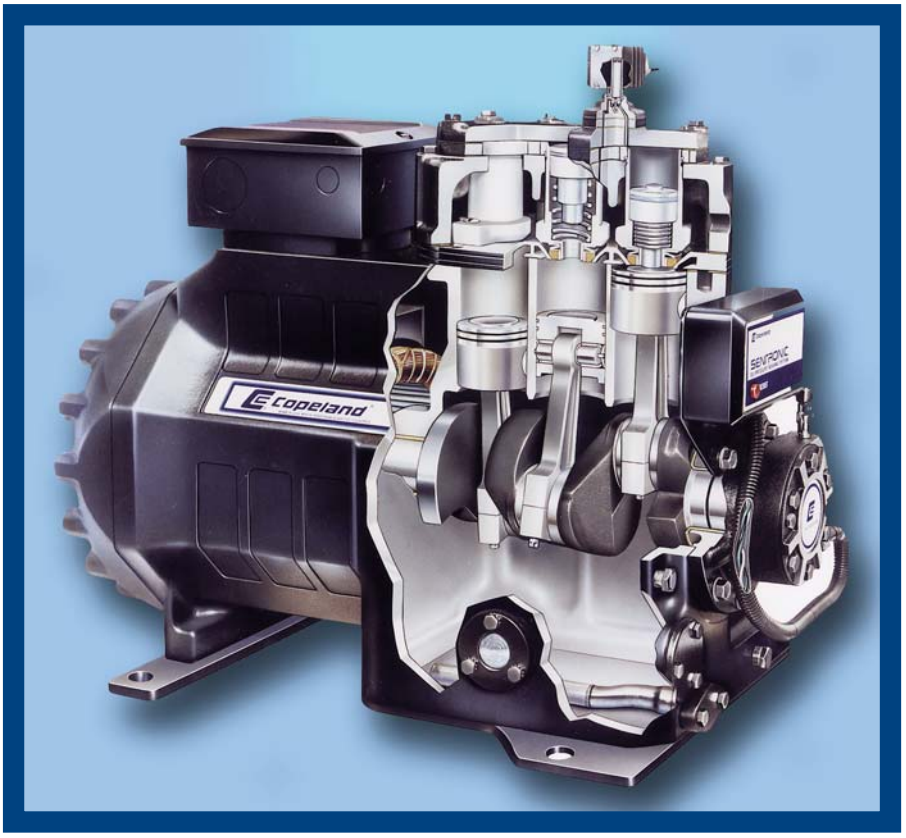
Copeland® brand products

50 HERTZ COPELAMETIC® COMPRESSORS

THE INDUSTRY STANDARD

EMERSON™ Climate Technologies


Copeland
SENTRONIC

Contents

PRODUCT DESCRIPTION

Copelametic®, the reliable semi-hermetic compressor line for the commercial refrigeration and air conditioning market, is a trademark that signifies the unique position of Emerson Climate Technologies as the world leader in accessible hermetic compressors. Reliable semi-hermetic compressors have been the backbone of the commercial refrigeration and air conditioning business ever since Copeland Corporation (now Emerson Climate Technologies, Inc.) invented the first accessible hermetic motor compressor 50 years ago. A continuing evolution of compressor design improvements, and advanced manufacturing technology, have contributed to this leading position.

The commitment of Emerson Climate Technologies to its customers is represented in significant financial investments to meet today's market requirements: high energy efficiency; the rugged reliability and long-life so crucial in commercial applications; focused manufacturing providing dependable delivery and consistent compressor quality; and responsive after sales service to serve you, our customer.

The Copelametic motor compressors described in this book are produced by the world's largest manufacturer of semi-hermetic compressors. These accessible hermetic compressors consist of a compressor mechanism and a matched motor enclosed in a bolted together cast iron housing. No shaft seals are required, and each compressor can be disassembled in the field for service.

The Conventional Copelametic compressor was the first semi-hermetic compressor produced by Emerson Climate Technologies. The popularity of having the motor inside the casting with the compressor grew until it became the full line of Conventional compressors we have today.

The Copeland Discus™ compressor, with a unique conical discharge valve, illustrates our commitment to develop new innovative concepts to serve the market needs of our customers. This new valve increases both compressor capacity and efficiency.

Refrigerant 22 (HCFC-22) is becoming an increasingly important refrigerant. Recognizing this importance, Emerson Climate Technologies has introduced a broad range of products for use with HCFC-22. Compressor designs from 1/4 through 120 horsepower (.19 through 89.5 kilowatt), in both Conventional and Copeland Discus™ designs, are now demonstrating excellent performance and reliability in many high, medium, and low temperature applications. In addition, innovative new technologies such as Demand Cooling are gaining popularity due to simplicity of design and a proven ability to maintain efficiency.

Emerson Climate Technologies has led the industry in CFC alternatives for refrigeration applications. The compressors approved for these HFC refrigerants are shown in this book under the appropriate HFC tabs.

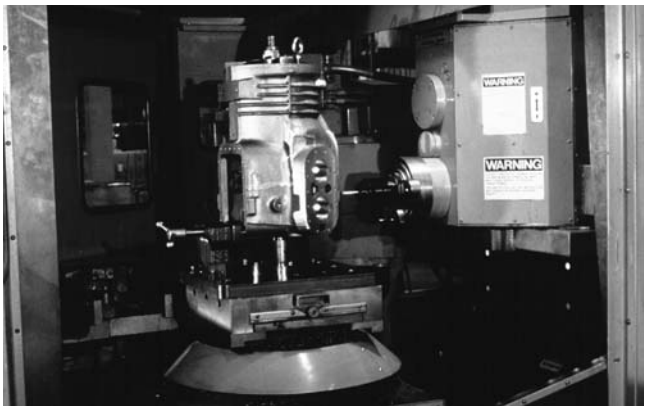
This book has been designed to assist you in selecting the right compressor for the right application. It is divided into four sections to help you with your selections:

- Conventional Compressors (R12, 22, 502)
- HFC Conventional Compressors (R404A, 407A, 507)
- Copeland Discus™ Compressors (R12, 22, 502)
- HFC Discus Compressors (R134a, 404A, 407A, 507)

Fifty hertz compressor capacity in three different units is shown. Full mechanical, electrical, and application information follows the capacity information in each section.

The Copelametic® compressor product line follows in these pages. We at Emerson Climate Technologies are committed to give you the right Copelametic compressor and the support you need for your applications, now and in the future.

Copelametic Manufacturing Plant

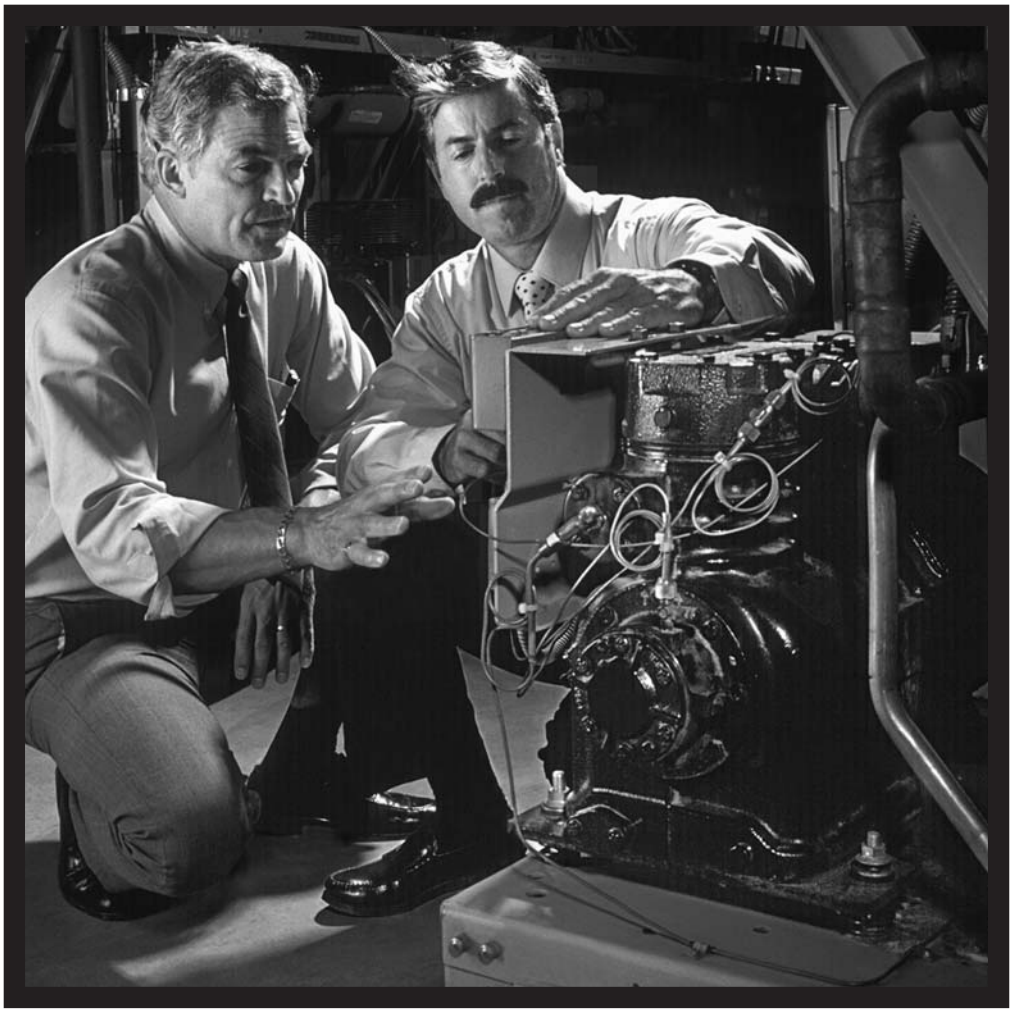


Copelametic Component Machining

Copelametic Compressor Assembly

Copelametic Life Testing

Conventional Compressors



Over fifty years of semi-hermetic success goes into each Conventional Copelametic Compressor.

FEATURES

- Wide 50 and 60 Hertz Selection Range
  1/4 to 80 Horsepower
  .19 to 59.7 Kilowatts
- Proven Copeland® Brand Products Dependability
- Extensive Selection of Models for Commercial Refrigeration, Air Conditioning, and Heat Pump Duty
- Rugged, Compact Construction for Heavy-Duty Usage
- Easily Accessible for Maintenance
- Wide Voltage Selection
- Full Maximum Load Rundown Capability
- Motor Protection on All Models
- Oil Sight Glass on All Models Except H
- "Sentronic" Compatible Oil Pump Included on N, M, 9, 4, and 6 Models
- Capacity Control, Tandem, and Two-Stage Models Available
- More R22 Application Range

CONVENTIONAL COPELAMETIC STORY

The Conventional Copelametic compressor has been produced by Emerson Climate Technologies since 1941. It was the first successful compressor to operate with an electric motor inside the compressor casting. As its popularity grew, the product line was expanded until it reached the 80 horsepower, 59.7 kilowatt, size that we have today.

Conventional Copelametic compressors in this section of the catalog are found in the following order:

- Air Cooled
- Refrigerant Cooled
- Tandem
- Capacity Control
- Capacity Control Tandem
- Two-Stage
- Two-Stage Tandem

Air and Refrigerant Cooled refers to the type of compressor motor cooling. Tandem compressors are those produced when two single compressors are bolted together to make one large compressor. In order to regulate the output of the compressor, Capacity Control compressors can be used as shown in their respective pages. Compressors that compress the refrigerant in two steps are shown in the pages labeled Two-Stage.

We are proud to offer you the following full line of our popular Conventional Copelametic compressors.

50 HERTZ

AIR COOLED

CAPACITY BTUS/HOUR *KCALS/HOUR* WATTS

R12

R22

MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	55 12.8	45 7.2	35 1.7
HAK ★-0025	.25 .19	85.2 2.41	100	37.8								1550 *390* 450	1350 *340* 400	990 *250* 290	690 *170* 200	440 *110* 130			
			130	54.4								1100 *280* 320	920 *230* 270	600 *150* 180	330 *80* 100	100 *25* 30			
HAJ ★-0033	.33 .25	69.7 1.97	100	37.8				2640 *670* 770	2050 *520* 600	1560 *390* 460	1340 *340* 390	1150 *290* 340	975 *250* 290						
			130	54.4				1960 *490* 570	1490 *380* 440	1100 *280* 320	930 *230* 270	790 *200* 230	660 *170* 190						
HAG ★-0050	.50 .37	63.4 1.79	100	37.8													7910 *1990* 2320	6360 *1600* 1860	5040 *1270* 1480
			130	54.4													6060 *1530* 1780	4850 *1220* 1420	3810 *960* 1120
HAJ ★-0050	.50 .37	69.7 1.97	100	37.8															
			130	54.4															
KAN ★-0050 (LT)	.50 .37	93.5 2.65	100	37.8	6930 *1750* 2030	5650 *1420* 1660	4550 *1150* 1330	3570 *900* 1050	2710 *680* 790	1980 *500* 580	1680 *420* 490	1370 *350* 400							
			130	54.4	5240 *1320* 1540	4210 *1060* 1230	3320 *840* 970	2540 *640* 740	1840 *460* 540	1270 *320* 360	1030 *260* 300	780 *200* 230							
KAE ★-0050	.50 .37	111 3.14	100	37.8	7810 *1970* 2290	6510 *1640* 1910	5340 *1350* 1560	4310 *1090* 1260	3410 *860* 1000	2660 *670* 780	2320 *580* 680	2020 *510* 590	1750 *440* 510						
			130	54.4	6080 *1530* 1780	5070 *1280* 1490	4160 *1050* 1220	3360 *850* 980	2610 *660* 760	1990 *500* 580	1710 *430* 500	1470 *370* 430	1250 *320* 400						
KAH ★-0050	.50 .37	167 4.73	100	37.8							3610 *910* 1060	3100 *780* 910	2620 *660* 770	1930 *490* 570	1280 *320* 380	700 *180* 210			
			130	54.4							2700 *680* 790	2280 *570* 670	1910 *480* 560	1290 *330* 380	750 *190* 220	290 *70* 80			
KAJ ★-0050	.50 .37	181 5.12	100	37.8								3300 *830* 970	2820 *710* 830	1960 *490* 570	1230 *310* 360	610 *150* 180			
			130	54.4								2330 *590* 680	1970 *500* 580	1320 *330* 390	760 *190* 220	270 *70* 80			

(LT) Oil pump is required for R22LT only. Use A or B in place of ★ in model number.

CAPACITY

BTUS/HOUR
KCALS/HOUR
WATTS

R22

EVAPORATING TEMPERATURE °F/°C

25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
3700 *930* 1080	2860 *720* 840	2170 *550* 640	1880 *470* 550					
2720 *690* 800	2080 *520* 610	1570 *400* 460	1360 *340* 400					
4170 *1050* 1220	3270 *820* 960	2520 *640* 740	2200 *550* 640	1910 *480* 560				
3140 *790* 920	2430 *610* 710	1840 *460* 540	1580 *400* 460	1340 *340* 390				
			3010 *760* 880	2580 *650* 760	2190 *550* 640	1500 *380* 440	950 *240* 280	530 *130* 160
			2090 *530* 610	1770 *450* 520	1470 *370* 430	930 *230* 270	480 *120* 140	120 *30* 40

R502

EVAPORATING TEMPERATURE °F/°C

45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
					3410 *860* 1000	2990 *750* 880	2610 *660* 760	1940 *490* 570	1400 *350* 410	980 *250* 290
					2360 *590* 690	2030 *510* 590	1730 *440* 510	1220 *310* 360	830 *210* 240	540 *140* 160

50 HERTZ

AIR COOLED

CAPACITY BTUS/HOUR *KCALS/HOUR* WATTS

R12

R22

MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	R22 55 12.8	R22 45 7.2	R22 35 1.7
KAN ★-0075	.75 .56	93.5 2.65	100	37.8													12000 *3020* 3520	9750 *2460* 2860	7750 *1950* 2270
			130	54.4													9330 *2350* 2730	7490 *1890* 2190	5920 *1490* 1730
KAE ★-0075	.75 .56	111 3.14	100	37.8															
			130	54.4															
KAM ★-0075 (LT)	.75 .56	140 3.96	100	37.8	10700 *2700* 3140	8770 *2200* 2570	7140 *1800* 2090	5690 *1430* 1670	4430 *1120* 1300	3370 *850* 990	2930 *740* 860	2490 *630* 730	2120 *530* 620	1520 *380* 450	1010 *250* 300	610 *150* 180			
			130	54.4	8420 *2120* 2470	6860 *1730* 2010	5520 *1390* 1620	4340 *1090* 1270	3310 *830* 970	2460 *620* 720	2110 *530* 620	1760 *440* 520	1490 *380* 440	990 *250* 290	570 *140* 170	240 *60* 70			
KAG ★-0075	.75 .56	153 4.33	100	37.8	11200 *2830* 3280	9350 *2360* 2740	7660 *1930* 2240	6180 *1560* 1810	4850 *1220* 1420	3720 *940* 1090	3230 *810* 950	2780 *700* 810	2380 *600* 700						
			130	54.4	8710 *2200* 2550	7180 *1810* 2100	5880 *1480* 1720	4740 *1190* 1390	3650 *920* 1070	2750 *690* 810	2360 *590* 690	2010 *510* 590	1700 *430* 500						
KAA ★-0075	.75 .56	211 5.97	100	37.8								3940 *990* 1150	3330 *840* 980	2500 *630* 730	1800 *460* 530	1160 *290* 340			
			130	54.4								3060 *770* 900	2570 *650* 750	1850 *470* 540	1220 *310* 360	700 *180* 210			
KAL ★-0075	.75 .56	261 7.39	100	37.8								5070 *1280* 1490	4410 *1110* 1290	3260 *820* 960	2330 *590* 680	1590 *400* 470			
			130	54.4								3960 *1000* 1160	3390 *890* 990	2410 *610* 710	1630 *410* 480	1010 *260* 300			
KAR ★-0100	1 .75	131 3.71	100	37.8													16700 *4210* 4890	13700 *3450* 4010	11000 *2770* 3220
			130	54.4													13100 *3300* 3840	10700 *2700* 3140	8500 *2140* 2490
KAM ★-0100	1 .75	140 3.96	100	37.8													19400 *4890* 5680	15700 *3960* 4600	12600 *3180* 3690
			130	54.4													15500 *3910* 4540	12300 *3100* 3600	9750 *2460* 2860

(LT) Oil pump is required for R22LT only. Use A or B in place of ★ in model number.

CAPACITY

BTUS/HOUR
KCALS/HOUR
WATTS

R22

EVAPORATING TEMPERATURE °F/°C								
25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
5670 *1430* 1660	4330 *1090* 1270	3210 *810* 940	2720 *690* 800					
4320 *1090* 1270	3200 *810* 940	2210 *560* 650	1750 *440* 510					
6780 *1710* 1990	5350 *1350* 1570	4130 *1040* 1210	3620 *910* 1060	3170 *800* 930				
5170 *1300* 1510	4060 *1020* 1190	3100 *780* 910	2680 *680* 790	2320 *580* 680				
7730 *1950* 2260	6530 *1650* 1910	5330 *1340* 1560	4730 *1190* 1390	4120 *1040* 1210	3570 *900* 1050	2610 *660* 760	1820 *460* 530	1170 *290* 340
6020 *1520* 1760	5020 *1270* 1470	4020 *1010* 1180	3520 *890* 1030	3020 *760* 880	2570 *650* 750	1770 *450* 520	1110 *280* 330	530 *130* 160
8230 *2070* 2410	6440 *1620* 1890	4950 *1250* 1450	4320 *1090* 1270					
6310 *1590* 1850	4860 *1220* 1420	3640 *920* 1070	3120 *790* 910					
9430 *2380* 2760	7340 *1850* 2150	5550 *1400* 1630	4750 *1200* 1390					
7170 *1810* 2100	5500 *1390* 1610	4100 *1010* 1170	3480 *880* 1020					

R502

EVAPORATING TEMPERATURE °F/°C								
45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
					3440 *870* 1010	3010 *760* 880	2630 *660* 770	1960 *490* 570	1410 *360* 410	980 *250* 290
					2360 *590* 690	2040 *510* 600	1740 *440* 510	1240 *310* 360	840 *210* 250	540 *140* 160
					6080 *1530* 1780	5330 *1340* 1560	4650 *1170* 1360	3460 *870* 1010	2500 *630* 730	1750 *440* 510
					4220 *1060* 1240	3630 *910* 1060	3100 *780* 910	2190 *550* 640	1480 *370* 430	970 *240* 280

50 HERTZ

AIR COOLED

CAPACITY BTUS/HOUR *KCALS/HOUR* WATTS

R12

R22

MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	55 12.8	45 7.2	35 1.7
KAJ ★-0100 (LT)	1 .75	181 5.12	100	37.8	13500 *3400* 3960	11100 *2800* 3250	9060 *2290* 2650	7300 *1840* 2140	5740 *1450* 1680	4450 *1120* 1300	3830 *970* 1120	3300 *830* 970	2820 *710* 830	1960 *490* 570	1230 *310* 360	610 *150* 180			
			130	54.4	10700 *2690* 3140	8690 *2190* 2550	7020 *1770* 2060	5560 *1400* 1630	4310 *1090* 1260	3300 *830* 970	2770 *700* 810	2330 *590* 680	1970 *500* 580	1320 *330* 390	760 *190* 220	270 *70* 80			
KAK ★-0100	1 .75	211 5.97	100	37.8	15800 *3990* 4630	13000 *3290* 3810	10700 *2690* 3140	8580 *2160* 2510	6770 *1710* 1980	5290 *1330* 1550	4500 *1130* 1320	3940 *990* 1150	3430 *870* 1000	2540 *640* 740	1800 *460* 530	1210 *300* 350			
			130	54.4	12600 *3170* 760	10200 *2580* 2990	8260 *2090* 2420	6550 *1650* 1920	5070 *1280* 1490	3890 *980* 1140	3540 *890* 1040	3060 *770* 900	2620 *660* 770	1850 *470* 540	1220 *310* 360	720 *180* 210			
KAL ★-0100	1 .75	261 7.39	100	37.8	19700 *4970* 5770	16100 *4070* 4720	13100 *3300* 3840	10100 *2550* 2960	8140 *2050* 2390	6400 *1610* 1880	5550 *1400* 1630	4800 *1210* 1410	4410 *1110* 1290	3260 *820* 960	2330 *590* 680	1590 *400* 470			
			130	54.4	16400 *4130* 4810	13200 *3330* 3870	10600 *2660* 3110	7850 *1980* 2120	6100 *1540* 1790	4710 *1190* 1380	4100 *1030* 1200	3500 *880* 1030	3390 *850* 990	2410 *610* 710	1630 *410* 480	1010 *260* 300			
KAT ★-0100 (OP)	1 .75	322 9.12	100	37.8								6300 *1590* 1850	5500 *1390* 1610	4680 *1180* 1370	2990 *750* 880	2090 *530* 610			
			130	54.4								4900 *1230* 1440	4240 *1070* 1240	3090 *780* 910	2170 *550* 640	1450 *370* 420			
KAJ ★-0101 (OP)	1 .75	181 5.12	100	37.8															
			130	54.4															
KAG ★-0150 (OP)	1.5 1.1	153 4.33	100	37.8													21100 *5320* 6180	17200 *4330* 5040	13700 *3450* 4010
			130	54.4													17000 *4280* 4980	13700 *3450* 4010	10700 *2700* 3140
KAL ★-0150 (LA) (OP)	1.5 1.1	261 7.39	100	37.8	19400 *4880* 5680	16000 *4030* 4690	13100 *3300* 3840	10500 *2650* 3080	8260 *2080* 2420	6360 *1600* 1860	5560 *1400* 1630	5110 *1290* 1500	4440 *1120* 1300	3280 *830* 960	2330 *590* 680	1570 *400* 460			
			130	54.4	15700 *3960* 4600	12900 *3240* 3780	10400 *2620* 3050	8240 *2080* 2410	6340 *1600* 1860	4760 *1200* 1390	4100 *1030* 1200	3890 *980* 1140	3340 *840* 980	2380 *600* 700	1620 *400* 470	1020 *260* 300			
KAT ★-0150 (OP)	1.5 1.1	322 9.12	100	37.8				12900 *3240* 3780	10300 *2590* 3020	8080 *2040* 2370	7120 *1790* 2090	6300 *1590* 1850	5490 *1380* 1610	4080 *1030* 1200	2950 *740* 860	2060 *520* 600			
			130	54.4				10400 *2620* 3050	8130 *2050* 2380	6320 *1590* 1850	5560 *1400* 1630	4900 *1230* 1440	4230 *1070* 1240	3060 *770* 900	2140 *540* 630	1460 *370* 430			

(LT) Oil pump is required for R22LT only. Use A or B in place of ★ in model number.
(OP) Oil pump is required for all applications. Use A or B in place of ★ in model number.
(LA) R22 usage is limited to TAU motor only.

CAPACITY

BTUS/HOUR
KCALS/HOUR
WATTS

R22									R502										
EVAPORATING TEMPERATURE °F/°C																			
25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
			6320 *1590* 1850	5510 *1390* 1610	4790 *1210* 1400	3550 *890* 1040	2560 *650* 750	1740 *440* 510							5930 *1490* 1740	5250 *1320* 1540	3960 *1000* 1160	2850 *720* 840	1960 *490* 570
			4810 *1210* 1410	4170 *1050* 1220	3580 *900* 1050	2590 *650* 760	1770 *450* 520	1080 *270* 320							4120 *1040* 1210	3590 *900* 1050	2640 *670* 770	1810 *460* 530	1120 *280* 330
															7070 *1780* 2070	6200 *1560* 1820	4680 *1180* 1370	3410 *860* 1000	2360 *600* 700
															4870 *1230* 1430	4220 *1060* 1240	3080 *780* 900	2140 *540* 630	1380 *350* 400
			6270 *1580* 1840	5490 *1380* 1610	4760 *1200* 1390	3510 *880* 1030	2490 *630* 730	1720 *430* 500											
			4650 *1170* 1360	4030 *1020* 1180	3470 *870* 1020	2470 *620* 720	1670 *420* 490	1070 *270* 310											
10100 *2550* 2960	7840 *1980* 2300	6000 *1510* 1760	5260 *1330* 1540																
7790 *1960* 2280	5910 *1490* 1730	4510 *1140* 1320	4000 *1010* 1170																
15600 *3930* 4570	12300 *3090* 3600	9450 *2380* 2770													8490 *2140* 2490	7410 *1870* 2170	5560 *1400* 1630	4090 *1030* 1200	3000 *760* 880
12700 *3190* 3720	9770 *2460* 2860	7350 *1850* 2150													5950 *1500* 1740	5080 *1280* 1490	3620 *910* 1060	2540 *640* 740	1810 *460* 530

50 HERTZ

AIR COOLED

CAPACITY BTUS/HOUR *KCALS/HOUR* WATTS

R12

R22

MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C														
					55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	55 12.8	45 7.2	35 1.7
EAJ★-0150	1.5 1.1	408 11.6	100	37.8								7790 *1960* 2280	6800 *1710* 1990	5110 *1290* 1500	3770 *950* 1100	2750 *690* 810			
			130	54.4								6190 *1560* 1810	5310 *1340* 1560	3840 *970* 1130	2710 *680* 790	1910 *480* 560			
KAK★-0200 (OP)	2 1.5	211 5.97	100	37.8													28900 *7280* 8470	23200 *5850* 6800	18600 *4690* 5450
			130	54.4													23600 *5950* 6910	18900 *4760* 5540	15000 *3780* 4400
KAT★-0200 (LV) (OP)	2 1.5	322 9.12	100	37.8				12600 *3170* 3690	10200 *2560* 2990	7720 *1950* 2260	6680 *1680* 1960	5660 *1430* 1660							
			130	54.4				9770 *2460* 2860	7530 *1900* 2210	5530 *1390* 1620	4730 *1190* 1390	3910 *990* 1150							
EAD ★-0200 (LT)	2 1.5	322 9.12	100	37.8															
			130	54.4															
EAV★-0200 (LA)	2 1.5	366 10.4	100	37.8	27600 *6950* 8090	22800 *5750* 6680	18700 *4710* 5480	15100 *3800* 4420	11900 *2990* 3490	9180 *2310* 2690	8060 *2030* 2360	7170 *1810* 2100	6130 *1550* 1800	4320 *1090* 1270	2830 *710* 830	1620 *410* 470			
			130	54.4	21800 *5490* 6390	17900 *4520* 5240	14700 *3690* 4310	11800 *2960* 3460	9180 *2310* 2690	7060 *1780* 2070	6180 *1560* 1810	4930 *1240* 1440	4140 *1040* 1210	2780 *700* 810	1680 *420* 490	800 *200* 230			
EAL ★-0200	2 1.5	435 12.3	100	37.8				17300 *4360* 5070	13800 *3470* 4040	10700 *2710* 3140	9430 *2380* 2760	8230 *2070* 2410	7260 *1830* 2130	5110 *1290* 1500	3350 *840* 980	1920 *480* 560			
			130	54.4				13900 *3500* 4070	10800 *2730* 3160	8240 *2080* 2410	7120 *1790* 2090	6110 *1540* 1790	4910 *1240* 1440	3290 *830* 960	1980 *500* 580	940 *240* 280			
3AH ★-0200	2 1.5	551 15.6	100	37.8								11100 *2790* 3250	9560 *2410* 2800	6920 *1740* 2030	4770 *1200* 1400	3050 *770* 890			
			130	54.4								8050 *2030* 2360	6790 *1710* 1990	4620 *1160* 1350	2880 *730* 840	1530 *390* 450			
EAV★-0210 (LT)	2 1.5	366 10.4	100	37.8															
			130	54.4															

(OP) Oil pump is required for all applications. Use A or B in place of ★ in model number.
(LV) Limited voltage. Available only in 200 volt electrical.
(LT) Oil pump is required for R22LT only. Use A or B in place of ★ in model number.
(LA) R22 usage is limited to TAU motor only.

CAPACITY

BTUS/HOUR
KCALS/HOUR
WATTS

R22

EVAPORATING TEMPERATURE °F/°C

25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
14000 *3530* 4100	11000 *2770* 3220	8240 *2080* 2410	7290 *1840* 2140	6300 *1590* 1850	5420 *1370* 1590	3970 *1000* 1160	2830 *710* 830	1910 *480* 560
11200 *2820* 3280	8650 *2180* 2530	6190 *1560* 1810	5420 *1370* 1590	4610 *1160* 1350	3900 *980* 1140	2750 *690* 810	1850 *470* 540	1110 *280* 330
19200 *4840* 5630	15000 *3780* 4400	11600 *2920* 3400	10000 *2520* 2930	8410 *2120* 2460	7470 *1880* 2190	5600 *1410* 1640	3730 *940* 1090	2210 *560* 650
14400 *3640* 4220	11900 *2990* 3490	8910 *2250* 2610	7500 *1890* 2200	6500 *1640* 1900	5760 *1450* 1690	4300 *1080* 1260	2870 *720* 840	1700 *430* 500
			10300 *2600* 3020	8910 *2250* 2610	7710 *1940* 2260	5560 *1400* 1630	3770 *950* 1100	2320 *580* 680
			7610 *1920* 2230	6460 *1630* 1890	5410 *1360* 1590	3630 *910* 1060	2220 *560* 650	1110 *280* 330
23200 *5820* 6800	18200 *4590* 5330	14100 *3560* 4130	12800 *3230* 3750	10600 *2670* 3110	8410 *2120* 2460	6250 *1580* 1830	4260 *1070* 1250	2180 *550* 640
18200 *4570* 5330	14100 *3550* 4130	10800 *2720* 3160	10000 *2520* 2930	8260 *2080* 2420	6570 *1660* 1930	4880 *1230* 1430	3280 *830* 960	1680 *420* 490
			12800 *3230* 3750	11200 *2820* 3280	9580 *2410* 2810	6820 *1720* 2000	4670 *1180* 1370	3360 *850* 980
			9410 *2370* 2760	8100 *2040* 2370	6810 *1720* 2000	4500 *1130* 1320	2730 *690* 800	1690 *430* 500

R502

EVAPORATING TEMPERATURE °F/°C

45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
						10200 *2570* 2990	9080 *2290* 2660	6940 *1750* 2030	6080 *1530* 1780	3290 *830* 960
						7330 *1850* 2150	6330 *1600* 1850	4900 *1230* 1440	3080 *780* 900	1790 *450* 520
						11000 *2760* 3220	9560 *2410* 2800	7080 *1780* 2070	5030 *1270* 1470	3360 *850* 980
						7530 *1900* 2210	6460 *1630* 1890	4590 *1160* 1340	3060 *770* 900	1860 *470* 540
		24200 *6100* 7090	19000 *4780* 5570	14600 *3690* 4280	12900 *3250* 3780	11700 *2950* 3430	10400 *2620* 3050	8060 *2030* 2360	6080 *1530* 1780	4430 *1120* 1300
		17400 *4370* 5100	13200 *3330* 3870	9940 *2500* 2910	9450 *2380* 2770	8960 *2260* 2630	7770 *1960* 2280	5640 *1420* 1650	3840 *970* 1130	2340 *590* 690

50 HERTZ

AIR COOLED

CAPACITY BTUS/HOUR *KCALS/HOUR* WATTS

R12

R22

MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C														
					55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	55 12.8	45 7.2	35 1.7
LAH★-0310 (LT) (RG)	3 2.2	576 16.3	100	37.8	41700 *10500* 12200	34500 *8690* 10100	28400 *7160* 8320	23000 *5800* 6740	18300 *4610* 5360	14400 *3630* 4220	12800 *3230* 3750								
			130	54.4	32900 *8290* 9640	27000 *6810* 7910	22100 *5550* 6480	17700 *4460* 5190	13900 *3510* 4070	10900 *2750* 3190	9700 *2450* 2840								
LAL★-0310	3 2.2	641 18.1	100	37.8				26100 *6590* 7650	20700 *5220* 6070	16300 *4100* 4780	14400 *3620* 4220	12700 *3200* 3720	11200 *2820* 3280	8110 *2040* 2380	5590 *1410* 1640	3580 *900* 1050			
			130	54.4				20300 *5130* 5950	15800 *3980* 4630	12200 *3070* 3570	10700 *2700* 3140	9440 *2380* 2770	7960 *2010* 2330	5410 *1360* 1590	3370 *850* 990	1790 *450* 520			
LAC★-0310 (LA)	3 2.2	675 19.1	100	37.8				25500 *6430* 7470	20900 *5270* 6120	16900 *4260* 4950	14900 *3750* 4370	12900 *3250* 3780	11600 *2910* 3400	9650 *2430* 2830	6850 *1730* 2010	4570 *1150* 1340			
			130	54.4				21000 *5290* 6150	17300 *4360* 5070	13400 *3380* 3930	11500 *2900* 3370	9700 *2440* 2840	9250 *2330* 2710	6720 *1690* 1970	4540 *1140* 1330	2790 *700* 820			
LAM★-0310	3 2.2	793 22.4	100	37.8							17600 *4450* 5160	15600 *3930* 4570	13700 *3460* 4010	9930 *2500* 2910	6840 *1720* 2000	4380 *1100* 1280			
			130	54.4							13200 *3310* 3870	11600 *2920* 3400	9740 *2450* 2850	6620 *1670* 1940	4130 *1040* 1210	2190 *550* 640			
EAD★-0320	3 2.2	322 9.12	100	37.8													43600 *11000* 12800	35700 *9000* 10500	28700 *7230* 8410
			130	54.4													35200 *8870* 10300	28500 *7180* 8350	22600 *5700* 6620
LAH★-0320 (OP) (RG)	3 2.2	576 16.3	100	37.8															
			130	54.4															
LAC★-0420 (MC) (OP) (RG)	4 3.0	675 19.1	100	37.8															
			130	54.4															

(LT) Oil pump is required for R22LT only. Use A or B in place of ★ in model number.
(RG) In grey shaded area the maximum return gas temperature is 50°F (10°C).
(LA) R22 usage is limited to TAU motor only.
(OP) Oil pump is required for all applications. Use A or B in place of ★ in model number.
(MC) Maximum condensing temperature is 130°F (54.4°C) and maximum return gas is 65°F (18.3°C).

CAPACITY

BTUS/HOUR
KCALS/HOUR
WATTS

R22

EVAPORATING TEMPERATURE °F/°C

25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
			20000 *5040* 5860	17300 *4360* 5070	14900 *3750* 4370	10500 *2650* 3080	6970 *1760* 2040	4660 *1170* 1370
			14700 *3700* 4310	12600 *3180* 3690	10600 *2670* 3110	6910 *1740* 2020	3940 *990* 1150	1920 *480* 560
43200 *10900* 12700	34100 *8600* 9990	26400 *6650* 7740	22900 *5770* 6710	19600 *4940* 5740				
34100 *8600* 9990	26600 *6700* 7790	20500 *5170* 6010	17500 *4410* 5130	15000 *3780* 4400				
21500 *5420* 6300	16900 *4260* 4950	13000 *3280* 3810	11400 *2870* 3340					
16600 *4180* 4860	12800 *3230* 3750	9700 *2440* 2840	8430 *2120* 2470					
34600 *8720* 10100	28700 *7230* 8410	22900 *5770* 6710	20000 *5040* 5860	17300 *4360* 5070	14900 *3750* 4370	10500 *2650* 3080	6970 *1760* 2040	4660 *1170* 1370
25400 *6400* 7440	21200 *5340* 6210	16800 *4230* 4920	14700 *3700* 4310	12600 *3180* 3690	10600 *2670* 3110	6910 *1740* 2020	3940 *990* 1150	1920 *480* 560
43200 *10900* 12700	34100 *8600* 9990	26400 *6650* 7740	22900 *5770* 6710	19600 *4940* 5740	16900 *4260* 4950	11900 *3000* 3490	7890 *1990* 2310	5280 *1330* 1550
34100 *8600* 9990	26600 *6700* 7790	20500 *5170* 6010	17500 *4410* 5130	15000 *3780* 4400	12600 *3180* 3690	8230 *2070* 2410	4690 *1180* 1370	2290 *580* 670

R502

EVAPORATING TEMPERATURE °F/°C

45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
						19100 *4810* 5600	16500 *4150* 4830	12000 *3030* 3520	8530 *2150* 2500	5890 *1490* 1730
						13400 *3370* 3930	11100 *2810* 3250	7420 *1870* 2170	4630 *1170* 1360	2720 *680* 800
						21200 *5340* 6210	18300 *4610* 5360	13400 *3370* 3930	9470 *2390* 2770	6540 *1650* 1920
						14800 *3740* 4340	12400 *3120* 3630	8240 *2080* 2410	5130 *1290* 1500	3010 *760* 880
						22900 *5770* 6710	20000 *5040* 5860	13800 *3470* 4040	10400 *2620* 3050	7650 *1930* 2240
						17000 *4280* 4980	14800 *3730* 4340	9890 *2490* 2900	6970 *1760* 2040	4630 *1170* 1400

50 HERTZ

REFRIGERANT COOLED

CAPACITY BTUS/HOUR *KCALS/HOUR* WATTS

R12

R22

MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C														
					55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	55 12.8	45 7.2	35 1.7
ERA ★-0200	2 1.5	280 7.93	100	37.8													32600 *8220* 9550	26000 *6550* 7620	20100 *5070* 5890
			130	54.4													23300 *5870* 6830	18100 *4560* 5300	13300 *3350* 3900
ERC ★-0200	2 1.5	280 7.93	100	37.8															
			130	54.4															
ERF ★-0310	3 2.2	382 10.8	100	37.8													45900 *11600* 13400	37600 *9480* 11000	30200 *7610* 8850
			130	54.4													37000 *9320* 10800	29900 *7530* 8760	23700 *5970* 6940
3RA ★-0310 (LT) (RG)	3 2.2	520 14.7	100	37.8				18200 *4590* 5330	15200 *3830* 4450	11900 *3000* 3490	10500 *2650* 3080	8900 *2240* 2610							
			130	54.4				14900 *3750* 4370	11400 *2870* 3340	8600 *2170* 2520	7500 *1890* 2200	6400 *1610* 1880							
NRD ★-0310 (LA)	3 2.2	675 19.1	100	37.8				26100 *6590* 7650	20700 *5210* 6070	16100 *4060* 4720	14200 *3570* 4160	12400 *3120* 3630	11300 *2840* 3310	8440 *2130* 2470	6060 *1530* 1780	4080 *1030* 1200			
			130	54.4				20400 *5140* 5980	15900 *4020* 4660	12300 *3100* 3600	10800 *2720* 3160	9500 *2380* 2780	8700 *2190* 2550	6250 *1570* 1830	4170 *1050* 1220	2420 *610* 710			
NRB ★-0400	4 3.0	576 16.3	100	37.8													73600 *18500* 21600	58900 *14800* 17300	46600 *11700* 13700
			130	54.4													56300 *14200* 16500	45000 *11300* 13200	35300 *8900* 10300

(LT) Oil pump is required for R22LT only. Use A or B in place of ★ in model number.
(RG) In grey shaded area the maximum return gas temperature is 50°F (10°C) and a vertical cooling fan is required.
(LA) R22 usage is limited to TFU motor only.

CAPACITY

BTUS/HOUR
KCALS/HOUR
WATTS

R22

R502

EVAPORATING TEMPERATURE °F/°C

25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
13800 *3480* 4040	9830 *2480* 2880	6160 *1550* 1800	4500 *1130* 1320																
8830 *2230* 2590	5500 *1390* 1610	2500 *630* 730	—																
16700 *4210* 4890	12800 *3230* 3750	9610 *2420* 2820	7910 *1990* 2320	7000 *1760* 2050							18400 *4640* 5390	14700 *3700* 4310	11400 *2880* 3340	10000 *2530* 2930	8610 *2170* 2520				
12600 *3180* 3690	9490 *2390* 2780	6980 *1760* 2050	5830 *1470* 1710	5000 *1260* 1470							13600 *3420* 3980	10800 *2720* 3160	8380 *2110* 2460	7350 *1850* 2150	6310 *1590* 1850				
22700 *5720* 6650	17700 *4460* 5190	13400 *3380* 3930							39900 *10100* 11700	32600 *8220* 9550	26300 *6640* 7710	21000 *5300* 6150	16600 *4180* 4860	14900 *3740* 4370	13100 *3290* 3840				
17500 *4410* 5130	13300 *3350* 3900	9910 *2500* 2900							29900 *7530* 8760	24100 *6080* 7060	19300 *4860* 5650	15300 *3850* 4480	12100 *3060* 3550	11000 *2770* 3220	9800 *2470* 2870				
28700 *7240* 8410	22900 *5760* 6710	17800 *4470* 5220	15200 *3830* 4450	13200 *3330* 3870	12100 *3050* 3550	8900 *2240* 2610	6080 *1530* 1780	3500 *880* 1030			32600 *8210* 9550	25800 *6510* 7560	20100 *5080* 5890	17800 *4490* 5220	15500 *3900* 4540				
22300 *5620* 6830	17200 *4330* 5040	12700 *3200* 3720	10400 *2620* 3050	8750 *2210* 2560	8210 *2070* 2410	6060 *1530* 1780	4130 *1040* 1210	2380 *600* 700			23400 *5890* 6860	18100 *4560* 5300	13700 *3460* 4010	12000 *3030* 3520	10300 *2600* 3020				
37600 *9480* 11000	29800 *7510* 8730	23100 *5810* 6770													20800 *5250* 6090	18100 *4550* 5300	13300 *3360* 3900	9570 *2410* 2800	6770 *1710* 1980
29100 *7330* 8530	22300 *5620* 6530	16500 *4150* 4830													14900 *3750* 4370	12700 *3210* 3720	9230 *2330* 2700	6640 *1670* 1950	4940 *1240* 1450
34200 *8620* 10000	26200 *6600* 7680	18300 *4010* 5360																	
25700 *6480* 7530	19400 *4890* 5680	14200 *3580* 4160																	

50 HERTZ

REFRIGERANT COOLED

CAPACITY BTUS/HOUR *KCALS/HOUR* WATTS

R12

R22

MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C														
					55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	55 12.8	45 7.2	35 1.7
NRA ★-0500	5 3.7	675 19.1	100	37.8													81400 *20500* 23900	66300 *16700* 19400	52300 *13200* 15300
			130	54.4													63300 *16000* 18500	51100 *12900* 15000	40800 *10300* 12000
NRM ★-0500	5 3.7	804 22.8	100	37.8															
			130	54.4															
MRA ★-0500	5 3.7	896 25.4	100	37.8				32500 *8190* 9520	25600 *6460* 7500	19900 *5020* 5830	17400 *4390* 5100	16000 *4030* 4690	14300 *3610* 4190	11400 *2870* 3340	9040 *2280* 2650	7180 *1810* 2100			
			130	54.4				25400 *6400* 7440	19900 *5010* 5830	15400 *3880* 4510	13500 *3400* 3960	12100 *3040* 3550	10700 *2700* 3140	8430 *2120* 2470	6610 *1660* 1940	5230 *1320* 1530			
MRJ ★-0500 (LV)	5 3.7	896 25.4	100	37.8				32300 *8140* 9460	24900 *6280* 7300	19100 *4800* 5600	16100 *4050* 4720								
			130	54.4				25300 *6370* 7410	19100 *4800* 5600	14100 *3550* 4130	11700 *2940* 3430								
MRB ★-0500	5 3.7	988 28.0	100	37.8				39000 *9830* 11400	31100 *7830* 9110	24300 *6110* 7120	21200 *5350* 6210	18500 *4660* 5420							
			130	54.4				31500 *7940* 9230	24700 *6210* 7240	18800 *4730* 5510	16200 *4080* 4750	13800 *3480* 4040							

(LV) Limited voltage. Available only in 200 volt electrical.

CAPACITY

BTUS/HOUR
KCALS/HOUR
WATTS

R22									R502									
EVAPORATING TEMPERATURE °F/°C																		
25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
39200 *9880* 11500	30000 *7560* 8790	23300 *5870* 6830							64200 *16200* 18800	52400 *13200* 15400	42600 *10700* 12500	34100 *8535* 9990	27000 *6800* 7910	22700 *5730* 6650	20100 *5050* 5890	17600 *4440* 5160	13300 *3360* 3900	9820 *2470* 2880	7010 *1770* 2050
30000 *7560* 8790	23300 *5870* 6830	17500 *4410* 5130							48000 *12100* 14100	38500 *9710* 11300	30900 *7780* 9050	24800 *6260* 7270	19500 *4920* 5710	17300 *4360* 5070	15100 *3800* 4420	13100 *3300* 3840	9610 *2420* 2820	6820 *1720* 2000	4660 *1170* 1370
48500 *12200* 14200	38300 *9640* 11200	29800 *7500* 8730	25800 *6500* 7560	22900 *5770* 6710							49700 *12500* 14600	39800 *10000* 11700	31500 *7940* 9230	27800 *6990* 8150	24400 *6160* 7150				
37600 *9480* 11000	29500 *7420* 8640	22900 *5770* 6710	19200 *4840* 5630	— 							36000 *9080* 10500	29000 *7310* 8500	22800 *5740* 6680	19500 *4910* 5710	17000 *4280* 4980				
									59000 *14900* 17300	46800 *11800* 13700	36500 *9190* 10700	32600 *8220* 9550	28700 *7240* 8410	25300 *6380* 7410	19300 *4870* 5650	14400 *3620* 4220	10300 *2600* 3020		
									42000 *10600* 12300	32800 *8260* 9610	25200 *6340* 7380	22700 *5710* 6650	20200 *5080* 5920	17500 *4420* 5130	12900 *3240* 3780	9050 *2280* 2650	5970 *1500* 1750		
53400 *13500* 15600	41900 *10600* 12300	31600 *7960* 9260	28700 *7230* 8410	25100 *6330* 7350											26000 *6560* 7620	22700 *5710* 6650	17000 *4270* 4980	13500 *3400* 3960	9030 *2280* 2650
41600 *10500* 12200	32400 *8160* 9490	24400 *6160* 7150	22400 *5640* 6560	19400 *4890* 5680											18800 *4740* 5510	16200 *4090* 4750	13600 *3420* 3980	8650 *2180* 2530	4660 *1180* 1370
															32000 *8060* 9380	28400 *7150* 8320	21900 *5520* 6420	16400 *4130* 4810	11800 *2960* 3460
															23800 *5990* 6970	20700 *5210* 6070	15100 *3810* 4420	10400 *2620* 3050	6340 *1600* 1860

50 HERTZ

REFRIGERANT COOLED

CAPACITY BTUS/HOUR x 1000 / *KCALS/HOUR x 1000* / WATTS x 1000

R12

R22

MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C														
					55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	55 12.8	45 7.2	35 1.7
MRH ★-0760	7.5 5.6	941 26.6	100	37.8													119.0 *30.0* 35.0	97.0 *24.5* 28.5	78.0 *19.5* 23.0
			130	54.4													91.0 *23.0* 26.5	74.0 *18.5* 21.5	59.5 *15.0* 17.5
9RJ ★-0765	7.5 5.6	1135 32.1	100	37.8	78.0 *19.5* 23.0	63.5 *16.0* 18.5	51.5 *13.0* 15.0	41.0 *10.5* 12.0	32.5 *8.0* 9.5	26.0 *6.5* 7.5	24.0 *6.0* 7.0								93.0 *23.5* 27.0
			130	54.4	64.5 *16.0* 19.0	51.0 *13.0* 15.0	40.0 *10.0* 11.5	31.5 *8.0* 9.0	24.5 *6.0* 7.0	20.0 *5.0* 6.0	18.5 *4.5* 5.5								74.0 *18.5* 21.5
9RB ★-0765	7.5 5.6	1338 37.9	100	37.8				52.0 *13.0* 15.0	42.0 *10.5* 12.5	33.5 *8.5* 10.0	30.0 *7.5* 9.0	26.5 *6.5* 8.0							
			130	54.4				41.5 *10.5* 12.0	33.0 *8.5* 9.5	26.0 *6.5* 7.5	23.0 *6.0* 6.5	20.5 *5.0* 6.0							
9RZ ★-0765 (LV)	7.5 5.6	1338 37.9	100	37.8	88.5 *22.5* 26.0	73.5 *18.5* 21.5	61.0 *15.5* 18.0	47.5 *12.0* 14.0	37.5 *9.5* 11.0	27.5 *7.0* 8.0	25.0 *6.5* 7.5								
			130	54.4	72.0 *18.0* 21.0	59.0 *15.0* 17.5	47.5 *12.0* 14.0	37.5 *9.5* 11.0	28.0 *7.0* 8.0	21.5 *5.5* 6.5	18.0 *4.5* 5.5								
9RS ★-0765	7.5 5.6	1762 49.9	100	37.8				61.0 *15.5* 18.0	50.0 *12.5* 14.5	41.0 *10.5* 12.0	37.0 *9.5* 11.0	33.0 *8.5* 9.5	28.5 *7.0* 8.5	21.0 *5.5* 6.0	14.5 *3.5* 4.0	9.0 *2.5* 2.5			
			130	54.4				48.5 *12.0* 14.0	39.5 *10.0* 11.5	32.0 *8.0* 9.5	28.5 *7.0* 8.5	25.0 *6.5* 7.5	21.0 *5.5* 6.0	14.5 *3.5* 4.0	8.5 *2.0* 2.5	3.5 *1.0* 1.0			
9RC ★-1015	10 7.5	1338 37.9	100	37.8													162.5 *41.0* 47.5	134.5 *34.0* 39.5	110.0 *27.5* 32.0
			130	54.4													132.5 *33.5* 39.0	109.0 *27.5* 32.0	88.0 *22.0* 26.0
9RS ★-1015	10 7.5	1762 49.9	100	37.8	127.0 *32.0* 37.0	105.0 *26.5* 31.0	85.5 *21.5* 25.0	69.0 *17.5* 20.0	54.0 *13.5* 16.0	41.5 *10.5* 12.0	36.0 *9.0* 10.5								
			130	54.4	102.0 *25.5* 30.0	83.0 *21.0* 24.5	67.0 *17.0* 19.5	53.0 *13.5* 15.5	40.0 *10.0* 11.5	30.0 *7.5* 9.0	25.0 *6.5* 7.5								

(LV) Limited voltage. Available only in 200 volt electrical.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R22

EVAPORATING TEMPERATURE °F/°C								
25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
57.5 *14.5* 17.0	44.0 *11.0* 13.0	33.5 *8.5* 10.0						
44.0 *11.0* 13.0	34.0 *8.5* 10.0	26.0 *6.5* 7.5						
70.0 *17.5* 20.5	55.5 *14.0* 16.5	43.0 *11.0* 12.5	37.5 *9.5* 11.0	32.5 *8.0* 9.5				
55.0 *14.0* 16.0	43.0 *11.0* 12.5	33.5 *8.5* 10.0	29.0 *7.5* 8.5	25.0 *6.5* 7.5				
80.5 *20.5* 23.5	65.5 *16.5* 19.0	51.0 *13.0* 15.0	45.4 *11.4* 13.3	39.6 *10.0* 11.6				
62.5 *15.5* 18.5	49.5 *12.5* 14.5	37.5 *9.5* 11.0	35.0 *8.8* 10.3	30.8 *7.8* 9.0				
81.5 *20.5* 24.0	65.0 *16.5* 19.0	50.0 *12.5* 14.5	43.5 *11.0* 12.5					
65.0 *16.5* 19.0	50.0 *12.5* 14.5	36.5 *9.0* 10.5	—					

R502

EVAPORATING TEMPERATURE °F/°C								
45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
		62.0 *15.5* 18.0	49.5 *12.5* 14.5	38.5 *9.5* 11.5	34.0 *8.5* 10.0	29.5 *7.5* 8.5	25.0 *6.0* 7.5	18.0 *4.5* 5.5	13.5 *3.5* 4.0	10.0 *2.5* 3.0
		44.0 *11.0* 13.0	34.5 *8.5* 10.0	26.5 *6.5* 8.0	23.5 *6.0* 7.0	20.0 *5.0* 6.0	17.0 *4.5* 5.0	12.5 *3.0* 3.5	10.0 *2.5* 3.0	9.0 *2.0* 2.5
	101.0 *25.5* 29.5	83.0 *21.0* 24.5	70.0 *17.0* 20.5	53.0 *13.5* 15.5	47.0 *12.0* 14.0	41.0 *10.5* 12.0	34.0 *8.5* 10.0	25.5 *6.5* 7.5	18.5 *4.5* 5.5	13.0 *3.5* 4.0
	79.0 *20.0* 23.0	64.0 *16.0* 19.0	51.0 *13.0* 15.0	39.5 *10.0* 11.5	34.5 *8.5* 10.0	30.0 *7.5* 9.0	24.0 *6.0* 7.0	17.0 *4.5* 5.0	11.5 *3.0* 3.5	6.5 *1.5* 2.0
						43.5 *11.0* 12.5	38.5 *9.5* 11.5	30.0 *7.5* 9.0	23.0 *6.0* 6.5	17.5 *4.5* 5.0
						30.5 *7.5* 9.0	26.5 *6.5* 8.0	20.0 *5.0* 6.0	14.5 *3.5* 4.0	11.0 *3.0* 3.0
						37.5 *9.5* 11.0	32.5 *8.5* 9.5	26.0 *6.5* 7.5	21.0 *5.5* 6.0	15.0 *4.0* 4.5
						26.0 *6.5* 7.5	23.0 *6.0* 6.5	18.0 *4.5* 5.5	15.0 *4.0* 4.5	10.0 *2.5* 3.0
						55.0 *14.0* 16.0	49.0 *12.5* 14.5	37.5 *9.5* 11.0	28.0 *7.0* 8.0	20.0 *5.0* 6.0
						38.0 *9.5* 11.0	33.5 *8.5* 10.0	24.5 *6.0* 7.0	17.5 *4.5* 5.0	11.5 *3.0* 3.5
132.0 *33.5* 38.5	108.0 *27.0* 31.5	87.0 *22.0* 25.5	69.5 *17.5* 20.5	55.0 *14.0* 16.0	49.5 *12.5* 14.5	44.5 *11.0* 13.0	40.0 *10.0* 11.5	32.0 *8.0* 9.5	26.0 *6.5* 7.5	21.5 *5.5* 6.5
104.0 *26.5* 30.5	83.5 *21.0* 24.5	66.0 *16.5* 19.5	51.5 *13.0* 15.0	40.0 *10.0* 11.5	36.0 *9.0* 10.5	31.0 *8.0* 9.0	27.0 *7.0* 8.0	20.5 *5.0* 6.0	16.0 *4.0* 4.5	13.0 *3.5* 4.0
					64.0 *16.0* 19.0	56.0 *14.0* 16.5	49.0 *12.5* 14.5	37.0 *9.5* 11.0	28.0 *7.0* 8.0	21.0 *5.5* 6.0
					47.0 *12.0* 14.0	41.5 *10.5* 12.0	35.5 *9.0* 10.5	26.5 *6.5* 8.0	19.5 *5.0* 5.5	15.5 *4.0* 4.5

50 HERTZ

REFRIGERANT COOLED

CAPACITY BTUS/HOUR x 1000 / *KCALS/HOUR x 1000* / WATTS x 1000

R12

R22

MODEL	HP / kW	CFH m³/hr / 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	55 12.8	45 7.2	35 1.7
9RS ★-1016 (LV)	10 / 7.5	1762 / 49.9	100	37.8			78.5 *20.0* 23.0	64.0 *16.0* 19.0	51.0 *13.0* 15.0	37.5 *9.5* 11.0	32.5 *8.5* 9.5								
			130	54.4			64.0 *16.0* 19.0	51.0 *13.0* 15.0	39.5 *10.0* 11.5	29.5 *7.5* 8.5	26.0 *6.5* 7.5								
4RA ★-1000	10 / 7.5	1977 / 56.0	100	37.8	135.0 *34.0* 39.5	112.0 *28.5* 33.0	93.0 *23.5* 27.0	75.5 *19.0* 22.0	60.0 *15.0* 17.5	47.0 *12.0* 14.0	41.5 *10.5* 12.0	36.0 *9.0* 10.5	31.5 *8.0* 9.0	23.5 *6.0* 7.0	16.5 *4.0* 5.0	12.0 *3.0* 3.5			
			130	54.4	109.0 *27.5* 32.0	89.5 *22.5* 26.0	73.0 *18.5* 21.5	58.5 *15.0* 17.0	46.0 *11.5* 13.5	35.0 *9.0* 10.5	30.5 *7.5* 9.0	26.0 *6.5* 7.5	24.0 *6.0* 7.0	17.5 *4.5* 5.0	11.5 *3.0* 3.5	—			
9RS ★-1505	15 / 11.2	1762 / 49.9	100	37.8													222.5 *56.0* 65.0	182.5 *46.0* 53.5	147.0 *37.0* 43.0
			130	54.4													173.5 *43.5* 51.0	140.5 *35.5* 41.0	111.5 *28.0* 32.5
4RL ★-1500 (OC)	15 / 11.2	2499 / 70.7	100	37.8															
			130	54.4															
4RL ★-1900 (LV) (OC)	19 / 14.2	2499 / 70.7	100	37.8			102.0 *26.0* 30.0	85.0 *22.0* 25.0	72.0 *18.0* 21.0	59.0 *15.0* 17.5	52.0 *13.0* 15.0	46.0 *12.0* 13.5							
			130	54.4			89.0 *22.0* 26.0	72.0 *18.0* 21.0	56.0 *14.0* 16.5	43.0 *11.0* 12.5	36.0 *9.0* 10.5	30.0 *7.0* 9.0							
4RA ★-2000	20 / 14.9	1977 / 56.0	100	37.8													255.0 *64.5* 74.5	209.0 *52.5* 61.0	170.0 *42.5* 50.0
			130	54.4													208.0 *52.5* 61.0	167.0 *42.0* 49.0	133.0 *33.5* 39.0
6RA ★-2000	20 / 14.9	2966 / 84.0	100	37.8	214.0 *54.0* 62.5	179.0 *45.0* 52.5	149.0 *37.5* 43.5	123.0 *31.0* 36.0	99.5 *25.0* 29.0	81.0 *20.5* 23.5	73.5 *18.5* 21.5	65.5 *16.5* 19.0							
			130	54.4	168.0 *42.5* 49.0	138.0 *35.0* 40.5	114.0 *28.5* 33.5	92.0 *23.0* 27.0	73.5 *18.5* 21.5	60.0 *15.0* 17.5	53.0 *13.5* 15.5	47.0 *12.0* 14.0							

(LV) Limited voltage. Available only in 200 volt electrical.

(OC) Oil cooler and vertical cooling fan are standard on this model.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R22

EVAPORATING TEMPERATURE °F/°C

25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
108.0 *27.0* 31.5	85.5 *21.5* 25.0	64.0 *16.0* 19.0	52.1 *13.1* 15.3	42.5 *10.7* 12.5				
81.0 *20.5* 23.5	64.0 *16.0* 19.0	47.5 *12.0* 14.0	37.1 *9.3* 10.9	29.0 *7.3* 8.5				
107.0 *27.0* 31.5	83.5 *21.0* 24.5	61.5 *15.5* 18.0	51.5 *13.0* 15.0					
83.5 *21.0* 24.5	62.5 *16.0* 18.5	42.5 *10.5* 12.5	—					
135.0 *34.0* 39.5	108.0 *27.0* 31.5	96.6 *24.3* 28.3	84.1 *21.2* 24.6	71.6 *18.0* 21.0				
102.0 *26.0* 30.0	79.0 *20.0* 23.0	73.3 *18.5* 21.5	63.3 *16.0* 18.5	55.0 *13.9* 16.1				
125.0 *31.5* 36.5	101.0 *25.5* 29.5	83.0 *21.0* 24.5						
101.0 *25.5* 29.5	79.0 *20.0* 23.0	63.5 *16.0* 18.5						

R502

EVAPORATING TEMPERATURE °F/°C

45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
					61.0 *15.5* 18.0	49.5 *12.5* 14.5	42.5 *10.5* 12.5	31.0 *8.0* 9.0	26.0 *6.5* 7.5	18.0 *4.5* 5.5
					47.0 *12.0* 14.0	36.0 *9.0* 10.5	31.0 *8.0* 9.0	23.0 *6.0* 6.5	18.0 *4.5* 5.5	11.5 *3.0* 3.5
					74.0 *18.5* 21.5	67.5 *17.0* 20.0	59.0 *15.0* 17.5	45.0 *11.5* 13.0	33.0 *8.5* 9.5	23.0 *6.0* 6.5
					54.0 *13.5* 16.0	47.5 *12.0* 14.0	41.5 *10.5* 12.0	31.0 *8.0* 9.0	22.5 *5.5* 6.5	15.0 *4.0* 4.5
164.0 *42.0* 48.0	135.0 *34.0* 39.5	109.0 *27.5* 32.0	86.5 *22.0* 25.5	68.0 *17.0* 20.0	60.0 *15.0* 17.5	56.0 *14.0* 16.5	49.0 *12.5* 14.5	37.0 *9.5* 11.0	28.0 *7.0* 8.0	21.0 *5.5* 6.0
125.0 *31.5* 36.5	101.0 *25.5* 29.5	81.0 *21.0* 23.5	63.5 *16.0* 18.5	49.0 *12.5* 14.5	43.0 *11.0* 12.5	41.5 *10.5* 12.0	35.5 *9.0* 10.5	26.5 *6.5* 8.0	19.5 *5.0* 5.5	15.5 *4.0* 4.5
						80.0 *20.0* 23.5	70.5 *18.0* 20.5	54.5 *13.5* 16.0	41.5 *10.5* 12.0	31.0 *8.0* 9.0
						57.5 *14.5* 17.0	50.0 *12.5* 14.5	37.0 *9.5* 11.0	27.0 *7.0* 8.0	19.5 *5.0* 5.5
						80.0 *20.0* 23.5	70.5 *18.0* 20.5	54.5 *13.5* 16.0	41.5 *10.5* 12.0	31.0 *8.0* 9.0
						57.5 *14.5* 17.0	50.0 *12.5* 14.5	37.0 *9.5* 11.0	27.0 *7.0* 8.0	19.5 *5.0* 5.5
196.0 *49.5* 57.5	160.0 *40.5* 47.0	129.0 *32.5* 38.0	102.0 *26.0* 30.0	81.0 *20.5* 23.5	72.5 *18.5* 21.0	64.0 *16.0* 19.0				
160.0 *40.5* 47.0	128.0 *32.5* 37.5	101.0 *25.5* 29.5	80.0 *20.0* 23.5	63.0 *16.0* 18.5	56.5 *14.5* 16.5	50.0 *13.0* 14.5				
						95.5 *24.0* 28.0	84.0 *21.0* 24.5	63.5 *16.0* 18.5	47.0 *12.0* 14.0	33.0 *8.5* 9.5
						67.5 *17.0* 20.0	59.0 *15.0* 17.5	44.0 *11.0* 13.0	31.5 *8.0* 9.0	21.5 *5.5* 6.5

50 HERTZ

REFRIGERANT COOLED

CAPACITY BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R12

R22

MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C														
					55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	55 12.8	45 7.2	35 1.7
4RH ★-2500	25 18.7	2499 70.7	100	37.8													339.0 *85.5* 99.5	275.0 *69.0* 80.5	219.0 *55.5* 64.0
			130	54.4													260.0 *65.5* 76.0	208.0 *52.5* 61.0	165.0 *41.5* 48.5
6RL ★-2500 (OC)	25 18.7	3748 106.1	100	37.8															
			130	54.4															
4RJ ★-3000	30 22.4	2985 84.5	100	37.8													391.0 *98.5* 115.0	323.5 *81.5* 95.0	264.5 *66.5* 77.5
			130	54.4													295.5 *74.5* 86.5	242.5 *61.0* 71.0	197.5 *49.5* 58.0
6RA ★-3000	30 22.4	2966 84.0	100	37.8													384.0 *96.5* 113.0	314.0 *79.0* 92.0	255.0 *64.0* 74.5
			130	54.4													312.0 *78.5* 91.5	252.0 *63.5* 74.0	201.0 *50.5* 59.0
6RT ★-3000 (DS) (OC)	30 22.4	4478 126.8	100	37.8															
			130	54.4															
6RH ★-3500	35 26.1	3748 106.1	100	37.8													496.0 *125.0* 145.0	405.0 *102.0* 119.0	326.0 *82.0* 95.5
			130	54.4													386.0 *97.0* 113.0	316.0 *79.5* 92.5	256.0 *64.5* 75.0
6RJ ★-4000 (DS)	40 29.8	4478 126.8	100	37.8													552.0 *139.0* 162.0	446.0 *112.5* 131.0	356.0 *89.5* 104.0
			130	54.4													440.5 *111.0* 129.0	351.5 *88.5* 103.0	277.0 *70.0* 81.0

(OC) Oil cooler and vertical cooling fan are standard on this model.
(DS) Deep oil sump is standard on this model.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R22

EVAPORATING TEMPERATURE °F/°C								
25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
159.0 *40.0* 46.5	129.0 *32.5* 38.0	24.5 *24.5* 28.5						
124.0 *31.0* 36.5	97.5 *24.5* 28.5	79.5 *20.0* 23.5						
194.0 *49.0* 57.0	150.0 *38.0* 44.0	125.0 *31.5* 36.5						
145.0 *36.5* 42.5	112.0 *28.0* 33.0	88.5 *22.5* 26.0						
189.0 *47.5* 55.5	152.0 *38.5* 44.5	123.0 *31.0* 36.0						
151.0 *38.0* 44.0	118.0 *29.5* 34.5	95.0 *24.0* 28.0						
241.0 *60.5* 70.5	192.0 *48.5* 56.5	149.0 *37.5* 43.5						
197.0 *49.5* 57.5	157.0 *39.5* 46.0	129.0 *32.5* 38.0						
258.0 *65.0* 75.5	200.0 *50.5* 58.5	157.0 *39.5* 46.0						
200.0 *50.5* 58.5	154.0 *39.0* 45.0	125.0 *31.5* 36.5						

R502

EVAPORATING TEMPERATURE °F/°C								
45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
245.0 *61.5* 72.0	200.0 *50.5* 58.5	162.0 *41.0* 47.5	130.0 *32.5* 38.0	102.0 *26.0* 30.0	91.0 *23.0* 26.5	80.5 *20.0* 23.5				
187.0 *47.0* 55.0	150.0 *37.5* 44.0	118.0 *29.5* 34.5	91.5 *23.0* 27.0	70.0 *17.5* 20.5	62.0 *15.5* 18.0	53.5 *13.5* 15.5				
					125.5 *31.5* 37.0	116.0 *29.0* 34.0	103.0 *26.0* 30.0	81.0 *20.5* 23.5	62.0 *15.5* 18.0	46.0 *11.5* 13.5
					96.0 *24.0* 28.0	85.0 *21.5* 25.0	75.0 *19.0* 22.0	57.5 *14.5* 17.0	42.0 *10.5* 12.5	29.0 *7.5* 8.5
260.5 *65.5* 76.5	217.5 *55.0* 63.5	179.0 *45.0* 52.5	147.5 *37.0* 43.0	118.5 *30.0* 34.5	105.5 *26.5* 31.0	94.5 *24.0* 27.5				
199.0 *50.0* 58.5	163.0 *41.0* 48.0	132.0 *33.5* 38.5	106.0 *26.5* 31.0	82.0 *20.5* 24.0	71.5 *18.0* 21.0	61.5 *15.5* 18.0				
282.0 *71.0* 82.5	235.0 *59.0* 69.0	193.0 *48.5* 56.5	156.0 *39.5* 45.5	125.0 *31.5* 36.5	111.0 *28.0* 32.5	97.5 *24.5* 28.5				
235.0 *59.5* 69.0	192.0 *48.5* 56.5	154.0 *39.0* 45.0	122.0 *30.5* 35.5	93.0 *23.5* 27.0	81.0 *20.5* 23.5	69.0 *17.5* 20.0				
					136.5 *34.5* 40.0	123.0 *31.0* 36.0	111.0 *28.0* 32.5	89.5 *22.5* 26.0	70.0 *17.5* 20.5	52.0 *13.0* 15.0
					104.0 *26.0* 30.5	91.5 *23.0* 27.0	81.0 *20.5* 23.5	61.5 *15.5* 18.0	44.0 *11.0* 13.0	27.0 *7.0* 8.0
383.0 *96.5* 112.0	312.0 *78.5* 91.5	252.0 *63.5* 74.0	200.0 *50.5* 58.5	157.0 *39.5* 46.0	140.0 *35.0* 41.0	122.0 *30.5* 35.5				
297.0 *75.0* 87.0	238.0 *60.0* 69.5	187.0 *47.0* 55.0	145.0 *36.5* 42.5	110.0 *28.0* 32.0	97.0 *24.5* 28.5	84.0 *21.0* 24.5				
417.5 *105.0* 122.0	337.0 *85.0* 98.5	269.5 *68.0* 79.0	210.5 *53.0* 61.5	165.5 *41.5* 48.5	146.0 *37.0* 43.0	131.0 *33.0* 38.5				
322.5 *81.0* 94.5	255.0 *64.0* 74.5	198.5 *50.0* 58.0	151.0 *38.0* 44.0	116.0 *29.0* 34.0	101.5 *25.5* 29.5	87.0 *22.0* 25.5				

50 HERTZ

REFRIGERANT COOLED TANDEMS

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R12

R22

MODEL	HP kW	CFH m³/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C														
					55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	55 12.8	45 7.2	35 1.7
44A★-2000	20 14.9	3954 111.9	100	37.8	272.0 *68.5* 79.5	223.0 *56.5* 65.5	182.0 *46.0* 53.5	145.0 *36.5* 42.5	115.0 *29.0* 33.5	91.5 *23.0* 27.0	81.5 *20.5* 24.0	71.5 *18.0* 21.0							
			130	54.4	215.0 *54.0* 63.0	177.0 *44.5* 52.0	142.0 *36.0* 41.5	114.0 *29.0* 33.5	90.0 *22.5* 26.5	71.0 *18.0* 21.0	62.5 *15.5* 18.5	51.5 *13.0* 15.0							
44L★-3000 (OC)	30 22.4	4998 141.5	100	37.8															
			130	54.4															
44A★-4000	40 29.8	3954 111.9	100	37.8													503.0 *127.0* 147.0	412.0 *104.0* 121.0	333.0 *84.0* 97.5
			130	54.4													405.0 *102.0* 119.0	333.0 *84.0* 97.5	270.0 *68.0* 79.0
66A★-4000	40 29.8	5932 167.9	100	37.8	415.0 *105.0* 122.0	350.0 *88.0* 103.0	292.0 *73.5* 85.5	240.0 *60.5* 70.5	193.0 *48.5* 56.5	154.0 *39.0* 45.0	136.0 *34.0* 40.0	120.0 *30.0* 35.0							
			130	54.4	332.0 *83.5* 97.5	277.0 *69.5* 81.0	225.0 *56.5* 66.0	182.0 *46.0* 53.5	143.0 *36.0* 42.0	111.0 *28.0* 32.5	96.0 *24.0* 28.0	86.0 *21.5* 25.0							

(OC) Oil coolers and vertical cooling fans are standard on this model.

COPELAMETIC TANDEM COMPRESSORS

Copelametic Tandem compressors are available from nominal 20 horsepower (15.0 kW) thus providing extensive system design flexibility. The popular combinations are shown, but any 4R and 6R compressors can be put together to make a tandem. The capacity of a tandem model is the sum of the capacities of the individual compressors. Since each compressor may be operated individually, the tandem provides simple, foolproof capacity reduction with maximum power savings, and greatly simplifies system control. The unique tandem design solves the troublesome problems of oil equalization sometimes encountered on compressors with interconnected crankcases. See Application Bulletin AE 4-1167 for complete details.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R22									R502									
EVAPORATING TEMPERATURE °F/°C																		
25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
														148.0 *37.5* 43.5	132.0 *33.0* 38.5	117.0 *29.5* 34.5	88.0 *22.5* 26.0	65.0 *16.5* 19.0	45.0 *11.5* 13.0
														108.0 *27.5* 31.5	96.0 *24.0* 28.0	84.0 *21.0* 24.5	62.0 *15.5* 18.0	45.0 *11.5* 13.0	30.0 *7.5* 9.0
														178.0 *45.0* 52.0	158.0 *40.0* 46.5	140.0 *35.5* 41.0	107.0 *27.0* 31.5	82.0 *20.5* 24.0	62.0 *15.5* 18.0
														131.0 *33.0* 38.5	114.0 *29.0* 33.5	99.0 *25.0* 29.0	73.0 *18.5* 21.5	53.0 *13.5* 15.5	38.0 *9.5* 11.0
250.0 *63.0* 73.5	202.0 *51.0* 59.0	166.0 *42.0* 48.5							387.0 *97.5* 113.0	315.0 *79.5* 92.5	258.0 *65.0* 75.5	205.0 *51.5* 60.0	162.0 *40.5* 47.5	143.0 *36.0* 42.0	127.0 *32.0* 37.0				
202.0 *51.0* 59.0	158.0 *40.0* 46.5	127.0 *32.0* 37.0							315.0 *79.5* 92.5	252.0 *63.5* 74.0	203.0 *51.0* 59.5	159.0 *40.0* 46.5	126.0 *31.5* 37.0	112.0 *28.0* 33.0	101.0 *25.5* 29.5				
														212.0 *53.5* 62.0	188.0 *47.5* 55.0	165.0 *41.5* 48.5	126.0 *31.5* 37.0	92.0 *23.0* 27.0	64.0 *16.0* 19.0
														153.0 *38.5* 45.0	136.0 *34.0* 40.0	119.0 *30.0* 35.0	89.0 *22.5* 26.0	63.0 *16.0* 18.5	43.0 *10.5* 12.5

50 HERTZ

REFRIGERANT COOLED TANDEMS

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R12

R22

MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C														
					55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	55 12.8	45 7.2	35 1.7
44H ★-5000	50 37.3	4998 141.5	100	37.8													668.0 *168.0* 196.0	540.0 *136.0* 158.0	430.0 *108.0* 126.0
			130	54.4													510.0 *128.0* 149.0	415.0 *105.0* 122.0	332.0 *83.5* 97.5
66L ★-5000 (OC)	50 37.3	7496 212.2	100	37.8															
			130	54.4															
44J ★-6000	60 44.8	5970 169.0	100	37.8													763.0 *192.0* 224.0	636.0 *160.0* 186.0	520.0 *131.0* 152.0
			130	54.4													583.0 *147.0* 171.0	486.0 *123.0* 142.0	395.0 *99.5* 116.0
66A ★-6000	60 44.8	5932 167.9	100	37.8													758.0 *191.0* 222.0	618.0 *156.0* 181.0	501.0 *126.0* 147.0
			130	54.4													610.0 *154.0* 179.0	501.0 *127.0* 147.0	407.0 *102.0* 119.0
66T ★-6000 (DS) (OC)	60 44.8	8956 253.5	100	37.8															
			130	54.4															
66H ★-7000	70 52.2	7496 212.2	100	37.8													966.0 *244.0* 283.0	793.0 *200.0* 232.0	640.0 *161.0* 188.0
			130	54.4													760.0 *191.0* 223.0	633.0 *160.0* 185.0	518.0 *131.0* 152.0
66J ★-8000 (DS)	80 59.7	8956 253.5	100	37.8													1090.0 *275.0* 319.0	873.0 *220.0* 256.0	698.0 *176.0* 205.0
			130	54.4													870.0 *219.0* 255.0	693.0 *175.0* 203.0	546.0 *138.0* 160.0

(OC) Oil coolers and vertical cooling fans are standard on this model.
(DS) Deep oil sumps are standard on this model.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R22

EVAPORATING TEMPERATURE °F/°C

25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
318.0 *80.0* 93.0	258.0 *65.0* 75.5	195.0 *49.0* 57.0						
248.0 *62.5* 72.5	195.0 *49.0* 57.0	159.0 *40.0* 46.5						
388.0 *98.0* 114.0	300.0 *75.5* 88.0	250.0 *63.0* 73.5						
290.0 *73.0* 85.0	224.0 *56.5* 65.5	177.0 *44.5* 52.0						
378.0 *95.5* 111.0	304.0 *76.5* 89.0	246.0 *62.0* 72.0						
302.0 *76.0* 88.5	236.0 *59.5* 69.0	190.0 *48.0* 55.5						
482.0 *121.0* 141.0	384.0 *97.0* 113.0	298.0 *75.0* 87.5						
394.0 *99.5* 115.0	314.0 *79.0* 92.0	258.0 *65.0* 75.5						
516.0 *130.0* 151.0	400.0 *101.0* 117.0	314.0 *79.0* 92.0						
400.0 *101.0* 117.0	308.0 *77.5* 90.0	250.0 *63.0* 73.5						

R502

EVAPORATING TEMPERATURE °F/°C

45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
481.0 *121.0* 141.0	395.0 *99.5* 116.0	323.0 *81.5* 94.5	260.0 *65.5* 76.0	205.0 *51.5* 60.0	182.0 *46.0* 53.5	161.0 *40.5* 47.0				
368.0 *93.0* 108.0	295.0 *74.5* 86.5	237.0 *59.5* 69.5	183.0 *46.0* 53.5	140.0 *35.5* 41.0	122.0 *31.0* 35.5	107.0 *27.0* 31.5				
					251.0 *63.5* 73.5	228.0 *57.5* 67.0	203.0 *51.0* 59.5	160.0 *40.5* 47.0	122.0 *31.0* 35.5	91.0 *23.0* 26.5
					192.0 *48.5* 56.5	168.0 *42.5* 49.0	148.0 *37.5* 43.5	113.0 *28.5* 33.0	83.5 *21.0* 24.5	57.5 *14.5* 17.0
514.0 *130.0* 151.0	429.0 *108.0* 126.0	353.0 *89.0* 103.0	291.0 *73.5* 85.5	233.0 *59.0* 68.5	208.0 *52.5* 61.0	187.0 *47.0* 55.0				
392.0 *99.0* 115.0	322.0 *81.0* 94.5	260.0 *65.5* 76.0	209.0 *52.5* 61.0	162.0 *40.5* 47.5	141.0 *35.5* 41.5	122.0 *30.5* 35.5				
556.0 *140.0* 163.0	461.0 *116.0* 135.0	383.0 *96.5* 112.0	313.0 *79.0* 91.5	250.0 *63.0* 73.5	220.0 *55.5* 64.5	193.0 *48.5* 56.5				
463.0 *117.0* 136.0	378.0 *95.5* 111.0	308.0 *77.5* 90.0	245.0 *61.5* 72.0	188.0 *47.5* 55.0	162.0 *40.5* 47.5	137.0 *34.5* 40.0				
					273.0 *69.0* 50.5	247.0 *62.0* 72.5	223.0 *56.0* 65.5	180.0 *45.5* 52.5	142.0 *36.0* 41.5	103.0 *26.0* 30.0
					208.0 *52.5* 61.0	187.0 *47.0* 55.0	165.0 *41.5* 48.5	127.0 *32.0* 37.0	91.5 *23.0* 27.0	57.5 *14.5* 17.0
753.0 *190.0* 221.0	615.0 *155.0* 180.0	503.0 *127.0* 147.0	400.0 *101.0* 117.0	313.0 *79.0* 91.5	268.0 *67.5* 78.5	245.0 *61.5* 72.0				
586.0 *148.0* 172.0	468.0 *118.0* 137.0	375.0 *94.5* 110.0	290.0 *73.0* 85.0	220.0 *55.5* 64.5	192.0 *48.5* 56.5	166.0 *42.0* 48.5				
823.0 *207.0* 241.0	665.0 *168.0* 195.0	531.0 *134.0* 156.0	415.0 *105.0* 122.0	327.0 *82.5* 96.0	288.0 *72.5* 84.5	252.0 *63.5* 74.0				
636.0 *160.0* 186.0	502.0 *127.0* 147.0	392.0 *98.5* 115.0	298.0 *75.0* 87.5	228.0 *57.5* 67.0	200.0 *50.5* 58.5	172.0 *43.0* 50.5				

50 HERTZ

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

REFRIGERANT COOLED CAPACITY CONTROL

CAPACITY CONTROL MODEL	BASIC COMPRESSOR MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	R12 EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	R22 EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9
9RP ★-1015 33% Unloaded	9RC ★-1015	10 7.5	1338 37.9	100	37.8					105.0 *26.5* 31.0	87.0 *22.0* 25.5	71.5 *18.0* 21.0	54.0 *13.5* 16.0
				130	54.4					84.5 *21.5* 25.0	70.0 *17.5* 20.5	60.5 *15.5* 17.5	45.5 *11.5* 13.5
4RE ★-1000 50% Unloaded	4RA ★-1000	10 7.5	1977 56.0	100	37.8	78.5 *19.5* 23.0	64.5 *16.5* 19.0	53.0 *13.5* 15.5	43.0 *11.0* 12.5				
				130	54.4	63.5 *16.0* 18.5	52.0 *13.0* 15.0	42.0 *10.5* 12.5	34.0 *8.5* 10.0				
9RT ★-1505 33% Unloaded	9RS ★-1505	15 11.2	1762 49.9	100	37.8					139.0 *35.0* 40.5	111.5 *28.0* 32.5	89.0 *22.5* 26.0	66.0 *16.5* 19.5
				130	54.4					114.5 *29.0* 33.5	91.5 *23.0* 27.0	74.0 *18.5* 21.5	56.0 *14.0* 16.5
4RE ★-2000 50% Unloaded	4RA ★-2000	20 14.9	1977 56.0	100	37.8					132.0 *33.0* 38.5	105.0 *26.5* 31.0	82.5 *20.5* 24.0	59.5 *15.0* 17.5
				130	54.4					101.0 *25.5* 29.5	82.5 *20.5* 24.0	66.5 *17.0* 19.5	51.0 *13.0* 15.0
6RE ★-2000 33% Unloaded	6RA ★-2000	20 14.9	2966 84.0	100	37.8	148.0 *37.0* 43.5	122.0 *31.0* 35.5	101.0 *25.5* 29.5	82.0 *21.0* 24.0				
				130	54.4	119.0 *30.0* 35.0	97.0 *24.5* 28.5	79.0 *20.0* 23.0	63.5 *16.0* 18.5				
6RN ★-2000 67% Unloaded	6RA ★-2000	20 14.9	2966 84.0	100	37.8	65.0 *16.5* 19.0	54.0 *13.5* 16.0	44.5 *11.0* 13.0	36.0 *9.0* 10.5				
				130	54.4	52.0 *13.0* 15.0	42.5 *11.0* 12.5	35.0 *9.0* 10.5	29.0 *7.0* 8.5				

50 HERTZ

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

REFRIGERANT COOLED CAPACITY CONTROL

R12

R22

CAPACITY CONTROL MODEL	BASIC COMPRESSOR MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	R22 55 12.8	45 7.2	35 1.7	25 −3.9
4RK ★-2500 50% Unloaded	4RH ★-2500	25 18.7	2499 70.7	100	37.8					157.0 *39.5* 46.0	130.0 *33.0* 38.0	107.0 *27.0* 31.5	81.5 *20.5* 24.0
				130	54.4					129.0 *32.5* 38.0	105.0 *26.5* 31.0	84.5 *21.5* 25.0	63.0 *16.0* 18.5
4RR ★-3000 50% Unloaded	4RJ ★-3000	30 22.4	2985 84.5	100	37.8					192.5 *48.5* 56.5	154.5 *39.0* 45.5	121.5 *30.5* 35.5	89.5 *22.5* 26.0
				130	54.4					156.5 *39.5* 46.0	122.5 *31.0* 36.0	96.5 *24.5* 28.5	71.0 *18.0* 21.0
6RE ★-3000 33% Unloaded	6RA ★-3000	30 22.4	2966 84.0	100	37.8					264.0 *66.5* 77.5	218.0 *55.0* 64.0	179.0 *45.0* 52.5	137.0 *34.5* 40.0
				130	54.4					212.0 *53.5* 62.0	174.0 *44.0* 51.0	141.0 *35.5* 41.5	107.0 *27.0* 31.5
6RN ★-3000 67% Unloaded	6RA ★-3000	30 22.4	2966 84.0	100	37.8					131.0 *33.0* 38.5	106.0 *27.0* 31.0	85.0 *21.5* 25.0	63.5 *16.0* 18.5
				130	54.4					103.0 *26.0* 30.0	83.0 *21.0* 24.5	66.0 *16.5* 19.5	48.5 *12.0* 14.0
6RK ★-3500 33% Unloaded	6RH ★-3500	35 26.1	3748 106.1	100	37.8					326.0 *82.0* 95.5	266.0 *67.0* 78.0	215.0 *54.0* 63.0	164.0 *41.5* 48.0
				130	54.4					272.0 *68.5* 79.5	220.0 *55.5* 64.5	177.0 *44.5* 52.0	137.0 *34.5* 40.0
6RP★-3500 67% Unloaded	6RH ★-3500	35 26.1	3748 106.1	100	37.8					162.0 *41.0* 47.5	132.0 *33.5* 38.5	107.0 *27.0* 31.5	81.5 *20.5* 24.0
				130	54.4					135.0 *34.0* 39.5	109.0 *27.5* 32.0	88.0 *22.0* 26.0	67.5 *17.0* 20.0
6RR ★-4000 33% Unloaded (DS)	6RJ ★-4000	40 29.8	4478 126.8	100	37.8					399.0 *100.5* 117.0	317.0 *80.0* 93.0	246.0 *62.0* 72.0	178.0 *45.0* 52.0
				130	54.4					309.0 *78.0* 90.5	243.0 *61.0* 71.0	189.0 *47.5* 55.5	138.0 *35.0* 40.5
6RS ★-4000 67% Unloaded (DS)	6RJ ★-4000	40 29.8	4478 126.8	100	37.8					200.0 *50.5* 58.5	159.0 *40.0* 46.5	123.0 *31.0* 36.0	90.0 *22.5* 26.5
				130	54.4					162.0 *41.0* 47.5	128.0 *32.5* 37.5	98.0 *24.5* 28.5	70.0 *17.5* 20.5

(DS) Deep oil sump is standard on this model.

