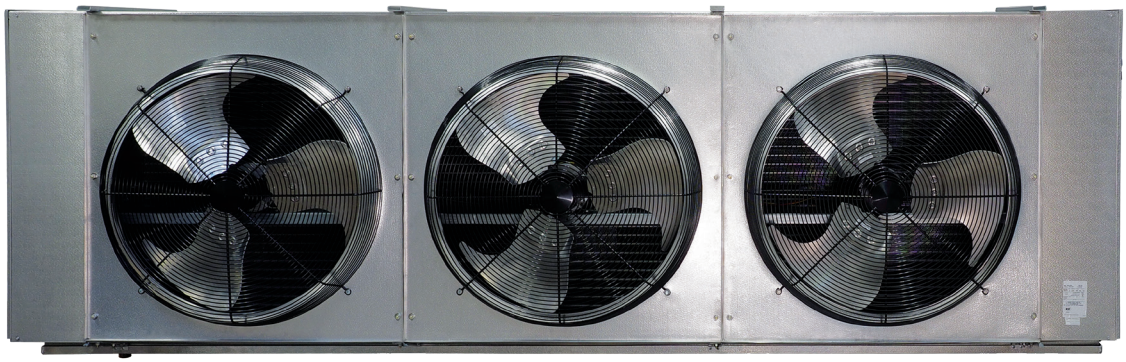
KRAMER

A2L

HEAVY DUTY
UNIT COOLER



Walk-Ins: Medium to Large Cooler and Freezer Applications

Air Defrost

38,000 to 263,000 BTUH

Electric Defrost

38,000 to 263,000 BTUH

FEATURES

Heavy Duty Unit Coolers are the ideal evaporator solution for medium and large walk-in coolers and freezers. Designed with efficiency, performance and service in mind, the Heavy Duty Cooler line is optimized to cover Cold Storage applications in the most effective way. The Heavy Duty units were engineered to meet the Department of Energy's new AWEF performance regulations and feature energy-efficient rail-mount Dual Speed EC Motors.

All units are circuited for multiple refrigerants and feature optimized circuit patterns to maximize performance. Heavy Duty Unit Coolers have several enhanced service features including rail-mount motors, new high efficiency fan and venturi designs, enhanced surface coil tubing, easily removable fan guards and modular fan panels, face mount defrost heaters, hinged drain pans and shipping pallets designed to facilitate easy installation.

SIZES

There are a wide array of sizes to match your specific application requirements ranging from 38,000 to 263,000 BTUH at a 10°TD. Models are available with air flow spanning a range of 5,920 to 23,000 CFM.

HOUSING

Each unit is constructed with a rust-free, heavy gauge, textured, aluminum housing which is light weight yet extremely durable. Models feature hinged drain pans to allow for convenient servicing and maintenance. Pre-drilled hanger holes are provided on all units for fast installation.

COIL

Seamless copper tubes are staggered and mechanically expanded into heavy gauge corrugated aluminum fins to assure maximum heat transfer. Die formed fin collars are provided for accurate fin spacing. Heavy gauge hangers are fastened directly to the tube sheet of the coil to provide high structural strength. Electric Defrost is available in both 6 FPI and 4 FPI.

MOTORS

All models feature highly efficient Dual Speed Electronically Commutated (EC) motors which are compliant with California Title 24 regulations.

FANS & FAN GUARDS

Powerful heavy-duty aluminum fans are individually balanced to provide vibration free operation. Standard heavy-gauge wire fan guards are UL/cUL-approved epoxy coated for corrosion resistance. Air throw for Heavy Duty Unit Coolers is up to 100 ft.

REFRIGERANTS

Heavy Duty Unit Coolers are optimized for multiple refrigerants including R454A, R454C, and R455A. Please specify system refrigerant requirements when ordering. A separate compartment is provided for all refrigerant connections which allows ample room for internal mounting of expansion valves.

ELECTRICAL

Available in 208-230V/1, 208-230V/3, 460/1, or 460/3. Heavy Duty Evaporators can also be operated on 220/1/50, 220/3/50, 380/1/50, and 380/3/50 power (Contact factory for details). A large compartment is supplied for all electrical components and is easily accessible by removing the end panel. All 60 Hz models are UL and cUL listed.

AIR DEFROST

Air Defrost models are designed for use in coolers at +35°F and warmer.

ELECTRIC DEFROST - MEDIUM TEMP

Heavy Duty Unit Coolers are designed for use in coolers between +11°F and +35°F room temperatures. Defrost heaters are mounted on the air intake side of the unit for optimal performance and easy maintenance. An additional Heater is installed inside the drain pan for fast, reliable drainage. Adjustable defrost termination, fan delay, and heater safety controls are factory mounted for optimum performance of each control function.

ELECTRIC DEFROST - LOW TEMP

Low Temperature Electric Defrost Models are designed for use in freezers between +10°F and -30°F room temperatures. Defrost heaters are mounted on the air intake side of the unit for optimal performance and easy maintenance. An additional heater is installed inside the drain pan for fast, reliable drainage. Adjustable defrost termination, fan delay, and heater safety controls are factory-mounted for optimum performance of each control function.

OPTIONAL FEATURES

- EcoNet® Enabled Controller[3] (factory-installed)
- EcoNet® Command Center (loose)
- Reverse Connections
- Thermostat - Mechanical or Electric (mounted or loose)
- Thermostatic Expansion Valve (mounted or loose)
- Electronic Expansion Valve (mounted or loose)
- Solenoid Shut Off Valve (loose)
- Check Shut Off Valve (loose)
- Insulated Drain Pan
- Painted Cabinet (White or Black)
- Stainless Steel Cabinet
- Coated Coil (Bronz-Glow, or Electrofin®)
- Suction/Liquid Heat Exchanger (loose)

* AWEF (Annual Walk-in Energy Factor)
[1] Single Compressor system without variable capacity.

[2] Some limitations apply. For specific electrical offering, consult electrical data tables in this brochure.

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

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, continuous communication between system components, and remote mount display allows for EcoNet® Enabled Unit Coolers to be programmed, monitored and troubleshot outside of space being cooled.

MODEL NOMENCLATURE

R	A	H	6	E	106	E	D	A
Brand	Refrigerant Class	Style	Fins per Inch (FPI)	Defrost Type	BTUH in Thousands	Unit Voltage	Motor Type	Vintage
R = Russell	A = A2L	H = Heavy Duty Y = Reverse Connections	4 FPI 6 FPI	A = Air Defrost D = Medium Temp Electric Defrost E = Low Temp Electric Defrost	XXX	D = 208-230/1/60 E = 208-230//3/60 F = 460/1/60 G = 460/3/60	D = Dual Speed ECM	A

EcoNet® approved refrigerants are: R454A, R454C. R455A.

APPLICATION RATING & ELECTRICAL DATA

AIR DEFROST // 6 FPI

	Model No.	BTUH Capacity @ +25°F SST & 10°F TD	CFM	No. of Fans	208-230V/1	460V/1
		R454A/R454C/R455A			Total Fan Motor Amps	
6 FPI	KAH6A038*DA	38,000	5,920	1	6.3	3.1
	KAH6A053*DA	53,000	5,870	1	6.3	3.1
	KAH6A064*DA	64,000	5,750	1	6.3	3.1
	KAH6A076*DA	76,000	11,850	2	12.6	6.2
	KAH6A108*DA	108,000	11,730	2	12.6	6.2
	KAH6A130*DA	130,000	11,500	2	12.6	6.2
	KAH6A162*DA	162,000	17,600	3	18.9	9.3
	KAH6A193*DA	193,000	17,250	3	18.9	9.3
	KAH6A215*DA	215,000	23,460	4	25.2	12.4
	KAH6A263*DA	263,000	23,000	4	25.2	12.4

	Model No.	208-230V/1				460V/1			
		Base Model		EcoNet® Enabled[1]		Base Model		EcoNet® Enabled[1]	
		MCA	MOPD	MCA	MOPD	MCA	MOPD	MCA	MOPD
6 FPI	KAH6A038*DA	15	20	15	20	15	20	15	20
	KAH6A053*DA	15	20	15	20	15	20	15	20
	KAH6A064*DA	15	20	15	20	15	20	15	20
	KAH6A076*DA	15	20	16.2	20	15	20	15	20
	KAH6A108*DA	15	20	16.2	20	15	20	15	20
	KAH6A130*DA	15	20	16.2	20	15	20	15	20
	KAH6A162*DA	20.5	25	22.5	25	15	20	15	20
	KAH6A193*DA	20.5	25	22.5	25	15	20	15	20
	KAH6A215*DA	26.8	30	28.8	30	15	20	15	20
	KAH6A263*DA	26.8	30	28.8	30	15	20	15	20

* Asterisk represents a variable character based on voltage ordered. See nomenclature on page 4 for details.
Dual Speed EC Motors are compliant with California Title 24 Regulations
[1] 208-230 ratings include 2 amp for controls on EcoNet® Enabled units. 460 ratings include 1 amp for controls on EcoNet® Enabled units.

APPLICATION RATING & ELECTRICAL DATA

MEDIUM TEMPERATURE ELECTRIC DEFROST // 6 FPI

	Model No.	BTUH Capacity @ +25°F SST & 10°F TD	CFM	No. of Fans	208-230V/1	460V/1
		R454A/R454C/R455A			Total Fan Motor Amps	
6 FPI	KAH6D037*DA	38,000	5,920	1	6.3	3.1
	KAH6D052*DA	53,000	5,870	1	6.3	3.1
	KAH6D063*DA	64,000	5,750	1	6.3	3.1
	KAH6D077*DA	76,000	11,850	2	12.6	6.2
	KAH6D107*DA	108,000	11,730	2	12.6	6.2
	KAH6D129*DA	130,000	11,500	2	12.6	6.2
	KAH6D161*DA	162,000	17,600	3	18.9	9.3
	KAH6D192*DA	193,000	17,250	3	18.9	9.3
	KAH6D214*DA	215,000	23,460	4	25.2	12.4
	KAH6D262*DA	263,000	23,000	4	25.2	12.4

* Asterisk represents a variable character based on voltage ordered. See nomenclature on page 4 for details.

