



R1

SUBMITTAL

Project

REI - 021 Sacramento, CA

Date

Friday, March 14, 2025

NOTES:

Curb adaptors provided – please verify existing dimensions.

R1 – Removed non-fused disconnects.



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:

03/27/2025
10:27AM

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RTU-1,2,3

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

Unit Report For RTU-1,2,3

Project: REI - 021 Sacramento, CA
 Prepared By:

03/27/2025
 10:27AM

Unit Parameters

Unit Model:.....**50FE-M16D3M5-3U5D0**
 Unit Size:.....**16 (15 Tons)**
 Volts-Phase-Hertz:.....**208-3-60**
 Heating Type:.....**None**
 Refrigerant:.....**R-454B**
 Heat Control: ... **Two Stage Cooling, Single Circuit**
 Duct Cfg:..... **Vertical Supply / Vertical Return**

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

Unit Length:.....**9' 7.875"**
 Unit Width:.....**5' 3.375"**
 Unit Height:.....**4' 9.375"**
Total Operating Weight:..... 1553 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

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

RA and SA Smoke Detector
 High Static - EcoBlue Vane Axial Fan
 Al/Cu - Al/Cu - Louvered Hail Guards
 SystemVu Controller
 Temp Ultra Low Leak Economizer w/Baro Relief
 Hinged Access Panels and Powered Convenience Outlet
 Thru-The-Base Connections
 Standard Packaging

Warranty Information

5-Year compressor parts (STD.)
 1-Year parts (STD.)

No optional warranties were selected.

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

Ordering Information

Part Number	Description	Quantity
50FE-M16D3M5-3U5D0	Rooftop Unit	3
	Base Unit	
	RA and SA Smoke Detector	
	High Static - EcoBlue Vane Axial Fan	
	Al/Cu - Al/Cu - Louvered Hail Guards	
	Hinged Access Panels and Powered Convenience Outlet	
	Thru-The-Base Connections	
	SystemVu controller, Ultra LOW LEAK EconoMi\$er2 temperature economizer with barometric relief. Syst	
Field Installed Accessories		
CRPWREXH080A00	Power Exhaust System	3
CRPECONV007B00	Hinged Panel Sealing Angle Kit	3
33TCSPL-4	Carrier Connect Plus™ Wi-Fi® 7-day programmable/non-prog;	3
ZS2-C-CAR	ZS Standard	3

Certified Drawing for RTU-1,2,3

Project: REI - 021 Sacramento, CA
 Prepared By:

03/27/2025
 10:27AM

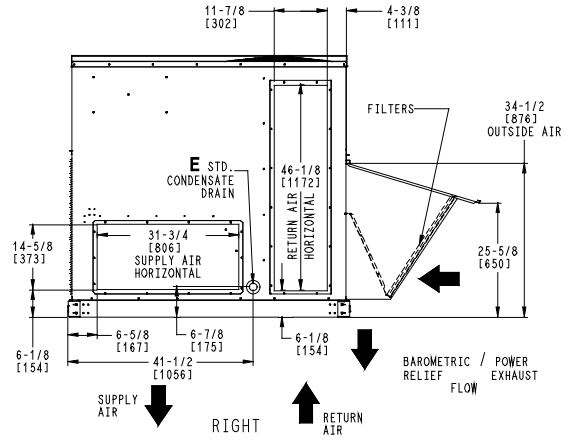
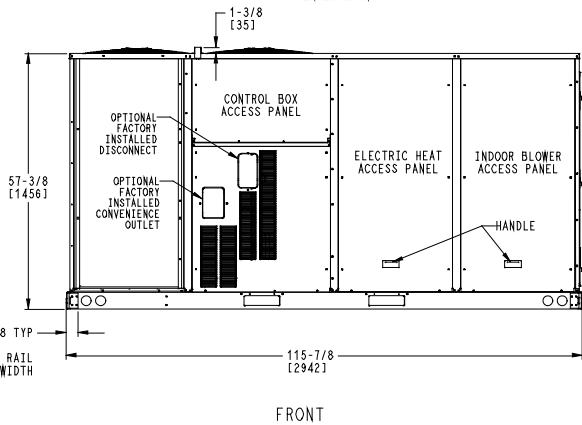
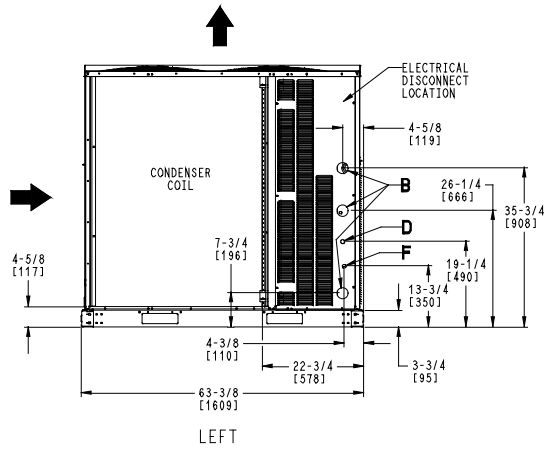
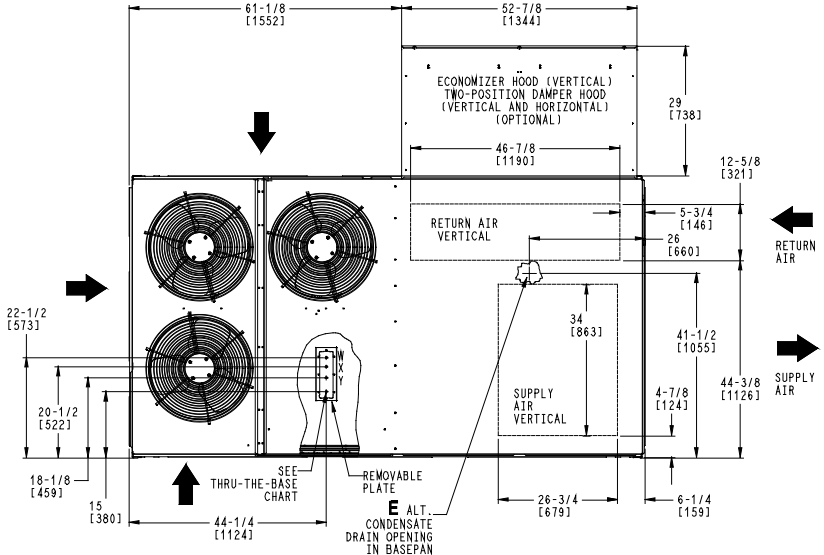
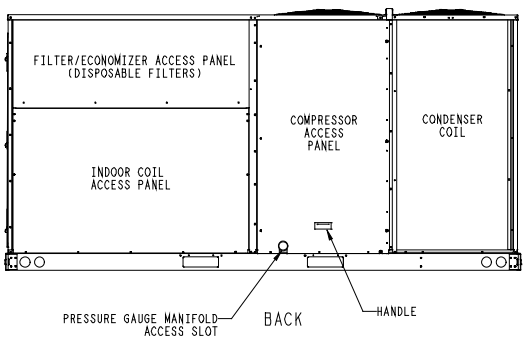
NOTES:

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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

THRU-THE-BASE CHART THESE HOLES REQUIRED FOR USE CRBTMPWR005A00, 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	W	1/2"	ACC.	7/8" [22.2]
	X	1/2"	24V	7/8" [22.2]
	Y	1 1/2"	POWER	2" [50.8]
007	W	1/2"	ACC.	7/8" [22.2]
	X	1/2"	24V	7/8" [22.2]
	Y	2"	POWER	2 1/2" [63.5]
FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR X & Y ARE PROVIDED AS SPECIFIED ON "006".				



ITC CLASSIFICATION U.S. ECCN: NSR	SHEET 1 OF 2	DATE 8/10/23	SUPERCEDES -	50FE 16 SINGLE ZONE ELECTRICAL COOLING WITH ELECTRIC HEAT	50TM003165	REV -
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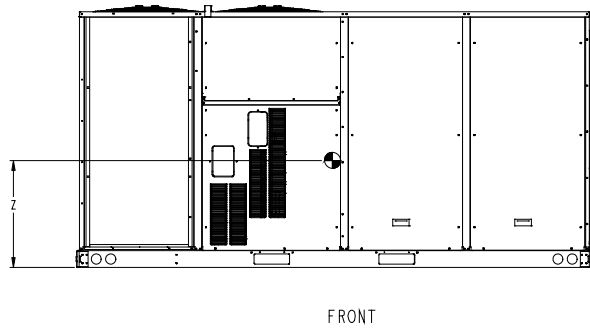
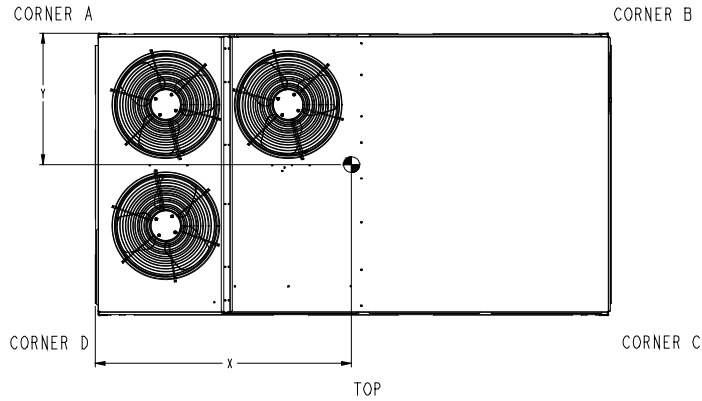
Certified Drawing for RTU-1,2,3

