



SUBMITTAL

Project

BCF - Amarillo, TX #564

Date

Wednesday, February 23, 2022

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Project: BCF - Amarillo, TX #564
Prepared By:

02/24/2022
10:36AM

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- All units will come with MERV11 filters.

RTU - 1-3,6-7,9-10,12

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

Unit Report For RTU - 1-3,6-7,9-10,12

Project: BCF - Amarillo, TX #564
 Prepared By:

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Unit Parameters

Unit Model:.....**48HCDD24J3M6-6X5J0**
 Unit Size:.....**24 (20 Tons)**
 Volts-Phase-Hertz:.....**460-3-60**
 Heating Type:.....**Gas**
 Duct Cfg:..... **Vertical Supply / Vertical Return**
 Low Heat
 Two Stage Compressor Models

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

Unit Length:.....**11' 9.5"**
 Unit Width:.....**7' 2.375"**
 Unit Height:.....**4' 9.375"**
 *** Total Operating Weight:.....**2834** 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:..... **9**
 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

Condensate Overflow Switch
 High Static Option - Vertical Models
 Al/Cu - Al/Cu - Louvered Hail Guard
 Electromechanical Controls w/W7220 Econo Controller
 Enthalpy Ultra Low Leak Econo w/PE (cent) - Vertical Air Only
 Hinged Access Panels and Powered Convenience Outlet
 Non-Fused Disconnect
 Standard Packaging
 2-Speed indoor fan motor controlled by VFD

Warranty Information

1-Year parts(std.)
 5-Year compressor parts(std.)
 10-Year heat exchanger - Aluminized(std.)
 Start-up, First Unit
 Start-up, Each Additional Unit

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

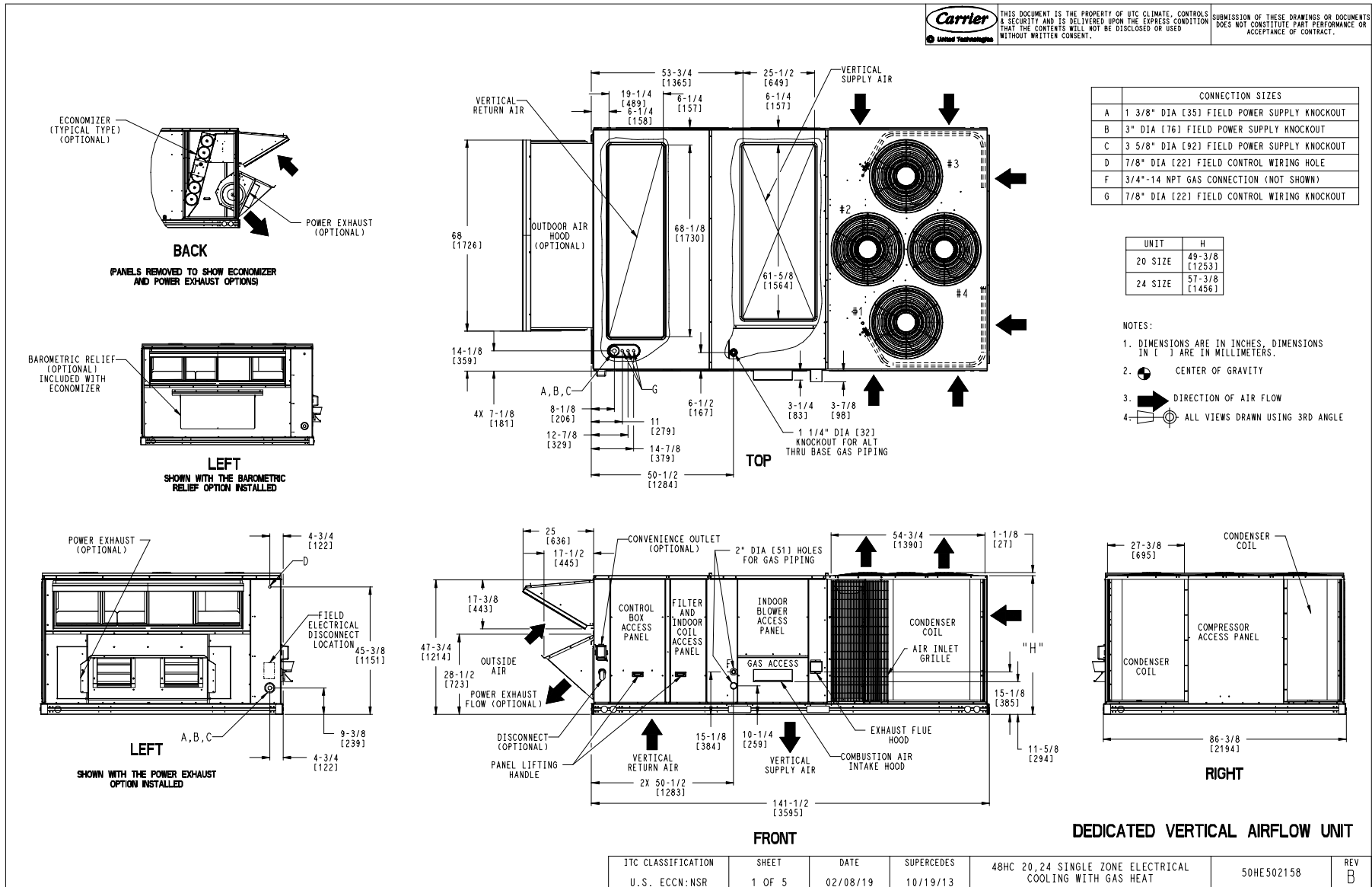
Ordering Information

Part Number	Description	Quantity
48HCDD24J3M6-6X5J0	Rooftop Unit	8
	Base Unit	
	Condensate Overflow Switch	
	High Static Option - Vertical Models	
	Al/Cu - Al/Cu - Louvered Hail Guard	
	Hinged Access Panels and Powered Convenience Outlet	
	Ultra Low leak Enty Econo X, W7220 control, cent pwr exhaust. Meets Calif. Title 24 FDD & Leak Rates	
	2 Speed Fan Controller (VFD) and Non-Fused Disconnect	
Field Installed Accessories		
CRDISKIT001A00	2 Speed VFD display kit	8

Certified Drawing for RTU - 1-3,6-7,9-10,12

Project: BCF - Amarillo, TX #564
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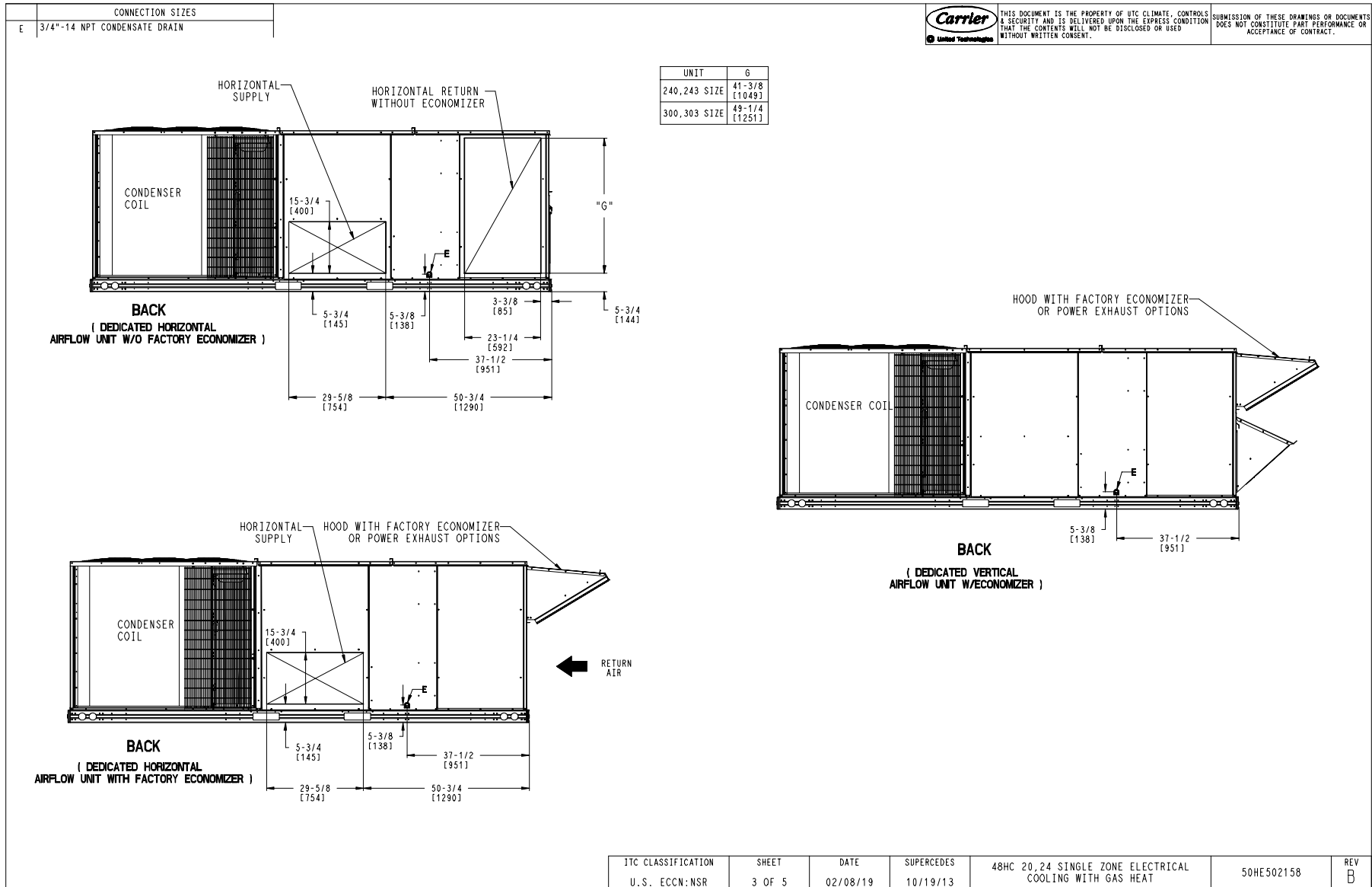
02/24/2022
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Certified Drawing for RTU - 1-3,6-7,9-10,12

Project: BCF - Amarillo, TX #564
Prepared By:

02/24/2022
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ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	48HC 20, 24 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	50HE502158	REV
U.S. ECCN: NSR	3 OF 5	02/08/19	10/19/13			B

Certified Drawing for RTU - 1-3,6-7,9-10,12

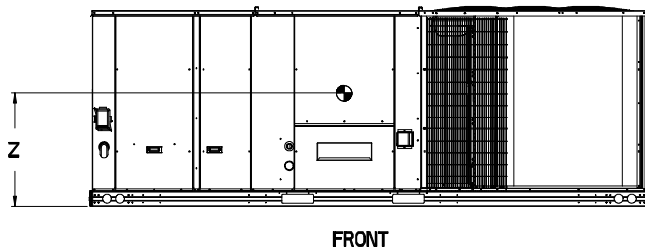
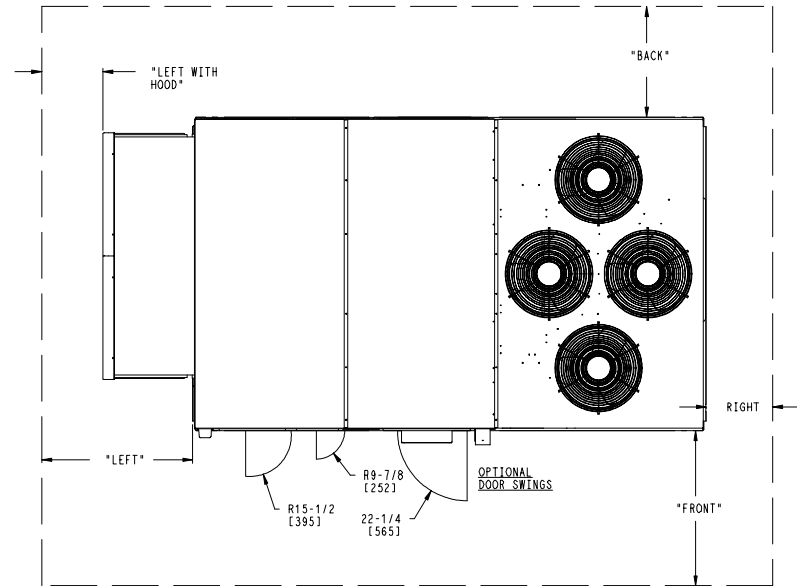
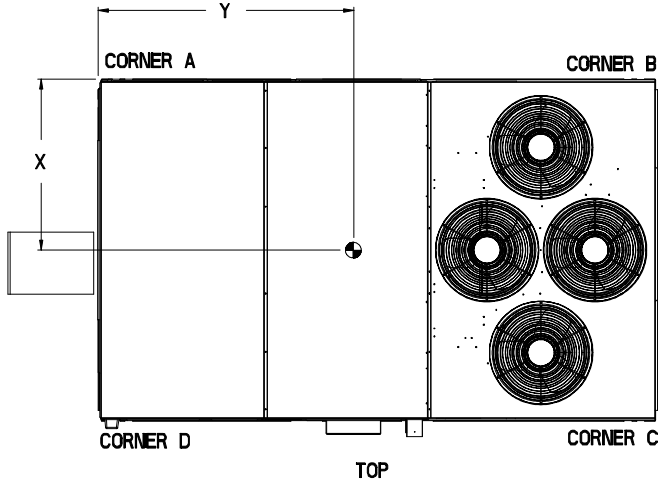
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Prepared By:

02/24/2022
10:36AM

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
48HC20	2102	956	474	215	390	177	593	269	582	265	47 1/2 [1207]	71 1/4 [1810]	16 1/2 [419]
48HC24	2247	1021	540	246	556	253	598	272	581	264	44 5/8 [1133]	71 5/8 [1819]	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.

