



**Commercial Refrigeration**

***MidLine  
Air Cooled  
Condensing  
Units  
7 to 20 HP***

Literature No. - C310.2  
September, 2006



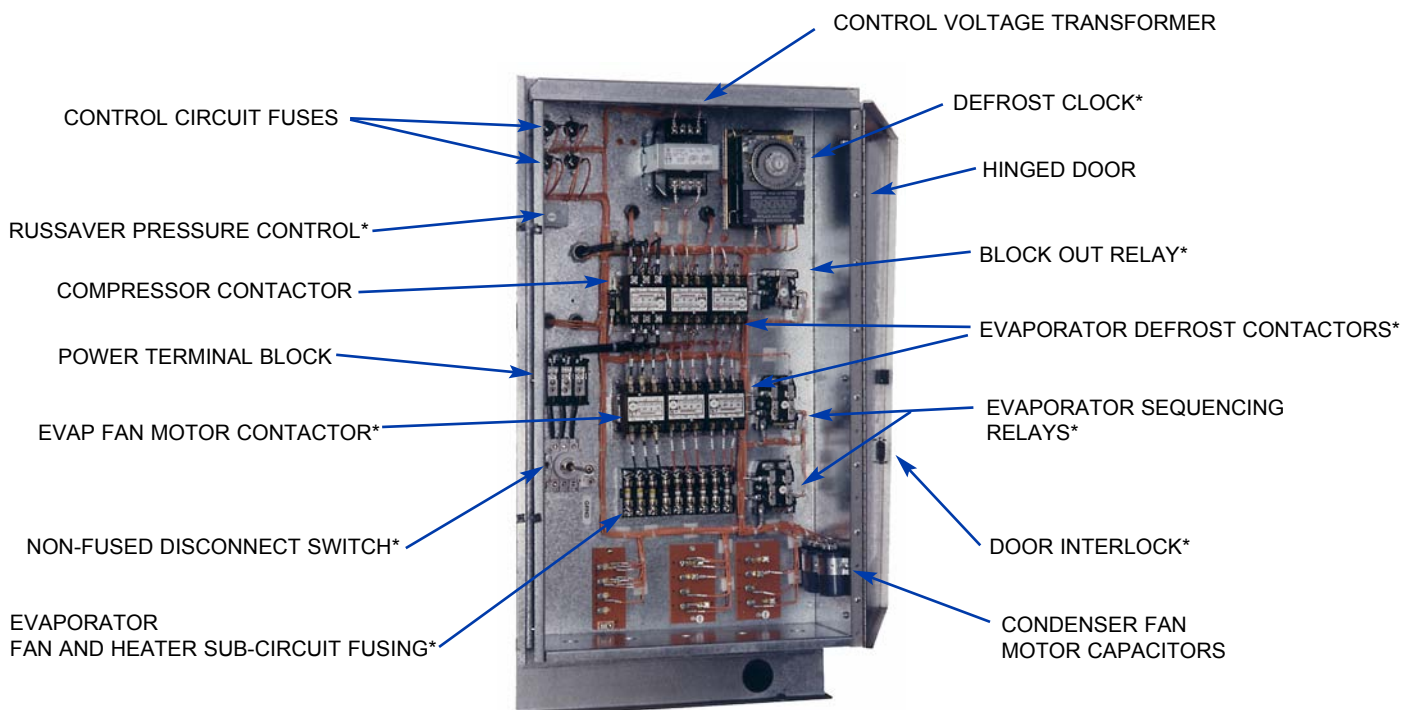
***Medium to Low  
Temperature  
Units***

