KRAMER

A2L

CENTER MOUNT
UNIT COOLER

Walk-Ins: Small to Medium Cooler and Freezer Applications

Air Defrost

5,100 to 31,600 BTUH

Electric Defrost

4,500 to 33,700 BTUH

FEATURES

Center Mount Unit Coolers are designed for use in walk-in coolers and freezers with very low headroom clearance. Units mount flush to the ceiling to provide extra storage space. Features include two-way air flow to provide 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 4,500 to 33,700 BTUH at a 10° TD. One through five fan models are available with air flow spanning a range of 572 to 3,150 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 panel contains 3/8" mounting holes to simplify installation. The housing is sloped to provide more efficient condensate draining. A 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) and low temperature models with 6 and 4 FPI. Sweat connections are standard on all models.

MOTORS

Standard models feature highly efficient Dual Speed Electronically Commutated (EC) motors. Available for 115V or 208-230V/1 and are compliant with California Title 24 regulations. All motors include thermal overload protection.

FANS AND FAN GUARDS

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.

REFRIGERANTS

Center Mount Unit Coolers are optimized for multiple A2L refrigerants including R454A, R454C, and R455A. Please specify the refrigerant requirements when ordering. A separate compartment is provided for all refrigerant connections which allows for internal mounting of expansion valves.

AIR DEFROST

Air Defrost models are designed for use in coolers down to 35°F. All Air Defrost models are 6 FPI.

ELECTRIC DEFROST

Electric Defrost 6 FPI models are designed for use in coolers and freezers down to -10°F and 4 FPI models are designed for use in freezers between 32°F to -10°F.

ELECTRICAL

Available for 115V and 208-230V/1. All components are factory wired to terminal strips and are UL and cUL listed.

OPTIONAL FEATURES

- EcoNet® Enabled Controller[1] (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)
- Solenoid Shut Off Valve (SSOV) in place Liquid Line Solenoid Available Loose for field installation.
- Insulated Drain Pan
- Painted Cabinet (White or Black)
- Stainless Steel Cabinet
- Coated Coil (Russproof, Heresite, Bronz-Glow, or Electrofin®)

MODEL NOMENCLATURE

K	A	E	6	A	045	A	D	A
Brand	Refrigerant Class	Style	Fins per Inch (FPI)	Defrost Type	BTUH by Hundreds	Unit Voltage^	Motor Type	Vintage
K = Kramer	A2L	E = Center Mount	4 FPI 6 FPI	A = Air E = Electric	XXX	A =115/1/60 D =208-230/1/60	D = Dual Speed EC	A

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.) EcoNet approved refrigerants are: RR454A, R454C, R455A.

^50 Hz available. Contact Factory for additional information.

2019 DEALER DESIGN AWARDS
RSNEWS GOLD
GOLD AWARD WINNER

ECONET® ENABLED UNIT COOLERS (OPTIONAL)

Developed in conjunction with Rheem Manufacturing specifically for walk-in coolers and freezers – it builds in 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.

APPLICATION RATING & ELECTRICAL DATA

AIR DEFROST MODELS

	Model No.	BTUH Capacity @ 25°F ST & 10TD	CFM	No. of Fans	115V/1			208-230V/1		
		R454A,R454C R455A			Total Fan Amps	MCA	MOPD	Total Fan Amps	MCA	MOPD
6 FPI	KAE6A051*DA	5,100	572	1	0.8	15.0	20	0.5	15.0	20
	KAE6A085*DA	8,500	1,204	2	1.6	15.0	20	1.0	15.0	20
	KAE6A103*DA	10,300	1,144	2	1.6	15.0	20	1.0	15.0	20
	KAE6A128*DA	12,800	1,806	3	2.4	15.0	20	1.5	15.0	20
	KAE6A157*DA	15,700	1,716	3	2.4	15.0	20	1.5	15.0	20
	KAE6A173*DA	17,300	2,408	4	3.2	15.0	20	2.0	15.0	20
	KAE6A207*DA	20,700	2,288	4	3.2	15.0	20	2.0	15.0	20
	KAE6A249*DA	24,900	2,860	5	4.0	15.0	20	2.5	15.0	20
	KAE6A316*DA	31,600	3,150	5T	4.0	15.0	20	2.5	15.0	20

*Asterisks represents variable character based on voltage ordered. See nomenclature page for details.
Dual Speed EC Motors include thermal overload protection

APPLICATION RATING & ELECTRICAL DATA

ELECTRIC DEFROST MODELS

	Model No.	BTUH Capacity @ -20°F ST & 10TD	CFM	No. of Fans	208-230V/1						
		R454A,R454C R455A			Total Fan Amps	Base Model		Econet Enabled		Heater Amps	Heater Watts
						MCA	MOPD	MCA	MOPD		
6 FPI	KAE6E045DDA	4,500	602	1	0.5	15.0	20.0	15.0	20.0	3.3	750
	KAE6E054DDA	5,400	572	1	0.5	15.0	20.0	15.0	20.0	3.3	750
	KAE6E090DDA	9,000	1, 204	2	1.0	15.0	20.0	15.0	20.0	6.5	1,500
	KAE6E107DDA	10,700	1,144	2	1.0	15.0	20.0	15.0	20.0	6.5	1,500
	KAE6E129DDA	12,900	1,806	3	1.5	15.0	20.0	15.0	20.0	9.8	2,250
	KAE6E149DDA	14,900	1,716	3	1.5	15.0	20.0	15.0	20.0	9.8	2,250
	KAE6E160DDA	16,000	2,408	4	2.0	15.0	20.0	18.8	20.0	13.0	3,000
	KAE6E217DDA	21,700	2,288	4	2.0	15.0	20.0	18.8	20.0	13.0	3,000
	KAE6E265DDA	26,500	2,860	5	2.5	15.0	20.0	22.4	25.0	16.3	3,750
	KAE6E337DDA	33,700	3,150	5T	2.5	15.0	20.0	33.0	35.0	24.4	5,620
4 FPI	KAE4E043DDA	4,500	572	1	0.5	15.0	20.0	15.0	20.0	3.3	750
	KAE4E087DDA	9,000	1,144	2	1.0	15.0	20.0	15.0	20.0	6.5	1,500
	KAE4E127DDA	12,700	1,716	3	1.5	15.0	20.0	15.0	20.0	9.8	2,250
	KAE4E183DDA	18,300	2,288	4	2.0	15.0	20.0	18.8	20.0	13.0	3,000
	KAE4E222DDA	22,200	2,860	5	2.5	15.0	20.0	22.4	25.0	16.3	3,750
	KAE4E283DDA	28,300	3,150	5T	2.5	15.0	20.0	33	35.0	24.4	5,620

Dual Speed EC Motors include thermal overload protection.
208-230 ratings include 2 AMP for controls on Econet Enabled units.
1 AMP Minimum allowed for Econet control circuit

Capacity Correction for Electric Defrost Evaporators				
S.S.T. (Dew)	20	0	-10	-20
Multiply Capacity by:	1.15	1.075	1.0375	1

Econet Enabled units are not powered by the condensing unit so defrost heaters are incorporated into shown MCA/MOPD.