50 HERTZ

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

REFRIGERANT COOLED CAPACITY CONTROL TANDEMS

R12

R22

CAPACITY CONTROL MODEL	BASIC TANDEM MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C R12 55 12.8	R12 45 7.2	R12 35 1.7	R12 25 –3.9	R22 55 12.8	R22 45 7.2	R22 35 1.7	R22 25 –3.9
44E ★-2000 50% Unloaded	44A ★-2000	20 14.9	3954 111.9	100	37.8	157.0 *39.0* 46.0	129.0 *33.0* 38.0	106.0 *27.0* 31.0	86.0 *22.0* 25.0				
				130	54.4	127.0 *32.0* 37.0	104.0 *26.0* 30.5	84.0 *21.0* 24.5	68.0 *17.0* 20.0				
44E ★-4000 50% Unloaded	44A ★-4000	40 29.8	3954 111.9	100	37.8					264.0 *66.0* 77.5	210.0 *53.0* 61.5	165.0 *41.0* 48.5	119.0 *30.0* 35.0
				130	54.4					202.0 *51.0* 59.0	165.0 *41.0* 48.5	133.0 *34.0* 39.0	102.0 *25.5* 30.0
66E ★-4000 33% Unloaded	66A ★-4000	40 29.8	5932 167.9	100	37.8	296.0 *74.0* 86.5	244.0 *62.0* 71.5	202.0 *51.0* 59.0	164.0 *42.0* 48.0				
				130	54.4	238.0 *60.0* 69.5	194.0 *49.0* 57.0	158.0 *40.0* 46.5	127.0 *32.0* 37.0				
66N ★-4000 67% Unloaded	66A ★-4000	40 29.8	5932 167.9	100	37.8	130.0 *33.0* 38.0	108.0 *27.0* 31.5	89.0 *22.0* 26.0	72.0 *18.0* 21.0				
				130	54.4	104.0 *26.0* 30.5	85.0 *22.0* 25.0	70.0 *18.0* 20.5	58.0 *14.0* 17.0				
44K ★-5000 50% Unloaded	44H ★-5000	50 37.3	4998 141.5	100	37.8					314.0 *79.0* 92.0	260.0 *66.0* 76.0	214.0 *54.0* 62.5	163.0 *41.0* 48.0
				130	54.4					258.0 *65.0* 75.5	210.0 *53.0* 61.5	169.0 *43.0* 49.5	126.0 *32.0* 37.0

50 HERTZ

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

REFRIGERANT COOLED CAPACITY CONTROL TANDEMS

R12

R22

CAPACITY CONTROL MODEL	BASIC TANDEM MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C R12 55 12.8	R12 45 7.2	R12 35 1.7	R12 25 −3.9	R22 55 12.8	R22 45 7.2	R22 35 1.7	R22 25 −3.9
44R ★-6000 50% Unloaded	44J ★-6000	60 44.8	5970 169.0	100	37.8					385.0 *97.0* 113.0	309.0 *78.0* 90.5	243.0 *61.0* 71.0	179.0 *45.0* 52.2
				130	54.4					313.0 *79.0* 91.5	245.0 *62.0* 72.0	193.0 *49.0* 56.5	142.0 *36.0* 41.5
66E ★-6000 33% Unloaded	66A ★-6000	60 44.8	5932 167.9	100	37.8					528.0 *133.0* 155.0	436.0 *110.0* 128.0	358.0 *90.0* 105.0	274.0 *69.0* 80.5
				130	54.4					424.0 *107.0* 124.0	348.0 *88.0* 102.0	282.0 *71.0* 82.5	214.0 *54.0* 62.5
66N ★-6000 67% Unloaded	66A ★-6000	60 44.8	5932 167.9	100	37.8					262.0 *66.0* 77.0	212.0 *54.0* 62.0	170.0 *43.0* 50.0	127.0 *32.0* 37.0
				130	54.4					206.0 *52.0* 60.5	166.0 *42.0* 48.5	132.0 *33.0* 38.5	97.5 *24.5* 28.5
66K ★-7000 33% Unloaded	66H ★-7000	70 52.2	7496 212.2	100	37.8					672.0 *164.0* 197.0	532.0 *134.0* 156.0	430.0 *108.0* 126.0	329.0 *83.0* 96.5
				130	54.4					544.0 *137.0* 159.0	440.0 *111.0* 129.0	354.0 *89.0* 104.0	274.0 *69.0* 80.5
66P ★-7000 67% Unloaded	66H ★-7000	70 52.2	7496 212.2	100	37.8					324.0 *82.0* 95.0	264.0 *67.0* 77.5	214.0 *54.0* 62.5	163.0 *41.0* 48.0
				130	54.4					270.0 *68.0* 79.0	218.0 *55.0* 64.0	176.0 *44.0* 51.5	135.0 *34.0* 39.5
66R ★-8000 33% Unloaded (DS)	66J ★-8000	80 59.7	8956 253.5	100	37.8					798.0 *201.0* 234.0	634.0 *160.0* 186.0	492.0 *124.0* 144.0	355.0 *89.5* 104.0
				130	54.4					618.0 *156.0* 181.0	486.0 *122.0* 142.0	378.0 *95.0* 111.0	276.0 *69.5* 81.0
66S ★-8000 67% Unloaded (DS)	66J ★-8000	80 59.7	8956 253.5	100	37.8					400.0 *101.0* 117.0	318.0 *80.0* 93.0	246.0 *62.0* 72.0	180.0 *45.5* 52.5
				130	54.4					324.0 *82.0* 95.0	256.0 *65.0* 75.0	196.0 *49.0* 57.5	140.0 *35.5* 41.0

(DS) Deep oil sumps are standard on this model.

50 HERTZ

REFRIGERANT COOLED TWO-STAGE

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R22

MODEL	HP kW	CFH m³/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C −5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	−50 −45.6	−60 −51.1
9TK ★-0505	5 3.7	1135 32.1	100	37.8			21.0 *5.5* 6.0	17.0 *4.5* 5.0	13.5 *3.5* 4.0	10.5 *2.5* 3.0	8.0 *2.0* 2.5
			130	54.4			19.0 *5.0* 5.5	15.5 *4.0* 4.5	12.0 *3.0* 3.5	9.0 *2.5* 2.5	7.0 *1.5* 2.0
9TL ★-0765	7.5 5.6	1338 37.9	100	37.8	35.0 *9.0* 10.5	31.0 *8.0* 9.0	25.0 *6.5* 7.5	20.0 *5.0* 6.0	15.5 *4.0* 4.5		
			130	54.4	32.5 *8.0* 9.5	29.0 *7.5* 8.5	23.0 *6.0* 6.5	18.5 *4.5* 5.5	15.0 *4.0* 4.5		
9TH ★-1015	10 7.5	1762 49.9	100	37.8	46.0 *11.5* 13.5	41.5 *10.5* 12.0	33.5 *8.5* 10.0	26.5 *6.5* 8.0	20.5 *5.0* 6.0		
			130	54.4	43.0 *11.0* 12.5	39.0 *10.0* 11.5	31.5 *8.0* 9.0	25.5 *6.5* 7.5	20.0 *5.0* 6.0		
6RB ★-1000	10 7.5	2966 84.0	100	37.8			56.5 *14.5* 16.5	45.0 *11.5* 13.0	35.5 *9.0* 10.5	27.5 *7.0* 8.0	20.5 *5.0* 6.0
			130	54.4			—	—	—	—	—
6RB ★-2000	20 14.9	2966 84.0	100	37.8							
			130	54.4							
6TM ★-2000	20 14.9	3748 106.1	100	37.8			70.5 *18.0* 20.5	57.0 *14.5* 16.5	45.0 *11.5* 13.0	34.0 *8.5* 10.0	24.5 *6.0* 7.0
			130	54.4			66.0 *16.5* 19.5	53.5 *13.5* 15.5	42.0 *10.5* 12.5	31.5 *8.0* 9.0	23.5 *6.0* 7.0

R502

MODEL	HP kW	CFH m³/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C −5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	−50 −45.6	−60 −51.1	−70 −56.7	−80 −62.2
9TK ★-0505	5 3.7	1135 32.1	100	37.8			24.5 *6.0* 7.0	19.5 *5.0* 5.5	15.5 *4.0* 4.5	12.0 *3.0* 3.5	9.0 *2.5* 2.5	6.5 *1.5* 2.0	4.5 *1.0* 1.5
			130	54.4			21.5 *5.5* 6.5	17.5 *4.5* 5.0	14.0 *3.5* 4.0	11.0 *3.0* 3.0	8.5 *2.0* 2.5	6.0 *1.5* 2.0	4.5 *1.0* 1.5
9TL ★-0765	7.5 5.6	1338 37.9	100	37.8	40.0 *10.0* 11.5	36.5 *9.0* 10.5	29.5 *7.5* 8.5	23.5 *6.0* 7.0	18.5 *4.5* 5.5	13.5 *3.5* 4.0	11.0 *3.0* 3.0		
			130	54.4	35.0 *9.0* 10.5	31.5 *8.0* 9.0	26.0 *6.5* 7.5	21.0 *5.5* 6.0	16.5 *4.0* 5.0	13.0 *3.5* 4.0	10.0 *2.5* 3.0		
9TH ★-1015	10 7.5	1762 49.9	100	37.8	52.0 *13.0* 15.0	47.0 *12.0* 14.0	38.5 *9.5* 11.5	31.0 *8.0* 9.0	24.5 *6.0* 7.0	19.5 *5.0* 5.5	14.5 *3.5* 4.0		
			130	54.4	46.0 *11.5* 13.5	41.5 *10.5* 12.0	34.0 *8.5* 10.0	27.5 *7.0* 8.0	22.0 *5.5* 6.5	17.5 *4.5* 5.0	14.0 *3.5* 4.0		
6RB ★-1000	10 7.5	2966 84.0	100	37.8									
			130	54.4									
6RB ★-2000	20 14.9	2966 84.0	100	37.8		77.5 *19.5* 22.5	65.0 *16.5* 19.0	54.0 *13.5* 16.0	45.0 *11.5* 13.0	34.5 *8.5* 10.0	25.0 *6.5* 7.5		
			130	54.4		—	58.5 *15.0* 17.0	48.5 *12.0* 14.0	39.0 *10.0* 11.5	30.5 *7.5* 9.0	22.0 *5.5* 6.5		
6TM ★-2000	20 14.9	3748 106.1	100	37.8			80.5 *20.5* 23.5	66.0 *16.5* 19.5	53.0 *13.5* 15.5	41.5 *10.5* 12.0	30.0 *7.5* 9.0		
			130	54.4			70.5 *18.0* 20.5	58.5 *15.0* 17.0	43.5 *11.0* 12.5	38.0 *9.5* 11.0	28.0 *7.0* 8.0		

Subcooler installed for these capacity values.

COPELAMETIC TWO-STAGE COMPRESSORS

Copeland® brand product Two-Stage compressors were developed to reach the ultra-low temperatures needed in many of today's applications in an efficient and reliable way.

The Two-Stage compressor is separated into low and high stages of compression to achieve the necessary pressures and temperatures for maximum cooling capability. Three cylinder compressors use two cylinders on the low stage and one cylinder on the high stage while the six cylinder compressors use four cylinders on the low stage and two cylinders on the high stage.

For more information see Application Bulletin AE 19-1132.

50 HERTZ

REFRIGERANT COOLED TWO-STAGE TANDEMS

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C														
					R22							**R502**							
					–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40	–50 –45.6	–60 –51.1	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40	–50 –45.6	–60 –51.1	–70 –56.7	–80 –62.2
66B ★-2000	20 14.9	5932 167.9	**100**	**37.8**			113.0 *28.5* 33.0	89.5 *22.5* 26.0	71.0 *18.0* 21.0	55.0 *14.0* 16.0	41.0 *10.5* 12.0									
			130	**54.4**			—	—	—	—	—									
66B ★-4000	40 29.8	5932 167.9	**100**	**37.8**									155.0 *39.0* 45.5	130.0 *33.0* 38.0	108.0 *27.5* 31.5	89.5 *22.5* 26.0	68.5 *17.5* 20.0	50.0 *12.5* 14.5		
			130	**54.4**									—	117.0 *29.5* 34.5	97.0 *24.5* 28.5	78.5 *19.5* 23.0	61.0 *15.5* 18.0	44.0 *11.0* 13.0		
66M ★-4000	40 29.8	7496 212.2	**100**	**37.8**			141.0 *35.5* 41.5	114.0 *28.5* 33.5	90.5 *23.0* 26.5	68.5 *17.0* 20.0	49.0 *12.5* 14.5			161.0 *40.5* 47.0	132.0 *33.0* 38.5	106.0 *27.0* 31.0	83.0 *21.0* 24.5	60.0 *15.0* 17.5		
			130	**54.4**			132.0 *33.5* 38.5	107.0 *27.0* 31.5	83.5 *21.0* 24.5	63.5 *16.0* 18.5	47.0 *12.0* 14.0			141.0 *35.5* 41.5	117.0 *29.5* 34.5	87.5 *22.0* 25.5	75.5 *19.0* 22.0	56.0 *14.0* 16.5		

Subcoolers installed for these capacity values.

COPELAMETIC TWO-STAGE TANDEM COMPRESSORS

Copeland® brand product Two-Stage Tandem compressors produce greater capacity for applications where it is necessary along with the automatic capacity control and increased factor of safety that tandems naturally offer. Refer to Application Bulletins AE 4-1167 and AE 19-1132 for instructions.

Although Two-Stage evaporating temperatures range well below 0°F (–17.8°C) when operating, no overhead cooling fan is required for any of our Two-Stage compressors. An interstage desuperheating expansion valve provides adequate motor cooling. Refer to Application Bulletin AE 4-1135 for more information.

AIR COOLED

MECHANICAL SPECIFICATIONS

MODEL	HP kW	CYL	Bore in mm	Stroke in mm	CFH m^3/hr	Oil Charge (Refill Oil Charge)		Overall Dimensions in/mm			Mounting Center Dimensions in/mm		Service Valve Sizes		Weights lb/kg	
					50 Hertz	Oz	Liter	Length	Width	Height	Length	Width	Suction in	Discharge in	Net	Shipping
HAK★-0025	.25 .19	2	1 5/16 33.3	5/8 15.9	85.2 2.41	22 (16)	.65 (.47)	12 3/8 314	8 203	10 3/4 273	8 3/16 208	6 3/8 162	3/8 Flare	1/4 Flare	70 32	81 37
HAJ★-0033	.33 .25	2	1 3/16 30.2	5/8 15.9	69.7 1.97	22 (16)	.65 (.47)	12 3/8 314	8 203	10 3/4 273	8 3/16 208	6 3/8 162	1/2 Flare	3/8 Flare	70 32	81 37
HAG★-0050	.50 .37	2	1 1/32 26.2	3/4 19.1	63.4 1.79	22 (16)	.65 (.47)	12 3/8 314	8 203	10 3/4 273	8 3/16 208	6 3/8 162	1/2 Flare	3/8 Flare	72 33	83 38
HAJ★-0050	.50 .37	2	1 3/16 30.2	5/8 15.9	69.7 1.97	22 (16)	.65 (.47)	12 3/8 314	8 203	10 3/4 273	8 3/16 208	6 3/8 162	1/2 Flare	3/8 Flare	72 33	83 38
KAN★-0050 (LT)	.50 .37	2	1 3/8 34.9	5/8 15.9	93.5 2.65	22 (20)	.65 (.59)	14 356	8 203	10 3/4 273	8 3/16 208	6 3/8 162	1/2 Flare	3/8 Flare	81 37	94 43
KAE★-0050	.50 .37	2	1 1/2 38.1	5/8 15.9	111 3.14	22 (20)	.65 (.59)	14 356	8 203	10 3/4 273	8 3/16 208	6 3/8 162	1/2 Flare	3/8 Flare	81 37	94 43
KAH★-0050	.50 .37	2	1 1/2 38.1	15/16 23.8	167 4.73	22 (20)	.65 (.59)	14 356	8 203	10 3/4 273	8 3/16 208	6 3/8 162	1/2 Flare	3/8 Flare	81 37	94 43
KAJ★-0050	.50 .37	2	1 9/16 39.7	15/16 23.8	181 5.12	22 (20)	.65 (.59)	14 356	8 203	10 3/4 273	8 3/16 208	6 3/8 162	1/2 Flare	3/8 Flare	81 37	94 43
KAN★-0075	.75 .56	2	1 3/8 34.9	5/8 15.9	93.5 2.65	22 (20)	.65 (.59)	14 356	8 203	10 3/4 273	8 3/16 208	6 3/8 162	1/2 Flare	3/8 Flare	89 40	103 47
KAE★-0075	.75 .56	2	1 1/2 38.1	5/8 15.9	111 3.14	22 (20)	.65 (.59)	14 356	8 203	10 3/4 273	8 3/16 208	6 3/8 162	1/2 Flare	3/8 Flare	89 40	103 47
KAM★-0075 (LT)	.75 .56	2	1 3/8 34.9	15/16 23.8	140 3.96	22 (20)	.65 (.59)	14 356	8 203	10 3/4 273	8 3/16 208	6 3/8 162	5/8 Flare	3/8 Flare	89 40	103 47
KAG★-0075	.75 .56	2	1 7/16 36.5	15/16 23.8	153 4.33	22 (20)	.65 (.59)	14 356	8 203	10 3/4 273	8 3/16 208	6 3/8 162	5/8 Flare	3/8 Flare	89 40	103 47
KAA★-0075	.75 .56	2	1 11/16 42.9	15/16 23.8	211 5.97	22 (20)	.65 (.59)	14 356	8 203	10 3/4 273	8 3/16 208	6 3/8 162	5/8 Flare	3/8 Flare	89 40	103 47
KAL★-0075	.75 .56	2	1 7/8 47.6	15/16 23.8	261 7.39	22 (20)	.65 (.59)	14 356	8 203	10 3/4 273	8 3/16 208	6 3/8 162	5/8 Flare	3/8 Flare	89 40	103 47
KAR★-0100	1 .75	2	1 5/8 41.3	5/8 15.9	131 3.71	22 (20)	.65 (.59)	14 356	8 203	10 3/4 273	8 3/16 208	6 3/8 162	5/8 Flare	1/2 Flare	89 40	103 47
KAM★-0100	1 .75	2	1 3/8 34.9	15/16 23.8	140 3.96	22 (20)	.65 (.59)	14 356	8 203	10 3/4 273	8 3/16 208	6 3/8 162	5/8 Flare	1/2 Flare	89 40	103 47
KAJ★-0100 (LT)	1 .75	2	1 9/16 39.7	15/16 23.8	181 5.12	22 (20)	.65 (.59)	14 356	8 203	10 3/4 273	8 3/16 208	6 3/8 162	5/8 Flare	1/2 Flare	89 40	103 47
KAK★-0100	1 .75	2	1 11/16 42.9	15/16 23.8	211 5.97	22 (20)	.65 (.59)	14 356	8 203	10 3/4 273	8 3/16 208	6 3/8 162	5/8 Flare	1/2 Flare	89 40	103 47
KAL★-0100	1 .75	2	1 7/8 47.6	15/16 23.8	261 7.39	22 (20)	.65 (.59)	14 356	8 203	10 3/4 273	8 3/16 208	6 3/8 162	5/8 Flare	1/2 Flare	89 40	103 47
KAT★-0100 (OP)	1 .75	2	1 7/8 47.6	1 5/32 29.4	322 9.12	22 (20)	.65 (.59)	14 356	8 203	10 3/4 273	8 3/16 208	6 3/8 162	5/8 Flare	1/2 Flare	89 40	103 47

(LT) Oil pump is required for R22LT only. Use A or B in place of ★ in model number. Add 3/8 inches (9.53mm) to length shown when an oil pump is used.
(OP) Oil pump is required for all applications. Use A or B in place of ★ in model number.

ELECTRICAL SPECIFICATIONS

CAF IAF 115-1-50		CAV 200/220-1-50 208/230-1-60		CAG IAG 230-1-50		CAZ 220/240-1-50		TAC 200/220-3-50 208/230-3-60		TAD 380/400-3-50 460-3-60	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
IAF 4.4	28.2			IAG 2.2	14.2						
CAF 4.9	28.6			CAG 2.5	14.5						
		4.0	22.0					2.4	13.0		
		3.7	22.0					2.2	13.0		
CAF 7.1	45.2	3.6	24.0	CAG 3.4	23.3			2.1	13.2		
CAF 7.1	45.2	3.4	24.0	CAG 3.4	23.3			1.9	13.2		
CAF 7.1	45.2			CAG 3.4	23.3						
CAF 7.1	45.2			CAG 3.4	23.3						
		6.1	36.0			4.9	27.7	3.5	19.9		
CAF 9.0	54.0	5.4	36.0					3.4	19.9		
CAF 10.8	54.0	5.6	36.0	CAG 5.2	27.7	4.7	27.7	3.2	19.9		
CAF 10.5	54.0	5.4	36.0	CAG 4.6	27.7			2.6	19.9		
CAF 10.5	54.0	5.2	36.0	CAG 4.6	27.7			2.6	19.9		
CAF 10.5	54.0			CAG 4.6	27.7						
		7.4	40.0					4.3	27.0	2.2	13.5
		7.5	40.0					4.5	27.0	2.2	13.5
		6.9	40.0	CAG 6.0	33.0			3.4	25.0	2.1	15.0
		7.3	40.0	CAG 6.0	33.0			4.4	25.0	1.9	15.0
		6.9	40.0	CAG 6.0	33.0			3.3	25.0	1.8	15.0
		7.2	40.0	CAG 6.0	33.0			4.4	25.0	2.1	15.0

AIR COOLED

MECHANICAL SPECIFICATIONS

MODEL	HP kW	CYL	Bore in mm	Stroke in mm	CFH m^3/hr 50 Hertz	Oil Charge (Refill Oil Charge) Oz	 Liter	Overall Dimensions in/mm Length	 Width	 Height	Mounting Center Dimensions in/mm Length	 Width	Service Valve Sizes Suction in	 Discharge in	Weights lb/kg Net	 Shipping
KAJ★-0101 **(LT)**	1 .75	2	1 9/16 39.7	15/16 23.8	181 5.12	22 (20)	.65 (.59)	14 356	8 203	10 3/4 273	8 3/16 208	6 3/8 162	5/8 Flare	1/2 Flare	89 40	103 47
KAG★-0150 **(OP)**	1.5 1.1	2	1 7/16 36.5	15/16 23.8	153 4.33	22 (20)	.65 (.59)	14 3/8 365	8 3/4 222	10 3/4 273	8 3/16 208	6 3/8 162	7/8 Solder	1/2 Flare	94 43	109 49
KAL★-0150 **(OP)**	1.5 1.1	2	1 7/8 47.6	15/16 23.8	261 7.39	22 (20)	.65 (.59)	14 3/8 365	8 3/4 222	10 3/4 273	8 3/16 208	6 3/8 162	7/8 Solder	1/2 Flare	94 43	109 49
KAT★-0150 **(OP)**	1.5 1.1	2	1 7/8 47.6	1 5/32 29.4	322 9.12	22 (20)	.65 (.59)	14 3/8 365	8 3/4 222	10 3/4 273	8 3/16 208	6 3/8 162	7/8 Solder	1/2 Flare	94 43	109 49
EAJ★-0150	1.5 1.1	2	1 15/16 49.2	1 3/8 34.9	408 11.6	60 (55)	1.77 (1.63)	16 1/8 410	12 305	12 11/16 322	10 1/16 256	10 1/2 267	7/8 Solder	1/2 Flare	152 69	175 79
KAK★-0200 **(OP)**	2 1.5	2	1 11/16 42.9	15/16 23.8	211 5.97	22 (20)	.65 (.59)	14 3/8 365	8 3/4 222	10 3/4 273	8 3/16 208	6 3/8 162	7/8 Solder	1/2 Flare	112 51	126 57
KAT★-0200 **(LV) (OP)**	2 1.5	2	1 7/8 47.6	1 5/32 29.4	322 9.12	22 (20)	.65 (.59)	14 3/8 365	8 3/4 222	10 3/4 273	8 3/16 208	6 3/8 162	7/8 Solder	1/2 Flare	112 51	126 57
EAD★-0200 **(LT)**	2 1.5	2	1 7/8 47.6	1 5/32 29.4	322 9.12	60 (55)	1.77 (1.63)	16 1/8 410	12 305	12 11/16 322	10 1/16 256	10 1/2 267	7/8 Solder	1/2 Flare	158 72	182 83
EAV★-0200	2 1.5	2	2 50.8	1 5/32 29.4	366 10.4	60 (55)	1.77 (1.63)	16 1/8 410	12 305	12 11/16 322	10 1/16 256	10 1/2 267	7/8 Solder	1/2 Flare	158 72	182 83
EAL★-0200	2 1.5	2	2 50.8	1 3/8 34.9	435 12.3	60 (55)	1.77 (1.63)	16 1/8 410	12 305	12 11/16 322	10 1/16 256	10 1/2 267	7/8 Solder	1/2 Flare	158 72	182 83
3AH★-0200	2 1.5	2	2 1/4 57.2	1 3/8 34.9	551 15.6	70 (65)	2.07 (1.92)	18 457	13 330	12 23/32 323	11 5/8 295	11 279	7/8 Solder	1/2 Flare	177 80	204 93
EAV★-0210 **(LT)**	2 1.5	2	2 50.8	1 5/32 29.4	366 10.4	60 (55)	1.77 (1.63)	16 1/2 419	12 305	12 11/16 322	10 1/16 256	10 1/2 267	7/8 Solder	1/2 Flare	159 72	183 83
LAH★-0310 **(LT)**	3 2.2	2	2 1/4 57.2	1 7/16 36.5	576 16.3	80 (75)	2.37 (2.22)	18 1/32 458	14 356	14 5/8 371	11 5/8 295	11 279	1 1/8 Solder	5/8 Flare	210 95	237 107
LAL★-0310	3 2.2	2	2 3/8 60.3	1 7/16 36.5	641 18.1	80 (75)	2.37 (2.22)	18 1/32 458	14 356	14 5/8 371	11 5/8 295	11 279	1 1/8 Solder	5/8 Flare	210 95	237 107
LAC★-0310	3 2.2	2	2 7/16 61.9	1 7/16 36.5	675 19.1	80 (75)	2.37 (2.22)	18 1/32 458	14 356	14 5/8 371	11 5/8 295	11 279	1 1/8 Solder	5/8 Flare	210 95	237 107
LAM★-0310	3 2.2	2	2 7/16 61.9	1 11/16 42.9	793 22.4	80 (75)	2.37 (2.22)	18 1/32 458	14 356	14 5/8 371	11 5/8 295	11 279	1 1/8 Solder	5/8 Flare	210 95	237 107
EAD★-0320	3 2.2	2	1 7/8 47.6	1 5/32 29.4	322 9.12	60 (55)	1.77 (1.63)	16 1/8 410	12 305	12 11/16 322	10 1/16 256	10 1/2 267	7/8 Solder	1/2 Flare	158 72	182 83
LAH★-0320 **(OP)**	3 2.2	2	2 1/4 57.2	1 7/16 36.5	576 16.3	80 (75)	2.37 (2.22)	18 1/32 458	14 356	14 5/8 371	11 5/8 295	11 279	1 1/8 Solder	5/8 Flare	210 95	237 107
LAC★-0420 **(OP)**	3 2.2	2	2 7/16 61.9	1 7/16 36.5	675 19.1	80 (75)	2.37 (2.22)	18 5/8 473	14 356	14 23/32 374	11 5/8 295	11 279	1 1/8 Solder	5/8 Flare	198 90	225 102

(LT) Oil pump is required for R22LT only. Use A or B in place of ★ in model number. Add 3/8 inches (9.53mm) to length shown when an oil pump is used.
(OP) Oil pump is required for all applications. Use A or B in place of ★ in model number.
(LV) Limited voltage. Available only in 200 volt electrical.

ELECTRICAL SPECIFICATIONS

CAV 200/220-1-50 208/230-1-60		CAS 220-1-50		CAZ 220/240-1-50		TAC 200/220-3-50 208/230-3-60		TAD 380/400-3-50 460-3-60		TAE 500-3-50 575-3-60		TAM 380/400-3-50		TAU 200-3-50 200-3-60	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
						4.5	27.0								
9.6	55.0					5.5	35.5	2.5	18.2						
9.9	55.0			7.6	35.0	5.4	35.5	2.9	18.2					6.6	51.6
9.6	55.0			7.6	35.0	5.0	35.5	2.9	18.2						
						5.9	38.0	2.5	19.0	2.2	14.3				
10.6	55.0					6.8	50.0	3.0	25.0						
														7.2	51.0
						6.8	46.0	3.4	23.0	2.3	20.0				
		9.0	54.0			6.6	46.0	3.5	23.0	2.3	20.0			9.7	57.1
		8.4	54.0			7.1	46.0	3.7	23.0	2.3	20.0				
		8.4	54.0			6.6	46.0	3.7	23.0	2.3	20.0				
14.7	102.0					7.4	50.0	3.9	26.6						
						10.7	82.0	5.7	41.0	4.0	30.0				
		14.0	79.0			10.9	82.0	5.0	41.0	4.0	30.0				
		14.0	79.0			10.0	82.0	5.7	41.0	4.0	30.0			16.5	99.7
		14.0	79.0			10.0	82.0	4.7	41.0	4.0	30.0				
						12.4	85.0	5.2	42.0						
														12.8	112.0
												6.0	56.0		

REFRIGERANT COOLED

MECHANICAL SPECIFICATIONS

MODEL	HP kW	CYL	Bore in mm	Stroke in mm	CFH m^3/hr	Oil Charge (Refill Oil Charge)		Overall Dimensions in/mm			Mounting Center Dimensions in/mm		Service Valve Sizes		Weights lb/kg	
					50 Hertz	Oz	Liter	Length	Width	Height	Length	Width	Suction in	Discharge in	Net	Shipping
ERA★-0200	2 1.5	2	1 3/4 44.5	1 5/32 29.4	280 7.93	60 (55)	1.77 (1.63)	16 1/8 410	12 305	12 11/16 322	10 1/16 256	10 1/2 267	7/8 Solder	5/8 Flare	160 73	184 84
ERC★-0200	2 1.5	2	1 3/4 44.5	1 5/32 29.4	280 7.93	60 (55)	1.77 (1.63)	16 1/8 410	12 305	12 11/16 322	10 1/16 256	10 1/2 267	7/8 Solder	5/8 Flare	160 73	184 84
ERF★-0310	3 2.2	2	1 7/8 47.6	1 3/8 34.9	382 10.8	60 (55)	1.77 (1.63)	17 1/8 435	12 305	12 11/16 322	10 1/16 256	10 1/2 267	1 1/8 Solder	5/8 Flare	177 80	204 93
3RA★-0310	3 2.2	2	2 3/16 55.6	1 3/8 34.9	520 14.7	70 (65)	2.07 (1.92)	18 457	13 330	12 11/16 322	11 5/8 295	11 279	1 1/8 Solder	5/8 Flare	177 80	205 93
NRD★-0310	3 2.2	2	2 7/16 61.9	1 7/16 36.5	675 19.1	70 (65)	2.07 (1.92)	21 1/16 535	13 330	15 1/4 387	11 5/8 295	11 279	1 1/8 Solder	5/8 Flare	216 98	249 113
NRB★-0400	4 3.0	2	2 1/4 57.2	1 7/16 36.5	576 16.3	70 (65)	2.07 (1.92)	20 1/8 511	13 330	15 1/4 387	11 5/8 295	11 279	1 1/8 Solder	5/8 Solder	231 105	266 121
NRA★-0500	5 3.7	2	2 7/16 61.9	1 7/16 36.5	675 19.1	70 (65)	2.07 (1.92)	20 1/8 511	13 330	15 1/4 387	11 5/8 295	11 279	1 1/8 Solder	5/8 Solder	231 105	266 121
NRM★-0500	5 3.7	2	2 3/16 55.6	2 1/8 54.0	804 22.8	70 (65)	2.07 (1.92)	21 1/16 535	13 330	15 1/4 387	11 5/8 295	11 279	1 1/8 Solder	5/8 Solder	231 105	266 121
MRA★-0500	5 3.7	2	2 1/2 63.5	1 13/16 46.0	896 25.4	80 (70)	2.37 (2.07)	22 7/16 570	13 330	16 15/16 430	11 5/8 295	11 279	1 3/8 Solder	7/8 Solder	269 122	306 139
MRJ★-0500 (LV)	5 3.7	2	2 1/2 63.5	1 13/16 46.0	896 25.4	80 (70)	2.37 (2.07)	22 7/16 570	13 330	16 15/16 430	11 5/8 295	11 279	1 3/8 Solder	7/8 Solder	269 122	306 139
MRB★-0500	5 3.7	2	2 5/8 66.7	1 13/16 46.0	988 28.0	80 (70)	2.37 (2.07)	22 7/16 570	13 330	16 15/16 430	11 5/8 295	11 279	1 3/8 Solder	7/8 Solder	269 122	306 139
MRH★-0760	7.5 5.6	2	2 9/16 65.1	1 13/16 46.0	941 26.6	80 (70)	3.40 (3.10)	23 3/8 594	13 330	16 15/16 430	11 5/8 295	11 279	1 3/8 Solder	1 1/8 Solder	281 127	324 147
9RJ★-0765	7.5 5.6	3	2 3/16 55.6	2 50.8	1135 32.1	115 (105)	3.40 (3.10)	25 23/32 653	15 1/16 383	17 1/2 445	15 381	12 305	1 3/8 Solder	1 1/8 Solder	318 144	367 166
9RB★-0765	7.5 5.6	3	2 3/8 60.3	2 50.8	1338 37.9	115 (105)	3.40 (3.10)	25 23/32 653	15 1/16 383	17 1/2 445	15 381	12 305	1 3/8 Solder	1 1/8 Solder	318 144	367 166
9RZ★-0765 (LV)	7.5 5.6	3	2 3/8 60.3	2 50.8	1338 37.9	115 (105)	3.40 (3.10)	25 23/32 653	15 1/16 383	17 1/2 445	15 381	12 305	1 3/8 Solder	1 1/8 Solder	318 144	367 166
9RS★-0765	7.5 5.6	3	2 7/16 61.9	2 1/2 63.5	1762 49.9	115 (105)	3.40 (3.10)	25 23/32 653	15 1/16 383	17 1/2 445	15 381	12 305	1 3/8 Solder	1 1/8 Solder	333 151	383 174
9RC★-1015	10 7.5	3	2 3/8 60.3	2 50.8	1338 37.9	115 (105)	3.40 (3.10)	26 19/32 675	15 1/16 383	17 1/2 445	15 381	12 305	1 3/8 Solder	1 1/8 Solder	345 156	397 180
9RS★-1015	10 7.5	3	2 7/16 61.9	2 1/2 63.5	1762 49.9	115 (105)	3.40 (3.10)	26 19/32 675	15 1/16 383	17 1/2 445	15 381	12 305	1 3/8 Solder	1 1/8 Solder	345 156	397 180
9RS★-1016 (LV)	10 7.5	3	2 7/16 61.9	2 1/2 63.5	1762 49.9	115 (105)	3.40 (3.10)	26 19/32 675	15 1/16 383	17 1/2 445	15 381	12 305	1 5/8 Solder	1 1/8 Solder	345 156	397 180
4RA★-1000	10 7.5	4	2 1/2 63.5	2 50.8	1977 56.0	140 (130)	4.14 (3.84)	24 5/8 625	18 9/16 471	16 5/8 422	15 381	12 305	1 5/8 Solder	1 1/8 Solder	369 167	425 193

(LV) Limited voltage. Available only in 200 volt electrical.

ELECTRICAL SPECIFICATIONS

ESL 210/240-3-50 380/420-3-50		ESM 380/420-3-50		FSR 200/240-3-50		FSM 380/420-3-50		TAC TFC 200/220-3-50 208/230-3-60		TAD TFD 380/400-3-50 460-3-60		TSK 200/400-3-50 208/230-3-60 460-3-60		TAE/TFE TSE 500-3-50 575-3-60		TAU/TFU TSU 200-3-50 200-3-60	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
								TAC 6.6	46.0	TAD 3.5	23.0			TAE 3.5	20.0		
								TAC 6.8	46.0	TAD 3.6	23.0			TAE 3.2	20.0		
								TAC 11.7	82.0	TAD 6.4	41.0			TAE 5.2	30.0		
								TAC 13.1	82.0	TAD 6.6	41.0					TAU 10.9	82.0
								TFC 14.3	82.0	TFD 7.3	41.0			TFE 5.5	32.0	TFU 19.2	92.5
								TFC 21.8	141.0	TFD 11.3	62.5			TFE 9.2	53.4		
								TFC 19.2	141.0	TFD 9.6	62.5			TFE 9.2	53.4		
								TFC 24.3	141.0	TFD 12.1	62.5			TFE 9.2	53.4		
210/240 17.0	90.0							TFC		TFD				TFE		TFU	
380/420 9.5	50.0	9.5	50.0	17.0	90.0	9.5	50.0	22.0	115.0	8.6	53.0			7.8	42.0	27.1	120.0
																TFU 27.0	120.0
210/240 9.5	90.0							TFC		TFD				TFE			
380/420 17.0	50.0	9.5	50.0	17.0	90.0	9.5	50.0	21.2	115.0	12.1	53.0			7.6	42.0		
210/240 32.5	130.0							TFC		TFD				TFE			
380/420 18.8	75.0	18.8	75.0	32.5	130.0	18.8	75.0	30.3	164.0	13.5	82.0			10.8	63.8		
						18.8	75.0	TFC 29.6	164.0	TFD 14.7	82.0			TFE 10.7	63.8		
210/240 32.5	130.0							TFC		TFD				TFE		TFU	
380/420 18.8	75.0	18.8	75.0	32.5	130.0	18.8	75.0	29.9	164.0	15.4	82.0			14.0	63.8	40.8	158.0
																TFU 30.7	158.0
210/240 32.5	130.0							TFC		TFD				TFE			
380/420 18.8	75.0	18.8	75.0	32.5	130.0	18.8	75.0	29.4	164.0	16.5	82.0			14.0	63.8		
210/240 36.2	222.0							TFC		TFD				TFE			
380/420 20.4	125.0	20.4	125.0	36.2	222.0	20.4	125.0	44.0	208.0	20.0	104.0			17.5	88.2		
210/240 36.2	222.0							TFC		TFD				TFE		TSU	
380/420 20.4	125.0	20.4	125.0	36.2	222.0	20.4	125.0	41.0	208.0	19.0	104.0			15.5	88.2	62.0	232.0
																TSU 62.0	232.0
210/240 39.2	176.0											200/208/230 54.8	240.0	TSE			
380/420 22.0	102.0	22.0	102.0			22.0	102.0					400/460 27.4	120.0	19.8	106.0		

REFRIGERANT COOLED

MECHANICAL SPECIFICATIONS

MODEL	HP kW	CYL	Bore in mm	Stroke in mm	CFH m^3/hr 50 Hertz	Oil Charge (Refill Oil Charge) Oz	 Liter	Overall Dimensions in/mm Length	 Width	 Height	Mounting Center Dimensions in/mm Length	 Width	Service Valve Sizes Suction in	 Discharge in	Weights lb/kg Net	 Shipping
9RS★-1505	15 11.2	3	2 7/16 61.9	2 1/2 63.5	1762 49.9	115 (105)	3.40 (3.10)	27 15/32 698	15 1/16 383	17 1/2 445	15 381	12 305	1 5/8 Solder	1 1/8 Solder	365 166	419 190
4RL★-1500 (OC)	15 11.2	4	2 11/16 68.3	2 3/16 55.6	2499 70.7	135 (120)	3.99 (3.55)	27 1/32 687	19 11/16 500	23 1/4 591	15 381	12 305	1 5/8 Solder	1 1/8 Solder	420 191	483 219
4RL★-1900 (LV) (OC)	19 14.2	4	2 11/16 68.3	2 3/16 55.6	2499 70.7	250 (235)	7.39 (6.95)	27 1/32 687	19 11/16 500	23 1/4 591	15 381	12 305	1 5/8 Solder	1 1/8 Solder	414 188	474 215
4RA★-2000	20 14.9	4	2 1/2 63.5	2 50.8	1977 56.0	135 (120)	3.99 (3.55)	24 5/8 625	18 9/16 472	16 5/8 422	15 381	12 305	1 5/8 Solder	1 1/8 Solder	394 179	454 206
6RA★-2000	20 14.9	6	2 1/2 63.5	2 50.8	2966 84.0	155 (145)	4.58 (4.29)	29 13/32 747	20 1/8 511	17 7/8 454	15 381	12 305	2 1/8 Solder	1 3/8 Solder	425 193	489 222
4RH★-2500	25 18.7	4	2 11/16 68.3	2 3/16 55.6	2499 70.7	130 (120)	3.84 (3.55)	26 13/32 671	18 15/16 481	17 7/8 454	15 381	12 305	2 1/8 Solder	1 1/8 Solder	415 188	478 217
6RL★-2500 (OC)	25 18.7	6	2 11/16 68.3	2 3/16 55.6	3748 106.1	140 (130)	4.14 (3.84)	29 13/32 747	20 17/32 521	24 23/32 628	15 381	12 305	2 1/8 Solder	1 3/8 Solder	460 209	529 240
4RJ★-3000	30 22.4	4	2 15/16 74.6	2 3/16 55.6	2985 84.5	140 (125)	4.14 (3.70)	27 5/32 690	19 13/16 503	17 7/8 454	15 381	12 305	2 1/8 Solder	1 3/8 Solder	470 213	541 245
6RA★-3000	30 22.4	6	2 1/2 63.5	2 50.8	2966 84.0	140 (130)	4.14 (3.84)	29 13/32 747	20 1/8 511	17 7/8 454	15 381	12 305	2 1/8 Solder	1 3/8 Solder	475 215	550 249
6RT★-3000 (DS) (OC)	30 22.4	6	2 15/16 74.6	2 3/16 55.6	4478 126.8	255 (245)	7.54 (7.24)	29 13/32 747	26 13/32 671	27 3/8 695	15 381	12 305	2 1/8 Solder	1 3/8 Solder	500 227	575 261
6RH★-3500	35 26.1	6	2 11/16 68.3	2 3/16 55.6	3748 106.1	140 (130)	4.14 (3.84)	30 5/32 766	20 1/2 521	17 7/8 454	15 381	12 305	2 1/8 Solder	1 3/8 Solder	484 220	557 253
6RJ★-4000 (DS)	40 29.8	6	2 15/16 74.6	2 3/16 55.6	4478 126.8	255 (245)	7.54 (7.24)	30 5/32 766	21 5/8 549	20 7/8 530	15 381	12 305	2 1/8 Solder	1 3/8 Solder	535 243	616 279

(OC) Oil cooler and vertical cooling fan are standard on this model.
(LV) Limited voltage. Available only in 200 volt electrical.
(DS) Deep oil sump is standard on this model.

ELECTRICAL SPECIFICATIONS

ESL 210/240-3-50 380/420-3-50		ESM 380/420-3-50		ES8 200-3-50 200/220-3-60 380-3-60		FSR 200/240-3-50		FSM 380/420-3-50		FSD 380/420-3-50 460-3-60		TFC/TSC 200/220-3-50 208/230-3-60		TFD 380/400-3-50 460-3-60		TSK 200/400-3-50 208/230-3-60 460-3-60		TSN 200/400-3-50 230/460-3-60		TFE/TSE 500-3-50 575-3-60		TFU TSU 200-3-50 200-3-60	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
210/240 53.0 195.0 380/420 30.0 110.0		30.0	110.0			53.0	195.0	30.0	137.0			TSC 56.5	284.0	28.5	144.0							TFE 22.5	127.0		
210/240 48.0 200.0 380/420 27.0 120.0		27.0	120.0					27.0	120.0							200/208/230 62.6 278.0 400/460 31.3 139.0						TSE 24.2	113.0		
																								TSU 65.0	350.0
210/240 57.5 211.0 380/420 34.0 125.0		34.0	125.0	200/220 68.4 335.0 380 38.9 189.0						32.3	135.0					200/208/230 71.4 308.0 400/460 35.7 154.0						TSE 29.2	135.0		
210/240 57.5 211.0 380/420 34.0 125.0		34.0	125.0							38.8	135.0					200/208/230 67.3 308.0 400/460 33.7 154.0						TSE 28.2	135.0		
210/240 73.0 290.0 380/420 38.0 165.0		38.0	165.0	200/220 102.5 438.0 380 59.9 251.0						45.0	165.0					200/208/230 88.5 428.0 400/460 44.3 214.0						TSE 34.8	160.0		
210/240 73.0 330.0 380/420 38.0 190.0		38.0	190.0	200/220 102.3 438.0 380 59.3 251.0				38.0	190.0							200/208/230 96.9 428.0 400/460 48.5 214.0						TSE 34.8	160.0		
210/240 96.0 351.0 380/420 57.0 200.0		57.0	200.0	200/220 119.3 500.0 380 68.4 289.0						59.0	200.0					200/208/230 102.0 470.0 400/460 51.0 235.0						TSE 42.2	200.0		
210/240 96.0 351.0 380/420 57.0 200.0		57.0	200.0							50.6	200.0					200/208/230 105.0 470.0 400/460 52.5 235.0						TSE 43.0	200.0		
										60.0	200.0					200/208/230 111.0 470.0 400/460 55.5 235.0						TSE 40.0	200.0		
210/240 115.0 394.0 380/420 65.0 225.0		65.0	225.0	200/220 145.9 633.0 380 85.9 365.0						62.7	225.0					200/208/230 135.0 565.0 400/460 67.5 283.0						TSE 50.2	230.0		
210/240 125.0 425.0 380/420 70.0 245.0		70.0	239.0	200/220 160.0 633.0 380 89.6 365.0						64.3	239.0							200/230 142.0 594.0 400/460 71.0 297.0		TSE 53.6	225.0		

REFRIGERANT COOLED TANDEMS

MECHANICAL SPECIFICATIONS

MODEL	HP kW	Consisting of Two Single Compressors	CFH m³/hr	Oil Charge (Refill Oil Charge)		Overall Dimensions in/mm			Mounting Center Dimensions in/mm		Suction Connection Size	Discharge Connection Size	Weights lb/kg	
			50 Hertz	Oz	Liter	Length	Width	Height	Length	Width	Valve in	Fitting in	Net	Shipping
44A★-2000	20 14.9	**4RA★-1000**	3954 111.9	280 (260)	8.28 (7.69)	57 11/16 1465	21 533	19 5/16 491	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	857 389	986 447
44L★-3000 (OC)	30 22.4	**4RL★-1500**	4998 141.5	270 (240)	7.98 (7.10)	61 3/8 1559	21 3/8 543	25 635	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	931 422	1071 486
44A★-4000	40 29.8	**4RA★-2000**	3954 111.9	270 (240)	7.98 (7.10)	57 11/16 1465	21 533	19 5/16 491	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	869 394	1000 454
66A★-4000	40 29.8	**6RA★-2000**	5932 167.9	310 (290)	9.17 (8.58)	63 3/4 1619	22 5/8 575	21 3/8 543	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	933 423	1076 488
44H★-5000	50 37.3	**4RH★-2500**	4998 141.5	260 (240)	7.69 (7.10)	61 3/8 1559	21 3/8 543	19 1/2 495	55 1397	12 305	2 5/8 Solder	1 3/8 Solder	954 433	1096 497
66L★-5000 (OC)	50 37.3	**6RL★-2500**	7496 212.2	280 (260)	8.28 (7.69)	63 3/4 1619	23 584	26 1/2 673	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1020 463	1173 532
44J★-6000	60 44.8	**4RJ★-3000**	5970 169.0	280 (250)	8.28 (7.39)	61 3/8 1559	21 3/8 543	19 1/2 495	55 1397	12 305	3 1/8 Solder	1 3/8 Solder	1019 462	1180 535
66A★-6000	60 44.8	**6RA★-3000**	5932 167.9	280 (260)	8.28 (7.69)	63 3/4 1619	22 5/8 575	21 3/8 543	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1029 467	1184 537
66T★-6000 (DS) (OC)	60 44.8	**6RT★-3000**	8956 253.5	510 (490)	15.1 (14.5)	63 3/4 1619	23 584	31 1/4 794	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1090 494	1255 569
66H★-7000	70 52.2	**6RH★-3500**	7496 212.2	280 (260)	8.28 (7.69)	63 3/4 1619	23 584	21 3/8 543	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1071 486	1232 559
66J★-8000 (DS)	80 59.7	**6RJ★-4000**	8956 253.5	510 (490)	15.1 (14.5)	63 3/4 1619	23 584	24 3/16 614	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1160 526	1334 605

Electrical specifications shown for tandems are per compressor rating.
(OC) Oil coolers and vertical cooling fans are standard on this model.
(DS) Deep oil sumps are standard on this model.

TANDEM WIRING

Each compressor of a tandem may be wired with a separate control system for independent motor operation. If current inrush decrease is desirable, a time delay relay may be used to stagger motor starting. Either of these circuits require that the oil pressure safety control and dual pressure safety control be wired independently on each compressor. For tandem wiring diagrams refer to Application Bulletin AE 4-1167.

ELECTRICAL SPECIFICATIONS

ESL 210/240-3-50 380/420-3-50		ESM 380/420-3-50		ES8 200-3-50 200/220-3-60 380-3-60		FSD 380/420-3-50 460-3-60		FSM 380/420-3-50		TSK 200/400-3-50 208/230-3-60 460-3-60		TSN 200/400-3-50 230/460-3-60		TSE 500-3-50 575-3-60	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
210/240 39.2 380/420 22.0	176.0 102.0	22.0	102.0					22.0	102.0	200/208/230 54.8 400/460 27.4	240.0 120.0			19.8	106.0
210/240 48.0 380/420 27.0	200.0 120.0	27.0	120.0					27.0	120.0	200/208/230 62.6 400/460 31.3	278.0 139.0			24.2	113.0
210/240 57.5 380/420 34.0	211.0 125.0	34.0	125.0	200/220 68.4 380 38.9	335.0 189.0	32.3	135.0			200/208/230 71.4 400/460 35.7	308.0 154.0			29.2	135.0
210/240 57.5 380/420 34.0	211.0 125.0	34.0	125.0			38.8	135.0			200/208/230 67.3 400/460 33.7	308.0 154.0			28.2	135.0
210/240 73.0 380/420 38.0	290.0 165.0	38.0	165.0	200/220 102.5 380 59.9	438.0 251.0	45.0	165.0			200/208/230 88.5 400/460 44.3	428.0 214.0			34.8	160.0
210/240 73.0 380/420 38.0	330.0 190.0	38.0	190.0	200/220 102.3 380 59.3	438.0 251.0			38.0	190.0	200/208/230 96.9 400/460 48.5	428.0 214.0			34.8	160.0
210/240 96.0 380/420 57.0	351.0 200.0	57.0	200.0	200/220 119.3 380 68.4	500.0 289.0	59.0	200.0			200/208/230 102.0 400/460 51.0	470.0 235.0			42.2	200.0
210/240 96.0 380/420 57.0	351.0 200.0	57.0	200.0			50.6	200.0			200/208/230 105.0 400/460 52.5	470.0 235.0			43.0	200.0
						60.0	200.0			200/208/230 111.0 400/460 55.5	470.0 235.0			40.0	200.0
210/240 115.0 380/420 65.0	394.0 225.0	65.0	225.0	200/220 145.9 380 85.9	633.0 365.0	62.7	225.0			200/208/230 135.0 400/460 67.5	565.0 283.0			50.2	230.0
210/240 125.0 380/420 70.0	425.0 245.0	70.0	239.0	200/220 160.0 380 89.6	633.0 365.0	64.3	239.0					200/230 142.0 400/460 71.0	594.0 297.0	53.6	225.0

REFRIGERANT COOLED CAPACITY CONTROL

MECHANICAL SPECIFICATIONS

CAPACITY CONTROL MODEL	BASIC COMPRESSOR MODEL	HP kW	CYL	Bore in mm	Stroke in mm	CFH m^3/hr	Oil Charge (Refill Oil Charge)		Overall Dimensions in/mm			Mounting Center Dimensions in/mm		Service Valve Sizes		Weights lb/kg	
						50 Hertz	Oz	Liter	Length	Width	Height	Length	Width	Suction in	Discharge in	Net	Shipping
9RP★-1015	9RC★-1015	10 7.5	3	2 3/8 60.3	2 50.8	1338 37.9	115 (105)	3.40 (3.10)	26 19/32 675	16 5/16 414	22 11/16 576	15 381	12 305	1 3/8 Solder	1 1/8 Solder	354 161	408 185
4RE★-1000	4RA★-1000	10 7.5	4	2 1/2 63.5	2 50.8	1977 56.0	140 (130)	4.14 (3.84)	24 5/8 625	18 9/16 471	16 5/8 422	15 381	12 305	1 5/8 Solder	1 1/8 Solder	374 170	428 194
9RT★-1505	9RS★-1505	15 11.2	3	2 7/16 61.9	2 1/2 63.5	1762 49.9	115 (105)	3.40 (3.10)	27 15/32 698	16 5/16 414	22 11/16 576	15 381	12 305	1 5/8 Solder	1 1/8 Solder	371 168	427 194
4RE★-2000	4RA★-2000	20 14.9	4	2 1/2 63.5	2 50.8	1977 56.0	135 (120)	3.99 (3.55)	24 5/8 625	18 9/16 471	16 5/8 422	15 381	12 305	1 5/8 Solder	1 1/8 Solder	403 183	464 210
6RE★-2000	6RA★-2000	20 14.9	6	2 1/2 63.5	2 50.8	2966 84.0	155 (145)	4.58 (4.29)	29 13/32 747	20 1/8 511	17 7/8 454	15 381	12 305	2 1/8 Solder	1 3/8 Solder	430 195	502 228
6RN★-2000	6RA★-2000	20 14.9	6	2 1/2 63.5	2 50.8	2966 84.0	155 (145)	4.58 (4.29)	29 13/32 747	22 5/8 575	17 7/8 454	15 381	12 305	2 1/8 Solder	1 3/8 Solder	435 197	507 230
4RK★-2500	4RH★-2500	25 18.7	4	2 11/16 68.3	2 3/16 55.6	2499 70.7	130 (120)	3.84 (3.55)	26 13/32 671	18 15/16 481	17 7/8 454	15 381	12 305	2 1/8 Solder	1 1/8 Solder	427 194	492 223
4RR★-3000	4RJ★-3000	30 22.4	4	2 15/16 74.6	2 3/16 55.6	2985 84.5	140 (125)	4.14 (3.70)	27 5/32 690	19 13/16 503	17 7/8 454	15 381	12 305	2 1/8 Solder	1 3/8 Solder	475 216	546 248
6RE★-3000	6RA★-3000	30 22.4	6	2 1/2 63.5	2 50.8	2966 84.0	140 (130)	4.14 (3.84)	29 13/32 747	20 1/8 511	17 7/8 454	15 381	12 305	2 1/8 Solder	1 3/8 Solder	479 217	551 250
6RN★-3000	6RA★-3000	30 22.4	6	2 1/2 63.5	2 50.8	2966 84.0	140 (130)	4.14 (3.84)	29 13/32 747	22 5/8 575	17 7/8 454	15 381	12 305	2 1/8 Solder	1 3/8 Solder	483 219	555 252
6RK★-3500	6RH★-3500	35 26.1	6	2 11/16 68.3	2 3/16 55.6	3748 106.1	140 (130)	4.14 (3.84)	30 5/32 766	20 1/2 521	17 7/8 454	15 381	12 305	2 1/8 Solder	1 3/8 Solder	496 225	571 259
6RP★-3500	6RH★-3500	35 26.1	6	2 11/16 68.3	2 3/16 55.6	3748 106.1	140 (130)	4.14 (3.84)	30 5/32 766	23 584	17 7/8 454	15 381	12 305	2 1/8 Solder	1 3/8 Solder	506 230	582 264
6RR★-4000 (DS)	6RJ★-4000	40 29.8	6	2 15/16 74.6	2 3/16 55.6	4478 126.8	255 (245)	7.54 (7.25)	30 5/32 766	21 5/8 549	20 7/8 530	15 381	12 305	2 1/8 Solder	1 3/8 Solder	541 245	622 282
6RS★-4000 (DS)	6RJ★-4000	40 29.8	6	2 15/16 74.6	2 3/16 55.6	4478 126.8	255 (245)	7.54 (7.25)	30 5/32 766	24 1/8 613	20 7/8 530	15 381	12 305	2 1/8 Solder	1 3/8 Solder	547 248	628 285

(DS) Deep oil sump is standard on this model.

ELECTRICAL SPECIFICATIONS

ESL 210/240-3-50 380/420-3-50		ESM 380/420-3-50		ES8 200-3-50 200/220-3-60 380-3-60		FSR 200/240-3-50		FSD 380/420-3-50 460-3-60		FSM 380/420-3-50		TFC/TSC 200/220-3-50 208/230-3-60		TFD 380/400-3-50 460-3-60		TSK 200/400-3-50 208/230-3-60 460-3-60		TSN 200/400-3-50 230/460-3-60		TFE/TSE 500-3-50 575-3-60	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
210/240 36.2 222.0 380/420 20.4 125.0		20.4	125.0			36.2	222.0			20.4	125.0	TFC 44.0	208.0	20.0	104.0					TFE 17.5	88.2
										22.0	102.0					200/208/230 54.8 240.0 400/460 27.4 120.0				TSE 19.8	106.0
210/240 53.0 195.0 380/420 30.0 110.0		30.0	110.0			53.0	195.0			30.0	137.0	TSC 56.5	284.0	28.5	144.0					TFE 22.5	127.0
210/240 57.5 211.0 380/420 34.0 125.0				200/220 68.4 335.0 380 38.9 189.0				32.3	135.0							200/208/230 71.4 308.0 400/460 35.7 154.0				TSE 29.2	135.0
								38.8	135.0							200/208/230 67.3 308.0 400/460 33.7 154.0				TSE 28.2	135.0
210/240 57.5 211.0 380/420 34.0 125.0		34.0	125.0					38.8	135.0							200/208/230 67.3 308.0 400/460 33.7 154.0				TSE 28.2	135.0
210/240 73.0 290.0 380/420 38.0 165.0		38.0	165.0	200/220 102.5 438.0 380 59.9 251.0				45.0	165.0							200/208/230 88.5 428.0 400/460 44.3 214.0				TSE 34.8	160.0
210/240 96.0 351.0 380/420 57.0 200.0		57.0	200.0	200/220 119.3 500.0 380 68.4 289.0				59.0	200.0							200/208/230 102.0 470.0 400/460 51.0 235.0				TSE 42.2	200.0
210/240 96.0 351.0 380/420 57.0 200.0								50.6	200.0							200/208/230 105.0 470.0 400/460 52.5 235.0				TSE 43.0	200.0
								50.6	200.0							200/208/230 105.0 470.0 400/460 52.5 235.0				TSE 43.0	200.0
210/240 115.0 394.0 380/420 65.0 225.0		65.0	225.0	200/220 145.9 633.0 380 85.9 365.0				62.7	225.0							200/208/230 135.0 565.0 400/460 67.5 283.0				TSE 50.2	230.0
		65.0	225.0	200/220 145.9 633.0 380 85.9 365.0				62.7	225.0							200/208/230 135.0 565.0 400/460 67.5 283.0				TSE 50.2	230.0
210/240 125.0 425.0 380/420 70.0 245.0		70.0	239.0	200/220 160.0 633.0 380 89.6 365.0				64.3	239.0									200/230 142.0 594.0 400/460 71.0 297.0		TSE 53.6	225.0
210/240 125.0 425.0 380/420 70.0 245.0		70.0	239.0	200/220 160.0 633.0 380 89.6 365.0				64.3	239.0									200/230 142.0 594.0 400/460 71.0 297.0		TSE 53.6	225.0

REFRIGERANT COOLED CAPACITY CONTROL TANDEMS

MECHANICAL SPECIFICATIONS

MODEL	HP kW	Consisting of Two Single Compressors	CFH m^3/hr	Oil Charge (Refill Oil Charge)		Overall Dimensions in/mm			Mounting Center Dimensions in/mm		Suction Connection Size	Discharge Connection Size	Weights lb/kg	
			50 Hertz	Oz	Liter	Length	Width	Height	Length	Width	Valve in	Fitting in	Net	Shipping
44E★-2000	20 14.9	**4RE★-1000**	3954 111.9	280 (260)	8.28 (7.69)	57 11/16 1465	21 533	19 5/16 491	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	862 391	991 450
44E★-4000	40 29.8	**4RE★-2000**	3954 111.9	270 (240)	7.98 (7.10)	57 11/16 1465	21 533	19 5/16 491	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	874 396	1005 456
66E★-4000	40 29.8	**6RE★-2000**	5932 167.9	310 (290)	9.17 (8.58)	63 3/4 1619	22 5/8 575	21 3/8 543	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	938 425	1081 490
66N★-4000	40 29.8	**6RN★-2000**	5932 167.9	310 (290)	9.17 (8.58)	63 3/4 1619	22 5/8 575	21 3/8 543	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	943 428	1086 493
44K★-5000	50 37.3	**4RK★-2500**	4998 141.5	260 (240)	7.69 (7.10)	61 3/8 1559	21 3/8 543	19 1/2 495	55 1397	12 305	2 5/8 Solder	1 3/8 Solder	959 435	1101 499
44R★-6000	60 44.8	**4RR★-3000**	5970 169.0	280 (250)	8.28 (7.39)	61 3/8 1559	21 3/8 543	19 1/2 495	55 1397	12 305	2 5/8 Solder	1 3/8 Solder	1024 464	1185 538
66E★-6000	60 44.8	**6RE★-3000**	5932 167.9	280 (260)	8.28 (7.69)	63 3/4 1619	22 5/8 575	21 3/8 543	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1034 469	1189 539
66N★-6000	60 44.8	**6RN★-3000**	5932 167.9	280 (260)	8.28 (7.69)	63 3/4 1619	22 5/8 575	21 3/8 543	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1039 471	1194 542
66K★-7000	70 52.2	**6RK★-3500**	7496 212.2	280 (260)	8.28 (7.69)	63 3/4 1619	23 584	21 3/8 543	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1076 488	1237 561
66P★-7000	70 52.2	**6RP★-3500**	7496 212.2	280 (260)	8.28 (7.69)	63 3/4 1619	23 584	21 3/8 543	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1081 490	1242 563
66R★-8000 (DS)	80 59.7	**6RR★-4000**	8956 253.5	510 (490)	15.1 (14.5)	63 3/4 1619	23 584	24 3/16 614	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1165 528	1339 607
66S★-8000 (DS)	80 59.7	**6RS★-4000**	8956 253.5	510 (490)	15.1 (14.5)	63 3/4 1619	23 584	24 3/16 614	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1170 531	1344 610

Electrical specifications shown for tandems are per compressor rating.
(DS) Deep oil sumps are standard on this model.

ELECTRICAL SPECIFICATIONS

ESL 210/240-3-50 380/420-3-50		ESM 380/420-3-50		ES8 200-3-50 200/220-3-60 380-3-60		FSD 380/420-3-50 460-3-60		FSM 380/420-3-50		TSK 200/400-3-50 208/230-3-60 460-3-60		TSN 200/400-3-50 230/460-3-60		TSE 500-3-50 575-3-60	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
										200/208/230 54.8 240.0 400/460 27.4 120.0				19.8	106.0
210/240 57.5 211.0 380/420 34.0 125.0				200/220 68.4 335.0 380 38.9 189.0		32.3	135.0			200/208/230 71.4 308.0 400/460 35.7 154.0				29.2	135.0
						38.8	135.0			200/208/230 67.3 308.0 400/460 33.7 154.0				28.2	135.0
210/240 57.5 211.0 380/420 34.0 125.0		34.0	125.0			38.8	135.0			200/208/230 67.3 308.0 400/460 33.7 154.0				28.2	135.0
210/240 73.0 290.0 380/420 38.0 165.0		38.0	165.0	200/220 102.5 438.0 380 59.9 251.0		45.0	165.0			200/208/230 88.5 428.0 400/460 44.3 214.0				34.8	160.0
210/240 96.0 351.0 380/420 57.0 200.0		57.0	200.0	200/220 119.3 500.0 380 68.4 289.0		59.0	200.0			200/208/230 102.0 470.0 400/460 51.0 235.0				42.2	200.0
210/240 96.0 351.0 380/420 57.0 200.0						50.6	200.0			200/208/230 105.0 470.0 400/460 52.5 235.0				43.0	200.0
						50.6	200.0			200/208/230 105.0 470.0 400/460 52.5 235.0				43.0	200.0
210/240 115.0 394.0 380/420 65.0 225.0		65.0	225.0	200/220 145.9 633.0 380 85.9 365.0		62.7	225.0			200/208/230 135.0 565.0 400/460 67.5 283.0				50.2	230.0
		65.0	225.0	200/220 145.9 633.0 380 85.9 365.0		62.7	225.0			200/208/230 135.0 565.0 400/460 67.5 283.0				50.2	230.0
210/240 125.0 425.0 380/420 70.0 245.0		70.0	239.0	200/220 160.0 633.0 380 89.6 365.0		64.3	239.0					200/230 142.0 594.0 400/460 71.0 297.0		53.6	225.0
210/240 125.0 425.0 380/420 70.0 245.0		70.0	239.0	200/220 160.0 633.0 380 89.6 365.0		64.3	239.0					200/230 142.0 594.0 400/460 71.0 297.0		53.6	225.0

REFRIGERANT COOLED TWO-STAGE

MECHANICAL SPECIFICATIONS

MODEL	HP kW	CYL	Bore in mm	Stroke in mm	CFH m^3/hr 50 Hertz	Oil Charge (Refill Oil Charge) Oz	 Liter	Overall Dimensions in/mm Length	 Width	 Height	Mounting Center Dimensions in/mm Length	 Width	Service Valve Sizes Suction in	 Discharge in	Weights lb/kg with Subcooler Net	 Shipping
9TK★-0505	5 3.7	3	2 3/16 55.6	2 50.8	1135 32.1	115 (105)	3.40 (3.11)	24 27/32 631	14 356	20 1/8 511	15 381	12 305	1 3/8 Solder	7/8 Solder	358 162	376 171
9TL★-0765	7.5 5.6	3	2 3/8 60.3	2 50.8	1338 37.9	115 (105)	3.40 (3.11)	24 27/32 631	14 356	20 1/8 511	15 381	12 305	1 3/8 Solder	7/8 Solder	364 165	383 174
9TH★-1015	10 7.5	3	2 7/16 61.9	2 1/2 63.5	1762 49.9	115 (105)	3.40 (3.11)	25 23/32 653	14 356	20 1/8 511	15 381	12 305	1 3/8 Solder	7/8 Solder	374 170	392 178
6RB★-1000	10 7.5	6	2 1/2 63.5	2 50.8	2966 84.0	145 (135)	4.29 (3.99)	28 5/32 715	21 5/8 549	19 1/2 495	15 381	12 305	1 3/8 Solder	1 3/8 Solder	442 200	466 211
6RB★-2000	20 14.9	6	2 1/2 63.5	2 50.8	2966 84.0	155 (145)	4.58 (4.29)	28 5/32 715	21 5/8 549	19 1/2 495	15 381	12 305	1 3/8 Solder	1 3/8 Solder	447 203	471 214
6TM★-2000	20 14.9	6	2 11/16 68.3	2 3/16 55.6	3748 106.1	155 (145)	4.58 (4.29)	28 5/32 715	22 559	19 23/32 501	15 381	12 305	1 3/8 Solder	1 3/8 Solder	458 208	482 219

REFRIGERANT COOLED TWO-STAGE TANDEMS

MECHANICAL SPECIFICATIONS

MODEL	HP kW	Consisting of Two Single Compressors	CFH m^3/hr 50 Hertz	Oil Charge (Refill Oil Charge) Oz	 Liter	Overall Dimensions in/mm Length	 Width	 Height	Mounting Center Dimensions in/mm Length	 Width	Suction Connection Size Fitting in	Discharge Connection Size Two Valves in	Weights lb/kg Net	 Shipping
66B★-2000	20 14.9	**6RB★-1000**	5932 167.9	290 (270)	8.58 (7.98)	63 3/4 1619	23 584	21 5/32 537	55 1397	12 305	1 5/8 Solder	1 3/8 Solder	1029 467	1065 483
66B★-4000	40 29.8	**6RB★-2000**	5932 167.9	310 (290)	9.17 (8.58)	63 3/4 1619	23 584	21 5/32 537	55 1397	12 305	1 5/8 Solder	1 3/8 Solder	1039 471	1075 488
66M★-4000	40 29.8	**6TM★-2000**	7496 212.2	310 (290)	9.17 (8.58)	63 3/4 1619	22 5/8 575	21 3/8 543	55 1397	12 305	1 5/8 Solder	1 3/8 Solder	1061 481	1097 498

Electrical specifications shown for tandems are per compressor rating.

ELECTRICAL SPECIFICATIONS

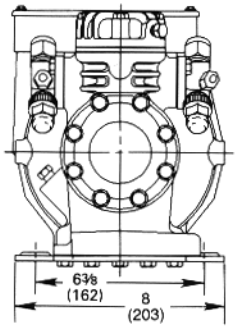
ESL 210/240-3-50 380/420-3-50		ESM 380/420-3-50		FSR 200/240-3-50		FSD 380/420-3-50 460-3-60		FSM 380/420-3-50		TFC 200/220-3-50 208/230-3-60		TFD 380/400-3-50 460-3-60		TSK 200/400-3-50 208/230-3-60 460-3-60		TFE TSE 500-3-50 575-3-60	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
210/240 17.0 90.0 380/420 9.5 50.0		9.5	50.0	17.0	90.0			9.5	50.0	19.6	115.0	Approved for 60HZ only 8.3	53.0			TFE 7.8	42.0
210/240 32.5 130.0 380/420 18.8 75.0		18.8	75.0	32.5	130.0			18.8	75.0	30.0	164.0	14.5	82.0			TFE 9.7	63.8
210/240 36.2 222.0 380/420 20.4 125.0		20.4	125.0	36.2	222.0			20.4	125.0	Approved for 60HZ only 37.3	208.0	Approved for 60HZ only 17.5	104.0				
		22.0	102.0					22.0	102.0					200/208/230 43.3	240.0		
														400/460 21.7	120.0		
210/240 57.5 211.0 380/420 34.0 125.0		34.0	125.0			28.9	135.0							200/208/230 61.4	308.0	TSE 25.4	135.0
														400/460 30.7	154.0		
210/240 57.5 211.0 380/420 34.0 125.0		34.0	125.0					34.0	125.0					200/208/230 65.7	308.0	TSE 28.2	135.0
														400/460 32.9	154.0		

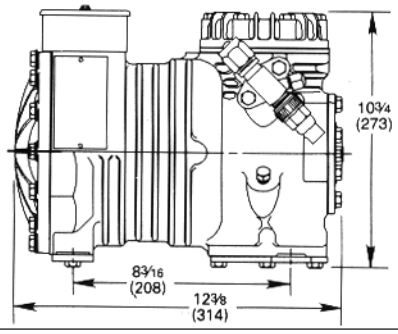
ELECTRICAL SPECIFICATIONS

ESL 210/240-3-50 380/420-3-50		ESM 380/420-3-50		FSD 380/420-3-50 460-3-60		FSM 380/420-3-50		TSK 200/400-3-50 208/230-3-60 460-3-60		TSE 500-3-50 575-3-60	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
		22.0	102.0			22.0	102.0	200/208/230 43.3	240.0		
								400/460 21.7	120.0		
210/240 57.5 211.0 380/420 34.0 125.0		34.0	125.0	28.9	135.0			200/208/230 61.4	308.0	25.4	135.0
								400/460 30.7	154.0		
210/240 57.5 211.0 380/420 34.0 125.0		34.0	125.0			34.0	125.0	200/208/230 65.7	308.0	28.2	135.0
								400/460 32.9	154.0		

DIMENSIONS AND PHOTOGRAPHS

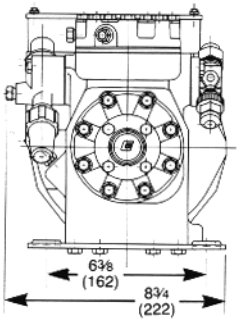
HA FAMILY

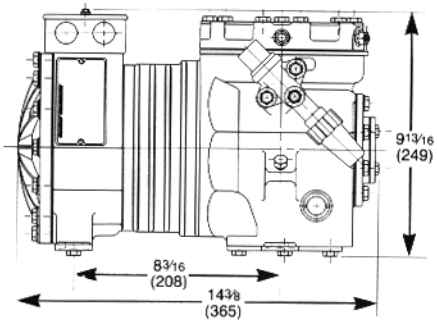




Model HAJ1-0025 Shown

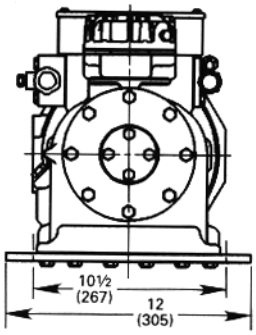
KA FAMILY

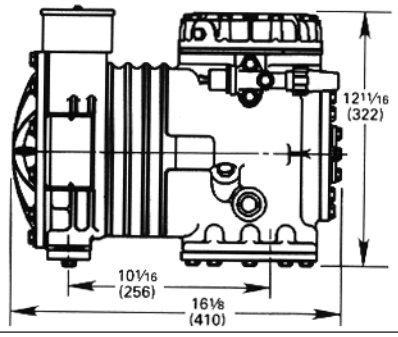




Model KATA-0150 Shown

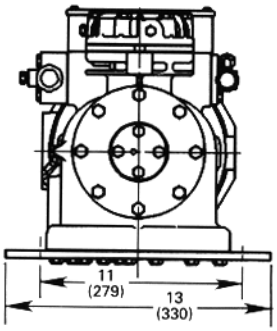
EA FAMILY

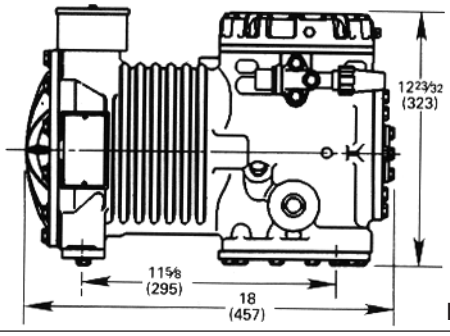




Model EAD1-0200 Shown

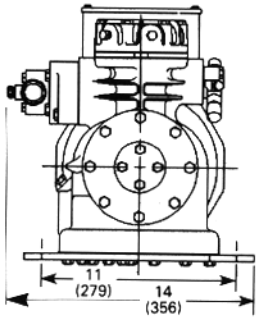
3A FAMILY

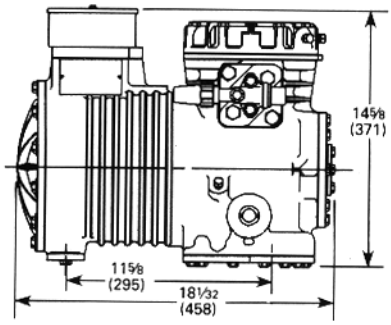




Model 3AB1-0310 Shown

LA FAMILY



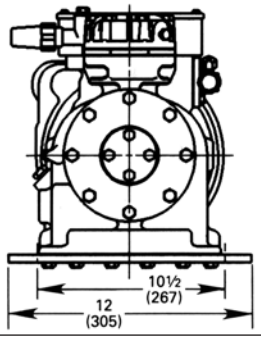


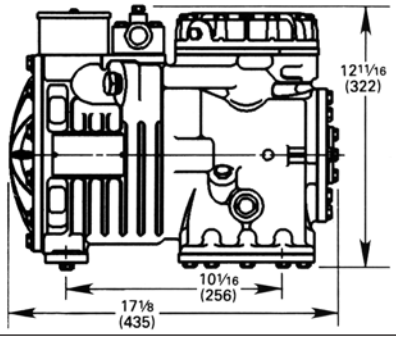
Model LAH1-0310 Shown

Dimensions shown are inches (millimeters).

