

COMPRESSOR DEFINITION

Designation	EG Z90HLPW
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513700267

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	85 to 110 V	98 to 140 V
8.2 LBP (43°C Ambient temperature)	Static	85 to 110 V	98 to 140 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing pressures/temperature			
9.1 Operating (gauge)	16.2	[kgf/cm ²] (230 psig)	/ °C - °F
9.2 Peak (gauge)	20.6	[kgf/cm ²] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/4+	[hp]
2 Displacement	7.55	[cm ³] (0.461 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	19.000	
3 Lubricant charge	280	[ml] (9.47 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	11.52	[kg] (25.40 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	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	7M4R7MD3/8EA14C3/8EA1B3/8EA21C3/8EA3B3/8EA4B3/8M4I	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	12(180)	[µF(VAC minimum)]
5 Motor protection	4TM437NFBYY-53	
6 Start winding resistance	6.05	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	2.95	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	15.10	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	2.40	[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]
963	243	282	162	1.52	5.47	5.93	1.49	1.74

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)	612	154	179	115	0.97	3.46	5.31	1.34	1.56	
-30 (-22)	786	198	230	129	1.10	4.45	6.09	1.54	1.79	
-25 (-13)	1009	254	296	145	1.24	5.73	6.97	1.76	2.04	
-20 (- 4)	1285	324	377	162	1.39	7.32	7.95	2.00	2.33	
-15 (+ 5)	1621	408	475	178	1.55	9.25	9.07	2.29	2.66	
-10 (+14)	2020	509	592	195	1.72	11.58	10.34	2.60	3.03	

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)	525	132	154	110	1.09	2.97	4.79	1.21	1.40	
-30 (-22)	709	179	208	129	1.24	4.02	5.53	1.39	1.62	
-25 (-13)	938	236	275	149	1.41	5.33	6.32	1.59	1.85	
-20 (- 4)	1218	307	357	169	1.58	6.93	7.18	1.81	2.10	
-15 (+ 5)	1553	391	455	191	1.76	8.87	8.11	2.04	2.38	
-10 (+14)	1949	491	571	212	1.95	11.17	9.14	2.30	2.68	

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)	440	111	129	106	1.07	2.49	4.16	1.05	1.22	
-30 (-22)	634	160	186	129	1.26	3.59	4.91	1.24	1.44	
-25 (-13)	870	219	255	154	1.46	4.94	5.65	1.42	1.66	
-20 (- 4)	1153	291	338	180	1.67	6.56	6.41	1.62	1.88	
-15 (+ 5)	1489	375	436	207	1.90	8.50	7.20	1.81	2.11	
-10 (+14)	1882	474	552	234	2.13	10.78	8.05	2.03	2.36	

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)	326	82	96	95	0.97	1.84	3.42	0.86	1.00
-30	(-22)	531	134	155	125	1.21	3.01	4.22	1.06	1.24
-25	(-13)	774	195	227	155	1.47	4.40	4.96	1.25	1.45
-20	(- 4)	1062	268	311	188	1.74	6.04	5.67	1.43	1.66
-15	(+ 5)	1398	352	410	221	2.02	7.98	6.36	1.60	1.86
-10	(+14)	1789	451	524	254	2.31	10.25	7.06	1.78	2.07

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EG/F/AMEM version 2		
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	Straight		
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	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.3.1 Material	Copper		
3.3.2 Shape	Straight		
3.4 Oil cooler (Copper)	4.9 +0.02/-0.05	[mm]	(0.193" +0.001"/-0.002")
3.5 Connector sealing	Rubber Plugs		