KRAMER

A1/A2L
DUAL-RATED NEXT-GEN ALL TEMP LOW PROFILE UNIT COOLER

Walk-Ins: Small to Medium Cooler and Freezer Applications

Air Defrost

4,100 to 37,500 BTUH

Electric Defrost

4,200 to 23,700 BTUH

FEATURES

Introducing the Dual-Rated All Temp Low Profile Unit Cooler – engineered for flexibility in an evolving regulatory landscape. Our Dual-Rated All Temp evaporators are designed to seamlessly accommodate both A1 and A2L* refrigerant classes with a single coil solution. No matter how the standards shift, we've got you covered with one unit that delivers performance, reliability, and peace of mind. Simplify conversions, stay ahead of regulations, and keep your operations running efficiently – all with one versatile design.

SIZES

There are a wide array of sizes available with capacities ranging from 4,100 to 37,500 BTUH for Air Defrost and 4,200 to 23,700 BTUH for Electric Defrost at a 10° TD. One through five fan models are available with air flow spanning a range of 775 to 3,925 CFM.

HOUSING

The lightweight yet durable embossed aluminum casing is designed to prevent short cycling of the discharge air with baffled fan sections. These units are compliant with NSF requirements and designed to mount flush to the ceiling. The top panel features 1/2" wide slotted mounting points for easy installation. The removable drain fitting is located at the bottom of the drain pan for easy field connection and can be replaced without changing the entire drain pan. The end panels can be easily slid out from the front of the unit, providing convenient access to the spacious electrical and piping compartments from the front or side for easy maintenance.

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. Models are available in 6 fins per inch (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 and are compliant with California Title 24 regulations. All motors include thermal overload protection

FANS AND FAN GUARDS

Heavy duty 12" aluminum fans are balanced to provide vibration-free operation. Improved black plastic fan guard design and deep draw venturi achieve optimal air pattern.

REFRIGERANTS

The Dual-Rated All Temp Low Profile Unit Coolers are engineered for compatibility with both A1 and A2L* refrigerant classifications. A1 refrigerants include R404A, R407A, R448A, and R449A/B while A2L* refrigerants include R454A, R454C, and R455A. Each unit features liquid and suction connections located at the piping end, providing convenient access for mounting expansion valves.

ELECTRICAL

Available for 115V (Air Defrost) and 208-230V (Electric Defrost). A large electrical compartment is supplied internal to the unit to house the electrical components and is easily accessible by removing the slide out end panel. All models are UL and cUL listed and are available for 60 Hz or 50 Hz applications.

*Conversion kits are sold separately and are required for A2L applications.

AIR DEFROST

Air Defrost models are designed for use in coolers 35°F and warmer. All components are factory wired to convenient screw-type terminal strips.

ELECTRIC DEFROST

Electric Defrost 6 FPI models are designed for use in coolers and freezers between 34°F to -20°F. Defrost heaters are mounted on the air intake side of the unit for optimal performance and easy maintenance.

An additional lower heater is installed inside the drain pan for fast, reliable drainage. A defrost termination fan delay thermostat terminates the defrost cycle when the temperature is satisfied. The fan delay allows the warm coil to cool after a defrost cycle prior to the fans turning on. A heater safety thermostat is installed to prevent overheating.

DUAL-RATED KIT

NEXT-GEN ALL TEMP LOW PROFILE UNIT COOLER

The A1/A2L Conversion Kit provides a reliable upgrade for unit coolers, ensuring performance with next-generation refrigerants while satisfying A2L specific requirements. Designed with integrated leak detection, this kit enhances safety and reliability.

Its service focused design is optimized for installation and it includes all the necessary components for a smooth and efficient conversion.

*Conversion kits are sold separately and are required for A2L applications.

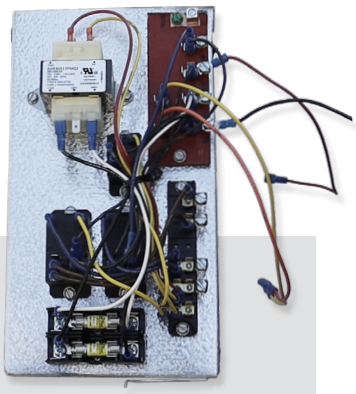
MODEL NOMENCLATURE

K	D	L	6	A	050	A	D	A
Brand	Refrigerant Class	Connections	Fins per Inch (FPI)	Defrost Type	BTUH in Hundreds	Unit Voltage	Motor Type	Vintage
K = Kramer	D = Dual-Rated A1/A2L (R404A, R407A, R448A, R449A/B, R454A, R454C, R455A)	L = Standard	6 FPI	A = Air E = Electric	XXX	A =115/1/60 D = 208-230/1/60	D = Dual Speed EC	A

A2L READY, MADE SIMPLE

QUICK CONVERSION KIT

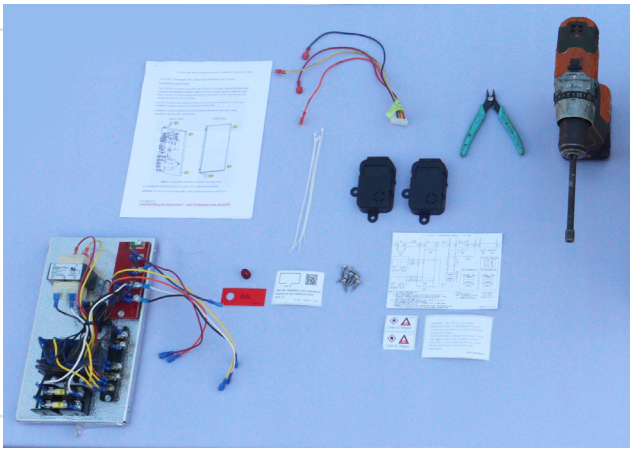
STEP-BY-STEP GUIDE



DUAL-RATED KIT

THE FLEXIBILITY YOU NEED, THE CLARITY YOU WANT

- Converts Dual-Rated Unit Coolers from A1 to A2L
- Enhanced safety with built-in leak detection technology
- Quick, hassle-free installation for Dual-Rated Evaporators
- Complete kit includes all components for a seamless installation



SCAN TO WATCH VIDEO TUTORIAL

A1/A2L CONVERSION

QUICK INSTALLATION TIPS

1. Remove access doors from header and return ends
2. Connect sensors to existing harness
3. Install refrigerant detector(s) using pre-drilled holes
4. Mount relay panel assembly
5. Complete wiring per provided diagrams
6. Apply labels and reinstall access doors

5/16" nut driver and flat-head screwdriver

Part Numbers	
08543357	Air Defrost Conversion Kit
08543358	Electric Defrost Conversion Kit
08543359	Secondary Sensor - 5 Fan Units

*Conversion kits are sold separately and required for A2L applications.
**Additional safety requirements are required for Refrigeration Systems utilizing A2L Refrigerants besides installation of the Conversion Kit on Dual-Rated evaporators. These requirements include leak mitigation valves, aMin & mRel compliance and additional requirements found in ASHRAE 15. Familiarize yourself with these additional requirements & follows instructions provided in Installation Operation Manuals to maintain compliance with safety standards.

