



# KES "C" Generation Condensing Units

## PRODUCT DATA & SPECIFICATIONS

Bulletin K40-KESC-PDS-4  
Part # 1106704

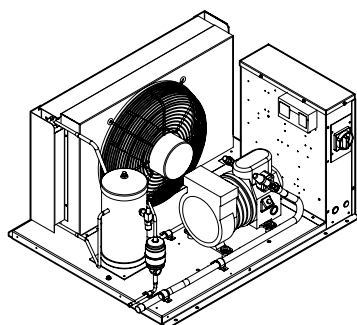
**60**  
**Hz**

Indoor/Outdoor  
Air-Cooled Semi-Hermetic  
Condensing Units

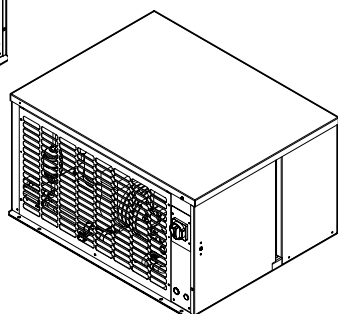
1.5 to 22 HP -  
Low and Medium  
Temperature Refrigeration

	PRODUCT SUPPORT	scan:
	web: <a href="http://www.k-rp.com/kes">www.k-rp.com/kes</a>	
	email: <a href="mailto:smcu@k-rp.com">smcu@k-rp.com</a>	
	call: 1-844-893-3222 x521	

INCLUDES MODELS FOR DOE & NRCAN  
**AWEF-EXEMPT APPLICATIONS**



Indoor Unit



Outdoor Unit

## SMARTSPEED™

FAN MOTOR TECHNOLOGY

See Page 4 for details

INCLUDES RATINGS FOR  
**LOW GWP**  
REFRIGERANTS

## LIMITROL

FLOATING HEAD PRESSURE CONTROL SYSTEM

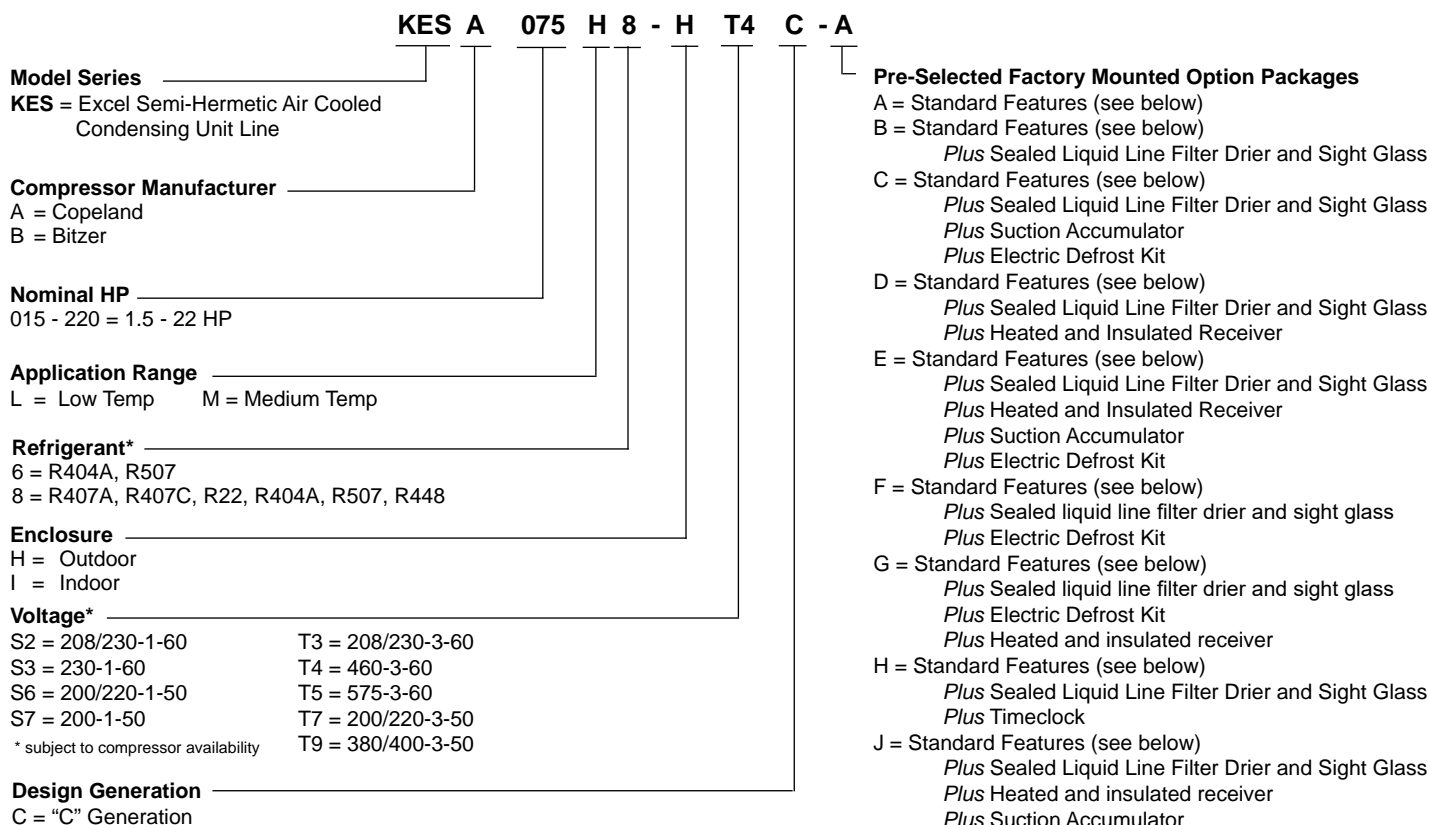
See Page 5 for details

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# NOMENCLATURE




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## STANDARD FEATURES

### Indoor Unit:

- Compatible with Low GWP Refrigerants
- Weatherproof electrical control box with compressor contactor and fused control circuit
- Spring mounted accessible semi-hermetic compressor with suction and discharge vibration eliminator
- High efficiency enhanced tube and fin condenser design
- Energy efficient PSC condenser fan motor
- Receiver with fusible plug and liquid shut off valve
- Fixed high pressure switch and adjustable low pressure control
- Receiver inlet and outlet shutoff valve (8HP and above)
- Suction service valve
- Pre-formed copper tubing

- Unit leak tested and shipped with Helium holding charge
- Electronic liquid injection on L8 units
- Painted cabinet

### Outdoor Unit: All Standard Features of Indoor Unit, Plus:

- Painted outdoor weather-resistant housing with removable hood
- Flooded head pressure control (non adjustable) 150 PSIG for optimal efficiency
- Adjustable head pressure control on large 2 fan models
- Crankcase heater
- Fan cycling control (all 2 fan models)

**KES**

# PRE-SELECTED FACTORY MOUNTED OPTION PACKAGES

**60Hz**

## Package A:

- Standard Features (see pg. 2)

## Package B:

- Standard Features (see pg. 2)
- *Plus* Sealed Liquid Line Filter Drier & Sight Glass

## Package C:

- Standard Features (see pg. 2)
- *Plus* Sealed Liquid Line Filter Drier & Sight Glass
- *Plus* Suction Accumulator
- *Plus* Electric Defrost Kit

## Package D:

- Standard Features (see pg. 2)
- *Plus* Sealed Liquid Line Filter Drier & Sight Glass
- *Plus* Heated and Insulated Receiver

## Package E:

- Standard Features (see pg. 2)
- *Plus* Sealed Liquid Line Filter Drier & Sight Glass
- *Plus* Heated and Insulated Receiver
- *Plus* Suction Accumulator
- *Plus* Electric Defrost Kit

## Package F:

- Standard Features (see pg. 2)
- *Plus* Sealed liquid line filter drier and sight glass
- *Plus* Electric Defrost Kit

## Package G:

- Standard Features (see pg. 2)
- *Plus* Sealed liquid line filter drier and sight glass
- *Plus* Electric Defrost Kit
- *Plus* Heated and insulated receiver

## Package H:

- Standard Features (see pg. 2)
- *Plus* Sealed Liquid Line Filter Drier and Sight Glass
- *Plus* Timeclock

## Package J:

- Standard Features (see pg. 2)
- *Plus* Sealed Liquid Line Filter Drier and Sight Glass
- *Plus* Heated and insulated receiver
- *Plus* Suction Accumulator

## AVAILABLE OPTIONS

- Suction accumulator
- Suction accumulator with boil-out coil
- Discharge line Check valve
- Oil separator
- Oil separator c/w oil return filter & solenoid valve
- Adjustable head pressure control valves
- Receiver inlet ball valve (standard on 2 fan models)
- Heated and Insulated receiver
- Over-sized receiver
- Sealed liquid line filter drier & sight-glass
- Ball valve - liquid line (shipped loose)
- Insulated suction lines
- Leg Kits
- Discharge air hood
- Sub cooling circuit on 5 - 22 HP models
- Variable speed EC motors only as head pressure control (see Bulletin K40-HPC-AG or <https://docs.k-rp.com/1101110.pdf> for details)
- QuickVac Evacuation and Refrigerant Recovery Valves
- Liquid line solenoid valve-(with standard 230 volt coil)-shipped loose
- Compressor Circuit breaker
- Current sensing relay - for use with Oil safety control (where applicable)
- Defrost heater contactor c/w fuse block
- Evaporator Fan contactor c/w fuse block
- Disconnect switch
- Disconnect Fusing
- Pump down toggle switch
- Lock out control circuit
- Hoffmann Speed control for condenser fan (replaces flooded valve)
- Time delay relay for compressor
- Mechanical Time Clock
- Defrost Kit
- Electronic Voltage/Phase Monitor
- **SmartSpeed Fan Motor Technology (see page 4)**
- **Limitrol+ Floating Head Pressure Control System (see page 5 or Bulletin K40-HPC-AG or <https://docs.k-rp.com/1101113.pdf> for details)**

US Patent No.  
9,297,567

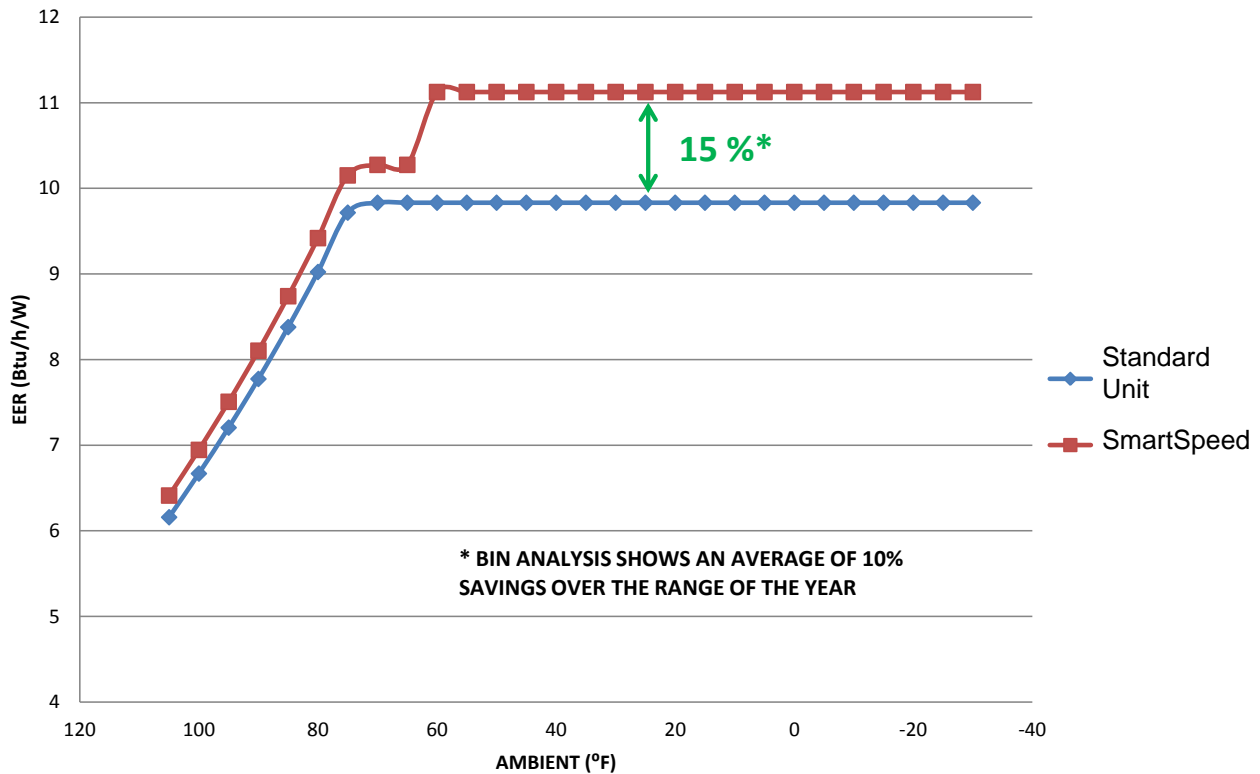
**DESIGN FEATURES**



• Available on 1 - 22 HP  
Hermetic, Scroll or Semi-Hermetic Condensing Units

- No special controls required. No worries about wind or cold climates.
- Ambients above 55°F - EC motor operates at full speed, crankcase heater and heated + insulated receiver disabled from control circuit
- Ambients below 55°F - EC motor operates at low speed, crankcase heater and heated + insulated receiver enabled from control circuit

**Condensing Unit EER - Standard Unit vs. SmartSpeed**



**Refer to  
Page 35  
For Wiring  
Details**

Condensing Unit with SmartSpeed Power Consumption Per Motor		
Chassis Size (see pages 24-28)	Ambients above 55°F. Fan Full Speed. Crankcase and Receiver Heaters Off.	Ambients below 55°F. Fan Low Speed. Crankcase and Receiver Heaters On.
B	168 W	37 W
C,D	362 W	76 W
E	630 W	152 W
F	1180 W	240 W

- **Reduces compressor energy consumption and run time**
  - **EC motor technology further saves energy and reduces electrical requirements**
- **Lowered environmental impact through reduced refrigerant use**
  - **Stable system performance in lower ambients**

**What is Limitrol+?** Limitrol+ combines various technologies into a responsive system that floats head pressure, saving energy and reduces environmental impact. Unlike competitive systems, Limitrol+ combines variable speed EC motor technology, condenser portioning and various systems modifications to provide the ultimate in performance and control. As a result, Limitrol+ functions in much colder ambients where previous systems have proven ineffective.

**What does it do?** Conventional head pressure control systems maintain a constant head pressure regardless of ambient temperatures. Limitrol+ intelligently responds to ambient conditions to float head pressure without sacrificing system performance at lower temperatures.

**What are its applications?**

- Condensing units over 5 HP
- Ideally suited and most effective in applications with fluctuating ambients
- Perfect for installations where reduced refrigerant charges are desired or required.

**How much can Limitrol+ save you?**

MODEL	Philadelphia, PA		New York, NY		Boston, MA		Charlotte, NC		Atlanta, GA		Los Angeles, CA		St Louis, MO		St. Paul, MN		Toronto, ONT	
	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$
<b>5 HP Cooler</b>	22	616	23	1,099	25	1,081	18	474	16	521	16	835	20	624	25	798	27	638
<b>7.5 HP Cooler</b>	21	1,008	22	1,805	23	1,707	18	843	17	954	17	1,499	19	1,053	24	1,270	25	1,000
<b>10 HP Cooler</b>	18	1,204	18	2,131	20	2,095	15	975	14	1,089	18	2,446	16	1,227	20	1,529	21	1,223
<b>15 HP Cooler</b>	19	1,852	20	3,300	21	3,170	16	1,567	15	1,767	19	3,570	17	1,916	22	2,337	22	1,834
<b>6 HP Freezer</b>	24	903	25	1,621	26	1,548	21	753	20	848	23	1,548	22	928	26	1,119	27	891
<b>7.5 HP Freezer</b>	21	994	21	1,783	23	1,726	17	800	16	891	18	1,591	19	1,012	23	1,255	24	1,004
<b>13 HP Freezer</b>	19	1,425	19	2,535	21	2,450	16	1,150	15	1,286	15	2,110	17	1,471	21	1,798	22	1,428
<b>15 HP Freezer</b>	18	1,602	19	2,846	20	2,717	16	1,312	15	1,479	14	2,224	17	1,672	20	2,009	21	1,587

\* The above is a BIN Hour Analysis. Weather data was used from ASHRAE Weather Data Viewer and electrical rates for each city are based on June 2013 data from EIA (U.S. Energy Information Administration).  
 \*\* Above numbers do not include refrigerant savings, and further cost savings can be expected.

For more information on Limitrol+ Floating Head Pressure Control System visit [www.k-rp.com/limitrol](http://www.k-rp.com/limitrol) or see Bulletin K40-HPC-AG (<https://docs.k-rp.com/1101113.pdf>)

For more information on Head Pressure Control, please refer to our “Head Pressure Control Application Guide” Bulletin K40-HPC-AG (<https://docs.k-rp.com/1101110.pdf>)



# CAPACITY DATA - R448A MEDIUM TEMPERATURE

# 60Hz

MODEL KES	SATURATED SUCTION TEMPERATURE		CAPACITY BTU/H (WATTS) <b>R448A</b> AMBIENT TEMPERATURE °F (°C)							
	° F	° C	85 (29.4)	90 (32.2)	95 (35.0)	100 (37.8)	105 (40.6)	110 (43.3)		
KESA011M8 * Compressor Model KARB-010E	25 (-3.9)		10200 (2990)	9800 (2870)	9300 (2730)	8900 (2610)	8500 (2490)	8000 (2340)		
	20 (-6.7)		9400 (2750)	9000 (2640)	8600 (2520)	8200 (2400)	7800 (2290)	7400 (2170)		
	15 (-9.4)		8500 (2490)	8100 (2370)	7800 (2290)	7400 (2170)	7100 (2080)	6700 (1960)		
	10 (-12.2)		7500 (2200)	7200 (2110)	6900 (2020)	6600 (1930)	6200 (1820)	5900 (1730)		
	5 (-15)		6600 (1930)	6300 (1850)	6000 (1760)	5700 (1670)	5400 (1580)	5100 (1490)		
	0 (-17.8)		5700 (1670)	5500 (1610)	5200 (1520)	5000 (1470)	4700 (1380)	4500 (1320)		
KESA020M8 * Compressor Model KAKA-020E	-5 (-20.6)		5100 (1490)	4900 (1440)	4600 (1350)	4400 (1290)	4200 (1230)	4000 (1170)		
	25 (-3.9)		16400 (4810)	15600 (4570)	14900 (4370)	14300 (4190)	13500 (3960)	12800 (3750)		
	20 (-6.7)		14800 (4340)	14200 (4160)	13500 (3960)	12900 (3780)	12300 (3600)	11700 (3430)		
	15 (-9.4)		13200 (3870)	12700 (3720)	12200 (3580)	11700 (3430)	11100 (3250)	10600 (3110)		
	10 (-12.2)		11900 (3490)	11300 (3310)	10900 (3190)	10400 (3050)	9940 (2910)	9460 (2770)		
	5 (-15)		10400 (3050)	10000 (2930)	9640 (2830)	9230 (2710)	8820 (2580)	8400 (2460)		
KESA021M8 * Compressor Model ERCA-021E	0 (-17.8)		9180 (2690)	8810 (2580)	8460 (2480)	8130 (2380)	7770 (2280)	7380 (2160)		
	-5 (-20.6)		8010 (2350)	7700 (2260)	7400 (2170)	7090 (2080)	6770 (1980)	6440 (1890)		
	25 (-3.9)		19400 (5690)	18600 (5450)	17600 (5160)	16700 (4890)	15900 (4660)	14900 (4370)		
	20 (-6.7)		17400 (5100)	16600 (4860)	15900 (4660)	15000 (4400)	14300 (4190)	13400 (3930)		
	15 (-9.4)		15400 (4510)	14700 (4310)	14100 (4130)	13300 (3900)	12600 (3690)	12000 (3520)		
	10 (-12.2)		13500 (3960)	12900 (3780)	12300 (3600)	11700 (3430)	11000 (3220)	10400 (3050)		
KESA030M8 * Compressor Model ERFA-031E	5 (-15)		11800 (3460)	11200 (3280)	10700 (3140)	10100 (2960)	9540 (2800)	9000 (2640)		
	0 (-17.8)		10200 (2990)	9660 (2830)	9150 (2680)	8640 (2530)	8150 (2390)	7640 (2240)		
	-5 (-20.6)		8760 (2570)	8270 (2420)	7800 (2290)	7330 (2150)	6880 (2020)	6430 (1880)		
	25 (-3.9)		29100 (8530)	27800 (8150)	26700 (7820)	25400 (7440)	24200 (7090)	22900 (6710)		
	20 (-6.7)		26000 (7620)	25000 (7330)	23900 (7000)	22900 (6710)	21700 (6360)	20600 (6040)		
	15 (-9.4)		23100 (6770)	22200 (6510)	21200 (6210)	20300 (5950)	19300 (5660)	18300 (5360)		
KESA030M8 * Compressor Model ERFA-031E	10 (-12.2)		20300 (5950)	19400 (5690)	18600 (5450)	17700 (5190)	16900 (4950)	16000 (4690)		
	5 (-15.0)		17600 (5160)	16900 (4950)	16100 (4720)	15300 (4480)	14600 (4280)	13800 (4040)		
	0 (-17.8)		15200 (4450)	14600 (4280)	13900 (4070)	13100 (3840)	12400 (3630)	11800 (3460)		
KESA030M8 * Compressor Model ERFA-031E	-5 (-20.6)		13200 (3870)	12600 (3690)	12000 (3520)	11200 (3280)	10600 (3110)	9950 (2920)		

**NOTES:**

- Above ratings are based on mean temperature.
- To convert to dew point ratings, use 0.95 multiplier.
- Shaded Area Restriction: 20°F Max Superheat
- For R449A, use R448A data.
- \* Not suitable for R407A



# CAPACITY DATA - R404A R507

## MEDIUM TEMPERATURE

60Hz

MODEL KES	SATURATED SUCTION TEMPERATURE		CAPACITY BTU/H (WATTS) R404A R507						AMBIENT TEMPERATURE °F (°C)	
	°F	°C	85 (29.4)	90 (32.2)	95 (35.0)	100 (37.8)	105 (40.6)	110 (43.3)		
KESA011M8  Compressor Model KARB-010E	25 (-3.9)		10700 (3140)	10300 (3020)	9700 (2840)	9200 (2700)	8700 (2550)	8200 (2400)		
	20 (-6.7)		9900 (2900)	9400 (2750)	9000 (2640)	8500 (2490)	8000 (2340)	7500 (2200)		
	15 (-9.4)		9000 (2640)	8600 (2520)	8200 (2400)	7700 (2260)	7300 (2140)	6800 (1990)		
	10 (-12.2)		8200 (2400)	7700 (2260)	7400 (2170)	6900 (2020)	6500 (1900)	6100 (1790)		
	5 (-15)		7300 (2140)	6900 (2020)	6600 (1930)	6200 (1820)	5800 (1700)	5400 (1580)		
	0 (-17.8)		6500 (1900)	6200 (1820)	5800 (1700)	5500 (1610)	5200 (1520)	4800 (1410)		
	-5 (-20.6)		5800 (1700)	5500 (1610)	5200 (1520)	4900 (1440)	4600 (1350)	4300 (1260)		
KESA020M8  Compressor Model KAKA-020E	25 (-3.9)		17100 (5012)	16300 (4777)	15400 (4513)	14600 (4279)	13700 (4015)	12800 (3751)		
	20 (-6.7)		15700 (4601)	14900 (4367)	14100 (4132)	13300 (3898)	12500 (3664)	11800 (3458)		
	15 (-9.4)		14200 (4162)	13500 (3957)	12800 (3751)	12100 (3546)	11400 (3341)	10700 (3136)		
	10 (-12.2)		12700 (3722)	12100 (3546)	11400 (3341)	10800 (3165)	10200 (2989)	9570 (2805)		
	5 (-15)		11300 (3312)	10700 (3136)	10200 (2989)	9620 (2819)	9060 (2655)	8510 (2494)		
	0 (-17.8)		10100 (2960)	9560 (2802)	9050 (2652)	8550 (2506)	8040 (2356)	7550 (2213)		
	-5 (-20.6)		9040 (2649)	8580 (2515)	8120 (2380)	7650 (2242)	7200 (2110)	6750 (1978)		
KESA021M8  Compressor Model ERCA-021E	25 (-3.9)		21600 (6331)	20500 (6008)	19400 (5686)	18300 (5363)	17100 (5012)	16100 (4719)		
	20 (-6.7)		19600 (5744)	18500 (5422)	17500 (5129)	16500 (4836)	15500 (4543)	14500 (4250)		
	15 (-9.4)		17700 (5188)	16700 (4894)	15800 (4631)	14900 (4367)	14000 (4103)	13000 (3810)		
	10 (-12.2)		16000 (4689)	15100 (4426)	14200 (4162)	13400 (3927)	12500 (3664)	11700 (3429)		
	5 (-15)		14300 (4191)	13500 (3957)	12700 (3722)	12000 (3517)	11200 (3283)	10500 (3077)		
	0 (-17.8)		12700 (3722)	12000 (3517)	11300 (3312)	10600 (3107)	9910 (2904)	9230 (2705)		
	-5 (-20.6)		11100 (3253)	10500 (3077)	9860 (2890)	9230 (2705)	8610 (2523)	7990 (2342)		
KESA030M8  Compressor Model ERFA-031E	25 (-3.9)		31330 (9173)	29860 (8743)	28360 (8304)	26840 (7859)	25320 (7414)	23780 (6963)		
	20 (-6.7)		28410 (8318)	27070 (7926)	25700 (7525)	24320 (7121)	22930 (6714)	21530 (6304)		
	15 (-9.4)		25680 (7519)	24450 (7159)	23210 (6796)	21950 (6427)	20690 (6058)	19420 (5686)		
	10 (-12.2)		23130 (6772)	22010 (6445)	20880 (6114)	19730 (5777)	18580 (5440)	17430 (5104)		
	5 (-15.0)		20750 (6076)	19730 (5777)	18700 (5475)	17650 (5168)	16600 (4860)	15550 (4553)		
	0 (-17.8)		18520 (5423)	17590 (5150)	16640 (4872)	15680 (4591)	14720 (4310)	13770 (4032)		
	-5 (-20.6)		16440 (4814)	15570 (4559)	14700 (4304)	13810 (4044)	12930 (3786)	12050 (3528)		





