



SUBMITTAL

Project

Sherwin Williams - Independence

Date

Thursday, April 6, 2023

Jeff Gries
Habegger Corp,

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Project: Sherwin Williams - Independence
Prepared By: Jeff Gries

04/06/2023
04:32PM

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RTU-1

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

Unit Report For RTU-1

Project: Sherwin Williams - Independence
 Prepared By: Jeff Gries

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Unit Parameters

Unit Model:.....**48FCEM07A2A5-0A0A0**
 Unit Size:.....**07 (6 Tons)**
 Volts-Phase-Hertz:.....**208-3-60**
 Heating Type:.....**Gas**
 Heat Control:.....**Medium Heat**
 Duct Cfg:.....**Vertical Supply / Vertical Return**
 DX Options:**Single Circuit, Two Stage Cooling (07 only)**

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

Unit Length:.....**6' 2.375"**
 Unit Width:.....**3' 10.625"**
 Unit Height:.....**3' 5.375"**
Total Operating Weight:..... 790 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: **16 x 16 x 2**

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

Unit Configuration

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

Warranty Information

1-Year parts(std.)
 5-Year compressor parts(std.)
 10-Year heat exchanger - Aluminized(std.)
 Start-up, First Unit
 Complete Unit 1st Year Carrier CCS Labor
 Compressor Years 2-5 Parts & Carrier CCS Labor

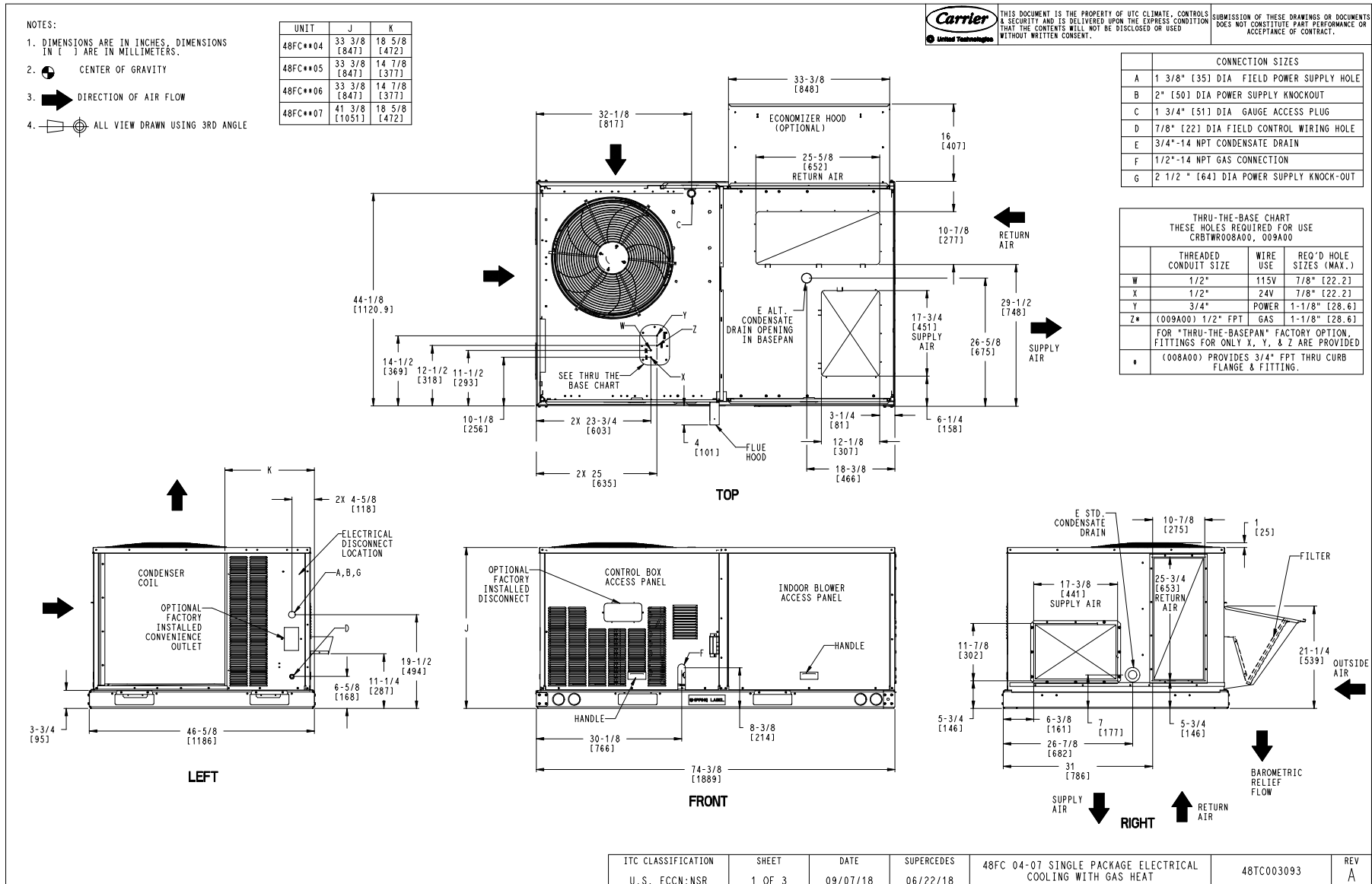
Ordering Information

Part Number	Description	Quantity
48FCEM07A2A5-0A0A0	Rooftop Unit	1
	Base Unit	
	Direct Drive - EcoBlue - Medium Static Fan/Motor	
Field Installed Accessories		
ECD-SRT12CB-D2EH	Vertical EconoMi\$er X with solid-state W7220 controller	1
CRRFCURB001A01	14-inch Tall Roof Curb	1
CRLVHLGD048A00	Louvered Condenser Coil Hail Guard	1
TH8321WF1001	Honeywell Vision-Pro 8000 Thermostat w/ Remote Sensor	1
D4120	System Sensor Duct Mounted Smoke Detector	1
RTS2-AOS	System Sensor Annunciator with Strobe	1

Certified Drawing for RTU-1

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Certified Drawing for RTU-1

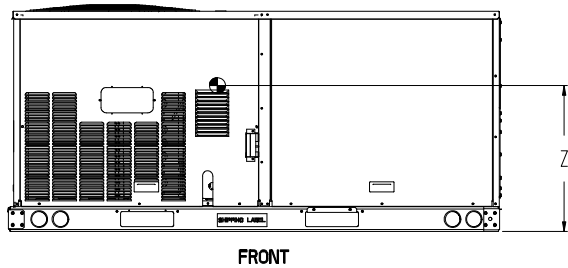
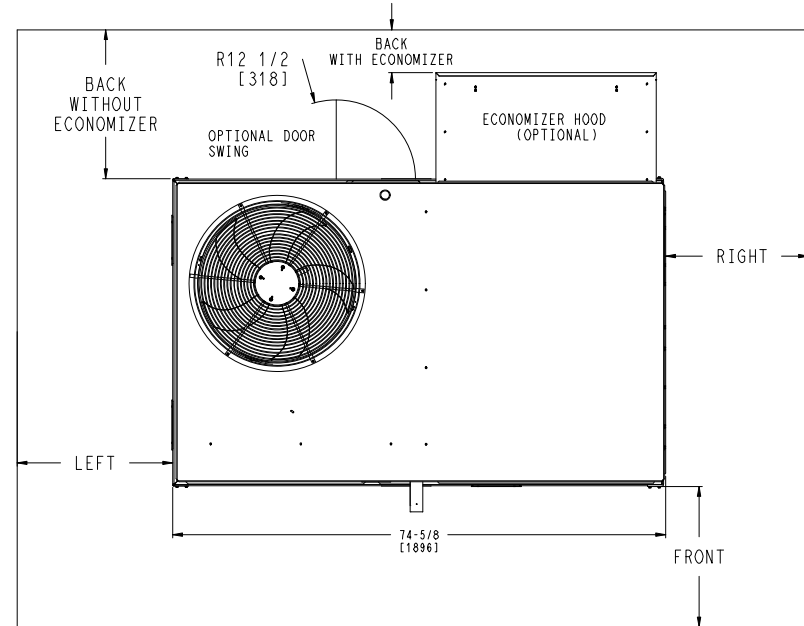
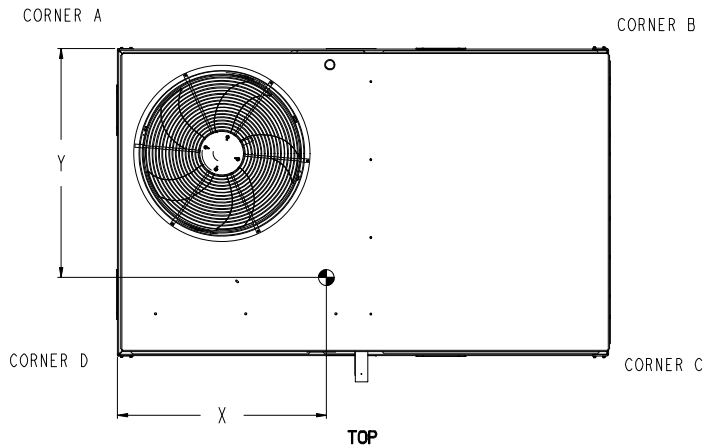
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UNIT	STD. UNIT WEIGHT *		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.			HEIGHT
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z	
48FC**04	482	219	113	51	116	53	128	58	125	57	37 5/8 [956]	24 9/16 [624]	18 1/4 [464]	
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.

