL TYPE	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			
48FC-M08	RTPF	787	357	181	82	150	68	207	94	249	113	40	1016	34 1/2	876	19 3/8	492
48FC-M09	RTPF	868	394	197	89	160	73	229	104	282	128	39 1/2	1003	35	889	18 5/8	473
48FC-M12	RTPF	878	398	213	97	175	80	221	100	268	121	39 7/8	1013	33 1/4	841	18 1/2	470

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



NOTE:

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 W/O ECON	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/ECON	36 [914mm]	36 [914mm]	18 [457mm]
RIGHT	36 [914mm]	36 [914mm]	18 [457mm]
TOP	72 [1829mm]	72 [1829mm]	72 [1829mm]

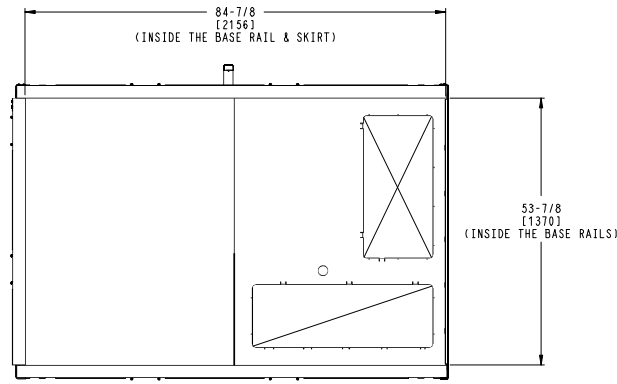
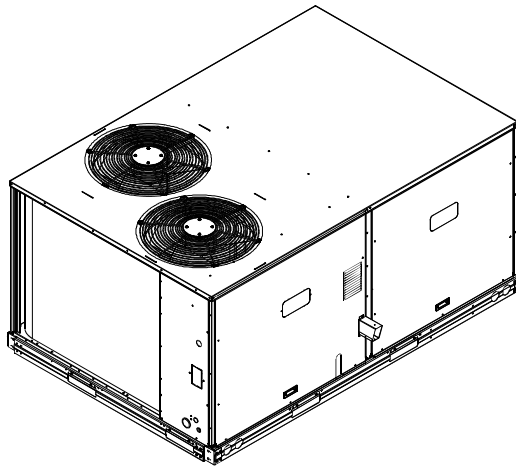
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U.S. ECCN:NSR	2 OF 3	03/12/21	-			-

Certified Drawing for RTU-10

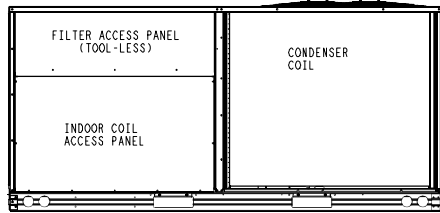
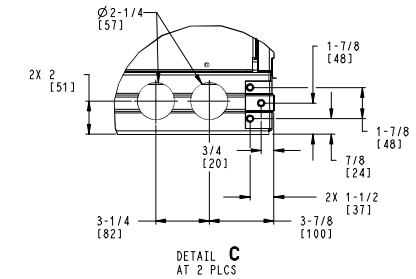
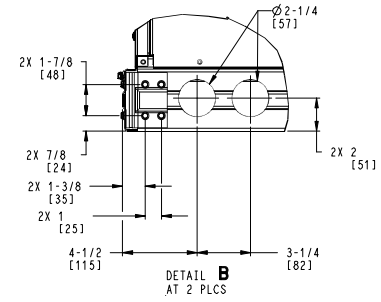
Project: Fairfield Commerce Park
Prepared By: Jeff Gries

11/15/2022
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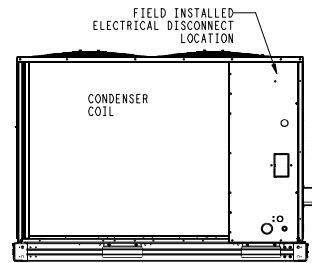
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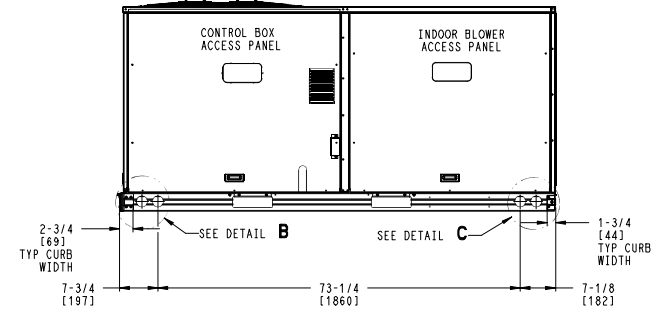
INSIDE BASERAIL DIMENSIONS
BOTTOM



BACK



LEFT



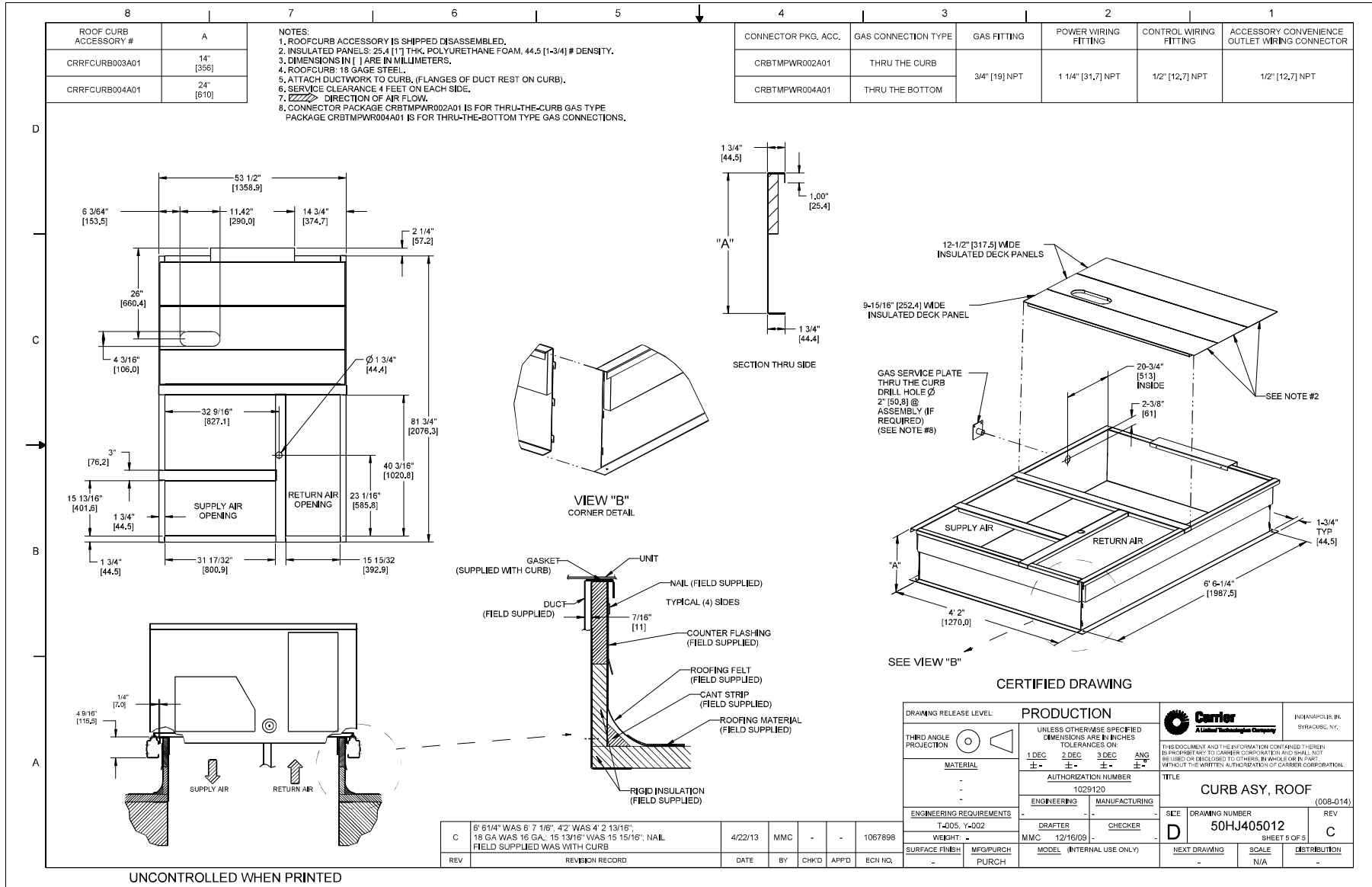
FRONT

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	48FC 08-12 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM006295	REV
U.S. ECCN: NSR	3 OF 3	03/12/21	-			-

