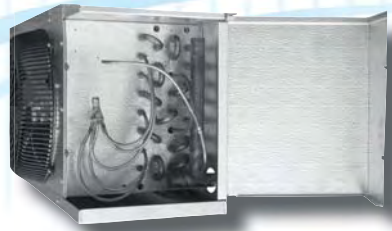
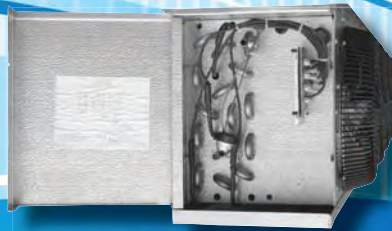




All-Temp²B
**LOW PROFILE
UNIT COOLER**



Air Defrost - 3,900 to 39,000 BTUH
Electric Defrost - 3,600 to 28,000 BTUH
Hot Gas Defrost - 3,600 to 28,000 BTUH

**Small to Medium
Walk - Ins**

**Coolers & Freezer
Applications**



LOW PROFILE UNIT COOLER

Features

The Russell All-Temp²B is the original low profile unit cooler that has established an industry standard as being the all purpose design for walk-in coolers, freezers and other applications. They feature an air draw-through design offering air, electric and hot gas defrost models.

Sizes

There are 35 sizes available with 3,700 to 39,000 BTUH at a 10°TD ranging from 740 to 4,980 cfm. One through six fan models are available.

Housing

Rust-free, heavy gauge, textured Aluminum casing is light weight yet durable. Each fan section is baffled to prevent short cycling of the air. The unit is designed to mount flush to the ceiling and meets all NSF requirements. Slotted hangers are provided for easy installation. Drain fittings are installed in the horizontal position to gain more usable headroom in low ceiling applications. The end panels now are hinged to open up out for easy access to both the piping and electrical ends. Optional expansion valves can be conveniently installed inside the cabinet.

Coil

Seamless Copper tubes are staggered and mechanically expanded into corrugated Aluminum fins and heavy gauge tube sheets to achieve maximum heat transfer and strength. Die formed fin collars provide even fin spacing. Fin spacings available are 4, 6, and 8 fins per inch. Sweat connections are standard on all models and optional field installed flare connection kits are available at no extra charge.

Motors

Shaded Pole motors are 1/20 HP, permanently lubricated, ball bearing, with thermal overload protection. Available in 115V, 208/230V and 460V, single phase. High efficiency PSC and EC motors are available in 115V and 230V.

Fans

Heavy duty 12" Aluminum fans are balanced to provide vibration-free operation. Our new low throw black plastic fan guards have an improved air pattern. The optional epoxy resin high throw fan guard moves air up to 50 feet.

Air Defrost

All models with the prefix "AA" are designed for use in coolers of 35°F and warmer. Complete air defrost systems for off-cycle or timed air defrost are available from Russell.

Optional Features

- ECM, PSC or Shaded Pole fan motors
- Coated Aluminum fins or Copper Fins
- Baked white enamel housing

Electrical

Available in 115V, 208/230V, and 460V (see pages 4 & 5). All components are factory wired to convenient screw-type terminal strips. A large compartment is supplied internal to the unit for all electrical components and is easily accessible by removing the end panel. All models are UL & cUL listed.

Electric Defrost

Available on all models with the prefix "AE". Designed for use where electric heat is used to defrost. Placement of the heaters internal to the coil allows for an extremely rapid and efficient defrost. This arrangement enables the heat to be conducted through the fins from the center out for an even defrost pattern. All heaters are wired to a terminal strip to allow a quick field change-over from single phase to three phase, 230V to 460V and vice versa. A lower heater is installed close to the drain pan for fast, reliable drainage. A defrost termination thermostat (DT) terminates the defrost cycle when the temperature is satisfied. A heater safety thermostat is installed to prevent heaters from overheating above 75° in case of DT failure. All heaters are flexible and can be easily replaced within 12 inches of the end of the units. A fan delay thermostat is supplied to allow the warm coil to cool after a defrost cycle prior to the fans turning on. Complete electric defrost refrigeration systems are available from Russell.

