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LOW VELOCITY CENTER MOUNT UNIT COOLER

Small to Medium Walk-In
Cooler Applications

Air and Electric Defrost
4,300 to 32,500 BTUH



LOW VELOCITY CENTER MOUNT

Features

Low Velocity Center Mount Unit Coolers mount flush to the ceiling to provide extra storage space. Units are ideal for florist boxes; produce storage; meat cutting, holding and packing rooms; and similar applications. Features include two-way air flow to provide for even circulation and temperature, easy serviceability, usability with multiple refrigerants, and are available in air and electric defrost models.

SIZES

There are a wide array of sizes available with capacities ranging from 4,300 to 32,500 BTUH at a 10°TD. One through five fan models are available with air flow spanning a range of 632 to 3,160 CFM.

HOUSING

The embossed aluminum casing is lightweight yet durable. Each fan section is baffled to prevent short cycling of the discharge air. The units are designed to mount flush to the ceiling and are compliant with NSF requirements. Top pan contains 3/8" mounting holes to simplify installation. The housing is sloped to provide more efficient condensate draining. An uniquely shaped control access cover allows for easy access for service in confined spaces.

COIL

Copper hairpins consist of high efficiency 3/8" enhanced copper tubes which are staggered and mechanically expanded into corrugated aluminum fins achieving maximum heat transfer while reducing refrigerant charge. Die formed fin collars provide even fin spacing. Medium temperature models are available with 6 fins per inch (FPI). Sweat connections are standard on all models.

FANS

Aluminum 12" fans are balanced to provide vibration-free operation. Improved black plastic fan guard design and deep draw venturi achieve optimal air pattern. Fan motors and blades can be easily accessed by removing the fan guard.

MOTORS

Standard models feature highly efficient Electronically Commutated (EC) motors that can be field or factory wired for dual speed. Dual Speed EC motors are available for 115V or 208/230V and are compliant with California Title 24 regulations. All motors include thermal overload protection.

ELECTRICAL

Available for 115V, and 208/230V. All components are factory wired to terminal strips and are UL and cUL listed.

AIR DEFROST

Air Defrost models (RV6A) are designed for use in coolers down to 35°F.

ELECTRIC DEFROST

Electric Defrost models (RV6E) are designed for use in coolers and freezers down to 28°F.

Optional Features

- EcoNet® Enabled Controller¹ factory-installed
- EcoNet® Command Center (loose)
- Thermostat - Mechanical or Electric (mounted or loose)
- Thermostatic Expansion Valve (mounted or loose)
- Electronic Expansion Valve (mounted or loose)
- Liquid Line Solenoid Valve (mounted or loose)
- Insulated Drain Pan
- Painted Cabinet (White or Black)
- Coated Cabinet
- Stainless Steel Cabinet
- Coated Coil (Russproof, Heresite Bronz-Glow, or Electrofin®)
- Heat Exchanger (loose)

Notes

1. EcoNet Control Package includes: EEV; suction pressure transducer; suction, entering air coil temp. thermistors; local on-board two-row LCD display and push-button adjustments. (Controller replaces TXV, liquid line solenoid valve, room thermostat, defrost termination and fan delay, and time clock.)

MODEL NUMBER NOMENCLATURE

CONFIGURABLE BASE MODEL

R	V	6	A	043	A	D	A
Brand	Style	Fins Per Inch	Defrost Type	BTUH in Hundreds	Unit Voltage [^]	Motor Type	Revision
R - Russell	V - Low Velocity Center Mount	6 FPI	A - Air E - Electric		A - 115/1/60 D - 208-230/1/60	E - Single Speed EC D - Dual Speed EC	

Note

[^] 50 Hz available. Contact Factory for additional information.