Certified Drawing for RTU-10

Project: Fairfield Commerce Park
Prepared By: Jeff Gries

11/15/2022
02:06PM



Performance Summary For RTU-10

Project: Fairfield Commerce Park
 Prepared By: Jeff Gries

11/15/2022
 02:06PM

Part Number: 48FCDM09A2A6-6F0A0

ARI EER: 11.20
 IEER: 15.0

Base Unit Dimensions

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

Operating Weight

Base Unit Weight: 815 lb
 Enthalpy Economizer w/ Barometric Relief: 57 lb

Accessories

14-inch Tall Roof Curb: 143 lb

Total Operating Weight: 1015 lb

Unit

Unit Voltage-Phase-Hertz:	460-3-60
Air Discharge:	Vertical
Fan Drive Type:	Vane Axial
Actual Airflow:	3400 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:	58.5	F
Evaporator Leaving Air WB:	57.6	F
Evaporator Leaving Air Enthalpy:	24.78	BTU/lb
Gross Cooling Capacity:	101.80	MBH
Gross Sensible Capacity:	78.96	MBH
Compressor Power Input:	6.95	kW
Coil Bypass Factor:	0.087	

Heating Performance

Heating Airflow:	3400	CFM
Entering Air Temp:	70.0	F
Leaving Air Temp:	98.1	F
Gas Heating Input Capacity:	125.0	MBH
Gas Heating Output Capacity:	103.0	MBH
Temperature Rise:	28.1	F

Supply Fan

External Static Pressure:	1.10	in wg
Options / Accessories Static Pressure		
Economizer:	0.14	in wg
Application External Static (ESP + Unit Opts/Acc.):	1.24	in wg
Fan RPM:	1780	
Fan Power:	2.03	BHP
NOTE:	Selected IFM RPM Range: 1083 - 2000	

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

Electrical Data

Voltage Range:	414 - 506
Compressor #1 RLA:	6.2
Compressor #1 LRA:	60

Performance Summary For RTU-10

Project: Fairfield Commerce Park
Prepared By: Jeff Gries

11/15/2022
02:06PM

Compressor #2 RLA:.....	6.2
Compressor #2 LRA:.....	60
Indoor Fan Motor Type:.....	MED
Indoor Fan Motor FLA (Total):.....	3
Combustion Fan Motor FLA (ea):.....	0.25
Power Supply MCA:.....	19
Power Supply MOCB (Fuse or HACR):.....	25
Disconnect Size FLA:.....	20
Disconnect Size LRA:.....	128
Electrical Convenience Outlet:.....	None
Outdoor Fan [Qty / FLA (ea)]:.....	2 / 0.8

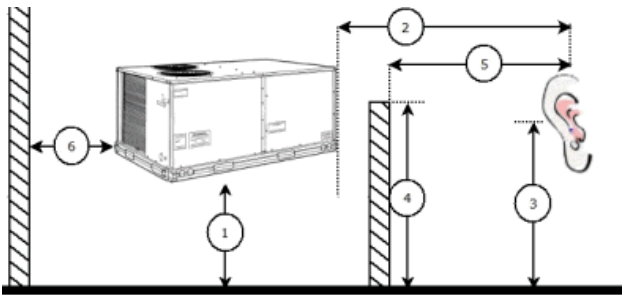
Control Panel SCCR: 5kA RMS at Rated Symmetrical Voltage

Acoustics

Sound Power Levels, db re 10E-12 Watts

	Discharge	Inlet	Outdoor
63 Hz	97.5	94.6	85.6
125 Hz	92.8	86.4	84.7
250 Hz	78.3	71.1	80.5
500 Hz	72.0	66.2	76.0
1000 Hz	68.0	63.9	72.4
2000 Hz	66.0	59.4	68.0
4000 Hz	69.2	59.5	62.8
8000 Hz	70.6	58.2	59.3
A-Weighted	80.3	74.2	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

Performance Summary For RTU-10

Project: Fairfield Commerce Park
 Prepared By: Jeff Gries

11/15/2022
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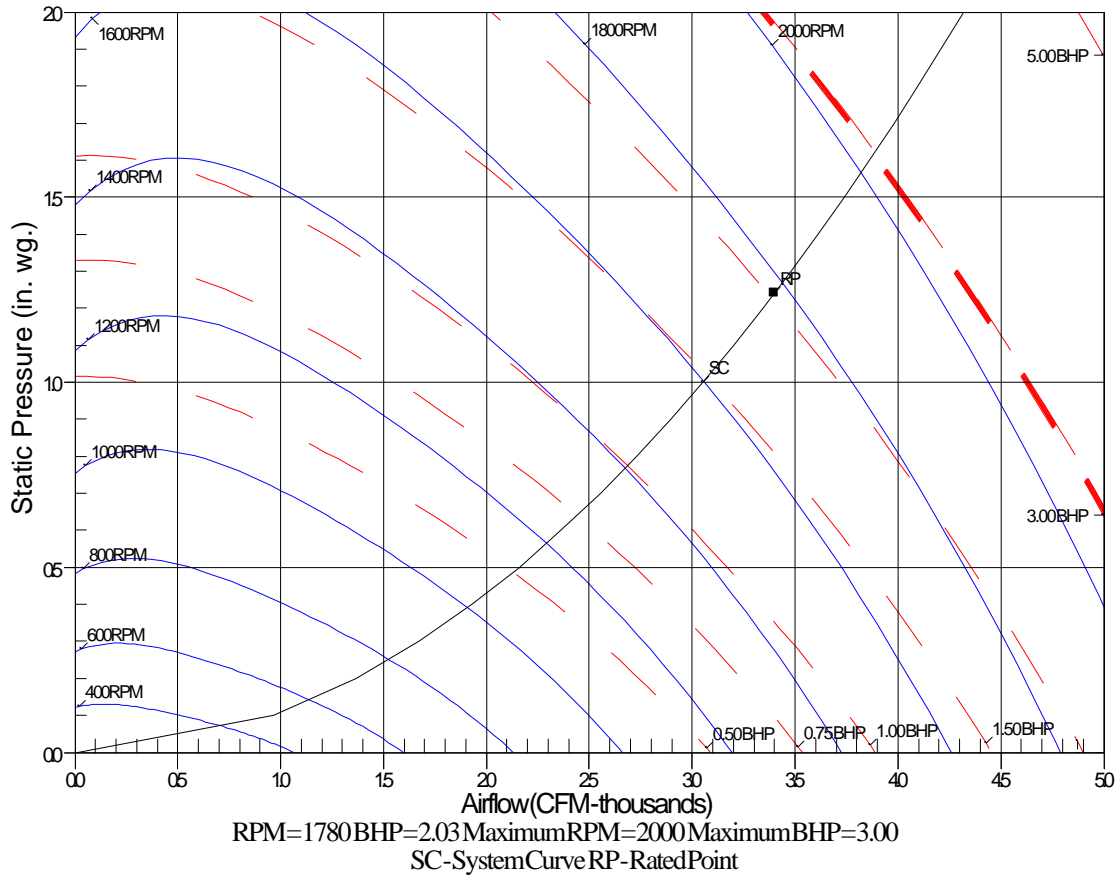
D	27.0	36.2	39.5	40.4	40.0	36.8	31.4	25.8	46.1 LpA
---	------	------	------	------	------	------	------	------	----------

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.

Fan Curve



Unit Feature Sheet for RTU-10

Project: Fairfield Commerce Park
Prepared By: Jeff Gries

11/15/2022
02:06PM



PACKAGED ROOFTOP GAS HEATING/ELECTRIC COOLING UNITS – 15.0 IEER 7.5, 8.5, 10, 12.5, 15 TONS



ecoblue technology



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. All models use two stage cooling capacity control with a full active evaporator coil and new Ecoblue™ direct drive ECM indoor fan system

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.

For a complete list of options and accessories refer to Product Data

STANDARD FEATURES INCLUDE:

- Rated in accordance with AHRI Standards 340/360
- Puron (R-410A) HFC refrigerant
- Two-stage cooling capacity control on all models
- IEER's of 15.0, EER's up to 11.2
- Exceeds current DOE IEER efficiencies while meeting DOE's new stringent 2023 IEER efficiency requirements
- 2023 DOE, ASHRAE 90.1, and IECC - IEER energy compliant
- **New Direct Drive + EcoBlue™ Technology** Indoor fan system uses Vane Axial fan design and electronically commutated motor. Indoor fan motor also delivers Staged Air Volume (SAV) fan speed control.
- Non-corrosive composite condensate pan in accordance with ASHRAE 62 Standard, sloping design; side or center drain
- TXV refrigerant metering system on all models
- Standard cooling operating range up to 125°F (52°C), except 14 size models with 115°F (46°C) and down to 40°F (-4°C), except 14 size models with 0°F (-18°C) Low Ambient controls allows cooling operation down to 0°F (-18°C).
- Pre-painted exterior panels and primer-coated interior panels tested to 500 hours salt spray protection
- New Unit Control Board with intuitive quick fan speed adjustment
- Exclusive IGC solid-state control for on-board diagnostics with LED
- Induced draft gas heat combustion design
- Redundant gas valves with up to two stages of heating
- Low pressure, high pressure, mixed air temperature switch protection

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 slide out - Vane Axial evaporator-fan system has no fan belts, pulleys, blower shaft and blower bearings

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, 16 size requires a special supply duct cover kit.

