

### COMPRESSOR DEFINITION

Designation	EM Y3111Z
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	171BA77

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220-240 / 50	[ V / Hz ]	
4 Application type	Low-Medium Back Pressure (Commercial Compressors)		
4.1 Evaporating temperature range	-35°C to 0°C	(-31°F to 32°F)	
5 Motor type	RSIR		
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)	-	-	-
8.2 LBP (43°C Ambient temperature)	-	-	-
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	1/8	[hp]
2 Displacement	4.53	[cm <sup>3</sup> ] (0.276 cu.in)
2.1 Bore [mm]	19.000	
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)	7.7	[kg] (16.98 lb.)
5 Nitrogen charge	-	[kgf/cm <sup>2</sup> ]

### C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	V230	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	AE64FS	
6 Start winding resistance	16.55	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	25.00	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	5.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	VDE	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			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]
440	111	129	91	0.64	2.50	4.81	1.21	1.41

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			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)	248	62	73	61	0.56	1.40	4.04	1.02	1.18
-30 (-22)	335	84	98	71	0.59	1.90	4.74	1.20	1.39
-25 (-13)	453	114	133	81	0.61	2.58	5.62	1.42	1.65
-20 (- 4)	602	152	177	91	0.64	3.43	6.66	1.68	1.95
-15 (+ 5)	782	197	229	100	0.67	4.46	7.81	1.97	2.29
-10 (+14)	990	250	290	110	0.70	5.67	9.05	2.28	2.65
-5 (+23)	1228	309	360	119	0.73	7.06	10.34	2.61	3.03
0 (+32)	1493	376	438	128	0.76	8.63	11.66	2.94	3.42

TEST CONDITIONS: @220V50Hz			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)	224	56	66	61	0.57	1.27	3.67	0.93	1.08
-30 (-22)	307	77	90	73	0.60	1.74	4.22	1.06	1.24
-25 (-13)	420	106	123	86	0.63	2.39	4.89	1.23	1.43
-20 (- 4)	564	142	165	99	0.67	3.21	5.67	1.43	1.66
-15 (+ 5)	737	186	216	113	0.71	4.21	6.50	1.64	1.90
-10 (+14)	940	237	275	127	0.76	5.38	7.37	1.86	2.16
-5 (+23)	1170	295	343	142	0.81	6.73	8.24	2.08	2.41
0 (+32)	1429	360	419	158	0.87	8.26	9.07	2.29	2.66

TEST CONDITIONS: @220V50Hz			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)	198	50	58	62	0.56	1.12	3.20	0.81	0.94
-30 (-22)	276	70	81	74	0.59	1.57	3.77	0.95	1.10
-25 (-13)	385	97	113	87	0.63	2.18	4.42	1.11	1.29
-20 (- 4)	523	132	153	103	0.67	2.98	5.11	1.29	1.50
-15 (+ 5)	690	174	202	119	0.73	3.94	5.81	1.46	1.70
-10 (+14)	886	223	260	137	0.79	5.08	6.48	1.63	1.90
-5 (+23)	1110	280	325	156	0.86	6.38	7.11	1.79	2.08
0 (+32)	1361	343	399	177	0.94	7.87	7.65	1.93	2.24

### F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard		
2 Tray holder	Yes		
3 Connectors			
3.1 SUCTION	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted 42°		
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	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.3.1 Material	Copper		
3.3.2 Shape	Slanted 46°		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		