



## **SUBMITTAL**

### **Project**

REI 144 - Woodbridge, VA

### **Date**

Wednesday, March 12, 2025

### **NOTES:**

Curb adapters are provided – please verify existing dimensions.



Carrier Strategic Accounts

www.commercial.carrier.com

**STRATEGIC ACCOUNTS SUBMITTAL APPROVAL FORM**

Review of the submittal is needed to validate conformance of equipment specifications to system design criteria. Installing contractor is responsible for verifying equipment being supplied matches final bid documents and/or replacement equipment needed. Carrier will not be responsible for installation and/or removal of any incorrect units. After review of the submittal, please select approval action and report any discrepancies in the comments section.

Submittal was reviewed for design conformity.

Job Name: \_\_\_\_\_

Job Location: \_\_\_\_\_

- Approve
- Reject/Revise/Resubmit

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Accepted By: \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

Date: \_\_\_\_\_

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Prepared By:

03/14/2025  
11:01AM

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**RTU-1**

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

## Unit Report For RTU-1

Project: REI 144 - Woodbridge, VA  
 Prepared By:

03/14/2025  
 11:01AM

### Unit Parameters

Unit Model:..... **48FEEM08D3M6-3U5F0**  
 Unit Size:..... **08 (7.5 Tons)**  
 Volts-Phase-Hertz:..... **460-3-60**  
 Heating Type:..... **Gas**  
 Refrigerant:..... **R-454B**  
 Heat Control:..... **Medium Gas 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:..... **3' 5.25"**  
**Total Operating Weight:..... 1052 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: **16 x 20 x 2**

**Selection includes construction throwaway filter into the base fan curve.**

### Unit Configuration

Medium Gas Heat  
 RA + SA Smoke Detector  
 High Static - EcoBlue Vane Axial Fan  
 Al/Cu - Al/Cu - Louvered Hail Guards  
 SystemVu Controller  
 ULL Temperature Economizer with Barometric Relief  
 Hinged Panels and 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.)  
 3-Year SystemVu

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
48FEEM08D3M6-3U5F0	Rooftop Unit	1
	Base Unit	
	Medium Gas Heat	
	RA + SA Smoke Detector	
	High Static - EcoBlue Vane Axial Fan	
	Al/Cu - Al/Cu - Louvered Hail Guards	
	Hinged Panels and Powered Convenience Outlet	
	Non-Fused Disconnect and Thru-The-Base Connections	
	SystemVu controller, Ultra LOW LEAK EconoMi\$er2 temperature economizer with barometric relief. Syst	
<b>Field Installed Accessories</b>		
33TCSPL-4	Carrier Connect Plus™ Wi-Fi® 7-day programmable/non-prog;	1
CRPWREXH023A01	Power Exhaust System	1

## Unit Report For RTU-1

Project: REI 144 - Woodbridge, VA  
Prepared By:

03/14/2025  
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CRPECONV004A00	Hinged Panel Sealing Angle Kit	1
ZS2-C-CAR	ZS Standard	1

# Certified Drawing for RTU-1

Project: REI 144 - Woodbridge, VA  
Prepared By:

03/14/2025  
11:01AM

- 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
48FE-W08	RTPF	41 1/4 [1048]	33 3/4 [857]	15 7/8 [403]
48FE-W09	RTPF	49 3/8 [1253]	36 3/8 [925]	15 7/8 [403]
48FE-W12	RTPF	49 3/8 [1253]	36 3/8 [925]	15 7/8 [403]

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

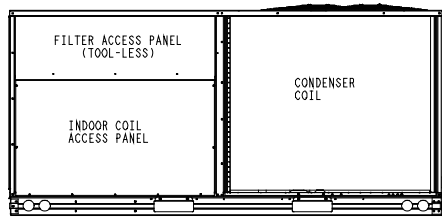
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CONNECTION SIZES	
A	1 3/8" [35] DIA FIELD POWER SUPPLY HOLE
B	2 1/2" [64] DIA POWER SUPPLY KNOCKOUT
C	1 3/4" [51] DIA GAUGE ACCESS PLUG
D	7/8" [22] DIA FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	1/2"-14 NPT GAS CONNECTION
G	3/4"-14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

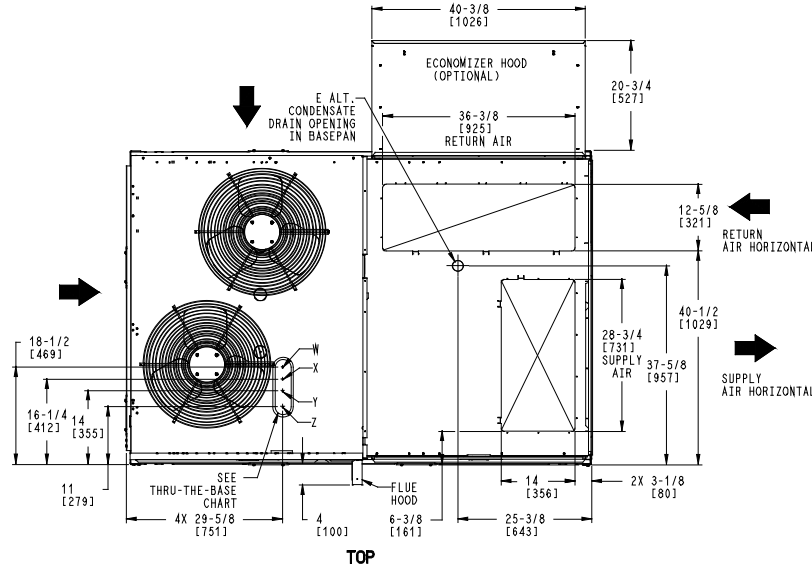
THRU-THE-BASE CHART (FIELD INST)			
THESE HOLES REQUIRED FOR USE WITH ACCY KITS: CRBTNPR002A01: GAS THRU CURB CRBTNPR004A01: GAS THRU BASEPAN			
	THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
W	1/2"	ACC.	7/8" [22.2]
X	1/2"	24V	7/8" [22.2]
Y	1 1/4" (002,004)	POWER	1 3/4" [44.4]
Z *	(004) 3/4" FPT	GAS	1 3/4" [44.4]

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

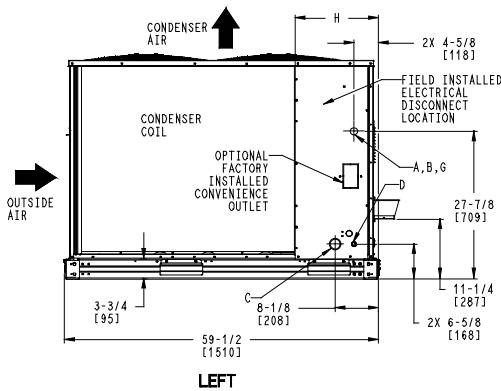
THRU-THE-BASE CHART (FIOP)	
FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR ONLY X, Y, & Z ARE PROVIDED. **	
FOR BELOW LISTED MODELS, A FIELD SUPPLIED 1/2" ADAPTER IS REQUIRED BETWEEN BASE PAN FITTING AND GAS VALVE: 48FCD, S#08, 09	



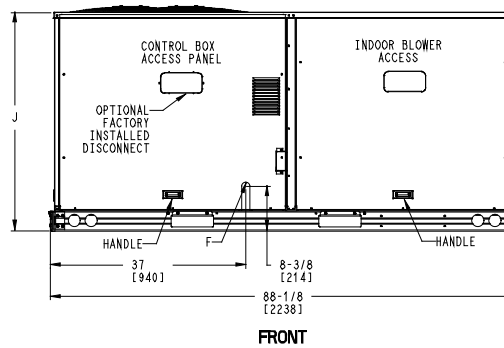
BACK



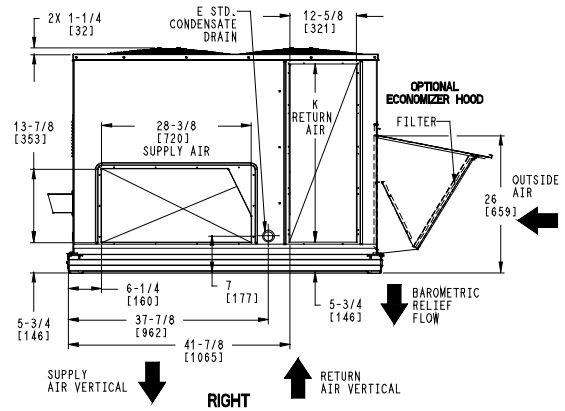
TOP



LEFT



FRONT



RIGHT

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	DESCRIPTION	PROJECT	REV
U.S. ECCN:NSR	1 OF 3	8/8/23	-	48FE 08-12 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM009320	-

# Certified Drawing for RTU-1

Project: REI 144 - Woodbridge, VA  
 Prepared By:

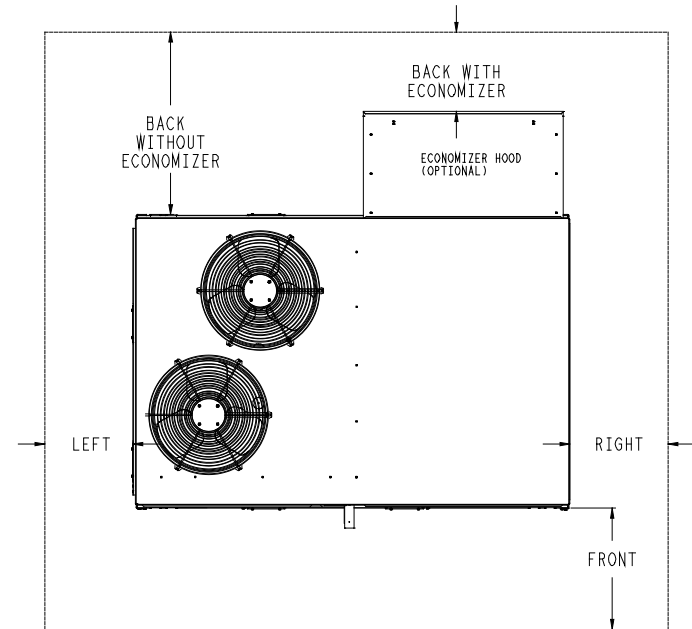
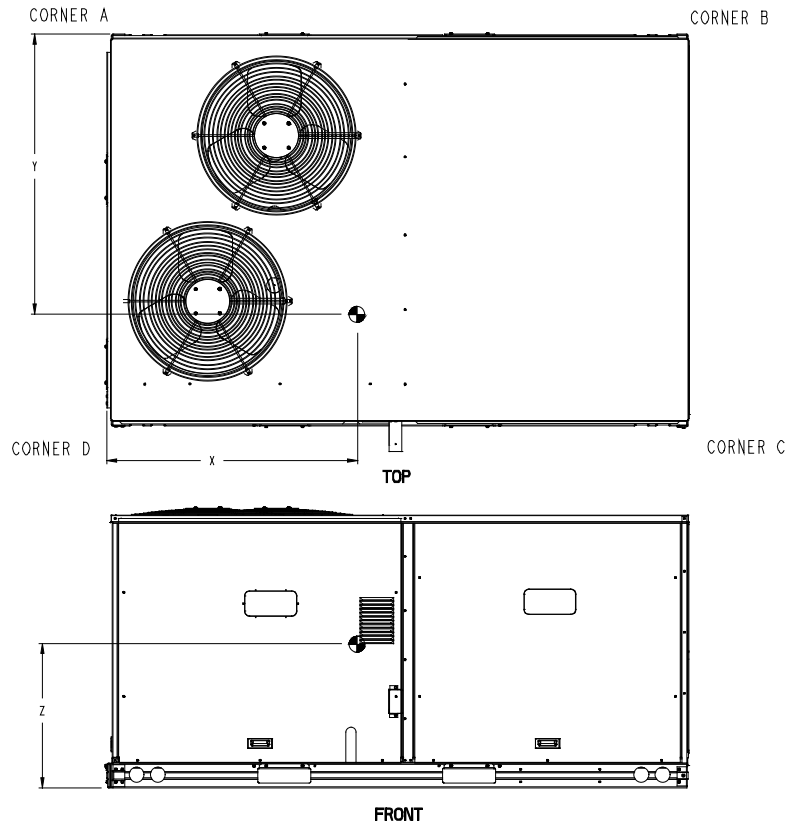
03/14/2025  
 11:01AM

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

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

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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.



NOTE:  
 1. 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 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]

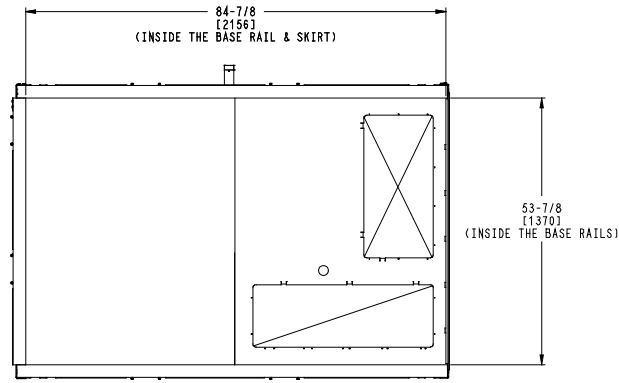
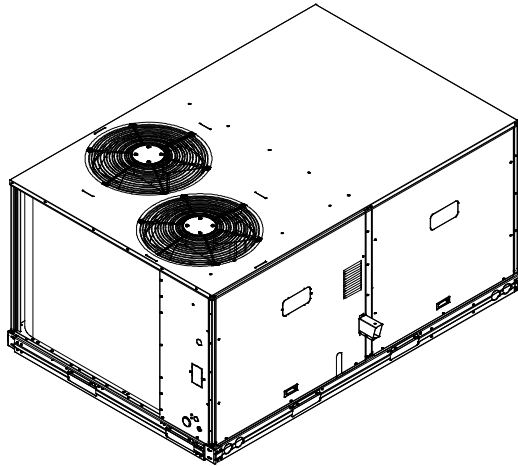
ITC CLASSIFICATION U.S., ECCN:NSR	SHEET 2 OF 3	DATE 8/8/23	SUPERCEDES -	48FE 08-12 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM009320	REV -
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# Certified Drawing for RTU-1

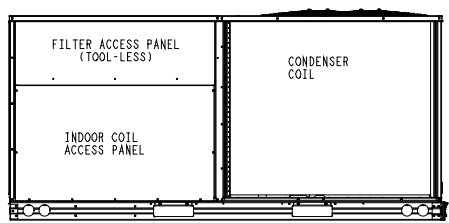
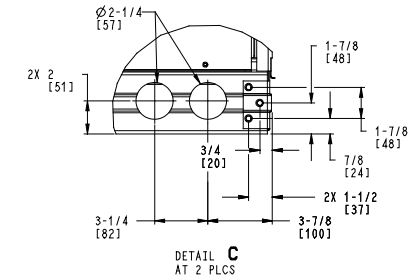
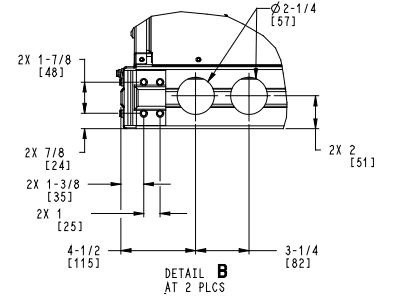
Project: REI 144 - Woodbridge, VA  
 Prepared By:

03/14/2025  
 11:01AM

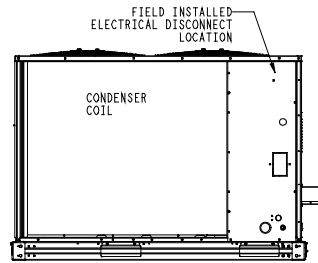
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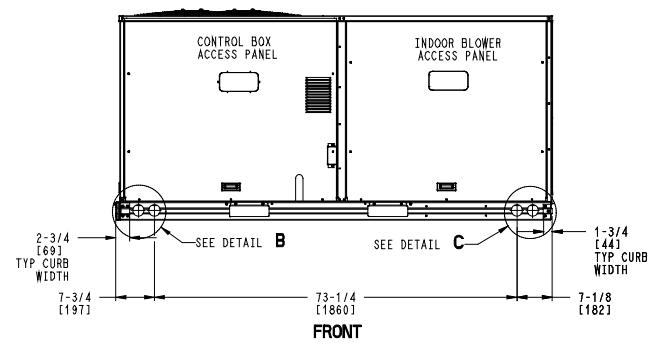
INSIDE BASERAIL DIMENSIONS  
**BOTTOM**



**BACK**



**LEFT**



**FRONT**

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	48FE 08-12 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM009320	REV
U.S. ECCN: NSR	3 OF 3	8/8/23	-			-

# Performance Summary For RTU-1

Project: REI 144 - Woodbridge, VA  
Prepared By:

03/14/2025  
11:01AM

## Part Number:48FEEM08D3M6-3U5F0

Refrigerant:..... **R-454B**  
ARI EER:..... **11.20**  
IEER:..... **15.0**

### Base Unit Dimensions

Unit Length:..... **88.1** in  
Unit Width:..... **59.5** in  
Unit Height:..... **41.3** in

### Operating Weight

Base Unit Weight:..... **787** lb  
Medium Gas Heat:..... **15** lb  
RA + SA Smoke Detector:..... **14** lb  
High Static - EcoBlue Vane Axial Fan:..... **30** lb  
Al/Cu - Al/Cu - Louvered Hail Guards:..... **17** lb  
SystemVu Controller:..... **2** lb  
ULL Temperature Economizer with Barometric Relief:..... **55** lb  
Hinged Panels and Powered Convenience Outlet:..... **41** lb  
Non-Fused Disconnect and Thru-The-Base Connections:..... **16** lb

### Accessories

Power Exhaust System:..... **75** lb

Total Operating Weight:..... **1052** lb

### Unit

Unit Voltage-Phase-Hertz:..... **460-3-60**  
Air Discharge:..... **Vertical**  
Fan Drive Type:..... **Vane Axial**  
Actual Airflow:..... **3000** 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:..... **58.0** F  
Evaporator Leaving Air WB:..... **57.2** F  
Evaporator Leaving Air Enthalpy:..... **24.52** BTU/lb  
Gross Cooling Capacity:..... **93.40** MBH  
Gross Sensible Capacity:..... **71.12** MBH  
Compressor Power Input:..... **6.22** kW  
Coil Bypass Factor:..... **0.076**

### Heating Performance

Heating Airflow:..... **3000** CFM  
Entering Air Temp:..... **70.0** F  
Leaving Air Temp:..... **115.7** F  
Gas Heating Input Capacity:..... **120.0 / 180.0** MBH  
Gas Heating Output Capacity:..... **98.0 / 148.0** MBH  
Temperature Rise:..... **45.7** F  
Thermal Efficiency (%):..... **82.0**

### Supply Fan

External Static Pressure:..... **1.00** in wg  
Options / Accessories Static Pressure  
Economizer:..... **0.11** in wg  
Power Exhaust:..... **(Fan Data Includes Drop)**  
Application External Static (ESP + Unit Opts/Acc.):..... **1.11** in wg

## Performance Summary For RTU-1

Project: REI 144 - Woodbridge, VA  
 Prepared By:

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Fan RPM: ..... 1731  
 Fan Power: ..... 1.94 BHP  
 NOTE: ..... Selected IFM RPM Range: 1069 - 2200

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

**Power Exhaust**

Return Duct Static: ..... 0.40 in wg  
 Max. Air To Exhaust: ..... 2850 CFM

**Electrical Data**

Voltage Range: ..... 414 - 506  
 Compressor #1 RLA: ..... 6.4  
 Compressor #1 LRA: ..... 49  
 Compressor #2 RLA: ..... 6.4  
 Compressor #2 LRA: ..... 49  
 Indoor Fan Motor Type: ..... HIGH  
 Indoor Fan Motor FLA (Total): ..... 3.5  
 Combustion Fan Motor FLA (ea): ..... 0.25  
 Power Supply MCA: ..... 24  
 Power Supply MOCP (Fuse or HACR): ..... 30  
 Disconnect Size FLA: ..... 25  
 Disconnect Size LRA: ..... 113  
 Electrical Convenience Outlet FLA (based on unit line voltage): ..... 2.2  
 Power Exhaust [Kit Qty / FLA(ea kit)]: ..... 1 / 1.8  
 Outdoor Fan [Qty / FLA (ea)]: ..... 2 / 0.8  
 NOTE: Convenience outlet must be field connected to the line/load side of the unit disconnect per local code.