Project: REI - 021 Sacramento, CA
 Prepared By:

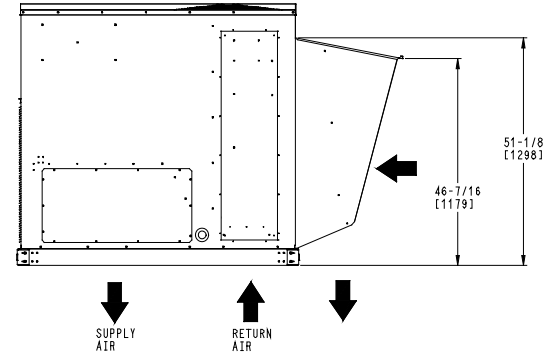
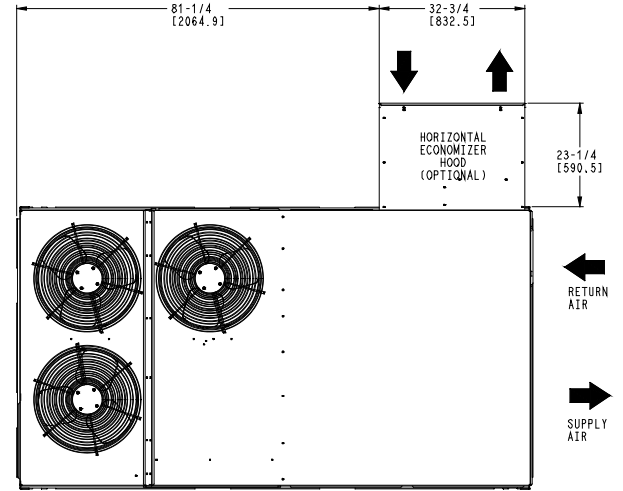
03/27/2025
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UNIT	STD UNIT WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
50FE-M16	1325	601	370	168	312	142	294	133	349	158	53 [1345]	30 3/4 [781]	22 [559]

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



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HORIZONTAL ECONOMIZER

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	DESCRIPTION	UNIT	REV
U.S. ECCN:NSR	2 OF 2	8/10/23	-	50FE 16 SINGLE ZONE ELECTRICAL COOLING WITH ELECTRIC HEAT	50TM003165	-

Performance Summary For RTU-1,2,3

Project: REI - 021 Sacramento, CA
Prepared By:

03/27/2025
10:27AM

Part Number:50FE-M16D3M5-3U5D0

Refrigerant:..... **R-454B**
ARI EER:..... **11.00**
IEER:..... **14.7**

Base Unit Dimensions

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

Operating Weight

Base Unit Weight:..... **1325** lb
RA and 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
Temp Ultra Low Leak Economizer w/Baro Relief:..... **35** lb
Hinged Access Panels and Powered Convenience Outlet:..... **41** lb
Thru-The-Base Connections:..... **4** lb

Accessories

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

Total Operating Weight:..... **1553** lb

Unit

Unit Voltage-Phase-Hertz:..... **208-3-60**
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**

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
Fan RPM:..... **1747**
Fan Power:..... **2.64** BHP
NOTE:..... **Selected IFM RPM Range: 1120 - 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

Performance Summary For RTU-1,2,3

Project: REI - 021 Sacramento, CA
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03/27/2025
 10:27AM

Electrical Data

Voltage Range:	187 - 253
Compressor #1 RLA:.....	28.5
Compressor #1 LRA:.....	255
Compressor #2 RLA:.....	21.1
Compressor #2 LRA:.....	157
Indoor Fan Motor Type:.....	HIGH
Indoor Fan Motor FLA (Total):.....	12.6
Power Supply MCA:.....	83
Power Supply MOCP (Fuse or HACR):.....	100
Disconnect Size FLA:.....	87
Disconnect Size LRA:	451
Electrical Convenience Outlet FLA (based on unit line voltage):.....	4.8
Power Exhaust [Kit Qty / FLA(ea kit)]:.....	1 / 3.8
Outdoor Fan [Qty / FLA (ea)]:	3 / 1.5

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

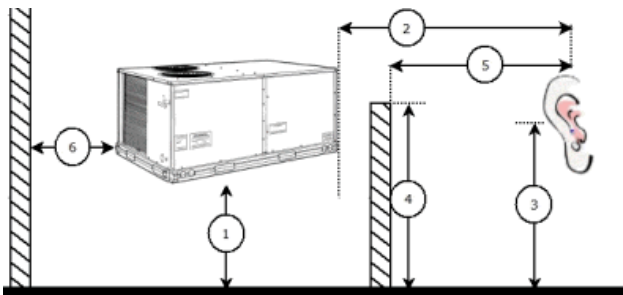
Control Panel SCCR: 5kA RMS at Rated Symmetrical Voltage

Acoustics

Sound Power Levels, db re 10E-12 Watts

	Discharge	Inlet	Outdoor
63 Hz	87.1	82.5	87.0
125 Hz	83.3	77.2	85.2
250 Hz	80.8	72.5	84.6
500 Hz	78.8	70.6	84.9
1000 Hz	79.8	70.9	82.2
2000 Hz	75.6	64.4	78.4
4000 Hz	70.2	55.1	75.3
8000 Hz	62.2	48.5	72.9
A-Weighted	83.4	74.2	87.0

Advanced Acoustics



Advanced Acoustics Parameters

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

Detailed Acoustics Information

Performance Summary For RTU-1,2,3

Project: REI - 021 Sacramento, CA
 Prepared By:

03/27/2025
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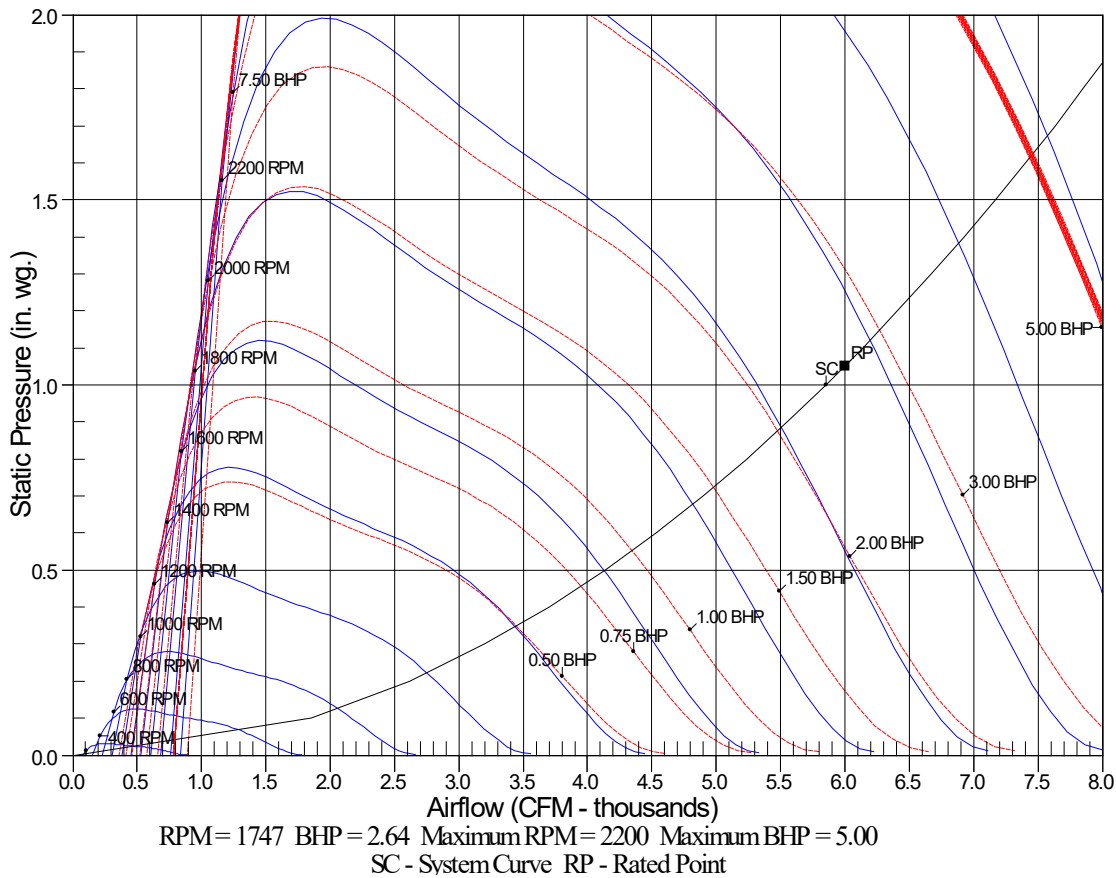
Octave Band Center Freq. Hz	63	125	250	500	1k	2k	4k	8k	Overall
A	87.0	85.2	84.6	84.9	82.2	78.4	75.3	72.9	92.4 Lw
B	60.8	69.1	76.0	81.7	82.2	79.6	76.3	71.8	87.1 LwA
C	54.6	52.8	52.2	52.5	49.8	46.0	42.9	40.5	60.0 Lp
D	28.4	36.7	43.6	49.3	49.8	47.2	43.9	39.4	54.7 LpA

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.