UNIT COOLER

Highlighted Features and Options



FANS AND HOUSING

- Extra low height — mounts flush to ceiling
- Two-way air flow for even air circulation and consistent temperature
- 12" aluminum fans are balanced for vibration-free operation
- High efficiency fan guard design and deep draw venturi provide optimal air flow
- Easy access to fan motors
- Sloped housing for efficient condensate draining
- UL and NSF approved



COILS AND DEFROST HEATERS

- Available in 6 FPI
- Electric defrost heaters are mounted on the air intake coil face to provide optimal performance and are easily accessible by removing the venturi panel
- Independent defrost termination on each coil slab for efficient defrosting
- Independent drain pan per coil

ECONET ENABLED UNIT COOLERS (Optional)

Developed in conjunction with Rheem Manufacturing specifically for walk-in coolers and freezers — it builds on the reliability and efficiency of Rheem's EcoNet technology.



- Saves energy in refrigeration systems through precise superheat and space temperature control, fan cycling, and controlling how often the system goes into defrost based on compressor runtime
 - Eliminates unnecessary defrosts
 - Maximizes energy efficiency with less compressor runtime
 - Reduces fan speed to 50% during off cycle for energy savings
- Can be used with a condensing unit in single and multiple evaporator installations as a group
- Optional **EcoNet Command Center** with intuitive graphical interface controls up to 32 devices (including the Command Center) through one display, provides continuous communication between system components, and the remote mount display allows for EcoNet Enabled Unit Coolers to be programmed, monitored and troubleshot outside of the space being cooled

ELECTRICAL AND PIPING



Unit shown with EcoNet option installed

- Unique design of control access cover allows for service in confined spaces
- Ample room in electrical and piping compartments for easy access

LOW VELOCITY CENTER MOUNT

Performance and Electrical Data - Air Defrost Models

	Model Number	BTUH Capacity @ 25°F S.T. & 10°F T.D		CFM	No. of Fans	Total Fan Motor AMPS - 1 Phase		MCA		MOPD	
		R404A	R407A/ R448A/ R449A/B^			Single and Dual Speed EC Motors†					
						115V	208-230V	115V	208-230V	115V	208-230V
6 FPI	RV6A043**A	4,300	5,100	654	1	0.8	0.5	15.0	15.0	20.0	20.0
	RV6A053**A	5,300	6,300	632	1	0.8	0.5	15.0	15.0	20.0	20.0
	RV6A085**A	8,500	10,100	1,308	2	1.6	1.0	15.0	15.0	20.0	20.0
	RV6A106**A	10,600	12,600	1,264	2	1.6	1.0	15.0	15.0	20.0	20.0
	RV6A129**A	12,900	15,300	1,962	3	2.4	1.5	15.0	15.0	20.0	20.0
	RV6A158**A	15,800	18,800	1,896	3	2.4	1.5	15.0	15.0	20.0	20.0
	RV6A176**A	17,600	20,800	2,616	4	3.2	2.0	15.0	15.0	20.0	20.0
	RV6A218**A	21,800	26,000	2,528	4	3.2	2.0	15.0	15.0	20.0	20.0
	RV6A271**A	27,100	32,500	3,160	5	4.0	2.5	15.0	15.0	20.0	20.0

Performance and Electrical Data - Electric Defrost Models

	Model Number	BTUH Capacity @ 25°F S.T. & 10°F TD		CFM	No. of Fans	208-230V/1				
		R404A	R407A/ R448A/ R449A/B^			Single and Dual Speed EC Motors†	MCA		MOPD	
							Total Fan Motor AMPS	Base Model	EcoNet Enabled	Base Model
6 FPI	RV6E043D*A	4,300	5,100	654	1	0.5	15.0	15.0	20.0	20.0
	RV6E053D*A	5,300	6,300	632	1	0.5	15.0	15.0	20.0	20.0
	RV6E085D*A	8,500	10,100	1,308	2	1.0	15.0	15.0	20.0	20.0
	RV6E106D*A	10,600	12,600	1,264	2	1.0	15.0	15.0	20.0	20.0
	RV6E129D*A	12,900	15,300	1,962	3	1.5	15.0	15.0	20.0	20.0
	RV6E158D*A	15,800	18,800	1,896	3	1.5	15.0	15.0	20.0	20.0
	RV6E176D*A	17,600	20,800	2,616	4	2.0	15.0	15.0	20.0	20.0
	RV6E218D*A	21,800	26,000	2,528	4	2.0	15.0	15.0	20.0	20.0
	RV6E271D*A	27,100	32,500	3,160	5	2.5	15.0	15.0	20.0	20.0