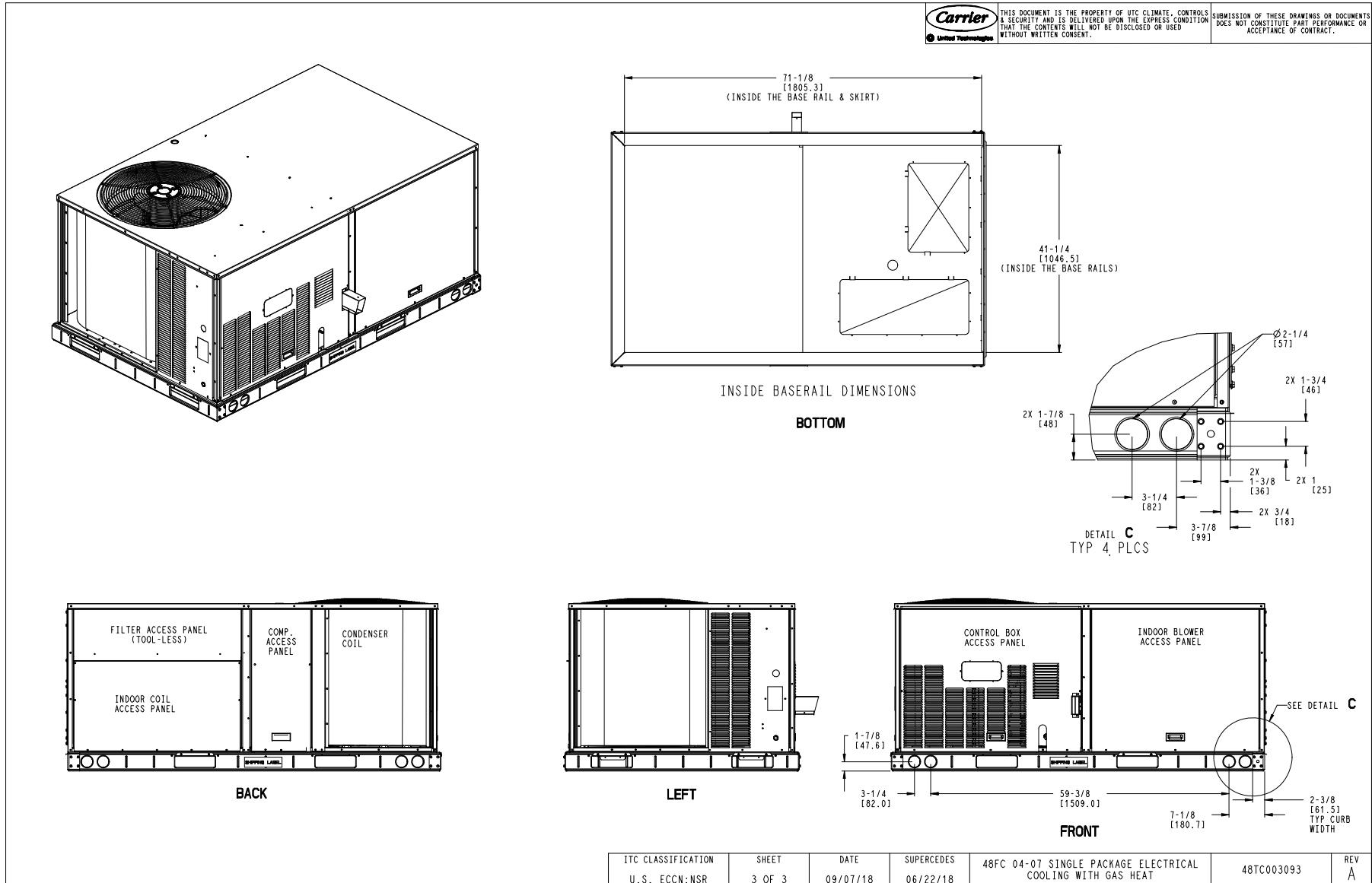
SURFACE	CLEARANCE		OPERATING CLEARANCE
	SERVICE WITH: CONDUCTIVE BARRIER	SERVICE WITH: NONCONDUCTIVE BARRIER	
FRONT	48 [1219mm]	36 [914mm]	18 [457mm]
LEFT	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/HOOD	36 [914mm]	36 [914mm]	18 [457mm]
RIGHT	36 [914mm]	36 [914mm]	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-1

Project: Sherwin Williams - Independence
 Prepared By: Jeff Gries

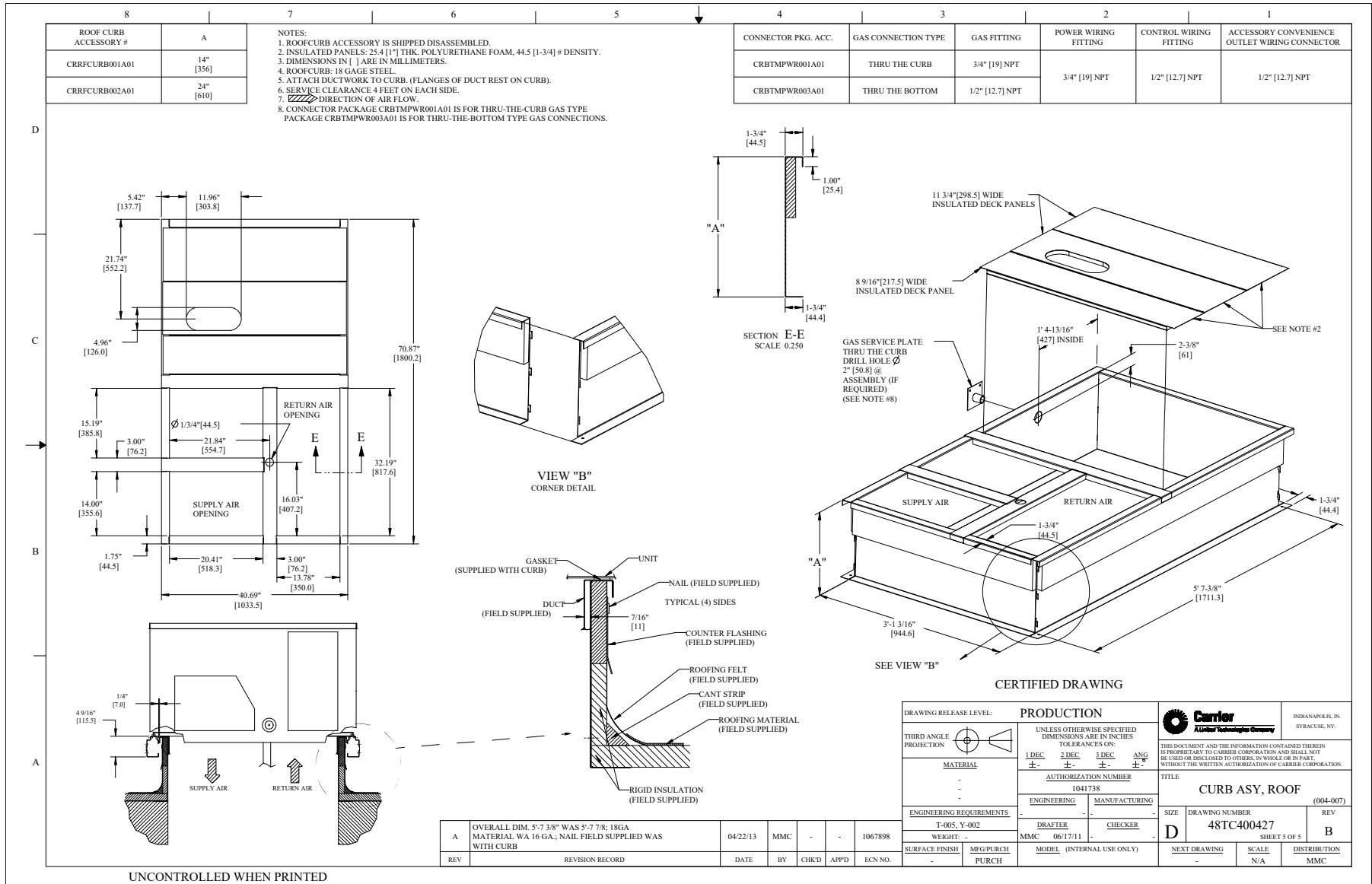
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Certified Drawing for RTU-1