DISTRIBUTOR NOZZLE AND EXPANSION VALVES SELECTIONS

AIR DEFROST MODELS

	Model No.	Part Numbers						No. of Circuits
		Nozzle @ Liquid Temp		TXV @ Liquid Temp		EEV @ Liquid Temp		
		50°F	100°F	50°F	100°F	50°F	100°F	
6 FPI - R454A	KAE6A051*DA	1/6, TYPE L	1/2,TYPE L	SBFTE-AAA-C	SBFTE-AA-C	SER-AA	SER-AA	2
	KAE6A085*DA	1/4,TYPE L	3/4,TYPE L	SBFTE-AA-C	SBFTE-AA-C	SER-A	SER-A	2
	KAE6A103*DA	1/3, TYPE L	3/4,TYPE L	SBFTE-AA-C	SBFTE-A-C	SER-A	SER-A	2
	KAE6A128*DA	1/3, TYPE L	1, TYPE L	SBFTE-A-C	SBFTE-A-C	SER-A	SER-A	4
	KAE6A157*DA	1/2,TYPE L	1-1/2, TYPE L	SBFTE-A-C	SBFTE-A-C	SER-A	SER-B	4
	KAE6A173*DA	1/2,TYPE L	1-1/2, TYPE L	SBFTE-A-C	SBFTE-A-C	SER-A	SER-B	4
	KAE6A207*DA	3/4,TYPE L	1-1/2, TYPE L	SBFTE-A-C	SBFTE-B-C	SER-A	SER-B	4
	KAE6A249*DA	3/4,TYPE L	2, TYPE L	SBFTE-B-C	SBFTE-B-C	SER-B	SER-B	8
	KAE6A316*DA	1, TYPE L	2-1/2, TYPE L	SBFTE-B-C	SBFTE-B-C	SER-B	SER-C	6
6 FPI - R454C	KAE6A051*DA	1/6, TYPE L	1/2,TYPE L	SBFVE-AA-C	SBFVE-AA-C	SER-AA	SER-AA	2
	KAE6A085*DA	1/4,TYPE L	3/4,TYPE L	SBFVE-AA-C	SBFVE-A-C	SER-A	SER-A	2
	KAE6A103*DA	1/3, TYPE L	1, TYPE L	SBFVE-A-C	SBFVE-A-C	SER-A	SER-A	2
	KAE6A128*DA	1/2,TYPE L	1-1/2, TYPE L	SBFVE-A-C	SBFVE-A-C	SER-A	SER-B	4
	KAE6A157*DA	1/2,TYPE L	1-1/2, TYPE L	SBFVE-A-C	SBFVE-B-C	SER-B	SER-B	4
	KAE6A173*DA	3/4,TYPE L	1-1/2, TYPE L	SBFVE-A-C	SBFVE-B-C	SER-B	SER-B	4
	KAE6A207*DA	3/4,TYPE L	2, TYPE L	SBFVE-B-C	SBFVE-B-C	SER-B	SER-B	4
	KAE6A249*DA	1, TYPE L	2-1/2, TYPE L	SBFVE-B-C	SBFVE-B-C	SER-B	SER-C	8
	KAE6A316*DA	1, TYPE L	3, TYPE L	SBFVE-B-C	SBFVE-C-C	SER-C	SER-C	6
6 FPI - R455A	KAE6A051*DA	1/4,TYPE L	1/2,TYPE L	SBFVE-AA-C	SBFVE-AA-C	SER-AA	SER-AA	2
	KAE6A085*DA	1/3, TYPE L	3/4,TYPE L	SBFDE-AA-C	SBFVE-A-C	SER-A	SER-A	2
	KAE6A103*DA	1/2,TYPE L	1, TYPE L	SBFVE-A-C	SBFVE-A-C	SER-A	SER-A	2
	KAE6A128*DA	1/2,TYPE L	1-1/2, TYPE L	SBFVE-A-C	SBFVE-A-C	SER-A	SER-B	4
	KAE6A157*DA	3/4,TYPE L	1-1/2, TYPE L	SBFVE-A-C	SBFVE-B-C	SER-B	SER-B	4
	KAE6A173*DA	3/4,TYPE L	1-1/2, TYPE L	SBFVE-A-C	SBFVE-B-C	SER-B	SER-B	4
	KAE6A207*DA	1, TYPE L	2, TYPE L	SBFVE-B-C	SBFVE-B-C	SER-B	SER-B	4
	KAE6A249*DA	1, TYPE L	2-1/2, TYPE L	SBFVE-B-C	SBFVE-B-C	SER-B	SER-C	8
	KAE6A316*DA	1-1/2,TYPE L	3, TYPE L	SBFVE-B-C	SBFVE-C-C	SER-C	SER-C	6

The Distributor lines are 3/16" diameter and 18" long.
*Asterisk represents a variable character based on voltage order. See nomenclature page for details.
Expansion valve selections based on +25 Suction Temp and 8°F to 12°F evaporator TD. Contact factory for operating conditions outside this range.
SBFTE Expansion valves are compatible with R454A refrigerant. SBFVE Expansion valves are compatible with R454C and R455A refrigerants.
For other valves, follow manufacturer's selection guidelines.
Base models (with no factory-mounted components) include nozzle sized for 100°F liquid, shipped loose.

LOOSE COMPONENTS REQUIRED FOR A2L ISOLATION CONTROLS

Amin (MINIMUM ALLOWABLE ROOM SIZE) VALUES // AIR DEFROST MODELS

	Model No.	Amin Values (Ft2)					Loose SSOV Isolation Valve @ Liquid Temp			Loose CSOV Isolation CV	
		10 Ft Line Run	20 Ft Line Run	30 Ft Line Run	40 Ft Line Run	50 Ft Line Run	Size	50°F	100°F	Size	Description
6 FPI - R454A	KAE6A051*DA	20	26	31	37	43	3/8	SSOV3S130	SSOV3S130	5/8	CSOV-5S
	KAE6A085*DA	23	29	34	40	46	3/8	SSOV3S130	SSOV3S130	5/8	CSOV-5S
	KAE6A103*DA	26	32	38	44	50	3/8	SSOV3S130	SSOV3S130	7/8	CSOV-7S
	KAE6A128*DA	28	34	40	46	52	3/8	SSOV3S130	SSOV6S130	7/8	CSOV-7S
	KAE6A157*DA	33	39	45	51	57	3/8	SSOV3S130	SSOV6S130	7/8	CSOV-7S
	KAE6A173*DA	33	39	45	51	57	3/8	SSOV3S130	SSOV6S130	7/8	CSOV-7S
	KAE6A207*DA	39	45	51	57	63	3/8	SSOV6S130	SSOV6S130	7/8	CSOV-7S
	KAE6A249*DA	51	63	74	86	97	1/2	SSOV6S140	SSOV6S140	1-1/8	CSOV-9S
	KAE6A316*DA	67	78	90	101	113	1/2	SSOV6S140	SSOV6S140	1-1/8	CSOV-9S
6 FPI - R454C	KAE6A051*DA	19	25	30	36	41	3/8	SSOV3S130	SSOV3S130	5/8	CSOV-5S
	KAE6A085*DA	22	28	33	39	44	3/8	SSOV3S130	SSOV3S130	5/8	CSOV-5S
	KAE6A103*DA	25	31	37	43	48	3/8	SSOV3S130	SSOV3S130	7/8	CSOV-7S
	KAE6A128*DA	27	33	38	44	50	3/8	SSOV3S130	SSOV6S130	7/8	CSOV-7S
	KAE6A157*DA	32	38	43	49	55	3/8	SSOV3S130	SSOV6S130	7/8	CSOV-7S
	KAE6A173*DA	32	38	43	49	55	3/8	SSOV6S130	SSOV6S130	7/8	CSOV-7S
	KAE6A207*DA	38	43	49	55	61	3/8	SSOV6S130	SSOV6S130	7/8	CSOV-7S
	KAE6A249*DA	50	61	72	83	94	1/2	SSOV6S140	SSOV6S140	1-1/8	CSOV-9S
	KAE6A316*DA	64	76	87	98	109	1/2	SSOV6S140	SSOV6S140	1-1/8	CSOV-9S
6 FPI - R455A	KAE6A051*DA	18	23	28	33	38	3/8	SSOV3S130	SSOV3S130	5/8	CSOV-5S
	KAE6A085*DA	20	25	30	35	40	3/8	SSOV3S130	SSOV3S130	5/8	CSOV-5S
	KAE6A103*DA	23	28	34	39	44	3/8	SSOV3S130	SSOV3S130	7/8	CSOV-7S
	KAE6A128*DA	24	30	35	40	46	3/8	SSOV3S130	SSOV6S130	7/8	CSOV-7S
	KAE6A157*DA	29	34	40	45	50	3/8	SSOV3S130	SSOV6S130	7/8	CSOV-7S
	KAE6A173*DA	29	34	40	45	50	3/8	SSOV6S130	SSOV6S130	7/8	CSOV-7S
	KAE6A207*DA	34	40	45	50	55	3/8	SSOV6S130	SSOV6S130	7/8	CSOV-7S
	KAE6A249*DA	45	55	66	76	86	1/2	SSOV6S140	SSOV6S140	1-1/8	CSOV-9S
	KAE6A316*DA	59	69	79	89	100	1/2	SSOV6S140	SSOV6S140	1-1/8	CSOV-9S

Solenoid Shut Off-Valves (SSOV) operate as double duty isolation/liquid line solenoid valve and are required to ship loose and be installed in the field, outside the refrigerated space.