***Carlyle  
semi-hermetic  
Compressors***

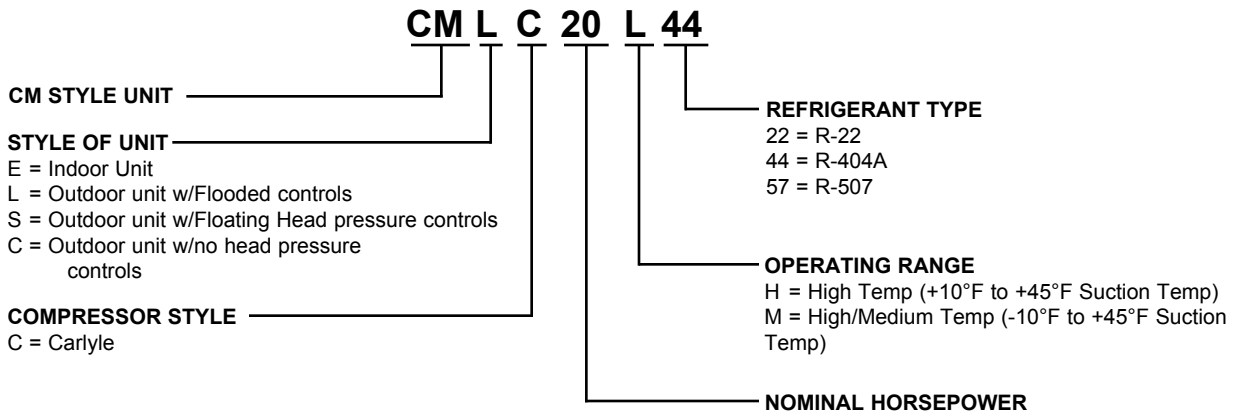
The outdoor housing of our condensing units are engineered to allow easy access to all components. Quick removal of top and side panels allows quick access to everything. The hinged control panel door swings wide open for maximum clearance while the unit is being serviced.



The **large** control panel has abundant space for the controls you choose. They are intelligently arranged and laid out in a logical fashion which is easy to understand and work with. Each control and wire is clearly marked with a name or number as shown on the wiring diagram which is conveniently affixed to the control panel door.



# MODEL NUMBER NOMENCLATURE



	FEATURES AT A GLANCE	MODEL		
		CME	CMC	CMS
<b>ELECTRICAL COMPONENTS</b>	Crankcase heater	OPTION	STD	STD
	Oil failure control - as required	STD	STD	STD
	High-Low pressure control - manual(high)/automatic(low)rest	STD	STD	STD
	Compressor contactor	STD	STD	STD
	Control circuit fuses - standard 230/1	STD	STD	STD
	Power terminal block	OPTION	STD	STD
<b>CONDENSER</b>	Copper tubes with Aluminum fins	STD	STD	STD
	Subcooling circuit	STD	STD	STD
	Fan motor - PSC overload protection	STD	STD	STD
	Fan blade - individually balanced	STD	STD	STD
	Fan guard - split for easy motor access: UL listed	STD	STD	STD
<b>PIPING COMPONENTS</b>	Suction line filter	OPTION	STD	STD
	Suction line vibration eliminator	OPTION	STD	STD
	Liquid line filter/drier	OPTION	STD	STD
	Sight glass/moisture indicator	OPTION	STD	STD
	Discharge line vibration eliminator	STD	STD	STD
	Inlet and outlet isolation valves	STD	STD	STD
<b>RECEIVER</b>	Fusible plug	STD	STD	STD
<b>HOUSING</b>	All weather housing	OPTION	STD	STD
	Control panel - with hinged door	STD	STD	STD
	Raised galvanized steel base	STD	STD	STD
<b>LOW AMBIENT CONTROLS</b>	Energy-Saver - all ambient energy saver	N/A	N/A	STD
	Pressure fan cycling control-not available on 3HP -6HP low temps.	OPTION	OPTION	STD
	Flooded condenser	OPTION	OPTION	N/A
<b>TESTING</b>	UL/cUL listed all models	STD	STD	STD
	Leak detection, Dielectric & Run test	STD	STD	STD
	Dry nitrogen holding charge	STD	STD	STD

- OPTIONS:**
- 4 year extended compressor warranty
  - Air defrost time clock
  - Compressor unloading
  - Copper or coated condenser fins
  - Crankcase pressure regulator
  - Electric Defrost with heater contactors, timer, block out relay
  - Evap sub circuit fusing
  - Fused disconnect
  - Heated and insulated receiver - not UL

- Hot Gas Defrost components
- Liquid line solenoid valve
- Oil separator
- Oversized receiver
- Phase loss monitor
- Electronic oil safety control
- Spring loaded relief valve
- Stainless steel hoses
- Suction line accumulator
- Fused Disconnect

## ENERGY-SAVER

The initial cost of quality refrigeration equipment is a substantial investment. But the **costs** of installation and operation are also formidable. Rising to the challenge, our engineers have designed the **ENERGY-SAVER** system to meet the highest standards of performance and reliability while effectively addressing the problem of these profit draining costs.