APPLICATION RATING & ELECTRICAL DATA

AIR DEFROST MODELS // 6 FPI

Model Number	BTUH Capacity @ 25°F ST and 10°F TD			CFM	No. of Fans	115V		
	R404A	R407A/R448A/ R449A/B	R454A/R454C/ R455A[1]			Total Fan EC Motor Amps (1Phase)	MCA	MOPD
KDL6A050ADA	4,100	4,800	5,000	800	1	0.8	15.0	20
KDL6A062ADA	5,200	6,000	6,200	785				
KDL6A081ADA	6,600	7,800	8,100	775				
KDL6A088ADA	7,300	8,500	8,800	1600	2	1.6	15.0	20
KDL6A113ADA	9,400	10,900	11,300	1570				
KDL6A141ADA	11,700	13,600	14,100	1550				
KDL6A159ADA	13,000	15,300	15,900	1550				
KDL6A170ADA	14,100	16,300	17,000	2355	3	2.4	15.0	20
KDL6A196ADA	16,100	18,800	19,600	2355				
KDL6A220ADA	18,100	21,200	22,000	2325				
KDL6A234ADA	19,500	22,500	23,400	3140	4	3.2	15.0	20
KDL6A289ADA	23,500	27,800	28,900	3140				
KDL6A316ADA	26,000	30,400	31,600	3199				
KDL6A375ADA	29,500	36,100	37,500	3875	5	4.0	15.0	20

*Dual Speed EC Motors include thermal overload protection.
[1] Additional Conversion Kit required with A2L refrigerants.

ELECTRIC DEFROST MODELS // 6 FPI

Model No.	BTUH Capacity @ -20°F ST and 10°F TD			CFM	No. of Fans	Total Fan Motor Amps (1Phase)	208-230V/1		230V	Heater Watts
						EC Motor	Base Model		Heater Amps	
	R404A	R407A/ R448A/ R449A/B	R454A/R454C/ R455A[1]			208-230V	MCA	MOPD	1PH	
KDL6E051DDA	4,200	4,900	5,100	785	1	0.5	15.0	20	4.9	1125
KDL6E058DDA	4,900	5,600	5,800	775						
KDL6E079DDA	6,600	7,600	7,900	1600	2	1.0	15.0	20	9.8	2250
KDL6E092DDA	7,700	8,800	9,200	1570						
KDL6E110DDA	9,000	10,600	11,000	1550						
KDL6E129DDA	10,500	12,400	12,900	1550						
KDL6E148DDA	12,100	14,200	14,800	2355	3	1.5	15.0	20	14.3	3300
KDL6E173DDA	14,200	16,600	17,300	2325						
KDL6E194DDA	16,200	18,700	19,400	3140	4	2.0	15.0	20	19.2	4425
KDL6E218DDA	18,200	21,000	21,800	3100						
KDL6E237DDA	20,000	22,800	23,700	3925	5	2.5	15.0	20.0	24.1	5550

*Dual Speed EC Motors include thermal overload protection.
[1] Additional Conversion Kit required with A2L refrigerants.

Capacity Correction for Electric Defrost Evaporators					
SST (Dew)	20	0	-10	-20	-30
Multiply Capacity by:	1.15	1.075	1.038	1	0.963

DISTRIBUTOR NOZZLES & EXPANSION VALVES

A1 AIR DEFROST MODELS // 6 FPI

	Model No.	Part No.			No. of Circuits	Tube Diameter & Length
		Nozzle @ 100°F Liquid Temp	TXV @ 100°F Liquid Temp	EEV @ 100°F Liquid Temp		
R404A	KDL6A050ADA	–	SBFSE-AA-C	SER-AA	1	-
	KDL6A062ADA	–	SBFSE-AA-C	SER-A	1	-
	KDL6A081ADA	L, #3/4	SBFSE-A-C	SER-A	2	3/16 x 14
	KDL6A088ADA	L, #3/4	SBFSE-A-C	SER-A	2	3/16 x 14
	KDL6A113ADA	L, #1	SBFSE-A-C	SER-B	2	3/16 x 14
	KDL6A141ADA	L, #1-1/2	SBFSE-A-C	SER-B	3	3/16 x 14
	KDL6A159ADA	L, #1-1/2	SBFSE-B-C	SER-B	3	3/16 x 14
	KDL6A170ADA	L, #1-1/2	SBFSE-B-C	SER-B	4	3/16 x 14
	KDL6A196ADA	L, #1-1/2	SBFSE-B-C	SER-C	3	3/16 x 14
	KDL6A220ADA	L, #2	SBFSE-B-C	SER-C	4	3/16 x 14
	KDL6A234ADA	L, #2	SBFSE-B-C	SER-C	4	3/16 x 14
	KDL6A289ADA	L, #2-1/2	SBFSE-C-C	SER-C	6	3/16 x 14
	KDL6A316ADA	L, #2-1/2	SBFSE-C-C	SER-C	6	3/16 x 14
	KDL6A375ADA	L, #3	SBFSE-C-C	SER-C	8	3/16 x 14
R407A/R448A/R449A/B	KDL6A050ADA	–	SBFDE-AA-C	SER-AA	1	-
	KDL6A062ADA	–	SBFDE-AA-C	SER-AA	1	-
	KDL6A081ADA	L, #3/4	SBFDE-AA-C	SER-A	2	3/16 x 14
	KDL6A088ADA	L, #3/4	SBFDE-AA-C	SER-A	2	3/16 x 14
	KDL6A113ADA	L, #1	SBFDE-A-C	SER-A	2	3/16 x 14
	KDL6A141ADA	L, #1-1/2	SBFDE-A-C	SER-B	3	3/16 x 14
	KDL6A159ADA	L, #1-1/2	SBFDE-A-C	SER-B	3	3/16 x 14
	KDL6A170ADA	L, #1-1/2	SBFDE-A-C	SER-B	4	3/16 x 14
	KDL6A196ADA	L, #1-1/2	SBFDE-B-C	SER-B	3	3/16 x 14
	KDL6A220ADA	L, #2	SBFDE-B-C	SER-B	4	3/16 x 14
	KDL6A234ADA	L, #2	SBFDE-B-C	SER-B	4	3/16 x 14
	KDL6A289ADA	L, #2-1/2	SBFDE-B-C	SER-C	6	3/16 x 14
	KDL6A316ADA	L, #2-1/2	SBFDE-C-C	SER-C	6	3/16 x 14
	KDL6A375ADA	L, #3	SBFDE-C-C	SER-C	8	3/16 x 14

Above selections for reference only.
Expansion valve selections based on +25 Suction Temp and 8°F to 12°F evaporator TD. Contact factory for operating conditions outside this range.
SBFDE Expansion valves are compatible with R407A and R448A refrigerants. SBFSE Expansion valves are compatible with R404A refrigerant.
For other valves, follow manufacturers selection guidelines.
Base models (with no factory-mounted components) include nozzles sized for 100°F liquid, shipped loose.