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
- 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-13, 4" Return Air Filters
- Patented Humidi-MiZer® adaptive dehumidification system.
- Hinged access panels
- Integrated economizer system. Low and Ultra Low Leak versions
- Phase monitor and condensate overflow protection

RTU-11

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

Unit Report For RTU-11

Project: Fairfield Commerce Park
 Prepared By: Jeff Gries

11/15/2022
 02:06PM

Unit Parameters

Unit Model: **48FCFM24A3M6-6F0A0**
 Unit Size: **24 (20 Tons)**
 Volts-Phase-Hertz: **460-3-60**
 Heating Type: **Gas**
 Heat Control: **High Heat**
 Duct Cfg: **Vertical Supply / Vertical Return**
 DX Options: **Two Stage Cooling/Single Circuit**

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

Unit Length: **11' 9.5"**
 Unit Width: **7' 2.375"**
 Unit Height: **3' 11.75"**
Total Operating Weight: 2535 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: **20 x 25 x 2**

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

Unit Configuration

High Static Option - Vertical Models
 Al/Cu - Al/Cu - Louvered Hail Guard
 Electromechanical Controls w/W7220 Econo Controller
 Enthalpy Economizer w/ Barometric Relief. Vertical and Horizontal Air Flow.
 Standard Packaging

Warranty Information

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

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
48FCFM24A3M6-6F0A0	Rooftop Unit	1
	Base Unit	
	High Static Option - Vertical Models	
	Al/Cu - Al/Cu - Louvered Hail Guard	
	Low leak Enty Econo X with baro relief, W7220 control. Meets Calif. Title 24 FDD	
Field Installed Accessories		
CRRFCURB047A00	14-inch Tall Roof Curb	1

Certified Drawing for RTU-11

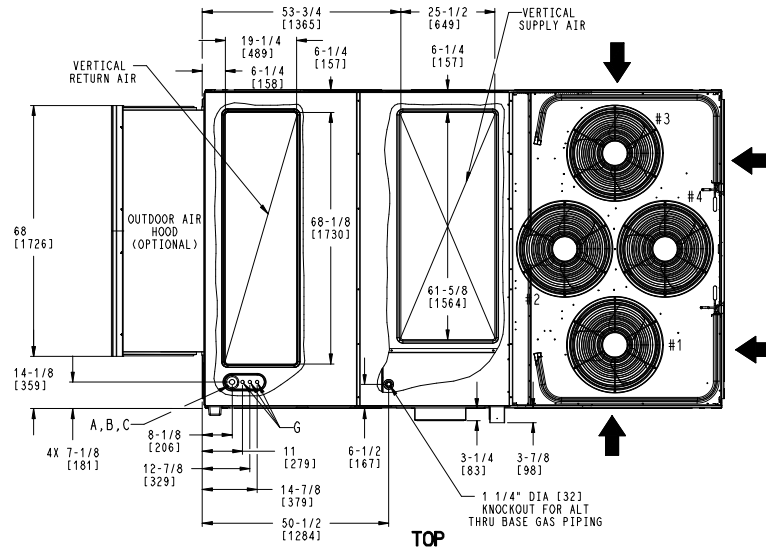
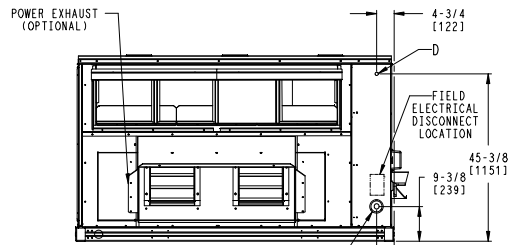
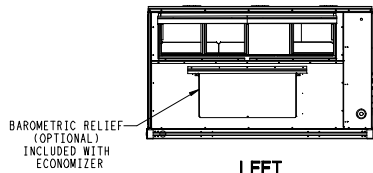
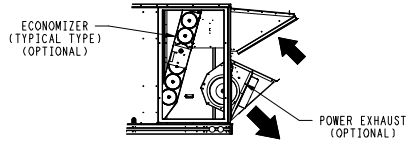
Project: Fairfield Commerce Park
Prepared By: Jeff Gries

11/15/2022
02:06PM



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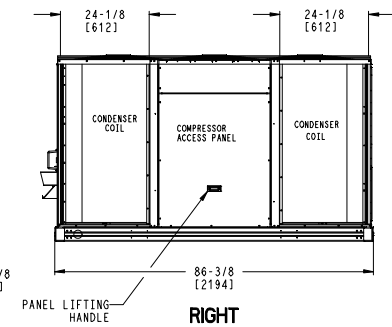
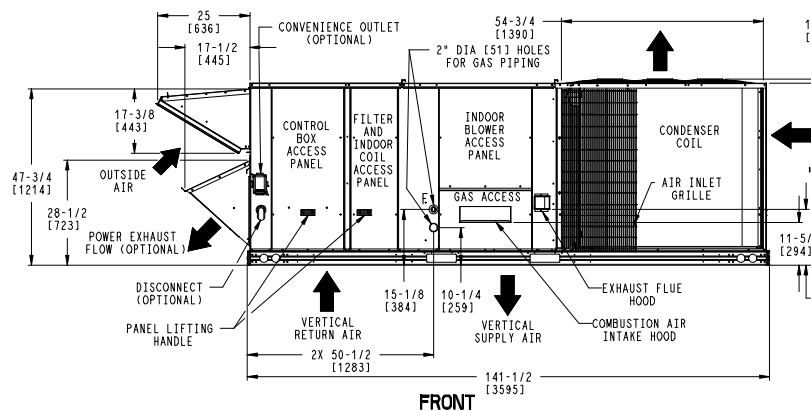
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CONNECTION SIZES	
A	1 3/8" DIA [35] FIELD POWER SUPPLY KNOCKOUT
B	3" DIA [76] FIELD POWER SUPPLY KNOCKOUT
C	3 5/8" DIA [92] FIELD POWER SUPPLY KNOCKOUT
D	7/8" DIA [22] FIELD CONTROL WIRING HOLE
F	3/4"-14 NPT GAS CONNECTION (NOT SHOWN)
G	7/8" DIA [22] FIELD CONTROL WIRING KNOCKOUT

UNIT	H
24 SIZE	49-3/8 [1253]
28 SIZE	57-3/8 [1456]

- 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



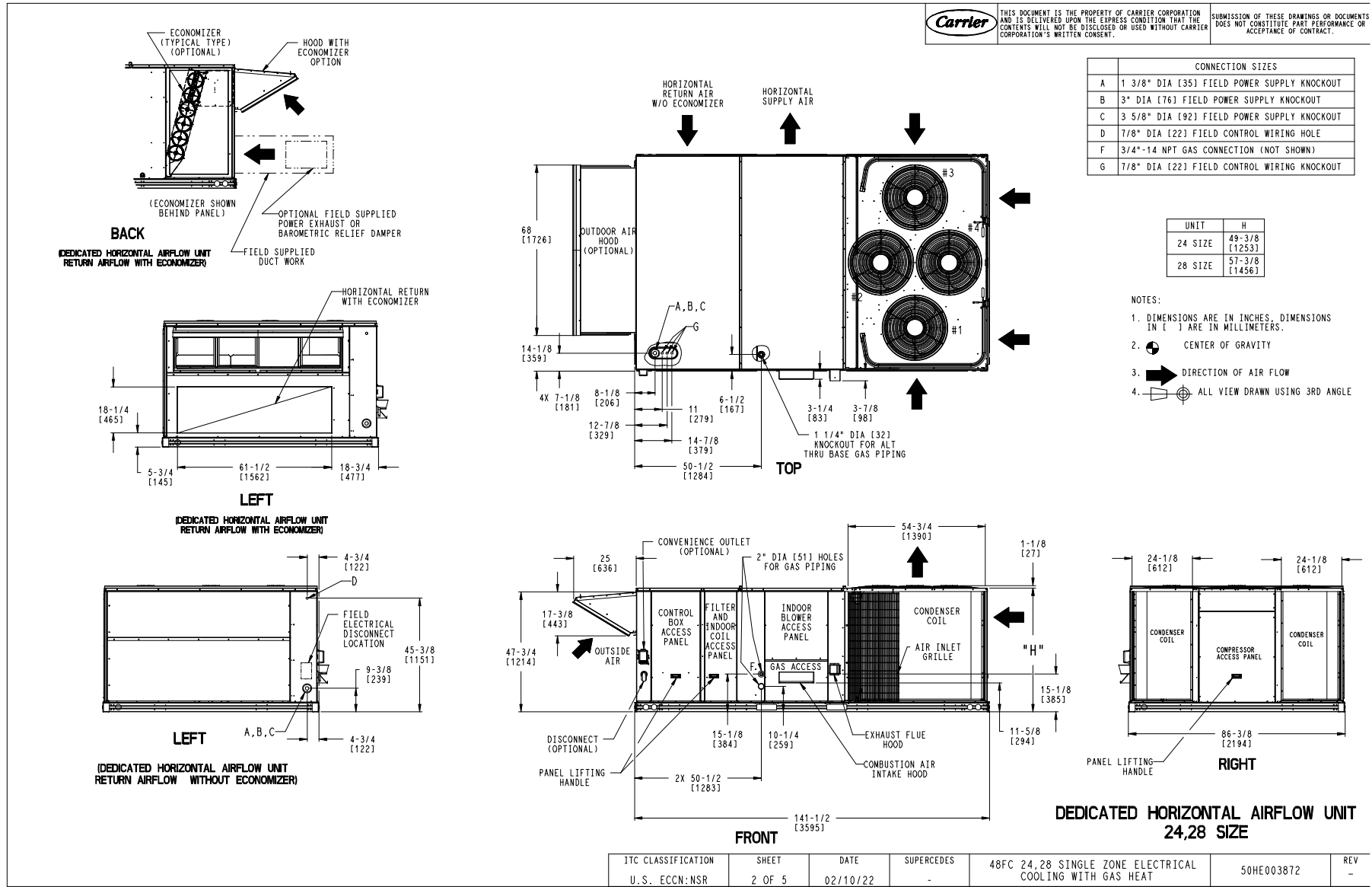
**DEDICATED VERTICAL AIRFLOW UNIT
24,28 SIZE**

