



Evaporators

*Cross-reference
Selection Tables
For Russell Evaporators
To Copeland, Maneurop,
And Tecumseh
Condensing Units*

**Bulletin No. 106.1
July, 1998**



This cross-reference guide is designed to assist you in the quick selection of a Russell evaporator to a Copeland or Tecumseh air cooled condensing unit. The Russell evaporators in this guide are chosen to balance out with the condensing unit capacity at a 9° to 11° temperature difference. Suction temperatures have been selected for three typical industry applications; +25°F,-10°F, and -20°F.

To use this guide:

- 1) Go to the page that corresponds to the condensing unit manufacturer of your choice.**
- 2) Select a condensing unit that meets the required capacity at any one of the three suction temperatures specified above.**
- 3) Choose the style of evaporator that best fits your application. Do not use this guide if you require a larger or smaller T.D. as a change in T.D. will affect relative humidity requirements.**
- 4) For specific information on the evaporator (physical data, electrical data, options, etc...) see the appropriate Russell bulletin:**

All - Temp²B	Bulletin 100
Inter - Temp	Bulletin 102
Ultra - Temp	Bulletin 101
Flow - Temp	Bulletin 110
Ceiling - Temp	Bulletin 119
"SL" Slim - Temp	Bulletin 112 &109
"ASL" Slim - Temp	Bulletin 113
Mini Twin - Temp	Bulletin 117
Twin - Temp	Bulletin 111
T - Temp	Bulletin 116
Wall - Temp	Bulletin 114
Wedge - Temp	Bulletin 115

For special application or operating conditions contact the Russell Application Department.

RUSSELL / COPELAND

SUGGESTED GUIDE FOR MATCHING RUSSELL UNIT COOLERS WITH COPELAND CONDENSING UNITS

High Temperature / +25 Deg. Suction, 90 Deg. Ambient

Copeland Model Number	Nominal HP	Refrig.	BTUH	Russell Unit Cooler					
				All-Temp ² B AA	Inter-Temp ITA	Ceiling-Temp CTA	Flow-Temp FL	Ultra-Temp UAH	Slim-Temp ASL
C3AH-0075	¾	R-22	6,230	18-66B	---	---	26-67	---	25-58
C3AM-0075	¾	R-22	7,430	28-76B	---	38-75	26-67	---	35-70
C3AM-0100	1	R-22	10,400	28-106B	---	38-98	36-100	---	45-94
C3AH-0150	1½	R-22	11,300	28-122B	---	48-112	36-100	---	55-117
C3AH-0203	2	R-22	14,200	28-134B	28-151	48-130	36-135	---	(2) 35-70
C3AM-0203	2	R-22	15,200	38-160B	28-151	48-150	36-160	---	(2) 35-70
C3AM-0202	2	R-22	17,800	38-195B	28-210	58-162	46-180	1-182	(2) 45-94
C3AH-0303	3	R-22	26,750	48-264B	38-260	68-250	46-265	2-300	(3) 45-94
C3AM-0303	3	R-22	32,000	68-318B	38-320	(2) 58-162	56-370	2-300	(3) 55-117
C3AH-0503	5	R-22	42,160	68-390B	28-410	(2) 48-210	(2) 46-220	2-433	---
C3AM-0503	5	R-22	49,000	(2) 48-264B	28-450	(2) 58-230	(2) 46-265	2-490	---
C3DD-0751	7½	R-22	66,000	(2) 68-318B	(2) 38-320	(3) 58-230	(3) 46-220	3-648	---
C3DD-1001	10	R-22	106,000	(3) 68-318B	(3) 38-320	---	---	4-980	---