DISTRIBUTOR NOZZLES & EXPANSION VALVES

A2L AIR DEFROST MODELS // 6 FPI

	Model No.	Part No.			No. of Circuits	Tube Diameter & Length
		Nozzle @ 100°F Liquid Temp	TXV @ 100°F Liquid Temp	EEV @ 100°F Liquid Temp		
R454A	KDL6A050ADA	-	SBFTE-AA-C	SER-AA	1	-
	KDL6A062ADA	-	SBFTE-AA-C	SER-AA	1	-
	KDL6A081ADA	3/4,TYPE L	SBFTE-A-C	SER-A	2	3/16 x 14
	KDL6A088ADA	3/4,TYPE L	SBFTE-A-C	SER-A	2	3/16 x 14
	KDL6A113ADA	1,TYPE L	SBFTE-A-C	SER-A	2	3/16 x 14
	KDL6A141ADA	1-1/2,TYPE L	SBFTE-A-C	SER-A	3	3/16 x 14
	KDL6A159ADA	1-1/2,TYPE L	SBFTE-B-C	SER-B	3	3/16 x 14
	KDL6A170ADA	1-1/2,TYPE L	SBFTE-B-C	SER-B	4	3/16 x 14
	KDL6A196ADA	1-1/2,TYPE L	SBFTE-B-C	SER-B	3	3/16 x 14
	KDL6A220ADA	2,TYPE L	SBFTE-B-C	SER-B	4	3/16 x 14
	KDL6A234ADA	2,TYPE L	SBFTE-B-C	SER-B	4	3/16 x 14
	KDL6A289ADA	2-1/2,TYPE L	SBFTE-C-C	SER-B	6	3/16 x 14
	KDL6A316ADA	2-1/2,TYPE L	SBFTE-C-C	SER-C	6	3/16 x 14
	KDL6A375ADA	3,TYPE L	SBFTE-C-C	SER-C	8	3/16 x 14
R454C	KDL6A050ADA	-	SBFVE-AA-C	SER-AA	1	-
	KDL6A062ADA	-	SBFVE-AA-C	SER-AA	1	-
	KDL6A081ADA	3/4,TYPE L	SBFVE-A-C	SER-A	2	3/16 x 14
	KDL6A088ADA	3/4,TYPE L	SBFVE-A-C	SER-A	2	3/16 x 14
	KDL6A113ADA	1,TYPE L	SBFVE-A-C	SER-A	2	3/16 x 14
	KDL6A141ADA	1-1/2,TYPE L	SBFVE-A-C	SER-B	3	3/16 x 14
	KDL6A159ADA	1-1/2,TYPE L	SBFVE-B-C	SER-B	3	3/16 x 14
	KDL6A170ADA	1-1/2,TYPE L	SBFVE-B-C	SER-B	4	3/16 x 14
	KDL6A196ADA	2,TYPE L	SBFVE-B-C	SER-B	3	3/16 x 14
	KDL6A220ADA	2,TYPE L	SBFVE-B-C	SER-B	4	3/16 x 14
	KDL6A234ADA	2,TYPE L	SBFVE-B-C	SER-B	4	3/16 x 14
	KDL6A289ADA	2-1/2,TYPE L	SBFVE-C-C	SER-C	6	3/16 x 14
	KDL6A316ADA	3,TYPE L	SBFVE-C-C	SER-C	6	3/16 x 14
	KDL6A375ADA	4,TYPE L	SBFVE-C-C	SER-C	8	3/16 x 14
R455A	KDL6A050ADA	-	SBFVE-AA-C	SER-AA	1	-
	KDL6A062ADA	-	SBFVE-AA-C	SER-AA	1	-
	KDL6A081ADA	3/4,TYPE L	SBFVE-A-C	SER-A	2	3/16 x 14
	KDL6A088ADA	3/4,TYPE L	SBFVE-A-C	SER-A	2	3/16 x 14
	KDL6A113ADA	1,TYPE L	SBFVE-A-C	SER-A	2	3/16 x 14
	KDL6A141ADA	1-1/2,TYPE L	SBFVE-A-C	SER-B	3	3/16 x 14
	KDL6A159ADA	1-1/2,TYPE L	SBFVE-B-C	SER-B	3	3/16 x 14
	KDL6A170ADA	1-1/2,TYPE L	SBFVE-B-C	SER-B	4	3/16 x 14
	KDL6A196ADA	2,TYPE L	SBFVE-B-C	SER-B	3	3/16 x 14
	KDL6A220ADA	2,TYPE L	SBFVE-B-C	SER-B	4	3/16 x 14
	KDL6A234ADA	2,TYPE L	SBFVE-B-C	SER-B	4	3/16 x 14
	KDL6A289ADA	2-1/2,TYPE L	SBFVE-C-C	SER-C	6	3/16 x 14
	KDL6A316ADA	,3,TYPE L	SBFVE-C-C	SER-C	6	3/16 x 14
	KDL6A375ADA	4,TYPE L	SBFVE-C-C	SER-C	8	3/16 x 14

Additional Conversion Kit required with A2L refrigerants.
Above selections for reference only.
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 manufacturers 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 // 6 FPI

	Model No.	Amin Values (Ft^2)					Loose SSOV Isolation Valve		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	100°F Liquid Temp	Size	Description
R454A	KDL6A050ADA	17	23	28	34	40	3/8	SSOV3S130	5/8	CSOV-5S
	KDL6A062ADA	19	25	31	36	42	3/8	SSOV3S130	5/8	CSOV-5S
	KDL6A081ADA	21	27	33	38	44	3/8	SSOV3S130	5/8	CSOV-5S
	KDL6A088ADA	21	27	32	38	44	3/8	SSOV3S130	5/8	CSOV-5S
	KDL6A113ADA	25	31	37	43	49	3/8	SSOV3S130	7/8	CSOV-7S
	KDL6A141ADA	27	33	39	45	51	3/8	SSOV3S130	7/8	CSOV-7S
	KDL6A159ADA	29	35	41	47	53	3/8	SSOV6S130	7/8	CSOV-7S
	KDL6A170ADA	29	35	41	47	53	3/8	SSOV6S130	7/8	CSOV-7S
	KDL6A196ADA	36	47	58	69	80	1/2	SSOV6S140	7/8	CSOV-7S
	KDL6A220ADA	42	53	64	75	86	1/2	SSOV6S140	7/8	CSOV-7S
	KDL6A234ADA	39	50	61	72	84	1/2	SSOV6S140	7/8	CSOV-7S
	KDL6A289ADA	42	54	65	77	88	1/2	SSOV6S140	1-1/8	CSOV-9S
	KDL6A316ADA	50	61	73	84	96	1/2	SSOV6S140	1-1/8	CSOV-9S
	KDL6A375ADA	57	69	81	92	104	1/2	SSOV6S140	1-1/8	CSOV-9S
R454C	KDL6A050ADA	16	22	28	33	39	3/8	SSOV3S130	5/8	CSOV-5S
	KDL6A062ADA	18	24	30	35	41	3/8	SSOV3S130	5/8	CSOV-5S
	KDL6A081ADA	21	26	32	37	43	3/8	SSOV3S130	5/8	CSOV-5S
	KDL6A088ADA	20	26	31	37	42	3/8	SSOV3S130	5/8	CSOV-5S
	KDL6A113ADA	24	30	36	42	47	3/8	SSOV3S130	7/8	CSOV-7S
	KDL6A141ADA	26	32	38	44	49	3/8	SSOV3S130	7/8	CSOV-7S
	KDL6A159ADA	28	34	40	45	51	3/8	SSOV6S130	7/8	CSOV-7S
	KDL6A170ADA	28	34	39	45	51	3/8	SSOV6S130	7/8	CSOV-7S
	KDL6A196ADA	35	45	56	67	78	1/2	SSOV6S140	7/8	CSOV-7S
	KDL6A220ADA	40	51	62	73	84	1/2	SSOV6S140	7/8	CSOV-7S
	KDL6A234ADA	38	49	59	70	81	1/2	SSOV6S140	7/8	CSOV-7S
	KDL6A289ADA	41	52	63	74	85	1/2	SSOV6S140	1-1/8	CSOV-9S
	KDL6A316ADA	48	59	70	81	93	1/2	SSOV6S140	1-1/8	CSOV-9S
	KDL6A375ADA	56	67	78	89	100	1/2	SSOV6S140	1-1/8	CSOV-9S
R455A	KDL6A050ADA	15	20	25	30	35	3/8	SSOV3S130	5/8	CSOV-5S
	KDL6A062ADA	17	22	27	32	37	3/8	SSOV3S130	5/8	CSOV-5S
	KDL6A081ADA	19	24	29	34	39	3/8	SSOV3S130	5/8	CSOV-5S
	KDL6A088ADA	18	23	29	34	39	3/8	SSOV3S130	5/8	CSOV-5S
	KDL6A113ADA	22	27	33	38	43	3/8	SSOV3S130	7/8	CSOV-7S
	KDL6A141ADA	24	29	34	40	45	3/8	SSOV3S130	7/8	CSOV-7S
	KDL6A159ADA	26	31	36	41	47	3/8	SSOV6S130	7/8	CSOV-7S
	KDL6A170ADA	25	31	36	41	47	3/8	SSOV6S130	7/8	CSOV-7S
	KDL6A196ADA	32	41	51	61	71	1/2	SSOV6S140	7/8	CSOV-7S
	KDL6A220ADA	37	47	57	66	76	1/2	SSOV6S140	7/8	CSOV-7S
	KDL6A234ADA	35	44	54	64	74	1/2	SSOV6S140	7/8	CSOV-7S
	KDL6A289ADA	37	47	58	68	78	1/2	SSOV6S140	1-1/8	CSOV-9S
	KDL6A316ADA	44	54	64	74	85	1/2	SSOV6S140	1-1/8	CSOV-9S
	KDL6A375ADA	51	61	71	81	91	1/2	SSOV6S140	1-1/8	CSOV-9S