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	48FC 24,28 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	50HE003872	REV
U.S. ECCN:NSR	1 OF 5	02/10/22	-			-

Certified Drawing for RTU-11

Project: Fairfield Commerce Park
Prepared By: Jeff Gries

11/15/2022
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ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	48FC 24,28 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	50HE003872	REV
U. S. ECCN: NSR	2 OF 5	02/10/22	-			-

Certified Drawing for RTU-11

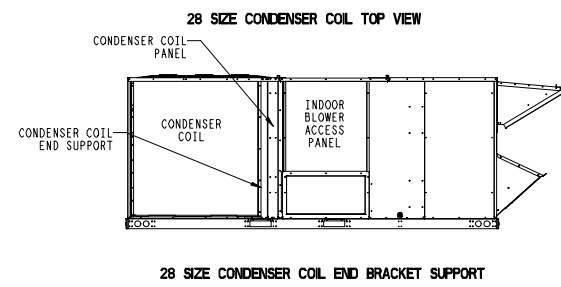
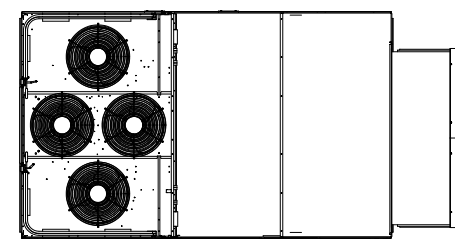
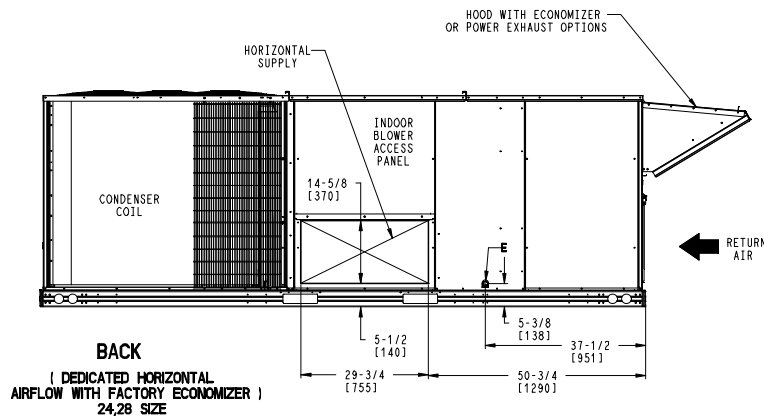
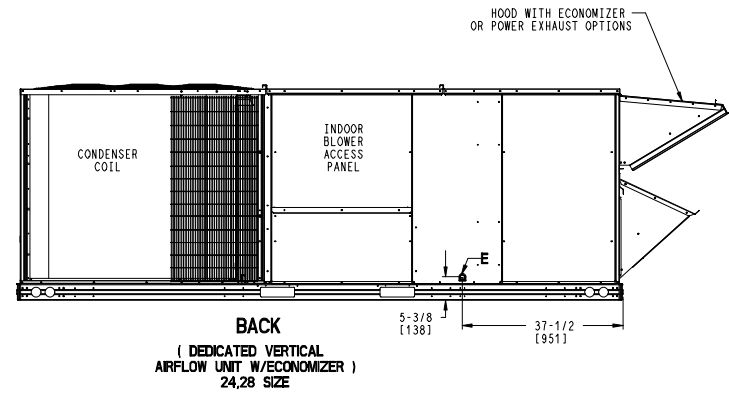
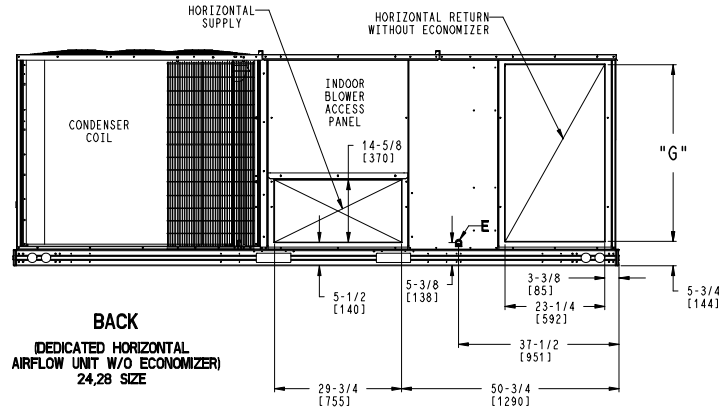
Project: Fairfield Commerce Park
Prepared By: Jeff Gries

11/15/2022
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CONNECTION SIZES	
E	3/4"-14 NPT CONDENSATE DRAIN

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UNIT	G
24 SIZE	41-3/8 [1049]
28 SIZE	49-1/4 [1251]



ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	48FC 24,28 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	50HE003872	REV
U. S. ECCN: NSR	3 OF 5	02/10/22	-			-

Certified Drawing for RTU-11

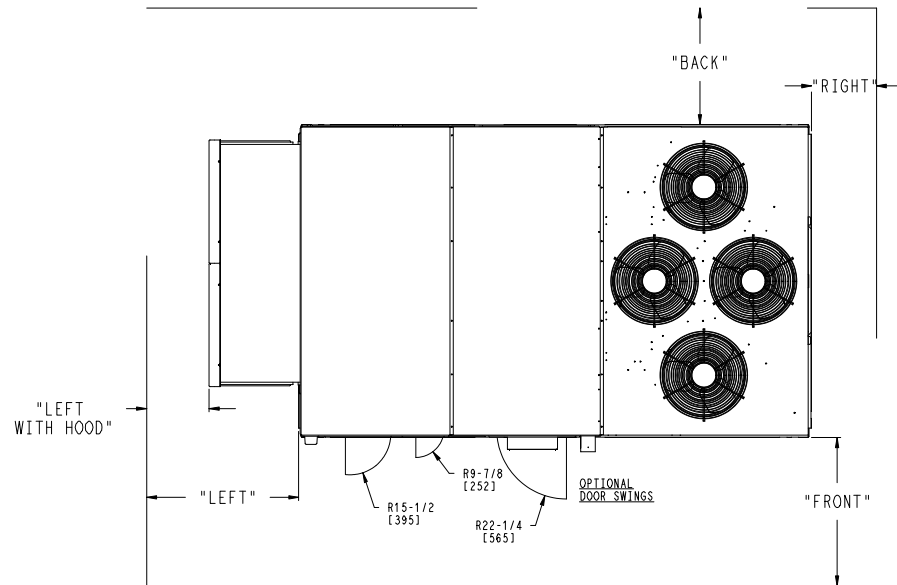
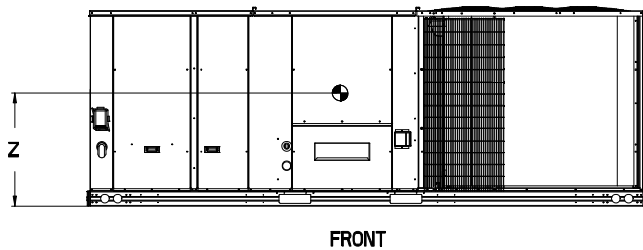
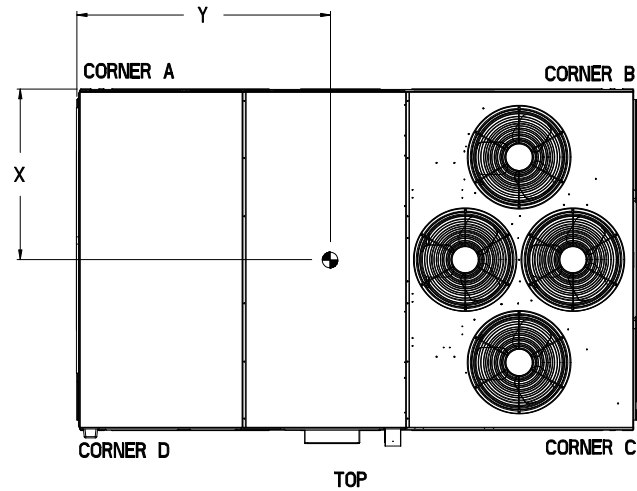
Project: Fairfield Commerce Park
Prepared By: Jeff Gries