APPLICATION RATING & ELECTRICAL DATA

MEDIUM TEMPERATURE ELECTRIC DEFROST // 6 FPI

	Model No.	208-230V/3							Heater Watts
		Base Model		EcoNet® Enabled		Heater Amps			
		MCA	MOPD	MCA	MOPD	No. of Circuits	Amps per Circuit	Total Heater Amps	
6 FPI	KAH6D037EDA	15	20	20.1	25	1	14.5	14.5	6,000
	KAH6D052EDA	15	20	20.1	25	1	14.5	14.5	6,000
	KAH6D063EDA	15	20	20.1	25	1	14.5	14.5	6,000
	KAH6D077EDA	15	20	38.1	40	1	28.9	28.9	12,000
	KAH6D107EDA	15	20	38.1	40	1	28.9	28.9	12,000
	KAH6D129EDA	15	20	38.1	40	1	28.9	28.9	12,000
	KAH6D161EDA	20.5	25	56.2	60	1	43.4	43.4	18,000
	KAH6D192EDA	20.5	25	56.2	60	1	43.4	43.4	18,000
	KAH6D214EDA	26.8	30	74.3	80	2	28.9	57.8	24,000
	KAH6D262EDA	26.8	30	74.3	80	2	28.9	57.8	24,000

208-230 ratings include 2 amp for controls on EcoNet® Enabled units.

	Model No.	460V/3							Heater Watts
		Base Model		EcoNet® Enabled		Heater Amps			
		MCA	MOPD	MCA	MOPD	No. of Circuits	Amps per Circuit	Total Heater Amps	
6 FPI	KAH6D037GDA	15	20	15	20	1	7.5	7.5	6,000
	KAH6D052GDA	15	20	15	20	1	7.5	7.5	6,000
	KAH6D063GDA	15	20	15	20	1	7.5	7.5	6,000
	KAH6D077GDA	15	20	19.8	20	1	15.1	15.1	12,000
	KAH6D107GDA	15	20	19.8	20	1	15.1	15.1	12,000
	KAH6D129GDA	15	20	19.8	20	1	15.1	15.1	12,000
	KAH6D161GDA	15	20	29.3	30	1	22.6	22.6	18,000
	KAH6D192GDA	15	20	29.3	30	1	22.6	22.6	18,000
	KAH6D214GDA	15	20	38.7	40	1	30.2	30.2	24,000
	KAH6D262GDA	15	20	38.7	40	1	30.2	30.2	24,000

460 ratings include 1 amp for controls on EcoNet® Enabled units.

APPLICATION RATING & ELECTRICAL DATA

LOW TEMPERATURE ELECTRIC DEFROST // 6 FPI

	Model No.	BTUH Capacity @ -20°F SST & 10°F TD[1]	CFM	No. of Fans	208-230V/1	460V/1
		R454A/R454C/R455A			Total Fan Motor Amps	
6 FPI	KAH6E040*DA	40,000	5,920	1	6.3	3.1
	KAH6E053*DA	53,000	5,870	1	6.3	3.1
	KAH6E065*DA	65,000	5,750	1	6.3	3.1
	KAH6E080*DA	80,000	11,850	2	12.6	6.2
	KAH6E106*DA	106,000	11,730	2	12.6	6.2
	KAH6E131*DA	131,000	11,500	2	12.6	6.2
	KAH6E160*DA	160,000	17,600	3	18.9	9.3
	KAH6E188*DA	188,000	17,250	3	18.9	9.3
	KAH6E237*DA	237,000	23,000	4	25.2	12.4

* Asterisk represents a variable character based on voltage ordered. See page 4 for nomenclature.

Capacity Correction for Low Temp Electric Defrost

SST (Dew)	0°F	-10°F	-20°F	-30°F	-40°F
Multiply Capacity by:	1.075	1.0375	1	0.9625	0.925

[1] Capacity values adjusted using the Correction Table for Electric Defrost Evaporators.

APPLICATION RATING & ELECTRICAL DATA

LOW TEMPERATURE ELECTRIC DEFROST // 6 FPI

	Model No.	208-230V/3							Heater Watts
		Base Model		EcoNet® Enabled		Heater Amps			
		MCA	MOPD	MCA	MOPD	No. of Circuits	Amps Each Circuit	Total Heater Amps	
6 FPI	KAH6E040EDA	15	20	20.1	25	1	14.5	14.5	6,000
	KAH6E053EDA	15	20	20.1	25	1	14.5	14.5	6,000
	KAH6E065EDA	15	20	20.1	25	1	14.5	14.5	6,000
	KAH6E080EDA	15	20	38.1	40	1	28.9	28.9	12,000
	KAH6E106EDA	15	20	38.1	40	1	28.9	28.9	12,000
	KAH6E131EDA	15	20	38.1	40	1	28.9	28.9	12,000
	KAH6E160EDA	20.5	25	56.2	60	1	43.4	43.4	18,000
	KAH6E188EDA	20.5	25	56.2	60	1	43.4	43.4	18,000
	KAH6E237EDA	26.8	30	74.3	80	2	28.9	57.8	24,000

208-230 ratings include 2 amp for controls on EcoNet® Enabled units.

	Model No.	460V/3							Heater Watts
		Base Model		EcoNet® Enabled		Heater Amps			
		MCA	MOPD	MCA	MOPD	No. of Circuits	Amps Each Circuit	Total Heater Amps	
6 FPI	KAH6E040GDA	15	20	15	20	1	7.5	7.5	6,000
	KAH6E053GDA	15	20	15	20	1	7.5	7.5	6,000
	KAH6E065GDA	15	20	15	20	1	7.5	7.5	6,000
	KAH6E080GDA	15	20	19.8	20	1	15.1	15.1	12,000
	KAH6E106GDA	15	20	19.8	20	1	15.1	15.1	12,000
	KAH6E131GDA	15	20	19.8	20	1	15.1	15.1	12,000
	KAH6E160GDA	15	20	29.3	30	1	22.6	22.6	18,000
	KAH6E188GDA	15	20	29.3	30	1	22.6	22.6	18,000
	KAH6E237GDA	15	20	38.7	40	1	30.2	30.2	24,000

460 ratings include 1 amp for controls on EcoNet® Enabled units.

APPLICATION RATING & ELECTRICAL DATA

LOW TEMPERATURE ELECTRIC DEFROST // 4 FPI

	Model No.	BTUH Capacity @ -20°F SST & 10°F TD[1]	CFM	No. of Fans	208-230V/1	460V/1
		R454A/R454C/R455A			Total Fan Motor Amps	
4 FPI	KAH4E043*DA	43,000	5,870	1	6.3	3.1
	KAH4E053*DA	53,000	5,750	1	6.3	3.1
	KAH4E086*DA	86,000	11,730	2	12.6	6.2
	KAH4E105*DA	105,000	11,500	2	12.6	6.2
	KAH4E128*DA	128,000	17,600	3	18.9	9.3
	KAH4E158*DA	158,000	17,250	3	18.9	9.3
	KAH4E198*DA	198,000	23,000	4	25.2	12.4

* Asterisk represents a variable character based on voltage ordered. See page 4 for nomenclature.

Capacity Correction for Low Temp Electric Defrost

SST (Dew)	0°F	-10°F	-20°F	-30°F	-40°F
Multiply Capacity by:	1.075	1.0375	1	0.9625	0.925

[1] Capacity values adjusted using the Correction Table for Electric Defrost Evaporators.

APPLICATION RATING & ELECTRICAL DATA

LOW TEMPERATURE ELECTRIC DEFROST // 4 FPI

Model No.		208-230V/3							Heater Watts
		Base Model		EcoNet® Enabled		Heater Amps			
		MCA	MOPD	MCA	MOPD	No. of Circuits	Amps Each Circuit	Total Heater Amps	
4 FPI	KAH4E043EDA	15	20	20.1	25	1	14.5	14.5	6,000
	KAH4E053EDA	15	20	20.1	25	1	14.5	14.5	6,000
	KAH4E086EDA	15	20	38.1	40	1	28.9	28.9	12,000
	KAH4E105EDA	15	20	38.1	40	1	28.9	28.9	12,000
	KAH4E128EDA	20.5	25	56.2	60	1	43.4	43.4	18,000
	KAH4E158EDA	20.5	25	56.2	60	1	43.4	43.4	18,000
	KAH4E198EDA	26.8	30	74.3	40	2	28.9	57.8	24,000

208-230 ratings include 2 amp for controls on EcoNet® Enabled units.

Model No.		460V/3							Heater Watts
		Base Model		EcoNet® Enabled		Heater Amps			
		MCA	MOPD	MCA	MOPD	No. of Circuits	Amps Each Circuit	Total Heater Amps	
4 FPI	KAH4E043GDA	15	20	15	20	1	7.5	7.5	6,000
	KAH4E053GDA	15	20	15	20	1	7.5	7.5	6,000
	KAH4E086GDA	15	20	19.8	20	1	15.1	15.1	12,000
	KAH4E105GDA	15	20	19.8	20	1	15.1	15.1	12,000
	KAH4E128GDA	15	20	29.3	30	1	22.6	22.6	18,000
	KAH4E158GDA	15	20	29.3	30	1	22.6	22.6	18,000
	KAH4E198GDA	15	20	38.7	40	1	30.2	30.2	24,000

460 ratings include 1 amp for controls on EcoNet® Enabled units.