# CAPACITY DATA - R407A

## LOW TEMPERATURE

# 60Hz

MODEL KES	SATURATED SUCTION TEMPERATURE		CAPACITY BTU/H (WATTS) R407A AMBIENT TEMPERATURE °F (°C)									
	° F	° C	85 (29.4)	90 (32.2)	95 (35.0)	100 (37.8)	105 (40.6)	110 (43.3)				
KESA035L8 Compressor Model 2DF3F16KE	-5 (-20.6)		26100 (7650)	25000 (7330)	23700 (6950)	22600 (6620)	21300 (6240)	20200 (5920)				
	-10 (-23.3)		22800 (6680)	21700 (6360)	20600 (6040)	19500 (5710)	18500 (5420)	17400 (5100)				
	-15 (-26.1)		19700 (5770)	18800 (5510)	17900 (5250)	16900 (4950)	16000 (4690)	15000 (4400)				
	-20 (-28.9)		17100 (5010)	16200 (4750)	15300 (4480)	14500 (4250)	13700 (4020)	12800 (3750)				
	-25 (-31.7)		14700 (4310)	13900 (4070)	13100 (3840)	12400 (3630)	11600 (3400)	10900 (3190)				
	-30 (-34.4)		12400 (3630)	11800 (3460)	11000 (3220)	10300 (3020)	9680 (2840)	9030 (2650)				
	-35 (-37.2)		10300 (3020)	9690 (2840)	9070 (2660)	8450 (2480)	7840 (2300)	7250 (2120)				
-40 (-40.0)		8330 (2440)	7730 (2270)	7140 (2090)	6570 (1930)	6010 (1760)	5460 (1600)					
KESA040L8 Compressor Model 2DL3F20KE	-5 (-20.6)		31600 (9260)	30200 (8850)	28900 (8470)	27500 (8060)	26000 (7620)	24600 (7210)				
	-10 (-23.3)		27700 (8120)	26500 (7770)	25300 (7410)	23900 (7000)	22700 (6650)	21400 (6270)				
	-15 (-26.1)		24200 (7090)	23000 (6740)	21800 (6390)	20800 (6100)	19600 (5740)	18400 (5390)				
	-20 (-28.9)		20800 (6100)	19700 (5770)	18800 (5510)	17700 (5190)	16700 (4890)	15800 (4630)				
	-25 (-31.7)		17700 (5190)	16800 (4920)	15900 (4660)	15000 (4400)	14100 (4130)	13200 (3870)				
	-30 (-34.4)		14800 (4340)	14100 (4130)	13200 (3870)	12500 (3660)	11700 (3430)	10900 (3190)				
	-35 (-37.2)		12200 (3580)	11600 (3400)	10800 (3170)	10200 (2990)	9510 (2790)	8890 (2610)				
-40 (-40.0)		9860 (2890)	9220 (2700)	8640 (2530)	8090 (2370)	7570 (2220)	7080 (2070)					
KESA060L8 Compressor Model 2DB3F25KE	-5 (-20.6)		39300 (11520)	37800 (11080)	36100 (10580)	34500 (10110)	32900 (9640)	31200 (9140)				
	-10 (-23.3)		34500 (10110)	33100 (9700)	31600 (9260)	30100 (8820)	28700 (8410)	27100 (7940)				
	-15 (-26.1)		30200 (8850)	28900 (8470)	27500 (8060)	26100 (7650)	24900 (7300)	23400 (6860)				
	-20 (-28.9)		26300 (7710)	25000 (7330)	23800 (6980)	22600 (6620)	21400 (6270)	20200 (5920)				
	-25 (-31.7)		22600 (6620)	21500 (6300)	20400 (5980)	19300 (5660)	18300 (5360)	17200 (5040)				
	-30 (-34.4)		19200 (5630)	18200 (5330)	17200 (5040)	16400 (4810)	15400 (4510)	14600 (4280)				
	-35 (-37.2)		16000 (4690)	15100 (4430)	14300 (4190)	13500 (3960)	12800 (3750)	12100 (3550)				
-40 (-40.0)		12900 (3780)	12200 (3580)	11600 (3400)	10900 (3190)	10300 (3020)	9810 (2880)					
KESA061L8 Compressor Model 3DA3F28KE	-5 (-20.6)		44600 (13070)	42600 (12480)	40700 (11930)	38700 (11340)	36800 (10780)	34800 (10200)				
	-10 (-23.3)		39200 (11490)	37400 (10960)	35600 (10430)	33800 (9910)	32000 (9380)	30100 (8820)				
	-15 (-26.1)		34200 (10020)	32600 (9550)	31000 (9090)	29300 (8590)	27600 (8090)	25900 (7590)				
	-20 (-28.9)		29700 (8700)	28200 (8260)	26800 (7850)	25200 (7390)	23600 (6920)	22100 (6480)				
	-25 (-31.7)		25600 (7500)	24300 (7120)	22800 (6680)	21400 (6270)	20000 (5860)	18500 (5420)				
	-30 (-34.4)		21700 (6360)	20500 (6010)	19200 (5630)	17900 (5250)	16500 (4840)	15000 (4400)				
	-35 (-37.2)		18300 (5360)	17000 (4980)	15800 (4630)	14500 (4250)	13100 (3840)	11800 (3460)				
-40 (-40.0)		14800 (4340)	13700 (4020)	12500 (3660)	11200 (3280)	9950 (2920)	8620 (2530)					
KESA075L8 Compressor Model 3DB3F33KE	-5 (-20.6)		52300 (15330)	50100 (14680)	47900 (14040)	45700 (13390)	43500 (12750)	-				
	-10 (-23.3)		46300 (13570)	44200 (12950)	42100 (12340)	40000 (11720)	38000 (11140)	36000 (10550)				
	-15 (-26.1)		40800 (11960)	39000 (11430)	37000 (10840)	35000 (10260)	33100 (9700)	31200 (9140)				
	-20 (-28.9)		35900 (10520)	34000 (9960)	32200 (9440)	30300 (8880)	28500 (8350)	26700 (7820)				
	-25 (-31.7)		31300 (9170)	29500 (8650)	27700 (8120)	26000 (7620)	24300 (7120)	22500 (6590)				
	-30 (-34.4)		26900 (7880)	25200 (7390)	23500 (6890)	21800 (6390)	20200 (5920)	18500 (5420)				
	-35 (-37.2)		22600 (6620)	21100 (6180)	19500 (5710)	17900 (5250)	16300 (4780)	14700 (4310)				
-40 (-40.0)		18400 (5390)	16900 (4950)	15400 (4510)	14000 (4100)	12400 (3630)	10800 (3170)					
KESA090L8 Compressor Model 3DF3F40KE	-5 (-20.6)		65600 (19230)	62900 (18430)	60200 (17640)	57400 (16820)	54700 (16030)	52100 (15270)				
	-10 (-23.3)		58000 (17000)	55400 (16240)	52800 (15470)	50200 (14710)	47700 (13980)	45200 (13250)				
	-15 (-26.1)		50900 (14920)	48500 (14210)	46000 (13480)	43600 (12780)	41100 (12050)	38700 (11340)				
	-20 (-28.9)		44300 (12980)	42000 (12310)	39700 (11630)	37400 (10960)	35100 (10290)	32900 (9640)				
	-25 (-31.7)		38100 (11170)	36000 (10550)	33900 (9940)	31700 (9290)	29600 (8670)	27500 (8060)				
	-30 (-34.4)		32300 (9470)	30500 (8940)	28500 (8350)	26500 (7770)	24500 (7180)	22600 (6620)				
	-35 (-37.2)		27000 (7910)	25200 (7390)	23400 (6860)	21600 (6330)	19700 (5770)	18000 (5280)				
-40 (-40.0)		21800 (6390)	20300 (5950)	18700 (5480)	17000 (4980)	15400 (4510)	13800 (4040)					

**NOTES:**

- Above ratings are based on mean temperature.
- To convert to dew point ratings, use 0.95 multiplier.

*table continues on next page >>>*





# CAPACITY DATA - R407A

## LOW TEMPERATURE (cont'd)

# 60Hz

MODEL KES	SATURATED SUCTION TEMPERATURE		CAPACITY BTU/H (WATTS) <b>R407A</b> AMBIENT TEMPERATURE °F (°C)									
	° F	° C	85 (29.4)	90 (32.2)	95 (35.0)	100 (37.8)	105 (40.6)	110 (43.3)				
KESA100L8 Compressor Model 3DS3F46KE	-5 (-20.6)		70000 (20510)	67100 (19660)	64200 (18820)	61100 (17910)	58100 (17030)	54900 (16090)				
	-10 (-23.3)		61800 (18110)	59100 (17320)	56400 (16530)	53700 (15740)	50700 (14860)	47900 (14040)				
	-15 (-26.1)		54400 (15940)	51900 (15210)	49200 (14420)	46700 (13690)	44100 (12920)	41400 (12130)				
	-20 (-28.9)		47500 (13920)	45000 (13190)	42700 (12510)	40300 (11810)	37900 (11110)	35400 (10370)				
	-25 (-31.7)		41000 (12020)	38700 (11340)	36600 (10730)	34400 (10080)	32200 (9440)	29900 (8760)				
	-30 (-34.4)		34900 (10230)	32900 (9640)	30900 (9060)	28900 (8470)	26900 (7880)	24800 (7270)				
	-35 (-37.2)		29000 (8500)	27200 (7970)	25300 (7410)	23500 (6890)	21700 (6360)	19800 (5800)				
-40 (-40.0)		23300 (6830)	21600 (6330)	20000 (5860)	18400 (5390)	16700 (4890)	15100 (4430)					
KESA120L8 Compressor Model 4DANF47KE	-5 (-20.6)		79700 (23360)	76300 (22360)	73000 (21390)	69400 (20340)	65800 (19280)	62200 (18230)				
	-10 (-23.3)		70200 (20570)	67200 (19690)	64100 (18790)	60900 (17850)	57500 (16850)	54200 (15880)				
	-15 (-26.1)		61200 (17940)	58500 (17140)	55800 (16350)	52800 (15470)	49800 (14590)	46700 (13690)				
	-20 (-28.9)		52900 (15500)	50400 (14770)	47900 (14040)	45200 (13250)	42400 (12430)	39600 (11610)				
	-25 (-31.7)		45200 (13250)	42900 (12570)	40500 (11870)	38100 (11170)	35600 (10430)	32900 (9640)				
	-30 (-34.4)		38000 (11140)	35900 (10520)	33800 (9910)	31500 (9230)	29200 (8560)	26700 (7820)				
	-35 (-37.2)		31500 (9230)	29600 (8670)	27600 (8090)	25500 (7470)	23300 (6830)	20900 (6130)				
-40 (-40.0)		25600 (7500)	23800 (6980)	21900 (6420)	20000 (5860)	17900 (5250)	15600 (4570)					
KESA130L8 Compressor Model 4DBNF54KE	-5 (-20.6)		86600 (25380)	83000 (24320)	79200 (23210)	75300 (22070)	71300 (20900)	67300 (19720)				
	-10 (-23.3)		76300 (22360)	73000 (21390)	69600 (20400)	66000 (19340)	62500 (18320)	58700 (17200)				
	-15 (-26.1)		66700 (19550)	63600 (18640)	60600 (17760)	57300 (16790)	54000 (15830)	50600 (14830)				
	-20 (-28.9)		57500 (16850)	54800 (16060)	52000 (15240)	49000 (14360)	46000 (13480)	42800 (12540)				
	-25 (-31.7)		49100 (14390)	46700 (13690)	44100 (12920)	41400 (12130)	38500 (11280)	35600 (10430)				
	-30 (-34.4)		41400 (12130)	39200 (11490)	36800 (10780)	34200 (10020)	31600 (9260)	28900 (8470)				
	-35 (-37.2)		34300 (10050)	32200 (9440)	30000 (8790)	27700 (8120)	25200 (7390)	22700 (6650)				
-40 (-40.0)		27900 (8180)	26000 (7620)	23900 (7000)	21700 (6360)	19400 (5690)	16900 (4950)					
KESA150L8 Compressor Model 4DHNF63KE	-5 (-20.6)		97900 (28690)	93700 (27460)	89500 (26230)	85300 (25000)	81100 (23770)	76800 (22510)				
	-10 (-23.3)		87000 (25500)	83300 (24410)	79500 (23300)	75700 (22190)	71800 (21040)	67900 (19900)				
	-15 (-26.1)		76900 (22540)	73500 (21540)	70000 (20510)	66600 (19520)	63000 (18460)	59500 (17440)				
	-20 (-28.9)		67200 (19690)	64200 (18820)	61100 (17910)	58000 (17000)	54800 (16060)	51600 (15120)				
	-25 (-31.7)		58300 (17090)	55500 (16270)	52700 (15440)	49900 (14620)	46900 (13740)	44000 (12900)				
	-30 (-34.4)		50000 (14650)	47500 (13920)	44900 (13160)	42300 (12400)	39700 (11630)	37000 (10840)				
	-35 (-37.2)		42300 (12400)	40000 (11720)	37700 (11050)	35300 (10350)	32900 (9640)	30300 (8880)				
-40 (-40.0)		35300 (10350)	33300 (9760)	31100 (9110)	28900 (8470)	26600 (7800)	24300 (7120)					
KESA220L8 Compressor Model 4DJNF76KE	-5 (-20.6)		119900 (35140)	114700 (33620)	109400 (32060)	104000 (30480)	98500 (28870)	-				
	-10 (-23.3)		105700 (30980)	100900 (29570)	96100 (28160)	91000 (26670)	86000 (25200)	80900 (23710)				
	-15 (-26.1)		92600 (27140)	88200 (25850)	83800 (24560)	79300 (23240)	74700 (21890)	69900 (20490)				
	-20 (-28.9)		80600 (23620)	76800 (22510)	72800 (21340)	68700 (20130)	64600 (18930)	60300 (17670)				
	-25 (-31.7)		69900 (20490)	66500 (19490)	63000 (18460)	59400 (17410)	55800 (16350)	52000 (15240)				
	-30 (-34.4)		60500 (17730)	57500 (16850)	54500 (15970)	51500 (15090)	48300 (14160)	45000 (13190)				
	-35 (-37.2)		52300 (15330)	50000 (14650)	47500 (13920)	44900 (13160)	42300 (12400)	39600 (11610)				
-40 (-40.0)		45700 (13390)	43800 (12840)	41900 (12280)	40000 (11720)	37900 (11110)	35700 (10460)					

**NOTES:**

- Above ratings are based on mean temperature.
- To convert to dew point ratings, use 0.95 multiplier.



# CAPACITY DATA - R448A

## LOW TEMPERATURE

# 60Hz

MODEL KES	SATURATED SUCTION TEMPERATURE		CAPACITY BTU/H (WATTS) <b>R448A</b> AMBIENT TEMPERATURE °F (°C)							
	°F	°C	85 (29.4)	90 (32.2)	95 (35.0)	100 (37.8)	105 (40.6)	110 (43.3)		
KESA015L8 *  Compressor Model KALB-015E	0	(-17.8)	10300 (3020)	9710 (2850)	9150 (2680)	8600 (2520)	8070 (2370)	7600 (2230)		
	-5	(-20.6)	8860 (2600)	8300 (2430)	7730 (2270)	7190 (2110)	6680 (1960)	6180 (1810)		
	-10	(-23.3)	7560 (2220)	7010 (2050)	6480 (1900)	5950 (1740)	5440 (1590)	4970 (1460)		
	-15	(-26.1)	6410 (1880)	5890 (1730)	5380 (1580)	4870 (1430)	4380 (1280)	3940 (1150)		
	-20	(-28.9)	5370 (1570)	4890 (1430)	4410 (1290)	3940 (1150)	3500 (1030)	3080 (900)		
	-25	(-31.7)	4440 (1300)	4010 (1180)	3580 (1050)	3160 (930)	2760 (810)	2390 (700)		
	-30	(-34.4)	3630 (1060)	3270 (960)	2890 (850)	2520 (740)	2180 (640)	1870 (550)		
	-35	(-37.2)	2930 (860)	2630 (770)	2330 (680)	2050 (600)	1760 (520)	1530 (450)		
	-40	(-40.0)	2350 (690)	2130 (620)	1910 (560)	1700 (500)	1520 (450)	1380 (400)		
KESA020L8 *  Compressor Model EADB-021E	0	(-17.8)	12800 (3750)	12100 (3550)	11400 (3340)	10700 (3140)	10000 (2930)	9380 (2750)		
	-5	(-20.6)	11200 (3280)	10600 (3110)	10000 (2930)	9410 (2760)	8800 (2580)	8220 (2410)		
	-10	(-23.3)	9810 (2880)	9250 (2710)	8680 (2540)	8130 (2380)	7590 (2220)	7080 (2070)		
	-15	(-26.1)	8410 (2460)	7910 (2320)	7400 (2170)	6900 (2020)	6420 (1880)	5950 (1740)		
	-20	(-28.9)	7120 (2090)	6650 (1950)	6180 (1810)	5730 (1680)	5300 (1550)	4890 (1430)		
	-25	(-31.7)	5930 (1740)	5510 (1610)	5090 (1490)	4670 (1370)	4280 (1250)	3910 (1150)		
	-30	(-34.4)	4920 (1440)	4530 (1330)	4130 (1210)	3740 (1100)	3370 (990)	3020 (890)		
	-35	(-37.2)	4070 (1190)	3700 (1080)	3320 (970)	2950 (860)	2600 (760)	2280 (670)		
	-40	(-40.0)	3430 (1010)	3060 (900)	2690 (790)	2350 (690)	2020 (590)	1710 (500)		
KESA021L8 *  Compressor Model EAVB-021E	0	(-17.8)	15600 (4570)	14800 (4340)	13900 (4070)	13000 (3810)	12200 (3580)	-		
	-5	(-20.6)	14000 (4100)	13200 (3870)	12400 (3630)	11600 (3400)	10800 (3170)	-		
	-10	(-23.3)	12400 (3630)	11700 (3430)	10900 (3190)	10200 (2990)	9540 (2800)	8890 (2610)		
	-15	(-26.1)	10800 (3170)	10200 (2990)	9530 (2790)	8910 (2610)	8320 (2440)	7740 (2270)		
	-20	(-28.9)	9390 (2750)	8790 (2580)	8220 (2410)	7670 (2250)	7150 (2100)	6660 (1950)		
	-25	(-31.7)	8020 (2350)	7500 (2200)	6980 (2050)	6510 (1910)	6070 (1780)	5670 (1660)		
	-30	(-34.4)	6790 (1990)	6320 (1850)	5870 (1720)	5470 (1600)	5090 (1490)	4770 (1400)		
	-35	(-37.2)	5700 (1670)	5280 (1550)	4900 (1440)	4560 (1340)	4240 (1240)	3990 (1170)		
	-40	(-40.0)	4760 (1400)	4400 (1290)	4060 (1190)	3790 (1110)	3540 (1040)	3350 (980)		
KESA030L8 *  Compressor Model LAHA-032E	0	(-17.8)	24700 (7240)	23200 (6800)	21800 (6390)	20400 (5980)	18800 (5510)	17200 (5040)		
	-5	(-20.6)	21600 (6330)	20400 (5980)	19200 (5630)	17900 (5250)	16600 (4860)	15100 (4430)		
	-10	(-23.3)	18700 (5480)	17600 (5160)	16600 (4860)	15500 (4540)	14400 (4220)	13100 (3840)		
	-15	(-26.1)	16000 (4690)	15000 (4400)	14200 (4160)	13200 (3870)	12200 (3580)	11100 (3250)		
	-20	(-28.9)	13300 (3900)	12600 (3690)	11900 (3490)	11000 (3220)	10200 (2990)	9250 (2710)		
	-25	(-31.7)	10900 (3190)	10300 (3020)	9660 (2830)	8960 (2630)	8220 (2410)	7420 (2170)		
	-30	(-34.4)	8810 (2580)	8240 (2410)	7650 (2240)	7060 (2070)	6410 (1880)	5700 (1670)		
	-35	(-37.2)	6890 (2020)	6370 (1870)	5840 (1710)	5290 (1550)	4700 (1380)	4070 (1190)		
	-40	(-40.0)	5210 (1530)	4710 (1380)	4220 (1240)	3700 (1080)	3160 (930)	2570 (750)		
KESA035L8  Compressor Model 2DF3F16KE	-5	(-20.6)	27100 (7940)	25800 (7560)	24600 (7210)	23400 (6860)	22200 (6510)	21000 (6150)		
	-10	(-23.3)	23600 (6920)	22500 (6590)	21300 (6240)	20300 (5950)	19200 (5630)	18100 (5300)		
	-15	(-26.1)	20500 (6010)	19400 (5690)	18500 (5420)	17500 (5130)	16500 (4840)	15500 (4540)		
	-20	(-28.9)	17700 (5190)	16800 (4920)	16000 (4690)	15000 (4400)	14200 (4160)	13300 (3900)		
	-25	(-31.7)	15200 (4450)	14400 (4220)	13700 (4020)	12800 (3750)	12100 (3550)	11300 (3310)		
	-30	(-34.4)	13000 (3810)	12300 (3600)	11600 (3400)	10800 (3170)	10100 (2960)	9440 (2770)		
	-35	(-37.2)	10900 (3190)	10300 (3020)	9630 (2820)	8970 (2630)	8330 (2440)	7700 (2260)		
	-40	(-40.0)	9060 (2660)	8430 (2470)	7810 (2290)	7190 (2110)	6590 (1930)	6020 (1760)		
	KESA040L8  Compressor Model 2DL3F20KE	-5	(-20.6)	32700 (9580)	31300 (9170)	29900 (8760)	28500 (8350)	27000 (7910)	25500 (7470)	
-10		(-23.3)	28700 (8410)	27400 (8030)	26100 (7650)	24900 (7300)	23500 (6890)	22200 (6510)		
-15		(-26.1)	25000 (7330)	23800 (6980)	22700 (6650)	21500 (6300)	20300 (5950)	19100 (5600)		
-20		(-28.9)	21500 (6300)	20500 (6010)	19400 (5690)	18400 (5390)	17300 (5070)	16300 (4780)		
-25		(-31.7)	18400 (5390)	17400 (5100)	16500 (4840)	15500 (4540)	14700 (4310)	13800 (4040)		
-30		(-34.4)	15500 (4540)	14700 (4310)	13900 (4070)	13000 (3810)	12300 (3600)	11400 (3340)		
-35		(-37.2)	13000 (3810)	12300 (3600)	11600 (3400)	10800 (3170)	10100 (2960)	9470 (2780)		
-40		(-40.0)	10800 (3170)	10100 (2960)	9490 (2780)	8900 (2610)	8340 (2440)	7800 (2290)		
KESA060L8  Compressor Model 2DB3F25KE		-5	(-20.6)	40500 (11870)	39000 (11430)	37400 (10960)	35700 (10460)	34000 (9960)	32300 (9470)	
	-10	(-23.3)	35600 (10430)	34100 (9990)	32800 (9610)	31200 (9140)	29700 (8700)	28100 (8240)		
	-15	(-26.1)	31300 (9170)	29900 (8760)	28600 (8380)	27200 (7970)	25700 (7530)	24400 (7150)		
	-20	(-28.9)	27200 (7970)	26000 (7620)	24800 (7270)	23500 (6890)	22300 (6540)	21000 (6150)		
	-25	(-31.7)	23500 (6890)	22400 (6560)	21200 (6210)	20100 (5890)	19000 (5570)	17900 (5250)		
	-30	(-34.4)	20100 (5890)	19000 (5570)	18000 (5280)	16900 (4950)	15900 (4660)	14900 (4370)		
	-35	(-37.2)	16800 (4920)	15800 (4630)	14800 (4340)	13900 (4070)	12900 (3780)	12100 (3550)		
	-40	(-40.0)	13400 (3930)	12600 (3690)	11700 (3430)	10800 (3170)	10000 (2930)	9230 (2710)		
	KESA061L8  Compressor Model 3DA3F28KE	-5	(-20.6)	46100 (13510)	44200 (12950)	42200 (12370)	40200 (11780)	38100 (11170)	36000 (10550)	
-10		(-23.3)	40500 (11870)	38700 (11340)	36900 (10810)	35000 (10260)	33100 (9700)	31200 (9140)		
-15		(-26.1)	35400 (10370)	33700 (9880)	32000 (9380)	30300 (8880)	28600 (8380)	26800 (7850)		
-20		(-28.9)	30700 (9000)	29200 (8560)	27600 (8090)	26000 (7620)	24500 (7180)	22800 (6680)		
-25		(-31.7)	26500 (7770)	25100 (7360)	23700 (6950)	22300 (6540)	20700 (6070)	19200 (5630)		
-30		(-34.4)	22800 (6680)	21500 (6300)	20200 (5920)	18800 (5510)	17400 (5100)	16000 (4690)		
-35		(-37.2)	19500 (5710)	18300 (5360)	17000 (4980)	15800 (4630)	14400 (4220)	13100 (3840)		
-40		(-40.0)	16700 (4890)	15500 (4540)	14300 (4190)	13000 (3810)	11800 (3460)	10500 (3080)		