Fan Curve



RTU-4,5,6,8,9

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

Unit Report For RTU-4,5,6,8,9

Project: REI - 021 Sacramento, CA
 Prepared By:

03/27/2025
 10:27AM

Unit Parameters

Unit Model:.....**48FEEM16D3M5-3U5D0**
 Unit Size:.....**16 (15 Tons)**
 Volts-Phase-Hertz:.....**208-3-60**
 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:..... 1728 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
 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
48FEEM16D3M5-3U5D0	Rooftop Unit	5
	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	
	Thru-The-Base Connections	
	SystemVu controller, Ultra LOW LEAK EconoMi\$er2 temperature economizer with barometric relief. Syst	
Field Installed Accessories		
33TCSPL-4	Carrier Connect Plus™ Wi-Fi® 7-day programmable/non-prog;	5
ZS2-C-CAR	ZS Standard	5

Unit Report For RTU-4,5,6,8,9

Project: REI - 021 Sacramento, CA
Prepared By:

03/27/2025
10:27AM

CRPWREXH080A00	Power Exhaust System	5
CRPECONV007B00	Hinged Panel Sealing Angle Kit	5

Certified Drawing for RTU-4,5,6,8,9

Project: REI - 021 Sacramento, CA
 Prepared By:

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NOTES:

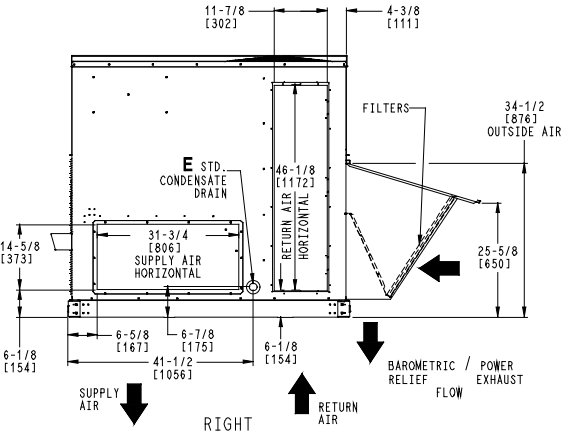
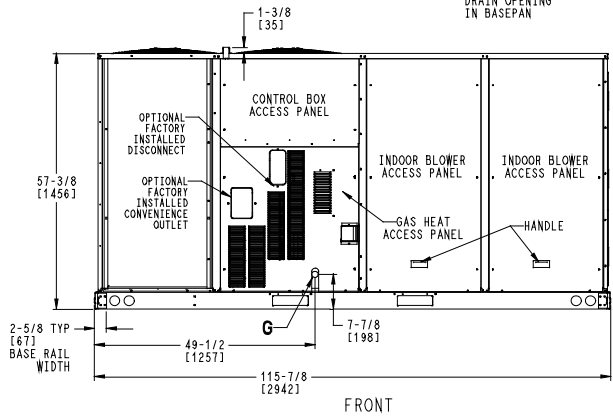
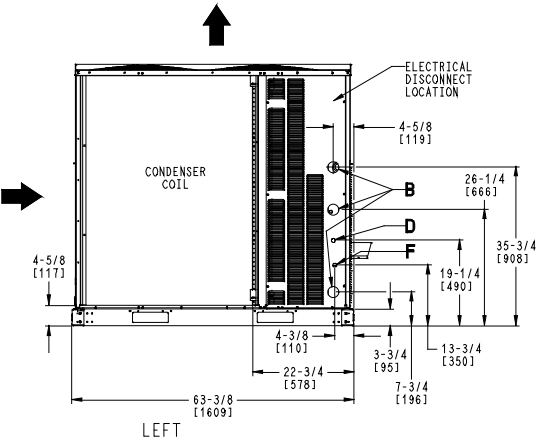
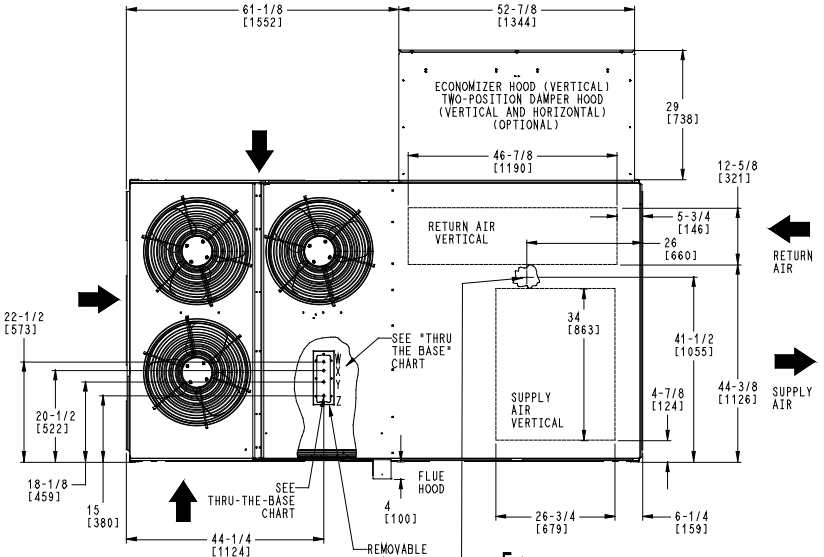
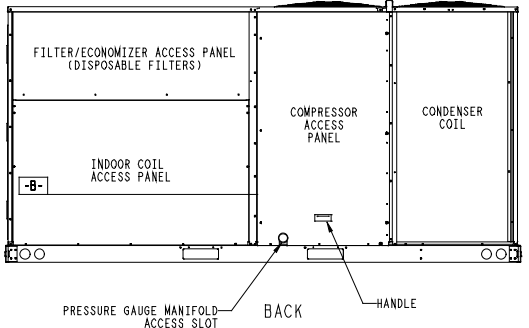
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2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW

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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.	W	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	-			-

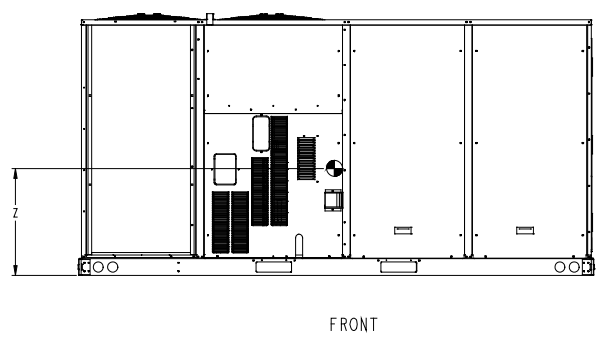
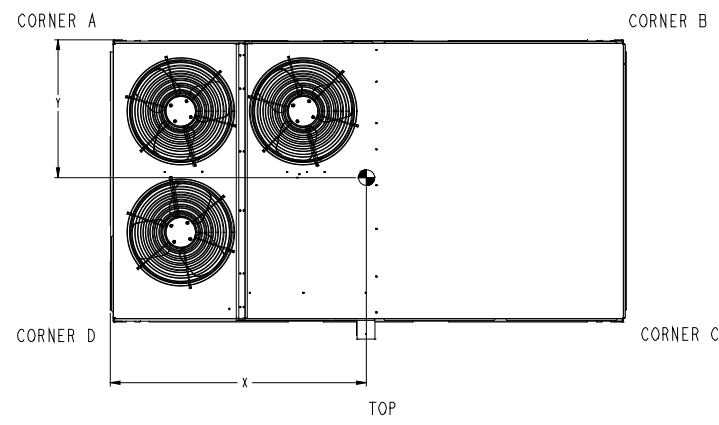
Certified Drawing for RTU-4,5,6,8,9

Project: REI - 021 Sacramento, CA
 Prepared By:

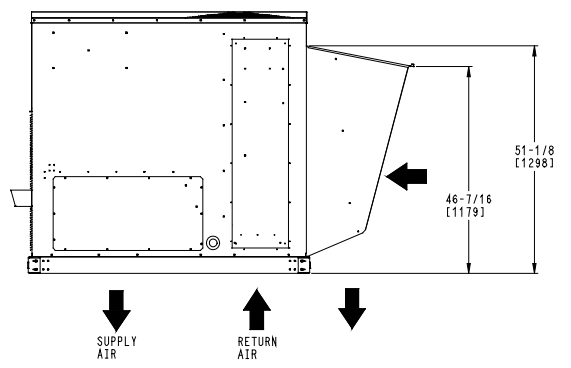
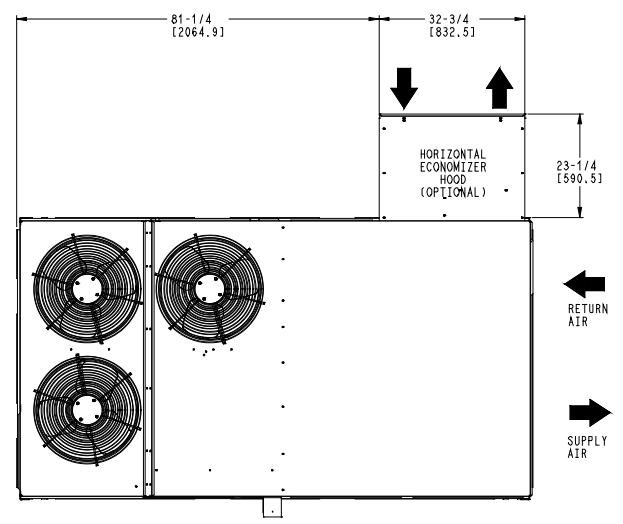
03/27/2025
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UNIT	STD UNIT WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
48FE-M16	1408	639	373	169	341	155	332	150	362	164	55 3/8 [1407]	31 1/4 [794]	21 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-4,5,6,8,9