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Performance Summary For RTU-1

Project: Sherwin Williams - Independence
 Prepared By: Jeff Gries

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Part Number: 48FCEM07A2A5-0A0A0

ARI EER : **11.00**
 IEER : **15.0**

Base Unit Dimensions

Unit Length: **74.4** in
 Unit Width: **46.6** in
 Unit Height: **41.4** in

Operating Weight

Base Unit Weight: **562** lb
 Medium Heat: **63** lb

Accessories

STANDARD LEAK – Vertical EconoMi\$er X with solid-state W7220 controller: **50** lb
 14-inch Tall Roof Curb: **115** lb

Total Operating Weight: **790** lb

Unit

Unit Voltage-Phase-Hertz: **208-3-60**
 Air Discharge: **Vertical**
 Fan Drive Type: **Vane Axial**
 Actual Airflow: **2400** 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: **57.5** F
 Evaporator Leaving Air Enthalpy: **24.73** BTU/lb
 Gross Cooling Capacity: **72.42** MBH
 Gross Sensible Capacity: **55.62** MBH
 Compressor Power Input: **5.29** kW
 Coil Bypass Factor: **0.096**

Heating Performance

Heating Airflow: **2400** CFM
 Entering Air Temp: **70.0** F
 Leaving Air Temp: **104.0** F
 Gas Heating Input Capacity: **110.0** MBH
 Gas Heating Output Capacity: **88.0** MBH
 Temperature Rise: **34.0** F
 Thermal Efficiency (%): **80.0**

Supply Fan

External Static Pressure: **0.80** in wg
 Options / Accessories Static Pressure
 Economizer: **0.17** in wg
 Application External Static (ESP + Unit Opts/Acc.): **0.97** in wg
 Fan RPM: **2471**
 Fan Power: **1.61** BHP

NOTE: **Selected IFM RPM Range: 1596 – 2530**

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

Electrical Data

Voltage Range: **187 – 253**

Performance Summary For RTU-1

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Compressor #1 RLA:.....	17.5
Compressor #1 LRA:.....	136
Indoor Fan Motor Type:.....	MED
Indoor Fan Motor FLA (Total):.....	5.5
Combustion Fan Motor FLA (ea):.....	0.48
Power Supply MCA:.....	29
Power Supply MOCP (Fuse or HACR):.....	45
Disconnect Size FLA:.....	28
Disconnect Size LRA:.....	148
Electrical Convenience Outlet:.....	None
Outdoor Fan [Qty / FLA (ea)]:.....	1 / 1.5

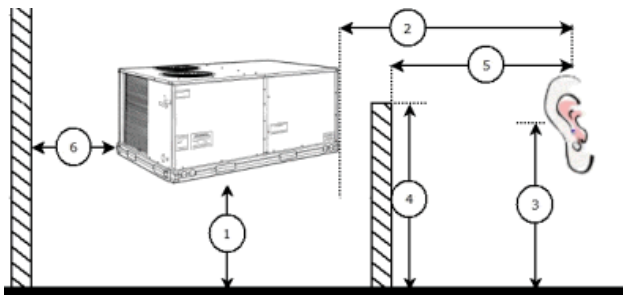
Control Panel SCCR: 5kA RMS at Rated Symmetrical Voltage

Acoustics

Sound Power Levels, db re 10E-12 Watts

	Discharge	Inlet	Outdoor
63 Hz	94.8	91.4	85.6
125 Hz	86.8	83.3	84.7
250 Hz	81.1	73.9	80.5
500 Hz	78.0	70.8	76.0
1000 Hz	75.5	72.2	72.4
2000 Hz	73.3	63.9	68.0
4000 Hz	67.9	56.6	62.8
8000 Hz	62.6	50.7	59.3
A-Weighted	81.5	75.8	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-1

Project: Sherwin Williams - Independence
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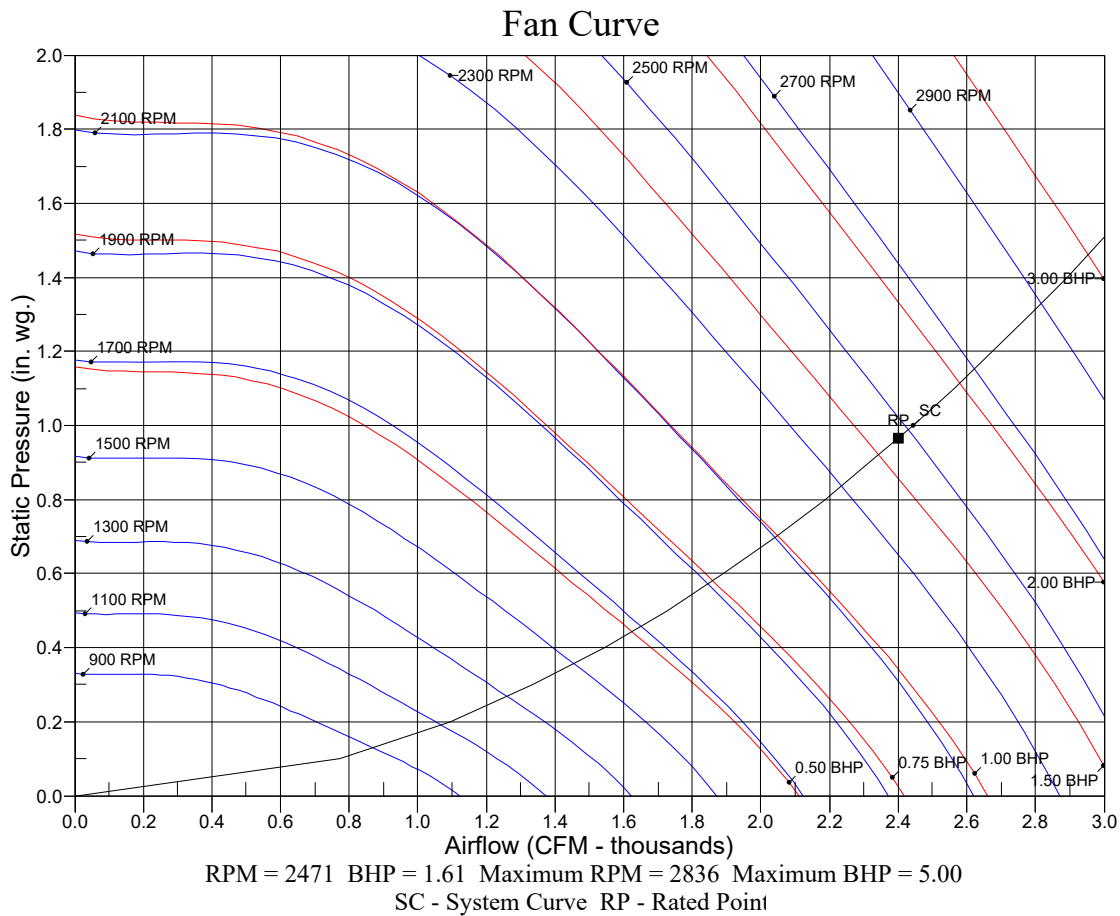
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D	27.0	36.2	39.5	40.4	40.0	36.8	31.4	25.8	46.1 LpA
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Legend