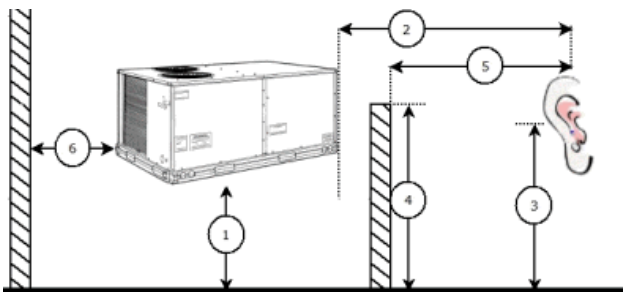
**Control Panel SCCR: 5kA RMS at Rated Symmetrical Voltage**

**Acoustics**

Sound Power Levels, db re 10E-12 Watts

	Discharge	Inlet	Outdoor
63 Hz	89.8	84.8	85.6
125 Hz	86.2	81.1	84.7
250 Hz	79.5	73.2	80.5
500 Hz	76.2	69.0	76.0
1000 Hz	77.6	69.1	72.4
2000 Hz	74.2	63.5	68.0
4000 Hz	70.0	55.7	62.8
8000 Hz	60.8	49.3	59.3
A-Weighted	81.8	73.5	79.0

**Advanced Acoustics**



## Performance Summary For RTU-1

Project: REI 144 - Woodbridge, VA  
 Prepared By:

03/14/2025  
 11:01AM

### 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

#### Legend

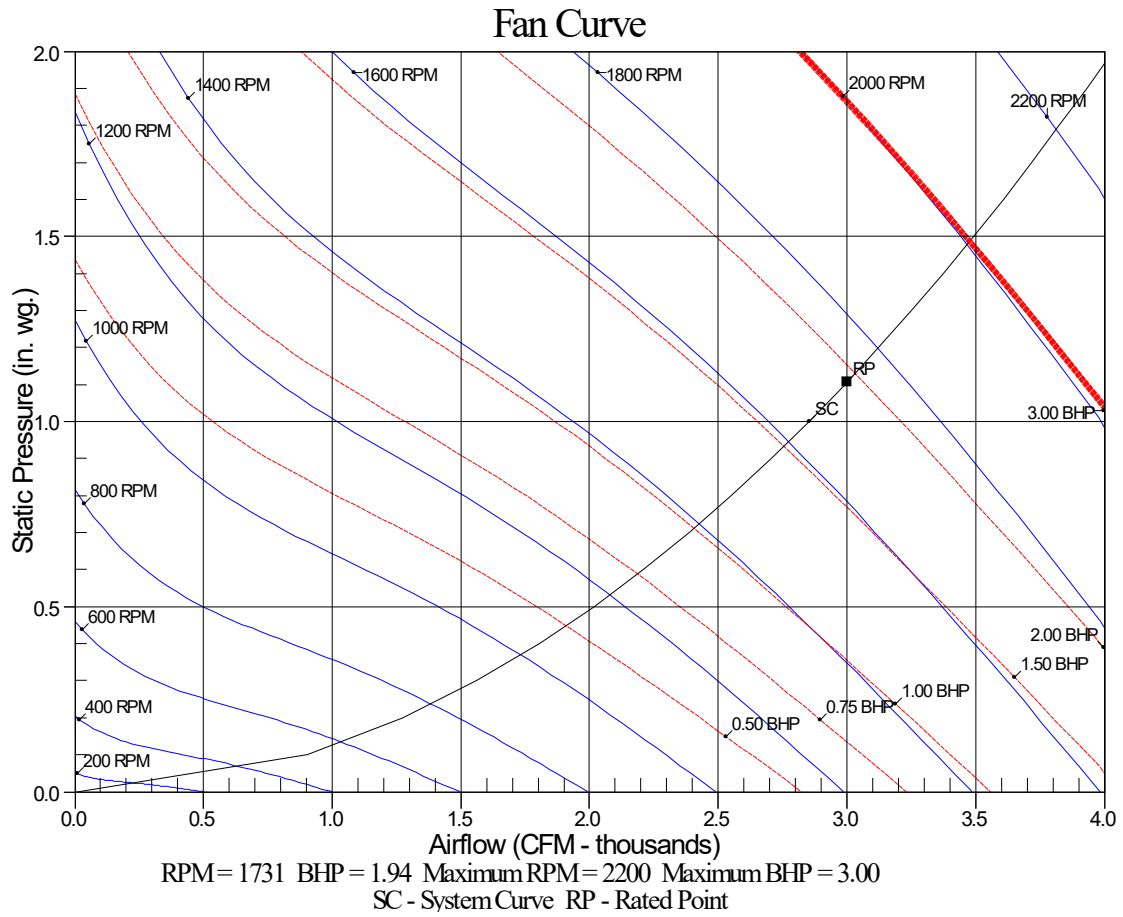
- A Sound Power Levels at Unit's Acoustic Center, Lw
- B A-Weighted Sound Power Levels at Unit's Acoustic Center, LwA
- C Sound Pressure Levels at Specific Distance from Unit, Lp
- D A-Weighted Sound Pressure Levels at Specific Distance from Unit, LpA

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

Project: REI 144 - Woodbridge, VA  
Prepared By:

03/14/2025  
11:01AM



**RTU-2,3,4,5**

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

## Unit Report For RTU-2,3,4,5

Project: REI 144 - Woodbridge, VA  
 Prepared By:

03/14/2025  
 11:01AM

### Unit Parameters

Unit Model:..... **48FEEM09D3M6-3U5F0**  
 Unit Size:..... **09 (8.5 Tons)**  
 Volts-Phase-Hertz:..... **460-3-60**  
 Heating Type:..... **Gas**  
 Refrigerant:..... **R-454B**  
 Heat Control:..... **Medium Gas 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:..... 1133 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.**

### Unit Configuration

Medium Gas Heat  
 RA + SA Smoke Detector  
 High Static - EcoBlue Vane Axial Fan  
 Al/Cu - Al/Cu - Louvered Hail Guards  
 SystemVu Controller  
 ULL Temperature Economizer with Barometric Relief  
 Hinged Panels and 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.)  
 3-Year SystemVu

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
48FEEM09D3M6-3U5F0	Rooftop Unit	4
	Base Unit	
	Medium Gas Heat	
	RA + SA Smoke Detector	
	High Static - EcoBlue Vane Axial Fan	
	Al/Cu - Al/Cu - Louvered Hail Guards	
	Hinged Panels and Powered Convenience Outlet	
	Non-Fused Disconnect and Thru-The-Base Connections	
	SystemVu controller, Ultra LOW LEAK EconoMi\$er2 temperature economizer with barometric relief. Syst	
<b>Field Installed Accessories</b>		
CRPECONV004A00	Hinged Panel Sealing Angle Kit	4
ZS2-C-CAR	ZS Standard	4

## Unit Report For RTU-2,3,4,5

Project: REI 144 - Woodbridge, VA  
Prepared By:

03/14/2025  
11:01AM

33TC SPL-4	Carrier Connect Plus™ Wi-Fi® 7-day programmable/non-prog;	4
CRPWREXH023A01	Power Exhaust System	4

# Certified Drawing for RTU-2,3,4,5

Project: REI 144 - Woodbridge, VA  
Prepared By:

03/14/2025  
11:01AM

- 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
48FE-W08	RTPF	41 1/4 [1048]	33 3/4 [857]	15 7/8 [403]
48FE-W09	RTPF	49 3/8 [1253]	36 3/8 [925]	15 7/8 [403]
48FE-W12	RTPF	49 3/8 [1253]	36 3/8 [925]	15 7/8 [403]

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

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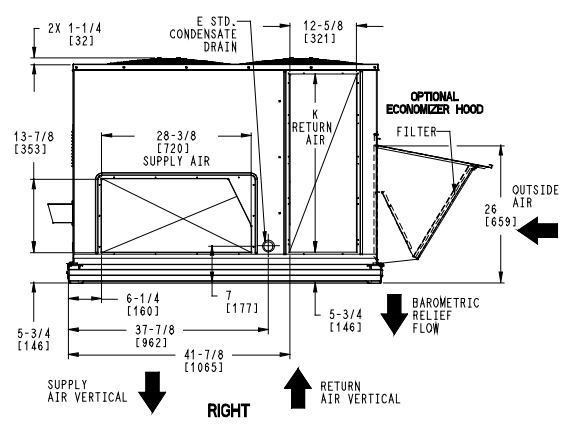
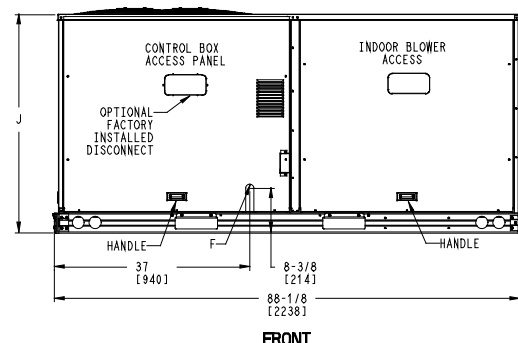
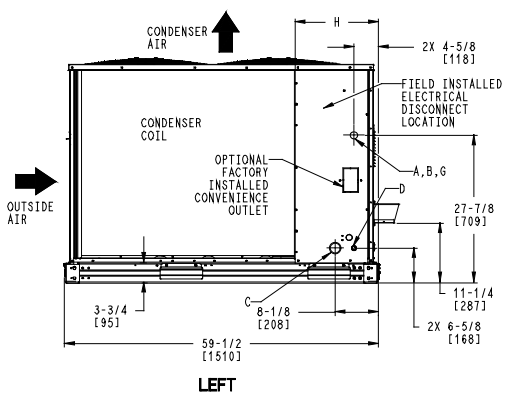
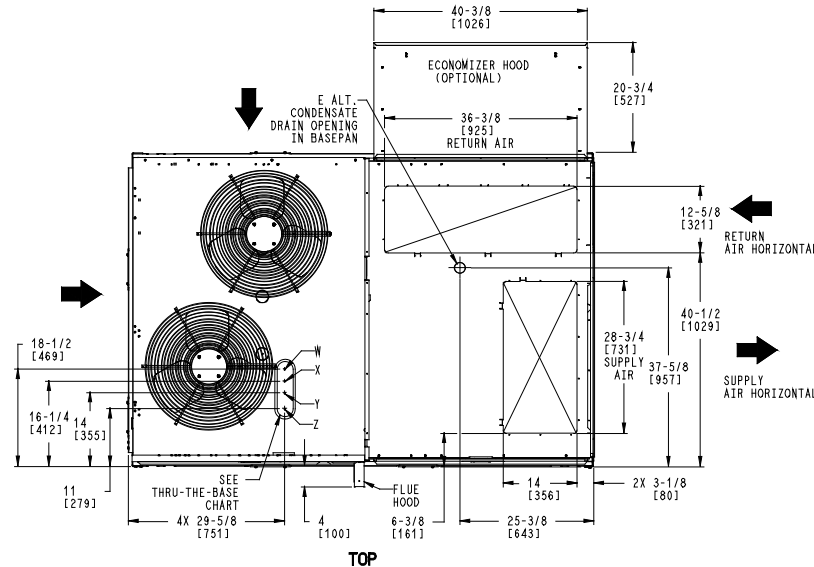
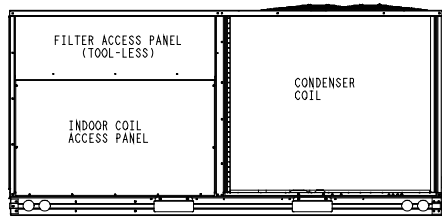
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CONNECTION SIZES	
A	1 3/8" [35] DIA FIELD POWER SUPPLY HOLE
B	2 1/2" [64] DIA POWER SUPPLY KNOCKOUT
C	1 3/4" [51] DIA GAUGE ACCESS PLUG
D	7/8" [22] DIA FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	1/2"-14 NPT GAS CONNECTION
G	3/4"-14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

THRU-THE-BASE CHART (FIELD INST)			
THESE HOLES REQUIRED FOR USE WITH ACCY KITS: CRBTNPR002A01: GAS THRU CURB CRBTNPR004A01: 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 BASEPAN FITTING AND GAS VALVE: 48FCD, S#08, 09			



ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	DESCRIPTION	PROJECT	REV
U.S. ECCN:NSR	1 OF 3	8/8/23	-	48FE 08-12 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM009320	-

# Certified Drawing for RTU-2,3,4,5

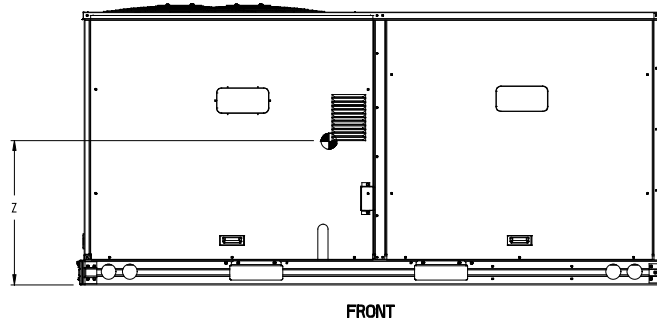
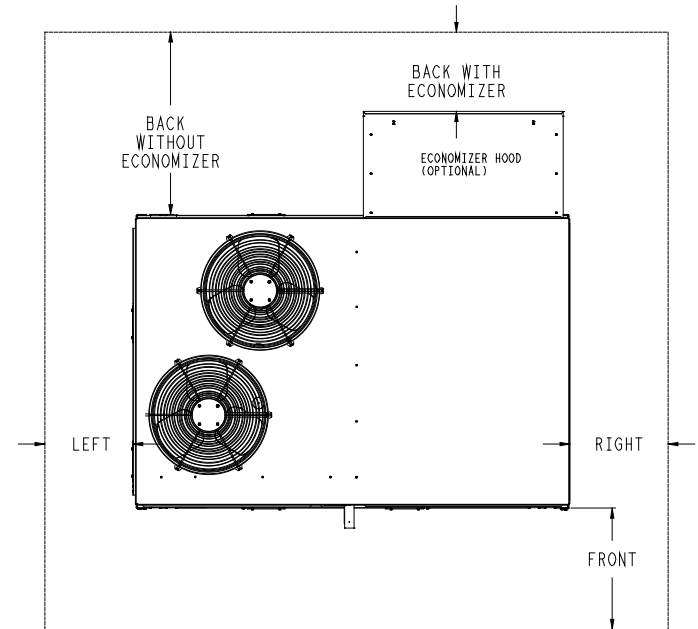
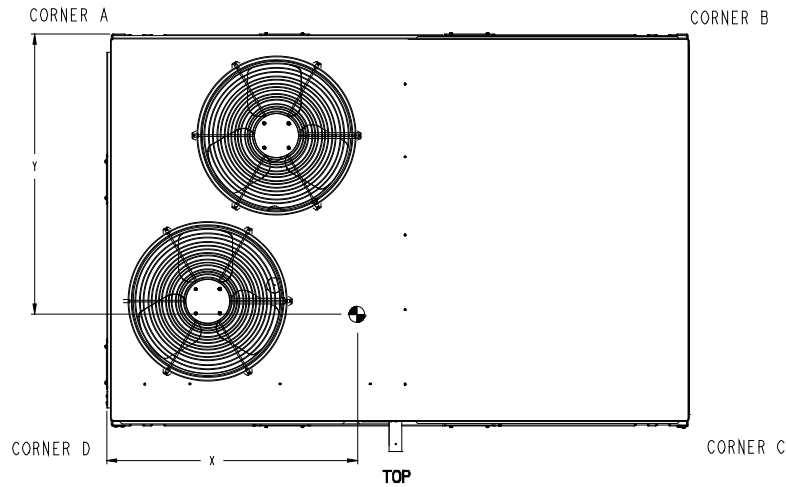
Project: REI 144 - Woodbridge, VA  
 Prepared By:

03/14/2025  
 11:01AM

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	
48FE-M08	RTPF	787	357	181	82	150	68	207	94	249	113	40	1/2 [1016]	34 1/2 [876]	19 3/8 [492]
48FE-M09	RTPF	868	394	197	89	160	73	229	104	282	128	39 1/2 [1003]	35 [889]	18 5/8 [473]	
48FE-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.

