



**Russell**

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Date: Mar 10, 2024

Job: AWIC 10X10 FREEZER SINGLE PHASE

Customer: AWIC 10X10 FREEZER SINGLE PHASE

Customer Details: -

General Contractor: -

Submitted By: -



**10X10 FREEZER - Box Load Calculation****General Requirements**

Room Temperature: **-5 °F**    Ambient Temperature: **95 °F**    Design Run-time: **18 Hrs**    Required Capacity: **10,209 BTUH**

**Area Load**

Section	Material	Thickness	X - Factor	Surface Temp	Dim. 1	Dim. 2	Load
Wall 1	Polyurethane	4 in	0.1	95 °F	10 ft	8 ft	6,720 BTU
Wall 2	Polyurethane	4 in	0.1	95 °F	10 ft	8 ft	6,720 BTU
Wall 3	Polyurethane	4 in	0.1	95 °F	10 ft	8 ft	6,720 BTU
Wall 4	Polyurethane	4 in	0.1	95 °F	10 ft	8 ft	6,720 BTU
Ceiling	Polyurethane	4 in	0.1	110 °F	10 ft	10 ft	9,660 BTU
Floor	Polyurethane	4 in	0.1	65 °F	10 ft	10 ft	5,880 BTU
Total Area Load:							<b>42,420 BTU</b>

**Product Load - Auto Usage Selected**

Total Product Load: **17,280 BTU**

**Air Change Load**

Dry Bulb: <b>87.6 °F</b>	Wet Bulb: <b>71.7 °F</b>	
Door Type 1: <b>Man</b>	Number of Door Type 1: <b>1</b>	Door Usage: <b>Average</b>
Door Type 1: <b>Curtains: None</b>	Door Type 1 Curtain Efficiency: <b>0%</b>	Total Door Type 1 Load: <b>16,800 BTU</b>
		Total Air Change Load: <b>65,562.6 BTU</b>

**Miscellaneous Load**

People Load: <b>33,600 BTU</b>	Lighting Load: <b>8,196 BTU</b>	Motor Load: <b>0 BTU</b>
Other Load: <b>0 BTU</b>	Total Misc. Load: <b>41,796 BTU</b>	

**Load Calculation Summary**

Total Design Load: **167,058.6 BTU**    Safety Factor: **10%**    Total Required Load: **183,764.4 BTU**

## 10X10 FREEZER - System Design Summary

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### General Requirements

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Room Temperature: <b>-5 °F</b>	Ambient Temperature: <b>95 °F</b>	Design Run-time: <b>18 Hrs</b>	Required Capacity: <b>10209 BTUH</b>
Design TD: <b>10 °F</b>	Refrigerant: <b>R-448A</b>	Altitude: <b>0 FT</b>	

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### Selected Equipment

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Line Item	Quantity	Type	Tag	Description
1.0	1	System	10X10 FREEZER	R-448A - Refrigeration Equipment Match 1
1.1	1	Condensing Unit	CDU-1	RFO300L4SDA
1.2	1	Unit Cooler	UC-1	RL6E090DDA

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### System Balance

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Balanced Capacity: <b>10,261.7 BTUH</b>	Evap. T.D.: <b>9.5 °F</b>	Line Loss: <b>2 °F</b>	Suction Temp: <b>-16.5 °F</b>	Calc. Run-Time: <b>17.9 Hrs</b>
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**10X10 FREEZER - CDU-1 - Product Information****General Data**

Model Line: <b>NEXT-GEN MINI-CON</b>	Model Number: <b>RFO300L4SDA</b>	Flooded: <b>Yes</b>
Refrigerant: <b>R-448A</b>	Voltage: <b>208-230/1/60</b>	Compressor Type: <b>SCROLL</b>

**Performance Data**

Ambient Temp: <b>95 °F</b>	Suction Temp: <b>-17 °F</b>	Capacity: <b>9,780 BTUH</b>
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**Electrical Data**

Compressor RLA: <b>16</b>	Compressor LRA: <b>88</b>	Total Condenser Fan FLA: <b>1</b>
MCA: <b>32</b>	MOPD: <b>45</b>	

**Physical Data**

Number of Compressors: <b>1</b>	Compressor Model: <b>ZF09K4E</b>	Compressor HP: <b>3</b>
Number of Condenser Fans: <b>2</b>	Approx. Ship Weight: <b>245 lbs</b>	Sound Data: <b>73 dBA</b>
Liquid Line: <b>3/8 in.</b>	Suction Line: <b>7/8 in.</b>	
Pump Down Capacity (%): <b>90</b>	Pump Down Capacity: <b>14.3 lbs</b>	

**Option Data**

Mounted Option	ADD/MODIFY DEFROST KIT: ED5
Mounted Option	LIQUID LINE WITH COMPONENTS: SEALED FILTER & SIGHT GLASS
Mounted Option	STANDARD RECEIVER
Mounted Option	FIXED HIGH/ADJUSTABLE LOW PRESSURE CONTROL