	Model Number	Heater Amps	Heater Watts
		230V/1	
6 FPI	RV6E043D*A	2.6	600
	RV6E053D*A	2.6	600
	RV6E085D*A	5.2	1,200
	RV6E106D*A	5.2	1,200
	RV6E129D*A	7.8	1,800
	RV6E158D*A	7.8	1,800
	RV6E176D*A	7.8	1,800
	RV6E218D*A	10.4	2,400
	RV6E271D*A	13.0	3,000

Consult Factory for 50Hz Operation

* Each asterisk represents a variable character based on voltage and motor ordered. See page 2 for nomenclature.

[^] Standard rating based on R407A refrigerant with 100°F liquid temperature. Consult factory for other conditions.

[†] These Electronically Commutated (EC) Motors are not available for 460V. EC Motors can be field or factory wired for dual-speed operation. Dual-speed EC motors are compliant with California Title 24 regulations.

Energy Independence and Security Act of 2007 specifies that walk-in coolers and freezers under 3,000 square feet that are manufactured after January 1, 2009 shall have evaporators with EC motors when they are single phase, less than 460 volt and less than 1 HP.

UNIT COOLER

Distributor Nozzle - All Models

Model Number		Part Numbers						Number of Circuits
Air Defrost	Electric Defrost	Nozzle @ Liq. Temp.		TXV^ @ Liq. Temp.		EEV @ Liq. Temp.		
		50°F	100°F	50°F	100°F	50°F	100°F	

R404A

6 FPI	RV6A043**A	RV6E043D*A	L, #1/6	L, #1/2	SBFSE-AA-C	SBFSE-AA-C	SER-AA	SER-A	2
	RV6A053**A	RV6E053D*A	L, #1/6	L, #1/2	SBFSE-AA-C	SBFSE-AA-C	SER-AA	SER-A	2
	RV6A085**A	RV6E085D*A	L, #1/4	L, #3/4	SBFSE-A-C	SBFSE-A-C	SER-A	SER-B	2
	RV6A106**A	RV6E106D*A	L, #1/3	L, #1	SBFSE-A-C	SBFSE-A-C	SER-A	SER-B	4
	RV6A129**A	RV6E129D*A	L, #1/2	L, #1-1/2	SBFSE-A-C	SBFSE-B-C	SER-B	SER-B	6
	RV6A158**A	RV6E158D*A	L, #1/2	L, #1-1/2	SBFSE-A-C	SBFSE-B-C	SER-B	SER-B	6
	RV6A176**A	RV6E176D*A	L, #3/4	L, #2	SBFSE-A-C	SBFSE-B-C	SER-B	SER-C	6
	RV6A218**A	RV6E218D*A	L, #3/4	L, #2	SBFSE-B-C	SBFSE-C-C	SER-B	SER-C	8
	RV6A271**A	RV6E271D*A	G, #1	G, #2-1/2	SBFSE-B-C	SBFSE-C-C	SER-C	SER-C	12

R407A/ R448A/ R449A/B[†]

6 FPI	RV6A043**A	RV6E043D*A	L, #1/6	L, #1/2	SBFDE-AAA-C	SBFDE-AA-C	SER-AA	SER-AA	2
	RV6A053**A	RV6E053D*A	L, #1/4	L, #1/2	SBFDE-AA-C	SBFDE-AA-C	SER-AA	SER-A	2
	RV6A085**A	RV6E085D*A	L, #1/3	L, #3/4	SBFDE-AA-C	SBFDE-A-C	SER-A	SER-A	2
	RV6A106**A	RV6E106D*A	L, #1/2	L, #1	SBFDE-A-C	SBFDE-A-C	SER-A	SER-B	4
	RV6A129**A	RV6E129D*A	L, #1/2	L, #1-1/2	SBFDE-A-C	SBFDE-A-C	SER-A	SER-B	6
	RV6A158**A	RV6E158D*A	L, #3/4	L, #1-1/2	SBFDE-A-C	SBFDE-B-C	SER-B	SER-B	6
	RV6A176**A	RV6E176D*A	L, #3/4	L, #2	SBFDE-A-C	SBFDE-B-C	SER-B	SER-B	6
	RV6A218**A	RV6E218D*A	L, #1	L, #2	SBFDE-B-C	SBFDE-B-C	SER-B	SER-C	8
	RV6A271**A	RV6E271D*A	G, #1	G, #2-1/2	SBFDE-B-C	SBFDE-C-C	SER-C	SER-C	12