Medium Temperature / +20 Deg. Suction, 90 Deg. Ambient

Copeland Model Number	Nominal HP	Refrig.	BTUH	Russell Unit Cooler					
				All-Temp ² B AE	Inter-Temp ITE	Ceiling-Temp CTA	Flow-Temp FL	Ultra-Temp UEM	Slim-Temp ASL
C3AH-0075	¾	R-22	5,540	16-46B	---	36-53	---	---	25-58E
C3AM-0075	¾	R-22	6,630	26-60B	---	36-62	26-67E	---	35-70E
C3AM-0100	1	R-22	9,380	26-92B	---	46-90	36-100E	---	45-94E
C3AH-0150	1½	R-22	10,100	26-92B	---	46-100	36-100E	---	(2) 25-58E
C3AH-0203	2	R-22	12,300	36-120B	---	46-125	36-135E	---	(2) 25-58E
C3AM-0203	2	R-22	13,700	36-140B	26-130	56-140	36-135E	---	(2) 35-70E
C3AM-0202	2	R-22	16,000	36-164B	26-150	46-160	36-160E	1-164	(2) 35-70E
C3AH-0303	3	R-22	24,400	46-245B	36-185	66-218	46-220E	2-270	(2) 55-117E
C3AM-0303	3	R-22	28,800	66-280B	36-270	(2) 56-140	46-265E	2-270	(3) 45-94E
C3AH-0503	5	R-22	38,300	(2) 46-185B	36-385	(2) 56-160	56-370E	2-390	---
C3AM-0503	5	R-22	44,450	(2) 46-210B	36-385	(2) 55-218	(2) 46-220E	2-441	---
C3DD-0751	7½	R-22	60,100	(2) 66-280B	(2) 36-270	(3) 55-218	(3) 46-220E	3-583	---
C3DD-1001	10	R-22	96,300	(3) 66-280B	(3) 36-270	---	---	4-882	---

RUSSELL / COPELAND

SUGGESTED GUIDE FOR MATCHING RUSSELL UNIT COOLERS WITH COPELAND CONDENSING UNITS

Low Temperature / -20 Deg. Suction, 90 Deg. Ambient

Copeland Model Number	Nominal HP	Refrig.	BTUH	Russell Unit Coolers			
				All-Temp ² B AE	Inter-Temp ITE	Ceiling-Temp CTE	Ultra-Temp UEL
CJAL-0100	1	R-404A	4,350	16-46B	---	---	---
CJAL-0150	1½	R-404A	6,710	26-60B	---	36-62	---
CJAL-0151	1½	R-404A	7,920	26-75B	---	46-77	---
CJAL-0200	2	R-404A	9,560	26-92B	---	46-90	---
CJAL-0300	3	R-404A	14,500	36-140B	26-150	46-140	1-152
CJDL-0300	3	R-404A	19,800	46-185B	36-185	66-218	1-193
CJDL-0400	4	R-404A	24,100	66-245B	36-270	(2) 56-125	2-240
CJDL-0600	6	R-404A	28,300	66-280B	36-270	(2) 46-140	2-304
CJDL-0601	6	R-404A	33,300	(2) 46-164B	26-320	(2) 56-160	2-361
CJDL-0750	7½	R-404A	39,700	(2) 56-210B	36-385	(2) 66-218	2-408
CJDL-0900	9	R-404A	43,600	(2) 56-210B	36-460	(3) 46-140	3-445
CJDL-1000	10	R-404A	53,600	(2) 66-280B	36-520	(3) 56-160	3-540
CJDL-1500	15	R-404A	70,500	(3) 66-245B	(2) 36-385	(3) 66-218	4-722

Low Temperature / -10 Deg. Suction, 90 Deg. Ambient

Copeland Model Number	Nominal HP	Refrig.	BTUH	Russell Unit Coolers			
				All-Temp ² B AE	Inter-Temp ITE	Ceiling-Temp CTE	Ultra-Temp UEL
CJAL-0100	1	R-404A	5,540	26-60B	---	36-53	---
CJAL-0150	1½	R-404A	8,620	26-92B	---	46-90	---
CJAL-0151	1½	R-404A	10,200	26-92B	---	46-100	---
CJAL-0200	2	R-404A	11,800	36-120B	24-105	46-100	1-125
CJAL-0300	3	R-404A	19,400	46-185B	36-185	66-218	1-193
CJDL-0300	3	R-404A	25,500	66-245B	24-230	(2) 56-125	2-240
CJDL-0400	4	R-404A	29,800	66-280B	36-270	(2) 46-140	2-304
CJDL-0600	6	R-404A	35,900	(2) 46-164B	26-320	(2) 56-160	2-361
CJDL-0601	6	R-404A	42,400	(2) 56-210B	36-385	(2) 66-218	2-408
CJDL-0750	7½	R-404A	49,900	(2) 66-245B	36-460	(3) 56-160	3-540
CJDL-0900	9	R-404A	54,100	(2) 66-245B	36-520	(3) 56-160	3-540
CJDL-1000	10	R-404A	67,800	(3) 56-210B	(2) 26-320	(3) 66-218	3-660
CJDL-1500	15	R-404A	89,100	(3) 66-280B	(2) 36-460	---	4-950