*Asterisk represents a variable character based on voltage order. See nomenclature page for details.

SSOV/CSOV (Check Shut Off-Valves) Selection Criteria: Maximum 10 Foot Line Rise, 100 Foot Line Run, 1:1 Condensing Unit/Evaporator.

Contact applications for additional lengths or design considerations.

Amin values calculated using operating conditions included in UL 60335-2-89 101.DVU.1.2 and standard connection sizes (liquid and suction)

Amin values provided for 10 Ft, 20 Ft, 30 Ft, 40 Ft and 50 Ft line lengths. Contact applications for additional lengths or design considerations.

Amin values intended to determine compliance with UL 2-89 and is NOT for charging calculations.

DISTRIBUTOR NOZZLE AND EXPANSION VALVES SELECTIONS

ELECTRIC DEFROST MODELS

	Model No.	Part Numbers						No. of Circuits
		Nozzle @ Liquid Temp		TXV @ Liquid Temp		EEV @ Liquid Temp		
		50°F	100°F	50°F	100°F	50°F	100°F	
6 FPI - R454A	KAE6E045DDA	1/4,TYPE L	1/2,TYPE L	SBFTE-AA-Z	SBFTE-AA-Z	SER-AA	SER-AA	2
	KAE6E054DDA	1/3, TYPE L	3/4,TYPE L	SBFTE-AA-Z	SBFTE-AA-Z	SER-AA	SER-AA	2
	KAE6E090DDA	1/2,TYPE L	3/2, TYPE L	SBFTE-A-Z	SBFTE-A-Z	SER-A	SER-A	4
	KAE6E107DDA	3/4,TYPE L	3/2, TYPE L	SBFTE-A-Z	SBFTE-A-Z	SER-A	SER-A	4
	KAE6E129DDA	3/4,TYPE L	3/2, TYPE L	SBFTE-A-Z	SBFTE-B-Z	SER-A	SER-A	4
	KAE6E149DDA	1, TYPE L	2, TYPE L	SBFTE-A-Z	SBFTE-B-Z	SER-A	SER-B	4
	KAE6E160DDA	1, TYPE L	2, TYPE L	SBFTE-B-Z	SBFTE-B-Z	SER-A	SER-B	4
	KAE6E217DDA	1-1/2, TYPE L	1-1/2, TYPE L	SBFTE-B-Z	SBFTE-C-Z	SER-B	SER-B	8
	KAE6E265DDA	2, TYPE L	3, TYPE L	SBFTE-B-Z	SBFTE-C-Z	SER-B	SER-B	8
	KAE6E337DDA	1-1/2, TYPE G	4, TYPE G	SBFTE-C-Z	SBFTE-C-Z	SER-B	SER-C	12
6 FPI - R454C	KAE6E045DDA	1/3,TYPE L	3/4,TYPE L	SBFVE-AA-Z	SBFVE-AA-Z	SER-AA	SER-AA	2
	KAE6E054DDA	1/3,TYPE L	3/4,TYPE L	SBFVE-AA-Z	SBFVE-A-Z	SER-AA	SER-A	2
	KAE6E090DDA	3/4,TYPE L	1-1/2,TYPE L	SBFVE-A-Z	SBFVE-A-Z	SER-A	SER-A	4
	KAE6E107DDA	3/4,TYPE L	1-1/2,TYPE L	SBFVE-A-Z	SBFVE-B-Z	SER-A	SER-A	4
	KAE6E129DDA	1,TYPE L	2,TYPE L	SBFVE-A-Z	SBFVE-B-Z	SER-A	SER-B	4
	KAE6E149DDA	1,TYPE L	2,TYPE L	SBFVE-B-Z	SBFVE-B-Z	SER-A	SER-B	4
	KAE6E160DDA	1,TYPE L	2,TYPE L	SBFVE-B-Z	SBFVE-B-Z	SER-B	SER-B	4
	KAE6E217DDA	1-1/2,TYPE L	2-1/2,TYPE L	SBFVE-B-Z	SBFVE-C-Z	SER-B	SER-C	8
	KAE6E265DDA	2,TYPE L	4,TYPE L	SBFVE-C-Z	SBFVE-C-Z	SER-B	SER-C	8
	KAE6E337DDA	2-1/2,TYPE G	5,TYPE G	SBFVE-C-Z	SBFVE-C-Z	SER-C	SER-C	12
6 FPI - R455A	KAE6E045DDA	1/3,TYPE L	3/4,TYPE L	SBFVE-AA-Z	SBFVE-AA-Z	SER-AA	SER-AA	2
	KAE6E054DDA	1/2,TYPE L	3/4,TYPE L	SBFVE-AA-Z	SBFVE-A-Z	SER-AA	SER-A	2
	KAE6E090DDA	3/4,TYPE L	1-1/2,TYPE L	SBFVE-A-Z	SBFVE-A-Z	SER-A	SER-A	4
	KAE6E107DDA	3/4,TYPE L	1-1/2,TYPE L	SBFVE-A-Z	SBFVE-B-Z	SER-A	SER-A	4
	KAE6E129DDA	1,TYPE L	2,TYPE L	SBFVE-A-Z	SBFVE-B-Z	SER-A	SER-B	4
	KAE6E149DDA	1,TYPE L	2-1/2,TYPE L	SBFVE-B-Z	SBFVE-B-Z	SER-A	SER-B	4
	KAE6E160DDA	1-1/2,TYPE L	2-1/2,TYPE L	SBFVE-B-Z	SBFVE-B-Z	SER-B	SER-B	4
	KAE6E217DDA	2,TYPE L	3,TYPE L	SBFVE-B-Z	SBFVE-C-Z	SER-B	SER-B	8
	KAE6E265DDA	2,TYPE L	4,TYPE L	SBFVE-C-Z	SBFVE-C-Z	SER-B	SER-C	8
	KAE6E337DDA	3,TYPE G	5,TYPE G	SBFVE-C-Z	SBFVE-C-Z	SER-C	SER-C	12

The Distributor lines are 3/16" diameter and 18" long.
Expansion valve selections based on -20 Suction Temp and 8F to 12F evaporator TD. Contact factory for operating conditions outside this range.
Do not use pressure limiting TXV's when the condensing unit includes a CPR valve.
SBFTE Expansion valves are compatible with R454A refrigerant. SBFVE Expansion valves are compatible with R454C and R455A refrigerants.
For other valves, follow manufacturer's selection guidelines.
Base models (with no factory-mounted components) include nozzle sized for 100F liquid, shipped loose.