Distributor lines are 3/16" diameter and 14" long. Distributor connection size is 1/2" for electric defrost models with "L" nozzle and 7/8" for models with "G" nozzle.

* Each asterisk represents a variable character based on voltage and motor ordered. See page 2 for nomenclature.

– Single feed circuit coils do not get a distributor/nozzle.

[^] TXV selections are based on +25°F suction temp., 8°F to 12°F evaporator TD. Contact factory for operating conditions outside of this range.

[†] SBFDE expansion valves are compatible with R407A, R448A and R449A/B. For other valves, follow manufacturers selection guidelines.

If unit is not configured with a factory installed TXV, unit will include shipped-loose nozzles sized for 100°F liquid temperature.



Applications

LOW VELOCITY CENTER MOUNT

Specifications

Model Number		TXV† Type	Refrigerant Connections		No. of Hanger Slot Locations	Dimensions (Inches)				Approx. Weight (Lbs.)		
Air Defrost	Electric Defrost		Liquid Line¹	Suction		Length	Width	Height	Figure	Net	Ship	
6 FPI	RV6A043**A	RV6E043D*A	EXT	3/8	5/8	2	32	28-3/8	13-3/4	1	60	195
	RV6A053**A	RV6E053D*A	EXT	3/8	5/8	2	32	28-3/8	13-3/4	1	60	195
	RV6A085**A	RV6E085D*A	EXT	3/8	5/8	3	52	28-3/8	13-3/4	2	80	115
	RV6A106**A	RV6E106D*A	EXT	3/8	5/8	3	52	28-3/8	13-3/4	2	80	215
	RV6A129**A	RV6E129D*A	EXT	3/8	7/8	4	72	28-3/8	13-3/4	3	100	235
	RV6A158**A	RV6E158D*A	EXT	3/8	7/8	4	72	28-3/8	13-3/4	3	100	235
	RV6A176**A	RV6E176D*A	EXT	3/8	7/8	5	92	28-3/8	13-3/4	4	125	285
	RV6A218**A	RV6E218D*A	EXT	3/8	7/8	5	92	28-3/8	13-3/4	4	125	285
	RV6A271**A	RV6E271D*A	EXT	3/8	1-1/8	6	112	28-3/8	13-3/4	5	155	340

* Each asterisk represents a variable character based on voltage and motor ordered. See page 2 for nomenclature.

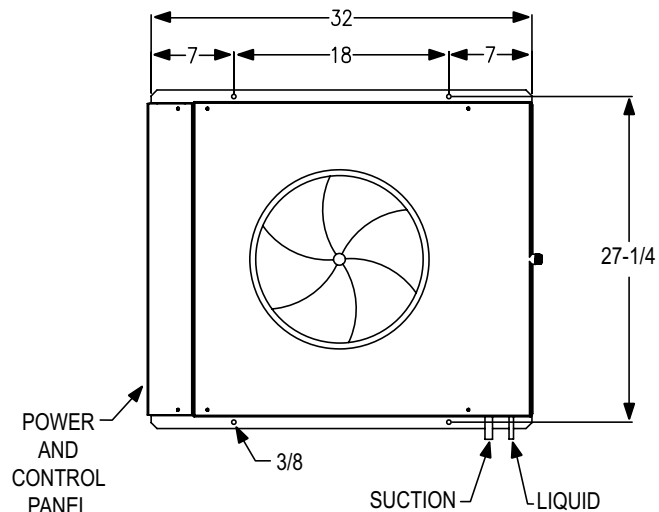
† Externally equalized.

1 For units with mounted TXV components. See Nozzle/TXV table for distributor connection size when TXV is field installed.