RUSSELL / MANEUROP

SUGGESTED GUIDE FOR MATCHING RUSSELL UNIT COOLERS WITH MANEUROP CONDENSING UNITS

High Temperature / +25 Deg. Suction, 90 Deg. Ambient

Maneurop Model Number	Refrig.	BTUH	Russell Unit Coolers				
			All-Temp ² B AA	Inter-Temp ITA	Ceiling-Temp CTA	Flow-Temp FL	Ultra-Temp UAH
CMT-18	R-22	11,380	28-106B	---	48-112	36-100	---
CMT-22	R-22	14,650	38-134B	28-151	48-150	36-135	---
CMT-28	R-22	19,950	38-195B	28-210	48-210	46-220	1-182
CMT-32	R-22	21,580	48-212B	28-210	48-210	46-220	1-232
CMT-36	R-22	26,750	48-264B	38-260	68-250	46-265	2-300
CMT-50	R-22	33,620	68-318B	38-320	(2) 58-162	(2) 36-160	2-365
CMT-64	R-22	44,190	(2) 48-212B	28-450	(2) 48-210	(2) 46-220	2-433
CMT-72	R-22	49,300	(2) 48-264B	38-540	(2) 58-230	(3) 46-160	2-490
CMT-100	R-22	66,160	(2) 68-318B	(2) 38-320	(3) 48-210	(3) 46-220	3-648
CMT-125	R-22	81,850	(3) 58-275B	(2) 28-410	---	(3) 46-265	4-866
CMT-144	R-22	97,250	(3) 68-318B	(3) 38-320	---	---	4-980
CMT-160	R-22	105,950	(3) 68-390B	(3) 28-410	---	---	4-1100

Low Temperature / -20 Deg. Suction, 90 Deg. Ambient

Maneurop Model Number	Refrig.	BTUH	Russell Unit Coolers				
			Slim-Temp ASL	All-Temp ² B AE	Inter-Temp ITE	Ceiling-Temp CTE	Ultra-Temp UEL
CLTE22	R-404A	5,700	25-58E	26-60B	---	36-53	---
CLTE28	R-404A	8,100	35-70E	26-75B	---	46-77	---
CLTE44	R-404A	13,400	(2) 35-70E	36-140B	26-130	46-140	1-125
CLTE50	R-404A	16,000	(3) 25-58E	46-164B	26-150	56-160	1-152
CLTE88	R-404A	25,200	(3) 45-94E	66-245B	36-270	(2) 56-125	2-240
CLTE100	R-404A	33,000	(3) 55-117E	(2) 46-164B	26-320	(2) 56-160	2-304

Low Temperature / -10 Deg. Suction, 90 Deg. Ambient

Maneurop Model Number	Refrig.	BTUH	Russell Unit Coolers				
			Slim-Temp ASL	All-Temp ² B AE	Inter-Temp ITE	Ceiling-Temp CTE	Ultra-Temp UEL
CMTE18	R-404A	4,085	25-46E	16-41B	---	---	---
CMTE22	R-404A	5,890	25-58E	26-60B	---	36-53	---
CMTE28	R-404A	7,600	35-70E	26-75B	---	36-69	---
CMTE32	R-404A	8,645	45-94E	26-92B	---	46-90	---
CMTE36	R-404A	10,070	55-117E	26-92B	24-105	46-100	---
CMTE50	R-404A	16,150	(2) 35-70E	46-164B	26-150	56-160	1-152
CMTE64	R-404A	19,950	(2) 45-94E	46-185B	36-185	66-218	1-193
CMTE72	R-404A	21,850	(2) 55-117E	56-210B	36-185	66-218	1-193
CMTE100	R-404A	32,300	(3) 55-117E	(2) 46-164B	26-320	(2) 56-160	2-304
CMTE125	R-404A	41,800	---	(2) 56-210B	36-385	(2) 66-218	2-408
CMTE144	R-404A	47,500	---	(2) 66-245B	36-460	(2) 66-218	3-445
CMTE160	R-404A	52,250	---	(2) 66-245B	36-520	(3) 56-160	3-540