- 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-1

Project: Sherwin Williams - Independence
Prepared By: Jeff Gries

04/06/2023
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PACKAGED ROOFTOP GAS HEATING/ELECTRIC COOLING UNITS – 3, 4, 5 TON - 13.4 SEER2 and 14.0 SEER, 6 TON - 15.0 IEER



WEATHERMAKER SERIES

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

Approved and certified by:



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

STANDARD FEATURES INCLUDE:

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

MAINTENANCE FEATURES:

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

INSTALLATION FEATURES:

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

STANDARD WARRANTY:

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

OPTIONS INCLUDE BUT ARE NOT LIMITED TO:

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

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

RTU-2

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

Unit Report For RTU-2

Project: Sherwin Williams - Independence
 Prepared By: Jeff Gries

04/06/2023
 04:32PM

Unit Parameters

Unit Model:..... **48FCEA04A2A5-0A0A0**
 Unit Size:..... **04 (3 Tons)**
 Volts-Phase-Hertz:..... **208-3-60**
 Heating Type:..... **Gas**
 Heat Control:..... **Medium Heat**
 Duct Cfg:..... **Vertical Supply / Vertical Return**
 DX Options: **Standard One Stage Cooling Models**

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

Unit Length:..... **6' 2.375"**
 Unit Width:..... **3' 10.625"**
 Unit Height:..... **2' 9.375"**
Total Operating Weight:..... 659 lb

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

Lines and Filters

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

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

Unit Configuration

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

Warranty Information

1-Year parts(std.)
 5-Year compressor parts(std.)
 10-Year heat exchanger – Aluminized(std.)
 Start-up, First Unit
 Complete Unit 1st Year Carrier CCS Labor
 Compressor Years 2-5 Parts & Carrier CCS Labor

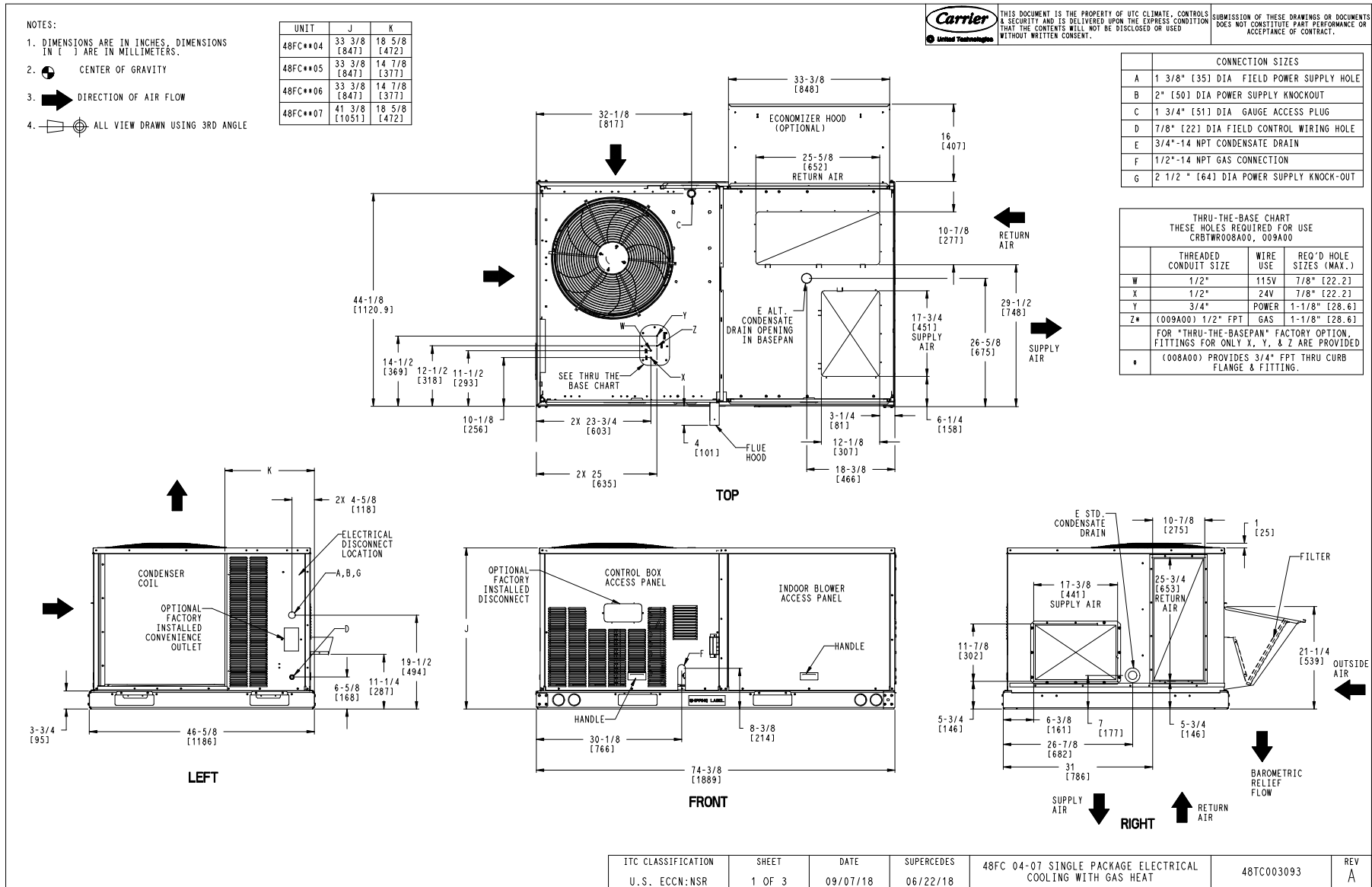
Ordering Information

Part Number	Description	Quantity
48FCEA04A2A5-0A0A0	Rooftop Unit	1
	Base Unit	
	Direct Drive – EcoBlue – Medium Static Fan/Motor	
Field Installed Accessories		
ECD-SRT12CB-D2EH	Vertical EconoMi\$er X with solid-state W7220 controller	1
CRRFCURB001A01	14-inch Tall Roof Curb	1
CRLVHLGD048A00	Louvered Condenser Coil Hail Guard	1
TH8321WF1001	Honeywell Vision-Pro 8000 Thermostat w/ Remote Sensor	1
D4120	System Sensor Duct Mounted Smoke Detector	1
RTS2-AOS	System Sensor Annunciator with Strobe	1

Certified Drawing for RTU-2

Project: Sherwin Williams - Independence
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Certified Drawing for RTU-2