Hot Gas Defrost

Two types available - Re-Evap models with the prefix "AH" and reverse cycle with the prefix "AG". All models include a fixed DTFD factory wired and a hot gas drain pan circuit to defrost the drain pan. On all Hot Gas models, the drain fitting is located on the left-hand rear of the unit when facing the fan guards. Re-eva models include a Heat Exchanger-Re-Evaporator shipped together with the unit for field installation. Complete Re-Evap Refrigeration Systems are available from Russell. Contact factory for piping information.

- Epoxy resin high throw guards for up to 50 ft.
- Reheat kits (not UL listed)
- Factory mounted expansion valves

LOW PROFILE UNIT COOLER

Russell's EC motors bring the benefits inherent to unit bearing motor design to the refrigeration Unit Cooler market.

- Large oil reservoir
- Totally enclosed construction
- Journal bearing machined into the cast iron endbell
- Spiral grooved shaft pump guarantees positive oil circulation
- Threaded shaft uses hubless fan blade.

Energy Savings per Motor

by Changing to More Efficient Unit Cooler Motors (based on Energy Cost of \$0.10 per kWh)

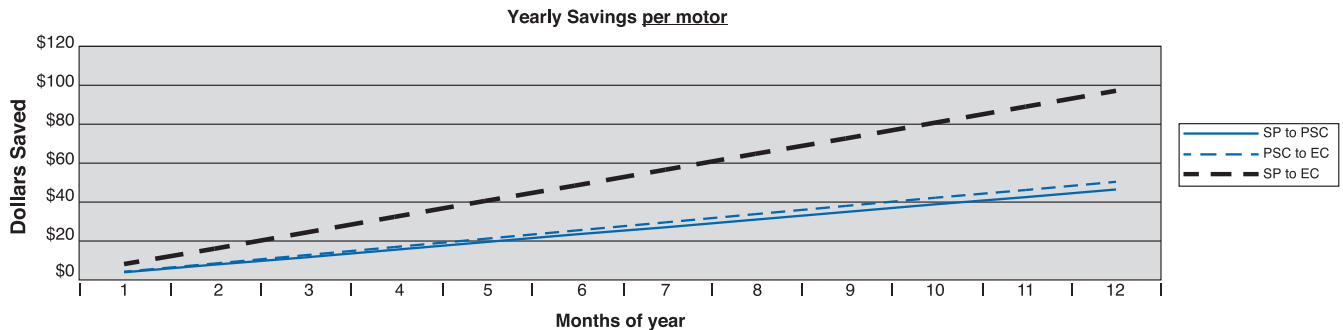
Motor Change	Std Motor Power Watts/Mtr	Change to Motor Power Watts/Mtr	Reduced Power Watts/Mtr	Run Time Hrs/Day	Motor Energy Savings kWh/Yr	Motor Energy Savings \$/Yr	Reduced Box Load MBTU/Yr	Cond. Unit Energy Savings \$/Yr	Yearly Saving \$ Per MTR	Pay back in Yrs
SP to PSC	120	85	35	22	281	28	959	18	47	0.6
PSC to EC	85	47	38	22	305	31	1041	20	51	2.0
SP to EC	120	47	73	22	586	59	2000	38	97	1.3

Subtract 6% from total savings for medium temperature air defrost units that run 24 hours per day.