**NOTES:**

- Above ratings are based on mean temperature.
  - Shaded Area Restriction: 20°F Max Superheat
  - To convert to dew point ratings, use 0.95 multiplier.
  - For R449A, use R448A data.
- \* Not suitable for R407A

table continues on next page >>>



# CAPACITY DATA - R448A

## LOW TEMPERATURE (cont'd)

# 60Hz

MODEL KES	SATURATED SUCTION TEMPERATURE		CAPACITY BTU/H (WATTS) <b>R448A</b> AMBIENT TEMPERATURE °F (°C)									
	° F	° C	85 (29.4)	90 (32.2)	95 (35.0)	100 (37.8)	105 (40.6)	110 (43.3)				
KESA075L8  Compressor Model 3DB3F33KE	-5 (-20.6)		53900 (15800)	51700 (15150)	49400 (14480)	47100 (13800)	44900 (13160)	42800 (12540)				
	-10 (-23.3)		47800 (14010)	45700 (13390)	43500 (12750)	41400 (12130)	39300 (11520)	37200 (10900)				
	-15 (-26.1)		42200 (12370)	40200 (11780)	38100 (11170)	36100 (10580)	34100 (9990)	32100 (9410)				
	-20 (-28.9)		37100 (10870)	35200 (10320)	33300 (9760)	31300 (9170)	29400 (8620)	27500 (8060)				
	-25 (-31.7)		32400 (9500)	30600 (8970)	28800 (8440)	26900 (7880)	25100 (7360)	23200 (6800)				
	-30 (-34.4)		28000 (8210)	26400 (7740)	24600 (7210)	22800 (6680)	21000 (6150)	19200 (5630)				
	-35 (-37.2)		23900 (7000)	22300 (6540)	20600 (6040)	18900 (5540)	17200 (5040)	15400 (4510)				
-40 (-40.0)		20000 (5860)	18400 (5390)	16800 (4920)	15100 (4430)	13400 (3930)	11800 (3460)					
KESA090L8  Compressor Model 3DF3F40KE	-5 (-20.6)		68400 (20050)	65500 (19200)	62600 (18350)	59600 (17470)	56600 (16590)	53600 (15710)				
	-10 (-23.3)		60100 (17610)	57400 (16820)	54700 (16030)	52000 (15240)	49200 (14420)	46400 (13600)				
	-15 (-26.1)		52500 (15390)	50100 (14680)	47600 (13950)	45000 (13190)	42500 (12460)	39900 (11690)				
	-20 (-28.9)		45700 (13390)	43500 (12750)	41200 (12070)	38700 (11340)	36300 (10640)	33900 (9940)				
	-25 (-31.7)		39500 (11580)	37400 (10960)	35200 (10320)	33000 (9670)	30800 (9030)	28500 (8350)				
	-30 (-34.4)		33900 (9940)	31900 (9350)	29800 (8730)	27700 (8120)	25500 (7470)	23300 (6830)				
	-35 (-37.2)		28800 (8440)	26800 (7850)	24800 (7270)	22800 (6680)	20700 (6070)	18600 (5450)				
-40 (-40.0)		23900 (7000)	22200 (6510)	20200 (5920)	18200 (5330)	16200 (4750)	14100 (4130)					
KESA100L8  Compressor Model 3DS3F46KE	-5 (-20.6)		73900 (21660)	70800 (20750)	67500 (19780)	64300 (18840)	61000 (17880)	57600 (16880)				
	-10 (-23.3)		65000 (19050)	62100 (18200)	59100 (17320)	56200 (16470)	53100 (15560)	50000 (14650)				
	-15 (-26.1)		56900 (16680)	54200 (15880)	51500 (15090)	48700 (14270)	45900 (13450)	43100 (12630)				
	-20 (-28.9)		49500 (14510)	47000 (13770)	44500 (13040)	41900 (12280)	39300 (11520)	36500 (10700)				
	-25 (-31.7)		42800 (12540)	40400 (11840)	38100 (11170)	35600 (10430)	33200 (9730)	30700 (9000)				
	-30 (-34.4)		36600 (10730)	34400 (10080)	32200 (9440)	29900 (8760)	27500 (8060)	25100 (7360)				
	-35 (-37.2)		31100 (9110)	29000 (8500)	26800 (7850)	24600 (7210)	22300 (6540)	20000 (5860)				
-40 (-40.0)		25900 (7590)	23900 (7000)	21700 (6360)	19600 (5740)	17300 (5070)	15100 (4430)					
KESA120L8  Compressor Model 4DANF47KE	-5 (-20.6)		79700 (23360)	76300 (22360)	73000 (21390)	69400 (20340)	65800 (19280)	62200 (18230)				
	-10 (-23.3)		70200 (20570)	67200 (19690)	64100 (18790)	60900 (17850)	57500 (16850)	54200 (15880)				
	-15 (-26.1)		61200 (17940)	58500 (17140)	55800 (16350)	52800 (15470)	49800 (14590)	46700 (13690)				
	-20 (-28.9)		52900 (15500)	50400 (14770)	47900 (14040)	45200 (13250)	42400 (12430)	39600 (11610)				
	-25 (-31.7)		45200 (13250)	42900 (12570)	40500 (11870)	38100 (11170)	35600 (10430)	32900 (9640)				
	-30 (-34.4)		38000 (11140)	35900 (10520)	33800 (9910)	31500 (9230)	29200 (8560)	26700 (7820)				
	-35 (-37.2)		31500 (9230)	29600 (8670)	27600 (8090)	25500 (7470)	23300 (6830)	20900 (6130)				
-40 (-40.0)		25600 (7500)	23800 (6980)	21900 (6420)	20000 (5860)	17900 (5250)	15600 (4570)					
KESA130L8  Compressor Model 4DBNF54KE	-5 (-20.6)		89500 (26230)	85800 (25150)	81900 (24000)	78000 (22860)	73900 (21660)	69700 (20430)				
	-10 (-23.3)		79000 (23150)	75500 (22130)	72000 (21100)	68500 (20080)	64700 (18960)	60800 (17820)				
	-15 (-26.1)		69000 (20220)	65900 (19310)	62700 (18380)	59300 (17380)	56000 (16410)	52400 (15360)				
	-20 (-28.9)		59600 (17470)	56900 (16680)	54000 (15830)	50900 (14920)	47700 (13980)	44400 (13010)				
	-25 (-31.7)		51100 (14980)	48500 (14210)	45900 (13450)	43100 (12630)	40100 (11750)	37000 (10840)				
	-30 (-34.4)		43400 (12720)	41000 (12020)	38400 (11250)	35800 (10490)	33100 (9700)	30100 (8820)				
	-35 (-37.2)		36400 (10670)	34200 (10020)	31900 (9350)	29400 (8620)	26800 (7850)	24000 (7030)				
-40 (-40.0)		30500 (8940)	28400 (8320)	26100 (7650)	23700 (6950)	21200 (6210)	18600 (5450)					
KESA150L8  Compressor Model 4DHNF63KE	-5 (-20.6)		100700 (29510)	96500 (28280)	92200 (27020)	88000 (25790)	83700 (24530)	79500 (23300)				
	-10 (-23.3)		89800 (26320)	85900 (25170)	82100 (24060)	78100 (22890)	74200 (21750)	70400 (20630)				
	-15 (-26.1)		79500 (23300)	76000 (22270)	72500 (21250)	68900 (20190)	65300 (19140)	61700 (18080)				
	-20 (-28.9)		69900 (20490)	66700 (19550)	63400 (18580)	60100 (17610)	56700 (16620)	53300 (15620)				
	-25 (-31.7)		60800 (17820)	57900 (16970)	54800 (16060)	51700 (15150)	48500 (14210)	45400 (13310)				
	-30 (-34.4)		52300 (15330)	49500 (14510)	46600 (13660)	43600 (12780)	40600 (11900)	37600 (11020)				
	-35 (-37.2)		44200 (12950)	41500 (12160)	38600 (11310)	35800 (10490)	32900 (9640)	29900 (8760)				
-40 (-40.0)		36400 (10670)	33800 (9910)	31100 (9110)	28200 (8260)	25300 (7410)	22400 (6560)					
KESA220L8  Compressor Model 4DJNF76KE	-5 (-20.6)		122700 (35960)	117500 (34440)	112200 (32880)	106900 (31330)	101500 (29750)	96200 (28190)				
	-10 (-23.3)		108700 (31860)	103800 (30420)	98900 (28980)	93900 (27520)	88800 (26020)	83800 (24560)				
	-15 (-26.1)		95900 (28110)	91400 (26790)	86700 (25410)	82100 (24060)	77400 (22680)	72700 (21310)				
	-20 (-28.9)		84100 (24650)	79900 (23420)	75600 (22160)	71300 (20900)	66800 (19580)	62400 (18290)				
	-25 (-31.7)		73200 (21450)	69300 (20310)	65200 (19110)	61100 (17910)	56900 (16680)	52700 (15440)				
	-30 (-34.4)		62900 (18430)	59200 (17350)	55400 (16240)	51600 (15120)	47600 (13950)	43600 (12780)				
	-35 (-37.2)		53000 (15530)	49500 (14510)	45900 (13450)	42200 (12370)	38400 (11250)	34500 (10110)				
-40 (-40.0)		43200 (12660)	39900 (11690)	36400 (10670)	32900 (9640)	29300 (8590)	25600 (7500)					

**NOTES:**

- Above ratings are based on mean temperature.
- To convert to dew point ratings, use 0.95 multiplier.
- Shaded Area Restriction: 20°F Max Superheat
- For R449A, use R448A data.





# CAPACITY DATA - R404A R507

## LOW TEMPERATURE

# 60Hz

MODEL	SATURATED SUCTION TEMPERATURE		CAPACITY BTU/H (WATTS) R404A R507						AMBIENT TEMPERATURE °F (°C)	
			85 (29.4)	90 (32.2)	95 (35.0)	100 (37.8)	105 (40.6)	110 (43.3)		
KES	° F	° C								
KESA015L8 Compressor Model KALB-015E	0	(-17.8)	12600 (3693)	12000 (3517)	11300 (3312)	10700 (3136)	10000 (2931)	9370 (2746)		
	-5	(-20.6)	11300 (3312)	10700 (3136)	10100 (2960)	9510 (2787)	8920 (2614)	8330 (2441)		
	-10	(-23.3)	10000 (2931)	9500 (2784)	8960 (2626)	8430 (2471)	7890 (2312)	7350 (2154)		
	-15	(-26.1)	8880 (2603)	8380 (2456)	7900 (2315)	7410 (2172)	6920 (2028)	6440 (1887)		
	-20	(-28.9)	7790 (2283)	7350 (2154)	6910 (2025)	6470 (1896)	6030 (1767)	5580 (1635)		
	-25	(-31.7)	6790 (1990)	6390 (1873)	5980 (1753)	5590 (1638)	5190 (1521)	4790 (1404)		
	-30	(-34.4)	5850 (1715)	5490 (1609)	5130 (1504)	4770 (1398)	4410 (1292)	4050 (1187)		
	-35	(-37.2)	5000 (1465)	4670 (1369)	4340 (1272)	4020 (1178)	3690 (1081)	3360 (985)		
	-40	(-40.0)	4200 (1231)	3900 (1143)	3610 (1058)	3310 (970)	3010 (882)	2700 (791)		
KESA020L8 Compressor Model EADB-021E	0	(-17.8)	14600 (4279)	13800 (4045)	12900 (3781)	12100 (3546)	11300 (3312)	10500 (3077)		
	-5	(-20.6)	13000 (3810)	12200 (3576)	11400 (3341)	10700 (3136)	9940 (2913)	9220 (2702)		
	-10	(-23.3)	11500 (3370)	10800 (3165)	10100 (2960)	9360 (2743)	8680 (2544)	8030 (2353)		
	-15	(-26.1)	10100 (2960)	9410 (2758)	8780 (2573)	8140 (2386)	7530 (2207)	6950 (2037)		
	-20	(-28.9)	8760 (2567)	8170 (2394)	7590 (2225)	7020 (2057)	6480 (1899)	5960 (1747)		
	-25	(-31.7)	7560 (2216)	7050 (2066)	6520 (1911)	6000 (1758)	5530 (1621)	5080 (1489)		
	-30	(-34.4)	6490 (1902)	6020 (1764)	5550 (1627)	5100 (1495)	4680 (1372)	4300 (1260)		
	-35	(-37.2)	5530 (1621)	5100 (1495)	4690 (1375)	4300 (1260)	3930 (1152)	3620 (1061)		
	-40	(-40.0)	4680 (1372)	4300 (1260)	3930 (1152)	3590 (1052)	3290 (964)	3040 (891)		
KESA021L8 Compressor Model EAVB-021E	0	(-17.8)	15900 (4660)	15100 (4426)	14200 (4162)	13400 (3927)	12600 (3693)	11800 (3458)		
	-5	(-20.6)	14300 (4191)	13500 (3957)	12800 (3751)	12000 (3517)	11300 (3312)	10600 (3107)		
	-10	(-23.3)	12700 (3722)	12000 (3517)	11400 (3341)	10700 (3136)	10100 (2960)	9400 (2755)		
	-15	(-26.1)	11200 (3283)	10600 (3107)	10000 (2931)	9430 (2764)	8840 (2591)	8250 (2418)		
	-20	(-28.9)	9820 (2878)	9290 (2723)	8770 (2570)	8220 (2409)	7670 (2248)	7120 (2087)		
	-25	(-31.7)	8550 (2506)	8080 (2368)	7580 (2222)	7080 (2075)	6560 (1923)	6040 (1770)		
	-30	(-34.4)	7400 (2169)	6960 (2040)	6500 (1905)	6020 (1764)	5510 (1615)	4990 (1462)		
	-35	(-37.2)	6390 (1873)	5960 (1747)	5510 (1615)	5030 (1474)	4520 (1325)	3990 (1169)		
	-40	(-40.0)	5510 (1615)	5090 (1492)	4620 (1354)	4120 (1208)	3590 (1052)	3050 (894)		
KESA030L8 Compressor Model LAHA-032E	0	(-17.8)	26650 (7803)	25250 (7393)	23870 (6989)	22490 (6585)	21090 (6175)	19680 (5762)		
	-5	(-20.6)	23750 (6954)	22470 (6579)	21190 (6204)	19900 (5827)	18610 (5449)	17300 (5065)		
	-10	(-23.3)	20990 (6146)	19810 (5800)	18630 (5455)	17440 (5106)	16250 (4758)	15030 (4401)		
	-15	(-26.1)	18360 (5376)	17280 (5060)	16200 (4743)	15110 (4424)	14020 (4105)	12900 (3777)		
	-20	(-28.9)	15870 (4647)	14890 (4360)	13920 (4076)	12930 (3786)	11930 (3493)	10910 (3194)		
	-25	(-31.7)	13550 (3967)	12670 (3710)	11780 (3449)	10900 (3192)	9990 (2925)	9060 (2653)		
	-30	(-34.4)	11380 (3332)	10600 (3104)	9820 (2875)	9020 (2641)	8210 (2404)	7370 (2158)		
	-35	(-37.2)	9400 (2752)	8710 (2550)	8030 (2351)	7330 (2146)	6610 (1935)	5860 (1716)		
	-40	(-40.0)	7600 (2225)	7020 (2055)	6420 (1880)	5820 (1704)	5190 (1520)	4520 (1323)		
KESA035L6 Compressor Model 2DF3F16KE	0	(-17.8)	33210 (9724)	31580 (9247)	29980 (8778)	28400 (8316)	26820 (7853)	25260 (7396)		
	-5	(-20.6)	29850 (8740)	28390 (8313)	26950 (7891)	25540 (7478)	24130 (7065)	22710 (6649)		
	-10	(-23.3)	26660 (7806)	25360 (7425)	24080 (7051)	22810 (6679)	21540 (6307)	20270 (5935)		
	-15	(-26.1)	23650 (6925)	22490 (6585)	21350 (6251)	20210 (5917)	19070 (5584)	17930 (5250)		
	-20	(-28.9)	20840 (6102)	19810 (5800)	18780 (5499)	17760 (5200)	16730 (4899)	15680 (4591)		
	-25	(-31.7)	18240 (5341)	17300 (5065)	16380 (4796)	15450 (4524)	14500 (4246)	13540 (3965)		
	-30	(-34.4)	15840 (4638)	14990 (4389)	14140 (4140)	13280 (3888)	12400 (3631)	11500 (3367)		
	-35	(-37.2)	13650 (3997)	12860 (3765)	12070 (3534)	11260 (3297)	10420 (3051)	9560 (2799)		
	-40	(-40.0)	11680 (3420)	10920 (3197)	10160 (2975)	9380 (2746)	8560 (2506)	7710 (2257)		
KESA040L6 Compressor Model 2DL3F20KE	0	(-17.8)	40500 (11858)	38610 (11305)	36730 (10755)	34850 (10204)	32980 (9657)	31100 (9106)		
	-5	(-20.6)	36420 (10664)	34720 (10166)	33020 (9668)	31320 (9170)	29620 (8673)	27920 (8175)		
	-10	(-23.3)	32580 (9539)	31050 (9091)	29510 (8641)	27980 (8193)	26440 (7742)	24910 (7294)		
	-15	(-26.1)	28970 (8482)	27590 (8078)	26210 (7674)	24830 (7270)	23440 (6863)	22060 (6459)		
	-20	(-28.9)	25600 (7496)	24350 (7130)	23110 (6767)	21870 (6404)	20620 (6038)	19370 (5672)		
	-25	(-31.7)	22450 (6573)	21330 (6245)	20220 (5920)	19090 (5590)	17970 (5262)	16850 (4934)		
	-30	(-34.4)	19540 (5721)	18530 (5426)	17520 (5130)	16510 (4834)	15490 (4535)	14470 (4237)		
	-35	(-37.2)	16850 (4934)	15930 (4664)	15010 (4395)	14090 (4126)	13160 (3853)	12230 (3581)		
	-40	(-40.0)	14380 (4210)	13540 (3965)	12690 (3716)	11840 (3467)	10990 (3218)	10130 (2966)		
KESA060L6 Compressor Model 2DB3F25KE	0	(-17.8)	50110 (14672)	47880 (14019)	45640 (13363)	43400 (12708)	41130 (12043)	38840 (11372)		
	-5	(-20.6)	45110 (13208)	43090 (12617)	41080 (12028)	39060 (11437)	37030 (10842)	34980 (10242)		
	-10	(-23.3)	40380 (11823)	38560 (11290)	36760 (10763)	34950 (10233)	33130 (9700)	31300 (9165)		
	-15	(-26.1)	35930 (10520)	34300 (10043)	32680 (9569)	31060 (9094)	29440 (8620)	27810 (8143)		
	-20	(-28.9)	31760 (9299)	30290 (8869)	28840 (8444)	27390 (8020)	25950 (7598)	24510 (7177)		
	-25	(-31.7)	27880 (8163)	26540 (7771)	25230 (7387)	23940 (7010)	22660 (6635)	21380 (6260)		
	-30	(-34.4)	24270 (7106)	23050 (6749)	21860 (6401)	20700 (6061)	19560 (5727)	18420 (5393)		
	-35	(-37.2)	20920 (6125)	19800 (5797)	18710 (5478)	17660 (5171)	16630 (4869)	15620 (4574)		
	-40	(-40.0)	17830 (5221)	16790 (4916)	15780 (4620)	14820 (4339)	13880 (4064)	12960 (3795)		

table continues on next page >>>



# CAPACITY DATA - R404A R507

# 60Hz

## LOW TEMPERATURE (cont'd)

MODEL KES	SATURATED SUCTION TEMPERATURE ° F ° C	CAPACITY BTU/H (WATTS) R404A R507 AMBIENT TEMPERATURE ° F (° C)									
		85 (29.4)	90 (32.2)	95 (35.0)	100 (37.8)	105 (40.6)	110 (43.3)				
KESA061L6 Compressor Model 3DA3F28KE	0 (-17.8)	54630 (15996)	52300 (15313)	49990 (14637)	47670 (13958)	45330 (13273)	42960 (12579)				
	-5 (-20.6)	49260 (14423)	47180 (13814)	45110 (13208)	43040 (12602)	40930 (11984)	38780 (11355)				
	-10 (-23.3)	44170 (12933)	42320 (12391)	40480 (11853)	38620 (11308)	36730 (10755)	34780 (10184)				
	-15 (-26.1)	39380 (11530)	37740 (11050)	36100 (10570)	34430 (10081)	32720 (9580)	30960 (9065)				
	-20 (-28.9)	34900 (10219)	33440 (9791)	31980 (9364)	30480 (8925)	28940 (8474)	27320 (7999)				
	-25 (-31.7)	30750 (9004)	29450 (8623)	28140 (8239)	26790 (7844)	25370 (7428)	23880 (6992)				
	-30 (-34.4)	26940 (7888)	25770 (7545)	24580 (7197)	23340 (6834)	22030 (6450)	20640 (6043)				
	-35 (-37.2)	23470 (6872)	22410 (6562)	21310 (6240)	20160 (5903)	18930 (5543)	17600 (5153)				
-40 (-40.0)	20360 (5961)	19370 (5672)	18330 (5367)	17230 (5045)	16040 (4697)	14760 (4322)					
KESA075L6 Compressor Model 3DB3F33KE	0 (-17.8)	62460 (18288)	59770 (17501)	57110 (16722)	54480 (15952)	51870 (15188)	49200 (14437)				
	-5 (-20.6)	56450 (16529)	54060 (15829)	51690 (15135)	49340 (14447)	47010 (13765)	44700 (13093)				
	-10 (-23.3)	50770 (14865)	48660 (14248)	46550 (13630)	44460 (13018)	42380 (12409)	40300 (11800)				
	-15 (-26.1)	45440 (13305)	43560 (12754)	41700 (12210)	39830 (11662)	37960 (11115)	36090 (10567)				
	-20 (-28.9)	40440 (11841)	38780 (11355)	37120 (10869)	35450 (10380)	33760 (9885)	32070 (9390)				
	-25 (-31.7)	35780 (10476)	34300 (10043)	32810 (9607)	31300 (9165)	29760 (8714)	28210 (8260)				
	-30 (-34.4)	31450 (9209)	30120 (8819)	28760 (8421)	27370 (8014)	25950 (7598)	24500 (7174)				
	-35 (-37.2)	27430 (8032)	26210 (7674)	24950 (7305)	23650 (6925)	22300 (6529)	20920 (6125)				
-40 (-40.0)	23720 (6945)	22560 (6606)	21360 (6254)	20100 (5885)	18800 (5505)	17440 (5106)					
KESA090L6 Compressor Model 3DF3F40KE	0 (-17.8)	79100 (23183)	75800 (22216)	72600 (21278)	69400 (20340)	66200 (19402)	63000 (18464)				
	-5 (-20.6)	71200 (20868)	68300 (20018)	65400 (19168)	62500 (18318)	59600 (17468)	56700 (16618)				
	-10 (-23.3)	63700 (18669)	61100 (17907)	58500 (17145)	56000 (16413)	53400 (15651)	50800 (14889)				
	-15 (-26.1)	56700 (16618)	54400 (15944)	52200 (15299)	49900 (14625)	47600 (13951)	45300 (13277)				
	-20 (-28.9)	50300 (14742)	48200 (14127)	46200 (13540)	44100 (12925)	42100 (12339)	40000 (11723)				
	-25 (-31.7)	44300 (12984)	42400 (12427)	40600 (11899)	38800 (11372)	37000 (10844)	35100 (10287)				
	-30 (-34.4)	38700 (11342)	37100 (10873)	35500 (10404)	33800 (9906)	32200 (9437)	30500 (8939)				
	-35 (-37.2)	33700 (9877)	32200 (9437)	30700 (8998)	29200 (8558)	27700 (8118)	26100 (7649)				
-40 (-40.0)	29100 (8529)	27700 (8118)	26400 (7737)	24900 (7298)	23500 (6887)	22100 (6477)					
KESA100L6 Compressor Model 3DS3F46KE	0 (-17.8)	86100 (25234)	82500 (24179)	78800 (23095)	75200 (22040)	71600 (20985)	68000 (19930)				
	-5 (-20.6)	78000 (22860)	74800 (21923)	71500 (20955)	68200 (19988)	64900 (19021)	61700 (18083)				
	-10 (-23.3)	70300 (20604)	67400 (19754)	64500 (18904)	61500 (18025)	58500 (17145)	55600 (16295)				
	-15 (-26.1)	63000 (18464)	60400 (17702)	57800 (16940)	55100 (16149)	52400 (15358)	49800 (14596)				
	-20 (-28.9)	56200 (16471)	53800 (15768)	51400 (15064)	49000 (14361)	46600 (13658)	44200 (12954)				
	-25 (-31.7)	49700 (14566)	47600 (13951)	45400 (13306)	43200 (12661)	41000 (12016)	38900 (11401)				
	-30 (-34.4)	43600 (12778)	41800 (12251)	39800 (11665)	37800 (11079)	35800 (10492)	33800 (9906)				
	-35 (-37.2)	38100 (11166)	36400 (10668)	34600 (10141)	32800 (9613)	30900 (9056)	29000 (8499)				
-40 (-40.0)	33000 (9672)	31400 (9203)	29700 (8705)	28000 (8206)	26300 (7708)	24500 (7181)					
KESA120L6 Compressor Model 4DANF47KE	0 (-17.8)	94500 (27700)	90400 (26490)	86400 (25320)	82500 (24180)	78600 (23040)	74600 (21860)				
	-5 (-20.6)	84600 (24790)	81000 (23740)	77500 (22710)	74100 (21720)	70600 (20690)	67000 (19640)				
	-10 (-23.3)	75600 (22160)	72500 (21250)	69400 (20340)	66300 (19430)	63200 (18520)	60000 (17580)				
	-15 (-26.1)	67500 (19780)	64700 (18960)	61900 (18140)	59200 (17350)	56400 (16530)	53500 (15680)				
	-20 (-28.9)	60000 (17580)	57500 (16850)	55000 (16120)	52600 (15420)	50000 (14650)	47300 (13860)				
	-25 (-31.7)	53100 (15560)	50800 (14890)	48600 (14240)	46300 (13570)	43900 (12870)	41400 (12130)				
	-30 (-34.4)	46700 (13690)	44600 (13070)	42500 (12460)	40300 (11810)	38000 (11140)	35500 (10400)				
	-35 (-37.2)	40500 (11870)	38500 (11280)	36500 (10700)	34300 (10050)	32100 (9410)	29700 (8700)				
-40 (-40.0)	34600 (10140)	32600 (9550)	30500 (8940)	28400 (8320)	26100 (7650)	23600 (6920)					
KESA130L6 Compressor Model 4DBNF54KE	0 (-17.8)	102500 (30040)	98100 (28750)	93800 (27490)	89500 (26230)	85200 (24970)	80800 (23680)				
	-5 (-20.6)	91900 (26930)	88000 (25790)	84200 (24680)	80400 (23560)	76600 (22450)	72700 (21310)				
	-10 (-23.3)	82300 (24120)	78900 (23120)	75500 (22130)	72100 (21130)	68700 (20130)	65200 (19110)				
	-15 (-26.1)	73500 (21540)	70400 (20630)	67400 (19750)	64400 (18870)	61300 (17970)	58100 (17030)				
	-20 (-28.9)	65400 (19170)	62700 (18380)	60000 (17580)	57200 (16760)	54400 (15940)	51400 (15060)				
	-25 (-31.7)	57900 (16970)	55500 (16270)	53000 (15530)	50400 (14770)	47800 (14010)	45000 (13190)				
	-30 (-34.4)	50900 (14920)	48600 (14240)	46300 (13570)	43900 (12870)	41400 (12130)	38700 (11340)				
	-35 (-37.2)	44200 (12950)	42000 (12310)	39800 (11660)	37400 (10960)	34900 (10230)	32300 (9470)				
-40 (-40.0)	37700 (11050)	35500 (10400)	33300 (9760)	30900 (9060)	28400 (8320)	25700 (7530)					
KESA150L6 Compressor Model 4DHNF63KE	0 (-17.8)	118300 (34670)	113000 (33120)	107700 (31560)	102700 (30100)	97800 (28660)	93100 (27280)				
	-5 (-20.6)	107200 (31420)	102200 (29950)	97400 (28550)	92700 (27170)	88200 (25850)	83900 (24590)				
	-10 (-23.3)	96800 (28370)	92200 (27020)	87700 (25700)	83400 (24440)	79300 (23240)	75400 (22100)				
	-15 (-26.1)	87100 (25530)	82800 (24270)	78700 (23060)	74800 (21920)	71000 (20810)	67400 (19750)				
	-20 (-28.9)	78000 (22860)	74100 (21720)	70300 (20600)	66700 (19550)	63200 (18520)	59900 (17550)				
	-25 (-31.7)	69400 (20340)	65800 (19280)	62300 (18260)	58900 (17260)	55800 (16350)	52800 (15470)				
	-30 (-34.4)	61200 (17940)	57800 (16940)	54600 (16000)	51500 (15090)	48600 (14240)	45900 (13450)				
	-35 (-37.2)	53200 (15590)	50100 (14680)	47100 (13800)	44300 (12980)	41600 (12190)	39100 (11460)				
-40 (-40.0)	45500 (13330)	42600 (12480)	39800 (11660)	37100 (10870)	34700 (10170)	32300 (9470)					
KESA220L6 Compressor Model 4DJNF76KE	0 (-17.8)	136300 (39936)	130000 (38090)	124000 (36332)	118200 (34633)	112600 (32992)	107300 (31439)				
	-5 (-20.6)	124400 (36449)	118600 (34750)	113100 (33138)	107700 (31556)	102600 (30062)	97600 (28597)				
	-10 (-23.3)	113000 (33109)	107700 (31556)	102700 (30091)	97700 (28626)	92900 (27220)	88200 (25843)				
	-15 (-26.1)	102100 (29915)	97300 (28509)	92600 (27132)	88100 (25813)	83600 (24495)	79200 (23206)				
	-20 (-28.9)	91600 (26839)	87300 (25579)	83000 (24319)	78800 (23088)	74700 (21887)	70500 (20657)				
	-25 (-31.7)	81600 (23909)	77700 (22766)	73800 (21623)	69900 (20481)	66000 (19338)	62000 (18166)				
	-30 (-34.4)	71900 (21067)	68400 (20041)	64800 (18986)	61200 (17932)	57500 (16848)	53700 (15734)				
	-35 (-37.2)	62600 (18342)	59400 (17404)	56100 (16437)	52700 (15441)	49100 (14386)	45500 (13332)				
-40 (-40.0)	53500 (15676)	50600 (14826)	47500 (13918)	44300 (12980)	40900 (11984)	37300 (10929)					