LOOSE COMPONENTS REQUIRED FOR A2L ISOLATION CONTROLS

AMIN (MINIMUM ALLOWABLE ROOM SIZE) VALUES // ELECTRIC DEFROST MODELS

	Model No.	A_{min} Values (Ft_2)					Loose SSOV Isolation Valve @ Liquid Temp			Loose CSOV Isolation CV	
		10 Ft Line Run	20 Ft Line Run	30 Ft Line Run	40 Ft Line Run	50 Ft Line Run	Size	50°F	100°F	Size	Description
6 FPI - R454A	KAE6E045DDA	18	24	29	35	41	3/8	SS0V3S130	SS0V3S130	7/8	CSOV-7S
	KAE6E054DDA	20	25	31	37	42	3/8	SS0V3S130	SS0V3S130	7/8	CSOV-7S
	KAE6E090DDA	23	29	35	40	46	3/8	SS0V3S130	SS0V3S130	7/8	CSOV-7S
	KAE6E107DDA	26	32	38	44	50	3/8	SS0V3S130	SS0V3S130	1-1/8	CSOV-9S
	KAE6E129DDA	28	33	39	45	51	3/8	SS0V3S130	SS0V3S130	1-1/8	CSOV-9S
	KAE6E149DDA	32	38	44	50	55	3/8	SS0V3S130	SS0V6S130	1-1/8	CSOV-9S
	KAE6E160DDA	32	38	44	49	55	3/8	SS0V3S130	SS0V6S130	1-1/8	CSOV-9S
	KAE6E217DDA	43	54	66	77	88	1/2	SSOV6S140	SSOV6S140	1-3/8	CSOV-11S
	KAE6E265DDA	50	61	72	83	95	1/2	SSOV6S140	SSOV6S140	1-3/8	CSOV-11S
	KAE6E337DDA	64	76	87	98	109	1/2	SSOV6S140	SSOV6S140	1-3/8	CSOV-11S
6 FPI - R454C	KAE6E045DDA	17	23	29	34	40	3/8	SS0V3S130	SS0V3S130	7/8	CSOV-7S
	KAE6E054DDA	19	24	30	36	41	3/8	SS0V3S130	SS0V3S130	7/8	CSOV-7S
	KAE6E090DDA	22	28	33	39	45	3/8	SS0V3S130	SS0V3S130	7/8	CSOV-7S
	KAE6E107DDA	25	31	37	43	48	3/8	SS0V3S130	SS0V3S130	1-1/8	CSOV-9S
	KAE6E129DDA	27	32	38	44	50	3/8	SS0V3S130	SS0V6S130	1-1/8	CSOV-9S
	KAE6E149DDA	31	37	42	48	54	3/8	SS0V6S130	SS0V6S130	1-1/8	CSOV-9S
	KAE6E160DDA	31	36	42	48	54	3/8	SS0V6S130	SS0V6S130	1-1/8	CSOV-9S
	KAE6E217DDA	42	53	64	74	85	1/2	SSOV6S140	SSOV6S140	1-3/8	CSOV-11S
	KAE6E265DDA	48	59	70	81	92	1/2	SSOV6S140	SSOV6S140	1-3/8	CSOV-11S
	KAE6E337DDA	62	73	84	95	106	1/2	SSOV6S140	SSOV6S140	1-3/8	CSOV-11S
6 FPI - R455A	KAE6E045DDA	16	21	26	31	36	3/8	SS0V3S130	SS0V3S130	7/8	CSOV-7S
	KAE6E054DDA	17	22	27	32	37	3/8	SS0V3S130	SS0V3S130	7/8	CSOV-7S
	KAE6E090DDA	20	26	31	36	41	3/8	SS0V3S130	SS0V3S130	7/8	CSOV-7S
	KAE6E107DDA	23	28	34	39	44	3/8	SS0V3S130	SS0V6S130	1-1/8	CSOV-9S
	KAE6E129DDA	24	30	35	40	45	3/8	SS0V3S130	SS0V6S130	1-1/8	CSOV-9S
	KAE6E149DDA	28	33	39	44	49	3/8	SS0V3S130	SS0V6S130	1-1/8	CSOV-9S
	KAE6E160DDA	28	33	38	44	49	3/8	SS0V6S130	SS0V6S130	1-1/8	CSOV-9S
	KAE6E217DDA	38	48	58	68	78	1/2	SSOV6S140	SSOV6S140	1-3/8	CSOV-11S
	KAE6E265DDA	44	54	64	74	84	1/2	SSOV6S140	SSOV6S140	1-3/8	CSOV-11S
	KAE6E337DDA	57	67	77	87	97	1/2	SSOV6S140	SSOV6S140	1-3/8	CSOV-11S

Solenoid Shut off valves (SSOV) operate as double duty isolation/liquid line solenoid valve and are required to ship loose and be installed in the field, outside the refrigerated space.
SSOV/CSOV (Check Shut Off-Valves) Selection Criteria: Maximum 10 Ft Line Rise, 100 Foot Line Run, 1:1 Condensing Unit/Evaporator.
Contact applications for additional lengths or design considerations.
Amin values calculated using operating conditions included in UL 60335-2-89 101.DVU.1.2 and standard connection sizes (liquid and suction).
Amin values provided for 10 Ft, 20 Ft, 30 Ft, 40 Ft and 50 Ft line lengths. Contact applications for additional lengths or design considerations.
Amin values intended to determine compliance with UL 2-89 and is NOT for charging calculations.

DISTRIBUTOR NOZZLE AND EXPANSION VALVES SELECTIONS

ELECTRIC DEFROST MODELS

	Model No.	Part Numbers						No. of Circuits
		Nozzle @ Liquid Temp		TXV @ Liquid Temp		EEV @ Liquid Temp		
		50°F	100°F	50°F	100°F	50°F	100°F	
4 FPI - R454A	KAE4E043DDA	1/4,TYPE L	1/2,TYPE L	SBFTE-AA-Z	SBFTE-AA-Z	SER-AA	SER-AA	2
	KAE4E087DDA	1/2,TYPE L	1-1/2,TYPE L	SBFTE-A-Z	SBFTE-A-Z	SER-A	SER-A	4
	KAE4E127DDA	3/4,TYPE L	1-1/2,TYPE L	SBFTE-A-Z	SBFTE-B-Z	SER-A	SER-A	4
	KAE4E183DDA	1,TYPE L	2-1/2,TYPE L	SBFTE-B-Z	SBFTE-B-Z	SER-A	SER-B	8
	KAE4E222DDA	1-1/2,TYPE L	3,TYPE L	SBFTE-B-Z	SBFTE-C-Z	SER-B	SER-B	8
	KAE4E283DDA	2,TYPE G	4,TYPE G	SBFTE-C-Z	SBFTE-C-Z	SER-B	SER-B	12
4 FPI - R454C	KAE4E043DDA	1/3,TYPE L	3/4,TYPE L	SBFVE-AA-Z	SBFVE-AA-Z	SER-AA	SER-AA	2
	KAE4E087DDA	3/4,TYPE L	1-1/2,TYPE L	SBFVE-A-Z	SBFVE-A-Z	SER-A	SER-A	4
	KAE4E127DDA	1,TYPE L	2,TYPE L	SBFVE-A-Z	SBFVE-B-Z	SER-A	SER-B	4
	KAE4E183DDA	1-1/2,TYPE L	2-1/2,TYPE L	SBFVE-B-Z	SBFVE-C-Z	SER-B	SER-B	8
	KAE4E222DDA	1-1/2,TYPE L	3,TYPE L	SBFVE-B-Z	SBFVE-C-Z	SER-B	SER-B	8
	KAE4E283DDA	2,TYPE G	4,TYPE G	SBFVE-C-Z	SBFVE-C-Z	SER-B	SER-C	12
4 FPI - R455A	KAE4E043DDA	1/3,TYPE L	3/4,TYPE L	SBFVE-AA-Z	SBFVE-AA-Z	SER-AA	SER-AA	2
	KAE4E087DDA	3/4,TYPE L	1-1/2,TYPE L	SBFVE-A-Z	SBFVE-A-Z	SER-A	SER-A	4
	KAE4E127DDA	1,TYPE L	2,TYPE L	SBFVE-A-Z	SBFVE-B-Z	SER-A	SER-B	4
	KAE4E183DDA	1-1/2,TYPE L	2-1/2,TYPE L	SBFVE-B-Z	SBFVE-C-Z	SER-B	SER-B	8
	KAE4E222DDA	2,TYPE L	3,TYPE L	SBFVE-B-Z	SBFVE-C-Z	SER-B	SER-B	8
	KAE4E283DDA	2-1/2,TYPE G	4,TYPE G	SBFVE-C-Z	SBFVE-C-Z	SER-B	SER-C	12