DISTRIBUTOR NOZZLES & EXPANSION VALVES

AIR DEFROST // 6 FPI

	Model No.	Nozzle @ Liq. Temp.		TXV @ Liq. Temp.		EEV @ Liq. Temp		No. of Circuits
		50°F	100°F	50°F	100°F	50°F	100°F	
6 FPI - R454A	KAH6A038*DA	1.5, TYPE G	4, TYPE G	SBFTE-B-C	SBFTE-C-C	SER-C	SER-C	6
	KAH6A053*DA	2, TYPE G	4, TYPE G	SBFTE-C-C	SBFTE-C-C	SER-C	SER-C	6
	KAH6A064*DA	3, TYPE G	6, TYPE G	ERTE-4-C	ERTE-6-C	SER-C	SER-C	12
	KAH6A076*DA	3, TYPE G	8, TYPE G	ERTE-5-C	ERTE-8-C	SER-C	SER-D	12
	KAH6A108*DA	5, TYPE C	10, TYPE C	ERTE-8-C	ERTE-10-C	SER-D	SER-D	18
	KAH6A130*DA	5, TYPE C	15, TYPE E	ERTE-8-C	ERTE-12-C	SER-D	SER-D	24
	KAH6A162*DA	8, TYPE A	17, TYPE A	OTE-15-C	OTE-15-C	SER-D	SERI-F	27
	KAH6A193*DA	10, TYPE A	20, TYPE A	OTE-15-C	OTE-20-C	SER-D	SERI-F	36
	KAH6A215*DA	12, TYPE A	20, TYPE A	OTE-15-C	OTE-20-C	SERI-F	SERI-G	27
	KAH6A263*DA	15, TYPE A	30, TYPE A	OTE-20-C	OTE-30-C	SERI-F	SERI-G	36
6 FPI - R454C	KAH6A038*DA	2, TYPE G	4, TYPE G	SBFVE-B-C	SBFVE-C-C	SER-C	SER-C	6
	KAH6A053*DA	2.5, TYPE G	5, TYPE G	ERVE-4-C	ERVE-6-C	SER-C	SER-C	6
	KAH6A064*DA	3, TYPE G	6, TYPE G	ERVE-5-C	ERVE-8-C	SER-C	SER-D	12
	KAH6A076*DA	4, TYPE G	8, TYPE G	ERVE-6-C	ERVE-20-C	SER-C	SER-D	12
	KAH6A108*DA	6, TYPE C	15, TYPE C	ERVE-10-C	ERVE-12-C	SER-D	SER-D	18
	KAH6A130*DA	8, TYPE E	17, TYPE E	OVE-10-C	OVE-15-C	SER-D	SERI-F	24
	KAH6A162*DA	10, TYPE A	20, TYPE A	OVE-15-C	OVE-20-C	SER-D	SERI-F	27
	KAH6A193*DA	12, TYPE A	25, TYPE A	OVE-15-C	OVE-20-C	SERI-F	SERI-G	36
	KAH6A215*DA	12, TYPE A	30, TYPE A	OVE-20-C	OVE-30-C	SERI-F	SERI-G	27
	KAH6A263*DA	15, TYPE A	35, TYPE A	OVE-20-C	OVE-30-C	SERI-G	SERI-J	36
6 FPI - R455A	KAH6A038*DA	2, TYPE G	4, TYPE G	SBFVE-B-C	SBF-C-C	SER-C	SER-C	6
	KAH6A053*DA	3, TYPE G	5, TYPE G	ERVE-4-C	SBF-C-C	SER-C	SER-C	6
	KAH6A064*DA	4, TYPE G	6, TYPE G	ERVE-5-C	ERVE-6-C	SER-C	SER-C	12
	KAH6A076*DA	4, TYPE G	8, TYPE G	ERVE-6-C	ERVE-8-C	SER-C	SER-D	12
	KAH6A108*DA	6, TYPE C	15, TYPE C	ERVE-10-C	ERVE-10-C	SER-D	SER-D	18
	KAH6A130*DA	8, TYPE E	17, TYPE E	OVE-10-C	ERVE-12-C	SER-D	SER-D	24
	KAH6A162*DA	12, TYPE A	20, TYPE A	OVE-15-C	OVE-20-C	SER-D	SERI-F	27
	KAH6A193*DA	15, TYPE A	25, TYPE A	OVE-15-C	OVE-20-C	SERI-F	SERI-F	36
	KAH6A215*DA	15, TYPE A	30, TYPE A	OVE-20-C	OVE-20-C	SERI-F	SERI-G	27
	KAH6A263*DA	17, TYPE A	35, TYPE A	OVE-20-C	OVE-30-C	SERI-G	SERI-G	36

The Distributor lines are 1/4 diameter and 36 long.
* Each asterisk represents a variable character based on voltage ordered. See nomenclature on page 4 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.
T Expansion valves are compatible with R454A refrigerant. V 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 nozzles sized for 100°F liquid, shipped loose.

LOOSE COMPONENTS REQUIRED FOR A2L ISOLATION CONTROLS

A_{MIN} (MINIMUM ALLOWABLE ROOM SIZE) VALUES // AIR DEFROST // 6 FPI

	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	KAH6A038*DA	87	100	112	124	136	1/2	SSOV-6	SSOV-10	1-3/8	CSOV-11
	KAH6A053*DA	123	141	159	178	196	5/8	SSOV-10	SSOV-10	1-3/8	CSOV-11
	KAH6A064*DA	151	170	189	208	227	5/8	SSOV-10	SSOV-10	1-5/8	CSOV-13
	KAH6A076*DA	151	170	189	208	227	5/8	SSOV-10	SSOV-10	1-5/8	CSOV-13
	KAH6A108*DA	228	266	303	340	377	7/8	SSOV-19	SSOV-19	2-1/8	CSOV-17
	KAH6A130*DA	281	319	356	393	430	7/8	SSOV-19	SSOV-19	2-1/8	CSOV-17
	KAH6A162*DA	306	343	380	417	455	7/8	SSOV-19	SSOV-19	2-1/8	CSOV-17
	KAH6A193*DA	387	426	466	505	544	7/8	SSOV-19	SSOV-19	2-5/8	CSOV-21
	KAH6A215*DA	386	425	465	504	543	7/8	SSOV-19	SSOV-19	2-5/8	CSOV-21
	KAH6A263*DA	514	577	639	702	764	1-1/8	SSOV-19	SSOV-19	2-5/8	CSOV-21
6 FPI - R454C	KAH6A038*DA	84	96	108	119	131	1/2	SSOV-6	SSOV-10	1-3/8	CSOV-11
	KAH6A053*DA	119	136	154	172	190	5/8	SSOV-10	SSOV-10	1-3/8	CSOV-11
	KAH6A064*DA	146	165	183	201	220	5/8	SSOV-10	SSOV-10	1-5/8	CSOV-13
	KAH6A076*DA	145	164	182	201	219	5/8	SSOV-10	SSOV-10	1-5/8	CSOV-13
	KAH6A108*DA	221	257	293	329	365	7/8	SSOV-19	SSOV-19	2-1/8	CSOV-17
	KAH6A130*DA	272	308	344	380	416	7/8	SSOV-19	SSOV-19	2-1/8	CSOV-17
	KAH6A162*DA	296	332	368	404	440	7/8	SSOV-19	SSOV-19	2-1/8	CSOV-17
	KAH6A193*DA	374	412	450	488	526	7/8	SSOV-19	SSOV-19	2-5/8	CSOV-21
	KAH6A215*DA	373	411	449	487	525	7/8	SSOV-19	SSOV-19	2-5/8	CSOV-21
	KAH6A263*DA	498	558	619	679	740	1-1/8	SSOV-19	SSOV-19	2-5/8	CSOV-21
6 FPI - R455A	KAH6A038*DA	77	88	98	109	120	1/2	SSOV-6	SSOV-10	1-3/8	CSOV-11
	KAH6A053*DA	108	124	141	157	173	5/8	SSOV-10	SSOV-10	1-3/8	CSOV-11
	KAH6A064*DA	133	150	167	184	201	5/8	SSOV-10	SSOV-10	1-5/8	CSOV-13
	KAH6A076*DA	133	150	166	183	200	5/8	SSOV-10	SSOV-10	1-5/8	CSOV-13
	KAH6A108*DA	202	234	267	300	333	7/8	SSOV-19	SSOV-19	2-1/8	CSOV-17
	KAH6A130*DA	248	281	314	347	380	7/8	SSOV-19	SSOV-19	2-1/8	CSOV-17
	KAH6A162*DA	270	303	335	368	401	7/8	SSOV-19	SSOV-19	2-1/8	CSOV-17
	KAH6A193*DA	341	376	411	445	480	7/8	SSOV-19	SSOV-19	2-5/8	CSOV-21
	KAH6A215*DA	340	375	410	444	479	7/8	SSOV-19	SSOV-19	2-5/8	CSOV-21
	KAH6A263*DA	454	509	564	620	675	1-1/8	SSOV-19	SSOV-19	2-5/8	CSOV-21

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 Foot Line Rise, 100 Foot Line Run, 1:1 Condensing Unit/Evaporator. Contact applications for additional lengths or design considerations.

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

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

A_{min} values intended to determine compliance with UL 2-89 and is NOT for charging calculations.