11/15/2022
02:06PM

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			
48FC24	2000	907	429	195	505	229	576	261	489	222	76 1/2	[1943]	46	[1168]	16 1/2	[419]
48FC28	2174	986	458	208	583	264	634	288	498	226	79 1/4	[2013]	45	[1143]	19	[483]

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



NOTES:

1. CLEARANCE ABOVE THE UNIT TO BE 72"
2. 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	42 [1067mm]	36 [914mm]	18 [457mm]
LEFT WITH HOOD	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	48FC 24,28 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	50HE003872	REV
U.S. ECCN:NSR	4 OF 5	02/10/22	-			-

Certified Drawing for RTU-11

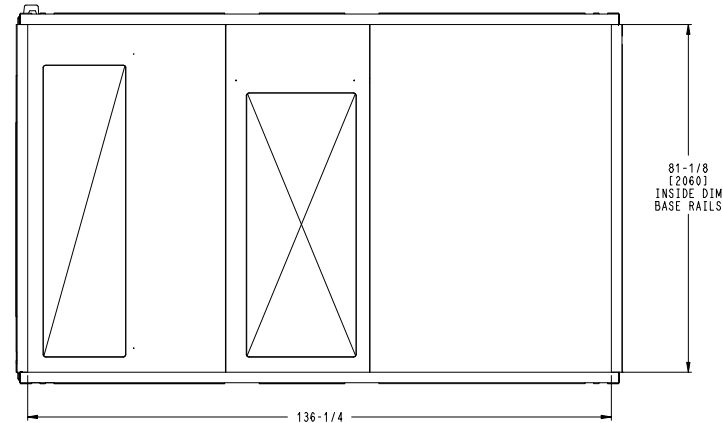
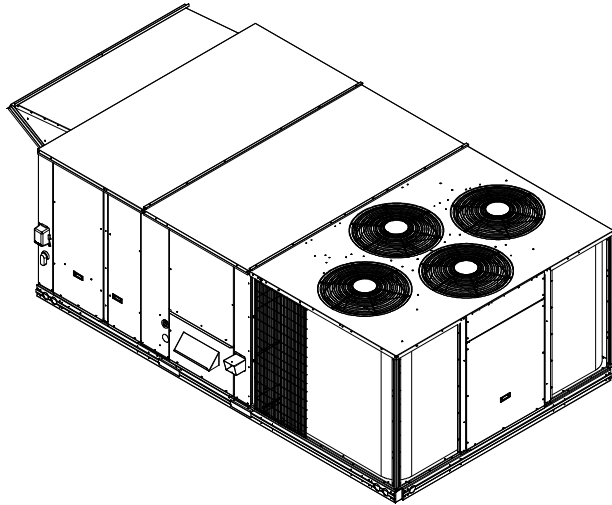
Project: Fairfield Commerce Park
Prepared By: Jeff Gries

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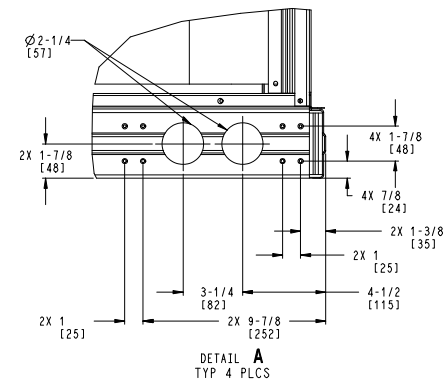
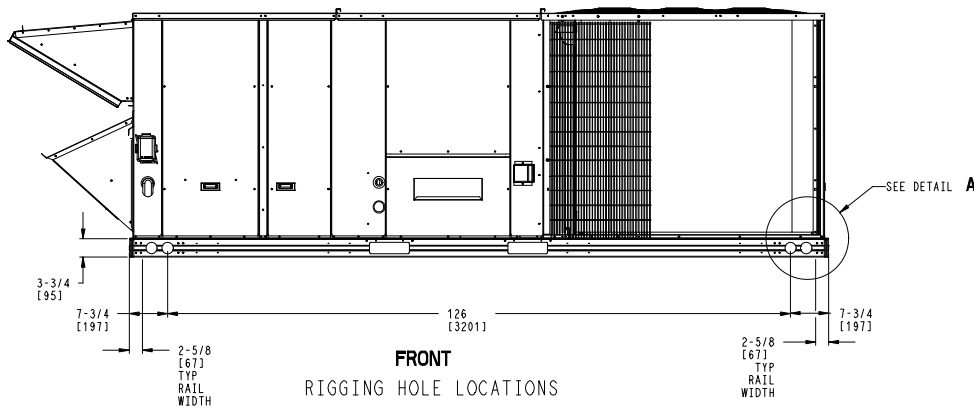


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BOTTOM
INSIDE BASERAIL DIMENSIONS



ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	48FC 24,28 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	50HE003872	REV
U. S. ECCN: NSR	5 OF 5	02/10/22	-			-

Performance Summary For RTU-11

Project: Fairfield Commerce Park
 Prepared By: Jeff Gries

11/15/2022
 02:06PM

Part Number: 48FCFM24A3M6-6F0A0

ARI EER: 10.00
 IEER: 14.5

Base Unit Dimensions

Unit Length: 141.5 in
 Unit Width: 86.4 in
 Unit Height: 47.8 in

Operating Weight

Base Unit Weight: 1873 lb
 High Heat: 42 lb
 High Static Option - Vertical Models: 30 lb
 Al/Cu - Al/Cu - Louvered Hail Guard: 90 lb
 Enthalpy Economizer w/ Barometric Relief, Vertical and Horizontal Air Flow.: 245 lb

Accessories

14-inch Tall Roof Curb: 255 lb

Total Operating Weight: 2535 lb

Unit

Unit Voltage-Phase-Hertz: 460-3-60
 Air Discharge: Vertical
 Fan Drive Type: Vane Axial
 Actual Airflow: 8000 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: 58.6 F
 Evaporator Leaving Air WB: 56.9 F
 Evaporator Leaving Air Enthalpy: 24.32 BTU/lb
 Gross Cooling Capacity: 256.07 MBH
 Gross Sensible Capacity: 184.89 MBH
 Compressor Power Input: 20.65 kW
 Coil Bypass Factor: 0.113

Heating Performance

Heating Airflow: 8000 CFM
 Entering Air Temp: 70.0 F
 Leaving Air Temp: 107.5 F
 Gas Heating Input Capacity: 320.0 / 400.0 MBH
 Gas Heating Output Capacity: 260.0 / 324.0 MBH
 Temperature Rise: 37.5 F
 Thermal Efficiency (%): 81.0

Supply Fan

External Static Pressure: 1.30 in wg
 Options / Accessories Static Pressure
 Economizer: 0.08 in wg
 Application External Static (ESP + Unit Opts/Acc.): 1.38 in wg
 Fan RPM: 1998
 Fan Power: 5.91 BHP
 NOTE: Selected IFM RPM Range: 250 - 2200

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

Electrical Data

Performance Summary For RTU-11

Project: Fairfield Commerce Park
 Prepared By: Jeff Gries

11/15/2022
 02:06PM

Voltage Range:.....	414 - 506
Compressor #1 RLA:.....	16
Compressor #1 LRA:.....	140
Compressor #2 RLA:.....	16
Compressor #2 LRA:.....	140
Indoor Fan Motor Type:.....	HIGH
Indoor Fan Motor FLA (Total):.....	5.6
Combustion Fan Motor FLA (ea):.....	0.3
Power Supply MCA:.....	50.8
Power Supply MOCP (Fuse or HACR):.....	60
Disconnect Size FLA:.....	54
Disconnect Size LRA:.....	304
Electrical Convenience Outlet:.....	None
Outdoor Fan [Qty / FLA (ea)]:.....	4 / 0.9

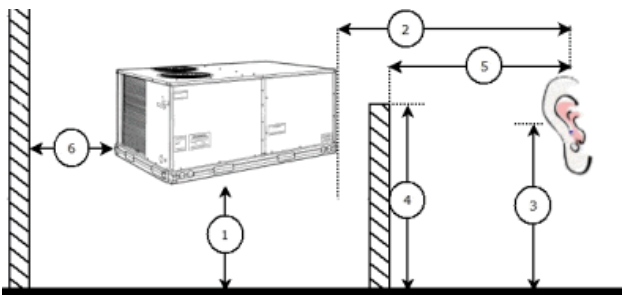
Control Panel SCCR: 5kA RMS at Rated Symmetrical Voltage