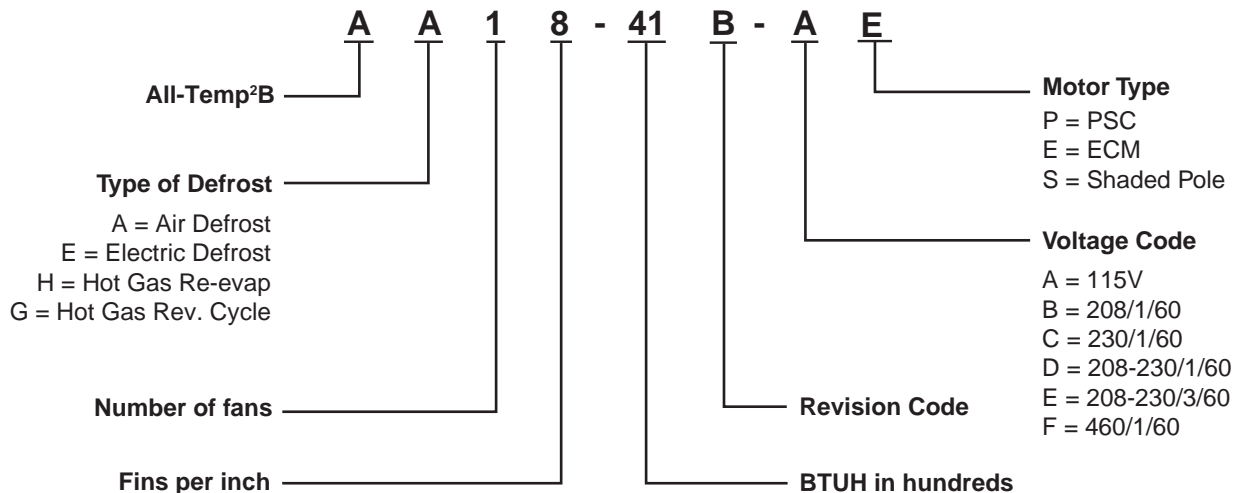
SP = 1/20 HP Shaded pole motor

PSC = 1/20 HP PSC motor

EC = 50 Watt Electronically Commutated motor



MODEL NUMBER NOMENCLATURE



LOW PROFILE UNIT COOLER

Specifications - Air Defrost Models

	Model Number	BTUH		CFM	Total Fan Motor AMPS - 1 Phase						
		Capacity @ 25°F S.T.			Shaded Pole Motors			PSC Motor		ECM Motor	
		10° TD	12° TD		115V	230V	460V	115V	230V	115V	230V
8 F P I	AA18-41B	4,100	4,900	800	1.9	1.0	0.54	1.0	0.5	0.9	0.45
	AA18-53B	5,300	6,400	770	1.9	1.0	0.54	1.0	0.5	0.9	0.45
	AA18-66B	6,600	7,900	740	1.9	1.0	0.54	1.0	0.5	0.9	0.45
	AA28-76B	7,600	9,100	1,460	3.8	2.0	1.1	2.0	1.0	1.8	0.90
	AA28-97B	9,700	11,600	1,420	3.8	2.0	1.1	2.0	1.0	1.8	0.90
	AA28-106B	10,600	12,700	1,540	3.8	2.0	1.1	2.0	1.0	1.8	0.90
	AA28-122B	12,200	14,600	1,380	3.8	2.0	1.1	2.0	1.0	1.8	0.90
	AA28-134B	13,400	16,100	1,480	3.8	2.0	1.1	2.0	1.0	1.8	0.90
	AA38-160B	16,000	19,200	2,310	5.7	3.0	1.6	3.0	1.5	2.7	1.35
	AA38-195B	19,500	23,400	2,220	5.7	3.0	1.6	3.0	1.5	2.7	1.35
	AA48-212B	21,200	25,400	3,080	7.6	4.0	2.2	4.0	2.0	3.6	1.80
	AA48-264B	26,400	31,700	2,960	7.6	4.0	2.2	4.0	2.0	3.6	1.80
AA58-275B	27,500	33,000	3,850	9.5	5.0	2.7	5.0	2.5	4.5	2.25	
AA68-318B	31,800	38,200	4,620	11.4	6.0	3.2	6.0	3.0	5.4	2.70	
AA68-390B	39,000	46,800	4,440	11.4	6.0	3.2	6.0	3.0	5.4	2.70	
6 F P I	AA16-39B	3,900	4,700	830	1.9	1.0	0.54	1.0	0.5	0.9	0.45
	AA16-48B	4,800	5,800	800	1.9	1.0	0.54	1.0	0.5	0.9	0.45
	AA16-58B	5,800	7,000	780	1.9	1.0	0.54	1.0	0.5	0.9	0.45
	AA26-70B	7,000	8,400	1,540	3.8	2.0	1.1	2.0	1.0	1.8	0.90
	AA26-87B	8,700	10,400	1,500	3.8	2.0	1.1	2.0	1.0	1.8	0.90
	AA26-115B	11,500	13,800	1,560	3.8	2.0	1.1	2.0	1.0	1.8	0.90
	AA36-145B	14,500	17,400	2,400	5.7	3.0	1.6	3.0	1.5	2.7	1.35
	AA36-170B	17,000	20,400	2,340	5.7	3.0	1.6	3.0	1.5	2.7	1.35
	AA46-192B	19,200	23,000	3,200	7.6	4.0	2.2	4.0	2.0	3.6	1.80
	AA46-230B	23,000	27,600	3,120	7.6	4.0	2.2	4.0	2.0	3.6	1.80
AA56-245B	24,500	29,400	4,000	9.5	5.0	2.7	5.0	2.5	4.5	2.25	
AA66-295B	29,500	35,400	4,800	11.4	6.0	3.2	6.0	3.0	5.4	2.70	
AA66-345B	34,500	41,400	4,680	11.4	6.0	3.2	6.0	3.0	5.4	2.70	
4 F P I	AA14-42B	4,200	5,000	830	1.9	1.0	0.54	1.0	0.5	0.9	0.45
	AA24-84B	8,400	10,100	1,660	3.8	2.0	1.1	2.0	1.0	1.8	0.90
	AA24-105B	10,500	12,600	1,620	3.8	2.0	1.1	2.0	1.0	1.8	0.90
	AA34-130B	13,000	15,600	2,490	5.7	3.0	1.6	3.0	1.5	2.7	1.35
	AA44-170B	17,000	20,400	3,320	7.6	4.0	2.2	4.0	2.0	3.6	1.80
	AA54-215B	21,500	25,800	4,150	9.5	5.0	2.7	5.0	2.5	4.5	2.25
AA64-255B	25,500	30,600	4,980	11.4	6.0	3.2	6.0	3.0	5.4	2.70	