The Distributor lines are 3/16" diameter and 18" long.
Expansion valve selections based on -20 Suction Temp and 8°F to 12°F evaporator TD. Contact factory for operating conditions outside this range.
Do not use pressure limiting TXV's when the condensing unit includes a CPR valve.
SBFTE Expansion valves are compatible with R454A refrigerant. SBFVE Expansion valves are compatible with R454C and R455A refrigerants.
For other valves, follow manufacturer's selection guidelines.
Base models (with no factory-mounted components) include nozzle sized for 100°F liquid, shipped loose.

LOOSE COMPONENTS REQUIRED FOR A2L ISOLATION CONTROLS

AMIN (MINIMUM ALLOWABLE ROOM SIZE) VALUES // ELECTRIC DEFROST MODELS

	Model No.	A_{min} Values (Ft_2)					Loose SSOV Isolation Valve @ Liquid Temp			Loose CSOV Isolation CV	
		10 Ft Line Run	20 Ft Line Run	30 Ft Line Run	40 Ft Line Run	50 Ft Line Run	Size	50°F	100°F	Size	Description
4 FPI - R454A	KAE4E043DDA	20	25	31	37	42	3/8	SS0V3S130	SS0V3S130	7/8	CSOV-7S
	KAE4E087DDA	25	31	37	42	48	3/8	SS0V3S130	SS0V3S130	7/8	CSOV-7S
	KAE4E127DDA	32	38	44	50	55	3/8	SS0V3S130	SS0V3S130	1-1/8	CSOV-9S
	KAE4E183DDA	38	44	49	55	61	3/8	SS0V6S130	SS0V6S130	1-1/8	CSOV-9S
	KAE4E222DDA	50	61	72	83	95	1/2	SSOV6S140	SSOV6S140	1-3/8	CSOV-11S
	KAE4E283DDA	64	76	87	98	109	1/2	SSOV6S140	SSOV6S140	1-3/8	CSOV-11S
4 FPI - R454C	KAE4E043DDA	19	24	30	36	41	3/8	SS0V3S130	SS0V3S130	7/8	CSOV-7S
	KAE4E087DDA	25	30	36	41	47	3/8	SS0V3S130	SS0V3S130	7/8	CSOV-7S
	KAE4E127DDA	31	37	42	48	54	3/8	SS0V3S130	SS0V6S130	1-1/8	CSOV-9S
	KAE4E183DDA	36	42	48	54	59	3/8	SS0V6S130	SS0V6S130	1-1/8	CSOV-9S
	KAE4E222DDA	48	59	70	81	92	1/2	SSOV6S140	SSOV6S140	1-3/8	CSOV-11S
	KAE4E283DDA	62	73	84	95	106	1/2	SSOV6S140	SSOV6S140	1-3/8	CSOV-11S
4 FPI - R455A	KAE4E043DDA	17	22	27	32	37	3/8	SS0V3S130	SS0V3S130	7/8	CSOV-7S
	KAE4E087DDA	22	27	33	38	43	3/8	SS0V3S130	SS0V3S130	7/8	CSOV-7S
	KAE4E127DDA	28	33	39	44	49	3/8	SS0V3S130	SS0V6S130	1-1/8	CSOV-9S
	KAE4E183DDA	33	38	44	49	54	3/8	SS0V6S130	SS0V6S130	1-1/8	CSOV-9S
	KAE4E222DDA	44	54	64	74	84	1/2	SSOV6S140	SSOV6S140	1-3/8	CSOV-11S
	KAE4E283DDA	57	67	77	87	97	1/2	SSOV6S140	SSOV6S140	1-3/8	CSOV-11S

Solenoid Shut off valves (SSOV) operate as double duty isolation/liquid line solenoid valve and are required to ship loose and be installed in the field, outside the refrigerated space.
SSOV/CSOV (Check Shut Off-Valves) Selection Criteria: Maximum 10 Ft Line Rise, 100 Foot Line Run, 1:1 Condensing Unit/Evaporator.
Contact applications for additional lengths or design considerations.
Amin values calculated using operating conditions included in UL 60335-2-89 101.DVU.1.2 and standard connection sizes (liquid and suction).
Amin values provided for 10 Ft, 20 Ft, 30 Ft, 40 Ft and 50 Ft line lengths. Contact applications for additional lengths or design considerations.
Amin values intended to determine compliance with UL 2-89 and is NOT for charging calculations.

SPECIFICATIONS

AIR DEFROST MODELS

	Model No.	Fans	No. of Hanger Slot Locations	Connection Sizes		Dimensions (Inches)				Approximate Weight (Lbs)	
				Liquid Line Size	Suction Line Size	Length	Width	Height	Figure	Net	Ship
6 FPI - KAE6A	KAE6A051*DA	1	4	3/8	5/8	36	28-3/8"	11-1/4"	1	55	190
	KAE6A085*DA	2	6	3/8	5/8	56	28-3/8"	11-1/4"	2	75	210
	KAE6A103*DA	2	6	3/8	7/8	56	28-3/8"	11-1/4"	2	80	215
	KAE6A128*DA	3	8	3/8	7/8	76	28-3/8"	11-1/4"	3	95	230
	KAE6A157*DA	3	8	3/8	7/8	76	28-3/8"	11-1/4"	3	105	240
	KAE6A173*DA	4	10	3/8	7/8	96	28-3/8"	11-1/4"	4	120	280
	KAE6A207*DA	4	10	3/8	7/8	96	28-3/8"	11-1/4"	4	130	290
	KAE6A249*DA	5	12	1/2	1-1/8	116	28-3/8"	11-1/4"	5	145	330
	KAE6A316*DA	5T	12	1/2	1-1/8	116	28-3/8"	13-3/4"	6	155	340