DIMENSIONS AND PHOTOGRAPHS

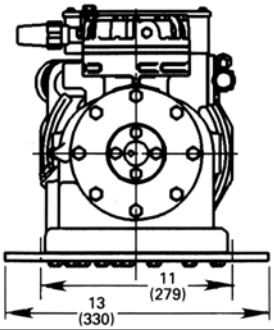
ER FAMILY

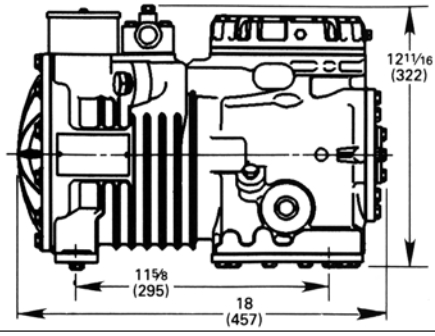




Model ERF1-0310 Shown

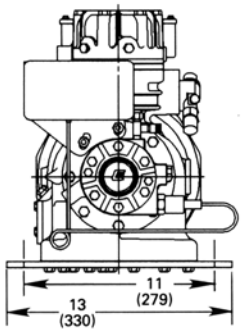
3R FAMILY

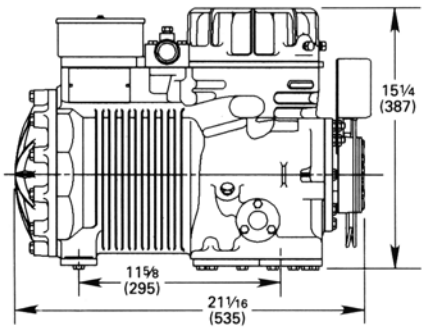




Model 3RA1-0310 Shown

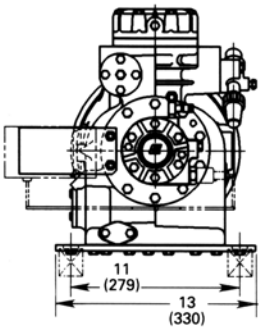
NR FAMILY

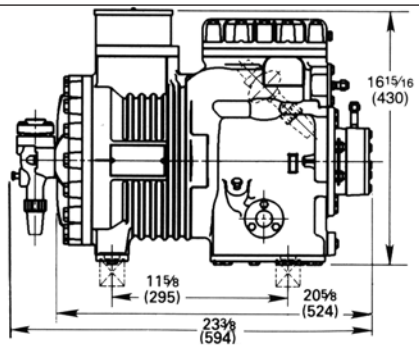




Model NRD1-0406 Shown

MR FAMILY





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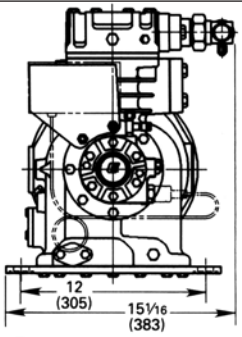
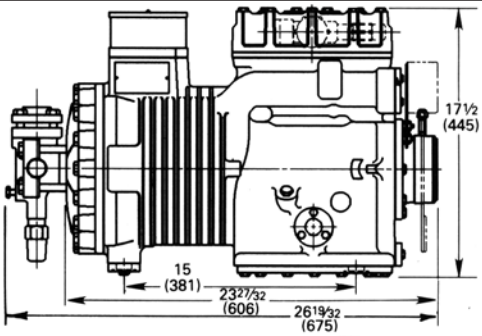
9R FAMILY



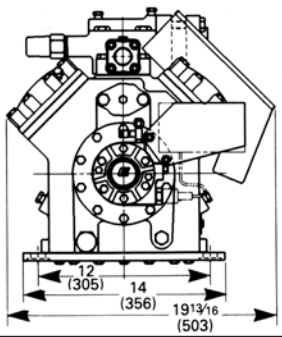


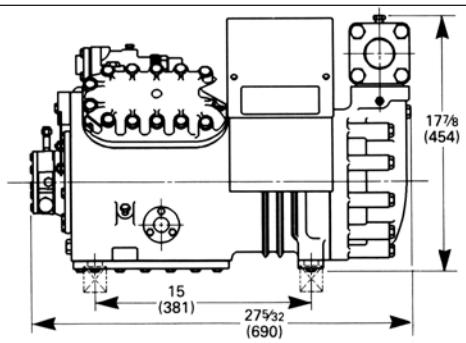
Model 9RC1-1015 Shown

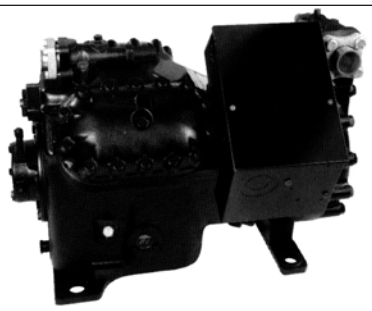
Dimensions shown are inches (millimeters).

DIMENSIONS AND PHOTOGRAPHS

4R FAMILY

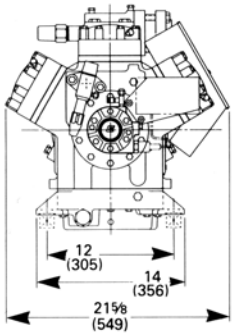


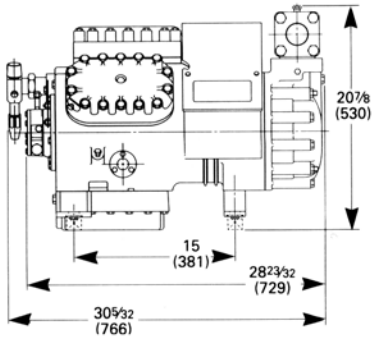


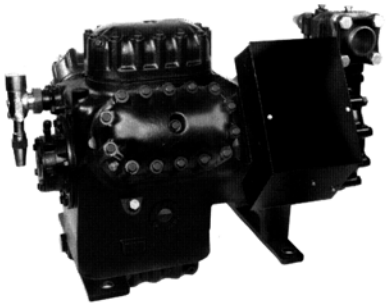


Model 4RJ1-3000 Shown

6R FAMILY

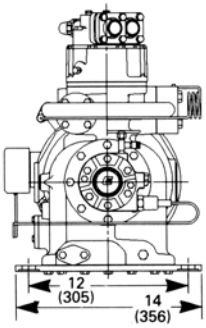


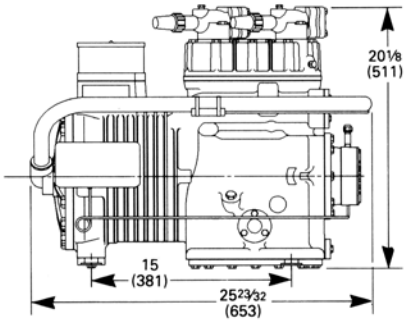


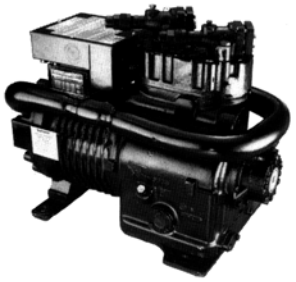


Model 6RJ1-4000 Shown

TWO-STAGE FAMILY

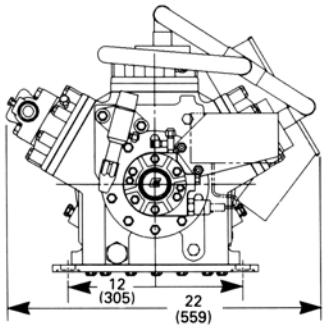


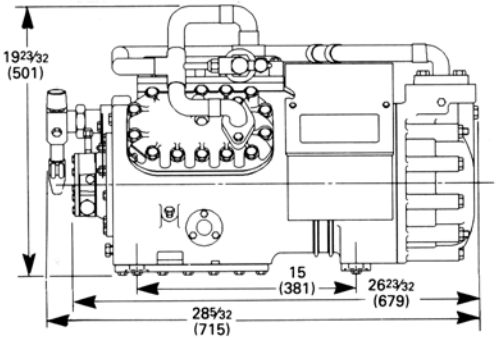


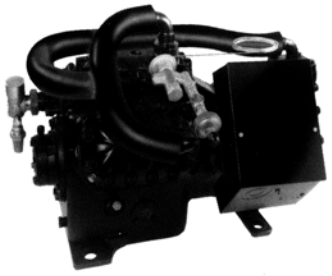


Model 9TH1-1015 Shown

TWO-STAGE FAMILY

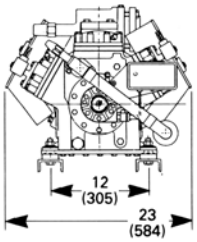


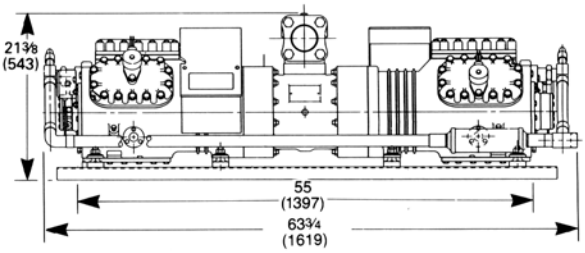


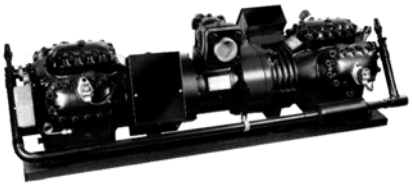


Model 6TM1-2000 Shown

TANDEM







Model 66P2-4000 Shown

Dimensions shown are inches (millimeters).

APPLICATION INFORMATION

RATING CONDITIONS USED IN THIS BOOK

Refrigerant	R12	R22	R502
Evaporating Temperature	This book does not specifically define the operating limits of the compressors. See individual specification sheets for exact application capability.		
Condensing Temperature			
Return Gas Temperature	65°F 18.3°C	LT, MT: 65°F, 18.3°C HT: Varies	65°F 18.3°C
Ambient Temperature	95°F 35°C	95°F 35°C	95°F 35°C
Liquid Subcooling	0°F 0°C	LT, MT: 0°F, 0°C HT: 15°F, 8.3°C	0°F 0°C
Superheat	Varies	LT, MT: Varies HT: 20°F, 11.1°C	Varies
R22 MT, Medium Temperature is Below 35°F, 1.7°C R22 HT, High Temperature is 55°F to 35°F, 12.8°C to 1.7°C		Two-Stage rating conditions based on 65°F, 18.3°C return gas, 95°F, 35°C ambient and maximum liquid subcooling.	

APPLICATION REQUIREMENTS

- All Copelametic compressors require some form of motor cooling, regardless of the operating conditions. It is important to note that refrigerant-cooled models when operating at evaporating temperatures of 0°F (–17.8°C) or lower require additional motor and cylinder head cooling. This can be accomplished by the use of an external fan assembly available from Emerson Climate Technologies. See Application Bulletin AE 4-1135 for complete details and allow for extra height to install the fan to the top of the compressor.
- Oil Pump Description.
  - Models H, K, E, 3, L. If oil pump is used it is a low pressure pump. No oil pressure control is needed.
  - Models N, M, 9, 4, 6. Oil pump is Sentronic high pressure oil pump.
- An oil pressure safety control is required on every Copelametic compressor equipped with a high pressure oil pump. Approved controls provide low cost, safe protection against damage from loss of lubrication. These can be supplied by Emerson Climate Technologies and should be listed separately on your purchase orders (except those covering tandem compressors on which they are supplied as standard equipment). There are two types of control available, our new “Sentronic” Control offering improved reliability and accuracy (see next paragraph for details) and the conventional capillary tube type control which can be ordered by using Part Number 998-0700-00. For further information, see Application Bulletin AE 8-1095.
- Emerson Climate Technologies introduces a new era in oil pressure controls with the Sentronic Oil Pressure Control System. The Sentronic electronic control system eliminates capillary tubes used on electro-mechanical systems to sense oil pressure. The new system uses a pressure transducer within the oil pump that produces an electrical signal to the control module. If the oil pressure drops below acceptable limits for a period of two minutes the control module cuts power to the compressor and stops it. The Sentronic offers a new and more reliable solution to capillary leaks. To order the Sentronic Oil Pressure Control use part number 585-1036-00. For instructions refer to Application Bulletin AE 8-1275.

  The Sentronic is only functional when used with our new oil pump that has a machined port for the Sentronic sensor. The Sentronic control and oil pump are standard on all Copelametic tandem compressors and the oil pump is standard on all Copelametic compressors using high pressure positive displacement oil pumps.
- All 4 and 6 cylinder models are equipped with a pre-set internal relief valve between suction and discharge which will open if the maximum permissible pressure differential is reached.
- All Tandem models except Two-Stage include a discharge muffler.
- The nominal rotational speeds of the Copelametic Conventional compressors are:
  - 50 Hertz 1450 RPM.
  - 60 Hertz 1750 RPM.
- Dimensions in this brochure include the terminal box and service valves mounted. Height is from the bottom plate bolts or from bottom of extended oil sump where applicable and does not include mounting parts except mounting for tandem compressors where dimensions include the mounting rails. Mounting center dimensions do not apply to narrow profile deep sump models such as those with an 8 in the fourth place of the model number.

APPLICATION INFORMATION

PART WINDING AND STAR-DELTA STARTING MOTOR CHARACTERISTICS

Motor	Leads	Hertz	Across-The-Line	Part Winding	Star-Delta
ESL	6	50	210/240-3-50 380/420-3-50		210/240-3-50
ESM	6	50	380/420-3-50		380/420-3-50
ES8	6	50 60	200-3-50 200/220-3-60 380-3-60		200-3-50 200/220-3-60
FSD	6	50 60	380/420-3-50 460-3-60	380/420-3-50 460-3-60	
FSM	6	50	380/420-3-50	380/420-3-50	
FSR	6	50	200/240-3-50	200/240-3-50	
TSE	6	50 60	500-3-50 575-3-60	500-3-50 (PW) 575-3-60 (PW)	
TSN	9	50 60	200-3-50 400-3-50 230-3-60 460-3-60	200-3-50 230-3-60	
TSK	9	50 60	200-3-50 400-3-50 208/230-3-60 460-3-60	200-3-50 208/230-3-60	

(PW) Part winding start applies only to single compressors 20 horsepower, 14.9 kilowatt, and above; tandem 40 horsepower, 29.8 kilowatt, and above.

ELECTRICAL APPLICATION INFORMATION

- On Copelametic compressors with pilot circuit motor protection (compressors with H, L, or S type motor protection) the contactor becomes an integral part of the motor protection system. Modern pilot circuit protection, whether solid state or internal thermostat, used in conjunction with a properly sized and operating contactor provides excellent motor protection. Emerson Climate Technologies specifications require the use of a properly sized, properly applied contactor. For complete contactor sizing information, please see Application Bulletin AE 10-1244.
- Refer to the Electrical Handbook, Form 6400, for wiring diagrams.
- Rated load amps is the value used for contactor and other electrical component selection. It is calculated by dividing the maximum continuous current that the compressor draws under the condition of maximum load operation and the lowest operating voltage by 1.4. See Application Bulletin AE 9-1154 for a detailed explanation.
- Rated load amps (RLA) and locked rotor amps (LRA) shown in this book are at across-the-line, not part winding start or star-delta conections.

APPLICATION INFORMATION

APPLICATION OPTIONS

- Use bill of material number 200 for standard compressors. This bill of material includes oil charge, mounting parts, standard service valves, overload protectors, terminal box covers and, where applicable, running capacitors, starting capacitors and relays. Oil pressure safety controls, crankcase heaters, contactors, and high-low pressure controls, when required, should be ordered with compressors but listed separately on the purchase order. Exception to this rule is that 200 bill of material tandem compressors include oil pressure safety controls. Emerson Climate Technologies recommends ordering a standard 9R Compressor with a cylinder head mounted discharge service valve, B/M 400. But, for a body mounted discharge service valve on the 9R, B/M 200 should be specified.
- On air conditioning applications where the cooling load may vary over a wide range, some means of compressor capacity control is frequently necessary for satisfactory system performance. Emerson Climate Technologies has available capacity reduction control devices for the larger Copelametic models. These capacity modulation accessories can be mounted on the compressor at the factory or added in the field. The capacity control valves are mounted externally on the 9R compressors and internally on the 4R and 6R. Application Bulletins AE 21-1216 and AE 21-1222 provide detailed technical information. Field conversion kits contain all necessary parts to convert a standard model to a capacity control model.
- Crankcase heaters are strongly recommended on all refrigeration systems where the compressor is exposed to cold ambient temperatures, on all split air conditioning systems, and on package air conditioning equipment 5 HP and larger. As the refrigerant charge increases, the start-up problems associated with vapor refrigerant in liquid oil becomes more critical. The crankcase heater will minimize refrigerant migration to the crankcase during periods when the compressor is not operating and will greatly reduce liquid slugging, loss of oil and compressor damage. Please refer to Application Bulletins AE 4-1166, AE 17-1238, and AE 22-1182 for additional information.
- Any model in the families of M, 9, 4, or 6 has the option of an installed deep oil sump.
- Air and water-cooled condensing units that contain the compressors listed in this section are available from Emerson Climate Technologies.
- The H, K, EA and 3A families can be converted to water cooled with a factory installed copper water coil wrapped around the compressor body.

UNITS CONVERSION CHART

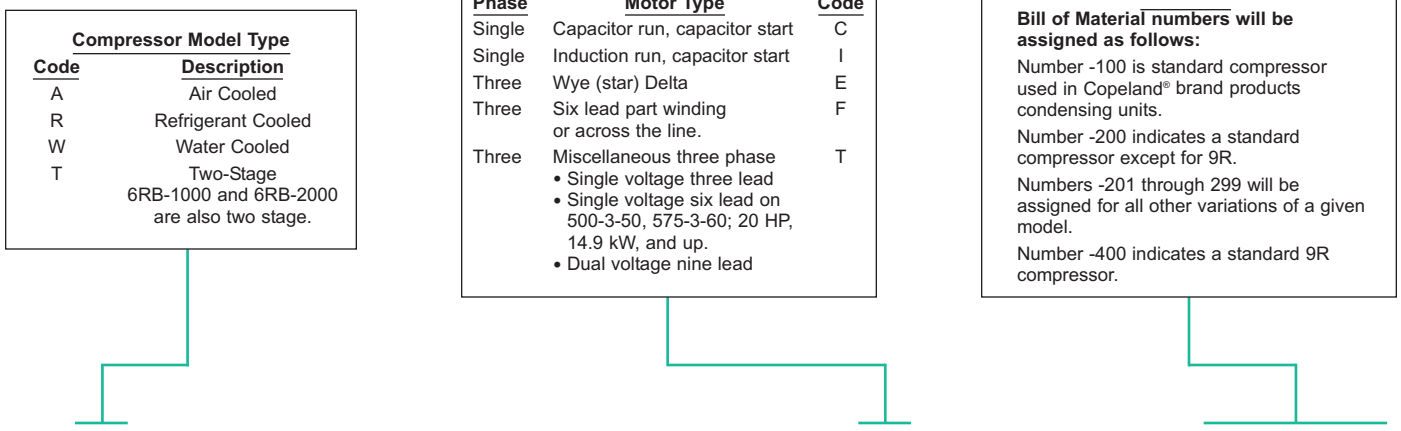
BTUH × .252 = KCALH
BTUH × .293 = WATTS
(°F – 32) × 5/9 = °C
POUNDS × .454 = KILOGRAMS
INCHES × 25.4 = MILLIMETERS
CUBIC INCHES × 16.386 = CUBIC CENTIMETERS
FLUID OUNCES × .02957 = LITERS
CUBIC FEET × .02831 = CUBIC METERS
HORSEPOWER × .746 = KILOWATTS

APPLICATION INFORMATION

APPLICATION BULLETINS

Emerson Climate Technologies has compiled a book of compressor Application Bulletins. Please see the following bulletins, from the book, for more Conventional Copelametic compressor application information as entitled below:

SINGLE COMPRESSOR NOMENCLATURE



Compressor Model Type

Code	Description
A	Air Cooled
R	Refrigerant Cooled
W	Water Cooled
T	Two-Stage 6RB-1000 and 6RB-2000 are also two stage.

Compressor Motor Type

Phase	Motor Type	Code
Single	Capacitor run, capacitor start	C
Single	Induction run, capacitor start	I
Three	Wye (star) Delta	E
Three	Six lead part winding or across the line.	F
Three	Miscellaneous three phase • Single voltage three lead • Single voltage six lead on 500-3-50, 575-3-60; 20 HP, 14.9 kW, and up. • Dual voltage nine lead	T

Product Variations

Bill of Material numbers will be assigned as follows:

Number -100 is standard compressor used in Copeland® brand products condensing units.

Number -200 indicates a standard compressor except for 9R.

Numbers -201 through 299 will be assigned for all other variations of a given model.

Number -400 indicates a standard 9R compressor.

Compressor Family Series

Either a number or a letter established for each product model.

Displacement and Valve Plate

A letter only, arbitrarily assigned for each different displacement and valve plate combination within any one family series.

Model Variations

A number or letter arbitrarily assigned to indicate major variations within any one family series.

Compressor Motor Rating

Nominal HP	kW	Code
.25	.19	0025
.33	.25	0033
.50	.37	0050
.75	.56	0075
1.0	.75	0100
1.5	1.1	0150
2	1.5	0200
3	2.2	0300
4	3.0	0400
5	3.7	0500
7.5	5.6	0750
10	7.5	1000
15	11.2	1500
19	14.2	1900
20	14.9	2000
25	18.7	2500
30	22.4	3000
35	26.1	3500
40	29.8	4000

Compressor Motor Protection

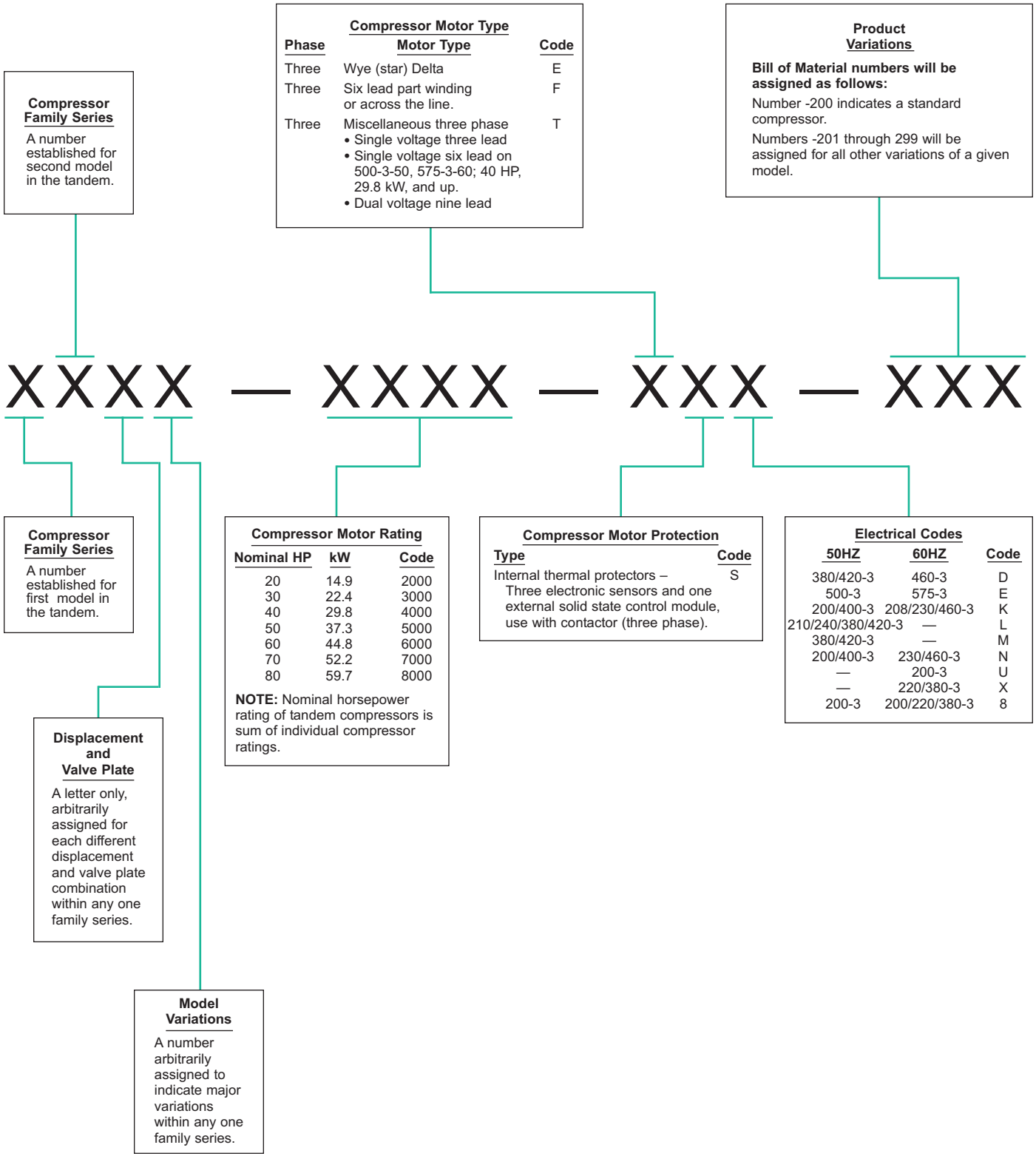
Type	Code
External inherent protection – One protector, use with contactor (single or three phase).	A
Internal inherent protection – One protector, use with contactor (three phase).	F
Internal thermostat and two external supplementary protectors mounted on compressor, use with contactor (three phase).	H
Internal thermostat and three external supplementary protectors mounted on compressor, use with contactor (three phase).	L
Internal thermal protectors – Three electronic sensors and one external solid state control module, use with contactor (three phase).	S

Electrical Codes

50HZ	60HZ	Code
—	115-1	A
—	230-1	B
200/220-3	208/230-3	C
380/400-3	460-3	D
500-3	575-3	E
115-1	—	F
230-1	—	G
—	208-1	H
200/400-3	208/230/460-3	K
210/240/380/420-3	—	L
380/420-3	—	M
200/400-3	230/460-3	N
200/240-3	—	R
220-1	—	S
200-3	200-3	U
200/220-1	208/230-1	V
—	220/380-3	X
220/240-1	—	Z
—	380-3	7
200-3	200/220/380-3	8

NOTE: Code D 50HZ rating may be 380/420 depending on compressor model. Code U is only 60HZ on one model.

TANDEM COMPRESSOR NOMENCLATURE



Compressor Family Series

A number established for second model in the tandem.

Compressor Motor Type

Phase	Motor Type	Code
Three	Wye (star) Delta	E
Three	Six lead part winding or across the line.	F
Three	Miscellaneous three phase • Single voltage three lead • Single voltage six lead on 500-3-50, 575-3-60; 40 HP, 29.8 kW, and up. • Dual voltage nine lead	T

Product Variations

Bill of Material numbers will be assigned as follows:

Number -200 indicates a standard compressor.

Numbers -201 through 299 will be assigned for all other variations of a given model.

Compressor Family Series

A number established for first model in the tandem.

Displacement and Valve Plate

A letter only, arbitrarily assigned for each different displacement and valve plate combination within any one family series.

Model Variations

A number arbitrarily assigned to indicate major variations within any one family series.

Compressor Motor Rating

Nominal HP	kW	Code
20	14.9	2000
30	22.4	3000
40	29.8	4000
50	37.3	5000
60	44.8	6000
70	52.2	7000
80	59.7	8000

NOTE: Nominal horsepower rating of tandem compressors is sum of individual compressor ratings.

Compressor Motor Protection

Type	Code
Internal thermal protectors – Three electronic sensors and one external solid state control module, use with contactor (three phase).	S

Electrical Codes

50HZ	60HZ	Code
380/420-3	460-3	D
500-3	575-3	E
200/400-3	208/230/460-3	K
210/240/380/420-3	—	L
380/420-3	—	M
200/400-3	230/460-3	N
—	200-3	U
—	220/380-3	X
200-3	200/220/380-3	8

HFC Conventional Compressors

Emerson Climate Technologies accepts award for corporate leadership in HFC compressor development.

FEATURES

- HFC Ozone Friendly Refrigerants
- 50 and 60 Hertz Models Available
- Proven Copeland® Brand Products Dependability
- Rugged, Compact Construction for Heavy-Duty Usage
- Easily Accessible for Maintenance
- Wide Voltage Selection
- Full Maximum Load Rundown Capability
- Motor Protection on All Models
- Polyol Ester Lubricant
- Oil Sight Glass on All Models Except H
- “Sentronic” Compatible Oil Pump Included on N Models

HFC CONVENTIONAL COPELAMETIC STORY

Copelametic® HFC R404A / R407A / R507 Conventional compressors are the chlorine-free solution for low and medium temperature refrigeration applications.

Emerson Climate Technologies has always been committed to designing compressors that meet customer needs. And in recent years, Emerson Climate Technologies has led the industry in the research and testing of CFC alternatives for refrigeration compressor applications. As a result, Emerson Climate Technologies stands behind these refrigerants as the closest current replacement for R502. Customers required a chlorine-free refrigerant, and these possess all the qualities of R502. R404A/R407A/R507 are free of harmful chlorine, and yet allow refrigeration end-users the same level of maintenance and simplicity of operation associated with its proven single-stage systems.

The Conventional Copelametic compressors have been produced by Emerson Climate Technologies since 1941. They were the first successful compressors to operate with an electric motor inside the compressor casting. The new HFC models shown in this section are a qualified derivative of these earlier popular and proven models.

HFC Conventional Copelametic compressors in this section of the catalog are found in the following order:

- Air Cooled
- Refrigerant Cooled

Air and Refrigerant Cooled refers to the type of compressor motor cooling.

Emerson Climate Technologies remains committed to delivering environmentally acceptable compressor products, uncompromising reliability and the highest performance. Our HFC Conventional compressors are proof of the technological expertise and industry leadership you’ve come to expect from Emerson Climate Technologies.

50 HERTZ

AIR COOLED

CAPACITY BTUS/HOUR *KCALS/HOUR* WATTS

R404A/R407A/R507

MODEL	HP kW	CFH m³/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
HAG★-005E	.50 .37	63.4 1.79	100	37.8			4000 *1010* 1170	3200 *810* 940	2400 *600* 700	2100 *530* 620	1800 *450* 530				
			130	54.4			2500 *630* 730	2000 *500* 390	1400 *350* 410	1200 *300* 350	1000 *250* 290				
HAJ★-005E	.50 .37	69.7 1.97	100	37.8			4600 *1160* 1350	3600 *910* 1050	2800 *710* 820	2500 *630* 730	2100 *530* 620				
			130	54.4			3000 *760* 880	2300 *580* 670	1800 *450* 530	1500 *380* 440	1300 *330* 380				
HAT★-005E	.50 .37	102 2.89	100	37.8						3900 *980* 1140	3400 *860* 1000	3000 *760* 880	2200 *550* 640	1500 *380* 440	990 *250* 290
			130	54.4						2500 *630* 730	2200 *550* 640	1900 *480* 560	1300 *330* 380	810 *200* 240	420 *110* 120
KAN★-005E	.50 .37	93.5 2.65	100	37.8						3300 *830* 970	2900 *730* 850	2500 *630* 730	1700 *430* 500	1200 *300* 350	690 *170* 200
			130	54.4						1900 *480* 560	1600 *400* 470	1300 *330* 380	900 *230* 260	530 *130* 160	320 *80* 90
KAG★-005E	.50 .37	153 4.33	100	37.8									3100 *780* 910	2300 *580* 670	1570 *400* 460
			130	54.4									1900 *480* 560	1240 *310* 360	680 *170* 200
KAN★-006E	.50 .37	93.5 2.65	100	37.8						3200 *810* 940	2800 *710* 820	2400 *600* 700	1600 *400* 470	1000 *250* 290	560 *140* 160
			130	54.4						1900 *480* 560	1600 *400* 470	1300 *330* 380	800 *200* 230	300 *80* 90	180 *50* 60

50 HERTZ

AIR COOLED

CAPACITY BTUS/HOUR *KCALS/HOUR* WATTS

R404A/R407A/R507

MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
KAN★-007E	.75 .56	93.5 2.65	100	37.8			6100 *1540* 1790	4800 *1210* 1410	3700 *930* 1080	3200 *810* 940	2700 *680* 790				
			130	54.4			3900 *980* 1140	3000 *760* 880	2200 *550* 640	1900 *480* 560	1600 *400* 470				
KAE★-007E	.75 .56	111 3.14	100	37.8						4000 *1010* 1170	3500 *880* 1030	3000 *760* 880	2200 *550* 640	1500 *380* 440	1000 *250* 290
			130	54.4						2500 *630* 730	2100 *530* 620	1800 *450* 530	1200 *300* 350	790 *200* 230	440 *110* 130
KAM★-007E	.75 .56	140 3.96	100	37.8						5300 *1340* 1550	4700 *1180* 1380	4100 *1030* 1200	3000 *760* 880	2200 *550* 640	1550 *390* 450
			130	54.4						3500 *880* 1030	3000 *760* 880	2600 *660* 760	1900 *480* 560	1260 *320* 370	770 *190* 230
KAJ★-007E	.75 .56	181 5.12	100	37.8									3800 *960* 1110	2800 *710* 820	1920 *480* 560
			130	54.4									2300 *580* 670	1550 *390* 450	870 *220* 250
KAA★-007E	.75 .56	211 5.92	100	37.8						7700 *1940* 2260	6700 *1690* 1960	5900 *1490* 1730	4500 *1130* 1320	3300 *830* 970	2320 *580* 680
			130	54.4						4900 *1230* 1440	4300 *1080* 1260	3700 *930* 1080	2700 *680* 790	1890 *480* 550	1080 *270* 320
KAL★-007E	.75 .56	261 7.39	100	37.8									5700 *1440* 1670	4200 *1060* 1230	2910 *730* 850
			130	54.4									3400 *860* 1000	2380 *600* 700	1520 *380* 450

50 HERTZ

AIR COOLED

CAPACITY BTUS/HOUR *KCALS/HOUR* WATTS

R404A/R407A/R507

MODEL	HP kW	CFH m³/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
KAR★-010E	1 .75	131 3.71	**100**	**37.8**			8700 *2190* 2550	6900 *1740* 2020	5400 *1360* 1580	4800 *1210* 1410	4200 *1060* 1230				
			130	**54.4**			5900 *1490* 1730	4500 *1130* 1320	3500 *880* 1030	3100 *780* 910	2600 *660* 760				
KAG★-010E	1 .75	153 4.33	**100**	**37.8**			10700 *2700* 3140	8400 *2120* 2460	6600 *1660* 1930	5700 *1440* 1670	5000 *1260* 1470				
			130	**54.4**			7200 *1810* 2110	5500 *1390* 1610	4200 *1060* 1230	3700 *930* 1080	3200 *810* 940				
KAJ★-010E	1 .75	181 5.12	**100**	**37.8**						6900 *1740* 2020	6100 *1540* 1790	5300 *1340* 1550	4000 *1010* 1170	2900 *730* 850	1990 *500* 580
			130	**54.4**						4500 *1130* 1320	3900 *980* 1140	3400 *860* 1000	2500 *630* 730	1680 *420* 490	1020 *260* 300
KAL★-010E	1 .75	261 7.39	**100**	**37.8**									5500 *1390* 1610	4000 *1010* 1170	2840 *720* 830
			130	**54.4**									3400 *860* 1000	2320 *580* 680	1370 *350* 400
KAT★-010E	1 .75	322 9.12	**100**	**37.8**									7000 *1760* 2050	5200 *1310* 1520	3740 *940* 1100
			130	**54.4**									4500 *1130* 1320	3290 *830* 960	2320 *580* 680
KAJ★-011E	1 .75	181 5.12	**100**	**37.8**						6600 *1660* 1930	5800 *1460* 1700	5100 *1290* 1490	3800 *960* 1110	2700 *680* 790	1870 *470* 550
			130	**54.4**						4200 *1060* 1230	3700 *930* 1080	3200 *810* 940	2300 *580* 670	1540 *390* 450	940 *240* 280

50 HERTZ

AIR COOLED

CAPACITY BTUS/HOUR *KCALS/HOUR* WATTS

R404A/R407A/R507

MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
KAK★-011E	1 .75	211 5.97	**100**	**37.8**						8100 *2040* 2370	7100 *1790* 2080	6200 *1560* 1820	4600 *1160* 1350	3300 *830* 970	2210 *560* 650
			130	**54.4**						5200 *1310* 1520	4400 *1110* 1290	3800 *960* 1110	2600 *660* 760	1730 *440* 510	1190 *300* 350
KAL★-015E	1.5 1.1	261 7.39	**100**	**37.8**						9800 *2470* 2870	8700 *2190* 2550	7600 *1920* 2230	5700 *1440* 1670	4100 *1030* 1200	2850 *720* 840
			130	**54.4**						6500 *1640* 1900	5700 *1440* 1670	4900 *1230* 1440	3500 *880* 1030	2350 *590* 690	1350 *340* 400
KAT★-015E	1.5 1.1	322 9.12	**100**	**37.8**									7000 *1760* 2050	5100 *1290* 1490	3630 *910* 1060
			130	**54.4**									4700 *1180* 1380	3090 *780* 910	1990 *500* 580
KAL★-016E	1.5 1.1	261 7.39	**100**	**37.8**						10200 *2570* 2990	8900 *2240* 2610	7800 *1970* 2290	5700 *1440* 1670	4000 *1010* 1170	2710 *680* 790
			130	**54.4**						6500 *1640* 1900	5600 *1410* 1640	4800 *1210* 1410	3400 *860* 1000	2270 *570* 670	1510 *380* 440
KAK★-020E	2 1.5	211 5.97	**100**	**37.8**			14300 *3600* 4190	11500 *2900* 3370	8900 *2240* 2610	7800 *1970* 2290	6900 *1740* 2020				
			130	**54.4**			9700 *2440* 2840	7700 *1940* 2260	5800 *1460* 1700	5000 *1260* 1470	4400 *1110* 1290				
KAT★-020E	2 1.5	322 9.12	**100**	**37.8**						12100 *3050* 3550	10600 *2670* 3110	9400 *2370* 2750	7100 *1790* 2080	5300 *1340* 1550	3850 *970* 1130
			130	**54.4**						8200 *2070* 2400	7200 *1810* 2110	6300 *1590* 1850	4700 *1180* 1380	3340 *840* 980	2200 *550* 640

50 HERTZ

AIR COOLED

CAPACITY BTUS/HOUR *KCALS/HOUR* WATTS

R404A/R407A/R507

MODEL	HP kW	CFH m³/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
EAD★-020E	2 1.5	322 9.12	100	37.8						12000 *3020* 3520	10500 *2650* 3080	9100 *2290* 2670	6700 *1690* 1960	4800 *1210* 1410	3230 *810* 950
			130	54.4						7700 *1940* 2260	6700 *1690* 1960	5700 *1440* 1670	4000 *1010* 1170	2670 *670* 780	1530 *390* 450
KAK★-021E	2 1.5	211 5.97	100	37.8			14700 *3700* 4310	11800 *2970* 3460	9200 *2320* 2700	8100 *2040* 2370	7200 *1810* 2110				
			130	54.4			9900 *2490* 2900	7900 *1990* 2310	6000 *1510* 1760	5200 *1310* 1520	4600 *1160* 1350				
EAD★-021E	2 1.5	322 9.12	100	37.8						12200 *3070* 3570	10700 *2700* 3140	9300 *2340* 2720	6800 *1710* 1990	4800 *1210* 1410	3250 *820* 950
			130	54.4						7700 *1940* 2260	6700 *1690* 1960	5700 *1440* 1670	3900 *980* 1140	2570 *650* 750	1510 *380* 440
EAV★-021E	2 1.5	366 10.4	100	37.8						13800 *3480* 4040	12100 *3050* 3550	10500 *2650* 3080	7700 *1940* 2260	5400 *1360* 1580	3600 *910* 1050
			130	54.4						9100 *2290* 2670	7800 *1970* 2290	6700 *1690* 1960	4700 *1180* 1380	3050 *770* 890	1750 *440* 510
3AB★-031E	3 2.2	435 12.3	100	37.8						16300 *4110* 4780	14200 *3580* 4160	12400 *3120* 3630	9200 *2320* 2700	6600 *1660* 1930	4220 *1060* 1240
			130	54.4						10700 *2700* 3140	9100 *2290* 2670	7700 *1940* 2260	5400 *1360* 1580	3510 *880* 1030	1800 *450* 530
LAH★-032E	3 2.2	576 16.3	100	37.8						22300 *5620* 6530	19600 *4940* 5740	17000 *4280* 4980	12300 *3100* 3600	8400 *2120* 2460	5260 *1330* 1540
			130	54.4						14400 *3630* 4220	12200 *3070* 3570	10200 *2570* 2990	6600 *1660* 1930	3730 *940* 1090	1690 *430* 500
LAL★-032E	3 2.2	641 18.1	100	37.8						24700 *6220* 7240	21700 *5470* 6360	18800 *4740* 5510	13900 *3500* 4070	9600 *2420* 2810	6110 *1540* 1790
			130	54.4						15700 *3960* 4600	13500 *3400* 3960	11500 *2900* 3370	8000 *2020* 2340	5060 *1280* 1480	2550 *640* 750
LAC★-032E	3 2.2	675 19.1	100	37.8									15400 *3880* 4510	11000 *2770* 3220	7330 *1850* 2150
			130	54.4									9800 *2470* 2870	6310 *1590* 1850	3990 *1010* 1170

50 HERTZ

REFRIGERANT COOLED

CAPACITY BTUS/HOUR *KCALS/HOUR* WATTS

R404A/R407A/R507

MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C										
					45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
ERC★-021E	2 1.5	280 7.9	100	37.8			18400 *4640* 5390	14500 *3650* 4250	11200 *2820* 3280	9800 *2470* 2870	8500 *2140* 2490				
			130	54.4			11900 *3000* 3490	9400 *2370* 2750	7100 *1790* 2080	6000 *1510* 1760	5100 *1290* 1490				
ERF★-031E	3 2.2	382 10.8	100	37.8			24600 *6200* 7210	20100 *5070* 5890	15000 *3780* 4400	13100 *3300* 3840	11900 *3000* 3490				
			130	54.4			16700 *4210* 4890	13900 *3500* 4070	10300 *2600* 3020	8900 *2240* 2610	8200 *2070* 2400				
3RA★-031E (LA)	3 2.2	520 14.7	100	37.8			33000 *8320* 9670	25900 *6530* 7590	19600 *4940* 5740	17200 *4330* 5040	14700 *3700* 4310	12700 *3200* 3720	8900 *2240* 2610	5800 *1460* 1700	3410 *860* 1000
			130	54.4			21400 *5390* 6270	16300 *4110* 4780	11800 *2970* 3460	10100 *2550* 2960	8400 *2120* 2460	6900 *1740* 2020	4400 *1110* 1290	2540 *640* 740	1250 *320* 370
NRD★-032E	3 2.2	675 19.1	100	37.8						24900 *6270* 7300	21900 *5520* 6420	19200 *4840* 5630	14500 *3650* 4250	10400 *2620* 3050	6770 *1710* 1980
			130	54.4						16800 *4230* 4920	14600 *3680* 4280	12500 *3150* 3660	8600 *2170* 2520	5040 *1270* 1480	1430 *360* 420
NRB★-040E	4 3	576 16.3	100	37.8			36500 *9200* 10700	28600 *7210* 8380	21600 *5440* 6330	18500 *4660* 5420	15800 *3980* 4630				
			130	54.4			23600 *5950* 6910	18700 *4710* 5480	13700 *3450* 4010	11500 *2900* 3370	9400 *2370* 2750				

(LA) TAC motor medium temperature only, TAU motor low temperature only.

AIR COOLED

MECHANICAL SPECIFICATIONS

MODEL	HP kW	CYL	Bore in mm	Stroke in mm	CFH m^3/hr	Oil Charge (Refill Oil Charge)		Overall Dimensions in/mm			Mounting Center Dimensions in/mm		Service Valve Sizes		Weights lb/kg	
					50 Hertz	Oz	Liter	Length	Width	Height	Length	Width	Suction in	Discharge in	Net	Shipping
HAG★-005E	.50 .37	2	1 1/32 26.2	3/4 19.1	63.4 1.79	22 (16)	.65 (.47)	12 3/4 324	8 15/16 227	10 15/32 266	8 3/16 208	6 3/8 162	1/2 Flare	3/8 Flare	72 33	83 38
HAJ★-005E	.50 .37	2	1 3/16 30.2	5/8 15.9	69.7 1.97	22 (16)	.65 (.47)	12 3/4 324	8 15/16 227	10 15/32 266	8 3/16 208	6 3/8 162	1/2 Flare	3/8 Flare	76 34	87 39
HAT★-005E	.50 .37	2	1 5/16 33.3	3/4 19.1	102 2.89	22 (16)	.65 (.47)	12 3/4 324	8 15/16 227	10 15/32 266	8 3/16 208	6 3/8 162	1/2 Flare	3/8 Flare	76 34	87 39
KAN★-005E	.50 .37	2	1 3/8 34.9	5/8 15.9	93.5 2.65	22 (20)	.65 (.59)	14 3/8 365	9 1/2 241	10 7/16 265	8 3/16 208	6 3/8 162	1/2 Flare	3/8 Flare	86 39	99 45
KAG★-005E	.50 .37	2	1 7/16 36.5	15/16 23.8	153 4.33	22 (20)	.65 (.59)	14 3/8 365	9 1/2 241	10 7/16 265	8 3/16 208	6 3/8 162	1/2 Flare	3/8 Flare	85 39	98 44
KAN★-006E	.50 .37	2	1 3/8 34.9	5/8 15.9	93.5 2.65	22 (20)	.65 (.59)	14 356	9 1/2 241	10 7/16 265	8 3/16 208	6 3/8 162	1/2 Flare	3/8 Flare	87 39	100 45
KAN★-007E	.75 .56	2	1 3/8 34.9	5/8 15.9	93.5 2.65	22 (20)	.65 (.59)	14 3/8 365	9 1/2 241	10 7/16 265	8 3/16 208	6 3/8 162	1/2 Flare	3/8 Flare	87 39	100 45
KAE★-007E	.75 .56	2	1 1/2 38.1	5/8 15.9	111 3.14	22 (20)	.65 (.59)	14 3/8 365	9 1/2 241	10 7/16 265	8 3/16 208	6 3/8 162	1/2 Flare	3/8 Flare	93 42	107 49
KAM★-007E	.75 .56	2	1 3/8 34.9	15/16 23.8	140 3.96	22 (20)	.65 (.59)	14 3/8 365	9 1/2 241	10 7/16 265	8 3/16 208	6 3/8 162	5/8 Flare	3/8 Flare	87 39	101 46
KAJ★-007E	.75 .56	2	1 9/16 39.7	15/16 23.8	181 5.12	22 (20)	.65 (.59)	14 3/8 365	9 1/2 241	10 7/16 265	8 3/16 208	6 3/8 162	5/8 Flare	3/8 Flare	87 39	100 45
KAA★-007E	.75 .56	2	1 11/16 42.9	15/16 23.8	211 5.97	22 (20)	.65 (.59)	14 356	8 203	10 3/4 273	8 3/16 208	6 3/8 162	5/8 Flare	3/8 Flare	93 42	107 49
KAL★-007E	.75 .56	2	1 7/8 47.6	15/16 23.8	261 7.39	22 (20)	.65 (.59)	14 3/8 365	9 1/2 241	10 7/16 265	8 3/16 208	6 3/8 162	5/8 Flare	3/8 Flare	87 39	100 45
KAR★-010E	1 .75	2	1 5/8 41.3	5/8 15.9	131 3.71	22 (20)	.65 (.59)	14 3/8 365	9 1/2 241	10 7/16 265	8 3/16 208	6 3/8 162	5/8 Flare	1/2 Flare	90 41	104 47
KAG★-010E	1 .75	2	1 7/16 36.5	15/16 23.8	153 4.33	22 (20)	.65 (.59)	14 3/8 365	9 1/2 241	10 7/16 265	8 3/16 208	6 3/8 162	5/8 Flare	1/2 Flare	93 42	107 49
KAJ★-010E	1 .75	2	1 9/16 39.7	15/16 23.8	181 5.12	22 (20)	.65 (.59)	14 3/8 365	9 1/2 241	10 7/16 265	8 3/16 208	6 3/8 162	5/8 Flare	1/2 Flare	93 42	107 49
KAL★-010E	1 .75	2	1 7/8 47.6	15/16 23.8	261 7.39	22 (20)	.65 (.59)	14 3/8 365	9 1/2 241	10 7/16 265	8 3/16 208	6 3/8 162	5/8 Flare	1/2 Flare	91 41	105 48
KAT★-010E	1 .75	2	1 7/8 47.6	1 5/32 29.4	322 9.12	22 (20)	.65 (.59)	14 3/8 365	9 1/2 241	10 7/16 265	8 3/16 208	6 3/8 162	5/8 Flare	1/2 Flare	93 42	107 49
KAJ★-011E	1 .75	2	1 9/16 39.7	15/16 23.8	181 5.12	22 (20)	.65 (.59)	14 3/8 365	9 1/2 241	10 7/16 265	8 3/16 208	6 3/8 162	5/8 Flare	1/2 Flare	92 42	106 48
KAK★-011E	1 .75	2	1 11/16 42.9	15/16 23.8	211 5.97	22 (20)	.65 (.59)	14 3/8 365	9 1/2 241	10 7/16 265	8 3/16 208	6 3/8 162	5/8 Flare	1/2 Flare	93 42	107 49
KAL★-015E	1.5 1.1	2	1 7/8 47.6	15/16 23.8	261 7.39	22 (20)	.65 (.59)	14 3/8 365	9 1/2 241	10 7/16 265	8 3/16 208	6 3/8 162	7/8 Solder	1/2 Flare	95 43	110 50

ELECTRICAL SPECIFICATIONS

CAG 230-1-50		CAV 200/220-1-50 208/230-1-60		CAZ 220/240-1-50		TAC 200/220-3-50 208/230-3-60		TAD 380/400-3-50 460-3-60	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
		4.0	22.0			2.4	13.0		
		3.7	22.0			2.2	13.0		
4.4	22.0								
3.4	23.3	3.6	24.0						
3.3	23.3								
						2.2	13.2		
		5.4	36.0			3.0	19.9		
		5.4	36.0			3.4	19.9		
5.2	27.7	5.6	36.0	5.2	27.7	3.2	19.9		
4.6	27.7								
4.6	27.7								
5.3	27.7								
		7.4	40.0			4.3	27.0		
		7.5	40.0			4.3	27.0		
6.0	33.0	6.9	40.0	5.9	35.0				
6.0	33.0	6.9	40.0						
				5.9	33.0				
						4.6	27.0	2.1	15.0
		7.9	40.0						
		9.9	55.0	7.6	35.0				

AIR COOLED

MECHANICAL SPECIFICATIONS

MODEL	HP kW	CYL	Bore in mm	Stroke in mm	CFH m^3/hr 50 Hertz	Oil Charge (Refill Oil Charge) Oz	 Liter	Overall Dimensions in/mm Length	 Width	 Height	Mounting Center Dimensions in/mm Length	 Width	Service Valve Sizes Suction in	 Discharge in	Weights lb/kg Net	 Shipping
KAT★-015E	1.5 1.1	2	1 7/8 47.6	1 5/32 29.4	322 9.12	22 (20)	.65 (.59)	14 3/8 365	9 1/2 241	10 7/16 265	8 3/16 208	6 3/8 162	7/8 Solder	1/2 Flare	96 44	111 50
KAL★-016E	1.5 1.1	2	1 7/8 47.6	15/16 23.8	261 7.39	22 (20)	.65 (.59)	14 3/8 365	9 1/2 241	10 7/16 265	8 3/16 208	6 3/8 162	7/8 Solder	1/2 Flare	95 43	110 50
KAK★-020E	2 1.5	2	1 11/16 42.9	15/16 23.8	211 5.97	22 (20)	.65 (.59)	14 3/8 365	9 1/2 241	10 7/16 265	8 3/16 208	6 3/8 162	7/8 Solder	1/2 Flare	98 44	112 51
KAT★-020E	2 1.5	2	1 7/8 47.6	1 5/32 29.4	322 9.12	22 (20)	.65 (.59)	14 3/8 365	9 1/2 241	10 7/16 265	8 3/16 208	6 3/8 162	7/8 Solder	1/2 Flare	99 45	113 51
EAD★-020E	2 1.5	2	1 7/8 47.6	1 5/32 29.4	322 9.12	60 (55)	1.77 (1.63)	16 11/16 424	12 305	12 25/32 325	10 1/16 256	10 1/2 267	7/8 Solder	1/2 Flare	160 73	184 83
KAK★-021E	2 1.5	2	1 11/16 42.9	15/16 23.8	211 5.97	22 (20)	.65 (.59)	14 3/8 365	9 1/2 241	10 7/16 265	8 3/16 208	6 3/8 162	7/8 Solder	1/2 Flare	96 44	110 50
EAD★-021E	2 1.5	2	1 7/8 47.6	1 5/32 29.4	322 9.12	60 (55)	1.77 (1.63)	16 11/16 424	12 305	12 25/32 325	10 1/16 256	10 1/2 267	7/8 Solder	1/2 Flare	160 73	184 83
EAV★-021E	2 1.5	2	2 50.8	1 5/32 29.4	366 10.4	60 (55)	1.77 (1.63)	16 11/16 424	12 305	12 25/32 325	10 1/16 256	10 1/2 267	7/8 Solder	1/2 Flare	158 72	182 83
3AB★-031E	3 2.2	2	2 50.8	1 3/8 34.9	435 12.3	70 (65)	2.07 (1.92)	18 5/8 473	13 330	12 11/16 322	11 5/8 295	11 279	1 1/8 Solder	5/8 Flare	179 81	206 93
LAH★-032E	3 2.2	2	2 1/4 57.2	1 7/16 36.5	576 16.3	80 (75)	2.37 (2.22)	18 5/8 473	14 356	14 23/32 374	11 5/8 295	11 279	1 1/8 Solder	5/8 Flare	200 91	227 103
LALA-032E	3 2.2	2	2 3/8 60.3	1 7/16 36.5	641 18.1	80 (75)	2.37 (2.22)	18 5/8 473	14 356	14 23/32 374	11 5/8 295	11 279	1 1/8 Solder	5/8 Flare	200 91	227 103
LAC★-032E	3 2.2	2	2 7/16 61.9	1 7/16 36.5	675 19.1	80 (75)	2.37 (2.22)	18 5/8 473	14 356	14 23/32 374	11 5/8 295	11 279	1 1/8 Solder	5/8 Flare	198 90	225 102

ELECTRICAL SPECIFICATIONS

CAV 200/220-1-50 208/230-1-60		CAZ 220/240-1-50		TAC 200/220-3-50 208/230-3-60		TAD 380/400-3-50 460-3-60		TAE 500-3-50 575-3-60		TAU 200-3-50 200-3-60	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
9.6	55.0	6.8	35.0	5.0	35.5						
				6.6	50.0	3.4	25.0				
				6.8	50.0						
										7.2	51.0
				6.8	46.0						
10.6	55.0										
		10.4	58.0								
14.7	102.0			7.4	50.0	3.9	26.6	3.1	20.0		
				10.0	82.0	5.1	41.0				
				12.8	112.0	6.0	56.0	4.1	30.0		
				12.6	112.0	6.2	56.0				
				12.8	112.0	6.0	56.0				

REFRIGERANT COOLED

MECHANICAL SPECIFICATIONS

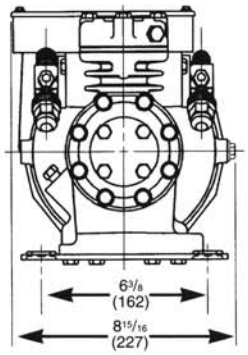
MODEL	HP kW	CYL	Bore in mm	Stroke in mm	CFH m^3/hr 50 Hertz	Oil Charge (Refill Oil Charge) Oz	 Liter	Overall Dimensions in/mm Length	 Width	 Height	Mounting Center Dimensions in/mm Length	 Width	Service Valve Sizes Suction in	 Discharge in	Weights lb/kg Net	 Shipping
ERC ★-021E	2 1.5	2	1 3/4 44.5	1 5/32 29.4	280 7.93	60 (55)	1.77 (1.63)	16 11/16 423	12 305	12 29/32 328	10 1/16 256	10 1/2 267	7/8 Solder	5/8 Flare	167 76	191 87
ERF ★-031E	3 2.2	2	1 7/8 47.6	1 3/8 34.9	382 10.8	60 (55)	1.77 (1.63)	17 11/16 449	12 305	12 29/32 328	10 1/16 256	10 1/2 267	1 1/8 Solder	5/8 Flare	170 77	197 89
3RA ★-031E	3 2.2	2	2 3/16 55.6	1 3/8 34.9	520 14.7	70 (65)	2.07 (1.92)	18 5/8 465	13 330	12 25/32 325	11 5/8 295	11 279	1 1/8 Solder	5/8 Flare	190 86	218 99
NRD ★-032E	3 2.2	2	2 7/16 61.9	1 7/16 36.5	675 19.1	70 (65)	2.07 (1.92)	21 1/16 535	13 330	15 3/16 386	11 5/8 295	11 279	1 1/8 Solder	5/8 Flare	245 111	278 126
NRB ★-040E	4 3.0	2	2 1/4 57.2	1 7/16 36.5	576 16.3	70 (65)	2.07 (1.92)	20 3/16 513	13 330	15 3/16 386	11 5/8 295	11 279	1 1/8 Solder	5/8 Solder	247 112	282 128

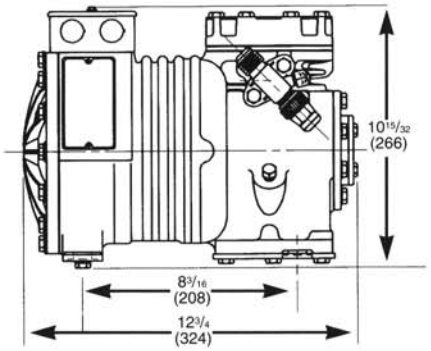
ELECTRICAL SPECIFICATIONS

	TAC TFC 200/220-3-50 208/230-3-60		TAD TFD 380/400-3-50 460-3-60		TAE 500-3-50 575-3-60	
	RLA	LRA	RLA	LRA	RLA	LRA
	TAC					
	8.8	46.0			3.1	20.0
	TAC		TAD			
	12.4	82.0	5.8	41.0	5.2	30.0
	TAC		TAD			
	14.2	82.0	6.3	41.0		
	TFC		TFD			
	16.3	82.0	8.4	41.0		
	TFC		TFD			
	21.8	141.0	9.0	62.5		

DIMENSIONS AND PHOTOGRAPHS

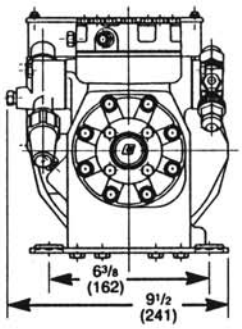
HA FAMILY

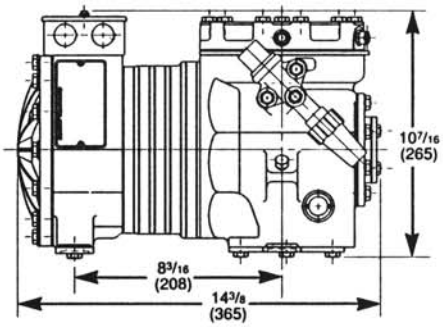




Model HAJB-005E Shown

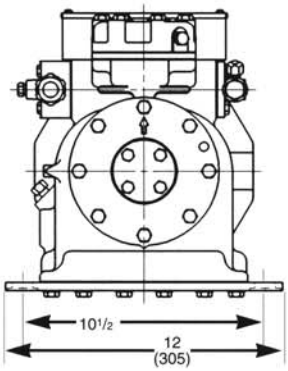
KA FAMILY

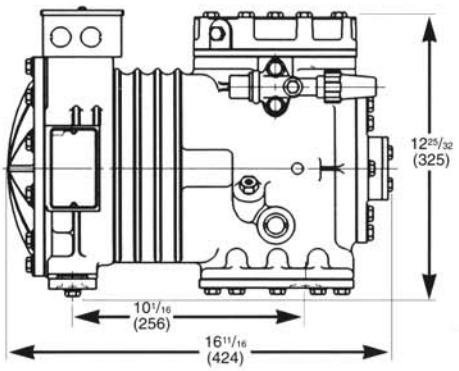




Model KATA-015E Shown

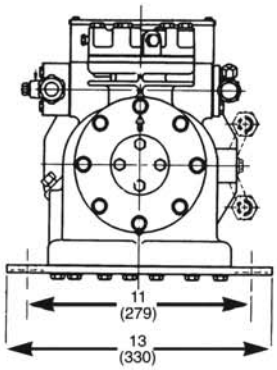
EA FAMILY

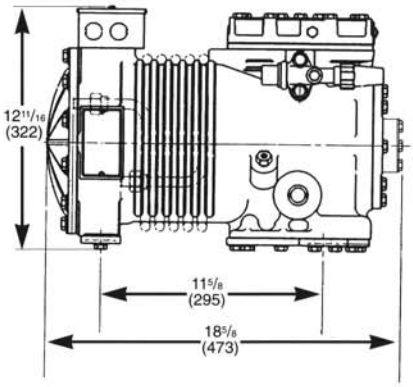




Model EADA-020E Shown

3A FAMILY



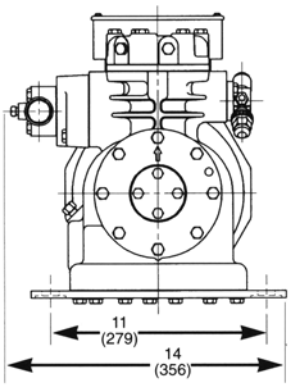


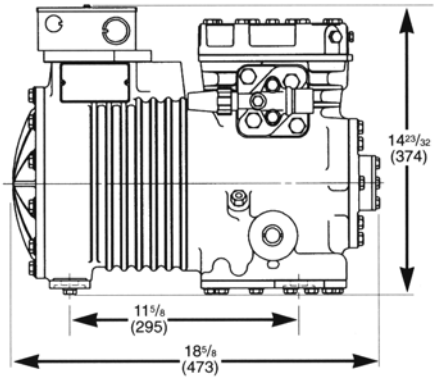
Model 3ABA-031E Shown

Dimensions shown are inches (millimeters).

DIMENSIONS AND PHOTOGRAPHS

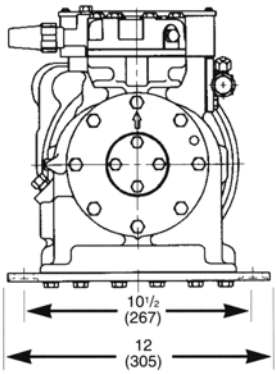
LA FAMILY

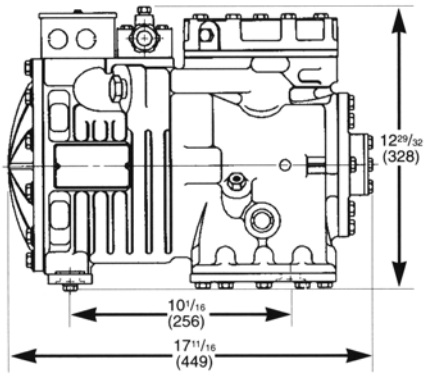




Model LAHA-032E Shown

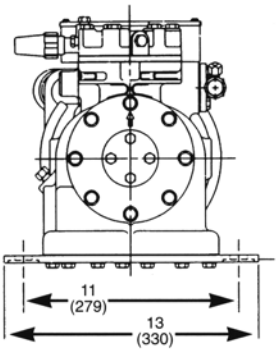
ER FAMILY

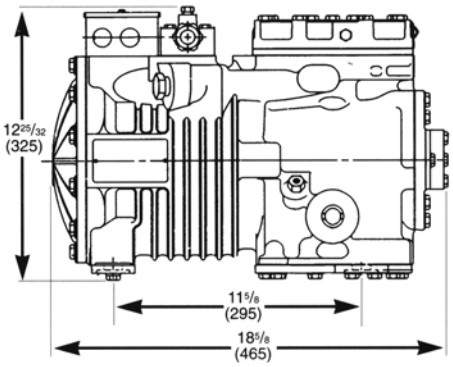




Model ERFA-031E Shown

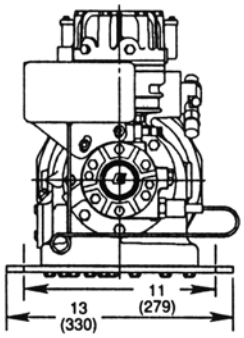
3R FAMILY

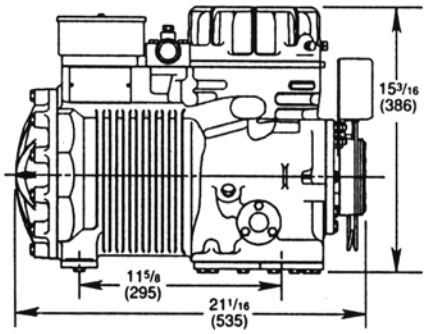


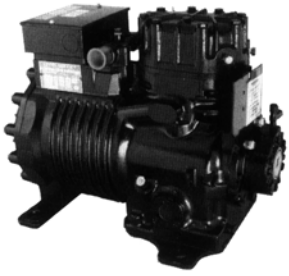


Model 3RAA-031E Shown

NR FAMILY







Model NRD1-040E Shown

Dimensions shown are inches (millimeters).

APPLICATION INFORMATION

RATING CONDITIONS USED IN THIS BOOK

Refrigerant	R404A/R407A/R507
Evaporating Temperature	This book does not specifically define the operating limits of the compressors. See individual specification sheets for exact application capability.
Condensing Temperature	
Return Gas Temperature	65°F 18.3°C
Ambient Temperature	95°F 35°C
Liquid Subcooling	0°F 0°C
Superheat	Varies

APPLICATION REQUIREMENTS

- All Copelametic compressors require some form of motor cooling, regardless of the operating conditions. It is important to note that refrigerant-cooled models when operating at evaporating temperatures of 0°F (–17.8°C) or lower, require additional motor and cylinder head cooling. This can be accomplished by the use of an external fan assembly available from Emerson Climate Technologies. See Application Bulletin AE 4-1135 for complete details and allow for extra height to install the fan to the top of the compressor.
- Oil Pump Description
  - Models H, K, E, 3, L. Oil pump is a low pressure pump. No oil pressure control is needed.
  - Model N. Oil pump is Sentronic high pressure oil pump.
- An oil pressure safety control is required on every Copelametic compressor equipped with a high pressure oil pump. Approved controls provide low cost, safe protection against damage from loss of lubrication. These can be supplied by Emerson Climate Technologies and should be listed separately on your purchase orders. There are two types of control available, our new “Sentronic” Control offering improved reliability and accuracy (see next paragraph for details) and the conventional capillary tube type control which can be ordered by using Part Number 998-0700-00. For further information, see Application Bulletin AE 8-1095.
- Emerson Climate Technologies introduces a new era in oil pressure controls with the Sentronic Oil Pressure Control System. The Sentronic electronic control system eliminates capillary tubes used on electro-mechanical systems to sense oil pressure. The new system uses a pressure transducer within the oil pump that produces an electrical signal to the control module. If the oil pressure drops below acceptable limits for a period of two minutes the control module cuts power to the compressor and stops it. The Sentronic offers a new and more reliable solution to capillary leaks. To order the Sentronic Oil Pressure Control use part number 585-1036-00. For instructions refer to Application Bulletin AE 8-1275.

  The Sentronic is only functional when used with our new oil pump that has a machined port for the Sentronic sensor. This oil pump is standard on all Copelametic compressors using high pressure positive displacement oil pumps.
- The nominal rotational speeds of the HFC Copelametic Conventional compressors are:
  - 50 Hertz 1450 RPM.
  - 60 Hertz 1750 RPM.
- Dimensions in this brochure include the terminal box and service valves mounted. Height is from the bottom plate bolts and does not include mounting parts.
- Mineral oils are not suitable as lubricants for HFC Conventional Compressors due to insufficient lubricity and miscibility. After screening numerous synthetic lubricants, Emerson Climate Technologies has selected a modified pentaerythritol ester oil (POE) MOBIL EAL ARCTIC 22 CC or ICI EMKARATE RL 32 CF. Other lubricants are being evaluated. Refer to Application Engineering Bulletin 17-1248 for a list of all approved lubricants.
- Ester lubricants have the characteristic of quickly absorbing moisture from the ambient surroundings. Such lubricants absorb moisture faster and in greater quantity than conventional mineral oils. Since moisture levels greater than 100 ppm will result in system corrosion and ultimate failure, it is imperative that compressors, components, containers, and the entire system be kept sealed as much as possible. Lubricants will be packaged in specially designed, sealed containers. After opening, all the lubricant in a container should be used at once since it will readily absorb moisture if left exposed to the ambient. Any unused lubricant should be properly disposed of. Similarly, work on systems and compressors must be carried out with the open time as short as possible. Leaving the system or compressor open during breaks or overnight must be avoided!
- As received, the POE lubricant will be clear or straw colored. After use, it may acquire a darker color. This does not indicate a problem as the darker color merely reflects the activity of the lubricant’s protective additive.
- Due to the higher operating pressures of R407A and R507, single phase models using these refrigerants may experience slightly higher minimum operating voltages.

APPLICATION INFORMATION

ELECTRICAL APPLICATION INFORMATION

- Rated load amps is the value used for contactor and other electrical component selection. It is calculated by dividing the maximum continuous current that the compressor draws under the condition of maximum load operation and the lowest operating voltage by 1.4. See application Bulletin AE 9-1154 for a detailed explanation.
- Refer to the Electrical Handbook, Form 6400, for wiring diagrams.

APPLICATION OPTIONS

- Use bill of material number 200 for standard compressors. This bill of material includes oil charge, mounting parts, standard service valves, overload protectors, terminal box covers and, where applicable, running capacitors, starting capacitors and relays. Oil pressure safety controls, crankcase heaters, contactors, and high-low pressure controls, when required, should be ordered with compressors but listed separately on the purchase order.
- Crankcase heaters are required on any refrigeration system where the compressor is exposed to cold ambient temperatures and on all split air conditioning systems. As the refrigerant charge increases, the start-up problems associated with vapor refrigerant in liquid oil becomes more critical. The crankcase heater will minimize refrigerant migration to the crankcase during periods when the compressor is not operating and will greatly reduce liquid slugging, loss of oil and compressor damage. Please refer to Application Bulletins AE 4-1166, AE 17-1238, and AE 22-1182 for additional information.
- Air and water cooled condensing units are available from Emerson Climate Technologies that contain the compressors listed in this section.
- The H, K, EA and 3A families can be converted to water cooled with a factory installed copper water coil wrapped around the compressor body.

UNITS CONVERSION CHART

BTUH × .252 = KCALH
BTUH × .293 = WATTS
(°F – 32) × 5/9 = °C
POUNDS × .454 = KILOGRAMS
INCHES × 25.4 = MILLIMETERS
CUBIC INCHES × 16.386 = CUBIC CENTIMETERS
FLUID OUNCES × .02957 = LITERS
CUBIC FEET × .02831 = CUBIC METERS
HORSEPOWER × .746 = KILOWATTS

APPLICATION INFORMATION

REFRIGERANT CHANGEOVER GUIDELINES

- Emerson Climate Technologies does not advocate the wholesale changeover of CFC refrigerants to HCFCs or HFCs. If a system is not leaking refrigerant to the atmosphere, and is operating properly, there is no technical reason to replace the CFC refrigerant.
- Retrofitting systems that employ compressors manufactured prior to 1973 is not recommended. This is due to the different materials used in motor insulation that have not been evaluated for compatibility with the new refrigerants and lubricants.
- The lubricant recommended by Emerson Climate Technologies for use with R404A/R407A/R507 is a Polyol Ester (POE), either Mobil EAL™ Arctic 22 CC or ICI EMKARATE™ RL 32 CF. These are the only POE lubricants approved for use in Copeland® brand compressors and are available from all authorized Emerson Climate Technologies wholesalers. The use of any other POE lubricant may void the compressor warranty.
- Mineral oil lubricants, such as 3GS, must not be used as the compressor lubricant with R404A/R407A/R507.
- It is important that the system contain not more than 5% residual mineral oil. More than 5% may contribute to premature compressor failure and or system capacity short-fall.
- Filter-driers must be changed at the time of conversion. This is proper air conditioning/refrigeration practice.
  - The recommended drier for use with all HFC refrigerants is Alco UltraFlow.
  - Solid core driers such as ALCO ADK are compatible with R502 and R404A.
  - Compacted bead type driers can use XH6 or XH9 molecular sieve material such as found in the ALCO EK or EKH series.
  - If a loose fill type drier is to be used, XH9 molecular sieve is required.
- Before starting the changeover, it is suggested that at least the following items be ready:
  1. Safety glasses
  2. Gloves
  3. Refrigerant service gauges
  4. Electronic thermometer
  5. Vacuum pump capable of pulling 250 microns
  6. Thermocouple micron gauge
  7. Leak detector
  8. Refrigerant recovery unit including refrigerant cylinder
  9. Proper container for removed lubricant
  10. New liquid control device
  11. Replacement liquid line filter-drier(s)
  12. New POE lubricant, Mobil EAL Arctic 22 CC/ICI EMKARATE RL 32 CF
  13. Pressure temperature chart for new refrigerant
  14. New HFC refrigerant
- Use only Emerson Climate Technologies approved refrigerants and lubricants in the manner prescribed by Emerson Climate Technologies. In some circumstances, other refrigerants and lubricants may be dangerous and could cause fires, explosions or electrical shorting. Contact Emerson Climate Technologies for more information.

SPECIFIC REFRIGERANT CONSIDERATIONS

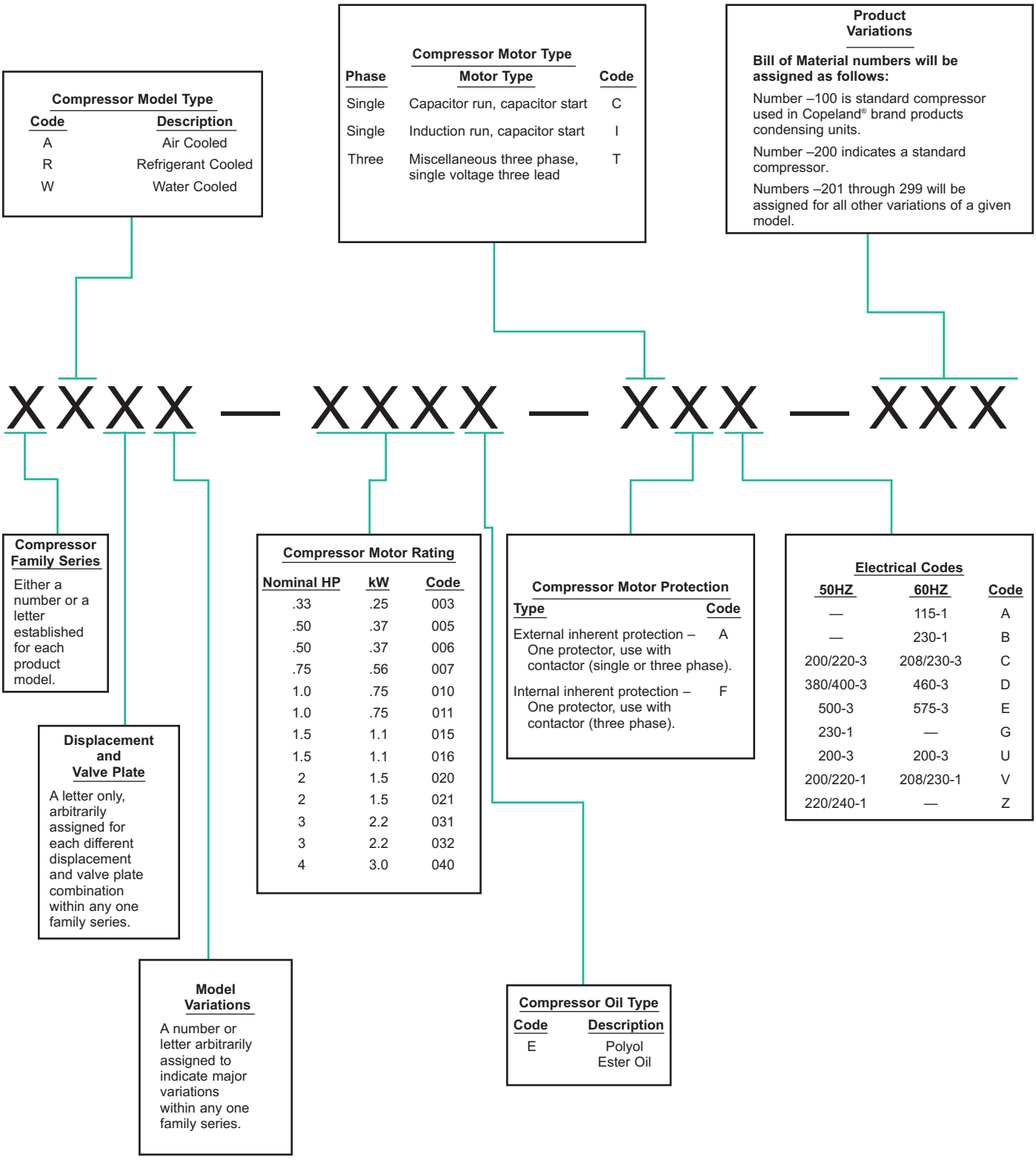
- Because mineral oils are not miscible with R404A/R407A/R507, they may log in the evaporator resulting in system capacity loss. It is for this reason that the flushing process must be done with R502 in the system.
- R404A/R407A/R507 can be used in either low or medium temperature systems. These HFC refrigerants should not be mixed with any other refrigerant or with each other.
- The expansion valve will not need to be changed. The existing R502 valve when used with these HFC refrigerants will have virtually the same capacity; however, it may be necessary to adjust the superheat.
- Pressure regulators such as EPR valves may have to be reset. Contact the EPR manufacturer for the correct settings.
- R404A/R407A/R507 exhibit higher pressures than R502 at normal condensing temperatures. This may require that the high pressure safety controls be reset in order to operate as intended.
- The higher pressure characteristics exhibited by R404A/R407A/R507 will in some cases exceed the industry accepted safety factors on the compressor crankcase (low side). This will require the addition of a pressure relief valve on the compressor crankcase, set at a maximum of 375 psig (26.4 kg/cm²) to adequately protect the compressor from the possibility of excessive pressure. Pressure relief valves can be purchased from your authorized Emerson Climate Technologies wholesaler as part number 998-0051-02.
- Systems that use a low pressure controller to maintain space temperature may need to have the cut-in and cut-out points changed. Although R404A and R407A do exhibit “glide,” the average evaporator or condenser temperature is within 0.5°F (0.28°C) of the saturated vapor temperature; therefore no correction is required.
- Systems using R404A and R407A should have approximately the same system pressure drop as with R502. Check with the manufacturer of any pressure regulators and pilot operated solenoid valves used in the system to be sure that they will operate properly.
- For the R502 to HFC complete changeover procedure please see Bulletin 94-15.

APPLICATION INFORMATION

APPLICATION BULLETINS

Emerson Climate Technologies has compiled a book of compressor Application Bulletins. Please see the following bulletins, from the book, for more HFC Conventional Copelametic compressor application information as entitled below:

COMPRESSOR NOMENCLATURE



Compressor Model Type

Code	Description
A	Air Cooled
R	Refrigerant Cooled
W	Water Cooled

Compressor Motor Type

Phase	Motor Type	Code
Single	Capacitor run, capacitor start	C
Single	Induction run, capacitor start	I
Three	Miscellaneous three phase, single voltage three lead	T

Product Variations

Bill of Material numbers will be assigned as follows:

Number –100 is standard compressor used in Copeland® brand products condensing units.

Number –200 indicates a standard compressor.

Numbers –201 through 299 will be assigned for all other variations of a given model.

Compressor Family Series

Either a number or a letter established for each product model.

Displacement and Valve Plate

A letter only, arbitrarily assigned for each different displacement and valve plate combination within any one family series.

Model Variations

A number or letter arbitrarily assigned to indicate major variations within any one family series.

Compressor Motor Rating

Nominal HP	kW	Code
.33	.25	003
.50	.37	005
.50	.37	006
.75	.56	007
1.0	.75	010
1.0	.75	011
1.5	1.1	015
1.5	1.1	016
2	1.5	020
2	1.5	021
3	2.2	031
3	2.2	032
4	3.0	040

Compressor Motor Protection

Type	Code
External inherent protection – One protector, use with contactor (single or three phase).	A
Internal inherent protection – One protector, use with contactor (three phase).	F

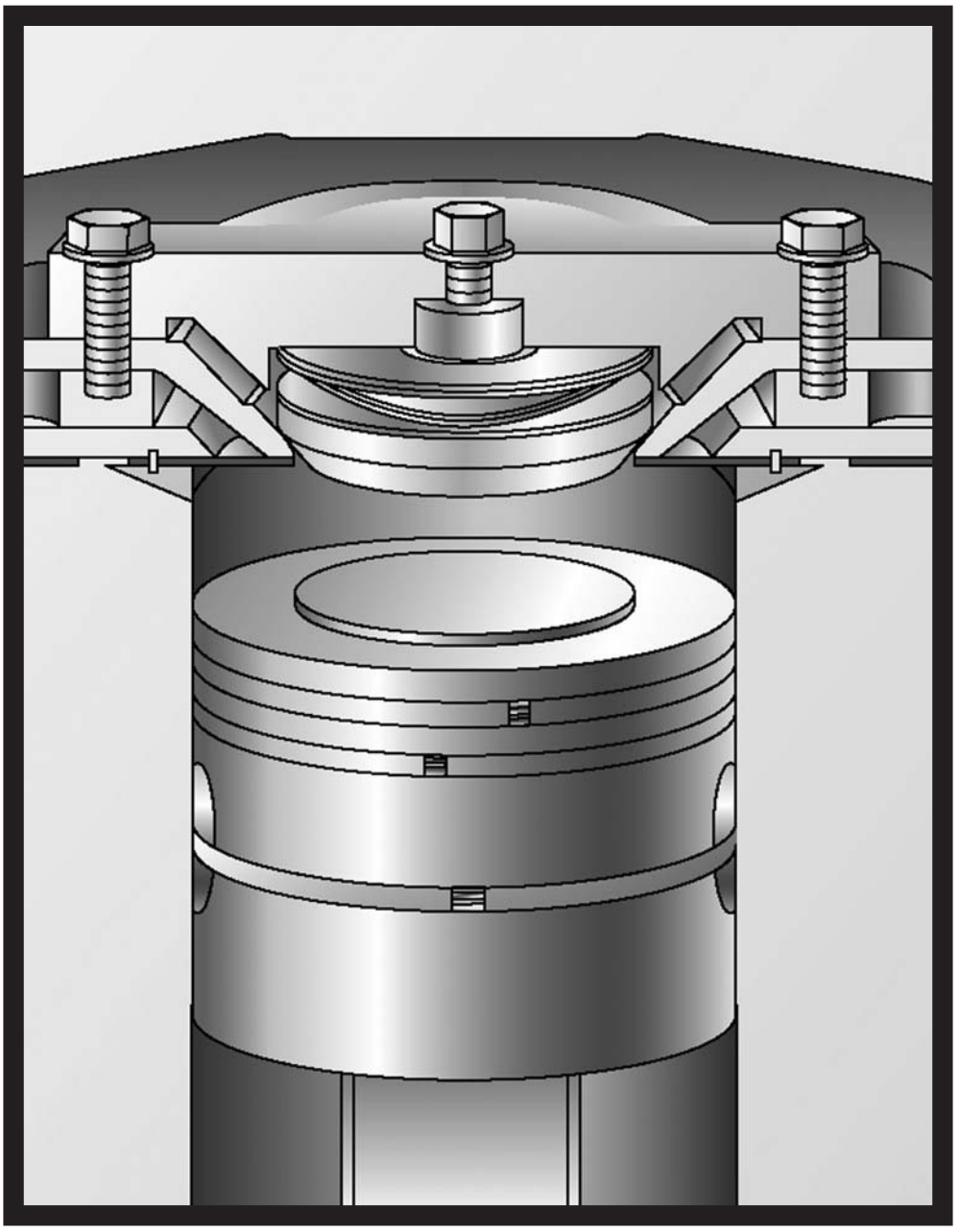
Electrical Codes

50HZ	60HZ	Code
—	115-1	A
—	230-1	B
200/220-3	208/230-3	C
380/400-3	460-3	D
500-3	575-3	E
230-1	—	G
200-3	200-3	U
200/220-1	208/230-1	V
220/240-1	—	Z

Compressor Oil Type

Code	Description
E	Polyol Ester Oil

Copeland Discus™ Compressors



Copeland Discus™ valve design increases capacity up to 25 percent while saving up to 16 percent in energy costs.