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NOTE:  
 1. 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 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]

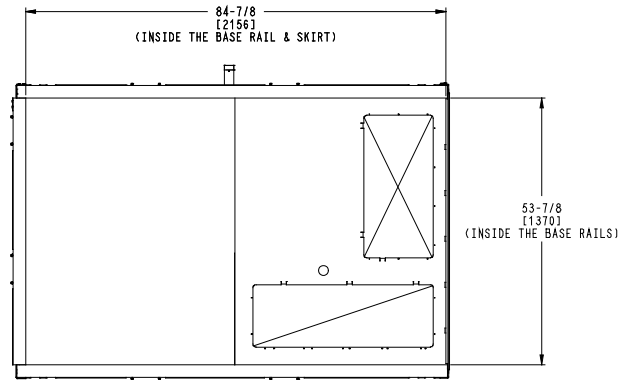
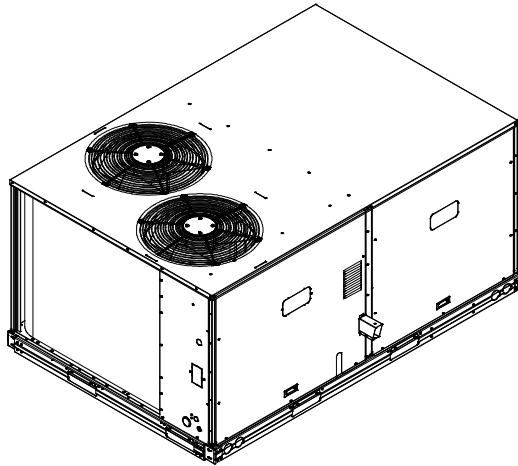
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	48FE 08-12 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM009320	REV
U.S., ECCN:NSR	2 OF 3	8/8/23	-			-

# Certified Drawing for RTU-2,3,4,5

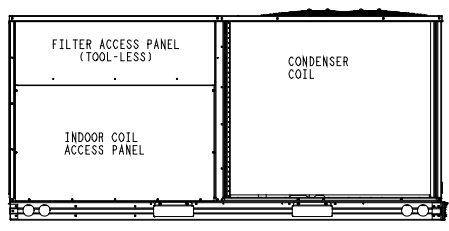
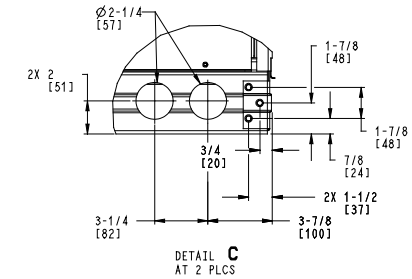
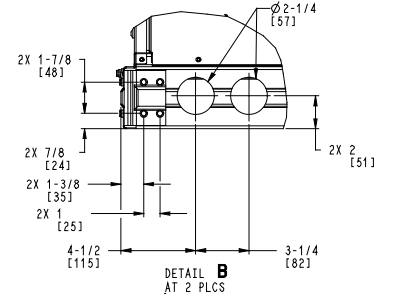
Project: REI 144 - Woodbridge, VA  
 Prepared By:

03/14/2025  
 11:01AM

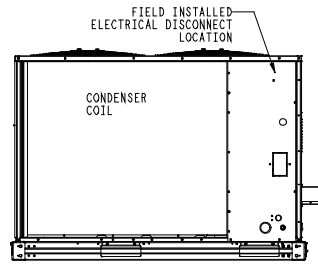
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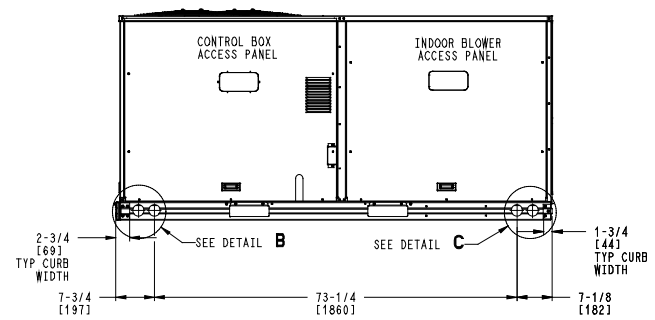
INSIDE BASERAIL DIMENSIONS  
**BOTTOM**



**BACK**



**LEFT**



**FRONT**

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	48FE 08-12 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM009320	REV
U.S. ECCN: NSR	3 OF 3	8/8/23	-			-

# Performance Summary For RTU-2,3,4,5

Project: REI 144 - Woodbridge, VA  
Prepared By:

03/14/2025  
11:01AM

## Part Number:48FEEM09D3M6-3U5F0

Refrigerant:..... **R-454B**  
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:..... **868** lb  
Medium Gas Heat:..... **15** lb  
RA + SA Smoke Detector:..... **14** lb  
High Static - EcoBlue Vane Axial Fan:..... **30** lb  
Al/Cu - Al/Cu - Louvered Hail Guards:..... **17** lb  
SystemVu Controller:..... **2** lb  
ULL Temperature Economizer with Barometric Relief:..... **55** lb  
Hinged Panels and Powered Convenience Outlet:..... **41** lb  
Non-Fused Disconnect and Thru-The-Base Connections:..... **16** lb

### Accessories

Power Exhaust System:..... **75** lb

Total Operating Weight:..... **1133** 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:..... **58.7** F  
Evaporator Leaving Air WB:..... **57.5** F  
Evaporator Leaving Air Enthalpy:..... **24.74** BTU/lb  
Gross Cooling Capacity:..... **102.53** MBH  
Gross Sensible Capacity:..... **78.38** MBH  
Compressor Power Input:..... **6.79** kW  
Coil Bypass Factor:..... **0.028**

### Heating Performance

Heating Airflow:..... **3400** CFM  
Entering Air Temp:..... **70.0** F  
Leaving Air Temp:..... **110.3** F  
Gas Heating Input Capacity:..... **120.0 / 180.0** MBH  
Gas Heating Output Capacity:..... **98.0 / 148.0** MBH  
Temperature Rise:..... **40.3** F  
Thermal Efficiency (%):..... **82.0**

### Supply Fan

External Static Pressure:..... **1.00** in wg  
Options / Accessories Static Pressure  
Economizer:..... **0.14** in wg  
Power Exhaust:..... **(Fan Data Includes Drop)**  
Application External Static (ESP + Unit Opts/Acc.):..... **1.14** in wg

## Performance Summary For RTU-2,3,4,5

Project: REI 144 - Woodbridge, VA  
 Prepared By:

03/14/2025  
 11:01AM

Fan RPM: ..... 1769  
 Fan Power: ..... 1.99 BHP  
 NOTE: ..... Selected IFM RPM Range: 1110 - 2200

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

**Power Exhaust**

Return Duct Static: ..... 0.40 in wg  
 Max. Air To Exhaust: ..... 2850 CFM

**Electrical Data**

Voltage Range: ..... 414 - 506  
 Compressor #1 RLA: ..... 6  
 Compressor #1 LRA: ..... 49  
 Compressor #2 RLA: ..... 6  
 Compressor #2 LRA: ..... 49  
 Indoor Fan Motor Type: ..... HIGH  
 Indoor Fan Motor FLA (Total): ..... 3.5  
 Combustion Fan Motor FLA (ea): ..... 0.25  
 Power Supply MCA: ..... 23  
 Power Supply MOCP (Fuse or HACR): ..... 25  
 Disconnect Size FLA: ..... 24  
 Disconnect Size LRA: ..... 113  
 Electrical Convenience Outlet FLA (based on unit line voltage): ..... 2.2  
 Power Exhaust [Kit Qty / FLA(ea kit)]: ..... 1 / 1.8  
 Outdoor Fan [Qty / FLA (ea)]: ..... 2 / 0.8  
 NOTE: Convenience outlet must be field connected to the line/load side of the unit disconnect per local code.

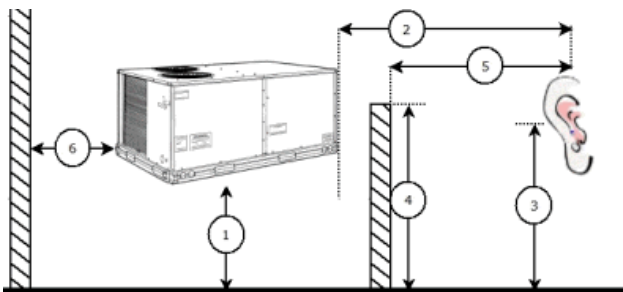
**Control Panel SCCR: 5kA RMS at Rated Symmetrical Voltage**

**Acoustics**

Sound Power Levels, db re 10E-12 Watts

	Discharge	Inlet	Outdoor
63 Hz	89.0	84.4	85.6
125 Hz	85.3	79.5	84.7
250 Hz	79.7	73.0	80.5
500 Hz	76.4	68.9	76.0
1000 Hz	77.8	69.3	72.4
2000 Hz	74.2	63.5	68.0
4000 Hz	70.0	55.8	62.8
8000 Hz	60.8	49.2	59.3
A-Weighted	81.8	73.3	79.0

**Advanced Acoustics**



## Performance Summary For RTU-2,3,4,5

Project: REI 144 - Woodbridge, VA  
 Prepared By:

03/14/2025  
 11:01AM

### 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

#### Legend

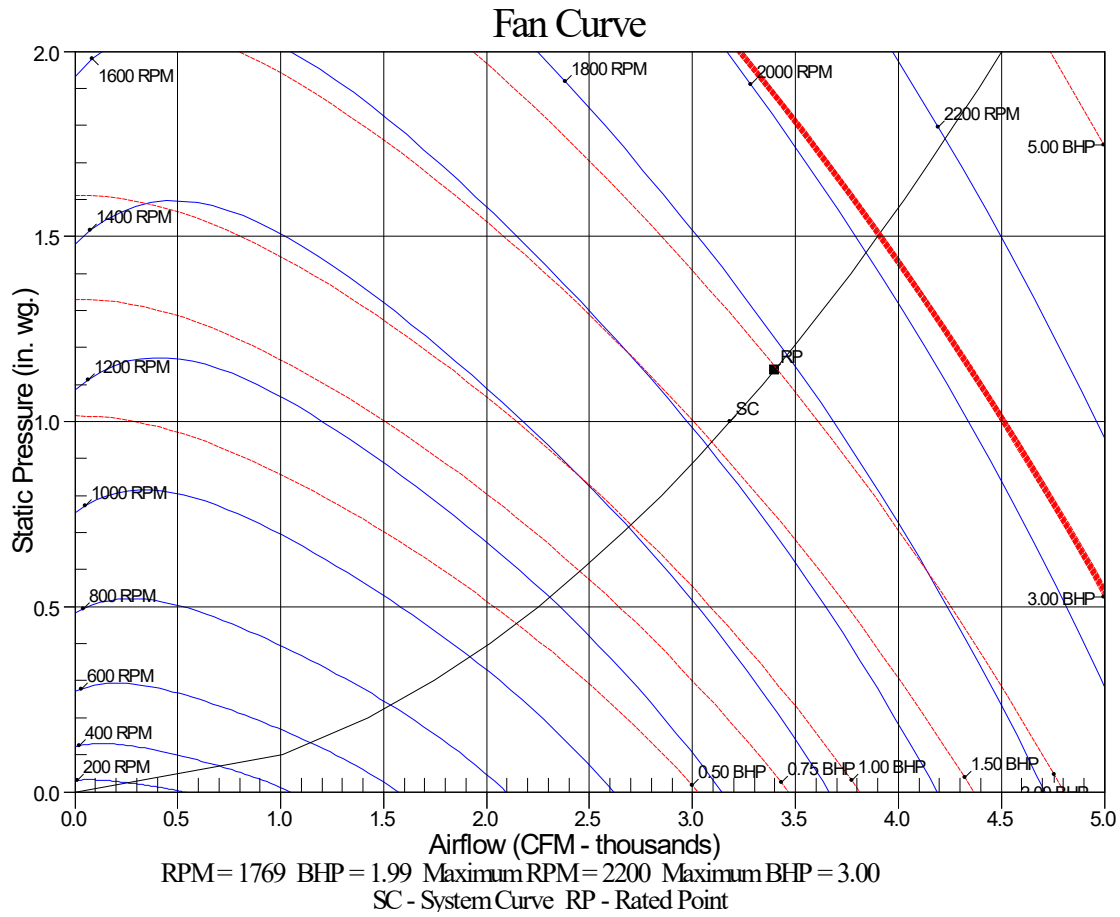
- A Sound Power Levels at Unit's Acoustic Center, Lw
- B A-Weighted Sound Power Levels at Unit's Acoustic Center, LwA
- C Sound Pressure Levels at Specific Distance from Unit, Lp
- D A-Weighted Sound Pressure Levels at Specific Distance from Unit, LpA

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-2,3,4,5

Project: REI 144 - Woodbridge, VA  
Prepared By:

03/14/2025  
11:01AM



**RTU-6**

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

## Unit Report For RTU-6

Project: REI 144 - Woodbridge, VA  
 Prepared By:

03/14/2025  
 11:01AM

### Unit Parameters

Unit Model:.....**48FEFA06D3M6-3U5F0**  
 Unit Size:.....**06 (5 Tons)**  
 Volts-Phase-Hertz:.....**460-3-60**  
 Heating Type:.....**Gas**  
 Refrigerant:.....**R-454B**  
 Heat Control:.....**High Heat**  
 Duct Cfg:.....**Vertical Supply / Vertical Return**  
 DX Options:**Standard One Stage Cooling Models (04-06)**

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

Unit Length:.....**6' 2.375"**  
 Unit Width:.....**3' 10.625"**  
 Unit Height:.....**2' 9.375"**  
**Total Operating Weight:..... 733 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.**

### Unit Configuration

High Heat  
 RA + SA Smoke Detector  
 High Static - EcoBlue Vane Axial Fan  
 Al/Cu - Al/Cu - Louvered Hail Guards  
 SystemVu Controls  
 ULL Temperature Economizer w/Barometric Relief  
 Hinged Panels and 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.)  
 3-Year SystemVu

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
48FEFA06D3M6-3U5F0	Rooftop Unit	1
	Base Unit	
	High Heat	
	RA + SA Smoke Detector	
	High Static - EcoBlue Vane Axial Fan	
	Al/Cu - Al/Cu - Louvered Hail Guards	
	Hinged Panels and Powered Convenience Outlet	
	Non-Fused Disconnect and Thru-The-Base Connections	
	SystemVu controller, Ultra LOW LEAK EconoMi\$er2 temperature economizer with barometric relief. Syst	
<b>Field Installed Accessories</b>		
ZS2-C-CAR	ZS Standard	1
33TCSPL-4	Carrier Connect™ Wi-Fi® 7-day programmable/non-prog	1

# Certified Drawing for RTU-6

Project: REI 144 - Woodbridge, VA  
Prepared By:

03/14/2025  
11:01AM

**NOTES:**

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

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

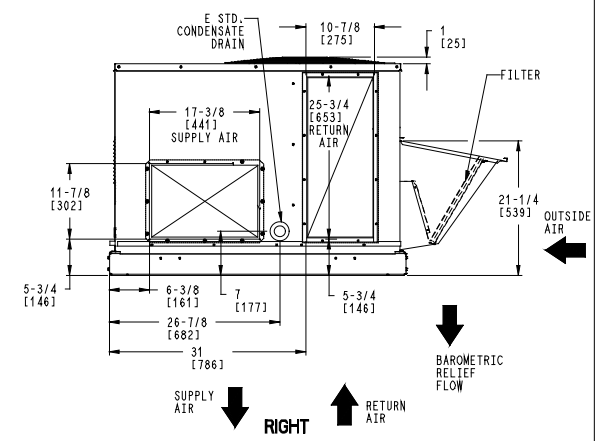
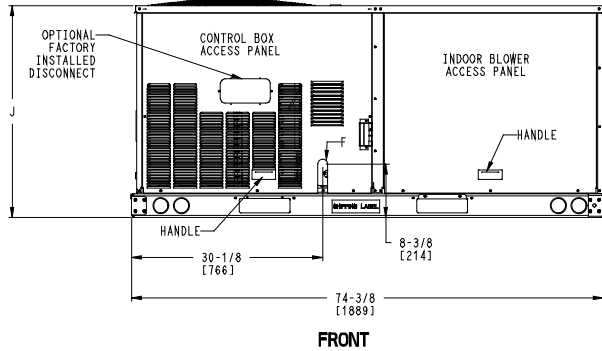
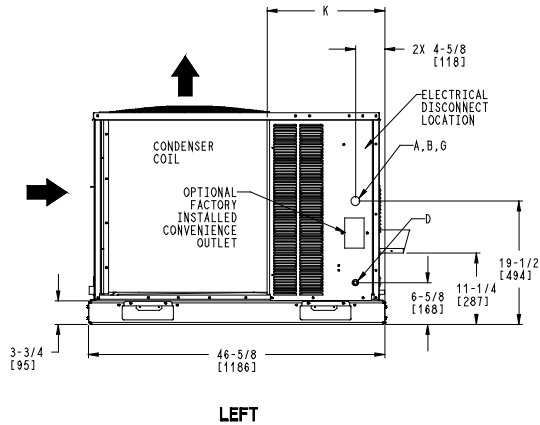
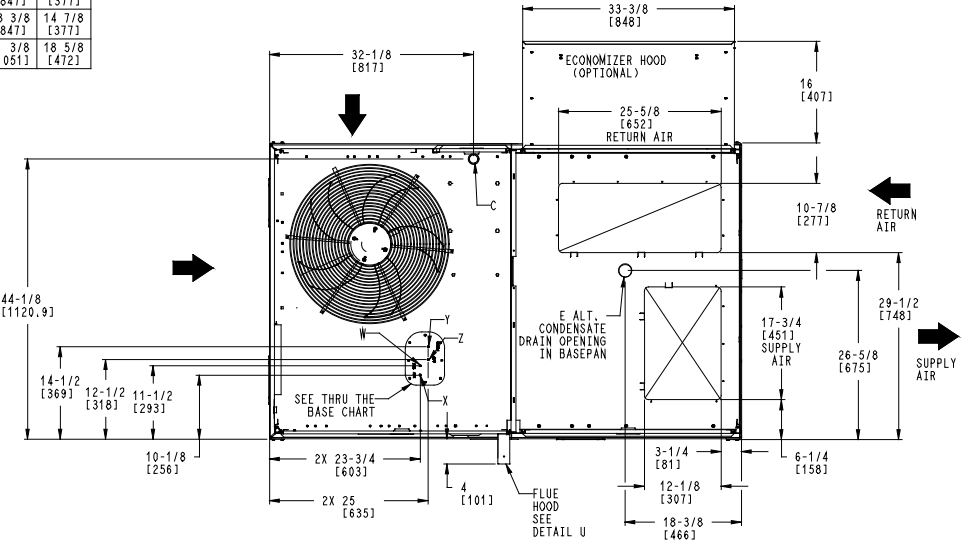
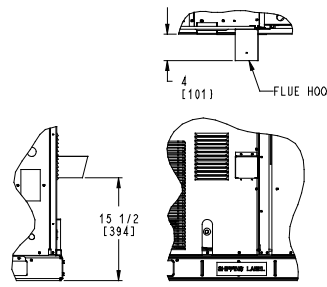
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CONNECTION SIZES	
A	1 3/8" [35] DIA FIELD POWER SUPPLY HOLE
B	2" [50] DIA POWER SUPPLY KNOCKOUT
C	1 3/4" [51] DIA GAUGE ACCESS PLUG
D	7/8" [22] DIA FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	1/2"-14 NPT GAS CONNECTION
G	2 1/2" [64]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

THRU-THE-BASE CHART THESE HOLES REQUIRED FOR USE CRBTMPWR008A00, 009A00			
	THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
W	1/2"	115V	7/8" [22.2]
X	1/2"	24V	7/8" [22.2]
Y	3/4"	POWER	1-1/8" [28.6]
Z*	(009A00) 1/2" FPT	GAS	1-1/8" [28.6]

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

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



ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	DESCRIPTION	REV
U.S. ECCN: NSR	1 OF 3	11/17/23	-	48FE 04-07 SINGLE PACKAGE ELECTRICAL COOLING WITH GAS HEAT	48TC006964

# Certified Drawing for RTU-6

Project: REI 144 - Woodbridge, VA  
Prepared By:

03/14/2025  
11:01AM

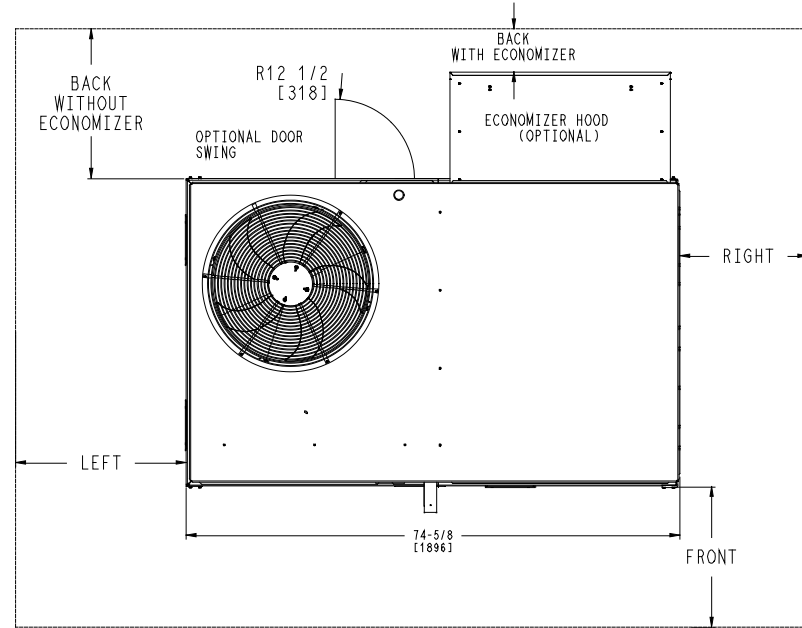
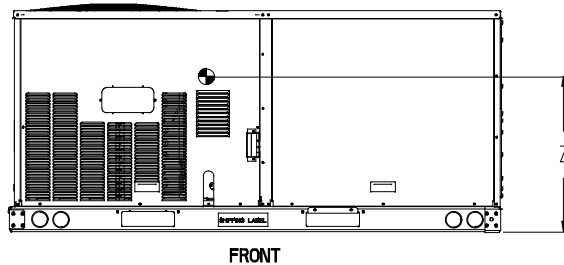
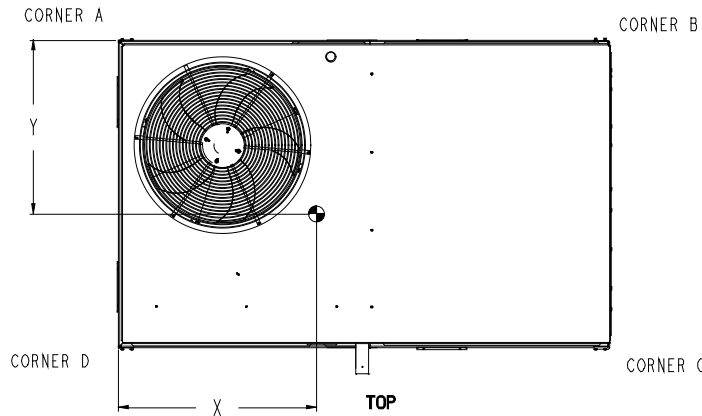
UNIT	STD. UNIT WEIGHT *		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.			HEIGHT
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z	
48FE**04	482	219	113	51	116	53	128	58	125	57	37 5/8 [956]	24 9/16 [624]	18 1/4 [464]	
48FE**05	543	246	138	63	133	60	133	60	138	63	36 1/2 [927]	23 3/8 [594]	18 [457]	
48FE**06	556	252	142	64	136	62	136	62	142	64	36 1/2 [927]	23 3/8 [594]	18 [457]	
48FE**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.