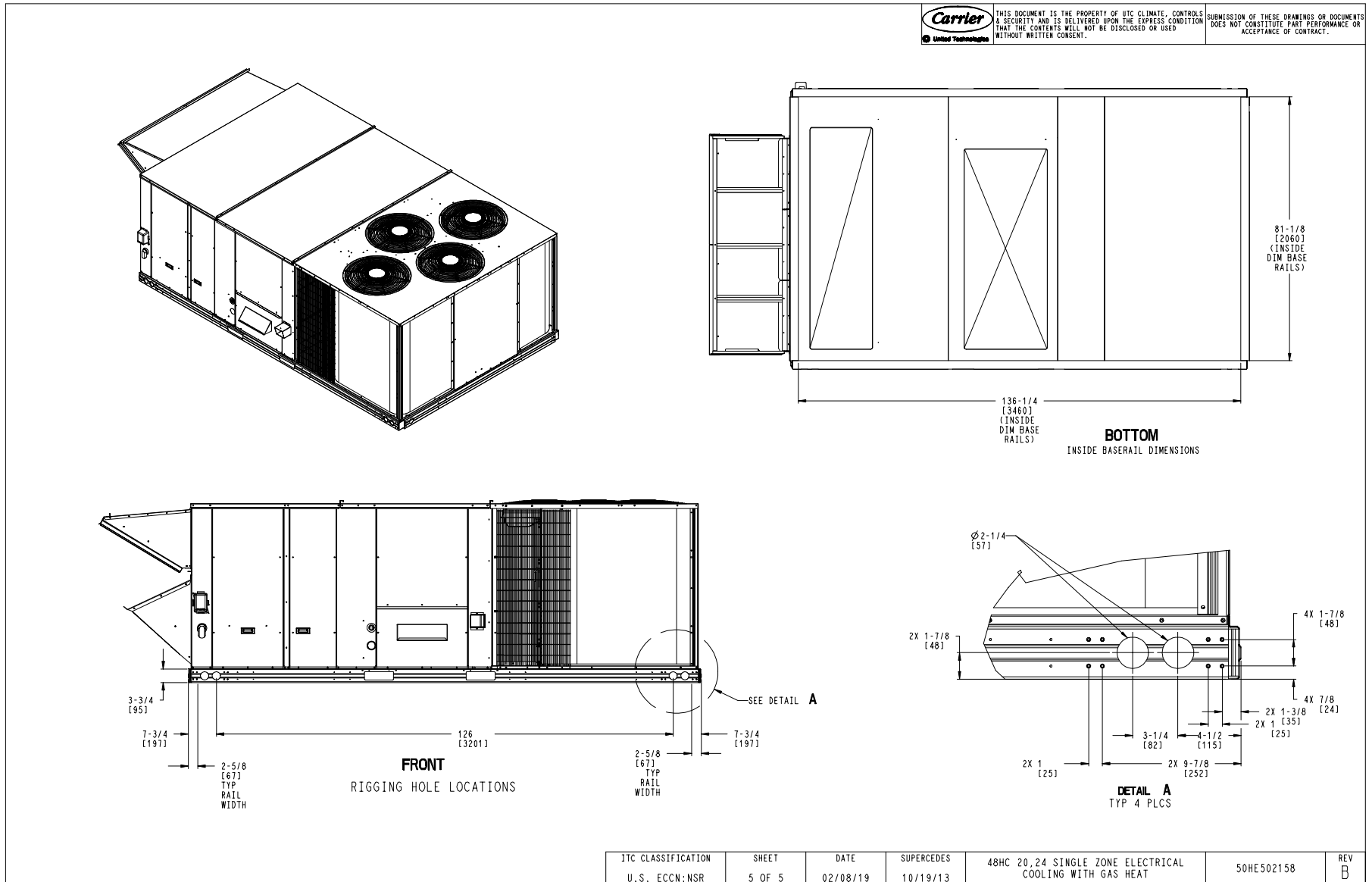
SURFACE	CLEARANCE		
	SERVICE WITH CONDUCTIVE BARRIER	SERVICE WITH NONCONDUCTIVE BARRIER	OPERATING CLEARANCE
FRONT	48 [1219mm]	36 [914mm]	18 [457mm]
LEFT	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK	42 [1067mm]	36 [914mm]	18 [457mm]
LEFT WITH HOOD	36 [914mm]	36 [914mm]	18 [457mm]
RIGHT	36 [914mm]	36 [914mm]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

JTC CLASSIFICATION U.S. ECCN:NSR	SHEET 4 OF 5	DATE 02/08/19	SUPERCEDES 10/19/13	48HC 20,24 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	50HE502158	REV B
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Certified Drawing for RTU - 1-3,6-7,9-10,12

Project: BCF - Amarillo, TX #564
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Performance Summary For RTU - 1-3,6-7,9-10,12

Project: BCF - Amarillo, TX #564
Prepared By:

02/24/2022
10:36AM

Part Number:48HCDD24J3M6-6X5J0

ARI EER: 12.00
IEER: 13.8

Base Unit Dimensions

Unit Length: 141.5 in
Unit Width: 86.4 in
Unit Height: 57.4 in

Operating Weight

Base Unit Weight: 2247 lb
Condensate Overflow Switch: 5 lb
High Static Option - Vertical Models: 16 lb
Al/Cu - Al/Cu - Louvered Hail Guard: 120 lb
Enthalpy Ultra Low Leak Econo w/PE (cent) - Vertical Air Only: 371 lb
Hinged Access Panels and Powered Convenience Outlet: 40 lb
2 Speed Fan Controller (VFD) and Non-Fused Disconnect: 35 lb

Total Operating Weight: 2834 lb

Unit

Unit Voltage-Phase-Hertz: 460-3-60
Air Discharge: Vertical
Fan Drive Type: Belt
Actual Airflow: 8000 CFM
Site Altitude: 3605 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: 33.68 BTU/lb
Evaporator Leaving Air DB: 58.0 F
Evaporator Leaving Air WB: 57.1 F
Evaporator Leaving Air Enthalpy: 25.99 BTU/lb
Gross Cooling Capacity: 242.38 MBH
Gross Sensible Capacity: 166.38 MBH
Compressor Power Input: 16.87 kW
Coil Bypass Factor: 0.198

Heating Performance

Heating Airflow: 8000 CFM
Entering Air Temp: 70.0 F
Leaving Air Temp: 89.7 F
Gas Heating Input Capacity: 147.8 / 184.8** MBH
Gas Heating Output Capacity: 119.3 / 149.5** MBH
Sea Level Gas Heating Input Capacity: 176.0 / 220.0 MBH
Temperature Rise: 19.7 F
Thermal Efficiency (%): 81.0
NOTE: ** - Input/Output Capacities are at Site Altitude

Supply Fan

External Static Pressure: 1.00 in wg
Options / Accessories Static Pressure
Economizer: 0.08 in wg
Power Exhaust: (Fan Data Includes Drop)
Total Application Static (ESP + Unit Opts/Acc.): 1.08 in wg
Fan RPM: 1022
Fan Power: 4.64 BHP
NOTE: Selected IFM RPM Range: 941 - 1176

Performance Summary For RTU - 1-3,6-7,9-10,12

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

Power Exhaust

Return Duct Static: **0.46** in wg
 Max. Air to Exhaust: **4477** CFM

Electrical Data

Voltage Range: **414 - 506**
 Compressor #1 RLA: **14.7**
 Compressor #1 LRA: **130**
 Compressor #2 RLA: **14.7**
 Compressor #2 LRA: **130**
 Indoor Fan Motor Type: **HIGH**
 Indoor Fan Motor FLA: **14.3**
 Combustion Fan Motor FLA (ea): **0.3**
 Power Supply MCA: **59.4**
 Power Supply MOCP (Fuse or HACR): **70**
 Disconnect Size FLA: **64**
 Disconnect Size LRA: **364**
 Electrical Convenience Outlet FLA (based on unit line voltage): **2.2**
 Power Exhaust [Motor Qty / FLA(ea motor)]: **2 / 3.1**
 Outdoor Fan [Qty / FLA (ea)]: **4 / 0.9**
 NOTE: Convenience outlet must be field connected to the line/load side of the unit disconnect per local code.

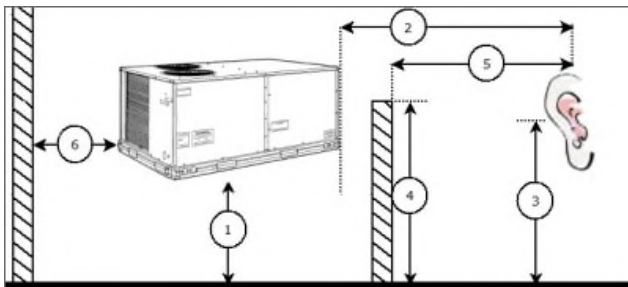
Control Panel SCCR: 5kA RMS at Rated Symmetrical Voltage

Acoustics

Sound Rating: **87.0** db
 Sound Power Levels, db re 10E-12 Watts

	Discharge	Inlet	Outdoor
63 Hz	94.2	94.4	95.6
125 Hz	88.6	77.6	87.5
250 Hz	81.2	71.4	84.2
500 Hz	80.6	63.7	84.2
1000 Hz	75.2	58.3	81.7
2000 Hz	73.4	54.3	77.9
4000 Hz	73.1	47.7	73.2
8000 Hz	65.0	36.2	66.3
A-Weighted	82.7	70.9	86.5

Advanced Acoustics



Advanced Acoustics Parameters

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

Performance Summary For RTU - 1-3,6-7,9-10,12

Project: BCF - Amarillo, TX #564
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- 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	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

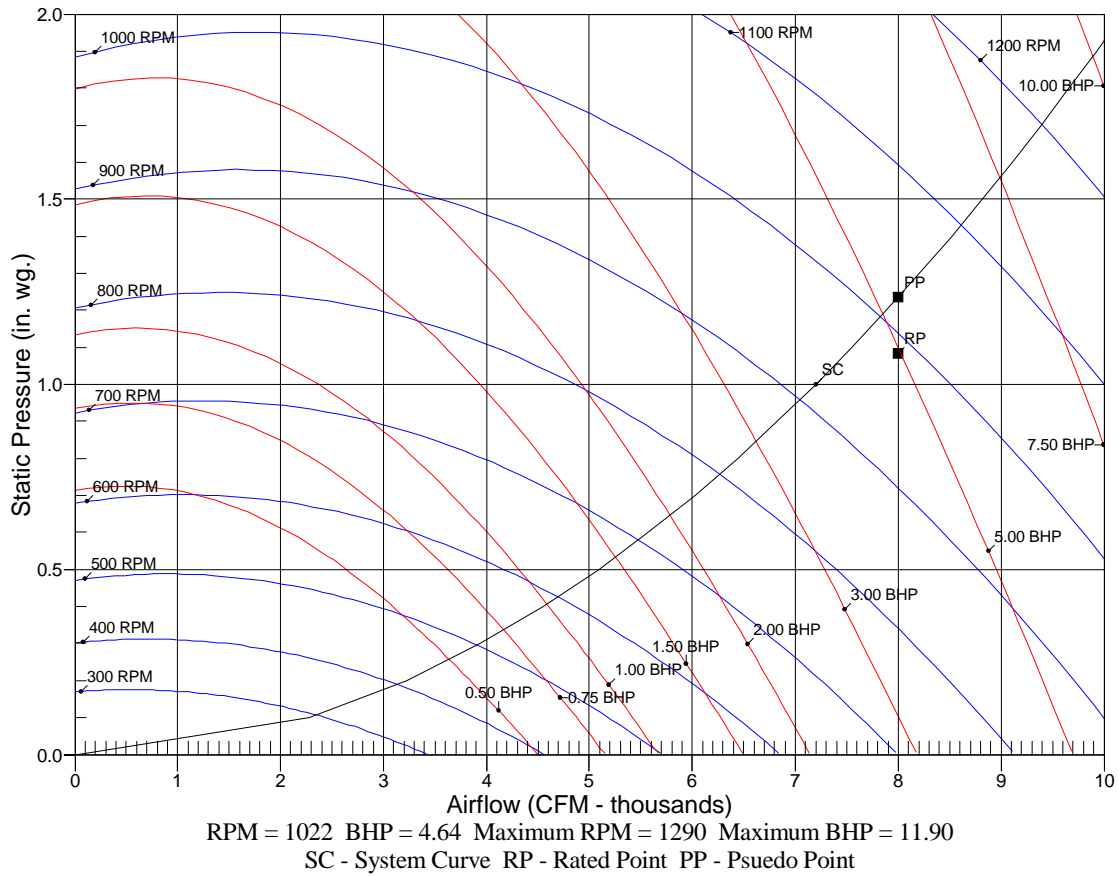
Calculation methods used in this program are patterned after the ASHRAE Guide; other ASHRAE Publications and the AHRI Acoustical Standards. While a very significant effort has been made to insure the technical accuracy of this program, it is assumed that the user is knowledgeable in the art of system 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.