FEATURES

- Wide 50 and 60 Hertz Selection Range
  3 to 120 Horsepower
  2.2 to 89.5 Kilowatts
- Efficient Energy Saving Discus Valve Design
- Proven Copeland® brand products Dependability
- Extensive Selection of Models for Commercial Refrigeration, Air Conditioning and Heat Pump Duty
- Rugged, Compact Construction for Heavy-Duty Usage
- Easily Accessible for Maintenance
- Wide Voltage Selection
- Full Maximum Load Rundown Capability
- Motor Protection on All Models
- Oil Sight Glass on All Models
- "Sentronic" Compatible Oil Pump Included on All Models
- Capacity Control and Tandem Models Available
- More R22 Application Range Including Demand Cooling R22 Low Temperature Compressors

DISCUS COMPRESSOR STORY

The Copelametic "Discus" semi-hermetic compressor was developed to meet changing semi-hermetic market needs and higher efficiency requirements in commercial refrigeration and air conditioning. The patented "Discus" concept has enabled the recognized standard of the industry – the Copelametic semi-hermetic – to set new levels of performance and reliability criteria. The role of the "Discus" in effectively saving energy and providing significant operating cost savings for the user is established beyond question.

The unique "Discus" valve design increases capacities up to 25 percent by minimizing re-expansion gas and improved volumetric pumping efficiency. The result is a savings of up to 16 percent in energy costs over conventional compressors.

The Copelametic "Discus" compressor is totally interchangeable with existing Copelametic compressors and is completely compatible with conventional compressors in the same system. In addition, as part of our response to the CFC ozone depletion issue these compressors operate at an extended R22 medium temperature range, and with Demand Cooling, operate at the R22 low temperature range.

Copeland Discus™ compressors in this section of the catalog are found in the following order:

- Refrigerant Cooled
- Tandem
- Capacity Control
- Capacity Control Tandem

Refrigerant Cooled refers to the type of compressor motor cooling. Tandem compressors are those produced when two single compressors are bolted together to make one large compressor. In order to regulate the output of the compressor, Capacity Control compressors can be used as shown in their respective pages.

In the pages that follow please find the technical details for our full line of Copeland Discus™ compressors.

50 HERTZ

REFRIGERANT COOLED

CAPACITY BTUS/HOUR x 1000 / *KCALS/HOUR x 1000* / WATTS x 1000

MODEL	HP / kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C														
					R12												**R22**		
					55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	55 12.8	45 7.2	35 1.7
2DF★-0300 (DC) 2DF3F16K0	3 2.2	749 21.2	**100**	**37.8**	59.3 *14.9* 17.4	48.8 *12.3* 14.3	39.8 *10.0* 11.7	32.1 *8.1* 9.4	25.3 *6.4* 7.4	19.5 *4.9* 5.7	17.3 *4.4* 5.1	15.0 *3.8* 4.4							
			130	**54.4**	47.6 *12.0* 13.9	38.9 *9.8* 11.4	31.7 *8.0* 9.3	25.4 *6.4* 7.4	19.9 *5.0* 5.8	15.4 *3.9* 4.5	13.7 *3.5* 4.0	11.9 *3.0* 3.5							
2DL★-0400 (DC) 2DL3F20K0	4 3.0	835 23.6	**100**	**37.8**															
			130	**54.4**															
2DC★-0500 (DC) (LA) 2DC3R53K0	5 3.7	593 16.8	**100**	**37.8**													78.1 *19.7* 22.9	63.8 *16.1* 18.7	51.3 *12.9* 15.0
			130	**54.4**													64.1 *16.2* 18.8	51.6 *13.0* 15.1	40.7 *10.3* 11.9
2DD★-0500 (RG) 2DD3R63K0	4 3.0	682 19.3	**100**	**37.8**													90.4 *22.8* 26.5	74.7 *18.8* 21.9	60.3 *15.2* 17.7
			130	**54.4**													74.5 *18.8* 21.8	60.7 *15.3* 17.8	48.2 *12.1* 14.1
2DF★-0500 (DC) (LV)	5 3.7	749 21.2	**100**	**37.8**															
			130	**54.4**															
2DA★-0500 2DA3R58K0	5 3.7	940 26.6	**100**	**37.8**	74.7 *18.8* 21.9	61.2 *15.4* 17.9	49.8 *12.5* 14.6	40.1 *10.1* 11.7	31.8 *8.0* 9.3	24.8 *6.2* 7.3	22.0 *5.5* 6.4	19.1 *4.8* 5.6							
			130	**54.4**	59.6 *15.0* 17.5	48.8 *12.3* 14.3	39.7 *10.0* 11.6	31.9 *8.0* 9.3	25.2 *6.4* 7.4	19.7 *5.0* 5.8	17.5 *4.4* 5.1	15.2 *3.8* 4.5							
2DB★-0500 2DB3R61K0	5 3.7	987 27.9	**100**	**37.8**				42.8 *10.8* 12.5	34.2 *8.6* 10.0	26.7 *6.7* 7.8	23.5 *5.9* 6.9	20.7 *5.2* 6.1							
			130	**54.4**				34.4 *8.7* 10.1	27.0 *6.8* 7.9	21.2 *5.3* 6.2	18.8 *4.7* 6.0	16.4 *4.1* 4.8							
3DA★A0500 3DA3F18K0	5 3.7	1135 32.1	**100**	**37.8**				45.7 *11.5* 13.4	36.5 *9.2* 10.7	29.0 *7.3* 8.5	25.4 *6.4* 7.4	22.4 *5.6* 6.6	19.3 *4.9* 5.7	14.3 *3.6* 4.2	10.1 *2.5* 3.0	6.7 *1.7* 2.0			
			130	**54.4**				37.2 *9.4* 10.9	29.4 *7.4* 8.6	22.9 *5.8* 6.7	19.8 *5.0* 5.8	17.2 *4.3* 5.0	14.6 *3.7* 4.3	10.3 *2.6* 3.0	6.7 *1.7* 2.0	3.1 *.8* .9			
3DB★A0500 3DB3F22K0	5 3.7	1338 37.9	**100**	**37.8**							32.6 *8.2* 9.6	28.6 *7.2* 8.4	25.0 *6.3* 7.3	18.7 *4.7* 5.5	13.4 *3.4* 3.9	9.1 *2.3* 2.7			
			130	**54.4**							25.6 *6.5* 8.0	22.3 *5.6* 6.5	19.2 *4.8* 5.6	13.9 *3.5* 4.1	9.5 *2.4* 2.8	5.8 *1.5* 1.7			
2DA★-0600 (DC) 2DA3F23K0	5 3.7	940 26.6	**100**	**37.8**															
			130	**54.4**															

(DC) In grey shaded area the maximum return gas is 65°F (18.3°C) and both a Demand Cooling kit and vertical cooling fans are required.
(LA) Use a "J" in the fourth digit of model number for R22LT.
(RG) In grey shaded area the maximum return gas temperature is 50°F (10°C) and vertical cooling fan is required.
(LV) Limited voltage. Available only in 200 volt electrical.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R22									R502									
EVAPORATING TEMPERATURE °F/°C																		
25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40	45 7.2	35 1.7	25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40
			26.6 *6.7* 7.8	23.0 *5.8* 6.7	19.7 *5.0* 5.8	14.0 *3.5* 4.1	9.6 *2.4* 2.8	6.3 *1.6* 1.8						29.6 *7.5* 8.7	26.2 *6.6* 7.7	22.8 *5.7* 6.7	16.6 *4.2* 4.9	11.5 *2.9* 3.4	8.0 *2.0* 2.3
			19.7 *5.0* 5.8	16.7 *4.2* 4.9	13.9 *3.5* 4.1	9.3 *2.3* 2.7	5.9 *1.5* 1.7	3.7 *.9* 1.1						20.9 *5.3* 6.1	18.0 *4.5* 5.3	15.2 *3.8* 4.5	10.2 *2.6* 3.0	6.4 *1.6* 1.9	4.3 *1.1* 1.3
			30.9 *7.8* 9.1	27.1 *6.8* 7.9	23.4 *5.9* 6.9	16.5 *4.2* 4.8	10.8 *2.7* 3.2	6.9 *1.7* 2.0						34.0 *8.6* 10.0	29.9 *7.5* 8.8	26.1 *6.6* 7.6	19.4 *4.9* 5.7	13.9 *3.5* 4.1	9.7 *2.4* 2.8
			23.1 *5.8* 6.8	19.9 *5.0* 5.8	16.8 *4.2* 4.9	11.1 *2.8* 3.3	6.6 *1.7* 1.9	3.7 *.9* 1.1						25.3 *6.4* 7.4	22.1 *5.6* 6.5	19.1 *4.8* 5.6	13.8 *3.5* 4.0	9.4 *2.4* 2.8	6.0 *1.5* 1.8
39.6 *10.0* 11.6	30.9 *7.8* 9.1	23.4 *5.9* 6.9	20.1 *5.1* 5.9	17.0 *4.3* 5.0	14.1 *3.6* 4.1	11.2 *2.8* 3.3	8.8 *2.2* 2.6	6.5 *1.6* 1.9	61.9 *15.6* 18.1	50.4 *12.7* 14.8	40.7 *10.3* 11.9	32.5 *8.2* 9.5	25.4 *6.4* 7.4	22.2 *5.6* 7.0	19.1 *4.8* 5.6				
30.4 *7.7* 8.9	23.1 *5.8* 6.8	16.7 *4.2* 4.9	14.5 *3.7* 4.2	12.2 *3.1* 3.6	10.2 *2.6* 3.0	8.2 *2.1* 2.4	6.4 *1.6* 1.9	4.7 *1.2* 1.4	46.1 *11.6* 14.0	37.4 *9.4* 11.0	30.1 *7.6* 8.8	24.0 *6.0* 7.0	18.6 *4.7* 5.4	16.2 *4.1* 4.7	13.8 *3.5* 4.0				
46.9 *11.8* 13.7	36.9 *9.3* 10.8	28.2 *7.1* 8.3	24.3 *6.1* 7.1	20.7 *5.2* 6.1	17.3 *4.4* 5.1				75.4 *19.0* 22.1	61.2 *15.4* 17.9	49.2 *12.4* 14.4	39.2 *9.9* 11.5	30.8 *7.8* 9.0	27.1 *6.8* 7.9	23.7 *6.0* 6.9				
36.5 *9.2* 10.7	28.1 *7.1* 8.2	20.7 *5.2* 6.1	—	—	—				54.9 *13.8* 16.1	44.6 *11.2* 13.1	36.0 *9.1* 11.0	28.7 *7.2* 8.4	22.4 *5.6* 6.6	19.6 *4.9* 5.7	16.9 *4.3* 5.0				
44.4 *11.2* 13.0	37.2 *9.4* 10.9	30.1 *7.6* 8.8	26.6 *6.7* 7.8	23.0 *5.8* 6.7	19.7 *5.0* 5.8	14.0 *3.5* 4.1	9.6 *2.4* 2.8	6.3 *1.6* 1.8											
32.2 *8.1* 9.4	27.0 *6.8* 7.9	21.8 *5.5* 6.4	19.7 *5.0* 5.8	16.7 *4.2* 4.9	13.9 *3.5* 4.1	9.3 *2.3* 2.7	5.9 *1.5* 1.7	3.7 *.9* 1.1											
			35.9 *9.0* 10.1	31.0 *7.8* 9.1	26.7 *6.7* 7.8	19.6 *4.9* 5.7	13.8 *3.5* 4.0	8.8 *2.2* 2.6						39.0 *9.8* 11.4	34.4 *8.7* 10.1	30.2 *7.6* 8.8	22.7 *5.7* 6.7	16.5 *4.2* 4.8	11.8 *3.0* 3.5
			26.6 *6.7* 7.8	22.3 *5.6* 6.5	18.6 *4.7* 5.4	12.9 *3.3* 3.8	8.6 *2.2* 2.5	5.2 *1.3* 1.5						30.0 *7.6* 8.8	26.1 *6.6* 7.6	22.5 *5.7* 6.6	16.1 *4.1* 4.7	11.1 *2.8* 3.3	7.4 *1.9* 2.2

50 HERTZ

REFRIGERANT COOLED

CAPACITY BTUS/HOUR x 1000 / *KCALS/HOUR x 1000* / WATTS x 1000

R12

R22

MODEL	HP / kW	CFH / m³/hr / 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C														
					55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	55 12.8	45 7.2	35 1.7
2DB★-0600 (DC) 2DB3F25K0	6 / 4.5	987 / 27.9	100	37.8															
			130	54.4															
3DA★A0600 (DC) 3DA3F28K0	6 / 4.5	1135 / 32.1	100	37.8															
			130	54.4															
2DL★-0750 (RG) 2DL3R78K0	7.5 / 5.6	835 / 23.6	100	37.8													113.0 *28.5* 33.1	92.4 *23.3* 27.1	74.6 *18.8* 21.9
			130	54.4													93.5 *23.6* 27.4	75.7 *19.1* 22.2	60.6 *15.3* 17.8
2DA★-0750 (DC) (LA) 2DA3R89K0	7.5 / 5.6	940 / 26.6	100	37.8													128.0 *32.3* 37.5	105.0 *26.5* 30.8	84.8 *21.4* 24.8
			130	54.4													106.0 *26.7* 31.1	85.8 *21.6* 25.1	68.5 *17.3* 20.1
3DA★A0750 (AR) (DC) 3DA3R10M0	7.5 / 5.6	1135 / 32.1	100	37.8	93.3 *23.5* 27.3	76.4 *19.3* 22.4	61.9 *15.6* 18.1	49.4 *12.4* 14.5	38.8 *9.8* 11.4	29.8 *7.5* 8.7	26.0 *6.6* 7.6	22.2 *5.6* 6.5					153.0 *38.6* 44.8	126.0 *31.8* 36.9	103.0 *26.0* 30.2
			130	54.4	76.3 *19.2* 22.4	61.8 *15.6* 18.1	49.4 *12.4* 14.5	38.8 *9.8* 11.4	29.8 *7.5* 8.7	22.1 *5.6* 6.5	19.0 *4.8* 5.6	15.8 *4.0* 4.6					128.0 *32.3* 37.5	105.0 *26.5* 30.8	85.0 *21.4* 24.9
3DB★A0750 (DC) 3DB3F33K0	7.5 / 5.6	1338 / 37.9	100	37.8	105.0 *26.5* 30.8	87.2 *22.0* 25.5	71.6 *18.0* 21.0	58.2 *14.7* 17.1	46.7 *11.8* 13.7	36.9 *9.3* 10.8	32.8 *8.3* 9.6	28.6 *7.2* 8.4							
			130	54.4	86.2 *21.7* 25.3	71.2 *17.9* 20.9	58.2 *14.7* 17.1	47.0 *11.8* 13.8	37.4 *9.4* 11.0	29.2 *7.4* 8.6	25.8 *6.5* 7.6	22.3 *5.6* 6.5							
3DF★A0750 3DF3F26K0	7.5 / 5.6	1586 / 44.9	100	37.8				70.1 *17.7* 20.5	56.7 *14.3* 16.6	45.6 *11.5* 13.4	40.3 *10.2* 11.8	35.9 *9.0* 10.3	31.5 *7.9* 9.2	24.1 *6.1* 7.1	18.0 *4.5* 5.3	13.0 *3.3* 3.8			
			130	54.4				57.2 *14.4* 16.8	46.0 *11.6* 13.5	36.7 *9.2* 10.8	32.3 *8.1* 9.5	28.6 *7.2* 8.4	24.8 *6.2* 7.3	18.6 *4.7* 5.4	13.5 *3.4* 4.0	9.3 *2.3* 2.7			
3DS★A0750 3DS3F30K0	7.5 / 5.6	1762 / 49.9	100	37.8				74.4 *18.7* 21.8	59.8 *15.1* 17.5	47.6 *12.0* 13.9	42.3 *10.7* 12.4	37.2 *9.4* 10.9	32.5 *8.2* 9.5	24.4 *6.1* 7.1	17.6 *4.4* 5.2	12.0 *3.0* 3.5			
			130	54.4				61.1 *15.4* 17.9	48.9 *12.3* 14.3	38.7 *9.8* 11.3	34.3 *8.6* 10.0	30.0 *7.6* 8.8	26.1 *6.6* 7.6	19.2 *4.8* 5.6	13.5 *3.4* 4.0	8.8 *2.2* 2.6			
3DB★A0900 (DC) (LV) 3DB3F27K0	9 / 6.7	1338 / 37.9	100	37.8	105.0 *26.5* 30.8	87.2 *22.0* 25.5	71.6 *18.0* 21.0	58.2 *14.7* 17.1	46.7 *11.8* 13.7	36.9 *9.3* 10.8	32.8 *8.3* 9.6	28.6 *7.2* 8.4					184.0 *46.4* 53.9	151.0 *38.1* 44.2	122.0 *30.7* 35.7
			130	54.4	86.2 *21.7* 25.3	71.2 *17.9* 20.9	58.2 *14.7* 17.1	47.0 *11.8* 13.8	37.4 *9.4* 11.0	29.2 *7.4* 8.6	25.8 *6.5* 7.6	22.3 *5.6* 6.5					150.0 *37.8* 44.0	121.0 *30.5* 35.5	98.1 *24.7* 28.7

(DC) In grey shaded area the maximum return gas is 65°F (18.3°C) and both a Demand Cooling kit and vertical cooling fan are required.
(RG) In grey shaded area the maximum return gas is 50°F (10°C) and vertical cooling fan is required.
(LA) Use a "J" in the fourth digit of model number for R22LT.
(AR) R22LT application requires TFU motor.
(LV) Limited voltage. Available only in 200 volt electrical.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R22

R502

EVAPORATING TEMPERATURE °F/°C

R22									R502									
25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
			37.8 *9.5* 11.1	32.9 *8.3* 9.6	28.4 *7.2* 8.3	20.8 *5.2* 6.1	14.7 *3.7* 4.3	9.9 *2.5* 2.9						41.0 *10.3* 12.0	36.7 *9.2* 10.8	32.6 *8.2* 9.6	24.7 *6.2* 7.2	17.8 *4.5* 5.2	12.1 *3.0* 3.5
			29.2 *7.4* 8.6	24.7 *6.2* 7.2	20.7 *5.2* 6.1	14.0 *3.5* 4.1	8.8 *2.2* 2.6	5.0 *1.3* 1.5						31.2 *7.9* 9.1	27.9 *7.0* 8.2	24.6 *6.2* 7.2	18.3 *4.6* 5.4	12.6 *3.2* 3.7	7.7 *1.9* 2.3
			42.4 *10.7* 12.4	36.6 *9.2* 10.7	31.5 *7.9* 9.2	23.0 *5.8* 6.7	16.4 *4.1* 4.8	11.0 *2.8* 3.2						45.5 *11.5* 13.3	39.8 *10.0* 11.7	34.8 *8.8* 10.2	26.6 *6.7* 7.8	20.1 *5.1* 5.9	14.3 *3.6* 4.2
			32.6 *8.2* 9.6	27.6 *7.0* 8.1	23.2 *5.8* 6.8	15.9 *4.0* 4.7	10.2 *2.6* 3.0	5.5 *1.4* 1.6						35.4 *8.9* 10.4	30.2 *7.6* 8.8	25.8 *6.5* 7.6	18.9 *4.8* 5.5	13.7 *3.5* 4.0	9.2 *2.3* 2.7
56.4 *14.2* 16.5	44.6 *11.2* 13.1	34.3 *8.6* 10.0	29.7 *7.5* 8.7	25.3 *6.4* 7.4	21.1 *5.3* 6.2				93.4 *23.5* 27.4	74.6 *18.8* 21.9	59.7 *15.0* 17.5	47.8 *12.0* 14.0	38.3 *9.7* 11.2	34.2 *8.6* 10.0	30.4 *7.7* 8.9			
44.7 *11.3* 13.1	34.8 *8.8* 10.2	26.3 *6.6* 7.7	—	—	—				73.8 *18.6* 21.6	57.3 *14.4* 16.8	44.8 *11.3* 13.1	35.7 *9.0* 10.5	29.1 *7.3* 8.5	26.6 *6.7* 7.8	24.4 *6.1* 7.1			
64.8 *16.3* 19.0	51.3 *12.9* 15.0	39.5 *10.0* 11.6	34.0 *8.6* 10.0	28.7 *7.2* 8.4	23.6 *5.9* 6.9	21.1 *5.1* 5.9	13.1 *3.3* 3.8	6.0 *1.5* 1.8	104.0 *26.2* 30.5	84.8 *21.4* 24.8	69.0 *17.4* 20.2	55.7 *14.0* 16.3	44.5 *11.2* 13.0	39.5 *10.0* 11.6	34.8 *8.8* 10.2			
51.4 *13.0* 15.1	39.5 *10.0* 11.6	28.4 *7.2* 8.3	24.5 *6.2* 7.2	20.7 *5.2* 6.1	17.0 *4.3* 5.0	14.6 *3.7* 4.3	9.5 *2.4* 2.8	4.3 *1.1* 1.3	79.4 *20.0* 23.3	64.2 *16.2* 18.8	51.7 *13.0* 15.1	41.5 *10.5* 12.2	33.1 *8.3* 9.7	29.4 *7.4* 8.6	25.9 *6.5* 7.6			
79.0 *19.9* 23.1	63.2 *15.9* 18.5	49.9 *12.6* 14.6	42.0 *10.6* 12.3	36.6 *9.2* 10.7	31.4 *7.9* 9.2	22.2 *5.6* 6.5	14.6 *3.7* 4.3	9.2 *2.3* 2.7	120.0 *30.2* 35.2	98.9 *24.9* 29.0	80.9 *20.4* 23.7	65.5 *16.5* 19.2	52.3 *13.2* 15.3	46.3 *11.7* 13.6	40.8 *10.3* 12.0	36.1 *9.1* 10.6	27.7 *7.0* 8.1	20.5 *5.2* 6.0	14.7 *3.7* 4.3
64.1 *16.2* 18.8	51.0 *12.9* 14.9	40.0 *10.1* 11.7	31.3 *7.9* 9.2	26.4 *6.7* 7.7	22.0 *5.5* 6.4	14.3 *3.6* 4.2	8.6 *2.2* 2.5	5.4 *1.4* 1.6	91.1 *23.0* 26.7	75.5 *19.0* 22.1	62.1 *15.6* 18.2	50.4 *12.7* 14.8	40.2 *10.1* 11.8	35.5 *8.9* 10.4	31.1 *7.8* 9.1	26.5 *6.7* 7.8	19.8 *5.0* 5.8	14.3 *3.6* 4.2	9.7 *2.4* 2.8
			51.1 *12.9* 15.0	45.0 *11.3* 13.2	39.4 *9.9* 11.5	29.6 *7.5* 8.7	21.4 *5.4* 6.3	14.6 *3.7* 4.3						56.0 *14.1* 16.4	49.4 *12.4* 14.5	43.5 *11.0* 12.7	33.4 *8.4* 9.8	25.2 *6.4* 7.4	18.0 *4.5* 5.3
			40.1 *10.1* 11.7	34.8 *8.8* 10.2	29.9 *7.5* 8.8	21.3 *5.4* 6.2	14.1 *3.6* 4.1	8.0 *2.0* 2.3						44.1 *11.1* 12.9	38.2 *9.6* 11.2	33.1 *8.3* 9.7	24.7 *6.2* 7.2	18.2 *4.6* 5.3	13.1 *3.3* 3.8
92.4 *23.3* 27.1	73.9 *18.6* 21.7	59.0 *14.9* 17.3	51.1 *12.9* 15.0	44.5 *11.2* 13.0	38.3 *9.7* 11.2	27.4 *6.9* 8.0	18.6 *4.7* 5.4	12.0 *3.0* 3.5						55.0 *13.9* 16.1	48.9 *12.3* 14.3	43.4 *10.9* 12.7	33.5 *8.4* 9.8	25.3 *6.4* 7.4	18.5 *4.7* 5.4
73.9 *18.6* 21.7	58.6 *14.8* 17.2	45.7 *11.5* 13.4	38.3 *9.7* 11.2	32.5 *8.2* 9.5	27.1 *6.8* 7.9	17.9 *4.5* 5.2	10.8 *2.7* 3.2	5.8 *1.5* 1.7						41.2 *10.4* 12.1	36.5 *9.2* 10.7	32.1 *8.1* 9.4	24.4 *6.1* 7.1	18.0 *4.5* 5.3	12.6 *3.2* 3.7

50 HERTZ

REFRIGERANT COOLED

CAPACITY BTUS/HOUR x 1000 / *KCALS/HOUR x 1000* / WATTS x 1000

MODEL	HP / kW	CFH / m³/hr / 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C														
					R12												**R22**		
					55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	55 12.8	45 7.2	35 1.7
3DF★A0900 (DC) 3DF3F40K0	9 6.7	1586 44.9	**100**	**37.8**	128.0 *32.3* 37.5	105.0 *26.5* 30.8	86.4 *21.8* 25.3	70.0 *17.6* 20.5	56.0 *14.1* 16.4	44.1 *11.1* 12.9	39.1 *9.9* 11.5	34.0 *8.6* 10.0							
			130	**54.4**	104.0 *26.2* 30.5	86.2 *21.7* 25.3	70.5 *17.8* 20.7	56.9 *14.3* 16.7	45.3 *11.4* 13.3	35.4 *8.9* 10.4	31.3 *7.9* 9.2	27.1 *6.8* 7.9							
3DB★A1000 (RG) 3DB3R12M0	10 7.5	1338 37.9	**100**	**37.8**													179.0 *45.1* 52.4	149.0 *37.5* 43.7	122.0 *30.7* 35.7
			130	**54.4**													151.0 *38.1* 44.2	124.0 *31.2* 36.3	101.0 *25.5* 29.6
3DS★A1000 (DC) 3DS3F46K0	10 7.5	1762 49.9	**100**	**37.8**	137.0 *34.5* 40.1	113.0 *28.5* 33.1	92.8 *23.4* 27.2	75.4 *19.0* 22.1	60.5 *15.2* 17.7	47.9 *12.1* 14.0	42.6 *10.7* 12.5	37.2 *9.4* 10.9							
			130	**54.4**	113.0 *28.5* 33.1	93.5 *23.6* 27.4	76.6 *19.3* 22.4	62.0 *15.6* 18.2	49.6 *12.5* 14.5	38.9 *9.8* 11.4	34.4 *8.7* 10.1	29.9 *7.5* 8.8							
4DA★A1000 (DC) 4DA★R12M0	10 7.5	1977 56.0	**100**	**37.8**	147.0 *37.0* 43.1	123.0 *31.0* 36.0	102.0 *25.7* 29.9	83.2 *21.0* 24.4	67.4 *17.0* 19.7	53.6 *13.5* 15.7	46.8 *11.8* 13.7	41.3 *10.4* 12.1	36.3 *9.1* 10.6	27.4 *6.9* 8.0	20.1 *5.1* 5.9	14.0 *3.5* 4.1			
			130	**54.4**	122.0 *30.7* 35.7	102.0 *25.7* 29.9	83.3 *21.0* 24.4	67.3 *17.0* 19.7	53.8 *13.6* 15.8	42.0 *10.6* 12.3	38.3 *9.7* 11.2	33.5 *8.4* 9.8	29.1 *7.3* 8.5	21.4 *5.4* 6.3	14.9 *3.8* 4.4	9.6 *2.4* 2.8			
4DA★A1010 (DC) 4DA★F47K0	10 7.5	1977 56.0	**100**	**37.8**	147.0 *37.0* 43.1	123.0 *31.0* 36.0	102.0 *25.7* 29.9	83.2 *21.0* 24.4	67.4 *17.0* 19.7	53.6 *13.5* 15.7	46.8 *11.8* 13.7	41.3 *10.4* 12.1	36.3 *9.1* 10.6	27.4 *6.9* 8.0	20.1 *5.1* 5.9	14.0 *3.5* 4.1			
			130	**54.4**	122.0 *30.7* 35.7	102.0 *25.7* 29.9	83.3 *21.0* 24.4	67.3 *17.0* 19.7	53.8 *13.6* 15.8	42.0 *10.6* 12.3	38.3 *9.7* 11.2	33.5 *8.4* 9.8	29.1 *7.3* 8.5	21.4 *5.4* 6.3	14.9 *3.8* 4.4	9.6 *2.4* 2.8			
3DF★A1200 (RG) 3DF3R15M0	12 9.0	1586 44.9	**100**	**37.8**														178.0 *44.9* 52.1	143.0 *36.0* 41.9
			130	**54.4**														144.0 36.3 42.2	116.0 29.2 34.0
3DS★A1500 (DC) 3DS3R17M0	15 11.2	1762 49.9	**130**	**54.4**													241.0 60.7 70.6	199.0 50.1 58.3	163.0 41.1 47.8
			100	**37.8**													200.0 50.4 58.6	164.0 41.3 48.1	134.0 33.8 39.3
4DL★A1500 (DC) (OC) 4DL★F63K0	15 11.2	2499 70.7	**100**	**37.8**															
			130	**54.4**															
4DA★A2000 (DC) (LA) 4DA★R18M0	20 14.9	1977 56.0	**100**	**37.8**													264.0 *66.5* 77.4	223.0 *56.2* 65.3	180.0 *45.4* 52.7
			130	**54.4**													214.0 *53.9* 62.7	178.0 *44.9* 52.2	141.0 *35.5* 41.3
4DB★A2200 (RG) 4DB★R20M0	22 16.4	2300 65.1	**100**	**37.8**													303.0 *76.4* 88.8	252.0 *63.5* 73.8	206.0 *51.9* 60.4
			130	**54.4**													249.0 *62.7* 73.0	205.0 *51.7* 60.1	165.0 *41.6* 48.3
4DT★A2200 (DC) (OC) 4DT★F76K0	22 16.4	2985 84.5	**100**	**37.8**															
			130	**54.4**															

(DC) In grey shaded area the maximum return gas is 65°F (18.3°C) and both a Demand Cooling kit and vertical cooling fan are required.
(RG) In grey shaded area the maximum return gas is 50°F (10°C) and vertical cooling fan is required.
(OC) Oil cooler and vertical cooling fan are standard on this model.
(LA) Use a "J" in the fourth digit of model number for R22LT.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R22

R502

EVAPORATING TEMPERATURE °F/°C

25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
			60.8 *15.3* 17.8	53.5 *13.5* 15.7	46.7 *11.8* 13.7	34.7 *8.7* 10.2	24.8 *6.2* 7.3	16.7 *4.2* 4.9						66.0 *16.6* 19.3	58.6 *14.8* 17.2	51.8 *13.1* 15.2	39.8 *10.0* 11.7	30.0 *7.6* 8.8	22.2 *5.6* 6.5
			48.2 *12.1* 14.1	41.3 *10.4* 12.1	35.1 *8.8* 10.3	24.5 *6.2* 7.2	16.4 *4.1* 4.8	10.7 *2.7* 3.1						51.1 *12.9* 15.0	45.1 *11.4* 13.2	39.6 *10.0* 11.6	30.0 *7.6* 8.8	22.1 *5.6* 6.5	15.8 *4.0* 4.6
94.7 *23.9* 27.7	76.2 *19.2* 22.3	60.6 *15.3* 17.8	53.7 *13.5* 15.7	47.4 *11.9* 13.9	41.6 *10.5* 12.2				144.0 *36.3* 42.2	119.0 *30.0* 34.9	97.2 *24.5* 28.5	78.6 *19.8* 23.0	62.7 *15.8* 18.4	55.6 *14.0* 16.3	48.9 *12.3* 14.3				
76.8 *19.4* 22.5	61.3 *15.4* 18.0	48.2 *12.1* 14.1	—	—	—				109.0 *27.5* 31.9	90.4 *22.8* 26.5	74.1 *18.7* 21.7	60.0 *15.1* 17.6	47.8 *12.0* 14.0	42.2 *10.6* 12.4	36.9 *9.3* 10.8				
			67.8 *17.1* 19.9	59.7 *15.0* 17.5	52.1 *13.1* 15.3	38.8 *9.8* 11.4	27.6 *7.0* 8.1	18.4 *4.6* 5.4						73.4 *18.5* 21.5	65.2 *16.4* 19.1	57.7 *14.5* 16.9	44.6 *11.2* 13.1	33.7 *8.5* 9.9	24.8 *6.2* 7.3
			53.4 *13.5* 15.6	46.1 *11.6* 13.5	39.4 *9.9* 11.5	28.0 *7.1* 8.2	19.1 *4.8* 5.6	12.3 *3.1* 3.6						55.5 *14.0* 16.3	49.3 *12.4* 14.4	43.5 *11.0* 12.7	33.4 *8.4* 9.8	25.0 *6.3* 7.3	18.2 *4.6* 5.3
			71.3 *18.0* 20.9	64.0 *16.1* 18.8	56.7 *14.3* 16.6	42.6 *10.7* 12.5	30.0 *7.6* 8.8	19.6 *4.9* 5.7						80.5 *20.3* 23.6	72.1 *18.2* 21.1	64.1 *16.2* 18.8	49.4 *12.4* 14.5	36.5 *9.2* 10.7	25.4 *6.4* 7.4
			56.8 *14.3* 16.6	49.8 *12.5* 14.6	42.8 *10.8* 12.5	29.1 *7.3* 8.5	16.6 *4.2* 4.9	6.3 *1.6* 1.8						61.1 *15.4* 17.9	55.2 *13.9* 16.2	49.2 *12.4* 14.4	37.1 *9.3* 10.9	25.1 *6.3* 7.4	13.4 *3.4* 3.9
			71.3 *18.0* 20.9	64.0 *16.1* 18.8	56.7 *14.3* 16.6	42.6 *10.7* 12.5	30.0 *7.6* 8.8	19.6 *4.9* 5.7						80.5 *20.3* 23.6	72.1 *18.2* 21.1	64.1 *16.2* 18.8	49.4 *12.4* 14.5	36.5 *9.2* 10.7	25.4 *6.4* 7.4
			56.8 *14.3* 16.6	49.8 *12.5* 14.6	42.8 *10.8* 12.5	29.1 *7.3* 8.5	16.6 *4.2* 4.9	6.3 *1.6* 1.8						61.1 *15.4* 17.9	55.2 *13.9* 16.2	49.2 *12.4* 14.4	37.1 *9.3* 10.9	25.1 *6.3* 7.4	13.4 *3.4* 3.9
110.0 *27.7* 32.2	87.8 *22.1* 25.7	69.5 *17.5* 20.4	61.0 *15.4* 17.9	54.3 *13.7* 15.9	47.6 *12.0* 13.9														
88.5 *22.3* 25.9	71.0 *17.9* 20.8	—	—	—	—														
124.0 *31.2* 36.3	99.0 *24.9* 29.0	78.3 *19.7* 22.9	69.1 *17.4* 20.2	60.7 *15.3* 17.8	53.0 *13.4* 15.5	38.9 *9.8* 11.4	27.7 *7.0* 8.1	18.4 *4.6* 5.4	190.0 *47.9* 55.7	157.0 *39.6* 46.0	129.0 *32.5* 37.8	105.0 *26.5* 30.8	84.4 *21.3* 24.7	75.1 *18.9* 22.0	66.4 *16.7* 19.5				
101.0 *25.5* 29.6	81.6 *20.6* 23.9	64.7 *16.3* 19.0	52.6 *13.3* 15.4	45.3 *11.4* 13.3	38.7 *9.8* 11.3	27.6 *7.0* 8.1	18.8 *4.7* 5.5	11.9 *3.0* 3.5	145.0 *36.5* 42.5	120.0 *30.2* 35.2	98.8 *24.9* 28.9	80.5 *20.3* 23.6	64.6 *16.3* 18.9	57.4 *14.5* 16.8	50.4 *12.7* 14.8				
			94.5 *23.8* 27.7	83.5 *21.0* 24.5	73.3 *18.5* 21.5	55.1 *13.9* 16.1	39.8 *10.0* 11.7	27.6 *7.0* 8.1						102.0 *25.7* 29.9	90.4 *22.8* 26.5	79.9 *20.1* 23.4	61.8 *15.6* 18.1	47.1 *11.9* 13.8	35.1 *8.8* 10.3
			71.8 *18.1* 21.0	63.0 *15.9* 18.5	54.7 *13.8* 16.0	39.5 *10.0* 11.6	26.4 *6.7* 7.7	15.4 *3.9* 4.5						76.9 *19.4* 22.5	68.5 *17.3* 20.1	60.8 *15.3* 17.8	46.8 *11.8* 13.7	34.5 *8.7* 10.1	23.1 *5.8* 6.8
132.0 *33.3* 38.7	104.0 *26.2* 30.5	80.6 *20.3* 23.6	70.7 *17.8* 20.7	61.7 *15.5* 18.1	53.6 *13.5* 15.7	40.8 *10.3* 12.0	30.0 *7.6* 8.8	19.6 *4.9* 5.7	219.0 *55.2* 64.2	178.0 *44.9* 52.2	143.0 *36.0* 41.9	115.0 *29.0* 33.7	91.0 *22.9* 26.7	81.0 *20.4* 23.7	72.1 *18.2* 21.1				
106.0 *26.7* 31.1	83.4 *21.0* 24.4	60.8 *15.3* 17.8	52.8 *13.3* 15.5	46.6 *11.7* 13.7	40.4 *10.2* 11.8	29.1 *7.3* 8.5	16.6 *4.2* 4.9	6.3 *1.6* 1.8	162.0 *40.8* 47.5	131.0 *33.0* 38.4	106.0 *26.7* 31.1	84.3 *21.2* 24.7	66.7 *16.8* 19.5	59.1 *14.9* 17.3	52.3 *13.2* 15.3				
154.0 *38.8* 45.1	123.0 *31.0* 36.0	92.0 *23.2* 27.0	76.5 *19.3* 22.4	63.0 *15.9* 18.5	54.5 *13.7* 16.0														
123.0 *31.0* 36.0	97.1 *24.5* 28.5	—	—	—	—														
			114.0 *28.7* 33.4	97.4 *24.5* 28.5	83.9 *21.1* 24.6	63.2 *15.9* 18.5	47.4 *11.9* 13.9	32.9 *8.3* 9.6						123.0 *31.0* 36.0	109.0 *27.5* 31.9	96.2 *24.2* 28.2	74.5 *18.8* 21.8	56.3 *14.2* 16.5	40.6 *10.2* 11.9
			89.8 *22.6* 26.3	75.8 *19.1* 22.2	64.3 *16.2* 18.8	46.6 *11.7* 13.7	33.0 *8.3* 9.7	19.5 *4.9* 5.7						93.5 *23.6* 27.4	82.9 *20.9* 24.3	73.3 *18.5* 21.5	56.6 *14.3* 16.6	42.3 *10.7* 12.4	29.0 *7.3* 8.5

50 HERTZ

REFRIGERANT COOLED

CAPACITY BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R12

R22

MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C														
					55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	55 12.8	45 7.2	35 1.7
4DH★A2500 (RG) 4DH★R22M0	25 18.7	2499 70.7	100	37.8													330.0 *83.2* 96.7	274.0 *69.0* 80.3	224.0 *56.4* 65.6
			130	54.4													274.0 *69.0* 80.3	226.0 *57.0* 66.2	184.0 *46.4* 53.9
6DL★A2700 (DC) (OC) 6DL★F93K0	27 20.1	3748 106.1	100	37.8															
			130	54.4															
4DJ★A3000 (RG) 4DJ★R28M0	30 22.4	2985 84.5	100	37.8													392.0 *98.8* 114.9	325.0 *81.9* 95.2	267.0 *67.3* 78.2
			130	54.4													321.0 *80.9* 94.1	266.0 *67.0* 77.9	217.0 *54.7* 63.6
6DB★A3000 (RG) 6DB★R32M0	30 22.4	3450 97.7	100	37.8													458.0 *115.0* 134.0	374.0 *94.2* 110.0	305.0 *76.9* 89.4
			130	54.4													361.0 *91.0* 106.0	299.0 *75.3* 87.6	247.0 *62.2* 72.4
6DT★A3000 (DC) (DS) (OC) 6DT★F11M0	30 22.4	4478 126.8	100	37.8															
			130	54.4															
6DH★A3500 (RG) 6DH★R35M0	35 26.1	3748 106.1	130	54.4													497.0 125.0 146.0	409.0 103.0 120.0	334.0 84.2 97.9
			100	37.8													407.0 103.0 119.0	333.0 83.9 97.6	271.0 68.3 79.4
6DG★A3500 (RG) 6DG★R37M0	35 26.1	4129 116.9	100	37.8													533.0 134.0 156.0	437.0 110.0 128.0	359.0 90.5 105.0
			130	54.4													439.0 111.0 129.0	362.0 91.2 106.0	299.0 75.3 87.6
6DJ ★A4000 (DS) (RG) 6DJ★R40M0	40 29.8	4478 126.8	100	37.8													578.0 *146.0* 169.0	482.0 *121.0* 141.0	397.0 *100.0* 116.0
			130	54.4													477.0 *120.0* 140.0	394.0 *99.3* 115.0	322.0 *81.1* 94.3
8DP ★-5000 (DS) 8DP★R56M0	50 37.3	5358 151.7	100	37.8													707.0 *178.0* 207.0	579.0 *146.0* 170.0	470.0 *118.0* 138.0
			130	54.4													580.0 *146.0* 170.0	475.0 *120.0* 139.0	385.0 *97.0* 113.0
8DS★-6000 (DS) 8DS★R67M0	60 44.8	6340 179.5	100	37.8													820.0 *207.0* 240.0	671.0 *169.0* 197.0	543.0 *137.0* 159.0
			130	54.4													666.0 *168.0* 195.0	546.0 *138.0* 160.0	442.0 *111.0* 130.0

(RG) In grey shaded area the maximum return gas is 50°F (10°C) and vertical cooling fan is required.
(DC) In grey shaded area the maximum return gas is 65°F (18.3°C) and both a Demand Cooling kit and vertical cooling fan are required.
(OC) Oil cooler and vertical cooling fan are standard on this model.
(DS) Deep oil sump is standard on this model.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R22									R502									
EVAPORATING TEMPERATURE °F/°C																		
25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40	45 7.2	35 1.7	25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40
177.0 *44.6* 51.9	139.0 *35.0* 40.7	107.0 *27.0* 31.4	93.6 *23.6* 27.4	82.6 *20.8* 24.2	73.8 *18.6* 21.6				268.0 *67.5* 78.5	223.0 *56.2* 65.3	183.0 *46.1* 53.6	147.0 *37.0* 43.1	116.0 *29.2* 34.0	103.0 *26.0* 30.2	90.6 *22.8* 26.5			
140.0 *35.3* 41.0	108.0 *27.2* 31.6	—	—	—	—				203.0 *51.2* 59.5	168.0 *42.3* 49.2	138.0 *34.8* 40.4	111.0 *28.0* 32.5	87.1 *21.9* 25.5	76.8 *19.4* 22.5	67.5 *17.0* 19.8			
			140.0 *35.3* 41.0	125.0 *31.5* 36.6	110.0 *27.7* 32.2	81.8 *20.6* 24.0	57.7 *14.5* 16.9	37.9 *9.6* 11.1						150.0 *37.8* 44.0	133.0 *33.5* 39.0	118.0 *29.7* 34.6	92.3 *23.3* 27.0	70.5 *17.8* 20.7	50.7 *12.8* 14.9
			111.0 *28.0* 32.5	97.3 *24.5* 28.5	84.3 *21.2* 24.7	59.9 *15.1* 17.6	38.0 *9.6* 11.1	18.9 *4.8* 5.5						116.0 *29.2* 34.0	102.0 *25.7* 29.9	90.2 *22.7* 26.4	69.2 *17.4* 20.3	51.3 *12.9* 15.0	34.5 *8.7* 10.1
209.0 *52.7* 61.2	165.0 *41.6* 48.3	129.0 *32.5* 37.8	113.0 *28.5* 33.1	98.8 *24.9* 28.9	86.5 *21.8* 25.3				316.0 *79.6* 92.6	261.0 *65.8* 76.5	214.0 *53.9* 62.7	174.0 *43.8* 51.0	140.0 *35.3* 41.0	124.0 *31.2* 36.3	110.0 *27.7* 32.2			
166.0 *41.8* 48.6	131.0 *33.0* 38.4	—	—	—	—				241.0 *60.7* 70.6	198.0 *49.9* 58.0	162.0 *40.8* 47.5	131.0 *33.0* 38.4	105.0 *26.5* 30.8	94.1 *23.7* 27.6	83.7 *21.1* 24.5			
234.0 *59.0* 68.6	193.0 *48.6* 56.5	152.0 *38.3* 44.5	132.0 *33.3* 38.7	112.0 *28.2* 32.8	92.0 *23.2* 27.0													
190.0 *47.9* 55.7	153.0 *38.6* 44.8	—	—	—	—													
			162.0 *40.8* 47.5	142.0 *35.8* 41.6	125.0 *31.5* 36.6	94.4 *23.8* 27.7	69.1 *17.4* 20.2	46.8 *11.8* 13.7						174.0 *43.8* 51.0	152.0 *38.3* 44.5	134.0 *33.8* 39.3	104.0 *26.2* 30.5	81.1 *20.4* 23.8	61.1 *15.4* 17.9
			125.0 *31.5* 36.6	110.0 *27.7* 32.2	95.5 *24.1* 28.0	70.7 *17.8* 20.7	48.6 *12.2* 14.2	27.3 *6.9* 8.0						136.0 *34.3* 39.8	119.0 *30.0* 34.9	104.0 *26.2* 30.5	79.7 *20.1* 23.4	59.7 *15.0* 17.5	40.6 *10.2* 11.9
252.0 *63.5* 73.8	203.0 *51.2* 59.5	161.0 *40.6* 47.2	143.0 *36.0* 41.9	127.0 *32.0* 37.2	111.0 *28.0* 32.5				369.0 *93.0* 108.0	307.0 *77.4* 90.0	253.0 *63.8* 74.1	208.0 *52.4* 60.9	168.0 *42.3* 49.2	150.0 *37.8* 44.0	134.0 *33.8* 39.3	117.0 *29.5* 34.3		
203.0 *51.2* 59.5	163.0 *41.1* 47.8	—	—	—	—				283.0 *71.3* 82.9	234.0 *59.0* 68.6	193.0 *48.6* 56.5	158.0 *39.8* 46.3	127.0 *32.0* 37.2	114.0 *28.7* 33.4	101.0 *25.5* 29.6	88.0 *22.2* 25.8		
277.0 *69.8* 81.2	223.0 *56.2* 65.3	176.0 *44.4* 51.6	155.0 *39.1* 45.4	139.0 *35.0* 40.7	123.0 *31.0* 36.0				407.0 *103.0* 119.0	339.0 *85.4* 99.3	280.0 *70.6* 82.0	229.0 *57.7* 67.1	185.0 *46.6* 54.2	164.0 *41.3* 48.1	147.0 *37.0* 43.1	130.0 *32.8* 38.1		
224.0 56.4 65.6	180.0 45.4 52.7	—	—	—	—				306.0 *77.1* 89.7	254.0 *64.0* 74.4	209.0 *52.7* 61.2	171.0 *43.1* 50.1	138.0 *34.8* 40.4	122.0 *30.7* 35.7	110.0 *27.7* 32.2	97.1 *24.5* 28.5		
301.0 *75.9* 88.2	242.0 *61.0* 70.9	192.0 *48.4* 56.3	169.0 *42.6* 49.5	148.0 *37.3* 43.4	128.0 *32.3* 37.5				441.0 *111.0* 129.0	368.0 *92.7* 108.0	304.0 *76.6* 89.1	249.0 *62.7* 73.0	201.0 *50.7* 58.9	179.0 *45.1* 52.4	159.0 *40.1* 46.6			
243.0 *61.2* 71.2	196.0 *49.4* 57.4	—	—	—	—				339.0 *85.4* 99.3	281.0 *70.8* 82.3	231.0 *58.2* 67.7	185.0 *46.6* 54.2	143.0 *36.0* 41.9	123.0 *31.0* 36.0	104.0 *26.2* 30.5			
356.0 *89.7* 104.0	287.0 *72.3* 84.1								521.0 *131.0* 153.0	432.0 *109.0* 127.0	356.0 *89.7* 104.0	291.0 *73.3* 85.3	235.0 *59.2* 68.9	212.0 *53.4* 62.1	188.0 *47.4* 55.1			
290.0 *73.1* 85.0	232.0 *58.5* 68.0								401.0 *101.0* 117.0	334.0 *84.2* 97.9	275.0 *69.3* 80.6	225.0 *56.7* 65.9	181.0 *45.6* 53.0	163.0 *41.1* 47.8	144.0 *36.3* 42.2			
411.0 *104.0* 120.0	329.0 *82.9* 96.4								603.0 *152.0* 177.0	500.0 *126.0* 147.0	411.0 *104.0* 120.0	335.0 *84.4* 98.2	270.0 *68.0* 79.1	243.0 *61.2* 71.2	215.0 *54.2* 63.0			
334.0 *84.2* 97.9	267.0 *67.3* 78.2								465.0 *117.0* 136.0	385.0 *97.0* 113.0	317.0 *79.9* 92.9	258.0 *65.0* 75.6	207.0 *52.2* 60.7	186.0 *46.9* 54.5	165.0 *41.6* 48.3			

50 HERTZ

REFRIGERANT COOLED TANDEMS

CAPACITY BTUS/HOUR x 1000 / *KCALS/HOUR x 1000* / WATTS x 1000

R12

MODEL	HP / kW	CFH m³/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
33D★A10AA 33DA3F36K0	10 7.5	2270 64.3	100	37.8				91.4 *23.0* 26.8	73.0 *18.4* 21.4	58.0 *14.6* 17.0	50.8 *12.8* 14.9	44.8 *11.3* 13.1	38.6 *9.7* 11.3	28.6 *7.2* 8.4	20.2 *5.1* 5.9	13.4 *3.4* 3.9
			130	54.4				74.4 *18.7* 21.8	58.8 *14.8* 17.2	45.8 *11.5* 13.4	39.6 *10.0* 11.6	34.4 *8.7* 10.1	29.2 *7.4* 8.6	20.6 *5.2* 6.0	13.4 *3.4* 3.9	6.2 *1.6* 1.8
33D★A10BB 33DB3F44K0	10 7.5	2676 75.8	100	37.8							65.2 *16.4* 19.1	57.2 *14.4* 16.8	50.0 *12.6* 14.7	37.4 *9.4* 11.0	26.8 *6.8* 7.9	18.2 *4.6* 5.3
			130	54.4							51.2 *12.9* 15.0	44.6 *11.2* 13.1	38.4 *9.7* 11.3	27.8 *7.0* 8.1	19.0 *4.8* 5.6	11.6 *2.9* 3.4
33D★A12AA (DC) 33DA3F56K0	12 9.0	2270 64.3	100	37.8												
			130	54.4												
33D★A15AA (AR) (DC) 33DA3R20M0	15 11.2	2270 64.3	100	37.8	187.0 *47.1* 54.8	153.0 *38.6* 44.8	124.0 *31.2* 36.3	98.8 *24.9* 28.9	77.6 *19.6* 22.7	59.6 *15.0* 17.5	52.0 *13.1* 15.2	44.4 *11.2* 13.0				
			130	54.4	153.0 *38.6* 44.8	124.0 *31.2* 36.3	98.8 *24.9* 28.9	77.6 *19.6* 22.7	59.6 *15.0* 17.5	44.2 *11.1* 13.0	38.0 *9.6* 11.1	31.6 *8.0* 9.3				
33D★A15BB (DC) 33DB3F66K0	15 11.2	2676 75.8	100	37.8	210.0 *52.9* 61.5	174.0 *43.8* 51.0	143.0 *36.0* 41.9	116.0 *29.2* 34.0	93.4 *23.5* 27.4	73.8 *18.6* 21.6	65.6 *16.5* 19.2	57.2 *14.4* 16.8				
			130	54.4	172.0 *43.3* 50.4	142.0 *35.8* 41.6	116.0 *29.2* 34.0	94.0 *23.7* 27.5	74.8 *18.8* 21.9	58.4 *14.7* 17.1	51.6 *13.0* 15.1	44.6 *11.2* 13.1				
33D★A15FF 33DF3F52K0	15 11.2	3172 89.8	130	54.4				140.0 35.3 41.0	113.0 28.5 33.1	91.2 23.0 26.7	80.6 20.3 23.6	71.8 18.1 21.0	63.0 15.9 18.5	48.2 12.1 14.1	36.0 9.1 10.5	26.0 6.6 7.6
			100	37.8				114.0 28.7 33.4	92.0 23.2 27.0	73.4 18.5 21.5	64.6 16.3 18.9	57.2 14.4 16.8	49.6 12.5 14.5	37.2 9.4 10.9	27.0 6.8 7.9	18.6 4.7 5.4
33D★A15SS 33DS3F60K0	15 11.2	3524 99.8	100	37.8				149.0 37.5 43.7	120.0 30.2 35.1	95.2 24.0 27.9	84.6 21.3 24.8	74.4 18.7 21.8	65.0 16.4 19.0	48.8 12.3 14.3	35.2 8.9 10.3	24.0 6.0 7.0
			130	54.4				122.0 30.7 35.7	97.8 24.6 28.7	77.4 19.5 22.7	68.6 17.3 20.1	60.0 15.1 17.6	52.2 13.2 15.3	38.4 9.7 11.3	27.0 6.8 7.9	17.6 4.4 5.2
33D★A18BB (DC) (LV) 33DB3F54K0	18 13.4	2676 75.8	100	37.8	210.0 *52.9* 61.5	174.0 *43.8* 51.0	143.0 *36.0* 41.9	116.0 *29.2* 34.0	93.4 *23.5* 27.4	73.8 *18.6* 21.6	65.6 *16.5* 19.2	57.2 *14.4* 16.8				
			130	54.4	172.0 *43.3* 50.4	142.0 *35.8* 41.6	116.0 *29.2* 34.0	94.0 *23.7* 27.5	74.8 *18.8* 21.9	58.4 *14.7* 17.1	51.6 *13.0* 15.1	44.6 *11.2* 13.1				
33D★A18FF (DC) 33DF3F80K0	18 13.4	3172 89.8	100	37.8	256.0 *64.5* 75.0	210.0 *52.9* 61.5	173.0 *43.6* 50.7	140.0 *35.3* 41.0	112.0 *28.2* 32.8	88.2 *22.2* 25.8	78.2 *19.7* 22.9	68.0 *17.1* 19.9				
			130	54.4	208.0 *52.4* 60.9	172.0 *43.3* 50.4	141.0 *35.5* 41.3	114.0 *28.7* 33.4	90.6 *22.8* 26.5	70.8 *17.8* 20.7	62.6 *15.8* 18.3	54.2 *13.7* 15.9				

R22

MODEL	HP / kW	CFH m³/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7
33D★A15AA (AR) (DC) 33DA3R20M0	15 11.2	2270 64.3	100	37.8	306.0 *77.1* 89.7	252.0 *63.5* 73.8	206.0 *51.9* 60.4
			130	54.4	256.0 *64.5* 75.0	210.0 *52.9* 61.5	170.0 *42.8* 49.8
33D★A15BB (DC) 33DB3F66K0	15 11.2	2676 75.8	100	37.8			
			130	54.4			
33D★A18BB (DC) (LV) 33DB3F54K0	18 13.4	2676 75.8	100	37.8	368.0 *92.7* 108.0	302.0 *76.1* 88.5	244.0 *61.5* 71.5
			130	54.4	300.0 *75.6* 87.9	242.0 *61.0* 70.9	196.0 *49.4* 57.4
33D★A18FF (DC) 33DF3F80K0	18 13.4	3172 89.8	100	37.8			
			130	54.4			

(DC) In grey shaded area the maximum return gas is 65°F (18.3°C) and both Demand Cooling kits and vertical cooling fans are required.
(AR) R22LT application requires TFU motors.
(LV) Limited voltage. Available only in 200 volt electrical.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R22									R502									
EVAPORATING TEMPERATURE °F/°C																		
25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40	45 7.2	35 1.7	25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40
			84.8 *21.4* 24.8	73.2 *18.4* 21.4	63.0 *15.9* 18.5	46.0 *11.6* 13.5	32.8 *8.3* 9.6	22.0 *5.5* 6.4						91.0 *22.9* 26.7	79.6 *20.1* 23.3	69.6 *17.5* 20.4	53.2 *13.4* 15.6	40.2 *10.1* 11.88.4	28.6 *7.2*
			65.2 *16.4* 19.1	55.2 *13.9* 16.2	46.4 *11.7* 13.6	31.8 *8.0* 9.3	20.4 *5.1* 6.0	11.0 *2.8* 3.2						70.8 *17.8* 20.7	60.4 *15.2* 17.7	51.6 *13.0* 15.1	37.8 *9.5* 11.1	27.4 *6.9* 8.0	18.4 *4.6* 5.4
158.0 *39.8* 46.3	126.0 *31.8* 36.9	99.8 *25.1* 29.2	84.0 *21.2* 24.6	73.2 *18.4* 21.4	62.8 *15.8* 18.4	44.4 *11.2* 13.0	29.2 *7.4* 8.6	18.4 *4.6* 5.4	240.0 *60.5* 70.3	198.0 *49.9* 58.0	162.0 *40.8* 47.5	131.0 *33.0* 38.4	105.0 *26.5* 30.8	92.6 *23.3* 27.1	81.6 *20.6* 23.9	72.2 *18.2* 21.2	55.4 *14.0* 16.2	41.0 *10.3* 12.0	29.4 *7.4* 8.6
128.0 *32.3* 37.5	102.0 *25.7* 29.9	80.0 *20.2* 23.4	62.6 *15.8* 18.3	52.8 *13.3* 15.5	44.0 *11.1* 12.9	28.6 *7.2* 8.4	17.2 *4.3* 5.0	10.8 *2.7* 3.2	182.0 *45.9* 53.3	151.0 *38.1* 44.2	124.0 *31.2* 36.3	101.0 *25.5* 29.6	80.4 *20.3* 23.6	71.0 *17.9* 20.8	62.2 *15.7* 18.2	53.0 *13.4* 15.5	39.6 *10.0* 11.6	28.6 *7.2* 8.4	19.4 *4.9* 5.7
			102.0 *25.7* 29.9	90.0 *22.7* 26.4	78.8 *19.9* 23.1	59.2 *14.9* 17.3	42.8 *10.8* 12.5	29.2 *7.4* 8.6						112.0 *28.2* 32.8	98.8 *24.9* 28.9	87.0 *21.9* 25.5	66.8 *16.8* 19.6	50.4 *12.7* 14.8	36.0 *9.1* 10.5
			80.2 *20.2* 23.5	69.6 *17.5* 20.4	59.8 *15.1* 17.5	42.6 *10.7* 12.5	28.2 *7.1* 8.3	16.0 *4.0* 4.7						88.2 *22.2* 25.8	76.4 *19.3* 22.4	66.2 *16.7* 19.4	49.4 *12.4* 14.5	36.4 *9.2* 10.7	26.2 *6.6* 7.7
185.0 *46.6* 54.2	148.0 *37.3* 43.4	118.0 *29.7* 34.6	102.0 *25.8* 29.9	89.0 *22.4* 26.1	76.6 *19.3* 22.4	54.8 *13.8* 16.1	37.2 *9.4* 10.9	24.0 *6.0* 7.0						110.0 *27.7* 32.2	97.8 *24.6* 28.7	86.8 *21.9* 25.4	67.0 *16.9* 19.6	50.6 *12.8* 14.8	37.0 *9.3* 10.8
148.0 *37.3* 43.4	117.0 *29.5* 34.3	91.4 *23.0* 26.8	76.6 *19.3* 22.4	65.0 *16.4* 19.0	54.2 *13.7* 15.9	35.8 *9.0* 10.5	21.6 *5.4* 6.3	11.6 *2.9* 3.4						82.4 *20.8* 24.1	73.0 *18.4* 21.4	64.2 *16.2* 18.8	48.8 *12.3* 14.3	36.0 *9.1* 10.5	25.2 *6.4* 7.4
			122.0 *30.7* 35.7	107.0 *27.0* 31.4	93.4 *23.5* 27.4	69.4 *17.5* 20.3	49.6 *12.5* 14.5	33.4 *8.4* 9.8						132.0 *33.3* 38.7	117.0 *29.5* 34.3	104.0 *26.2* 30.5	79.6 *20.1* 23.3	60.0 *15.1* 17.6	44.4 *11.2* 13.0
			96.4 *24.3* 28.2	82.6 *20.8* 24.2	70.2 *17.7* 20.6	49.0 *12.3* 14.4	32.8 *8.3* 9.6	21.4 *5.4* 6.3						102.0 *25.7* 29.9	90.2 *22.7* 26.4	79.2 *20.0* 23.2	60.0 *15.1* 17.6	44.2 *11.1* 13.0	31.6 *8.0* 9.3

50 HERTZ

REFRIGERANT COOLED TANDEMS

CAPACITY BTUS/HOUR x 1000 / *KCALS/HOUR x 1000* / WATTS x 1000

R12

R22

MODEL	HP / kW	CFH / m³/hr / 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C: 55 / 12.8	45 / 7.2	35 / 1.7	25 / −3.9	15 / −9.4	5 / −15	0 / −17.8	−5 / −20.6	−10 / −23.3	−20 / −28.9	−30 / −34.4	−40 / −40	R22: 55 / 12.8	45 / 7.2	35 / 1.7
33D★A20BB (RG) 33DB3R24M0	20 / 14.9	2676 / 75.8	100	37.8													358.0 *90.2* 105.0	298.0 *75.1* 87.3	244.0 *61.5* 71.5
			130	54.4													302.0 *76.1* 88.5	248.0 *62.5* 72.7	202.0 *50.9* 59.2
33D★A20SS (DC) 33DS3F92K0	20 / 14.9	3524 / 99.8	100	37.8	274.0 *69.0* 80.3	226.0 *57.0* 66.2	186.0 *46.9* 54.5	151.0 *38.1* 44.2	121.0 *30.5* 35.5	95.8 *24.1* 28.1	85.2 *21.5* 25.0	74.4 *18.7* 21.8							
			130	54.4	226.0 *57.0* 66.2	187.0 *47.1* 54.8	153.0 *38.6* 44.8	124.0 *31.2* 36.3	99.2 *25.0* 29.1	77.8 *19.6* 22.8	68.8 *17.3* 20.2	59.8 *15.1* 17.5							
44D★A20AA (DC) 44DA★R24M0	20 / 14.9	3954 / 111.9	100	37.8	294.0 *74.1* 86.1	246.0 *62.0* 72.1	204.0 *51.4* 59.8	166.0 *41.8* 48.6	135.0 *34.0* 39.6	107.0 *27.0* 31.4	93.6 *23.6* 27.4	82.6 *20.8* 24.2	72.6 *18.3* 21.3	54.8 *13.8* 16.1	40.2 *10.1* 11.8	28.0 *7.1* 8.2			
			130	54.4	244.0 *61.5* 71.5	204.0 *51.4* 59.8	167.0 *42.1* 49.0	135.0 *34.0* 39.6	108.0 *27.2* 31.6	84.0 *21.2* 24.6	76.6 *19.3* 22.4	67.0 *16.9* 19.6	58.2 *14.7* 17.1	42.8 *10.8* 12.5	29.8 *7.5* 8.7	19.2 *4.8* 5.6			
44D★A21AA (DC) 44DA★F94K0	20 / 14.9	3954 / 111.9	100	37.8	294.0 *74.1* 86.1	246.0 *62.0* 72.1	204.0 *51.4* 59.8	166.0 *41.8* 48.6	135.0 *34.0* 39.6	107.0 *27.0* 31.4	93.6 *23.6* 27.4	82.6 *20.8* 24.2	72.6 *18.3* 21.3	54.8 *13.8* 16.1	40.2 *10.1* 11.8	28.0 *7.1* 8.2			
			130	54.4	244.0 *61.5* 71.5	204.0 *51.4* 59.8	167.0 *42.1* 49.0	135.0 *34.0* 39.6	108.0 *27.2* 31.6	84.0 *21.2* 24.6	76.6 *19.3* 22.4	67.0 *16.9* 19.6	58.2 *14.7* 17.1	42.8 *10.8* 12.5	29.8 *7.5* 8.7	19.2 *4.8* 5.6			
33D★A24FF (RG) 33DF3R30M0	24 / 17.9	3172 / 89.8	100	37.8														356.0 *89.7* 104.0	286.0 *72.1* 83.8
			130	54.4														288.0 *72.6* 84.4	232.0 *58.5* 68.0
33D★A30SS (DC) 33DS3R34M0	30 / 22.4	3524 / 99.8	100	37.8													482.0 *121.0* 141.0	398.0 *100.0* 117.0	326.0 *82.2* 95.5
			130	54.4													400.0 *101.0* 117.0	328.0 *82.7* 96.1	268.0 *67.5* 78.5
44D★A30LL (DC) (OC) 44DL★F13M0	30 / 22.4	4998 / 141.5	130	54.4															
			100	37.8															
44D★A40AA (DC) (LA) 44DA★R36M0	40 / 29.8	3954 / 111.9	100	37.8													528.0 133.0 155.0	446.0 112.0 131.0	360.0 90.7 105.0
			130	54.4													428.0 108.0 125.0	356.0 89.7 104.0	282.0 71.1 82.6
44D★A44BB (RG) 44DB★R40M0	44 / 32.8	4600 / 130.2	100	37.8													606.0 *153.0* 178.0	504.0 *127.0* 148.0	412.0 *104.0* 121.0
			130	54.4													498.0 *125.0* 146.0	410.0 *103.0* 120.0	330.0 *83.2* 96.7
44D★A44TT (DC) (OC) 44DT★F15M0	44 / 32.8	5970 / 169.0	100	37.8															
			130	54.4															

(RG) In grey shaded area the maximum return gas is 50°F (10°C) and vertical cooling fans are required.
(DC) In grey shaded area the maximum return gas is 65°F (18.3°C) and both Demand Cooling kits and vertical cooling fans are required.
(OC) Oil coolers and vertical cooling fans are standard on this model.
(LA) Use a "J" in the fourth digit of model number for R22LT.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R22

EVAPORATING TEMPERATURE °F/°C								
25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
189.0 *47.6* 55.4	152.0 *38.3* 44.5	121.0 *30.5* 35.5	107.0 *27.0* 31.4	94.8 *23.9* 27.8	83.2 *21.0* 24.4			
154.0 *38.8* 45.1	123.0 *31.0* 36.0	96.4 *24.3* 28.2	—	—	—			
			136.0 *34.3* 39.8	119.0 *30.0* 34.9	104.0 *26.2* 30.5	77.6 *19.6* 22.7	55.2 *13.9* 16.2	36.8 *9.3* 10.8
			107.0 *27.0* 31.4	92.2 *23.2* 27.0	78.8 *19.9* 23.1	56.0 *14.1* 16.4	38.2 *9.6* 11.2	24.6 *6.2* 7.2
			143.0 *36.0* 41.9	128.0 *32.3* 37.5	113.0 *28.5* 33.1	85.2 *21.5* 25.0	60.0 *15.1* 17.6	39.2 *9.9* 11.5
			114.0 *28.7* 33.4	99.6 *25.1* 29.2	85.6 *21.6* 25.1	58.2 *14.7* 17.1	33.2 *8.4* 9.7	12.6 *3.2* 3.7
			143.0 *36.0* 41.9	128.0 *32.3* 37.5	113.0 *28.5* 33.1	85.2 *21.5* 25.0	60.0 *15.1* 17.6	39.2 *9.9* 11.5
			114.0 *28.7* 33.4	99.6 *25.1* 29.2	85.6 *21.6* 25.1	58.2 *14.7* 17.1	33.2 *8.4* 9.7	12.6 *3.2* 3.7
220.0 *55.4* 64.5	176.0 *44.4* 51.6	139.0 *35.0* 40.7	122.0 *30.7* 35.7	109.0 *27.5* 31.9	96.0 *24.2* 28.1			
177.0 *44.6* 51.9	142.0 *35.8* 41.6	109.0 *27.5* 31.9	—	—	—			
248.0 *62.5* 72.7	198.0 *49.9* 58.0	157.0 *39.6* 46.0	138.0 *34.8* 40.4	121.0 *30.5* 35.5	106.0 *26.7* 31.1	77.8 *19.6* 22.8	55.4 *14.0* 16.2	36.8 *9.3* 10.8
202.0 *50.9* 59.2	163.0 *41.1* 47.8	129.0 *32.5* 37.8	105.0 *26.5* 30.8	90.6 *22.8* 26.5	77.4 *19.5* 22.7	55.2 *13.9* 16.2	37.6 *9.5* 11.0	23.8 *6.0* 7.0
			189.0 *47.6* 55.4	167.0 *42.1* 48.9	147.0 *37.0* 43.1	110.0 *27.7* 32.2	79.6 *20.1* 23.3	55.2 *13.9* 16.2
			144.0 *36.3* 42.2	126.0 *31.8* 36.9	109.0 *27.5* 31.9	79.0 *19.9* 23.1	52.8 *13.3* 15.5	30.8 *7.8* 9.0
264.0 *66.5* 77.4	208.0 *52.4* 60.9	161.0 *40.6* 47.2	141.0 *35.5* 41.3	123.0 *31.0* 36.0	107.0 *27.0* 31.4	81.6 *20.6* 23.9	60.0 *15.1* 17.6	39.2 *9.9* 11.5
212.0 *53.4* 62.1	167.0 *42.1* 48.9	122.0 *30.7* 35.7	106.0 *26.7* 31.1	93.2 *23.5* 27.3	80.8 *20.4* 23.7	58.2 *14.7* 17.1	33.2 *8.4* 9.7	12.6 *3.2* 3.7
308.0 *77.6* 90.2	246.0 *62.0* 72.1	184.0 *46.4* 53.9	153.0 *38.6* 44.8	126.0 *31.8* 36.9	110.0 *27.7* 32.2			
246.0 *62.0* 72.1	194.0 *48.9* 56.8	—	—	—	—			
			228.0 *57.5* 66.8	195.0 *49.1* 57.1	168.0 *42.3* 49.2	126.0 *31.8* 36.9	94.8 *23.9* 27.8	65.8 *16.6* 19.3
			180.0 *45.4* 52.7	152.0 *38.3* 44.5	129.0 *32.5* 37.8	93.2 *23.5* 27.3	66.0 *16.6* 19.3	39.0 *9.8* 11.4

R502

EVAPORATING TEMPERATURE °F/°C								
45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
288.0 *72.6* 84.4	238.0 *60.0* 69.7	194.0 *48.9* 56.8	157.0 *39.6* 46.0	125.0 *31.5* 36.6	111.0 *28.0* 32.5	97.8 *24.6* 28.7				
218.0 *54.9* 63.9	181.0 *45.6* 53.0	148.0 *37.3* 43.4	120.0 *30.2* 35.2	95.6 *24.1* 28.0	84.4 *21.3* 24.7	73.8 *18.6* 21.6				
					147.0 *37.0* 43.1	130.0 *32.8* 38.1	115.0 *29.0* 33.7	89.2 *22.5* 26.1	67.4 *17.0* 19.7	49.6 *12.5* 14.5
					111.0 *28.0* 32.5	98.6 *24.8* 28.9	87.0 *21.9* 25.5	66.8 *16.8* 19.6	50.0 *12.6* 14.7	36.4 *9.2* 10.7
					161.0 *40.6* 47.2	144.0 *36.3* 42.2	128.0 *32.3* 37.5	98.8 *24.9* 28.9	73.0 *18.4* 21.4	50.8 *12.8* 14.9
					122.0 *30.7* 35.7	110.0 *27.7* 32.2	98.4 *24.8* 28.8	74.2 *18.7* 21.7	50.2 *12.7* 14.7	26.8 *6.8* 7.9
					161.0 *40.6* 47.2	144.0 *36.3* 42.2	128.0 *32.3* 37.5	98.8 *24.9* 28.9	73.0 *18.4* 21.4	50.8 *12.8* 14.9
					122.0 *30.7* 35.7	110.0 *27.7* 32.2	98.4 *24.8* 28.8	74.2 *18.7* 21.7	50.2 *12.7* 14.7	26.8 *6.8* 7.9
380.0 *95.8* 111.0	314.0 *79.1* 92.0	258.0 *65.0* 75.6	210.0 *52.9* 61.5	169.0 *42.6* 49.5	150.0 *37.8* 44.0	133.0 *33.5* 39.0				
290.0 *73.1* 85.0	240.0 *60.5* 70.3	198.0 *49.9* 58.0	161.0 *40.6* 47.2	129.0 *32.5* 37.8	115.0 *29.0* 33.7	101.0 *25.5* 29.6				
					204.0 *51.4* 59.8	181.0 *45.6* 53.0	160.0 *40.3* 46.9	124.0 *31.2* 36.3	94.2 *23.7* 27.6	70.2 *17.7* 20.6
					154.0 *38.8* 45.1	137.0 *34.5* 40.1	122.0 *30.7* 35.7	93.6 *23.6* 27.4	69.0 *17.4* 20.2	46.2 *11.6* 13.5
438.0 *110.0* 128.0	356.0 *89.7* 104.0	286.0 *72.1* 83.8	230.0 *58.0* 67.4	182.0 *45.9* 53.3	162.0 *40.8* 47.5	144.0 *36.3* 42.2				
324.0 *81.6* 94.9	262.0 *66.0* 76.8	212.0 *53.4* 62.1	169.0 *42.6* 49.5	133.0 *33.5* 39.0	118.0 *29.7* 34.6	105.0 *26.5* 30.8				
					246.0 *62.0* 72.1	218.0 *54.9* 63.9	192.0 *48.4* 56.3	149.0 *37.5* 43.7	113.0 *28.5* 33.1	81.2 *20.5* 23.8
					187.0 *47.1* 54.8	166.0 *41.8* 48.6	147.0 *37.0* 43.1	113.0 *28.5* 33.1	84.6 *21.3* 24.8	58.0 *14.6* 17.0

50 HERTZ

REFRIGERANT COOLED TANDEMS

CAPACITY BTUS/HOUR x 1000 *KCALS/HOUR x 1000* WATTS x 1000

R12

MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
44D★A50HH (RG) 44DH★R44M0	50 37.3	4998 141.5	100	37.8												
			130	54.4												
66D★A54LL (DC) (OC) 66DL★F19M0	54 40.3	7496 212.2	100	37.8												
			130	54.4												
44D★A60JJ (RG) 44DJ★R56M0	60 44.8	5970 169.0	100	37.8												
			130	54.4												
66D★A60BB (RG) 66DB★R64M0	60 44.8	6900 195.3	100	37.8												
			130	54.4												
66D★A60TT (DC) (DS) (OC) 66DT★F22M0	60 44.8	8956 253.5	100	37.8												
			130	54.4												
66D★A70HH (RG) 66DH★R70M0	70 52.2	7496 212.2	130	54.4												
			100	37.8												
66D★A70GG (RG) 66DG★R74M0	70 52.2	8258 233.8	100	37.8												
			130	54.4												
66D★A80JJ (DS) (RG) 66DJ★R80M0	80 59.7	8956 253.5	100	37.8												
			130	54.4												
88D★-11PP (DS) 88DP★R112M0	100 74.6	10716 303.4	100	37.8												
			130	54.4												
88D★-12SS (DS) 88DS★R134M0	120 89.5	12680 359.0	100	37.8												
			130	54.4												

R22

MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7
44D★A50HH (RG) 44DH★R44M0	50 37.3	4998 141.5	100	37.8	660.0 *166.0* 193.0	548.0 *138.0* 161.0	448.0 *113.0* 131.0
			130	54.4	548.0 *138.0* 161.0	452.0 *114.0* 132.0	368.0 *92.7* 108.0
66D★A54LL (DC) (OC) 66DL★F19M0	54 40.3	7496 212.2	100	37.8			
			130	54.4			
44D★A60JJ (RG) 44DJ★R56M0	60 44.8	5970 169.0	100	37.8	784.0 *198.0* 230.0	650.0 *164.0* 190.0	534.0 *135.0* 156.0
			130	54.4	642.0 *162.0* 188.0	532.0 *134.0* 156.0	434.0 *109.0* 127.0
66D★A60BB (RG) 66DB★R64M0	60 44.8	6900 195.3	100	37.8	916.0 *231.0* 268.0	748.0 *188.0* 219.0	610.0 *154.0* 179.0
			130	54.4	722.0 *182.0* 212.0	598.0 *151.0* 175.0	494.0 *124.0* 145.0
66D★A60TT (DC) (DS) (OC) 66DT★F22M0	60 44.8	8956 253.5	100	37.8			
			130	54.4			
66D★A70HH (RG) 66DH★R70M0	70 52.2	7496 212.2	130	54.4	994.0 250.0 291.0	818.0 206.0 240.0	668.0 168.0 196.0
			100	37.8	814.0 205.0 239.0	666.0 168.0 195.0	542.0 137.0 159.0
66D★A70GG (RG) 66DG★R74M0	70 52.2	8258 233.8	100	37.8	1066.0 269.0 312.0	874.0 220.0 256.0	718.0 181.0 210.0
			130	54.4	878.0 221.0 257.0	724.0 182.0 212.0	598.0 151.0 175.0
66D★A80JJ (DS) (RG) 66DJ★R80M0	80 59.7	8956 253.5	100	37.8	1156.0 *291.0* 339.0	964.0 *243.0* 282.0	794.0 *200.0* 233.0
			130	54.4	954.0 *240.0* 280.0	788.0 *199.0* 231.0	644.0 *162.0* 189.0
88D★-11PP (DS) 88DP★R112M0	100 74.6	10716 303.4	100	37.8	1414.0 *356.0* 414.0	1158.0 *292.0* 339.0	940.0 *237.0* 275.0
			130	54.4	1160.0 *292.0* 340.0	950.0 *239.0* 278.0	770.0 *194.0* 226.0
88D★-12SS (DS) 88DS★R134M0	120 89.5	12680 359.0	100	37.8	1640.0 *413.0* 481.0	1342.0 *338.0* 393.0	1086.0 *274.0* 318.0
			130	54.4	1332.0 *336.0* 390.0	1092.0 *275.0* 320.0	884.0 *223.0* 259.0

(RG) In grey shaded area the maximum return gas is 50°F (10°C) and vertical cooling fans are required.
(DC) In grey shaded area the maximum return gas is 65°F (18.3°C) and both Demand Cooling kits and vertical cooling fans are required.
(OC) Oil coolers and vertical cooling fans are standard on this model.
(DS) Deep oil sumps are standard on this model.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R22									R502									
EVAPORATING TEMPERATURE °F/°C																		
25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40	45 7.2	35 1.7	25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40
354.0 *89.2* 104.0	278.0 *70.1* 81.5	214.0 *53.9* 62.7	187.0 *47.1* 54.8	165.0 *41.6* 48.3	148.0 *37.3* 43.4				536.0 *135.0* 157.0	446.0 *112.0* 131.0	366.0 *92.2* 107.0	294.0 *74.1* 86.1	232.0 *58.5* 68.0	206.0 *51.9* 60.4	181.0 *45.6* 53.0			
280.0 *70.6* 82.0	216.0 *54.4* 63.3	—	—	—	—				406.0 *102.0* 119.0	336.0 *84.7* 98.4	276.0 *69.6* 80.9	222.0 *55.9* 65.0	174.0 *43.8* 51.0	154.0 *38.8* 45.1	135.0 *34.0* 40.0			
			280.0 *70.6* 82.0	250.0 *63.0* 73.3	220.0 *55.4* 64.5	164.0 *41.3* 48.1	115.0 *29.0* 33.7	75.8 *19.1* 22.2						300.0 *75.6* 88.0	266.0 *67.0* 77.9	236.0 *59.5* 69.1	185.0 *46.6* 54.2	141.0 *35.5* 41.3	101.0 *25.5* 29.6
			222.0 *55.9* 65.0	195.0 *49.1* 57.1	169.0 *42.6* 49.5	120.0 *30.2* 35.2	76.0 *19.2* 22.3	37.8 *9.5* 11.1						232.0 *58.5* 68.0	204.0 *51.4* 59.8	180.0 *45.4* 52.7	138.0 *34.8* 40.4	103.0 *26.0* 30.2	69.0 *17.4* 20.2
418.0 *105.0* 122.0	330.0 *83.2* 96.7	258.0 *65.0* 75.6	226.0 *57.0* 66.2	198.0 *49.9* 58.0	173.0 *43.6* 50.7				632.0 *159.0* 185.0	522.0 *132.0* 153.0	428.0 *108.0* 125.0	348.0 *87.7* 102.0	280.0 *70.6* 82.0	248.0 *62.5* 72.7	220.0 *55.4* 64.5			
332.0 *83.7* 97.3	262.0 *66.0* 76.8	—	—	—	—				482.0 *121.0* 141.0	396.0 *99.8* 116.0	324.0 *81.6* 94.9	262.0 *66.0* 76.8	210.0 *52.9* 61.5	188.0 *47.4* 55.1	167.0 *42.1* 48.9			
468.0 *118.0* 137.0	386.0 *97.3* 113.0	304.0 *76.6* 89.1	264.0 *66.5* 77.4	224.0 *56.4* 65.6	184.0 *46.4* 53.9													
380.0 *95.8* 111.0	306.0 *77.1* 89.7	—	—	—	—													
			324.0 *81.6* 94.9	284.0 *71.6* 83.2	250.0 *63.0* 73.3	189.0 *47.6* 55.4	138.0 *34.8* 40.4	93.6 *23.6* 27.4						348.0 *87.7* 102.0	304.0 *76.6* 89.1	268.0 *67.5* 78.5	208.0 *52.4* 60.9	162.0 *40.8* 47.5	122.0 *30.7* 35.7
			250.0 *63.0* 73.3	220.0 *55.4* 64.5	191.0 *48.1* 56.0	141.0 *35.5* 41.3	97.2 *24.5* 28.5	54.6 *13.8* 16.0						272.0 *68.5* 79.7	238.0 *60.0* 69.7	208.0 *52.4* 60.9	159.0 *40.1* 46.6	119.0 *30.0* 34.9	81.0 *20.4* 23.7
504.0 *127.0* 148.0	406.0 *102.0* 119.0	322.0 *81.1* 94.3	286.0 *72.1* 83.8	254.0 *64.0* 74.4	222.0 *55.9* 65.0				738.0 *186.0* 216.0	614.0 *155.0* 180.0	506.0 *128.0* 148.0	416.0 *105.0* 122.0	336.0 *84.7* 98.4	300.0 *75.6* 87.9	268.0 *67.5* 78.5	234.0 *59.0* 68.6		
406.0 *102.0* 119.0	326.0 *82.2* 96.0	—	—	—	—				566.0 *143.0* 166.0	468.0 *118.0* 137.0	386.0 *97.3* 113.0	316.0 *79.6* 92.6	254.0 *64.0* 74.4	228.0 *57.5* 66.8	202.0 *50.9* 59.2	176.0 *44.4* 51.6		
554.0 *140.0* 162.0	446.0 *112.0* 131.0	352.0 *88.7* 103.0	310.0 *78.1* 90.8	278.0 *70.1* 81.5	246.0 *62.0* 72.1				814.0 *205.0* 239.0	678.0 *171.0* 199.0	560.0 *141.0* 164.0	458.0 *115.0* 134.0	370.0 *93.2* 108.0	328.0 *82.7* 96.1	294.0 *74.1* 86.1	260.0 *65.5* 76.2		
448.0 *113.0* 131.0	360.0 *90.7* 105.0	—	—	—	—				612.0 *154.0* 179.0	508.0 *128.0* 149.0	418.0 *105.0* 122.0	342.0 *86.2* 100.0	276.0 *69.6* 80.9	244.0 *61.5* 71.5	220.0 *55.4* 64.5	194.0 *48.9* 56.8		
602.0 *152.0* 176.0	484.0 *122.0* 142.0	384.0 *96.8* 113.0	338.0 *85.2* 99.0	296.0 *74.6* 86.7	256.0 *64.5* 75.0				882.0 *222.0* 258.0	736.0 *185.0* 216.0	608.0 *153.0* 178.0	498.0 *125.0* 146.0	402.0 *101.0* 118.0	358.0 *90.2* 105.0	318.0 *80.1* 93.2			
486.0 *122.0* 142.0	392.0 *98.8* 115.0	—	—	—	—				678.0 *171.0* 199.0	562.0 *142.0* 165.0	462.0 *116.0* 135.0	370.0 *93.2* 108.0	286.0 *72.1* 83.8	246.0 *62.0* 72.1	208.0 *52.4* 60.9			
712.0 *179.0* 209.0	574.0 *145.0* 168.0								1042.0 *263.0* 305.0	864.0 *218.0* 253.0	712.0 *179.0* 209.0	582.0 *147.0* 171.0	470.0 *118.0* 138.0	424.0 *107.0* 124.0	376.0 *94.8* 110.0			
580.0 *146.0* 170.0	464.0 *117.0* 136.0								802.0 *202.0* 235.0	668.0 *168.0* 196.0	550.0 *139.0* 161.0	450.0 *113.0* 132.0	362.0 *91.2* 106.0	326.0 *82.2* 96.0	288.0 *72.6* 84.4			
822.0 *207.0* 241.0	658.0 *166.0* 193.0								1206.0 *304.0* 353.0	1000.0 *252.0* 293.0	822.0 *207.0* 241.0	670.0 *169.0* 196.0	540.0 *136.0* 158.0	486.0 *122.0* 142.0	430.0 *108.0* 126.0			
668.0 *168.0* 196.0	534.0 *135.0* 156.0								930.0 *234.0* 272.0	770.0 *194.0* 226.0	634.0 *160.0* 186.0	516.0 *130.0* 151.0	414.0 *104.0* 121.0	372.0 *93.7* 109.0	330.0 *83.2* 96.7			