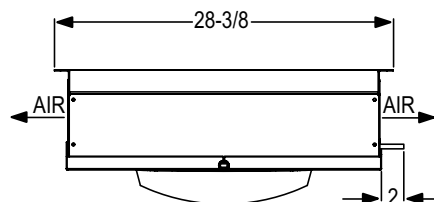
Physical Dimensions

Figure 1 - Single Fan

Bottom View



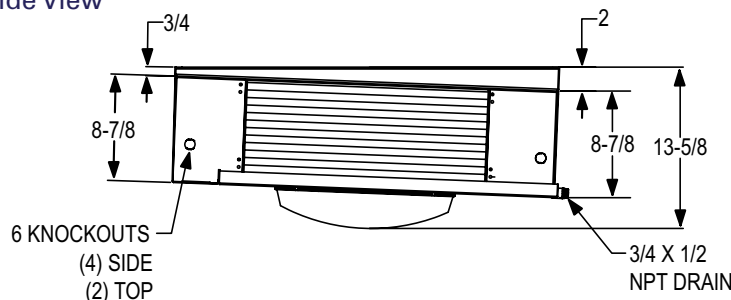
End View



Notes:

- Measurements noted on the end view drawing are the same for all units.
- All mounting holes are 3/8" diameter.
- Mounting holes on four and five fan units are located 20" on center at each tube sheet.
- All dimensions are in inches.