Performance Summary For RTU - 1-3,6-7,9-10,12

Project: BCF - Amarillo, TX #564
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Fan Curve



RTU - 4-5,8,11

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

Unit Report For RTU - 4-5,8,11

Project: BCF - Amarillo, TX #564
 Prepared By:

02/24/2022
 10:36AM

Unit Parameters

Unit Model:.....**48HCDD17J3M6-6X5J0**
 Unit Size:.....**17 (15 Tons)**
 Volts-Phase-Hertz:.....**460-3-60**
 Heating Type:.....**Gas**
 Duct Cfg:.....**Vertical Supply / Vertical Return**
 Low Heat
 Two Stage Compressor Models

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

Unit Length:.....**10' 7.875"**
 Unit Width:.....**7' 2.375"**
 Unit Height:.....**4' 1.375"**
 *** Total Operating Weight:.....**2414** 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

Condensate Overflow Switch
 High Static Option - Vertical Models
 Al/Cu - Al/Cu - Louvered Hail Guard
 Electromechanical Controls w/W7220 Econo Controller
 Enthalpy Ultra Low Leak Econo w/PE (cent) - Vertical Air Only
 Hinged Access Panels and Powered Convenience Outlet
 Non-Fused Disconnect
 Standard Packaging
 2-Speed indoor fan motor controlled by VFD

Warranty Information

1-Year parts(std.)
 5-Year compressor parts(std.)
 10-Year heat exchanger - Aluminized(std.)
 Start-up, Each Additional Unit

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

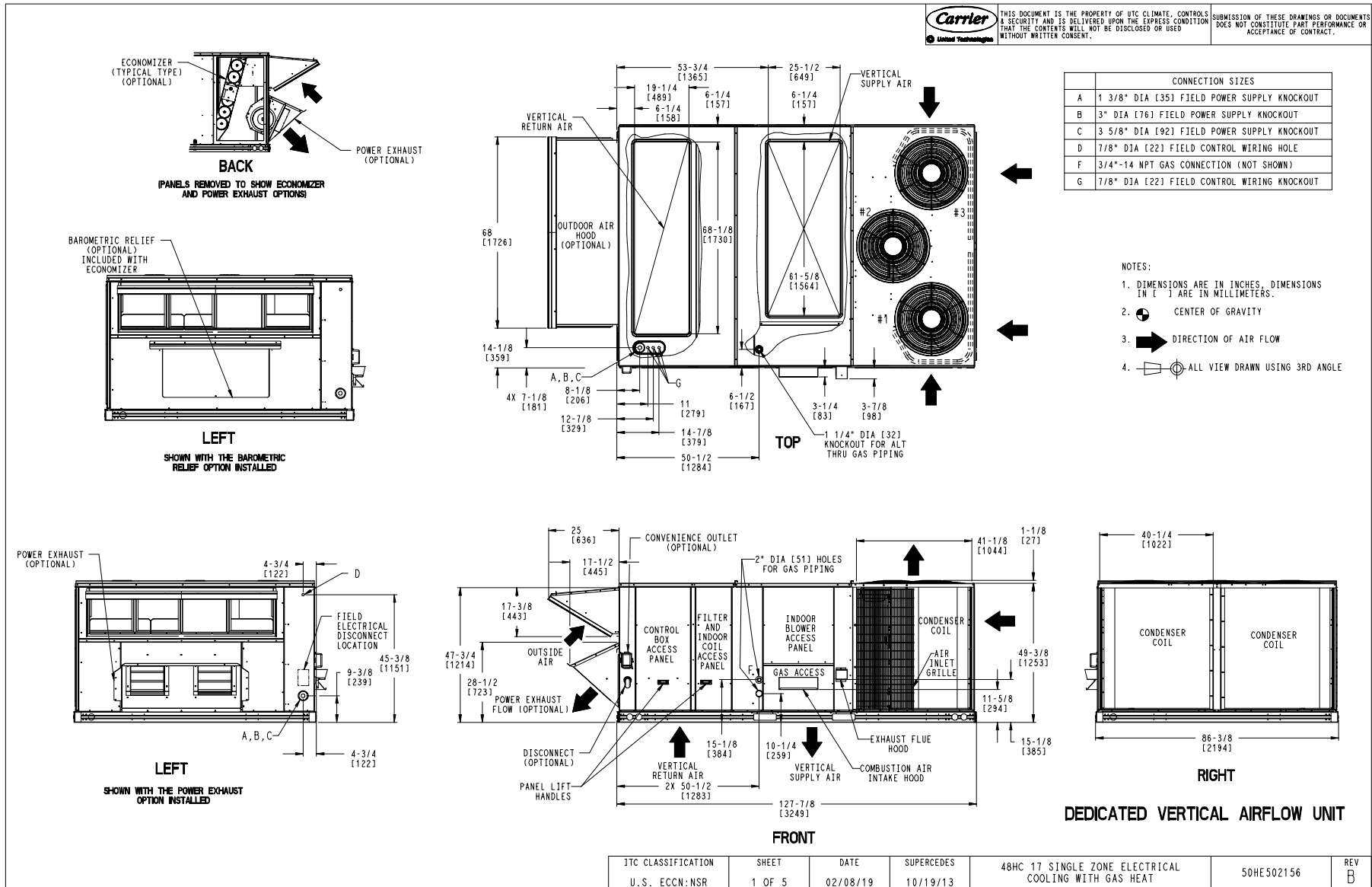
Ordering Information

Part Number	Description	Quantity
48HCDD17J3M6-6X5J0	Rooftop Unit	4
	Base Unit	
	Condensate Overflow Switch	
	High Static Option - Vertical Models	
	Al/Cu - Al/Cu - Louvered Hail Guard	
	Hinged Access Panels and Powered Convenience Outlet	
	Ultra Low leak Enty Econo X, W7220 control, cent pwr exhaust. Meets Calif. Title 24 FDD & Leak Rates	
	2 Speed Fan Controller (VFD) and Non-Fused Disconnect	
Field Installed Accessories		
CRDISKIT001A00	2 Speed VFD display kit	4

Certified Drawing for RTU - 4-5,8,11

Project: BCF - Amarillo, TX #564
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Certified Drawing for RTU - 4-5,8,11

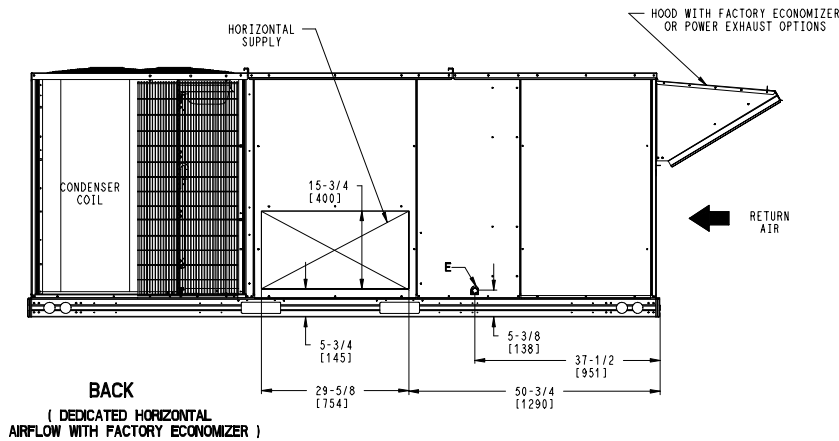
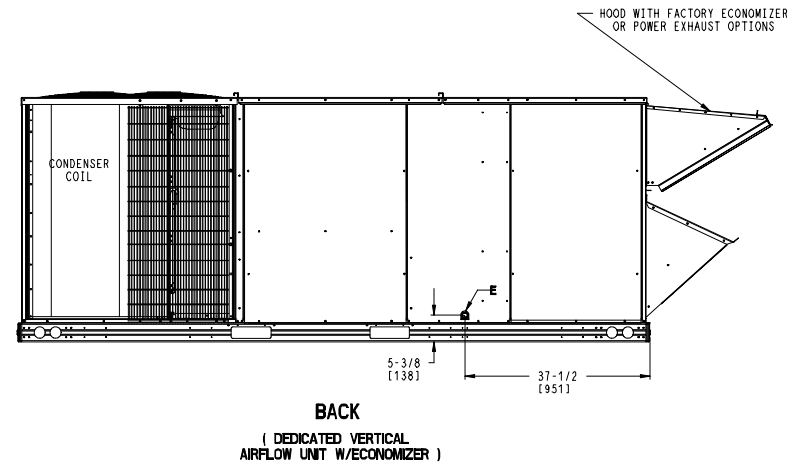
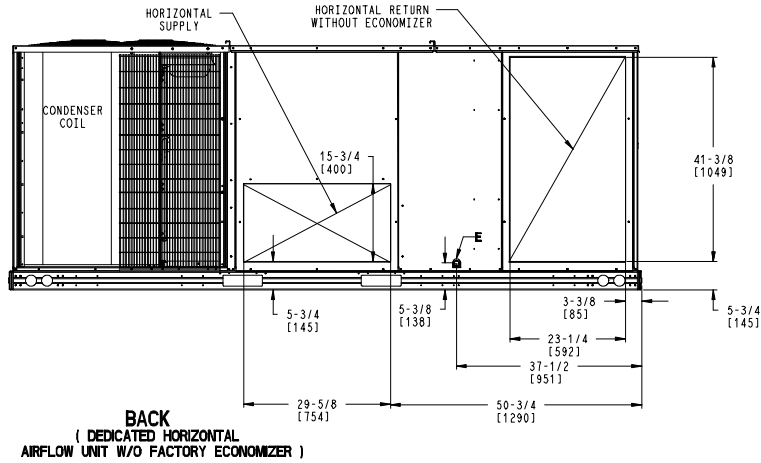
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CONNECTION SIZES	
E	3/4"-14 NPT CONDENSATE DRAIN

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JTC CLASSIFICATION	SHEET	DATE	SUPERCEDES	48HC 17 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	50HE502156	REV
U.S. ECCN: NSR	3 OF 5	02/08/19	10/19/13			B

Certified Drawing for RTU - 4-5,8,11

Project: BCF - Amarillo, TX #564
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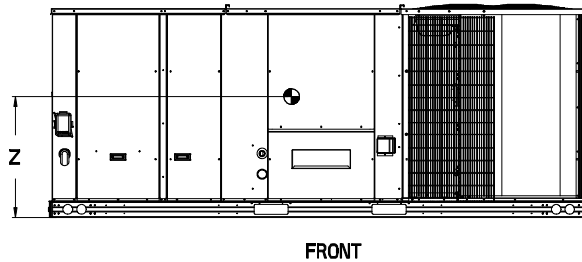
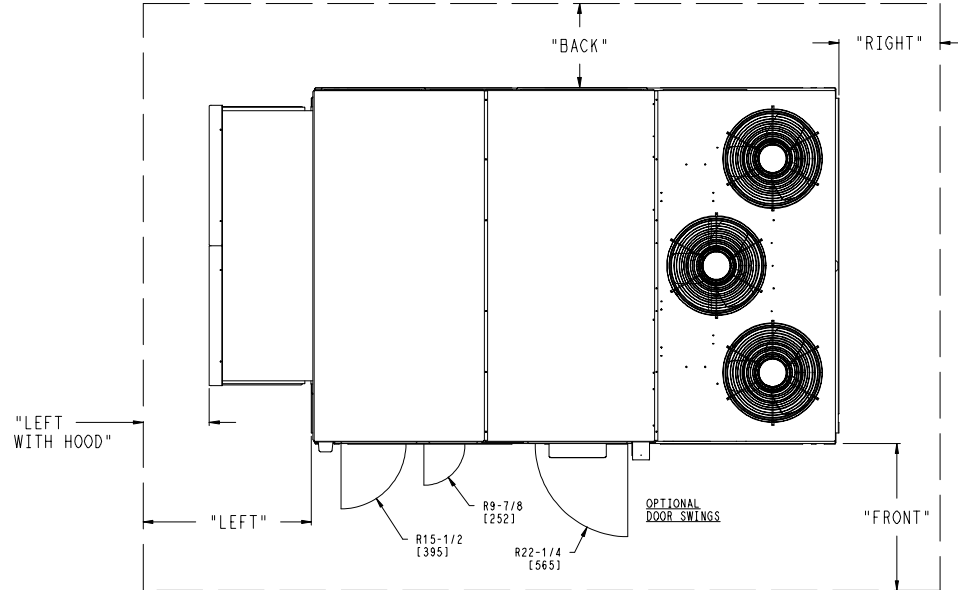
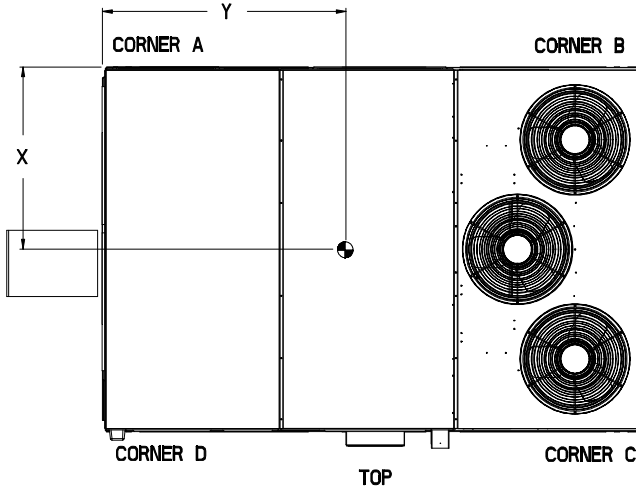
UNIT	STD UNIT WEIGHT *		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
48HC17	1892	860	401	182	449	204	565	257	505	230	48 [1219]	67 3/8 [1711]	16 1/2 [419]