Project: REI - 021 Sacramento, CA
Prepared By:

03/27/2025
10:27AM

Part Number:48FEEM16D3M5-3U5D0

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
Thru-The-Base Connections:..... **1** lb

Accessories

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

Total Operating Weight:..... **1728** lb

Unit

Unit Voltage-Phase-Hertz:..... **208-3-60**
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-4,5,6,8,9

Project: REI - 021 Sacramento, CA
 Prepared By:

03/27/2025
 10:27AM

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: **187 - 253**
 Compressor #1 RLA: **28.5**
 Compressor #1 LRA: **255**
 Compressor #2 RLA: **21.1**
 Compressor #2 LRA: **157**
 Indoor Fan Motor Type: **HIGH**
 Indoor Fan Motor FLA (Total): **12.6**
 Combustion Fan Motor FLA (ea): **0.48**
 Power Supply MCA: **83**
 Power Supply MOCP (Fuse or HACR): **100**
 Disconnect Size FLA: **87**
 Disconnect Size LRA: **451**
 Electrical Convenience Outlet FLA (based on unit line voltage): **4.8**
 Power Exhaust [Kit Qty / FLA(ea kit)]: **1 / 3.8**
 Outdoor Fan [Qty / FLA (ea)]: **3 / 1.5**
 NOTE: Convenience outlet must be field connected to the line/load side of the unit disconnect per local code.

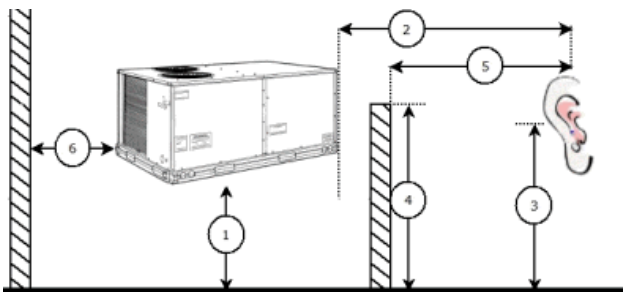
Control Panel SCCR: 5kA RMS at Rated Symmetrical Voltage

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-4,5,6,8,9

Project: REI - 021 Sacramento, CA
 Prepared By:

03/27/2025
 10:27AM

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

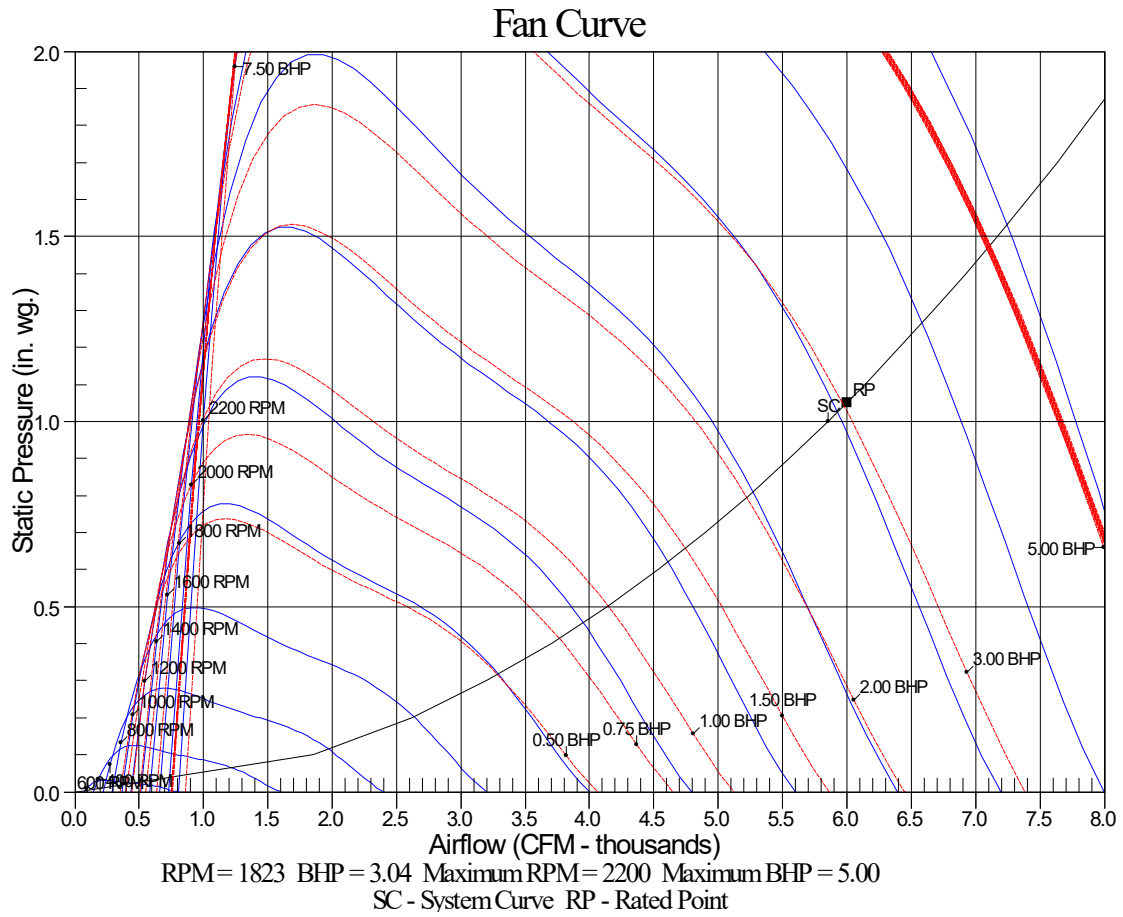
- A Sound Power Levels at Unit's Acoustic Center, Lw
- B A-Weighted Sound Power Levels at Unit's Acoustic Center, LwA
- C Sound Pressure Levels at Specific Distance from Unit, Lp
- D A-Weighted Sound Pressure Levels at Specific Distance from Unit, LpA

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-4,5,6,8,9

Project: REI - 021 Sacramento, CA
Prepared By:

03/27/2025
10:27AM



RTU-7

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

Unit Report For RTU-7

Project: REI - 021 Sacramento, CA
 Prepared By:

03/27/2025
 10:27AM

Unit Parameters

Unit Model:.....**48FEEM08D3M5-3U5D0**
 Unit Size:.....**08 (7.5 Tons)**
 Volts-Phase-Hertz:..... **208-3-60**
 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:..... 1037 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
 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
48FEEM08D3M5-3U5D0	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	
	Thru-The-Base Connections	
	SystemVu controller, Ultra LOW LEAK EconoMi\$er2 temperature economizer with barometric relief. Syst	
Field Installed Accessories		
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 - 021 Sacramento, CA
Prepared By:

03/27/2025
10:27AM

CRPWREXH022A01	Power Exhaust System	1
CRPECONV004A00	Hinged Panel Sealing Angle Kit	1

Certified Drawing for RTU-7

Project: REI - 021 Sacramento, CA
 Prepared By:

03/27/2025
 10:27AM

- 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)

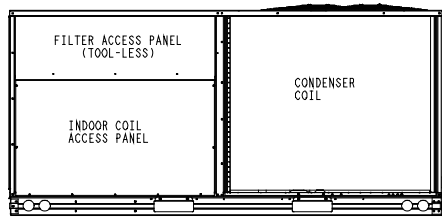
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CONNECTION SIZES	
A	1 3/8" [35] DIA FIELD POWER SUPPLY HOLE
B	2 1/2" [64] DIA POWER SUPPLY KNOCKOUT
C	1 3/4" [51] DIA GAUGE ACCESS PLUG
D	7/8" [22] DIA FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	1/2"-14 NPT GAS CONNECTION
G	3/4"-14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

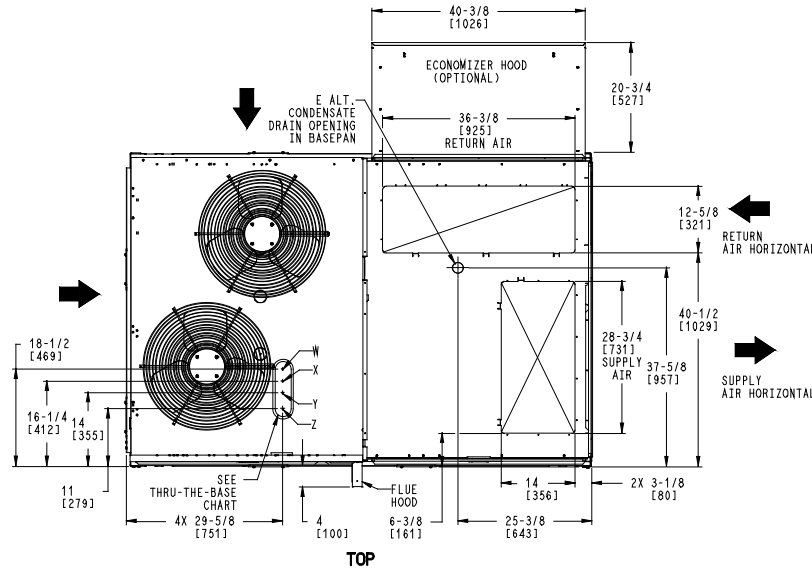
THRU-THE-BASE CHART (FIELD INST)			
THESE HOLES REQUIRED FOR USE WITH ACCY KITS: CRBTNPR002A01: GAS THRU CURB CRBTNPR004A01: GAS THRU BASEPAN			
	THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
W	1/2"	ACC.	7/8" [22.2]
X	1/2"	24V	7/8" [22.2]
Y	1 1/4" (002,004)	POWER	1 3/4" [44.4]
Z *	(004) 3/4"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