(1) All fan motors are wired for single phase.

Ordering Information Required

It is vital that the information listed below is given with each evaporator order. Orders without this information may be delayed. Evaporators with options such as solenoid and expansion valves will not be processed until all the required information is given.

- (1) Model Number
- (2) Type of Motor
- (3) Voltage, frequency and phase of motors and heaters (when applicable)
- (4) Refrigerant type
- (5) Evaporator temperature
- (6) Evaporator T.D.

LOW PROFILE UNIT COOLER

Specifications - Electric Defrost Models

	Model Number	BTUH Capacity @ 10° T.D.				CFM	Motor Amps ¹				Heater Amps ²			Watts
		Evaporator Temperature					Shaded Pole		PSC	ECM	230V		460V	
		-30°F	-20°F	-10°F	+20°		230V	460V	230V	230V	1 PH	3 PH	1 PH	
6 F P I	AE16-36B	3,400	3,600	3,700	3,900	830	1.0	0.54	0.5	0.45	4.4	3.8	2.2	1,000
	AE16-41B	3,900	4,100	4,300	4,800	800	1.0	0.54	0.5	0.45	4.4	3.8	2.2	1,000
	AE16-46B	4,400	4,600	4,800	5,800	780	1.0	0.54	0.5	0.45	4.4	3.8	2.2	1,000
	AE26-60B	5,700	6,000	6,200	7,000	1,540	2.0	1.1	1.0	0.90	7.0	6.0	3.5	1,600
	AE26-75B	7,100	7,500	7,800	8,700	1,500	2.0	1.1	1.0	0.90	7.0	6.0	3.5	1,600
	AE26-92B	8,700	9,200	9,600	11,500	1,560	2.0	1.1	1.0	0.90	8.7	7.5	4.4	2,000
	AE36-120B	11,400	12,000	12,500	14,500	2,400	3.0	1.6	1.5	1.35	13.0	11.3	6.4	3,000
	AE36-140B	13,300	14,000	14,600	17,000	2,340	3.0	1.6	1.5	1.35	13.0	11.3	6.4	3,000
	AE46-164B	15,000	16,400	17,100	19,200	3,200	4.0	2.2	2.0	1.80	17.4	15.1	8.7	4,000
AE46-185B	17,600	18,500	19,200	23,000	3,120	4.0	2.2	2.0	1.80	17.4	15.1	8.7	4,000	
AE56-210B	20,000	21,000	21,800	24,500	4,000	5.0	2.7	2.5	2.25	21.7	18.8	10.9	5,000	
AE66-245B	23,300	24,500	25,500	29,500	4,800	6.0	3.2	3.0	2.70	25.0	21.7	12.5	5,750	
AE66-280B	26,600	28,000	29,100	34,500	4,680	6.0	3.2	3.0	2.70	25.0	21.7	12.5	5,750	
4 F P I	AE14-37B	3,500	3,700	3,800	4,200	830	1.0	0.54	0.5	0.45	4.4	3.8	2.2	1,000
	AE24-72B	6,800	7,200	7,500	8,400	1,660	2.0	1.1	1.0	0.90	8.7	7.5	4.4	2,000
	AE24-85B	8,100	8,500	8,800	10,500	1,620	2.0	1.1	1.0	0.90	8.7	7.5	4.4	2,000
	AE34-105B	10,000	10,500	10,900	13,000	2,490	3.0	1.6	1.5	1.35	13.0	11.3	6.4	3,000
	AE44-140B	13,300	14,000	14,600	17,000	3,320	4.0	2.2	2.0	1.80	17.4	15.1	8.7	4,000
	AE54-180B	17,100	18,000	18,700	21,500	4,150	5.0	2.7	2.5	2.25	21.7	18.8	10.9	5,000