50 HERTZ

CAPACITY BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

REFRIGERANT COOLED CAPACITY CONTROL

CAPACITY CONTROL MODEL	BASIC COMPRESSOR MODEL	HP / kW	CFH m³/hr 50HZ	CONDENSING TEMPERATURE °F / °C	R12 EVAPORATING TEMPERATURE °F/°C: 55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	R22 EVAPORATING TEMPERATURE °F/°C: 55 12.8	45 7.2	35 1.7
3DE ★A0500 Moduload 3DE3F18K0	3DA ★A0500 3DA3F18K0	5 3.7	1135 32.1	100 37.8				22.4 *5.6* 6.6	12.4 *3.1* 3.6										
				130 54.4				—	—										
3DH ★A0600 Moduload 3DH3F28K0	3DA ★A0600 3DA3F28K0	6 4.5	1135 32.1	100 37.8															
				130 54.4															
3DE ★A0750 Moduload 3DE3R10M0	3DA ★A0750 3DA3R10M0	7.5 5.6	1135 32.1	100 37.8													121.0 *30.5* 35.5	93.2 *23.5* 27.3	67.0 *16.9* 19.6
				130 54.4													76.8 *19.4* 22.5	53.6 *13.5* 15.7	32.3 *8.1* 9.5
3DP ★A0750 Moduload 3DP3F33K0	3DB ★A0750 3DB3F33K0	7.5 5.6	1338 37.9	100 37.8	—	61.0 *15.4* 17.9	43.7 *11.0* 12.8	28.5 *7.2* 8.4	15.9 *4.0* 4.7										
				130 54.4	48.3 12.2 14.2	32.8 8.3 9.6	18.6 4.7 5.4	—	—										
3DJ ★A0750 Moduload 3DJ3F33K0	3DB ★A0750 3DB3F33K0	7.5 5.6	1338 37.9	100 37.8															
				130 54.4															
3DK ★A0750 Moduload 3DK3F26K0	3DF ★A0750 3DF3F26K0	7.5 5.6	1586 44.9	100 37.8				34.3 *8.6* 10.0	19.3 *4.9* 5.7										
				130 54.4				—	—										
3DT ★A0750 Moduload 3DT3F30K0	3DS ★A0750 3DS3F30K0	7.5 5.6	1762 49.9	100 37.8				36.5 *9.2* 10.7	20.3 *5.1* 5.9										
				130 54.4				—	—										
3DP ★A0900 Moduload (LV) 3DP3F27K0	3DB ★A0900 3DB3F27K0	9 6.7	1338 37.9	100 37.8	—	61.0 *15.4* 17.9	43.7 *11.0* 12.8	28.5 *7.2* 8.4	15.9 *4.0* 4.7								145.0 *36.5* 42.5	112.0 *28.2* 32.8	79.3 *20.0* 23.2
				130 54.4	48.3 *12.2* 14.2	32.8 *8.3* 9.6	18.6 *4.7* 5.4	—	—								90.0 *22.7* 26.4	61.7 *15.5* 18.1	37.3 *9.4* 10.9
3DJ ★A0900 Moduload (LV) 3DJ3F27K0	3DB ★A0900 3DB3F27K0	9 6.7	1338 37.9	100 37.8															
				130 54.4															

(LV) Limited voltage. Available only in 200 volt electrical.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R22									R502									
EVAPORATING TEMPERATURE °F/°C																		
25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40	45 7.2	35 1.7	25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40
														35.9 *9.0* 10.5	30.6 *7.7* 9.0	25.8 *6.5* 7.6	17.6 *4.4* 5.2	10.7 *2.7* 3.1	5.3 *1.3* 1.6
														24.4 *6.1* 7.1	19.6 *4.9* 5.7	15.7 *4.0* 4.6	9.1 *2.3* 2.7	4.1 *1.0* 1.2	—
60.8 *15.3* 17.8	44.9 *11.3* 13.2								88.8 *22.4* 26.0	67.3 *17.0* 19.7	46.1 *11.6* 13.5	28.2 *7.1* 8.3							
31.0 *7.8* 10.7	23.5 *5.9* 6.9								47.4 *11.9* 13.9	31.0 *7.8* 9.1	—	—							
														44.2 *11.1* 13.0	38.0 *9.6* 11.1	32.2 *8.1* 9.4	22.0 *5.5* 6.4	13.4 *3.4* 3.9	6.7 *1.7* 2.0
														30.4 *7.7* 8.9	24.8 *6.2* 7.3	20.2 *5.1* 5.9	11.9 *3.0* 3.5	5.5 *1.4* 1.6	—
71.1 *17.9* 20.8	52.5 *13.2* 15.4																		
32.1 *8.1* 9.4	27.0 *6.8* 7.9																		
														43.5 *11.0* 12.7	37.7 *9.5* 11.0	32.1 *8.1* 9.4	22.1 *5.6* 6.5	13.4 *3.4* 3.9	6.8 *1.7* 2.0
														28.4 *7.2* 8.3	23.7 *6.0* 6.9	19.6 *4.9* 5.7	11.7 *2.9* 3.4	5.4 *1.4* 1.6	—

50 HERTZ

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

REFRIGERANT COOLED CAPACITY CONTROL

R12

R22

CAPACITY CONTROL MODEL	BASIC COMPRESSOR MODEL	HP / kW	CFH m³/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	55 12.8	45 7.2	35 1.7
3DK ★A0900 Moduload 3DK3F40K0	3DF ★A0900 3DF3F40K0	9 6.7	1586 44.9	100	37.8	—	73.5 *18.5* 21.5	52.7 *13.3* 15.4	34.3 *8.6* 10.0	19.0 *4.8* 5.6										
				130	54.4	58.2 *14.7* 17.1	39.7 *10.0* 11.6	22.6 *5.7* 6.6	—	—										
3DG ★A0900 Moduload 3DG3F40K0	3DF ★A0900 3DF3F40K0	9 6.7	1586 44.9	100	37.8															
				130	54.4															
3DP ★A1000 Moduload 3DP3R12M0	3DB ★A1000 3DB3R12M0	10 7.5	1338 37.9	100	37.8													141.0 *35.5* 41.3	110.0 *27.7* 32.2	79.3 *20.0* 23.2
				130	54.4													90.6 *22.8* 26.5	63.2 *15.9* 18.5	38.4 *9.7* 11.3
3DT ★A1000 Moduload 3DT3R11M0	3DS★A1000 3DS3R11M0	10 7.5	1762 49.9	100	37.8	—	79.1 *19.9* 23.2	56.6 *14.3* 16.6	36.9 *9.3* 10.8	20.6 *5.2* 6.0										
				130	54.4	63.3 *16.0* 18.5	43.0 *10.8* 12.6	24.5 *6.2* 7.2	—	—										
3DR ★A1000 Moduload 3DR3F46K0	3DS★A1000 3DS3F46K0	10 7.5	1762 49.9	100	37.8															
				130	54.4															
4DE★A1000 50% Unloaded 4DE★R12M0	4DA★A1000 4DA★R12M0	10 7.5	1977 56.0	100	37.8				41.6 *10.5* 12.2	33.7 *8.5* 9.9	26.8 *6.8* 7.9	23.4 *5.9* 6.9	20.7 *5.2* 6.1							
				130	54.4				33.7 *8.5* 9.9	26.9 *6.8* 7.9	21.0 *5.3* 6.2	19.2 *4.8* 5.6	16.8 *4.2* 4.9							
4DN ★A1000 50% Unloaded (OC) 4DN★R12M0	4DA★A1000 4DA★R12M0	10 7.5	1977 56.0	100	37.8								20.7 *5.2* 6.1	18.2 *4.6* 5.3	13.7 *3.5* 4.0	10.1 *2.5* 3.0	7.0 *1.8* 2.1			
				130	54.4								16.8 *4.2* 4.9	14.6 *3.7* 4.3	10.7 *2.7* 3.1	7.5 *1.9* 2.2	4.8 *1.2* 1.4			
4DE★A1010 50% Unloaded 4DE★F47K0	4DA★A1010 4DA★F47K0	10 7.5	1977 56.0	100	37.8				41.6 *10.5* 12.2	33.7 *8.5* 9.9	26.8 *6.8* 7.9	23.4 *5.9* 6.9	20.7 *5.2* 6.1							
				130	54.4				33.7 *8.5* 9.9	26.9 *6.8* 7.9	21.0 *5.3* 6.2	19.2 *4.8* 5.6	16.8 *4.2* 4.9							
4DN ★A1010 50% Unloaded (OC) 4DN★F47K0	4DA★A1010 4DA★F47K0	10 7.5	1977 56.0	100	37.8								20.7 *5.2* 6.1	18.2 *4.6* 5.3	13.7 *3.5* 4.0	10.1 *2.5* 3.0	7.0 *1.8* 2.1			
				130	54.4								16.8 *4.2* 4.9	14.6 *3.7* 4.3	10.7 *2.7* 3.1	7.5 *1.9* 2.2	4.8 *1.2* 1.4			

(OC) Oil cooler and vertical cooling fan are standard on this model.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R22									R502									
EVAPORATING TEMPERATURE °F/°C																		
25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
														52.1 *13.1* 15.3	45.1 *11.4* 13.2	38.3 *9.7* 11.2	26.3 *6.6* 7.7	15.9 *4.0* 4.7	8.2 *2.1* 2.4
														35.3 *8.9* 10.3	29.3 *7.4* 8.6	24.2 *6.1* 7.1	14.4 *3.6* 4.2	6.6 *1.7* 1.9	—
72.9 *18.4* 21.4	54.1 *13.6* 15.9								107.0 *27.0* 31.4	80.9 *20.4* 23.7	55.4 *14.0* 16.2	33.8 *8.5* 9.9						
35.0 *8.8* 10.3	28.2 *7.1* 8.3								56.7 *14.3* 16.6	37.1 *9.3* 10.9	—	—						
														58.0 *14.6* 17.0	50.2 *12.7* 14.7	42.7 *10.8* 12.5	29.4 *7.4* 8.6	17.9 *4.5* 5.2	9.2 *2.3* 2.7
														38.3 *9.7* 11.2	32.0 *8.1* 9.4	26.5 *6.7* 7.8	16.0 *4.0* 4.7	7.5 *1.9* 2.2	—
														40.3 *10.2* 11.8	36.1 *9.1* 10.6	32.1 *8.1* 9.4	24.7 *6.2* 7.2	18.3 *4.6* 5.4	12.7 *3.2* 3.7
														30.6 *7.7* 9.0	27.6 *7.0* 8.1	24.6 *6.2* 7.2	18.6 *4.7* 5.4	12.6 *3.2* 3.7	6.7 *1.7* 2.0
														40.3 *10.2* 11.8	36.1 *9.1* 10.6	32.1 *8.1* 9.4	24.7 *6.2* 7.2	18.3 *4.6* 5.4	12.7 *3.2* 3.7
														30.6 *7.7* 9.0	27.6 *7.0* 8.1	24.6 *6.2* 7.2	18.6 *4.7* 5.4	12.6 *3.2* 3.7	6.7 *1.7* 2.0

Copelametic®

COPELAND DISCUS™ COMPRESSORS

50 HERTZ

CAPACITY BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

REFRIGERANT COOLED CAPACITY CONTROL

CAPACITY CONTROL MODEL	BASIC COMPRESSOR MODEL	HP / kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	R12 EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	R22 EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7
3DK ★A1200 Moduload 3DK3R15M0	3DF ★A1200 3DF3R15M0	12 9.0	1586 44.9	100	37.8														132.0 *33.3* 38.7	93.0 *23.4* 27.2
				130	54.4														73.4 *18.5* 21.5	44.1 *11.1* 12.9
3DT ★A1500 Moduload 3DT3R17M0	3DS ★A1500 3DS3R17M0	15 11.2	1762 49.9	100	37.8													190.0 *47.9* 55.7	147.0 *37.0* 43.1	106.0 *26.7* 31.1
				130	54.4													120.0 *30.2* 35.2	83.6 *21.2* 24.5	50.9 *12.8* 14.9
4DP ★A1500 50% Unloaded (OC) 4DP★F63K0	4DL ★A1500 4DL★F63K0	15 11.2	2499 70.7	100	37.8															
				130	54.4															
4DE ★A2000 50% Unloaded (RG) 4DE★R18M0	4DA ★A2000 4DA★R18M0	20 14.9	1977 56.0	100	37.8													132.0 *33.3* 38.7	112.0 *28.2* 32.8	90.0 *22.7* 26.4
				130	54.4													107.0 27.0 31.4	89.0 22.4 26.1	70.5 17.8 20.7
4DC ★A2200 50% Unloaded (RG) 4DC★R20M0	4DB★A2200 4DB★R20M0	22 16.4	2300 65.1	100	37.8													152.0 *38.3* 44.5	126.0 *31.8* 36.9	103.0 *26.0* 30.2
				130	54.4													125.0 *31.5* 36.6	103.0 *26.0* 30.2	82.5 *20.8* 24.2
4DS ★A2200 50% Unloaded (OC) 4DS★F76K0	4DT ★A2200 4DT★F76K0	22 16.4	2985 84.5	100	37.8															
				130	54.4															
4DK ★A2500 50% Unloaded (RG) 4DK★R22M0	4DH ★A2500 4DH★R22M0	25 18.7	2499 70.7	100	37.8													165.0 *41.6* 48.3	137.0 *34.5* 40.1	112.0 *28.2* 32.8
				130	54.4													137.0 *34.5* 40.1	113.0 *28.5* 33.1	92.0 *23.2* 27.0
6DC ★A2700 33% Unloaded (OC) 6DC★F93K0	6DL ★A2700 6DL★F93K0	27 20.1	3748 106.1	100	37.8															
				130	54.4															
6DD ★A2700 67% Unloaded (OC) 6DD★F93K0	6DL ★A2700 6DL★F93K0	27 20.1	3748 106.1	100	37.8															
				130	54.4															

(OC) Oil cooler and vertical cooling fan are standard on this model.
(RG) In grey shaded area the maximum return gas is 50°F (10°C).

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R22									R502									
EVAPORATING TEMPERATURE °F/°C																		
25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40	45 7.2	35 1.7	25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40
84.7 *21.3* 24.8	62.3 *15.7* 18.3																		
42.0 *10.6* 12.3	32.7 *8.2* 9.6																		
95.5 *24.1* 28.0	70.3 *17.7* 20.6								141.0 *35.5* 41.3	107.0 *27.0* 31.4	73.5 *18.5* 21.5	45.2 *11.4* 13.2							
48.0 *12.1* 14.1	37.5 *9.5* 11.0								75.4 *19.0* 22.1	49.2 *12.4* 14.4	—	—							
														51.0 *12.9* 14.9	45.2 *11.4* 13.2	40.0 *10.1* 11.7	30.9 *7.8* 9.1	23.6 *5.9* 6.9	17.6 *4.4* 5.2
														38.5 *9.7* 11.3	34.3 *8.6* 10.0	30.4 *7.7* 8.9	23.4 *5.9* 6.9	17.3 *4.4* 5.1	11.6 *2.9* 3.4
66.0 *16.6* 19.3	52.0 *13.1* 15.2	40.3 *10.2* 11.8	35.4 *8.9* 10.4	30.9 *7.8* 9.1	26.8 *6.8* 7.9				110.0 *27.7* 32.2	89.0 *22.4* 26.1	71.5 *18.0* 20.9	57.5 *14.5* 16.8	45.5 *11.5* 13.3	40.5 *10.2* 11.9	36.1 *9.1* 10.6				
53.0 *13.4* 15.5	41.7 *10.5* 12.2	—	—	—	—				81.0 *20.4* 23.7	65.5 *16.5* 19.2	53.0 *13.4* 15.5	42.2 *10.6* 12.4	33.4 *8.4* 9.8	29.6 *7.5* 8.7	26.2 *6.6* 7.7				
77.0 *19.4* 22.6	61.5 *15.5* 18.0	46.0 *11.6* 13.5	38.3 *9.7* 11.2	30.6 *7.7* 9.0	27.3 *6.9* 8.0														
61.5 *15.5* 18.0	48.6 *12.2* 14.2	—	—	—	—														
														61.5 *15.5* 18.0	54.5 *13.7* 16.0	48.1 *12.1* 14.1	37.3 *9.4* 10.9	28.2 *7.1* 8.3	20.3 *5.1* 5.9
														46.8 *11.8* 13.7	41.5 *10.5* 12.2	36.7 *9.2* 10.8	28.3 *7.1* 8.3	21.2 *5.3* 6.2	14.5 *3.7* 4.2
88.5 *22.3* 25.9	69.5 *17.5* 20.4	53.5 *13.5* 15.7	46.8 *11.8* 13.7	41.3 *10.4* 12.1	36.9 *9.3* 10.8				134.0 *33.8* 39.3	112.0 *28.2* 32.8	91.5 *23.1* 26.8	73.5 *18.5* 21.5	58.0 *14.6* 17.0	51.5 *13.0* 15.1	45.3 *11.4* 13.3				
70.0 *17.6* 20.5	54.0 *13.6* 15.8	—	—	—	—				102.0 *25.7* 29.9	84.0 *21.2* 24.6	69.0 *17.4* 20.2	55.5 *14.0* 16.3	43.6 *11.0* 12.8	38.4 *9.7* 11.3	33.8 *8.5* 9.9				
														105.0 *26.5* 30.8	93.1 *23.5* 27.3	82.6 *20.8* 24.2	64.6 *16.3* 18.9	49.4 *12.4* 14.5	35.5 *8.9* 10.4
														81.2 *20.5* 23.8	71.4 *18.0* 20.9	63.1 *15.9* 18.5	48.4 *12.2* 14.2	35.9 *9.0* 10.5	24.2 *6.1* 7.1
														54.0 *13.6* 15.8	47.9 *12.1* 14.0	42.5 *10.7* 12.5	33.2 *8.4* 9.7		
														41.8 *10.5* 12.2	36.7 *9.2* 10.8	32.5 *8.2* 9.5	24.9 *6.3* 7.3		

50 HERTZ

CAPACITY
BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

REFRIGERANT COOLED CAPACITY CONTROL

R12

R22

CAPACITY CONTROL MODEL	BASIC COMPRESSOR MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C														
						55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	55 12.8	45 7.2	35 1.7
4DR★A3000 50% Unloaded (RG) 4DR★R28M0	4DJ★A3000 4DJ★R28M0	30 22.4	2985 84.5	100	37.8													196.0 *49.4* 57.4	163.0 *41.1* 47.8	134.0 *33.8* 39.3
				130	54.4													161.0 *40.6* 47.2	133.0 *33.5* 39.0	109.0 *27.5* 31.9
6DW★A3000 33% Unloaded (RG) 6DW★R32M0	6DB★A3000 6DB★R32M0	30 22.4	3450 97.7	100	37.8													321.0 80.9 94.1	262.0 66.0 76.8	214.0 53.9 62.7
				130	54.4													253.0 63.8 74.1	209.0 52.7 61.2	173.0 43.6 50.7
6DY★A3000 67% Unloaded (RG) 6DY★R32M0	6DB★A3000 6DB★R32M0	30 22.4	3450 97.7	100	37.8													165.0 *41.6* 48.3	135.0 *34.0* 39.6	110.0 *27.7* 32.2
				130	54.4													130.0 32.8 38.1	108.0 27.2 31.6	88.9 22.4 26.0
6DE★A3000 33% Unloaded (DS) (OC) 6DE★F11M0	6DT★A3000 6DT★F11M0	30 22.4	4478 126.8	100	37.8															
				130	54.4															
6DF★A3000 67% Unloaded (DS) (OC) 6DF★F11M0	6DT★A3000 6DT★F11M0	30 22.4	4478 126.8	100	37.8															
				130	54.4															
6DK★A3500 33% Unloaded (RG) 6DK★R35M0	6DH★A3500 6DH★R35M0	35 26.1	3748 106.1	100	37.8													348.0 *87.7* 102.0	286.0 *72.1* 83.8	234.0 *59.0* 68.6
				130	54.4													285.0 *71.8* 83.5	233.0 *58.7* 68.3	190.0 *47.9* 55.7
6DP★A3500 67% Unloaded (RG) 6DP★R35M0	6DH★A3500 6DH★R35M0	35 26.1	3748 106.1	100	37.8													179.0 *45.1* 52.4	147.0 *37.0* 43.1	120.0 *30.2* 35.2
				130	54.4													147.0 *37.0* 43.1	120.0 *30.2* 35.2	97.6 *24.6* 28.6
6DM★A3500 33% Unloaded (RG) 6DM★R37M0	6DG★A3500 6DG★R37M0	35 26.1	4129 116.9	100	37.8													373.0 *94.0* 109.0	306.0 *77.1* 89.7	251.0 *63.3* 73.5
				130	54.4													307.0 *77.4* 90.0	253.0 *63.8* 74.1	209.0 *52.7* 61.2
6DN★A3500 67% Unloaded (RG) 6DN★R37M0	6DG★A3500 6DG★R37M0	35 26.1	4129 116.9	100	37.8													192.0 *48.4* 56.3	157.0 *39.6* 46.0	129.0 *32.5* 37.8
				130	54.4													158.0 *39.8* 46.3	130.0 *32.8* 38.1	108.0 *27.2* 31.6

(RG) In grey shaded area the maximum return gas is 50°F (10°C).
(DS) Deep oil sump is standard on this model.
(OC) Oil cooler and vertical cooling fan are standard on this model.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R22

EVAPORATING TEMPERATURE °F/°C

25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
105.0 *26.5* 30.8	82.5 *20.8* 24.4	64.5 *16.3* 18.9	56.5 *14.2* 16.6	49.4 *12.4* 14.5	43.3 *10.9* 12.7			
83.0 *20.9* 24.3	65.5 *16.5* 19.2	—	—	—	—			
164.0 *41.3* 48.1	135.0 *34.0* 39.6	106.0 *26.7* 31.1	91.5 *23.1* 26.8	77.0 *19.4* 22.6	64.4 *16.2* 18.9			
133.0 *33.5* 39.0	107.0 *27.0* 31.4	—	—	—	—			
84.2 *21.2* 24.7	69.5 *17.5* 20.4	54.8 *13.8* 16.1	47.5 *12.0* 13.9	40.2 *10.1* 11.8	33.1 *8.3* 9.7			
68.4 *17.2* 20.0	55.1 *13.9* 16.1	—	—	—	—			
176.0 *44.4* 51.6	142.0 *35.8* 41.6	113.0 *28.5* 33.1	100.0 *25.2* 29.3	88.9 *22.4* 26.0	77.7 *19.6* 22.8			
142.0 *35.8* 41.6	114.0 *28.7* 33.4	—	—	—	—			
90.7 *22.9* 26.6	73.1 *18.4* 21.4	58.0 *14.6* 17.0	51.5 *13.0* 15.1	45.7 *11.5* 13.4	40.0 *10.1* 11.7			
73.1 *18.4* 21.4	58.7 *14.8* 17.2	—	—	—	—			
194.0 *48.9* 56.8	156.0 *39.3* 45.7	123.0 *31.0* 36.0	109.0 *27.5* 31.9	97.3 *24.5* 28.5	86.1 *21.7* 25.2			
157.0 *39.6* 46.0	126.0 *31.8* 36.9	—	—	—	—			
99.7 *25.1* 29.2	80.3 *20.2* 23.5	63.4 *16.0* 18.6	55.8 *14.1* 16.3	50.0 *12.6* 14.7	44.3 *11.2* 13.0			
80.6 *20.3* 23.6	64.8 *16.3* 19.0	—	—	—	—			

R502

EVAPORATING TEMPERATURE °F/°C

45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
158.0 *39.8* 46.3	131.0 *33.0* 38.4	107.0 *27.0* 31.4	87.0 *21.9* 25.5	70.0 *17.6* 20.5	62.0 *15.6* 18.2	55.0 *13.9* 16.1				
121.0 *30.5* 35.5	99.0 *24.9* 29.0	81.0 *20.4* 23.7	65.5 *16.5* 19.2	52.5 *13.2* 15.4	47.1 *11.9* 13.8	41.9 *10.6* 12.3				
					122.0 *30.7* 35.7	106.0 *26.7* 31.1	93.8 *23.6* 27.5	72.8 *18.3* 21.3	56.8 *14.3* 16.6	42.8 *10.8* 12.5
					95.2 *24.0* 27.9	83.3 *21.0* 24.4	72.8 *18.3* 21.3	55.8 *14.1* 16.3	41.8 *10.5* 12.2	28.4 *7.2* 8.3
					62.6 *15.8* 18.3	54.7 *13.8* 16.0	48.2 *12.1* 14.1	37.4 *9.4* 11.0		
					49.0 *12.3* 14.4	42.8 *10.8* 12.5	37.4 *9.4* 11.0	28.7 *7.2* 8.4		
258.0 *65.0* 75.6	215.0 *54.2* 63.0	177.0 *44.6* 51.9	146.0 *36.8* 42.8	118.0 *29.7* 34.6	105.0 *26.5* 30.8	93.8 *23.6* 27.5				
198.0 *49.9* 58.0	164.0 *41.3* 48.1	135.0 *34.0* 39.6	111.0 *28.0* 32.5	88.9 *22.4* 26.0	79.8 *20.1* 23.4	70.7 *17.8* 20.7				
133.0 *33.5* 39.0	111.0 *28.0* 32.5	91.1 *23.0* 26.7	74.9 *18.9* 21.9	60.5 *15.2* 17.7	54.0 *13.6* 15.8	48.2 *12.1* 14.1				
102.0 *25.7* 29.9	84.2 *21.2* 24.7	69.5 *17.5* 20.4	56.9 *14.3* 16.7	45.7 *11.5* 13.4	41.0 *10.3* 12.0	36.4 *9.2* 10.7				
285.0 *71.8* 83.5	237.0 *59.7* 69.4	196.0 *49.4* 57.4	160.0 *40.3* 46.9	130.0 *32.8* 38.1	115.0 *29.0* 33.7	103.0 *26.0* 30.2				
214.0 *53.9* 62.7	178.0 *44.9* 52.2	146.0 *36.8* 42.8	120.0 *30.2* 35.2	96.6 *24.3* 28.3	85.4 *21.5* 25.0	77.0 *19.4* 22.6				
147.0 *37.0* 43.1	122.0 *30.7* 35.7	101.0 *25.5* 29.6	82.4 *20.8* 24.1	66.6 *16.8* 19.5	59.0 *14.9* 17.3	52.9 *13.3* 15.5				
110.0 *27.7* 32.2	91.4 *23.0* 26.8	75.2 *19.0* 22.0	61.6 *15.5* 18.0	49.7 *12.5* 14.6	43.9 *11.1* 12.9	39.6 *10.0* 11.6				

Copelametic®

COPELAND DISCUS™ COMPRESSORS

50 HERTZ

CAPACITY BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

REFRIGERANT COOLED CAPACITY CONTROL

R12 | **R22**

CAPACITY CONTROL MODEL	BASIC COMPRESSOR MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	55 12.8	45 7.2	35 1.7
6DR ★A4000 33% Unloaded (DS) (RG) 6DR★R40M0	6DJ ★A4000 6DJ★R40M0	40 29.8	4478 126.8	100	37.8													405.0	337.0	278.0
																		102.0	*84.9*	*70.1*
																		119.0	98.7	81.5
				130	54.4													334.0	276.0	225.0
																		84.2	*69.6*	*56.7*
																		97.9	80.9	65.9
6DS ★A4000 67% Unloaded (DS) (RG) 6DS★R40M0	6DJ ★A4000 6DJ★R40M0	40 29.8	4478 126.8	100	37.8													208.0	174.0	143.0
																		52.4	*43.8*	*36.0*
																		60.9	51.0	41.9
				130	54.4													172.0	142.0	116.0
																		43.3	*35.8*	*29.2*
																		50.4	41.6	34.0
8DP ★-5000 25% Unloaded (DS) 8DP★R56M0	8DP ★-5000 8DP★R56M0	50 37.3	5358 151.7	100	37.8													559.0	457.0	371.0
																		141.0	*115.0*	*93.5*
																		164.0	134.0	109.0
				130	54.4													458.0	375.0	304.0
																		115.0	*94.5*	*76.6*
																		134.0	110.0	89.1
8DP ★-5000 50% Unloaded (DS) 8DP★R56M0	8DP ★-5000 8DP★R56M0	50 37.3	5358 151.7	100	37.8													375.0	307.0	249.0
																		94.5	*77.4*	*62.7*
																		110.0	90.0	73.0
				130	54.4													307.0	252.0	204.0
																		77.4	63.5	51.4
																		90.0	73.8	59.8
8DS ★-6000 25% Unloaded (DS) 8DS★R67M0	8DS ★-6000 8DS★R67M0	60 44.8	6340 179.5	100	37.8													644.0	527.0	426.0
																		162.0	*133.0*	*107.0*
																		189.0	154.0	125.0
				130	54.4													523.0	429.0	347.0
																		132.0	*108.0*	*87.4*
																		153.0	126.0	102.0
8DS ★-6000 50% Unloaded (DS) 8DS★R67M0	8DS ★-6000 8DS★R67M0	60 44.8	6340 179.5	100	37.8													443.0	362.0	293.0
																		112.0	*91.2*	*73.8*
																		130.0	106.0	85.8
				130	54.4													360.0	295.0	239.0
																		90.7	*74.3*	*60.2*
																		105.0	86.4	70.0

(DS) Deep oil sump is standard on this model.
(RG) In grey shaded area the maximum return gas is 50°F (10°C).

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R22									R502										
EVAPORATING TEMPERATURE °F/°C																			
25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40	45 7.2	35 1.7	25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40
211.0 *53.2* 61.8	169.0 *42.6* 49.5	134.0 *33.8* 39.3	118.0 *29.7* 34.6	104.0 *26.2* 30.5	89.6 *22.6* 26.3				309.0 *77.9* 90.5	258.0 *65.0* 75.6	213.0 *53.7* 62.4	174.0 *43.8* 51.0	141.0 *35.5* 41.3	125.0 *31.5* 36.6	111.0 *28.0* 32.5				
170.0 *42.8* 49.8	137.0 *34.5* 40.1	—	—	—	—				237.0 *59.7* 69.4	197.0 *49.6* 57.7	162.0 *40.8* 47.5	130.0 *32.8* 38.1	100.0 *25.2* 29.3	86.1 *21.7* 25.2	72.8 *18.3* 21.3				
108.0 *27.2* 31.6	87.1 *21.9* 25.5	69.1 *17.4* 20.2	60.8 *15.3* 17.8	53.3 *13.4* 15.6	46.1 *11.6* 13.5				159.0 *40.1* 46.6	132.0 *33.3* 38.7	109.0 *27.5* 31.9	89.6 *22.6* 26.3	72.4 *18.2* 21.2	64.4 *16.2* 18.9	57.2 *14.4* 16.8				
87.5 *22.1* 25.6	70.6 *17.8* 20.7	—	—	—	—				122.0 *30.7* 35.7	101.0 *25.5* 29.6	83.2 *21.0* 24.4	66.6 *16.8* 19.5	51.5 *13.0* 15.1	44.3 *11.2* 13.0	37.4 *9.4* 11.0				
281.0 *70.8* 82.3	227.0 *57.2* 66.5								406.0 *102.0* 119.0	337.0 *84.9* 98.7	278.0 *70.1* 81.5	227.0 *57.2* 66.5	183.0 *46.1* 53.6	165.0 *41.6* 48.3	147.0 *37.0* 43.1				
229.0 *57.7* 67.1	183.0 *46.1* 53.6								313.0 *78.9* 91.7	261.0 *65.8* 76.5	215.0 *54.2* 63.0	176.0 *44.4* 51.6	141.0 *35.5* 41.3	127.0 *32.0* 37.2	112.0 *28.2* 32.8				
189.0 *47.6* 55.4	152.0 *38.3* 44.5								276.0 *69.6* 80.9	229.0 *57.7* 67.1	189.0 *47.6* 55.4	154.0 *38.8* 45.1	125.0 *31.5* 36.6	112.0 *28.2* 32.8	99.6 *25.1* 29.2				
154.0 *38.8* 45.1	123.0 *31.0* 36.0								213.0 *53.7* 62.4	177.0 *44.6* 51.9	146.0 *36.8* 42.8	119.0 *30.0* 34.9	95.9 *24.2* 28.1	86.4 *21.8* 25.3	76.3 *19.2* 22.4				
323.0 *81.4* 94.6	258.0 *65.0* 75.6								470.0 *118.0* 138.0	390.0 *98.3* 114.0	321.0 *80.9* 94.1	261.0 *65.8* 76.5	211.0 *53.2* 61.8	190.0 *47.9* 55.7	168.0 *42.3* 49.2				
262.0 *66.0* 76.8	210.0 *52.9* 61.5								363.0 *91.5* 106.0	300.0 *75.6* 87.9	247.0 *62.2* 72.4	201.0 *50.7* 58.9	161.0 *40.6* 47.2	145.0 *36.5* 42.5	129.0 *32.5* 37.8				
222.0 *55.9* 65.0	178.0 *44.9* 52.2								320.0 *80.6* 93.8	265.0 *66.8* 77.6	218.0 *54.9* 63.9	178.0 *44.9* 52.2	143.0 *36.0* 41.9	129.0 *32.5* 37.8	114.0 *28.7* 33.4				
180.0 *45.4* 52.7	144.0 *36.3* 42.2								246.0 *62.0* 72.1	204.0 *51.4* 59.8	168.0 *42.3* 49.2	137.0 *34.5* 40.1	110.0 *27.7* 32.2	98.6 *24.8* 28.9	87.5 *22.1* 25.6				

50 HERTZ

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

REFRIGERANT COOLED CAPACITY CONTROL TANDEMS

R12

R22

CAPACITY CONTROL MODEL	BASIC TANDEM MODEL	HP / kW	CFH m³/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C														
						55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	55 12.8	45 7.2	35 1.7
33D★A10EE Moduload 33DE3F36K0	33D ★A10AA 33DA3F36K0	10 7.5	2270 64.3	100	37.8				44.8 *11.3* 13.1	24.8 *6.2* 7.3										
				130	54.4				—	—										
33D★A12HH Moduload 33DH3F56K0	33D ★A12AA 33DA3F56K0	12 9.0	2270 64.3	100	37.8															
				130	54.4															
33D★A15EE Moduload 33DE3R20M0	33D ★A15AA 33DA3R20M0	15 11.2	2270 64.3	100	37.8													242.0 *61.0* 70.9	186.0 *46.9* 54.5	134.0 *33.8* 39.3
				130	54.4													154.0 *38.8* 45.1	107.0 *27.0* 31.4	64.6 *16.3* 18.9
33D★A15PP Moduload 33DP3F66K0	33D ★A15BB 33DB3F66K0	15 11.2	2676 75.8	100	37.8	—	122.0 *30.7* 35.7	87.4 *22.0* 25.6	57.0 *14.4* 16.7	31.8 *8.0* 9.3										
				130	54.4	96.6 *24.3* 28.3	65.6 *16.5* 19.2	37.2 *9.4* 10.9	—	—										
33D★A15JJ Moduload 33DJ3F66K0	33D ★A15BB 33DB3F66K0	15 11.2	2676 75.8	100	37.8															
				130	54.4															
33D★A15KK Moduload 33DK3F52K0	33D ★A15FF 33DF3F52K0	15 11.2	3172 89.8	100	37.8				68.6 *17.3* 20.1	38.6 *9.7* 11.3										
				130	54.4				—	—										
33D★A15TT Moduload 33DT3F66K0	33D ★A15SS 33DS3F60K0	15 11.2	3524 99.8	100	37.8				73.0 *18.4* 21.4	40.6 *10.2* 11.9										
				130	54.4				—	—										
33D★A18PP Moduload (LV) 33DP3F54K0	33D ★A18BB 33DB3F54K0	18 13.4	2676 75.8	100	37.8	—	122.0 *30.7* 35.7	87.4 *22.0* 25.6	57.0 *14.4* 16.7	31.8 *8.0* 9.3								290.0 *73.1* 85.0	224.0 *56.4* 65.6	159.0 *40.1* 46.6
				130	54.4	96.6 *24.3* 28.3	65.6 *16.5* 19.2	37.2 *9.4* 10.9	—	—								180.0 *45.4* 52.7	123.0 *31.0* 36.0	74.6 *18.8* 21.9
33D★A18JJ Moduload (LV) 33DJ3F54K0	33D ★A18BB 33DB3F54K0	18 13.4	2676 75.8	100	37.8															
				130	54.4															

(LV) Limited voltage. Available only in 200 volt electrical.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R22									R502									
EVAPORATING TEMPERATURE °F/°C																		
25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40	45 7.2	35 1.7	25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40
														71.8 *18.1* 21.0	61.2 *15.4* 17.9	51.6 *13.0* 15.1	35.2 *8.9* 10.3	21.4 *5.4* 6.3	10.6 2.7 3.1
														48.8 *12.3* 14.3	39.2 *9.9* 11.5	31.4 *7.9* 9.2	18.2 *4.6* 5.3	8.2 *2.1* 2.4	—
122.0 *30.7* 35.7	89.8 *22.6* 26.3								178.0 *44.9* 52.2	135.0 *34.0* 39.6	92.2 *23.2* 27.0	56.4 *14.2* 16.5							
62.0 *15.6* 18.2	47.0 *11.8* 13.8								94.8 *23.9* 27.8	62.0 *15.6* 18.2	—	—							
														88.4 *22.3* 25.9	76.0 *19.2* 22.3	64.4 *16.2* 18.9	44.0 *11.1* 12.9	26.8 *6.8* 7.9	13.4 *3.4* 3.9
														60.8 *15.3* 17.8	49.6 *12.5* 14.5	40.4 *10.2* 11.8	23.8 *6.0* 7.0	11.0 *2.8* 3.2	—
142.0 *35.8* 41.6	105.0 *26.5* 30.8																		
64.2 *16.2* 18.8	54.0 *13.6* 15.8																		
														87.0 *21.9* 25.5	75.4 *19.0* 23.0	64.2 *16.2* 18.8	44.2 *11.1* 13.0	26.8 *6.8* 7.9	13.6 *3.4* 4.0
														56.8 *14.3* 16.6	47.4 *11.9* 13.9	39.2 *9.9* 11.5	23.4 *5.9* 6.9	10.8 *2.7* 3.2	—

Copelametic®

COPELAND DISCUS™ COMPRESSORS

50 HERTZ

CAPACITY BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

REFRIGERANT COOLED CAPACITY CONTROL TANDEMS

R12

R22

CAPACITY CONTROL MODEL	BASIC TANDEM MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C														
						55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	55 12.8	45 7.2	35 1.7
33D★A18KK Moduload 33DK3F80K0	33D★A18FF 33DF3F80K0	18 13.4	3172 89.8	100	37.8	—	147.0 *37.0* 43.1	105.0 *26.5* 30.8	68.6 *17.3* 20.1	38.0 *9.6* 11.1										
				130	54.4	116.0 29.2 34.0	79.4 20.0 23.3	45.2 11.4 13.2	—	—										
33D★A18GG Moduload 33DG3F80K0	33D★A18FF 33DF3F80K0	18 13.4	3172 89.8	100	37.8															
				130	54.4															
33D★A20PP Moduload 33DP3R24M0	33D★A20BB 33DB3R24M0	20 14.9	2676 75.8	100	37.8													282.0 *71.1* 82.6	220.0 *55.4* 64.5	159.0 *40.1* 46.6
				130	54.4													181.0 *45.6* 53.0	126.0 *31.8* 36.9	76.8 *19.4* 22.5
33D★A20TT Moduload 33DT3R22M0	33D★A20SS 33DS3R22M0	20 14.9	3524 99.8	100	37.8	—	158.0 *39.8* 46.3	113.0 *28.5* 33.1	73.8 *18.6* 21.6	41.2 *10.4* 12.1										
				130	54.4	127.0 *32.0* 37.2	86.0 *21.7* 25.2	49.0 *12.3* 14.4	—	—										
33D★A20RR Moduload 33DR3F92K0	33D★A20SS 33DS3F92K0	20 14.9	3524 99.8	100	37.8															
				130	54.4															
44D★A20EE 50% Unloaded 44DE★R24M0	44D★A20AA 44DA★R24M0	20 14.9	3954 111.9	100	37.8				83.2 *21.0* 24.4	67.4 *17.0* 19.7	53.6 *13.5* 15.7	46.8 *11.8* 13.7	41.4 *10.4* 12.1							
				130	54.4				67.4 *17.0* 19.7	53.8 *13.6* 15.8	42.0 *10.6* 12.3	38.4 *9.7* 11.3	33.6 *8.5* 9.8							
44D★A20NN 50% Unloaded (OC) 44DN★R24M0	44D★A20AA 44DA★R24M0	20 14.9	3954 111.9	100	37.8								41.4 *10.4* 12.1	36.4 *9.2* 10.7	27.4 *6.9* 8.0	20.2 *5.1* 5.9	14.0 *3.5* 4.1			
				130	54.4								33.6 *8.5* 9.8	29.2 *7.4* 8.6	21.4 *5.4* 6.3	15.0 *3.8* 4.4	9.6 *2.4* 2.8			
44D★A21EE 50% Unloaded 44DE★F94K0	44D★A21AA 44DA★F94K0	20 14.9	3954 111.9	100	37.8				83.2 *21.0* 24.4	67.4 *17.0* 19.7	53.6 *13.5* 15.7	46.8 *11.8* 13.7	41.4 *10.4* 12.1							
				130	54.4				67.4 *17.0* 19.7	53.8 *13.6* 15.8	42.0 *10.6* 12.3	38.4 *9.7* 11.3	33.6 *8.5* 9.8							
44D★A21NN 50% Unloaded (OC) 44DN★F94K0	44D★A21AA 44DA★F94K0	20 14.9	3954 111.9	100	37.8								41.4 *10.4* 12.1	36.4 *9.2* 10.7	27.4 *6.9* 8.0	20.2 *5.1* 5.9	14.0 *3.5* 4.1			
				130	54.4								33.6 *8.5* 9.8	29.2 *7.4* 8.6	21.4 *5.4* 6.3	15.0 *3.8* 4.4	9.6 *2.4* 2.8			

(OC) Oil coolers and vertical cooling fans are standard on this model.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R22									R502									
EVAPORATING TEMPERATURE °F/°C																		
25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40	45 7.2	35 1.7	25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40
														104.0 *26.2* 30.5	90.2 *22.7* 26.4	76.6 *19.3* 22.4	52.6 *13.3* 15.4	31.8 *8.0* 9.3	16.4 *4.1* 4.8
														70.6 *17.8* 20.7	58.6 *14.8* 17.2	48.4 *12.2* 14.2	28.8 *7.3* 8.4	13.2 *3.3* 3.9	—
146.0 *36.8* 42.8	108.0 *27.2* 31.6								214.0 *53.9* 62.7	162.0 *40.8* 47.5	111.0 *28.0* 32.5	67.6 *17.0* 19.8							
70.0 *17.6* 20.5	56.4 *14.2* 16.5								113.0 *28.5* 33.1	74.2 *18.7* 21.7	—	—							
														116.0 *29.2* 34.0	100.0 *25.2* 29.3	85.4 *21.5* 25.0	58.8 *14.8* 17.2	35.8 *9.0* 10.5	18.4 *4.6* 5.4
														76.6 *19.3* 22.4	64.0 *16.1* 18.8	53.0 *13.4* 15.5	32.0 *8.1* 9.4	15.0 *3.8* 4.4	—
														80.6 *20.3* 23.6	72.2 *18.2* 21.2	64.2 *16.2* 18.8	49.4 *12.4* 14.5	36.6 *9.2* 10.7	25.4 *6.4* 7.4
														61.2 *15.4* 17.9	55.2 *13.9* 16.2	49.2 *12.4* 14.4	37.2 *9.4* 10.9	25.2 *6.4* 7.4	13.4 *3.4* 3.9
														80.6 *20.3* 23.6	72.2 *18.2* 21.2	64.2 *16.2* 18.8	49.4 *12.4* 14.5	36.6 *9.2* 10.7	25.4 *6.4* 7.4
														61.2 *15.4* 17.9	55.2 *13.9* 16.2	49.2 *12.4* 14.4	37.2 *9.4* 10.9	25.2 *6.4* 7.4	13.4 *3.4* 3.9

50 HERTZ

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

REFRIGERANT COOLED CAPACITY CONTROL TANDEMS

R12

R22

CAPACITY CONTROL MODEL	BASIC TANDEM MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	55 12.8	45 7.2	35 1.7
33D★A24KK Moduload 33DK3R30M0	33D★A24FF 33DF3R30M0	24 17.9	3172 89.8	100	37.8														264.0 *66.5* 77.4	186.0 *46.9* 54.5
				130	54.4														147.0 *37.0* 43.1	88.2 *22.2* 25.8
33D★A30TT Moduload 33DT3R34M0	33D★A30SS 33DS3R34M0	30 22.4	3524 99.8	100	37.8													380.0 *95.8* 111.0	294.0 *74.1* 86.1	212.0 *53.4* 62.1
				130	54.4													240.0 *60.5* 70.3	167.0 *42.1* 48.9	102.0 *25.7* 29.9
44D★A30PP 50% Unloaded (OC) 44DP★F13M0	44D★A30LL 44DL★F13M0	30 22.4	4998 141.5	100	37.8															
				130	54.4															
44D★A40EE 50% Unloaded (RG) 44DE★R36M0	44D★A44AA 44DA★R36M0	40 29.8	3954 111.9	100	37.8													264.0 *66.5* 77.4	224.0 *56.4* 65.6	180.0 *45.4* 52.7
				130	54.4													214.0 *53.9* 62.7	178.0 *44.9* 52.2	141.0 *35.5* 41.3
44D★A44CC 50% Unloaded (RG) 44DC★R40M0	44D★A44BB 44DB★R40M0	44 32.8	4600 130.2	100	37.8													304.0 *76.6* 89.1	252.0 *63.5* 73.8	206.0 *51.9* 60.4
				130	54.4													250.0 *63.0* 73.3	206.0 *51.9* 60.4	165.0 *41.6* 48.3
44D★A44SS 50% Unloaded (OC) 44DS★F15M0	44D★A44TT 44DT★F15M0	44 32.8	5970 169.0	100	37.8															
				130	54.4															
44D★A50KK 50% Unloaded (RG) 44DK★R44M0	44D★A50HH 44DH★R44M0	50 37.3	4998 141.5	100	37.8													330.0 *83.2* 96.7	274.0 *69.0* 80.3	224.0 *56.4* 65.6
				130	54.4													274.0 *69.0* 80.3	226.0 *57.0* 66.2	184.0 *46.4* 53.9
66D★A54CC 33% Unloaded (OC) 66DC★F19M0	66D★A54LL 66DL★F19M0	54 40.3	7496 212.2	100	37.8															
				130	54.4															
66D★A54DD 67% Unloaded (OC) 66DD★F19M0	66D★A54LL 66DL★F19M0	54 40.3	7496 212.2	100	37.8															
				130	54.4															

(OC) Oil coolers and vertical cooling fans are standard on this model.
(RG) In grey shaded area the maximum return gas is 50°F (10°C).

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R22

R502

EVAPORATING TEMPERATURE °F/°C

25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40	45 7.2	35 1.7	25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40
169.0 *42.6* 49.5	125.0 *31.5* 36.6																		
84.0 *21.2* 24.6	65.4 *16.5* 19.2																		
191.0 *48.1* 56.0	141.0 *35.5* 41.3								282.0 *71.1* 82.6	214.0 *53.9* 62.7	147.0 *37.0* 43.1	90.4 *22.8* 26.5							
96.0 *24.2* 28.1	75.0 *18.9* 22.0								151.0 *38.1* 44.2	98.4 *24.8* 28.8	—	—							
														102.0 *25.7* 29.9	90.4 *22.8* 26.5	80.0 *20.2* 23.4	61.8 *15.6* 18.1	47.2 *11.9* 13.8	35.2 *8.9* 10.3
														77.0 *19.4* 22.6	68.6 *17.3* 20.1	60.8 *15.3* 17.8	46.8 *11.8* 13.7	34.6 *8.7* 10.1	23.2 *5.8* 6.8
132.0 *33.3* 38.7	104.0 *26.2* 30.5	80.6 *20.3* 23.6	70.8 *17.8* 20.7	61.8 *15.6* 18.1	53.6 *13.5* 15.7				220.0 *55.4* 64.5	178.0 *44.9* 52.2	143.0 *36.0* 41.9	115.0 *29.0* 33.7	91.0 *22.9* 26.7	81.0 *20.4* 23.7	72.2 *18.2* 21.2				
106.0 *26.7* 31.1	83.4 *21.0* 24.4	—	—	—	—				162.0 *40.8* 47.5	131.0 *33.0* 38.4	106.0 *26.7* 31.1	84.4 *21.3* 24.7	66.8 *16.8* 19.6	59.2 *14.9* 17.3	52.4 *13.2* 15.4				
154.0 *38.8* 45.1	123.0 *31.0* 36.0	92.0 *23.2* 27.0	76.5 *19.3* 22.4	61.0 *15.4* 17.9	54.6 *13.8* 16.0														
123.0 *31.0* 36.0	97.2 *24.5* 28.5	—	—	—	—														
														123.0 *31.0* 36.0	109.0 *27.5* 31.9	96.2 *24.2* 28.2	74.6 *18.8* 21.9	56.4 *14.2* 16.5	40.6 *10.2* 11.9
														93.6 *23.6* 27.4	83.0 *20.9* 24.3	73.4 *18.5* 21.5	56.6 *14.3* 16.6	42.4 *10.7* 12.4	29.0 *7.3* 8.5
177.0 *44.6* 51.9	139.0 *35.0* 40.7	107.0 *27.0* 31.4	93.6 *23.6* 27.4	82.6 *20.8* 24.2	73.8 *18.6* 21.6				268.0 *67.5* 78.5	224.0 *56.4* 65.6	183.0 *46.1* 53.6	147.0 *37.0* 43.1	116.0 *29.2* 34.0	103.0 *26.0* 30.2	90.6 *22.8* 26.5				
140.0 *35.3* 41.0	108.0 *27.2* 31.6	—	—	—	—				204.0 *51.4* 59.8	168.0 *42.3* 49.2	138.0 *34.8* 40.4	111.0 *28.0* 32.5	87.2 *22.0* 25.5	76.8 *19.4* 22.5	67.6 *17.0* 19.8				
														210.0 *52.9* 61.5	186.0 *46.9* 54.5	165.0 *41.6* 48.3	129.0 *32.5* 37.8	98.8 *24.9* 28.9	71.0 *17.9* 20.8
														162.0 *40.8* 47.5	143.0 *36.0* 41.9	126.0 *31.8* 36.9	96.8 *24.4* 28.4	71.8 *18.1* 21.0	48.4 *12.2* 14.2
														108.0 *27.2* 31.6	95.8 *24.1* 28.1	85.0 *21.4* 24.9	66.4 *16.7* 19.5		
														83.6 *21.1* 24.5	73.4 *18.5* 21.5	65.0 *16.4* 19.0	49.8 *12.5* 14.6		

Copelametic®

COPELAND DISCUS™ COMPRESSORS

50 HERTZ

CAPACITY BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

REFRIGERANT COOLED CAPACITY CONTROL TANDEMS

R12

R22

CAPACITY CONTROL MODEL	BASIC TANDEM MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C														
						55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	55 12.8	45 7.2	35 1.7
44D★A60RR 50% Unloaded (RG) 44DR★R56M0	44D★A60JJ 44DJ★R56M0	60 44.8	5970 169.0	100	37.8													392.0 *98.8* 115.0	326.0 *82.2* 95.5	268.0 *67.5* 78.5
				130	54.4													322.0 *81.1* 94.3	266.0 *67.0* 77.9	218.0 *54.9* 63.9
66D★A60WW 33% Unloaded (RG) 66DW★R64M0	66D★A60BB 66DB★R64M0	60 44.8	6900 195.3	100	37.8													642.0 *162.0* 188.0	524.0 *132.0* 154.0	428.0 *108.0* 125.0
				130	54.4													506.0 128.0 148.0	418.0 105.0 122.0	346.0 87.2 101.0
66D ★A60YY 67% Unloaded (RG) 66DY★R64M0	66D★A60BB 66DB★R64M0	60 44.8	6900 195.3	100	37.8													330.0 *83.2* 96.7	270.0 *68.0* 79.1	220.0 *55.4* 64.5
				130	54.4													260.0 65.5 76.2	216.0 54.4 63.3	178.0 44.9 52.2
66D ★A60EE 33% Unloaded (DS) (OC) 66DE★F22M0	66D ★A60TT 66DT★F22M0	60 44.8	8956 253.5	100	37.8															
				130	54.4															
66D ★A60FF 67% Unloaded (DS) (OC) 66DF★F22M0	66D★A60TT 66DT★F22M0	60 44.8	8956 253.5	100	37.8															
				130	54.4															
66D ★A70KK 33% Unloaded (RG) 66DK★R70M0	66D★A70HH 66DH★R70M0	70 52.2	7496 212.2	100	37.8													696.0 *175.0* 204.0	572.0 *144.0* 168.0	468.0 *118.0* 137.0
				130	54.4													570.0 *144.0* 167.0	466.0 *117.0* 137.0	380.0 *95.8* 111.0
66D★A70PP 67% Unloaded (RG) 66DP★R70M0	66D★A70HH 66DH★R70M0	70 52.2	7496 212.2	100	37.8													358.0 *90.2* 105.0	294.0 *74.1* 86.1	240.0 *60.5* 70.3
				130	54.4													294.0 *74.1* 86.1	240.0 *60.5* 70.3	195.0 *49.1* 57.1
66D★A70MM 33% Unloaded (RG) 66DM★R74M0	66D★A70GG 66DG★R74M0	70 52.2	8258 233.8	100	37.8													746.0 *188.0* 219.0	612.0 *154.0* 179.0	502.0 *127.0* 147.0
				130	54.4													614.0 *155.0* 180.0	506.0 *128.0* 148.0	418.0 *105.0* 122.0
66D★A70NN 67% Unloaded (RG) 66DN★R74M0	66D★A70GG 66DG★R74M0	70 52.2	8258 233.8	100	37.8													384.0 *96.8* 113.0	314.0 *79.1* 92.0	258.0 *65.0* 75.6
				130	54.4													316.0 *79.6* 92.6	260.0 *65.5* 76.2	216.0 *54.4* 63.3

(RG) In grey shaded area the maximum return gas is 50°F (10°C).
(DS) Deep oil sumps are standard on this model.
(OC) Oil coolers and vertical cooling fans are standard on this model.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R22

R502

EVAPORATING TEMPERATURE °F/°C

25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40
210.0 *52.9* 61.5	165.0 *41.6* 48.3	129.0 *32.5* 37.8	113.0 *28.5* 33.1	98.8 *24.9* 28.9	86.6 *21.8* 25.4				316.0 *79.6* 92.6	262.0 *66.0* 76.8	214.0 *53.9* 62.7	174.0 *43.8* 51.0	140.0 *35.3* 41.0	124.0 *31.2* 36.3	110.0 *27.7* 32.2				
166.0 *41.8* 48.6	131.0 *33.0* 38.4	—	—	—	—				242.0 *61.0* 70.9	198.0 *49.9* 58.0	162.0 *40.8* 47.5	131.0 *33.0* 38.4	105.0 *26.5* 30.8	94.2 *23.7* 27.6	83.8 *21.1* 24.6				
328.0 *82.7* 96.1	270.0 *68.0* 79.1	212.0 *53.4* 62.1	183.0 *46.1* 53.6	154.0 *38.8* 45.1	129.0 *32.5* 37.8														
266.0 *67.0* 77.9	214.0 *53.9* 62.7	—	—	—	—														
168.0 *42.3* 49.2	139.0 *35.0* 40.7	110.0 *27.7* 32.2	95.5 *24.1* 28.0	81.0 *20.4* 23.7	66.2 *16.7* 19.4														
137.0 *34.5* 40.1	110.0 *27.7* 32.2	—	—	—	—														
														244.0 *61.5* 71.5	212.0 *53.4* 62.1	188.0 *47.4* 55.1	146.0 *36.8* 42.8	114.0 *28.7* 33.4	85.6 *21.6* 25.1
														190.0 *47.9* 55.7	167.0 *42.1* 48.9	146.0 *36.8* 42.8	112.0 *28.2* 32.8	83.6 *21.1* 24.5	56.8 *14.3* 16.6
														125.0 *31.5* 36.6	109.0 *27.5* 31.9	96.4 *24.3* 28.2	74.8 *18.8* 21.9		
														98.0 *24.7* 28.7	85.6 *21.6* 25.1	74.8 *18.8* 21.9	57.4 *14.5* 16.8		
352.0 *88.7* 103.0	284.0 *71.6* 83.2	226.0 *57.0* 66.2	200.0 *50.4* 58.6	178.0 *44.9* 52.2	155.0 *39.1* 45.4				516.0 *130.0* 151.0	430.0 *108.0* 126.0	354.0 *89.2* 104.0	292.0 *73.6* 85.6	236.0 *59.5* 69.1	210.0 *52.9* 61.5	188.0 *47.4* 55.1				
284.0 *71.6* 83.2	228.0 *57.5* 66.8	—	—	—	—				396.0 *99.8* 116.0	328.0 *82.7* 96.1	270.0 *68.0* 79.1	222.0 *55.9* 65.0	178.0 *44.9* 52.2	160.0 *40.3* 46.9	141.0 *35.5* 41.3				
181.0 *45.6* 53.0	146.0 *36.8* 42.8	116.0 *29.2* 34.0	103.0 *26.0* 30.2	91.4 *23.0* 26.8	80.0 *20.2* 23.4				266.0 *67.0* 77.9	222.0 *55.9* 65.0	182.0 *45.9* 53.3	150.0 *37.8* 44.0	121.0 *30.5* 35.5	108.0 *27.2* 31.6	96.4 *24.3* 28.2				
146.0 36.8 42.8	117.0 29.5 34.3	—	—	—	—				204.0 51.4 59.8	168.0 42.3 49.2	139.0 35.0 40.7	114.0 28.7 33.4	91.4 23.0 26.8	82.0 20.7 24.0	72.8 18.3 21.3				
388.0 *97.8* 114.0	312.0 *78.6* 91.4	246.0 *62.0* 72.1	218.0 *54.9* 63.9	195.0 *49.1* 57.1	172.0 *43.3* 50.4				570.0 *144.0* 167.0	474.0 *119.0* 139.0	392.0 *98.8* 115.0	320.0 *80.6* 93.8	260.0 *65.5* 76.2	230.0 *58.0* 67.4	206.0 *51.9* 60.4				
314.0 79.1 92.0	252.0 63.5 73.8	—	—	—	—				428.0 *108.0* 125.0	356.0 *89.7* 104.0	292.0 *73.6* 85.6	240.0 *60.5* 70.3	193.0 *48.6* 56.5	171.0 *43.1* 50.1	154.0 *38.8* 45.1				
199.0 *50.1* 58.3	161.0 *40.6* 47.2	127.0 *32.0* 37.2	112.0 *28.2* 32.8	100.0 *25.2* 29.3	88.6 *22.3* 26.0				294.0 *74.1* 86.1	244.0 *61.5* 71.5	202.0 *50.9* 59.2	165.0 *41.6* 48.3	133.0 *33.5* 39.0	118.0 *29.7* 34.6	106.0 *26.7* 31.1				
161.0 *40.6* 47.2	130.0 *32.8* 38.1	—	—	—	—				220.0 *55.4* 64.5	183.0 *46.1* 53.6	150.0 *37.8* 44.0	123.0 *31.0* 36.0	99.4 *25.0* 29.1	87.8 *22.1* 25.7	79.2 *20.0* 23.2				

50 HERTZ

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

REFRIGERANT COOLED CAPACITY CONTROL TANDEMS

R12

R22

CAPACITY CONTROL MODEL	BASIC TANDEM MODEL	HP kW	CFH m³/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6	−10 −23.3	−20 −28.9	−30 −34.4	−40 −40	55 12.8	45 7.2	35 1.7
66D ★A80RR 33% Unloaded (DS) (RG) 66DR★R80M0	66D ★A80JJ 66DJ★R80M0	80 59.7	8956 253.5	100	37.8													810.0 *204.0* 237.0	674.0 *170.0* 197.0	556.0 *140.0* 163.0
				130	54.4													668.0 168.0 196.0	552.0 139.0 162.0	450.0 113.0 132.0
66D ★A80SS 67% Unloaded (DS) (RG) 66DS★R80M0	66D ★A80JJ 66DJ★R80M0	80 59.7	8956 253.5	100	37.8													416.0 *105.0* 122.0	348.0 *87.7* 102.0	286.0 *72.1* 83.8
				130	54.4													344.0 86.7 101.0	284.0 71.6 83.2	232.0 58.5 68.0
88D ★-11PP 25% Unloaded (DS) 88DP★R112M0	88D ★-11PP 88DP★R112M0	100 74.6	10716 303.4	100	37.8													1118.0 *282.0* 328.0	914.0 *230.0* 268.0	742.0 *187.0* 217.0
				130	54.4													916.0 231.0 268.0	750.0 189.0 220.0	608.0 153.0 178.0
88D ★-11PP 50% Unloaded (DS) 88DP★R112M0	88D ★-11PP 88DP★R112M0	100 74.6	10716 303.4	100	37.8													750.0 *189.0* 220.0	614.0 *155.0* 180.0	498.0 *125.0* 146.0
				130	54.4													614.0 155.0 180.0	504.0 127.0 148.0	408.0 103.0 119.0
88D ★-12SS 25% Unloaded (DS) 88DS★R134M0	88D ★-12SS 88DS★R134M0	120 89.5	12680 359.0	100	37.8													1288.0 *325.0* 377.0	1054.0 *266.0* 309.0	852.0 *215.0* 250.0
				130	54.4													1046.0 *264.0* 306.0	858.0 *216.0* 251.0	694.0 *175.0* 203.0
88D ★-12SS 50% Unloaded (DS) 88DS★R134M0	88D★-12SS 88DS★R134M0	120 89.5	12680 359.0	100	37.8													886.0 223.0 260.0	724.0 *182.0* 212.0	586.0 *148.0* 172.0
				130	54.4													720.0 *181.0* 211.0	590.0 *149.0* 173.0	478.0 *120.0* 140.0

(DS) Deep oil sumps are standard on this model.
(RG) In grey shaded area the maximum return gas is 50°F (10°C).

DISCUS TANDEM COMPRESSORS

Discus Tandem compressors are available from nominal 10 horsepower (7.5 kW) thus providing extensive system design flexibility. The popular combinations are shown, but any 3D, 4D or 6D, 8D compressors can be put together to make a tandem. The capacity of a tandem model is the sum of the capacities of the individual compressors. Since each compressor may be operated individually, the tandem provides simple, foolproof capacity reduction with maximum power savings, and greatly simplifies system control. The unique tandem design solves the troublesome problems of oil equalization sometimes encountered on compressors with interconnected crankcases. See Application Bulletin AE 4-1167 for complete details.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R22

EVAPORATING TEMPERATURE °F/°C

25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40
422.0 *106.0* 124.0	338.0 *85.2* 99.0	268.0 *67.5* 78.5	236.0 *59.5* 69.1	208.0 *52.4* 60.9	179.0 *45.1* 52.4			
340.0 *85.7* 99.6	274.0 *69.0* 80.3	—	—	—	—			
216.0 *54.4* 63.3	174.0 *43.8* 51.0	138.0 *34.8* 40.4	122.0 *30.7* 35.7	107.0 *27.0* 31.4	92.2 *23.2* 27.0			
175.0 *44.1* 51.3	141.0 *35.5* 41.3	—	—	—	—			
562.0 *142.0* 165.0	454.0 *114.0* 133.0							
458.0 *115.0* 134.0	366.0 *92.2* 107.0							
378.0 *95.3* 111.0	304.0 *76.6* 89.1							
308.0 *77.6* 90.2	246.0 *62.0* 72.1							
646.0 *163.0* 189.0	516.0 *130.0* 151.0							
524.0 *132.0* 154.0	420.0 *106.0* 123.0							
444.0 *112.0* 130.0	356.0 *89.7* 104.0							
360.0 *90.7* 105.0	288.0 *72.6* 84.4							

R502

EVAPORATING TEMPERATURE °F/°C

45 7.2	35 1.7	25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40
618.0 *156.0* 181.0	516.0 *130.0* 151.0	426.0 *107.0* 125.0	348.0 *87.7* 102.0	282.0 *71.1* 82.6	250.0 *63.0* 73.3	222.0 *55.9* 65.0				
474.0 *119.0* 139.0	394.0 *99.3* 115.0	324.0 *81.6* 94.9	260.0 *65.5* 76.2	200.0 *50.4* 58.6	172.0 *43.3* 50.4	146.0 *36.8* 42.8				
318.0 *80.1* 93.2	264.0 *66.5* 77.4	218.0 *54.9* 63.9	179.0 *45.1* 52.4	145.0 *36.5* 42.5	129.0 *32.5* 37.8	114.0 *28.7* 33.4				
244.0 *61.5* 71.5	202.0 *50.9* 59.2	166.0 *41.8* 48.6	133.0 *33.5* 39.0	103.0 *26.0* 30.2	88.6 *22.3* 26.0	74.8 *18.8* 21.9				
812.0 *205.0* 238.0	674.0 *170.0* 197.0	556.0 *140.0* 163.0	454.0 *114.0* 133.0	366.0 *92.2* 107.0	330.0 *83.2* 96.7	294.0 *74.1* 86.1				
626.0 *158.0* 183.0	522.0 *132.0* 153.0	430.0 *108.0* 126.0	352.0 *88.7* 103.0	282.0 *71.1* 82.6	254.0 *64.0* 74.4	224.0 *56.4* 65.6				
552.0 *139.0* 162.0	458.0 *115.0* 134.0	378.0 *95.3* 111.0	308.0 *77.6* 90.2	250.0 *63.0* 73.3	224.0 *56.4* 65.6	199.0 *50.1* 58.3				
426.0 *107.0* 125.0	354.0 *89.2* 104.0	292.0 *73.6* 86.0	238.0 *60.0* 69.7	192.0 *48.4* 56.3	173.0 *43.6* 50.7	153.0 *38.6* 44.8				
940.0 *237.0* 275.0	780.0 *197.0* 228.0	642.0 *162.0* 188.0	522.0 *132.0* 153.0	422.0 *106.0* 124.0	380.0 *95.8* 111.0	336.0 *84.7* 98.4				
726.0 *183.0* 213.0	600.0 *151.0* 176.0	494.0 *124.0* 145.0	402.0 *101.0* 118.0	322.0 *81.1* 94.3	290.0 *73.1* 85.0	258.0 *65.0* 75.6				
640.0 *161.0* 187.5	530.0 *134.0* 155.3	436.0 *110.0* 128.0	356.0 *89.7* 104.0	286.0 *72.1* 83.8	258.0 *65.0* 75.6	228.0 *57.5* 66.8				
492.0 *124.0* 144.0	408.0 *103.0* 120.0	336.0 *84.7* 98.4	274.0 *69.0* 80.3	220.0 *55.4* 64.5	197.0 *49.6* 57.7	175.0 *44.1* 51.3				

REFRIGERANT COOLED

MECHANICAL SPECIFICATIONS

MODEL	HP kW	CYL	Bore in mm	Stroke in mm	CFH m^3/hr 50 Hertz	Oil Charge (Refill Oil Charge) Oz	 Liter	Overall Dimensions in/mm Length	 Width	 Height	Mounting Center Dimensions in/mm Length	 Width	Service Valve Sizes Suction in	 Discharge in	Weights lb/kg Net	 Shipping
2DF ★-0300 **2DF3F16K0**	3 2.2	2	2 5/8 66.7	1 3/8 34.9	749 21.2	80 (72)	2.37 (2.13)	23 1/4 591	13 330	17 3/32 434	11 5/8 295	11 279	1 3/8 Solder	7/8 Solder	280 127	310 141
2DL ★-0400 **2DL3F20K0**	4 3.0	2	2 1/2 63.5	1 11/16 42.9	835 23.6	80 (72)	2.37 (2.13)	23 1/4 591	13 330	17 3/32 434	11 5/8 295	11 279	1 3/8 Solder	7/8 Solder	290 132	320 145
2DC ★-0500 **2DC3R53K0**	5 3.7	2	2 1/2 63.5	1 13/64 30.6	593 16.8	80 (72)	2.37 (2.13)	23 1/4 591	13 330	17 3/32 434	11 5/8 295	11 279	1 3/8 Solder	7/8 Solder	290 132	320 145
2DD ★-0500 **2DD3R63K0**	5 3.7	2	2 1/2 63.5	1 3/8 34.9	682 19.3	80 (72)	2.37 (2.13)	23 1/4 591	13 330	17 3/32 434	11 5/8 295	11 279	1 3/8 Solder	7/8 Solder	290 132	320 145
2DF ★-0500 **(LV)**	5 3.7	2	2 5/8 66.7	1 3/8 34.9	749 21.2	80 (72)	2.37 (2.13)	23 1/4 591	13 330	17 3/32 434	11 5/8 295	11 279	1 3/8 Solder	7/8 Solder	280 127	310 141
2DA ★-0500 **2DA3R58K0**	5 3.7	2	2 9/16 65.1	1 13/16 46.0	940 26.6	80 (72)	2.37 (2.13)	22 1/4 565	13 330	17 3/32 434	11 5/8 295	11 279	1 3/8 Solder	7/8 Solder	290 132	320 145
2DB ★-0500 **2DB3R61K0**	5 3.7	2	2 5/8 66.7	1 13/16 46.0	987 27.9	80 (72)	2.37 (2.13)	22 1/4 565	13 330	17 3/32 434	11 5/8 295	11 279	1 3/8 Solder	7/8 Solder	290 132	320 145
3DA ★A0500 **3DA3F18K0**	5 3.7	3	2 3/16 55.6	2 50.8	1135 32.1	125 (115)	3.70 (3.40)	25 13/16 656	15 1/16 383	18 1/32 458	15 381	12 305	1 3/8 Solder	7/8 Solder	335 152	380 172
3DB ★A0500 **3DB3F22K0**	5 3.7	3	2 3/8 60.3	2 50.8	1338 37.9	125 (115)	3.70 (3.40)	25 13/16 656	15 1/16 383	18 1/32 458	15 381	12 305	1 3/8 Solder	7/8 Solder	335 152	380 172
2DA ★-0600 **2DA3F23K0**	6 4.5	2	2 9/16 65.1	1 13/16 46.0	940 26.6	80 (72)	2.37 (2.13)	23 1/4 591	13 330	17 3/32 434	11 5/8 295	11 279	1 3/8 Solder	7/8 Solder	290 132	320 145
2DB ★-0600 **2DB3F25K0**	6 4.5	2	2 5/8 66.7	1 13/16 46.0	987 27.9	80 (72)	2.37 (2.13)	23 1/4 591	13 330	17 3/32 434	11 5/8 295	11 279	1 3/8 Solder	7/8 Solder	290 132	320 145
3DA ★A0600 **3DA3F28K0**	6 4.5	3	2 3/16 55.6	2 50.8	1135 32.1	125 (115)	3.70 (3.40)	25 13/16 656	15 1/16 383	18 1/32 458	15 381	12 305	1 3/8 Solder	1 1/8 Solder	345 156	395 179
2DL ★-0750 **2DL3R78K0**	7.5 5.6	2	2 1/2 63.5	1 11/16 42.9	835 23.6	80 (72)	2.37 (2.13)	23 1/4 591	13 330	17 3/32 434	11 5/8 295	11 279	1 3/8 Solder	7/8 Solder	300 136	345 156
2DA ★-0750 **2DA3R89K0**	7.5 5.6	2	2 9/16 65.1	1 13/16 46.0	940 26.6	80 (72)	2.37 (2.13)	23 1/4 591	13 330	17 3/32 434	11 5/8 295	11 279	1 3/8 Solder	7/8 Solder	300 136	345 156
3DA ★A0750 **3DA3R10M0**	7.5 5.6	3	2 3/16 55.6	2 50.8	1135 32.1	125 (115)	3.70 (3.40)	26 25/32 680	15 1/16 383	18 1/32 458	15 381	12 305	1 3/8 Solder	1 1/8 Solder	345 156	395 179
3DB ★A0750 **3DB3F33K0**	7.5 5.6	3	2 3/8 60.3	2 50.8	1338 37.9	125 (115)	3.70 (3.40)	26 13/16 656	15 1/16 383	18 1/32 458	15 381	12 305	1 3/8 Solder	1 1/8 Solder	345 156	395 179
3DF ★A0750 **3DF3F26K0**	7.5 5.6	3	2 5/16 58.7	2 1/2 63.5	1586 44.9	125 (115)	3.70 (3.40)	26 25/32 680	15 1/16 383	18 1/32 458	15 381	12 305	1 3/8 Solder	1 1/8 Solder	345 156	395 179
3DS ★A0750 **3DS3F30K0**	7.5 5.6	3	2 7/16 61.9	2 1/2 63.5	1762 49.9	125 (115)	3.70 (3.40)	26 25/32 680	15 1/16 383	18 1/32 458	15 381	12 305	1 3/8 Solder	1 1/8 Solder	345 156	395 179
3DB ★A0900 **(LV)** **3DB3F27K0**	9 6.7	3	2 3/8 60.3	2 50.8	1338 37.9	125 (115)	3.70 (3.40)	25 13/16 656	15 1/16 383	18 1/32 458	15 381	12 305	1 3/8 Solder	1 1/8 Solder	345 156	395 179
3DF ★A0900 **3DF3F40K0**	9 6.7	3	2 5/16 58.7	2 1/2 63.5	1586 44.9	125 (115)	3.70 (3.40)	26 25/32 680	15 1/16 383	18 1/32 458	15 381	12 305	1 3/8 Solder	1 1/8 Solder	345 156	395 179
3DB ★A1000 **3DB3R12M0**	10 7.5	3	2 3/8 60.3	2 50.8	1338 37.9	125 (115)	3.70 (3.40)	26 25/32 680	15 1/16 383	18 1/32 458	15 381	12 305	1 3/8 Solder	1 1/8 Solder	360 163	410 186

(LV) Limited voltage. Available only in 200 volt electrical.

ELECTRICAL SPECIFICATIONS

FSM 380/420-3-50		TFC 200/220-3-50 208/230-3-60		TFD 380/420-3-50 460-3-60		TFE 500-3-50 575-3-60		TFU 200-3-50 200-3-60	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
		16.8	102.0	8.1	52.0	6.7	41.0		
		26.3	161.0	10.2	60.0	7.7	49.0		
		22.3	120.0	10.4	60.0	7.7	49.0		
		22.3	120.0	10.5	60.0	7.9	49.0		
								21.4	105.0
		22.3	120.0	10.4	60.0	7.9	49.0		
		19.2	120.0	10.2	60.0	7.6	49.0		
8.6	55.0	18.6	115.0	11.0	58.0	7.9	43.0		
7.6	55.0	18.0	115.0	10.1	58.0	7.5	43.0		
		28.8	161.0	10.2	60.0	9.1	49.0		
		28.2	161.0	13.3	80.0	9.6	63.0		
13.5	78.0	30.3	150.0	13.7	77.0	10.5	62.0		
		31.6	169.0	13.8	85.0	13.2	67.0		
		32.0	169.0	14.1	85.0	13.3	67.0		
20.4	102.0	41.0	215.0	20.0	106.0	16.5	84.0	35.0	220.0
15.0	85.0	31.5	161.0	16.1	83.0	11.0	67.0		
		30.7	161.0	15.0	83.0				
12.5	85.0	32.0	161.0	16.4	83.0	11.5	67.0		
								36.8	220.0
17.2	102.0	39.0	215.0	16.9	106.0	16.5	84.0		
22.5	102.0	43.6	215.0	20.0	106.0	16.5	84.0		

REFRIGERANT COOLED

MECHANICAL SPECIFICATIONS

MODEL	HP kW	CYL	Bore in mm	Stroke in mm	CFH m^3/hr 50 Hertz	Oil Charge (Refill Oil Charge) Oz	 Liter	Overall Dimensions in/mm Length	 Width	 Height	Mounting Center Dimensions in/mm Length	 Width	Service Valve Sizes Suction in	 Discharge in	Weights lb/kg Net	 Shipping
3DS★A1000 **3DS3F46K0**	10 7.5	3	2 7/16 61.9	2 1/2 63.5	1762 49.9	125 (115)	3.70 (3.40)	26 25/32 680	15 1/16 383	18 1/32 458	15 381	12 305	1 3/8 Solder	1 1/8 Solder	360 163	410 186
4DA★A1000 **4DA★R12M0**	10 7.5	4	2 1/2 63.5	2 50.8	1977 56.0	135 (125)	3.99 (3.70)	25 13/32 645	20 3/16 513	17 21/32 448	15 381	12 305	1 5/8 Solder	1 1/8 Solder	382 173	437 198
4DA★A1010 **4DA*F47K0**	10 7.5	4	2 1/2 63.5	2 50.8	1977 56.0	135 (125)	3.99 (3.70)	25 13/32 645	20 3/16 513	17 21/32 448	15 381	12 305	1 5/8 Solder	1 1/8 Solder	382 173	437 198
3DF★A1200 **3DF3R15M0**	12 9.0	3	2 5/16 58.7	2 1/2 63.5	1586 44.9	125 (115)	3.70 (3.40)	26 25/32 680	15 1/16 383	18 1/32 458	15 381	12 305	1 3/8 Solder	1 1/8 Solder	370 168	425 193
3DS★A1500 **3DS3R17M0**	15 11.2	3	2 7/16 61.9	2 1/2 63.5	1762 49.9	125 (115)	3.70 (3.40)	28 1/32 712	15 1/16 383	18 1/32 458	15 381	12 305	1 5/8 Solder	1 1/8 Solder	370 168	425 193
4DL★A1500 **(OC)** **4DL★F63K0**	15 11.2	4	2 11/16 68.3	2 3/16 55.6	2499 70.7	135 (125)	3.99 (3.70)	27 1/32 687	20 1/2 521	23 584	15 381	12 305	1 5/8 Solder	1 3/8 Solder	404 183	469 213
4DA★A2000 **4DA★R18M0**	20 14.9	4	2 1/2 63.5	2 50.8	1977 56.0	135 (125)	3.99 (3.70)	25 13/32 645	20 3/16 513	17 21/32 448	15 381	12 305	1 5/8 Solder	1 3/8 Solder	407 185	467 212
4DB★A2200 **4DB★R20M0**	22 16.4	4	2 11/16 68.3	2 50.8	2300 65.1	135 (125)	3.99 (3.70)	26 9/32 668	20 1/2 521	17 13/16 452	15 381	12 305	2 1/8 Solder	1 3/8 Solder	427 194	492 223
4DT★A2200 **(OC)** **4DT★F76K0**	22 16.4	4	2 15/16 74.6	2 3/16 55.6	3603 102.0	135 (125)	3.99 (3.70)	27 15/16 710	20 1/2 521	23 584	15 381	12 305	2 1/8 Solder	1 3/8 Solder	412 187	472 214
4DH★A2500 **4DH★R22M0**	25 18.7	4	2 11/16 68.3	2 3/16 55.6	3016 85.4	135 (125)	3.99 (3.70)	26 9/32 668	20 1/2 521	17 13/16 452	15 381	12 305	2 1/8 Solder	1 3/8 Solder	427 194	492 223
6DL★A2700 **(OC)** **6DL★F93K0**	27 20.1	6	2 11/16 68.3	2 3/16 55.6	4524 128.1	140 (130)	4.14 (3.84)	29 7/16 748	22 7/16 570	26 660	15 381	12 305	2 1/8 Solder	1 3/8 Solder	490 222	550 249
4DJ★A3000 **4DJ★R28M0**	30 22.4	4	2 15/16 74.6	2 3/16 55.6	3603 102.0	135 (125)	3.99 (3.70)	27 1/32 687	20 1/2 521	17 13/16 452	15 381	12 305	2 1/8 Solder	1 3/8 Solder	432 196	502 228
6DB★A3000 **6DB★R32M0**	30 22.4	6	2 11/16 68.3	2 50.8	4140 117.2	140 (130)	4.14 (3.84)	29 7/16 748	22 7/16 570	17 31/32 456	15 381	12 305	2 1/8 Solder	1 5/8 Solder	502 228	577 262
6DT★A3000 **(DS) (OC)** **6DT★F11M0**	30 22.4	6	2 15/16 74.6	2 3/16 55.6	5405 153.0	255 (245)	7.54 (7.25)	29 7/16 748	22 7/16 570	28 7/8 733	15 381	12 305	2 1/8 Solder	1 3/8 Solder	527 239	602 273
6DH★A3500 **6DH★R35M0**	35 26.1	6	2 11/16 68.3	2 3/16 55.6	4524 128.1	140 (130)	4.14 (3.84)	30 3/16 767	22 7/16 570	17 31/32 456	15 381	12 305	2 1/8 Solder	1 5/8 Solder	502 228	577 262
6DG★A3500 **6DG★R37M0**	35 26.1	6	2 13/16 71.4	2 3/16 55.6	4955 140.3	140 (130)	4.14 (3.84)	30 3/16 767	22 7/16 570	17 31/32 456	15 381	12 305	2 1/8 Solder	1 5/8 Solder	502 228	577 262
6DJ★A4000 **(DS)** **6DJ★R40M0**	40 29.8	6	2 15/16 74.6	2 3/16 55.6	5405 153.0	255 (245)	7.54 (7.25)	30 3/16 767	22 7/16 570	20 27/32 529	15 381	12 305	2 1/8 Solder	1 5/8 Solder	550 249	630 286
8DP★-5000 **(DS) (VR)** **8DP★R56M**	50 37.3	8	2 11/16 68.3	2 21/64 59.1	6429 182.0	260 (250)	7.69 (7.39)	32 13/16 833	19 1/4 489	24 29/32 633	18 457	12 305	2 5/8 Solder	1 5/8 Solder	695 315	765 347
8DS★-6000 **(DS) (VR)** **8DS★R67M0**	60 44.8	8	2 15/16 74.6	2 21/64 59.1	7609 215.4	260 (250)	7.69 (7.39)	32 13/16 833	19 1/4 489	24 29/32 633	18 457	12 305	3 1/8 Solder	1 5/8 Solder	695 315	765 347

(OC) Oil cooler and vertical cooling fan are standard on this model.
(DS) Deep oil sump is standard on this model.
(VR) Voltage rating for TSK for this model is 200/400-3-50, 208/230/460-3-60.