DISTRIBUTOR NOZZLES & EXPANSION VALVES

MEDIUM TEMPERATURE ELECTRIC DEFROST // 6 FPI

	Model No.	Nozzle @ Liq. Temp.		TXV @ Liq. Temp.		EEV @ Liq. Temp		No. of Circuits
		50°F	100°F	50°F	100°F	50°F	100°F	
6 FPI - R454A	KAH6D037*DA	1.5, TYPE G	4, TYPE G	SBFTE-B-C	SBFTE-C-C	SER-C	SER-C	6
	KAH6D052*DA	2, TYPE G	4, TYPE G	SBFTE-C-C	SBFTE-C-C	SER-C	SER-C	6
	KAH6D063*DA	3, TYPE G	6, TYPE G	ERTE-4-C	ERTE-6-C	SER-C	SER-C	12
	KAH6D077*DA	3, TYPE G	8, TYPE G	ERTE-5-C	ERTE-8-C	SER-C	SER-D	12
	KAH6D107*DA	5, TYPE C	10, TYPE C	ERTE-8-C	ERTE-10-C	SER-D	SER-D	18
	KAH6D129*DA	5, TYPE C	15, TYPE E	ERTE-8-C	ERTE-12-C	SER-D	SER-D	24
	KAH6D161*DA	8, TYPE A	17, TYPE A	OTE-15-C	OTE-15-C	SER-D	SERI-F	27
	KAH6D192*DA	10, TYPE A	20, TYPE A	OTE-15-C	OTE-20-C	SER-D	SERI-F	36
	KAH6D214*DA	12, TYPE A	20, TYPE A	OTE-15-C	OTE-20-C	SERI-F	SERI-G	27
	KAH6D262*DA	15, TYPE A	30, TYPE A	OTE-20-C	OTE-30-C	SERI-F	SERI-G	36
6 FPI - R454C	KAH6D037*DA	2, TYPE G	4, TYPE G	SBFVE-B-C	SBFVE-C-C	SER-C	SER-C	6
	KAH6D052*DA	2.5, TYPE G	5, TYPE G	ERVE-4-C	ERVE-6-C	SER-C	SER-C	6
	KAH6D063*DA	3, TYPE G	6, TYPE G	ERVE-5-C	ERVE-8-C	SER-C	SER-D	12
	KAH6D077*DA	4, TYPE G	8, TYPE G	ERVE-6-C	ERVE-20-C	SER-C	SER-D	12
	KAH6D107*DA	6, TYPE C	15, TYPE C	ERVE-10-C	ERVE-12-C	SER-D	SER-D	18
	KAH6D129*DA	8, TYPE E	17, TYPE E	OVE-10-C	OVE-15-C	SER-D	SERI-F	24
	KAH6D161*DA	10, TYPE A	20, TYPE A	OVE-15-C	OVE-20-C	SER-D	SERI-F	27
	KAH6D192*DA	12, TYPE A	25, TYPE A	OVE-15-C	OVE-20-C	SERI-F	SERI-G	36
	KAH6D214*DA	12, TYPE A	30, TYPE A	OVE-20-C	OVE-30-C	SERI-F	SERI-G	27
	KAH6D262*DA	15, TYPE A	35, TYPE A	OVE-20-C	OVE-30-C	SERI-G	SERI-J	36
6 FPI - R455A	KAH6D037*DA	2, TYPE G	4, TYPE G	SBFVE-B-C	SBF-C-C	SER-C	SER-C	6
	KAH6D052*DA	3, TYPE G	5, TYPE G	ERVE-4-C	SBF-C-C	SER-C	SER-C	6
	KAH6D063*DA	4, TYPE G	6, TYPE G	ERVE-5-C	ERVE-6-C	SER-C	SER-C	12
	KAH6D077*DA	4, TYPE G	8, TYPE G	ERVE-6-C	ERVE-8-C	SER-C	SER-D	12
	KAH6D107*DA	6, TYPE C	15, TYPE C	ERVE-10-C	ERVE-10-C	SER-D	SER-D	18
	KAH6D129*DA	8, TYPE E	17, TYPE E	OVE-10-C	ERVE-12-C	SER-D	SER-D	24
	KAH6D161*DA	12, TYPE A	20, TYPE A	OVE-15-C	OVE-20-C	SER-D	SERI-F	27
	KAH6D192*DA	15, TYPE A	25, TYPE A	OVE-15-C	OVE-20-C	SERI-F	SERI-F	36
	KAH6D214*DA	15, TYPE A	30, TYPE A	OVE-20-C	OVE-20-C	SERI-F	SERI-G	27
	KAH6D262*DA	17, TYPE A	35, TYPE A	OVE-20-C	OVE-30-C	SERI-G	SERI-G	36

The Distributor lines are 1/4 diameter and 36 long.
* Each asterisk represents a variable character based on voltage ordered. See nomenclature on page 4 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.
T Expansion valves are compatible with R454A refrigerant. V 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 nozzles sized for 100°F liquid, shipped loose.

LOOSE COMPONENTS REQUIRED FOR A2L ISOLATION CONTROLS

A_{MIN} (MINIMUM ALLOWABLE ROOM SIZE) VALUES // MEDIUM TEMPERATURE ELECTRIC DEFROST // 6 FPI

	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	KAH6D037*DA	87	100	112	124	136	1/2	SSOV-6	SSOV-10	1-3/8	CSOV-11
	KAH6D052*DA	123	141	159	178	196	5/8	SSOV-10	SSOV-10	1-3/8	CSOV-11
	KAH6D063*DA	151	170	189	208	227	5/8	SSOV-10	SSOV-10	1-5/8	CSOV-13
	KAH6D077*DA	151	170	189	208	227	5/8	SSOV-10	SSOV-10	1-5/8	CSOV-13
	KAH6D107*DA	228	266	303	340	377	7/8	SSOV-19	SSOV-19	2-1/8	CSOV-17
	KAH6D129*DA	281	319	356	393	430	7/8	SSOV-19	SSOV-19	2-1/8	CSOV-17
	KAH6D161*DA	306	343	380	417	455	7/8	SSOV-19	SSOV-19	2-1/8	CSOV-17
	KAH6D192*DA	387	426	466	505	544	7/8	SSOV-19	SSOV-19	2-5/8	CSOV-21
	KAH6D214*DA	386	425	465	504	543	7/8	SSOV-19	SSOV-19	2-5/8	CSOV-21
	KAH6D262*DA	514	577	639	702	764	1-1/8	SSOV-19	SSOV-19	2-5/8	CSOV-21
6 FPI - R454C	KAH6D037*DA	84	96	108	119	131	1/2	SSOV-6	SSOV-10	1-3/8	CSOV-11
	KAH6D052*DA	119	136	154	172	190	5/8	SSOV-10	SSOV-10	1-3/8	CSOV-11
	KAH6D063*DA	146	165	183	201	220	5/8	SSOV-10	SSOV-10	1-5/8	CSOV-13
	KAH6D077*DA	145	164	182	201	219	5/8	SSOV-10	SSOV-10	1-5/8	CSOV-13
	KAH6D107*DA	221	257	293	329	365	7/8	SSOV-19	SSOV-19	2-1/8	CSOV-17
	KAH6D129*DA	272	308	344	380	416	7/8	SSOV-19	SSOV-19	2-1/8	CSOV-17
	KAH6D161*DA	296	332	368	404	440	7/8	SSOV-19	SSOV-19	2-1/8	CSOV-17
	KAH6D192*DA	374	412	450	488	526	7/8	SSOV-19	SSOV-19	2-5/8	CSOV-21
	KAH6D214*DA	373	411	449	487	525	7/8	SSOV-19	SSOV-19	2-5/8	CSOV-21
	KAH6D262*DA	498	558	619	679	740	1-1/8	SSOV-19	SSOV-19	2-5/8	CSOV-21
6 FPI - R455A	KAH6D037*DA	77	88	98	109	120	1/2	SSOV-6	SSOV-10	1-3/8	CSOV-11
	KAH6D052*DA	108	124	141	157	173	5/8	SSOV-10	SSOV-10	1-3/8	CSOV-11
	KAH6D063*DA	133	150	167	184	201	5/8	SSOV-10	SSOV-10	1-5/8	CSOV-13
	KAH6D077*DA	133	150	166	183	200	5/8	SSOV-10	SSOV-10	1-5/8	CSOV-13
	KAH6D107*DA	202	234	267	300	333	7/8	SSOV-19	SSOV-19	2-1/8	CSOV-17
	KAH6D129*DA	248	281	314	347	380	7/8	SSOV-19	SSOV-19	2-1/8	CSOV-17
	KAH6D161*DA	270	303	335	368	401	7/8	SSOV-19	SSOV-19	2-1/8	CSOV-17
	KAH6D192*DA	341	376	411	445	480	7/8	SSOV-19	SSOV-19	2-5/8	CSOV-21
	KAH6D214*DA	340	375	410	444	479	7/8	SSOV-19	SSOV-19	2-5/8	CSOV-21
	KAH6D262*DA	454	509	564	620	675	1-1/8	SSOV-19	SSOV-19	2-5/8	CSOV-21

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 Foot Line Rise, 100 Foot Line Run, 1:1 Condensing Unit/Evaporator. Contact applications for additional lengths or design considerations.

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

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

A_{min} values intended to determine compliance with UL 2-89 and is NOT for charging calculations.