- **REDUCED INSTALLATION COSTS**

The installation of a refrigeration system using **ENERGY-SAVER** requires a smaller refrigerant charge than equipment which utilizes other types of low ambient controls. As the more expensive zero ozone depleting, refrigerants become the refrigerants of choice, the reduced charge requirements provided by **ENERGY-SAVER** affords **substantial and immediate cost saving benefits**.

- **REDUCED OPERATING COSTS**

The most expensive part of an operating refrigeration system is the cost of energy to operate the compressor. Day and night, year after year, the cost of electricity to operate your equipment is **unrelenting**. These dollars are pulled right from your bottom line.

A typical installation provides for equipment which is designed to furnish adequate cooling on the hottest of days. The **ENERGY-SAVER** system is designed to meet this need but also be flexible enough to take advantage of reduced ambient conditions during off-peak times. As the outside air temperature decreases, head pressures are allowed to drop. This action results in increased efficiency, requiring less energy and **saving substantial amounts of your money!**

- **ENERGY-SAVER even saves money during hot weather.**

The sub cooling loop provided in the condenser of the **ENERGY-SAVER** condensing unit increases the system efficiency 1/2% for each degree of sub cooling provided, thereby making the compressor's job easier. **ENERGY-SAVER'S** efficiency saves you money during summer operation and even more during the winter months.

# ENERGY-SAVER

## ENERGY SAVINGS CALCULATIONS

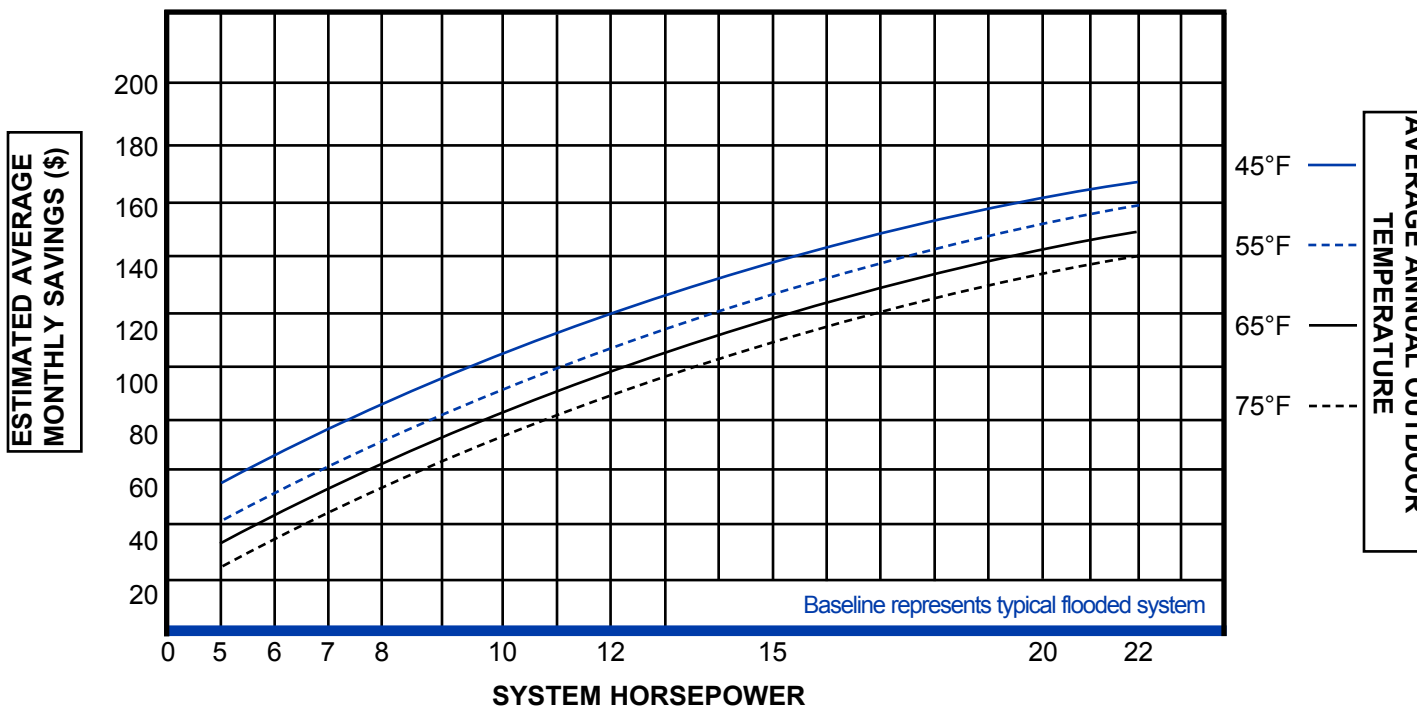
To estimate your average monthly savings:

- 1) Select an ENERGY-SAVER system that meets your refrigeration requirements.
- 2) Determine the Average Annual Outdoor Air Temperature from the table below.
- 3) Using the Projected Monthly Savings graph, locate the system nominal horsepower at the bottom of the graph (the nominal system horsepower can be derived from the model number nomenclature).
- 4) Go straight up to the appropriate Average Annual Outdoor Air Temperature curve, and then go horizontally to the left to determine your Estimated Monthly Average Savings.
- 5) To calculate your Estimated Monthly Saving for an energy cost other than \$0.10 KWH, divide the Estimated Monthly Savings by 0.10 and multiply by your local electric utility rate.
- 6) To determine your Estimated Yearly Savings, multiple the Estimated Monthly Savings number by 12.

## AVERAGE ANNUAL OUTDOOR AIR TEMPERATURE

STATE & STATION	ANNUAL AVG. °F	STATE & STATION	ANNUAL AVG. °F	STATE & STATION	ANNUAL AVG. °F	STATE & STATION	ANNUAL AVG. °F
AL Mobile	70	IA Des Moines	50	NM Albuquerque	60	VT Burlington	45
AK Juneau	40	KS Wichita	55	NY Buffalo	45	VA Richmond	60
AZ Phoenix	70	KY Louisville	55	NY New York	55	WA Seattle	50
AR Little Rock	60	LA New Orleans	70	NC Charlotte	60	WV Charleston	55
CA Los Angeles	60	ME Portland	45	ND Bismarck	45	WI Milwaukee	45
CA San Francisco	55	MD Baltimore	55	OH Cleveland	50	WY Cheyenne	45
CO Denver	50	MA Boston	50	OH Columbus	50		
CT Hartford	50	MI Detroit	50	OK Oklahoma City	60		CANADA
DE Wilmington	55	MN Sault St. Marie	40	OR Portland	55	ALB Calgary	40
D.C. Washington	55	MN Minneapolis	45	PA Philadelphia	50	B.C. Vancouver	50
FL Jacksonville	70	MS Jackson	65	RI Providence	50	MAN Winnipeg	35
FL Miami	75	MO St. Louis	55	SC Columbia	65	N.B. St. John	45
GA Atlanta	60	MT Great Falls	45	SD Sioux Falls	45	N.F. St. John's	40
HI Honolulu	75	NE Omaha	50	TN Nashville	60	N.S. Halifax	45
ID Boise	50	NV Reno	50	TX Dallas	65	ONT Toronto	45
IL Chicago	50	NH Concord	45	TX El Paso	65	QUE Montreal	45
IN Indianapolis	50	NJ Atlantic City	55	UT Salt Lake City	50	YUK Dawson	25

## ENERGY-SAVER PROJECTED MONTHLY SAVINGS @ \$0.10/KWH



## BTUH CAPACITIES

## R-22 MEDIUM TEMPERATURE

### SUCTION TEMPERATURE °F

#### 90° AMBIENT

CM°C	+45°	+40°	+35°	+25°	+20°	+10°
06H22	104400	94300	85000	68000	60500	47100
07H22	116400	105700	95700	77900	69900	55900
08H22	131800	118900	106800	85200	75600	58600
10H22	161200	146000	131900	106600	95400	75500
15H22	211900	192100	173600	140400	125600	99400

#### 95° AMBIENT

CM°C	+45°	+40°	+35°	+25°	+20°	+10°
06H22	100800	91000	81900	65400	58000	45000
07H22	112800	102400	92700	75400	67700	54100
08H22	126900	114300	102600	81700	72400	55900
10H22	155800	141100	127400	102800	91900	72700
15H22	204700	185500	167500	135300	121000	95700

#### 100° AMBIENT

CM°C	+45°	+40°	+35°	+25°	+20°	+10°
06H22	97200	87700	78800	62800	55600	42900
07H22	109300	99200	89800	73000	65500	52200
08H22	122000	109800	98500	78200	69200	53300
10H22	150500	136200	122900	99100	88600	69900
15H22	197700	179000	161600	130400	116500	92000