Acoustics

Sound Power Levels, db re 10E-12 Watts

	Discharge	Inlet	Outdoor
63 Hz	95.2	95.4	95.6
125 Hz	90.4	79.5	87.5
250 Hz	82.8	73.0	84.2
500 Hz	81.8	64.9	84.2
1000 Hz	76.8	59.9	81.7
2000 Hz	74.9	55.8	77.9
4000 Hz	74.4	49.0	73.2
8000 Hz	66.7	38.0	66.3
A-Weighted	84.1	72.1	87.0

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
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Performance Summary For RTU-11

Project: Fairfield Commerce Park
 Prepared By: Jeff Gries

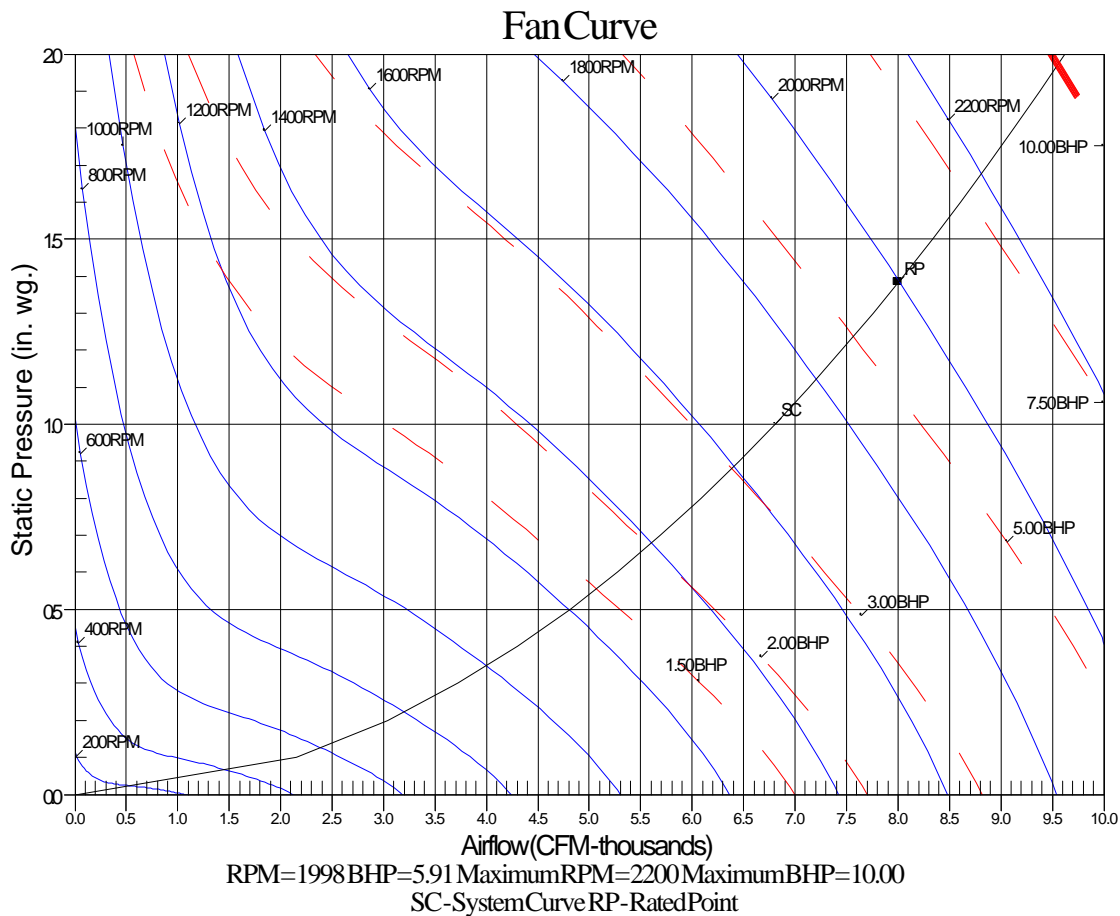
11/15/2022
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A	95.6	87.5	84.2	84.2	81.7	77.9	73.2	66.3	96.9 Lw
B	69.4	71.4	75.6	81.0	81.7	79.1	74.2	65.2	86.5 LwA
C	63.2	55.1	51.8	51.8	49.3	45.5	40.8	33.9	64.5 Lp
D	37.0	39.0	43.2	48.6	49.3	46.7	41.8	32.8	54.1 LpA

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-11

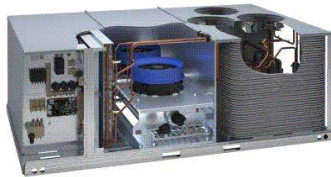
Project: Fairfield Commerce Park
Prepared By: Jeff Gries

11/15/2022
02:06PM



– 48FC

PACKAGED ROOFTOP GAS HEATING/ELECTRIC COOLING UNITS – WITH ECOBLUE TECHNOLOGY 17.5, 20, 25, 27.5 TONS



ecoblue™ technology



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. All models use two stage cooling capacity control with a full active evaporator coil and new Ecoblue™ direct drive ECM indoor fan system

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.

For a complete list of options and accessories refer to Product Data

STANDARD FEATURES INCLUDE:

- Puron (R-410A) HFC refrigerant
- Two-stage/single-circuit cooling capacity control on all models
- IEER's up to 14.5
- Exceeds current DOE IEER efficiencies while meeting DOE's new stringent 2023 IEER efficiency requirements
- 2023 ASHRAE 90.1, and IECC – IEER energy compliant
- **NEW Direct Drive** – EcoBlue™ Technology Indoor fan system uses Vane Axial fan design and electronically commutated motor. Indoor fan motor also delivers Staged Air Volume (SAV) fan speed control.
- Non-corrosive composite condensate pan in accordance with ASHRAE 62 Standard, sloping design; side or center drain
- Gas efficiencies up to 81%
- Induced draft combustion design
- Redundant gas valve, with up to 2 stages of heating
- Pre-painted exterior panels and primer-coated interior panels tested to 500 hours salt spray protection
- TXV refrigerant metering device on all models
- Insulated cabinet
- Exclusive IGC solid-state control for on-board diagnostics with LED error code designation, burner control logic and energy saving indoor fan motor delay
- Cooling operating range up to 125°F (52°C), and down to 40°F (4°C)
- Rated in accordance with AHRI Standard 340/360
- Low pressure, high pressure, mixed air temperature switch protection

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 slide out - Vane Axial evaporator-fan system has no fan belts, pulleys, blower shaft and blower bearings

INSTALLATION FEATURES:

- Standard thru-the-bottom power entry capability
- Single point gas and electric connections
- Full perimeter base rail with built-in rigging adapters and fork slots
- Dedicated Vertical and Horizontal air flow models. No field kits required

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
- 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-13, 4" Return Air Filters
- Patented Humidi-MiZe® adaptive dehumidification system.
- Hinged access panels
- Integrated economizer system. Low and Ultra Low Leak versions
- Phase monitor and condensate overflow protection

RTU-13

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

Unit Report For RTU-13

Project: Fairfield Commerce Park
 Prepared By: Jeff Gries

11/15/2022
 02:06PM

Unit Parameters

Unit Model: **48FCDA04A1M6-6F0A0**
 Unit Size: **04 (3 Tons)**
 Volts-Phase-Hertz: **460-3-60**
 Heating Type: **Gas**
 Heat Control: **Low 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: 647 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 - Standard Static
 Al/Cu - Al/Cu - Louvered Hail Guards
 Electromechanical Controls w/W7220 Econo Controller
 Enthalpy Economizer w/ Barometric Relief
 Standard Packaging

Warranty Information

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

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
48FCDA04A1M6-6F0A0	Rooftop Unit	1
	Base Unit	
	Al/Cu - Al/Cu - Louvered Hail Guards	
	Std leak Enty Econo X with baro relief, W7220 control. Meets Calif. Title 24 FDD	
Field Installed Accessories		
CRRFCURB001A01	14-inch Tall Roof Curb	1