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

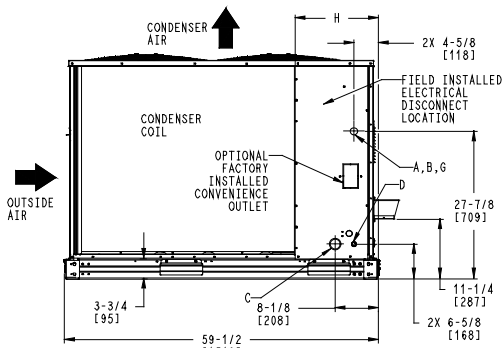
THRU-THE-BASE CHART (FIOP)			
FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR ONLY X, Y, & Z ARE PROVIDED. **			
FOR BELOW LISTED MODELS, A FIELD SUPPLIED 1/2" ADAPTER IS REQUIRED BETWEEN BASE PAN FITTING AND GAS VALVE: 48FCD, S#08, 09			



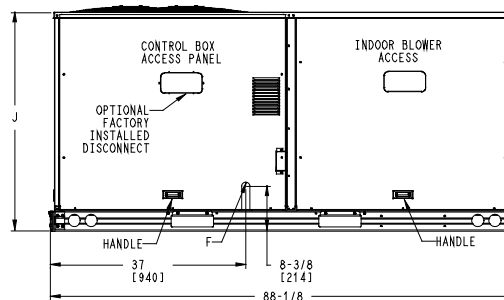
BACK



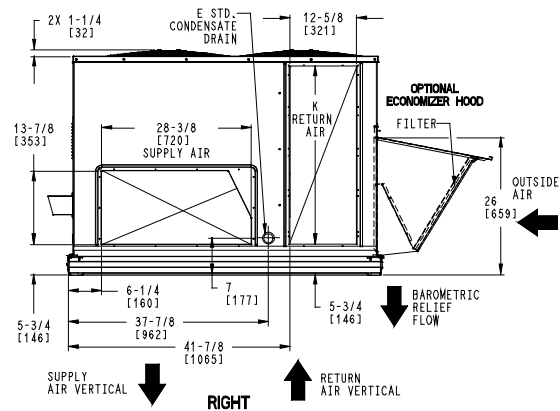
TOP



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-7

Project: REI - 021 Sacramento, CA
Prepared By:

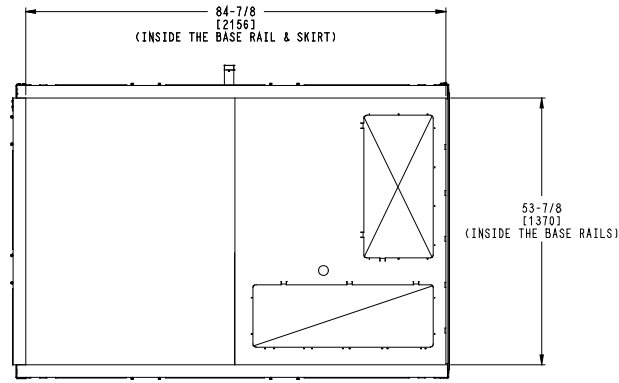
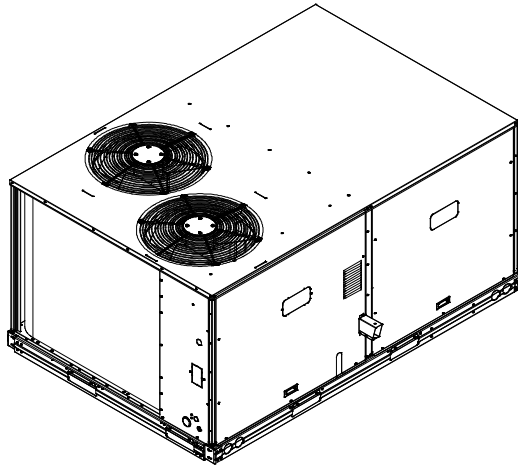
03/27/2025
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Certified Drawing for RTU-7

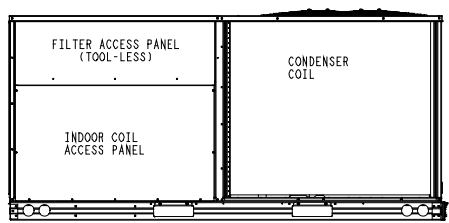
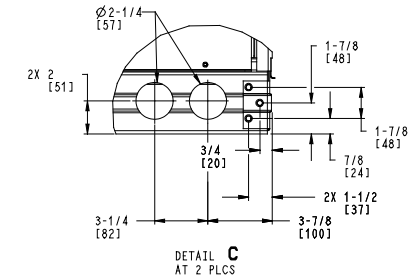
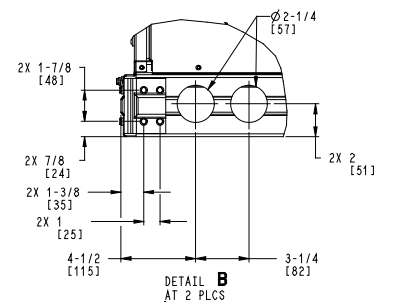
Project: REI - 021 Sacramento, CA
 Prepared By:

03/27/2025
 10:27AM

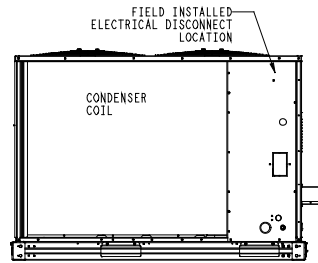
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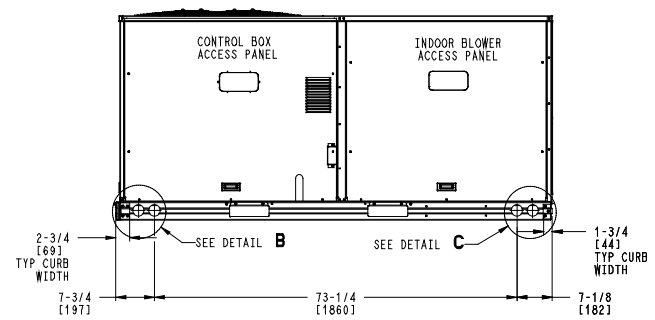
INSIDE BASERAIL DIMENSIONS
BOTTOM



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-7

Project: REI - 021 Sacramento, CA
Prepared By:

03/27/2025
10:27AM

Part Number:48FEEM08D3M5-3U5D0

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
Thru-The-Base Connections:..... **1** lb

Accessories

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

Total Operating Weight:..... **1037** lb

Unit

Unit Voltage-Phase-Hertz:..... **208-3-60**
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-7

Project: REI - 021 Sacramento, CA
 Prepared By:

03/27/2025
 10:27AM

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: 187 - 253
 Compressor #1 RLA: 12.2
 Compressor #1 LRA: 120
 Compressor #2 RLA: 12.2
 Compressor #2 LRA: 120
 Indoor Fan Motor Type: HIGH
 Indoor Fan Motor FLA (Total): 7.5
 Combustion Fan Motor FLA (ea): 0.48
 Power Supply MCA: 47
 Power Supply MOCP (Fuse or HACR): 50
 Disconnect Size FLA: 50
 Disconnect Size LRA: 268
 Electrical Convenience Outlet FLA (based on unit line voltage): 4.8
 Power Exhaust [Kit Qty / FLA(ea kit)]: 1 / 3.8
 Outdoor Fan [Qty / FLA (ea)]: 2 / 1.5
 NOTE: Convenience outlet must be field connected to the line/load side of the unit disconnect per local code.

