

### COMPRESSOR DEFINITION

Designation	<b>EM 2Z80HLT</b>
Nominal Voltage/Frequency	<b>220 V 60 Hz</b>
Engineering Number	<b>513304104</b>

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220 / 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	-	103 to 140 V
8.2 LBP (43°C Ambient temperature)	Static	-	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		[hp]
2 Displacement	6.76	[cm <sup>3</sup> ] (0.413 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	17.000	
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)	6.93	[kg] (15.28 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 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA17C3/8EA17E61/8EA17E62/8EA17E63/8EA17E64/QPS2-A	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(350)	[µF(VAC minimum)]
5 Motor protection	4TM232NFBYY-53	
6 Start winding resistance	18.20	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	15.27	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	6.60	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	0.90	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	1.20	[A] - Measured according to UL 984
11 Approval boards certification	TUV	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V60Hz			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]
771	194	226	138	0.66	4.38	5.60	1.41	1.64

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz			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)	450	113	132	90	0.44	2.55	5.00	1.26	1.46
-30 (-22)	608	153	178	106	0.51	3.45	5.79	1.46	1.70
-25 (-13)	812	205	238	122	0.59	4.61	6.66	1.68	1.95
-20 (- 4)	1066	269	312	140	0.67	6.07	7.62	1.92	2.23
-15 (+ 5)	1374	346	403	158	0.74	7.84	8.70	2.19	2.55
-10 (+14)	1741	439	510	175	0.82	9.97	9.92	2.50	2.91

TEST CONDITIONS: @220V60Hz			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)	403	102	118	91	0.45	2.28	4.40	1.11	1.29
-30 (-22)	560	141	164	108	0.53	3.18	5.18	1.31	1.52
-25 (-13)	759	191	222	127	0.61	4.31	5.98	1.51	1.75
-20 (- 4)	1003	253	294	147	0.70	5.71	6.82	1.72	2.00
-15 (+ 5)	1296	327	380	168	0.79	7.40	7.73	1.95	2.26
-10 (+14)	1644	414	482	188	0.88	9.42	8.72	2.20	2.55

TEST CONDITIONS: @220V60Hz			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)	344	87	101	92	0.46	1.95	3.73	0.94	1.09
-30 (-22)	504	127	148	111	0.54	2.86	4.55	1.15	1.33
-25 (-13)	701	177	205	131	0.63	3.98	5.33	1.34	1.56
-20 (- 4)	938	236	275	154	0.73	5.34	6.10	1.54	1.79
-15 (+ 5)	1221	308	358	177	0.83	6.97	6.89	1.74	2.02
-10 (+14)	1554	392	455	202	0.94	8.90	7.70	1.94	2.26

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		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)	274	69	80	92	0.47	1.55	2.97	0.75	0.87
-30	(-22)	441	111	129	113	0.56	2.50	3.87	0.98	1.14
-25	(-13)	639	161	187	135	0.65	3.63	4.69	1.18	1.38
-20	(- 4)	874	220	256	160	0.76	4.97	5.45	1.37	1.60
-15	(+ 5)	1149	290	337	187	0.88	6.56	6.16	1.55	1.81
-10	(+14)	1470	370	431	215	1.00	8.42	6.85	1.73	2.01

### F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EUEM		
2 Tray holder	No		
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	6.35 +0.08/-0.08	[mm]	(0.250" +0.003"/-0.003")
3.3.1 Material	Copper(OD)		
3.3.2 Shape	Slanted 45° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		