Certified Drawing for RTU-13

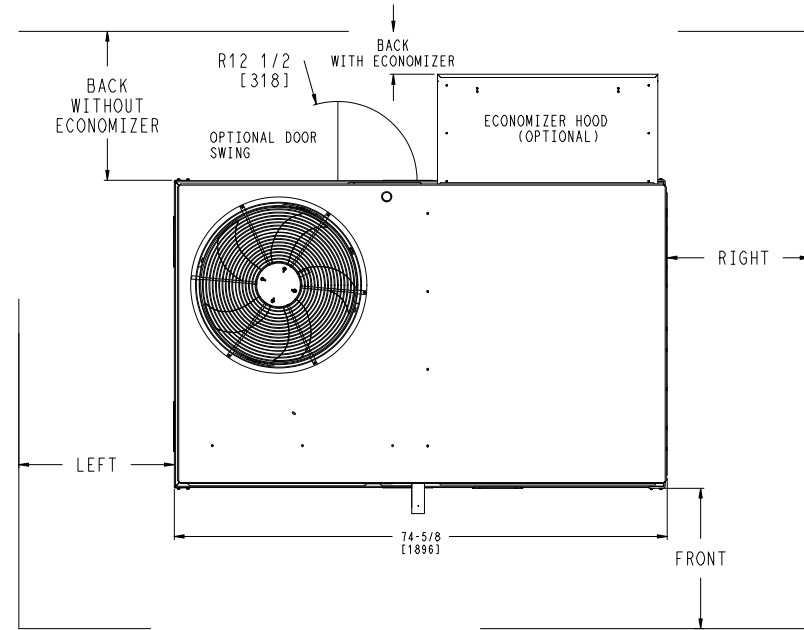
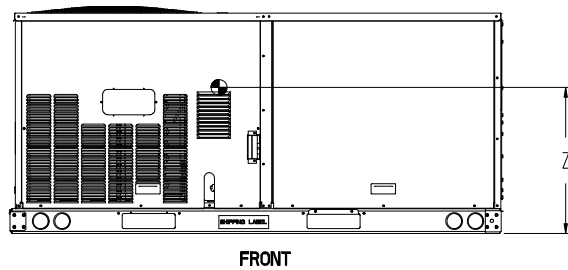
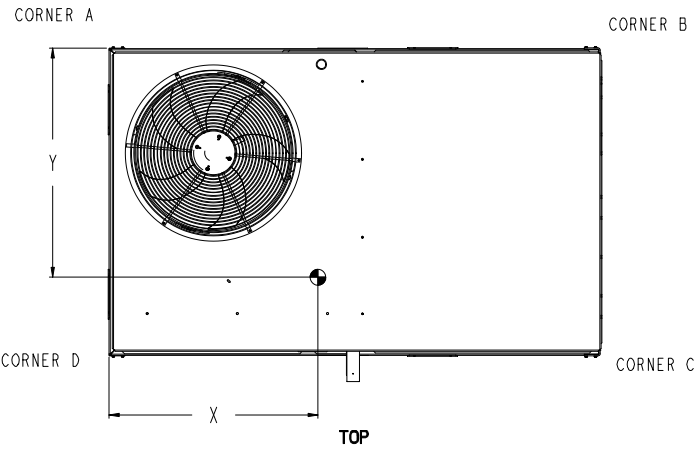
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Prepared By: Jeff Gries

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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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NOTES:

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

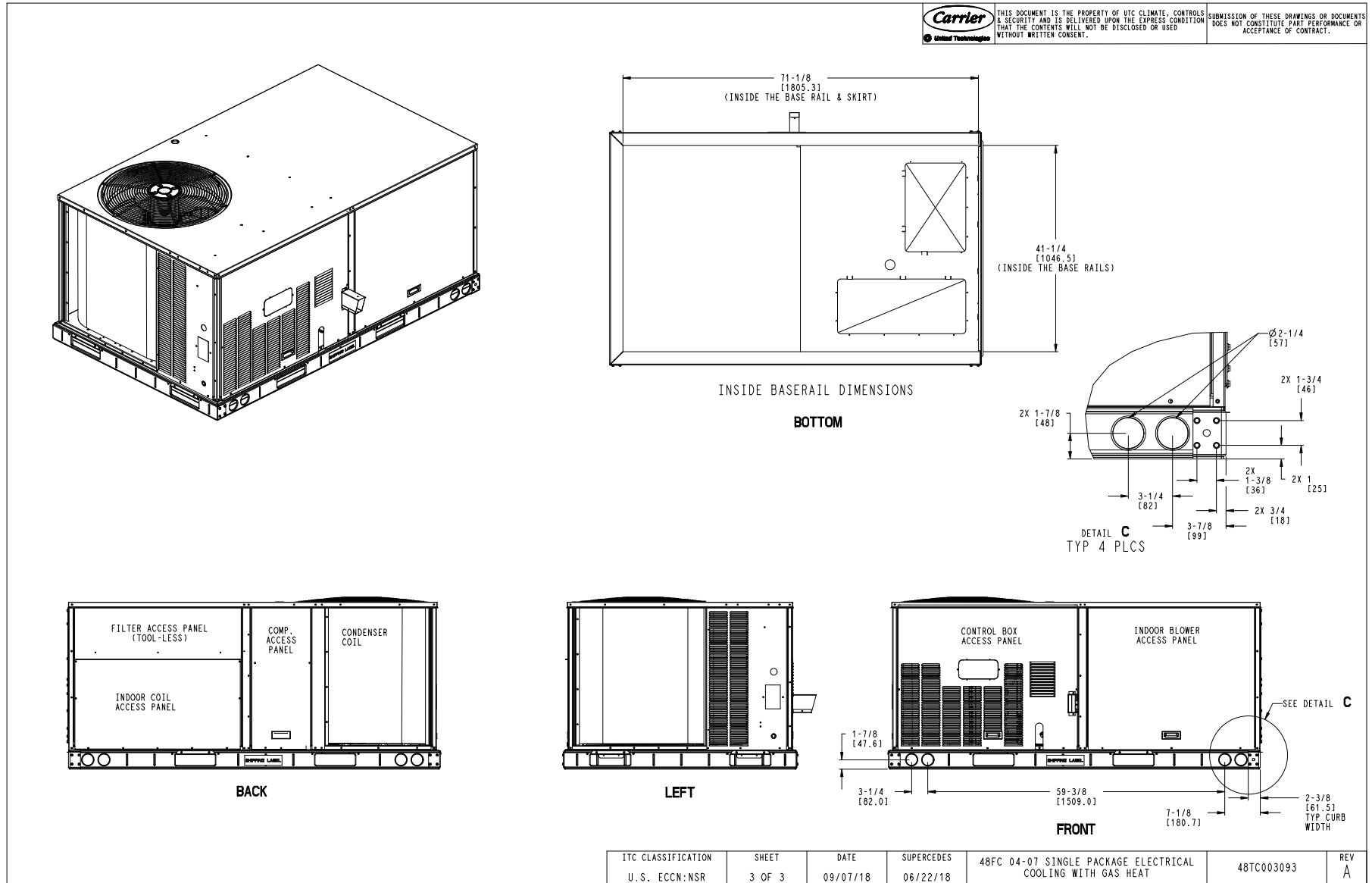
SURFACE	CLEARANCE		OPERATING CLEARANCE
	SERVICE WITH: CONDUCTIVE BARRIER	SERVICE WITH: NONCONDUCTIVE BARRIER	
FRONT	48 [1219mm]	36 [914mm]	18 [457mm]
LEFT	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/HOOD	36 [914mm]	36 [914mm]	18 [457mm]
RIGHT	36 [914mm]	36 [914mm]	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-13

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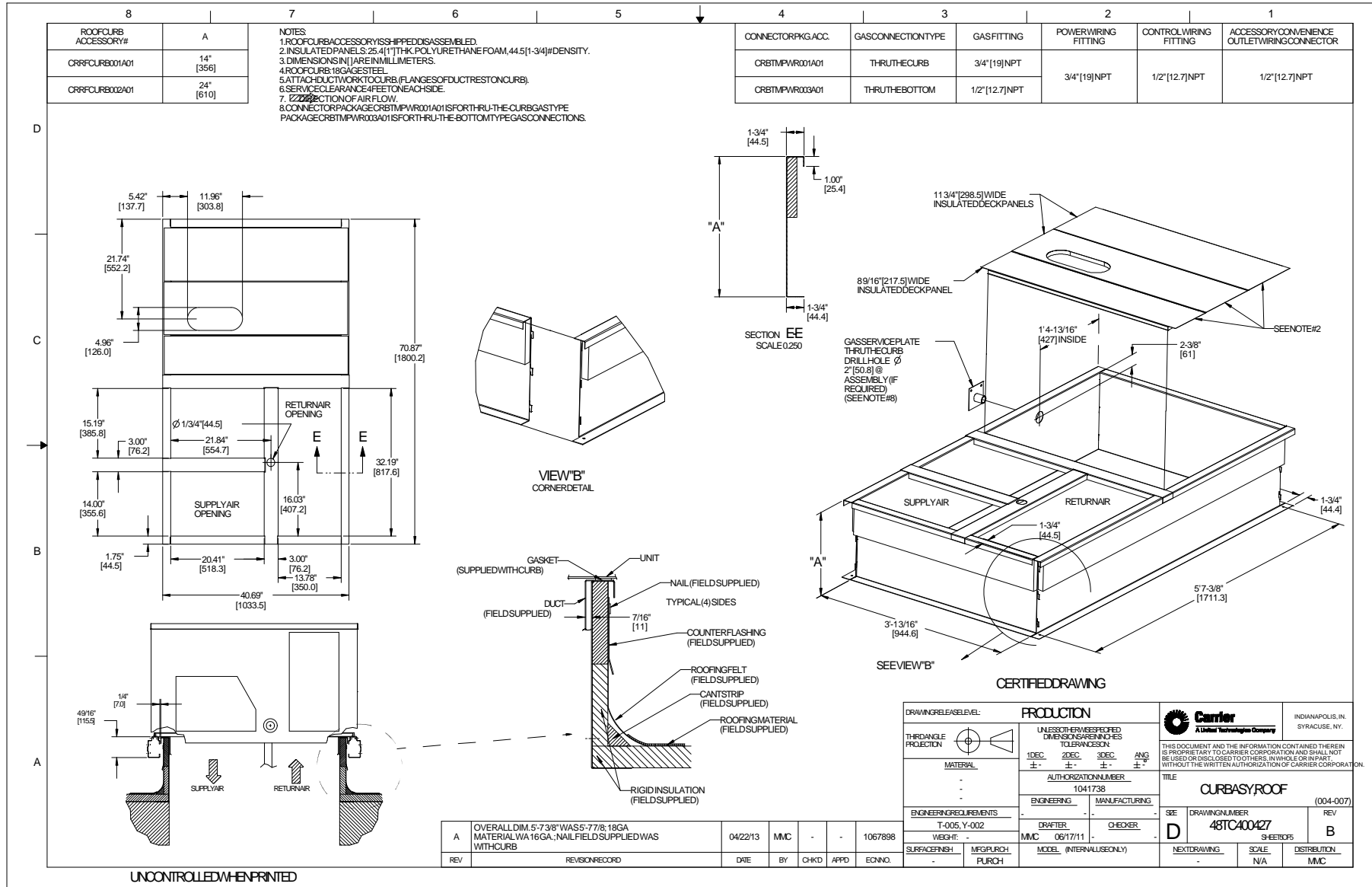
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Certified Drawing for RTU-13