Additional Conversion Kit required with A2L refrigerants.
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

A1 ELECTRIC DEFROST MODELS // 6 FPI

Model No.		Part No.			No. of Circuits	Tube Diameter & Length
		Nozzle @ 100°F Liquid Temp	TXV @ 100°F Liquid Temp	EEV @ 100°F Liquid Temp		
R404A	KDL6E051DDA	3/4, TYPE L	SBFSE-AA-ZP	SER-AA	2	3/16 x 14
	KDL6E058DDA	1, TYPE L	SBFSE-A-ZP	SER-A	2	3/16 x 14
	KDL6E079DDA	1, TYPE L	SBFSE-A-ZP	SER-A	2	3/16 x 14
	KDL6E092DDA	1-1/2, TYPE L	SBFSE-A-ZP	SER-A	3	3/16 x 14
	KDL6E110DDA	1-1/2, TYPE L	SBFSE-A-ZP	SER-A	5	3/16 x 14
	KDL6E129DDA	2, TYPE L	SBFSE-B-ZP	SER-B	6	3/16 x 14
	KDL6E148DDA	2, TYPE L	SBFSE-B-ZP	SER-B	6	3/16 x 14
	KDL6E173DDA	2-1/2, TYPE L	SBFSE-B-ZP	SER-B	6	3/16 x 14
	KDL6E194DDA	2-1/2, TYPE L	SBFSE-C-ZP	SER-B	6	3/16 x 14
	KDL6E218DDA	3, TYPE L	SBFSE-C-ZP	SER-C	8	3/16 x 14"
	KDL6E237DDA	3, TYPE L	SBFSE-C-ZP	SER-C	9	3/16 x 14
R407A/R448A/R449A/B	KDL6E051DDA	3/4, TYPE L	SBFDE-AA-ZP	SER-AA	2	3/16 x 14
	KDL6E058DDA	3/4, TYPE L	SBFDE-AA-ZP	SER-AA	2	3/16 x 14
	KDL6E079DDA	1, TYPE L	SBFDE-A-ZP	SER-A	2	3/16 x 14
	KDL6E092DDA	1, TYPE L	SBFDE-A-ZP	SER-A	3	3/16 x 14
	KDL6E110DDA	1-1/2, TYPE L	SBFDE-B-ZP	SER-A	5	3/16 x 14
	KDL6E129DDA	2, TYPE L	SBFDE-B-ZP	SER-B	6	3/16 x 14
	KDL6E148DDA	2, TYPE L	SBFDE-B-ZP	SER-B	6	3/16 x 14
	KDL6E173DDA	2, TYPE L	SBFDE-B-ZP	SER-B	6	3/16 x 14
	KDL6E194DDA	2-1/2, TYPE L	SBFDE-C-ZP	SER-B	6	3/16 x 14
	KDL6E218DDA	2-1/2, TYPE L	SBFDE-C-ZP	SER-B	8	3/16 x 14
	KDL6E237DDA	3, TYPE L	SBFDE-C-ZP	SER-B	9	3/16 x 14

DISTRIBUTOR NOZZLES & EXPANSION VALVES

A2L ELECTRIC DEFROST MODELS // 6 FPI

Model No.		Part No.			No. of Circuits	Tube Diameter & Length
		Nozzle @ 100°F Liquid Temp	TXV @ 100°F Liquid Temp	EEV @ 100°F Liquid Temp		
R454A	KDL6E051DDA	3/4,TYPE L	SBFTE-AA-Z	SER-AA	2	3/16 x 14
	KDL6E058DDA	3/4,TYPE L	SBFTE-A-Z	SER-AA	2	3/16 x 14
	KDL6E079DDA	1,TYPE L	SBFTE-A-Z	SER-A	2	3/16 x 14
	KDL6E092DDA	1,TYPE L	SBFTE-A-Z	SER-A	3	3/16 x 14
	KDL6E110DDA	1-1/2,TYPE L	SBFTE-B-Z	SER-A	5	3/16 x 14
	KDL6E129DDA	2,TYPE L	SBFTE-B-Z	SER-A	6	3/16 x 14
	KDL6E148DDA	2,TYPE L	SBFTE-B-Z	SER-B	6	3/16 x 14
	KDL6E173DDA	2-1/2,TYPE L	SBFTE-B-Z	SER-B	6	3/16 x 14
	KDL6E194DDA	2-1/2,TYPE L	SBFTE-C-Z	SER-B	6	3/16 x 14
	KDL6E218DDA	3,TYPE L	SBFTE-C-Z	SER-B	8	3/16 x 14
	KDL6E237DDA	3,TYPE L	SBFTE-C-Z	SER-B	9	3/16 x 14
R454C	KDL6E051DDA	3/4,TYPE L	SBFVE-A-Z	SER-AA	2	3/16 x 14
	KDL6E058DDA	3/4,TYPE L	SBFVE-A-Z	SER-AA	2	3/16 x 14
	KDL6E079DDA	1-1/2,TYPE L	SBFVE-A-Z	SER-A	2	3/16 x 14
	KDL6E092DDA	1-1/2,TYPE L	SBFVE-B-Z	SER-A	3	3/16 x 14
	KDL6E110DDA	2,TYPE L	SBFVE-B-Z	SER-A	5	3/16 x 14
	KDL6E129DDA	2,TYPE L	SBFVE-B-Z	SER-A	6	3/16 x 14
	KDL6E148DDA	2,TYPE L	SBFVE-B-Z	SER-B	6	3/16 x 14
	KDL6E173DDA	2-1/2,TYPE L	SBFVE-C-Z	SER-B	6	3/16 x 14
	KDL6E194DDA	3,TYPE L	SBFVE-C-Z	SER-B	6	3/16 x 14
	KDL6E218DDA	3,TYPE L	SBFVE-C-Z	SER-B	8	3/16 x 14
	KDL6E237DDA	4,TYPE L	SBFVE-C-Z	SER-B	9	3/16 x 14
R455A	KDL6E051DDA	3/4,TYPE L	SBFVE-A-Z	SER-AA	2	3/16 x 14
	KDL6E058DDA	3/4,TYPE L	SBFVE-A-Z	SER-AA	2	3/16 x 14
	KDL6E079DDA	1-1/2,TYPE L	SBFVE-A-Z	SER-A	2	3/16 x 14
	KDL6E092DDA	1-1/2,TYPE L	SBFVE-B-Z	SER-A	3	3/16 x 14
	KDL6E110DDA	2,TYPE L	SBFVE-B-Z	SER-A	5	3/16 x 14
	KDL6E129DDA	2,TYPE L	SBFVE-B-Z	SER-A	6	3/16"x 14
	KDL6E148DDA	2,TYPE L	SBFVE-B-Z	SER-B	6	3/16 x 14
	KDL6E173DDA	2-1/2,TYPE L	SBFVE-C-Z	SER-B	6	3/16 x 14
	KDL6E194DDA	3,TYPE L	SBFVE-C-Z	SER-B	6	3/16 x 14
	KDL6E218DDA	3,TYPE L	SBFVE-C-Z	SER-B	8	3/16 x 14
	KDL6E237DDA	4,TYPE L	SBFVE-C-Z	SER-B	9	3/16 x 14