#### 110° AMBIENT

CM°C	+45°	+40°	+35°	+25°	+20°	+10°
06H22	90100	81100	72600	57500	50700	38700
07H22	102300	92800	83900	68100	61100	48700
08H22	112400	101000	90300	71400	63000	48200
10H22	140000	126500	114100	91800	81900	64500
15H22	183700	166200	149900	120700	107700	84800

† - See page 3 for complete nomenclature.  
50 Hz Capacity - multiply table capacity by 0.83

# BTUH CAPACITIES

# R-22 LOW TEMPERATURE

## SUCTION TEMPERATURE °F

### 90° AMBIENT

CM°C	0	-10	-20	-25	-30	-35
7L22	51600	39600	29800	25400	21300	17300
8L22	60800	47000	35500	30400	25700	21200
10L22	82100	63700	47900	40700	33800	27100
12L22	88800	69100	52500	45100	38000	31200
15L22	107000	81900	60400	50500	41100	31900
20L22	133300	101700	74800	62600	50900	39500

### 95° AMBIENT

CM°C	0	-10	-20	-25	-30	-35
7L22	49500	37900	28400	24200	20200	16400
8L22	58500	45000	33800	28900	24300	20000
10L22	79500	61400	45800	38700	31800	25200
12L22	85800	66700	50400	43000	36000	29100
15L22	103000	78400	57200	47400	38100	29000
20L22	128100	97100	70800	58800	47300	36100

### 100° AMBIENT

CM°C	0	-10	-20	-25	-30	-35
7L22	47400	36200	27100	23000	19200	15500
8L22	56100	43000	32200	27400	23000	18700
10L22	76800	59000	43600	36600	29800	23200
12L22	82800	64200	48300	40900	33800	26800
15L22	99000	74800	53900	44300	35000	26000
20L22	122800	92500	66700	54900	43600	32500

### 110° AMBIENT

CM°C	0	-10	-20	-25	-30	-35
7L22	43400	32900	24400	20700	17100	13600
8L22	51500	39100	28900	24400	20300	16300
10L22	71200	54000	39100	32200	25500	18900
12L22	76800	59200	43700	36400	29200	21900
15L22	90700	67400	47000	37700	28600	19600
20L22	112100	83100	58300	47000	36100	25400

† - See page 3 for complete nomenclature.

50 Hz Capacity - multiply table capacity by 0.83

## BTUH CAPACITIES

## R-404A / R-507 - MEDIUM TEMPERATURE

### SUCTION TEMPERATURE °F

<b>90° AMBIENT</b>	<b>CM°C</b>	<b>+45°</b>	<b>+35°</b>	<b>+25°</b>	<b>+20°</b>	<b>+10°</b>	<b>0°</b>
	<b>06M44</b>	112500	92700	75100	67200	52900	40600
	<b>07M44</b>	-	109200	90300	81700	66100	52500
	<b>08M44</b>	145300	119300	96400	86000	67300	51200
	<b>10M44</b>	172000	141700	115000	103000	81600	63300
	<b>15M44</b>	220800	184400	151900	137100	110100	86700
<b>95° AMBIENT</b>	<b>CM°C</b>	<b>+45°</b>	<b>+35°</b>	<b>+25°</b>	<b>+20°</b>	<b>+10°</b>	<b>0°</b>
	<b>06M44</b>	107400	88300	71500	63900	50100	38200
	<b>07M44</b>	-	104800	86700	78400	63400	50300
	<b>08M44</b>	138400	113500	91500	81500	63500	48100
	<b>10M44</b>	164100	135100	109600	98100	77600	60100
	<b>15M44</b>	210800	176200	145100	130900	105100	82600
<b>100° AMBIENT</b>	<b>CM°C</b>	<b>+45°</b>	<b>+35°</b>	<b>+25°</b>	<b>+20°</b>	<b>+10°</b>	<b>0°</b>
	<b>06M44</b>	102200	84000	67800	60500	47300	35900
	<b>07M44</b>	-	100300	83000	75100	60700	48100
	<b>08M44</b>	131500	107600	86600	77000	59800	45000
	<b>10M44</b>	156100	128400	104100	93200	73600	56900
	<b>15M44</b>	200600	167700	138000	124500	99900	78400
<b>110° AMBIENT</b>	<b>CM°C</b>	<b>+45°</b>	<b>+35°</b>	<b>+25°</b>	<b>+20°</b>	<b>+10°</b>	<b>0°</b>
	<b>06M44</b>	91600	75000	60300	53600	41600	31100
	<b>07M44</b>	-	91000	75300	68200	55100	43600
	<b>08M44</b>	117200	95600	76500	67900	52300	38900
	<b>10M44</b>	139500	114700	92900	83000	65500	50500
	<b>15M44</b>	179500	149900	123300	111200	89000	69700

