

### COMPRESSOR DEFINITION

Designation	<b>EM 2Z80HLC</b>
Nominal Voltage/Frequency	<b>220-240 V 50 Hz</b>
Engineering Number	<b>513304110</b>

### 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 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)	-	-	-
8.2 LBP (43°C Ambient temperature)	Static	198 to 255 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	1/4	[hp]
2 Displacement	6.99	[cm <sup>3</sup> ] (0.427 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	17.600	
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)	7.68	[kg] (16.93 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	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA17C3/8EA17E62/8EA17E63/QPS2-A22MD3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(450)	[µF(VAC minimum)]
5 Motor protection	4TM739KFBYY-53	
6 Start winding resistance	20.57	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	20.44	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	5.32	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	0.39	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	0.36	[A] - Measured according to UL 984
11 Approval boards certification		

### 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]
694	175	203	121	0.57	3.94	5.73	1.44	1.68

### 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)	400	101	117	78	0.38	2.26	5.14	1.29	1.50
-30 (-22)	549	138	161	92	0.44	3.11	5.99	1.51	1.76
-25 (-13)	729	184	214	106	0.50	4.14	6.92	1.74	2.03
-20 (- 4)	945	238	277	120	0.57	5.38	7.92	2.00	2.32
-15 (+ 5)	1204	303	353	134	0.63	6.87	9.01	2.27	2.64
-10 (+14)	1510	381	443	148	0.70	8.65	10.20	2.57	2.99

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)	357	90	105	80	0.39	2.02	4.46	1.12	1.31
-30 (-22)	505	127	148	95	0.45	2.86	5.28	1.33	1.55
-25 (-13)	684	172	200	111	0.53	3.88	6.11	1.54	1.79
-20 (- 4)	900	227	264	129	0.60	5.12	6.97	1.76	2.04
-15 (+ 5)	1159	292	340	147	0.69	6.62	7.87	1.98	2.31
-10 (+14)	1467	370	430	166	0.78	8.40	8.82	2.22	2.58

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)	308	78	90	82	0.40	1.74	3.80	0.96	1.11
-30 (-22)	450	113	132	97	0.46	2.55	4.63	1.17	1.36
-25 (-13)	624	157	183	115	0.54	3.54	5.43	1.37	1.59
-20 (- 4)	836	211	245	134	0.63	4.76	6.20	1.56	1.82
-15 (+ 5)	1091	275	320	156	0.73	6.23	6.95	1.75	2.04
-10 (+14)	1396	352	409	181	0.84	8.00	7.71	1.94	2.26

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		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)	254	64	74	82	0.41	1.44	3.07	0.77	0.90
-30	(-22)	386	97	113	97	0.47	2.19	3.97	1.00	1.16
-25	(-13)	551	139	161	116	0.54	3.13	4.78	1.20	1.40
-20	(- 4)	754	190	221	137	0.64	4.29	5.51	1.39	1.62
-15	(+ 5)	1001	252	293	163	0.76	5.71	6.19	1.56	1.81
-10	(+14)	1298	327	380	191	0.89	7.44	6.81	1.72	1.99

### 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 parallel BP+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		