ELECTRICAL SPECIFICATIONS

ES8 200-3-50 200/220-3-60 380-3-60		FSD 380/420-3-50 460-3-60		FSM 380/420-3-50		TFC 200/220-3-50 208/230-3-60		TFD 380/420-3-50 460-3-60		TSK 200-3-50 380/400-3-50 208/230-3-60 460-3-60		TSN 200-3-50 380/400-3-50 230-3-60 460-3-60		TFE TSE 500-3-50 575-3-60	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
200/220 47.2 380 25.7	228.0 132.0			17.5	102.0	42.0	215.0	18.6	106.0					TFE 16.8	84.0
		20.0	115.0												
										200/208/230 45.2 380/400/460 22.6	220.0 110.0			TSE 17.5	106.0
						48.2	275.0	23.6	138.0					TFE 19.5	110.0
200/220 57.6 380 32.8	316.0 180.0			24.8	136.0	59.6	275.0	29.0	138.0					TFE 23.6	110.0
200/220 62.0 380 31.0	295.0 175.0	24.5	136.0							200/208/230 52.6 380/400/460 26.3	278.0 139.0			TSE 20.9	113.0
		33.6	173.0							200/208/230 66.0 380/400/460 33.0	308.0 154.0			TSE 24.7	135.0
		32.5	180.0							200/208/230 65.6 380/400/460 32.8	374.0 187.0			TSE 26.5	135.0
200/220 69.0 380 40.0	405.0 235.0	33.9	180.0							200/208/230 66.0 380/400/460 33.0	374.0 187.0			TSE 24.2	135.0
200/220 99.3 380 58.6	438.0 251.0	40.6	206.0							200/208/230 82.2 380/400/460 41.1	428.0 214.0			TSE 34.4	172.0
200/220 82.5 380 48.0	445.0 260.0	41.6	218.0							200/208/230 80.8 380/400/460 40.4	450.0 225.0			TSE 32.5	172.0
200/220 123.6 380 71.4	500.0 289.0	45.0	235.0							200/208/230 94.0 380/400/460 47.0	470.0 235.0			TSE 39.3	200.0
		50.0	260.0							200/208/230 105.0 380/400/460 52.5	565.0 783.0			TSE 40.0	230.0
200/220 95.9 380 55.6	500.0 289.0	42.8	235.0							200/208/230 95.6 380/400/460 47.8	470.0 235.0			TSE 39.6	200.0
200/220 146.7 380 84.1	633.0 365.0	55.0	260.0							200/208/230 107.0 380/400/460 53.5	565.0 283.0			TSE 42.5	230.0
		66.0	315.0									200/230 125.0 380/400/460 62.5	594.0 297.0	TSE 46.0	245.0
200/220 164.0 380 96.9	633.0 365.0	70.0	315.0									200/230 142.0 380/400/460 71.0	594.0 297.0	TSE 53.5	245.0
		91.0	510.0							200/208/230 180.0 380/400/460 90.0	1070.0 535.0			TSE 75.0	405.0
		96.5	510.0							200/208/230 224.0 380/400/460 112.0	1070.0 535.0			TSE 80.0	405.0

REFRIGERANT COOLED TANDEMS

MECHANICAL SPECIFICATIONS

MODEL	HP kW	Consisting of Two Single Compressors	CFH m^3/hr	Oil Charge (Refill Oil Charge)		Overall Dimensions in/mm			Mounting Center Dimensions in/mm		Suction Connection Size	Discharge Connection Size	Weights lb/kg	
			50 Hertz	Oz	Liter	Length	Width	Height	Length	Width	Valve in	Fitting in	Net	Shipping
33D★A10AA	10	3DA★A0500	2270	250	7.39	56	16 13/16	19 1/2	50	12	2 1/8	1 3/8	750	865
33DA3F36K0	7.5	3DA3F18K0	64.3	(230)	(6.80)	1422	427	495	1270	305	Solder	Solder	340	392
33D★A10BB	10	3DB★A0500	2676	250	7.39	56	16 13/16	19 1/2	50	12	2 1/8	1 3/8	750	865
33DB3F44K0	7.5	3DB3F22K0	75.8	(230)	(6.80)	1422	427	495	1270	305	Solder	Solder	340	392
33D★A12AA	12	3DA★A0600	2270	250	7.39	56	16 13/16	19 1/2	50	12	2 1/8	1 3/8	770	885
33DA3F56K0	9.0	3DA3F28K0	64.3	(230)	(6.80)	1422	427	495	1270	305	Solder	Solder	349	401
33D★A15AA	15	3DA★A0750	2270	250	7.39	56	16 13/16	19 1/2	50	12	2 1/8	1 3/8	770	885
33DA3R20M0	11.2	3DA3R10M0	64.3	(230)	(6.80)	1422	427	495	1270	305	Solder	Solder	349	401
33D★A15BB	15	3DB★A0750	2676	250	7.39	56	16 13/16	19 1/2	50	12	2 1/8	1 3/8	770	885
33DB3F66K0	11.2	3DB3F33K0	75.8	(230)	(6.80)	1422	427	495	1270	305	Solder	Solder	349	401
33D★A15FF	15	3DF★A0750	3172	250	7.39	56	16 13/16	19 1/2	50	12	2 1/8	1 3/8	770	885
33DF3F52K0	11.2	3DF3F26K0	89.8	(230)	(6.80)	1422	427	495	1270	305	Solder	Solder	349	401
33D★A15SS	15	3DS★A0750	3524	250	7.39	56	16 13/16	19 1/2	50	12	2 1/8	1 3/8	770	885
33DS3F60K0	11.2	3DS3F30K0	99.8	(230)	(6.80)	1422	427	495	1270	305	Solder	Solder	349	401
33D★A18BB (LV)	18	3DB★A0900	2676	250	7.39	56	16 13/16	19 1/2	50	12	2 1/8	1 3/8	770	885
33DB3F54K0	13.4	3DB3F27K0	75.8	(230)	(6.80)	1422	427	495	1270	305	Solder	Solder	349	401
33D★A18FF	18	3DF★A0900	3172	250	7.39	56	16 13/16	19 1/2	50	12	2 1/8	1 3/8	770	885
33DF3F80K0	13.4	3DF3F40K0	89.8	(230)	(6.80)	1422	427	495	1270	305	Solder	Solder	349	401
33D★A20BB	20	3DB★A1000	2676	250	7.39	56	16 13/16	19 1/2	50	12	2 1/8	1 3/8	800	915
33DB3R24M0	14.9	3DB3R12M0	75.8	(230)	(6.80)	1422	427	495	1270	305	Solder	Solder	363	415
33D★A20SS	20	3DS★A1000	3524	250	7.39	56	16 13/16	19 1/2	50	12	2 1/8	1 3/8	800	915
33DS3F92K0	14.9	3DS3F46K0	99.8	(230)	(6.80)	1422	427	495	1270	305	Solder	Solder	363	415
44D★A20AA	20	4DA★A1000	3954	270	7.98	57 11/16	21	19 5/16	50	12	2 1/8	1 5/8	884	1004
44DA★R24M0	14.9	4DA★R12M0	111.9	(250)	(7.39)	1465	533	491	1270	305	Solder	Solder	401	455
44D★A21AA	20	4DA★A1010	3954	270	7.98	57 11/16	21	19 5/16	50	12	2 1/8	1 5/8	884	1004
44DA★F94K0	14.9	4DA★F47K0	111.9	(250)	(7.39)	1465	533	491	1270	305	Solder	Solder	401	455
33D★A24FF	24	3DF★A1200	3172	250	7.39	56	16 13/16	19 1/2	50	12	2 1/8	1 3/8	820	935
33DF3R30M0	17.9	3DF3R15M0	89.8	(230)	(6.80)	1422	427	495	1270	305	Solder	Solder	372	424
33D★A30SS	30	3DS★A1500	3524	250	7.39	56	16 13/16	19 1/2	50	12	2 1/8	1 3/8	820	935
33DS3R34M0	22.4	3DS3R17M0	99.8	(230)	(6.80)	1422	427	495	1270	305	Solder	Solder	372	424
44D★A30LL (OC)	30	4DL★A1500	4998	270	7.98	63 1/8	21 3/8	24 21/32	50	12	2 1/8	1 5/8	928	1048
44DL★F13M0	22.4	4DL★F63K0	141.5	(250)	(7.39)	1603	543	626	1270	305	Solder	Solder	421	475
44D★A40AA	40	4DA★A2000	3954	270	7.98	57 11/16	21	19 5/16	50	12	2 1/8	1 5/8	934	1054
44DA★R36M0	29.8	4DA★R18M0	111.9	(250)	(7.39)	1465	533	491	1270	305	Solder	Solder	424	478
44D★A44BB	44	4DB★A2200	4600	270	7.98	61 3/8	21 7/16	19 1/2	55	12	2 5/8	1 5/8	974	1094
44DB★R40M0	32.8	4DB★R20M0	130.2	(250)	(7.39)	1559	545	495	1397	305	Solder	Solder	442	496
44D★A44TT (OC)	44	4DT★A2200	5970	270	7.98	61 3/8	21 3/8	24 11/16	55	12	3 1/8	1 5/8	944	1064
44DT★F15M0	32.8	4DT★F76K0	169.0	(250)	(7.39)	1559	543	627	1397	305	Solder	Solder	428	483
44D★A50HH	50	4DH★A2500	4998	270	7.98	61 3/8	21 7/16	19 1/2	55	12	2 5/8	1 5/8	974	1094
44DH★R44M0	37.3	4DH★R22M0	141.5	(250)	(7.39)	1559	545	495	1397	305	Solder	Solder	442	496
66D★A54LL (OC)	54	6DL★A2700	7496	280	8.28	63 3/4	23 5/16	27 5/8	55	12	3 1/8	1 5/8	1100	1220
66DL★F19M0	40.3	6DL★F93K0	212.2	(260)	(7.69)	1619	592	702	1397	305	Solder	Solder	499	553

Electrical specifications shown for tandems are per compressor rating.
(LV) Limited voltage. Available only in 200 volt electrical.
(OC) Oil coolers and vertical cooling fans are standard on this model.

TANDEM WIRING

Each compressor of a tandem may be wired with a separate control system for independent motor operation. If current inrush decrease is desirable, a time delay relay may be used to stagger motor starting. Either of these circuits require that the oil pressure safety control and dual pressure safety control be wired independently on each compressor. For tandem wiring diagrams refer to Application Bulletin AE 4-1167.

ELECTRICAL SPECIFICATIONS

ES8 200-3-50 200/220-3-60 380-3-60		FSM 380/420-3-50		FSD 380/420-3-50 460-3-60		TFC 200/220-3-50 208/230-3-60		TFD 380/420-3-50 460-3-60		TSK 200-3-50 380/400-3-50 208/230-3-60 460-3-60		TFE TSE 500-3-50 575-3-60		TFU 200-3-50 200-3-60	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
		8.6	55.0			18.6	115.0	11.0	58.0			TFE 7.9	43.0		
		7.6	55.0			18.0	115.0	10.1	58.0			TFE 7.5	43.0		
		13.5	78.0			30.3	150.0	13.7	77.0			TFE 10.5	62.0		
		20.4	102.0			41.0	215.0	20.0	106.0			TFE 16.5	84.0	35.0	220.0
29.2 200/220 16.4 380	167.0 96.0	15.0	85.0			31.5	161.0	16.1	83.0			TFE 11.0	67.0		
						30.7	161.0	15.0	83.0						
		12.5	85.0			32.0	161.0	16.4	83.0			TFE 11.5	67.0		
														36.8	220.0
		17.2	102.0			39.0	215.0	16.9	106.0			TFE 16.5	84.0		
48.0 200/220 27.4 380	228.0 132.0	22.5	102.0			43.6	215.0	20.0	106.0			TFE 16.5	84.0		
47.2 200/220 25.7 380	228.0 132.0	17.5	102.0			42.0	215.0	18.6	106.0			TFE 16.8	84.0		
				20.0	115.0										
										200/208/230 45.2 380/400/460 22.6	220.0 110.0	TSE 17.5	106.0		
						48.2	275.0	23.6	138.0			TFE 19.5	110.0		
57.6 200/220 32.8 380	316.0 180.0	24.8	136.0			59.6	275.0	29.0	138.0			TFE 23.6	110.0		
62.0 200/220 31.0 380	295.0 175.0			24.5	136.0					200/208/230 52.6 380/400/460 26.3	278.0 139.0	TSE 20.9	113.0		
				33.6	173.0					200/208/230 66.0 380/400/460 33.0	308.0 154.0	TSE 24.7	135.0		
				32.5	180.0					200/208/230 65.6 380/400/460 32.8	374.0 187.0	TSE 26.5	135.0		
69.0 200/220 40.0 380	405.0 235.0			33.9	180.0					200/208/230 66.0 380/400/460 33.0	374.0 187.0	TSE 24.2	135.0		
99.3 200/220 58.6 380	438.0 251.0			40.6	206.0					200/208/230 82.2 380/400/460 41.1	428.0 214.0	TSE 34.4	172.0		
82.5 200/220 48.0 380	445.0 260.0			41.6	218.0					200/208/230 80.8 380/400/460 40.4	450.0 225.0	TSE 32.5	172.0		

REFRIGERANT COOLED TANDEMS

MECHANICAL SPECIFICATIONS

MODEL	HP kW	Consisting of Two Single Compressors	CFH m³/hr	Oil Charge (Refill Oil Charge)		Overall Dimensions in/mm			Mounting Center Dimensions in/mm		Suction Connection Size	Discharge Connection Size	Weights lb/kg	
			50 Hertz	Oz	Liter	Length	Width	Height	Length	Width	Valve in	Fitting in	Net	Shipping
44D★A60JJ **44DJ★R56M0**	60 44.8	**4DJ★A3000** **4DJ★R28M0**	5970 169.0	270 (250)	7.98 (7.39)	61 3/8 1559	21 3/8 543	19 1/2 495	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	984 446	1104 501
66D★A60BB **66DB★R64M0**	60 44.8	**6DB★A3000** **6DB★R32M0**	6900 195.3	280 (260)	8.28 (7.69)	63 3/4 1619	23 1/4 591	21 533	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1124 510	1274 578
66D★A60TT (DS) (OC) **66DT★F22M0**	60 44.8	**6DT★A3000** **6DT★F11M0**	8956 253.5	510 (490)	15.1 (14.5)	63 3/4 1619	23 1/4 591	32 1/4 819	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1174 533	1324 601
66D★A70HH **66DH★R70M0**	70 52.2	**6DH★A3500** **6DH★R35M0**	7496 212.2	280 (260)	8.28 (7.69)	63 3/4 1619	23 1/4 591	21 533	55 1397	12 305	3 1/8 Solder	2 1/8 Solder	1124 510	1274 578
66D★A70GG **66DG★R74M0**	70 52.2	**6DG★A3500** **6DG★R37M0**	8258 233.8	280 (260)	8.28 (7.69)	63 3/4 1619	23 1/4 591	21 533	55 1397	12 305	3 1/8 Solder	2 1/8 Solder	1124 510	1274 578
66D★A80JJ (DS) **66DJ★R80M0**	80 59.7	**6DJ★A4000** **6DJ★R40M0**	8956 253.5	510 (490)	15.1 (14.5)	63 3/4 1619	23 1/4 591	25 3/16 640	55 1397	12 305	3 1/8 Solder	2 1/8 Solder	1220 553	1380 626
88D★-11PP (DS) (VR) **88DP★R112M0**	100 74.6	**8DP★-5000** **8DP★R56M0**	10716 303.4	520 (500)	15.4 (14.8)	72 11/16 1846	21 11/16 551	25 1/2 648	66 1/8 1680	12 305	4 1/8 Solder	2 1/8 Solder	1600 726	1775 805
88D★-12SS (DS) (VR) **88DS★R134M0**	120 89.5	**8DS★-6000** **8DS★R67M0**	12680 359.0	520 (500)	15.4 (14.8)	72 11/16 1846	21 11/16 551	25 1/2 648	66 1/8 1680	12 305	4 1/8 Solder	2 1/8 Solder	1710 776	1885 855

Electrical specifications shown for tandems are per compressor rating.
(DS) Deep oil sumps are standard on this model.
(OC) Oil coolers and vertical cooling fans are standard on this model.
(VR) Voltage rating for TSK for this model is 200/400-3-50, 208/230/460-3-60.

ELECTRICAL SPECIFICATIONS

ES8 200-3-50 200/220-3-60 380-3-60			FSD 380/420-3-50 460-3-60		TSK 200-3-50 380/400-3-50 208/230-3-60 460-3-60		TSN 200-3-50 380/400-3-50 230-3-60 460-3-60		TSE 500-3-50 575-3-60	
RLA		LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
123.6 71.4	200/220 380	500.0 289.0	45.0	235.0	94.0 47.0	200/208/230 380/400/460	470.0 235.0		39.3	200.0
			50.0	260.0	105.0 52.5	200/208/230 380/400/460	565.0 283.0		40.0	230.0
95.9 55.6	200/220 380	500.0 289.0	42.8	235.0	95.6 47.8	200/208/230 380/400/460	470.0 235.0		39.6	200.0
146.7 84.1	200/220 380	633.0 365.0	55.0	260.0	107.0 53.5	200/208/230 380/400/460	565.0 283.0		42.5	230.0
			66.0	315.0			125.0 62.5	200/230 380/400/460	594.0 297.0	46.0	245.0
164.0 96.9	200/220 380	633.0 365.0	70.0	315.0			142.0 71.0	200/230 380/400/460	594.0 297.0	53.5	245.0
			91.0	510.0	180.0 90.0	200/208/230 400/460	1070.0 535.0		75.0	405.0
			96.5	510.0	224.0 112.0	200/208/230 400/460	1070.0 535.0		80.0	405.0

REFRIGERANT COOLED CAPACITY CONTROL

MECHANICAL SPECIFICATIONS

CAPACITY CONTROL MODEL	BASIC COMPRESSOR MODEL	HP kW	CYL	Bore in mm	Stroke in mm	CFH m^3/hr	Oil Charge (Refill Oil Charge)		Overall Dimensions in/mm			Mounting Center Dimensions in/mm		Service Valve Sizes		Weights lb/kg	
						50 Hertz	Oz	Liter	Length	Width	Height	Length	Width	Suction in	Discharge in	Net	Shipping
3DE★A0500 3DE3F18K0	3DA★A0500 3DA3F18K0	5 3.7	3	2 3/16 55.6	2 50.8	1135 32.1	125 (115)	3.70 (3.40)	25 25/32 655	15 1/16 383	21 5/16 541	15 381	12 305	1 3/8 Solder	7/8 Solder	340 154	385 175
3DH★A0600 3DH3F28K0	3DA★A0600 3DA3F28K0	6 4.5	3	2 3/16 55.6	2 50.8	1135 32.1	125 (115)	3.70 (3.40)	25 25/32 655	15 1/16 383	21 5/16 541	15 381	12 305	1 3/8 Solder	1 1/8 Solder	350 159	400 181
3DE★A0750 3DE3R10M0	3DA★A0750 3DA3R10M0	7.5 5.6	3	2 3/16 55.6	2 50.8	1135 32.1	125 (115)	3.70 (3.40)	26 25/32 680	15 1/16 383	21 5/16 541	15 381	12 305	1 3/8 Solder	1 1/8 Solder	350 159	400 181
3DP★A0750 3DP3F33K0	3DB★A0750 3DB3F33K0	7.5 5.6	3	2 3/8 60.3	2 50.8	1338 37.9	125 (115)	3.70 (3.40)	25 25/32 655	15 1/16 383	21 5/16 541	15 381	12 305	1 3/8 Solder	1 1/8 Solder	350 159	400 181
3DJ★A0750 3DJ3F33K0	3DB★A0750 3DB3F33K0	7.5 5.6	3	2 3/8 60.3	2 50.8	1338 37.9	125 (115)	3.70 (3.40)	25 25/32 655	15 1/16 383	21 5/16 541	15 381	12 305	1 3/8 Solder	1 1/8 Solder	350 159	400 181
3DK★A0750 3DK3F26K0	3DF★A0750 3DF3F26K0	7.5 5.6	3	2 5/16 58.7	2 1/2 63.5	1586 44.9	125 (115)	3.70 (3.40)	26 25/32 680	15 1/16 383	21 5/16 541	15 381	12 305	1 3/8 Solder	1 1/8 Solder	350 159	400 181
3DT★A0750 3DT3F30K0	3DS★A0750 3DS3F30K0	7.5 5.6	3	2 7/16 61.9	2 1/2 63.5	1762 49.9	125 (115)	3.70 (3.40)	26 25/32 680	15 1/16 383	21 5/16 541	15 381	12 305	1 3/8 Solder	1 1/8 Solder	350 159	400 181
3DP★A0900 (LV) 3DP3F27K0	3DB★A0900 3DB3F27K0	9 6.7	3	2 3/8 60.3	2 50.8	1338 37.9	125 (115)	3.70 (3.40)	25 25/32 655	15 1/16 383	21 5/16 541	15 381	12 305	1 3/8 Solder	1 1/8 Solder	350 159	400 181
3DJ★A0900 (LV) 3DJ3F27K0	3DB★A0900 3DB3F27K0	9 6.7	3	2 3/8 60.3	2 50.8	1338 37.9	125 (115)	3.70 (3.40)	25 25/32 655	15 1/16 383	21 5/16 541	15 381	12 305	1 3/8 Solder	1 1/8 Solder	350 159	400 181
3DK★A0900 3DK3F40K0	3DF★A0900 3DF3F40K0	9 6.7	3	2 5/16 58.7	2 1/2 63.5	1586 44.9	125 (115)	3.70 (3.40)	26 25/32 680	15 1/16 383	21 5/16 541	15 381	12 305	1 3/8 Solder	1 1/8 Solder	350 159	400 181
3DG★A0900 3DG3F40K0	3DF★A0900 3DF3F40K0	9 6.7	3	2 5/16 58.7	2 1/2 63.5	1586 44.9	125 (115)	3.70 (3.40)	26 25/32 680	15 1/16 383	21 5/16 541	15 381	12 305	1 3/8 Solder	1 1/8 Solder	350 159	400 181
3DP★A1000 3DP3R12M0	3DB★A1000 3DB3R12M0	10 7.5	3	2 3/8 60.3	2 50.8	1338 37.9	125 (115)	3.70 (3.40)	26 25/32 680	15 1/16 383	21 5/16 541	15 381	12 305	1 3/8 Solder	1 1/8 Solder	365 166	415 188
3DT★A1000 3DT3R11M0	3DS★A1000 3DS3R11M0	10 7.5	3	2 7/16 61.9	2 1/2 63.5	1762 49.9	125 (115)	3.70 (3.40)	26 25/32 680	15 1/16 383	21 5/16 541	15 381	12 305	1 3/8 Solder	1 1/8 Solder	365 166	415 188
3DR★A1000 3DR3F46K0	3DS★A1000 3DS3F46K0	10 7.5	3	2 7/16 61.9	2 1/2 63.5	1762 49.9	125 (115)	3.70 (3.40)	26 25/32 680	15 1/16 383	21 5/16 541	15 381	12 305	1 3/8 Solder	1 1/8 Solder	365 166	415 188
4DE★A1000 4DE★R12M0	4DA★A1000 4DA★R12M0	10 7.5	4	2 1/2 63.5	2 50.8	1977 56.0	135 (125)	3.99 (3.70)	25 13/32 645	20 3/16 513	18 5/8 473	15 381	12 305	1 5/8 Solder	1 1/8 Solder	387 176	442 200
4DN★A1000 (OC) 4DN★R12M0	4DA★A1000 4DA★R12M0	10 7.5	4	2 1/2 63.5	2 50.8	1977 56.0	135 (125)	3.99 (3.70)	27 1/32 687	20 3/16 513	23 584	15 381	12 305	1 5/8 Solder	1 1/8 Solder	397 180	452 205
4DE★A1010 4DE★F47K0	4DA★A1010 4DA★F47K0	10 7.5	4	2 1/2 63.5	2 50.8	1977 56.0	135 (125)	3.99 (3.70)	25 13/32 645	20 3/16 513	18 5/8 473	15 381	12 305	1 5/8 Solder	1 1/8 Solder	387 176	442 200
4DN★A1010 (OC) 4DN★F47K0	4DA★A1010 4DA★F47K0	10 7.5	4	2 1/2 63.5	2 50.8	1977 56.0	135 (125)	3.99 (3.70)	27 1/32 687	20 3/16 513	23 584	15 381	12 305	1 5/8 Solder	1 1/8 Solder	397 180	452 205
3DK★A1200 3DK3R15M0	3DF★A1200 3DF3R15M0	12 9.0	3	2 5/16 58.7	2 1/2 63.5	1586 44.9	125 (115)	3.70 (3.40)	26 25/32 680	15 1/16 383	21 5/16 541	15 381	12 305	1 3/8 Solder	1 1/8 Solder	375 170	430 195

(LV) Limited voltage. Available only in 200 volt electrical.
(OC) Oil cooler and vertical cooling fan are standard on this model.

ELECTRICAL SPECIFICATIONS

ES8 200-3-50 200/220-3-60 380-3-60		FSM 380/420-3-50		FSD 380/420-3-50 460-3-60		TFC 200/220-3-50 208/230-3-60		TFD 380/420-3-50 460-3-60		TSK 200-3-50 380/400-3-50 208/230-3-60 460-3-60		TFE TSE 500-3-50 575-3-60		TFU 200-3-50 200-3-60	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
						18.6	115.0	11.0	58.0			TFE 7.9	43.0		
		13.5	78.0			30.3	150.0	13.7	77.0			TFE 10.5	62.0		
		20.4	102.0			41.0	215.0	20.0	106.0			TFE 16.5	84.0	35.0	220.0
		15.0	85.0			31.5	161.0	16.1	83.0			TFE 11.0	67.0		
		15.0	85.0			31.5	161.0	14.3	83.0			TFE 11.0	67.0		
						30.7	161.0	15.0	83.0						
		12.5	85.0			32.0	161.0	16.4	83.0			TFE 11.5	67.0		
														36.8	220.0
														34.6	220.0
		17.2	102.0			39.0	215.0	16.9	106.0			TFE 16.5	84.0		
		15.8	102.0			39.0	215.0	15.6	106.0			TFE 15.7	84.0		
200/220 48.0 380 27.4	228.0 132.0	22.5	102.0			43.6	215.0	20.0	106.0			TFE 16.5	84.0		
200/220 47.2 380 25.7	228.0 132.0	17.5	102.0			42.0	215.0	18.6	106.0			TFE 16.8	84.0		
200/220 41.7 380 23.8	228.0 132.0	16.0	102.0			42.0	215.0	18.6	106.0			TFE 15.4	84.0		
				20.0	115.0										
				20.0	115.0										
										200/208/230 45.2 380/400/460 22.6	220.0 110.0	TSE 17.5	106.0		
										200/208/230 45.2 380/400/460 22.6	220.0 110.0	TSE 17.5	106.0		
						48.2	275.0	23.6	138.0			TFE 19.5	110.0		

REFRIGERANT COOLED CAPACITY CONTROL

MECHANICAL SPECIFICATIONS

CAPACITY CONTROL MODEL	BASIC COMPRESSOR MODEL	HP kW	CYL	Bore in mm	Stroke in mm	CFH m^3/hr	Oil Charge (Refill Oil Charge)		Overall Dimensions in/mm			Mounting Center Dimensions in/mm		Service Valve Sizes		Weights lb/kg	
						50 Hertz	Oz	Liter	Length	Width	Height	Length	Width	Suction in	Discharge in	Net	Shipping
3DT★A1500	**3DS★A1500**	15	3	$2^{7}/_{16}$	$2^{1}/_{2}$	2127	125	3.70	$28^{1}/_{32}$	$15^{1}/_{16}$	$21^{5}/_{16}$	15	12	$1^{5}/_{8}$	$1^{1}/_{8}$	375	430
3DT3R17M0	**3DS3R17M0**	11.2		61.9	63.5	60.2	(115)	(3.40)	712	383	541	381	305	Solder	Solder	170	195
4DP★A1500 (OC)	**4DL★A1500**	15	4	$2^{11}/_{16}$	$2^{3}/_{16}$	3016	135	3.99	$27^{1}/_{32}$	$20^{1}/_{2}$	23	15	12	$1^{5}/_{8}$	$1^{3}/_{8}$	409	474
4DP★F63K0	**4DL★F63K0**	11.2		68.3	55.6	85.4	(125)	(3.70)	687	521	584	381	305	Solder	Solder	186	215
4DE★A2000	**4DA★A2000**	20	4	$2^{1}/_{2}$	2	2386	135	3.99	$25^{13}/_{32}$	$20^{3}/_{16}$	$18^{5}/_{8}$	15	12	$1^{5}/_{8}$	$1^{3}/_{8}$	412	472
4DE★R18M0	**4DA★R18M0**	14.9		63.5	50.8	67.5	(125)	(3.70)	645	513	473	381	305	Solder	Solder	187	214
4DC★A2200	**4DB★A2200**	22	4	$2^{11}/_{16}$	2	2760	135	3.99	$26^{9}/_{32}$	$20^{1}/_{2}$	$18^{25}/_{32}$	15	12	$2^{1}/_{8}$	$1^{3}/_{8}$	432	497
4DC★R20M0	**4DB★R20M0**	16.4		68.3	50.8	78.1	(125)	(3.70)	668	521	477	381	305	Solder	Solder	196	225

(OC) Oil cooler and vertical cooling fan are standard on this model.

ELECTRICAL SPECIFICATIONS

ES8 200-3-50 200/220-3-60 380-3-60		FSM 380/420-3-50		FSD 380/420-3-50 460-3-60		TFC 200/220-3-50 208/230-3-60		TFD 380/420-3-50 460-3-60		TSK 200-3-50 380/400-3-50 208/230-3-60 460-3-60		TFE TSE 500-3-50 575-3-60		TFU 200-3-50 200-3-60	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
200/220 57.6 380 32.8	316.0 180.0	24.8	136.0			59.6	275.0	29.0	138.0			TFE 23.6	110.0		
200/220 62.0 380 31.0	295.0 175.0			24.5	136.0					200/208/230 52.6 380/400/460 26.3	278.0 139.0	TSE 20.9	113.0		
				33.6	173.0					200/208/230 66.0 380/400/460 33.0	308.0 154.0	TSE 24.7	135.0		
				32.5	180.0					200/208/230 65.6 380/400/460 32.8	374.0 187.0	TSE 26.5	135.0		

REFRIGERANT COOLED CAPACITY CONTROL

MECHANICAL SPECIFICATIONS

CAPACITY CONTROL MODEL	BASIC COMPRESSOR MODEL	HP kW	CYL	Bore in mm	Stroke in mm	CFH m^3/hr	Oil Charge (Refill Oil Charge)		Overall Dimensions in/mm			Mounting Center Dimensions in/mm		Service Valve Sizes		Weights lb/kg	
						50 Hertz	Oz	Liter	Length	Width	Height	Length	Width	Suction in	Discharge in	Net	Shipping
4DS★A2200 (OC) 4DS★F76K0	4DT★A2200 4DT★F76K0	22 16.4	4	2 15/16 74.6	2 3/16 55.6	3603 102.0	135 (125)	3.99 (3.70)	27 15/16 710	20 1/2 521	23 584	15 381	12 305	2 1/8 Solder	1 3/8 Solder	417 189	477 216
4DK★A2500 4DK★R22M0	4DH★A2500 4DH★R22M0	25 18.7	4	2 11/16 68.3	2 3/16 55.6	3016 85.4	135 (125)	3.99 (3.70)	26 9/32 668	20 1/2 521	18 25/32 477	15 381	12 305	2 1/8 Solder	1 3/8 Solder	432 196	497 225
6DC★A2700 (OC) 6DC★F93K0	6DL★A2700 6DL★F93K0	27 20.1	6	2 11/16 68.3	2 3/16 55.6	3748 106.1	140 (130)	4.14 (3.84)	29 7/16 748	22 7/16 570	26 635	15 381	12 305	2 1/8 Solder	1 3/8 Solder	495 225	555 252
6DD★A2700 (OC) 6DD★F93K0	6DL★A2700 6DL★F93K0	27 20.1	6	2 11/16 68.3	2 3/16 55.6	3748 106.1	140 (130)	4.14 (3.84)	29 7/16 748	22 7/16 570	26 635	15 381	12 305	2 1/8 Solder	1 3/8 Solder	500 227	560 254
4DR★A3000 4DR★R28M0	4DJ★A3000 4DJ★R28M0	30 22.4	4	2 15/16 74.6	2 3/16 55.6	2985 84.5	135 (125)	3.99 (3.70)	27 1/32 687	20 1/2 521	18 25/32 477	15 381	12 305	2 1/8 Solder	1 3/8 Solder	437 198	507 230
6DW★A3000 6DW★R32M0	6DB★A3000 6DB★R32M0	30 22.4	6	2 11/16 68.3	2 50.8	3450 97.7	140 (130)	4.14 (3.84)	29 7/16 748	22 7/16 570	17 31/32 456	15 381	12 305	2 1/8 Solder	1 5/8 Solder	507 230	582 264
6DY★A3000 6DY★R32M0	6DB★A3000 6DB★R32M0	30 22.4	6	2 11/16 68.3	2 50.8	3450 97.7	140 (130)	4.14 (3.84)	29 7/16 748	22 7/16 570	20 11/32 517	15 381	12 305	2 1/8 Solder	1 5/8 Solder	512 232	587 266
6DE★A3000 (DS) (OC) 6DE★F11M0	6DT★A3000 6DT★F11M0	30 22.4	6	2 15/16 74.6	2 3/16 55.6	4478 126.8	255 (245)	7.54 (7.25)	29 7/16 748	22 7/16 570	28 7/8 733	15 381	12 305	2 1/8 Solder	1 3/8 Solder	532 241	607 275
6DF★A3000 (DS) (OC) 6DF★F11M0	6DT★A3000 6DT★F11M0	30 22.4	6	2 15/16 74.6	2 3/16 55.6	4478 126.8	255 (245)	7.54 (7.25)	29 7/16 748	22 7/16 570	28 7/8 733	15 381	12 305	2 1/8 Solder	1 3/8 Solder	537 244	612 278
6DK★A3500 6DK★R35M0	6DH★A3500 6DH★R35M0	35 26.1	6	2 11/16 68.3	2 3/16 55.6	3748 106.1	140 (130)	4.14 (3.84)	30 3/16 767	22 7/16 570	17 31/32 456	15 381	12 305	2 1/8 Solder	1 5/8 Solder	507 230	582 264
6DP★A3500 6DP★R35M0	6DH★A3500 6DH★R35M0	35 26.1	6	2 11/16 68.3	2 3/16 55.6	3748 106.1	140 (130)	4.14 (3.84)	30 3/16 767	22 7/16 570	20 11/32 517	15 381	12 305	2 1/8 Solder	1 5/8 Solder	512 232	587 266
6DM★A3500 6DM★R37M0	6DG★A3500 6DG★R37M0	35 26.1	6	2 13/16 71.4	2 3/16 55.6	4129 116.9	140 (130)	4.14 (3.84)	30 3/16 767	22 7/16 570	17 31/32 456	15 381	12 305	2 1/8 Solder	1 5/8 Solder	507 230	582 264
6DN★A3500 6DN★R37M0	6DG★A3500 6DG★R37M0	35 26.1	6	2 13/16 71.4	2 3/16 55.6	4129 116.9	140 (130)	4.14 (3.84)	30 3/16 767	22 7/16 570	20 11/32 517	15 381	12 305	2 1/8 Solder	1 5/8 Solder	512 232	587 266
6DR★A4000 (DS) 6DR★R40M0	6DJ★A4000 6DJ★R40M0	40 29.8	6	2 15/16 74.6	2 3/16 55.6	4478 126.8	255 (245)	7.54 (7.25)	30 3/16 767	22 7/16 570	20 27/32 529	15 381	12 305	2 1/8 Solder	1 5/8 Solder	555 252	635 288
6DS★A4000 (DS) 6DS★R40M0	6DJ★A4000 6DJ★R40M0	40 29.8	6	2 15/16 74.6	2 3/16 55.6	4478 126.8	255 (245)	7.54 (7.25)	30 3/16 767	22 7/16 570	23 7/32 590	15 381	12 305	2 1/8 Solder	1 5/8 Solder	560 254	640 290
8DP★-5000 (DS) (VR) 8DP★R56M0	8DP★-5000 8DP★R56M0	50 37.3	8	2 11/16 68.3	2 21/64 59.1	5358 151.7	260 (250)	7.69 (7.39)	32 13/16 833	21 13/32 544	24 29/32 633	18 457	12 305	2 5/8 Solder	1 5/8 Solder	705 320	775 352
8DS★-6000 (DS) (VR) 8DS★R67M0	8DS★-6000 8DS★R67M0	60 44.8	8	2 15/16 74.6	2 21/64 59.1	7609 215.4	260 (250)	7.69 (7.39)	32 13/16 833	21 13/32 544	24 29/32 633	18 457	12 305	3 1/8 Solder	1 5/8 Solder	705 320	775 352

(OC) Oil cooler and vertical cooling fan are standard on this model.
(DS) Deep oil sump is standard on this model.
(VR) Voltage rating for TSK for this model is 200/400-3-50, 208/230/460-3-60.

ELECTRICAL SPECIFICATIONS

ES8 200-3-50 200/220-3-60 380-3-60			FSD 380/420-3-50 460-3-60		TSK 200-3-50 380/400-3-50 208/230-3-60 460-3-60		TSN 200-3-50 380/400-3-50 230-3-60 460-3-60		TSE 500-3-50 575-3-60	
RLA		LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
69.0 40.0	200/220 380	405.0 235.0	33.9	180.0	66.0 33.0	200/208/230 380/400/460 374.0 187.0			24.2	135.0
99.3 58.6	200/220 380	438.0 251.0	40.6	206.0	82.2 41.1	200/208/230 380/400/460 428.0 214.0			34.4	172.0
82.5 48.0	200/220 380	445.0 260.0	41.6	218.0	80.8 40.4	200/208/230 380/400/460 450.0 225.0			32.5	172.0
82.5 48.0	200/220 380	445.0 260.0	41.6	218.0	80.8 40.4	200/208/230 380/400/460 450.0 225.0			32.5	172.0
123.6 71.4	200/220 380	500.0 289.0	45.0	235.0	94.0 47.0	200/208/230 380/400/460 470.0 235.0			39.3	200.0
			50.0	260.0	105.0 52.5	200/208/230 380/400/460 565.0 283.0			40.0	230.0
			50.0	260.0	105.0 52.5	200/208/230 380/400/460 565.0 283.0			40.0	230.0
95.9 55.6	200/220 380	500.0 289.0	42.8	235.0	95.6 47.8	200/208/230 380/400/460 470.0 235.0			39.6	200.0
95.9 55.6	200/220 380	500.0 289.0	42.8	235.0	95.6 47.8	200/208/230 380/400/460 470.0 235.0			39.6	200.0
146.7 84.1	200/220 380	633.0 365.0	55.0	260.0	107.0 53.5	200/208/230 380/400/460 565.0 283.0			42.5	230.0
146.7 84.1	200/220 380	633.0 365.0	55.0	260.0	107.0 53.5	200/208/230 380/400/460 565.0 283.0			42.5	230.0
			66.0	315.0			125.0 62.5	200/230 380/400/460 594.0 297.0	46.0	245.0
			66.0	315.0			125.0 62.5	200/230 380/400/460 594.0 297.0	46.0	245.0
164.0 96.9	200/220 380	633.0 365.0	70.0	315.0			142.0 71.0	200/230 380/400/460 594.0 297.0	53.5	245.0
164.0 96.9	200/220 380	633.0 365.0	70.0	315.0			142.0 71.0	200/230 380/400/460 594.0 297.0	53.5	245.0
			91.0	510.0	180.0 90.0	200/208/230 400/460 1070.0 535.0			75.0	405.0
			96.5	510.0	224.0 112.0	200/208/230 400/460 1070.0 535.0			80.0	405.0

REFRIGERANT COOLED CAPACITY CONTROL TANDEMS

MECHANICAL SPECIFICATIONS

MODEL	HP kW	Consisting of Two Single Compressors	CFH m^3/hr	Oil Charge (Refill Oil Charge)		Overall Dimensions in/mm			Mounting Center Dimensions in/mm		Suction Connection Size	Discharge Connection Size	Weights lb/kg	
			50 Hertz	Oz	Liter	Length	Width	Height	Length	Width	Valve in	Fitting in	Net	Shipping
33D★A10EE 33DE3F36K0	10 7.5	3DE★A0500 3DE3F18K0	2270 64.3	250 (230)	7.39 (6.80)	56 1422	16 13/16 427	22 25/32 579	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	760 345	875 397
33D★A12HH 33DH3F56K0	12 9.0	3DH★A0600 3DH3F28K0	2270 64.3	250 (230)	7.39 (6.80)	56 1422	16 13/16 427	22 25/32 579	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	780 354	895 406
33D★A15EE 33DE3R20M0	15 11.2	3DE★A0750 3DE3R10M0	2270 64.3	250 (230)	7.39 (6.80)	56 1422	16 13/16 427	22 25/32 579	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	780 354	895 406
33D★A15PP 33DP3F66K0	15 11.2	3DP★A0750 3DP3F33K0	2676 75.8	250 (230)	7.39 (6.80)	56 1422	16 13/16 427	22 25/32 579	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	780 354	895 406
33D★A15JJ 33DJ3F66K0	15 11.2	3DJ★A0750 3DJ3F33K0	2676 75.8	250 (230)	7.39 (6.80)	56 1422	16 13/16 427	22 25/32 579	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	780 354	895 406
33D★A15KK 33DK3F52K0	15 11.2	3DK★A0750 3DK3F26K0	3172 89.8	250 (230)	7.39 (6.80)	56 1422	16 13/16 427	22 25/32 579	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	780 354	895 406
33D★A15TT 33DT3F60K0	15 11.2	3DT★A0750 3DT3F30K0	3524 99.8	250 (230)	7.39 (6.80)	56 1422	16 13/16 427	22 25/32 579	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	780 354	895 406
33D★A18PP (LV) 33DP3F54K0	18 13.4	3DP★A0900 3DP3F27K0	2676 75.8	250 (230)	7.39 (6.80)	56 1422	16 13/16 427	22 25/32 579	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	780 354	895 406
33D★A18JJ (LV) 33DJ3F54K0	18 13.4	3DJ★A0900 3DJ3F27K0	2676 75.8	250 (230)	7.39 (6.80)	56 1422	16 13/16 427	22 25/32 579	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	780 354	895 406
33D★A18KK 33DK3F80K0	18 13.4	3DK★A0900 3DK3F40K0	3172 89.8	250 (230)	7.39 (6.80)	56 1422	16 13/16 427	22 25/32 579	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	780 354	895 406
33D★A18GG 33DG3F80K0	18 13.4	3DG★A0900 3DG3F40K0	3172 89.8	250 (230)	7.39 (6.80)	56 1422	16 13/16 427	22 25/32 579	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	780 354	895 406
33D★A20PP 33DP3R24M0	20 14.9	3DP★A1000 3DP3R12M0	2676 75.8	250 (230)	7.39 (6.80)	56 1422	16 13/16 427	22 25/32 579	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	810 367	925 420
33D★A20TT 33DT3R22M0	20 14.9	3DT★A1000 3DT3R11M0	3524 99.8	250 (230)	7.39 (6.80)	56 1422	16 13/16 427	22 25/32 579	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	810 367	925 420
33D★A20RR 33DR3F92K0	20 14.9	3DR★A1000 3DR3F46K0	3524 99.8	250 (230)	7.39 (6.80)	56 1422	16 13/16 427	22 25/32 579	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	810 367	925 420
44D★A20EE 44DE★R24M0	20 14.9	4DE★A1000 4DE★R12M0	3954 111.9	270 (250)	7.98 (7.39)	57 11/16 1465	21 533	19 31/32 507	55 1397	12 305	2 1/8 Solder	1 5/8 Solder	894 406	1014 460
44D★A20NN (OC) 44DN★R24M0	20 14.9	4DN★A1000 4DN★R12M0	3954 111.9	270 (250)	7.98 (7.39)	61 3/8 1559	21 533	24 21/32 626	55 1397	12 305	2 1/8 Solder	1 5/8 Solder	914 415	1034 469
44D★A21EE 44DE★F94K0	20 14.9	4DE★A1010 4DE★F47K0	3954 111.9	270 (250)	7.98 (7.39)	57 11/16 1465	21 533	19 31/32 507	55 1397	12 305	2 1/8 Solder	1 5/8 Solder	894 406	1014 460
44D★A21NN (OC) 44DN★F94K0	20 14.9	4DN★A1010 4DN★F47K0	3954 111.9	270 (250)	7.98 (7.39)	61 3/8 1559	21 533	24 21/32 626	55 1397	12 305	2 1/8 Solder	1 5/8 Solder	914 415	1034 469
33D★A24KK 33DK3R30M0	24 17.9	3DK★A1200 3DK3R15M0	3172 89.8	250 (230)	7.39 (6.80)	56 1422	16 13/16 427	22 25/32 579	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	830 376	945 429
33D★A30TT 33DT3R34M0	30 22.4	3DT★A1500 3DT3R17M0	3524 99.8	250 (230)	7.39 (6.80)	56 1422	16 13/16 427	22 25/32 579	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	830 376	945 429
44D★A30PP (OC) 44DP★F13M0	30 22.4	4DP★A1500 4DP★F63K0	4998 141.5	270 (250)	7.98 (7.39)	63 1/8 1603	21 3/8 543	24 21/32 626	50 1270	12 305	2 1/8 Solder	1 5/8 Solder	938 425	1058 480
44D★A40EE 44DE★R36M0	40 29.8	4DE★A2000 4DE★R18M0	3954 111.9	270 (250)	7.98 (7.39)	57 11/16 1465	21 533	19 31/32 507	50 1270	12 305	2 1/8 Solder	1 5/8 Solder	944 428	1064 483
44D★A44CC 44DC★R40M0	44 32.8	4DC★A2200 4DC★R20M0	4600 130.2	270 (250)	7.98 (7.39)	61 3/8 1559	21 7/16 545	20 15/32 520	55 1397	12 305	2 5/8 Solder	1 5/8 Solder	984 446	1104 501

Electrical specifications shown for tandems are per compressor rating.

(LV) Limited voltage. Available only in 200 volt electrical.

(OC) Oil coolers and vertical cooling fans are standard on this model.

ELECTRICAL SPECIFICATIONS

ES8 200-3-50 200/220-3-60 380-3-60		FSM 380/420-3-50		FSD 380/420-3-50 460-3-60		TFC 200/220-3-50 208/230-3-60		TFD 380/420-3-50 460-3-60		TSK 200-3-50 380/400-3-50 208/230-3-60 460-3-60		TFE TSE 500-3-50 575-3-60		TFU 200-3-50 200-3-60	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
						18.6	115.0	11.0	58.0			TFE 7.9	43.0		
		13.5	78.0			30.3	150.0	13.7	77.0			TFE 10.5	62.0		
		20.4	102.0			41.0	215.0	20.0	106.0			TFE 16.5	84.0	35.0	220.0
		15.0	85.0			31.5	161.0	16.1	83.0			TFE 11.0	67.0		
		15.0	85.0			31.5	161.0	14.3	83.0			TFE 11.0	67.0		
						30.7	161.0	15.0	83.0						
		12.5	85.0			32.0	161.0	16.4	83.0			TFE 11.5	67.0		
														36.8	220.0
														34.6	220.0
		17.2	102.0			39.0	215.0	16.9	106.0			TFE 16.5	84.0		
		15.8	102.0			39.0	215.0	16.9	106.0			TFE 15.7	84.0		
200/220 48.0 380 27.4	228.0 132.0	22.5	102.0			43.6	215.0	20.0	106.0			TFE 16.5	84.0		
200/220 47.2 380 25.7	228.0 132.0	17.5	102.0			42.0	215.0	18.6	106.0			TFE 16.8	84.0		
200/220 41.7 380 23.8	228.0 132.0	16.0	102.0			42.0	215.0	18.6	106.0			TFE 15.4	84.0		
				20.0	115.0										
				20.0	115.0										
										200/208/230 45.2 380/400/460 22.6	220.0 110.0	TSE 17.5	106.0		
										200/208/230 45.2 380/400/460 22.6	220.0 110.0	TSE 17.5	106.0		
						48.2	275.0	23.6	138.0			TFE 19.5	110.0		
200/220 57.6 380 32.8	316.0 180.0	24.8	136.0			59.6	275.0	29.0	138.0			TFE 23.6	110.0		
200/220 62.0 380 31.0	295.0 175.0			TSE 24.5	136.0					200/208/230 52.6 380/400/460 26.3	278.0 139.0	20.9	113.0		
				33.6	173.0					200/208/230 66.0 380/400/460 33.0	308.0 154.0	TSE 24.7	135.0		
				32.5	180.0					200/208/230 65.6 380/400/460 32.8	374.0 187.0	TSE 26.5	135.0		

REFRIGERANT COOLED CAPACITY CONTROL TANDEMS

MECHANICAL SPECIFICATIONS

MODEL	HP kW	Consisting of Two Single Compressors	CFH m^3/hr	Oil Charge (Refill Oil Charge)		Overall Dimensions in/mm			Mounting Center Dimensions in/mm		Suction Connection Size	Discharge Connection Size	Weights lb/kg	
			50 Hertz	Oz	Liter	Length	Width	Height	Length	Width	Valve in	Fitting in	Net	Shipping
44D★A44SS (OC) 44DS★F15M0	44 32.8	4DS★A2200 4DS★F76K0	5970 169.0	270 (250)	7.98 (7.39)	61 3/8 1559	21 3/8 543	24 11/16 627	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	954 433	1074 487
44D★A50KK 44DK★R44M0	50 37.3	4DK★A2500 4DK★R22M0	4998 141.5	270 (250)	7.98 (7.39)	61 3/8 1559	21 7/16 545	20 15/32 520	55 1397	12 305	2 5/8 Solder	1 5/8 Solder	984 446	1104 501
66D★A54CC (OC) 66DC★F19M0	54 40.3	6DC★A2700 6DC★F93K0	7496 212.2	280 (260)	8.28 (7.69)	63 3/4 1619	23 5/16 592	27 5/8 702	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1110 503	1230 558
66D★A54DD (OC) 66DD★F19M0	54 40.3	6DD★A2700 6DD★F93K0	7496 212.2	280 (260)	8.28 (7.69)	63 3/4 1619	23 5/16 592	27 5/8 702	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1120 508	1240 562
44D★A60RR 44DR★R56M0	60 44.8	4DR★A3000 4DR★R28M0	5970 169.0	270 (250)	7.98 (7.39)	61 3/8 1559	21 3/8 543	20 15/32 520	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	994 451	1114 505
66D★A60WW 66DW★R64M0	60 44.8	6DW★A3000 6DW★R32M0	6900 195.3	280 (260)	8.28 (7.69)	63 3/4 1619	23 1/4 591	21 533	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1134 514	1284 582
66D★A60YY 66DY★R64M0	60 44.8	6DY★A3000 6DY★R32M0	6900 195.3	280 (260)	8.28 (7.69)	63 3/4 1619	23 1/4 591	23 3/8 594	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1144 519	1294 587
66D★A60EE (DS) (OC) 66DE★F22M0	60 44.8	6DE★A3000 6DE★F11M0	8956 253.5	510 (490)	15.1 (14.5)	63 3/4 1619	23 1/4 591	32 1/4 819	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1184 537	1334 605
66D★A60FF (DS) (OC) 66DF★F22M0	60 44.8	6DF★A3000 6DF★F11M0	8956 253.5	510 (490)	15.1 (14.5)	63 3/4 1619	23 1/4 591	32 1/4 819	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1194 542	1344 610
66D★70KK 66DK★R70M0	70 52.2	6DK★A3500 6DK★R35M0	7496 212.2	280 (260)	8.28 (7.69)	63 3/4 1619	23 1/4 591	21 533	55 1397	12 305	3 1/8 Solder	2 1/8 Solder	1134 514	1284 582
66D★A70PP 66DP★R70M0	70 52.2	6DP★A3500 6DP★R35M0	7496 212.2	280 (260)	8.28 (7.69)	63 3/4 1619	23 1/4 591	23 3/8 594	55 1397	12 305	3 1/8 Solder	2 1/8 Solder	1144 519	1294 587
66D★A70MM 66DM★R74M0	70 52.2	6DM★A3500 6DM★R37M0	8258 233.8	280 (260)	8.28 (7.69)	63 3/4 1619	23 1/4 591	21 533	55 1397	12 305	3 1/8 Solder	2 1/8 Solder	1134 514	1284 582
66D★A70NN 66DN★R74M0	70 52.2	6DN★A3500 6DN★R37M0	8258 233.8	280 (260)	8.28 (7.69)	63 3/4 1619	23 1/4 591	23 3/8 594	55 1397	12 305	3 1/8 Solder	2 1/8 Solder	1144 519	1294 587
66D★A80RR (DS) 66DR★R80M0	80 59.7	6DR★A4000 6DR★R40M0	8956 253.5	510 (490)	15.1 (14.5)	63 3/4 1619	23 1/4 591	25 3/16 640	55 1397	12 305	3 1/8 Solder	2 1/8 Solder	1230 558	1390 630
66D★A80SS (DS) 66DS★R80M0	80 59.7	6DS★A4000 6DS★R40M0	8956 253.5	510 (490)	15.1 (14.5)	63 3/4 1619	23 1/4 591	27 9/16 700	55 1397	12 305	3 1/8 Solder	2 1/8 Solder	1240 562	1400 635
88D★-11PP (DS) (VR) 88DP★R112M0	100 74.6	8DP★-5000 8DP★R56M0	10716 303.4	520 (500)	15.4 (14.8)	72 11/16 1846	25 1/16 637	25 1/2 648	66 1/8 1680	12 305	4 1/8 Solder	2 1/8 Solder	1620 735	1795 814
88D★-12SS (DS) (VR) 88DS★R134M0	120 89.5	8DS★-6000 8DS★R67M0	12680 359.0	520 (500)	15.4 (14.8)	72 11/16 1846	25 1/16 637	25 1/2 648	66 1/8 1680	12 305	4 1/8 Solder	2 1/8 Solder	1730 785	1905 864

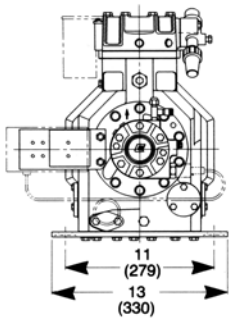
Electrical specifications shown for tandems are per compressor rating.
(OC) Oil coolers and vertical cooling fans are standard on this model.
(DS) Deep oil sumps are standard on this model.
(VR) Voltage rating for TSK for this model is 200/400-3-50, 208/230/460-3-60.

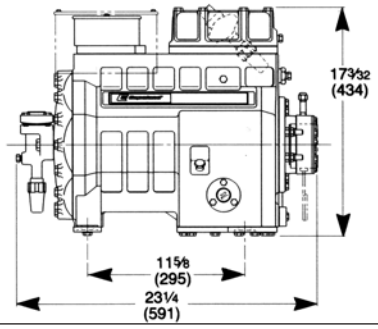
ELECTRICAL SPECIFICATIONS

ES8 200-3-50 200/220-3-60 380-3-60		FSD 380/420-3-50 460-3-60		TSK 200-3-50 380/400-3-50 208/230-3-60 460-3-60		TSN 200-3-50 380/400-3-50 230-3-60 460-3-60		TSE 500-3-50 575-3-60	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
69.0 (200/220) / 40.0 (380)	405.0 / 235.0	33.9	180.0	66.0 (200/208/230) / 33.0 (380/400/460)	374.0 / 187.0			24.2	135.0
99.3 (200/220) / 58.6 (380)	438.0 / 251.0	40.6	206.0	82.2 (200/208/230) / 41.1 (380/400/460)	428.0 / 214.0			34.4	172.0
82.5 (200/220) / 48.0 (380)	445.0 / 260.0	41.6	218.0	80.8 (200/208/230) / 40.4 (380/400/460)	450.0 / 225.0			32.5	172.0
82.5 (200/220) / 48.0 (380)	445.0 / 260.0	41.6	218.0	80.8 (200/208/230) / 40.4 (380/400/460)	450.0 / 225.0			32.5	172.0
123.6 (200/220) / 71.4 (380)	500.0 / 289.0	45.0	235.0	94.0 (200/208/230) / 47.0 (380/400/460)	470.0 / 235.0			39.3	200.0
		50.0	260.0	105.0 (200/208/230) / 52.5 (380/400/460)	565.0 / 283.0			40.0	230.0
		50.0	260.0	105.0 (200/208/230) / 52.5 (380/400/460)	565.0 / 283.0			40.0	230.0
95.9 (200/220) / 55.6 (380)	500.0 / 289.0	42.8	235.0	95.6 (200/208/230) / 47.8 (380/400/460)	470.0 / 235.0			39.6	200.0
95.9 (200/220) / 55.6 (380)	500.0 / 289.0	42.8	235.0	95.6 (200/208/230) / 47.8 (380/400/460)	470.0 / 235.0			39.6	200.0
146.7 (200/220) / 84.1 (380)	633.0 / 365.0	55.0	260.0	107.0 (200/208/230) / 53.5 (380/400/460)	565.0 / 283.0			42.5	230.0
146.7 (200/220) / 84.1 (380)	633.0 / 365.0	55.0	260.0	107.0 (200/208/230) / 53.5 (380/400/460)	565.0 / 283.0			42.5	230.0
		66.0	315.0			125.0 (200/230) / 62.5 (380/400/460)	594.0 / 297.0	46.0	245.0
		66.0	315.0			125.0 (200/230) / 62.5 (380/400/460)	594.0 / 297.0	46.0	245.0
164.0 (200/220) / 96.9 (380)	633.0 / 365.0	70.0	315.0			142.0 (200/230) / 71.0 (380/400/460)	594.0 / 297.0	53.5	245.0
164.0 (200/220) / 96.9 (380)	633.0 / 365.0	70.0	315.0			142.0 (200/230) / 71.0 (380/400/460)	594.0 / 297.0	53.5	245.0
		91.0	510.0	180.0 (200/208/230) / 90.0 (400/460)	1070.0 / 535.0			75.0	405.0
		96.5	510.0	224.0 (200/208/230) / 112.0 (400/460)	1070.0 / 535.0			80.0	405.0

DIMENSIONS AND PHOTOGRAPHS

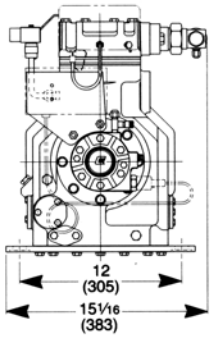
2D FAMILY

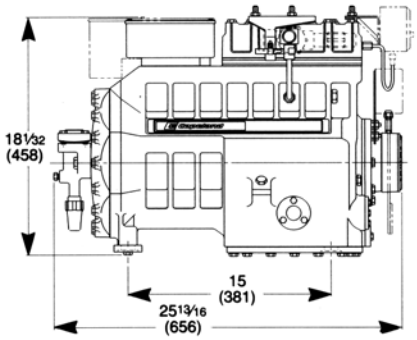




Model 2DC3-0500 Shown

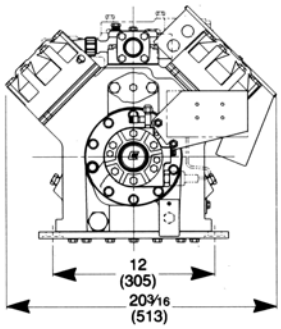
3D FAMILY

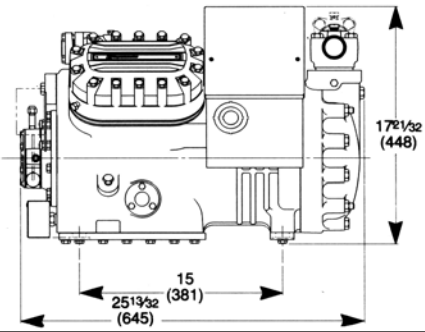


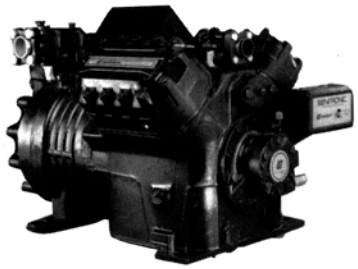


Model 3DB3A0750 with Demand Cooling Shown

4D FAMILY

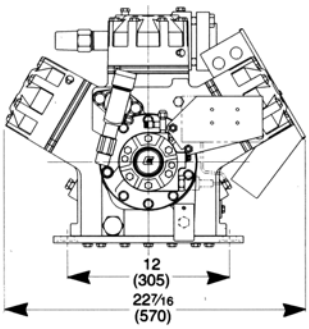


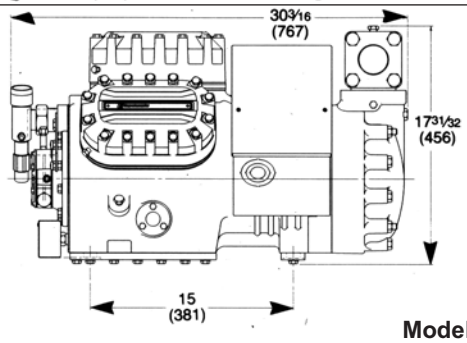


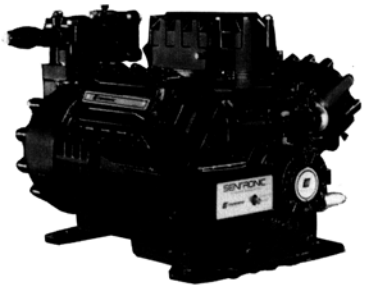


Model 4DA3A2000 Shown

6D FAMILY

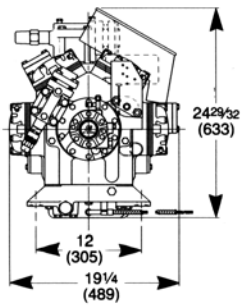


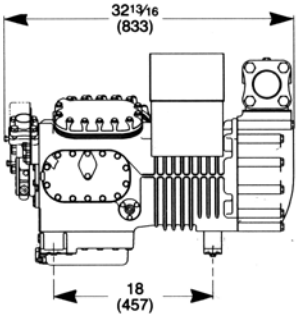




Model 6DH3A3500 Shown

8D FAMILY





Model 8DP1-5000 Shown

Dimensions shown are inches (millimeters).

APPLICATION INFORMATION

RATING CONDITIONS USED IN THIS BOOK

Refrigerant	R12	R22	R502
Evaporating Temperature	This book does not specifically define the operating limits of the compressors. See individual specification sheets for exact application capability.		
Condensing Temperature			
Return Gas Temperature	65°F 18.3°C	LT, MT: 65°F, 18.3°C HT: Varies	65°F 18.3°C
Ambient Temperature	95°F 35°C	95°F 35°C	95°F 35°C
Liquid Subcooling	0°F 0°C	LT, MT: 0°F, 0°C HT: 15°F, 8.3°C	0°F 0°C
Superheat	Varies	LT, MT: Varies HT: 20°F, 11.1°C	Varies

R22 MT, Medium Temperature is Below 35°F, 1.7°C
R22 HT, High Temperature is 55°F to 35°F, 12.8°C to 1.7°C

APPLICATION REQUIREMENTS

- All Copeland Discus™ compressors require return gas motor cooling. It is important to note that when operating at evaporating temperatures of 0°F (–17.8°C) or lower, additional motor and cylinder head cooling is required. This can be accomplished by the use of an external fan assembly available from Emerson Climate Technologies. See Application Bulletin AE 4-1135 for complete details and allow for extra height to install the fan to the top of the compressor.
- Oil Pump is Sentronic high pressure oil pump.
- An oil pressure safety control is required on all Discus compressors. Approved controls provide low cost, safe protection against damage from loss of lubrication. These can be supplied by Emerson Climate Technologies and should be listed separately on your purchase orders (except those covering tandem compressors on which they are supplied as standard equipment). There are two types of control available, our new “Sentronic” Control offering improved reliability and accuracy (see next paragraph for details) and the conventional capillary tube type control which can be ordered by using Part Number 998-0700-00. For further information, see Application Bulletin AE 8-1095.
- Emerson Climate Technologies introduces a new era in oil pressure controls with the Sentronic Oil Pressure Control System. The Sentronic electronic control system eliminates capillary tubes used on electro-mechanical systems to sense oil pressure. The new system uses a pressure transducer within the oil pump that produces an electrical signal to the control module. If the oil pressure drops below acceptable limits for a period of two minutes the control module cuts power to the compressor and stops it. The Sentronic offers a new and more reliable solution to capillary leaks. To order the Sentronic Oil Pressure Control use part number 585-1036-00. For instructions refer to Application Bulletin AE 8-1275.

  The Sentronic is only functional when used with our new oil pump that has a machined port for the Sentronic sensor. The Sentronic control and oil pump are standard on all Discus tandem compressors and the oil pump is standard on all Copeland Discus™ compressors.

APPLICATION INFORMATION

APPLICATION REQUIREMENTS (continued)

- R22MT Discus compressors can operate from 9°F to –10°F, –12.8°C to —23.3°C if the following criteria are met:
  - Return gas temperature not to exceed 50°F, 10°C.
  - Condensing temperature not to exceed 110°F, 43.3°C.
  - Vertical cooling fan is used.
- Discus 4D, 6D, 8D capacity control operating requirements are:
  - Medium Temperature R12 and R502
    - Evaporating range +25°F to –5°F, –3.9°C to –20.6°C.
    - Vertical cooling fan is required.
    - Maximum condensing temperature 140°F, 60°C.
  - Medium Temperature R22
    - Evaporator range +25°F to 10°F, –3.9°C to –12.2°C.
      - Vertical cooling fan is required.
      - Maximum condensing temperature 140°F, 60°C.
    - Evaporator range 9°F to –10°F, –12.8°C to –23°C.
      - Return gas temperature not to exceed 50°F, 10°C.
      - Condensing temperature not to exceed 100°F, 37.8°C.
      - Vertical cooling fan is required.
  - Low Temperature R12, R22, and R502
    - Vertical cooling fan is required.
    - Oil cooler is required.
    - Maximum condensing temperature is 130°F, 54.4°C.
  - Minimum evaporating temperature for 4D and 6D (33% unloaded) is –40°F, –40°C.
  - Minimum evaporating temperature for 6D (67% unloaded) is –25°F, –31°C.
  - For R22 demand cooling unloading, the compressor cannot be unloaded during the time liquid injection is being used.
- All 4, 6 and 8 cylinder models are equipped with a preset internal relief valve between suction and discharge which will open if the maximum permissible pressure differential is reached.
- All Tandem models include a discharge muffler.
- The nominal rotational speeds of the Copeland Discus™ compressors are:
  - 50 Hertz 1450 RPM.
  - 60 Hertz 1750 RPM.
- Dimensions in this brochure include the terminal box and service valves mounted. Height is from the bottom plate bolts or from bottom of extended oil sump where applicable and does not include mounting parts except mounting for tandem compressors where dimensions include the mounting rails. Mounting center dimensions do not apply to narrow profile deep sump models such as those with an 8 in the fourth place of the model number.
- With the exception of the valve plate and head area, the internal construction of Discus and Conventional Copelametic compressors is similar. While the Discus valving is extremely rugged, Copeland Discus™ compressors can be damaged by abuse in the same way that any compressor can be damaged. The Copeland Discus™ compressor is a highly reliable, highly efficient compressor. It is not a magic panacea for compressor misapplication, and is not a cure-all for recurring system problems that need to be identified and corrected.

APPLICATION INFORMATION

PART WINDING AND STAR-DELTA STARTING MOTOR CHARACTERISTICS

Motor	Leads	Hertz	Across-The-Line	Part Winding	Star-Delta
ES8	6	50 60	200-3-50 200/220-3-60 380-3-60		220-3-60 200/220-3-60
FSD	6	50 60	380/420-3-50 460-3-60	380/420-3-50 460-3-60	
FSM	6	50	380/420-3-50	380/420-3-50	
TSE	6	50 60	500-3-50 575-3-60	500-3-50 (PW) 575-3-60 (PW)	
TSN	9	50 60	200-3-50 380/400-3-50 230-3-60 460-3-60	200-3-50 230-3-60	
TSK	9	50 60	200-3-50 380/400-3-50 (VR) 208/230-3-60 460-3-60	200-3-50 208/230-3-60	

(PW) Part winding start applies only to single compressors 20 horsepower, 14.9 kilowatt, and above; tandem 40 horsepower, 29.8 kilowatt, and above.
(VR) Voltage rating for 8D is 400-3-50.

ELECTRICAL APPLICATION INFORMATION

- On Copeland Discus™ compressors with pilot circuit motor protection (compressors with S type motor protection) the contactor becomes an integral part of the motor protection system. Modern pilot circuit protection used in conjunction with a properly sized and operating contactor provides excellent motor protection. Emerson Climate Technologies specifications require the use of a properly sized, properly applied contactor. For complete contactor sizing information, please see Application Bulletin AE 10-1244.
- Refer to the Electrical Handbook, Form 6400, for wiring diagrams.
- Rated load amps is the value used for contactor and other electrical component selection. It is calculated by dividing the maximum continuous current that the compressor draws under the condition of maximum load operation and the lowest operating voltage by 1.4. See Application Bulletin AE 9-1154 for a detailed explanation.
- Rated load amps (RLA) and locked rotor amps (LRA) shown in this book are at across-the-line, not part winding start or star-delta conditions.

APPLICATION INFORMATION

APPLICATION OPTIONS

- Use bill of material number 200 for standard compressors. This bill of material includes oil charge, mounting parts, standard service valves, overload protectors, terminal box covers and, where applicable, running capacitors, starting capacitors and relays. Oil pressure safety controls, crankcase heaters, contactors, and high-low pressure controls, when required, should be ordered with compressors but listed separately on the purchase order. Exceptions to this rule are that 200 bill of material tandem compressors include oil pressure safety controls, and 8D compressors use the matrix below.
- On applications where the cooling load may vary over a wide range, some means of compressor capacity control is frequently necessary for satisfactory system performance. Emerson Climate Technologies has available capacity reduction control devices for the larger Copelametic models. These capacity modulation accessories can be mounted on the compressor at the factory or added in the field. Application Bulletins AE 21-1216 and AE 21-1278 provide detailed technical information. Field conversion kits contain all necessary parts to convert a standard model to a capacity control model.
- Crankcase heaters are strongly recommended on all refrigeration systems where the compressor is exposed to cold ambient temperatures, on all split air conditioning systems, and on package air conditioning equipment 5 HP and larger. As the refrigerant charge increases, the start-up problems associated with vapor refrigerant in liquid oil becomes more critical. The crankcase heater will minimize refrigerant migration to the crankcase during periods when the compressor is not operating and will greatly reduce liquid slugging, loss of oil and compressor damage. Please refer to Application Bulletins AE 4-1166, AE 17-1238, and AE 22-1182 for additional information.
- Any Copeland Discus™ model has the option of an installed deep oil sump except for 8D where the deep sump is standard.
- Air and water-cooled condensing units that contain the compressors listed in this section are available from Emerson Climate Technologies.
- The 8D Compressor can be 25% (1 bank) or 50% (2 banks) unloaded. All compressors will have two unloader type cylinder heads factory installed which are already equipped with unloader plungers. The external solenoid opening will be sealed with a small, cast iron cap. To make the unloading plunger operational, the cast iron cap is to be removed and the solenoid coil attached. Please refer to Application Bulletin AE 21-1216 for further information on internal capacity control valves.
- To protect the 8D compressor from liquid refrigerant migration into the crankcase during off-cycle periods, the application of a continuous pump down cycle is mandatory. Equally important is the proper installation and operation of the crankcase heater which is supplied as standard equipment on all 8D compressors. Please refer to Application Bulletin AE 22-1182 for additional information on liquid refrigerant control.

8DP and 8DS Standard Bills of Material for Single and Tandem Compressors

BILL OF MATERIAL NUMBER			CONTROL VOLTAGE	ACCESSORIES ARE SHIPPED IN KIT FORM				
NO UNLOADER SOLENOID	ONE UNLOADER SOLENOID	TWO UNLOADER SOLENOIDS		TERMINAL CONNECTION PARTS	SOLID STATE MODULE	MOUNTING PARTS	SERVICE VALVES	CRANKCASE HEATER
200	240	270	240 Volt	X	X	X	X	X
201	241	271	120 Volt	X	X	X	X	X

UNITS CONVERSON CHART

BTUH × .252 = KCALH
BTUH × .293 = WATTS
(°F – 32) × 5/9 = °C
POUNDS × .454 = KILOGRAMS
INCHES × 25.4 = MILLIMETERS
CUBIC INCHES × 16.386 = CUBIC CENTIMETERS
FLUID OUNCES × .02957 = LITERS
CUBIC FEET × .02831 = CUBIC METERS
HORSEPOWER × .746 = KILOWATTS

APPLICATION INFORMATION

DEMAND COOLING

Demand Cooling Kit Part Numbers

Frequency	Control Voltage	2D	3D	4D	6D
50 HZ	120 Volt	998-1000-12	998-1001-13	998-1001-14	998-1001-16
	240 Volt	998-1000-22	998-1001-23	998-1001-24	998-1001-26

- Demand Cooling Kits Include
  - Demand Cooling Module with 2 mounting screws
  - Temperature Sensor with 3 foot (914 mm) shielded cable
  - Injection Valve and Solenoid (with mounting hardware)
  - Installation/Troubleshooting Guide
- Optional Demand Cooling Module Mounting Brackets
  - 2D and 3D Models 998-0700-09
  - 4D and 6D Models 998-0700-10
- Temperature Sensors
  - 3 Foot (914 mm) Shielded Cable (standard) 085-0109-00.
  - 10 Foot (3 meter) Shielded Cable (optional) 085-0109-01.
- Demand Cooling Installation Instruction Guides Emerson Climate Technologies Publication Numbers
  - 90-130 for 2D/3D Compressors
  - 90-131 for 4D Compressors
  - 90-133 for 6D Compressors
- Demand Cooling Operating Requirements
  - Vertical cooling fan must be used
  - Return gas temperature must not exceed 65°F, 18.3°C
  - See page 6 of Application Bulletin AE 4-1287 for further details.

CONVENTIONAL COPELAMETIC COMPRESSOR TO DISCUS COMPRESSOR CROSS REFERENCE

The Copeland Discus™ design results in significant capacity increases for a given compressor displacement, to the extent that in a majority of cases it will be necessary to select a Discus compressor with smaller displacement to replace a Conventional compressor. The amount of capacity difference is important in selecting a suitable replacement. Too little capacity in a replacement may mean the system will be unable to maintain temperatures. Too much capacity may lead to short cycling and force control settings down to a level which may nullify the efficiency improvement and lead to other problems.

Since compressors are normally selected on a reasonably conservative basis, capacity differences of plus or minus 10% usually will create no problems. The cross reference replacement selection is based on capacities within the plus or minus 10% parameter. Capacity differences beyond that level may or may not create problems depending on the original design, but if the compressor selection had little room for tolerance initially, then the potential for system imbalance is possible.

R12	Conventional Model	Discus Model
High Temperature	MRJ★-0500	2DF★-0300
	MRF★-0500	2DF★-0300
	9RJ★-0765	2DA★-0500
	9RC★-0765	3DA★-0750
	9RZ★-0765	3DA★-0750
	9RS★-1015	3DF★-0900
	9RS★-1016	3DF★-0900
	4RA★-1000	3DS★-1000
	4RH★-1500	3DF★-1200
	6RA★-2000	3DS★-1500
	6RH★-2000	4DA★-2000
Medium Temperature	MRA★-0500	2DF★-0300
	MRJ★-0500	2DC★-0500
	MRB★-0500	2DA★-0500
	MRC★-0500	2DA★-0500
	9RA★-0505	2DA★-0500
	9RJ★-0765	2DA★-0500
	9RB★-0765	3DB★-0750
	9RC★-0765	3DA★-0500
	9RZ★-0765	3DB★-0750
	9RS★-0765	3DB★-0750
	9RS★-1015	3DF★-0750
	9RS★-1016	3DS★-0750
	4RA★-1000	3DS★-0750
	4RH★-1500	3DB★-1000
	4RL★-1900	4DA★-1000
	6RA★-2000	3DF★-1200
	6RH★-2000	4DA★-2000

R22	Conventional Model	Discus Model
High Temperature	NRA★-0500	2DC★-0500
	MRH★-0760	2DL★-0750
	9RC★-1015	3DA★-0750
	9RS★-1505	3DF★-1200
	4RA★-2000	3DS★-1500
	4RH★-2500	4DB★-2200
	4RJ★-3000	4DH★-2500
	4RJ★-3000	4DJ★-3000
	6RA★-3000	4DJ★-3000
	6RH★-3500	6DH★-3500
	6RJ★-4000	6DG★-3500
Medium Temperature	NRD★-0310	2DC★-0500
	NRD★-0400	2DC★-0500
	NRA★-0500	2DC★-0500
	NRM★-0500	2DD★-0500
	MRJ★-0500	2DL★-0750
	MRH★-0760	2DL★-0750
	9RJ★-0765	2DA★-0750
	9RZ★-0765	3DA★-0750
	9RC★-1015	3DA★-0750
	9RS★-1016	3DF★-1200
	9RS★-1505	3DF★-1200
	4RL★-1900	3DS★-1500
	4RA★-2000	3DS★-1500
	4RH★-2500	4DB★-2200
	4RJ★-3000	4DH★-2500
	6RA★-3000	4DJ★-3000
	6RH★-3500	6DH★-3500
	6RJ★-4000	6DH★-3500

R502	Conventional Model	Discus Model
High Temperature	NRA★-0500	2DC★-0500
	MRA★-0500	2DL★-0750
	MRH★-0760	2DL★-0750
	9RJ★-0765	3DA★-0750
	9RC★-1015	3DB★-1000
	9RS★-1505	3DF★-1200
	4RA★-2000	4DA★-2000
	4RH★-2500	4DH★-2500
	4RJ★-3000	4DH★-2500
	6RA★-3000	4DJ★-3000
	6RH★-3500	6DH★-3500
	6RJ★-4000	6DG★-3500
Medium Temperature	NRA★-0500	2DC★-0500
	NRM★-0500	2DD★-0500
	MRA★-0500	2DL★-0750
	MRH★-0760	2DL★-0750
	9RJ★-0765	3DA★-0750
	9RC★-1015	3DA★-0750
	9RS★-1505	3DB★-1000
	4RA★-2000	4DA★-2000
	4RH★-2500	4DB★-2200
	4RJ★-3000	4DH★-2500
	6RA★-3000	4DJ★-3000
	6RH★-3500	6DH★-3500
	6RJ★-4000	6DH★-3500

NOTE: For models with green screens use Refrigerant R22.

CONVENTIONAL COPELAMETIC COMPRESSOR TO DISCUS COMPRESSOR CROSS REFERENCE

R12	Conventional Model	Discus Model
Low Temperature	MRC★-0500	3DA★-0500
	9RJ★-0505	3DA★-0500
	9RB★-0505	3DB★-0500
	9RS★-0765	3DF★-0750
	4RA★-1000	3DS★-0750
	6RA★-1000	3DF★-0900

R502	Conventional Model	Discus Model
Low Temperature	MRA★-0500	2DF★-0300
	MRJ★-0500	2DL★-0400
	MRB★-0500	2DA★-0600
	MRH★-0760	2DL★-0400
	9RJ★-0765	3DA★-0750
	9RB★-0765	3DB★-0750
	9RZ★-0765	3DB★-0750
	9RS★-0765	3DF★-0900
	9RC★-1015	3DB★-0750
	9RS★-1015	3DF★-0900
	9RS★-1016	3DF★-0900
	4RA★-1000	3DS★-1000
	9RS★-1505	3DF★-0900
	4RL★-1500	4DL★-1500
	4RL★-1900	4DL★-1500
	6RA★-2000	4DL★-1500
	6RL★-2500	4DT★-2200
	6RT★-3000	6DL★-2700

NOTE: For models with green screens, use Refrigerant R22 complete with Demand Cooling kit.