DISTRIBUTOR NOZZLES & EXPANSION VALVES

LOW TEMPERATURE ELECTRIC DEFROST // 6 FPI

	Model No.	Nozzle @ Liq. Temp.		TXV @ Liq. Temp.		EEV @ Liq. Temp		No. of Circuits
		50°F	100°F	50°F	100°F	50°F	100°F	
6 FPI - R454A	KAH6E040*DA	3, TYPE E	6, TYPE E	OTE-10-Z	OTE-10-Z	SER-C	SER-C	9
	KAH6E053*DA	4, TYPE E	8, TYPE E	OTE-10-Z	OTE-10-Z	SER-C	SER-C	9
	KAH6E065*DA	5, TYPE C	12, TYPE C	OTE-10-Z	OTE-15-Z	SER-C	SER-C	18
	KAH6E080*DA	8, TYPE C	15, TYPE C	OTE-10-Z	OTE-15-Z	SER-C	SER-D	18
	KAH6E106*DA	12, TYPE A	20, TYPE A	OTE-15-Z	OTE-20-Z	SER-C	SER-D	27
	KAH6E131*DA	15, TYPE A	25, TYPE A	OTE-20-Z	OTE-30-Z	SER-D	SER-D	36
	KAH6E160*DA	17, TYPE A	25, TYPE A	OTE-20-Z	OTE-30-Z	SER-D	SERI-F	27
	KAH6E188*DA	20, TYPE A	35, TYPE A	OTE-30-Z	OTE-40-Z	SER-D	SERI-F	36
	KAH6E237*DA	25, TYPE A	40, TYPE A	OTE-30-Z	OTE-40-Z	SERI-F	SERI-G	36
6 FPI - R454C	KAH6E040*DA	4, TYPE E	8, TYPE E	ERVE-5-Z	ERVE-8-Z	SER-C	SER-C	9
	KAH6E053*DA	5, TYPE E	10, TYPE E	OVE-10-Z	OVE-15-Z	SER-C	SER-C	9
	KAH6E065*DA	6, TYPE C	12, TYPE C	OVE-10-Z	OVE-15-Z	SER-C	SER-D	18
	KAH6E080*DA	8, TYPE C	15, TYPE C	OVE-15-Z	OVE-20-Z	SER-C	SER-D	18
	KAH6E106*DA	12, TYPE A	20, TYPE A	OVE-20-Z	OVE-30-Z	SER-D	SER-D	27
	KAH6E131*DA	15, TYPE A	25, TYPE A	OVE-20-Z	OVE-30-Z	SER-D	SERI-F	36
	KAH6E160*DA	17, TYPE A	25, TYPE A	OVE-30-Z	OVE-40-Z	SER-D	SERI-F	27
	KAH6E188*DA	20, TYPE A	35, TYPE A	OVE-30-Z	OVE-40-Z	SERI-F	SERI-G	36
	KAH6E237*DA	25, TYPE A	40, TYPE A	OVE-40-Z	OVE-55-Z	SERI-F	SERI-J	36
6 FPI - R455A	KAH6E040*DA	4, TYPE E	8, TYPE E	ERVE-5-Z	ERVE-8-Z	SER-C	SER-C	9
	KAH6E053*DA	5, TYPE E	10, TYPE E	OVE-10-Z	OVE-10-Z	SER-C	SER-C	9
	KAH6E065*DA	8, TYPE C	12, TYPE C	OVE-10-Z	OVE-15-Z	SER-C	SER-C	18
	KAH6E080*DA	10, TYPE C	15, TYPE C	OVE-15-Z	OVE-20-Z	SER-C	SER-D	18
	KAH6E106*DA	15, TYPE A	20, TYPE A	OVE-20-Z	OVE-20-Z	SER-D	SER-D	27
	KAH6E131*DA	17, TYPE A	25, TYPE A	OVE-20-Z	OVE-30-Z	SER-D	SER-D	36
	KAH6E160*DA	20, TYPE A	25, TYPE A	OVE-30-Z	OVE-40-Z	SER-D	SERI-F	27
	KAH6E188*DA	25, TYPE A	35, TYPE A	OVE-30-Z	OVE-40-Z	SERI-F	SERI-F	36
	KAH6E237*DA	30, TYPE A	40, TYPE A	OVE-40-Z	OVE-40-Z	SERI-F	SERI-G	36

The Distributor lines are 1/4 diameter and 36 long.
* Each asterisk represents a variable character based on voltage ordered. See nomenclature on page 4 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.
T Expansion valves are compatible with R454A refrigerant. V 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 nozzles sized for 100°F liquid, shipped loose.

LOOSE COMPONENTS REQUIRED FOR A2L ISOLATION CONTROLS

A_{MIN} (MINIMUM ALLOWABLE ROOM SIZE) VALUES // LOW TEMPERATURE ELECTRIC DEFROST // 6 FPI

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	KAH6E040*DA	95	107	120	132	145	1/2	SSOV-6	SSOV-10	2-1/8	CSOV-17
	KAH6E053*DA	127	146	164	183	202	5/8	SSOV-10	SSOV-10	2-1/8	CSOV-17
	KAH6E065*DA	153	172	190	209	228	5/8	SSOV-10	SSOV-10	2-1/8	CSOV-17
	KAH6E080*DA	152	172	192	211	231	7/8	SSOV-10	SSOV-19	2-5/8	CSOV-21
	KAH6E106*DA	234	271	307	343	379	7/8	SSOV-19	SSOV-19	2-5/8	CSOV-21
	KAH6E131*DA	286	323	361	398	436	7/8	SSOV-19	SSOV-19	3-1/8	-
	KAH6E160*DA	310	348	385	423	460	7/8	SSOV-19	SSOV-19	3-1/8	-
	KAH6E188*DA	387	426	465	504	543	1-1/8	SSOV-19	SSOV-19	3-5/8	-
	KAH6E237*DA	485	524	563	602	641	1-1/8	SSOV-19	SSOV-19	3-5/8	-
6 FPI - R454C	KAH6E040*DA	92	104	116	128	128	1/2	SSOV-6	SSOV-10	2-1/8	CSOV-17
	KAH6E053*DA	123	141	159	177	177	5/8	SSOV-10	SSOV-10	2-1/8	CSOV-17
	KAH6E065*DA	148	166	184	203	203	5/8	SSOV-10	SSOV-10	2-1/8	CSOV-17
	KAH6E080*DA	148	167	186	205	205	7/8	SSOV-10	SSOV-19	2-5/8	CSOV-21
	KAH6E106*DA	228	263	298	333	333	7/8	SSOV-19	SSOV-19	2-5/8	CSOV-21
	KAH6E131*DA	277	313	350	386	386	7/8	SSOV-19	SSOV-19	3-1/8	-
	KAH6E160*DA	301	337	374	410	410	7/8	SSOV-19	SSOV-19	3-1/8	-
	KAH6E188*DA	376	413	451	488	488	1-1/8	SSOV-19	SSOV-19	3-5/8	-
	KAH6E237*DA	471	508	546	583	583	1-1/8	SSOV-19	SSOV-19	3-5/8	-
6 FPI - R455A	KAH6E040*DA	84	95	106	117	127	1/2	SSOV-6	SSOV-10	2-1/8	CSOV-17
	KAH6E053*DA	112	129	145	162	178	5/8	SSOV-10	SSOV-10	2-1/8	CSOV-17
	KAH6E065*DA	135	152	168	185	201	5/8	SSOV-10	SSOV-10	2-1/8	CSOV-17
	KAH6E080*DA	135	152	169	187	204	7/8	SSOV-10	SSOV-19	2-5/8	CSOV-21
	KAH6E106*DA	207	239	271	303	335	7/8	SSOV-19	SSOV-19	2-5/8	CSOV-21
	KAH6E131*DA	253	286	319	352	385	7/8	SSOV-19	SSOV-19	3-1/8	-
	KAH6E160*DA	275	308	341	374	407	7/8	SSOV-19	SSOV-19	3-1/8	-
	KAH6E188*DA	342	377	411	445	480	1-1/8	SSOV-19	SSOV-19	3-5/8	-
	KAH6E237*DA	429	463	498	532	566	1-1/8	SSOV-19	SSOV-19	3-5/8	-

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 Foot Line Rise, 100 Foot Line Run, 1:1 Condensing Unit/Evaporator. Contact applications for additional lengths or design considerations.

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

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

A_{min} values intended to determine compliance with UL 2-89 and is NOT for charging calculations.