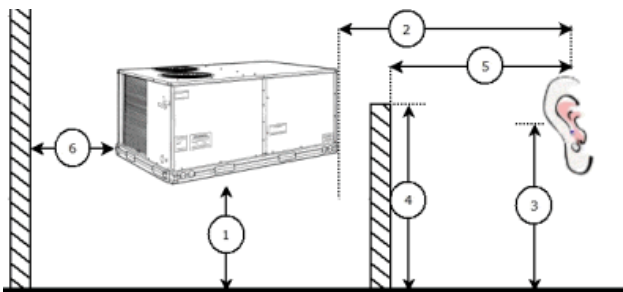
Control Panel SCCR: 5kA RMS at Rated Symmetrical Voltage

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-7

Project: REI - 021 Sacramento, CA
 Prepared By:

03/27/2025
 10:27AM

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

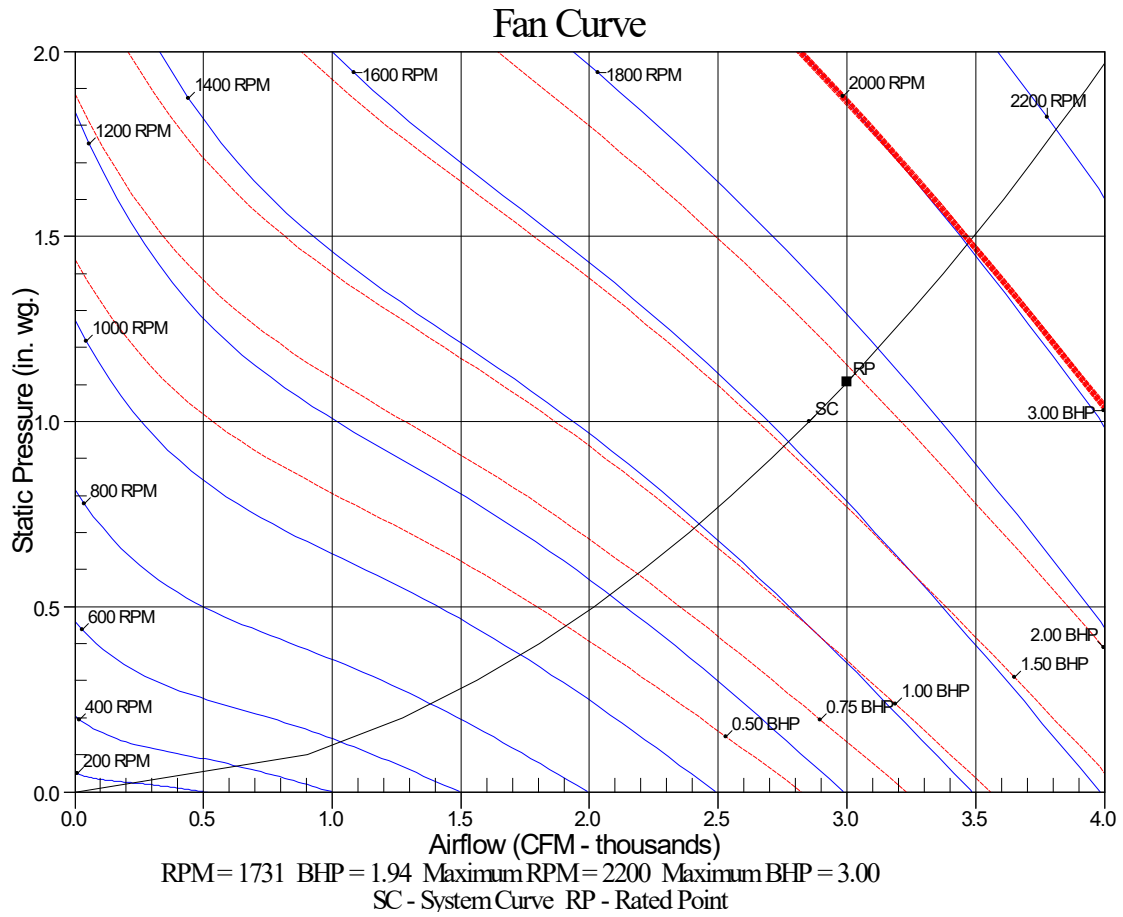
- A Sound Power Levels at Unit's Acoustic Center, Lw
- B A-Weighted Sound Power Levels at Unit's Acoustic Center, LwA
- C Sound Pressure Levels at Specific Distance from Unit, Lp
- D A-Weighted Sound Pressure Levels at Specific Distance from Unit, LpA

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-7

Project: REI - 021 Sacramento, CA
Prepared By:

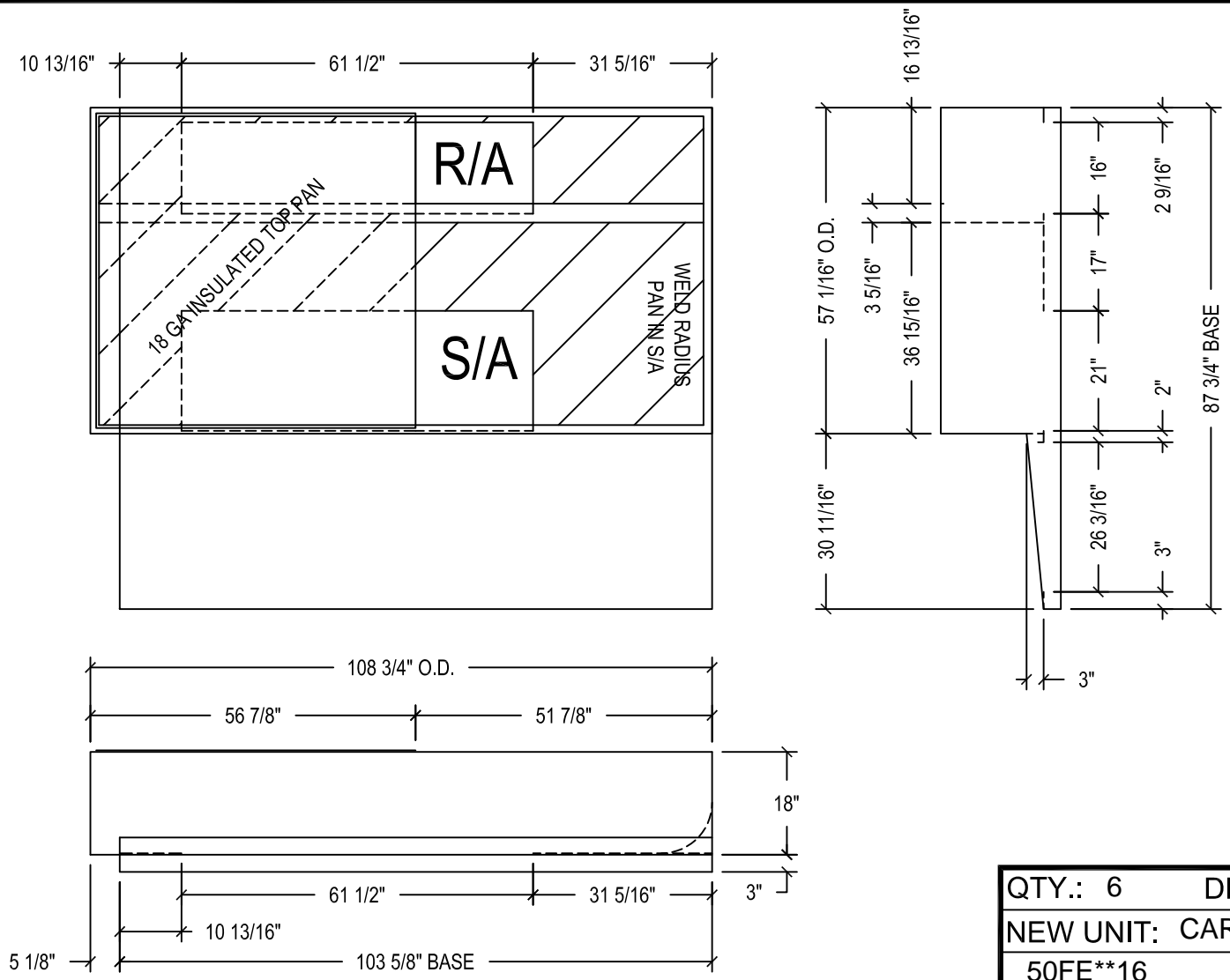
03/27/2025
10:27AM



Job Name: REI #21 - Sacramento, CA

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"



