

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 ²] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm ²] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/5	[hp]
2 Displacement	4.50	[cm ³] (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 ²] (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	PTC	
2.1 Starting device	8EA14B3/8EA14C3/QPS2-A4R7MD3	
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)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[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	90	0.78	3.11	6.06	1.53	1.78

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	62	0.47	1.75	5.04	1.27	1.48	
-30 (-22)	435	110	127	68	0.54	2.46	6.37	1.61	1.87	
-25 (-13)	570	144	167	77	0.60	3.24	7.34	1.85	2.15	
-20 (- 4)	726	183	213	89	0.67	4.13	8.15	2.05	2.39	
-15 (+ 5)	915	231	268	102	0.74	5.22	8.98	2.26	2.63	
-10 (+14)	1148	289	336	114	0.81	6.58	10.03	2.53	2.94	

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	61	0.47	1.53	4.39	1.11	1.29	
-30 (-22)	400	101	117	71	0.55	2.27	5.65	1.42	1.66	
-25 (-13)	536	135	157	82	0.64	3.04	6.53	1.65	1.91	
-20 (- 4)	689	174	202	96	0.72	3.92	7.21	1.82	2.11	
-15 (+ 5)	871	220	255	111	0.81	4.97	7.89	1.99	2.31	
-10 (+14)	1094	276	321	124	0.90	6.27	8.76	2.21	2.57	

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	59	0.45	1.22	3.65	0.92	1.07	
-30 (-22)	351	89	103	71	0.55	1.99	4.90	1.24	1.44	
-25 (-13)	489	123	143	86	0.66	2.78	5.74	1.45	1.68	
-20 (- 4)	642	162	188	102	0.77	3.65	6.36	1.60	1.86	
-15 (+ 5)	820	207	240	118	0.88	4.68	6.95	1.75	2.04	
-10 (+14)	1035	261	303	134	0.99	5.93	7.70	1.94	2.26	

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	52	0.41	0.81	2.76	0.70	0.81
-30	(-22)	287	72	84	68	0.53	1.63	4.06	1.02	1.19
-25	(-13)	430	108	126	86	0.66	2.44	4.93	1.24	1.44
-20	(- 4)	584	147	171	106	0.79	3.32	5.54	1.40	1.62
-15	(+ 5)	760	192	223	125	0.93	4.34	6.10	1.54	1.79
-10	(+14)	971	245	284	142	1.07	5.56	6.79	1.71	1.99

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		