ELECTRIC DEFROST MODELS

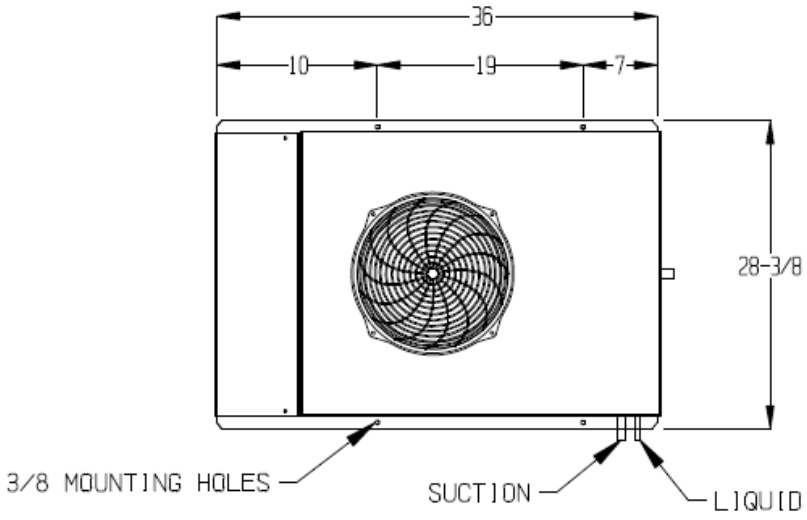
	Model No.	Fans	No. of Hanger Slot Locations	Connection Sizes		Dimensions (Inches)				Approximate Weight (Lbs)	
				Liquid Line Size	Suction Line Size	Length	Width	Height	Figure	Net	Ship
6 FPI - KAE6A	KAE6E045DDA	1	4	3/8	7/8	36	28-3/8"	11-1/4"	1	50	185
	KAE6E054DDA	1	4	3/8	7/8	36	28-3/8"	11-1/4"	1	55	190
	KAE6E090DDA	2	6	3/8	7/8	56	28-3/8"	11-1/4"	2	75	210
	KAE6E107DDA	2	6	3/8	1-1/8	56	28-3/8"	11-1/4"	2	80	215
	KAE6E129DDA	3	8	3/8	1-1/8	76	28-3/8"	11-1/4"	3	95	230
	KAE6E149DDA	3	8	3/8	1-1/8	76	28-3/8"	11-1/4"	3	105	240
	KAE6E160DDA	4	10	3/8	1-1/8	96	28-3/8"	11-1/4"	4	120	280
	KAE6E217DDA	4	10	1/2	1-3/8	96	28-3/8"	11-1/4"	4	130	290
	KAE6E265DDA	5	12	1/2	1-3/8	116	28-3/8"	11-1/4"	5	145	330
	KAE6E337*DA	5T	12	1/2	1-3/8	116	28-3/8"	13-3/4"	6	155	340
4 FPI - KAE4E	KAE4E043DDA	1	4	3/8	7/8	36	28-3/8"	11-1/4"	1	55	190
	KAE4E087DDA	2	6	3/8	7/8	56	28-3/8"	11-1/4"	2	80	215
	KAE4E127DDA	3	8	3/8	1-1/8	76	28-3/8"	11-1/4"	3	105	240
	KAE4E183DDA	4	10	3/8	1-1/8	96	28-3/8"	11-1/4"	4	130	290
	KAE4E222DDA	5	12	1/2	1-3/8	116	28-3/8"	11-1/4"	5	145	330
	KAE4E283DDA	5T	12	1/2	1-3/8	116	28-3/8"	13-3/4"	6	155	340

*Asterisk represents a variable character based on voltage order. See nomenclature page for details.
Drain connection is 3/4" NPT for all models.
For units with mounted TXV components, see nozzle/TXV table for distributor connection size when TXV is field supplied.
TXV Type: Externally Equalized

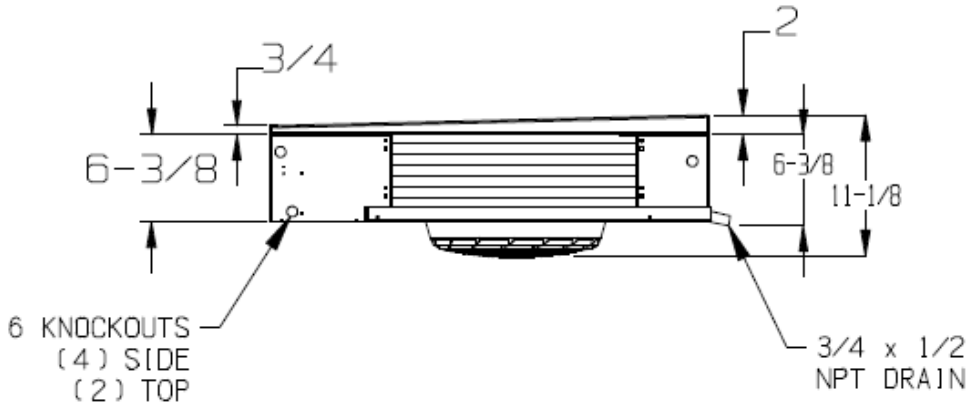
PHYSICAL DIMENSIONS

Figure 1: Single Fan

Bottom View



Side View

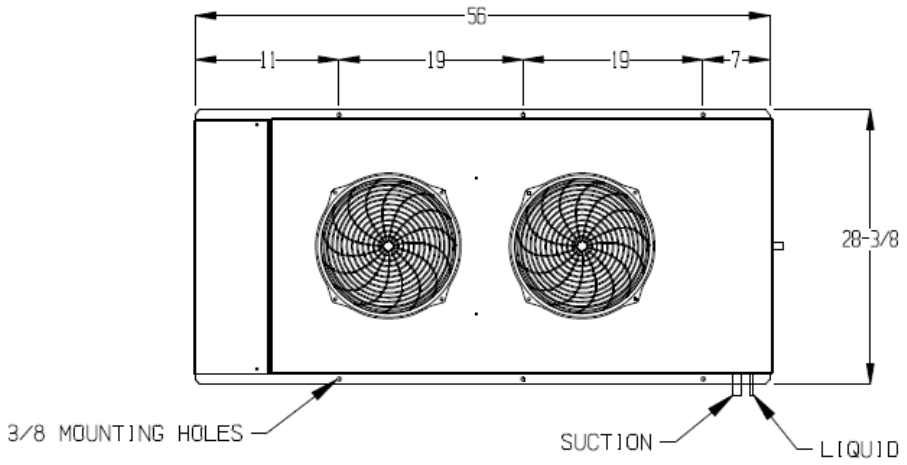


All dimensions are in inches.
Measurements noted on the end view drawing are the same for all units. All mounting holes are 3/8" diameter.

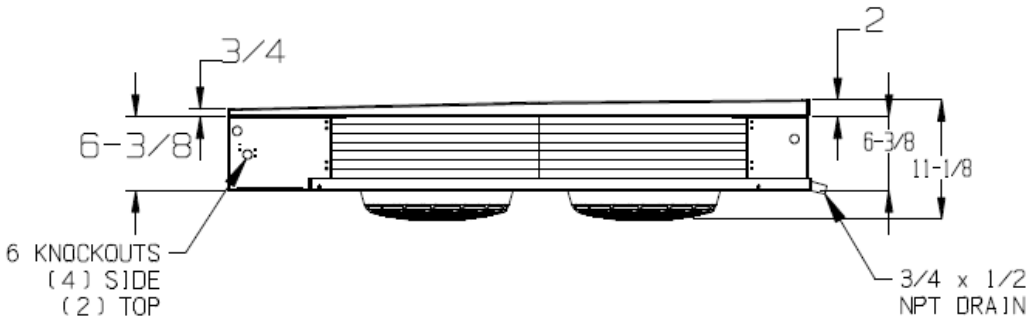
PHYSICAL DIMENSIONS

Figure 2: Two Fan

Bottom View



Side View

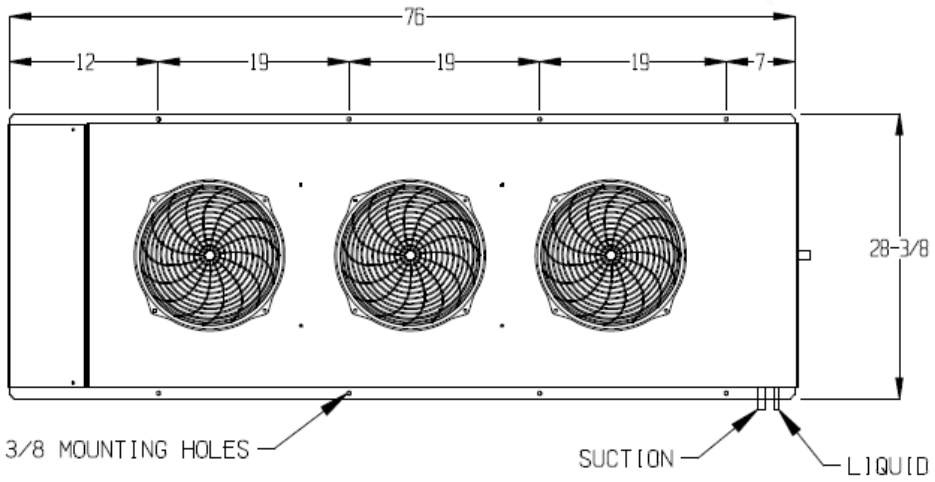


All dimensions are in inches.
Measurements noted on the end view drawing are the same for all units. All mounting holes are 3/8" diameter.