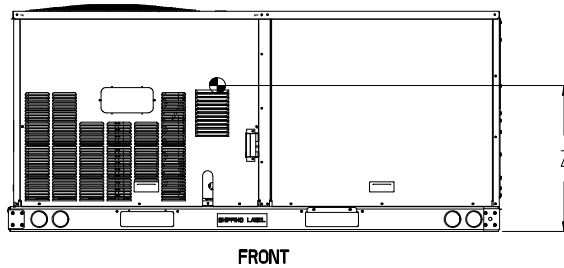
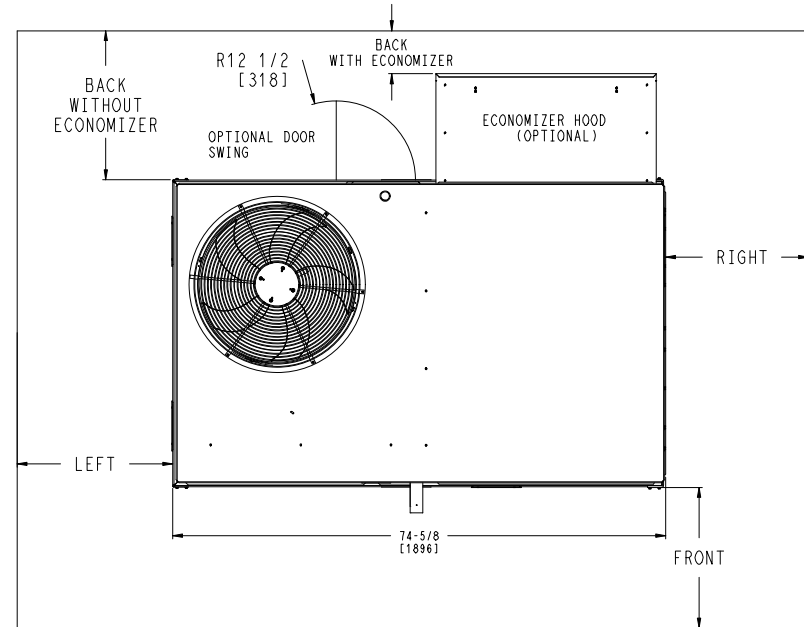
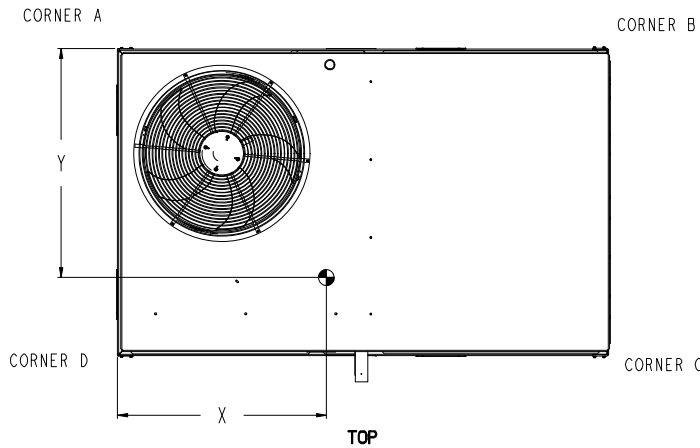
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UNIT	STD. UNIT WEIGHT *		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.			HEIGHT
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z	
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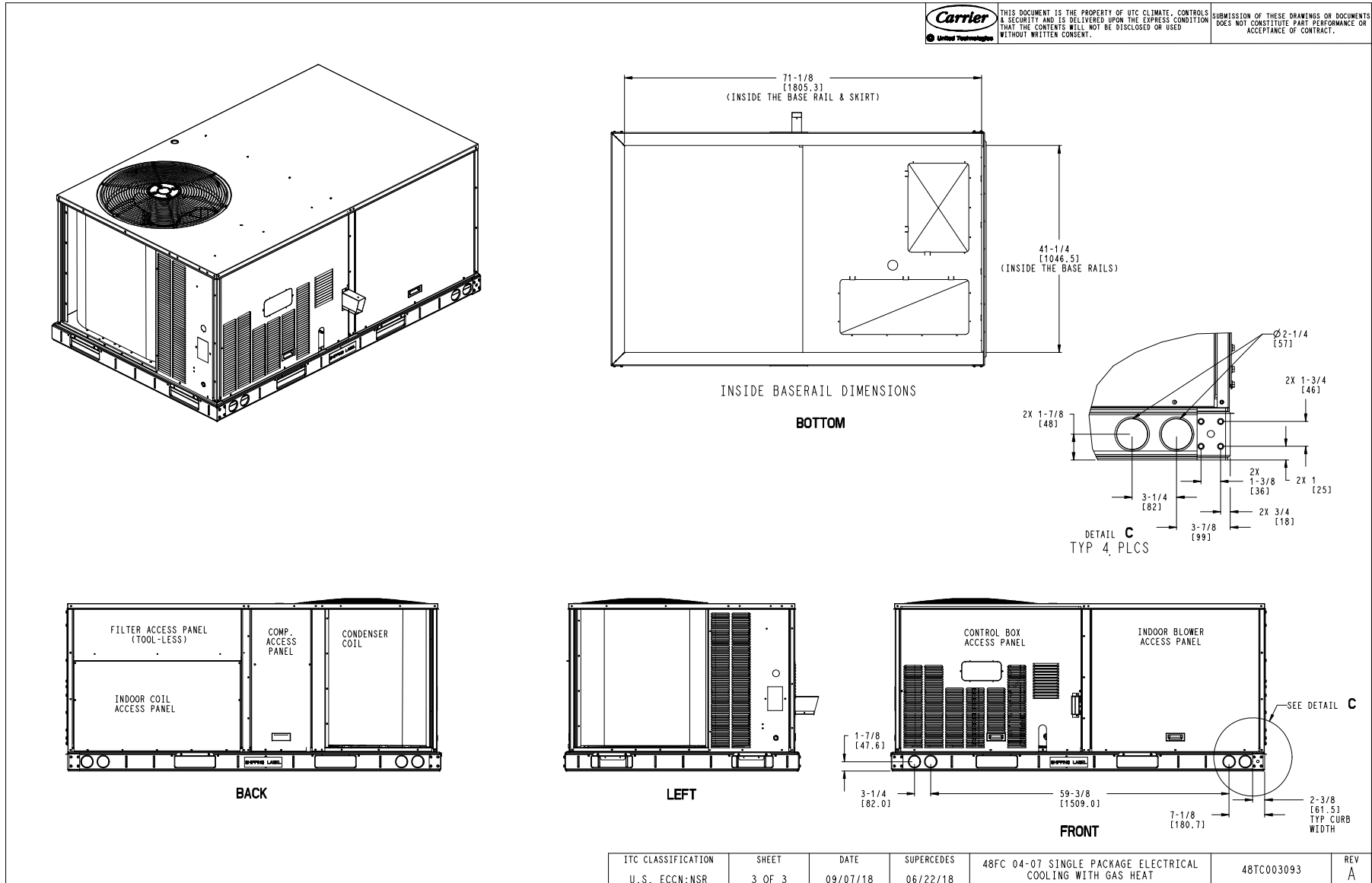
SURFACE	CLEARANCE		OPERATING CLEARANCE
	SERVICE WITH: CONDUCTIVE BARRIER	SERVICE WITH: NONCONDUCTIVE BARRIER	
FRONT	48 [1219mm]	36 [914mm]	18 [457mm]
LEFT	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/HOOD	36 [914mm]	36 [914mm]	18 [457mm]
RIGHT	36 [914mm]	36 [914mm]	18 [457mm]
TOP	72 [1829mm]	72 [1829mm]	72 [1829mm]

