

COMPRESSOR DEFINITION

Designation	EM Z100HLC
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513304108

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 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	1/3	[hp]
2 Displacement	8.41	[cm ³] (0.513 cu.in)
2.1 Bore [mm]	24.000	
2.2 Stroke [mm]	18.600	
3 Lubricant charge	180	[ml] (6.09 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	7.68	[kg] (16.93 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	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA17C3/8EA17E61/8EA17E62/8EA17E63/QPS2-A22MD3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(450)	[µF(VAC minimum)]
5 Motor protection	4TM739LFBYY-53	
6 Start winding resistance	19.47	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	14.93	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	7.10	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	0.90	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	1.00	[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]
850	214	249	152	0.75	4.83	5.60	1.41	1.64

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)	511	129	150	102	0.53	2.89	5.02	1.26	1.47	
-30 (-22)	680	171	199	117	0.60	3.85	5.82	1.47	1.70	
-25 (-13)	892	225	261	133	0.67	5.06	6.72	1.69	1.97	
-20 (- 4)	1152	290	337	150	0.74	6.55	7.71	1.94	2.26	
-15 (+ 5)	1465	369	429	167	0.81	8.37	8.79	2.22	2.58	
-10 (+14)	1838	463	539	185	0.89	10.53	9.96	2.51	2.92	

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)	455	115	133	104	0.55	2.57	4.39	1.11	1.29	
-30 (-22)	623	157	183	121	0.62	3.53	5.13	1.29	1.50	
-25 (-13)	834	210	244	140	0.70	4.74	5.94	1.50	1.74	
-20 (- 4)	1093	275	320	160	0.78	6.22	6.80	1.71	1.99	
-15 (+ 5)	1406	354	412	182	0.88	8.03	7.72	1.94	2.26	
-10 (+14)	1777	448	521	205	0.98	10.18	8.68	2.19	2.54	

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)	394	99	115	103	0.56	2.23	3.85	0.97	1.13	
-30 (-22)	559	141	164	122	0.63	3.17	4.57	1.15	1.34	
-25 (-13)	766	193	225	144	0.71	4.35	5.31	1.34	1.56	
-20 (- 4)	1021	257	299	168	0.81	5.81	6.07	1.53	1.78	
-15 (+ 5)	1330	335	390	194	0.93	7.59	6.84	1.72	2.00	
-10 (+14)	1697	428	497	223	1.06	9.72	7.62	1.92	2.23	

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)	330	83	97	98	0.56	1.87	3.35	0.84	0.98
-30	(-22)	488	123	143	120	0.63	2.77	4.07	1.02	1.19
-25	(-13)	689	174	202	145	0.72	3.91	4.76	1.20	1.40
-20	(- 4)	937	236	275	173	0.83	5.33	5.44	1.37	1.60
-15	(+ 5)	1239	312	363	204	0.97	7.07	6.10	1.54	1.79
-10	(+14)	1599	403	468	238	1.12	9.16	6.73	1.69	1.97

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		