Additional Conversion Kit required with A2L refrigerants.
The Distributor lines are 3/16" diameter and 14" 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 manufacturers 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 // 6 FPI

	Model No.	Amin Values (Ft^2)					Loose SSOV Isolation Valve		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	100°F Liquid Temp	Size	Description
R454A	KDL6E051DDA	19	25	30	36	42	3/8	SSOV3S130	7/8	CSOV-7S
	KDL6E058DDA	21	27	32	38	44	3/8	SSOV3S130	7/8	CSOV-7S
	KDL6E079DDA	21	26	32	38	43	3/8	SSOV3S130	7/8	CSOV-7S
	KDL6E092DDA	25	30	36	42	47	3/8	SSOV3S130	7/8	CSOV-7S
	KDL6E110DDA	26	32	38	44	50	3/8	SSOV3S130	1-1/8	CSOV-9S
	KDL6E129DDA	29	35	40	46	52	3/8	SSOV3S130	1-1/8	CSOV-9S
	KDL6E148DDA	31	36	42	48	54	3/8	SSOV3S130	1-1/8	CSOV-9S
	KDL6E173DDA	41	52	63	74	85	1/2	SSOV6S140	1-1/8	CSOV-9S
	KDL6E194DDA	41	52	63	74	85	1/2	SSOV6S140	1-1/8	CSOV-9S
	KDL6E218DDA	48	60	71	82	93	1/2	SSOV6S140	1-3/8	CSOV-11S
	KDL6E237DDA	46	58	69	80	91	1/2	SSOV6S140	1-3/8	CSOV-11S
R454C	KDL6E051DDA	18	24	29	35	40	3/8	SSOV3S130	7/8	CSOV-7S
	KDL6E058DDA	20	26	31	37	42	3/8	SSOV3S130	7/8	CSOV-7S
	KDL6E079DDA	20	26	31	37	42	3/8	SSOV3S130	7/8	CSOV-7S
	KDL6E092DDA	24	29	35	40	46	3/8	SSOV3S130	7/8	CSOV-7S
	KDL6E110DDA	25	31	37	42	48	3/8	SSOV3S130	1-1/8	CSOV-9S
	KDL6E129DDA	28	33	39	45	51	3/8	SSOV3S130	1-1/8	CSOV-9S
	KDL6E148DDA	30	35	41	47	52	3/8	SSOV3S130	1-1/8	CSOV-9S
	KDL6E173DDA	40	51	61	72	83	1/2	SSOV6S140	1-1/8	CSOV-9S
	KDL6E194DDA	40	50	61	72	82	1/2	SSOV6S140	1-1/8	CSOV-9S
	KDL6E218DDA	47	58	69	80	90	1/2	SSOV6S140	1-3/8	CSOV-11S
	KDL6E237DDA	45	56	67	78	89	1/2	SSOV6S140	1-3/8	CSOV-11S
R455A	KDL6E042DDA	15	20	25	29	34	3/8	SSOV3S130	5/8	CSOV-5S
	KDL6E051DDA	17	22	27	32	37	3/8	SSOV3S130	7/8	CSOV-7S
	KDL6E058DDA	18	23	29	34	39	3/8	SSOV3S130	7/8	CSOV-7S
	KDL6E079DDA	18	23	28	33	38	3/8	SSOV3S130	7/8	CSOV-7S
	KDL6E092DDA	22	27	32	37	42	3/8	SSOV3S130	7/8	CSOV-7S
	KDL6E110DDA	23	28	33	39	44	3/8	SSOV3S130	1-1/8	CSOV-9S
	KDL6E129DDA	25	30	36	41	46	3/8	SSOV3S130	1-1/8	CSOV-9S
	KDL6E148DDA	27	32	37	43	48	3/8	SSOV3S130	1-1/8	CSOV-9S
	KDL6E173DDA	36	46	56	65	75	1/2	SSOV6S140	1-1/8	CSOV-9S
	KDL6E194DDA	36	46	56	65	75	1/2	SSOV6S140	1-1/8	CSOV-9S
	KDL6E218DDA	43	53	63	73	82	1/2	SSOV6S140	1-3/8	CSOV-11S
	KDL6E237DDA	41	51	61	71	81	1/2	SSOV6S140	1-3/8	CSOV-11S

Additional Conversion Kit required with A2L refrigerants.
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.

SPECIFICATIONS // ELECTRIC DEFROST MODELS

AIR DEFROST MODELS // 6 FPI

Model No.		Refrigerant Connections		No. of Hanger Slot Locations	Dimensions (In.)				Estimated Shipping Weight (Lbs.)
RDL6A	Fans	RDL6A Liquid	RDL6A Suction		A	B	C	D	
KDL6A050ADA	1	3/8	5/8	2	17-1/4	-	-	27-1/8	41
KDL6A062ADA	1	3/8	5/8	2	17-1/4	-	-	27-1/8	44
KDL6A081ADA	1	3/8	5/8	2	17-1/4	-	-	27-1/8	47
KDL6A088ADA	2	3/8	5/8	2	33-1/4	-	-	43-5/8	52
KDL6A113ADA	2	3/8	7/8	2	33-1/4	-	-	43-5/8	55
KDL6A141ADA	2	3/8	7/8	2	33-1/4	-	-	43-5/8	58
KDL6A159ADA	2	3/8	7/8	2	33-1/4	-	-	43-5/8	62
KDL6A170ADA	3	3/8	7/8	2	49-1/4	-	-	60-1/8	72
KDL6A196ADA	3	1/2	7/8	2	49-1/4	-	-	60-1/8	78
KDL6A220ADA	3	1/2	7/8	2	49-1/4	-	-	60-1/8	85
KDL6A234ADA	4	1/2	7/8	2	65-1/4	-	-	76-5/8	115
KDL6A289ADA	4	1/2	1-1/8	2	65-1/4	-	-	76-5/8	124
KDL6A316ADA	4	1/2	1-1/8	2	65-1/4	-	-	76-5/8	147
KDL6A375ADA	5	1/2	1-1/8	3	81-1/4	32-5/8	48-5/8	93-1/8	218