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

Certified Drawing for RTU-2

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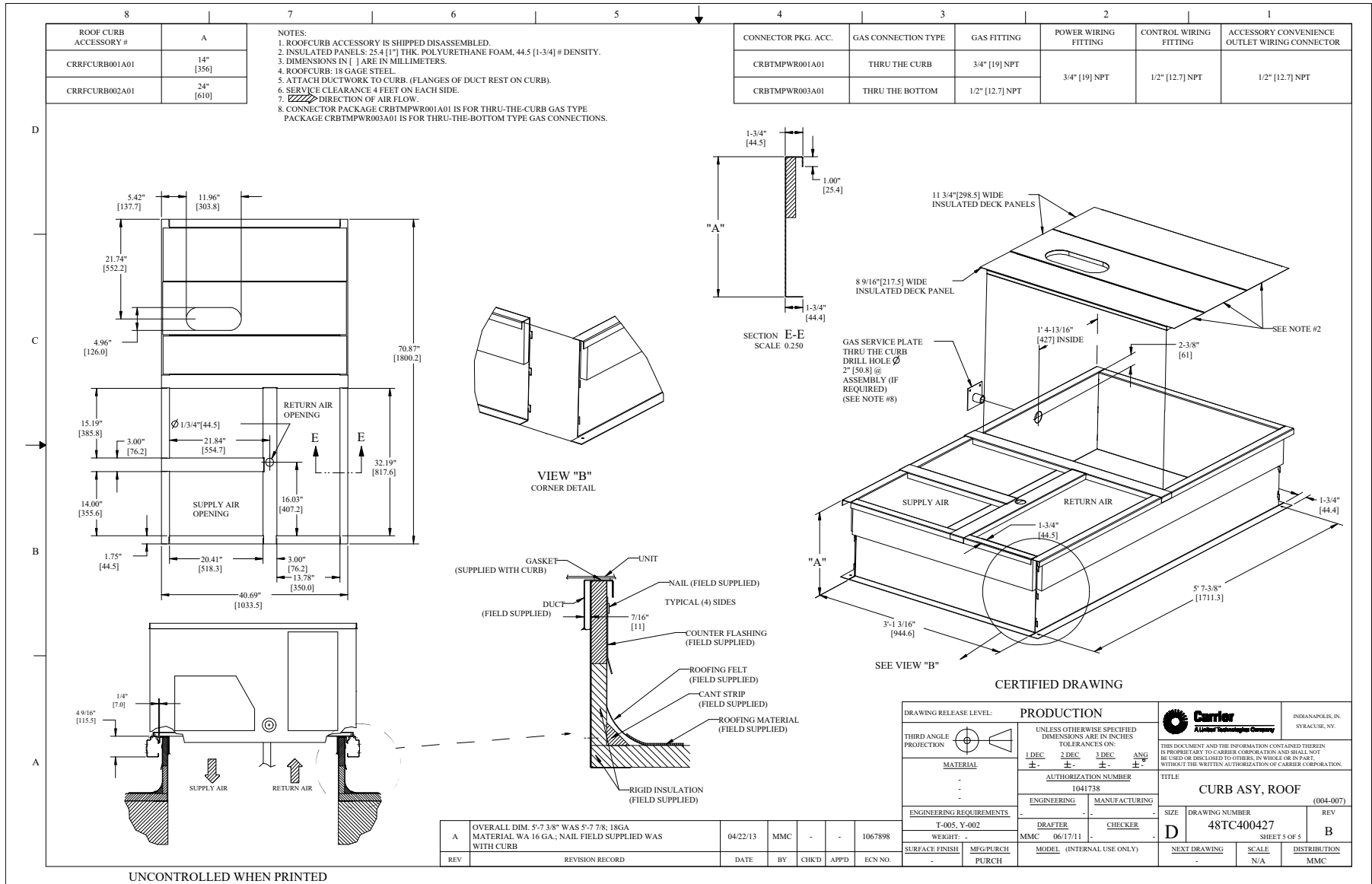
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Certified Drawing for RTU-2

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Performance Summary For RTU-2

Project: Sherwin Williams - Independence
 Prepared By: Jeff Gries

04/06/2023
 04:32PM

Part Number: 48FCEA04A2A5-0A0A0

ARI SEER: 14.00

Base Unit Dimensions

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

Operating Weight

Base Unit Weight: 437 lb
 Medium Heat: 57 lb

Accessories

STANDARD LEAK - Vertical EconoMi\$er X with solid-state W7220 controller: 50 lb
 14-inch Tall Roof Curb: 115 lb

Total Operating Weight: 659 lb

Unit

Unit Voltage-Phase-Hertz: 208-3-60
 Air Discharge: Vertical
 Fan Drive Type: Vane Axial
 Actual Airflow: 1200 CFM
 Site Altitude: 0 ft

Cooling Performance

Condenser Entering Air DB: 95.0 F
 Evaporator Entering Air DB: 80.0 F
 Evaporator Entering Air WB: 67.0 F
 Entering Air Enthalpy: 31.44 BTU/lb
 Evaporator Leaving Air DB: 60.4 F
 Evaporator Leaving Air WB: 57.9 F
 Evaporator Leaving Air Enthalpy: 24.93 BTU/lb
 Gross Cooling Capacity: 35.13 MBH
 Gross Sensible Capacity: 25.39 MBH
 Compressor Power Input: 2.50 kW
 Coil Bypass Factor: 0.180

Heating Performance

Heating Airflow: 1200 CFM
 Entering Air Temp: 70.0 F
 Leaving Air Temp: 137.9 F
 Gas Heating Input Capacity: 82.0 / 110.0 MBH
 Gas Heating Output Capacity: 65.0 / 88.0 MBH
 Temperature Rise: 67.9 F
 Thermal Efficiency (%): 80.0

Supply Fan

External Static Pressure: 0.50 in wg
 Options / Accessories Static Pressure
 Economizer: 0.04 in wg
 Application External Static (ESP + Unit Opts/Acc.): 0.54 in wg
 Fan RPM: 1627
 Fan Power: 0.31 BHP

NOTE: Selected IFM RPM Range: 1112 - 2190

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

Electrical Data

Voltage Range: 187 - 253
 Compressor #1 RLA: 10.4

Performance Summary For RTU-2

Project: Sherwin Williams - Independence
 Prepared By: Jeff Gries

04/06/2023
 04:32PM

Compressor #1 LRA:.....	73
Indoor Fan Motor Type:.....	MED
Indoor Fan Motor FLA (Total):.....	5.1
Combustion Fan Motor FLA (ea):.....	0.48
Power Supply MCA:.....	20
Power Supply MOCP (Fuse or HACR):.....	30
Disconnect Size FLA:.....	20
Disconnect Size LRA:.....	84
Electrical Convenience Outlet:.....	None
Outdoor Fan [Qty / FLA (ea)]:.....	1 / 1.5

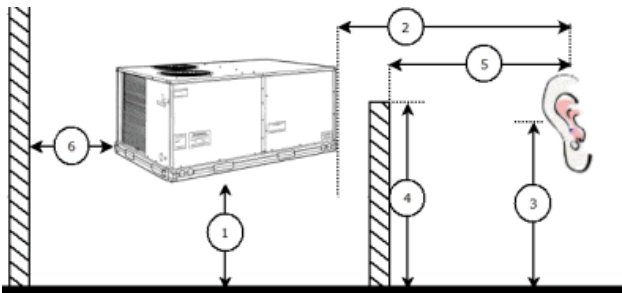
Control Panel SCCR: 5kA RMS at Rated Symmetrical Voltage

Acoustics

Sound Power Levels, db re 10E-12 Watts

	Discharge	Inlet	Outdoor
63 Hz	87.7	82.1	85.6
125 Hz	79.9	74.0	84.7
250 Hz	72.5	65.6	80.5
500 Hz	64.3	57.7	76.0
1000 Hz	61.4	59.5	72.4
2000 Hz	58.3	50.8	68.0
4000 Hz	54.7	44.7	62.8
8000 Hz	55.2	40.5	59.3
A-Weighted	70.2	64.6	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: **.00** 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-2