	AE64-215B	20,400	21,500	22,400	25,500	4,980	6.0	3.2	3.0	2.70	25.0	21.7	12.5	5,750

(1) All fan motors are wired for single phase.

(2) For 208/230 volt models, heaters are wired as standard for single phase on 1 through 4 fan models. 5 and 6 fan models are wired 3 phase. 460 Volt models are only available in single phase and are compatible with all 3 phase systems.

Specifications - Electric Defrost Models

	Model Number		BTUH Capacity @ 10° T.D.				CFM	Fan Motor Amps ¹						Re-Evap HEA Unmtd.	
	Re-Evap	Rev. Cycle	Evaporator Temperature					Shaded Pole		PSC		ECM			
			-30°	-20°	-10°	+20°		115V	230V	460V	115V	230V	115V		230V
6 F P I	AH16-36B	AG16-36B	3,400	3,600	3,700	3,900	830	1.9	1.0	0.54	1.0	0.50	0.9	0.45	1A
	AH16-41B	AG16-41B	3,900	4,100	4,300	4,800	800	1.9	1.0	0.54	1.0	0.50	0.9	0.45	1A
	AH16-46B	AG16-46B	4,400	4,600	4,800	5,800	780	1.9	1.0	0.54	1.0	0.50	0.9	0.45	1A
	AH26-60B	AG26-60B	5,700	6,000	6,200	7,000	1,540	3.8	2.0	1.1	2.0	1.0	1.8	0.90	2A
	AH26-75B	AG26-75B	7,100	7,500	7,800	8,700	1,500	3.8	2.0	1.1	2.0	1.0	1.8	0.90	2A
	AH26-92B	AG26-92B	8,700	9,200	9,600	11,500	1,560	3.8	2.0	1.1	2.0	1.0	1.8	0.90	2A
	AH36-120B	AG36-120B	11,400	12,000	12,500	14,500	2,400	5.7	3.0	1.6	3.0	1.50	2.7	1.35	3A
	AH36-140B	AG36-140B	13,300	14,000	14,600	17,000	2,340	5.7	3.0	1.6	3.0	1.50	2.7	1.35	3A
	AH46-164B	AG46-164B	15,000	16,400	17,100	19,200	3,200	7.6	4.0	2.2	4.0	2.0	3.6	1.80	3A
AH46-185B	AG46-185B	17,600	18,500	19,200	23,000	3,120	7.6	4.0	2.2	4.0	2.0	3.6	1.80	3A	
AH56-210B	AG56-210B	20,000	21,000	21,800	24,500	4,000	9.5	5.0	2.7	5.0	2.50	4.5	2.25	3A	
AH66-245B	AG66-245B	23,300	24,500	25,500	29,500	4,800	11.4	6.0	3.2	6.0	3.0	5.4	2.70	4A	
AH66-280B	AG66-280B	26,600	28,000	29,100	34,500	4,680	11.4	6.0	3.2	6.0	3.0	5.4	2.70	4A	
4 F P I	AH14-37B	AG14-37B	3,500	3,700	3,800	4,200	830	1.9	1.0	0.54	1.0	0.50	0.9	0.45	1A
	AH24-72B	AG24-72B	6,800	7,200	7,500	8,400	1,660	3.8	2.0	1.1	2.0	1.0	1.8	0.90	2A
	AH24-85B	AG24-85B	8,100	8,500	8,800	10,500	1,620	3.8	2.0	1.1	2.0	1.0	1.8	0.90	2A
	AH34-105B	AG34-105B	10,000	10,500	10,900	13,000	2,490	3.8	3.0	1.6	3.0	1.50	2.7	1.35	2A
	AH44-140B	AG44-140B	13,300	14,000	14,600	17,000	3,320	7.6	4.0	2.2	4.0	2.0	3.6	1.80	3A
	AH54-180B	AG54-180B	17,100	18,000	18,700	21,500	4,150	9.5	5.0	2.7	5.0	2.5	4.5	2.25	3A
	AH64-215B	AG64-215B	20,400	21,500	22,400	25,500	4,980	11.4	6.0	3.2	6.0	3.0	5.4	2.70	3A