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NOTES:

- CLEARANCE ABOVE THE UNIT TO BE 72"
- 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]

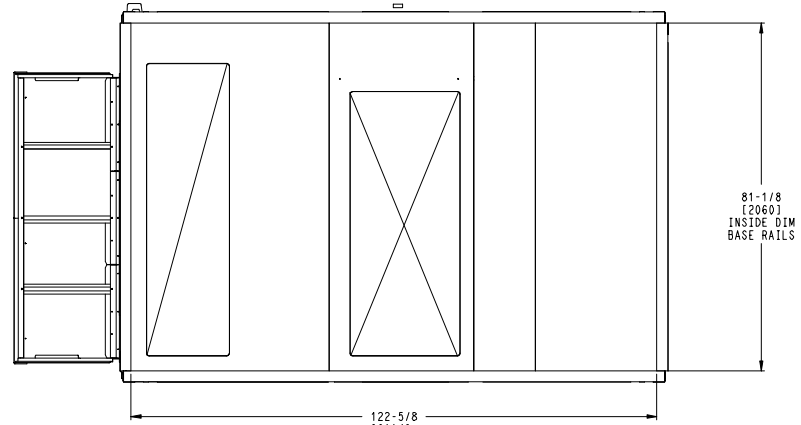
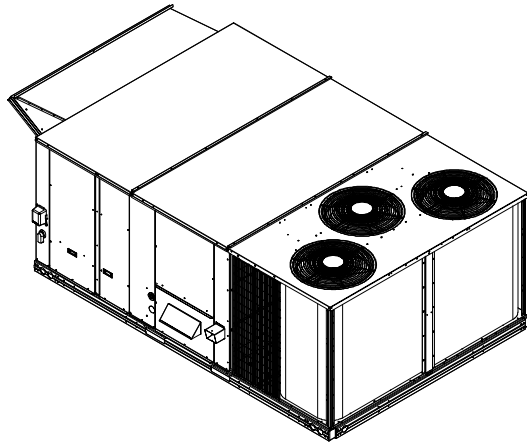
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Certified Drawing for RTU - 4-5,8,11

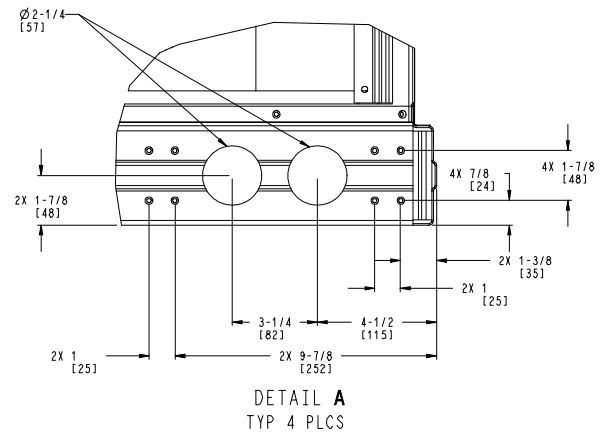
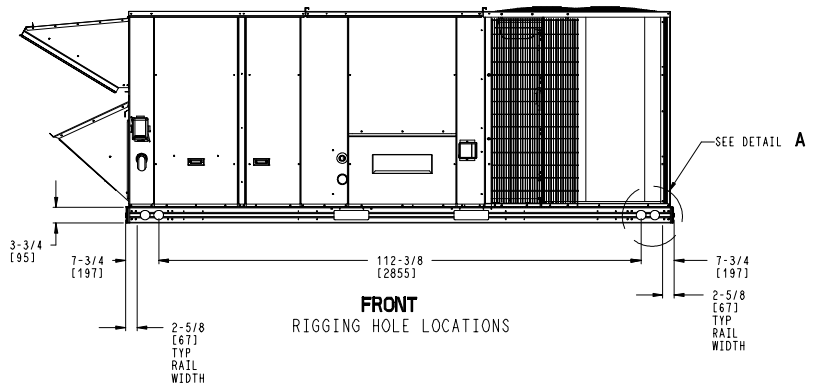
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BOTTOM
INSIDE BASERAIL DIMENSIONS



JTC CLASSIFICATION	SHEET	DATE	SUPERCEDES	48HC 17 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	50HE502156	REV
U.S. ECCN: NSR	5 OF 5	02/08/19	10/19/13			B

Performance Summary For RTU - 4-5,8,11

Project: BCF - Amarillo, TX #564
Prepared By:

02/24/2022
10:36AM

Part Number:48HCDD17J3M6-6X5J0

ARI EER: 12.00
IEER: 13.5

Base Unit Dimensions

Unit Length: 127.9 in
Unit Width: 86.4 in
Unit Height: 49.4 in

Operating Weight

Base Unit Weight: 1892 lb
Condensate Overflow Switch: 5 lb
High Static Option - Vertical Models: 11 lb
Al/Cu - Al/Cu - Louvered Hail Guard: 60 lb
Enthalpy Ultra Low Leak Econo w/PE (cent) - Vertical Air Only: 371 lb
Hinged Access Panels and Powered Convenience Outlet: 40 lb
2 Speed Fan Controller (VFD) and Non-Fused Disconnect: 35 lb

Total Operating Weight: 2414 lb

Unit

Unit Voltage-Phase-Hertz: 460-3-60
Air Discharge: Vertical
Fan Drive Type: Belt
Actual Airflow: 6000 CFM
Site Altitude: 3605 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: 33.68 BTU/lb
Evaporator Leaving Air DB: 58.3 F
Evaporator Leaving Air WB: 57.3 F
Evaporator Leaving Air Enthalpy: 26.15 BTU/lb
Gross Cooling Capacity: 178.09 MBH
Gross Sensible Capacity: 123.13 MBH
Compressor Power Input: 12.43 kW
Coil Bypass Factor: 0.198

Heating Performance

Heating Airflow: 6000 CFM
Entering Air Temp: 70.0 F
Leaving Air Temp: 96.3 F
Gas Heating Input Capacity: 147.8 / 184.8** MBH
Gas Heating Output Capacity: 119.3 / 149.5** MBH
Sea Level Gas Heating Input Capacity: 176.0 / 220.0 MBH
Temperature Rise: 26.3 F
Thermal Efficiency (%): 81.0
NOTE: ** - Input/Output Capacities are at Site Altitude

Supply Fan

External Static Pressure: 1.00 in wg
Options / Accessories Static Pressure
Economizer: 0.06 in wg
Power Exhaust: (Fan Data Includes Drop)
Total Application Static (ESP + Unit Opts/Acc.): 1.06 in wg
Fan RPM: 909
Fan Power: 3.25 BHP
NOTE: Selected IFM RPM Range: 826 - 1009

Performance Summary For RTU - 4-5,8,11

Project: BCF - Amarillo, TX #564
 Prepared By:

02/24/2022
 10:36AM

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

Power Exhaust

Return Duct Static: **0.46** in wg
 Max. Air to Exhaust: **4477** CFM

Electrical Data

Voltage Range: **414 - 506**
 Compressor #1 RLA: **12.8**
 Compressor #1 LRA: **100**
 Compressor #2 RLA: **12.8**
 Compressor #2 LRA: **100**
 Indoor Fan Motor Type: **HIGH**
 Indoor Fan Motor FLA: **6.4**
 Combustion Fan Motor FLA (ea): **0.3**
 Power Supply MCA: **46.3**
 Power Supply MOCP (Fuse or HACR): **50**
 Disconnect Size FLA: **50**
 Disconnect Size LRA: **264**
 Electrical Convenience Outlet FLA (based on unit line voltage): **2.2**
 Power Exhaust [Motor Qty / FLA(ea motor)]: **2 / 3.1**
 Outdoor Fan [Qty / FLA (ea)]: **3 / 0.9**
 NOTE: Convenience outlet must be field connected to the line/load side of the unit disconnect per local code.

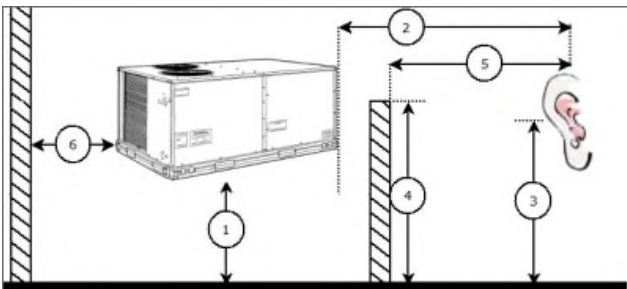
Control Panel SCCR: 5kA RMS at Rated Symmetrical Voltage

Acoustics

Sound Rating: **84.0** db
 Sound Power Levels, db re 10E-12 Watts

	Discharge	Inlet	Outdoor
63 Hz	90.0	89.3	92.2
125 Hz	84.1	75.3	83.9
250 Hz	76.3	69.8	80.4
500 Hz	75.3	62.6	81.8
1000 Hz	69.6	56.8	78.7
2000 Hz	68.1	51.6	76.5
4000 Hz	68.4	46.4	72.2
8000 Hz	58.9	35.8	65.4
A-Weighted	77.6	67.6	84.1

Advanced Acoustics



Advanced Acoustics Parameters

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

Performance Summary For RTU - 4-5,8,11

Project: BCF - Amarillo, TX #564
 Prepared By:

02/24/2022
 10:36AM

- 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	92.2	83.9	80.4	81.8	78.7	76.5	72.2	65.4	93.6 Lw
B	66.0	67.8	71.8	78.6	78.7	77.7	73.2	64.3	84.1 LwA
C	59.8	51.5	48.0	49.4	46.3	44.1	39.8	33.0	61.2 Lp
D	33.6	35.4	39.4	46.2	46.3	45.3	40.8	31.9	51.7 LpA

Legend

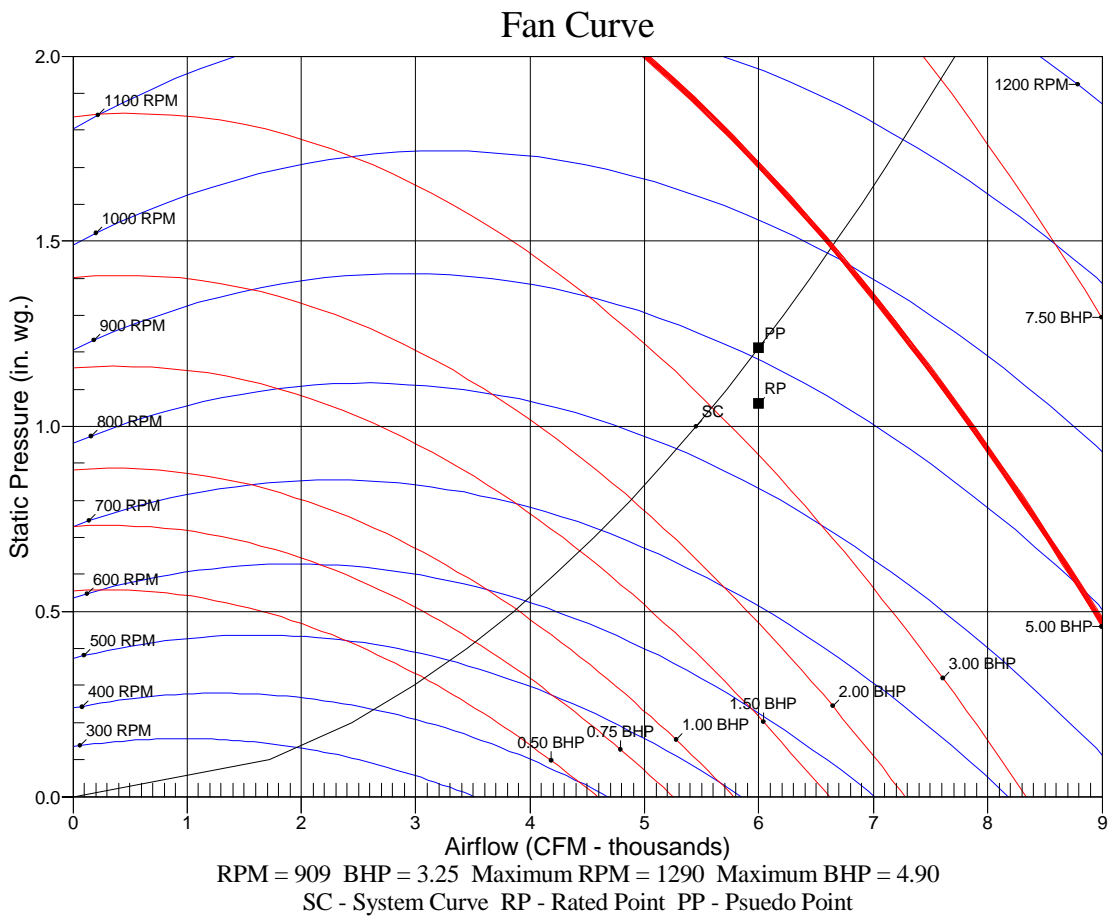
- A Sound Power Levels at Unit's Acoustic Center, Lw
- B A-Weighted Sound Power Levels at Unit's Acoustic Center, LwA
- C Sound Pressure Levels at Specific Distance from Unit, Lp
- D A-Weighted Sound Pressure Levels at Specific Distance from Unit, LpA

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.