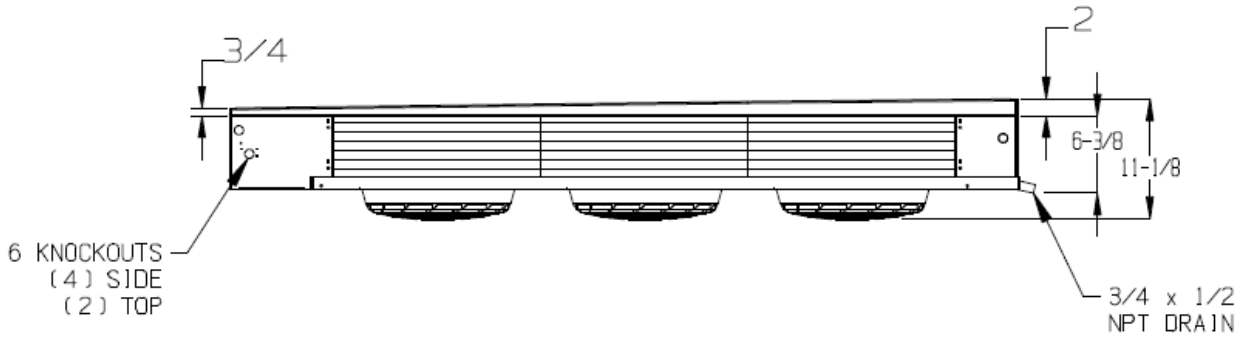
PHYSICAL DIMENSIONS

Figure 3: Three Fan

Bottom View



Side View

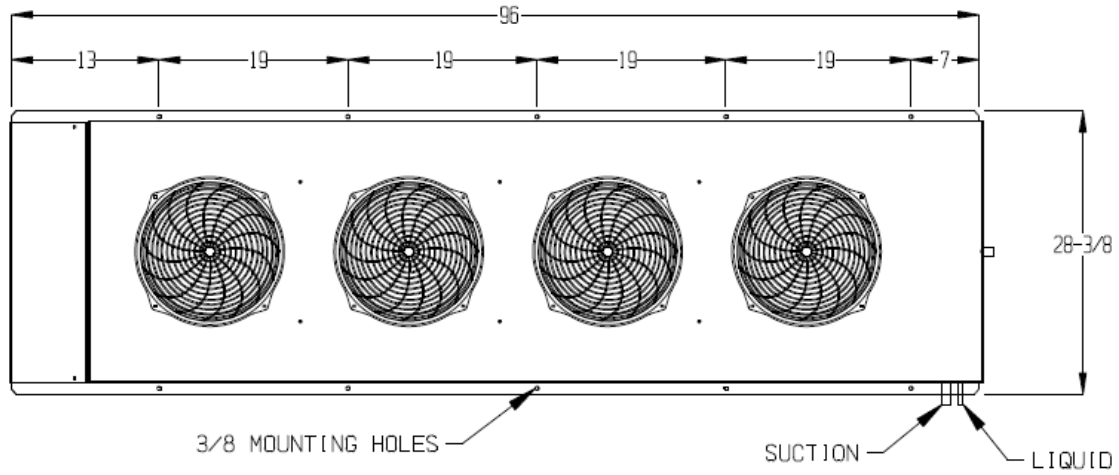


All dimensions are in inches.
Measurements noted on the end view drawing are the same for all units. All mounting holes are 3/8" diameter.

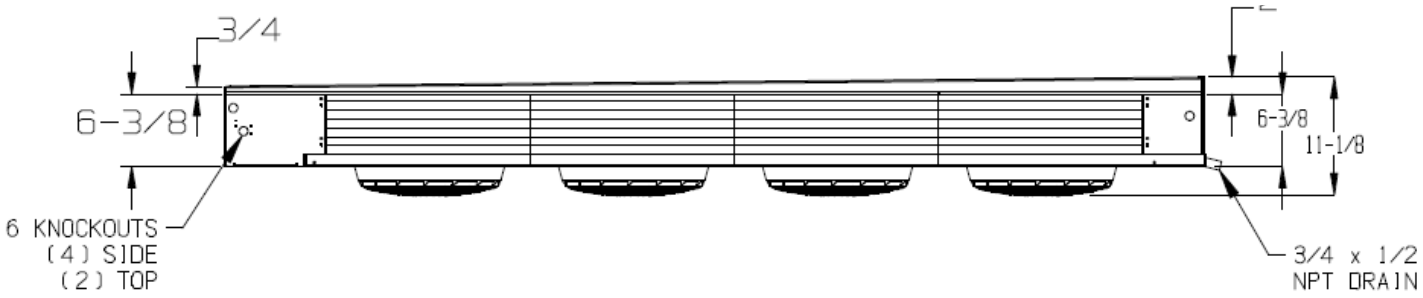
PHYSICAL DIMENSIONS

Figure 4: Four Fan

Bottom View



Side View

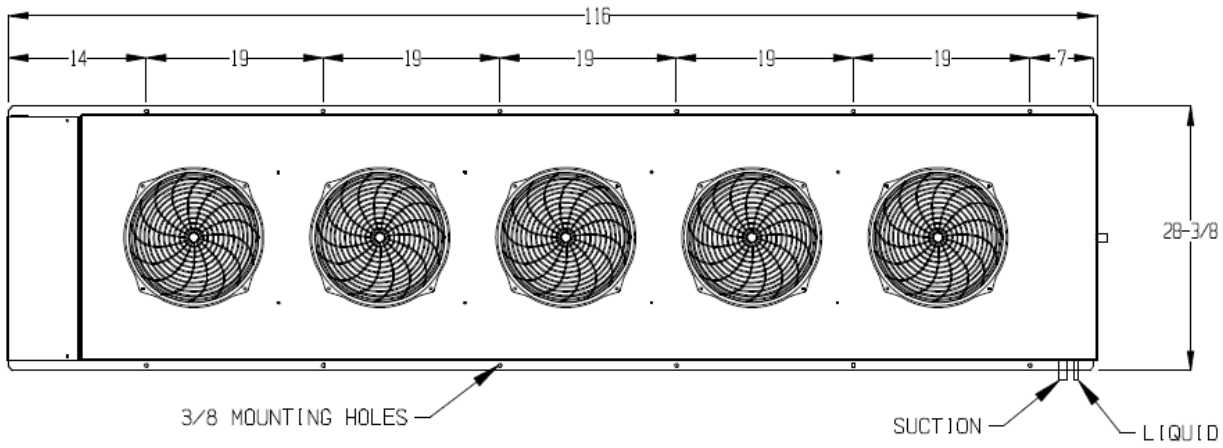


Measurements noted on the end view drawing are the same for all units. All mounting holes are 3/8" diameter. Mounting holes on four and five fan units are located 20" on center at each tube sheet. All dimensions are in inches.