(1) All fan motors are wired for single phase operation

LOW PROFILE UNIT COOLER

Electric Defrost Kits

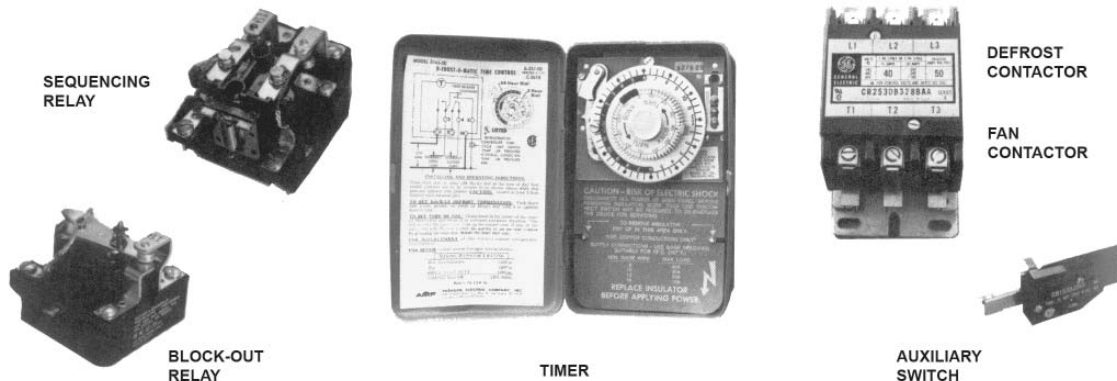
Model Number	1 Unit Cooler Per System		2 Unit Coolers Per System		3 Unit Coolers Per System	
	230V	460V	230V	460V	230V	460V
AE16-36B	ED-10	ED-12	ED-20*	ED-22	ED-30	ED-32
AE16-41B	ED-10	ED-12	ED-20*	ED-22	ED-30	ED-32
AE16-46B	ED-10	ED-12	ED-20*	ED-22	ED-30	ED-32
AE26-60B	ED-10	ED-12	ED-20*	ED-22	ED-30	ED-32
AE26-75B	ED-10	ED-12	ED-20*	ED-22	ED-30	ED-32
AE26-92B	ED-10	ED-12	ED-20*	ED-22	ED-30	ED-32
AE36-120B	ED-10	ED-12	ED-20*	ED-22	ED-33	ED-32
AE36-140B	ED-10	ED-12	ED-20*	ED-22	ED-33	ED-32
AE46-164B	ED-10	ED-12	ED-23*	ED-22	ED-35	ED-32
AE46-185B	ED-10	ED-12	ED-23*	ED-22	ED-35	ED-32
AE56-210B	ED-11	ED-12	ED-23*	ED-22	ED-35	ED-34
AE66-245B	ED-11	ED-12	ED-23*	ED-22	ED-35	ED-34
AE66-280B	ED-11	ED-12	ED-23*	ED-22	ED-35	ED-34
AE14-37B	ED-10	ED-12	ED-20*	ED-22	ED-30	ED-32
AE24-72B	ED-10	ED-12	ED-20*	ED-22	ED-30	ED-32
AE24-85B	ED-10	ED-12	ED-20*	ED-22	ED-30	ED-32
AE34-105B	ED-10	ED-12	ED-20*	ED-22	ED-33	ED-32
AE44-140B	ED-10	ED-12	ED-23*	ED-22	ED-35	ED-32
AE54-180B	ED-11	ED-12	ED-23*	ED-22	ED-35	ED-34
AE64-215B	ED-11	ED-12	ED-23*	ED-22	ED-35	ED-34

