

### COMPRESSOR DEFINITION

Designation	EM 2Z60HLT
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513304002

### 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	-	98 to 140 V
8.2 LBP (43°C Ambient temperature)	Static	-	98 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		[hp]
2 Displacement	5.54	[cm <sup>3</sup> ] (0.338 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	16.000	
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)	8.36	[kg] (18.43 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 1 ~ (Single phase)	
2 Starting device type	TSD	
2.1 Starting device	TSD- 115V	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	12(180)/15(180)	[µF(VAC minimum)]
5 Motor protection	4TM319NFBYY-53	
6 Start winding resistance	5.80	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	3.10	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	14.60	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	2.10	[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]
675	170	198	117	1.07	3.84	5.76	1.45	1.69

### 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)	391	98	115	76	0.65	2.21	5.17	1.30	1.51
-30 (-22)	499	126	146	85	0.76	2.83	5.95	1.50	1.74
-25 (-13)	662	167	194	97	0.87	3.76	6.84	1.72	2.00
-20 (- 4)	876	221	257	112	0.98	4.99	7.82	1.97	2.29
-15 (+ 5)	1138	287	334	128	1.10	6.50	8.85	2.23	2.59
-10 (+14)	1445	364	423	146	1.23	8.28	9.94	2.50	2.91

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)	364	92	107	79	0.71	2.06	4.58	1.16	1.34
-30 (-22)	472	119	138	90	0.83	2.68	5.30	1.34	1.55
-25 (-13)	630	159	185	103	0.95	3.58	6.11	1.54	1.79
-20 (- 4)	834	210	244	119	1.07	4.75	6.99	1.76	2.05
-15 (+ 5)	1081	272	317	136	1.20	6.17	7.92	2.00	2.32
-10 (+14)	1368	345	401	154	1.34	7.84	8.88	2.24	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)	338	85	99	83	0.76	1.91	4.05	1.02	1.19
-30 (-22)	445	112	130	95	0.89	2.52	4.71	1.19	1.38
-25 (-13)	597	150	175	109	1.01	3.39	5.45	1.37	1.60
-20 (- 4)	790	199	232	126	1.14	4.50	6.25	1.57	1.83
-15 (+ 5)	1022	257	299	145	1.28	5.83	7.07	1.78	2.07
-10 (+14)	1289	325	378	163	1.43	7.38	7.92	2.00	2.32

### 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)	311	78	91	88	0.80	1.76	3.55	0.89	1.04
-30	(-22)	417	105	122	100	0.93	2.36	4.17	1.05	1.22
-25	(-13)	563	142	165	116	1.06	3.20	4.85	1.22	1.42
-20	(- 4)	745	188	218	134	1.20	4.24	5.56	1.40	1.63
-15	(+ 5)	961	242	282	153	1.34	5.49	6.30	1.59	1.85
-10	(+14)	1207	304	354	172	1.50	6.92	7.04	1.77	2.06

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EUEM		
2 Tray holder	Yes		
3 Connectors			
3.1 SUCTION	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted 42° up + 45° to Back		
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	Slanted 30° up + 24° to Back		
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	Slanted 45° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		