Side View

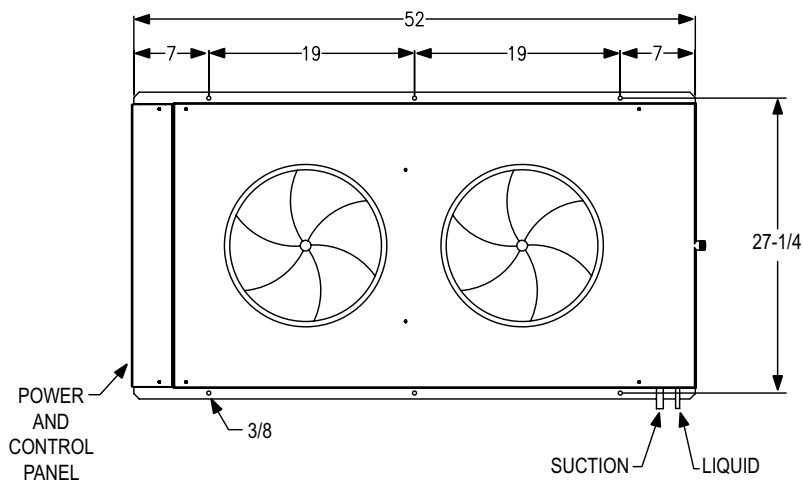


UNIT COOLER

Physical Dimensions

Figure 2 - Two Fan

Bottom View



Side View

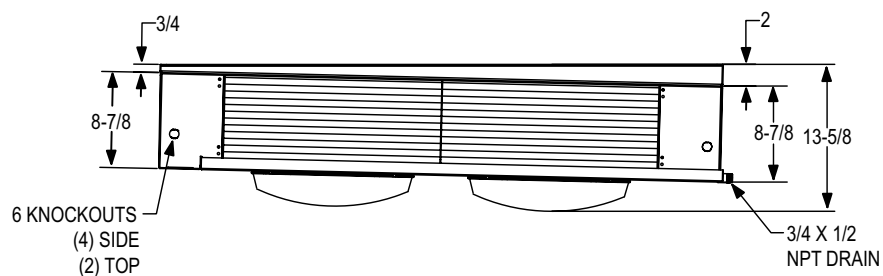
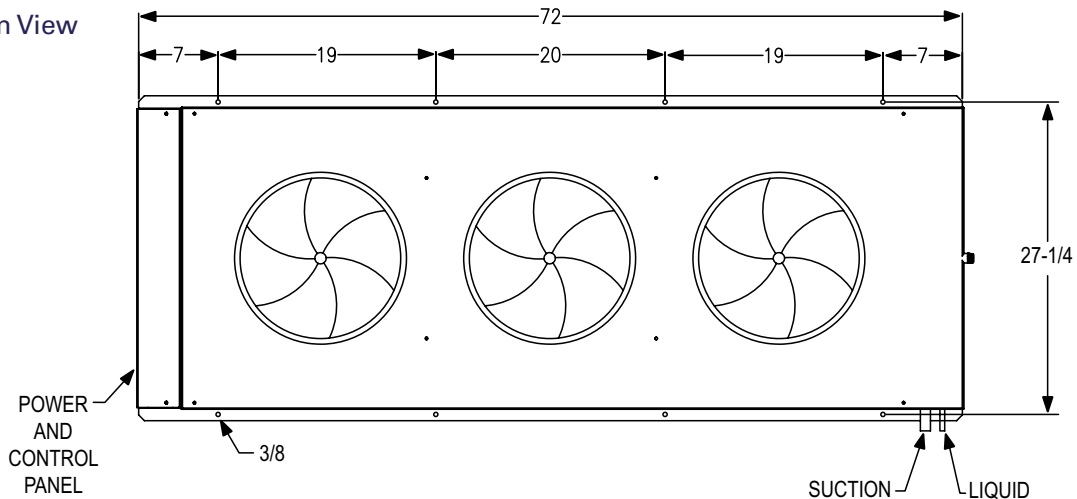
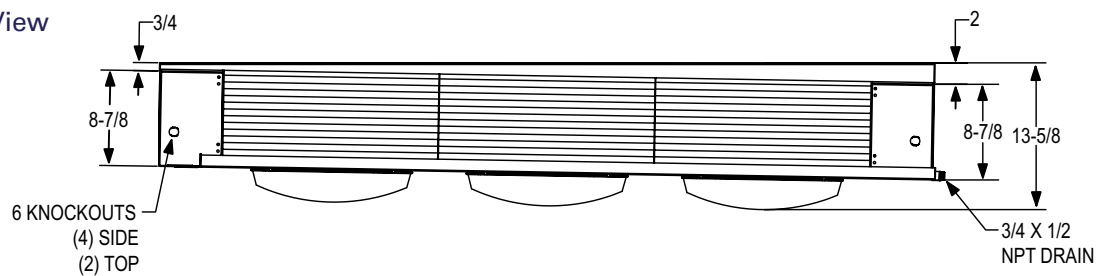