TRANSITION-CURB SYSTEM

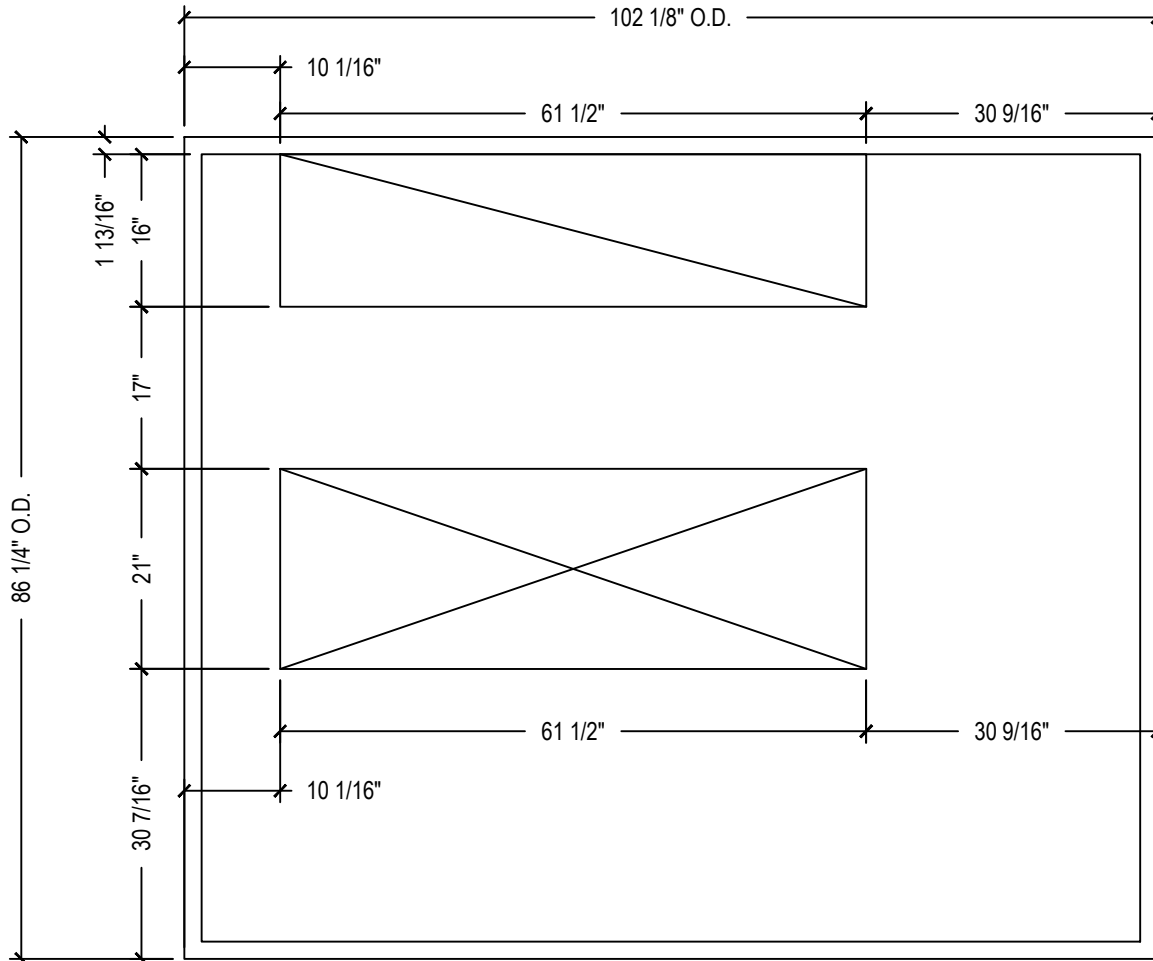
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TAG PLATE: CR332LX8
APPROXIMATE WEIGHT: 285 LBS

QTY.: 6	DRAWN BY.: LEV
NEW UNIT: CARRIER	
50FE**16	
OLD UNIT: LENNOX	
LCH180H	
ROLLS OF GASKET: 2	
TAG: UNIT-1-6	



EXISTING CURB VERIFICATION SHEET



QTY:

TAG(S):

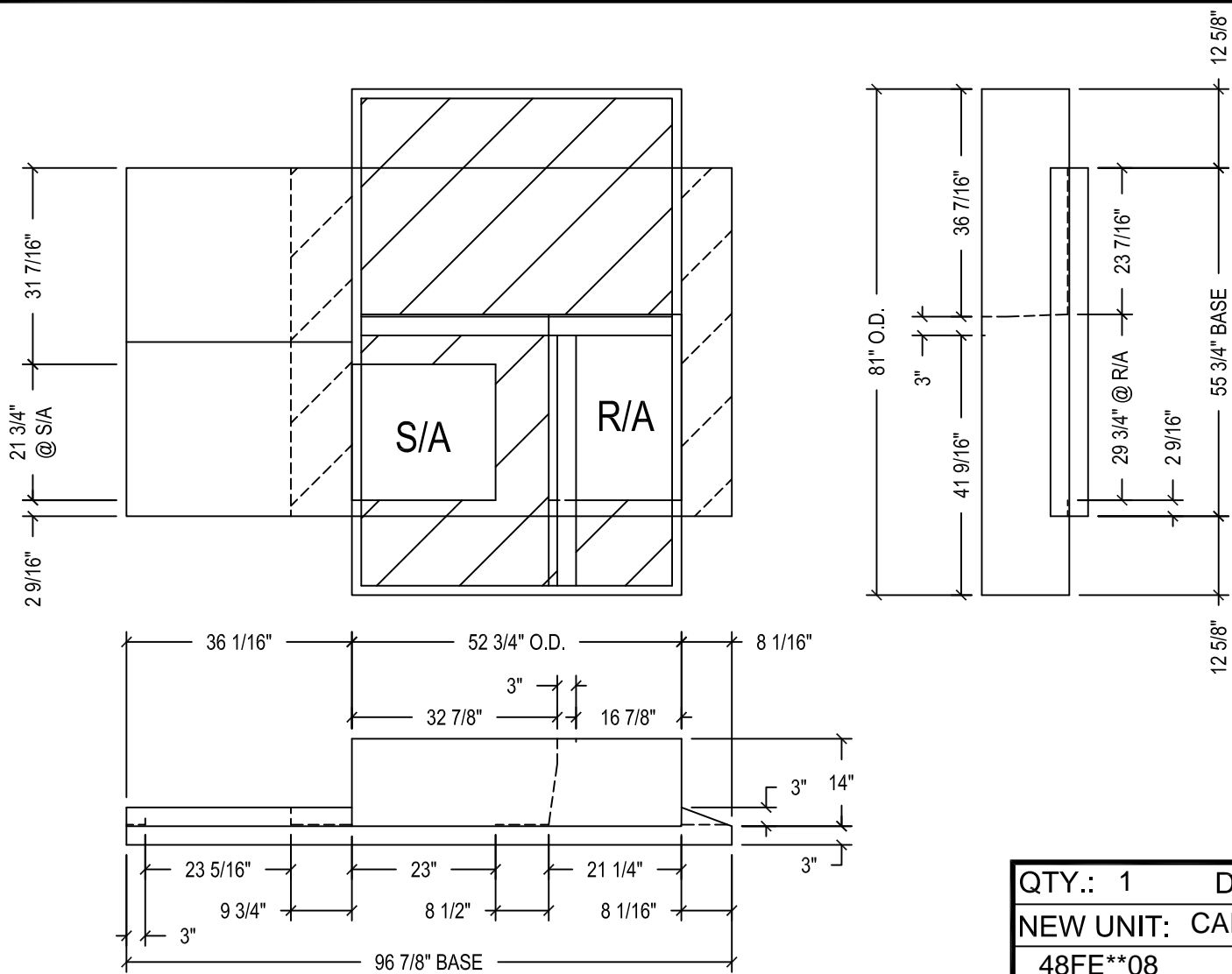
Qty: 6

Unit: LENNOX LCH180H

Tag: UNIT-1-6

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	
LGH092H	
ROLLS OF GASKET: 2	
TAG: UNIT-7	



TRANSITION-CURB SYSTEM

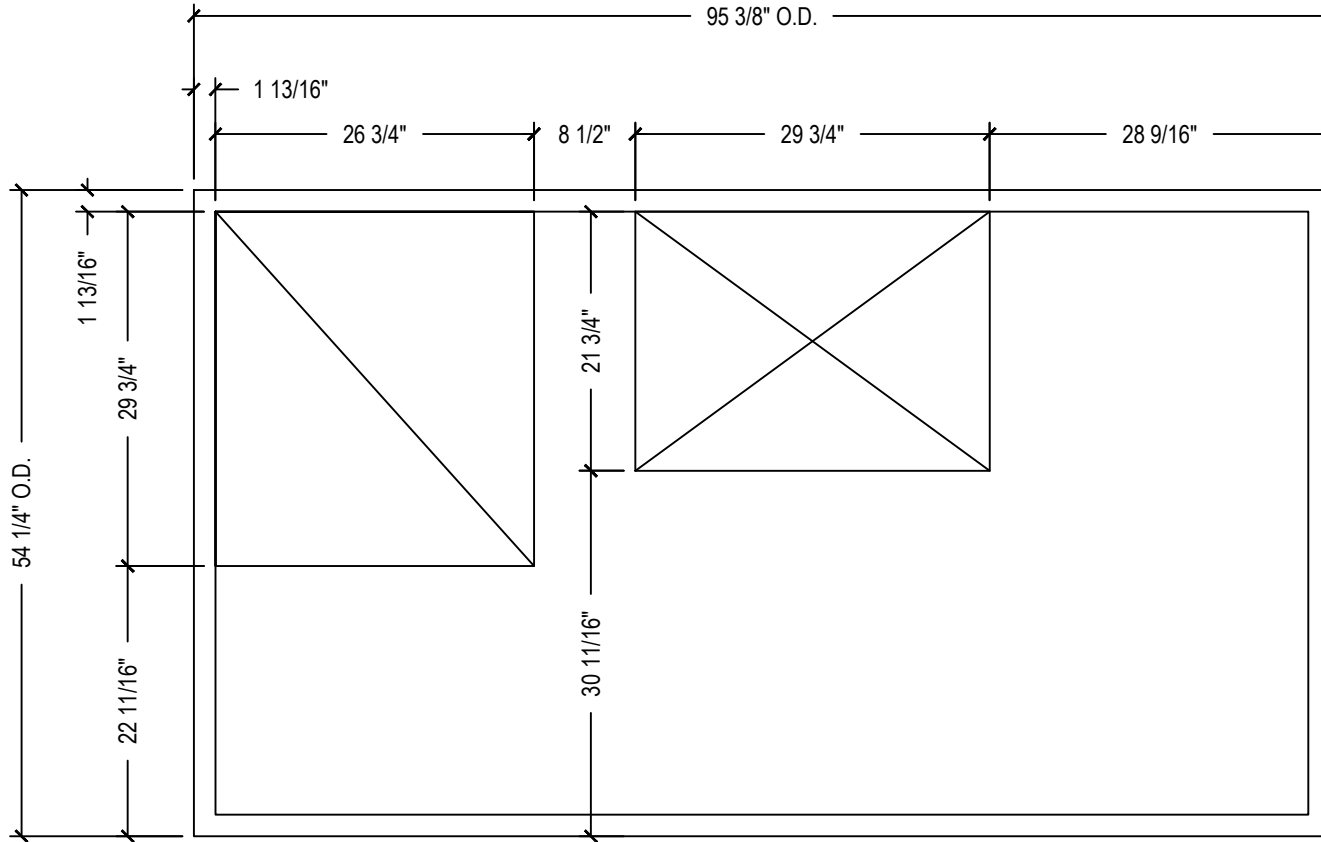
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TAG PLATE: CR37LX296