ELECTRIC DEFROST MODELS // 6 FPI

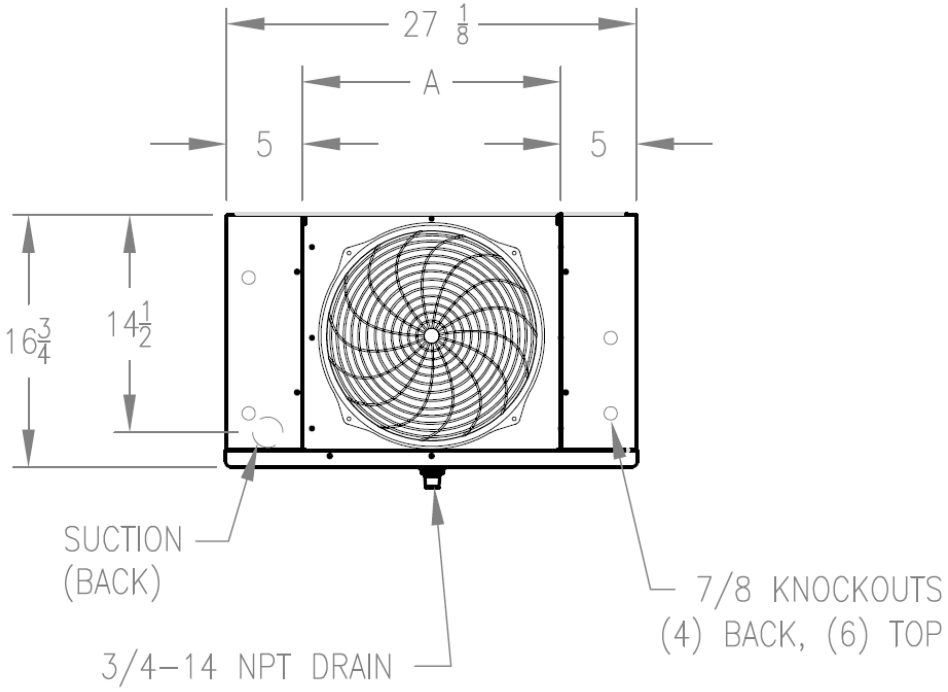
Model No.		Refrigerant Connections		No. of Hanger Slot Locations	Dimensions (In.)				Estimated Shipping Weight (Lbs.)
RDL6E	Fans	RDL6E Liquid	RDL6E Suction		A	B	C	D	
KDL6E051DDA	1	3/8	7/8	2	17-1/4	-	-	27-1/8	44
KDL6E058DDA	1	3/8	7/8	2	17-1/4	-	-	27-1/8	47
KDL6E079DDA	2	3/8	7/8	2	33-1/4	-	-	43-5/8	52
KDL6E092DDA	2	3/8	7/8	2	33-1/4	-	-	43-5/8	55
KDL6E110DDA	2	3/8	1-1/8	2	33-1/4	-	-	43-5/8	58
KDL6E129DDA	2	3/8	1-1/8	2	33-1/4	-	-	43-5/8	62
KDL6E148DDA	3	3/8	1-1/8	2	49-1/4	-	-	60-1/8	78
KDL6E173DDA	3	1/2	1-1/8	2	49-1/4	-	-	60-1/8	85
KDL6E194DDA	4	1/2	1-1/8	2	65-1/4	-	-	76-5/8	124
KDL6E218DDA	4	1/2	1-3/8	2	65-1/4	-	-	76-5/8	147
KDL6E237DDA	5	1/2	1-3/8	3	81-1/4	32-5/8	48-5/8	93-1/8	195

Drain connection is 3/4" NPT for all models.

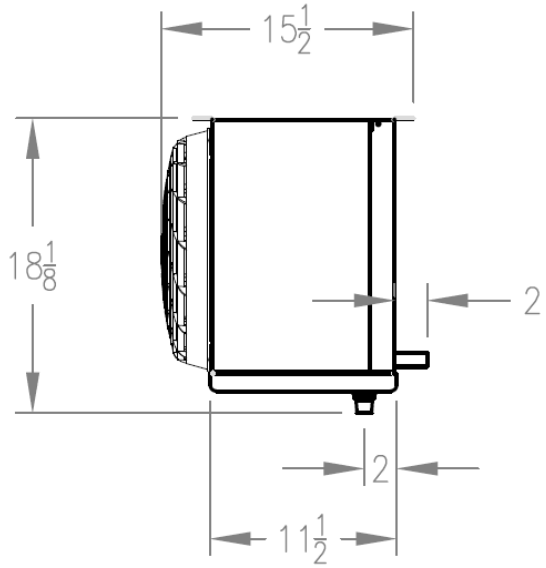
DIMENSIONAL DRAWINGS

Figure 1: Single Fan

Front View



Side View

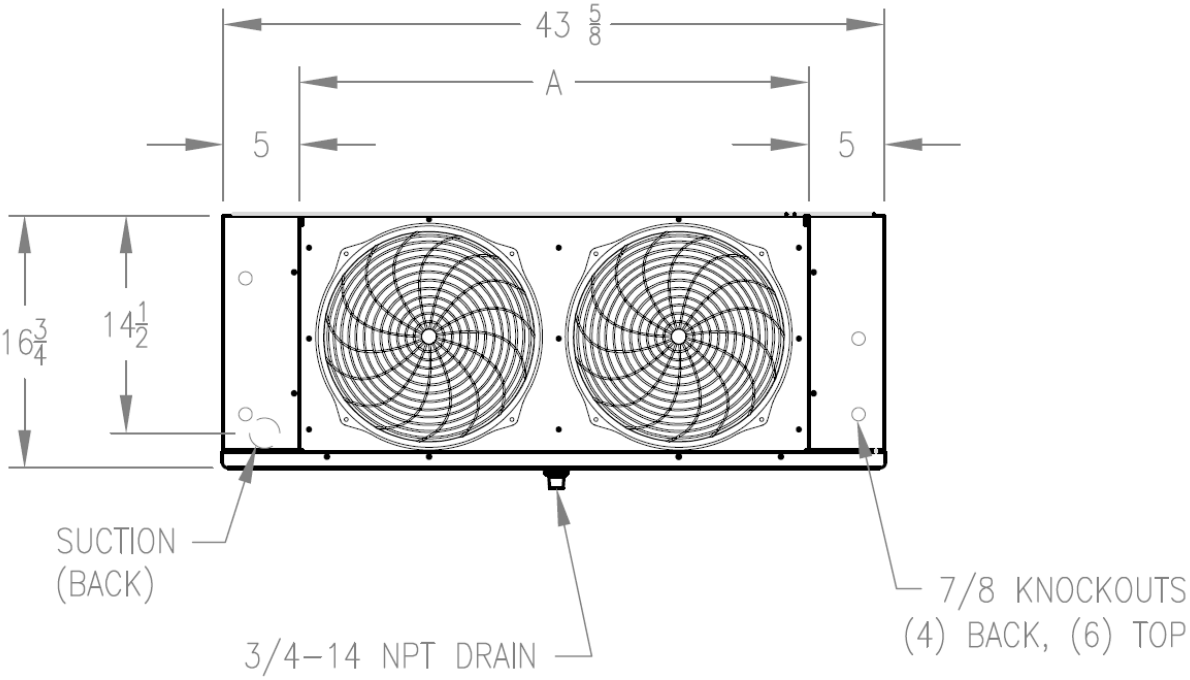


Measurements noted on the end view drawing are the same for all units. All mounting holes are 3/8" diameter.
All dimensions are in inches.