--- Outside Operating Range



# CAPACITY DATA - R407A

## LOW TEMPERATURE

60Hz

MODEL KES	SAT. SUCTION TEMPERATURE		CAPACITY BTU/H (WATTS) <b>R407A</b> AMBIENT TEMPERATURE °F (°C)											
	° F	° C	85	(29.4)	90	(32.2)	95	(35.0)	100	(37.8)	105	(40.6)	110	(43.3)
KESB015L8  Compressor Model 2FES-2	0	(-17.8)	14600	(4280)	14000	(4100)	13300	(3900)	12600	(3690)	12000	(3520)	11300	(3310)
	-5	(-20.6)	12900	(3780)	12300	(3600)	11800	(3460)	11100	(3250)	10600	(3110)	10000	(2930)
	-10	(-23.3)	11300	(3310)	10800	(3170)	10300	(3020)	9770	(2860)	9250	(2710)	8750	(2560)
	-15	(-26.1)	9890	(2900)	9430	(2760)	8960	(2630)	8490	(2490)	8030	(2350)	7570	(2220)
	-20	(-28.9)	8570	(2510)	8150	(2390)	7730	(2270)	7320	(2150)	6900	(2020)	6490	(1900)
	-25	(-31.7)	7340	(2150)	6960	(2040)	6590	(1930)	6230	(1830)	5860	(1720)	5490	(1610)
	-30	(-34.4)	6220	(1820)	5880	(1720)	5540	(1620)	5220	(1530)	4890	(1430)	4580	(1340)
	-35	(-37.2)	5180	(1520)	4870	(1430)	4590	(1350)	4290	(1260)	4000	(1170)	3730	(1090)
-40	(-40.0)	4210	(1230)	3950	(1160)	3700	(1080)	3430	(1010)	3180	(930)	2930	(860)	
KESB020L8  Compressor Model 2EES-2	0	(-17.8)	15900	(4660)	15100	(4430)	14400	(4220)	13500	(3960)	12800	(3750)	12100	(3550)
	-5	(-20.6)	14000	(4100)	13300	(3900)	12600	(3690)	11900	(3490)	11200	(3280)	10500	(3080)
	-10	(-23.3)	12300	(3600)	11700	(3430)	10900	(3190)	10300	(3020)	9710	(2850)	9100	(2670)
	-15	(-26.1)	10600	(3110)	10000	(2930)	9470	(2780)	8900	(2610)	8340	(2440)	7790	(2280)
	-20	(-28.9)	9110	(2670)	8590	(2520)	8070	(2370)	7560	(2220)	7060	(2070)	6560	(1920)
	-25	(-31.7)	7720	(2260)	7260	(2130)	6790	(1990)	6340	(1860)	5890	(1730)	5440	(1590)
	-30	(-34.4)	6440	(1890)	6030	(1770)	5610	(1640)	5210	(1530)	4810	(1410)	4410	(1290)
	-35	(-37.2)	5260	(1540)	4890	(1430)	4530	(1330)	4170	(1220)	3800	(1110)	3450	(1010)
-40	(-40.0)	4180	(1230)	3850	(1130)	3530	(1030)	3200	(940)	2880	(840)	2570	(750)	
KESB025L8  Compressor Model 2DES-2	0	(-17.8)	19300	(5660)	18400	(5390)	17400	(5100)	16600	(4860)	15600	(4570)	14800	(4340)
	-5	(-20.6)	17000	(4980)	16200	(4750)	15300	(4480)	14600	(4280)	13800	(4040)	12900	(3780)
	-10	(-23.3)	14900	(4370)	14200	(4160)	13400	(3930)	12700	(3720)	12000	(3520)	11200	(3280)
	-15	(-26.1)	13000	(3810)	12300	(3600)	11700	(3430)	10900	(3190)	10300	(3020)	9650	(2830)
	-20	(-28.9)	11100	(3250)	10600	(3110)	9960	(2920)	9360	(2740)	8770	(2570)	8190	(2400)
	-25	(-31.7)	9500	(2780)	8970	(2630)	8430	(2470)	7900	(2320)	7370	(2160)	6860	(2010)
	-30	(-34.4)	7970	(2340)	7500	(2200)	7010	(2050)	6540	(1920)	6080	(1780)	5630	(1650)
	-35	(-37.2)	6560	(1920)	6130	(1800)	5720	(1680)	5300	(1550)	4880	(1430)	4470	(1310)
-40	(-40.0)	5280	(1550)	4890	(1430)	4520	(1320)	4150	(1220)	3780	(1110)	3410	(1000)	
KESB030L8  Compressor Model 2CES-3	0	(-17.8)	25200	(7390)	24000	(7030)	22900	(6710)	21800	(6390)	20700	(6070)	19600	(5740)
	-5	(-20.6)	22200	(6510)	21200	(6210)	20200	(5920)	19100	(5600)	18200	(5330)	17200	(5040)
	-10	(-23.3)	19400	(5690)	18600	(5450)	17600	(5160)	16700	(4890)	15900	(4660)	14900	(4370)
	-15	(-26.1)	16900	(4950)	16200	(4750)	15300	(4480)	14500	(4250)	13800	(4040)	12900	(3780)
	-20	(-28.9)	14600	(4280)	13900	(4070)	13100	(3840)	12500	(3660)	11800	(3460)	11000	(3220)
	-25	(-31.7)	12500	(3660)	11900	(3490)	11200	(3280)	10600	(3110)	9950	(2920)	9330	(2730)
	-30	(-34.4)	10600	(3110)	10000	(2930)	9430	(2760)	8860	(2600)	8310	(2440)	7770	(2280)
	-35	(-37.2)	8780	(2570)	8270	(2420)	7780	(2280)	7290	(2140)	6790	(1990)	6310	(1850)
-40	(-40.0)	7150	(2100)	6710	(1970)	6270	(1840)	5830	(1710)	5390	(1580)	4970	(1460)	
KESB031L8  Compressor Model 4FES-3	0	(-17.8)	25900	(7590)	24700	(7240)	23400	(6860)	22200	(6510)	20900	(6130)	19600	(5740)
	-5	(-20.6)	22800	(6680)	21600	(6330)	20500	(6010)	19300	(5660)	18200	(5330)	17000	(4980)
	-10	(-23.3)	19800	(5800)	18800	(5510)	17700	(5190)	16700	(4890)	15600	(4570)	14700	(4310)
	-15	(-26.1)	17100	(5010)	16200	(4750)	15200	(4450)	14300	(4190)	13400	(3930)	12500	(3660)
	-20	(-28.9)	14700	(4310)	13800	(4040)	12900	(3780)	12200	(3580)	11300	(3310)	10500	(3080)
	-25	(-31.7)	12400	(3630)	11700	(3430)	10900	(3190)	10100	(2960)	9420	(2760)	8700	(2550)
	-30	(-34.4)	10300	(3020)	9630	(2820)	8970	(2630)	8320	(2440)	7670	(2250)	7040	(2060)
	-35	(-37.2)	8410	(2460)	7810	(2290)	7210	(2110)	6640	(1950)	6070	(1780)	5510	(1610)
-40	(-40.0)	6680	(1960)	6140	(1800)	5630	(1650)	5110	(1500)	4600	(1350)	4120	(1210)	

**NOTES:**

- Above ratings are based on mean temperature.
- To convert to dew point ratings, use 0.95 multiplier.

table continues on next page >>>





# CAPACITY DATA - R407A

## LOW TEMPERATURE (cont'd)

# 60Hz

MODEL KES	SAT. SUCTION TEMPERATURE		CAPACITY BTU/H (WATTS) <b>R407A</b> AMBIENT TEMPERATURE °F (°C)							
	° F	° C	85 (29.4)	90 (32.2)	95 (35.0)	100 (37.8)	105 (40.6)	110 (43.3)		
KESB039L8  Compressor Model 4EES-4	0	(-17.8)	33200 (9730)	31600 (9260)	30000 (8790)	28500 (8350)	26900 (7880)	25300 (7410)		
	-5	(-20.6)	29200 (8560)	27700 (8120)	26300 (7710)	24900 (7300)	23400 (6860)	22100 (6480)		
	-10	(-23.3)	25500 (7470)	24200 (7090)	22900 (6710)	21600 (6330)	20400 (5980)	19100 (5600)		
	-15	(-26.1)	22100 (6480)	20900 (6130)	19700 (5770)	18600 (5450)	17400 (5100)	16400 (4810)		
	-20	(-28.9)	18900 (5540)	17900 (5250)	16800 (4920)	15900 (4660)	14800 (4340)	13900 (4070)		
	-25	(-31.7)	16100 (4720)	15100 (4430)	14200 (4160)	13300 (3900)	12400 (3630)	11600 (3400)		
	-30	(-34.4)	13400 (3930)	12600 (3690)	11800 (3460)	11000 (3220)	10200 (2990)	9410 (2760)		
	-35	(-37.2)	11000 (3220)	10300 (3020)	9580 (2810)	8860 (2600)	8150 (2390)	7470 (2190)		
-40	(-40.0)	8850 (2590)	8190 (2400)	7550 (2210)	6910 (2030)	6290 (1840)	5680 (1660)			
KESB050L8  Compressor Model 4DES-5	0	(-17.8)	40800 (11960)	39000 (11430)	37100 (10870)	35200 (10320)	33300 (9760)	31500 (9230)		
	-5	(-20.6)	35900 (10520)	34100 (9990)	32400 (9500)	30800 (9030)	29100 (8530)	27500 (8060)		
	-10	(-23.3)	31400 (9200)	29800 (8730)	28200 (8260)	26800 (7850)	25300 (7410)	23800 (6980)		
	-15	(-26.1)	27200 (7970)	25800 (7560)	24500 (7180)	23100 (6770)	21700 (6360)	20500 (6010)		
	-20	(-28.9)	23400 (6860)	22200 (6510)	20900 (6130)	19700 (5770)	18500 (5420)	17300 (5070)		
	-25	(-31.7)	20000 (5860)	18800 (5510)	17700 (5190)	16700 (4890)	15500 (4540)	14600 (4280)		
	-30	(-34.4)	16700 (4890)	15800 (4630)	14800 (4340)	13900 (4070)	12900 (3780)	12000 (3520)		
	-35	(-37.2)	13900 (4070)	12900 (3780)	12100 (3550)	11200 (3280)	10400 (3050)	9630 (2820)		
-40	(-40.0)	11100 (3250)	10400 (3050)	9640 (2830)	8900 (2610)	8170 (2390)	7460 (2190)			
KESB060L8  Compressor Model 4CES-6	0	(-17.8)	49200 (14420)	47000 (13770)	44800 (13130)	42600 (12480)	40500 (11870)	38300 (11220)		
	-5	(-20.6)	43600 (12780)	41500 (12160)	39500 (11580)	37600 (11020)	35600 (10430)	33700 (9880)		
	-10	(-23.3)	38200 (11200)	36400 (10670)	34700 (10170)	32900 (9640)	31200 (9140)	29400 (8620)		
	-15	(-26.1)	33400 (9790)	31700 (9290)	30100 (8820)	28600 (8380)	27000 (7910)	25500 (7470)		
	-20	(-28.9)	28900 (8470)	27400 (8030)	26000 (7620)	24600 (7210)	23200 (6800)	21800 (6390)		
	-25	(-31.7)	24800 (7270)	23400 (6860)	22200 (6510)	21000 (6150)	19700 (5770)	18500 (5420)		
	-30	(-34.4)	21000 (6150)	19800 (5800)	18700 (5480)	17600 (5160)	16500 (4840)	15400 (4510)		
	-35	(-37.2)	17500 (5130)	16500 (4840)	15500 (4540)	14600 (4280)	13500 (3960)	12700 (3720)		
-40	(-40.0)	14300 (4190)	13400 (3930)	12600 (3690)	11800 (3460)	10900 (3190)	10100 (2960)			
KESB080L8  Compressor Model 4TES-9	0	(-17.8)	63500 (18610)	60600 (17760)	57600 (16880)	54700 (16030)	51800 (15180)	48900 (14330)		
	-5	(-20.6)	55900 (16380)	53200 (15590)	50500 (14800)	48000 (14070)	45400 (13310)	42700 (12510)		
	-10	(-23.3)	48800 (14300)	46400 (13600)	44000 (12900)	41700 (12220)	39400 (11550)	37100 (10870)		
	-15	(-26.1)	42200 (12370)	40100 (11750)	38000 (11140)	35900 (10520)	33800 (9910)	31700 (9290)		
	-20	(-28.9)	36200 (10610)	34300 (10050)	32400 (9500)	30600 (8970)	28700 (8410)	26900 (7880)		
	-25	(-31.7)	30700 (9000)	29000 (8500)	27300 (8000)	25600 (7500)	23900 (7000)	22400 (6560)		
	-30	(-34.4)	25600 (7500)	24000 (7030)	22600 (6620)	21100 (6180)	19600 (5740)	18200 (5330)		
	-35	(-37.2)	20900 (6130)	19500 (5710)	18200 (5330)	16800 (4920)	15500 (4540)	14200 (4160)		
-40	(-40.0)	16500 (4840)	15200 (4450)	14100 (4130)	12800 (3750)	11700 (3430)	10500 (3080)			
KESB100L8  Compressor Model 4PES-12	0	(-17.8)	69900 (20490)	66500 (19490)	63000 (18460)	59500 (17440)	56200 (16470)	52800 (15470)		
	-5	(-20.6)	61300 (17970)	58200 (17060)	55000 (16120)	52000 (15240)	48800 (14300)	45800 (13420)		
	-10	(-23.3)	53300 (15620)	50500 (14800)	47700 (13980)	44800 (13130)	42100 (12340)	39400 (11550)		
	-15	(-26.1)	46000 (13480)	43500 (12750)	40800 (11960)	38300 (11220)	35900 (10520)	33500 (9820)		
	-20	(-28.9)	39200 (11490)	36900 (10810)	34500 (10110)	32300 (9470)	30100 (8820)	27900 (8180)		
	-25	(-31.7)	32900 (9640)	30900 (9060)	28800 (8440)	26800 (7850)	24800 (7270)	22900 (6710)		
	-30	(-34.4)	27100 (7940)	25200 (7390)	23400 (6860)	21600 (6330)	19800 (5800)	18100 (5300)		
	-35	(-37.2)	21700 (6360)	20100 (5890)	18500 (5420)	16800 (4920)	15200 (4450)	13700 (4020)		
-40	(-40.0)	16800 (4920)	15200 (4450)	13800 (4040)	12400 (3630)	10900 (3190)	9530 (2790)			
KESB120L8  Compressor Model 4NES-14	0	(-17.8)	81300 (23830)	77400 (22680)	73500 (21540)	69700 (20430)	65800 (19280)	62100 (18200)		
	-5	(-20.6)	71700 (21010)	68100 (19960)	64700 (18960)	61200 (17940)	57800 (16940)	54400 (15940)		
	-10	(-23.3)	62800 (18400)	59500 (17440)	56400 (16530)	53300 (15620)	50200 (14710)	47100 (13800)		
	-15	(-26.1)	54500 (15970)	51600 (15120)	48700 (14270)	46000 (13480)	43200 (12660)	40400 (11840)		
	-20	(-28.9)	46700 (13690)	44200 (12950)	41700 (12220)	39200 (11490)	36600 (10730)	34200 (10020)		
	-25	(-31.7)	39600 (11610)	37300 (10930)	35100 (10290)	32800 (9610)	30600 (8970)	28500 (8350)		
	-30	(-34.4)	33000 (9670)	30900 (9060)	28900 (8470)	26900 (7880)	24900 (7300)	23000 (6740)		
	-35	(-37.2)	26800 (7850)	25000 (7330)	23200 (6800)	21400 (6270)	19600 (5740)	18000 (5280)		
-40	(-40.0)	21100 (6180)	19400 (5690)	17900 (5250)	16200 (4750)	14600 (4280)	13100 (3840)			

**NOTES:**

- Above ratings are based on mean temperature.
- To convert to dew point ratings, use 0.95 multiplier.



# CAPACITY DATA - R448A

## LOW TEMPERATURE

# 60Hz

MODEL KES	SAT. SUCTION TEMPERATURE		CAPACITY BTU/H (WATTS) R448A AMBIENT TEMPERATURE °F (°C)											
	° F	° C	85	(29.4)	90	(32.2)	95	(35.0)	100	(37.8)	105	(40.6)	110	(43.3)
KESB015L8  Compressor Model 2FES-2	0	(-17.8)	13700	(4020)	13000	(3810)	12300	(3600)	11600	(3400)	10800	(3170)	10100	(2960)
	-5	(-20.6)	12100	(3550)	11400	(3340)	10800	(3170)	10100	(2960)	9480	(2780)	8810	(2580)
	-10	(-23.3)	10500	(3080)	9950	(2920)	9390	(2750)	8800	(2580)	8210	(2410)	7610	(2230)
	-15	(-26.1)	9090	(2660)	8590	(2520)	8090	(2370)	7560	(2220)	7040	(2060)	6490	(1900)
	-20	(-28.9)	7790	(2280)	7350	(2150)	6890	(2020)	6420	(1880)	5940	(1740)	5450	(1600)
	-25	(-31.7)	6580	(1930)	6200	(1820)	5790	(1700)	5370	(1570)	4920	(1440)	4480	(1310)
	-30	(-34.4)	5480	(1610)	5130	(1500)	4770	(1400)	4380	(1280)	3990	(1170)	3590	(1050)
	-35	(-37.2)	4460	(1310)	4160	(1220)	3820	(1120)	3490	(1020)	3130	(920)	2750	(810)
-40	(-40.0)	3540	(1040)	3260	(960)	2960	(870)	2650	(780)	2310	(680)	1970	(580)	
KESB020L8  Compressor Model 2EES-2	0	(-17.8)	16600	(4860)	15900	(4660)	15000	(4400)	14300	(4190)	13400	(3930)	12700	(3720)
	-5	(-20.6)	14700	(4310)	14000	(4100)	13200	(3870)	12500	(3660)	11900	(3490)	11100	(3250)
	-10	(-23.3)	12900	(3780)	12300	(3600)	11700	(3430)	10900	(3190)	10300	(3020)	9670	(2830)
	-15	(-26.1)	11200	(3280)	10600	(3110)	10100	(2960)	9490	(2780)	8910	(2610)	8330	(2440)
	-20	(-28.9)	9710	(2850)	9180	(2690)	8650	(2540)	8130	(2380)	7600	(2230)	7080	(2070)
	-25	(-31.7)	8280	(2430)	7820	(2290)	7340	(2150)	6870	(2010)	6390	(1870)	5920	(1730)
	-30	(-34.4)	6980	(2050)	6550	(1920)	6120	(1790)	5700	(1670)	5280	(1550)	4850	(1420)
	-35	(-37.2)	5780	(1690)	5390	(1580)	5000	(1470)	4630	(1360)	4240	(1240)	3860	(1130)
-40	(-40.0)	4660	(1370)	4310	(1260)	3960	(1160)	3620	(1060)	3280	(960)	2930	(860)	
KESB025L8  Compressor Model 2DES-2	0	(-17.8)	20100	(5890)	19200	(5630)	18300	(5360)	17300	(5070)	16400	(4810)	15400	(4510)
	-5	(-20.6)	17900	(5250)	17000	(4980)	16200	(4750)	15300	(4480)	14500	(4250)	13700	(4020)
	-10	(-23.3)	15600	(4570)	14900	(4370)	14200	(4160)	13400	(3930)	12600	(3690)	11900	(3490)
	-15	(-26.1)	13700	(4020)	13000	(3810)	12300	(3600)	11700	(3430)	10900	(3190)	10300	(3020)
	-20	(-28.9)	11900	(3490)	11200	(3280)	10600	(3110)	10000	(2930)	9400	(2750)	8780	(2570)
	-25	(-31.7)	10200	(2990)	9610	(2820)	9050	(2650)	8490	(2490)	7950	(2330)	7400	(2170)
	-30	(-34.4)	8600	(2520)	8100	(2370)	7600	(2230)	7110	(2080)	6620	(1940)	6120	(1790)
	-35	(-37.2)	7150	(2100)	6710	(1970)	6270	(1840)	5830	(1710)	5390	(1580)	4950	(1450)
-40	(-40.0)	5830	(1710)	5430	(1590)	5020	(1470)	4630	(1360)	4240	(1240)	3840	(1130)	
KESB030L8  Compressor Model 2CES-3	0	(-17.8)	26100	(7650)	25000	(7330)	23800	(6980)	22800	(6680)	21600	(6330)	20500	(6010)
	-5	(-20.6)	23200	(6800)	22200	(6510)	21100	(6180)	20100	(5890)	19000	(5570)	18100	(5300)
	-10	(-23.3)	20400	(5980)	19400	(5690)	18500	(5420)	17600	(5160)	16700	(4890)	15800	(4630)
	-15	(-26.1)	17900	(5250)	17000	(4980)	16200	(4750)	15300	(4480)	14500	(4250)	13700	(4020)
	-20	(-28.9)	15400	(4510)	14700	(4310)	14000	(4100)	13200	(3870)	12500	(3660)	11800	(3460)
	-25	(-31.7)	13300	(3900)	12600	(3690)	12000	(3520)	11300	(3310)	10600	(3110)	10000	(2930)
	-30	(-34.4)	11300	(3310)	10700	(3140)	10100	(2960)	9540	(2800)	8960	(2630)	8380	(2460)
	-35	(-37.2)	9490	(2780)	8970	(2630)	8440	(2470)	7920	(2320)	7390	(2170)	6880	(2020)
-40	(-40.0)	7810	(2290)	7350	(2150)	6880	(2020)	6410	(1880)	5940	(1740)	5480	(1610)	
KESB031L8  Compressor Model 4FES-3	0	(-17.8)	28200	(8260)	26900	(7880)	25600	(7500)	24400	(7150)	23100	(6770)	21800	(6390)
	-5	(-20.6)	25000	(7330)	23800	(6980)	22700	(6650)	21500	(6300)	20400	(5980)	19200	(5630)
	-10	(-23.3)	21900	(6420)	20900	(6130)	19800	(5800)	18800	(5510)	17900	(5250)	16800	(4920)
	-15	(-26.1)	19200	(5630)	18300	(5360)	17300	(5070)	16400	(4810)	15400	(4510)	14600	(4280)
	-20	(-28.9)	16600	(4860)	15800	(4630)	14900	(4370)	14200	(4160)	13300	(3900)	12500	(3660)
	-25	(-31.7)	14300	(4190)	13500	(3960)	12800	(3750)	12100	(3550)	11300	(3310)	10600	(3110)
	-30	(-34.4)	12200	(3580)	11400	(3340)	10800	(3170)	10200	(2990)	9510	(2790)	8880	(2600)
	-35	(-37.2)	10200	(2990)	9570	(2800)	8980	(2630)	8400	(2460)	7830	(2290)	7280	(2130)
-40	(-40.0)	8350	(2450)	7820	(2290)	7300	(2140)	6780	(1990)	6280	(1840)	5790	(1700)	

**NOTES:**

- Above ratings are based on mean temperature.
- To convert to dew point ratings, use 0.95 multiplier.
- Shaded Area Restriction: 20°F Max Superheat
- For R449A, use R448A data.

table continues on next page >>>



# CAPACITY DATA - R448A LOW TEMPERATURE (cont'd)

# 60Hz

MODEL KES	SAT. SUCTION TEMPERATURE		CAPACITY BTU/H (WATTS) <b>R448A</b> AMBIENT TEMPERATURE °F (°C)											
	° F	° C	85 (29.4)	90 (32.2)	95 (35.0)	100 (37.8)	105 (40.6)	110 (43.3)						
KESB039L8  Compressor Model 4EES-4	0 (-17.8)	35400 (10370)	33700 (9880)	32100 (9410)	30600 (8970)	29000 (8500)	27400 (8030)	-5 (-20.6)	31300 (9170)	29800 (8730)	28400 (8320)	26900 (7880)	25500 (7470)	24000 (7030)
	-10 (-23.3)	27500 (8060)	26100 (7650)	24900 (7300)	23500 (6890)	22300 (6540)	21000 (6150)	-15 (-26.1)	24000 (7030)	22800 (6680)	21600 (6330)	20500 (6010)	19300 (5660)	18200 (5330)
	-20 (-28.9)	20800 (6100)	19700 (5770)	18700 (5480)	17600 (5160)	16600 (4860)	15600 (4570)	-25 (-31.7)	17900 (5250)	16900 (4950)	16000 (4690)	15000 (4400)	14100 (4130)	13200 (3870)
	-30 (-34.4)	15100 (4430)	14300 (4190)	13400 (3930)	12600 (3690)	11900 (3490)	11000 (3220)	-35 (-37.2)	12700 (3720)	11900 (3490)	11100 (3250)	10400 (3050)	9710 (2850)	9020 (2640)
	-40 (-40.0)	10400 (3050)	9710 (2850)	9050 (2650)	8410 (2460)	7770 (2280)	7140 (2090)							
KESB050L8  Compressor Model 4DES-5	0 (-17.8)	42500 (12460)	40500 (11870)	38600 (11310)	36600 (10730)	34800 (10200)	33000 (9670)	-5 (-20.6)	37500 (10990)	35700 (10460)	34000 (9960)	32200 (9440)	30600 (8970)	28900 (8470)
	-10 (-23.3)	32900 (9640)	31300 (9170)	29700 (8700)	28100 (8240)	26700 (7820)	25100 (7360)	-15 (-26.1)	28700 (8410)	27200 (7970)	25800 (7560)	24500 (7180)	23000 (6740)	21600 (6330)
	-20 (-28.9)	24800 (7270)	23500 (6890)	22300 (6540)	21000 (6150)	19700 (5770)	18600 (5450)	-25 (-31.7)	21200 (6210)	20100 (5890)	19000 (5570)	17900 (5250)	16800 (4920)	15600 (4570)
	-30 (-34.4)	18000 (5280)	16900 (4950)	16000 (4690)	14900 (4370)	14000 (4100)	13000 (3810)	-35 (-37.2)	15000 (4400)	14100 (4130)	13200 (3870)	12300 (3600)	11400 (3340)	10600 (3110)
	-40 (-40.0)	12300 (3600)	11400 (3340)	10600 (3110)	9880 (2900)	9120 (2670)	8380 (2460)							
KESB060L8  Compressor Model 4CES-6	0 (-17.8)	51100 (14980)	48900 (14330)	46600 (13660)	44400 (13010)	42200 (12370)	40000 (11720)	-5 (-20.6)	45400 (13310)	43300 (12690)	41300 (12100)	39300 (11520)	37300 (10930)	35300 (10350)
	-10 (-23.3)	40000 (11720)	38100 (11170)	36300 (10640)	34400 (10080)	32700 (9580)	30900 (9060)	-15 (-26.1)	35100 (10290)	33400 (9790)	31700 (9290)	30100 (8820)	28500 (8350)	26900 (7880)
	-20 (-28.9)	30500 (8940)	29000 (8500)	27500 (8060)	26000 (7620)	24600 (7210)	23200 (6800)	-25 (-31.7)	26300 (7710)	24900 (7300)	23600 (6920)	22400 (6560)	21100 (6180)	19800 (5800)
	-30 (-34.4)	22400 (6560)	21200 (6210)	20100 (5890)	18900 (5540)	17700 (5190)	16700 (4890)	-35 (-37.2)	18800 (5510)	17900 (5250)	16800 (4920)	15800 (4630)	14800 (4340)	13800 (4040)
	-40 (-40.0)	15500 (4540)	14700 (4310)	13800 (4040)	12800 (3750)	12000 (3520)	11100 (3250)							
KESB080L8  Compressor Model 4TES-9	0 (-17.8)	65300 (19140)	62300 (18260)	59300 (17380)	56300 (16500)	53300 (15620)	50400 (14770)	-5 (-20.6)	57500 (16850)	54800 (16060)	52200 (15300)	49500 (14510)	46700 (13690)	44100 (12920)
	-10 (-23.3)	50400 (14770)	48000 (14070)	45600 (13360)	43200 (12660)	40700 (11930)	38300 (11220)	-15 (-26.1)	43900 (12870)	41700 (12220)	39500 (11580)	37400 (10960)	35200 (10320)	33100 (9700)
	-20 (-28.9)	37900 (11110)	35900 (10520)	34000 (9960)	32000 (9380)	30100 (8820)	28200 (8260)	-25 (-31.7)	32300 (9470)	30700 (9000)	28900 (8470)	27200 (7970)	25400 (7440)	23700 (6950)
	-30 (-34.4)	27400 (8030)	25800 (7560)	24300 (7120)	22700 (6650)	21200 (6210)	19600 (5740)	-35 (-37.2)	22800 (6680)	21400 (6270)	20100 (5890)	18600 (5450)	17200 (5040)	15900 (4660)
	-40 (-40.0)	18600 (5450)	17300 (5070)	16100 (4720)	14900 (4370)	13700 (4020)	12400 (3630)							
KESB100L8  Compressor Model 4PES-12	0 (-17.8)	71900 (21070)	68400 (20050)	64800 (18990)	61200 (17940)	57600 (16880)	54100 (15860)	-5 (-20.6)	63300 (18550)	60100 (17610)	56800 (16650)	53600 (15710)	50300 (14740)	47100 (13800)
	-10 (-23.3)	55200 (16180)	52300 (15330)	49400 (14480)	46500 (13630)	43600 (12780)	40700 (11930)	-15 (-26.1)	47900 (14040)	45300 (13280)	42600 (12480)	40000 (11720)	37400 (10960)	34900 (10230)
	-20 (-28.9)	41100 (12050)	38700 (11340)	36300 (10640)	34000 (9960)	31700 (9290)	29500 (8650)	-25 (-31.7)	34900 (10230)	32800 (9610)	30700 (9000)	28600 (8380)	26600 (7800)	24600 (7210)
	-30 (-34.4)	29300 (8590)	27400 (8030)	25500 (7470)	23600 (6920)	21700 (6360)	20000 (5860)	-35 (-37.2)	24000 (7030)	22400 (6560)	20700 (6070)	19000 (5570)	17400 (5100)	15800 (4630)
	-40 (-40.0)	19400 (5690)	17900 (5250)	16400 (4810)	14800 (4340)	13300 (3900)	12000 (3520)							
KESB120L8  Compressor Model 4NES-14	0 (-17.8)	84300 (24710)	80200 (23500)	76100 (22300)	72000 (21100)	67900 (19900)	63800 (18700)	-5 (-20.6)	74600 (21860)	71000 (20810)	67200 (19690)	63500 (18610)	59900 (17550)	56200 (16470)
	-10 (-23.3)	65600 (19230)	62300 (18260)	59000 (17290)	55700 (16320)	52400 (15360)	49000 (14360)	-15 (-26.1)	57200 (16760)	54300 (15910)	51300 (15030)	48400 (14180)	45400 (13310)	42400 (12430)
	-20 (-28.9)	49600 (14540)	46900 (13740)	44300 (12980)	41700 (12220)	39000 (11430)	36300 (10640)	-25 (-31.7)	42500 (12460)	40200 (11780)	37800 (11080)	35400 (10370)	33100 (9700)	30800 (9030)
	-30 (-34.4)	36000 (10550)	33900 (9940)	31800 (9320)	29700 (8700)	27600 (8090)	25500 (7470)	-35 (-37.2)	30100 (8820)	28200 (8260)	26400 (7740)	24500 (7180)	22600 (6620)	20700 (6070)
	-40 (-40.0)	24700 (7240)	23000 (6740)	21200 (6210)	19500 (5710)	17900 (5250)	16200 (4750)							