APPROXIMATE WEIGHT: 310 LBS



EXISTING CURB VERIFICATION SHEET



QTY:

TAG(S):

Qty: 1

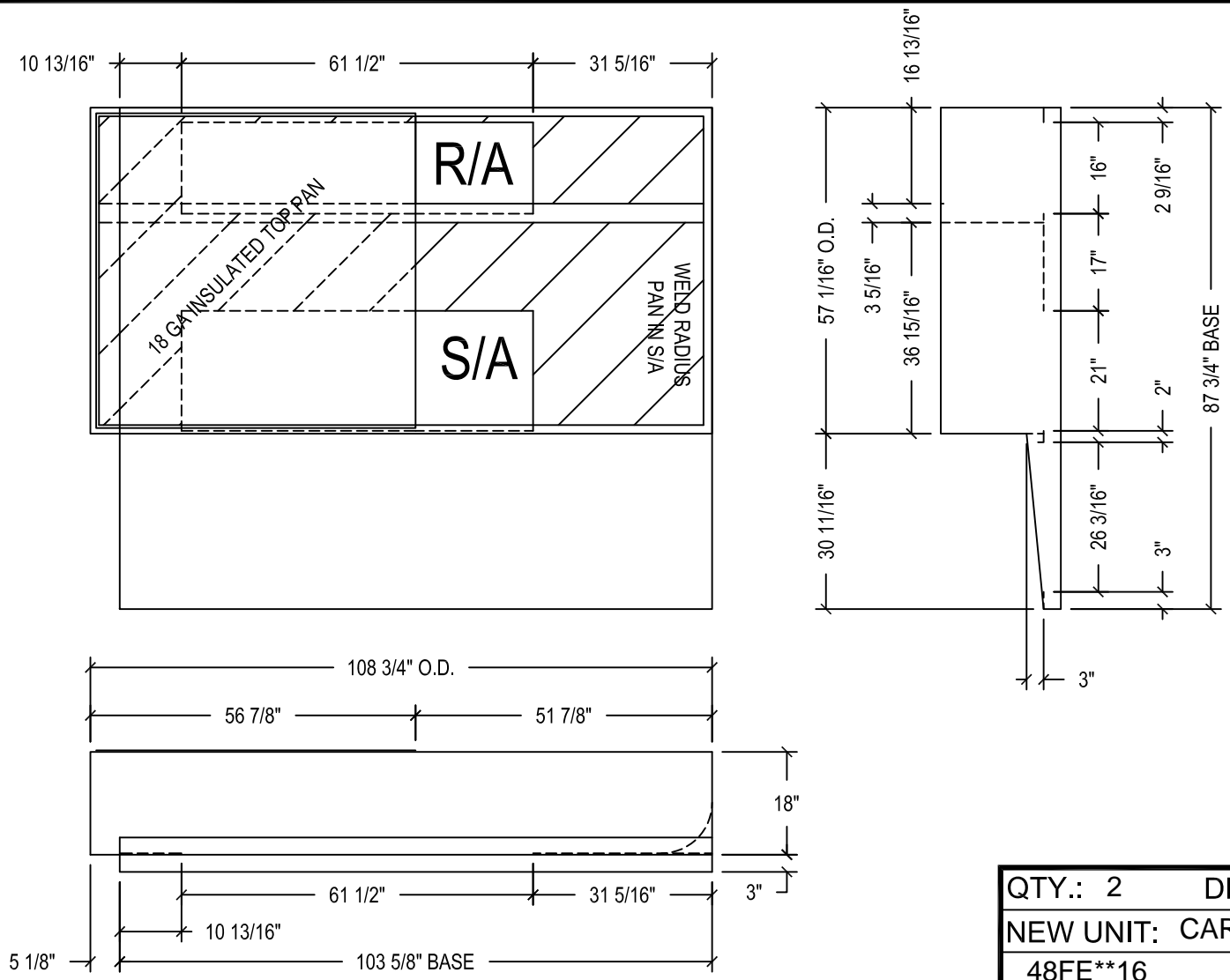
Unit: LENNOX LGH092H

Tag: UNIT-7

Job Name: REI #21 - Sacramento, CA

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.: 2	DRAWN BY.:LEV
NEW UNIT: CARRIER	
48FE**16	
OLD UNIT: LENNOX	
LGC180H	
ROLLS OF GASKET:2	
TAG: UNIT-8,9	



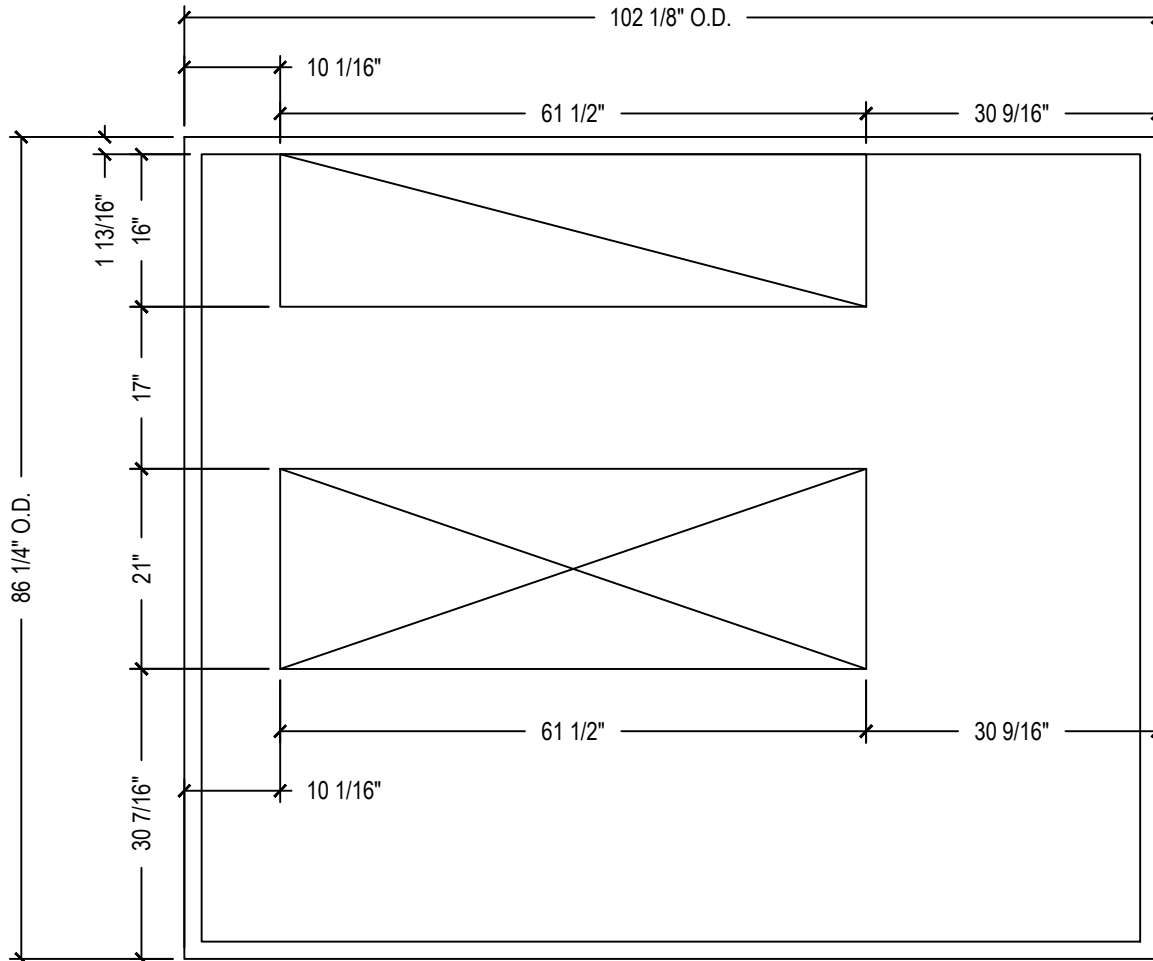
TRANSITION-CURB SYSTEM

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TAG PLATE: CR332LX8
 APPROXIMATE WEIGHT: 285 LBS



EXISTING CURB VERIFICATION SHEET



QTY:

TAG(S):

Qty: 2

Unit: LENNOX LGC180H

Tag: UNIT-8,9