DISTRIBUTOR NOZZLES & EXPANSION VALVES

LOW TEMPERATURE ELECTRIC DEFROST // 4 FPI

Model No.		Nozzle @ Liq. Temp.		TXV @ Liq. Temp.		EEV @ Liq. Temp		No. of Circuits
		50°F	100°F	50°F	100°F	50°F	100°F	
4 FPI - R454A	KAH4E043*DA	4, TYPE E	6, TYPE E	OTE-10-Z	OTE-10-Z	SER-C	SER-C	9
	KAH4E053*DA	5, TYPE G	10, TYPE G	OTE-10-Z	OTE-10-Z	SER-C	SER-C	12
	KAH4E086*DA	8, TYPE C	15, TYPE C	OTE-15-Z	OTE-15-Z	SER-C	SER-D	18
	KAH4E105*DA	12, TYPE C	20, TYPE C	OTE-15-Z	OTE-20-Z	SER-C	SER-D	24
	KAH4E128*DA	12, TYPE A	25, TYPE A	OTE-20-Z	OTE-20-Z	SER-D	SER-D	27
	KAH4E158*DA	17, TYPE A	30, TYPE A	OTE-20-Z	OTE-30-Z	SER-D	SERI-F	36
	KAH4E198*DA	20, TYPE A	35, TYPE A	OTE-30-Z	OTE-40-Z	SER-D	SERI-F	36
4 FPI - R454C	KAH4E043*DA	4, TYPE E	8, TYPE E	OVE-10-Z	OVE-10-Z	SER-C	SER-C	9
	KAH4E053*DA	5, TYPE G	10, TYPE G	OVE-10-Z	OVE-15-Z	SER-C	SER-C	12
	KAH4E086*DA	10, TYPE C	15, TYPE C	OVE-15-Z	OVE-20-Z	SER-C	SER-D	18
	KAH4E105*DA	12, TYPE C	20, TYPE C	OVE-20-Z	OVE-30-Z	SER-D	SER-D	24
	KAH4E128*DA	15, TYPE A	25, TYPE A	OVE-20-Z	OVE-30-Z	SER-D	SERI-F	27
	KAH4E158*DA	20, TYPE A	30, TYPE A	OVE-30-Z	OVE-40-Z	SER-D	SERI-F	36
	KAH4E198*DA	20, TYPE A	35, TYPE A	OVE-30-Z	OVE-40-Z	SERI-F	SERI-G	36
4 FPI - R455A	KAH4E043*DA	4, TYPE E	8, TYPE E	OVE-10-Z	ERVE-8-Z	SER-C	SER-C	9
	KAH4E053*DA	6, TYPE G	10, TYPE G	OVE-10-Z	OVE-10-Z	SER-C	SER-C	12
	KAH4E086*DA	10, TYPE C	15, TYPE C	OVE-15-Z	OVE-20-Z	SER-C	SER-D	18
	KAH4E105*DA	12, TYPE C	20, TYPE C	OVE-20-Z	OVE-20-Z	SER-D	SER-D	24
	KAH4E128*DA	15, TYPE A	25, TYPE A	OVE-20-Z	OVE-30-Z	SER-D	SER-D	27
	KAH4E158*DA	20, TYPE A	30, TYPE A	OVE-30-Z	OVE-30-Z	SER-D	SERI-F	36
	KAH4E198*DA	25, TYPE A	35, TYPE A	OVE-30-Z	OVE-40-Z	SERI-F	SERI-G	36

The Distributor lines are 1/4 diameter and 36 long.
* Each asterisk represents a variable character based on voltage ordered. See nomenclature on page 4 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.
T Expansion valves are compatible with R454A refrigerant. V 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 nozzles sized for 100°F liquid, shipped loose.

LOOSE COMPONENTS REQUIRED FOR A2L ISOLATION CONTROLS

A_{MIN} (MINIMUM ALLOWABLE ROOM SIZE) VALUES // LOW TEMPERATURE ELECTRIC DEFROST // 4 FPI

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	KAH4E043*DA	127	146	164	183	202	5/8	SSOV-6	SSOV-10	2-1/8	CSOV-17
	KAH4E053*DA	153	172	190	209	228	5/8	SSOV-10	SSOV-10	2-1/8	CSOV-17
	KAH4E086*DA	202	222	242	261	281	7/8	SSOV-10	SSOV-19	2-5/8	CSOV-21
	KAH4E105*DA	284	321	357	393	429	7/8	SSOV-19	SSOV-19	2-5/8	CSOV-21
	KAH4E128*DA	310	348	385	423	460	7/8	SSOV-19	SSOV-19	3-1/8	-
	KAH4E158*DA	386	423	461	498	536	7/8	SSOV-19	SSOV-19	3-1/8	-
	KAH4E198*DA	485	524	563	602	641	1-1/8	SSOV-19	SSOV-19	3-5/8	-
4 FPI - R454C	KAH4E043*DA	123	141	159	177	195	5/8	SSOV-6	SSOV-10	2-1/8	CSOV-17
	KAH4E053*DA	148	166	184	203	221	5/8	SSOV-10	SSOV-10	2-1/8	CSOV-17
	KAH4E086*DA	196	215	234	253	272	7/8	SSOV-10	SSOV-19	2-5/8	CSOV-21
	KAH4E105*DA	276	311	346	381	416	7/8	SSOV-19	SSOV-19	2-5/8	CSOV-21
	KAH4E128*DA	301	337	374	410	446	7/8	SSOV-19	SSOV-19	3-1/8	-
	KAH4E158*DA	375	411	447	483	519	7/8	SSOV-19	SSOV-19	3-1/8	-
	KAH4E198*DA	471	508	546	583	621	1-1/8	SSOV-19	SSOV-19	3-5/8	-
4 FPI - R455A	KAH4E043*DA	112	129	145	162	178	5/8	SSOV-6	SSOV-10	2-1/8	CSOV-17
	KAH4E053*DA	135	152	168	185	201	5/8	SSOV-10	SSOV-10	2-1/8	CSOV-17
	KAH4E086*DA	179	196	213	231	248	7/8	SSOV-10	SSOV-19	2-5/8	CSOV-21
	KAH4E105*DA	252	284	316	348	380	7/8	SSOV-19	SSOV-19	2-5/8	CSOV-21
	KAH4E128*DA	275	308	341	374	407	7/8	SSOV-19	SSOV-19	3-1/8	-
	KAH4E158*DA	341	374	407	440	473	7/8	SSOV-19	SSOV-19	3-1/8	-
	KAH4E198*DA	429	463	498	532	566	1-1/8	SSOV-19	SSOV-19	3-5/8	-

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 Foot Line Rise, 100 Foot Line Run, 1:1 Condensing Unit/Evaporator. Contact applications for additional lengths or design considerations.

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

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

A_{min} values intended to determine compliance with UL 2-89 and is NOT for charging calculations.

PHYSICAL SPECIFICATIONS

AIR DEFROST

	Model No.	Fan Diam. (In.)	Motor Data			Refrigerant Connections (In.)		No. of Hangers Slot Location	Fig.	Unit Dimensions (In.)			Approx. Unit Wt. (Lbs.)
			Motor Qty.	HP	RPM	Liquid Line^	Suction			L	W	H	
6 FPI	KAH6A038*DA	30	1	3/4	850	1/2	1-3/8	4	1	59-7/8	27-3/8	49-1/4	293
	KAH6A053*DA	30	1	3/4	850	5/8	1-3/8	4	1	59-7/8	27-3/8	49-1/4	293
	KAH6A064*DA	30	1	3/4	850	5/8	1-5/8	4	1	59-7/8	27-3/8	49-1/4	293
	KAH6A076*DA	30	2	3/4	850	5/8	1-5/8	6	2	99-7/8	27-3/8	49-1/4	489
	KAH6A108*DA	30	2	3/4	850	7/8	2-1/8	6	2	99-7/8	27-3/8	49-1/4	489
	KAH6A130*DA	30	2	3/4	850	7/8	2-1/8	6	2	99-7/8	27-3/8	49-1/4	489
	KAH6A162*DA	30	3	3/4	850	7/8	2-1/8	8	3	139-7/8	27-3/8	49-1/4	652
	KAH6A193*DA	30	3	3/4	850	7/8	2-5/8	8	3	139-7/8	27-3/8	49-1/4	652
	KAH6A215*DA	30	4	3/4	850	7/8	2-5/8	10	4	179-7/8	27-3/8	49-1/4	837
	KAH6A263*DA	30	4	3/4	850	1-1/8	2-5/8	10	4	179-7/8	27-3/8	49-1/4	837

MEDIUM TEMPERATURE ELECTRIC DEFROST

	Model No.	Fan Diam. (In.)	Motor Data			Refrigerant Connections (In.)		No. of Hangers Slot Location	Fig.	Unit Dimensions (In.)			Approx. Unit Wt. (Lbs.)
			Motor Qty.	HP	RPM	Liquid Line^	Suction			L	W	H	
6 FPI	KAH6D037*DA	30	1	3/4	850	1/2	1-3/8	4	1	59-7/8	27-3/8	49-1/4	293
	KAH6D052*DA	30	1	3/4	850	5/8	1-3/8	4	1	59-7/8	27-3/8	49-1/4	293
	KAH6D063*DA	30	1	3/4	850	5/8	1-5/8	4	1	59-7/8	27-3/8	49-1/4	293
	KAH6D077*DA	30	2	3/4	850	5/8	1-5/8	6	2	99-7/8	27-3/8	49-1/4	489
	KAH6D107*DA	30	2	3/4	850	7/8	2-1/8	6	2	99-7/8	27-3/8	49-1/4	489
	KAH6D129*DA	30	2	3/4	850	7/8	2-1/8	6	2	99-7/8	27-3/8	49-1/4	489
	KAH6D161*DA	30	3	3/4	850	7/8	2-1/8	8	3	139-7/8	27-3/8	49-1/4	652
	KAH6D192*DA	30	3	3/4	850	7/8	2-5/8	8	3	139-7/8	27-3/8	49-1/4	652
	KAH6D214*DA	30	4	3/4	850	7/8	2-5/8	10	4	179-7/8	27-3/8	49-1/4	837
	KAH6D262*DA	30	4	3/4	850	1-1/8	2-5/8	10	4	179-7/8	27-3/8	49-1/4	837

* Asterisk represents a variable character based on voltage ordered. See nomenclature on page 4 for details.
^ For units with mounted TXV components. See Nozzle/TXV table for distributor connection size when TXV is field installed.
For dimensional distance between hanger slots, consult model's corresponding dimensional drawing. Hanger slots are 3/8 deep x 1 wide.
Drain connection is 1-1/4 NPT for all models.
For shipping dimensions and weights, see the Shipping information on pages 20-23 included with each dimensional drawing.