THIS TABLE IS FOR "ULTRA LOW NOX" UNITS ONLY

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	
48FEG*04	512	233	120	55	122	55	136	62	134	61	37 1/2 [953]	24 11/16 [627]	18 1/8 [460]	
48FEG*05	573	260	146	66	139	63	141	64	147	67	36 3/8 [924]	23 1/2 [597]	18 [457]	
48FEG*06	586	266	149	68	143	65	144	65	151	69	36 3/8 [924]	23 1/2 [597]	18 [457]	

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



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**NOTES:**

- 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 W/O HOOD	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 11/17/23	SUPERCEDES -	48FE 04-07 SINGLE PACKAGE ELECTRICAL COOLING WITH GAS HEAT	48TC006964	REV -
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## Performance Summary For RTU-6

Project: REI 144 - Woodbridge, VA  
 Prepared By:

03/14/2025  
 11:01AM

### Part Number: 48FEFA06D3M6-3U5F0

Refrigerant:..... **R-454B**  
 ARI SEER:..... **14.00**  
 ARI SEER2:..... **13.40**

#### Base Unit Dimensions

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

#### Operating Weight

Base Unit Weight:..... **556** lb  
 High Heat:..... **63** lb  
 RA + SA Smoke Detector:..... **14** lb  
 Al/Cu - Al/Cu - Louvered Hail Guards:..... **13** lb  
 SystemVu Controls:..... **2** lb  
 ULL Temperature Economizer w/Barometric Relief:..... **35** lb  
 Hinged Panels and Powered Convenience Outlet:..... **41** lb  
 Non-Fused Disconnect and Thru-The-Base Connections:..... **9** lb  
  
 Total Operating Weight:..... **733** 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:..... **58.6** F  
 Evaporator Leaving Air WB:..... **57.2** F  
 Evaporator Leaving Air Enthalpy:..... **24.55** BTU/lb  
 Gross Cooling Capacity:..... **62.01** MBH  
 Gross Sensible Capacity:..... **46.17** MBH  
 Compressor Power Input:..... **4.05** kW  
 Coil Bypass Factor:..... **0.129**

#### Heating Performance

Heating Airflow:..... **2000** CFM  
 Entering Air Temp:..... **70.0** F  
 Leaving Air Temp:..... **125.6** F  
 Gas Heating Input Capacity:..... **120.0 / 150.0** MBH  
 Gas Heating Output Capacity:..... **96.0 / 120.0** MBH  
 Temperature Rise:..... **55.6** F  
 Thermal Efficiency (%):..... **80.0**

#### Supply Fan

External Static Pressure:..... **1.00** in wg  
 Options / Accessories Static Pressure  
     Economizer:..... **0.12** in wg  
 Application External Static (ESP + Unit Opts/Acc.):..... **1.12** in wg  
 Fan RPM:..... **2424**  
 Fan Power:..... **1.53** BHP  
 NOTE:..... **Selected IFM RPM Range: 1478 - 2836**

## Performance Summary For RTU-6

Project: REI 144 - Woodbridge, VA  
 Prepared By:

03/14/2025  
 11:01AM

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

### Electrical Data

Voltage Range: .....	<b>414 - 506</b>
Compressor #1 RLA:.....	<b>7.8</b>
Compressor #1 LRA:.....	<b>58</b>
Indoor Fan Motor Type:.....	<b>HIGH</b>
Indoor Fan Motor FLA (Total):.....	<b>3.1</b>
Combustion Fan Motor FLA (ea):.....	<b>0.25</b>
Power Supply MCA:.....	<b>16</b>
Power Supply MOCP (Fuse or HACR):.....	<b>20</b>
Disconnect Size FLA:.....	<b>16</b>
Disconnect Size LRA: .....	<b>66</b>
Electrical Convenience Outlet FLA (based on unit line voltage):.....	<b>2.2</b>
Outdoor Fan [Qty / FLA (ea)]: .....	<b>1 / 0.8</b>

NOTE: Convenience outlet must be field connected to the line/load side of the unit disconnect per local code.

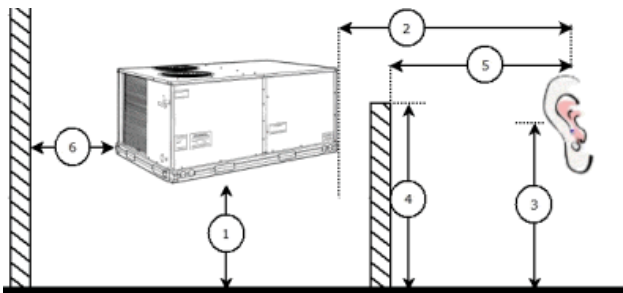
**Control Panel SCCR: 5kA RMS at Rated Symmetrical Voltage**

### Acoustics

Sound Power Levels, db re 10E-12 Watts

	Discharge	Inlet	Outdoor
63 Hz	97.3	94.8	85.6
125 Hz	89.2	85.2	84.7
250 Hz	83.4	75.8	80.5
500 Hz	78.2	72.5	76.0
1000 Hz	75.9	73.2	72.4
2000 Hz	72.8	64.1	68.0
4000 Hz	68.4	58.1	62.8
8000 Hz	63.3	50.8	59.3
A-Weighted	82.3	77.3	79.0

### Advanced Acoustics



#### Advanced Accoustics Parameters

1. Unit height above ground: .....	<b>30.0</b> ft
2. Horizontal distance from unit to receiver: .....	<b>50.0</b> ft
3. Receiver height above ground: .....	<b>5.7</b> ft
4. Height of obstruction: .....	<b>0.0</b> ft
5. Horizontal distance from obstruction to receiver: .....	<b>0.0</b> ft
6. Horizontal distance from unit to obstruction: .....	<b>0.0</b> ft

### Detailed Acoustics Information

# Performance Summary For RTU-6

Project: REI 144 - Woodbridge, VA  
 Prepared By:

03/14/2025  
 11:01AM

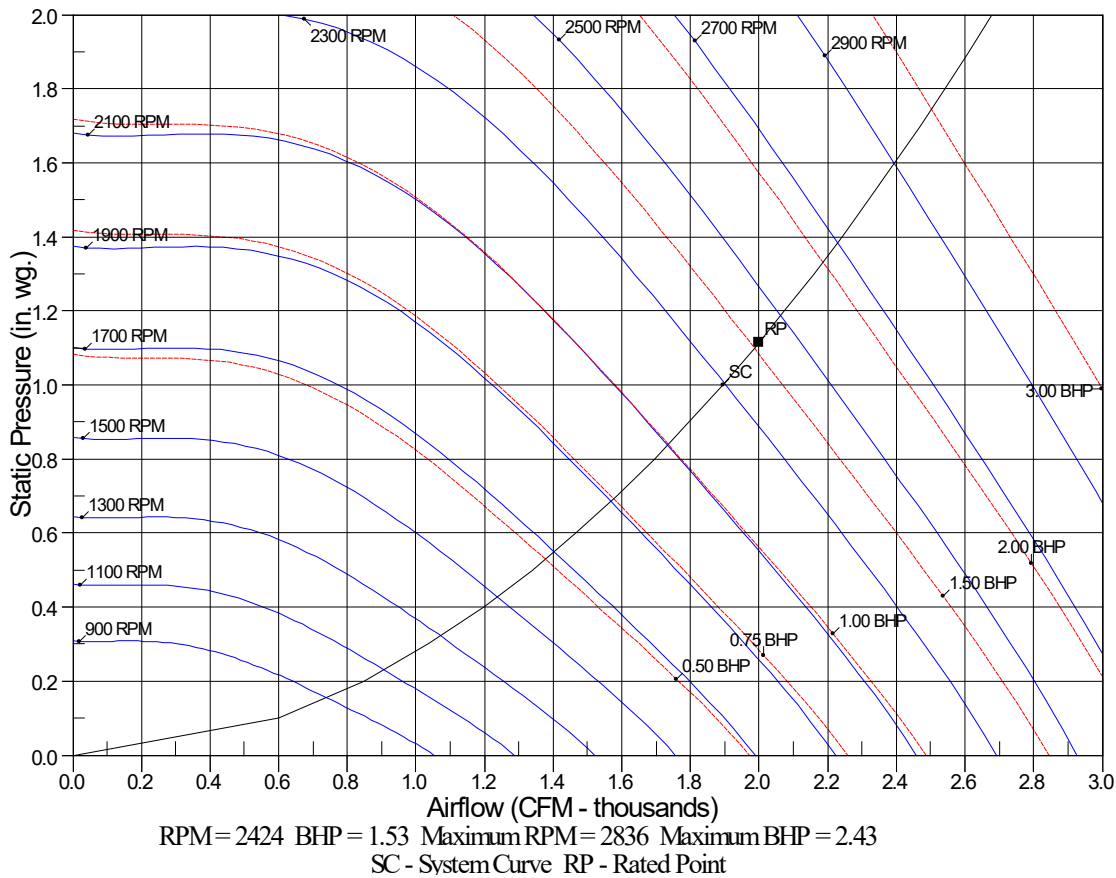
Octave Band Center Freq. Hz	63	125	250	500	1k	2k	4k	8k	Overall
A	85.6	84.7	80.5	76.0	72.4	68.0	62.8	59.3	89.2 Lw
B	59.4	68.6	71.9	72.8	72.4	69.2	63.8	58.2	78.5 LwA
C	53.2	52.3	48.1	43.6	40.0	35.6	30.4	26.9	56.8 Lp
D	27.0	36.2	39.5	40.4	40.0	36.8	31.4	25.8	46.1 LpA

**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.

## Fan Curve



**RTU-7**

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

## Unit Report For RTU-7

Project: REI 144 - Woodbridge, VA  
Prepared By:

03/14/2025  
11:01AM

### Unit Parameters

Unit Model:..... **48FEEM16D3M6-3U5F0**  
 Unit Size:..... **16 (15 Tons)**  
 Volts-Phase-Hertz:..... **460-3-60**  
 Heating Type:..... **Gas**  
 Refrigerant:..... **R-454B**  
 Heat Control:..... **Medium Gas Heat**  
 Duct Cfg:..... **Vertical Supply / Vertical Return**  
 DX Options:..... **Single Circuit, Two Stage Cooling**

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

Unit Length:..... **9' 7.875"**  
 Unit Width:..... **5' 3.375"**  
 Unit Height:..... **4' 9.375"**  
**Total Operating Weight:..... 1743 lb**

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

### Lines and Filters

Gas Line Size: **3/4**  
 Condensate Drain Line Size: **3/4**  
 Return Air Filter Type: **Throwaway**  
 Return Air Filter Quantity: **6**  
 Return Air Filter Size: **18 x 24 x 2**

**Selection includes construction throwaway filter into the base fan curve.**

### Unit Configuration

Medium Gas Heat  
 RA + SA Smoke Detector  
 High Static - EcoBlue Vane Axial Fan  
 Al/Cu - Al/Cu - Louvered Hail Guards  
 SystemVu Controller  
 ULL Temperature Economizer with Barometric Relief  
 Hinged Panels and 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.)  
 3-Year SystemVu

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
48FEEM16D3M6-3U5F0	Rooftop Unit	1
	Base Unit	
	Medium Gas Heat	
	RA + SA Smoke Detector	
	High Static - EcoBlue Vane Axial Fan	
	Al/Cu - Al/Cu - Louvered Hail Guards	
	Hinged Panels and Powered Convenience Outlet	
	Non-Fused Disconnect and Thru-The-Base Connections	
	SystemVu controller, Ultra LOW LEAK EconoMi\$er2 temperature economizer with barometric relief. Syst	
<b>Field Installed Accessories</b>		
33TCSPL-4	Carrier Connect Plus™ Wi-Fi® 7-day programmable/non-prog;	1
ZS2-C-CAR	ZS Standard	1

## Unit Report For RTU-7

Project: REI 144 - Woodbridge, VA  
Prepared By:

03/14/2025  
11:01AM

CRPWREXH081A00	Power Exhaust System	1
CRPECONV007B00	Hinged Panel Sealing Angle Kit	1

# Certified Drawing for RTU-7

Project: REI 144 - Woodbridge, VA  
Prepared By:

03/14/2025  
11:01AM

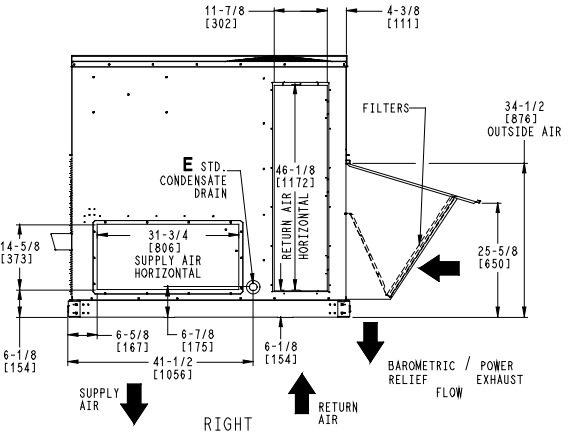
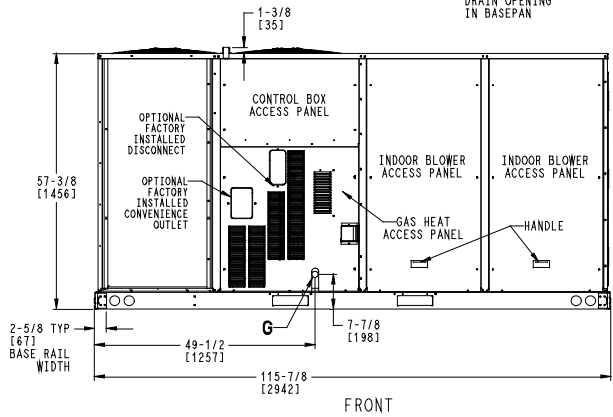
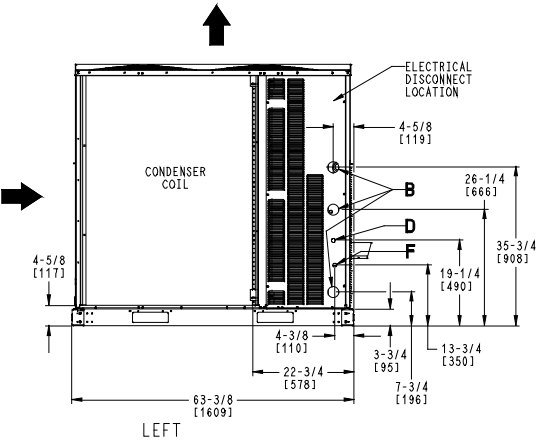
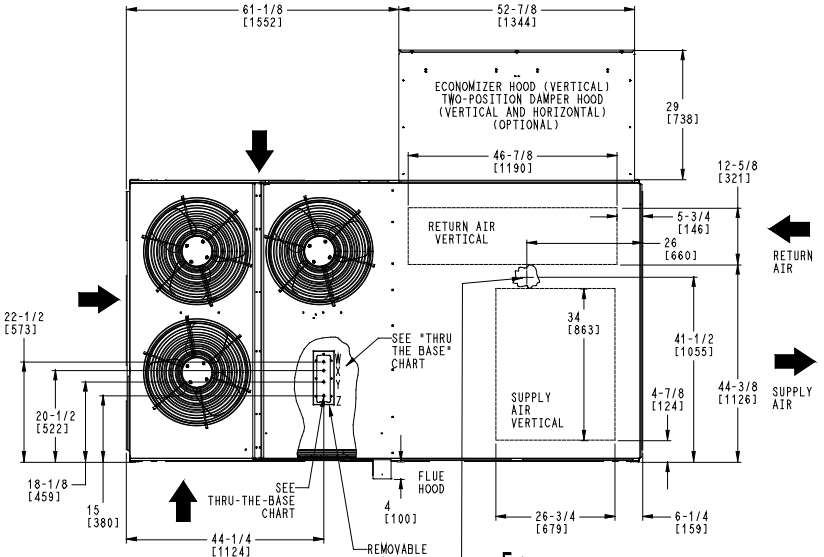
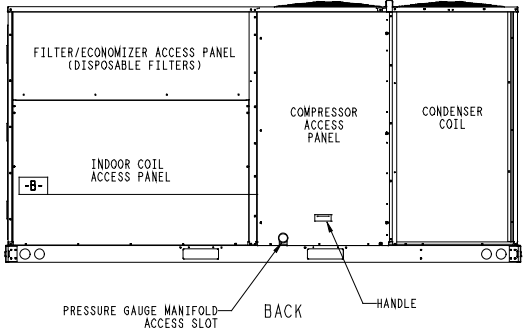
**NOTES:**

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

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

THRU-THE-BASE CHART THESE HOLES REQUIRED FOR USE CRBTMPW005A00, 006A00, 007A00			
ACCESSORY NO.	THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
005	W 1/2"	ACC.	7/8" [22.2]
	X 1/2"	24V	7/8" [22.2]
	Y 1 1/4"	POWER	1 1/2" [38.1]
006	Z 3/4" PIPE	GAS	1 3/4" [44.5]
	W 1/2"	ACC.	7/8" [22.2]
	X 1/2"	24V	7/8" [22.2]
007	Y 1 1/2"	POWER	2" [50.8]
	Z 3/4" PIPE	GAS	1 3/4" [44.5]
	W 1/2"	ACC.	7/8" [22.2]
	X 1/2"	24V	7/8" [22.2]
	Y 2"	POWER	2 1/2" [63.5]
	Z 3/4" PIPE	GAS	1 3/4" [44.5]
FOR "THRU-THE-BASE" FACTORY OPTION, FITTINGS FOR X & Y ARE PROVIDED AS SPECIFIED ON "006".			



ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	48FE 16 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	50TM003162	REV
U.S. ECCN:NSR	1 OF 2	8/10/23	-			-

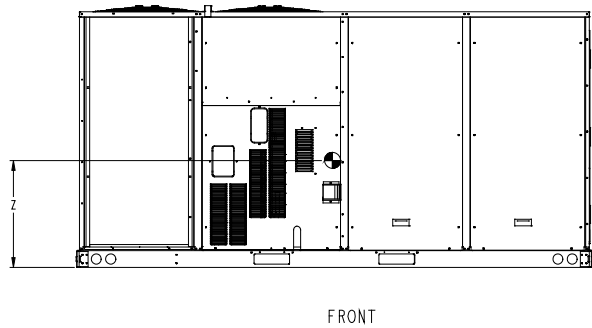
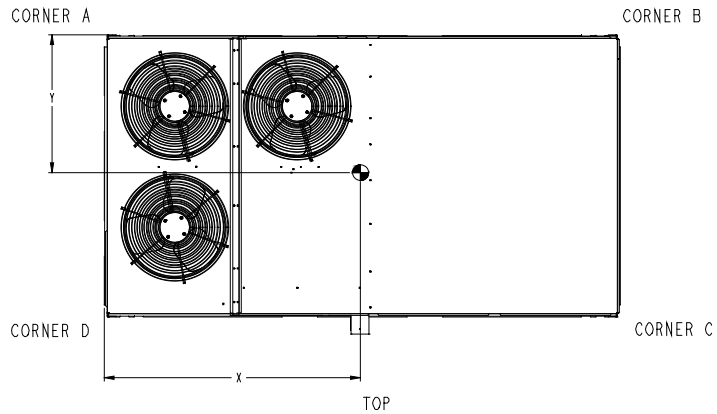
# Certified Drawing for RTU-7

Project: REI 144 - Woodbridge, VA  
 Prepared By:

03/14/2025  
 11:01AM

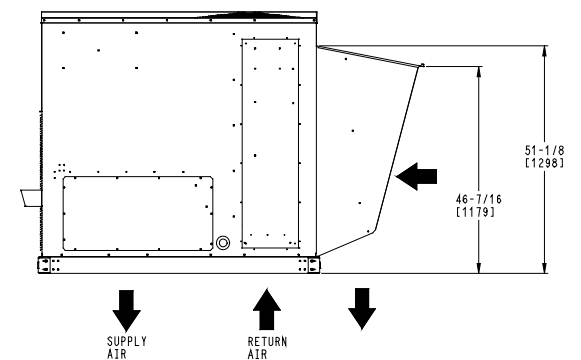
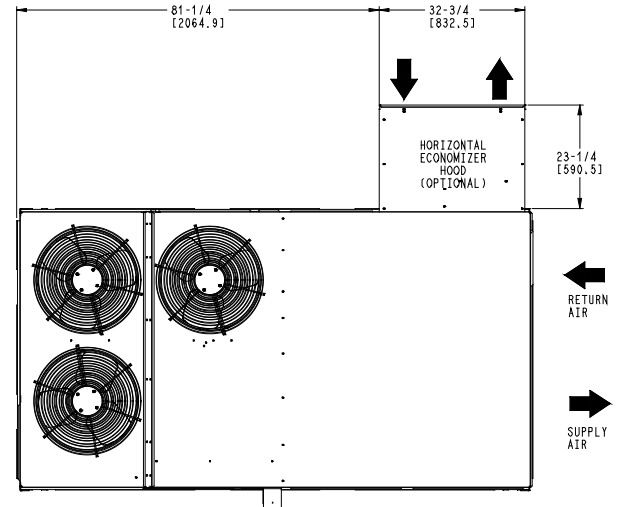
UNIT	STD UNIT WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
48FE-M16	1408	639	373	169	341	155	332	150	362	164	55 3/8 [1407]	31 1/4 [794]	21 1/8 [537]

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



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### HORIZONTAL ECONOMIZER

ITC CLASSIFICATION U.S. ECCN:NSR	SHEET 2 OF 2	DATE 8/10/23	SUPERCEDES -	48FE 16 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	50TM003162	REV -
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# Performance Summary For RTU-7

Project: REI 144 - Woodbridge, VA  
Prepared By:

03/14/2025  
11:01AM

## Part Number:48FEEM16D3M6-3U5F0

Refrigerant:..... **R-454B**  
ARI EER:..... **10.80**  
IEER:..... **14.5**

### Base Unit Dimensions

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

### Operating Weight

Base Unit Weight:..... **1408** lb  
Medium Gas Heat:..... **18** lb  
RA + SA Smoke Detector:..... **14** lb  
High Static - EcoBlue Vane Axial Fan:..... **30** lb  
Al/Cu - Al/Cu - Louvered Hail Guards:..... **44** lb  
SystemVu Controller:..... **2** lb  
ULL Temperature Economizer with Barometric Relief:..... **85** lb  
Hinged Panels and Powered Convenience Outlet:..... **41** lb  
Non-Fused Disconnect and Thru-The-Base Connections:..... **16** lb

### Accessories

Power Exhaust System:..... **85** lb

Total Operating Weight:..... **1743** lb

### Unit

Unit Voltage-Phase-Hertz:..... **460-3-60**  
Air Discharge:..... **Vertical**  
Fan Drive Type:..... **Vane Axial**  
Actual Airflow:..... **6000** 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:..... **59.5** F  
Evaporator Leaving Air WB:..... **57.3** F  
Evaporator Leaving Air Enthalpy:..... **24.58** BTU/lb  
Gross Cooling Capacity:..... **185.08** MBH  
Gross Sensible Capacity:..... **133.09** MBH  
Compressor Power Input:..... **13.55** kW  
Coil Bypass Factor:..... **0.128**

### Heating Performance

Heating Airflow:..... **6000** CFM  
Entering Air Temp:..... **70.0** F  
Leaving Air Temp:..... **100.1** F  
Gas Heating Input Capacity:..... **192.0 / 240.0** MBH  
Gas Heating Output Capacity:..... **156.0 / 195.0** MBH  
Temperature Rise:..... **30.1** F  
Thermal Efficiency (%):..... **81.0**

### Supply Fan

External Static Pressure:..... **1.00** in wg  
Options / Accessories Static Pressure  
Economizer:..... **0.05** in wg  
Power Exhaust:..... **(Fan Data Includes Drop)**  
Application External Static (ESP + Unit Opts/Acc.):..... **1.05** in wg

## Performance Summary For RTU-7

Project: REI 144 - Woodbridge, VA  
 Prepared By:

03/14/2025  
 11:01AM

Fan RPM: ..... **1823**  
 Fan Power: ..... **3.04** BHP  
 NOTE: ..... **Selected IFM RPM Range: 1203 - 2200**

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

**Power Exhaust**

Return Duct Static: ..... **0.40** in wg  
 Max. Air To Exhaust: ..... **2850** CFM

**Electrical Data**

Voltage Range: ..... **414 - 506**  
 Compressor #1 RLA: ..... **13.4**  
 Compressor #1 LRA: ..... **123**  
 Compressor #2 RLA: ..... **9.1**  
 Compressor #2 LRA: ..... **75**  
 Indoor Fan Motor Type: ..... **HIGH**  
 Indoor Fan Motor FLA (Total): ..... **5.6**  
 Combustion Fan Motor FLA (ea): ..... **0.25**  
 Power Supply MCA: ..... **38**  
 Power Supply MOCP (Fuse or HACR): ..... **50**  
 Disconnect Size FLA: ..... **40**  
 Disconnect Size LRA: ..... **216**  
 Electrical Convenience Outlet FLA (based on unit line voltage): ..... **2.2**  
 Power Exhaust [Kit Qty / FLA(ea kit)]: ..... **1 / 1.8**  
 Outdoor Fan [Qty / FLA (ea)]: ..... **3 / 0.8**  
 NOTE: Convenience outlet must be field connected to the line/load side of the unit disconnect per local code.

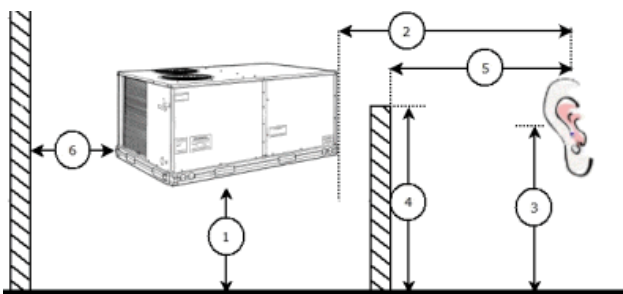
**Control Panel SCCR: 5kA RMS at Rated Symmetrical Voltage**

**Acoustics**

Sound Power Levels, db re 10E-12 Watts

	Discharge	Inlet	Outdoor
63 Hz	87.3	83.0	87.0
125 Hz	84.6	78.4	85.2
250 Hz	81.9	73.3	84.6
500 Hz	80.3	71.8	84.9
1000 Hz	81.3	72.2	82.2
2000 Hz	77.3	65.9	78.4
4000 Hz	72.1	56.4	75.3
8000 Hz	64.1	49.6	72.9
A-Weighted	84.9	75.4	87.0

**Advanced Acoustics**



## Performance Summary For RTU-7

Project: REI 144 - Woodbridge, VA  
 Prepared By:

03/14/2025  
 11:01AM

### 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	87.0	85.2	84.6	84.9	82.2	78.4	75.3	72.9	92.4 Lw
B	60.8	69.1	76.0	81.7	82.2	79.6	76.3	71.8	87.1 LwA
C	54.6	52.8	52.2	52.5	49.8	46.0	42.9	40.5	60.0 Lp
D	28.4	36.7	43.6	49.3	49.8	47.2	43.9	39.4	54.7 LpA

#### Legend

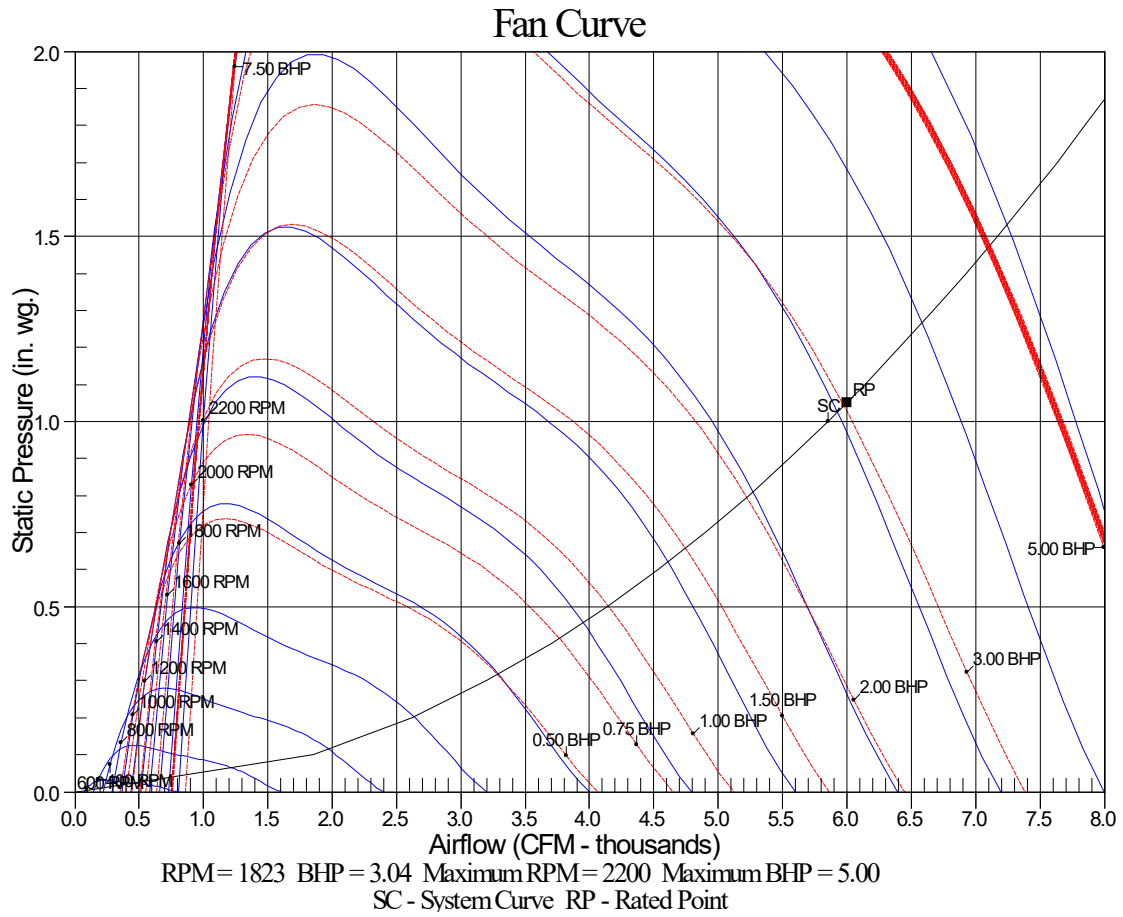
- A Sound Power Levels at Unit's Acoustic Center, Lw
- B A-Weighted Sound Power Levels at Unit's Acoustic Center, LwA
- C Sound Pressure Levels at Specific Distance from Unit, Lp
- D A-Weighted Sound Pressure Levels at Specific Distance from Unit, LpA

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-7

Project: REI 144 - Woodbridge, VA  
Prepared By:

03/14/2025  
11:01AM



**RTU-8**

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

## Unit Report For RTU-8

Project: REI 144 - Woodbridge, VA  
 Prepared By:

03/14/2025  
 11:01AM

### Unit Parameters

Unit Model:.....**48FEEM20D3M6-3V5C0**  
 Unit Size:.....**20 (17.5 Tons)**  
 Volts-Phase-Hertz:.....**460-3-60**  
 Heating Type:.....**Gas**  
 Refrigerant:.....**R-454B**  
 Heat Control:.....**Medium Heat**  
 Duct Cfg:.....**Vertical Supply / Vertical Return**  
 DX Options:.....**Two Stage Cooling, Single Circuit**

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

Unit Length:.....**10' 7.875"**  
 Unit Width:.....**7' 2.375"**  
 Unit Height:.....**3' 11.75"**  
**Total Operating Weight:..... 2325 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.**

### Unit Configuration

Medium Heat  
 RA + SA Smoke Detector  
 High Static Option - Vertical Supply  
 Al/Cu - Al/Cu - Louvered Hail Guard  
 SystemVu Controller  
 ULL Temperature Economizer with Power Exhaust  
 Hinged Access Panels and Powered Convenience Outlet  
 Non-Fused Disconnect  
 Standard Packaging

### Warranty Information

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

No optional warranties were selected.

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

### Ordering Information

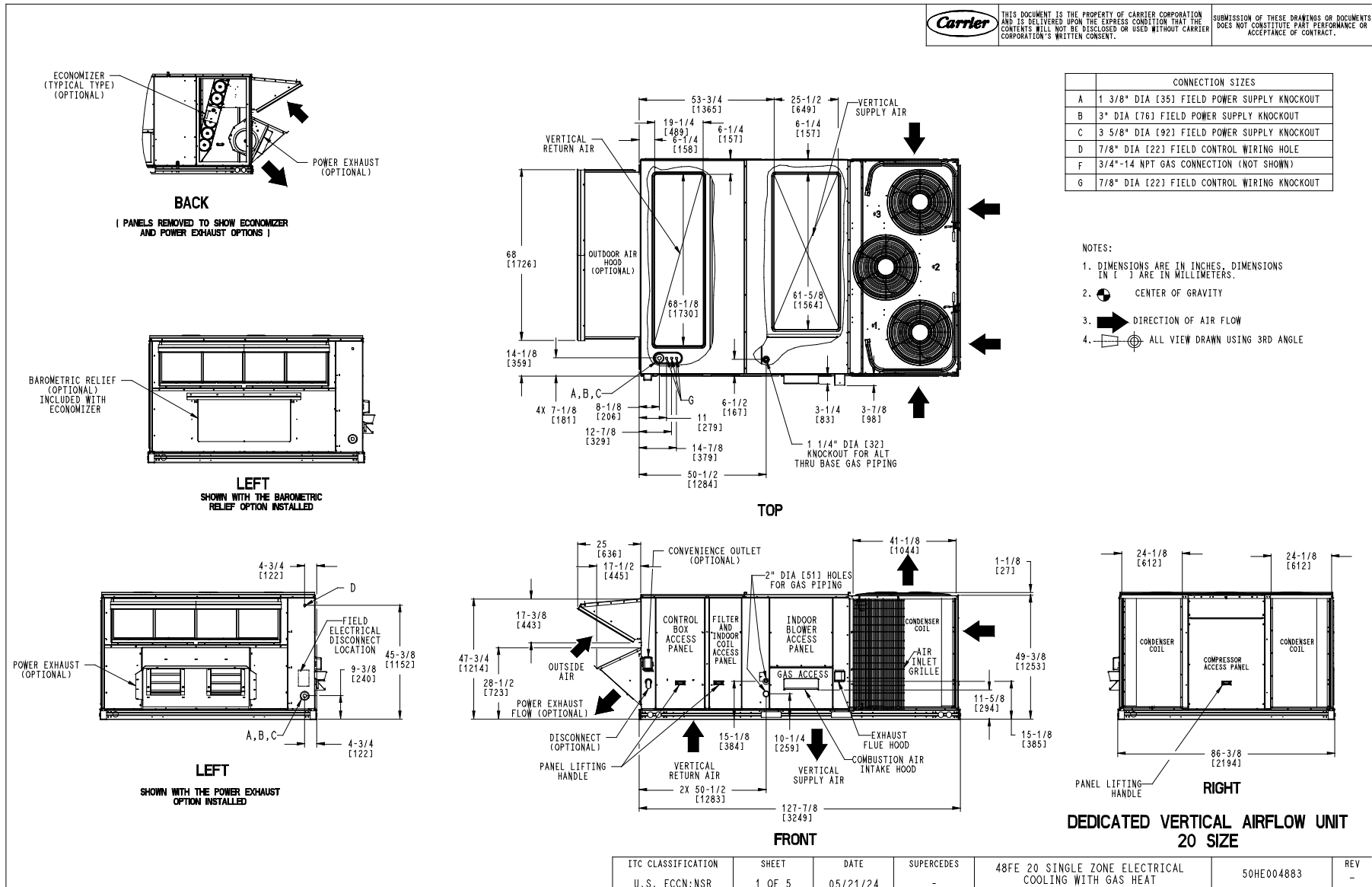
Part Number	Description	Quantity
48FEEM20D3M6-3V5C0	Rooftop Unit	1
	Base Unit	
	Medium Heat	
	RA + SA Smoke Detector	
	High Static Option - Vertical Supply	
	Al/Cu - Al/Cu - Louvered Hail Guard	
	Hinged Access Panels and Powered Convenience Outlet	
	Non-Fused Disconnect	
	SystemVu controller, ULTRA LOW LEAK EconoMi\$er2 temperature economizer with centrifugal power exhaus	
<b>Field Installed Accessories</b>		
33TCSPL-4	Carrier Connect™ Wi-Fi® 7-day programmable/non-prog	1
ZS2-C-CAR	ZS Standard	1

# Certified Drawing for RTU-8

Project: REI 144 - Woodbridge, VA  
Prepared By:

03/14/2025  
11:01AM

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I/C CLASSIFICATION	SHEET	DATE	SUPERCEDES	48FE 20 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	50HE004883	REV
U.S. ECCN:NSR	1 OF 5	05/21/24	-			-