Performance Summary For RTU - 4-5,8,11

Project: BCF - Amarillo, TX #564
 Prepared By:

02/24/2022
 10:36AM



RTU - 13-14

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

Unit Report For RTU - 13-14

Project: BCF - Amarillo, TX #564
 Prepared By:

02/24/2022
 10:36AM

Unit Parameters

Unit Model:.....**48GCDM06J3M6-6W5F0**
 Unit Size:.....**06 (5 Tons)**
 Volts-Phase-Hertz:.....**460-3-60**
 Heating Type:.....**Gas**
 Duct Cfg:..... **Vertical Supply / Vertical Return**
 Low Heat
 Two Stage Cooling Models

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

Unit Length:.....**6' 2.375"**
 Unit Width:.....**3' 10.625"**
 Unit Height:**3' 5.375"**
 *** Total Operating Weight: **703** 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

Condensate Overflow Switch
 Direct Drive - EcoBlue - High Static
 Al/Cu - Al/Cu - Louvered Hail Guards
 Electromechanical Controls w/W7220 Econo Controller
 Enthalpy Ultra Low Leak Econo w/Baro Relief
 Hinged Panels, Powered Convenience Outlet
 Non-Fused Disconnect and Thru-The-Base Connections
 Standard Packaging

Warranty Information

1-Year parts(std.)
 5-Year compressor parts(std.)
 10-Year heat exchanger - Aluminized(std.)
 Start-up, First Unit
 Start-up, Each Additional Unit

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

Ordering Information

Part Number	Description	Quantity
48GCDM06J3M6-6W5F0	Rooftop Unit	2
	Base Unit	
	Condensate Overflow Switch	
	Direct Drive - EcoBlue - High Static	
	Al/Cu - Al/Cu - Louvered Hail Guards	
	Hinged Panels, Powered Convenience Outlet	
	Non-Fused Disconnect and Thru-The-Base Connections	
	Ultra Low leak Enty Econo X with baro relief, W7220 control. Meets Calif. Title 24 FDD & Leak Rates	

Certified Drawing for RTU - 13-14

Project: BCF - Amarillo, TX #564
Prepared By:

02/24/2022
10:36AM

NOTES:

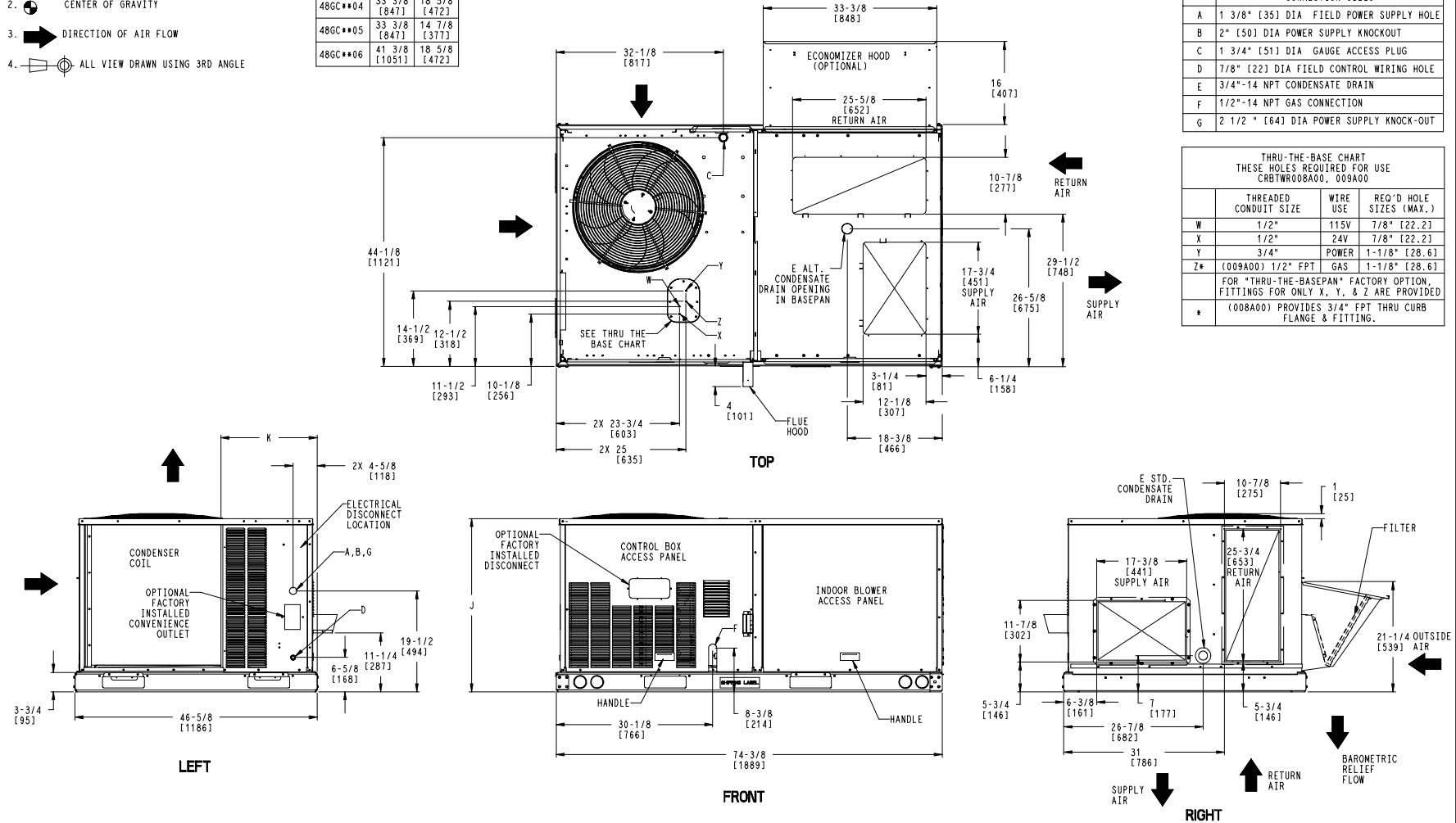
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2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW
4. ALL VIEW DRAWN USING 3RD ANGLE

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

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

THRU-THE-BASE CHART THESE HOLES REQUIRED FOR USE CRBTWR008A00, 009A00			
THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)	
W	1/2"	115V	7/8" [22.2]
X	1/2"	24V	7/8" [22.2]
Y	3/4"	POWER	1-1/8" [28.6]
Z*	(009A00) 1/2" FPT	GAS	1-1/8" [28.6]
FOR "THRU-THE-BASEPANEL" FACTORY OPTION, FITTINGS FOR ONLY X, Y, & Z ARE PROVIDED			
* (008A00) PROVIDES 3/4" FPT THRU CURB FLANGE & FITTING.			



ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	48GC 04-06 SINGLE PACKAGE ELECTRICAL COOLING WITH GAS HEAT	48TC003099	REV
U.S. ECCN: NSR	1 OF 3	09/07/18	08/03/18			B

Certified Drawing for RTU - 13-14

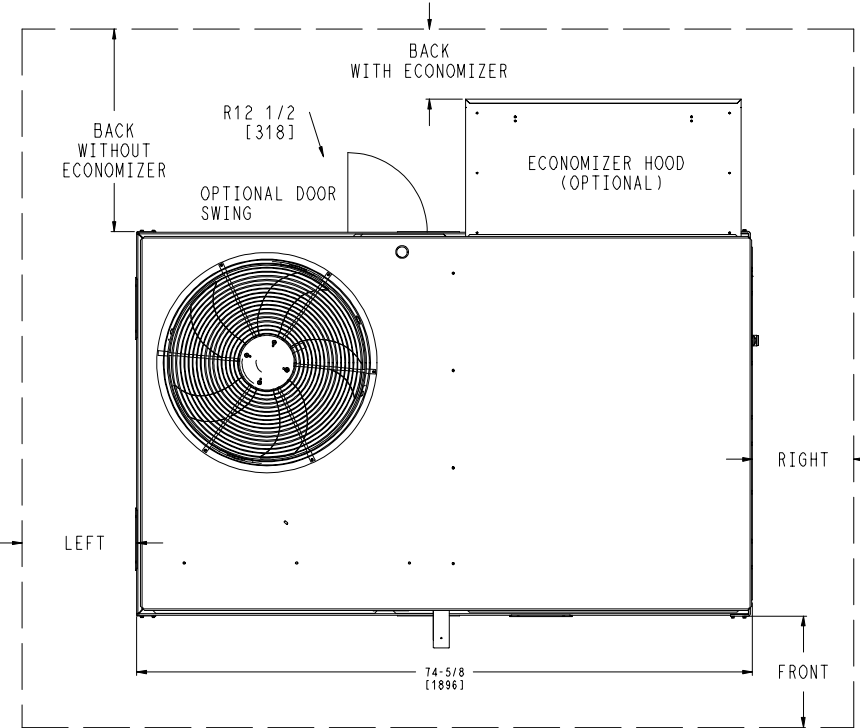
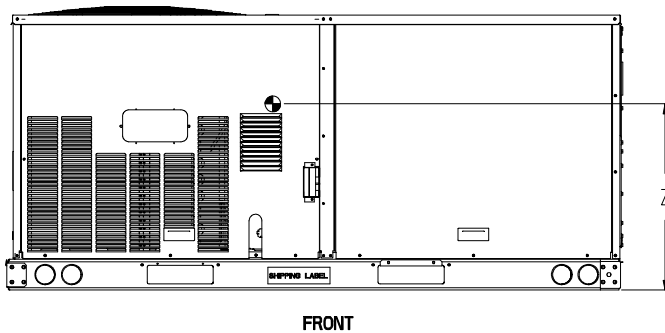
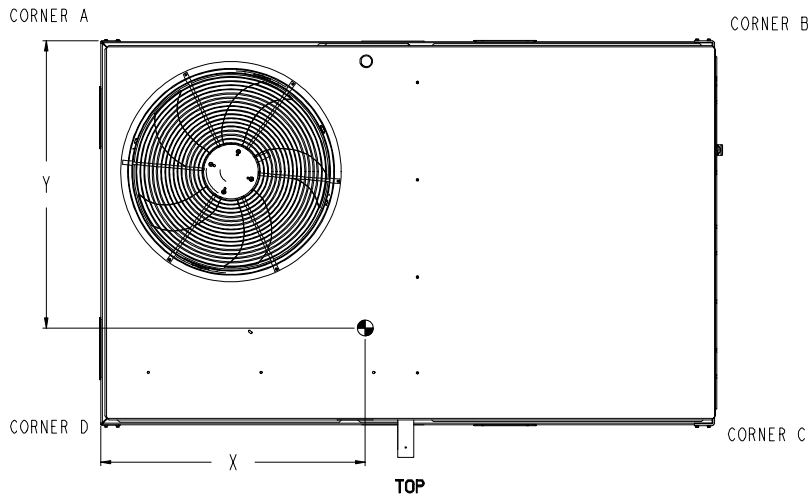
Project: BCF - Amarillo, TX #564
 Prepared By:

02/24/2022
 10:36AM

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	
48GC**04	513	233	131	59	127	58	125	57	130	59	36 1/2 [927]	23 1/4 [591]	18 1/4 [464]	
48GC**05	555	252	142	64	137	62	135	61	141	64	36 1/2 [927]	23 1/4 [591]	18 [457]	
48GC**06	600	272	161	73	151	68	140	64	149	68	36 1/2 [914]	22 1/2 [572]	19 3/8 [492]	

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

Carrier UNITED TECHNOLOGIES
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NOTES:
 1. FOR ALL MINIMUM CLEARANCES LOCAL CODES OR JURISDICTIONS MAY PREVAIL.