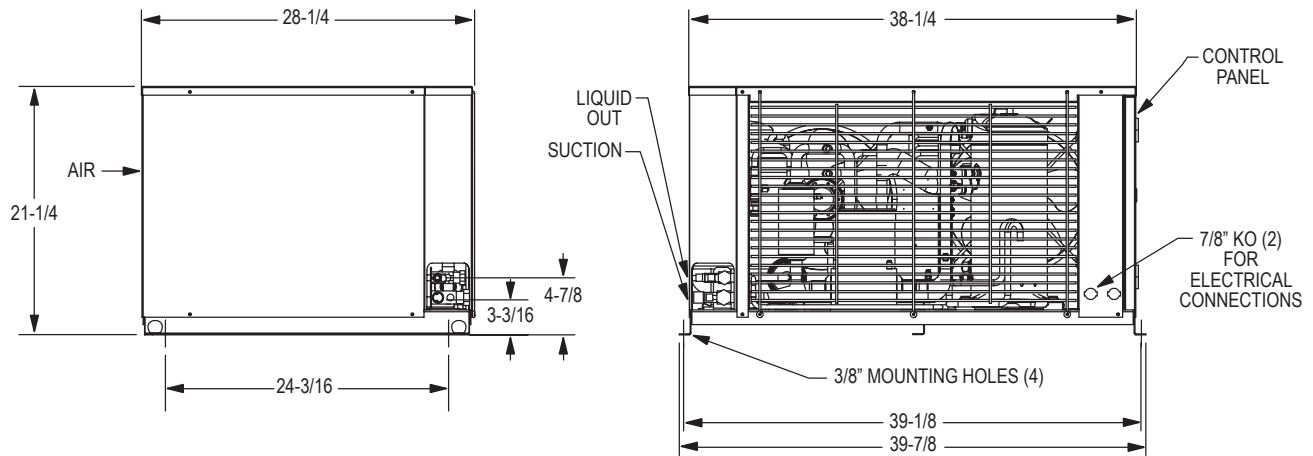
**Compliance Data**

AWEF: **3.15**

**Notes**

## Dimensional Drawing

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## Standard Features

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- All-weather Galvanized steel painted housing
- Generously sized high efficiency condenser, enhanced copper tubes/aluminum fins
- Integral Liquid Subcooling Circuit provides subcooled liquid to the expansion device
- Crankcase heater
- Large electrical panel with hinged/removable door
- Color coded point-to-point wiring
- Quick access to shut off valves from exterior
- UL/cUL certified for use with multiple refrigerants
- UL/cUL listed for outdoor use
- Flooded models include flooded head pressure control
- Non flooded models include mild ambient fan cycle control

## Certifications

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**10X10 FREEZER - UC-1 - Product Information****General Data**

Model Line: <b>NEXT-GEN ALL-TEMP</b>	Model Number: <b>RL6E090DDA</b>	Motors: <b>DUAL SPEED EC MOTOR</b>
Unit Voltage: <b>208-230/1/60</b>	Defrost Type: <b>ELECTRIC DEFROST</b>	Refrigerant: <b>R-448A</b>
Fins Per Inch: <b>6</b>	Number of Fans: <b>2</b>	

**Performance Data**

Suction Temp: <b>-15 °F</b>	T.D: <b>9.5 °F</b>	Capacity: <b>10,261.7 BTUH</b>	CFM: <b>1550</b>
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**Electrical Data**

Motor Voltage: <b>208-230/1/60</b>	Total Unit Fan Motor Amps: <b>1</b>	
Heater Voltage: <b>208-230/1/60</b>	Heater Amps: <b>9.8</b>	Heater Watts: <b>2250</b>
MCA: <b>15</b>	MOPD: <b>20</b>	

**Physical Data**

Liquid Line: <b>3/8 in.</b>	Suction Line: <b>7/8 in.</b>	Approx. Ship Weight: <b>58 lbs</b>
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**Option Data**

Mounted Option	EcoNet Control Package
Mounted Option	Fixed Defrost Control / Fan Delay Switch

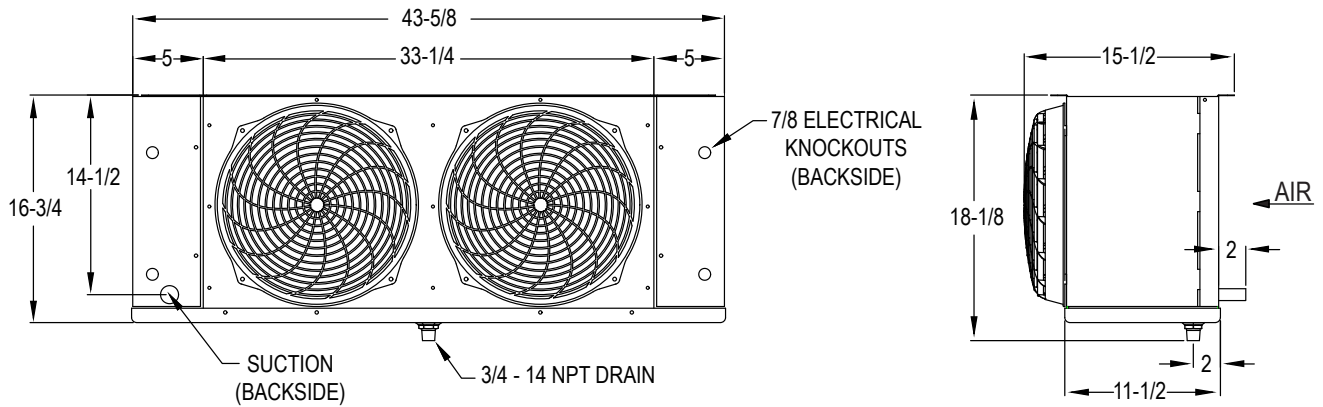
**Compliance Data**

AWEF: **4.15**

**Notes**

## Dimensional Drawing

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## Standard Features

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- Embossed aluminum housing
- Enhanced copper tube and aluminum fin coil construction
- Sweat connections
- Thermal overload protection
- High efficiency fan guard design and deep draw venturi
- Heavy-duty fans are balanced for vibration-free operation
- Fan sections are baffled to prevent short cycling of air
- Slide out end panels
- Removable drain pan
- Mounts flush to the ceiling
- Top pan includes 1/2" wide slotted mounting points
- UL/cUL certified for use with multiple refrigerants
- NSF approved for use in food preparation areas

## Certifications

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