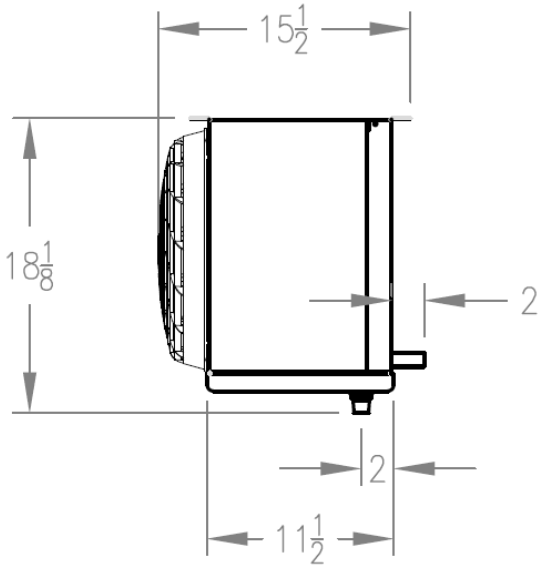
DIMENSIONAL DRAWINGS

Figure 2: Two Fan

Front View



Side View

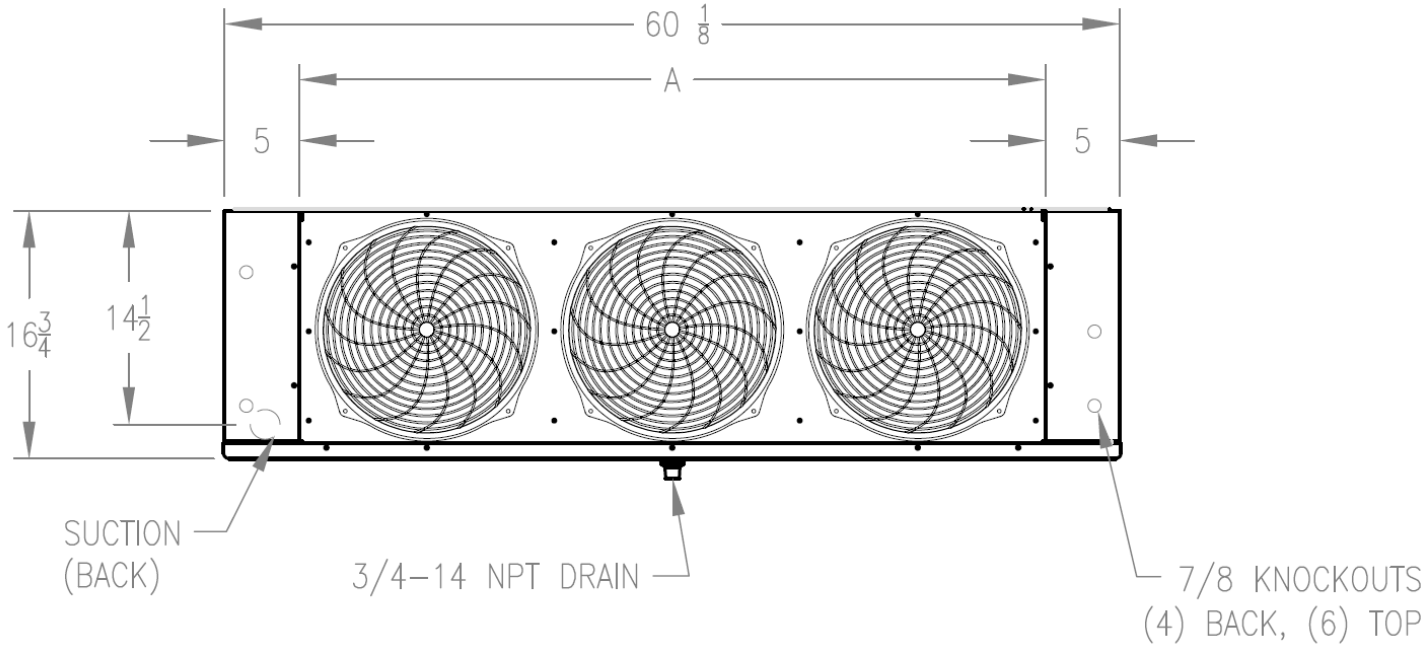


Measurements noted on the end view drawing are the same for all units. All mounting holes are 3/8" diameter.
All dimensions are in inches.

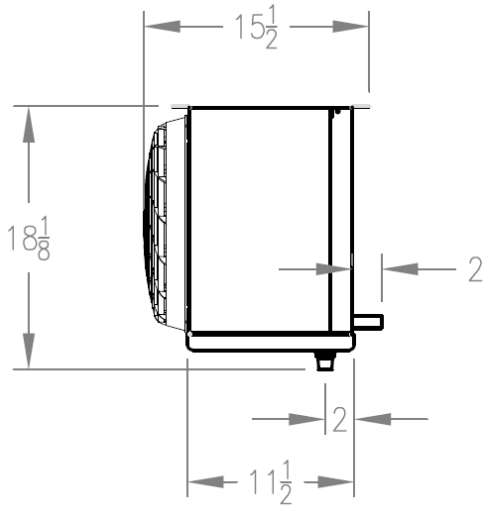
DIMENSIONAL DRAWINGS

Figure 3: Three Fan

Front View



Side View

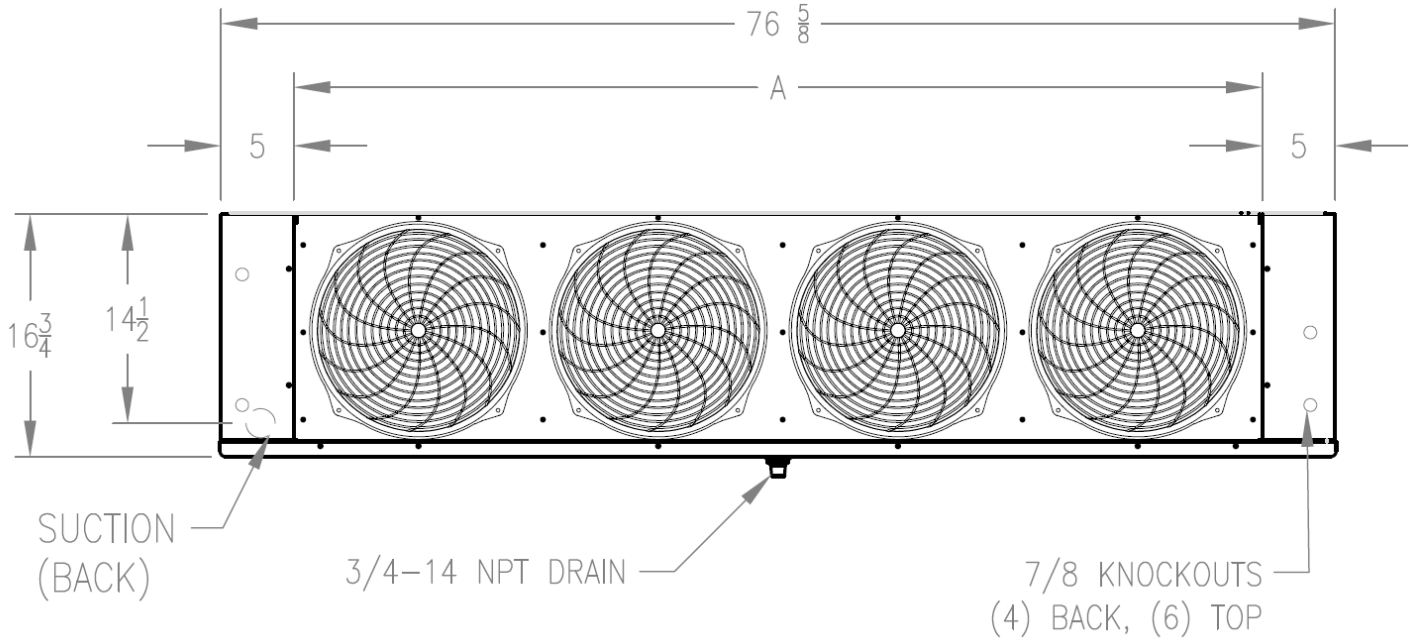


Measurements noted on the end view drawing are the same for all units. All mounting holes are 3/8" diameter.
All dimensions are in inches.