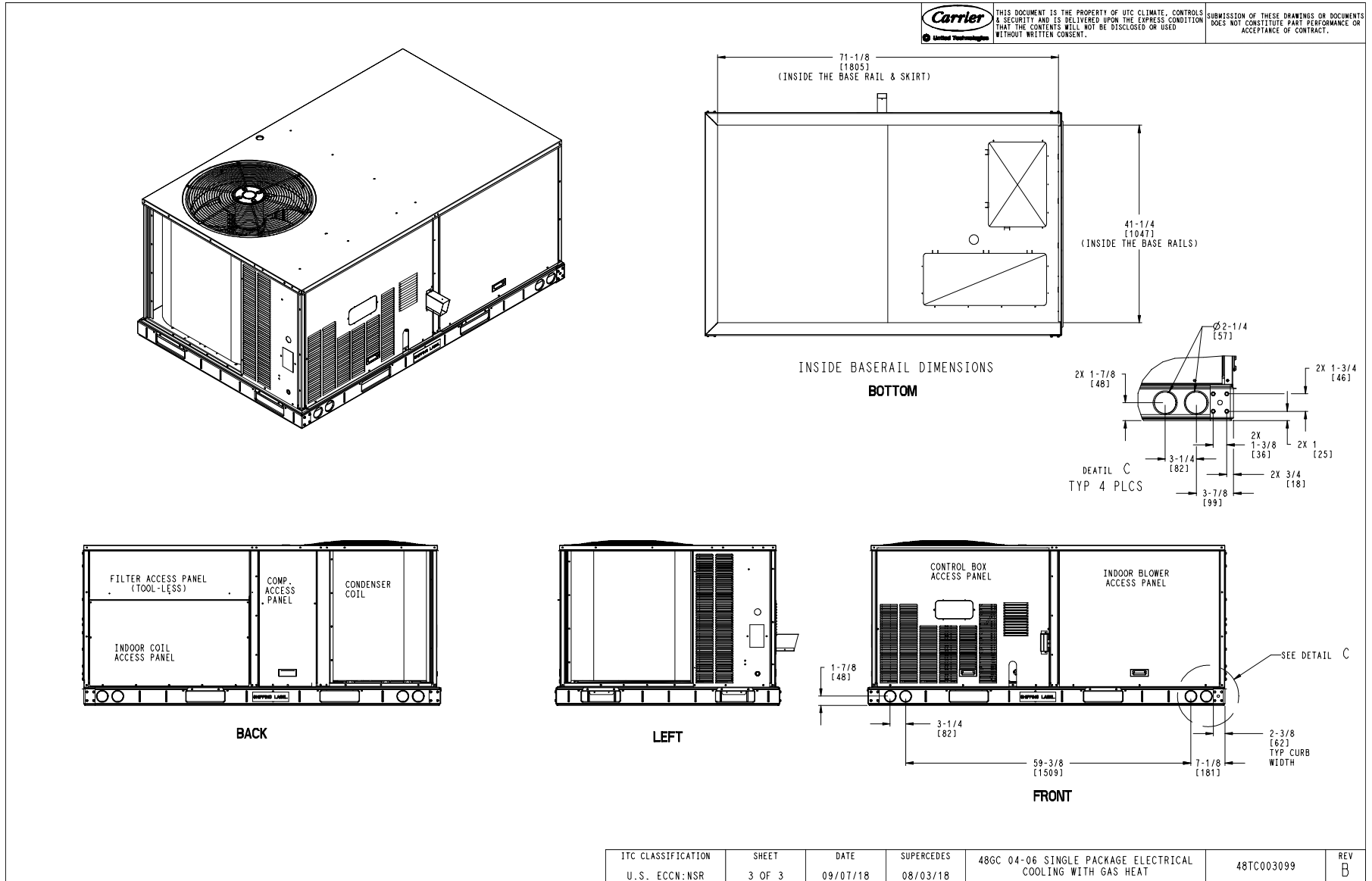
SURFACE	CLEARANCE		OPERATING CLEARANCE
	SERVICE WITH CONDUCTIVE BARRIER	SERVICE WITH NONCONDUCTIVE BARRIER	
FRONT	48 [1219mm]	36 [914mm]	18 [457mm]
LEFT	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/HOOD	36 [914mm]	36 [914mm]	18 [457mm]
RIGHT	36 [914mm]	36 [914mm]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

ITC CLASSIFICATION U.S. ECCN:NSR	SHEET 2 OF 3	DATE 09/07/18	SUPERCEDES 08/03/18	48GC 04-06 SINGLE PACKAGE ELECTRICAL COOLING WITH GAS HEAT	48TC003099	REV B
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Certified Drawing for RTU - 13-14

Project: BCF - Amarillo, TX #564
 Prepared By:

02/24/2022
 10:36AM



Performance Summary For RTU - 13-14

Project: BCF - Amarillo, TX #564
Prepared By:

02/24/2022
10:36AM

Part Number:48GCDM06J3M6-6W5F0

ARI SEER:..... 16.10

Base Unit Dimensions

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

Operating Weight

Base Unit Weight: 600 lb
Condensate Overflow Switch: 5 lb
Direct Drive - EcoBlue - High Static: 5 lb
Al/Cu - Al/Cu - Louvered Hail Guards: 17 lb
Enthalpy Ultra Low Leak Econo w/Baro Relief: 35 lb
Hinged Panels, Powered Convenience Outlet: 36 lb
Non-Fused Disconnect and Thru-The-Base Connections: 5 lb

Total Operating Weight: 703 lb

Unit

Unit Voltage-Phase-Hertz: 460-3-60
Air Discharge:..... Vertical
Fan Drive Type:..... Vane Axial
Actual Airflow: 2000 CFM
Site Altitude:..... 3605 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: 33.68 BTU/lb
Evaporator Leaving Air DB: 57.3 F
Evaporator Leaving Air WB: 57.0 F
Evaporator Leaving Air Enthalpy: 25.92 BTU/lb
Gross Cooling Capacity: 61.18 MBH
Gross Sensible Capacity: 42.96 MBH
Compressor Power Input: 4.11 kW
Coil Bypass Factor: 0.047

Heating Performance

Heating Airflow: 2000 CFM
Entering Air Temp: 70.0 F
Leaving Air Temp: 94.0 F
Gas Heating Input Capacity: 42.0 / 56.3** MBH
Gas Heating Output Capacity: 33.6 / 45.4** MBH
Sea Level Gas Heating Input Capacity: 50.0 / 67.0 MBH
Temperature Rise: 24.0 F
Thermal Efficiency (%): 81.0
NOTE: ** - Input/Output Capacities are at Site Altitude

Supply Fan

External Static Pressure:..... 1.00 in wg
Options / Accessories Static Pressure
Economizer:..... 0.12 in wg
Total Application Static (ESP + Unit Opts/Acc.): 1.12 in wg
Fan RPM:..... 2394
Fan Power:..... 1.29 BHP
NOTE: Selected IFM RPM Range: 1387 - 2836

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

Performance Summary For RTU - 13-14

Project: BCF - Amarillo, TX #564
 Prepared By:

02/24/2022
 10:36AM

Electrical Data

Voltage Range: **414 - 506**
 Compressor #1 RLA:..... **7.6**
 Compressor #1 LRA:..... **52**
 Indoor Fan Motor Type:..... **HIGH**
 Indoor Fan Motor FLA: **2.9**
 Combustion Fan Motor FLA (ea):..... **0.25**
 Power Supply MCA:..... **16**
 Power Supply MOCP (Fuse or HACR):..... **20**
 Disconnect Size FLA:..... **16**
 Disconnect Size LRA: **60**
 Electrical Convenience Outlet FLA (based on unit line voltage):..... **2.2**
 Outdoor Fan [Qty / FLA (ea)]: **1 / 0.8**
 NOTE: Convenience outlet must be field connected to the line/load side of the unit disconnect per local code.

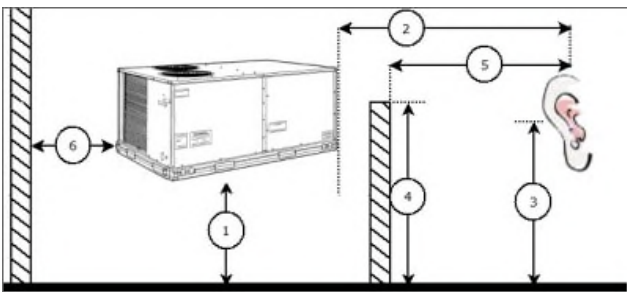
Control Panel SCCR: 5kA RMS at Rated Symmetrical Voltage

Acoustics

Sound Power Levels, db re 10E-12 Watts

	Discharge	Inlet	Outdoor
63 Hz	95.7	81.6	85.6
125 Hz	87.0	83.1	84.7
250 Hz	81.2	74.3	80.5
500 Hz	76.8	69.4	76.0
1000 Hz	73.8	71.0	72.4
2000 Hz	76.5	66.9	68.0
4000 Hz	66.6	55.6	62.8
8000 Hz	62.1	52.8	59.3
A-Weighted	81.8	75.2	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

Performance Summary For RTU - 13-14

Project: BCF - Amarillo, TX #564
 Prepared By:

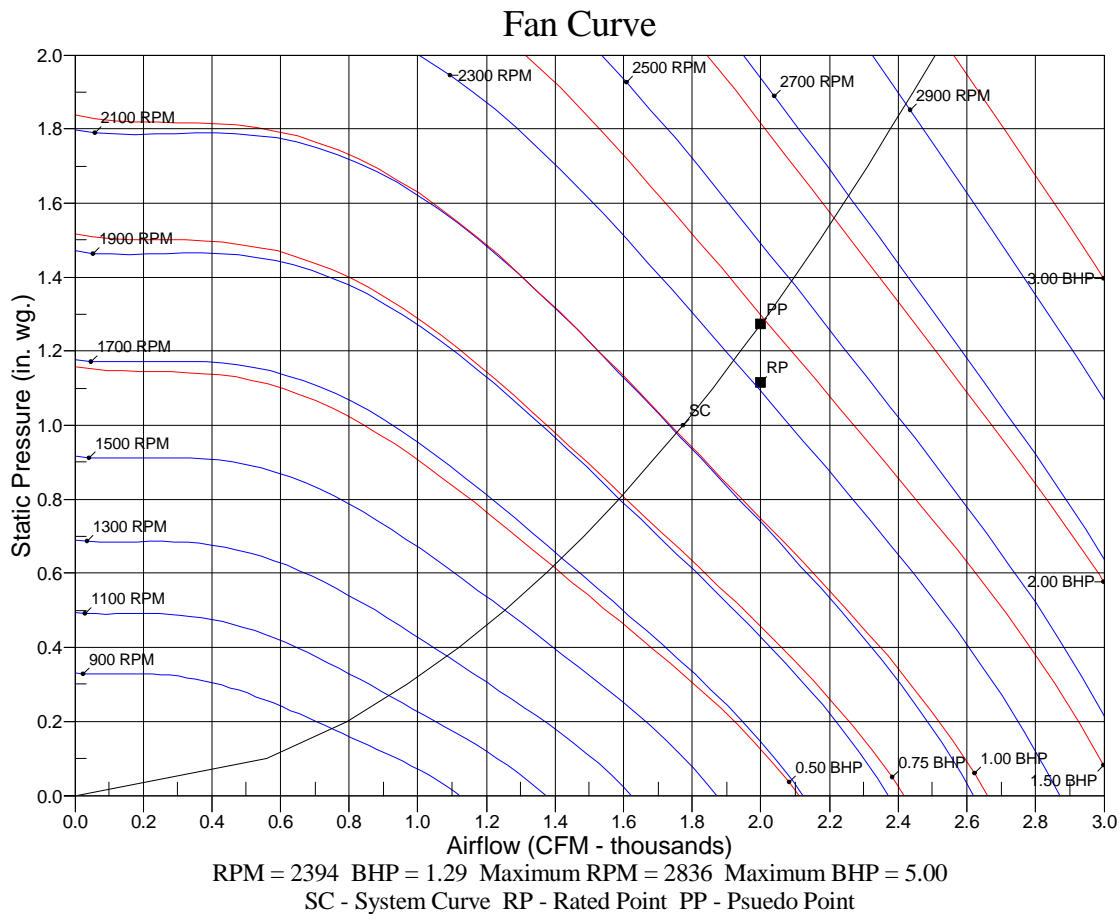
02/24/2022
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Octave Band Center Freq. Hz	63	125	250	500	1k	2k	4k	8k	Overall
A	85.6	84.7	80.5	76.0	72.4	68.0	62.8	59.3	89.2 Lw
B	59.4	68.6	71.9	72.8	72.4	69.2	63.8	58.2	78.5 LwA
C	53.2	52.3	48.1	43.6	40.0	35.6	30.4	26.9	56.8 Lp
D	27.0	36.2	39.5	40.4	40.0	36.8	31.4	25.8	46.1 LpA