† - See page 3 for complete nomenclature.  
50 Hz Capacity - multiply table capacity by 0.83

## R-404A / R-507 -LOW TEMPERATURE

### SUCTION TEMPERATURE °F

#### 90° AMBIENT

CM*°C	0°	-10°	-20°	-25°	-30°	-40°
<b>07L44</b>	57400	44500	33600	28700	24300	16600
<b>08L44</b>	69700	55200	42500	36800	31600	22100
<b>10L44</b>	88900	70800	55400	48700	42600	32000
<b>12L44</b>	97600	77800	60800	53400	46500	34700
<b>15L44</b>	124300	98300	75400	64900	55200	37700
<b>20L44</b>	153100	120500	92200	79700	68300	48300

#### 95° AMBIENT

CM*°C	0°	-10°	-20°	-25°	-30°	-40°
<b>07L44</b>	54800	42400	31800	27200	22900	15500
<b>08L44</b>	66900	52800	40600	35000	29900	20700
<b>10L44</b>	84600	67400	52700	46300	40500	30400
<b>12L44</b>	92900	74000	57800	50700	44100	32700
<b>15L44</b>	118900	93800	71600	61400	52000	34800
<b>20L44</b>	145100	113800	86800	74900	63900	44800

#### 100° AMBIENT

CM*°C	0°	-10°	-20°	-25°	-30°	-40°
<b>07L44</b>	52200	40300	30100	25600	21500	14300
<b>08L44</b>	64100	50500	38600	33200	28300	19300
<b>10L44</b>	80400	64000	50100	44000	38400	28800
<b>12L44</b>	88200	70300	54800	48000	41700	30700
<b>15L44</b>	113500	89200	67700	57900	48700	31900
<b>20L44</b>	137100	107300	81500	70100	59600	41300

#### 110° AMBIENT

CM*°C	0°	-10°	-20°	-25°	-30°	-40°
<b>07L44</b>	46900	36000	26600	22500	18700	12000
<b>08L44</b>	58200	45600	34500	29500	24800	16300
<b>10L44</b>	72200	57400	44800	39300	34300	25600
<b>12L44</b>	79000	62900	49000	42800	37100	26900
<b>15L44</b>	102200	79800	59700	50500	41800	26000
<b>20L44</b>	121500	94500	71100	60800	51300	34600

† - See page 3 for complete nomenclature.  
50 Hz Capacity - multiply table capacity by 0.83

## ELECTRICAL SPECIFICATIONS

MODEL NUMBER	COMPRESSOR MODEL	230/3/60			TOTAL* UNIT AMPS	MCA*	460/3/60			TOTAL* UNIT AMPS	MCA*
		COMP.		COND.			COMP.		COND.		
		RLA	LRA	FLA			RLA	LRA	FLA		

### HIGH TEMP - R22

06H22	06DA818	28.2	160.0	6.4	35.6	43.0	14.1	80.0	3.2	17.8	22.0
07H22	06DR820	28.2	160.0	6.4	35.6	43.0	14.1	80.0	3.2	17.8	22.0
08H22	06DA825	35.6	198.0	6.4	43.0	52.0	17.8	99.0	3.2	21.5	26.0
10H22	06DR228	35.6	198.0	8.4	45.0	54.0	17.8	99.0	4.2	22.5	27.0
15H22	06DA537	57.1	266.0	8.4	66.5	81.0	25.6	120.0	4.2	30.3	37.0