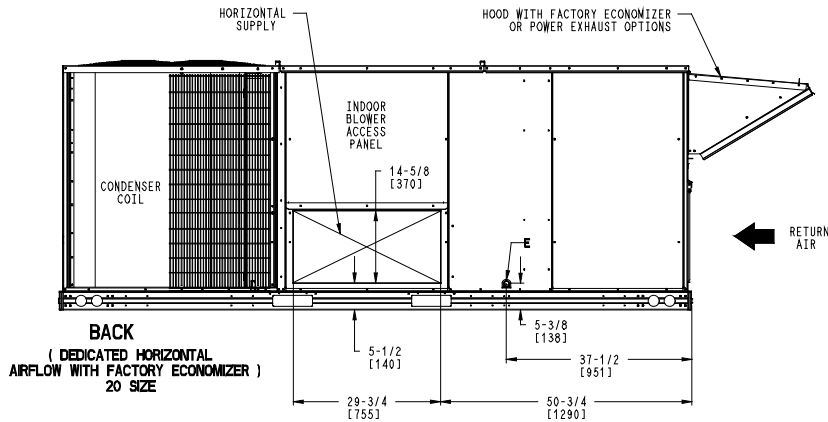
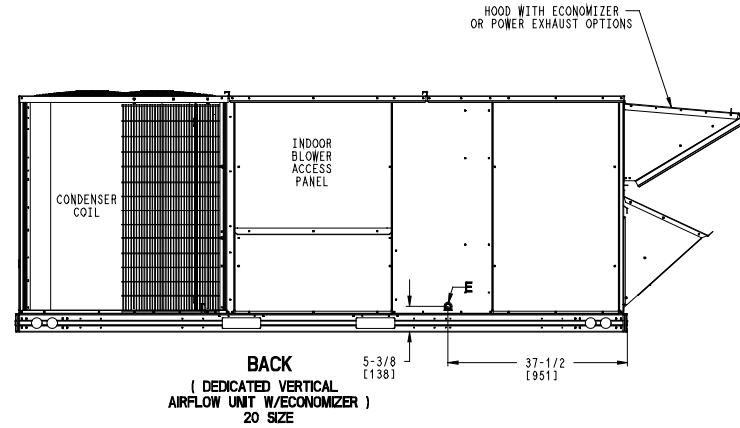
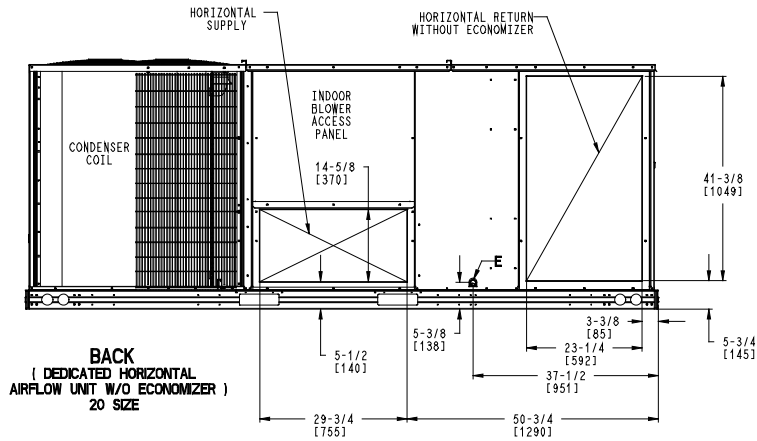
# Certified Drawing for RTU-8

Project: REI 144 - Woodbridge, VA  
 Prepared By:

03/14/2025  
 11:01AM

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

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ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	48FE 20 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	50HE004883	REV
U.S. ECCN:NSR	3 OF 5	05/21/24	-			-

# Certified Drawing for RTU-8

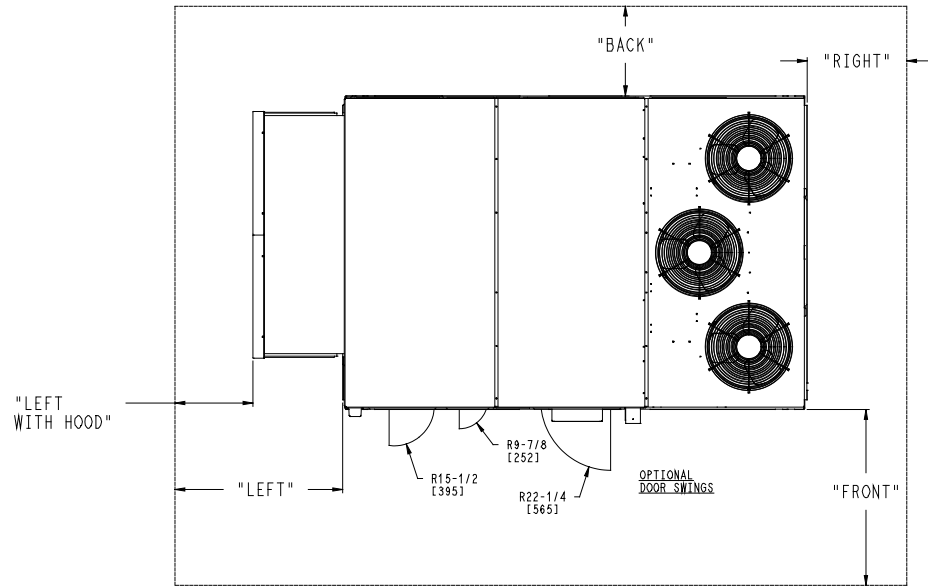
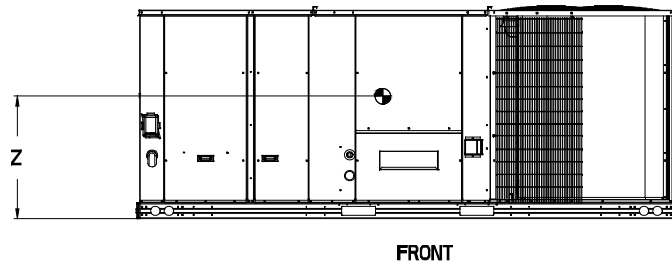
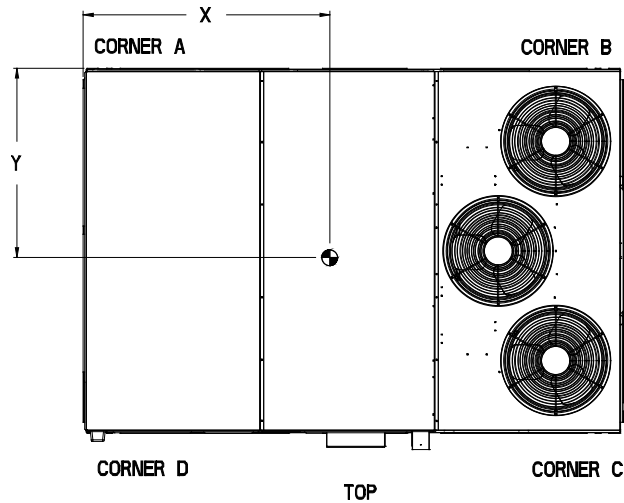
Project: REI 144 - Woodbridge, VA  
Prepared By:

03/14/2025  
11:01AM

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			
48FE 20	1800	816	383	174	479	217	521	236	417	189	71	[1803]	45	[1143]	16 1/2	[419]

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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		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]

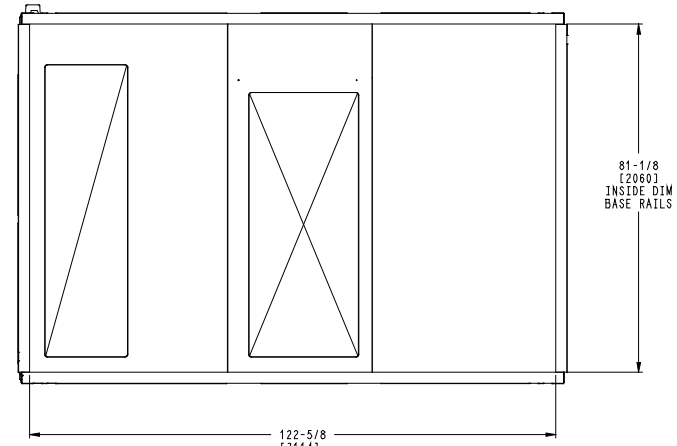
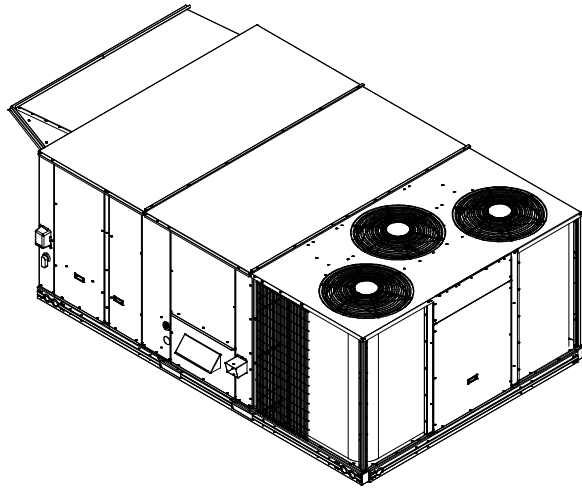
ITC CLASSIFICATION U.S. ECCN:NSR	SHEET 4 OF 5	DATE 05/21/24	SUPERCEDES -	48FE 20 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	50HE004883	REV -
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# Certified Drawing for RTU-8

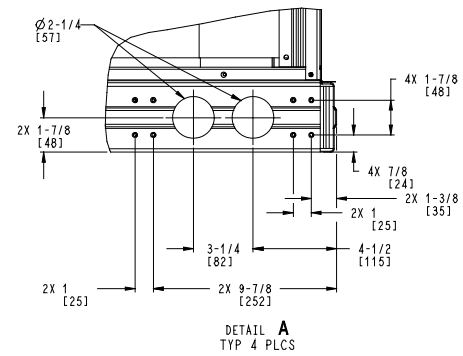
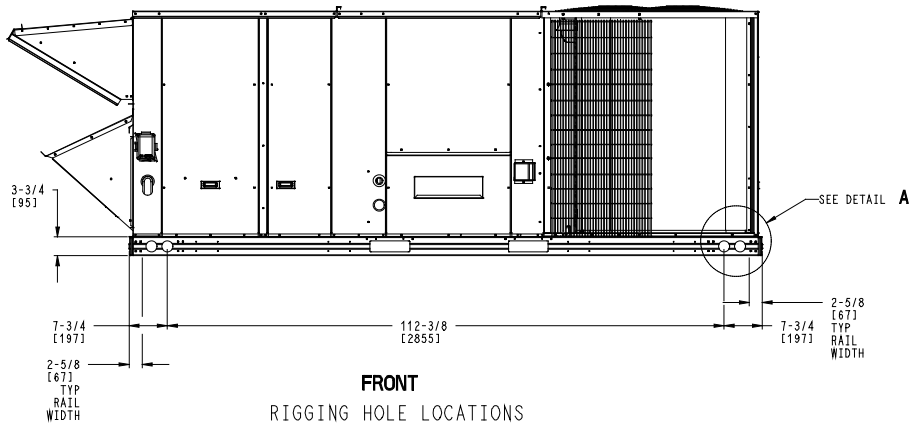
Project: REI 144 - Woodbridge, VA  
 Prepared By:

03/14/2025  
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**BOTTOM**  
INSIDE BASERAIL DIMENSIONS



ITC CLASSIFICATION U.S. ECCN:NSR	SHEET 5 OF 5	DATE 05/21/24	SUPERCEDES -	48FE 20 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	50HE004883	REV -
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# Performance Summary For RTU-8

Project: REI 144 - Woodbridge, VA  
Prepared By:

03/14/2025  
11:01AM

## Part Number:48FEEM20D3M6-3V5C0

Refrigerant:..... **R-454B**  
ARI EER:..... **10.80**  
IEER:..... **14.5**

### Base Unit Dimensions

Unit Length:..... **127.9** in  
Unit Width:..... **86.4** in  
Unit Height:..... **47.8** in

### Operating Weight

Base Unit Weight:..... **1673** lb  
Medium Heat:..... **21** lb  
RA + SA Smoke Detector:..... **14** lb  
High Static Option - Vertical Supply:..... **30** lb  
Al/Cu - Al/Cu - Louvered Hail Guard:..... **90** lb  
SystemVu Controller:..... **2** lb  
ULL Temperature Economizer with Power Exhaust:..... **443** lb  
Hinged Access Panels and Powered Convenience Outlet:..... **37** lb  
Non-Fused Disconnect:..... **15** lb  
  
Total Operating Weight:..... **2325** lb

### Unit

Unit Voltage-Phase-Hertz:..... **460-3-60**  
Air Discharge:..... **Vertical**  
Fan Drive Type:..... **Vane Axial**  
Actual Airflow:..... **7000** 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:..... **58.0** F  
Evaporator Leaving Air WB:..... **56.8** F  
Evaporator Leaving Air Enthalpy:..... **24.24** BTU/lb  
Gross Cooling Capacity:..... **226.69** MBH  
Gross Sensible Capacity:..... **166.33** MBH  
Compressor Power Input:..... **17.29** kW  
Coil Bypass Factor:..... **0.103**

### Heating Performance

Heating Airflow:..... **7000** CFM  
Entering Air Temp:..... **70.0** F  
Leaving Air Temp:..... **103.2** F  
Gas Heating Input Capacity:..... **248.0 / 310.0** MBH  
Gas Heating Output Capacity:..... **200.0 / 251.0** MBH  
Temperature Rise:..... **33.2** F  
Thermal Efficiency (%):..... **81.0**

### Supply Fan

External Static Pressure:..... **1.00** in wg  
Options / Accessories Static Pressure  
Economizer:..... **0.07** in wg  
Power Exhaust:..... **(Fan Data Includes Drop)**  
Application External Static (ESP + Unit Opts/Acc.):..... **1.07** in wg  
Fan RPM:..... **1753**  
Fan Power:..... **3.99** BHP

# Performance Summary For RTU-8

Project: REI 144 - Woodbridge, VA  
 Prepared By:

03/14/2025  
 11:01AM

NOTE: ..... Selected IFM RPM Range: 1112 - 2200

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

**Power Exhaust**

Return Duct Static: ..... **0.40** in wg  
 Max. Air to Exhaust: ..... **4590** CFM

**Electrical Data**

Voltage Range: ..... **414 - 506**  
 Compressor #1 RLA: ..... **15**  
 Compressor #1 LRA: ..... **123**  
 Compressor #2 RLA: ..... **13.9**  
 Compressor #2 LRA: ..... **100**  
 Indoor Fan Motor Type: ..... **HIGH**  
 Indoor Fan Motor FLA (Total): ..... **3.5**  
 Combustion Fan Motor FLA (ea): ..... **0.3**  
 Power Supply MCA: ..... **51**  
 Power Supply MOCP (Fuse or HACR): ..... **60**  
 Disconnect Size FLA: ..... **54**  
 Disconnect Size LRA: ..... **253**  
 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.

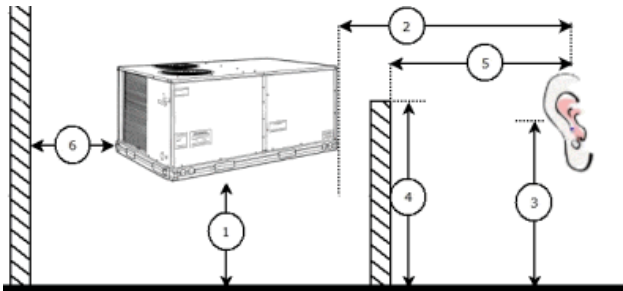
**Control Panel SCCR: 5kA RMS at Rated Symmetrical Voltage**

**Acoustics**

Sound Power Levels, db re 10E-12 Watts

	Discharge	Inlet	Outdoor
63 Hz	91.8	79.1	92.2
125 Hz	90.3	74.7	83.9
250 Hz	88.2	69.8	80.4
500 Hz	81.1	66.5	81.8
1000 Hz	80.0	67.1	78.7
2000 Hz	77.6	60.9	76.5
4000 Hz	73.4	51.6	72.2
8000 Hz	63.3	43.1	65.4
A-Weighted	85.9	70.5	84.1

**Advanced Acoustics**



**Advanced Acoustics Parameters**

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

## Performance Summary For RTU-8

Project: REI 144 - Woodbridge, VA  
 Prepared By:

03/14/2025  
 11:01AM

- 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

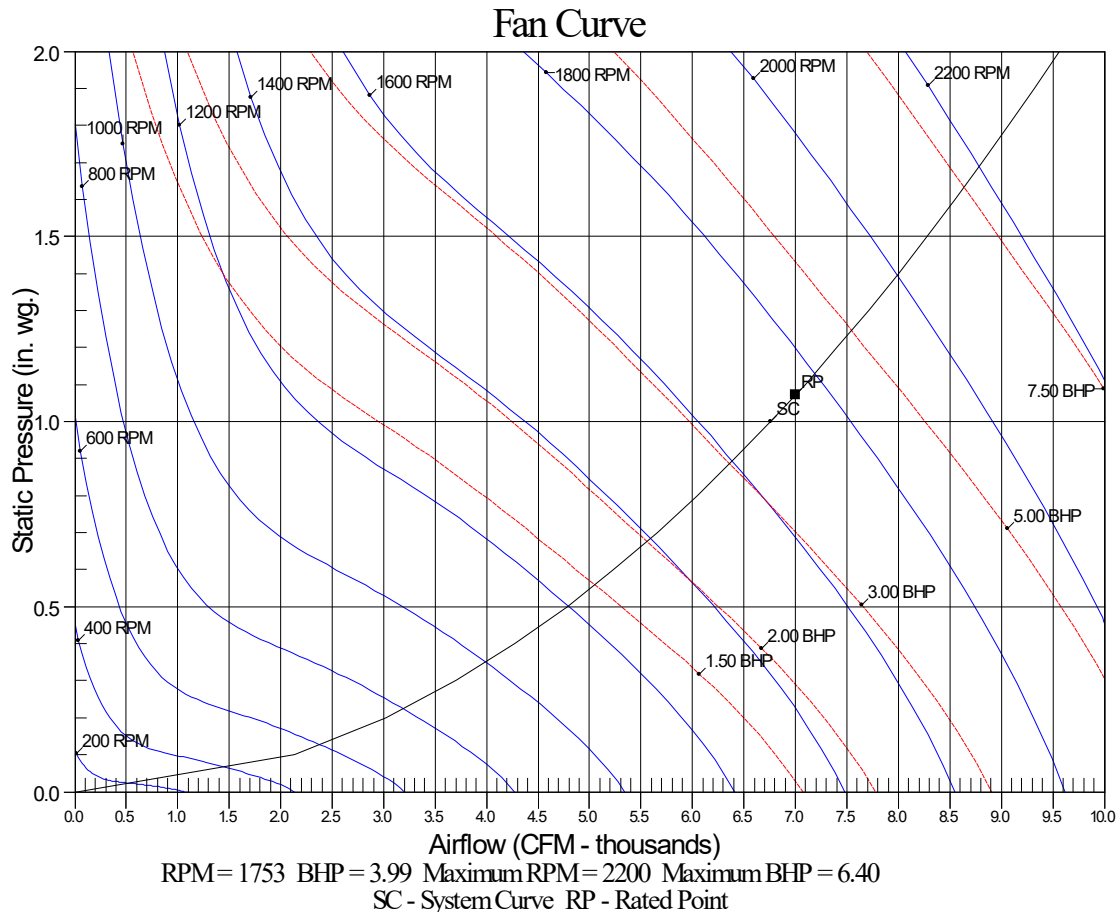
- A Sound Power Levels at Unit's Acoustic Center, Lw
- B A-Weighted Sound Power Levels at Unit's Acoustic Center, LwA
- C Sound Pressure Levels at Specific Distance from Unit, Lp
- D A-Weighted Sound Pressure Levels at Specific Distance from Unit, LpA