Legend

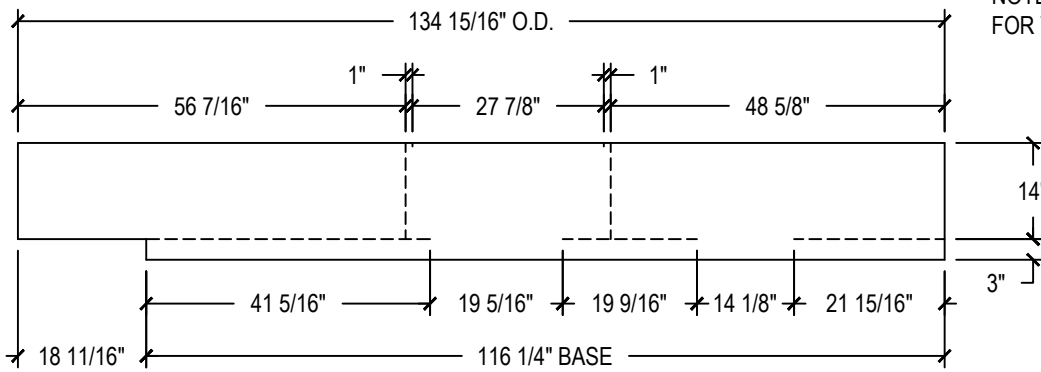
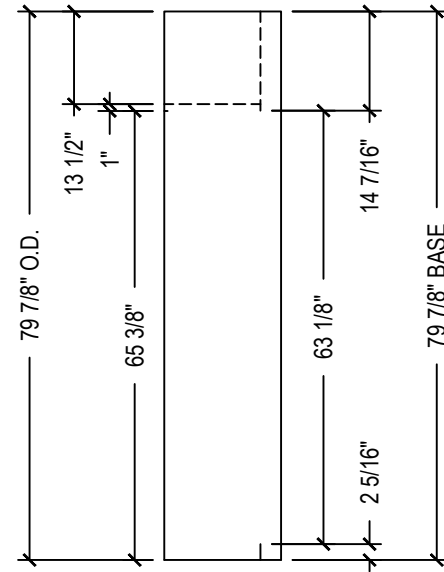
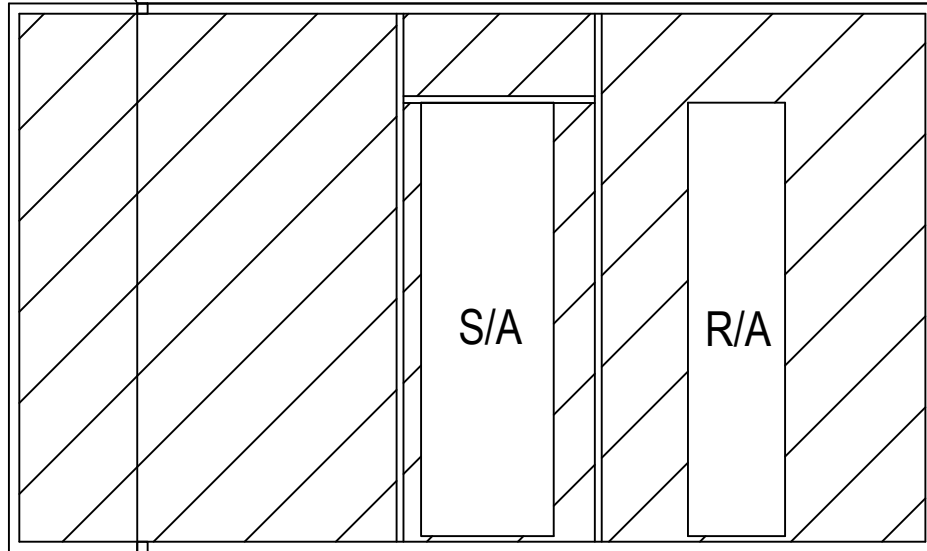
- A Sound Power Levels at Unit's Acoustic Center, Lw
- B A-Weighted Sound Power Levels at Unit's Acoustic Center, LwA
- C Sound Pressure Levels at Specific Distance from Unit, Lp
- D A-Weighted Sound Pressure Levels at Specific Distance from Unit, LpA

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Drawing Date: 7-7-17	REV: 001	Approved By:	Approved Date:
SHELL: 14 GA	PANS: 18 GA	CHANNELS: 14 GA	CLOSURES: 12 GA
TOP FLANGE DIM: 1 1/2"			

1 1/4" SQ STEEL TUBE
SUPPORTS AT CORNERS



NOTE: THERE IS MORE THAN ONE FACTORY CURB FOR THE EXISTING UNIT CONTRACTOR TO VERIFY

ADAPTERS ARE DESIGNED WITH AN APPROXIMATE .1" OR BELOW STATIC PRESSURE DROP, UNLESS OTHERWISE NOTED.
3-4-21
CHECKED BY SLR

CURBS PLUS, INC.

8767 Alabama Hwy
Ringgold, GA 30736
Phone: (706) 858-1188 / Fax: (706) 866-2339
website: www.curbs-plus.com

TRANSITION-CURB SYSTEM

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TAG PLATE: CR322CR250

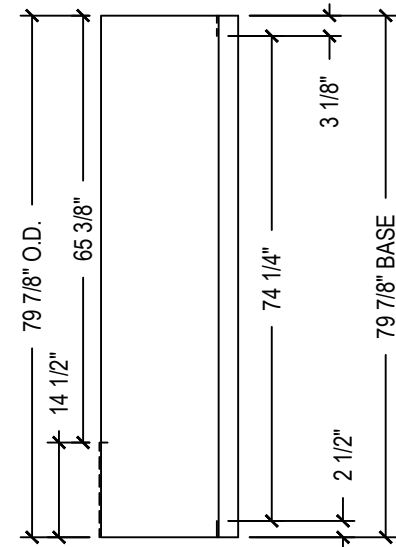
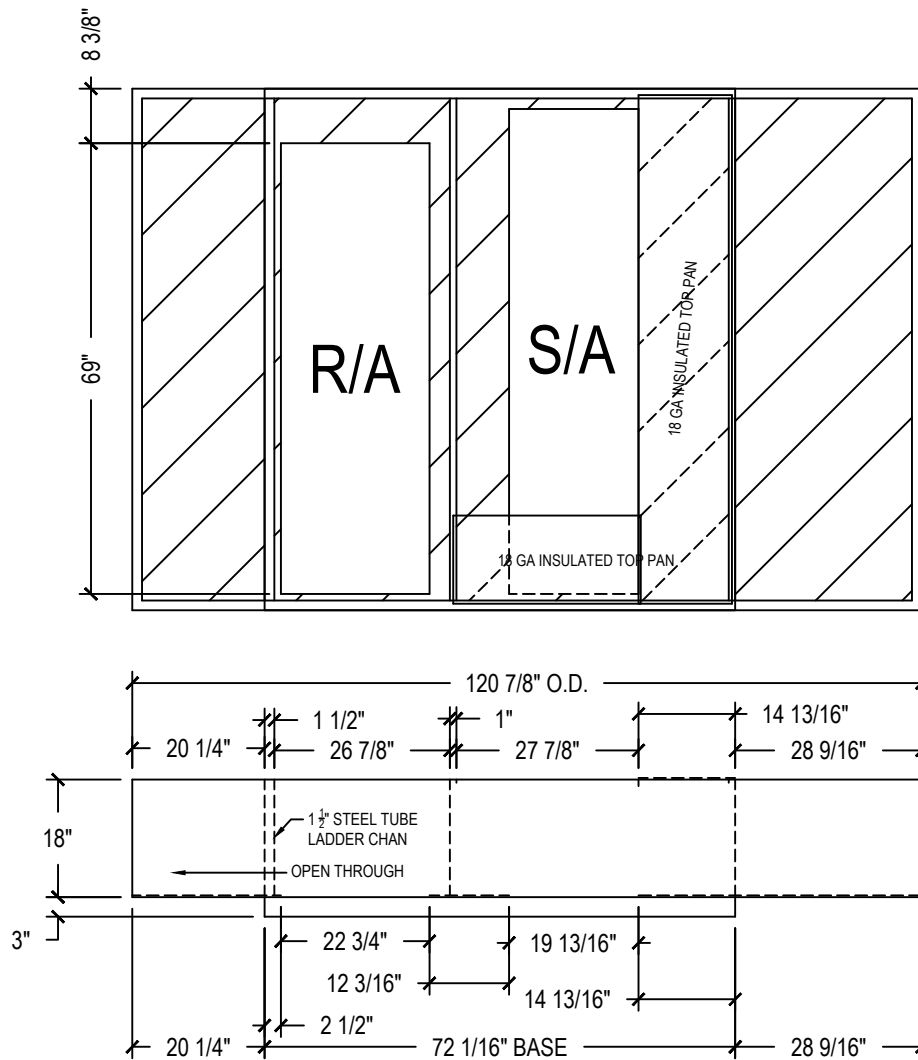
APPROXIMATE WEIGHT: 325 LBS

QTY.: 7	DRAWN BY.: FLG
NEW UNIT: CARRIER	
48-50 TC**24-28, 48-50 HC**20-24	
OLD UNIT: CARRIER	
48/50 PG/HG* 014-028/48HJ 017-025	
ROLLS OF GASKET: 4	
TAG: RTU-1,2,3,6,9,10,12	

Note: Design subject to change without notice.

File Name: CR322CR250 NEW CARRIER 48HC20-24, 48TC24-28 EXISTING CARRIER 48-50 PG-HG_002034 Curbs Plus, Inc.

Drawing Date: 1-21-10	REV: 001	Approved By:	Approved Date:
SHELL: 14 GA	PANS: 18 GA	CHANNELS: 14 GA	CLOSURES: 14 GA
TOP FLANGE DIM: 1 1/2"			



EXISTING UNITS: 48 / 50 HG 014-028 RETROFIT CURBS
 CARRIER: 48/50 TJ/HJ 016-028 48/50 DP/DR/PQ 012-020
 DOES NOT INCLUDE 48TJE024-028

BRYANT: 559F 180-300, 559E/579E/579F 180-240,
 559/579D 120-180, 542F 120-180, 579D/E 216,
 581A 155/180/240/270, 580F 180/240

ADAPTERS ARE DESIGNED WITH AN APPROXIMATE .1" OR BELOW STATIC PRESSURE DROP, UNLESS OTHERWISE NOTED.
 3-16-21
 CHECKED BY SLR

QTY.:4	DRAWN BY.:SLR
NEW UNIT:CARRIER	
48TC**17-20/48HC**17	
OLD UNIT:CARRIER	
SEE ABOVE	
ROLLS OF GASKET:2	
TAG: RTU-4,5,8,11	

CURBS PLUS, INC.

8767 Alabama Hwy
 Ringgold, GA 30736
 Phone:(706) 858-1188 / Fax: (706) 866-2339
 website: www.curbs-plus.com

TRANSITION-CURB SYSTEM

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TAG PLATE:CR313CR40

APPROXIMATE WEIGHT:365 LBS

Note: Design subject to change without notice.

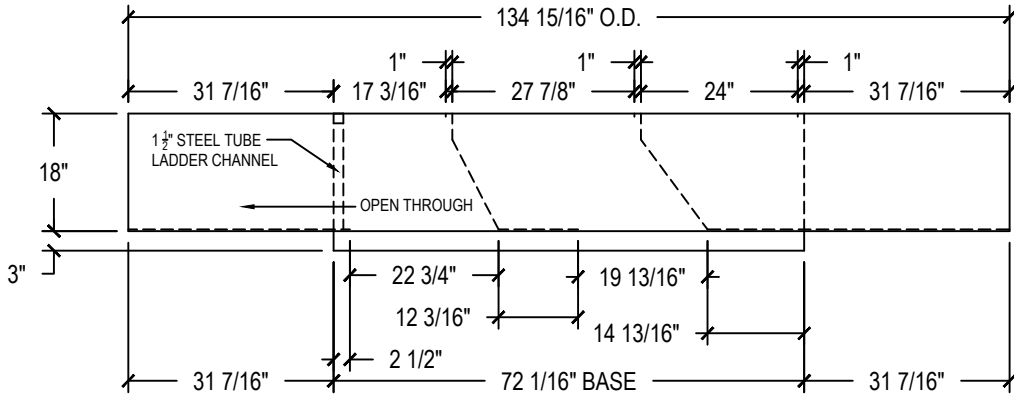
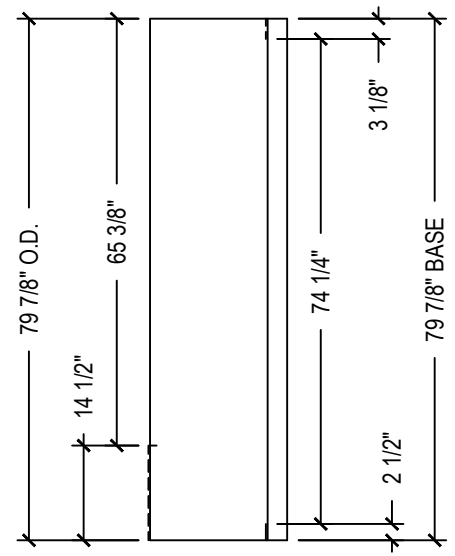
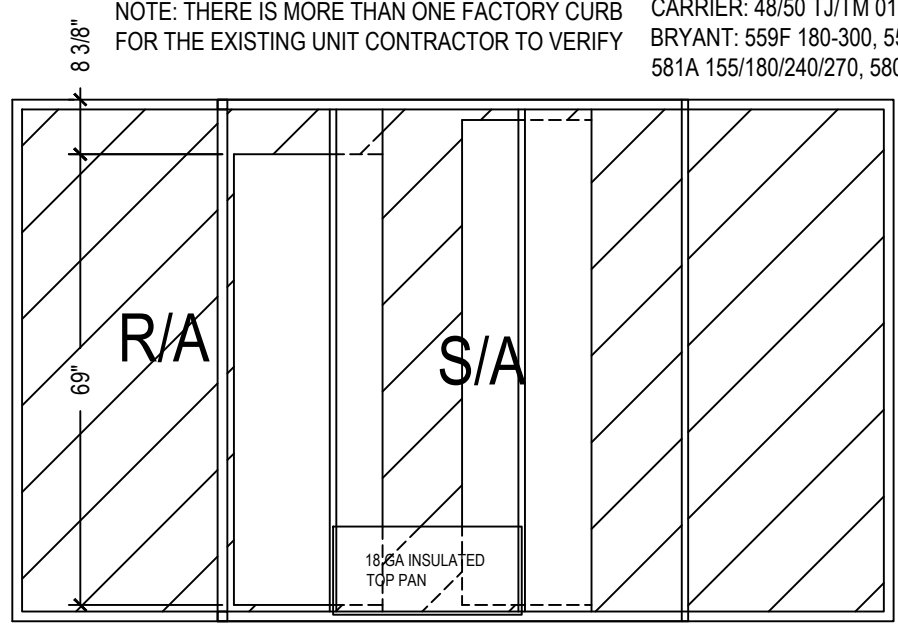
File Name:CR313CR40 NEW CARRIER 48TCED17-20 OLD CARRIER 40-50 DP012-020 CR40