Electric defrost kits consist of components that are necessary to control the defrost cycle. The optional kits are available as a factory installed option when ordered with a condensing unit. Not all Ed-Kits are available for all condensing unit models. The contents of each kit is described below, along with the function of each component.

* - 1/2 through 3 HP models require ED-210 or ED-213.

KIT NO.	TIMER	AUXILIARY SWITCH	BLOCK-OUT RELAY	DEFROST CONTACTOR	FAN CONTACTOR	SEQUENCING RELAY
ED10-230/1	1	—	1-30A	—	—	—
ED11-230/3	1	1	—	1-30A	—	—
ED12-460/3	1	1	—	1-30A	1-25A	—
¹ ED210-230/1	1	—	1-30A	—	—	—
¹ ED213-230/1	1	1	—	1-50A	—	—
¹ ED213-230/3	1	1	—	1-50A	—	—
ED20-230/1	1	—	1-30A	—	—	2
ED22-460/3	1	1	—	2-15A	1-25A	2
ED23-230/1	1	1	—	2-25A	—	2
ED23-230/3	1	1	—	2-25A	—	2
ED30-230/1	1	—	1-30A	—	—	3
ED32-460/3	1	1	—	3-10A	1-25A	3
ED33-230/1	1	1	—	3-16A	—	3
ED34-460/3	1	1	—	3-16A	1-25A	3
ED35-230/1	1	1	—	3-33A	—	3
ED35-230/3	1	1	—	3-33A	—	3

¹ For use with 2 evaporators, 1/2 through 3 HP R-series systems ONLY!



Timer: Initiates the defrost cycle. Also used as an override protection for defrost termination.

Auxiliary Switch: Is mounted on the compressor contactor and prevents the defrost contactor from operating whenever the compressor is energized.

Block-Out Relay: Serves the same function as auxiliary switch. Used when defrost contactor is not required (lower wattage single phase only).

Defrost Contactor: Carries amperage load for heaters.

Fan Contactor: Used with 460V motors or when 230V motors are wired 3 phase.

Sequencing Relays: Provides interconnection of multiple unit coolers on a single system so that each unit cooler is allowed to individually terminate defrost on temperature.

LOW PROFILE UNIT COOLER

1/2 Through 80 HP Complete Refrigeration Packages

- Air Defrost
- Electric Defrost
- Hot Gas Defrost
- RUSSaver
- Sierra
- High Sierra

All-Temp²B
Low Profile Unit coolers



Inter-Temp
Medium Profile Unit Coolers



Ultra-Temp
High Capacity Warehouse Unit Coolers



MiniCon
Condensing units 1/2 - 6-1/2 HP



D-Series
Condensing Units 3 - 22 HP



V-Series
Condensing Units 15 - 80 HP