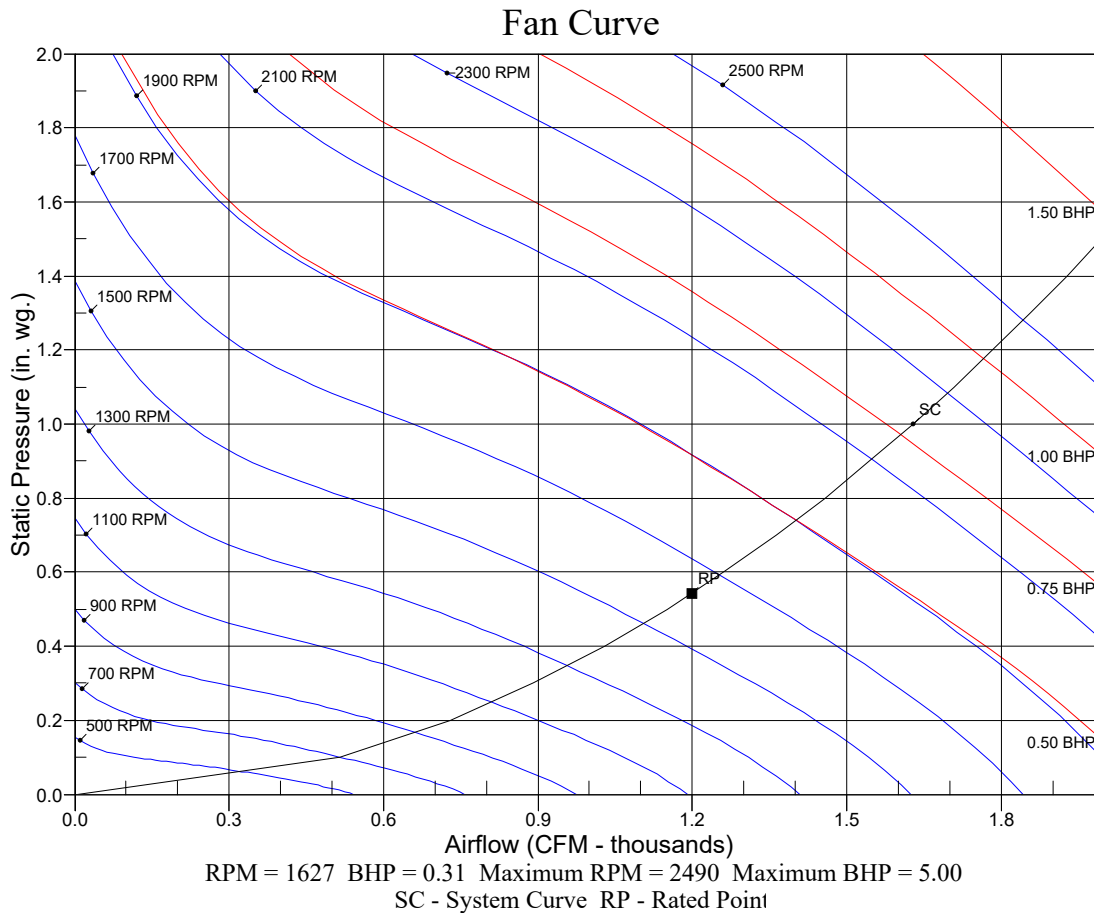
Project: Sherwin Williams - Independence
Prepared By: Jeff Gries

04/06/2023
04:32PM

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-2

Project: Sherwin Williams - Independence
Prepared By: Jeff Gries

04/06/2023
04:32PM



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



WEATHERMAKER SERIES

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

Approved and certified by:



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

STANDARD FEATURES INCLUDE:

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

MAINTENANCE FEATURES:

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

INSTALLATION FEATURES:

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

STANDARD WARRANTY:

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

OPTIONS INCLUDE BUT ARE NOT LIMITED TO:

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

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

VisionPRO® 8000

for Commercial Applications

Honeywell



Manage your HVAC system from any device
anywhere in the world



THERMOSTATS | ZONING | AIR CLEANERS | HUMIDIFIERS | DEHUMIDIFIERS | UV SYSTEMS | VENTILATION | WATER SOLUTIONS | WIRELESS

Complete system management at a fraction of the cost

The all-new VisionPRO 8000 thermostat from Honeywell gives you the benefits of a large commercial HVAC system without the complexity or the price tag. With selectable commercial settings and the ability to send system information directly to your computer or mobile device, the VisionPRO 8000 allows you to manage multiple properties remotely, with no need for someone on-site.



REMOTE SYSTEM CONTROL MADE EASY

- **Easy to program and use** — No manual required
- **Remote monitoring** — Easily control multiple buildings from a PC, tablet or smartphone
- **Self-monitoring diagnostics** — Sends alerts for needed maintenance and service issues
- **Total solution** — Integrates occupancy sensors, lighting controls and other HVAC/IAQ systems*

RELIABLE COMMERCIAL CONTROL

- **Building code compliant** — Meets all commercial building codes, including Title 24
- **Efficient commercial management** — Temperature set point limits and keypad lock out lets you manage energy usage for maximum savings
- **365-day scheduling** — Program a holiday schedule including up to 25 custom events
- **Initiate occupancy** — Save energy in rooms not frequently used
- **Adjustable ramp rates** — Initiates early recovery as needed
- **Retrofit existing controls** — Replace inefficient HVAC controls with RedLINK™ wireless management system
- **Universal install options** — VisionPRO 8000 can be installed in three ways, eliminating on-site wiring issues

EFFICIENT PROPERTY MANAGEMENT

- **Includes diagnostics and alerts** — System information sent to your computer, tablet or smartphone through Honeywell's Total Connect Comfort service**
- **User interaction and alert logs** — Simply download data to a microSD card and view on a PC
- **Low installed system cost with no monitoring fees**

*An Equipment Interface Module (EIM) is required for occupancy sensors.

**VisionPRO 8000 does not monitor system DeltaT; view DeltaT in installer setup.

All-New VisionPRO® 8000 Thermostats	
PART NUMBER	PRODUCT DESCRIPTION
TH8321R1001	All-new VisionPRO 8000 with RedLINK™ technology. Residential or commercial use. 7-day programmable. Up to 3H/2C heat pump or up to 2H/2C conventional. Includes a set of universal IAQ contacts to control humidification, dehumidification or ventilation. Works standalone or with the THM5421R1021 EIM and THM4000R1000 TrueZONE® wireless adapter.
TH8320R1003	All-new VisionPRO 8000 with RedLINK™ technology. Residential or commercial use. 7-day programmable. Up to 3H/2C heat pump or up to 2H/2C conventional. Works standalone or with the THM5421R1021 EIM and THM4000R1000 TrueZONE® wireless adapter.
TH8110R1008	All-new VisionPRO 8000 with RedLINK™ technology. Residential or commercial use. 7-day programmable. 1H/1C heat pump or 1H/1C conventional. Works standalone or with the THM5421R1021 Equipment Interface Module (EIM) and THM4000R1000 TrueZONE® wireless adapter.
Equipment Interface Modules	
THM5421R1021	Controls up to 4 stages of heat and 2 stages of cool in a heat pump system and up to 3 stages of heat and 2 stages of cool in a conventional system. Three sets of universal IAQ contacts to control humidification, dehumidification, and ventilation. Four sensor inputs for wired sensors or dry contact devices. Compatible with all Prestige® IAQ thermostats and the all-new VisionPRO 8000.
YTHM5421R1010	EIM kit with 2 duct sensors. Controls up to 4 stages of heat and 2 stages of cool in a heat pump system and up to 3 stages of heat and 2 stages of cool in a conventional system. Three sets of universal IAQ contacts to control humidification, dehumidification, and ventilation. Four sensor inputs for wired sensors or dry contact devices. Compatible with all Prestige IAQ thermostats and the all-new VisionPRO 8000.
All-New VisionPRO 8000 Wall Cover Plate	
THP2400A1019	
RedLINK Accessories	
THM6000R1002	RedLINK Internet Gateway
REM5000R1001	Portable Comfort Control
REM1000R1003	Wireless entry/exit remote
C7089R1013	Wireless outdoor air sensor
C7189R1004	Wireless indoor air sensor
HVC20A1000	Wireless vent and filter boost remote
THM4000R1000	Wireless adapter for TrueZONE®, TrueSTEAM™ or to extend wireless range of EIM

Learn More

Call **1-800-468-1502**

e-mail info@honeywell.com

or visit forwardthinking.honeywell.com

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67-7637

April 2013

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Wireless Technology

Honeywell



4-Wire Photoelectric Duct Smoke Detector

The InnovairFlex™ Series are the only duct smoke detectors flexible enough to fit configurations from square to rectangular and everything in between.