### LOW TEMP - R22

07L22	06DR725	28.2	160.0	6.4	35.6	43.0	14.1	80.0	3.2	17.8	22.0
08L22	06DR228	35.6	198.0	6.4	43.0	52.0	17.8	99.0	3.2	21.5	26.0
10L22	06DR337	39.7	228.0	6.4	47.1	58.0	19.9	114.0	3.2	23.6	29.0
12L22	06DR541	57.1	266.0	8.4	66.5	81.0	25.6	120.0	4.2	30.3	37.0
15L22	06ER450	72.0	283.0	8.4	81.4	100.0	36.0	142.0	4.2	40.7	50.0
20L22	06ER465	87.0	345.0	8.4	96.4	119.0	44.0	173.0	4.2	48.7	60.0

### HIGH TEMP - R404A / R507

06M44	06DA818	28.2	160.0	6.4	35.6	43.0	14.1	80.0	3.2	17.8	22.0
07M44	06DR820	28.2	160.0	6.4	35.6	43.0	14.1	80.0	3.2	17.8	22.0
08M44	06DA825	35.6	198.0	6.4	43.0	52.0	17.8	99.0	3.2	21.5	26.0
10M44	06DA328	39.7	228.0	8.4	49.1	60.0	19.9	114.0	4.2	24.6	30.0
15M44	06DA537	57.1	266.0	8.4	66.5	81.0	25.6	120.0	4.2	30.3	37.0

### LOW TEMP - R404A / R507

07L44	06DR725	28.2	160.0	6.4	35.6	43.0	14.1	80.0	3.2	17.8	22.0
08L44	06DR228	35.6	198.0	6.4	43.0	52.0	17.8	99.0	3.2	21.5	26.0
10L44	06DR337	39.7	228.0	6.4	47.1	58.0	19.9	114.0	3.2	23.6	29.0
12L44	06DR541	57.1	266.0	6.4	64.5	79.0	25.6	120.0	3.2	29.3	36.0
15L44	06ER450	72.0	283.0	8.4	81.4	100.0	36.0	142.0	4.2	40.7	50.0
20L44	06ER465	87.0	345.0	8.4	96.4	119.0	44.0	173.0	4.2	48.7	60.0

\* Does not include evaporator loads

MCA = Minimum Circuit Ampacity

## PHYSICAL DATA

MODEL NUMBER	COMPRESSOR MODEL	APPROXIMATE PHYSICAL DIMENSIONS (In)			REC. CAP @ 90% LBS.	CONNECTION SIZE (In)		APPROX. WEIGHT (LBS.)	
		H	L	D		LIQ.	SUCT.	DE	DC/DS

### HIGH TEMP - R22

06H22	06DA818	37-1/4	68	48	61	7/8	1 1/8	510	780
07H22	06DR820	37-1/4	68	48	61	7/8	1 3/8	640	1000
08H22	06DA825	37-1/4	68	48	61	7/8	1 3/8	660	1030
10H22	06DR228	37-1/4	68	48	61	7/8	1 5/8	810	1240
15H22	06DA537	44-3/4	68	48	96	7/8	1 5/8	840	1270

### LOW TEMP - R22

07L22	06DR725	37-1/4	68	48	61	7/8	1 3/8	680	1050
08L22	06DR228	37-1/4	68	48	61	7/8	1 5/8	690	1060
10L22	06DR337	37-1/4	68	48	61	7/8	1 5/8	770	1200
12L22	06DR541	37-1/4	68	48	61	7/8	1 5/8	770	1210
15L22	06ER450	37-1/4	68	48	61	7/8	2 1/8	890	1310
20L22	06ER465	37-1/4	68	48	96	7/8	2 1/8	1010	1450

### HIGH TEMP - R404A / R507

06M44	06DA818	37-1/4	68	48	52	7/8	1 1/8	560	980
07M44	06DR820	37-1/4	68	48	52	7/8	1 3/8	640	1000
08M44	06DA825	37-1/4	68	48	52	7/8	1 3/8	660	1030
10M44	06DA328	44-3/4	68	48	52	7/8	1 3/8	810	1240
15M44	06DA537	44-3/4	68	48	82	7/8	1 5/8	840	1270