**NOTES:**

- Above ratings are based on mean temperature.
- To convert to dew point ratings, use 0.95 multiplier.
- Shaded Area Restriction: 20°F Max Superheat
- For R449A, use R448A data.



# CAPACITY DATA - R404A R507

## LOW TEMPERATURE

# 60Hz

MODEL KES	SAT. SUCTION TEMPERATURE		CAPACITY BTU/H (WATTS) R404A R507 AMBIENT TEMPERATURE °F (°C)											
	° F	° C	85 (29.4)	90 (32.2)	95 (35.0)	100 (37.8)	105 (40.6)	110 (43.3)	85 (29.4)	90 (32.2)	95 (35.0)	100 (37.8)	105 (40.6)	110 (43.3)
KESB015L6  Compressor Model 2FES-2	0	(-17.8)	14400	(4220)	13600	(3990)	12800	(3750)	12100	(3550)	11300	(3310)	10600	(3110)
	-5	(-20.6)	12900	(3780)	12200	(3580)	11500	(3370)	10800	(3170)	10100	(2960)	9500	(2780)
	-10	(-23.3)	11500	(3370)	10900	(3190)	10300	(3020)	9600	(2810)	9000	(2640)	8400	(2460)
	-15	(-26.1)	10200	(2990)	9600	(2810)	9000	(2640)	8500	(2490)	7900	(2320)	7400	(2170)
	-20	(-28.9)	9000	(2640)	8400	(2460)	7900	(2320)	7400	(2170)	6900	(2020)	6400	(1880)
	-25	(-31.7)	7800	(2290)	7300	(2140)	6900	(2020)	6400	(1880)	6000	(1760)	5500	(1610)
	-30	(-34.4)	6700	(1960)	6300	(1850)	5900	(1730)	5500	(1610)	5100	(1490)	4700	(1380)
	-35	(-37.2)	5700	(1670)	5300	(1550)	4900	(1440)	4600	(1350)	4200	(1230)	3900	(1140)
-40	(-40.0)	4700	(1380)	4400	(1290)	4000	(1170)	3700	(1080)	3400	(1000)	3100	(910)	
KESB020L6  Compressor Model 2EES-2	0	(-17.8)	17700	(5190)	16800	(4920)	15900	(4660)	14900	(4370)	13900	(4070)	13000	(3810)
	-5	(-20.6)	16000	(4690)	15100	(4430)	14300	(4190)	13400	(3930)	12500	(3660)	11700	(3430)
	-10	(-23.3)	14300	(4190)	13500	(3960)	12800	(3750)	12000	(3520)	11200	(3280)	10400	(3050)
	-15	(-26.1)	12700	(3720)	12000	(3520)	11300	(3310)	10600	(3110)	9900	(2900)	9200	(2700)
	-20	(-28.9)	11200	(3280)	10600	(3110)	10000	(2930)	9300	(2730)	8700	(2550)	8100	(2370)
	-25	(-31.7)	9800	(2870)	9200	(2700)	8600	(2520)	8100	(2370)	7500	(2200)	7000	(2050)
	-30	(-34.4)	8400	(2460)	7900	(2320)	7400	(2170)	6900	(2020)	6400	(1880)	5900	(1730)
	-35	(-37.2)	7200	(2110)	6700	(1960)	6300	(1850)	5800	(1700)	5300	(1550)	4900	(1440)
-40	(-40.0)	6000	(1760)	5600	(1640)	5200	(1520)	4800	(1410)	4300	(1260)	3900	(1140)	
KESB025L6  Compressor Model 2DES-2	0	(-17.8)	21500	(6300)	20400	(5980)	19300	(5660)	18100	(5300)	17000	(4980)	15800	(4630)
	-5	(-20.6)	19400	(5690)	18400	(5390)	17400	(5100)	16300	(4780)	15300	(4480)	14300	(4190)
	-10	(-23.3)	17400	(5100)	16500	(4840)	15500	(4540)	14600	(4280)	13700	(4020)	12800	(3750)
	-15	(-26.1)	15500	(4540)	14600	(4280)	13800	(4040)	13000	(3810)	12100	(3550)	11300	(3310)
	-20	(-28.9)	13600	(3990)	12900	(3780)	12200	(3580)	11400	(3340)	10700	(3140)	9900	(2900)
	-25	(-31.7)	11900	(3490)	11300	(3310)	10600	(3110)	9900	(2900)	9300	(2730)	8600	(2520)
	-30	(-34.4)	10300	(3020)	9700	(2840)	9100	(2670)	8500	(2490)	7900	(2320)	7300	(2140)
	-35	(-37.2)	8800	(2580)	8300	(2430)	7700	(2260)	7200	(2110)	6700	(1960)	6100	(1790)
-40	(-40.0)	7400	(2170)	6900	(2020)	6400	(1880)	5900	(1730)	5500	(1610)	5000	(1470)	
KESB030L6  Compressor Model 2CES-3	0	(-17.8)	28300	(8290)	26900	(7880)	25500	(7470)	24100	(7060)	22700	(6650)	21200	(6210)
	-5	(-20.6)	25400	(7440)	24200	(7090)	22900	(6710)	21600	(6330)	20400	(5980)	19100	(5600)
	-10	(-23.3)	22700	(6650)	21600	(6330)	20500	(6010)	19300	(5660)	18200	(5330)	17000	(4980)
	-15	(-26.1)	20200	(5920)	19200	(5630)	18200	(5330)	17200	(5040)	16100	(4720)	15100	(4430)
	-20	(-28.9)	17800	(5220)	16900	(4950)	16000	(4690)	15100	(4430)	14200	(4160)	13200	(3870)
	-25	(-31.7)	15600	(4570)	14800	(4340)	14000	(4100)	13200	(3870)	12300	(3600)	11500	(3370)
	-30	(-34.4)	13500	(3960)	12800	(3750)	12100	(3550)	11300	(3310)	10600	(3110)	9900	(2900)
	-35	(-37.2)	11500	(3370)	10900	(3190)	10300	(3020)	9600	(2810)	9000	(2640)	8300	(2430)
-40	(-40.0)	9700	(2840)	9100	(2670)	8600	(2520)	8000	(2340)	7400	(2170)	6800	(1990)	
KESB031L6  Compressor Model 4FES-3	0	(-17.8)	29800	(8730)	28400	(8320)	26900	(7880)	25400	(7440)	23900	(7000)	22400	(6560)
	-5	(-20.6)	26800	(7850)	25500	(7470)	24200	(7090)	22900	(6710)	21500	(6300)	20200	(5920)
	-10	(-23.3)	23900	(7000)	22800	(6680)	21600	(6330)	20500	(6010)	19300	(5660)	18100	(5300)
	-15	(-26.1)	21300	(6240)	20300	(5950)	19200	(5630)	18200	(5330)	17100	(5010)	16100	(4720)
	-20	(-28.9)	18800	(5510)	17900	(5250)	17000	(4980)	16100	(4720)	15200	(4450)	14200	(4160)
	-25	(-31.7)	16500	(4840)	15700	(4600)	14900	(4370)	14100	(4130)	13300	(3900)	12500	(3660)
	-30	(-34.4)	14400	(4220)	13700	(4020)	13000	(3810)	12300	(3600)	11600	(3400)	10800	(3170)
	-35	(-37.2)	12400	(3630)	11800	(3460)	11200	(3280)	10600	(3110)	9900	(2900)	9300	(2730)
-40	(-40.0)	10600	(3110)	10100	(2960)	9600	(2810)	9000	(2640)	8400	(2460)	7800	(2290)	
KESB039L6  Compressor Model 4EES-4	0	(-17.8)	37800	(11080)	36000	(10550)	34200	(10020)	32300	(9470)	30400	(8910)	28600	(8380)
	-5	(-20.6)	34000	(9960)	32400	(9500)	30700	(9000)	29000	(8500)	27400	(8030)	25700	(7530)
	-10	(-23.3)	30400	(8910)	28900	(8470)	27500	(8060)	26000	(7620)	24500	(7180)	23000	(6740)
	-15	(-26.1)	27000	(7910)	25700	(7530)	24400	(7150)	23100	(6770)	21800	(6390)	20400	(5980)
	-20	(-28.9)	23900	(7000)	22700	(6650)	21600	(6330)	20400	(5980)	19200	(5630)	18000	(5280)
	-25	(-31.7)	20900	(6130)	19900	(5830)	18900	(5540)	17900	(5250)	16800	(4920)	15800	(4630)
	-30	(-34.4)	18200	(5330)	17400	(5100)	16400	(4810)	15500	(4540)	14600	(4280)	13700	(4020)
	-35	(-37.2)	15700	(4600)	15000	(4400)	14200	(4160)	13400	(3930)	12500	(3660)	11700	(3430)
-40	(-40.0)	13500	(3960)	12800	(3750)	12000	(3520)	11300	(3310)	10600	(3110)	9900	(2900)	
KESB050L6  Compressor Model 4DES-5	0	(-17.8)	46300	(13570)	44100	(12920)	41900	(12280)	39700	(11630)	37500	(10990)	35200	(10320)
	-5	(-20.6)	41500	(12160)	39500	(11580)	37500	(10990)	35600	(10430)	33600	(9850)	31600	(9260)
	-10	(-23.3)	37000	(10840)	35300	(10350)	33500	(9820)	31700	(9290)	29900	(8760)	28100	(8240)
	-15	(-26.1)	32800	(9610)	31300	(9170)	29700	(8700)	28100	(8240)	26500	(7770)	24900	(7300)
	-20	(-28.9)	29000	(8500)	27600	(8090)	26200	(7680)	24800	(7270)	23400	(6860)	22000	(6450)
	-25	(-31.7)	25400	(7440)	24200	(7090)	22900	(6710)	21700	(6360)	20400	(5980)	19200	(5630)
	-30	(-34.4)	22100	(6480)	21000	(6150)	19900	(5830)	18800	(5510)	17700	(5190)	16600	(4860)
	-35	(-37.2)	19000	(5570)	18100	(5300)	17100	(5010)	16100	(4720)	15200	(4450)	14200	(4160)
-40	(-40.0)	16200	(4750)	15400	(4510)	14500	(4250)	13700	(4020)	12800	(3750)	12000	(3520)	

table continues on next page >>>





# CAPACITY DATA - R404A R507

## LOW TEMPERATURE (cont'd)

60Hz

MODEL KES	SAT. SUCTION TEMPERATURE		CAPACITY BTU/H (WATTS) R404A R507								AMBIENT TEMPERATURE °F (°C)	
	° F	° C	85 (29.4)	90 (32.2)	95 (35.0)	100 (37.8)	105 (40.6)	110 (43.3)				
KESB060L6 Compressor Model 4CES-6	0	(-17.8)	53900 (15800)	51300 (15030)	48700 (14270)	46100 (13510)	43500 (12750)	40900 (11990)				
	-5	(-20.6)	48400 (14180)	46100 (13510)	43700 (12810)	41300 (12100)	39000 (11430)	36600 (10730)				
	-10	(-23.3)	43300 (12690)	41100 (12050)	39000 (11430)	36900 (10810)	34800 (10200)	32700 (9580)				
	-15	(-26.1)	38500 (11280)	36500 (10700)	34600 (10140)	32700 (9580)	30800 (9030)	28900 (8470)				
	-20	(-28.9)	34000 (9960)	32200 (9440)	30500 (8940)	28800 (8440)	27100 (7940)	25400 (7440)				
	-25	(-31.7)	29800 (8730)	28200 (8260)	26700 (7820)	25200 (7390)	23700 (6950)	22200 (6510)				
	-30	(-34.4)	25900 (7590)	24500 (7180)	23200 (6800)	21800 (6390)	20500 (6010)	19100 (5600)				
	-35	(-37.2)	22300 (6540)	21100 (6180)	19900 (5830)	18700 (5480)	17500 (5130)	16300 (4780)				
-40	(-40.0)	19000 (5570)	17900 (5250)	16800 (4920)	15700 (4600)	14700 (4310)	13700 (4020)					
KESB080L6 Compressor Model 4TES-9	0	(-17.8)	69600 (20400)	66100 (19370)	62700 (18380)	59200 (17350)	55800 (16350)	52300 (15330)				
	-5	(-20.6)	62200 (18230)	59100 (17320)	55900 (16380)	52800 (15470)	49700 (14570)	46600 (13660)				
	-10	(-23.3)	55300 (16210)	52400 (15360)	49600 (14540)	46800 (13720)	44000 (12900)	41200 (12070)				
	-15	(-26.1)	48800 (14300)	46300 (13570)	43700 (12810)	41200 (12070)	38700 (11340)	36200 (10610)				
	-20	(-28.9)	42800 (12540)	40500 (11870)	38300 (11220)	36000 (10550)	33800 (9910)	31600 (9260)				
	-25	(-31.7)	37200 (10900)	35200 (10320)	33200 (9730)	31200 (9140)	29200 (8560)	27300 (8000)				
	-30	(-34.4)	32100 (9410)	30300 (8880)	28500 (8350)	26700 (7820)	25000 (7330)	23200 (6800)				
	-35	(-37.2)	27400 (8030)	25800 (7560)	24200 (7090)	22600 (6620)	21100 (6180)	19500 (5710)				
-40	(-40.0)	23000 (6740)	21600 (6330)	20200 (5920)	18800 (5510)	17500 (5130)	16100 (4720)					
KESB100L6 Compressor Model 4PES-12	0	(-17.8)	77000 (22570)	72900 (21360)	68800 (20160)	64800 (18990)	60800 (17820)	56700 (16620)				
	-5	(-20.6)	68700 (20130)	65000 (19050)	61300 (17970)	57700 (16910)	54000 (15830)	50400 (14770)				
	-10	(-23.3)	60900 (17850)	57600 (16880)	54300 (15910)	51000 (14950)	47700 (13980)	44400 (13010)				
	-15	(-26.1)	53600 (15710)	50700 (14860)	47700 (13980)	44700 (13100)	41700 (12220)	38800 (11370)				
	-20	(-28.9)	46900 (13740)	44200 (12950)	41500 (12160)	38900 (11400)	36200 (10610)	33600 (9850)				
	-25	(-31.7)	40600 (11900)	38200 (11200)	35800 (10490)	33400 (9790)	31100 (9110)	28800 (8440)				
	-30	(-34.4)	34800 (10200)	32700 (9580)	30500 (8940)	28400 (8320)	26300 (7710)	24300 (7120)				
	-35	(-37.2)	29500 (8650)	27600 (8090)	25700 (7530)	23800 (6980)	21900 (6420)	20100 (5890)				
-40	(-40.0)	24600 (7210)	22900 (6710)	21200 (6210)	19500 (5710)	17800 (5220)	16200 (4750)					
KESB120L6 Compressor Model 4NES-14	0	(-17.8)	89000 (26080)	84400 (24740)	79800 (23390)	75200 (22040)	70600 (20690)	66000 (19340)				
	-5	(-20.6)	79900 (23420)	75800 (22210)	71600 (20980)	67400 (19750)	63300 (18550)	59100 (17320)				
	-10	(-23.3)	71400 (20930)	67600 (19810)	63900 (18730)	60100 (17610)	56300 (16500)	52600 (15420)				
	-15	(-26.1)	63300 (18550)	59900 (17550)	56600 (16590)	53200 (15590)	49800 (14590)	46400 (13600)				
	-20	(-28.9)	55800 (16350)	52700 (15440)	49700 (14570)	46700 (13690)	43700 (12810)	40600 (11900)				
	-25	(-31.7)	48700 (14270)	46000 (13480)	43300 (12690)	40600 (11900)	37900 (11110)	35200 (10320)				
	-30	(-34.4)	42200 (12370)	39800 (11660)	37400 (10960)	34900 (10230)	32500 (9520)	30100 (8820)				
	-35	(-37.2)	36100 (10580)	34000 (9960)	31800 (9320)	29700 (8700)	27500 (8060)	25400 (7440)				
-40	(-40.0)	30600 (8970)	28600 (8380)	26700 (7820)	24700 (7240)	22800 (6680)	20900 (6130)					



# ELECTRICAL DATA COPELAND MODELS

# 60Hz

MODEL KES	COMPRESSOR MODEL NO.	POWER SUPPLY	COMPRESSOR		CONDENSER FAN MOTOR			MCA	MOP	
			RLA	LRA	QTY	WATTS	FLA			
KESA011M8-*	S2C	KARB-010E-CAV	208-230/1/60	7.1	40	1	240	1.1	10.0	15
	T3C	KARA-010E-TAC	208-230/3/60	4.3	27	1	240	1.1	6.5	15
KESA020M8-*	S2C	KAKB-021E-CAV	208-230/1/60	10.1	55	1	240	1.1	13.7	20
	T3C	KAKA-020E-TAC	208-230/3/60	6.5	50	1	240	1.1	9.2	15
	T4C	KAKA-022E-TAD	460/3/60	3.0	25	1	240	0.6	4.4	15
KESA021M8-*	T3C	ERCA-021E-TAC	208-230/3/60	8.8	46	1	240	1.1	12.1	20
	T4C	ERCA-020E-TAD	460/3/60	3.5	23	1	240	0.6	5.0	15
	T5C	ERCA-020E-TAE	575/3/60	3.1	20	1	240	0.5	4.4	15
KESA030M8-*	S3C	ERFB-031E-CAB	230/1/60	17.0	86	1	400	2.1	23.4	40
	T3C	ERFA-031E-TAC	208-230/3/60	12.4	82	1	400	2.1	17.6	30
	T4C	ERFA-031E-TAD	460/3/60	5.8	41	1	400	1.1	8.4	15
	T5C	ERFA-031E-TAE	575/3/60	5.2	30	1	400	0.9	7.4	15
KESA015L8-*	S2C	KALB-015E-CAV	208-230/1/60	9.9	55	1	240	1.1	13.5	20
	T3C	KALA-016E-TAC	208-230/3/60	6.6	50	1	240	1.1	9.4	15
	T4C	KALA-016E-TAD	460/3/60	3.4	25	1	240	0.6	4.9	15
KESA020L8-*	S3A	EADB-021E-CAB	230/1/60	10.0	58	1	240	1.1	13.6	20
	T3C	EADA-020E-TAC	208-230/3/60	6.8	46	1	240	1.1	9.6	15
KESA021L8-*	S2C	EAVB-021E-CAV	208-230/1/60	14.7	102	1	240	1.1	19.5	30
	T3C	EAVA-021E-TAC	208-230/3/60	7.4	50	1	240	1.1	10.4	15
	T4C	EAVA-021E-TAD	460/3/60	3.2	26.6	1	240	0.6	4.6	15
	T5C	EAVA-021E-TAE	575/3/60	3.1	20	1	240	0.5	4.4	15
KESA030L8-*	S3A	LAHB-032E-CAB	230/1/60	16.7	105	1	400	2.1	23.0	35
	T3C	LAHA-032E-TAC	208-230/3/60	12.8	112	1	400	2.1	18.1	30
	T4C	LAHA-032E-TAD	460/3/60	6.0	56	1	400	1.1	8.6	15
	T5C	LAHA-032E-TAE	575/3/60	4.1	30	1	400	0.9	6.0	15
KESA035L 6/8-*	S3A	2DF3F16KE-CFB	230/1/60	23.2	125	1	400	2.1	31.0	50
	T3C	2DF3F16KE-TFC	208-230/3/60	16.0	102	1	400	2.1	22.1	35
	T4C	2DF3F16KE-TFD	460/3/60	7.9	52	1	400	1.1	11.0	15
	T5C	2DF3F16KE-TFE	575/3/60	6.7	41	1	400	0.9	9.3	15
KESA040L 6/8-*	T3C	2DL3F20KE-TFC	208-230/3/60	26.3	161	1	400	2.1	35.0	60
	T4C	2DL3F20KE-TFD	460/3/60	10.2	60	1	400	1.1	13.9	20
	T5C	2DL3F20KE-TFE	575/3/60	7.7	49	1	400	0.9	10.5	15
KESA060L 6/8-*	T3C	2DB3F25KE-TFC	208-230/3/60	28.2	161	1	400	2.1	37.4	60
	T4C	2DB3F25KE-TFD	460/3/60	13.3	80	1	400	1.1	17.7	30
	T5C	2DB3F25KE-TFE	575/3/60	9.6	63	1	400	0.9	12.9	20
KESA061L 6/8-*	T3C	3DA3F28KE-TFC	208-230/3/60	26.8	150	1	400	2.1	35.6	60
	T4C	3DA3F28KE-TFD	460/3/60	12.0	77	1	400	1.1	16.1	25
	T5C	3DA3F28KE-TFE	575/3/60	10.5	62	1	400	0.9	14.0	20
KESA075L 6/8-*	T3C	3DB3F33KE-TFC	208-230/3/60	30.7	161	1	400	2.1	40.5	70
	T4C	3DB3F33KE-TFD	460/3/60	15.7	83	1	400	1.1	20.7	35
	T5C	3DB3F33KE-TFE	575/3/60	11.0	67	1	400	0.9	14.7	25
KESA090L 6/8-*	T3C	3DF3F40KE-TFC	208-230/3/60	37.0	215	2	800	4.2	50.5	80
	T4C	3DF3F40KE-TFD	460/3/60	16.7	106	2	800	2.2	23.1	40
	T5C	3DF3F40KE-TFE	575/3/60	15.7	84	2	800	1.8	21.4	35
KESA100L 6/8-*	T3C	3DS3F46KE-TFC	208-230/3/60	41.4	215	2	800	4.2	56.0	90
	T4C	3DS3F46KE-TFD	460/3/60	18.6	106	2	800	2.2	25.5	40
	T5C	3DS3F46KE-TFE	575/3/60	16.2	84	2	800	1.8	22.1	35
KESA120L 6/8-*	T3C	4DANF47KE-TSK	208/230/3/60	45.0	220	2	1560	7.2	63.5	100
	T4C	4DANF47KE-TSK	460/3/60	22.5	110	2	1560	3.4	31.5	50
	T5C	4DANF47KE-TSE	575/3/60	17.6	106	2	1560	2.8	24.8	40
KESA130L 6/8-*	T3C	4DBNF54KE-TSK	208/230/3/60	51.3	220	2	1560	7.2	71.3	110
	T4C	4DBNF54KE-TSK	460/3/60	25.6	110	2	1560	3.4	35.4	60
	T5C	4DBNF54KE-TSE	575/3/60	17.4	106	2	1560	2.8	24.6	40
KESA150L 6/8-*	T3C	4DHNF63KE-TSK	208/230/3/60	52.6	278	2	1560	7.2	73.0	125
	T4C	4DHNF63KE-TSK	460/3/60	26.3	139	2	1560	3.4	36.3	60
	T5C	4DHNF63KE-TSE	575/3/60	20.9	113	2	1560	2.8	28.9	40
KESA220L 6/8-*	T3C	4DJNF76KE-TSK	208/230/3/60	64.3	374	2	1560	7.2	87.6	150
	T4C	4DJNF76KE-TSK	460/3/60	32.1	187	2	1560	3.4	43.5	70
	T5C	4DJNF76KE-TSE	575/3/60	29.1	135	2	1560	2.8	39.2	60

\* I = Indoor, H = Outdoor. Above listed RLA value is based on UL rating method and may differ from published compressor RLA data.