Features

- Photoelectric, integrated low-flow technology
- Air velocity rating from 100 ft/min to 4,000 ft/min (0.5 m/s to 20.32 m/sec)
- Versatile mounting options: square or rectangular configuration
- Plug-in sensor offers superb false alarm immunity and the latest sensor technology
- Broad ranges for operating temperature (–4°F to 158°F) and humidity (0% to 95% non-condensing)
- Patented sampling tube installs from front or back of the detector with no tools required
- Increased wiring space with a newly added 3/4-inch conduit knockout
- One easy-access Test/Reset button and improved LED status
- Patented interconnect feature for multi-fan shutdown
- New high contrast terminal designations
- Built-in short circuit protection from operator wiring errors
- Field selectable settings for configuring the detector
- Two DPDT Form-C relay contacts
- 24 VAC/DC or 120 VAC
- Backward compatibility with existing Innovair products, including remote accessories

Agency Listings



S911



3029700



3242-1653-207



2202



Innovairflex™

The InnovairFlex D4120 4-wire photoelectric duct smoke detector features a pivoting housing that fits both square and rectangular footprints and mounts to round or rectangular ductwork. This unit senses smoke in the most challenging conditions, operating in airflow speeds of 100 to 4,000 feet per minute, temperatures of –4°F to 158°F, and a humidity range of 0 to 95 percent (non-condensing). A plug-in sensor head offers improved false alarm immunity and simple installation, testing, and maintenance. An improved cover design isolates the sensor head from the low-flow feature for simple maintenance.

The InnovairFlex housing provides ample wiring space, a 3/4-inch conduit knockout, and built-in short circuit protection to prevent damage to sensitive components during installation. High contrast terminal designations make wiring easy. With its 2:1 sensor-to-power capability, the power board of the D4120 may be used to monitor a second sensor, D4S, simultaneously (i.e., supply and return side). As many as 50 InnovairFlex detectors can be interconnected. When one unit senses smoke, all interconnected detectors will switch their relays; only the detector sensing smoke will go into alarm, thus pinpointing the fire source.

An easy-access Test/Reset button makes it possible to test the unit with the cover on. Three DIP switches can be used to configure field selectable settings: cover tamper delay, number of sensors to be controlled, and shut down on trouble option. Each power board has two LEDs that can be used to indicate the status of connected sensors, and a quick reference imprinted on the cover explains the LED status indications (Standby, Maintenance, Trouble, and Alarm). The InnovairFlex duct smoke detector can be customized to meet local codes and specifications without additional wiring. The new InnovairFlex product line is compatible with all previous Innovair models, including remote test accessories.

WARNING: Duct smoke detectors are **NOT** a substitute for open area smoke detectors; **NOT** a substitute for early warning detection; **NOT** a replacement for a building's regular fire detection system. Refer to NFPA 72 and 90A for additional information.

InnovairFlex™ Duct Smoke Detector Specifications

Architectural/Engineering Specifications

The air duct smoke detector shall be a System Sensor InnovairFlex™ D4120 Photoelectric Duct Smoke Detector. The detector housing shall be UL listed per UL 268A specifically for use in air handling systems. The flexible housing of the duct smoke detector fits multiple footprints from square to rectangular. The detector shall operate at air velocities of 100 feet per minute to 4000 feet per minute (0.5 to 20.32 meters/second). The unit shall be capable of controlling up to 50 air handling systems when interconnected with other detectors. The detector shall be capable of providing a trouble signal in the event that the front cover is removed. It shall be capable of local testing via magnetic switch, test button on the cover, or remote testing using the SSK451 Multi-Signaling Accessory or the RTS451KEY Remote Test Station. Terminal connections shall be of the strip and clamp method suitable for 12–18 AWG wiring.

Physical Specifications

Size: (Rectangular Dimensions)	14.38 in (37 cm) Length; 5 in (12.74 cm) Width; 2.5 in (6.36 cm) Depth
Size: (Square Dimensions)	7.75 in (19.7 cm) Length; 9 in (22.9 cm) Width; 2.5 in (6.35 cm) Depth
Weight:	2.5 lbs (1.14 kg)
Operating Temperature Range:	D4120 & D4S: -4° to 158°F (-20° to 70°C); D4P120: -40° to 158°F (-40° to 70°C)
Storage Temperature Range:	D4120 & D4S: -22° to 158°F (-30° to 70°C); D4P120: -40° to 158°F (-40° to 70°C)
Operating Humidity Range:	0% to 95% relative humidity non-condensing
Air Duct Velocity:	100 to 4000 ft/min (0.5 to 20.32 m/sec)

Electrical Ratings

Power supply voltage:	20–29 VDC	24 VAC 50–60 Hz	120 VAC 50–60 Hz
Input capacitance:	270 µF max.	270 µF max.	N/A
Reset voltage:	3.0 VDC min.	2.0 VAC min.	10 VAC min.
Reset time: (with RTS451)	.03 to 0.3 sec.	.03 to 0.3 sec.	.03 to 0.3 sec.
Reset time: (by power down)	0.6 sec. max.	0.6 sec. max.	0.6 sec. max.
Power up time:	35 sec. max.	35 sec. max.	35 sec. max.
Alarm response time:	15 sec.	15 sec.	15 sec.
Sensitivity Test:	See detector label	See detector label	See detector label

Current Requirements: (Using No Accessories)

Max. standby current:	21 mA @ 24VDC	65 mA RMS @ 24VAC 60Hz	20 mA RMS @ 120VAC 60Hz
Max. alarm current:	65 mA @ 24VDC	135 mA RMS @ 24VAC 60Hz	35 mA RMS @ 120VAC 60Hz

Contact Ratings

Alarm initiation contacts: (SPST)	2.0A @ 30 VDC (resistive)
Alarm auxiliary contacts: (DPDT)	10A @ 30 VDC (resistive); 10A @ 250 VAC (resistive); ½ HP @ 240 VAC ; ¼ HP @ 120 VAC
Note: Alarm auxiliary contacts shall not be connected to initiating circuits of control panels. Use the alarm initiation contact for this purpose.	
Supervisory contacts: (SPDT)	2.0A @ 30 VDC (resistive); 2.0A @ 125 VAC (resistive)

Accessory Current Loads at 24 VDC

Device	Standby	Trouble	Alarm
APA151/APA451	12.5 mA	n/a	30 mA Max.
MHR/MHW	0 mA	n/a	29 mA Max.
RA100Z	0 mA	n/a	12 mA Max.
RTS151/RTS151KEY	0 mA/12 mA	n/a	12 mA Max.
RTS2/RTS2-AOS	3.0mA max	16 mA Max.	with strobe: 55 mA max; without strobe 30 mA max

Note: Any combination of accessories may be used such that the given accessory loads are: 110 mA or less at the Aux output, and 50 mA or less at the Alarm output

Installing the InnovairFlex Sampling Tube

The InnovairFlex sampling tube may be installed from the front or back of the detector. The tube locks securely into place and can be removed by releasing the front or rear locking tab (front locking tab shown below right).



Accessories

System Sensor provides system flexibility with a variety of accessories, including two remote test stations and several different means of visible and audible system annunciation. As with our duct smoke detectors, all duct smoke detector accessories are UL listed.



RTS151 UL S4011



RTS151KEY UL S2522



APA151 UL S4011



RTS2-AOS UL S2522



RA100Z UL S2522



MHW UL S4011



MHR UL S4011



AOS

Ordering Information

Part No.	Description		
D4120	4-wire photoelectric low-flow duct smoke detector		
Accessories			
D4S	4-wire photoelectric sensor component only	MHR	Mini Horn, Red
D4P120	4-wire photoelectric power board component only, 24 VAC/DC, 120 VAC	MHW	Mini Horn, White
2D51	4-wire conventional photoelectric sensor head	P48-21-00	End cap for metal sampling tubes
DST1	Metal sampling tube duct width up to 1ft (0.3m)	RA100Z	Remote annunciator alarm LED
DST1.5	Metal sampling tube duct widths 1 ft to 2 ft (0.3 to 0.6 m)	RTS151	Remote test station
DST3	Metal sampling tube duct widths 2 ft to 4 ft (0.6 to 1.2 m)	RTS151KEY	Remote test station with key lock
DST5	Metal sampling tube duct widths 4 ft to 8 ft (1.2 to 2.4 m)	RTS2 - AOS	Multi-signaling accessory
DST10	Metal sampling tube duct widths 8 ft to 12 ft (2.4 to 3.7 m)		
APA151	Remote annunciator with piezo alarm		
DH400 OE-1	Weatherproof enclosure		
ETX	Metal exhaust tube duct width 1ft (0.3m)		
M02-04-00	Test magnet		



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A05-0419-002 • 2/10 • #2305