Figure 3 - Three Fan

Bottom View



Side View

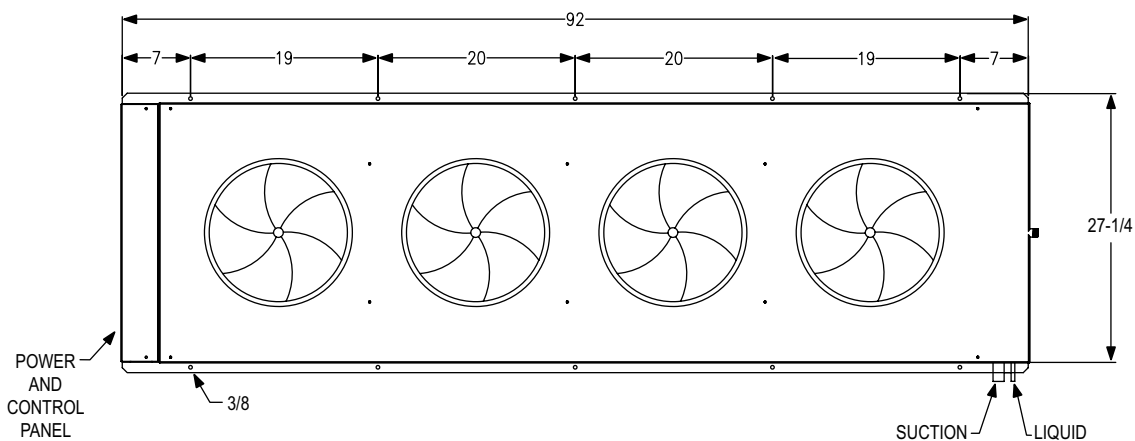


LOW VELOCITY CENTER MOUNT

Physical Dimensions

Figure 4 - Four Fan

Bottom View



Side View

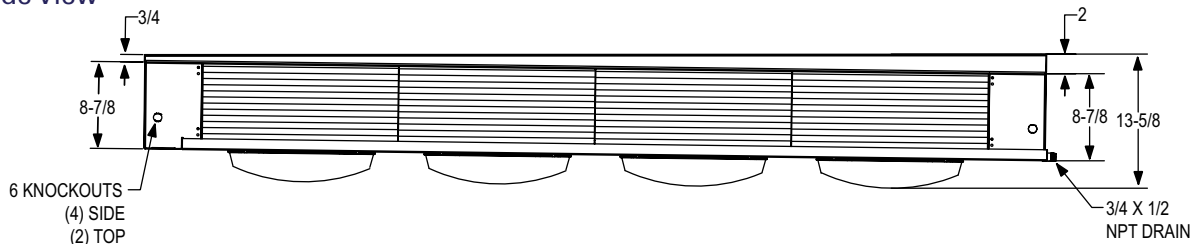
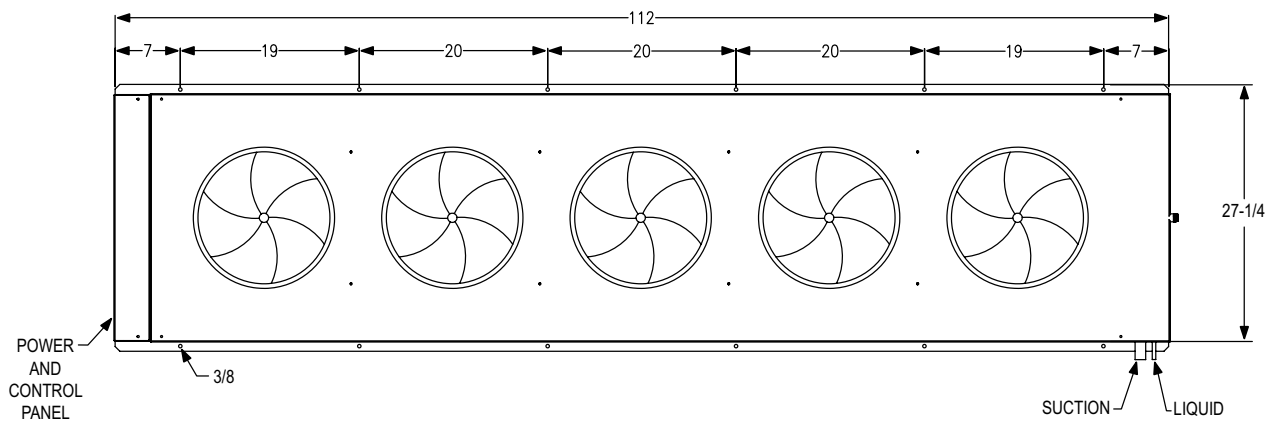
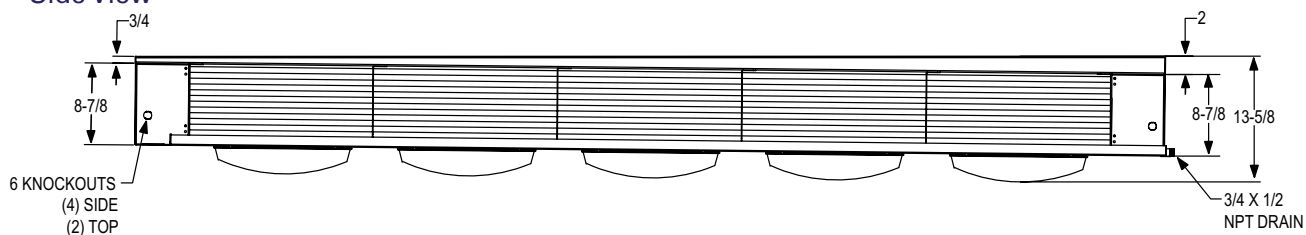


Figure 5 - Five Fan

Bottom View



Side View



Due to continuing product development, specifications are subject to change without notice.