# ELECTRICAL DATA BITZER MODELS (cont'd)

# 60Hz

MODEL KES	COMPRESSOR MODEL NO.	POWER SUPPLY	COMPRESSOR		CONDENSER FAN MOTOR			MCA	MOP	
			RLA	LRA	QTY	WATTS	FLA			
KESB015L 6/8 -*	S2C	2FES-2-2EU-Y	208-230/1/60	14.6	60	1	240	1.1	19.4	30
	T3C	2FES-2-2DU-Y	208-230/3/60	11.1	54	1	240	1.1	15.0	25
	T4C	2FES-2-4SU-Y	460/3/60	4.6	24	1	240	0.6	6.4	15
	T5C	2FES-2-5SU-Y	575/3/60	3.6	17	1	240	0.5	5.0	15
KESB020L 6/8 -*	T3C	2EES-2-2DU-Y	208-230/3/60	13.3	70	1	240	1.1	17.7	30
	T4C	2EES-2-4SU-Y	460/3/60	5.4	28.5	1	240	0.6	7.4	15
	T5C	2EES-2-5SU-Y	575/3/60	4.0	20.5	1	240	0.5	5.5	15
KESB025L 6/8 -*	T3C	2DES-2-2DU-Y	208-230/3/60	14.5	80.5	1	240	1.1	19.2	30
	T4C	2DES-2-4SU-Y	460/3/60	6.4	33	1	240	0.6	8.6	15
	T5C	2DES-2-5SU-Y	575/3/60	4.7	23.5	1	240	0.5	6.4	15
KESB030L 6/8 -*	T3C	2CES-3-2DU-Y	208-230/3/60	16.5	97	1	400	2.1	22.7	35
	T4C	2CES-3-4SU-Y	460/3/60	7.0	39.5	1	400	1.1	9.9	15
	T5C	2CES-3-5SU-Y	575/3/60	5.6	28.5	1	400	0.9	7.9	15
KESB031L 6/8 -*	T3C	4FES-3-2DU-1Y	208-230/3/60	22.2	115.5	1	400	2.1	29.9	50
	T4C	4FES-3-4SU-1Y	460/3/60	9.0	47.5	1	400	1.1	12.4	20
	T5C	4FES-3-5SU-1Y	575/3/60	6.9	34	1	400	0.9	9.5	15
KESB039L 6/8 -*	T3C	4EES-4-2DU-1Y	208-230/3/60	24.8	142	1	400	2.1	33.1	50
	T4C	4EES-4-4SU-1Y	460/3/60	10.3	58	1	400	1.1	14.0	20
	T5C	4EES-4-5SU-1Y	575/3/60	8.3	41.5	1	400	0.9	11.3	15
KESB050L 6/8 -*	T3C	4DES-5-2DU-1Y	208-230/3/60	25.4	163	1	400	2.1	33.9	50
	T4C	4DES-5-4SU-1Y	460/3/60	12.0	66.5	1	400	1.1	16.1	25
	T5C	4DES-5-5SU-1Y	575/3/60	10.0	48	1	400	0.9	13.4	20
KESB060L 6/8 -*	T3C	4CES-6-2DU-1Y	208-230/3/60	30.8	215	1	400	2.1	40.6	70
	T4C	4CES-6-4SU-1Y	460/3/60	15.8	88	1	400	1.1	20.9	35
	T5C	4CES-6-5SU-1Y	575/3/60	12.5	63.5	1	400	0.9	16.5	25
KESB080L 6/8 -*	T3C	4TES-9-2NU-1Y	208-230/3/60	34.8	180	2	800	4.2	47.7	80
	T4C	4TES-9-2NU-1Y	460/3/60	15.7	90	2	800	2.2	21.8	35
	T5C	4TES-9-5PU-1Y	575/3/60	13.6	72	2	800	1.8	18.8	30
KESB100L 6/8 -*	T3C	4PES-12-2NU-1Y	208-230/3/60	42.7	222	2	800	4.2	57.6	100
	T4C	4PES-12-2NU-1Y	460/3/60	19.3	111	2	800	2.2	26.3	45
	T5C	4PES-12-5PU-1Y	575/3/60	16.0	89	2	800	1.8	21.8	35
KESB120L 6/8 -*	T3C	4NES-14-2NU-1Y	208-230/3/60	49.0	252	2	800	4.2	65.5	110
	T4C	4NES-14-2NU-1Y	460/3/60	22.1	126	2	800	2.2	29.8	50
	T5C	4NES-14-5PU-1Y	575/3/60	17.7	101	2	800	1.8	23.9	40

\* I = Indoor, H = Outdoor. Above listed RLA value is based on UL rating method and may differ from published compressor RLA data.



# ELECTRICAL DATA - COPELAND MODELS

## Models with EC Motor(s)<sup>†</sup>



MODEL KES	COMPRESSOR MODEL NO.	POWER SUPPLY	COMPRESSOR		ECM CONDENSER FAN			MCA	MOP	
			RLA	LRA	QTY	WATTS	FLA			
KESA011M8-*	T3C	KARB-010E-CAV	208-230/1/60	7.1	40	1	175	1.1	10.0	15
	S2C	KARA-010E-TAC	208-230/3/60	4.3	27	1	175	1.1	6.5	15
KESA020M8-*	T3C	KAKA-020E-TAC	208-230/3/60	6.5	50	1	175	1.1	9.2	15
	T3C	ERCA-021E-TAC	208-230/3/60	8.8	46	1	175	1.1	12.1	20
KESA021M8-*	S3A	ERFB-031E-CAB	230/1/60	17.0	86	1	315	3.5	24.8	40
KESA030M8-*	T3C	ERFA-031E-TAC	208-230/3/60	12.4	82	1	315	3.5	19.0	30
	T4C	ERFA-031E-TAD	460/3/60	5.8	41	1	315	1.8	9.1	15
	T5C	ERFA-031E-TAE	575/3/60	5.2	30	1	315	1.4	7.9	15
	T3C	2DC3R53KE-TFC	208-230/3/60	22.3	120	1	315	3.5	31.4	50
KESA015L8-*	S2C	KALB-015E-CAV	208-230/1/60	9.9	55	1	175	2.0	14.4	20
	T3C	KALA-016E-TAC	208-230/3/60	6.6	50	1	175	2.0	10.3	15
KESA020L8-*	S3A	EADB-021E-CAB	230/1/60	10.0	58	1	175	2.0	14.5	20
	T3C	EADA-020E-TAC	208-230/3/60	6.8	46	1	175	2.0	10.5	15
KESA021L8-*	S2C	EAVB-021E-CAV	208-230/1/60	14.7	102	1	175	2.0	20.4	35
	T3C	EAVA-021E-TAC	208-230/3/60	7.4	50	1	175	2.0	11.3	15
KESA030L8-*	S3A	LAHB-032E-CAB	230/1/60	16.7	105	1	315	3.5	24.4	40
	T3C	LAHA-032E-TAC	208-230/3/60	12.8	112	1	315	3.5	19.5	30
	T4C	LAHA-032E-TAD	460/3/60	6.0	56	1	315	1.8	9.3	15
	T5C	LAHA-032E-TAE	575/3/60	4.1	30	1	315	1.4	6.5	15
KESA035L 6/8-*	S3A	2DF3F16KE-CFB	230/1/60	23.2	125	1	315	3.5	32.4	50
	T3C	2DF3F16KE-TFC	208-230/3/60	16.8	102	1	315	3.5	24.5	40
	T4C	2DF3F16KE-TFD	460/3/60	8.1	52	1	315	1.8	11.9	20
	T5C	2DF3F16KE-TFE	575/3/60	6.7	41	1	315	1.4	9.8	15
KESA040L 6/8-*	T3C	2DL3F20KE-TFC	208-230/3/60	26.3	161	1	315	3.5	36.4	60
	T4C	2DL3F20KE-TFD	460/3/60	10.2	60	1	315	1.8	14.6	20
	T5C	2DL3F20KE-TFE	575/3/60	7.7	49	1	315	1.4	11.0	15
KESA060L 6/8-*	T3C	2DB3F25KE-TFC	208-230/3/60	28.2	161	1	315	3.5	38.8	60
	T4C	2DB3F25KE-TFD	460/3/60	13.3	80	1	315	1.8	18.4	30
	T5C	2DB3F25KE-TFE	575/3/60	9.6	63	1	315	1.4	13.4	20
KESA061L 6/8-*	T3C	3DA3F28KE-TFC	208-230/3/60	26.8	150	1	315	3.5	37.0	60
	T4C	3DA3F28KE-TFD	460/3/60	12.0	77	1	315	1.8	16.8	25
	T5C	3DA3F28KE-TFE	575/3/60	10.5	62	1	315	1.4	14.5	25
KESA075L 6/8-*	T3C	3DB3F33KE-TFC	208-230/3/60	30.7	161	1	315	3.5	41.9	70
	T4C	3DB3F33KE-TFD	460/3/60	15.7	83	1	315	1.8	21.4	35
	T5C	3DB3F33KE-TFE	575/3/60	11.0	67	1	315	1.4	15.2	25
KESA090L 6/8-*	T3C	3DF3F40KE-TFC	208-230/3/60	37.0	215	2	630	7	53.3	90
	T4C	3DF3F40KE-TFD	460/3/60	16.7	106	2	630	3.5	24.4	40
	T5C	3DF3F40KE-TFE	575/3/60	15.7	84	2	630	2.8	22.4	35
KESA100L 6/8-*	T3C	3DS3F46KE-TFC	208-230/3/60	41.4	215	2	630	7	58.8	100
	T4C	3DS3F46KE-TFD	460/3/60	18.6	106	2	630	3.5	26.8	45
	T5C	3DS3F46KE-TFE	575/3/60	16.2	84	2	630	2.8	23.1	35
KESA120L 6/8-*	T3C	4DANF47KE-TSK	208/230/3/60	45.0	220	2	1180	10.6	66.9	100
	T4C	4DANF47KE-TSK	460/3/60	22.5	110	2	1180	5.4	33.5	50
	T5C	4DANF47KE-TSE	575/3/60	17.6	106	2	1180	4.2	26.2	40
KESA130L 6/8-*	T3C	4DBNF54KE-TSK	208/230/3/60	51.3	220	2	1180	10.6	74.7	125
	T4C	4DBNF54KE-TSK	460/3/60	25.6	110	2	1180	5.4	37.4	60
	T5C	4DBNF54KE-TSE	575/3/60	17.4	106	2	1560	4.2	26.0	40
KESA150L 6/8-*	T3C	4DHNF63KE-TSK	208/230/3/60	52.6	278	2	1180	10.6	76.4	125
	T4C	4DHNF63KE-TSK	460/3/60	26.3	139	2	1180	5.4	38.3	60
	T5C	4DHNF63KE-TSE	575/3/60	20.9	113	2	1180	4.2	30.3	50
KESA220L 6/8-*	T3C	4DJNF76KE-TSK	208/230/3/60	64.3	374	2	1180	10.6	91.0	150
	T4C	4DJNF76KE-TSK	460/3/60	32.1	187	2	1180	5.4	45.5	70
	T5C	4DJNF76KE-TSE	575/3/60	29.1	135	2	1180	4.2	40.6	60

\* I = Indoor, H = Outdoor.

Above listed RLA value is based on UL rating method and may differ from published compressor RLA data.

460& 575V models use a 230V EC motor with transformer

† Applies to units with variable speed EC motors, SmartSpeed (1/2 - 5 HP only), or LIMITROL+ (5+ HP only). Contact factory for details.



# ELECTRICAL DATA - BITZER MODELS

## Models with EC Motor(s)<sup>†</sup>



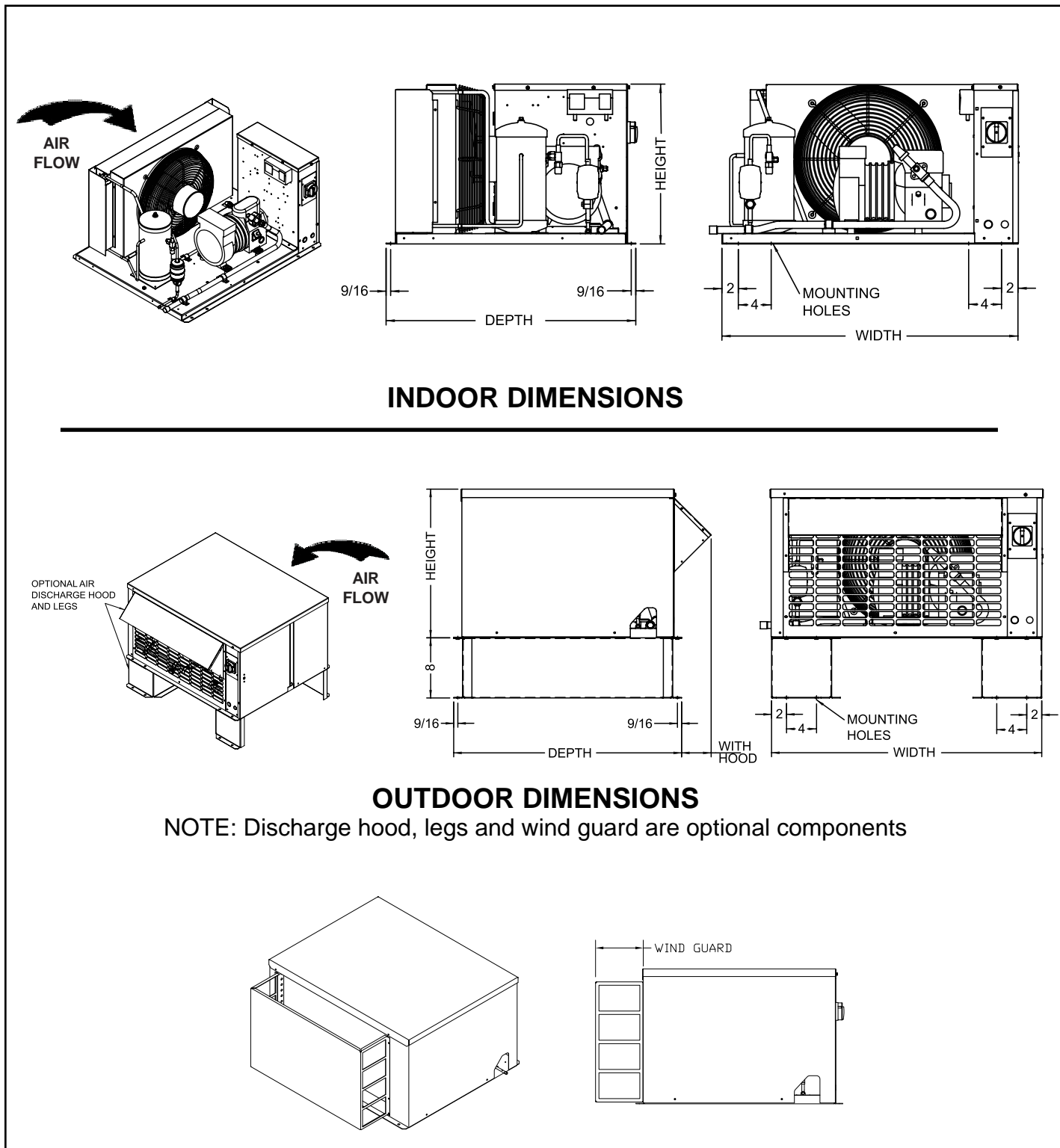
MODEL KES	COMPRESSOR MODEL NO.	POWER SUPPLY	COMPRESSOR		ECM CONDENSER FAN			MCA	MOP	
			RLA	LRA	QTY	WATTS	FLA			
KESB015L 6/8 -*	S2C	2FES-2-2EU-Y	208-230/1/60	14.6	60	1	175	2.0	20.3	30
	T3C	2FES-2-2DU-Y	208-230/3/60	11.1	54	1	175	2.0	15.9	25
KESB020L 6/8 -*	T3C	2EES-2-2DU-Y	208-230/3/60	13.3	70	1	175	2.0	18.6	30
KESB025L 6/8 -*	T3C	2DES-2-2DU-Y	208-230/3/60	14.5	80.5	1	175	2.0	20.1	30
KESB030L 6/8 -*	T3C	2CES-3-2DU-Y	208-230/3/60	16.5	97	1	315	3.5	24.1	40
	T4C	2CES-3-4SU-Y	460/3/60	7.0	39.5	1	315	1.8	10.6	15
	T5C	2CES-3-5SU-Y	575/3/60	5.6	28.5	1	315	1.4	8.4	15
KESB031L 6/8 -*	T3C	4FES-3-2DU-1Y	208-230/3/60	22.2	115.5	1	315	3.5	31.3	50
	T4C	4FES-3-4SU-1Y	460/3/60	9.0	47.5	1	315	1.8	13.1	20
	T5C	4FES-3-5SU-1Y	575/3/60	6.9	34	1	315	1.4	10.0	15
KESB039L 6/8 -*	T3C	4EES-4-2DU-1Y	208-230/3/60	24.8	142	1	315	3.5	34.5	50
	T4C	4EES-4-4SU-1Y	460/3/60	10.3	58	1	315	1.8	14.7	20
	T5C	4EES-4-5SU-1Y	575/3/60	8.3	41.5	1	315	1.4	11.8	20
KESB050L 6/8 -*	T3C	4DES-5-2DU-1Y	208-230/3/60	25.4	163	1	315	3.5	35.3	60
	T4C	4DES-5-4SU-1Y	460/3/60	12.0	66.5	1	315	1.8	16.8	25
	T5C	4DES-5-5SU-1Y	575/3/60	10.0	48	1	315	1.4	13.9	20
KESB060L 6/8 -*	T3C	4CES-6-2DU-1Y	208-230/3/60	30.8	215	1	315	3.5	42.0	70
	T4C	4CES-6-4SU-1Y	460/3/60	15.8	88	1	315	1.8	21.6	35
	T5C	4CES-6-5SU-1Y	575/3/60	12.5	63.5	1	315	1.4	17.0	25
KESB080L 6/8 -*	T3C	4BES-9-2NU-1Y	208-230/3/60	34.8	180	2	630	7	50.5	80
	T4C	4BES-9-2NU-1Y	460/3/60	15.7	90	2	630	3.6	23.2	35
	T5C	4BES-9-5PU-1Y	575/3/60	13.6	72	2	630	2.8	19.8	30
KESB100L 6/8 -*	T3C	4PES-12-2NU-1Y	208-230/3/60	42.7	222	2	630	7	60.4	100
	T4C	4PES-12-2NU-1Y	460/3/60	19.3	111	2	630	3.6	27.7	45
	T5C	4PES-12-5PU-1Y	575/3/60	16.0	89	2	630	2.8	22.8	35
KESB120L 6/8 -*	T3C	4NES-14-2NU-1Y	208-230/3/60	49.0	252	2	630	7	68.3	110
	T4C	4NES-14-2NU-1Y	460/3/60	22.1	126	2	630	3.6	31.2	50
	T5C	4NES-14-5PU-1Y	575/3/60	17.7	101	2	630	2.8	24.9	40

\* I = Indoor, H = Outdoor. Above listed RLA value is based on UL rating method and may differ from published compressor RLA data.

† Applies to units with variable speed EC motors, SmartSpeed (1/2 - 5 HP only), or LIMITROL+ (5+ HP only). Contact factory for details.