Project: Fairfield Commerce Park
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Performance Summary For RTU-13

Project: Fairfield Commerce Park
 Prepared By: Jeff Gries

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Part Number: 48FCDA04A1M6-6F0A0

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: 482 lb
 Al/Cu - Al/Cu - Louvered Hail Guards: 13 lb
 Enthalpy Economizer w/ Barometric Relief: 37 lb

Accessories

14-inch Tall Roof Curb: 115 lb

Total Operating Weight: 647 lb

Unit

Unit Voltage-Phase-Hertz: 460-3-60
 Air Discharge: Vertical
 Fan Drive Type: Vane Axial
 Actual Airflow: 1000 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: 58.5 F
 Evaporator Leaving Air WB: 56.3 F
 Evaporator Leaving Air Enthalpy: 23.92 BTU/lb
 Gross Cooling Capacity: 33.82 MBH
 Gross Sensible Capacity: 23.23 MBH
 Compressor Power Input: 2.49 kW
 Coil Bypass Factor: 0.155

Heating Performance

Heating Airflow: 1000 CFM
 Entering Air Temp: 70.0 F
 Leaving Air Temp: 120.0 F
 Gas Heating Input Capacity: 67.0 MBH
 Gas Heating Output Capacity: 54.0 MBH
 Temperature Rise: 50.0 F
 Thermal Efficiency (%): 81.0

Supply Fan

External Static Pressure: 0.50 in wg
 Options / Accessories Static Pressure
 Economizer: 0.03 in wg
 Application External Static (ESP + Unit Opts/Acc.): 0.53 in wg
 Fan RPM: 1495
 Fan Power: 0.24 BHP

NOTE: Selected IFM RPM Range: 1112 - 1890

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

Electrical Data

Voltage Range: 414 - 506
 Compressor #1 RLA: 5.8

Performance Summary For RTU-13

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Compressor #1 LRA:.....	38
Indoor Fan Motor Type:.....	STD
Indoor Fan Motor FLA (Total):.....	1.2
Combustion Fan Motor FLA (ea):.....	0.25
Power Supply MCA:.....	10
Power Supply MOCP (Fuse or HACR):.....	15
Disconnect Size FLA:.....	9
Disconnect Size LRA:.....	42
Electrical Convenience Outlet:.....	None
Outdoor Fan [Qty / FLA (ea)]:.....	1 / 0.8

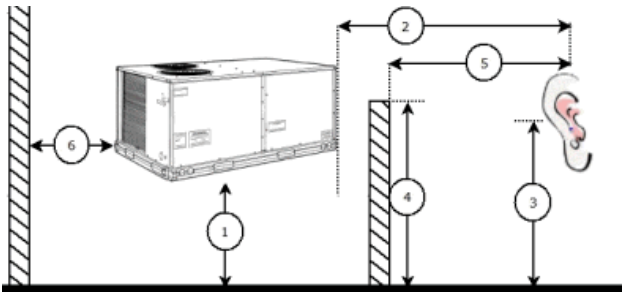
Control Panel SCCR: 5kA RMS at Rated Symmetrical Voltage

Acoustics

Sound Power Levels, db re 10E-12 Watts

	Discharge	Inlet	Outdoor
63 Hz	87.6	81.0	85.6
125 Hz	79.6	72.9	84.7
250 Hz	70.5	64.8	80.5
500 Hz	62.8	56.2	76.0
1000 Hz	59.7	57.7	72.4
2000 Hz	56.3	49.0	68.0
4000 Hz	53.5	42.9	62.8
8000 Hz	55.0	39.5	59.3
A-Weighted	69.1	63.3	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

Performance Summary For RTU-13

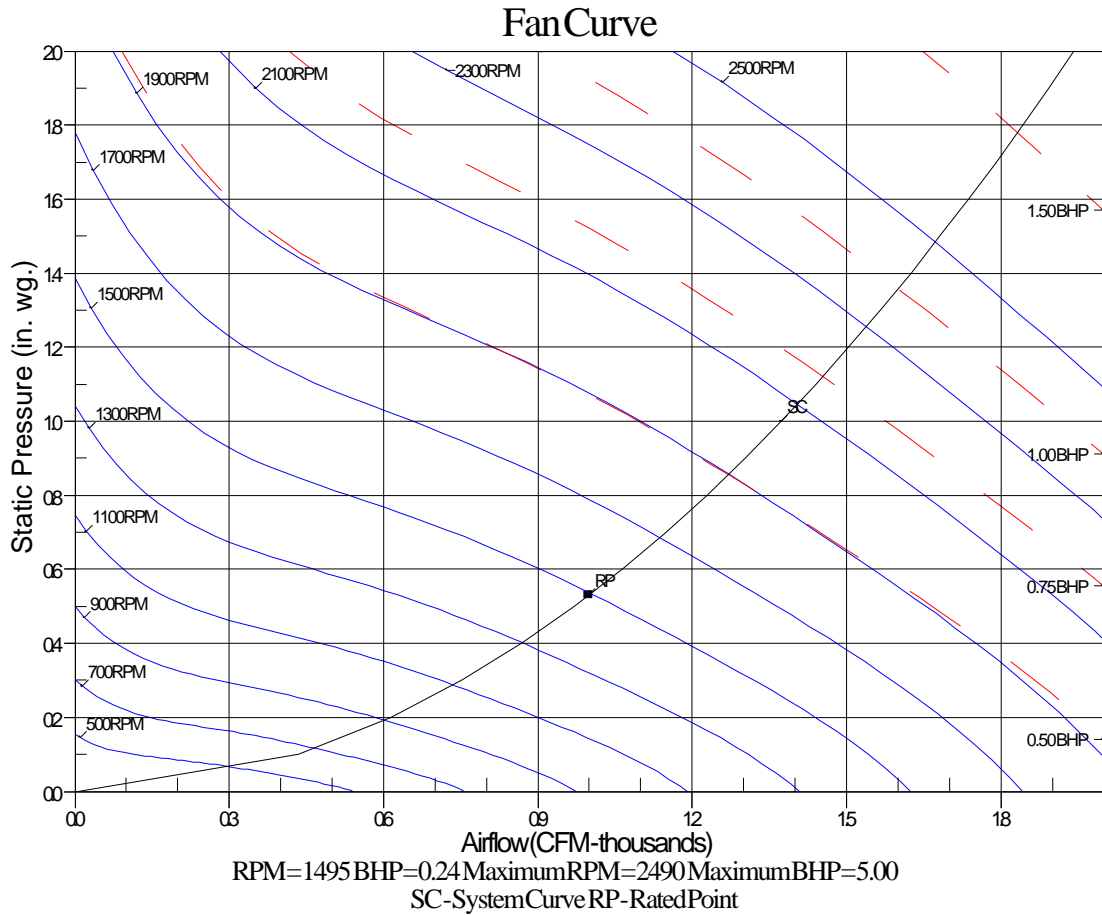
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Legend

- 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.



Unit Feature Sheet for RTU-13

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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™ mark indicates a manufacturer's participation in the program. For verification of certification for individual products, go to www.ahriindustry.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.