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-8

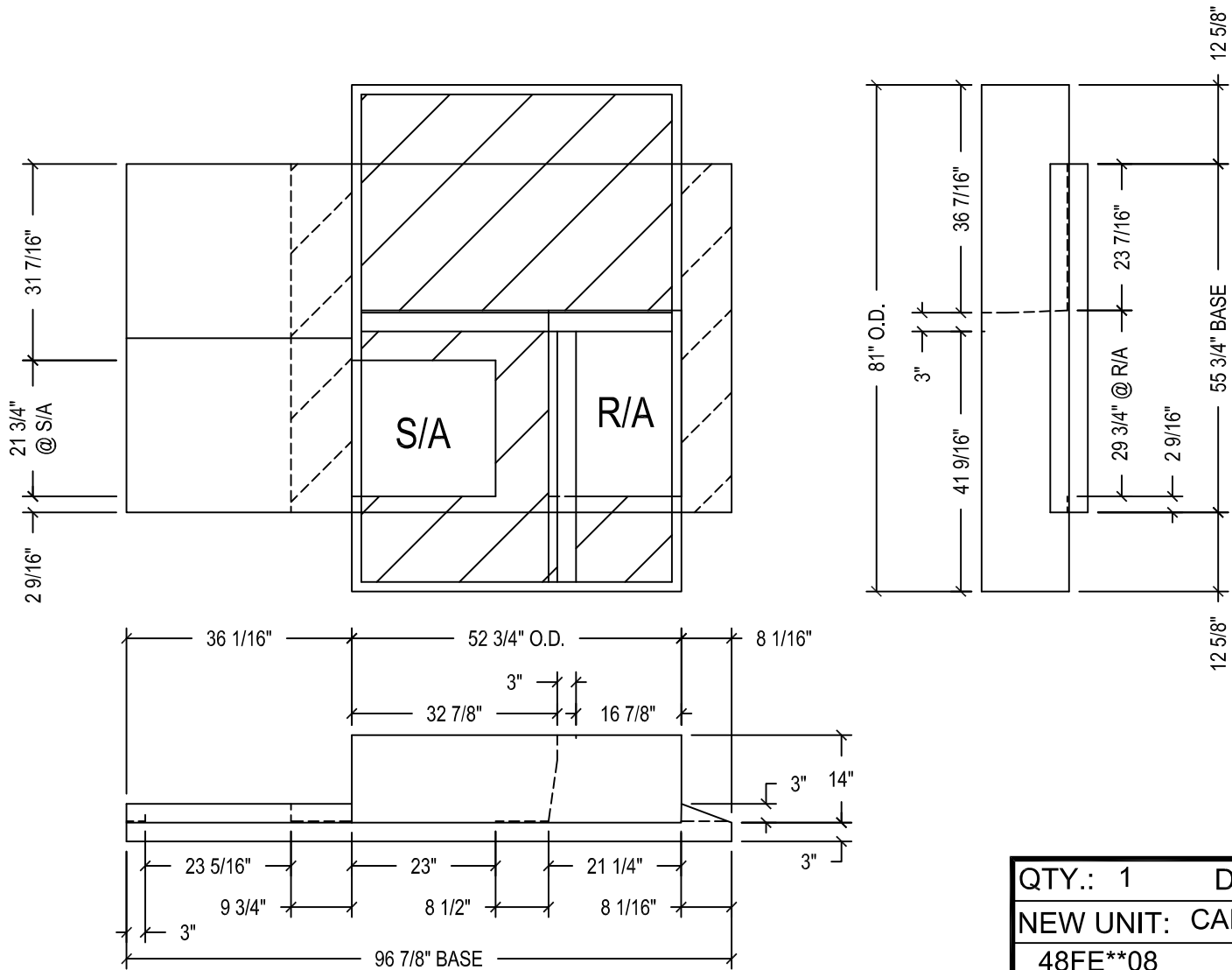
Project: REI 144 - Woodbridge, VA  
Prepared By:

03/14/2025  
11:01AM



Job Name: REI 144 - Woodbridge, VA

Drawing Date: 8-27-13	REV: 001	Approved By:	Approved Date:
SHELL: 16 GA	PANS: 18 GA	CHANNELS: 16 GA	CLOSURES: 16 GA
TOP FLANGE DIM: 1 1/2"			



QTY.: 1	DRAWN BY.: LEV
NEW UNIT: CARRIER	
48FE**08	
OLD UNIT: LENNOX	
LGH092	
ROLLS OF GASKET: 2	
TAG:	



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TAG PLATE: CR37LX296

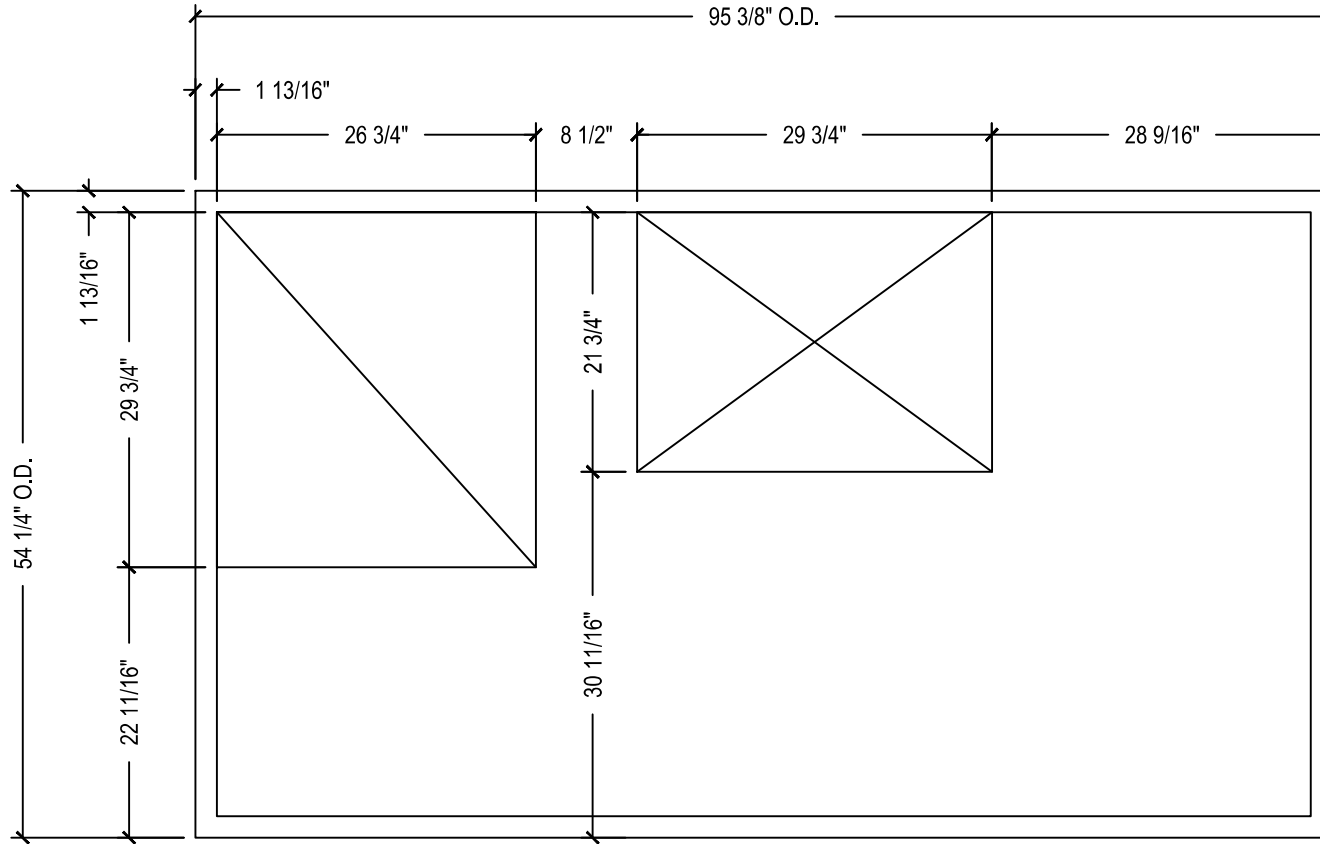
APPROXIMATE WEIGHT: 310 LBS

Note: Design subject to change without notice.

File Name: CR37LX296 NEW CARRIER 48 50 TJ HJ DJ 008-014 EXISTING LENNOX LGH-LCH 090-150 ©2008 Curbs Plus, Inc.



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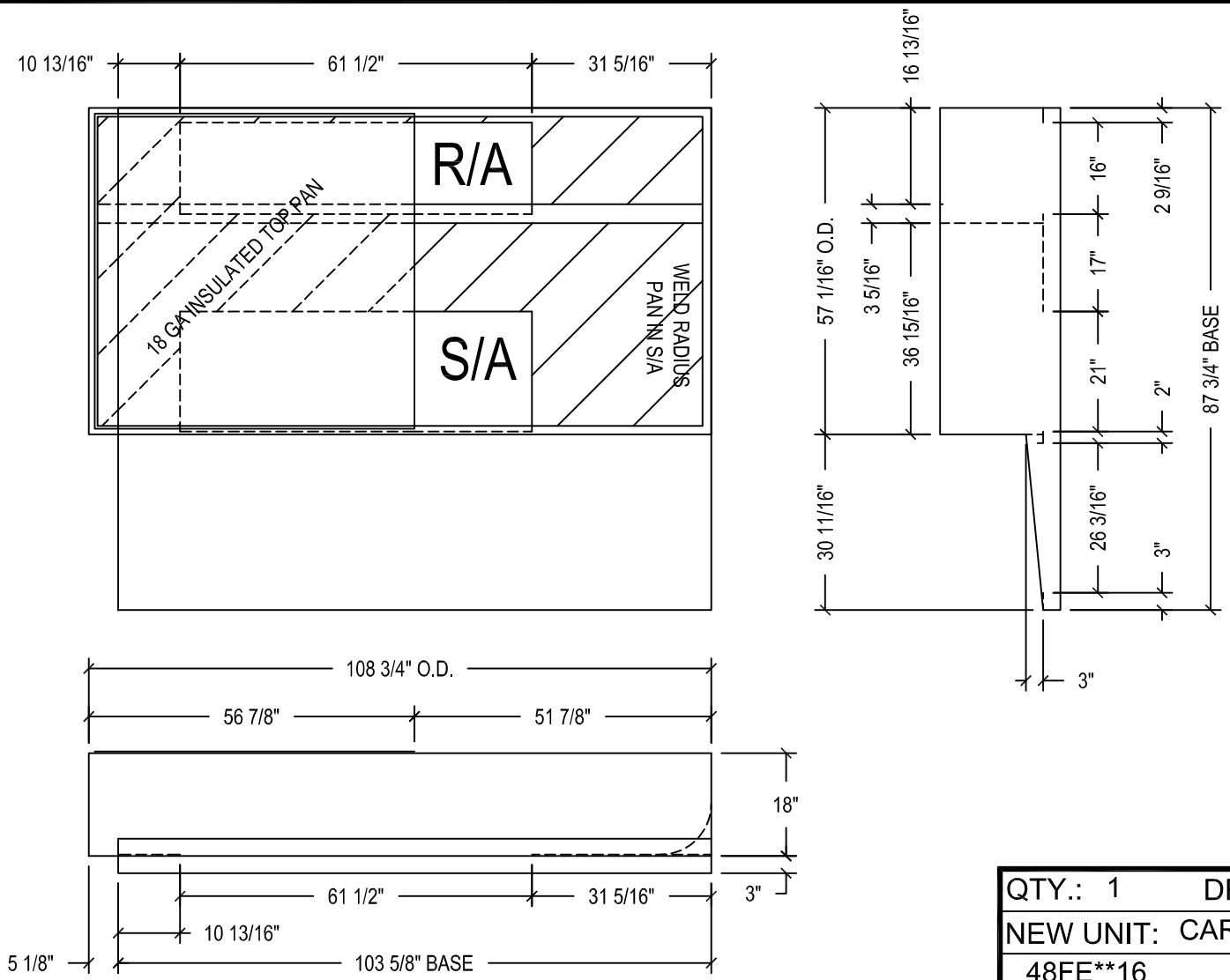
Qty: 1

Unit: LENNOX LGH092

Job Name: REI 144 - Woodbridge, VA

Drawing Date: 12-18-12      REV: 001      Approved By:

SHELL: 16 GA      PANS: 18 GA      CHANNELS: 16 GA      CLOSURES: 16 GA      TOP FLANGE DIM: 1 1/2"



QTY.: 1	DRAWN BY.: LEV
NEW UNIT: CARRIER	
48FE**16	
OLD UNIT: LENNOX	
LGH180H	
ROLLS OF GASKET: 2	
TAG:	



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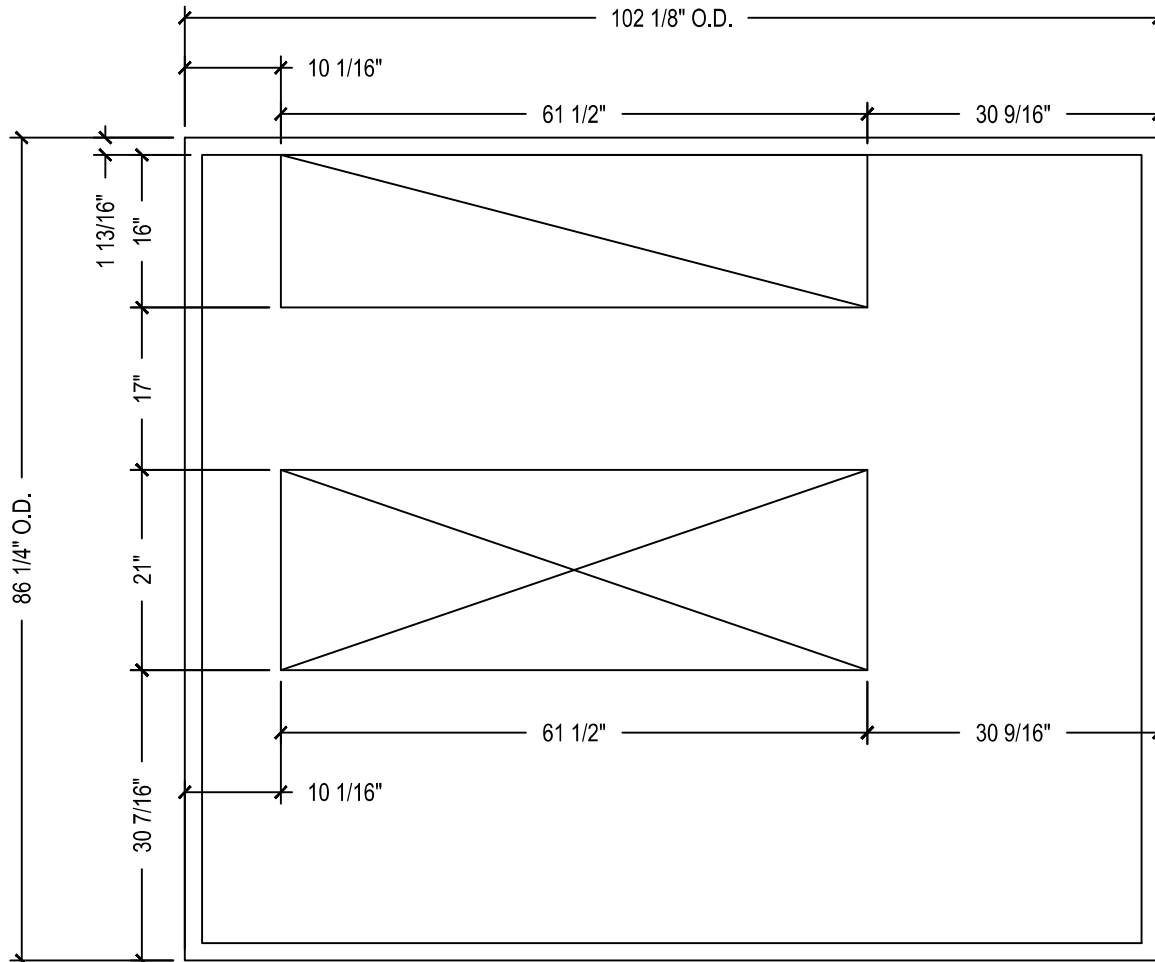
APPROXIMATE WEIGHT: 285 LBS

Note: Design subject to change without notice.

File Name: CR332LX8 NEW CARRIER 48-50 TC 16 48-50 HC 14 EXISTING LENNOX L-T-K-SERIES-LGH180H ©2003 Curbs Plus, Inc.



# EXISTING CURB VERIFICATION SHEET



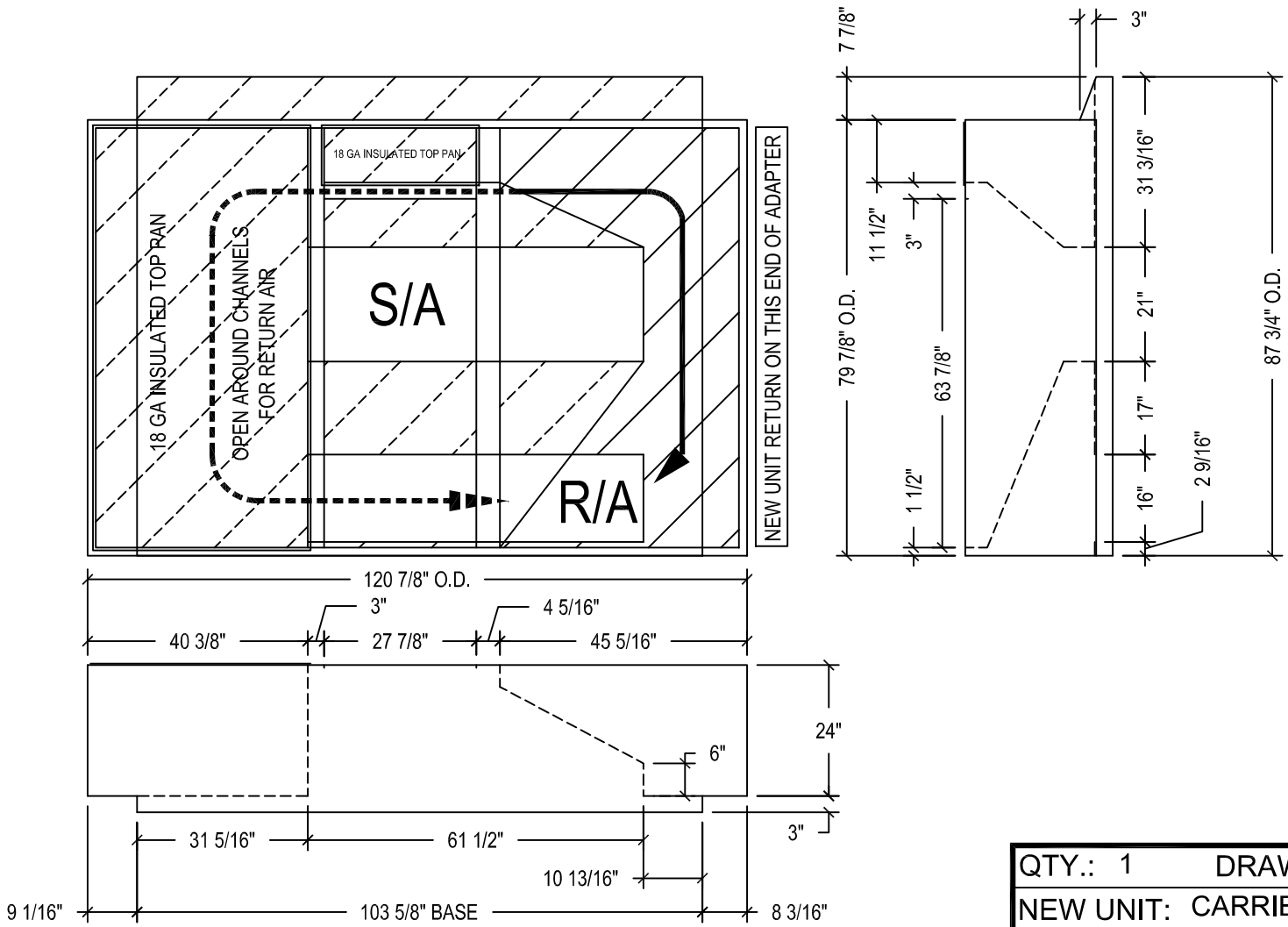
QTY:

TAG(S):

Qty: 1

Unit: LENNOX LGH180H

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



QTY.: 1	DRAWN BY.: LEV
NEW UNIT: CARRIER	
48FE**20	
OLD UNIT: LENNOX	
LGH210H	
ROLLS OF GASKET: 2	
TAG:	