PHYSICAL SPECIFICATIONS

LOW TEMPERATURE ELECTRIC DEFROST

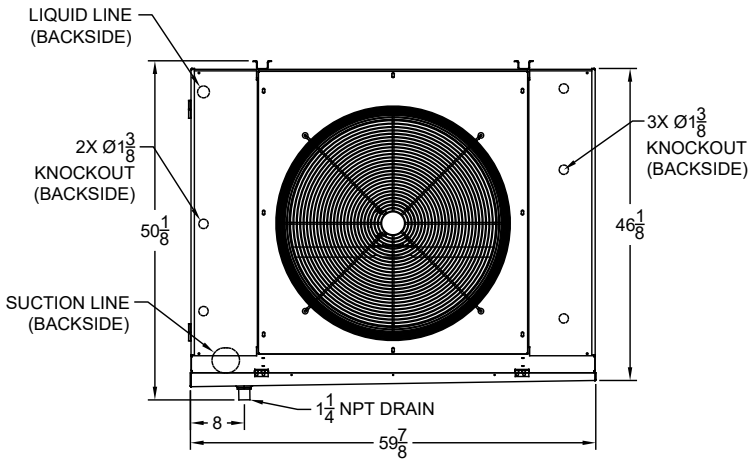
	Model No.	Fan Diam. (In.)	Motor Data			Refrigerant Connections (In.)		No. of Hangers Slot Location	Fig.	Unit Dimensions (In.)			Approx. Unit Wt. (Lbs.)
			Motor Qty.	HP	RPM	Liquid Line^	Suction			L	W	H	
6 FPI	KAH6E040*DA	30	1	3/4	850	1/2	2-1/8	4	1	59-7/8	27-3/8	49-1/4	293
	KAH6E053*DA	30	1	3/4	850	5/8	2-1/8	4	1	59-7/8	27-3/8	49-1/4	293
	KAH6E065*DA	30	1	3/4	850	5/8	2-1/8	4	1	59-7/8	27-3/8	49-1/4	293
	KAH6E080*DA	30	2	3/4	850	7/8	2-5/8	6	2	99-7/8	27-3/8	49-1/4	489
	KAH6E106*DA	30	2	3/4	850	7/8	2-5/8	6	2	99-7/8	27-3/8	49-1/4	489
	KAH6E131*DA	30	2	3/4	850	7/8	3-1/8	6	2	99-7/8	27-3/8	49-1/4	489
	KAH6E160*DA	30	3	3/4	850	7/8	3-1/8	8	3	139-7/8	27-3/8	49-1/4	652
	KAH6E188*DA	30	3	3/4	850	1-1/8	3-5/8	8	3	139-7/8	27-3/8	49-1/4	652
	KAH6E237*DA	30	4	3/4	850	1-1/8	3-5/8	10	4	179-7/8	27-3/8	49-1/4	837
4 FPI	KAH4E043*DA	30	1	3/4	850	5/8	2-1/8	4	1	59-7/8	27-3/8	49-1/4	293
	KAH4E053*DA	30	1	3/4	850	5/8	2-1/8	4	1	59-7/8	27-3/8	49-1/4	293
	KAH4E086*DA	30	2	3/4	850	7/8	2-5/8	6	2	99-7/8	27-3/8	49-1/4	489
	KAH4E105*DA	30	2	3/4	850	7/8	2-5/8	6	2	99-7/8	27-3/8	49-1/4	489
	KAH4E128*DA	30	3	3/4	850	7/8	3-1/8	8	3	139-7/8	27-3/8	49-1/4	652
	KAH4E158*DA	30	3	3/4	850	7/8	3-1/8	8	3	139-7/8	27-3/8	49-1/4	652
	KAH4E198*DA	30	4	3/4	850	1-1/8	3-5/8	10	4	179-7/8	27-3/8	49-1/4	837

* Asterisk represents a variable character based on voltage ordered. See nomenclature on page 4 for details.
^ For units with mounted TXV components. See Nozzle/TXV table for distributor connection size when TXV is field installed.
For dimensional distance between hanger slots, consult model's corresponding dimensional drawing. Hanger slots are 3/8 deep x 1 wide.
Drain connection is 1-1/4 NPT for all models.
For shipping dimensions and weights, see the Shipping information on pages 20-23 included with each dimensional drawing.

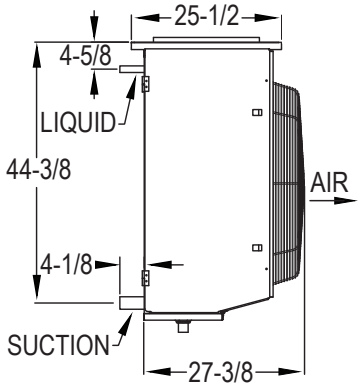
DIMENSIONAL DRAWINGS

Figure 1: Single Fan

Front View



Side View



Top View

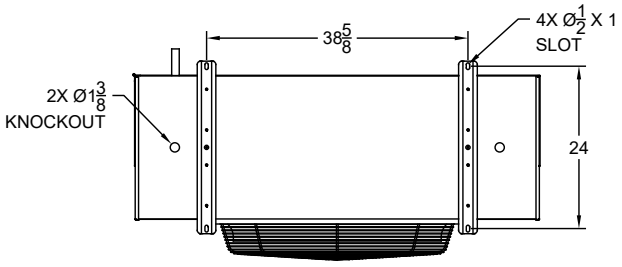


FIGURE 1: SHIPPING INFORMATION

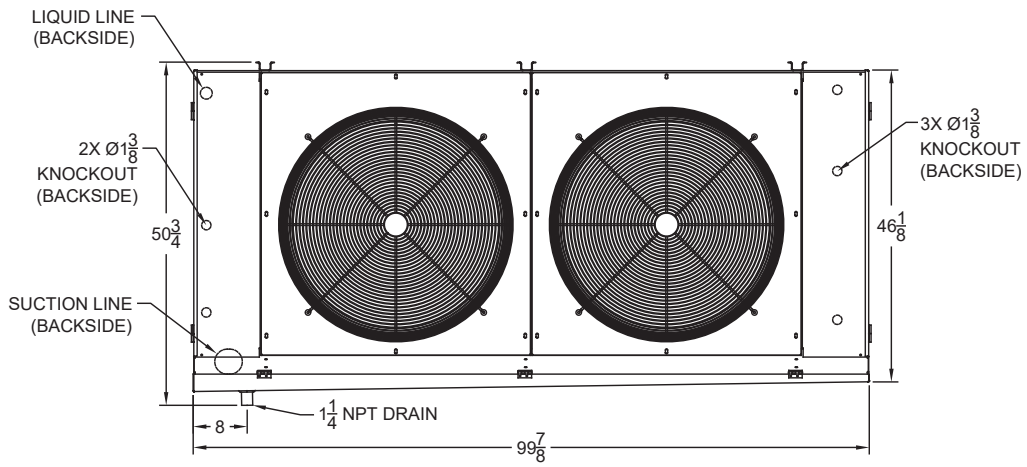
No. of Fans	Shipping Dimensions (In.)			Shipping Weight (Lbs)
	L	W	H	
1	69	42	66	470

All mounting holes are 1/2 diameter.
Mounted hanger spacers aid in the correct installation.
All dimensions are in inches.

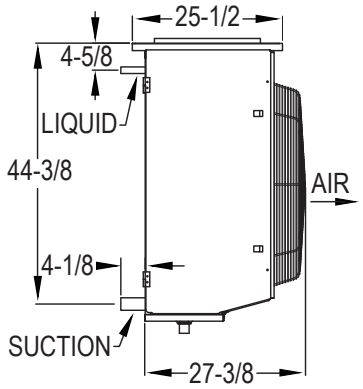
DIMENSIONAL DRAWINGS

Figure 2: Two Fan

Front View



Side View



Top View

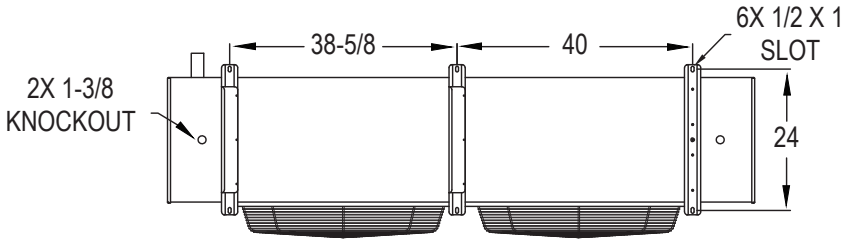


FIGURE 2: SHIPPING INFORMATION

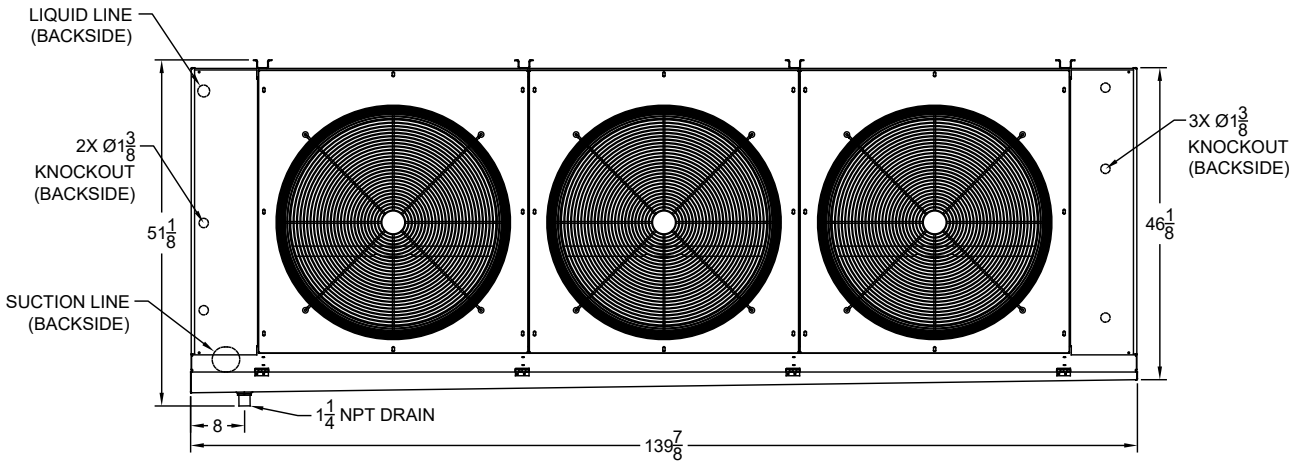
No. of Fans	Shipping Dimensions (In.)			Shipping Weight (Lbs)
	L	W	H	
2	109	42	66	730

All mounting holes are 1/2 diameter.
Mounted hanger spacers aid in the correct installation.
All dimensions are in inches.