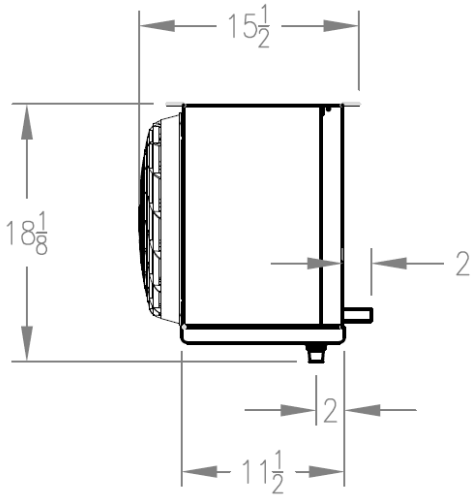
DIMENSIONAL DRAWINGS

Figure 4: Four Fan

Front View



Side View

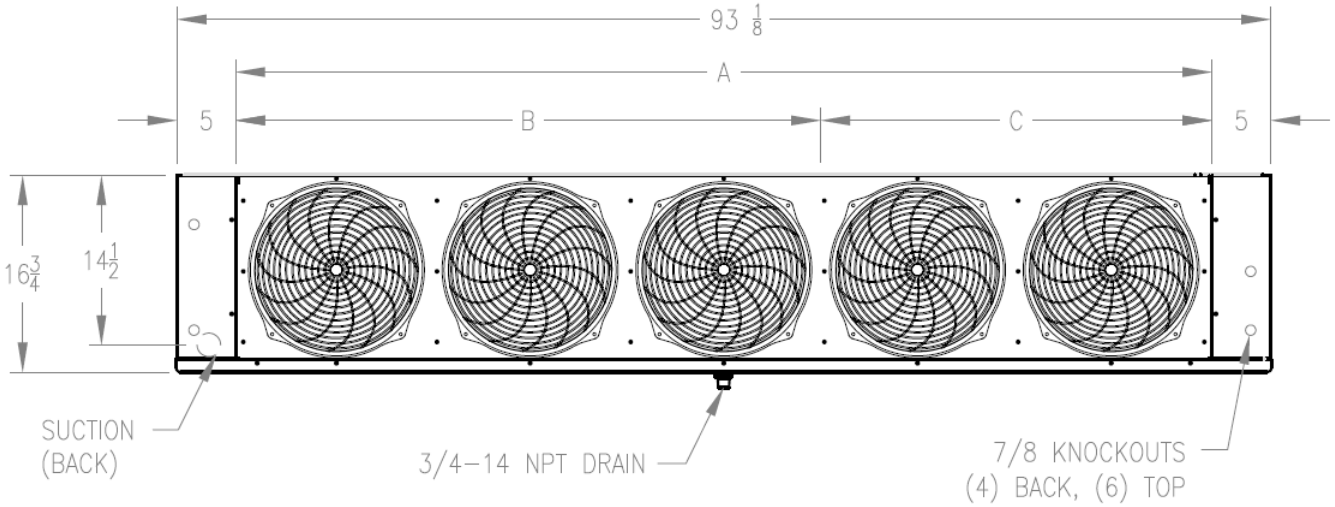


Measurements noted on the end view drawing are the same for all units. All mounting holes are 3/8" diameter.
All dimensions are in inches.

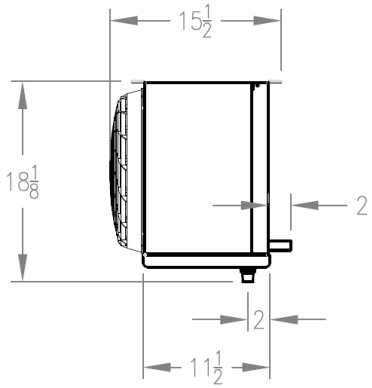
DIMENSIONAL DRAWINGS

Figure 5: Five Fan

Front View



Side View



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

DEPARTMENT OF ENERGY ANNUAL WALK-IN ENERGY FACTOR (AWEF) RATINGS

COOLER & FREEZER MODELS

Cooler Models[1]

Base Model No.	Defrost Type	FPI	A1 AWEF	A2L AWEF
KDL6A050ADA	Air Defrost	6	9.00	9.00
KDL6A062ADA	Air Defrost	6	9.00	9.00
KDL6A081ADA	Air Defrost	6	9.00	9.00
KDL6A088ADA	Air Defrost	6	9.00	9.00
KDL6A113ADA	Air Defrost	6	9.00	9.00
KDL6A141ADA	Air Defrost	6	9.00	9.00
KDL6A159ADA	Air Defrost	6	9.00	9.00
KDL6A170ADA	Air Defrost	6	9.00	9.00
KDL6A196ADA	Air Defrost	6	9.00	9.00
KDL6A220ADA	Air Defrost	6	9.00	9.00
KDL6A234ADA	Air Defrost	6	9.00	9.00
KDL6A289ADA	Air Defrost	6	9.00	9.00
KDL6A316ADA	Air Defrost	6	9.00	9.00
KDL6A375ADA	Air Defrost	6	9.00	9.00
KDL6E051DDA	Electric Defrost	6	9.00	9.00
KDL6E058DDA	Electric Defrost	6	9.00	9.00
KDL6E079DDA	Electric Defrost	6	9.00	9.00
KDL6E092DDA	Electric Defrost	6	9.00	9.00
KDL6E110DDA	Electric Defrost	6	9.00	9.00
KDL6E129DDA	Electric Defrost	6	9.00	9.00
KDL6E148DDA	Electric Defrost	6	9.00	9.00
KDL6E173DDA	Electric Defrost	6	9.00	9.00
KDL6E194DDA	Electric Defrost	6	9.00	9.00
KDL6E218DDA	Electric Defrost	6	9.00	9.00
KDL6E237DDA	Electric Defrost	6	9.00	9.00

Freezer Models[2]

Base Model No.	Defrost Type	FPI	A1 AWEF	A2L AWEF
KDL6E051DDA	Electric Defrost	6	4.15	3.98
KDL6E058DDA	Electric Defrost	6	4.15	3.99
KDL6E079DDA	Electric Defrost	6	4.15	4.00
KDL6E092DDA	Electric Defrost	6	4.15	4.04
KDL6E110DDA	Electric Defrost	6	4.15	4.06
KDL6E129DDA	Electric Defrost	6	4.15	4.09
KDL6E148DDA	Electric Defrost	6	4.15	4.12
KDL6E173DDA	Electric Defrost	6	4.15	4.15
KDL6E194DDA	Electric Defrost	6	4.15	4.15
KDL6E218DDA	Electric Defrost	6	4.15	4.15
KDL6E237DDA	Electric Defrost	6	4.15	4.15

[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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Published December 2025
KM-RLX-DUAL-1225
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