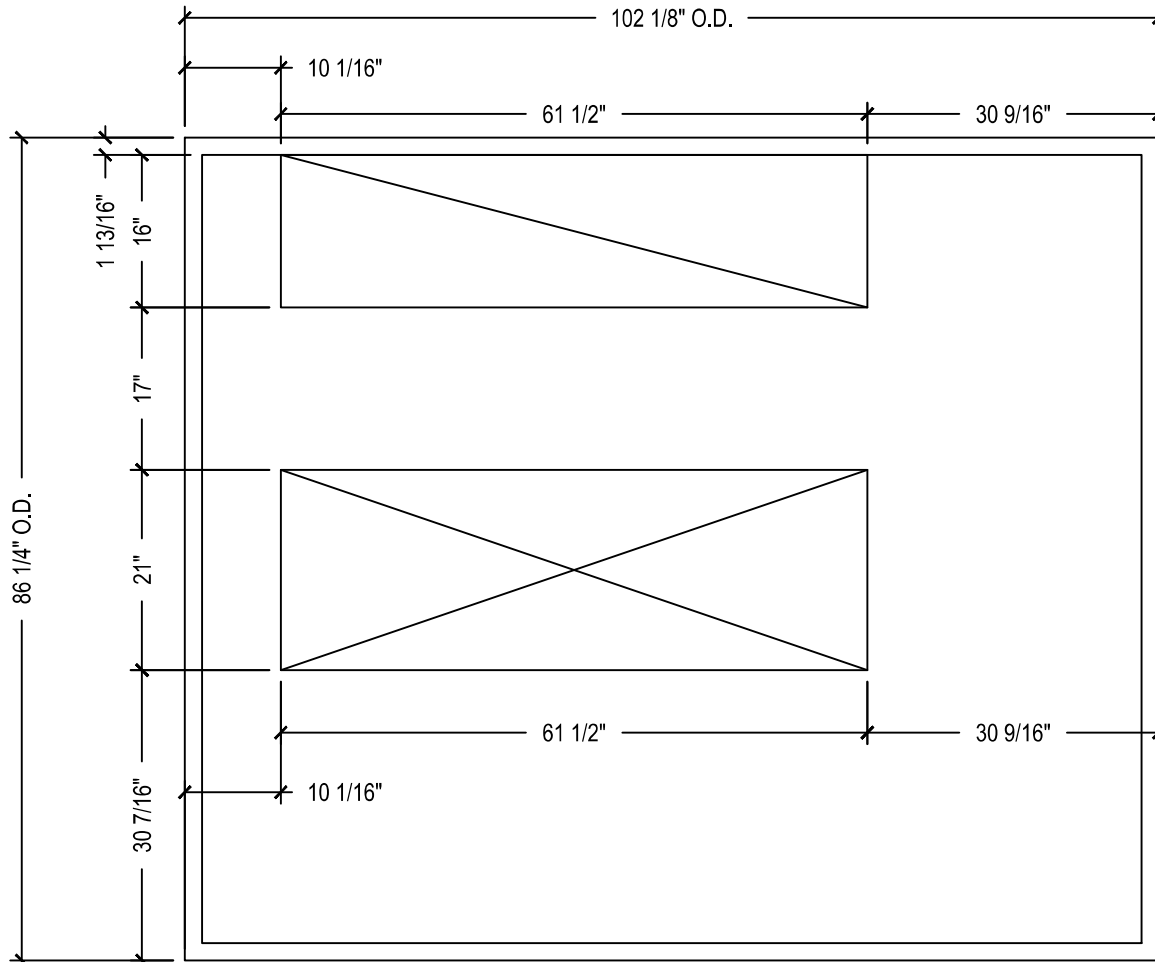
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TAG PLATE: CR313LX8  
 APPROXIMATE WEIGHT: 385 LBS



# EXISTING CURB VERIFICATION SHEET



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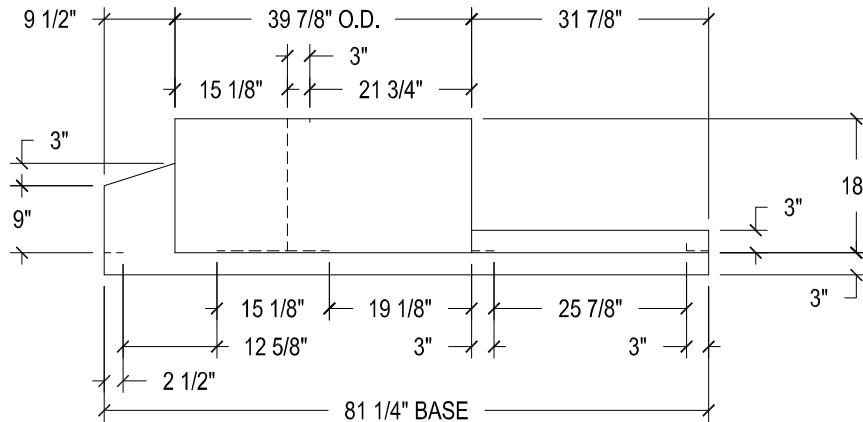
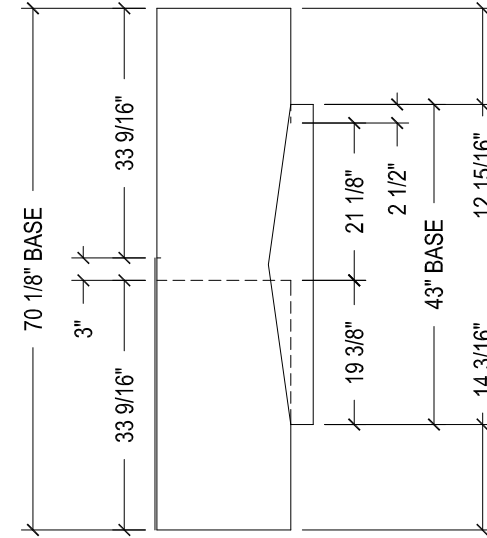
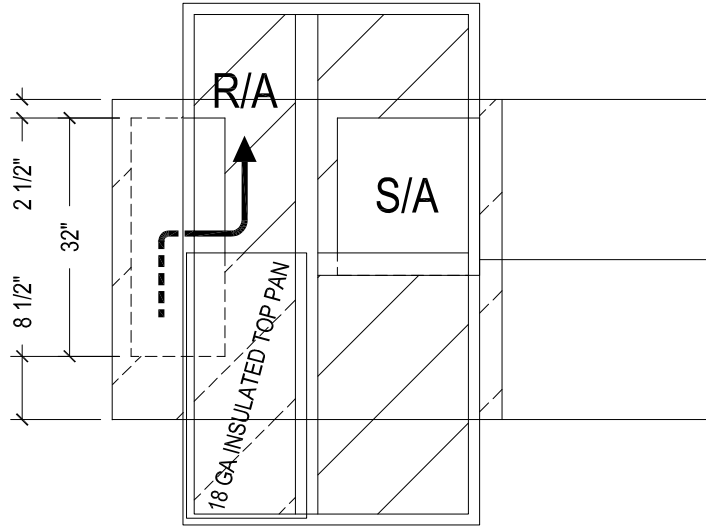
TAG(S):

Qty: 1

Unit: LENNOX LGH210H

Job Name: REI 144 - Woodbridge, VA

Drawing Date: 7-19-17	REV: 001	Approved By:	Approved Date:
SHELL: 16 GA	PANS: 18 GA	CHANNELS: 16 GA	CLOSURES: 14 GA
TOP FLANGE DIM: 1 1/2"			



QTY.: 1	DRAWN BY.: FLG
NEW UNIT: CARRIER	
48FE**06	
OLD UNIT: LENNOX	
LGH060S	
ROLLS OF GASKET: 3	
TAG:	



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TAG PLATE: CR36LX108

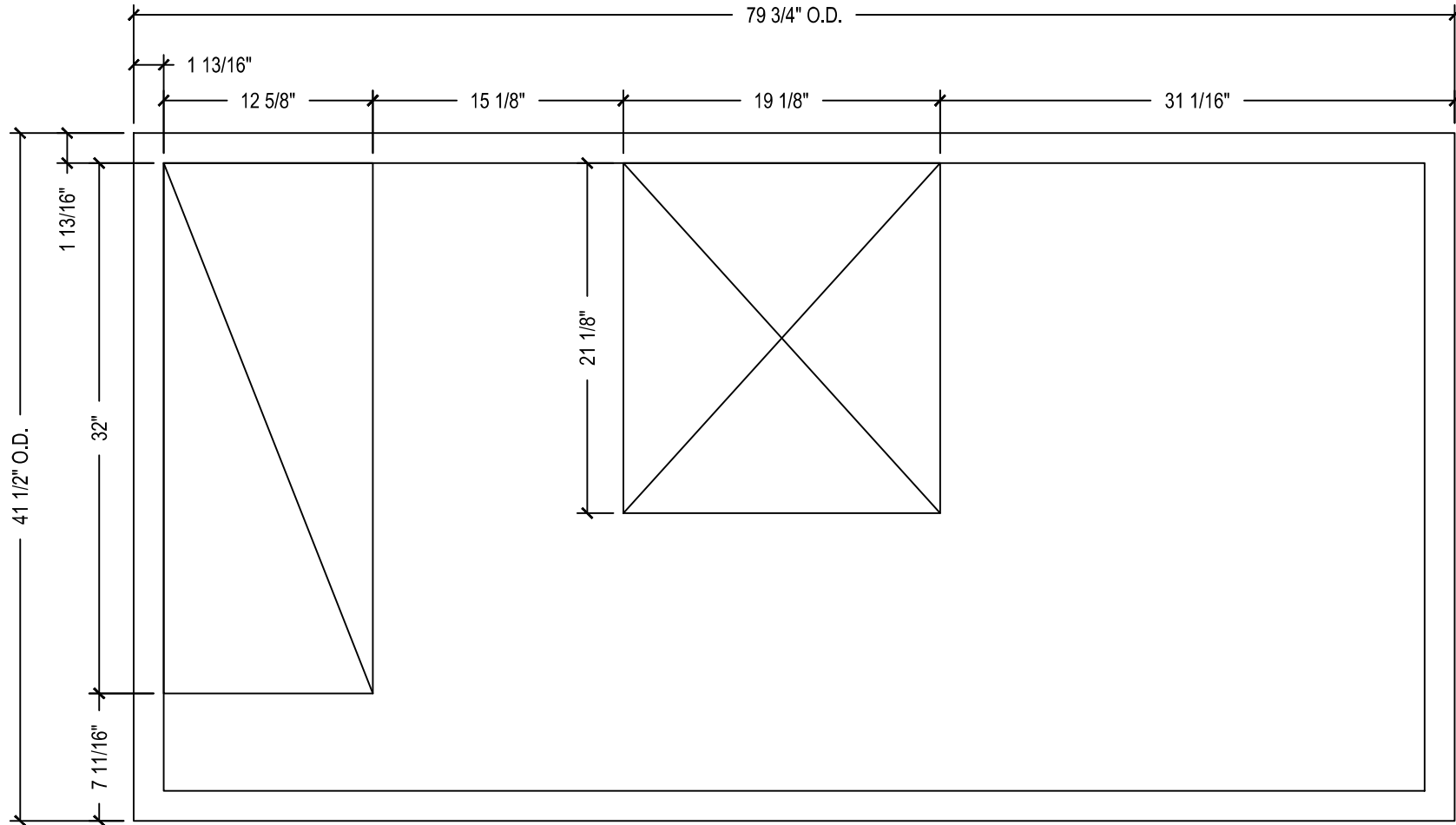
APPROXIMATE WEIGHT: 255 LBS

Note: Design subject to change without notice.

File Name: CR36LX108 NEW CARRIER 48 50 TJ HJ DJ 004-007 EXISTING LENNOX T-K-SERIES-LGH ©2003 Curbs Plus, Inc.



# EXISTING CURB VERIFICATION SHEET



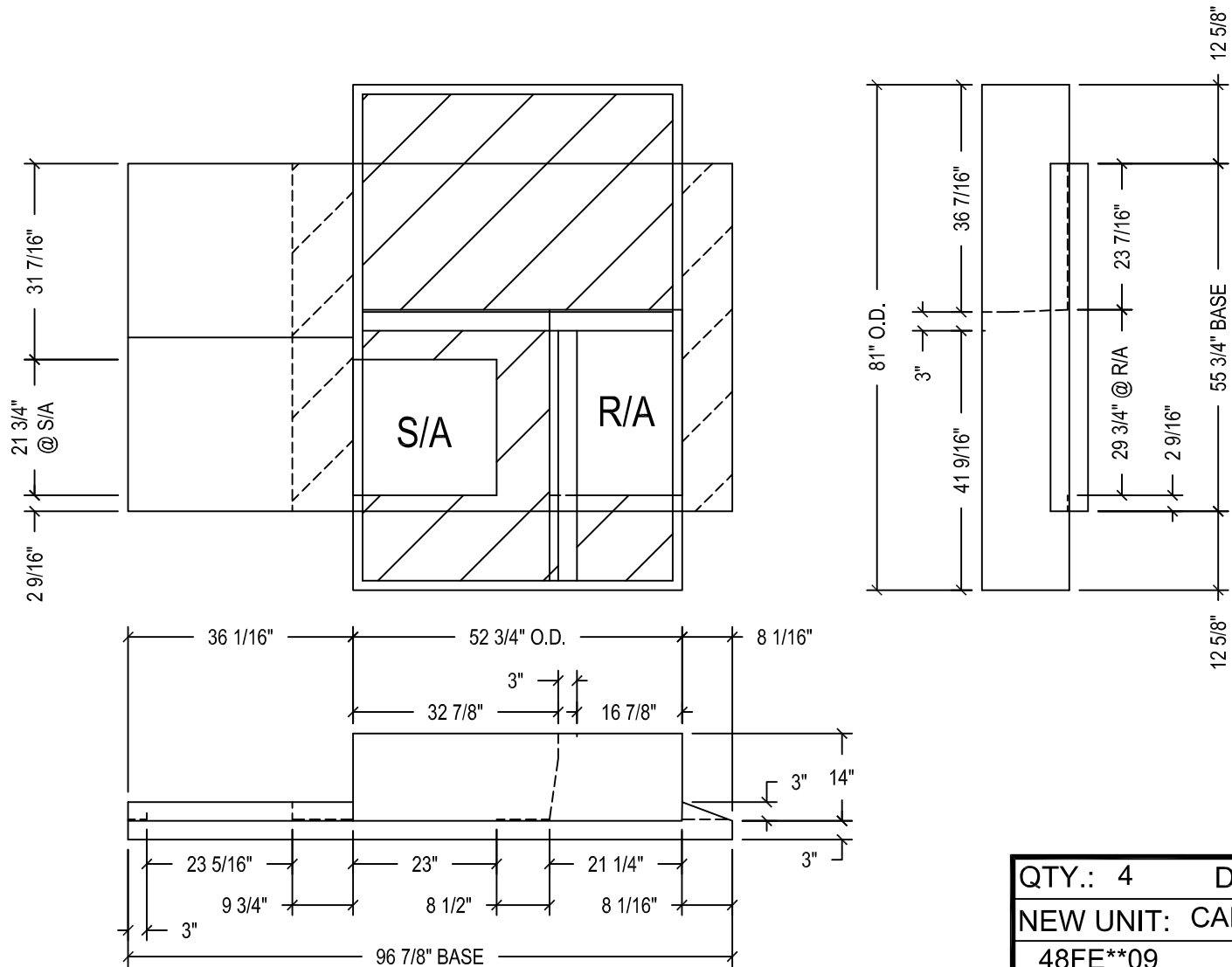
QTY:

TAG(S):

Qty: 1

Unit: LENNOX LGH060S

Drawing Date: 8-27-13	REV: 001	Approved By:	Approved Date:
SHELL: 16 GA	PANS: 18 GA	CHANNELS: 16 GA	CLOSURES: 16 GA
TOP FLANGE DIM: 1 1/2"			



QTY.: 4	DRAWN BY.: LEV
NEW UNIT: CARRIER	
48FE**09	
OLD UNIT: LENNOX	
LGH102H	
ROLLS OF GASKET: 2	
TAG:	



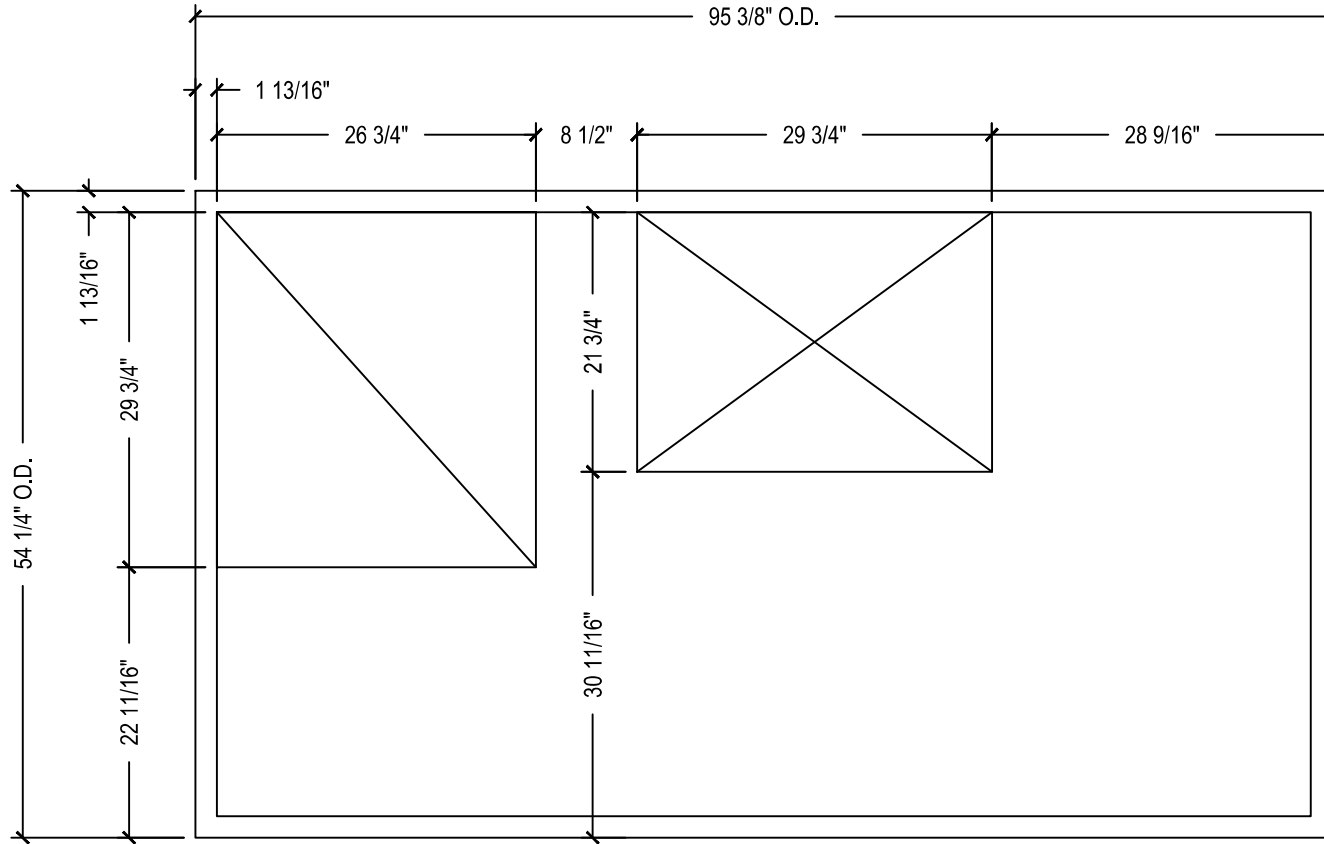
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TAG PLATE: CR37LX296  
 APPROXIMATE WEIGHT: 310 LBS



# EXISTING CURB VERIFICATION SHEET



QTY:

TAG(S):

Qty: 4

Unit: LENNOX LGH102H