RUSSELL / TECUMSEH

SUGGESTED GUIDE FOR MATCHING RUSSELL UNIT COOLERS WITH TECUMSEH CONDENSING UNITS

High Temperature / +20 Deg. Suction, 90 Deg. Ambient

Tecumseh Model Number	Nominal HP	Refrig.	BTUH	Russell Unit Cooler					
				Slim-Temp SLA	Wedge-Temp WE	Twin-Temp TW	Wall-Temp WA	T-Temp TT	MiniTwin-Temp MTW
AEA9417EXAXC	1/5	R-22	1,630	27-17	17-18	17-18	17-18	28-17	28-18
AKA9433EXAXC	1/3	R-22	3,320	37-30	17-35	17-35	17-35	---	---
AKA9446EXAXC	1/2	R-22	4,600	57-50	17-45	17-45	17-45	---	---
AKA9461EXDXC	3/4	R-22	6,100	---	---	18-65	---	---	---

High Temperature / +20 Deg. Suction, 90 Deg. Ambient

Tecumseh Model Number	Nominal HP	Refrig.	BTUH	Russell Unit Cooler					
				All-Temp ² B AA	Inter-Temp ITA	Ceiling-Temp CTA	Flow-Temp FL	Ultra-Temp UAH	Slim-Temp ASL
AEA9417EXAXC	1/5	R-22	1,630	---	---	---	---	---	---
AKA9433EXDXC	1/3	R-22	3,320	---	---	---	---	---	---
AKA9446EXDXC	1/2	R-22	4,600	18-41B	---	---	---	---	25-46
AKA9461EXDXC	3/4	R-22	6,100	18-66B	---	---	26-67	---	25-58
AKA9470EXDXC	1	R-22	7,000	28-76B	---	38-75	26-67	---	35-70
AJA9486EXDXC	1	R-22	8,600	28-97B	---	38-88	36-100	---	45-94
AHA4520EXDXC	1½	R-22	12,100	28-122B	---	48-112	36-135	---	55-117
AHA4524EXDXM	2	R-22	15,000	38-160B	28-151	48-150	36-160	---	(2) 35-70
AHA4534EXDXM	2½	R-22	20,500	48-212B	28-210	48-210	46-220	1-182	(2) 45-94
AHA4540EXDXM	3	R-22	24,200	48-264B	28-210	58-230	46-220	1-232	(2) 55-117
AGA4553EXDXM	4	R-22	35,000	66-345B	28-320	(2) 58-162	56-370	2-365	(3) 55-117
AGA4563EXDXM	5	R-22	42,000	68-390B	28-410	(2) 48-210	(2) 46-220	2-433	---
AGA4572EXDXM	6	R-22	44,000	(2) 48-212B	28-410	(2) 48-210	(2) 46-220	2-433	---
SFA4587EXTXC	8	R-22	54,000	(2) 58-275B	38-540	(2) 68-250	(2) 46-265	3-530	---
SFA4612EXTXC	10	R-22	71,800	(2) 68-390B	38-690	(3) 58-230	(2) 56-370	3-736	---

RUSSELL / TECUMSEH

SUGGESTED GUIDE FOR MATCHING RUSSELL UNIT COOLERS WITH TECUMSEH CONDENSING UNITS

Low Temperature / -20 Deg. Suction, 90 Deg. Ambient

Tecumseh Model Number	Nominal HP	Refrig.	BTUH	Russell Unit Coolers		
				Slim-Temp SLE	All-Temp ² B AE	Ceiling-Temp CTE
AEA1360YXAXA	1/8	R-134a	390	---	---	---
AEA2410YXAXA	1/4	R-134a	770	---	---	---
AEA2413YXAXA	1/3	R-134a	930	15-9	---	---
AJA2422YXAXA	1/2	R-134a	1,460	25-16	---	---
AJA2429ZXAXA	1	R-404A	2,130	25-21	---	---
AHA2478ZXBXC	2	R-404A	5,700	45-54	26-60B	36-53
AHA2490ZXBXC	2-1/2	R-404A	6,900	35-70	26-75B	36-69
AHA2510ZDXC	2-1/2	R-404A	7,500	35-70	26-75B	46-77
AHA2511ZDXW	3	R-404A	8,300	---	26-92B	46-90
AHA2512ZDXM	3	R-404A	9,200	---	26-92B	46-90