# DIMENSIONAL DATA (1 Fan Models - Small Chassis)

## DRAWING #1

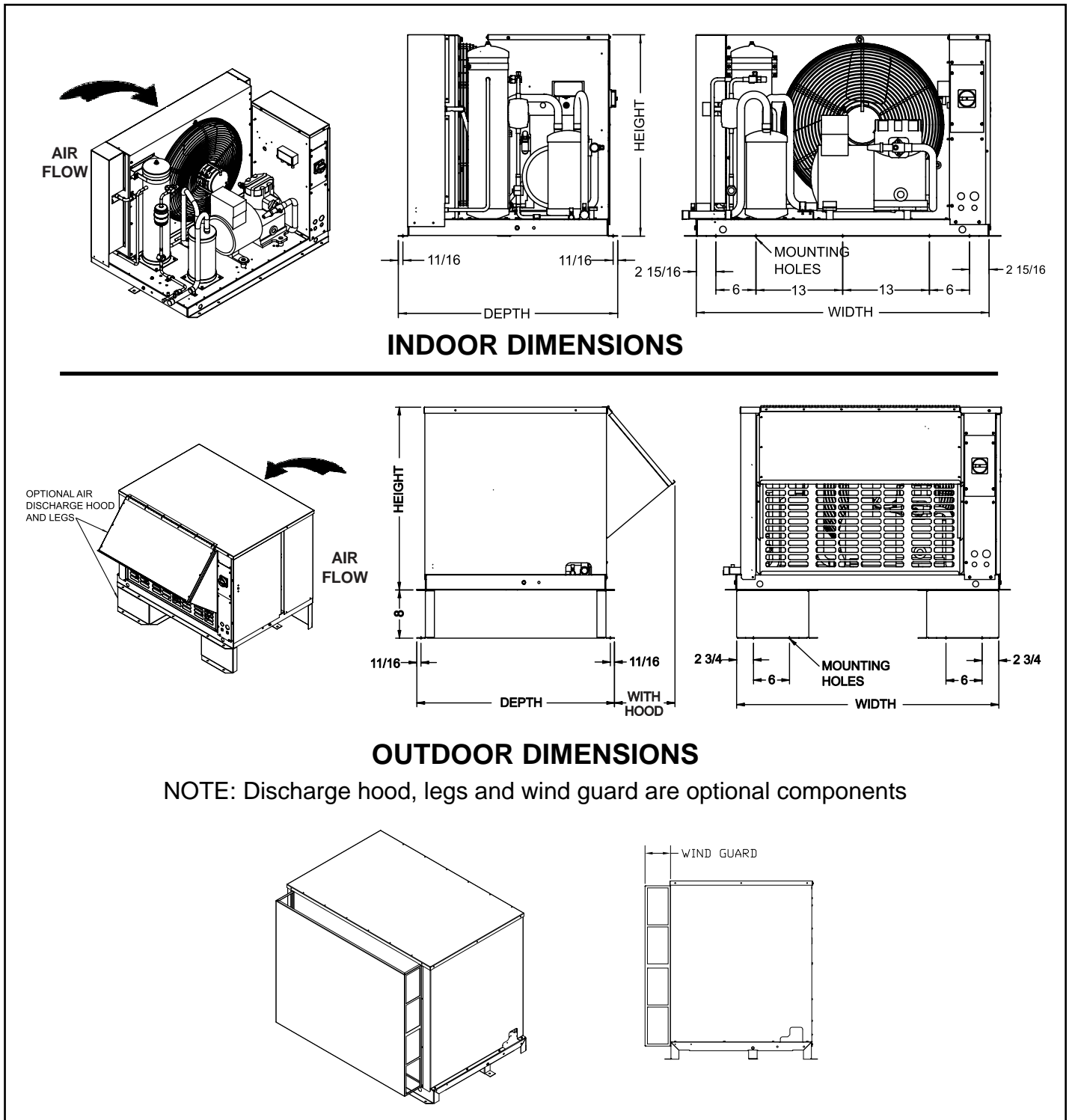


**KES**

# DIMENSIONAL DATA (1 Fan Models - Large Chassis)

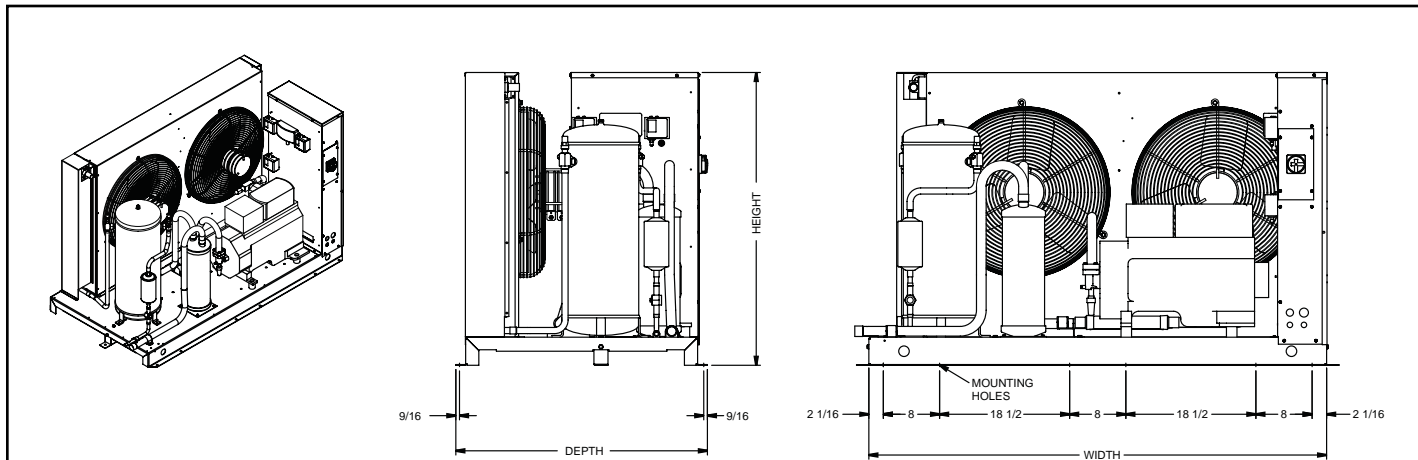
**60Hz**

## DRAWING #2

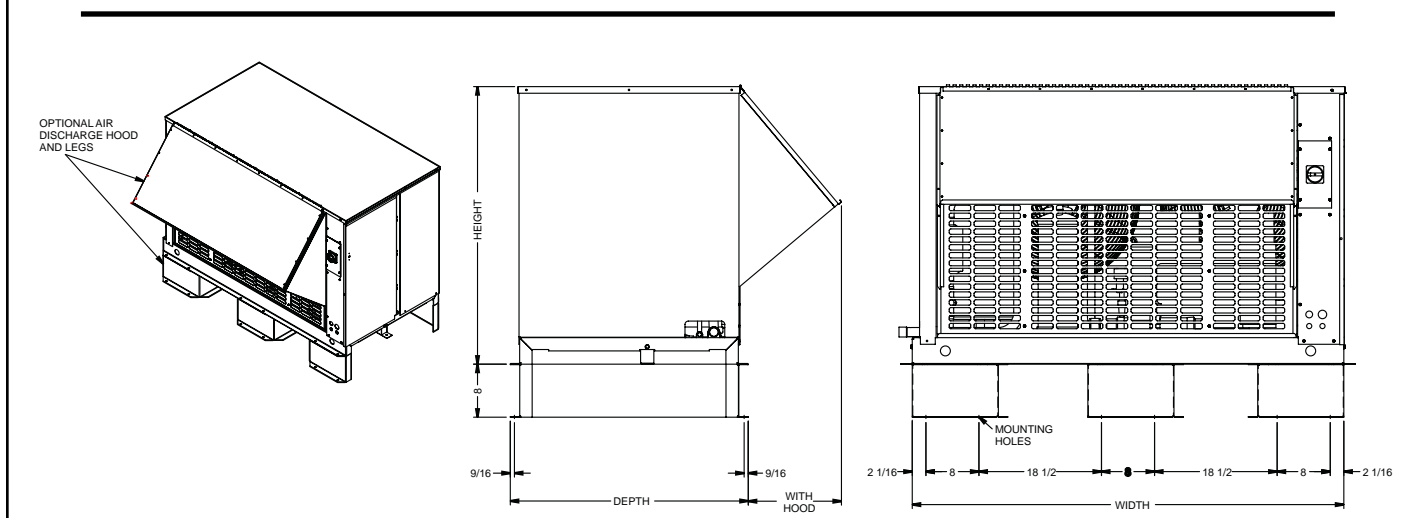


# DIMENSIONAL DATA (2 Fan Models - Small Chassis)

## DRAWING #3

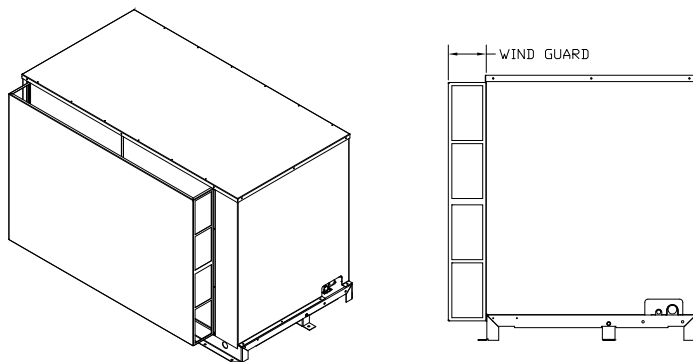


### INDOOR DIMENSIONS



### OUTDOOR DIMENSIONS

NOTE: Discharge hood and legs are optional components



REFER TO PAGE 28 FOR  
DIMENSIONAL DATA FOR SPECIFIC MODELS

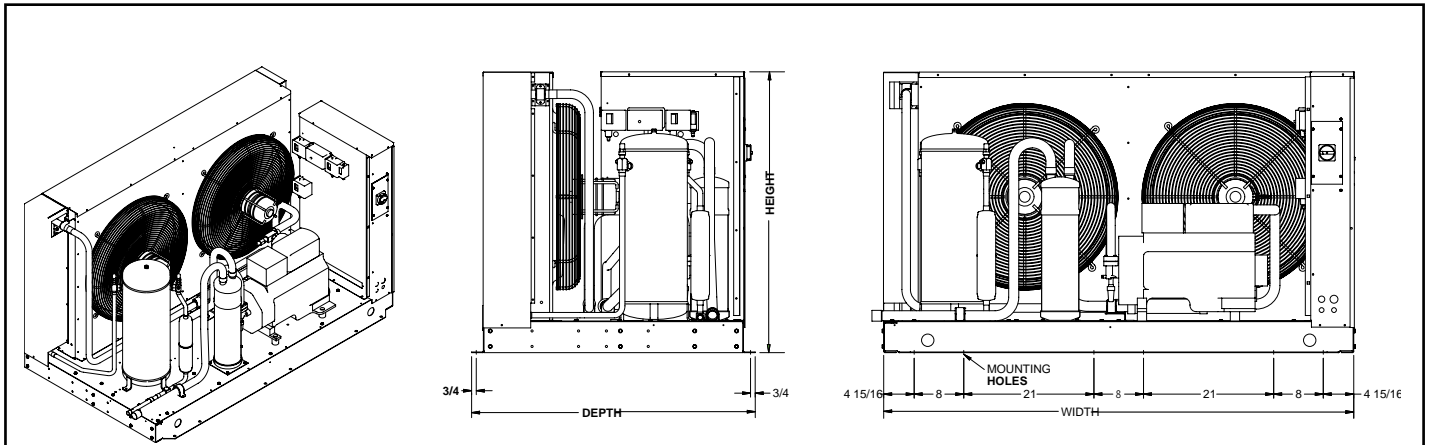


**KES**

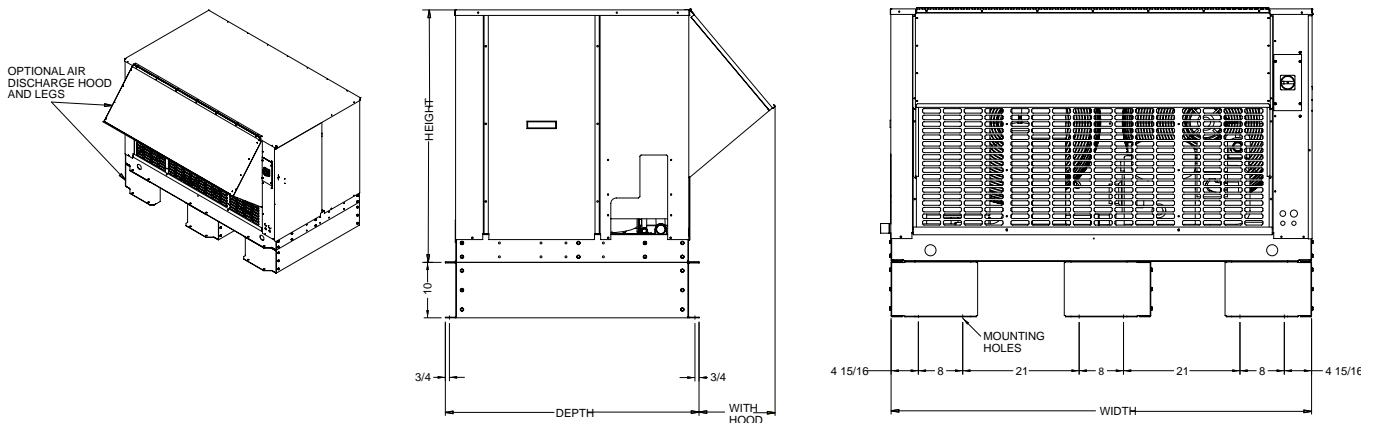
# DIMENSIONAL DATA (2 Fan Models - Large Chassis)

**60Hz**

## DRAWING #4

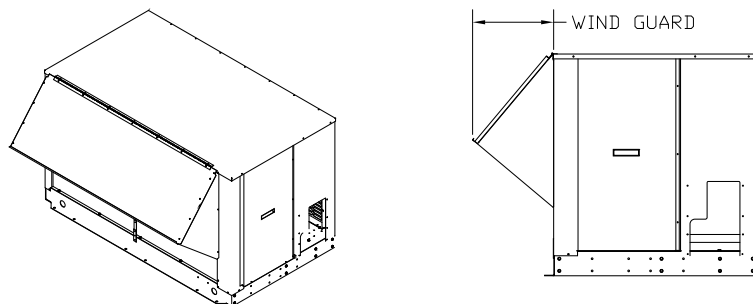


## INDOOR DIMENSIONS



## OUTDOOR DIMENSIONS

NOTE: Discharge hood, legs and wind guard are optional components



**REFER TO PAGE 28 FOR  
DIMENSIONAL DATA FOR SPECIFIC MODELS**



## DIMENSIONAL DATA COPELAND MODELS

# 60Hz

MODEL KES	CHASSIS	DRAWING # (see table below)	OUTDOOR MODELS										INDOOR MODELS					
			WIDTH		DEPTH						HEIGHT		WIDTH		DEPTH		HEIGHT	
					Base		With Hood, add:		Wind Guard, add:									
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	
KESA011M8	B	1	36 3/8	924	30 3/8	772	4	102	7	178	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KESA020M8		1	36 3/8	924	30 3/8	772	4	102	7	178	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KESA021M8		1	36 3/8	924	30 3/8	772	4	102	7	178	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KESA030M8	C	2	43 7/8	1114	32 7/8	835	10 1/8	257	8	203	30 3/8	772	43 7/8	1114	32 7/8	835	30 3/16	767
KESA015L8	B	1	36 3/8	924	30 3/8	772	4	102	7	178	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KESA020L8		1	36 3/8	924	30 3/8	772	4	102	7	178	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KESA021L8		1	36 3/8	924	30 3/8	772	4	102	7	178	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KESA030L8	C	2	43 7/8	1114	32 7/8	835	10 1/8	257	8	203	30 3/8	772	43 7/8	1114	32 7/8	835	30 3/16	767
KESA032L8		2	43 7/8	1114	32 7/8	835	10 1/8	257	8	203	30 3/8	772	43 7/8	1114	32 7/8	835	30 3/16	767
KESA035L 6/8		2	43 7/8	1114	32 7/8	835	10 1/8	257	8	203	30 3/8	772	43 7/8	1114	32 7/8	835	30 3/16	767
KESA040L 6/8	D	2	43 7/8	1114	32 7/8	835	10 1/8	257	8	203	30 3/8	772	43 7/8	1114	32 7/8	835	30 3/16	767
KESA060L 6/8		2	52 1/8	1324	35 7/8	911	10 1/8	257	6	152	41 7/8	1064	52 1/8	1324	35 7/8	911	41 11/16	1059
KESA061L 6/8		2	52 1/8	1324	35 7/8	911	10 1/8	257	6	152	41 7/8	1064	52 1/8	1324	35 7/8	911	41 11/16	1059
KESA075L 6/8	E	2	52 1/8	1324	35 7/8	911	10 1/8	257	6	152	41 7/8	1064	52 1/8	1324	35 7/8	911	41 11/16	1059
KESA090L 6/8		3	65 1/8	1654	35 7/8	911	7 1/8	181	6	152	41 7/8	1064	65 1/8	1654	35 7/8	911	41 11/16	1059
KESA100L 6/8		3	65 1/8	1654	35 7/8	911	7 1/8	181	6	152	41 7/8	1064	65 1/8	1654	35 7/8	911	41 11/16	1059
KESA120L 6/8	F	4	75 7/8	1927	45 3/4	1162	13 1/4	349	16 5/8	422	45 1/2	1156	75 7/8	1927	45 3/4	1162	45 17/32	1156
KESA130L 6/8		4	75 7/8	1927	45 3/4	1162	13 1/4	349	16 5/8	422	45 1/2	1156	75 7/8	1927	45 3/4	1162	45 17/32	1156
KESA150L 6/8		4	75 7/8	1927	45 3/4	1162	13 1/4	349	16 5/8	422	45 1/2	1156	75 7/8	1927	45 3/4	1162	45 17/32	1156
KESA220L 6/8		4	75 7/8	1927	45 3/4	1162	13 1/4	349	16 5/8	422	45 1/2	1156	75 7/8	1927	45 3/4	1162	45 17/32	1156



## DIMENSIONAL DATA BITZER MODELS

# 60Hz

MODEL KES	CHASSIS	DRAWING # (see table below)	OUTDOOR MODELS										INDOOR MODELS					
			WIDTH		DEPTH						HEIGHT		WIDTH		DEPTH		HEIGHT	
					Base		With Hood, add:		Wind Guard, add:									
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	
KESB015L 6/8	B	1	36 3/8	899	29 3/8	746	4	102	7	178	18 7/8	479	35 3/8	899	29 3/8	746	18 1/2	470
KESB020L 6/8		1	36 3/8	924	30 3/8	772	4	102	7	178	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KESB025L 6/8		1	36 3/8	924	30 3/8	772	4	102	7	178	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KESB030L 6/8	C	2	43 7/8	1114	32 7/8	835	10 1/8	257	8	203	30 3/8	772	43 7/8	1114	32 7/8	835	30 3/16	767
KESB031L 6/8		2	43 7/8	1114	32 7/8	835	10 1/8	257	8	203	30 3/8	772	43 7/8	1114	32 7/8	835	30 3/16	767
KESB039L 6/8		2	43 7/8	1114	32 7/8	835	10 1/8	257	8	203	30 3/8	772	43 7/8	1114	32 7/8	835	30 3/16	767
KESB050L 6/8	D	2	52 1/8	1324	35 7/8	911	10 1/8	257	6	152	41 7/8	1064	52 1/8	1324	35 7/8	911	41 11/16	1059
KESB060L 6/8		2	52 1/8	1324	35 7/8	911	10 1/8	257	6	152	41 7/8	1064	52 1/8	1324	35 7/8	911	41 11/16	1059
KESB080L 6/8		3	65 1/8	1654	35 7/8	911	7 1/8	181	6	152	41 7/8	1064	65 1/8	1654	35 7/8	911	41 11/16	1059
KESB100L 6/8	E	3	65 1/8	1654	35 7/8	911	7 1/8	181	6	152	41 7/8	1064	65 1/8	1654	35 7/8	911	41 11/16	1059
KESB120L 6/8		3	65 1/8	1654	35 7/8	911	7 1/8	181	6	152	41 7/8	1064	65 1/8	1654	35 7/8	911	41 11/16	1059

DRAWING #	PAGE #	DRAWING #	PAGE #
1	24	3	26
2	25	4	27

NOTE: Models in this document are not certified to DOE/NRCAN efficiency standards and should not be used for coolers or freezers less than 3000 sq.ft.

**KESA**  
COPELAND

**SPECIFICATIONS**  
**COPELAND MODELS**

**60Hz**

MODEL KES	UNIT CONNECTIONS				R404A RECEIVER CAPACITY 90% FULL *		SHIPPING WEIGHT			
	SUCTION (OD)		LIQUID (OD)		Lbs.	Kgs	OUTDOOR MODELS		INDOOR MODELS	
	Inches	mm	Inches	mm			Lbs.	Kgs	Lbs.	Kgs
KESA011M8	5/8	16	3/8	10	14	6.4	319	145	304	138
KESA020M8	7/8	22	3/8	10	14	6.4	320	145	305	138
KESA021M8	7/8	22	3/8	10	14	6.4	390	177	370	168
KESA030M8	7/8	22	1/2	13	22	10.0	477	216	432	196
KESA015L8	7/8	22	3/8	10	14	6.4	315	143	300	136
KESA020L8	7/8	22	3/8	10	14	6.4	385	175	370	168
KESA021L8	7/8	22	3/8	10	14	6.4	390	177	375	170
KESA030L8	1 1/8	29	1/2	13	22	10.0	493	224	448	203
KESA035L 6/8	1 1/8	29	1/2	13	22	10.0	588	267	543	246
KESA040L 6/8	1 1/8	29	1/2	13	22	10.0	618	280	573	260
KESA060L 6/8	1 1/8	29	1/2	13	31	14.1	781	354	736	334
KESA061L 6/8	1 3/8	35	5/8	16	31	14.1	819	371	774	351
KESA075L 6/8	1 3/8	35	5/8	16	31	14.1	827	375	782	355
KESA090L 6/8	1 3/8	35	5/8	16	54	24.5	885	401	830	376
KESA100L 6/8	1 3/8	35	5/8	16	54	24.5	885	401	830	376
KESA120L 6/8	1 5/8	41	7/8	22	76	34.5	1185	538	1130	513
KESA130L 6/8	1 5/8	41	7/8	22	76	34.5	1185	538	1130	513
KESA150L 6/8	1 5/8	41	7/8	22	76	34.5	1185	538	1130	513
KESA220L 6/8	2 1/8	54	7/8	22	76	34.5	1185	538	1130	513

**KESB**  
BITZER

**SPECIFICATIONS**  
**BITZER MODELS**

**60Hz**

MODEL KES	UNIT CONNECTIONS				R404A RECEIVER CAPACITY 90% FULL *		SHIPPING WEIGHT			
	SUCTION (OD)		LIQUID (OD)		Lbs.	Kgs	OUTDOOR MODELS		INDOOR MODELS	
	Inches	mm	Inches	mm			Lbs.	Kgs	Lbs.	Kgs
KESB015L 6/8	7/8	22	3/8	10	14	6	350	159	330	150
KESB020L 6/8	7/8	22	3/8	10	14	6	360	163	340	154
KESB025L 6/8	7/8	22	3/8	10	14	6	375	170	355	161
KESB030L 6/8	1 1/8	29	1/2	13	22	10	436	198	391	177
KESB031L 6/8	1 1/8	29	1/2	13	22	10	463	210	418	190
KESB039L 6/8	1 1/8	29	1/2	13	22	10	479	217	434	197
KESB050L 6/8	1 3/8	35	5/8	16	31	14.1	647	293	602	273
KESB060L 6/8	1 3/8	35	5/8	16	31	14.1	658	298	613	278
KESB080L 6/8	1 3/8	35	5/8	16	54	24.5	790	358	735	333
KESB100L 6/8	1 3/8	35	5/8	16	54	24.5	800	363	745	338
KESB120L 6/8	1 3/8	35	5/8	16	54	24.5	805	365	750	340

\* NOTE ON ALTERNATE REFRIGERANTS:

\* PUBLISHED RECEIVER CAPACITY IS BASED ON R404A ON MODELS USING "8" AS REFRIGERANT CODE.  
FOR ALTERNATE REFRIGERANTS, MULTIPLY R404A VALUE BY THE APPROPRIATE VALUE BELOW:

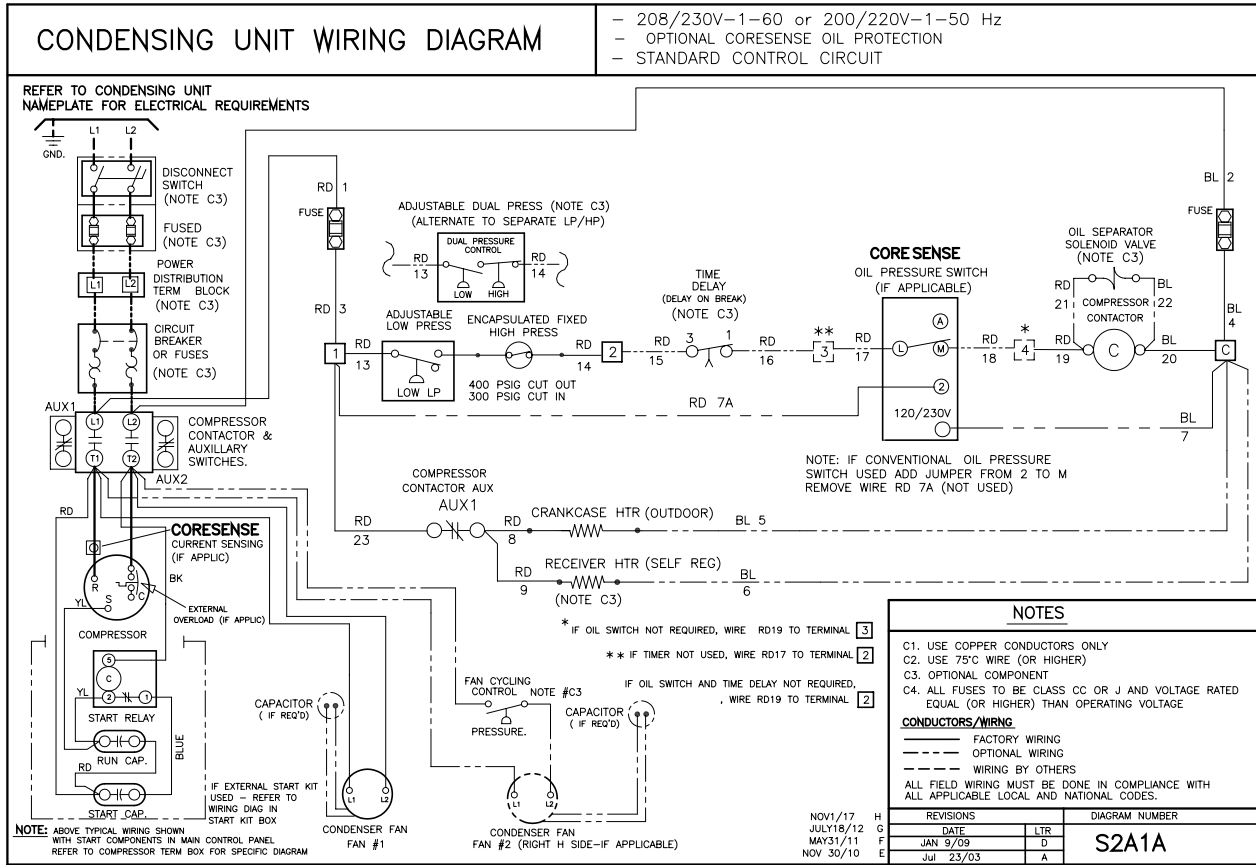
R407A	R407C	R448A	R507	R22
1.10	1.10	1.05	1.00	1.15

- For R449A, use R448A data.

# TYPICAL SYSTEM WIRING DIAGRAM

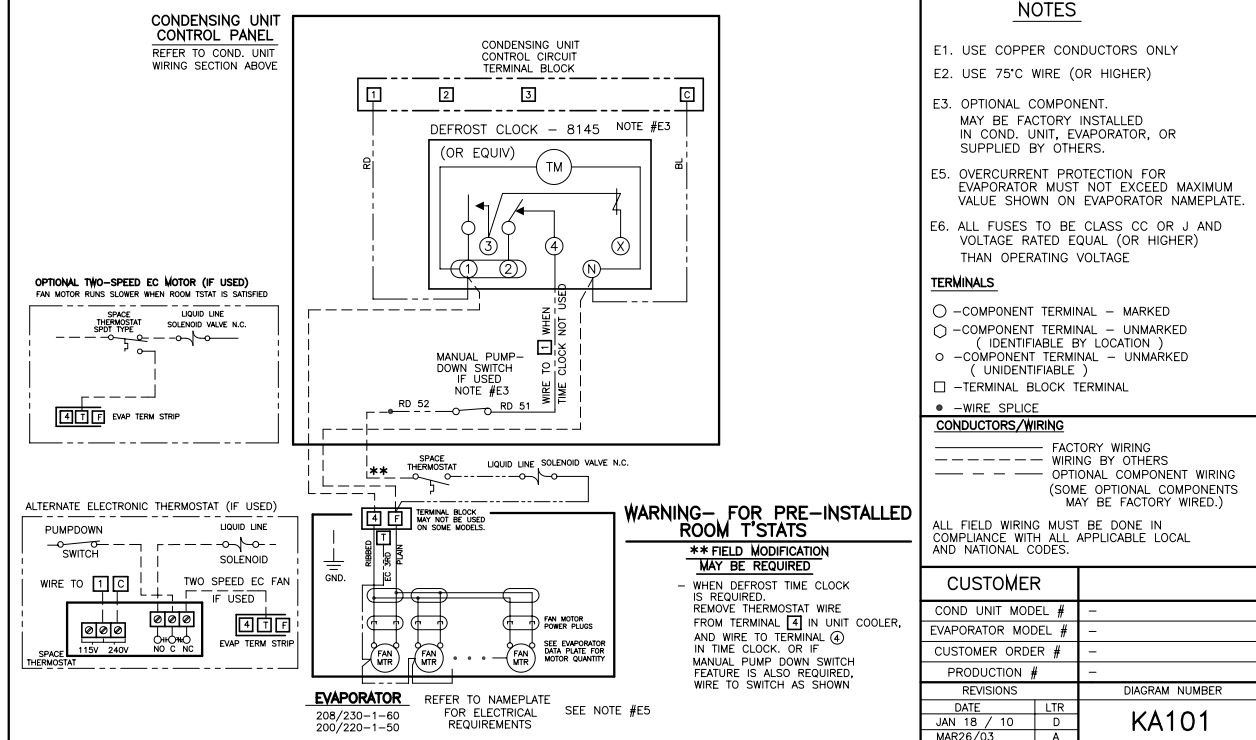
## 208-230/1/60 Unit

### with 230V Air Defrost Evaporator



### TYPICAL EVAPORATOR WIRING: FOR SINGLE AIR DEFROST EVAPORATOR- SINGLE POINT

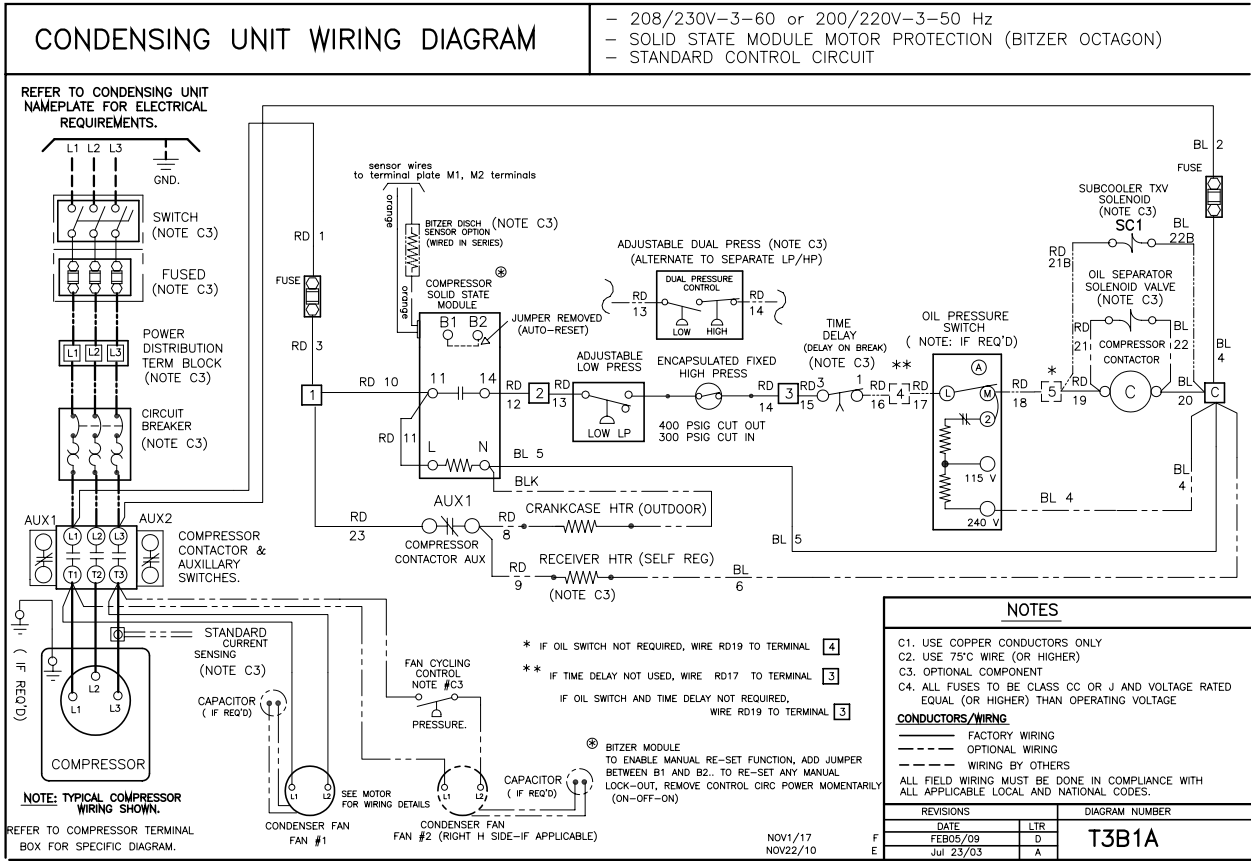
FOR USE WITH: 208/230-1-60, 200/220-1-50 OR 208/230-3-60, 200/220-3-50 CONDENSING UNITS WITH OR WITHOUT DEFROST TIME CLOCK AND FOR TOTAL EVAP FAN AMPS NOT EXCEEDING 12A



