

### COMPRESSOR DEFINITION

Designation	EM 3C50HLT
Nominal Voltage/Frequency	115-127 V 60 Hz / 100 V 50 Hz
Engineering Number	513301655

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	115-127 / 60	[ V / Hz ]	
4 Application type	Low Back Pressure		
4.1 Evaporating temperature range	-35°C to -10°C	(-31°F to 14°F)	
5 Motor type	RSCR		
6 Starting torque	LST - Low Starting Torque		
7 Expansion device	Capillary tube		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	Static/Fan	90 to 110 V	103 to 140 V
8.2 LBP (43°C Ambient temperature)	Static/Fan	90 to 110 V	103 to 140 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	14.2	[kgf/cm <sup>2</sup> ] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm <sup>2</sup> ] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/5	[hp]
2 Displacement	4.50	[cm <sup>3</sup> ] (0.275 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	13.000	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	7.6	[kg] (16.75 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm <sup>2</sup> ] (2.84 to 4.27 psig)

### C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	115-127 V 60 Hz / 100 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	TSD	
2.1 Starting device	TSD2-115V/TSD2-115V0.6	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	12(180)/15(180)	[µF(VAC minimum)]
5 Motor protection	4TM283KFBYY-53	
6 Start winding resistance	7.48	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	5.89	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	8.70/8.64	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	2.29/2.04	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.41/2.12	[A] - Measured according to UL 984
11 Approval boards certification	UL	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V60Hz			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 54.4°C (129.92°F)	
Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
547	138	160	89	0.78	3.11	6.16	1.55	1.81

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ASHRAE32 Static				(Condensing temperature 35°C (+95°F) )				
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	309	78	91	60	0.47	1.75	5.17	1.30	1.51
-30	(-22)	435	110	127	66	0.54	2.46	6.51	1.64	1.91
-25	(-13)	570	144	167	76	0.60	3.24	7.49	1.89	2.19
-20	(- 4)	726	183	213	87	0.67	4.13	8.29	2.09	2.43
-15	(+ 5)	915	231	268	100	0.74	5.22	9.12	2.30	2.67
-10	(+14)	1148	289	336	113	0.81	6.58	10.16	2.56	2.98

TEST CONDITIONS: @115V60Hz		ASHRAE32 Static				(Condensing temperature 45°C (+113°F) )				
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	271	68	79	60	0.47	1.53	4.50	1.14	1.32
-30	(-22)	400	101	117	69	0.55	2.27	5.78	1.46	1.69
-25	(-13)	536	135	157	81	0.64	3.04	6.65	1.68	1.95
-20	(- 4)	689	174	202	95	0.72	3.92	7.33	1.85	2.15
-15	(+ 5)	871	220	255	109	0.81	4.97	8.00	2.02	2.34
-10	(+14)	1094	276	321	123	0.90	6.27	8.87	2.23	2.60

TEST CONDITIONS: @115V60Hz		ASHRAE32 Static				(Condensing temperature 55°C (+131°F) )				
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	216	54	63	57	0.45	1.22	3.75	0.94	1.10
-30	(-22)	351	89	103	69	0.55	1.99	5.01	1.26	1.47
-25	(-13)	489	123	143	84	0.66	2.78	5.85	1.47	1.71
-20	(- 4)	642	162	188	100	0.77	3.65	6.46	1.63	1.89
-15	(+ 5)	820	207	240	117	0.88	4.68	7.04	1.77	2.06
-10	(+14)	1035	261	303	132	0.99	5.93	7.78	1.96	2.28

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ASHRAE32 Static			(Condensing temperature 65°C (+149°F) )					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	143	36	42	51	0.41	0.81	2.84	0.72	0.83
-30	(-22)	287	72	84	67	0.53	1.63	4.15	1.05	1.22
-25	(-13)	430	108	126	85	0.66	2.44	5.01	1.26	1.47
-20	(- 4)	584	147	171	104	0.79	3.32	5.62	1.42	1.65
-15	(+ 5)	760	192	223	123	0.93	4.34	6.17	1.56	1.81
-10	(+14)	971	245	284	141	1.07	5.56	6.86	1.73	2.01

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	8.2 +0.12/-0.08	[mm]	(0.323" +0.005"/-0.003")
3.1.1 Material	Copper		
3.1.2 Shape	Straight		
3.2 DISCHARGE	4.94 +0.08/-0.08	[mm]	(0.194" +0.003"/-0.003")
3.2.1 Material	Copper		
3.2.2 Shape	Straight		
3.3 PROCESS	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.3.1 Material	Copper		
3.3.2 Shape	Straight		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		