Low Temperature / -10 Deg. Suction, 90 Deg. Ambient

Tecumseh Model Number	Nominal HP	Refrig.	BTUH	Russell Unit Coolers		
				Slim-Temp SLE	All-Temp ² B AE	Ceiling-Temp CTE
AEA1360YXAXA	1/8	R-134a	505	---	---	---
AEA2410YXAXA	1/4	R-134a	1,070	15-9	---	---
AEA2413YXAXA	1/3	R-134a	1,285	15-12	---	---
AJA2422YXAXA	1/2	R-134a	2,410	25-21	---	---
AJA2429ZXAXA	1	R-404A	2,890	25-28	---	---
AHA2478ZXBXC	2	R-404A	8,300	---	26-92B	46-90
AHA2490ZXBXC	2-1/2	R-404A	9,000	(3) 25-28	26-92B	46-90
AHA2510ZDXC	2-1/2	R-404A	9,500	(2) 45-54	26-92B	46-100
AHA2511ZDXW	3	R-404A	11,300	(2) 45-54	36-120B	56-125
AHA2512ZDXM	3	R-404A	11,850	(2) 45-54	36-120B	56-125

RUSSELL SIERRA & HIGH SIERRA REFRIGERATION SYSTEMS

1/2 through 5 HP

What is a Sierra & High Sierra system?

Sierra/High is a new concept in commercial refrigeration that incorporates a number of unique features that enhance performance, provides energy saving over conventional systems and increases reliability, thus saving you money.

The heart of the **Sierra** system is a design that eliminates the need for a refrigerant receiver by providing built-in storage capacity in the condenser section of the condensing unit. This small change in the unit has opened the door for adding new features that would not have been possible with traditional refrigeration systems.

All **Sierra** systems are shipped with the condensing unit, matching evaporator, and piping accessories factory installed. This saves on installation time, and takes the guess work out of selecting components. **Sierra** systems come complete with the following features and accessories:



SIERRA Standard Features

Semi-hermetic, or hermetic compressor
Oil pressurer control where applicable
High and low pressure controls
Crankcase heater
Low profile galvanized steel housing
Copper tube, Aluminum fin condenser
Vibrasorbors (semi-herm. models only)
Large electrical control panel
Compressor contactor or start kit
Liquid line charging valve

All - Temp²B evaporator(s)
Balanced port TXV(s) (MTD.)
Liquid solenoid valve(s) (MTD.)
Electric defrost kits on "AE" evap.(s)
Liquid line Filter-drier (MTD.)
Sightglass w/ moisture indicator (MTD.)
Suction line filter(MTD.)
RussSaver floating head pressure control
Subcooling circuit
Room thermostat

The **Sierra** system is ideal for a variety of commercial applications such as C-stores, restaurants, & fast food outlets. **Sierra** offers a winning combination of energy saving, lower installed costs, and reliability. Models are available from 1/2 to 5 horsepower in low, medium, and high temperature ranges. Systems are available with HCFC R-22 and environmentally friendly HFC R-404A. All condensing units are intended for outdoor installation.

HIGH SIERRA Standard Features

Semi-hermetic, or hermetic compressor
Oil pressurer control where applicable
High and low pressure controls
Crankcase heater
Low profile galvanized steel housing
Large electrical control panel
Liquid line charging valve
Defrost timer
Reverse Flow defrost components

RussSaver floating head pressure control
Liquid line Filter-drier (MTD.)
Sightglass w/ moisture indicator (MTD.)
Subcooling circuit
Room thermostat

All - Temp²B evaporator(s)
Balanced port TXV(s) (MTD.)
Liquid solenoid valve(s) (MTD.)

The **High Sierra** system is ideal for a variety of commercial applications such as C-stores, restaurants, & fast food outlets. **High Sierra** offers a winning combination of energy saving, lower installed costs, and reliability. Models are available from 1/2 to 5 horsepower in low temperature range. Systems are available with HCFC R-22 and environmentally friendly HFC R-404A. All condensing units are intended for outdoor installation.

High Sierra's Counter Flow Defrost System is the fastest in the industry.

Absolutely no steaming*, and is 4 times faster than conventional electric defrost freezer systems. Which leads to less ice and safer working conditions.

* According to various tests. Your results may vary.