### LOW TEMP - R404A / R507

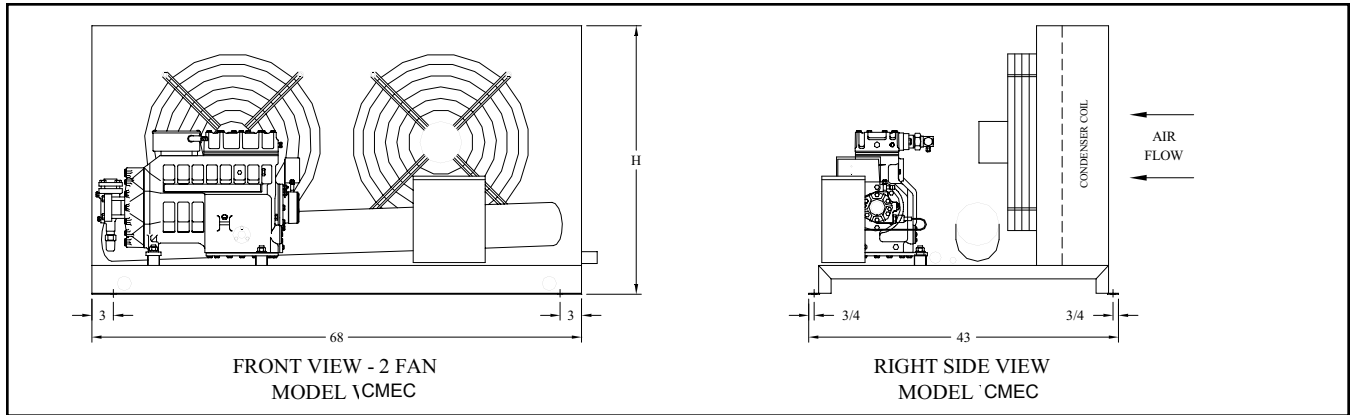
07L44	06DR725	37-1/4	68	48	52	7/8	1 3/8	680	1050
08L44	06DR228	37-1/4	68	48	52	7/8	1 5/8	660	1030
10L44	06DR337	37-1/4	68	48	52	7/8	1 5/8	770	1200
12L44	06DR541	37-1/4	68	48	52	7/8	1 5/8	700	1140
15L44	06ER450	37-1/4	68	48	52	7/8	2 1/8	890	1310
20L44	06ER465	44-3/4	68	48	82	7/8	2 1/8	1010	1450

\* See back cover

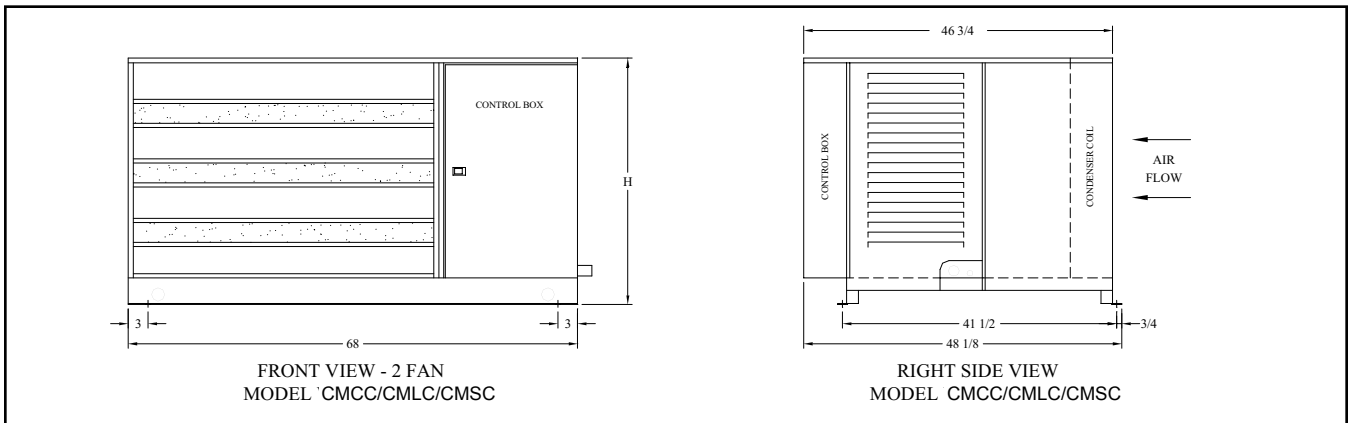
\* See back cover.

## DRAWINGS

### INDOOR UNITS



### OUTDOOR UNITS



**Commercial Refrigeration**

**A member of the United Technologies Corporation family.  
Stock Symbol - UTX**

Manufacture reserves the right to discontinue, or change at any time, specifications or designs without notice or without incurring obligations.

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