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Drawing Date: 8-4-11 REV: 001 Approved By: Approved Date:

SHELL: 14 GA PANS: 18 GA CHANNELS: 14 GA CLOSURES: 14 GA TOP FLANGE DIM: 1 1/2"

EXISTING UNITS: 48 / 50 HG 014-028 RETROFIT CURBS
 CARRIER: 48/50 TJ/TM 016-028/HJ 015,017,025 48/50 DP/DR/PQ 012-020 DOES NOT INCLUDE 48TJE024-028
 BRYANT: 559F 180-300, 559E/579E/579F 180-240,559/579D 120-180, 542F 120-180, 579D/E 216,
 581A 155/180/240/270, 580F 180/240



ADAPTERS ARE DESIGNED WITH AN APPROXIMATE .1" OR BELOW STATIC PRESSURE DROP, UNLESS OTHERWISE NOTED.
 3-3-21
 CHECKED BY SLR

CURBS PLUS, INC.

8767 Alabama Hwy
 Ringgold, GA 30736
 Phone: (706) 858-1188 / Fax: (706) 866-2339
 website: www.curbs-plus.com

TRANSITION-CURB SYSTEM

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TAG PLATE: CR322CR40
 APPROXIMATE WEIGHT: 415 LBS

QTY.: 1	DRAWN BY.: SLR
NEW UNIT: CARRIER / ICP	
48TC*D 024-028/ 48HC**20-24/RAS 240-303	
OLD UNIT: CARRIER	
SEE ABOVE	
ROLLS OF GASKET: 4	
TAG: RTU-7	

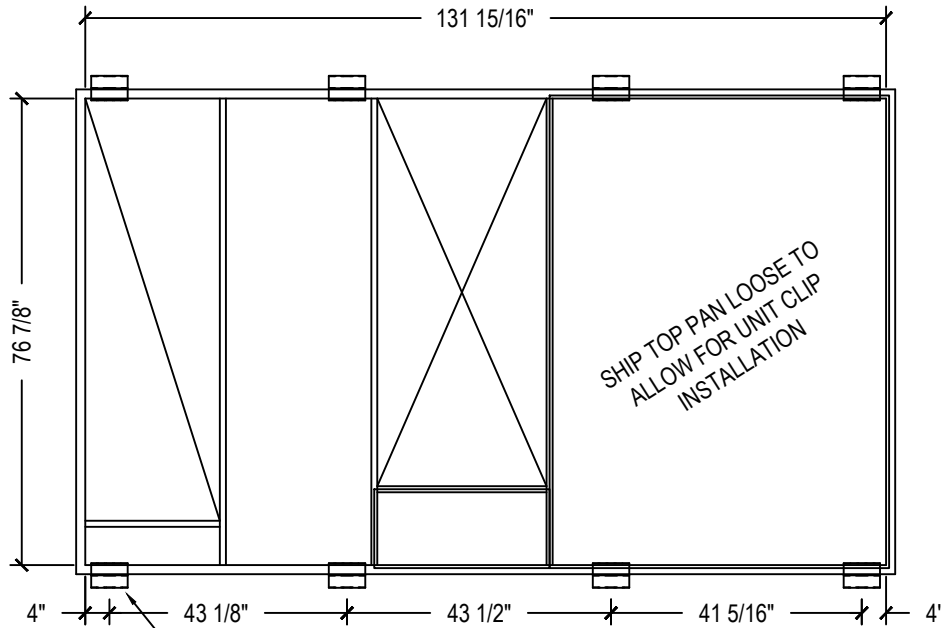
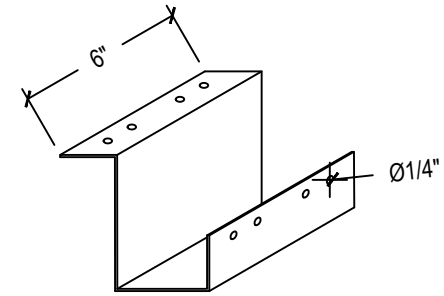
Drawing Date: 1-9-17

REV:

Approved By:

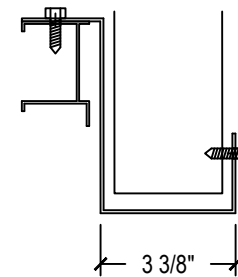
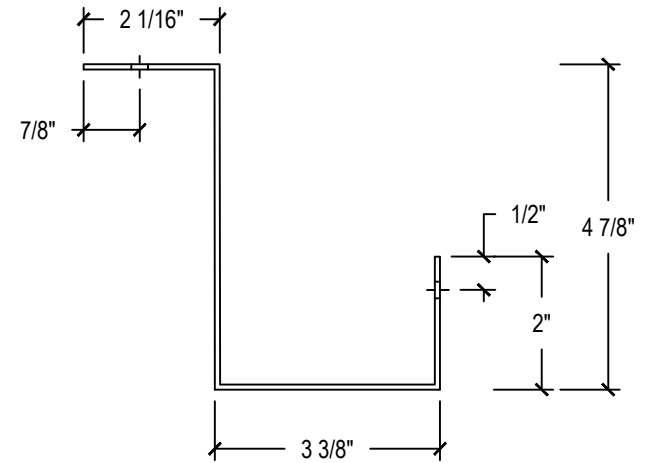
Approved Date:

(1.) ON LONG SIDES, ATTACH HOLD DOWN CLIPS TO ROOF CURB OR ADAPTER USING 4 - #14 SELF TAPPING SCREWS PER EACH BRACKET, (2) AT CORNERS AND (2) APPROXIMATELY EQUALLY SPACED.
 (2.) AFTER UNIT HAS BEEN POSITIONED ON TOP OF ROOF CURB OR ADAPTER ATTACH HOLD DOWN CLIPS TO UNIT BASE RAIL USING 4 - #14 SELF TAPPING SCREWS PER EACH BRACKET.



INSTALL UNIT CLIPS WITH SELF TAPPING SCREWS
 AT APPROXIMATE LOCATIONS SHOW ABOVE
 (ADJUST CLIP LOCATION TO AVOID DUCT SUPPORTS)

(8) CLIPS PER SET



CURBS PLUS, INC.

8767 Alabama Hwy
 Ringgold, GA 30736
 Phone: (706) 858-1188 / Fax: (706) 866-2339
 website: www.curbs-plus.com

HOLD DOWN CLIPS

STORE NUMBER.:	
QTY.: 8 SET(S)	GA.: 12 GA.
METAL TYPE: GALVANIZED	
TAG: RTU-1,2,3,6,7,9,10,12	

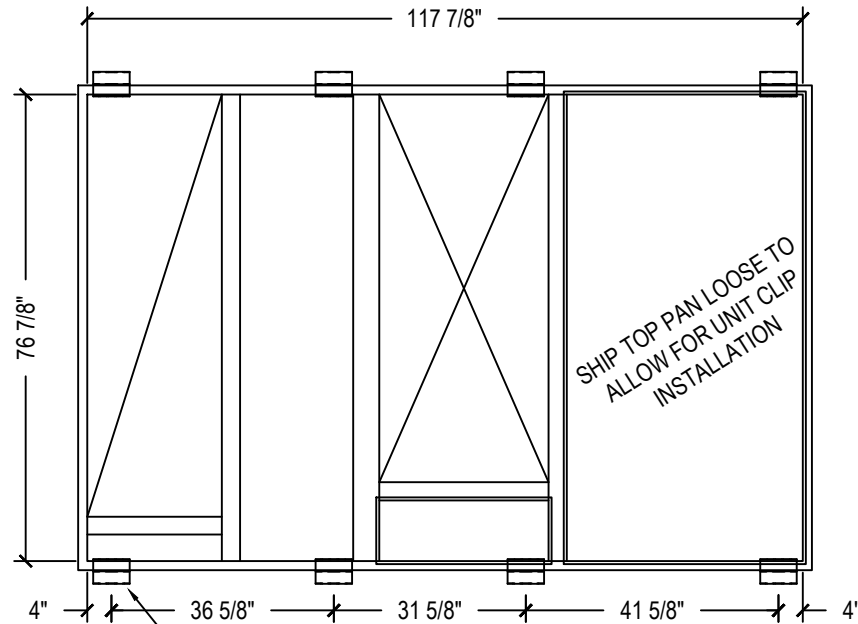
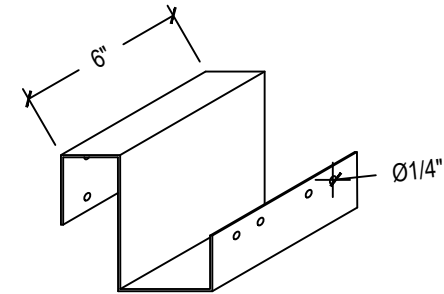
Drawing Date: 1-9-17

REV:

Approved By:

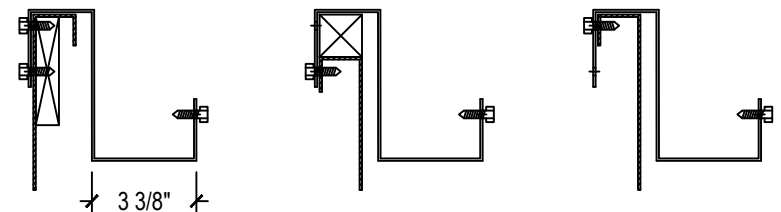
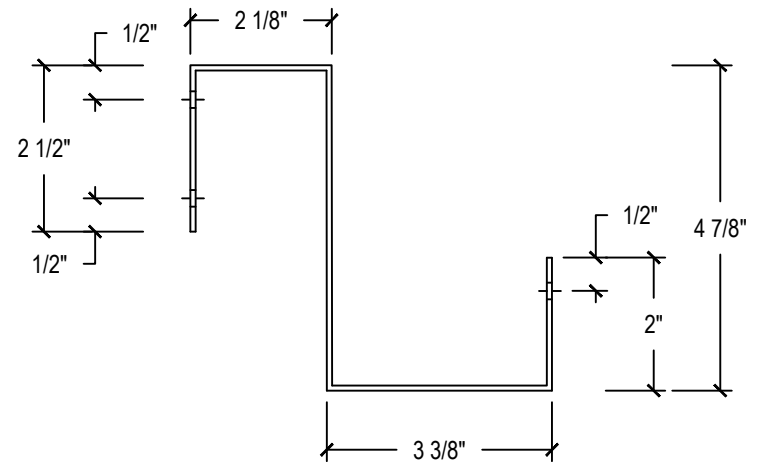
Approved Date:

(1.) ON LONG SIDES, ATTACH HOLD DOWN CLIPS TO ROOF CURB OR ADAPTER USING 4 - #14 SELF TAPPING SCREWS PER EACH BRACKET, (2) AT CORNERS AND (2) APPROXIMATELY EQUALLY SPACED.
 (2.) AFTER UNIT HAS BEEN POSITIONED ON TOP OF ROOF CURB OR ADAPTER ATTACH HOLD DOWN CLIPS TO UNIT BASE RAIL USING 4 - #14 SELF TAPPING SCREWS PER EACH BRACKET.



INSTALL UNIT CLIPS WITH SELF TAPPING SCREWS
 AT APPROXIMATE LOCATIONS SHOW ABOVE
 (ADJUST CLIP LOCATION TO AVOID DUCT SUPPORTS)

(8) CLIPS PER SET



SELECT HOLES THAT WILL ALLOW FOR ATTACHMENT TO SHEET METAL.
 (DO NOT ATTACH TO WOOD NAILER)

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 Ringgold, GA 30736
 Phone: (706) 858-1188 / Fax: (706) 866-2339
 website: www.curbs-plus.com

HOLD DOWN CLIPS

STORE NUMBER.:

QTY.: 4 SET(S) GA.: 12 GA.

METAL TYPE: GALVANIZED

TAG: RTU-4,5,8,11