APPLICATION INFORMATION

APPLICATION BULLETINS

Emerson Climate Technologies has compiled a book of compressor Application Bulletins. Please see the following bulletins, from the book, for more Discus compressor application information as entitled below:

SINGLE COMPRESSOR NOMENCLATURE

Primary Application Range
R = ARI High Temperature, Rated @ 45/130 °F
F = ARI Low Temperature, Rated @ -25/105 °F

Compressor Model Type

Code	Description
D	Discus

Compressor Motor Type

Phase	Motor Type	Code
Single	Capacitor run, capacitor start	C
Three	Wye (star) Delta	E
Three	Six lead part winding or across the line.	F
Three	Miscellaneous three phase • Single voltage three lead • Single voltage six lead on 500-3-50, 575-3-60; 20 HP, 14.9 kW, and up. • Dual voltage nine lead	T

Oil Type
"O" Mineral Oil
"E" POE Oil
"L" Less Oil

Product Variations

Bill of Material numbers will be assigned as follows:

Number -100 is standard compressor used in Copeland condensing units.

Number -200 indicates a standard compressor.

Numbers -201 through 299 will be assigned for all other variations of a given model.

Note: 8D compressors have a unique bill of material matrix. See page 142.

X X X X X X X X X — X X X — X X X

Compressor Family Series
Either a number established for each product model.

Displacement and Valve Plate
A letter only, arbitrarily assigned for each different displacement and valve plate combination within any one family series.

Model Variations
Either a number or letter arbitrarily assigned to indicate major variations within any one family series.

Nominal Capacity at Rating Condition
Two numeric characters

Capacity Multiplier
K - 1,000
M- 10,000

Compressor Motor Protection

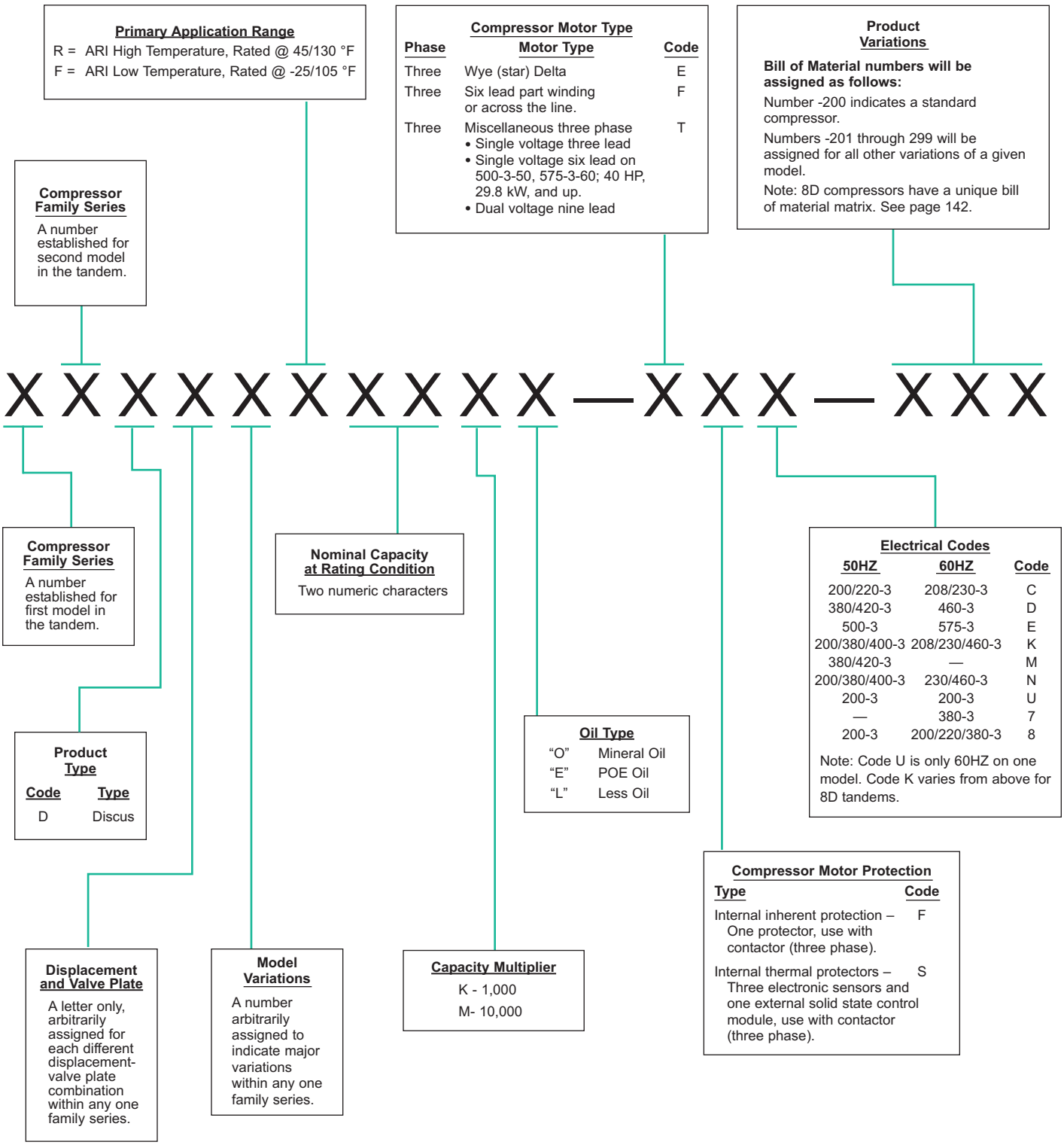
Type	Code
Internal inherent protection – One protector, use with contactor (single or three phase).	F
Internal thermal protectors – Three electronic sensors and one external solid state control module, use with contactor (three phase).	S

Electrical Codes

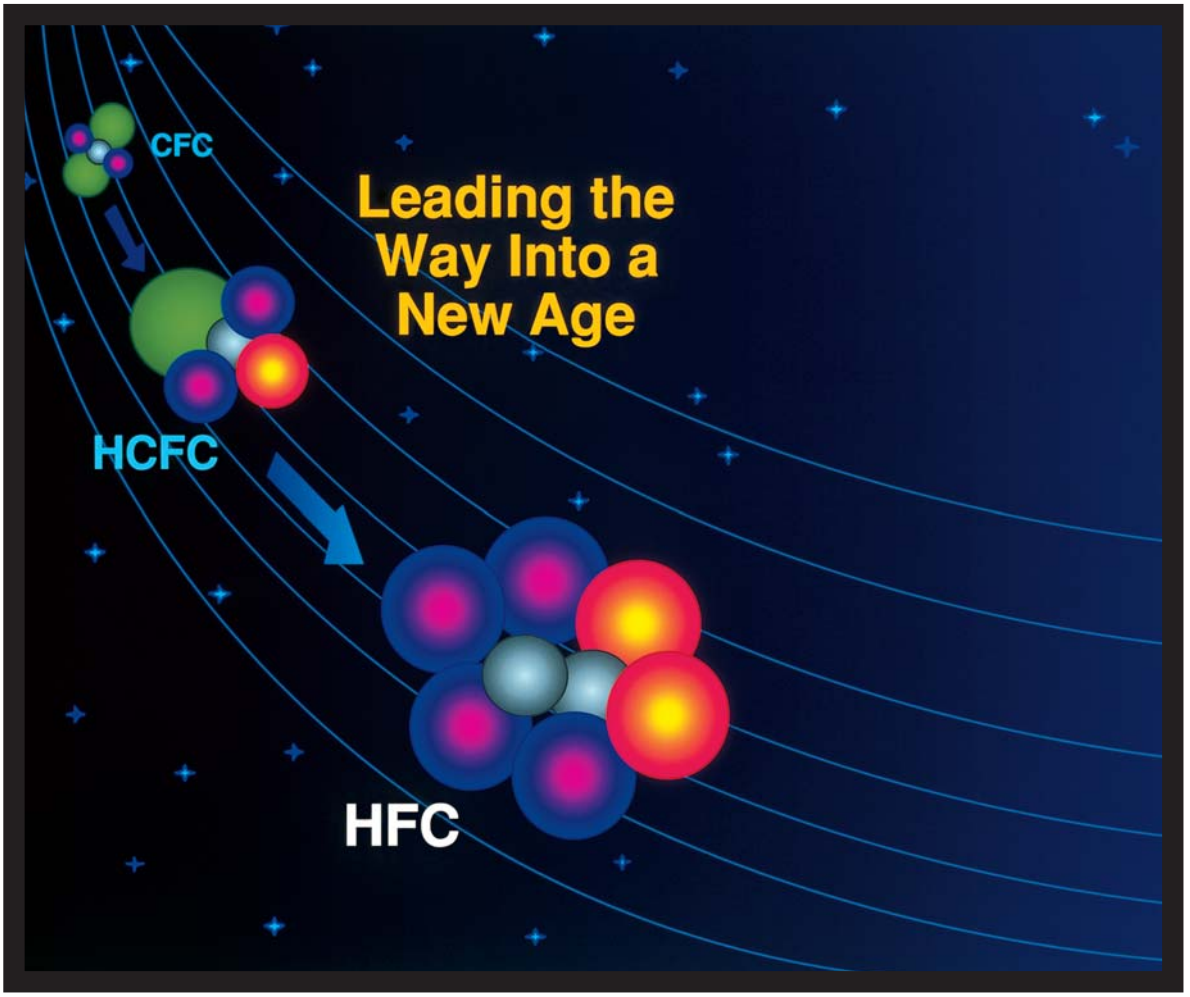
50HZ	60HZ	Code
—	230-1	B
200/220-3	208/230-3	C
380/420-3	460-3	D
500-3	575-3	E
200/380/400-3	208/230/460-3	K
380/420-3	—	M
200/380/400-3	230/460-3	N
200-3	200-3	U
—	380-3	7
200-3	200/220/380-3	8

NOTE: Code U is only 60HZ on one model. Code K varies from above for 8D compressors.

TANDEM COMPRESSOR NOMENCLATURE



HFC Copeland Discus™ Compressors



Emerson Climate Technologies is leading the industry with environmentally responsible refrigerant solutions.

FEATURES

- HFC Ozone Friendly Refrigerants
- Wide 50 and 60 Hertz Selection Range
  3 to 80 Horsepower
  2.2 to 59.7 Kilowatts
- Efficient Energy Saving Discus Valve Design
- Proven Copeland® brand products Dependability
- Extensive Selection of Models for Commercial Refrigeration
- Rugged, Compact Construction for Heavy-Duty Usage
- Easily Accessible for Maintenance
- Wide Voltage Selection
- Full Maximum Load Rundown Capability
- Motor Protection on All Models
- Poloyol Ester Lubricant
- Oil Sight Glass on All Models
- "Sentronic" Compatible Oil Pump Included on All Models
- Capacity Control and Tandem Models Available

HFC COPELAND DISCUS™ COMPRESSOR STORY

In the past few years the use of chlorofluorocarbons (CFCs) in the refrigeration and air conditioning industry has become a major topic of discussion. With the signing of the Montreal Protocol and the 1992 Clean Air Act – and especially the decision to end CFC-production by Jan. 1, 1996, – many contractors and in-plant engineers have been in a turmoil as to what they should do. What refrigerants should they use? Should they retrofit their machines or buy new ones? Who can answer their questions?

Emerson Climate Technologies has been looking for answers to these and many other questions – and finding some – for more than six years now.

While the effort to move away from CFC-use with R22 was a proper initial response, Emerson Climate Technologies decided that it needed a long-term solution to the refrigerant problem since HCFCs will also be phased out. In October 1992, the company began replacing its Discus line of R12 reciprocating, semi-hermetic compressors with compressors designed to use the hydrofluorocarbon (HFC) 134a. Because HFCs do not contain any chlorine, they should not deplete the ozone layer.

While HFC134a works well for medium- and high-temperature applications, Emerson Climate Technologies decided that it needed a replacement for low- and medium-temperature applications previously supported by R502 and R22. At the January 1992 International Air-Conditioning Heating Refrigeration (IACHR) Exposition in Chicago, Emerson Climate Technologies announced an effort to release a full line of products using HFCs R404A/R407A/R507.

As with the standard Discus compressors the HFC Discus Compressors continue to offer the same energy efficiency and cost savings.

HFC Discus Compressors in this section of the catalog are found in the following order:

- Refrigerant Cooled
- Capacity Control
- Tandem
- Capacity Control Tandem

Refrigerant Cooled refers to the type of compressor motor cooling. Tandem compressors are those produced when two single compressors are bolted together to make one large compressor. In order to regulate the output of the compressor, Capacity Control compressors can be used as shown in their respective pages.

When it comes to refrigeration, people look to Emerson Climate Technologies to provide answers. We committed early in this process to not only develop new compressor lines around the new refrigerants but also to provide what input we could in regard to things like retrofitting and dealing with the whole service issue.

50 HERTZ

REFRIGERANT COOLED

CAPACITY BTUS/HOUR x 1000 *KCALS/HOUR x 1000* WATTS x 1000

R134a

MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6
2DF ★-030E 2DF3F16KE	3 2.2	749 21.2	100	37.8	64.2 *16.2* 18.8	51.9 *13.1* 15.2	41.6 *10.5* 12.2	33.0 *8.3* 9.7	25.7 *6.5* 7.5	19.5 *4.9* 5.7	16.7 *4.2* 4.9	14.1 *3.6* 4.1
			130	54.4	50.4 *12.7* 14.8	40.7 *10.3* 11.9	32.6 *8.2* 9.6	25.6 *6.5* 7.5	19.5 *4.9* 5.7	13.9 *3.5* 4.1	11.2 *2.8* 3.3	8.5 *2.1* 2.5
2DL★-040E 2DL3F20KE	4 3.0	835 23.6	100	37.8								
			130	54.4								
2DC ★-050E 2DC3R53KE	5 3.7	593 16.8	100	37.8								
			130	54.4								
2DD ★-050E 2DD3R63KE	5 3.7	682 19.3	100	37.8								
			130	54.4								
2DA ★-060E 2DA3F23KE	6 4.5	940 26.6	100	37.8	80.6 *20.3* 23.6	65.1 *16.4* 19.1	52.2 *13.2* 15.3	41.4 *10.4* 12.1	32.3 *8.1* 9.5	24.5 *6.2* 7.2	21.0 *5.3* 6.2	17.7 *4.5* 5.2
			130	54.4	63.2 *15.9* 18.5	51.1 *12.9* 15.0	40.9 *10.3* 12.0	32.1 *8.1* 9.4	24.5 *6.2* 7.2	17.5 *4.4* 5.1	14.1 *3.6* 4.1	10.7 *2.7* 3.1
2DB ★-060E 2DB3F25KE	6 4.5	987 27.9	100	37.8	84.5 *21.3* 24.8	68.3 *17.2* 20.0	54.7 *13.8* 16.0	43.4 *10.9* 12.7	33.9 *8.5* 9.9	25.7 *6.5* 7.5	22.0 *5.5* 6.4	18.5 *4.7* 5.4
			130	54.4	66.4 *16.7* 19.5	53.6 *13.5* 15.7	42.9 *10.8* 12.6	33.7 *8.5* 9.9	25.7 *6.5* 7.5	18.3 *4.6* 5.4	14.8 *3.7* 4.3	11.2 *2.8* 3.3
3DA★A060E 3DA3F28KE	6 4.5	1135 32.1	100	37.8	96.7 *24.4* 28.3	78.0 *19.7* 22.9	62.5 *15.8* 18.3	49.7 *12.5* 14.6	39.0 *9.8* 11.4	29.8 *7.5* 8.7	25.6 *6.5* 7.5	21.6 *5.4* 6.3
			130	54.4	75.9 *19.1* 22.2	61.2 *15.4* 17.9	49.0 *12.3* 14.4	38.7 *9.8* 11.3	29.9 *7.5* 8.8	21.9 *5.5* 6.4	18.1 *4.6* 5.3	14.2 *3.6* 4.2
2DL ★-075E 2DL3R78KE	7.5 5.6	835 23.6	100	37.8								
			130	54.4								
2DA ★-075E 2DA3R89KE	7.5 5.6	940 26.6	100	37.8								
			130	54.4								

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R404A/R407A/R507

EVAPORATING TEMPERATURE °F/°C

45 7.2	35 1.7	25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40
					29.5 *7.4* 8.6	26.0 *6.6* 7.6	22.7 *5.7* 6.7	16.9 *4.3* 5.0	12.1 *3.0* 3.5	8.3 *2.1* 2.4
					19.8 *5.0* 5.8	17.2 *4.3* 5.0	14.8 *3.7* 4.3	10.6 *2.7* 3.1	7.1 *1.8* 2.1	4.4 *1.1* 1.3
					35.3 *8.9* 10.3	31.2 *7.9* 9.1	27.4 *6.9* 8.0	20.8 *5.2* 6.1	15.4 *3.9* 4.5	10.9 *2.7* 3.2
					24.6 *6.2* 7.2	21.6 *5.4* 6.3	18.8 *4.7* 5.5	13.9 *3.5* 4.1	9.7 *2.4* 2.8	6.1 *1.5* 1.8
64.4 *16.2* 18.9	52.7 *13.3* 15.4	42.4 *10.7* 12.4	33.5 *8.4* 9.8	26.0 *6.6* 7.6	22.7 *5.7* 6.7	19.9 *5.0* 5.8	17.0 *4.3* 5.0			
44.7 *11.3* 13.1	36.3 *9.1* 10.6	29.0 *7.3* 8.5	22.6 *5.7* 6.6	17.2 *4.3* 5.0	14.8 *3.7* 4.3	12.7 *3.2* 3.7	10.6 *2.7* 3.1			
75.3 *19.0* 22.1	61.8 *15.6* 18.1	50.1 *12.6* 14.7	40.0 *10.1* 11.7	31.4 *7.9* 9.2	27.6 *7.0* 8.1	24.3 *6.1* 7.1	21.0 *5.3* 6.2			
53.4 *13.5* 15.6	43.6 *11.0* 12.8	35.0 *8.8* 10.3	27.7 *7.0* 8.1	21.4 *5.4* 6.3	18.7 *4.7* 5.5	16.3 *4.1* 4.8	13.8 *3.5* 4.0			
					40.2 *10.1* 11.8	35.6 *9.0* 10.4	31.4 *7.9* 9.2	24.1 *6.1* 7.1	18.0 *4.5* 5.3	12.9 *3.3* 3.8
					28.2 *7.1* 8.3	24.8 *6.2* 7.3	21.8 *5.5* 6.4	16.3 *4.1* 4.8	11.6 *2.9* 3.4	7.4 *1.9* 2.2
					42.7 *10.8* 12.5	37.8 *9.5* 11.1	33.3 *8.4* 9.8	25.4 *6.4* 7.4	18.9 *4.8* 5.5	13.6 *3.4* 4.0
					30.3 *7.6* 8.9	26.7 *6.7* 7.8	23.4 *5.9* 6.9	17.6 *4.4* 5.2	12.7 *3.2* 3.7	8.5 *2.1* 2.5
					47.5 *12.0* 13.9	42.1 *10.6* 12.3	37.0 *9.3* 10.8	28.0 *7.1* 8.2	20.7 *5.2* 6.1	15.0 *3.8* 4.4
					33.4 *8.4* 9.8	29.5 *7.4* 8.6	25.9 *6.5* 7.6	19.3 *4.9* 5.7	13.7 *3.5* 4.0	9.0 *2.3* 2.6
92.2 *23.2* 27.0	75.7 *19.1* 22.2	61.5 *15.5* 18.0	49.4 *12.4* 14.5	39.0 *9.8* 11.4	34.5 *8.7* 10.1	30.5 *7.7* 8.9	26.5 *6.7* 7.8			
66.2 *16.7* 19.4	54.1 *13.6* 15.9	43.8 *11.0* 12.8	35.0 *8.8* 10.3	27.5 *6.9* 8.1	24.1 *6.1* 7.1	21.1 *5.3* 6.2	18.1 *4.6* 5.3			
122.0 *30.7* 35.7	96.7 *24.4* 28.3	77.5 *19.5* 22.7	62.4 *15.7* 18.3	49.7 *12.5* 14.6	43.7 *11.0* 12.8	37.5 *9.5* 11.0	31.3 *7.9* 9.2			
82.8 *20.9* 24.3	63.1 *15.9* 18.5	49.0 *12.3* 14.4	38.8 *9.8* 11.4	30.8 *7.8* 9.0	27.2 *6.9* 8.0	23.3 *5.9* 6.8	19.4 *4.9* 5.7			

50 HERTZ

REFRIGERANT COOLED

CAPACITY BTUS/HOUR x 1000 *KCALS/HOUR x 1000* WATTS x 1000

R134a

MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6
3DA★A075E 3DA3R10ME	7.5 5.6	1135 32.1	100	37.8								
			130	54.4								
3DB★A075E 3DB3F33KE	7.5 5.6	1338 37.9	100	37.8	114.0 *28.7* 33.4	91.8 *23.1* 26.9	73.6 *18.5* 21.6	58.5 *14.7* 17.1	45.9 *11.6* 13.4	35.1 *8.8* 10.3	30.2 *7.6* 8.8	25.5 *6.4* 7.5
			130	54.4	89.4 *22.5* 26.2	72.0 *18.1* 21.1	57.7 *14.5* 16.9	45.6 *11.5* 13.4	35.2 *8.9* 10.3	25.9 *6.5* 7.6	21.3 *5.4* 6.2	16.8 *4.2* 4.9
3DF★A090E 3DF3F40KE	9 6.7	1586 44.9	100	37.8	134.0 *33.8* 39.3	108.0 *27.2* 31.6	86.8 *21.9* 25.4	68.9 *17.4* 20.2	54.1 *13.6* 15.9	41.7 *10.5* 12.2	36.3 *9.1* 10.6	31.4 *7.9* 9.2
			130	54.4	107.0 *27.0* 31.4	85.7 *21.6* 25.1	68.3 *17.2* 20.0	53.9 *13.6* 15.8	42.0 *10.6* 12.3	32.1 *8.1* 9.4	27.7 *7.0* 8.1	23.6 *5.9* 6.9
3DB★A100E 3DB3R12ME	10 7.5	1338 37.9	100	37.8								
			130	54.4								
3DS★A100E 3DS3F46KE	10 7.5	1762 49.9	100	37.8	148.0 *37.3* 43.4	120.0 *30.2* 35.2	96.1 *24.2* 28.2	76.3 *19.2* 22.4	59.9 *15.1* 17.6	46.2 *11.6* 13.5	40.2 *10.1* 11.8	34.7 *8.7* 10.2
			130	54.4	118.0 *29.7* 34.6	94.9 *23.9* 27.8	75.6 *19.1* 22.2	59.7 *15.0* 17.5	46.5 *11.7* 13.6	35.5 *8.9* 10.4	30.6 *7.7* 9.0	26.1 *6.6* 7.6
4DA★A100E 4DA★R12ME	10 7.5	1977 56.0	100	37.8	162.0 *40.8* 47.5	132.0 *33.3* 38.7	106.0 *26.7* 31.1	83.5 *21.0* 24.5	65.0 *16.4* 19.0	49.5 *12.5* 14.5	42.8 *10.8* 12.5	36.6 *9.2* 10.7
			130	54.4	128.0 *32.3* 37.5	104.0 *26.2* 30.5	82.9 *20.9* 24.3	65.3 *16.5* 19.1	50.5 *12.7* 14.8	38.0 *9.6* 11.1	32.4 *8.2* 9.5	27.3 *6.9* 8.0
4DA★A101E 4DA★F47KE	10 7.5	1977 56.0	100	37.8	162.0 *40.8* 47.5	132.0 *33.3* 38.7	106.0 *26.7* 31.1	83.5 *21.0* 24.5	65.0 *16.4* 19.0	49.5 *12.5* 14.5	42.8 *10.8* 12.5	36.6 *9.2* 10.7
			130	54.4	128.0 *32.3* 37.5	104.0 *26.2* 30.5	82.9 *20.9* 24.3	65.3 *16.5* 19.1	50.5 *12.7* 14.8	38.0 *9.6* 11.1	32.4 *8.2* 9.5	27.3 *6.9* 8.0
3DF★A120E 3DF3R15ME	12 9.0	1586 44.9	100	37.8								
			130	54.4								
3DS★A150E 3DS3R17ME	15 11.2	1762 49.9	100	37.8								
			130	54.4								

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R404A/R407A/R507

EVAPORATING TEMPERATURE °F/°C

45 7.2	35 1.7	25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40
124.0 *31.2* 36.3	99.5 *25.1* 29.2	80.2 *20.2* 23.5	64.7 *16.3* 19.0	52.0 *13.1* 15.2	46.4 *11.7* 13.6	41.2 *10.4* 12.1	35.9 *9.0* 10.5			
87.4 *22.0* 25.6	71.8 *18.1* 21.0	59.1 *14.9* 17.3	48.4 *12.2* 14.2	38.7 *9.8* 11.3	33.9 *8.5* 9.9	28.8 *7.3* 8.4	23.7 *6.0* 6.9			
					54.8 *13.8* 16.1	48.5 *12.2* 14.2	42.9 *10.8* 12.6	33.1 *8.3* 9.7	25.0 *6.3* 7.3	18.3 *4.6* 5.4
					40.4 *10.2* 11.8	35.9 *9.0* 10.5	31.8 *8.0* 9.3	24.3 *6.1* 7.1	17.6 *4.4* 5.2	11.2 *2.8* 3.3
					68.7 *17.3* 20.1	61.2 *15.4* 17.9	54.3 *13.7* 15.9	41.8 *10.5* 12.2	31.4 *7.9* 9.2	23.0 *5.8* 6.7
					49.4 *12.4* 14.5	43.7 *11.0* 12.8	38.4 *9.7* 11.3	29.2 *7.4* 8.6	21.6 *5.4* 6.3	15.8 *4.0* 4.6
147.0 *37.0* 43.1	121.0 *30.5* 35.5	98.3 *24.8* 28.8	79.4 *20.0* 23.3	63.4 *16.0* 18.6	56.3 *14.2* 16.5	49.9 *12.6* 14.6	43.4 *10.9* 12.7			
105.0 *26.5* 30.8	86.3 *21.7* 25.3	70.4 *17.7* 20.6	56.9 *14.3* 16.7	45.0 *11.3* 13.2	39.5 *10.0* 11.6	34.4 *8.7* 10.1	29.2 *7.4* 8.6			
					74.5 *18.8* 21.8	66.2 *16.7* 19.4	58.7 *14.8* 17.2	45.4 *11.4* 13.3	34.3 *8.6* 10.0	24.9 *6.3* 7.3
					54.2 *13.7* 15.9	47.9 *12.1* 14.0	42.1 *10.6* 12.3	32.2 *8.1* 9.4	24.1 *6.1* 7.1	17.4 *4.4* 5.1
					81.0 *20.4* 23.7	71.7 *18.1* 21.0	63.2 *15.9* 18.5	48.3 *12.2* 14.2	36.0 *9.1* 10.5	25.6 *6.5* 7.5
					57.1 *14.4* 16.7	50.4 *12.7* 14.8	44.2 *11.1* 13.0	33.1 *8.3* 9.7	23.3 *5.9* 6.8	14.4 *3.6* 4.2
					81.0 *20.4* 23.7	71.7 *18.1* 21.0	63.2 *15.9* 18.5	48.3 *12.2* 14.2	36.0 *9.1* 10.5	25.6 *6.5* 7.5
					57.1 *14.4* 16.7	50.4 *12.7* 14.8	44.2 *11.1* 13.0	33.1 *8.3* 9.7	23.3 *5.9* 6.8	14.4 *3.6* 4.2
174.0 *43.8* 51.0	146.0 *36.8* 42.8	120.0 *30.2* 35.2	97.3 *24.5* 28.5	77.6 *19.6* 22.7	69.0 *17.4* 20.2	61.5 *15.5* 18.0	54.0 *13.6* 15.8			
128.0 *32.3* 37.5	107.0 *27.0* 31.4	88.0 *22.2* 25.8	70.9 *17.9* 20.8	56.1 *14.1* 16.4	49.5 *12.5* 14.5	43.9 *11.1* 12.9	38.3 *9.7* 11.2			
193.0 *48.6* 56.5	161.0 *40.6* 47.2	133.0 *33.5* 39.0	108.0 *27.2* 31.6	86.0 *21.7* 25.2	76.4 *19.3* 22.4	68.1 *17.2* 20.0	59.8 *15.1* 17.5			
142.0 *35.8* 41.6	119.0 *30.0* 34.9	97.4 *24.5* 28.5	78.5 *19.8* 23.0	62.1 *15.6* 18.2	54.9 *13.8* 16.1	48.7 *12.3* 14.3	42.4 *10.7* 12.4			

50 HERTZ

REFRIGERANT COOLED

CAPACITY BTUS/HOUR x 1000 *KCALS/HOUR x 1000* WATTS x 1000

R134a

MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6
4DH★A150E 4DH★R16ME	15 11.2	2499 70.7	100	37.8	210.0 *52.9* 61.5	170.0 *42.8* 49.8	136.0 *34.3* 39.8	108.0 *27.2* 31.6	84.3 *21.2* 24.7	64.3 *16.2* 18.8	55.4 *14.0* 16.2	47.2 *11.9* 13.8
			130	54.4	166.0 *41.8* 48.6	133.0 *33.5* 39.0	105.0 *26.5* 30.8	82.3 *20.7* 24.1	63.6 *16.0* 18.6	48.3 *12.2* 14.2	41.7 *10.5* 12.2	35.7 *9.0* 10.5
4DL★A150E (OC) 4DL★F63KE	15 11.2	2499 70.7	100	37.8								
			130	54.4								
4DA★A200E 4DA★R18ME	20 14.9	1977 56.0	100	37.8								
			130	54.4								
4DJ★A200E 4DJ★R19ME	20 14.9	2985 84.5	100	37.8	250.0 *63.0* 73.3	203.0 *51.2* 59.5	163.0 *41.1* 47.8	129.0 *32.5* 37.8	101.0 *25.5* 29.6	76.6 *19.3* 22.4	66.0 *16.6* 19.3	56.2 *14.2* 16.5
			130	54.4	199.0 *50.1* 58.3	159.0 *40.1* 46.6	125.0 *31.5* 36.6	98.2 *24.7* 28.8	75.9 *19.1* 22.2	57.7 *14.5* 16.9	49.9 *12.6* 14.6	42.6 *10.7* 12.5
6DH★A200E 6DH★R23ME	20 14.9	3748 106.1	100	37.8	314.0 *79.1* 92.0	255.0 *64.3* 74.7	205.0 *51.7* 60.1	162.0 *40.8* 47.5	127.0 *32.0* 37.2	96.4 *24.3* 28.2	83.1 *20.9* 24.3	70.7 *17.8* 20.7
			130	54.4	250.0 *63.0* 73.3	199.0 *50.1* 58.3	158.0 *39.8* 46.3	123.0 *31.0* 36.0	95.4 *24.0* 28.0	72.5 *18.3* 21.2	62.6 *15.8* 18.3	53.5 *13.5* 15.7
4DT★A220E (OC) 4DT★F76KE	22 16.4	2985 84.5	100	37.8								
			130	54.4								
4DH★A250E 4DH★R22ME	25 18.7	2499 70.7	100	37.8								
			130	54.4								
6DL★A270E (OC) 6DL★F93KE	27 20.1	3748 106.1	100	37.8								
			130	54.4								
4DJ★A300E 4DJ★R28ME	30 22.4	2985 84.5	100	37.8								
			130	54.4								

(OC) Oil cooler and vertical cooling fan are standard on this model.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R404A/R407A/R507

EVAPORATING TEMPERATURE °F/°C

45 7.2	35 1.7	25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40
					105.0 *26.5* 30.8	93.4 *23.5* 27.4	82.9 *20.9* 24.3	64.7 *16.3* 19.0	49.4 *12.4* 14.5	35.5 *8.9* 10.4
					74.4 *18.7* 21.8	65.1 *16.4* 19.1	56.8 *14.3* 16.6	42.7 *10.8* 12.5	30.8 *7.8* 9.0	19.9 *5.0* 5.8
207.0 *52.2* 60.7	173.0 *43.6* 50.7	142.0 *35.8* 41.6	114.0 *28.7* 33.4	90.4 *22.8* 26.5	79.8 *20.1* 23.4	70.7 *17.8* 20.7	61.5 *15.5* 18.0			
150.0 *37.8* 44.0	124.0 *31.2* 36.3	100.0 *25.2* 29.3	79.7 *20.1* 23.4	61.9 *15.6* 18.1	54.0 *13.6* 15.8	47.4 *11.9* 13.9	40.8 *10.3* 12.0			
					123.0 *31.0* 36.0	109.0 *27.5* 31.9	95.5 *24.1* 28.0	72.8 *18.3* 21.3	54.1 *13.6* 15.9	39.1 *9.9* 11.5
					85.7 *21.6* 25.1	75.3 *19.0* 22.1	65.9 *16.6* 19.3	49.5 *12.5* 14.5	36.2 *9.1* 10.6	25.4 *6.4* 7.4
264.0 *66.5* 77.4	223.0 *56.2* 65.3	184.0 *46.4* 53.9	149.0 *37.5* 43.7	118.0 *29.7* 34.6	104.0 *26.2* 30.5	92.2 *23.2* 27.0	80.4 *20.3* 23.6			
196.0 *49.4* 57.4	163.0 *41.1* 47.8	133.0 *33.5* 39.0	107.0 *27.0* 31.4	83.6 *21.1* 24.5	73.8 *18.6* 21.6	66.1 *16.6* 19.4	58.3 *14.7* 17.1			
					155.0 *39.1* 45.4	137.0 *34.5* 40.1	121.0 *30.5* 35.5	93.1 *23.5* 27.3	70.9 *17.9* 20.8	52.8 *13.3* 15.5
					111.0 *28.0* 32.5	98.3 *24.8* 28.8	87.1 *21.9* 25.5	67.0 *16.9* 19.6	49.1 *12.4* 14.4	31.9 *8.0* 9.3
327.0 *82.4* 95.8	273.0 *68.8* 80.0	224.0 *56.4* 65.6	181.0 *45.6* 53.0	143.0 *36.0* 41.9	127.0 *32.0* 37.2	112.0 *28.2* 32.8	97.2 *24.5* 28.5			
233.0 *58.7* 68.3	193.0 *48.6* 56.5	157.0 *39.6* 46.0	126.0 *31.8* 36.9	98.9 *24.9* 29.0	87.3 *22.0* 25.6	77.3 *19.5* 22.6	67.3 *17.0* 19.7			

50 HERTZ

REFRIGERANT COOLED

CAPACITY BTUS/HOUR x 1000 *KCALS/HOUR x 1000* WATTS x 1000

R134a

MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6
6DJ★A300E (DS) 6DJ★R28ME	30 22.4	4478 126.8	100	37.8	375.0 *94.5* 110.0	304.0 *76.6* 89.1	244.0 *61.5* 71.5	193.0 *48.6* 56.5	151.0 *38.1* 44.2	115.0 *29.0* 33.7	99.1 *25.0* 29.0	84.3 *21.2* 24.7
			130	54.4	298.0 *75.1* 87.3	238.0 *60.0* 69.7	188.0 *47.4* 55.1	147.0 *37.0* 43.1	114.0 *28.7* 33.4	86.6 *21.8* 25.4	74.8 *18.8* 21.9	63.9 *16.1* 18.7
6DT★A300E (DS) (OC) 6DT★F11ME	30 22.4	4478 126.8	100	37.8								
			130	54.4								
6DH★A350E 6DH★R35ME	35 26.1	3748 106.1	100	37.8								
			130	54.4								
6DJ★A400E (DS) 6DJ★R40ME	40 29.8	4478 126.8	100	37.8								
			130	54.4								

(DS) Deep oil sump is standard on this model.
(OC) Oil cooler and vertical cooling fan are standard on this model.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R404A/R407A/R507

EVAPORATING TEMPERATURE °F/°C

45 7.2	35 1.7	25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40
					171.0 *43.1* 50.1	152.0 *38.3* 44.5	135.0 *34.0* 39.6	105.0 *26.5* 30.8	80.0 *20.2* 23.4	59.0 *14.9* 17.3
					123.0 *31.0* 36.0	110.0 *27.7* 32.2	97.0 *24.4* 28.4	75.1 *18.9* 22.0	56.1 *14.1* 16.4	38.1 *9.6* 11.2
399.0 *101.0* 117.0	329.0 *82.9* 96.4	269.0 *67.8* 78.8	217.0 *54.7* 63.6	173.0 *43.6* 50.7	153.0 *38.6* 44.8	137.0 *34.5* 40.1	121.0 *30.5* 35.5			
280.0 *70.6* 82.0	232.0 *58.5* 68.0	190.0 *47.9* 55.7	153.0 *38.6* 44.8	121.0 *30.5* 35.5	107.0 *27.0* 31.4	94.7 *23.9* 27.7	82.4 *20.8* 24.1			
473.0 *119.0* 139.0	391.0 *98.5* 115.0	319.0 *80.4* 93.5	258.0 *65.0* 75.6	206.0 *51.9* 60.4	184.0 *46.4* 53.9	165.0 *41.6* 48.3	145.0 *36.5* 42.5			
332.0 *83.7* 97.3	275.0 *69.3* 80.6	226.0 *57.0* 66.2	184.0 *46.4* 53.9	149.0 *37.5* 43.7	133.0 *33.5* 39.0	120.0 *30.2* 35.2	107.0 *27.0* 31.4			

50 HERTZ

REFRIGERANT COOLED TANDEMS

CAPACITY BTUS/HOUR x 1000 *KCALS/HOUR x 1000* WATTS x 1000

R134a

MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6
33E★A12AA 33DA3F56KE	12 9.0	2270 64.3	100	37.8	193.0 *48.6* 56.5	156.0 *39.3* 45.7	125.0 *31.5* 36.6	99.4 *25.0* 29.1	78.0 *19.7* 22.9	59.6 *15.0* 17.5	51.2 *12.9* 15.0	43.2 *10.9* 12.7
			130	54.4	152.0 *38.3* 44.5	122.0 *30.7* 35.7	98.0 *24.7* 28.7	77.4 *19.5* 22.7	59.8 *15.1* 17.5	43.8 *11.0* 12.8	36.2 *9.1* 10.6	28.4 *7.2* 8.3
33E★A15AA 33DA3R20ME	15 11.2	2270 64.3	100	37.8								
			130	54.4								
33E★A15BB 33DB3F66KE	15 11.2	2676 75.8	100	37.8	228.0 *57.5* 66.8	184.0 *46.4* 53.9	147.0 *37.0* 43.1	117.0 *29.5* 34.3	91.8 *23.1* 26.9	70.2 *17.7* 20.6	60.4 *15.2* 17.7	51.0 *12.9* 14.9
			130	54.4	179.0 *45.1* 52.4	144.0 *36.3* 42.2	115.0 *29.0* 33.7	91.2 *23.0* 26.7	70.4 *17.7* 20.6	51.8 *13.1* 15.2	42.6 *10.7* 12.5	33.6 *8.5* 9.8
33E★A18FF 33DF3F80KE	18 13.4	3172 89.8	100	37.8	268.0 *67.5* 78.5	216.0 *54.4* 63.3	174.0 *43.8* 51.0	138.0 *34.8* 40.4	108.0 *27.2* 31.6	83.4 *21.0* 24.4	72.6 *18.3* 21.3	62.8 *15.8* 18.4
			130	54.4	214.0 *53.9* 62.7	171.0 *43.1* 50.1	137.0 *34.5* 40.1	108.0 *27.2* 31.6	84.0 *21.2* 24.6	64.2 *16.2* 18.8	55.4 *14.0* 16.2	47.2 *11.9* 13.8
33E★A20BB 33DB3R24ME	20 14.9	2676 75.8	100	37.8								
			130	54.4								
33E★A20SS 33DS3F92KE	20 14.9	3524 99.8	100	37.8	296.0 *74.6* 86.7	240.0 *60.5* 70.3	192.0 *48.4* 56.3	153.0 *38.6* 44.8	120.0 *30.2* 35.2	92.4 *23.3* 27.1	80.4 *20.3* 23.6	69.4 *17.5* 20.3
			130	54.4	236.0 *59.5* 69.1	190.0 *47.9* 55.7	151.0 *38.1* 44.2	119.0 *30.0* 34.9	93.0 *23.4* 27.2	71.0 *17.9* 20.8	61.2 *15.4* 17.9	52.2 *13.2* 15.3
44E★A20AA 44DA★R24ME	20 14.9	3954 111.9	100	37.8	324.0 *81.6* 94.9	264.0 *66.5* 77.4	212.0 *53.4* 62.1	167.0 *42.1* 48.9	130.0 *32.8* 38.1	99.0 *24.9* 29.0	85.6 *21.6* 25.1	73.2 *18.4* 21.4
			130	54.4	256.0 *64.5* 75.0	208.0 *52.4* 60.9	166.0 *41.8* 48.6	131.0 *33.0* 38.4	101.0 *25.5* 29.6	76.0 *19.2* 22.3	64.8 *16.3* 19.0	54.6 *13.8* 16.0
44E★A21AA 44DA★F94KE	20 14.9	3954 111.9	100	37.8	324.0 *81.6* 94.9	264.0 *66.5* 77.4	212.0 *53.4* 62.1	167.0 *42.1* 48.9	130.0 *32.8* 38.1	99.0 *24.9* 29.0	85.6 *21.6* 25.1	73.2 *18.4* 21.4
			130	54.4	256.0 *64.5* 75.0	208.0 *52.4* 60.9	166.0 *41.8* 48.6	131.0 *33.0* 38.4	101.0 *25.5* 29.6	76.0 *19.2* 22.3	64.8 *16.3* 19.0	54.6 *13.8* 16.0
33E★A24FF 33DF3R30ME	24 17.9	3172 89.8	100	37.8								
			130	54.4								

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R404A/R407A/R507

EVAPORATING TEMPERATURE °F/°C

45 7.2	35 1.7	25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40
					95.0 *23.9* 27.8	84.2 *21.2* 24.7	74.0 *18.6* 21.7	56.0 *14.1* 16.4	41.4 *10.4* 12.1	30.0 *7.6* 8.8
					66.8 *16.8* 19.6	59.0 *14.9* 17.3	51.8 *13.1* 15.2	38.6 *9.7* 11.3	27.4 *6.9* 8.0	18.0 *4.5* 5.3
248.0 *62.5* 72.7	199.0 *50.1* 58.3	160.0 *40.4* 47.0	129.0 *32.6* 37.9	104.0 *26.2* 30.5	92.8 *23.4* 27.2	82.3 *20.7* 24.1	71.8 *18.1* 21.0			
175.0 *44.0* 51.2	144.0 *36.2* 42.1	118.0 *29.8* 34.6	96.8 *24.4* 28.4	77.4 *19.5* 22.7	67.8 *17.1* 19.9	57.6 *14.5* 16.9	47.4 *11.9* 13.9			
					110.0 *27.6* 32.1	97.0 *24.4* 28.4	85.8 *21.6* 25.1	66.2 *16.7* 19.4	50.0 *12.6* 14.7	36.6 *9.2* 10.7
					80.8 *20.4* 23.7	71.8 *18.1* 21.0	63.6 *16.0* 18.6	48.6 *12.2* 14.2	35.2 *8.9* 10.3	22.4 *5.6* 6.6
					137.0 *34.6* 40.3	122.0 *30.8* 35.9	109.0 *27.4* 31.8	83.6 *21.1* 24.5	62.8 *15.8* 18.4	46.0 *11.6* 13.5
					98.8 *24.9* 28.9	87.4 *22.0* 25.6	76.8 *19.4* 22.5	58.4 *14.7* 17.1	43.2 *10.9* 12.7	31.6 *8.0* 9.3
294.0 *74.1* 86.1	242.0 *61.0* 70.9	197.0 *49.5* 57.6	159.0 *40.0* 46.5	127.0 *32.0* 37.2	113.0 *28.4* 33.0	99.7 *25.1* 29.2	86.8 *21.9* 25.4			
210.0 *52.9* 61.5	173.0 *43.5* 50.6	141.0 *35.5* 41.3	114.0 *28.7* 33.3	90.0 *22.7* 26.4	79.0 *19.9* 23.1	68.7 *17.3* 20.1	58.4 *14.7* 17.1			
					149.0 *37.5* 43.7	132.0 *33.4* 38.8	117.0 *29.6* 34.4	90.8 *22.9* 26.6	68.6 *17.3* 20.1	49.8 *12.5* 14.6
					108.0 *27.3* 31.8	95.8 *24.1* 28.1	84.2 *21.2* 24.7	64.4 *16.2* 18.9	48.2 *12.1* 14.1	34.8 *8.8* 10.2
					162.0 *40.8* 47.5	143.0 *36.1* 42.0	126.0 *31.9* 37.0	96.6 *24.3* 28.3	72.0 *18.1* 21.1	51.2 *12.9* 15.0
					114.0 *28.8* 33.5	101.0 *25.4* 29.5	88.4 *22.3* 25.9	66.2 *16.7* 19.4	46.6 *11.7* 13.7	28.8 *7.3* 8.4
					162.0 *40.8* 47.5	143.0 *36.1* 42.0	126.0 *31.9* 37.0	96.6 *24.3* 28.3	72.0 *18.1* 21.1	51.2 *12.9* 15.0
					114.0 *28.8* 33.5	101.0 *25.4* 29.5	88.4 *22.3* 25.9	66.2 *16.7* 19.4	46.6 *11.7* 13.7	28.8 *7.3* 8.4
348.0 *87.7* 102.0	292.0 *73.6* 85.6	240.0 *60.5* 70.3	195.0 *49.0* 57.0	155.0 *39.1* 45.5	138.0 *34.8* 40.4	123.0 *31.0* 36.0	108.0 *27.2* 31.6			
256.0 *64.5* 75.0	214.0 *53.9* 62.7	176.0 *44.4* 51.6	142.0 *35.7* 41.5	112.0 *28.3* 32.9	99.0 *24.9* 29.0	87.8 *22.1* 25.7	76.6 *19.3* 22.4			

50 HERTZ

REFRIGERANT COOLED TANDEMS

CAPACITY BTUS/HOUR x 1000 *KCALS/HOUR x 1000* WATTS x 1000

R134a

MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6
33E★A30SS 33DS3R34ME	30 22.4	3524 99.8	100	37.8								
			130	54.4								
44E★A30HH 44DH★R32ME	30 22.4	4998 141.5	100	37.8	420.0 *106.0* 123.0	340.0 *85.7* 99.6	272.0 *68.5* 79.7	216.0 *54.4* 63.3	169.0 *42.6* 49.5	129.0 *32.5* 37.8	111.0 *28.0* 32.5	94.4 *23.8* 27.7
			130	54.4	332.0 *83.7* 97.3	266.0 *67.0* 77.9	210.0 *52.9* 61.5	165.0 *41.6* 48.3	127.0 *32.0* 37.2	96.6 *24.3* 28.3	83.4 *21.0* 24.4	71.4 *18.0* 20.9
44E★A30LL (OC) 44DL★F13ME	30 22.4	4998 141.5	100	37.8								
			130	54.4								
44E★A40AA 44DA★R36ME	40 29.8	3954 111.9	100	37.8								
			130	54.4								
44E★A40JJ 44DJ★R38ME	40 29.8	5970 169.0	100	37.8	500.0 *126.0* 147.0	406.0 *102.0* 119.0	326.0 *82.2* 95.5	258.0 *65.0* 75.6	202.0 *50.9* 59.2	153.0 *38.6* 44.8	132.0 *33.3* 38.7	112.0 *28.2* 32.8
			130	54.4	398.0 *100.0* 117.0	318.0 *80.1* 93.2	250.0 *63.0* 73.3	196.0 *49.4* 57.4	152.0 *38.3* 44.5	115.0 *29.0* 33.7	99.8 *25.1* 29.2	85.2 *21.5* 25.0
66E★A40HH 66DH★R46ME	40 29.8	7496 212.2	100	37.8	628.0 *158.0* 184.0	510.0 *129.0* 149.0	410.0 *103.0* 120.0	324.0 *81.6* 94.9	254.0 *64.0* 74.4	193.0 *48.6* 56.5	166.0 *41.8* 48.6	141.0 *35.5* 41.3
			130	54.4	500.0 *126.0* 147.0	398.0 *100.0* 117.0	316.0 *79.6* 92.6	246.0 *62.0* 72.1	191.0 *48.1* 56.0	145.0 *36.5* 42.5	125.0 *31.5* 36.6	107.0 *27.0* 31.4
44E★A44TT (OC) 44DT★F15ME	44 32.8	5970 169.0	100	37.8								
			130	54.4								

(OC) Oil coolers and vertical cooling fans are standard on this model.

Copelametic®

HFC COPELAND DISCUS™ COMPRESSORS

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R404A/R407A/R507

EVAPORATING TEMPERATURE °F/°C

45 7.2	35 1.7	25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40
386.0 *97.3* 113.0	322.0 *81.1* 94.3	266.0 *67.0* 77.9	216.0 *54.4* 63.3	172.0 *43.3* 50.4	153.0 *38.5* 44.8	136.0 *34.3* 39.9	120.0 *30.1* 35.0			
284.0 *71.6* 83.2	238.0 *60.0* 69.7	195.0 *49.1* 57.1	157.0 *39.6* 46.0	124.0 *31.3* 36.4	110.0 *27.7* 32.2	97.3 *24.5* 28.5	84.8 *21.4* 24.8			
					210.0 *52.9* 61.5	187.0 *47.1* 54.7	166.0 *41.8* 48.6	129.0 *32.6* 37.9	98.8 *24.9* 28.9	71.0 *17.9* 20.8
					149.0 *37.5* 43.6	130.0 *32.8* 38.1	114.0 *28.6* 33.3	85.4 *21.5* 25.0	61.6 *15.5* 18.0	39.8 *10.0* 11.7
414.0 *104.0* 121.0	346.0 *87.2* 101.0	284.0 *71.6* 83.2	228.0 *57.5* 66.8	181.0 *45.6* 53.0	160.0 *40.2* 46.8	141.0 *35.6* 41.4	123.0 *31.0* 36.0			
300.0 *75.6* 87.9	248.0 *62.5* 72.7	200.0 *50.4* 58.6	159.0 *40.2* 46.7	124.0 *31.2* 36.3	108.0 *27.2* 31.6	94.8 *23.9* 27.8	81.6 *20.6* 23.9			
					246.0 *62.0* 72.1	218.0 *54.9* 63.9	191.0 *48.1* 56.0	146.0 *36.7* 42.7	108.0 *27.3* 31.7	78.2 *19.7* 22.9
					171.0 *43.2* 50.2	151.0 *38.0* 44.1	132.0 *33.2* 38.6	99.0 *24.9* 29.0	72.4 *18.2* 21.2	50.8 *12.8* 14.9

50 HERTZ

REFRIGERANT COOLED TANDEMS

CAPACITY BTUS/HOUR x 1000 *KCALS/HOUR x 1000* WATTS x 1000

R134a

MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6
44E★A50HH 44DH★R44ME	50 37.3	4998 141.5	100	37.8								
			130	54.4								
66E★A54LL (OC) 66DL★F19ME	54 40.3	7496 212.2	100	37.8								
			130	54.4								
44E★A60JJ 44DJ★R56ME	60 44.8	5970 169.0	100	37.8								
			130	54.4								
66E★A60JJ (DS) 66DJ★R56ME	60 44.8	8956 253.5	100	37.8	750.0 *189.0* 220.0	608.0 *153.0* 178.0	488.0 *123.0* 143.0	386.0 *97.3* 113.0	302.0 *76.1* 88.5	230.0 *58.0* 67.4	198.0 *49.9* 58.0	169.0 *42.6* 49.5
			130	54.4	596.0 *150.0* 175.0	476.0 *120.0* 140.0	376.0 *94.8* 110.0	294.0 *74.1* 86.1	228.0 *57.5* 66.8	173.0 *43.6* 50.7	150.0 *37.8* 44.0	128.0 *32.3* 37.5
66E★A60TT (DS) (OC) 66DT★F22ME	60 44.8	8956 253.5	100	37.8								
			130	54.4								
66E★A70HH 66DH★R70ME	70 52.2	7496 212.2	100	37.8								
			130	54.4								
66E★A80JJ (DS) 66DJ★R80ME	80 59.7	8956 253.5	100	37.8								
			130	54.4								

(OC) Oil coolers and vertical cooling fans are standard on this model.
(DS) Deep oil sumps are standard on this model.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R404A/R407A/R507

EVAPORATING TEMPERATURE °F/°C

45 7.2	35 1.7	25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40
528.0 *133.0* 155.0	446.0 *112.0* 131.0	368.0 *92.7* 108.0	298.0 *75.1* 87.3	236.0 *59.5* 69.1	208.0 *52.4* 60.9	184.0 *46.5* 54.0	161.0 *40.5* 47.1			
392.0 *98.8* 115.0	326.0 *82.2* 95.5	266.0 *67.0* 77.9	214.0 *53.9* 62.7	167.0 *42.1* 49.0	148.0 *37.2* 43.2	132.0 *33.3* 38.7	117.0 *29.4* 34.2			
					310.0 *78.1* 90.8	274.0 *69.0* 80.3	242.0 *61.0* 70.9	186.0 *46.9* 54.6	142.0 *35.7* 41.5	106.0 *26.6* 30.9
					222.0 *55.9* 65.0	197.0 *49.5* 57.6	174.0 *43.9* 51.0	134.0 *33.8* 39.3	98.2 *24.7* 28.8	63.8 *16.1* 18.7
654.0 *165.0* 192.0	546.0 *138.0* 160.0	448.0 *113.0* 131.0	362.0 *91.2* 106.0	286.0 *72.1* 83.8	254.0 *64.0* 74.4	224.0 *56.4* 65.6	194.0 *49.0* 57.0			
466.0 *117.0* 137.0	386.0 *97.3* 113.0	314.0 *79.1* 92.0	252.0 *63.5* 73.8	198.0 *49.8* 58.0	175.0 *44.0* 51.2	155.0 *39.0* 45.3	135.0 *33.9* 39.4			
					342.0 *86.2* 100.0	304.0 *76.6* 89.1	270.0 *68.0* 79.1	210.0 *52.9* 61.5	160.0 *40.3* 46.9	118.0 *29.7* 34.6
					246.0 *62.0* 72.1	220.0 *55.4* 64.5	194.0 *48.9* 56.8	150.0 *37.9* 44.0	112.0 *28.3* 32.9	76.2 *19.2* 22.3
798.0 *202.0* 234.0	658.0 *166.0* 193.0	538.0 *136.0* 158.0	434.0 *109.0* 127.0	346.0 *87.2* 101.0	306.0 *77.1* 89.7	274.0 *69.0* 80.3	242.0 *61.0* 70.9			
560.0 *141.0* 164.0	464.0 *117.0* 136.0	380.0 *95.8* 111.0	306.0 *77.1* 89.7	242.0 *61.0* 70.9	214.0 *53.9* 62.7	189.0 *47.7* 55.5	165.0 *41.5* 48.3			
946.0 *238.0* 278.0	782.0 *197.0* 230.0	638.0 *161.0* 187.0	516.0 *130.0* 151.0	412.0 *104.0* 121.0	368.0 *92.7* 108.0	330.0 *83.2* 96.7	290.0 *73.1* 85.0			
664.0 *167.0* 195.0	550.0 *139.0* 161.0	452.0 *114.0* 132.0	368.0 *92.7* 108.0	298.0 *75.1* 87.3	266.0 *67.0* 77.9	240.0 *60.5* 70.3	214.0 *53.9* 62.7			

50 HERTZ

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

REFRIGERANT COOLED CAPACITY CONTROL

R134a

CAPACITY CONTROL MODEL	BASIC COMPRESSOR MODEL	HP / kW	CFH m³/hr / 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6
4DE★A100E 50% Unloaded 4DE★R12ME	4DA★A100E 4DA★R12ME	10 7.5	1977 56.0	100	37.8	81.0 *20.4* 23.8	66.0 *16.7* 19.4	53.0 *13.4* 15.6	41.8 *10.5* 12.3	32.5 *8.2* 9.5	24.8 *6.3* 7.3	21.4 *5.4* 6.3	18.3 *4.6* 5.4
				130	54.4	64.0 *16.2* 18.8	52.0 *13.1* 15.3	41.5 *10.5* 12.2	32.7 *8.3* 9.6	25.3 *6.4* 7.4	19.0 *4.8* 5.6	16.2 *4.1* 4.8	13.7 *3.5* 4.0
4DN★A100E 50% Unloaded (OC) 4DN★R12ME	4DA★A100E 4DA★R12ME	10 7.5	1977 56.0	100	37.8								
				130	54.4								
4DE★A101E 50% Unloaded 4DE★F47KE	4DA★A101E 4DA★F47KE	10 7.5	1977 56.0	100	37.8	81.0 *20.4* 23.8	66.0 *16.7* 19.4	53.0 *13.4* 15.6	41.8 *10.5* 12.3	32.5 *8.2* 9.5	24.8 *6.3* 7.3	21.4 *5.4* 6.3	18.3 *4.6* 5.4
				130	54.4	64.0 *16.2* 18.8	52.0 *13.1* 15.3	41.5 *10.5* 12.2	32.7 *8.3* 9.6	25.3 *6.4* 7.4	19.0 *4.8* 5.6	16.2 *4.1* 4.8	13.7 *3.5* 4.0
4DN★A101E 50% Unloaded (OC) 4DN★F47KE	4DA★A101E 4DA★F47KE	10 7.5	1977 56.0	100	37.8								
				130	54.4								
4DK★A150E 50% Unloaded 4DK★R16ME	4DH★A150E 4DH★R16ME	15 11.2	2499 70.7	100	37.8	105.0 *26.5* 30.8	85.0 *21.4* 24.9	68.0 *17.2* 19.9	54.0 *13.6* 15.8	42.2 *10.6* 12.4	32.2 *8.1* 9.4	27.7 *7.0* 8.1	23.6 *6.0* 6.9
				130	54.4	83.0 *20.9* 24.3	66.5 *16.8* 19.5	52.5 *13.3* 15.4	41.2 *10.4* 12.1	31.8 *8.0* 9.3	24.2 *6.1* 7.1	20.9 *5.3* 6.1	17.9 *4.5* 5.3
4DP★A150E 50% Unloaded (OC) 4DP★F63KE	4DL★A150E 4DL★F63KE	15 11.2	2499 70.7	100	37.8								
				130	54.4								
4DE★A200E 50% Unloaded 4DE★R18ME	4DA★A200E 4DA★R18ME	20 14.9	1977 56.0	100	37.8								
				130	54.4								
4DR★A200E 50% Unloaded 4DR★R19ME	4DJ★A200E 4DJ★R19ME	20 14.9	2985 84.5	100	37.8	125.0 *31.5* 36.7	102.0 *25.6* 29.8	81.5 *20.6* 23.9	64.5 *16.3* 18.9	50.5 *12.8* 14.8	38.3 *9.7* 11.2	33.0 *8.3* 9.7	28.1 *7.1* 8.3
				130	54.4	99.5 *25.1* 29.2	79.5 *20.1* 23.3	62.5 *15.8* 18.3	49.1 *12.4* 14.4	38.0 *9.6* 11.1	28.9 *7.3* 8.5	25.0 *6.3* 7.3	21.3 *5.4* 6.3
6DK★A200E 33% Unloaded 6DK★R23ME	6DH★A200E 6DH★R23ME	20 14.9	3748 106.1	100	37.8	220.0 *55.4* 64.4	179.0 *45.0* 52.3	144.0 *36.2* 42.1	113.0 *28.6* 33.3	88.9 *22.4* 26.0	67.5 *17.0* 19.7	58.2 *14.6* 17.0	49.5 *12.5* 14.5
				130	54.4	175.0 *44.1* 51.3	139.0 *35.1* 40.8	111.0 *27.9* 32.4	86.1 *21.7* 25.2	66.8 *16.8* 19.6	50.8 *12.8* 14.8	43.8 *11.1* 12.8	37.5 *9.5* 11.0
6DP★A200E 67% Unloaded 6DP★R23ME	6DH★A200E 6DH★R23ME	20 14.9	3748 106.1	100	37.8	113.0 *28.5* 33.1	91.8 *23.1* 26.9	73.8 *18.6* 21.6	58.3 *14.7* 17.1	45.7 *11.5* 13.4	34.7 *8.7* 10.2	29.9 *7.5* 8.7	25.5 *6.4* 7.5
				130	54.4	90.0 *22.7* 26.4	71.6 *18.0* 21.0	56.9 *14.3* 16.7	44.3 *11.2* 13.0	34.3 *8.6* 10.1	26.1 *6.6* 7.6	22.5 *5.7* 6.6	19.3 *4.9* 5.7

(OC) Oil cooler and vertical cooling fan are standard on this model.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R404A/R407A/R507

EVAPORATING TEMPERATURE °F/°C

45 7.2	35 1.7	25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40
					40.5 *10.2* 11.9	35.9 *9.0* 10.5	31.6 *8.0* 9.3	24.2 *6.1* 7.1	18.0 *4.5* 5.3	12.8 *3.2* 3.8
					28.6 *7.2* 8.4	25.2 *6.4* 7.4	22.1 *5.6* 6.5	16.6 *4.2* 4.8	11.7 *2.9* 3.4	7.2 *1.8* 2.1
					40.5 *10.2* 11.9	35.9 *9.0* 10.5	31.6 *8.0* 9.3	24.2 *6.1* 7.1	18.0 *4.5* 5.3	12.8 *3.2* 3.8
					28.6 *7.2* 8.4	25.2 *6.4* 7.4	22.1 *5.6* 6.5	16.6 *4.2* 4.8	11.7 *2.9* 3.4	7.2 *1.8* 2.1
					52.5 *13.2* 15.4	46.7 *11.8* 13.7	41.5 *10.4* 12.1	32.4 *8.2* 9.5	24.7 *6.2* 7.2	17.8 *4.5* 5.2
					37.2 *9.4* 10.9	32.6 *8.2* 9.5	28.4 *7.2* 8.3	21.4 *5.4* 6.3	15.4 *3.9* 4.5	10.0 *2.5* 2.9
104.0 *26.1* 30.3	86.5 *21.8* 25.3	71.0 *17.9* 20.8	57.0 *14.4* 16.7	45.2 *11.4* 13.2	39.9 *10.1* 11.7	35.3 *8.9* 10.4				
75.0 *18.9* 22.0	62.0 *15.6* 18.2	50.0 *12.6* 14.7	39.9 *10.0* 11.7	31.0 *7.8* 9.1	27.0 *6.8* 7.9	23.7 *6.0* 6.9				

50 HERTZ

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

REFRIGERANT COOLED CAPACITY CONTROL

R134a

CAPACITY CONTROL MODEL	BASIC COMPRESSOR MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6
4DS★A220E 50% Unloaded (OC) 4DS★F76KE	4DT★A220E 4DT★F76KE	22 16.4	2985 84.5	100	37.8								
				130	54.4								
4DK★A250E 50% Unloaded 4DK★R22ME	4DH★A250E 4DH★R22ME	25 18.7	2499 70.7	100	37.8								
				130	54.4								
6DC★A270E 33% Unloaded (OC) 6DC★F93KE	6DL★A270E 6DL★F93KE	27 20.1	3748 106.1	100	37.8								
				130	54.4								
6DD★A270E 67% Unloaded (OC) 6DD★F93KE	6DL★A270E 6DL★F93KE	27 20.1	3748 106.1	100	37.8								
				130	54.4								
4DR★A300E 50% Unloaded 4DR★R28ME	4DJ★A300E 4DJ★R28ME	30 22.4	2985 84.5	100	37.8								
				130	54.4								
6DR★A300E 33% Unloaded (DS) 6DR★R28ME	6DJ★A300E 6DJ★R28ME	30 22.4	4478 126.8	100	37.8	263.0 *66.2* 77.0	213.0 *53.6* 62.4	171.0 *43.1* 50.1	135.0 *34.0* 39.6	106.0 *26.7* 30.9	80.5 *20.3* 23.6	69.4 *17.5* 20.3	59.0 *14.8* 17.3
				130	54.4	209.0 *52.6* 61.1	167.0 *42.0* 48.8	132.0 *33.2* 38.6	103.0 *25.9* 30.2	79.8 *20.1* 23.4	60.6 *15.3* 17.8	52.4 *13.2* 15.3	44.7 *11.3* 13.1
6DS★A300E 67% Unloaded (DS) 6DS★R28ME	6DJ★A300E 6DJ★R28ME	30 22.4	4478 126.8	100	37.8	135.0 *34.0* 39.6	109.0 *27.6* 32.1	87.8 *22.1* 25.7	69.5 *17.5* 20.3	54.4 *13.7* 15.9	41.4 *10.4* 12.1	35.7 *9.0* 10.4	30.3 *7.6* 8.9
				130	54.4	107.0 *27.0* 31.4	85.7 *21.6* 25.1	67.7 *17.1* 19.8	52.9 *13.3* 15.5	41.0 *10.3* 12.0	31.2 *7.8* 9.1	26.9 *6.8* 7.9	23.0 *5.8* 6.7

(OC) Oil cooler and vertical cooling fan are standard on this model.
(DS) Deep oil sump is standard on this model.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R404A/R407A/R507

EVAPORATING TEMPERATURE °F/°C

45 7.2	35 1.7	25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40
					61.5 *15.5* 18.0	54.5 *13.7* 16.0	47.8 *12.0* 14.0	36.4 *9.2* 10.7	27.1 *6.8* 7.9	19.6 *4.9* 5.7
					42.9 *10.8* 12.6	37.7 *9.5* 11.0	33.0 *8.3* 9.7	24.8 *6.2* 7.3	18.1 *4.6* 5.3	12.7 *3.2* 3.7
132.0 *33.3* 38.7	112.0 *28.1* 32.7	92.0 *23.2* 27.0	74.5 *18.8* 21.8	59.0 *14.9* 17.3	52.0 *13.1* 15.2	46.1 *11.6* 13.5				
98.0 *24.7* 28.7	81.5 *20.5* 23.9	66.5 *16.8* 19.5	53.5 *13.5* 15.7	41.8 *10.5* 12.2	36.9 *9.3* 10.8	33.0 *8.3* 9.7				
					109.0 *27.3* 31.8	95.9 *24.2* 28.1	84.7 *21.3* 24.8	65.2 *16.4* 19.1	49.6 *12.5* 14.5	37.0 *9.3* 10.8
					77.7 *19.6* 22.8	68.8 *17.3* 20.2	61.0 *15.4* 17.9	46.9 *11.8* 13.7	34.4 *8.7* 10.1	22.3 *5.6* 6.5
					55.8 *14.1* 16.3	49.3 *12.4* 14.5	43.6 *11.0* 12.8	33.5 *8.4* 9.8		
					40.0 *10.1* 11.7	35.4 *8.9* 10.4	31.4 *7.9* 9.2	24.1 *6.1* 7.1		
164.0 *41.2* 47.9	137.0 *34.4* 40.0	112.0 *28.2* 32.8	90.5 *22.8* 26.5	71.5 *18.0* 20.9	63.5 *16.0* 18.6	56.0 *14.1* 16.4				
117.0 *29.4* 34.1	96.5 *24.3* 28.3	78.5 *19.8* 23.0	63.0 *15.9* 18.5	49.5 *12.5* 14.5	43.7 *11.0* 12.8	38.7 *9.7* 11.3				

50 HERTZ

CAPACITY BTUS/HOUR x 1000 *KCALS/HOUR x 1000* WATTS x 1000

REFRIGERANT COOLED CAPACITY CONTROL

R134a

CAPACITY CONTROL MODEL	BASIC COMPRESSOR MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6
6DE★A300E 33% Unloaded (DS) (OC) 6DE★F11ME	6DT★A300E 6DT★F11ME	30 22.4	4478 126.8	100	37.8								
				130	54.4								
6DF★A300E 67% Unloaded (DS) (OC) 6DF★F11ME	6DT★A300E 6DT★F11ME	30 22.4	4478 126.8	100	37.8								
				130	54.4								
6DK★A350E 33% Unloaded 6DK★R35ME	6DH★A350E 6DH★R35ME	35 26.1	3748 106.1	100	37.8								
				130	54.4								
6DP★A350E 67% Unloaded 6DP★R35ME	6DH★A350E 6DH★R35ME	35 26.1	3748 106.1	100	37.8								
				130	54.4								
6DR★A400E 33% Unloaded (DS) 6DR★R40ME	6DJ★A400E 6DJ★R40ME	40 29.8	4478 126.8	100	37.8								
				130	54.4								
6DS★A400E 67% Unloaded (DS) 6DS★R40ME	6DJ★A400E 6DJ★R40ME	40 29.8	4478 126.8	100	37.8								
				130	54.4								

(DS) Deep oil sump is standard on this model.
(OC) Oil cooler and vertical cooling fan are standard on this model.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R404A/R407A/R507

EVAPORATING TEMPERATURE °F/°C

45 7.2	35 1.7	25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40
					120.0 *30.2* 35.1	106.0 *26.8* 31.2	94.5 *23.8* 27.7	73.5 *18.5* 21.5	56.0 *14.1* 16.4	41.3 *10.4* 12.1
					86.1 *21.7* 25.2	77.0 *19.4* 22.6	67.9 *17.1* 19.9	52.6 *13.2* 15.4	39.3 *9.9* 11.5	26.7 *6.7* 7.8
					61.6 *15.5* 18.0	54.7 *13.8* 16.0	48.6 *12.2* 14.2	37.8 *9.5* 11.1		
					44.3 *11.2* 13.0	39.6 *10.0* 11.6	34.9 *8.8* 10.2	27.0 *6.8* 7.9		
279.0 *70.7* 81.9	230.0 *58.0* 67.5	188.0 *47.5* 55.2	152.0 *38.3* 44.5	121.0 *30.5* 35.5	107.0 *27.0* 31.4	95.9 *24.2* 28.1				
196.0 *49.4* 57.4	162.0 *40.9* 47.6	133.0 *33.5* 39.0	107.0 *27.0* 31.4	84.7 *21.3* 24.8	74.9 *18.9* 21.9	66.3 *16.7* 19.4				
144.0 *36.4* 42.1	118.0 *29.8* 34.7	96.8 *24.4* 28.4	78.1 *19.7* 22.9	62.3 *15.7* 18.2	55.1 *13.9* 16.1	49.3 *12.4* 14.5				
101.0 *25.4* 29.5	83.5 *21.0* 24.5	68.4 *17.2* 20.0	55.1 *13.9* 16.1	43.6 *11.0* 12.8	38.5 *9.7* 11.3	34.1 *8.6* 10.0				
331.0 *83.3* 97.3	274.0 *69.0* 80.5	223.0 *56.3* 65.4	181.0 *45.5* 52.9	144.0 *36.3* 42.3	129.0 *32.5* 37.7	116.0 *29.1* 33.8				
232.0 *58.6* 68.1	193.0 *48.5* 56.4	158.0 *39.9* 46.4	129.0 *32.5* 37.7	104.0 *26.3* 30.6	93.1 *23.5* 27.3	84.0 *21.2* 24.6				
170.0 *42.8* 50.0	141.0 *35.5* 41.4	115.0 *28.9* 33.6	92.9 *23.4* 27.2	74.2 *18.7* 21.7	66.2 *16.7* 19.4	59.4 *15.0* 17.4				
120.0 *30.1* 35.0	99.0 *24.9* 29.0	81.4 *20.5* 23.8	66.2 *16.7* 19.4	53.6 *13.5* 15.7	47.9 *12.1* 14.0	43.2 *10.9* 12.7				

50 HERTZ

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

REFRIGERANT COOLED CAPACITY CONTROL TANDEMS

R134a

CAPACITY CONTROL MODEL	BASIC TANDEM MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6
44E★A20EE 50% Unloaded 44DE★R24ME	44E★A20AA 44DA★R24ME	20 14.9	3954 111.9	100	37.8	162.0 *40.8* 47.5	132.0 *33.3* 38.7	106.0 *26.7* 31.1	83.5 *21.0* 24.5	65.0 *16.4* 19.0	49.5 *12.5* 14.5	42.8 *10.8* 12.5	36.6 *9.2* 10.7
				130	54.4	128.0 *32.3* 37.5	104.0 *26.2* 30.5	82.9 *20.9* 24.3	65.3 *16.5* 19.1	50.5 *12.7* 14.8	38.0 *9.6* 11.1	32.4 *8.2* 9.5	27.3 *6.9* 8.0
44E★A20NN 50% Unloaded (OC) 44DN★R24ME	44E★A20AA 44DA★R24ME	20 14.9	3954 111.9	100	37.8								
				130	54.4								
44E★A21EE 50% Unloaded 44DE★F94KE	44E★A21AA 44DA★F94KE	20 14.9	3954 111.9	100	37.8	162.0 *40.8* 47.5	132.0 *33.3* 38.7	106.0 *26.7* 31.1	83.5 *21.0* 24.5	65.0 *16.4* 19.0	49.5 *12.5* 14.5	42.8 *10.8* 12.5	36.6 *9.2* 10.7
				130	54.4	128.0 *32.3* 37.5	104.0 *26.2* 30.5	82.9 *20.9* 24.3	65.3 *16.5* 19.1	50.5 *12.7* 14.8	38.0 *9.6* 11.1	32.4 *8.2* 9.5	27.3 *6.9* 8.0
44E★A21NN 50% Unloaded (OC) 44DN★F94KE	44E★A21AA 44DA★F94KE	20 14.9	3954 111.9	100	37.8								
				130	54.4								
44E★A30KK 50% Unloaded 44DK★R32ME	44E★A30HH 44DH★R32ME	30 22.4	4998 141.5	100	37.8	210.0 *52.9* 61.5	170.0 *42.8* 49.8	136.0 *34.3* 39.8	108.0 *27.2* 31.6	84.3 *21.2* 24.7	64.3 *16.2* 18.8	55.4 *14.0* 16.2	47.2 *11.9* 13.8
				130	54.4	166.0 *41.8* 48.6	133.0 *33.5* 39.0	105.0 *26.5* 30.8	82.3 *20.7* 24.1	63.6 *16.0* 18.6	48.3 *12.2* 14.2	41.7 *10.5* 12.2	35.7 *9.0* 10.5
44E★A30PP 50% Unloaded (OC) 44DP★F13ME	44E★A30LL 44DL★F13ME	30 22.4	4998 141.5	100	37.8								
				130	54.4								
44E★A40EE 50% Unloaded 44DE★R36ME	44E★A40AA 44DA★R36ME	40 29.8	3954 111.9	100	37.8								
				130	54.4								
44E★A40RR 50% Unloaded 44DR★R38ME	44E★A40JJ 44DJ★R38ME	40 29.8	5970 169.0	100	37.8	250.0 *63.0* 73.3	204.0 *51.2* 59.5	163.0 *41.1* 47.8	129.0 *32.5* 37.8	101.0 *25.5* 29.6	76.6 *19.3* 22.4	66.0 *16.6* 19.3	56.2 *14.2* 16.5
				130	54.4	199.0 *50.1* 58.3	159.0 *40.1* 46.6	125.0 *31.5* 36.6	98.2 *24.7* 28.8	75.9 *19.1* 22.2	57.7 *14.5* 16.9	49.9 *12.6* 14.6	42.6 *10.7* 12.5
66E★A40KK 33% Unloaded 66DK★R46ME	66E★A40HH 66DH★R46ME	40 29.8	7496 212.2	100	37.8	440.0 *111.0* 129.0	358.0 *90.0* 105.0	288.0 *72.4* 84.1	226.0 *57.1* 66.5	178.0 *44.8* 52.1	135.0 *34.0* 39.5	116.0 *29.3* 34.0	99.0 *24.9* 29.0
				130	54.4	350.0 *88.2* 103.0	278.0 *70.1* 81.6	222.0 *55.7* 64.8	172.0 *43.4* 50.4	134.0 *33.6* 39.2	102.0 *25.6* 29.7	87.6 *22.1* 25.6	74.9 *18.9* 22.0
66E★A40PP 67% Unloaded 66DP★R46ME	66E★A40HH 66DH★R46ME	40 29.8	7496 212.2	100	37.8	226.0 *57.0* 66.2	184.0 *46.3* 53.8	148.0 *37.2* 43.3	117.0 *29.4* 34.2	91.4 *23.0* 26.8	69.4 *17.5* 20.3	59.8 *15.0* 17.5	50.9 *12.8* 14.9
				130	54.4	180.0 *45.4* 52.8	143.0 *36.1* 42.0	114.0 *28.7* 33.3	88.6 *22.3* 25.9	68.7 *17.3* 20.2	52.2 *13.2* 15.3	45.1 *11.4* 13.2	38.5 *9.7* 11.3

(OC) Oil coolers and vertical cooling fans are standard on this model.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R404A/R407A/R507

EVAPORATING TEMPERATURE °F/°C

45 7.2	35 1.7	25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40
					81.0 *20.4* 23.7	71.7 *18.1* 21.0	63.2 *15.9* 18.5	48.3 *12.2* 14.2	36.0 *9.1* 10.5	25.6 *6.5* 7.5
					57.1 *14.4* 16.7	50.4 *12.7* 14.8	44.2 *11.1* 13.0	33.1 *8.3* 9.7	23.3 *5.9* 6.8	14.4 *3.6* 4.2
					81.0 *20.4* 23.7	71.7 *18.1* 21.0	63.2 *15.9* 18.5	48.3 *12.2* 14.2	36.0 *9.1* 10.5	25.6 *6.5* 7.5
					57.1 *14.4* 16.7	50.4 *12.7* 14.8	44.2 *11.1* 13.0	33.1 *8.3* 9.7	23.3 *5.9* 6.8	14.4 *3.6* 4.2
					105.0 *26.5* 30.8	93.4 *23.5* 27.4	82.9 *20.9* 24.3	64.7 *16.3* 19.0	49.4 *12.4* 14.5	35.5 *8.9* 10.4
					74.4 *18.7* 21.8	65.1 *16.4* 19.1	56.8 *14.3* 16.6	42.7 *10.8* 12.5	30.8 *7.8* 9.0	19.9 *5.0* 5.8
208.0 *52.2* 60.7	173.0 *43.6* 50.7	142.0 *35.8* 41.6	114.0 *28.7* 33.4	90.4 *22.8* 26.5	79.8 *20.1* 23.4	70.7 *17.8* 20.7				
150.0 *37.8* 44.0	124.0 *31.2* 36.3	100.0 *25.2* 29.3	79.7 *20.1* 23.4	61.9 *15.6* 18.1	54.0 *13.6* 15.8	47.4 *11.9* 13.9				

50 HERTZ

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

REFRIGERANT COOLED CAPACITY CONTROL TANDEMS

R134a

CAPACITY CONTROL MODEL	BASIC TANDEM MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6
44E★A44SS 50% Unloaded (OC) 44DS★F15ME	44E★A44TT 44DT★F15ME	44 32.8	5970 169.0	100	37.8								
				130	54.4								
44E★A50KK 50% Unloaded 44DK★R44ME	44E★A50HH 44DH★R44ME	50 37.3	4998 141.5	100	37.8								
				130	54.4								
66E★A54CC 33% Unloaded (OC) 66DC★F19ME	66E★A54LL 66DL★F19ME	54 40.3	7496 212.2	100	37.8								
				130	54.4								
66E★A54DD 67% Unloaded (OC) 66DD★F19ME	66E★A54LL 66DL★F19ME	54 40.3	7496 212.2	100	37.8								
				130	54.4								
44E★A60RR 50% Unloaded 44DR★R56ME	44E★A60JJ 44DJ★R56ME	60 44.8	5970 169.0	100	37.8								
				130	54.4								
66E★A60RR 33% Unloaded (DS) 66DR★R56ME	66E★A60JJ 66DJ★R56ME	60 44.8	8956 253.5	100	37.8	526.0 *133.0* 154.0	426.0 *107.0* 125.0	342.0 *86.2* 100.0	270.0 *68.0* 79.1	212.0 *53.4* 62.1	161.0 *40.6* 47.2	139.0 *35.0* 40.7	118.0 *29.7* 34.6
				130	54.4	418.0 *105.0* 122.0	334.0 *84.2* 97.9	264.0 *66.5* 77.4	206.0 *51.9* 60.4	160.0 *40.3* 46.9	121.0 *30.5* 35.5	105.0 *26.5* 30.8	89.4 *22.5* 26.2
66E★A60SS 67% Unloaded (DS) 66DS★R56ME	66E★A60JJ 66DJ★R56ME	60 44.8	8956 253.5	100	37.8	270.0 *68.0* 79.1	218.0 *54.9* 63.9	176.0 *44.4* 51.6	139.0 *35.0* 40.7	109.0 *27.5* 31.9	82.8 *20.9* 24.3	71.4 *18.0* 20.9	60.6 *15.3* 17.8
				130	54.4	214.0 *53.9* 62.7	171.0 *43.1* 50.1	135.0 *34.0* 39.6	106.0 *26.7* 31.1	82.0 *20.7* 24.0	62.4 *15.7* 18.3	53.8 *13.6* 15.8	46.0 *11.6* 13.5

(OC) Oil coolers and vertical cooling fans are standard on this model.
(DS) Deep oil sumps are standard on this model.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R404A/R407A/R507

EVAPORATING TEMPERATURE °F/°C

45 7.2	35 1.7	25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40
					123.0 *31.0* 36.0	109.0 *27.5* 31.9	95.5 *24.1* 28.0	72.8 *18.3* 21.3	54.1 *13.6* 15.9	39.1 *9.9* 11.5
					85.7 *21.6* 25.1	75.3 *19.0* 22.1	65.9 *16.6* 19.3	49.5 *12.5* 14.5	36.2 *9.1* 10.6	25.4 *6.4* 7.4
264.0 *66.5* 77.4	224.0 *56.2* 65.3	184.0 *46.4* 53.9	149.0 *37.5* 43.7	118.0 *29.7* 34.6	104.0 *26.2* 30.5	92.2 *23.2* 27.0				
196.0 *49.4* 57.4	163.0 *41.1* 47.8	133.0 *33.5* 39.0	107.0 *27.0* 31.4	83.6 *21.1* 24.5	73.8 *18.6* 21.6	66.1 *16.6* 19.4				
					218.0 *54.7* 63.6	192.0 *48.3* 56.2	169.0 *42.7* 49.6	130.0 *32.8* 38.2	99.3 *25.0* 29.1	73.9 *18.6* 21.7
					155.0 *39.2* 45.5	138.0 *34.7* 40.3	122.0 *30.7* 35.7	93.8 *23.6* 27.5	68.7 *17.3* 20.1	44.7 *11.3* 13.1
					112.0 *28.1* 32.7	98.6 *24.9* 28.9	87.1 *22.0* 25.5	67.0 *16.9* 19.6		
					79.9 *20.1* 23.4	70.8 *17.8* 20.7	62.7 *15.8* 18.4	48.2 *12.2* 14.1		
328.0 *82.4* 95.8	274.0 *68.8* 80.0	224.0 *56.4* 65.6	181.0 *45.6* 53.0	143.0 *36.0* 41.9	127.0 *32.0* 37.2	112.0 *28.2* 32.8				
234.0 *58.7* 68.3	193.0 *48.6* 56.5	157.0 *39.6* 46.0	126.0 *31.8* 36.9	98.9 *24.9* 29.0	87.3 *22.0* 25.6	77.3 *19.5* 22.6				

50 HERTZ

CAPACITY BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

REFRIGERANT COOLED CAPACITY CONTROL TANDEMS

R134a

CAPACITY CONTROL MODEL	BASIC TANDEM MODEL	HP kW	CFH m^3/hr 50HZ	CONDENSING TEMPERATURE °F	°C	EVAPORATING TEMPERATURE °F/°C 55 12.8	45 7.2	35 1.7	25 −3.9	15 −9.4	5 −15	0 −17.8	−5 −20.6
66E★A60EE 33% Unloaded (DS) (OC) 66DE★F22ME	66E★A60TT 66DT★F22ME	60 44.8	8956 253.5	100	37.8								
				130	54.4								
66E★A60FF 67% Unloaded (DS) (OC) 66DF★F22ME	66E★A60TT 66DT★F22ME	60 44.8	8956 253.5	100	37.8								
				130	54.4								
66E★A70KK 33% Unloaded 66DK★R70ME	66E★A70HH 66DH★R70ME	70 52.2	7496 212.2	100	37.8								
				130	54.4								
66E★A70PP 67% Unloaded 66DP★R70ME	66E★A70HH 66DH★R70ME	70 52.2	7496 212.2	100	37.8								
				130	54.4								
66E★A80RR 33% Unloaded (DS) 66DR★R80ME	66E★A80JJ 66DJ★R80ME	80 59.7	8956 253.5	100	37.8								
				130	54.4								
66E★A80SS 67% Unloaded (DS) 66DS★R80ME	66E★A80JJ 66DJ★R80ME	80 59.7	8956 253.5	100	37.8								
				130	54.4								

(DS) Deep oil sumps are standard on this model.
(OC) Oil coolers and vertical cooling fans are standard on this model.