# TYPICAL SYSTEM WIRING DIAGRAM

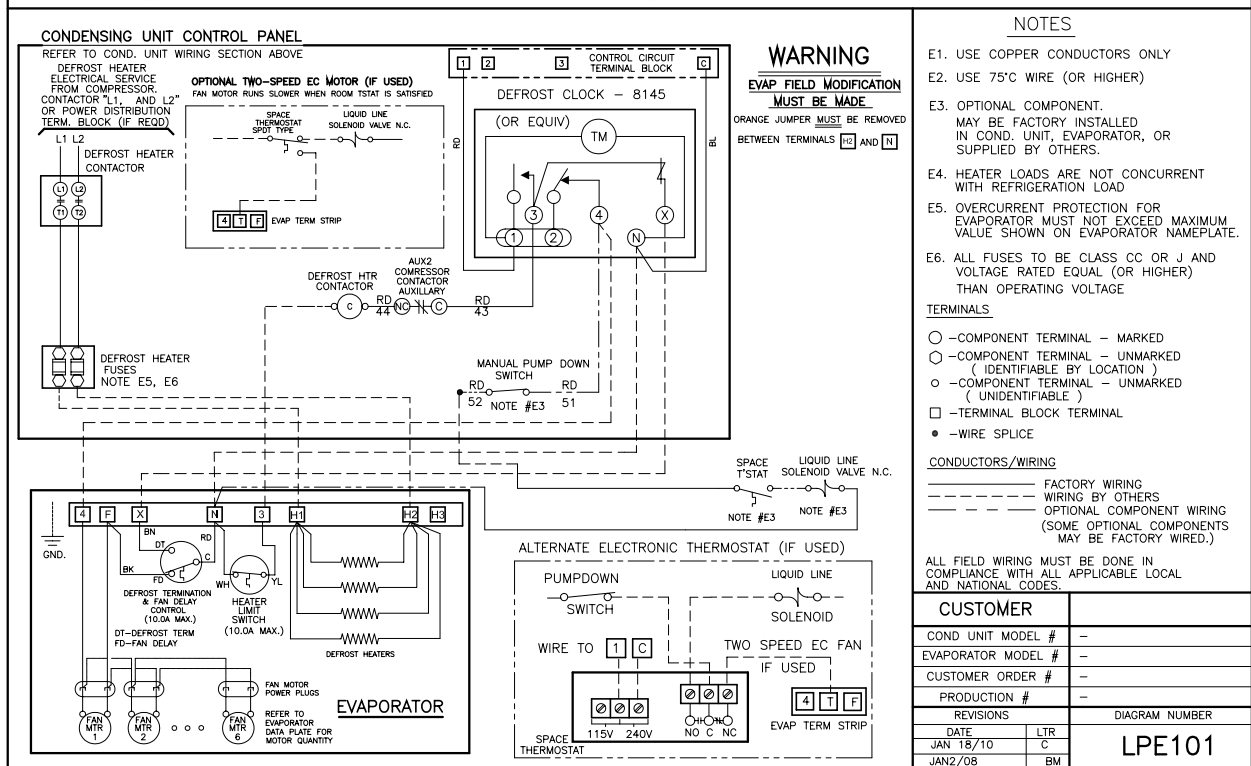
## 208-230/3/60 Unit

### with 230V Electric Defrost Evaporator



### TYPICAL EVAPORATOR WIRING: FOR SINGLE LOW PROFILE ELECT 1 PHASE DEFROST EVAPORATOR—SINGLE POINT

FOR USE WITH: 230V SINGLE OR THREE PHASE CONDENSING UNITS WITH DEFROST TIME CLOCK, AND DEFROST HEATER CONTACTOR



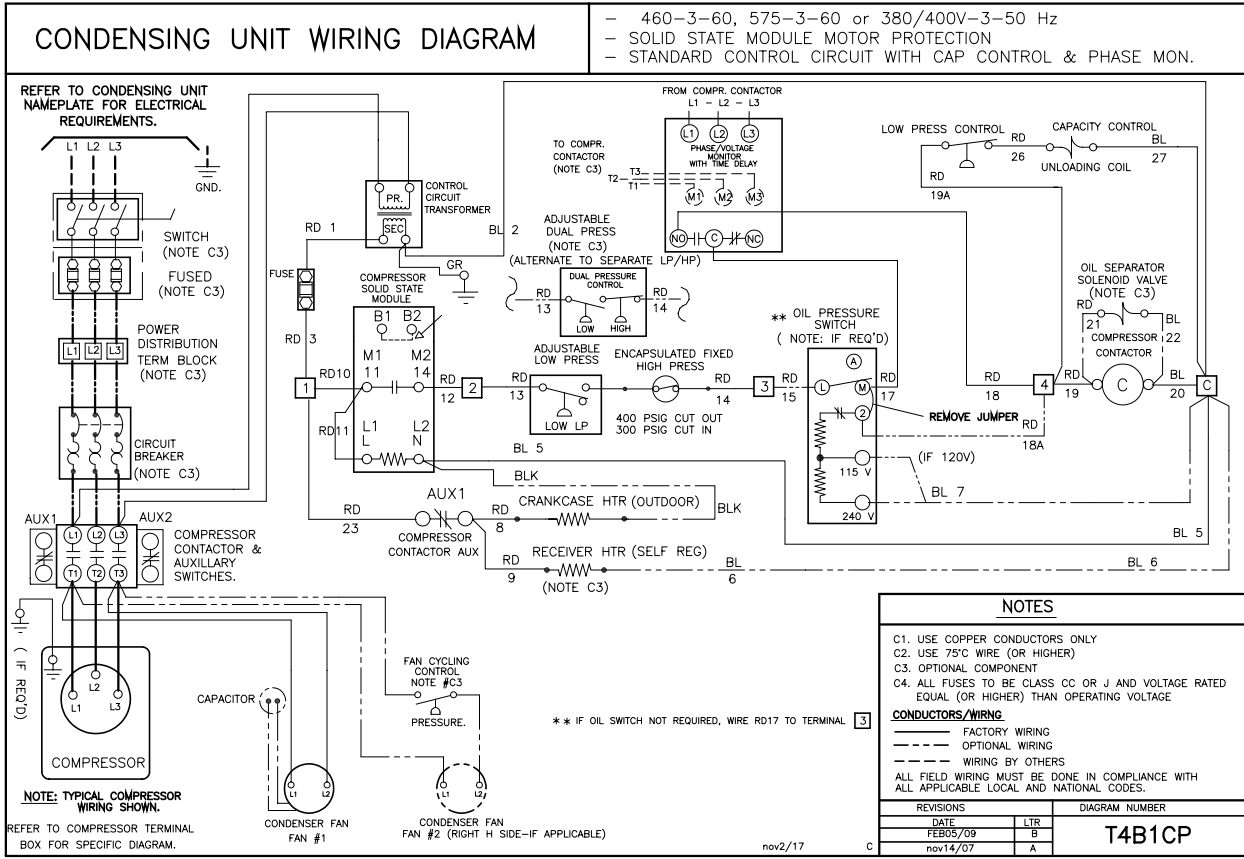




# TYPICAL SYSTEM WIRING DIAGRAM

## 460/3/60 or 575/3/60 Unit

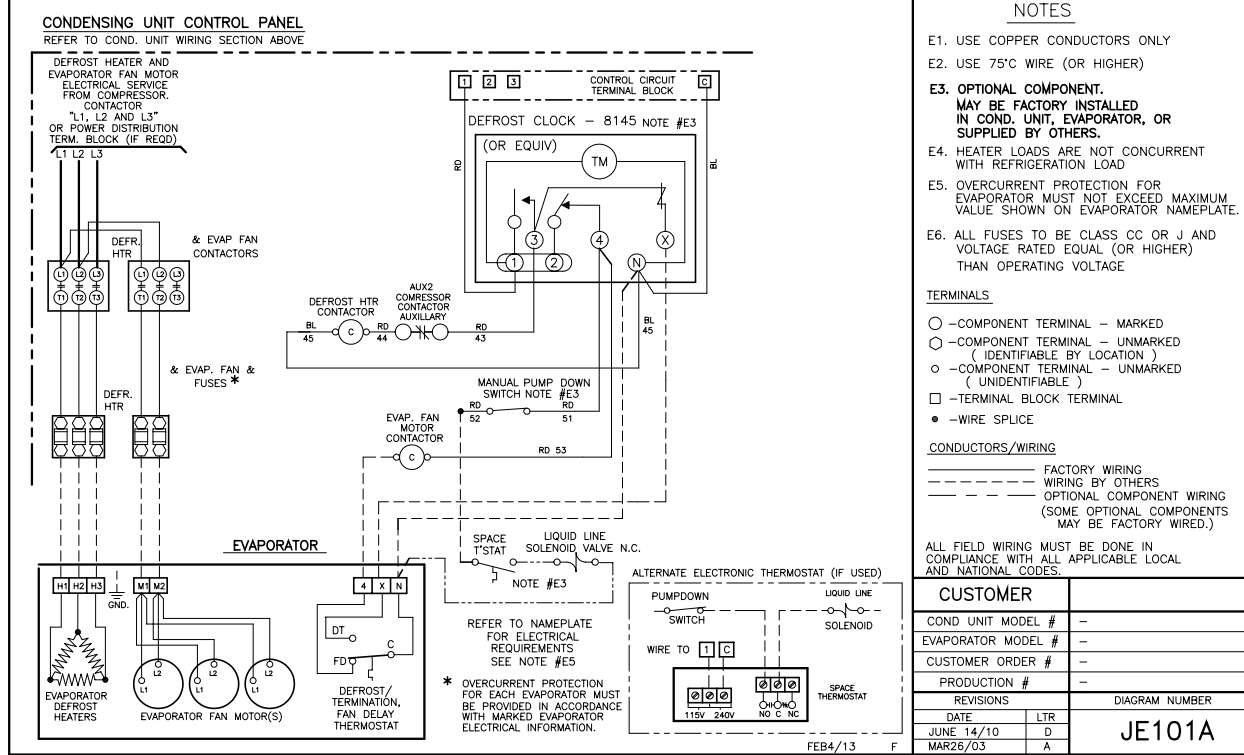
### with 460 or 575V Electric Defrost Evaps



- #### NOTES
- USE COPPER CONDUCTORS ONLY
  - USE 75°C WIRE (OR HIGHER)
  - OPTIONAL COMPONENT
  - ALL FUSES TO BE CLASS CC OR J AND VOLTAGE RATED EQUAL (OR HIGHER) THAN OPERATING VOLTAGE
- #### CONDUCTORS/WIRING
- FACTORY WIRING
  - OPTIONAL WIRING
  - WIRING BY OTHERS
- ALL FIELD WIRING MUST BE DONE IN COMPLIANCE WITH ALL APPLICABLE LOCAL AND NATIONAL CODES.

### TYPICAL EVAPORATOR WIRING: FOR (1) ONE, THREE PHASE MED PROFILE ELECT DEFROST EVAPORATOR - SINGLE POINT

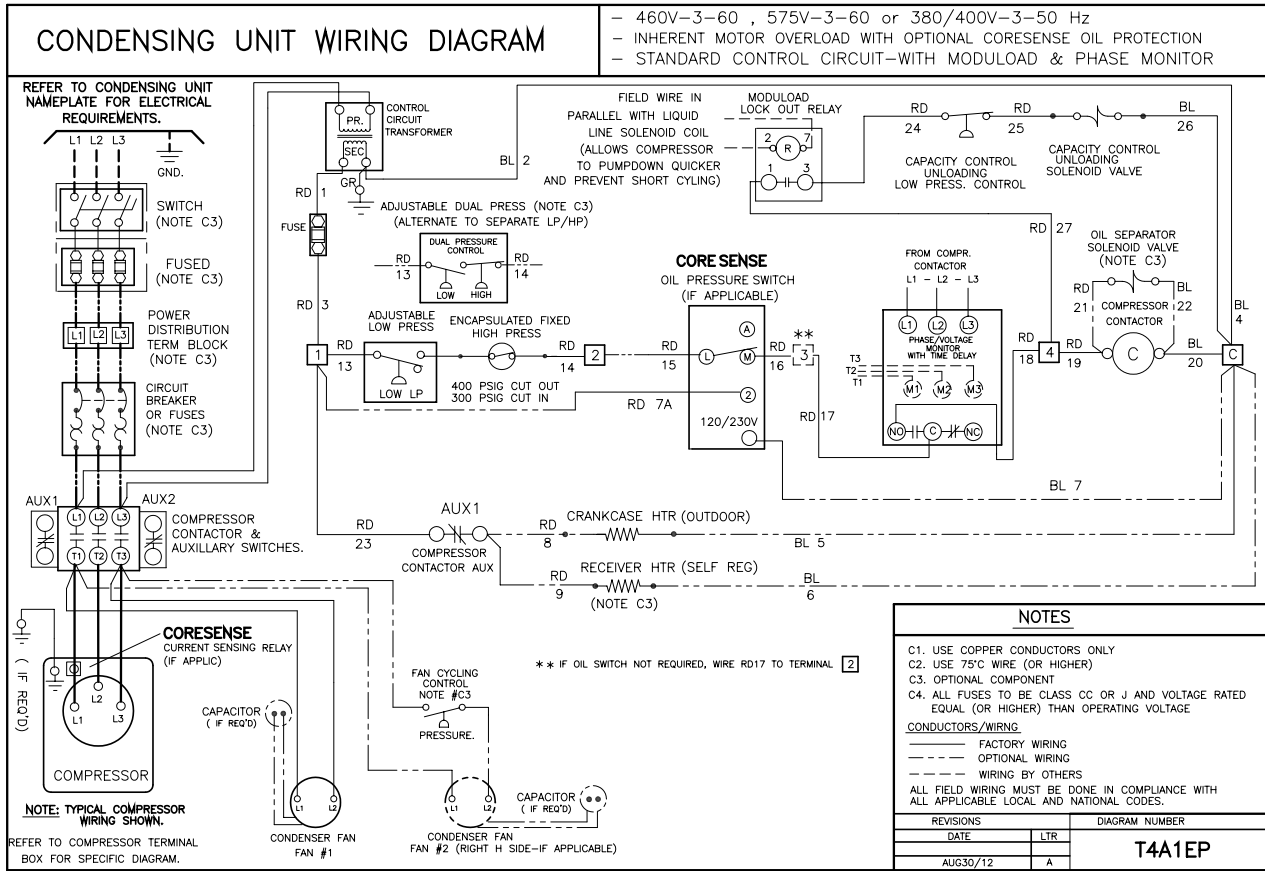
FOR USE WITH: THREE PHASE CONDENSING UNITS WITH DEFROST TIME CLOCK, & EVAP FAN AND DEFR. HTR. CONTACTORS.



- #### NOTES
- USE COPPER CONDUCTORS ONLY
  - USE 75°C WIRE (OR HIGHER)
  - OPTIONAL COMPONENT. MAY BE FACTORY INSTALLED IN COND. UNIT, EVAPORATOR, OR SUPPLIED BY OTHERS.
  - HEATER LOADS ARE NOT CONCURRENT WITH REFRIGERATION LOAD
  - OVERCURRENT PROTECTION FOR EVAPORATOR MUST NOT EXCEED MAXIMUM VALUE SHOWN ON EVAPORATOR NAMEPLATE.
  - ALL FUSES TO BE CLASS CC OR J AND VOLTAGE RATED EQUAL (OR HIGHER) THAN OPERATING VOLTAGE
- #### TERMINALS
- - COMPONENT TERMINAL - MARKED
  - - COMPONENT TERMINAL - UNMARKED (IDENTIFIABLE BY LOCATION)
  - - COMPONENT TERMINAL - UNMARKED (UNIDENTIFIABLE)
  - - TERMINAL BLOCK TERMINAL
  - - WIRE SPLICE
- #### CONDUCTORS/WIRING
- FACTORY WIRING
  - WIRING BY OTHERS
  - OPTIONAL COMPONENT WIRING (SOME OPTIONAL COMPONENTS MAY BE FACTORY WIRED.)
- ALL FIELD WIRING MUST BE DONE IN COMPLIANCE WITH ALL APPLICABLE LOCAL AND NATIONAL CODES.

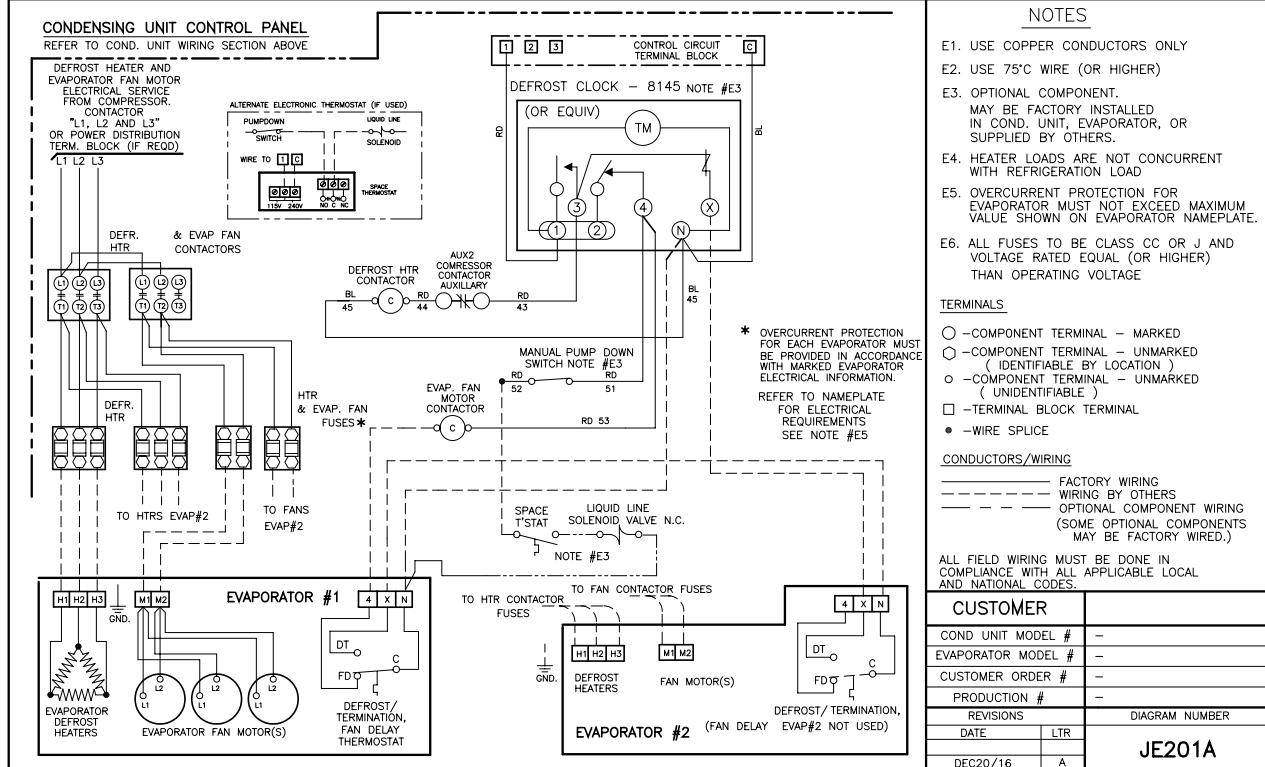
# TYPICAL SYSTEM WIRING DIAGRAM

## 460/3/60 or 575/3/60 Unit with Two (2) 460 or 575V Electric Defrost Evaps



### TYPICAL EVAPORATOR WIRING: FOR TWO MED PROFILE ELECT DEFROST EVAPORATORS- SINGLE POINT

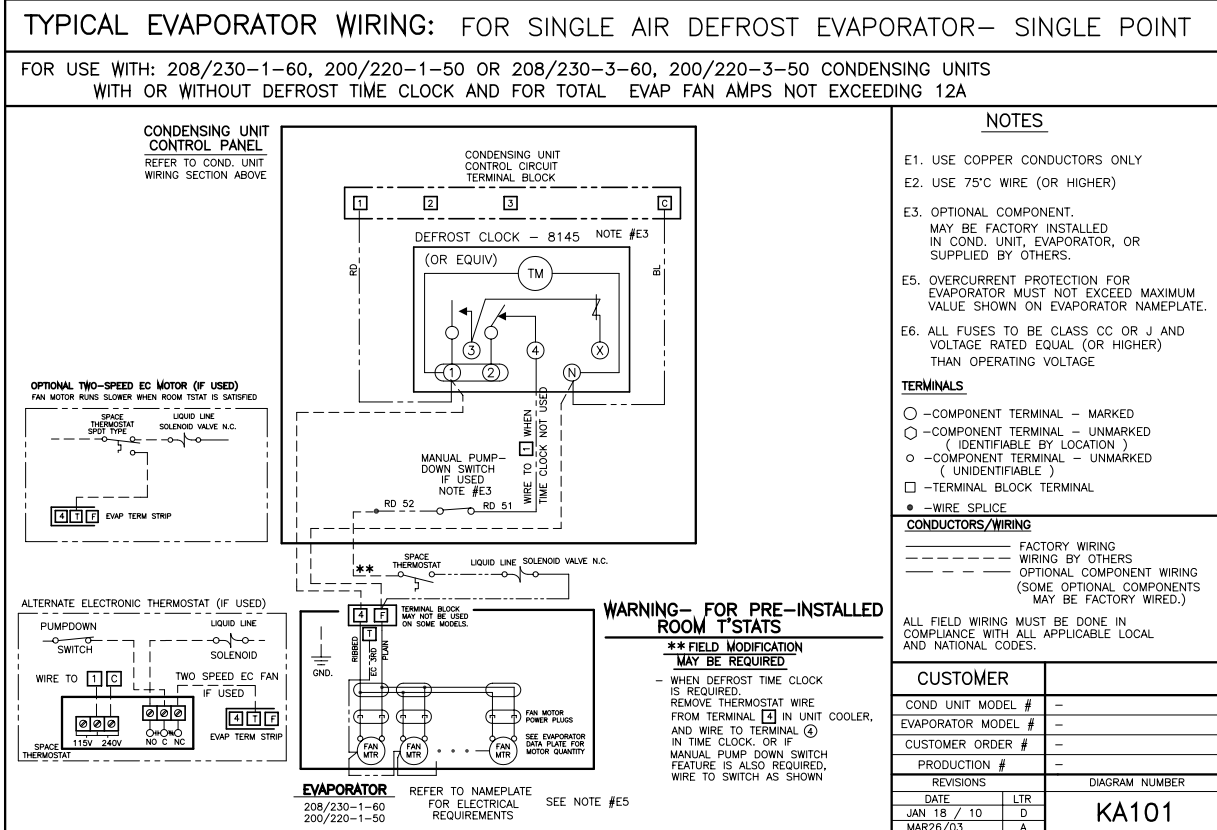
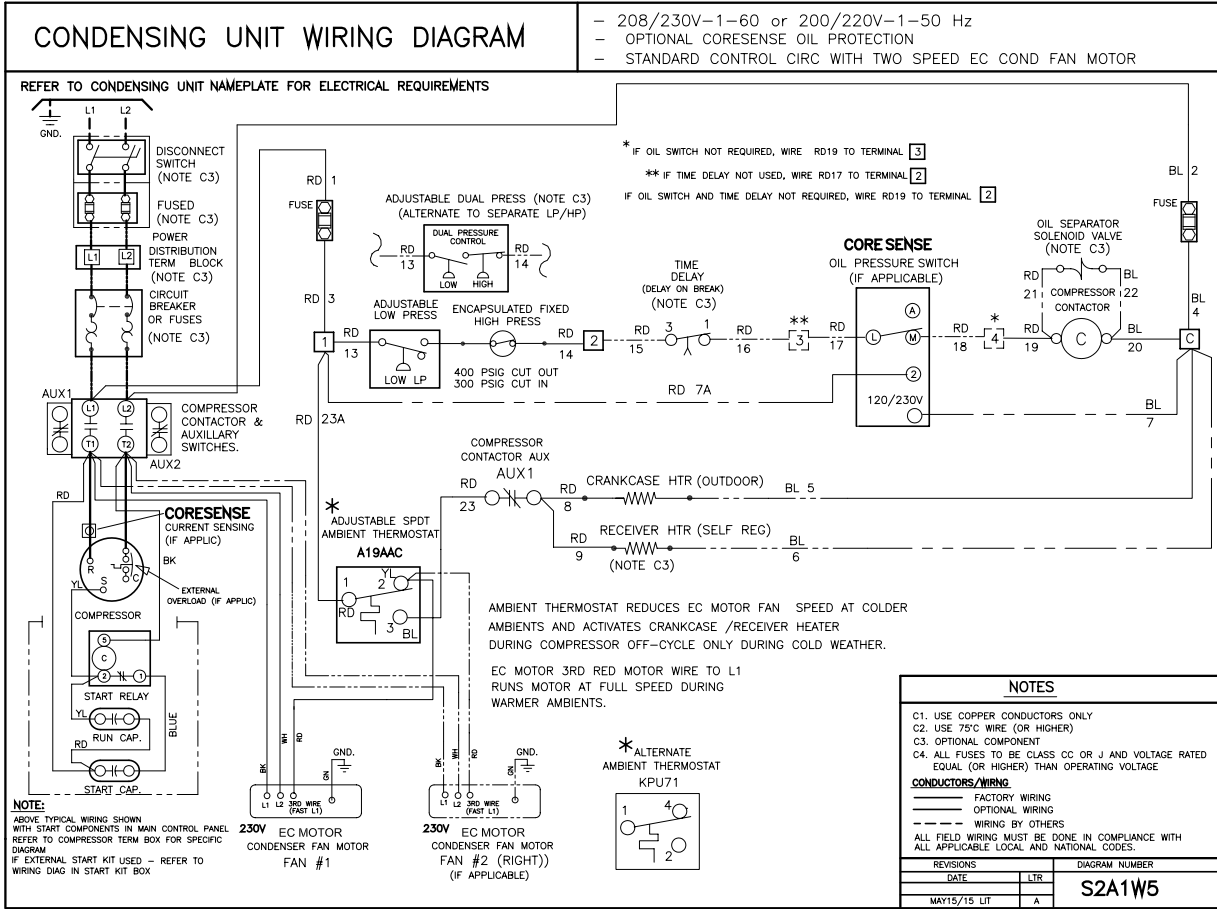
FOR USE WITH: THREE PHASE CONDENSING UNITS WITH DEFROST TIME CLOCK, & EVAP FAN AND DEFR. HTR. CONTACTORS.



# TYPICAL SYSTEM WIRING DIAGRAM

## 208-230/1/60 Unit with SMARTSPEED™

### with 230V Air Defrost Evaporator



# KES

## PROJECT INFORMATION

# 60Hz

System	
Model Number	Date of Start-Up
Serial Number	Service Contractor
Refrigerant	Phone
Electrical Supply	E-mail

### PRODUCT SUPPORT RESOURCES

 PRODUCT SUPPORT	<p><i>web:</i> <a href="http://www.k-rp.com/kes">www.k-rp.com/kes</a> <i>email:</i> <a href="mailto:smcu@k-rp.com">smcu@k-rp.com</a> <i>call:</i> 1-844-893-3222 x521</p>
 TROUBLESHOOTING	<p><i>email:</i> <a href="mailto:troubleshooting@k-rp.com">troubleshooting@k-rp.com</a> <i>call:</i> 1-844-893-3222 x529</p>
 SERVICE PARTS	<p><i>web:</i> <a href="http://www.k-rp.com/parts">www.k-rp.com/parts</a> <i>email:</i> <a href="mailto:parts@k-rp.com">parts@k-rp.com</a> <i>call:</i> 1-844-893-3222 x521</p>
 WARRANTY	<p><i>web:</i> <a href="http://www.k-rp.com/warranty">www.k-rp.com/warranty</a> <i>email:</i> <a href="mailto:warranty@k-rp.com">warranty@k-rp.com</a> <i>call:</i> 1-844-893-3222 x501</p>
 ORDERS	<p><i>email:</i> <a href="mailto:orders@k-rp.com">orders@k-rp.com</a> <i>call:</i> 1-844-893-3222 x501</p>
 SHIPPING	<p><i>email:</i> <a href="mailto:shipping@k-rp.com">shipping@k-rp.com</a> <i>call:</i> 1-844-893-3222 x503</p>



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