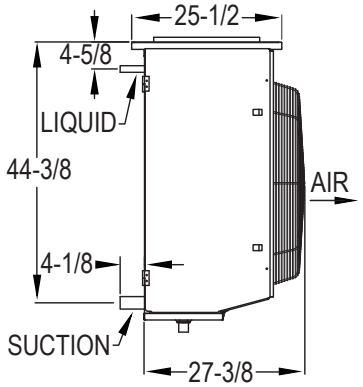
DIMENSIONAL DRAWINGS

Figure 3: Three Fan

Front View



Side View



Top View

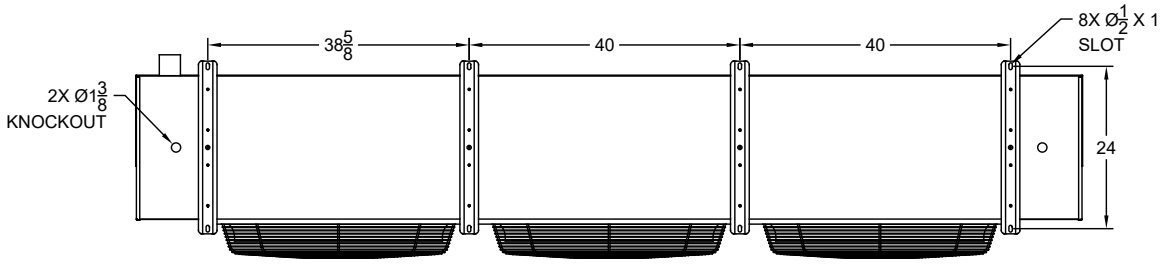


FIGURE 3: SHIPPING INFORMATION

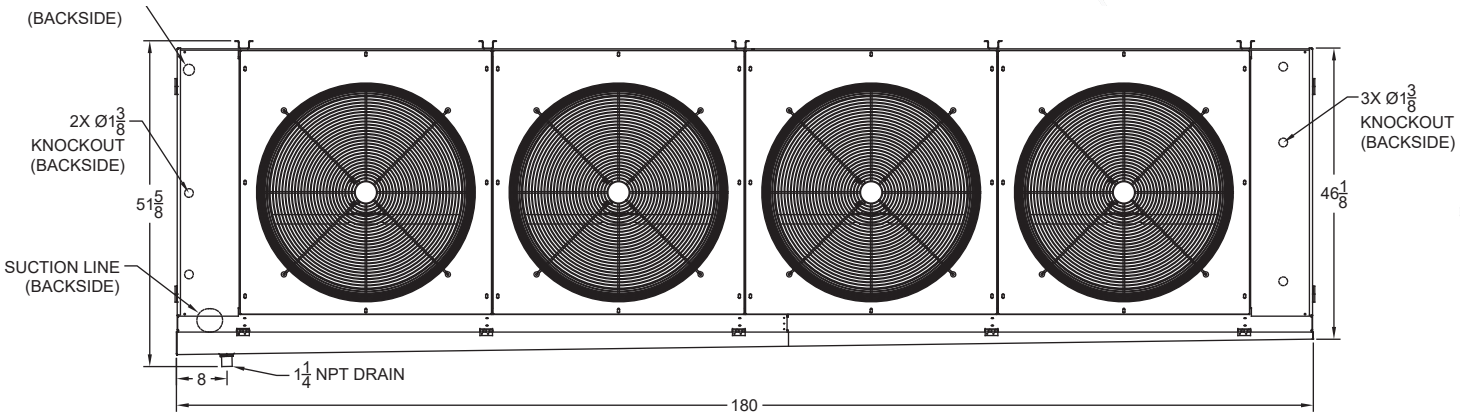
No. of Fans	Shipping Dimensions (In.)			Shipping Weight (Lbs)
	L	W	H	
3	146	42	66	1,000

All mounting holes are 1/2 diameter.
Mounted hanger spacers aid in the correct installation.
All dimensions are in inches.

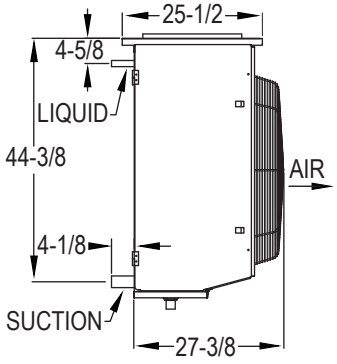
DIMENSIONAL DRAWINGS

Figure 4: Four Fan

Front View



Side View



Top View

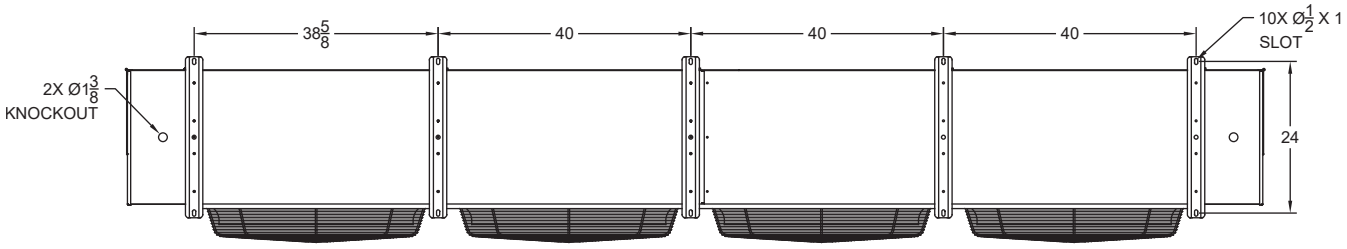


FIGURE 4: SHIPPING INFORMATION

No. of Fans	Shipping Dimensions (In.)			Shipping Weight (Lbs)
	L	W	H	
4	189	42	66	1,130

All mounting holes are 1/2 diameter.
Mounted hanger spacers aid in the correct installation.
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 RATING // COOLER & FREEZER MODELS

Department of Energy Annual Walk-In Energy Factor (AWEF) Ratings

Cooler Models[1]

Base Model No.	Defrost Type	FPI	AWEF
KAH6A038*DA	Air Defrost	6	9
KAH6A053*DA	Air Defrost	6	9
KAH6A064*DA	Air Defrost	6	9
KAH6A076*DA	Air Defrost	6	9
KAH6A108*DA	Air Defrost	6	9
KAH6A130*DA	Air Defrost	6	9
KAH6A162*DA	Air Defrost	6	9
KAH6A193*DA	Air Defrost	6	9
KAH6A215*DA	Air Defrost	6	9
KAH6A263*DA	Air Defrost	6	9
KAH6D037*DA	Medium Temp Electric Defrost	6	9
KAH6D052*DA	Medium Temp Electric Defrost	6	9
KAH6D063*DA	Medium Temp Electric Defrost	6	9
KAH6D077*DA	Medium Temp Electric Defrost	6	9
KAH6D107*DA	Medium Temp Electric Defrost	6	9
KAH6D129*DA	Medium Temp Electric Defrost	6	9
KAH6D161*DA	Medium Temp Electric Defrost	6	9
KAH6D192*DA	Medium Temp Electric Defrost	6	9
KAH6D214*DA	Medium Temp Electric Defrost	6	9
KAH6D262*DA	Medium Temp Electric Defrost	6	9

* Each asterisk represents a variable character based on defrost and voltage ordered. See page 4 for nomenclature.

Department of Energy Annual Walk-In Energy Factor (AWEF) Ratings

Freezer Models[2]

Base Model No.	Defrost Type	FPI	AWEF
KAH6E033*DA	Low Temp Electric Defrost	6	4.15
KAH6E044*DA	Low Temp Electric Defrost	6	4.15
KAH6E053*DA	Low Temp Electric Defrost	6	4.15
KAH6E066*DA	Low Temp Electric Defrost	6	4.15
KAH6E089*DA	Low Temp Electric Defrost	6	4.15
KAH6E109*DA	Low Temp Electric Defrost	6	4.15
KAH6E134*DA	Low Temp Electric Defrost	6	4.15
KAH6E163*DA	Low Temp Electric Defrost	6	4.15
KAH6E199*DA	Low Temp Electric Defrost	6	4.15
KAH4E035*DA	Low Temp Electric Defrost	4	4.15
KAH4E044*DA	Low Temp Electric Defrost	4	4.15
KAH4E071*DA	Low Temp Electric Defrost	4	4.15
KAH4E087*DA	Low Temp Electric Defrost	4	4.15
KAH4E107*DA	Low Temp Electric Defrost	4	4.15
KAH4E131*DA	Low Temp Electric Defrost	4	4.15
KAH4E167*DA	Low Temp Electric Defrost	4	4.15

[1] If the model has a numerical value in the AWEF table below, the following statement applies:
The refrigeration system is designed and certified for use in walk-in cooler applications less than 3,000 sq. ft.

[2] If the model has a numerical value in the AWEF table below, the following statement applies:
The refrigeration system is designed and certified for use in walk-in cooler applications less than 3,000 sq. ft.

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