CAPACITY

BTUS/HOUR x 1000
KCALS/HOUR x 1000
WATTS x 1000

R404A/R407A/R507

EVAPORATING TEMPERATURE °F/°C										
45 7.2	35 1.7	25 –3.9	15 –9.4	5 –15	0 –17.8	–5 –20.6	–10 –23.3	–20 –28.9	–30 –34.4	–40 –40
					240.0 *60.3* 70.1	212.0 *53.6* 62.4	189.0 *47.6* 55.4	147.0 *37.0* 43.1	112.0 *28.2* 32.8	82.6 *20.8* 24.2
					172.0 *43.4* 50.5	154.0 *38.8* 45.1	136.0 *34.2* 39.8	105.0 *26.5* 30.8	78.5 *19.8* 23.0	53.3 *13.4* 15.6
					123.0 *31.0* 36.1	109.0 *27.6* 32.1	97.2 *24.5* 28.5	75.6 *19.1* 22.2		
					88.6 *22.3* 25.9	79.2 *20.0* 23.2	69.8 *17.6* 20.5	54.1 *13.6* 15.8		
558.0 *141.0* 164.0	460.0 *116.0* 135.0	376.0 *94.9* 110.0	304.0 *76.6* 89.0	242.0 *61.0* 71.0	214.0 *54.0* 62.8	192.0 *48.3* 56.2				
392.0 *98.8* 115.0	324.0 *81.8* 95.2	266.0 *67.0* 77.9	214.0 *54.0* 62.8	169.0 *42.7* 49.6	150.0 *37.7* 43.9	133.0 *33.4* 38.8				
288.0 *72.7* 84.2	236.0 *59.7* 69.4	194.0 *48.8* 56.7	156.0 *39.4* 45.8	125.0 *31.4* 36.5	110.0 *27.8* 32.3	98.6 *24.9* 28.9				
202.0 *50.8* 59.1	167.0 *42.1* 48.9	137.0 *34.5* 40.1	110.0 *27.8* 32.3	87.1 *22.0* 25.5	77.0 *19.4* 22.6	68.2 *17.2* 20.0				
662.0 *167.0* 195.0	548.0 *138.0* 161.0	446.0 *113.0* 131.0	362.0 *91.0* 106.0	288.0 *72.7* 84.5	258.0 *64.9* 75.5	232.0 *58.2* 67.7				
464.0 *117.0* 136.0	386.0 *97.0* 113.0	316.0 *79.7* 92.7	258.0 *64.9* 75.5	208.0 *52.6* 61.1	186.0 *46.9* 54.6	168.0 *42.3* 49.2				
340.0 *85.7* 100.0	282.0 *70.9* 82.8	230.0 *57.9* 67.3	186.0 *46.8* 54.4	148.0 *37.4* 43.5	132.0 *33.4* 38.8	119.0 *29.9* 34.8				
240.0 *60.2* 70.0	198.0 *49.9* 58.0	163.0 *41.0* 47.7	132.0 *33.4* 38.8	107.0 *27.0* 31.4	95.8 *24.1* 28.1	86.4 *21.8* 25.3				

REFRIGERANT COOLED

MECHANICAL SPECIFICATIONS

MODEL	HP kW	CYL	Bore in mm	Stroke in mm	CFH m^3/hr 50 Hertz	Oil Charge (Refill Oil Charge) Oz	 Liter	Overall Dimensions in/mm Length	 Width	 Height	Mounting Center Dimensions in/mm Length	 Width	Service Valve Sizes Suction in	 Discharge in	Weights lb/kg Net	 Shipping
2DF ★-030E	3	2	2 5/8	1 3/8	749	80	2.37	23 1/4	13	17 3/32	11 5/8	11	1 3/8	7/8	280	310
2DF3F16KE	2.2		66.7	34.9	21.2	(72)	(2.13)	591	330	434	295	279	Solder	Solder	127	141
2DL ★-040E	4	2	2 1/2	1 11/16	835	80	2.37	23 1/4	13	17 3/32	11 5/8	11	1 3/8	7/8	290	320
2DL3F20KE	3		63.5	42.9	23.6	(72)	(2.13)	591	330	434	295	279	Solder	Solder	132	145
2DC ★-050E	5	2	2 1/2	1 13/64	593	80	2.37	23 1/4	13	17 3/32	11 5/8	11	1 3/8	7/8	290	320
2DC3R53KE	3.7		63.5	30.6	16.8	(72)	(2.13)	591	330	434	295	279	Solder	Solder	132	145
2DD ★-050E	5	2	2 1/2	1 3/8	682	80	2.37	23 1/4	13	17 3/32	11 5/8	11	1 3/8	7/8	290	320
2DD3R63KE	3.7		63.5	34.9	19.3	(72)	(2.13)	591	330	434	295	279	Solder	Solder	132	145
2DA ★-060E	6	2	2 9/16	1 13/16	940	80	2.37	23 1/4	13	17 3/32	11 5/8	11	1 3/8	7/8	290	320
2DA3F23KE	4.5		65.1	46.0	26.6	(72)	(2.13)	591	330	434	295	279	Solder	Solder	132	145
2DB★-060E	6	2	2 5/8	1 13/16	987	80	2.37	23 1/4	13	17 3/32	11 5/8	11	1 3/8	7/8	290	320
2DB3F25KE	4.5		66.7	46.0	27.9	(72)	(2.13)	591	330	434	295	279	Solder	Solder	132	145
3DA ★A060E	6	3	2 3/16	2	1135	125	3.70	25 13/16	15 1/16	18 1/32	15	12	1 3/8	1 1/8	345	395
3DA3F28KE	4.5		55.6	50.8	32.1	(115)	(3.40)	656	383	458	381	305	Solder	Solder	156	179
2DL ★-075E	7.5	2	2 1/2	1 11/16	835	80	2.37	23 1/4	13	17 3/32	11 5/8	11	1 3/8	7/8	300	345
2DL3R78KE	5.6		63.5	42.9	23.6	(72)	(2.13)	591	330	434	295	279	Solder	Solder	136	156
2DA ★-075E	7.5	2	2 9/16	1 13/16	940	80	2.37	23 1/4	13	17 3/32	11 5/8	11	1 3/8	7/8	300	345
2DA3R89KE	5.6		65.1	46.0	26.6	(72)	(2.13)	591	330	434	295	279	Solder	Solder	136	156
3DA ★A075E	7.5	3	2 3/16	2	1135	125	3.70	26 25/32	15 1/16	18 1/32	15	12	1 3/8	1 1/8	345	395
3DA3R10ME	5.6		55.6	50.8	32.1	(115)	(3.40)	680	383	458	381	305	Solder	Solder	156	179
3DB ★A075E	7.5	3	2 3/8	2	1338	125	3.70	25 13/16	15 1/16	18 1/32	15	12	1 3/8	1 1/8	345	395
3DB3F33KE	5.6		60.3	50.8	37.9	(115)	(3.40)	656	383	458	381	305	Solder	Solder	156	179
3DF ★A090E	9	3	2 5/16	2 1/2	1586	125	3.70	26 25/32	15 1/16	18 1/32	15	12	1 3/8	1 1/8	345	395
3DF3F40KE	6.7		58.7	63.5	44.9	(115)	(3.40)	680	383	458	381	305	Solder	Solder	156	179
3DB ★A100E	10	3	2 3/8	2	1338	125	3.70	26 25/32	15 1/16	18 1/32	15	12	1 3/8	1 1/8	360	410
3DB3R12ME	7.5		60.3	50.8	37.9	(115)	(3.40)	680	383	458	381	305	Solder	Solder	163	186
3DS ★A100E	10	3	2 7/16	2 1/2	1762	125	3.70	26 25/32	15 1/16	18 1/32	15	12	1 3/8	1 1/8	360	410
3DS3F46KE	7.5		61.9	63.5	49.9	(115)	(3.40)	680	383	458	381	305	Solder	Solder	163	186

ELECTRICAL SPECIFICATIONS

FSM 380/420-3-50		TFC 200/220-3-50 208/230-3-60		TFD 380/420-3-50 460-3-60		TFE 500-3-50 575-3-60	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
		16.8	102.0	8.1	52.0	6.7	41.0
		26.3	161.0	10.2	60.0	7.7	49.0
		22.3	120.0	10.4	60.0	7.7	49.0
		22.3	120.0	10.5	60.0	7.9	49.0
		28.8	161.0	10.2	60.0	9.1	49.0
		28.2	161.0	13.3	80.0	9.6	63.0
		30.3	150.0	13.7	77.0	10.5	62.0
		31.6	169.0	13.8	85.0	13.2	67.0
		32.0	169.0	14.1	85.0	13.3	67.0
		41.0	215.0	20.0	106.0	16.5	84.0
		31.5	161.0	16.1	83.0	11.0	67.0
		39.0	215.0	16.9	106.0	16.5	84.0
		43.6	215.0	20.0	106.0	16.5	84.0
17.5	102.0	42.0	215.0	18.6	106.0	16.8	84.0

REFRIGERANT COOLED

MECHANICAL SPECIFICATIONS

MODEL	HP kW	CYL	Bore in mm	Stroke in mm	CFH m^3/hr 50 Hertz	Oil Charge (Refill Oil Charge) Oz	 Liter	Overall Dimensions in/mm Length	 Width	 Height	Mounting Center Dimensions in/mm Length	 Width	Service Valve Sizes Suction in	 Discharge in	Weights lb/kg Net	 Shipping
4DA★A100E **4DA★R12ME**	10 7.5	4	2 1/2 63.5	2 50.8	1977 56.0	135 (125)	3.99 (3.70)	25 13/32 645	20 3/16 513	17 21/32 448	15 381	12 305	1 5/8 Solder	1 1/8 Solder	382 173	437 198
4DA★A101E **4DA★F47KE**	10 7.5	4	2 1/2 63.5	2 50.8	1977 56.0	135 (125)	3.99 (3.70)	25 13/32 645	20 3/16 513	17 21/32 448	15 381	12 305	1 5/8 Solder	1 1/8 Solder	382 173	437 198
3DF★A120E **3DF3R15ME**	12 9.0	3	2 5/16 58.7	2 1/2 63.5	1586 44.9	125 (115)	3.70 (3.40)	26 25/32 680	15 1/16 383	18 1/32 458	15 381	12 305	1 3/8 Solder	1 1/8 Solder	370 168	425 193
3DS★A150E **3DS3R17ME**	15 11.2	3	2 7/16 61.9	2 1/2 63.5	1762 49.9	125 (115)	3.70 (3.40)	28 1/32 712	15 1/16 383	18 1/32 458	15 381	12 305	1 5/8 Solder	1 1/8 Solder	370 168	425 193
4DH★A150E **4DH★R16ME**	15 11.2	4	2 11/16 68.3	2 3/16 55.6	2499 70.7	135 (125)	3.99 (3.70)	25 13/32 645	20 1/2 521	16 7/8 429	15 381	12 305	1 5/8 Solder	1 1/8 Solder	405 184	470 213
4DL★A150E **(OC)** **4DL★F63KE**	15 11.2	4	2 11/16 68.3	2 3/16 55.6	2499 70.7	135 (125)	3.99 (3.70)	27 1/32 687	20 1/2 521	23 584	15 381	12 305	1 5/8 Solder	1 3/8 Solder	404 183	469 213
4DA★A200E **4DA★R18ME**	20 14.9	4	2 1/2 63.5	2 50.8	1977 56.0	135 (125)	3.99 (3.70)	25 13/32 645	20 3/16 513	17 21/32 448	15 381	12 305	1 5/8 Solder	1 3/8 Solder	407 185	467 212
4DJ★A200E **4DJ★R19ME**	20 14.9	4	2 15/16 74.6	2 3/16 55.6	2985 84.5	135 (125)	3.99 (3.70)	26 9/32 668	20 1/2 521	17 7/8 454	15 381	12 305	2 1/8 Solder	1 3/8 Solder	415 188	485 220
6DH★A200E **6DH★R23ME**	20 14.9	6	2 11/16 68.3	2 3/16 55.6	3748 106.1	140 (130)	4.14 (3.84)	29 11/32 745	22 7/16 570	17 7/8 454	15 381	12 305	2 1/8 Solder	1 3/8 Solder	490 222	565 256
4DT★A220E **(OC)** **4DT★F76KE**	22 16.4	4	2 15/16 74.6	2 3/16 55.6	2985 84.5	135 (125)	3.99 (3.70)	27 15/16 710	20 1/2 521	23 584	15 381	12 305	2 1/8 Solder	1 3/8 Solder	412 187	472 214
4DH★A250E **4DH★R22ME**	25 18.7	4	2 11/16 68.3	2 3/16 55.6	2499 70.7	135 (125)	3.99 (3.70)	26 9/32 668	20 1/2 521	17 13/16 452	15 381	12 305	2 1/8 Solder	1 3/8 Solder	427 194	492 223
6DL★A270E **(OC)** **6DL★F93KE**	27 20.1	6	2 11/16 68.3	2 3/16 55.6	3748 106.1	140 (130)	4.14 (3.84)	29 7/16 748	22 7/16 570	26 660	15 381	12 305	2 1/8 Solder	1 3/8 Solder	490 222	550 249
4DJ★A300E **4DJ★R28ME**	30 22.4	4	2 15/16 74.6	2 3/16 55.6	2985 84.5	135 (125)	3.99 (3.70)	27 1/32 687	20 1/2 521	17 13/16 452	15 381	12 305	2 1/8 Solder	1 3/8 Solder	432 196	502 228
6DJ★A300E **(DS)** **6DJ★R28ME**	30 22.4	6	2 15/16 74.6	2 3/16 55.6	4478 126.8	255 (245)	7.54 (7.25)	31 5/32 791	22 7/16 570	20 27/32 529	15 381	12 305	2 1/8 Solder	1 5/8 Solder	530 240	610 277
6DT★A300E **(DS) (OC)** **6DT★F11ME**	30 22.4	6	2 15/16 74.6	2 3/16 55.6	4478 126.8	255 (245)	7.54 (7.25)	29 7/16 748	22 7/16 570	28 7/8 733	15 381	12 305	2 1/8 Solder	1 3/8 Solder	527 239	602 273
6DH★A350E **6DH★R35ME**	35 26.1	6	2 11/16 68.3	2 3/16 55.6	3748 106.1	140 (130)	4.14 (3.84)	30 3/16 767	22 7/16 570	17 31/32 456	15 381	12 305	2 1/8 Solder	1 5/8 Solder	502 228	577 262
6DJ★A400E **(DS)** **6DJ★R40ME**	40 29.8	6	2 15/16 74.6	2 3/16 55.6	4478 126.8	255 (245)	7.54 (7.25)	30 3/16 767	22 7/16 570	20 27/32 529	15 381	12 305	2 1/8 Solder	1 5/8 Solder	550 249	630 286

(OC) Oil cooler and vertical cooling fan are standard on this model.
(DS) Deep oil sump is standard on this model.

ELECTRICAL SPECIFICATIONS

FSD 380/420-3-50 460-3-60		FSM 380/420-3-50		TFC 200/220-3-50 208/230-3-60		TFD 380/420-3-50 460-3-60		TSK 200-3-50 380/400-3-50 208/230-3-60 460-3-60		TSN 200-3-50 380/400-3-50 230-3-60 460-3-60		TFE TSE 500-3-50 575-3-60	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
20.0	115.0												
								200/208/230 45.2	220.0			TSE 17.5	106.0
								380/400/460 22.6	110.0				
				48.2	275.0	23.6	138.0						
												TFE	
				59.6	275.0	29.0	138.0					23.6	110.0
								200/208/230 58.0	278.0			TSE	
		32.9	136.0					380/400/460 29.0	139.0			24.3	113.0
								200/208/230 52.6	278.0			TSE	
24.5	136.0							380/400/460 26.3	139.0			20.9	113.0
								200/208/230 66.0	308.0			TSE	
33.6	173.0							380/400/460 33.0	154.0			24.7	135.0
								200/208/230 66.0	308.0			TSE	
		32.9	173.0					380/400/460 33.0	154.0			30.0	135.0
								200/208/230 75.0	346.0			TSE	
		39.3	173.0					380/400/460 37.5	173.0			30.0	135.0
								200/208/230 66.0	374.0			TSE	
33.9	180.0							380/400/460 33.0	187.0			24.2	135.0
								200/208/230 82.2	428.0			TSE	
40.6	206.0							380/400/460 41.1	214.0			34.4	172.0
								200/208/230 80.8	450.0			TSE	
41.6	218.0							380/400/460 40.4	225.0			32.5	172.0
								200/208/230 94.0	470.0			TSE	
45.0	235.0							380/400/460 47.0	235.0			39.3	200.0
								200/208/230 100.0	470.0			TSE	
								380/400/460 50.0	235.0			40.0	200.0
								200/208/230 95.6	470.0			TSE	
42.8	235.0							380/400/460 47.8	235.0			39.6	200.0
								200/208/230 107.0	565.0			TSE	
55.0	260.0							380/400/460 53.5	283.0			42.5	230.0
										200/230 142.0	594.0	TSE	
70.0	315.0									380/400/460 71.0	297.0	53.5	245.0

REFRIGERANT COOLED TANDEMS

MECHANICAL SPECIFICATIONS

MODEL	HP kW	Consisting of Two Single Compressors	CFH m^3/hr	Oil Charge (Refill Oil Charge)		Overall Dimensions in/mm			Mounting Center Dimensions in/mm		Suction Connection Size	Discharge Connection Size	Weights lb/kg	
			50 Hertz	Oz	Liter	Length	Width	Height	Length	Width	Valve in	Fitting in	Net	Shipping
33E★A12AA 33DA3F56KE	12 9.0	3DA★A060E 3DA3F28KE	2270 64.3	250 (230)	7.39 (6.80)	56 1422	16 13/16 427	19 1/2 495	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	770 349	885 401
33E★A15AA 33DA3R20ME	15 11.2	3DA★A075E 3DA3R10ME	2270 64.3	250 (230)	7.39 (6.80)	56 1422	16 13/16 427	19 1/2 495	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	770 349	885 401
33E★A15BB 33DB3F66KE	15 11.2	3DB★A075E 3DB3F33KE	2676 75.8	250 (230)	7.39 (6.80)	56 1422	16 13/16 427	19 1/2 495	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	770 349	885 401
33E★A18FF 33DF3F80KE	18 13.4	3DF★A090E 3DF3F40KE	3172 89.8	250 (230)	7.39 (6.80)	56 1422	16 13/16 427	19 1/2 495	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	770 349	885 401
33E★A20BB 33DB3R24ME	20 14.9	3DB★A100E 3DB3R12ME	2676 75.8	250 (230)	7.39 (6.80)	56 1422	16 13/16 427	19 1/2 495	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	800 363	915 415
33E★A20SS 33DS3F92KE	20 14.9	3DS★A100E 3DS3F46KE	3524 99.8	250 (230)	7.39 (6.80)	56 1422	16 13/16 427	19 1/2 495	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	800 363	915 415
44E★A20AA 44DA★R24ME	20 14.9	4DA★A100E 4DA★R12ME	3954 111.9	270 (250)	7.98 (7.39)	57 11/16 1465	21 533	19 5/16 491	50 1270	12 305	2 1/8 Solder	1 5/8 Solder	884 401	1004 455
44E★A21AA 44DA★F94KE	20 14.9	4DA★A101E 4DA★F47KE	3954 111.9	270 (250)	7.98 (7.39)	57 11/16 1465	21 533	19 5/16 491	50 1270	12 305	2 1/8 Solder	1 5/8 Solder	884 401	1004 455
33E★A24FF 33DF3R30ME	24 17.9	3DF★A120E 3DF3R15ME	3172 89.8	250 (230)	7.39 (6.80)	56 1422	16 13/16 427	19 1/2 495	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	820 372	935 424
33E★A30SS 33DS3R34ME	30 22.4	3DS★A150E 3DS3R17ME	3524 99.8	250 (230)	7.39 (6.80)	56 1422	16 13/16 427	19 1/2 495	50 1270	12 305	2 1/8 Solder	1 3/8 Solder	820 372	935 424
44E★A30HH 44DH★R32ME	30 22.4	4DH★A150E 4DH★R16ME	4998 141.5	270 (250)	7.98 (7.39)	57 11/16 1465	21 5/16 541	18 17/32 471	50 1270	12 305	2 1/8 Solder	1 5/8 Solder	930 422	1050 476
44E★A30LL (OC) 44DL★F13ME	30 22.4	4DL★A150E 4DL★F63KE	4998 141.5	270 (250)	7.98 (7.39)	63 1/8 1603	21 3/8 543	24 21/32 626	50 1270	12 305	2 1/8 Solder	1 5/8 Solder	928 421	1048 475
44E★A40AA 44DA★R36ME	40 29.8	4DA★A200E 4DA★R18ME	3954 111.9	270 (250)	7.98 (7.39)	57 11/16 1465	21 533	19 5/16 491	50 1270	12 305	2 1/8 Solder	1 5/8 Solder	934 424	1054 478
44E★A40JJ 44DJ★R38ME	40 29.8	4DJ★A200E 4DJ★R19ME	5970 169.0	270 (250)	7.98 (7.39)	61 3/8 1559	20 1/2 521	19 9/16 497	50 1270	12 305	2 5/8 Solder	1 5/8 Solder	950 431	1070 485
66E★A40HH 66DH★R46ME	40 29.8	6DH★A200E 6DH★R23ME	7496 212.2	280 (260)	8.28 (7.69)	63 9/16 1614	23 5/16 592	19 9/16 497	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1100 499	1220 553
44E★A44TT (OC) 44DT★F15ME	44 32.8	4DT★A220E 4DT★F76KE	5970 169.0	270 (250)	7.98 (7.39)	61 3/8 1559	21 3/8 543	24 11/16 627	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	944 428	1064 483
44E★A50HH 44DH★R44ME	50 37.3	4DH★A250E 4DH★R22ME	4998 141.5	270 (250)	7.98 (7.39)	61 3/8 1559	21 7/16 545	19 1/2 495	55 1397	12 305	2 5/8 Solder	1 5/8 Solder	974 442	1094 496
66E★A54LL (OC) 66DL★F19ME	54 40.3	6DL★A270E 6DL★F93KE	7496 212.2	280 (260)	8.28 (7.69)	63 3/4 1619	23 5/16 592	27 5/8 702	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1100 499	1220 553
44E★A60JJ 44DJ★R56ME	60 44.8	4DJ★A300E 4DJ★R28ME	5970 169.0	270 (250)	7.98 (7.39)	61 3/8 1559	21 3/8 543	19 1/2 495	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	984 446	1104 501
66E★A60JJ (DS) 66DJ★R56ME	60 44.8	6DJ★A300E 6DJ★R28ME	8956 253.5	510 (490)	15.1 (14.5)	65 11/16 1668	23 1/4 591	25 3/16 640	55 1397	12 305	3 1/8 Solder	2 1/8 Solder	1180 535	1340 608
66E★A60TT (DS) (OC) 66DT★F22ME	60 44.8	6DT★A300E 6DT★F11ME	8956 253.5	510 (490)	15.1 (14.5)	63 3/4 1619	23 1/4 591	32 1/4 819	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1174 533	1324 601
66E★A70HH 66DH★R70ME	70 52.2	6DH★A350E 6DH★R35ME	7496 212.2	280 (260)	8.28 (7.69)	63 3/4 1619	23 1/4 591	21 533	55 1397	12 305	3 1/8 Solder	2 1/8 Solder	1124 510	1274 578
66E★A80JJ (DS) 66DJ★R80ME	80 59.7	6DJ★A400E 6DJ★R40ME	8956 253.5	510 (490)	15.1 (14.5)	63 3/4 1619	23 1/4 591	25 3/16 640	55 1397	12 305	3 1/8 Solder	2 1/8 Solder	1220 553	1380 626

Electrical specifications shown for tandems are per compressor rating.
(OC) Oil coolers and vertical cooling fans are standard on this model.
(DS) Deep oil sumps are standard on this model.

TANDEM WIRING

Each compressor of a tandem may be wired with a separate control system for independent motor operation. If current in-rush decrease is desirable, a time delay relay may be used to stagger motor starting. Either of these circuits require that the oil pressure safety control and dual pressure safety control be wired independently on each compressor. For tandem wiring diagrams refer to Application Bulletin AE 4-1167.

ELECTRICAL SPECIFICATIONS

FSM 380/420-3-50		FSD 380/420-3-50 460-3-60		TFC 200/220-3-50 208/230-3-60		TFD 380/420-3-50 460-3-60		TSK 200-3-50 380/400-3-50 208/230-3-60 460-3-60		TSN 200-3-50 380/400-3-50 230-3-60 460-3-60		TFE TSE 500-3-50 575-3-60	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
				30.3	150.0	13.7	77.0					10.5 TFE	62.0
				41.0	215.0	20.0	106.0					16.5 TFE	84.0
				31.5	161.0	16.1	83.0					11.0 TFE	67.0
				39.0	215.0	16.9	106.0					16.5 TFE	84.0
				43.6	215.0	20.0	106.0					16.5 TFE	84.0
17.5	102.0			42.0	215.0	18.6	106.0					16.8 TFE	84.0
		20.0	115.0										
								45.2 200/208/230	220.0			17.5 TSE	106.0
								22.6 380/400/460	110.0				
				48.2	275.0	23.6	138.0						
				59.6	275.0	29.0	138.0					23.6 TFE	110.0
32.9	136.0							58.0 200/208/230	278.0			24.3 TSE	113.0
								29.0 380/400/460	139.0				
		24.5	136.0					52.6 200/208/230	278.0			20.9 TSE	113.0
								26.3 380/400/460	139.0				
		33.6	173.0					66.0 200/208/230	308.0			24.7 TSE	135.0
								33.0 380/400/460	154.0				
32.9	173.0							66.0 200/208/230	346.0			30.0 TSE	135.0
								33.0 380/400/460	173.0				
39.3	173.0							75.0 200/208/230	346.0			30.0 TSE	135.0
								37.5 380/400/460	173.0				
		33.9	180.0					66.0 200/208/230	374.0			24.2 TSE	135.0
								33.0 380/400/460	187.0				
		40.6	206.0					82.2 200/208/230	428.0			34.4 TSE	172.0
								41.1 380/400/460	214.0				
		41.6	218.0					80.8 200/208/230	450.0			32.5 TSE	172.0
								40.4 380/400/460	225.0				
		45.0	235.0					94.0 200/208/230	470.0			39.3 TSE	200.0
								47.0 380/400/460	235.0				
								100.0 200/208/230	470.0			40.0 TSE	200.0
								50.0 380/400/460	235.0				
		42.8	235.0					95.6 200/208/230	470.0			39.6 TSE	200.0
								47.8 380/400/460	235.0				
		55.0	260.0					107.0 200/208/230	565.0			42.5 TSE	230.0
								53.5 380/400/460	283.0				
		70.0	315.0							142.0 200/230	594.0	53.5 TSE	245.0
										71.0 380/400/460	297.0		

REFRIGERANT COOLED CAPACITY CONTROL

MECHANICAL SPECIFICATIONS

CAPACITY CONTROL MODEL	BASIC COMPRESSOR MODEL	HP kW	CYL	Bore in mm	Stroke in mm	CFH m^3/hr	Oil Charge (Refill Oil Charge)		Overall Dimensions in/mm			Mounting Center Dimensions in/mm		Service Valve Sizes		Weights lb/kg	
						50 Hertz	Oz	Liter	Length	Width	Height	Length	Width	Suction in	Discharge in	Net	Shipping
4DE★A100E 4DE★R12ME	4DA★A100E 4DA★R12ME	10 7.5	4	2 1/2 63.5	2 50.8	1977 56.0	135 (125)	3.99 (3.70)	25 13/32 645	20 7/16 519	17 3/4 451	15 381	12 305	1 5/8 Solder	1 1/8 Solder	387 176	438 199
4DN★A100E (OC) 4DN★R12ME	4DA★A100E 4DA★R12ME	10 7.5	4	2 1/2 63.5	2 50.8	1977 56.0	135 (125)	3.99 (3.70)	27 1/32 687	20 3/16 513	23 584	15 381	12 305	1 5/8 Solder	1 1/8 Solder	397 173	452 198
4DE★A101E 4DE★F47KE	4DA★A101E 4DA★F47KE	10 7.5	4	2 1/2 63.5	2 50.8	1977 56.0	135 (125)	3.99 (3.70)	25 13/32 645	20 7/16 519	17 3/4 451	15 381	12 305	1 5/8 Solder	1 1/8 Solder	387 176	438 199
4DN★A101E (OC) 4DN★F47KE	4DA★A101E 4DA★F47KE	10 7.5	4	2 1/2 63.5	2 50.8	1977 56.0	135 (125)	3.99 (3.70)	27 1/32 687	20 3/16 513	23 584	15 381	12 305	1 5/8 Solder	1 1/8 Solder	397 173	452 198
4DK★A150E 4DK★R16ME	4DH★A150E 4DH★R16ME	15 11.2	4	2 11/16 68.3	2 3/16 55.6	2499 70.7	135 (125)	3.99 (3.70)	25 13/32 645	20 3/8 518	17 29/32 455	15 381	12 305	1 5/8 Solder	1 1/8 Solder	410 186	475 215
4DP★A150E (OC) 4DP★F63KE	4DL★A150E 4DL★F63KE	15 11.2	4	2 11/16 68.3	2 3/16 55.6	2499 70.7	135 (125)	3.99 (3.70)	27 1/32 687	20 3/4 527	23 584	15 381	12 305	1 5/8 Solder	1 3/8 Solder	409 186	474 215
4DE★A200E 4DE★R18ME	4DA★A200E 4DA★R18ME	20 14.9	4	2 1/2 63.5	2 50.8	1977 56.0	135 (125)	3.99 (3.70)	25 13/32 645	20 1/16 510	17 3/4 451	15 381	12 305	1 5/8 Solder	1 3/8 Solder	412 187	472 214
4DR★A200E 4DR★R19ME	4DJ★A200E 4DJ★R19ME	20 14.9	4	2 15/16 74.6	2 3/16 55.6	2985 84.5	135 (125)	3.99 (3.70)	26 9/32 668	20 3/8 518	17 29/32 455	15 381	12 305	2 1/8 Solder	1 3/8 Solder	420 191	490 222
6DK★A200E 6DK★R23ME	6DH★A200E 6DH★R23ME	20 14.9	6	2 11/16 68.3	2 3/16 55.6	3748 106.1	140 (130)	4.14 (3.84)	29 11/32 745	22 7/16 570	17 7/8 454	15 381	12 305	2 1/8 Solder	1 3/8 Solder	495 225	570 259
6DP★A200E 6DP★R23ME	6DH★A200E 6DH★R23ME	20 14.9	6	2 11/16 68.3	2 3/16 55.6	3748 106.1	140 (130)	4.14 (3.84)	29 11/32 745	22 7/16 570	20 3/16 513	15 381	12 305	2 1/8 Solder	1 3/8 Solder	500 222	575 256
4DS★A220E (OC) 4DS★F76KE	4DT★A220E 4DT★F76KE	22 16.4	4	2 15/16 74.6	2 3/16 55.6	2985 84.5	135 (125)	3.99 (3.70)	27 15/16 710	20 3/4 527	23 584	15 381	12 305	2 1/8 Solder	1 3/8 Solder	417 189	477 216
4DK★A250E 4DK★R22ME	4DH★A250E 4DH★R22ME	25 18.7	4	2 11/16 68.3	2 3/16 55.6	2499 70.7	135 (125)	3.99 (3.70)	26 9/32 668	20 3/8 518	17 29/32 455	15 381	12 305	2 1/8 Solder	1 3/8 Solder	432 196	497 225
6DC★A270E (OC) 6DC★F93KE	6DL★A270E 6DL★F93KE	27 20.1	6	2 11/16 68.3	2 3/16 55.6	3748 106.1	140 (130)	4.14 (3.84)	29 7/16 748	22 7/16 570	26 660	15 381	12 305	2 1/8 Solder	1 3/8 Solder	495 225	555 252
6DD★A270E (OC) 6DD★F93KE	6DL★A270E 6DL★F93KE	27 20.1	6	2 11/16 68.3	2 3/16 55.6	3748 106.1	140 (130)	4.14 (3.84)	29 7/16 748	22 7/16 570	26 660	15 381	12 305	2 1/8 Solder	1 3/8 Solder	500 227	560 254
4DR★A300E 4DR★R28ME	4DJ★A300E 4DJ★R28ME	30 22.4	4	2 15/16 74.6	2 3/16 55.6	2985 84.5	135 (125)	3.99 (3.70)	27 1/32 687	20 3/8 518	17 29/32 455	15 381	12 305	2 1/8 Solder	1 3/8 Solder	437 198	507 230
6DR★A300E (DS) 6DR★R28ME	6DJ★A300E 6DJ★R28ME	30 22.4	6	2 15/16 74.6	2 3/16 55.6	4478 126.8	255 (245)	7.54 (7.25)	31 5/32 791	22 7/16 570	20 11/32 517	15 381	12 305	2 1/8 Solder	1 5/8 Solder	535 243	615 279
6DS★A300E (DS) 6DS★R28ME	6DJ★A300E 6DJ★R28ME	30 22.4	6	2 15/16 74.6	2 3/16 55.6	4478 126.8	255 (245)	7.54 (7.25)	31 5/32 791	22 7/16 570	21 21/32 550	15 381	12 305	2 1/8 Solder	1 5/8 Solder	540 245	620 281
6DE★A300E (DS) (OC) 6DE★F11ME	6DT★A300E 6DT★F11ME	30 22.4	6	2 15/16 74.6	2 3/16 55.6	4478 126.8	255 (245)	7.54 (7.25)	29 7/16 748	22 7/16 570	28 27/32 733	15 381	12 305	2 1/8 Solder	1 3/8 Solder	532 241	607 275

(OC) Oil cooler and vertical cooling fan are standard on this model.
(DS) Deep oil sump is standard on this model.

ELECTRICAL SPECIFICATIONS

FSD 380/420-3-50 460-3-60		FSM 380/420-3-50		TSK 200-3-50 380/400-3-50 208/230-3-60 460-3-60		TSN 200-3-50 380/400-3-50 230-3-60 460-3-60		TSE 500-3-50 575-3-60	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
20.0	115.0								
20.0	115.0								
				45.2 (200/208/230) 22.6 (380/400/460)	220.0 110.0			17.5	106.0
				45.2 (200/208/230) 22.6 (380/400/460)	220.0 110.0			17.5	106.0
		32.9	136.0	58.0 (200/208/230) 29.0 (380/400/460)	278.0 139.0			24.3	113.0
24.5	136.0			52.6 (200/208/230) 26.3 (380/400/460)	278.0 139.0			20.9	113.0
33.6	173.0			66.0 (200/208/230) 33.0 (380/400/460)	308.0 154.0			24.7	135.0
		32.9	173.0	66.0 (200/208/230) 33.0 (380/400/460)	346.0 173.0			30.0	135.0
		39.3	173.0	75.0 (200/208/230) 37.5 (380/400/460)	346.0 173.0			30.0	135.0
		39.3	173.0	75.0 (200/208/230) 37.5 (380/400/460)	346.0 173.0			30.0	135.0
33.9	180.0			66.0 (200/208/230) 33.0 (380/400/460)	374.0 187.0			24.2	135.0
40.6	206.0			82.2 (200/208/230) 41.1 (380/400/460)	428.0 214.0			34.4	172.0
41.6	218.0			80.8 (200/208/230) 40.4 (380/400/460)	450.0 225.0			32.5	172.0
41.6	218.0			80.8 (200/208/230) 40.4 (380/400/460)	450.0 225.0			32.5	172.0
45.0	235.0			94.0 (200/208/230) 47.0 (380/400/460)	470.0 235.0			39.3	200.0
				100.0 (200/208/230) 50.0 (380/400/460)	470.0 235.0			40.0	200.0
				100.0 (200/208/230) 50.0 (380/400/460)	470.0 235.0			40.0	200.0
42.8	235.0			95.6 (200/208/230) 47.8 (380/400/460)	470.0 235.0			39.6	200.0

REFRIGERANT COOLED CAPACITY CONTROL

MECHANICAL SPECIFICATIONS

CAPACITY CONTROL MODEL	BASIC COMPRESSOR MODEL	HP kW	CYL	Bore in mm	Stroke in mm	CFH m^3/hr	Oil Charge (Refill Oil Charge)		Overall Dimensions in/mm			Mounting Center Dimensions in/mm		Service Valve Sizes		Weights lb/kg	
						50 Hertz	Oz	Liter	Length	Width	Height	Length	Width	Suction in	Discharge in	Net	Shipping
6DF★A300E (DS) (OC)	**6DT★A300E**	30	6	$2^{15}/_{16}$	$2^{3}/_{16}$	4478	255	7.54	$29^{7}/_{16}$	$22^{7}/_{16}$	$28^{27}/_{32}$	15	12	$2^{1}/_{8}$	$1^{3}/_{8}$	537	612
6DF★F11ME	**6DT★F11ME**	22.4		74.6	55.6	126.8	(245)	(7.25)	748	570	733	381	305	Solder	Solder	244	278
6DK★A350E	**6DH★A350E**	35	6	$2^{11}/_{16}$	$2^{3}/_{16}$	3748	140	4.14	$31^{5}/_{32}$	$22^{7}/_{16}$	$17^{7}/_{8}$	15	12	$2^{1}/_{8}$	$1^{5}/_{8}$	507	582
6DK★R35ME	**6DH★R35ME**	26.1		68.3	55.6	106.1	(130)	(3.84)	791	570	454	381	305	Solder	Solder	230	264
6DP★A350E	**6DH★A350E**	35	6	$2^{11}/_{16}$	$2^{3}/_{16}$	3748	140	4.14	$31^{5}/_{32}$	$22^{7}/_{16}$	$20^{3}/_{16}$	15	12	$2^{1}/_{8}$	$1^{5}/_{8}$	512	587
6DP★R35ME	**6DH★R35ME**	26.1		68.3	55.6	106.1	(130)	(3.84)	791	570	513	381	305	Solder	Solder	232	266
6DR★A400E (DS)	**6DJ★A400E**	40	6	$2^{15}/_{16}$	$2^{3}/_{16}$	4478	255	7.54	$31^{5}/_{32}$	$22^{7}/_{16}$	$20^{11}/_{32}$	15	12	$2^{1}/_{8}$	$1^{5}/_{8}$	555	635
6DR★R40ME	**6DJ★R40ME**	29.8		74.6	55.6	126.8	(245)	(7.25)	791	570	517	381	305	Solder	Solder	252	288
6DS★A400E (DS)	**6DJ★A400E**	40	6	$2^{15}/_{16}$	$2^{3}/_{16}$	4478	255	7.54	$31^{5}/_{32}$	$22^{7}/_{16}$	$21^{21}/_{32}$	15	12	$2^{1}/_{8}$	$1^{5}/_{8}$	560	640
6DR★R40ME	**6DJ★R40ME**	29.8		74.6	55.6	126.8	(245)	(7.25)	791	570	550	381	305	Solder	Solder	254	290

(DS) Deep oil sump is standard on this model.
(OC) Oil cooler and vertical cooling fan are standard on this model.

ELECTRICAL SPECIFICATIONS

FSD 380/420-3-50 460-3-60		FSM 380/420-3-50		TSK 200-3-50 380/400-3-50 208/230-3-60 460-3-60		TSN 200-3-50 380/400-3-50 230-3-60 460-3-60		TSE 500-3-50 575-3-60	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
42.8	235.0			95.6 (200/208/230)	470.0			39.6	200.0
				47.8 (380/400/460)	235.0				
55.0	260.0			107.0 (200/208/230)	565.0			42.5	230.0
				53.5 (380/400/460)	283.0				
55.0	260.0			107.0 (200/208/230)	565.0			42.5	230.0
				53.5 (380/400/460)	283.0				
70.0	315.0					142.0 (200/230)	594.0	53.5	245.0
						71.0 (380/400/460)	297.0		
70.0	315.0					142.0 (200/230)	594.0	53.5	245.0
						71.0 (380/400/460)	297.0		

REFRIGERANT COOLED CAPACITY CONTROL TANDEMS

MECHANICAL SPECIFICATIONS

MODEL	HP kW	Consisting of Two Single Compressors	CFH m³/hr	Oil Charge (Refill Oil Charge)		Overall Dimensions in/mm			Mounting Center Dimensions in/mm		Suction Connection Size	Discharge Connection Size	Weights lb/kg	
			50 Hertz	Oz	Liter	Length	Width	Height	Length	Width	Valve in	Fitting in	Net	Shipping
44E★A20EE 44DE★R24ME	20 14.9	4DE★A100E 4DE★R12ME	3954 111.9	270 (250)	7.98 (7.39)	57 11/16 1465	21 533	19 31/32 507	55 1397	12 305	2 1/8 Solder	1 5/8 Solder	894 406	1014 460
44E★A20NN (OC) 44DN★R24ME	20 14.9	4DN★A100E 4DN★R12ME	3954 111.9	270 (250)	7.98 (7.39)	61 3/8 1559	21 533	24 21/32 626	55 1397	12 305	2 1/8 Solder	1 5/8 Solder	914 415	1034 469
44E★A21EE 44DE★F94KE	20 14.9	4DE★A101E 4DE★F47KE	3954 111.9	270 (250)	7.98 (7.39)	57 11/16 1465	21 533	19 31/32 507	55 1397	12 305	2 1/8 Solder	1 5/8 Solder	894 406	1014 460
44E★A21NN (OC) 44DN★F94KE	20 14.9	4DN★A101E 4DN★F47KE	3954 111.9	270 (250)	7.98 (7.39)	61 3/8 1559	21 533	24 21/32 626	55 1397	12 305	2 1/8 Solder	1 5/8 Solder	914 415	1034 469
44E★A30KK 44DK★R32ME	30 22.4	4DK★A150E 4DK★R16ME	4998 141.5	270 (250)	7.98 (7.39)	59 5/8 1514	21 7/16 545	20 15/32 520	50 1270	12 305	2 1/8 Solder	1 5/8 Solder	940 426	1060 481
44E★A30PP (OC) 44DP★F13ME	30 22.4	4DP★A150E 4DP★F63KE	4998 141.5	270 (250)	7.98 (7.39)	63 1/8 1603	21 3/8 543	24 21/32 626	50 1270	12 305	2 1/8 Solder	1 5/8 Solder	938 425	1058 480
44E★A40EE 44DE★R36ME	40 29.8	4DE★A200E 4DE★R18ME	3954 111.9	270 (250)	7.98 (7.39)	57 11/16 1465	21 533	19 31/32 507	50 1270	12 305	2 1/8 Solder	1 5/8 Solder	944 428	1064 483
44E★A40RR 44DR★R38ME	40 29.8	4DR★A200E 4DR★R19ME	5970 169.0	270 (250)	7.98 (7.39)	59 7/8 1521	21 3/8 543	20 15/32 520	50 1270	12 305	2 5/8 Solder	1 5/8 Solder	960 435	1080 490
66E★A40KK 66DK★R46ME	40 29.8	6DK★A200E 6DK★R23ME	7496 212.2	280 (260)	8.28 (7.69)	60 1/8 1527	23 1/4 591	21 533	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1110 503	1230 558
66E★A40PP 66DP★R46ME	40 29.8	6DP★A200E 6DP★R23ME	7496 212.2	280 (260)	8.28 (7.69)	60 1/8 1527	23 1/4 591	23 3/8 594	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1120 508	1240 562
44E★A44SS (OC) 44DS★F15ME	44 32.8	4DS★A220E 4DS★F76KE	5970 169.0	270 (250)	7.98 (7.39)	61 3/8 1559	21 3/8 543	24 11/16 627	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	954 433	1074 487
44E★A50KK 44DK★R44ME	50 37.3	4DK★A250E 4DK★R22ME	4998 141.5	270 (250)	7.98 (7.39)	61 3/8 1559	21 7/16 545	20 15/32 520	55 1397	12 305	2 5/8 Solder	1 5/8 Solder	984 446	1104 501
66E★A54CC (OC) 66DC★F19ME	54 40.3	6DC★A270E 6DC★F93KE	7496 212.2	280 (260)	8.28 (7.69)	63 3/4 1619	23 5/16 592	27 5/8 702	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1110 503	1230 558
66E★A54DD (OC) 66DD★F19ME	54 40.3	6DD★A270E 6DD★F93KE	7496 212.2	280 (260)	8.28 (7.69)	63 3/4 1619	23 5/16 592	27 5/8 702	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1120 508	1240 562
44E★A60RR 44DR★R56ME	60 44.8	4DR★A300E 4DR★R28ME	5970 169.0	270 (250)	7.98 (7.39)	61 3/8 1559	21 3/8 543	20 15/32 520	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	994 451	1114 505
66E★A60RR (DS) 66DR★R56ME	60 44.8	6DR★A300E 6DR★R28ME	8956 253.5	510 (490)	15.1 (14.5)	63 3/4 1619	23 1/4 591	25 3/16 640	55 1397	12 305	3 1/8 Solder	2 1/8 Solder	1190 540	1350 612
66E★A60SS (DS) 66DS★R56ME	60 44.8	6DS★A300E 6DS★R28ME	8956 253.5	510 (490)	15.1 (14.5)	63 3/4 1619	23 1/4 591	27 9/16 700	55 1397	12 305	3 1/8 Solder	2 1/8 Solder	1200 544	1360 617
66E★A60EE (DS) (OC) 66DE★F22ME	60 44.8	6DE★A300E 6DE★F11ME	8956 253.5	510 (490)	15.1 (14.5)	63 3/4 1619	23 1/4 591	32 1/4 819	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1184 537	1334 605

Electrical specifications shown for tandems are per compressor rating.
(OC) Oil coolers and vertical cooling fans are standard on this model.
(DS) Deep oil sumps are standard on this model.

ELECTRICAL SPECIFICATIONS

FSM 380/420-3-50		FSD 380/420-3-50 460-3-60		TSK 200-3-50 380/400-3-50 208/230-3-60 460-3-60		TSN 200-3-50 380/400-3-50 230-3-60 460-3-60		TSE 500-3-50 575-3-60	
RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
		20.0	115.0						
		20.0	115.0						
				200/208/230 45.2 380/400/460 22.6	220.0 110.0			17.5	106.0
				200/208/230 45.2 380/400/460 22.6	220.0 110.0			17.5	106.0
32.9	136.0			200/208/230 58.0 380/400/460 29.0	278.0 139.0			24.3	113.0
		24.5	136.0	200/208/230 52.6 380/400/460 26.3	278.0 139.0			20.9	113.0
		33.6	173.0	200/208/230 66.0 380/400/460 33.0	308.0 154.0			24.7	135.0
32.9	173.0			200/208/230 66.0 380/400/460 33.0	346.0 173.0			30.0	135.0
		39.3	173.0	200/208/230 75.0 380/400/460 37.5	346.0 173.0			30.0	135.0
		39.3	173.0	200/208/230 75.0 380/400/460 37.5	346.0 173.0			30.0	135.0
		33.9	180.0	200/208/230 66.0 380/400/460 33.0	374.0 187.0			24.2	135.0
		40.6	206.0	200/208/230 82.2 380/400/460 41.1	428.0 214.0			34.4	172.0
		41.6	218.0	200/208/230 80.8 380/400/460 40.4	450.0 225.0			32.5	172.0
		41.6	218.0	200/208/230 80.8 380/400/460 40.4	450.0 225.0			32.5	172.0
		45.0	235.0	200/208/230 94.0 380/400/460 47.0	470.0 235.0			39.3	200.0
				200/208/230 100.0 380/400/460 50.0	470.0 235.0			40.0	200.0
				200/208/230 100.0 380/400/460 50.0	470.0 235.0			40.0	200.0
		42.8	235.0	200/208/230 95.6 380/400/460 47.8	470.0 235.0			39.6	200.0

REFRIGERANT COOLED CAPACITY CONTROL TANDEMS

MECHANICAL SPECIFICATIONS

MODEL	HP kW	Consisting of Two Single Compressors	CFH m^3/hr	Oil Charge (Refill Oil Charge)		Overall Dimensions in/mm			Mounting Center Dimensions in/mm		Suction Connection Size	Discharge Connection Size	Weights lb/kg	
			50 Hertz	Oz	Liter	Length	Width	Height	Length	Width	Valve in	Fitting in	Net	Shipping
66E★A60FF (DS) (OC) **6DF★F22ME**	60 44.8	**6DF★A300E** **6DF★F11ME**	8956 253.5	510 (490)	15.1 (14.5)	63 3/4 1619	23 1/4 591	32 1/4 819	55 1397	12 305	3 1/8 Solder	1 5/8 Solder	1194 542	1334 610
66E★A70KK **66DK★R70ME**	70 52.2	**6DK★A350E** **6DK★R35ME**	7496 212.2	280 (260)	8.28 (7.69)	63 3/4 1619	23 1/4 591	21 533	55 1397	12 305	3 1/8 Solder	2 1/8 Solder	1134 514	1284 582
66E★A70PP **66DP★R70ME**	70 52.2	**6DP★A350E** **6DP★R35ME**	7496 212.2	280 (260)	8.28 (7.69)	63 3/4 1619	23 1/4 591	23 3/8 594	55 1397	12 305	3 1/8 Solder	2 1/8 Solder	1144 519	1294 587
66E★A80RR (DS) **66DR★R80ME**	80 59.7	**6DR★A400E** **6DR★R40ME**	8956 253.5	510 (490)	15.1 (14.5)	63 3/4 1619	23 1/4 591	25 3/16 640	55 1397	12 305	3 1/8 Solder	2 1/8 Solder	1230 558	1390 630
66E★A80SS (DS) **66DS★R80ME**	80 59.7	**6DS★A400E** **6DS★R40ME**	8956 253.5	510 (490)	15.1 (14.5)	63 3/4 1619	23 1/4 591	27 9/16 700	55 1397	12 305	3 1/8 Solder	2 1/8 Solder	1240 562	1400 635

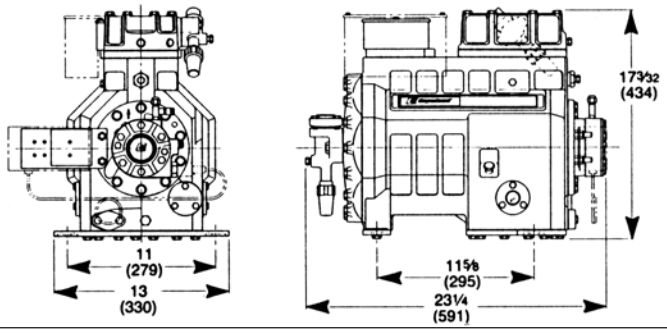
Electrical specifications shown for tandems are per compressor rating.
(DS) Deep oil sumps are standard on this model.
(OC) Oil coolers and vertical cooling fans are standard on this model.

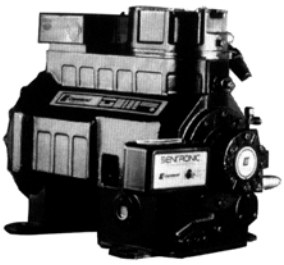
ELECTRICAL SPECIFICATIONS

	FSM 380/420-3-50		FSD 380/420-3-50 460-3-60		TSK 200-3-50 380/400-3-50 208/230-3-60 460-3-60		TSN 200-3-50 380/400-3-50 230-3-60 460-3-60		TSE 500-3-50 575-3-60	
	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA	RLA	LRA
			42.8	235.0	200/208/230 95.6 380/400/460 47.8	470.0 235.0			39.6	200.0
			55.0	260.0	200/208/230 107.0 380/400/460 53.5	565.0 283.0			42.5	230.0
			55.0	260.0	200/208/230 107.0 380/400/460 53.5	565.0 283.0			42.5	230.0
			70.0	315.0			200/230 142.0 380/400/460 71.0	594.0 297.0	53.5	245.0
			70.0	315.0			200/230 142.0 380/400/460 71.0	594.0 297.0	53.5	245.0

DIMENSIONS AND PHOTOGRAPHS

2D FAMILY





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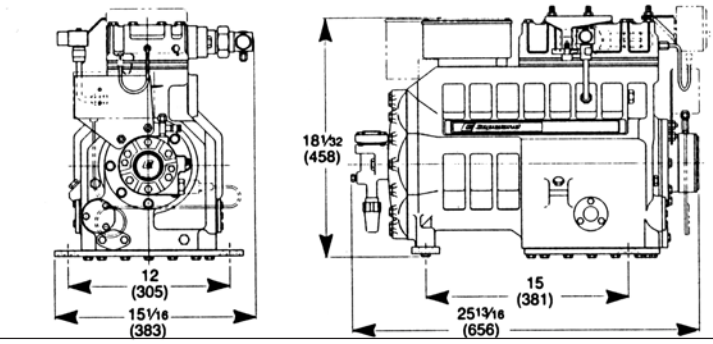
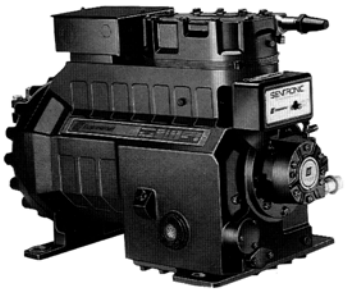
3D FAMILY





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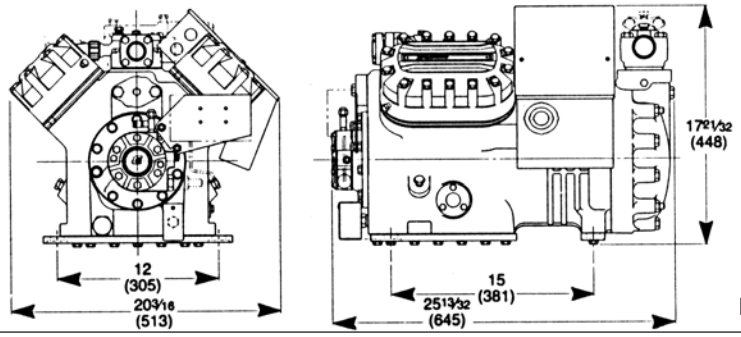
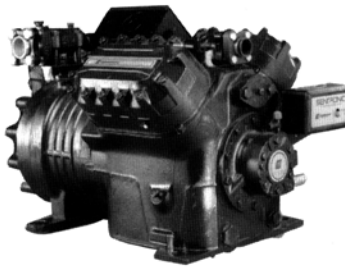
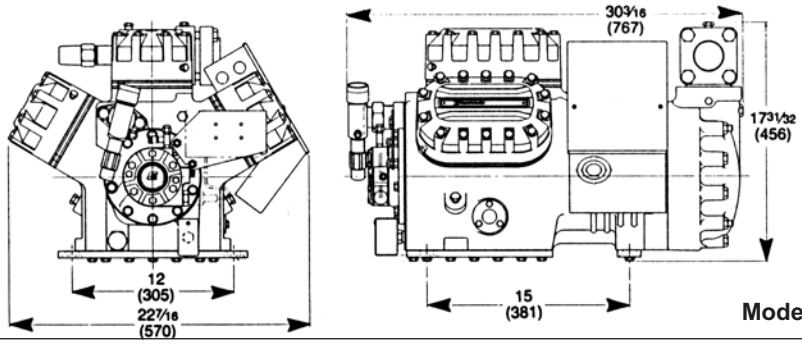
4D FAMILY





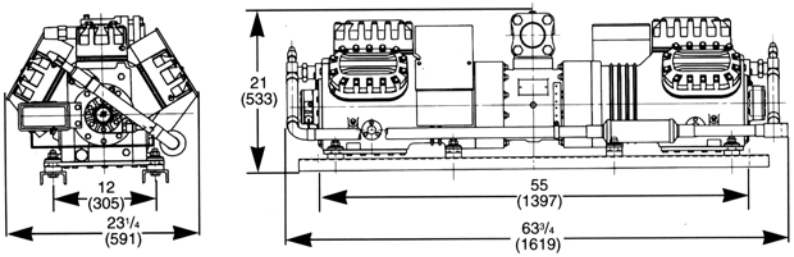
Model 4DA3A200E Shown

6D FAMILY



Model 6DH3A350E Shown

66 FAMILY



Model 66D3A70HH Shown

Dimensions shown are inches (millimeters).

APPLICATION INFORMATION

RATING CONDITIONS USED IN THIS BOOK

Refrigerant	R134a	R404A/R407A/R507
Evaporating Temperature	This book does not specifically define the operating limits of the compressors. See individual specification sheets for exact application capability.	
Condensing Temperature		
Return Gas Temperature	65°F 18.3°C	65°F 18.3°C
Ambient Temperature	95°F 35°C	95°F 35°C
Liquid Subcooling	0°F 0°C	0°F 0°C
Superheat	Varies	Varies

APPLICATION REQUIREMENTS

- All Copeland Discus™ compressors require return gas motor cooling. It is important to note that when operating at evaporating temperatures of 0°F (–17.8°C) or lower, additional motor and cylinder head cooling is required. This can be accomplished by the use of an external fan assembly available from Emerson Climate Technologies. See Application Bulletin AE 4-1135 for complete details and allow for extra height to install the fan to the top of the compressor.
- Oil Pump is Sentronic high pressure oil pump.
- An oil pressure safety control is required on all Copeland Discus™ compressors. Approved controls provide low cost, safe protection against damage from loss of lubrication. These can be supplied by Emerson Climate Technologies and should be listed separately on your purchase orders (except those covering tandem compressors on which they are supplied as standard equipment). There are two types of control available, our new "Sentronic" Control offering improved reliability and accuracy (see next paragraph for details) and the conventional capillary tube type control which can be ordered by using Part Number 998-0700-00. For further information, see Application Bulletin AE 8-1095.
- Emerson Climate Technologies introduces a new era in oil pressure controls with the Sentronic Oil Pressure Control System. The Sentronic electronic control system eliminates capillary tubes used on electro-mechanical systems to sense oil pressure. The new system uses a pressure transducer within the oil pump that produces an electrical signal to the control module. If the oil pressure drops below acceptable limits for a period of two minutes the control module cuts power to the compressor and stops it. The Sentronic offers a new and more reliable solution to capillary leaks. To order the Sentronic Oil Pressure Control use part number 585-1036-00. For instructions refer to Application Bulletin AE 8-1275.

  The Sentronic is only functional when used with our new oil pump that has a machined port for the Sentronic sensor. The Sentronic control and oil pump are standard on all Discus tandem compressors and the oil pump is standard on all Copeland Discus™ compressors.

APPLICATION INFORMATION

APPLICATION REQUIREMENTS (continued)

- HFC Discus 4D, 6D capacity control operating requirements are:
  - Medium Temperature.
    - Evaporating range +25°F to –5°F, –3.9°C to –20.6°C.
    - Vertical cooling fan is required.
    - Maximum condensing temperature 140°F, 60°C.
  - Low Temperature.
    - Vertical cooling fan is required.
    - Oil cooler is required.
    - Maximum condensing temperature is 130°F, 54.4°C.
    - Minimum evaporating temperature for 4D and 6D (33% unloaded) is –40°F, –40°C.
    - Minimum evaporating temperature for 6D (67% unloaded) is –25°F, –31.7°C.
- All 4D and 6D models are equipped with a preset internal relief valve between suction and discharge which will open if the maximum permissible pressure differential is reached.
- All Tandem models include a discharge muffler.
- The nominal rotational speeds of the Copeland Discus™ compressors are:
  - 50 Hertz 1450 RPM.
  - 60 Hertz 1750 RPM.
- Dimensions in this brochure include the terminal box and service valves mounted. Height is from the bottom plate bolts or from bottom of extended oil sump where applicable and does not include mounting parts except mounting for tandem compressors where dimensions include the mounting rails. Mounting center dimensions do not apply to narrow profile deep sump models such as those with an 8 in the fourth place of the model number.
- With the exception of the valve plate and head area, the internal construction of Copeland Discus™ and Conventional Copelametic compressors is similar. While the Discus valving is extremely rugged, Copeland Discus™ compressors can be damaged by abuse in the same way that any compressor can be damaged. The Copeland Discus™ compressor is a highly reliable, highly efficient compressor. It is not a magic panacea for compressor misapplication, and is not a cure-all for recurring system problems that need to be identified and corrected.
- Due to the differences in volumetric capacity, HFC134a should not be used in a compressor originally intended for use with HCFC22.
- Conventional mineral oils are not suitable as lubricants for HFC Copeland Discus™ Compressors due to insufficient lubricity and miscibility. After screening numerous synthetic lubricants, Emerson Climate Technologies has selected a modified pentaerythritol ester oil (POE) MOBIL EAL ARCTIC 22 CC or ICI Emkarate RL32 CF. Other lubricants are being evaluated. Refer to Application Engineering Bulletin 17-1248 for a list of all approved lubricants.
- Ester lubricants have the characteristic of quickly absorbing moisture from the ambient surroundings. Such lubricants absorb moisture faster and in greater quantity than conventional mineral oils. Since moisture levels greater than 100 ppm will result in system corrosion and ultimate failure, it is imperative that compressors, components, containers, and the entire system be kept sealed as much as possible. Lubricants will be packaged in specially designed, sealed containers. After opening, all the lubricant in a container should be used at once since it will readily absorb moisture if left exposed to the ambient. Any unused lubricant should be properly disposed of. Similarly, work on systems and compressors must be carried out with the open time as short as possible. Leaving the system or compressor open during breaks or overnight must be avoided.
- As received, the POE lubricant will be clear or straw colored. After use, it may acquire a darker color. This does not indicate a problem as the darker color merely reflects the activity of the lubricant's protective additive.

APPLICATION INFORMATION

PART WINDING AND STAR-DELTA STARTING MOTOR CHARACTERISTICS

Motor	Leads	Hertz	Across-The-Line	Part Winding
FSD	6	50 60	380/420-3-50 460-3-60	380/420-3-50 460-3-60
FSM	6	50	380/420-3-50	380/420-3-50
TSE	6	50 60	500-3-50 575-3-60	500-3-50 (PW) 575-3-60 (PW)
TSN	9	50 60	200-3-50 380/400-3-50 230-3-60 460-3-60	200-3-50 230-3-60
TSK	9	50 60	200-3-50 380/400-3-50 208/230-3-60 460-3-60	200-3-50 208/230-3-60

(PW) Part winding start applies only to single compressors 20 horsepower, 14.9 kilowatt, and above; tandem 40 horsepower, 29.8 kilowatt, and above.

ELECTRICAL APPLICATION INFORMATION

- On Copeland Discus™ compressors with pilot circuit motor protection (compressors with S type motor protection) the contactor becomes an integral part of the motor protection system. Modern pilot circuit protection used in conjunction with a properly sized and operating contactor provides excellent motor protection. Emerson Climate Technologies specifications require the use of a properly sized, properly applied contactor. For complete contactor sizing information, please see Application Bulletin AE 10-1244.
- Refer to the Electrical Handbook, Form 6400, for wiring diagrams.
- Rated load amps is the value used for contactor and other electrical component selection. It is calculated by dividing the maximum continuous current that the compressor draws under the condition of maximum load operation and the lowest operating voltage by 1.4. See Application Bulletin AE 9-1154 for a detailed explanation.
- Rated load amps (RLA) and locked rotor amps (LRA) shown in this book are at across-the-line, not part winding start or star-delta conditions.

APPLICATION INFORMATION

APPLICATION OPTIONS

- Use bill of material number 200 for standard compressors. This bill of material includes oil charge, mounting parts, standard service valves, overload protectors, terminal box covers and, where applicable, running capacitors, starting capacitors and relays. Oil pressure safety controls, crankcase heaters, contactors, and high-low pressure controls, when required, should be ordered with compressors but listed separately on the purchase order. The exception to this rule is that 200 bill of material tandem compressors include oil pressure safety controls.
- On applications where the cooling load may vary over a wide range, some means of compressor capacity control is frequently necessary for satisfactory system performance. Emerson Climate Technologies has available capacity reduction control devices for the larger Copelametic models. These capacity modulation accessories can be mounted on the compressor at the factory or added in the field. Application Bulletins AE 21-1216 and AE 21-1278 provide detailed technical information. Field conversion kits contain all necessary parts to convert a standard model to a capacity control model.
- Crankcase heaters are required on any refrigeration systems where the compressor is exposed to cold ambient temperatures and the refrigerant charge is over 1 pound (0.45 kg), on all split air conditioning systems, and on package air conditioning equipment 5 HP and larger. As the refrigerant charge increases, the start-up problems associated with vapor refrigerant in liquid oil becomes more critical. The crankcase heater will minimize refrigerant migration to the crankcase during periods when the compressor is not operating and will greatly reduce liquid slugging, loss of oil and compressor damage. Please refer to Application Bulletins AE 4-1166, AE 17-1238, and AE 22-1182 for additional information.
- Any Copeland Discus™ model has the option of an installed deep oil sump.
- Air and water cooled condensing units are available from Emerson Climate Technologies that contain the compressors listed in this section.

UNITS CONVERSION CHART

BTUH × .252 = KCALH
BTUH × .293 = WATTS
(°F – 32) × 5/9 = °C
POUNDS × .454 = KILOGRAMS
INCHES × 25.4 = MILLIMETERS
CUBIC INCHES × 16.386 = CUBIC CENTIMETERS
FLUID OUNCES × .02957 = LITERS
CUBIC FEET × .02831 = CUBIC METERS
HORSEPOWER × .746 = KILOWATTS

APPLICATION INFORMATION

REFRIGERANT CHANGEOVER GUIDELINES

- Emerson Climate Technologies does not advocate the wholesale changeover of CFC refrigerants to HCFCs or HFCs. If a system is not leaking refrigerant to the atmosphere, and is operating properly, there is no technical reason to replace the CFC refrigerant.
- Retrofitting systems that employ compressors manufactured prior to 1973 is not recommended. This is due to the different materials used in motor insulation that have not been evaluated for compatibility with the new refrigerants and lubricants.
- The lubricant recommended by Emerson Climate Technologies for use with R134a and R404A/R407A/R507 is a Polyol Ester (POE), either Mobil EAL™ Arctic 22 CC or ICI EMKARATE™ RL 32 CF. These are the only POE lubricants approved for use in Copeland® brand products compressors and are available from all authorized Emerson Climate Technologies wholesalers. The use of any other POE lubricant may void the compressor warranty.
- It is important that the system contain not more than 5% residual mineral oil. More than 5% may contribute to premature compressor failure and or system capacity short-fall.
- Filter-driers must be changed at the time of conversion. This is proper air conditioning/refrigeration practice.
  - The recommended drier for use with all HFC refrigerants is Alco UltraFlow.
  - Solid core driers such as ALCO ADK are compatible with R12, R134a, R404A, R407A, R502 and R507.
  - Compacted bead type driers can use XH6 or XH9 molecular sieve material such as found in the ALCO EK or EKH series.
  - If a loose fill type drier is to be used, XH9 molecular sieve is required.
- Mineral oil lubricants, such as 3GS, must not be used as the compressor lubricant with HFCs. Polyol Ester (POE) lubricant, Mobil EAL Arctic 22 CC or ICI EMKARATE™ RL 32 CF, are the only lubricants that can be used in a compressor when using these refrigerants.
- Before starting the changeover, it is suggested that at least the following items be ready:
  1. Safety glasses
  2. Gloves
  3. Refrigerant service gauges
  4. Electronic thermometer
  5. Vacuum pump capable of pulling 250 microns
  6. Thermocouple micron gauge
  7. Leak detector
  8. Refrigerant recovery unit including refrigerant cylinder
  9. Proper container for removed lubricant
  10. New liquid control device
  11. Replacement liquid line filter-drier(s)
  12. New POE lubricant, Mobil EAL Arctic 22 CC/ICI EMKARATE RL 32 CF
  13. Pressure temperature chart for new refrigerant
  14. New HFC refrigerant
- Use only Emerson Climate Technologies approved refrigerants and lubricants in the manner prescribed by Emerson Climate Technologies. In some circumstances, other refrigerants and lubricants may be dangerous and could cause fires, explosions or electrical shorting. Contact Emerson Climate Technologies for more information.

SPECIFIC REFRIGERANT CONSIDERATIONS

R134a

- R134a should be used only in systems where the saturated suction temperature is maintained at –10°F (–23.3°C) or higher. It should not be mixed with any other refrigerant!
- The expansion valve may need to be changed. The existing R12 valve when used with R134a will have approximately 15% more capacity. Oversized expansion valves can result in hunting and refrigerant floodback. Consult with the thermostatic expansion valve manufacturer for the correct valve and size.
- R134a exhibits marginally higher pressures than R12 at normal condensing temperatures. We do not believe this will require readjustment of safety controls; however, you should verify this with the system manufacturer or component suppliers.
- Systems that use a low pressure controller to maintain space temperature may need to have the cut-in and cut-out points changed due to the difference in Pressure/Temperature relationships.
- Systems using R134a may have a lower system pressure drop than with R12. Because of the lower pressure drop, check with the manufacturer of any pressure regulators and pilot operated solenoid valves used in the system to be sure that they will operate with the lower pressure drop. It is possible that these controls may have to be downsized in order to operate properly.
- For the R12 to R134a complete changeover procedure please see Bulletin 93-04.

R404A/R407A/R507

- Because mineral oils are not miscible with R404A/R407A/R507, they may log in the evaporator resulting in system capacity loss. It is for this reason that the flushing process must be done with R502 in the system.
- R404A/R407A/R507 can be used in either low or medium temperature systems. These HFC refrigerants should not be mixed with any other refrigerant or with each other.
- The expansion valve will not need to be changed. The existing R502 valve when used with the HFC refrigerants will have virtually the same capacity; however, it may be necessary to adjust the superheat.
- Pressure regulators such as EPR valves may have to be reset. Contact the EPR manufacturer for the correct settings.
- R404A/R407A/R507 exhibit higher pressures than R502 at normal condensing temperatures. This may require that the high pressure safety controls be reset in order to operate as intended.
- The higher pressure characteristics exhibited by these HFC refrigerants will in some cases exceed the industry accepted safety factors on the compressor crankcase (low side). This will require the addition of a pressure relief valve on the compressor crankcase, set at a maximum of 375 psig (26.4 kg/cm²) to adequately protect the compressor from the possibility of excessive pressure. Pressure relief valves can be purchased from your authorized Emerson Climate Technologies wholesaler as part number 998-0051-02. Copeland Discus™ 3D, 4D, 9D and MD compressors require this additional valve.
- Systems that use a low pressure controller to maintain space temperature may need to have the cut-in and cut-out points changed. Although R404A and R407A do exhibit “glide,” the average evaporator or condenser temperature is within 0.5°F (0.28°C) of the saturated vapor temperature; therefore no correction is required.
- Systems using R404A/R407A/R507 should have approximately the same system pressure drop as with R502. Check with the manufacturer of any pressure regulators and pilot operated solenoid valves used in the system to be sure that they will operate properly.
- For the R502 to R404A/R407A/R507 complete changeover procedure please see Bulletin 94-15.

APPLICATION INFORMATION

APPLICATION BULLETINS

Emerson Climate Technologies has compiled a book of compressor Application Bulletins. Please see the following bulletins, from the book, for more HFC Discus compressor application information as entitled below:

SINGLE COMPRESSOR NOMENCLATURE

Primary Application Range
R = ARI High Temperature, Rated @ 45/130 °F
F = ARI Low Temperature, Rated @ -25/105 °F

Compressor Model Type

Code	Description
D	Copeland Discus™

Compressor Motor Type

Phase	Motor Type	Code
Three	Six lead part winding or across the line.	F
Three	Miscellaneous three phase • Single voltage three lead • Single voltage six lead on 500-3-50, 575-3-60; 20 HP, 14.9 kW and up. • Dual voltage nine lead.	T

Product Variations

Bill of Material numbers will be assigned as follows:

Number –100 is standard compressor used in Copeland® brand products condensing units.

Number –200 indicates a standard compressor.

Numbers –201 through 299 will be assigned for all other variations of a given model.

Capacity Multiplier
K - 1,000
M- 10,000

X X X X X X X X X — X X X — X X X

Compressor Family Series
A number established for each product model.

Displacement and Valve Plate
A letter only, arbitrarily assigned for each different displacement and valve plate combination within any one family series.

Model Variations
A number or letter arbitrarily assigned to indicate major variations within any one family series.

Nominal Capacity at Rating Condition
Two numeric characters

Oil Type

"O"	Mineral Oil
"E"	POE Oil
"L"	Less Oil

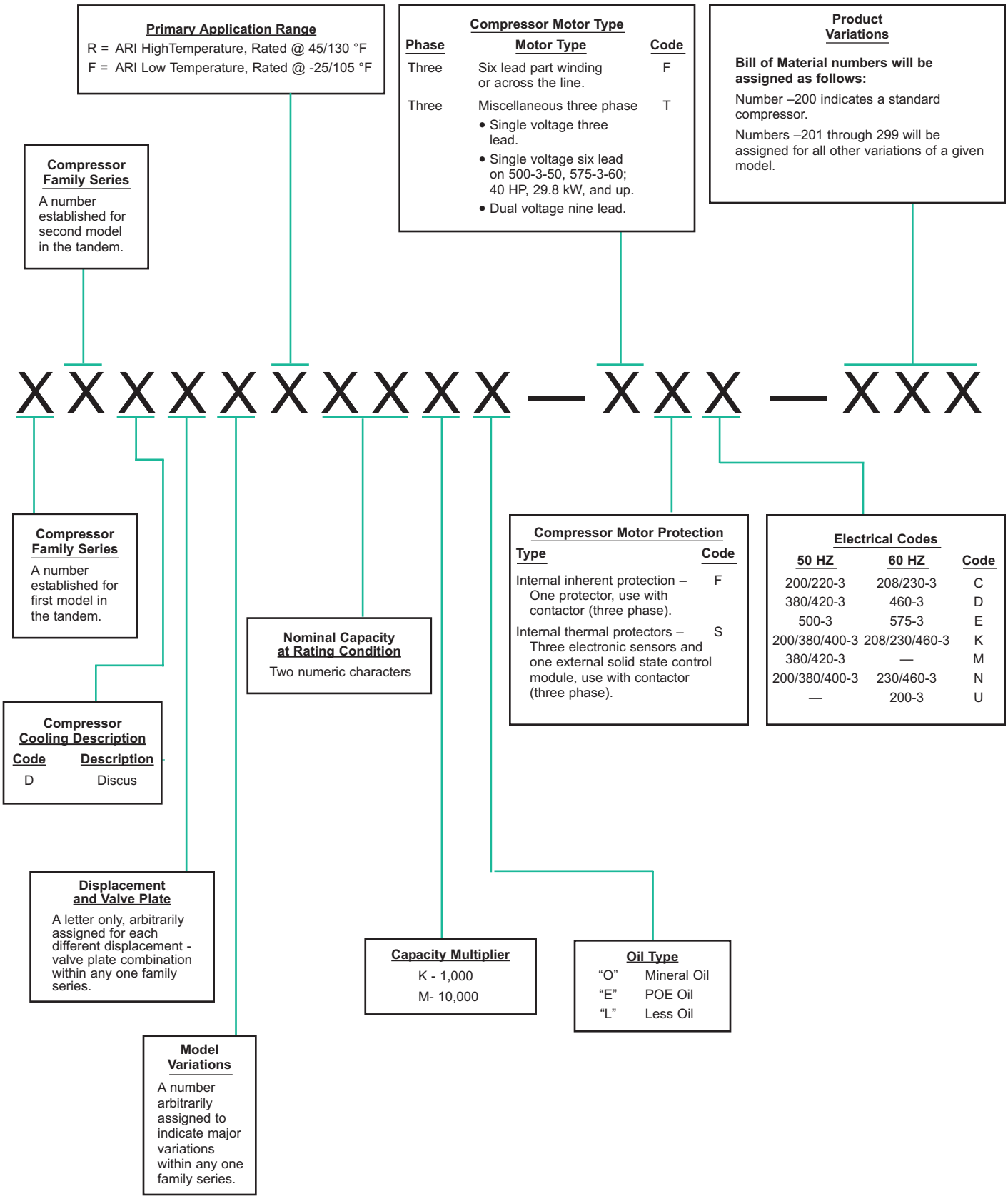
Compressor Motor Protection

Type	Code
Internal inherent protection – One protector, use with contactor (single or three phase).	F
Internal thermal protectors – Three electronic sensors and one external solid state control module, use with contactor (three phase).	S

Electrical Codes

50 HZ	60 HZ	Code
—	230-1	B
200/220-3	208/230-3	C
380/420-3	460-3	D
500-3	575-3	E
200/380/400-3	208/230/460-3	K
380/420-3	—	M
200/380/400-3	230/460-3	N
—	200-3	U

TANDEM COMPRESSOR NOMENCLATURE



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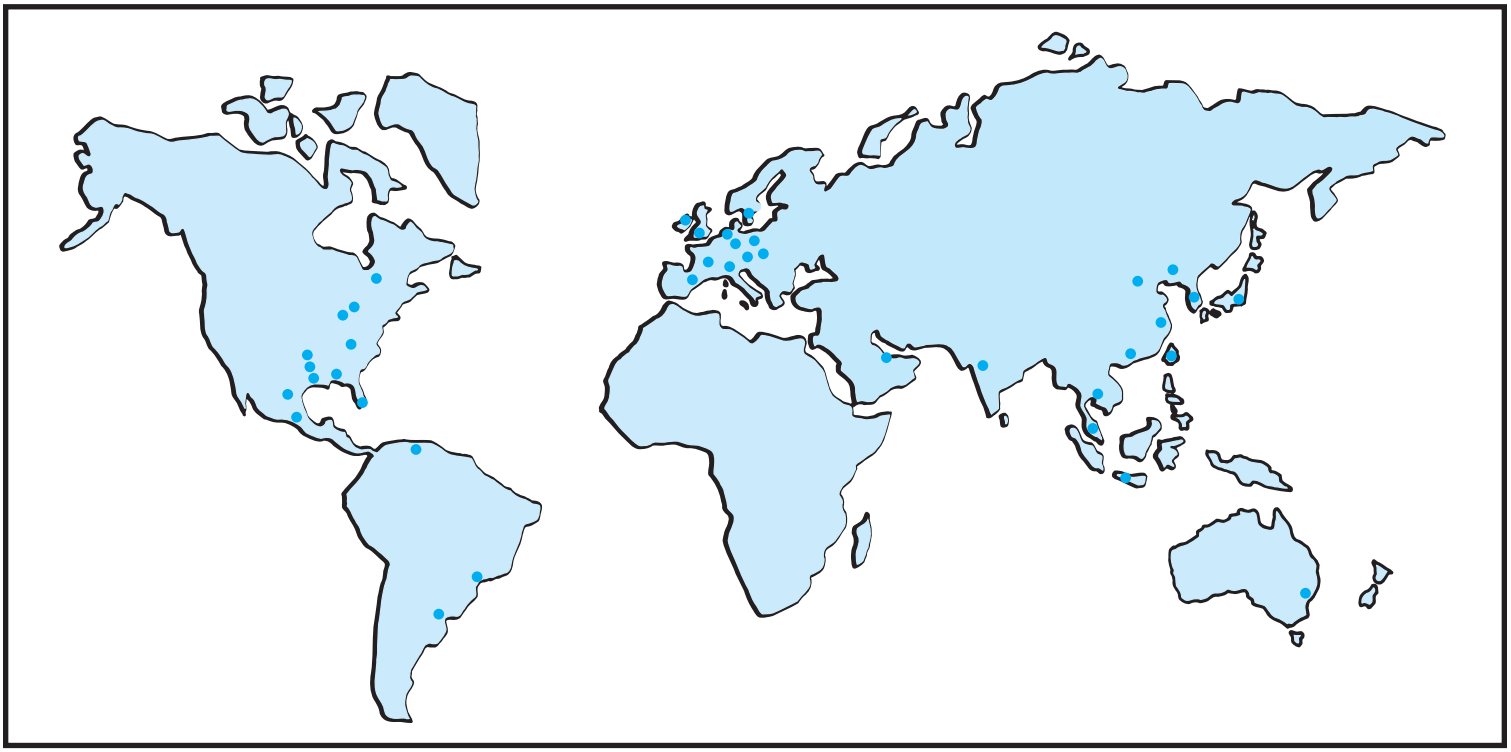

Form 95-50 R2 Revised 1/08

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