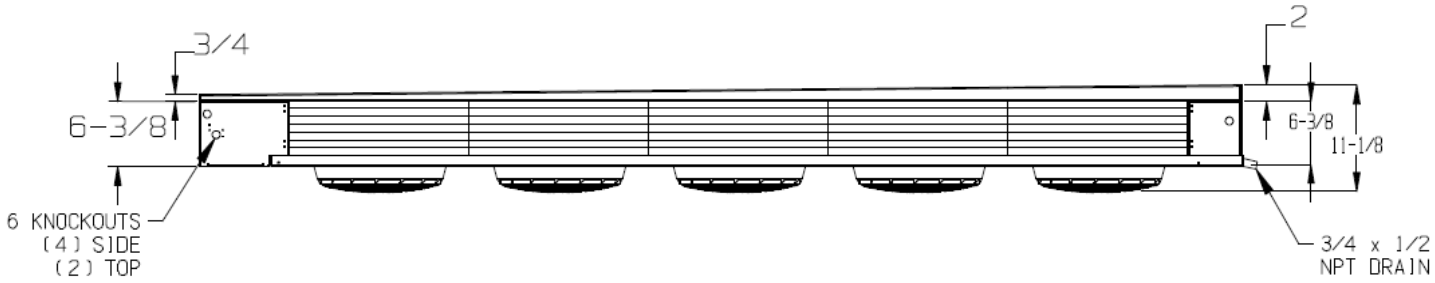
PHYSICAL DIMENSIONS

Figure 5: Five Fan

Bottom View



Side View

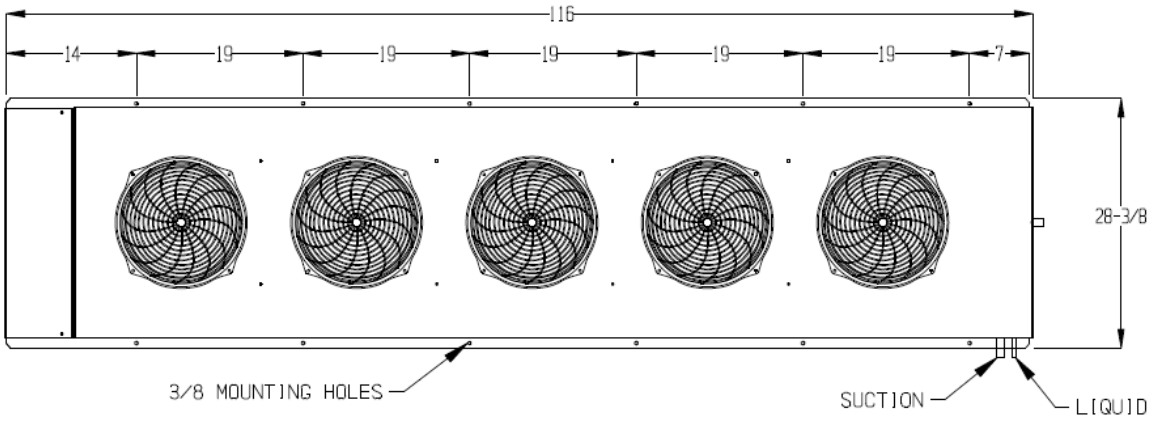


Measurements noted on the end view drawing are the same for all units. All mounting holes are 3/8" diameter.
Mounting holes on four and five fan units are located 20" on center at each tube sheet. All dimensions are in inches.

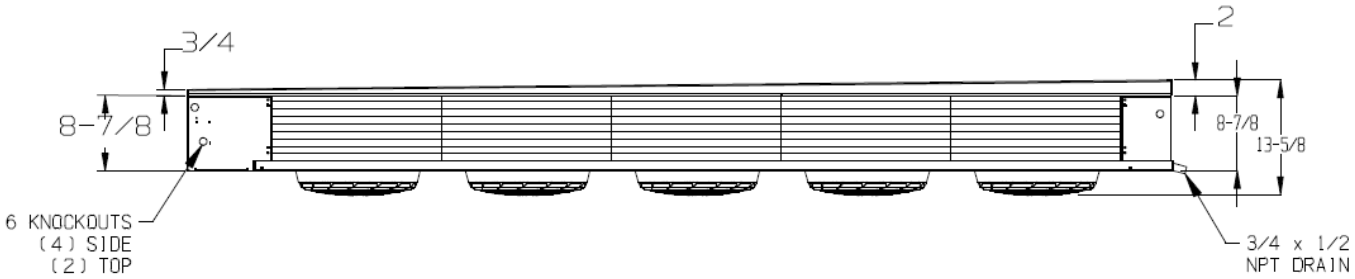
PHYSICAL DIMENSIONS

Figure 6: Five Tall Fan

Bottom View



Side View



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.

EVAPORATOR APPLICATION RATINGS

Multiple conditions combine to determine the application capacity of an evaporator. Walk-in space temperature, relative humidity, saturated suction temperature difference, and outdoor ambient temperature. All of the factors are considered when calculating an evaporator application rating. These ratings are considerably higher than the net capacity value used for DOE ratings (AWEF).

The AWEF of an evaporator is calculated using the dry coil capacity and the daily evaporator power consumption. Power consumption included fan and defrost power. Evaporator net capacity reported to the DOE database is dry coil capacity less the full power fan watts. DOE test conditions are at 10°F evaporator/SST temperature difference and less than 50% relative humidity and 96°F liquid temperature. These conditions create a uniform test method, but should not be used for equipment selection. The equipment selected would be too large for the application.

Published application ratings are a guideline for proper equipment selection. They account for true operating conditions experienced by equipment.

AWEF RATINGS // COOLER AND FREEZER MODELS

Model No.	Department of Energy Annual Walk-In Energy Factor (AWEF) Ratings		
	Defrost Type	FPI	AWEF
	Cooler Models[1]		
KAE6A051*DA	Air Defrost	6	9.00
KAE6A085*DA	Air Defrost	6	9.00
KAE6A103*DA	Air Defrost	6	9.00
KAE6A128*DA	Air Defrost	6	9.00
KAE6A157*DA	Air Defrost	6	9.00
KAE6A173*DA	Air Defrost	6	9.00
KAE6A207*DA	Air Defrost	6	9.00
KAE6A249*DA	Air Defrost	6	9.00
KAE6A316*DA	Air Defrost	6	9.00
KAE6E045DDA	Electric Defrost	6	9.00
KAE6E054DDA	Electric Defrost	6	9.00
KAE6E090DDA	Electric Defrost	6	9.00
KAE6E107DDA	Electric Defrost	6	9.00
KAE6E129DDA	Electric Defrost	6	9.00
KAE6E149DDA	Electric Defrost	6	9.00
KAE6E160DDA	Electric Defrost	6	9.00
KAE6E217DDA	Electric Defrost	6	9.00
KAE6E265DDA	Electric Defrost	6	9.00
KAE6E337DDA	Electric Defrost	6	9.00

Model No.	Department of Energy Annual Walk-In Energy Factor (AWEF) Ratings		
	Defrost Type	FPI	AWEF
	Freezer Models[2]		
KAE6E045DDA	Electric Defrost	6	4.15
KAE6E054DDA	Electric Defrost	6	4.15
KAE6E090DDA	Electric Defrost	6	4.15
KAE6E107DDA	Electric Defrost	6	4.15
KAE6E129DDA	Electric Defrost	6	4.15
KAE6E149DDA	Electric Defrost	6	4.15
KAE6E160DDA	Electric Defrost	6	4.15
KAE6E217DDA	Electric Defrost	6	4.15
KAE6E265DDA	Electric Defrost	6	4.15
KAE6E337DDA	Electric Defrost	6	4.15
KAE4E043DDA	Electric Defrost	4	3.96
KAE4E087DDA	Electric Defrost	4	4.02
KAE4E127DDA	Electric Defrost	4	4.07
KAE4E183DDA	Electric Defrost	4	4.13
KAE4E222DDA	Electric Defrost	4	4.15
KAE4E283DDA	Electric Defrost	4	4.15

*Asterisks represents a variable character based on voltage ordered. See nomenclature page for details.
1. If the model has a numerical value in the table above, the following statement applies: " The refrigeration system is designed and certified for use in walk-in cooler applications."
2. If the model has a numerical value in the table above, the following statement applies: " The refrigeration system is designed and certified for use in walk-in freezer applications."

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