

COMPRESSOR DEFINITION

Designation	EG ZS90HLC
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513701207

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)	Static	198 to 255 V	-
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 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	7.15	[cm ³] (0.436 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	18.000	
3 Lubricant charge	230	[ml] (7.78 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO7	
4 Weight (with oil charge)	11.23	[kg] (24.76 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	7M220MD3/8EA17C3/8M220MD3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(400)/4(400)	[µF(VAC minimum)]
5 Motor protection	4TM213PFBYY-53	
6 Start winding resistance	25.50	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	18.40	[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)	0.79	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	0.98	[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]
755	190	221	127	0.61	4.29	5.96	1.50	1.75

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)	460	116	135	78	0.37	2.60	5.87	1.48	1.72
-30	(-22)	602	152	176	90	0.43	3.41	6.68	1.68	1.96
-25	(-13)	778	196	228	103	0.49	4.42	7.58	1.91	2.22
-20	(- 4)	985	248	289	116	0.55	5.61	8.52	2.15	2.50
-15	(+ 5)	1218	307	357	129	0.62	6.95	9.45	2.38	2.77
-10	(+14)	1471	371	431	143	0.68	8.43	10.31	2.60	3.02

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)	404	102	118	83	0.40	2.28	4.92	1.24	1.44
-30	(-22)	555	140	163	98	0.47	3.15	5.70	1.44	1.67
-25	(-13)	746	188	219	113	0.54	4.24	6.59	1.66	1.93
-20	(- 4)	972	245	285	128	0.62	5.53	7.53	1.90	2.21
-15	(+ 5)	1227	309	359	144	0.69	7.00	8.49	2.14	2.49
-10	(+14)	1507	380	442	160	0.77	8.63	9.40	2.37	2.75

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)	346	87	101	81	0.39	1.96	4.30	1.08	1.26
-30	(-22)	493	124	145	100	0.48	2.80	4.92	1.24	1.44
-25	(-13)	684	172	200	120	0.57	3.88	5.67	1.43	1.66
-20	(- 4)	913	230	267	139	0.66	5.19	6.50	1.64	1.90
-15	(+ 5)	1175	296	344	160	0.76	6.71	7.36	1.85	2.16
-10	(+14)	1467	370	430	180	0.85	8.40	8.19	2.06	2.40

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)	288	73	84	71	0.35	1.63	4.03	1.02	1.18
-30	(-22)	416	105	122	97	0.47	2.36	4.36	1.10	1.28
-25	(-13)	591	149	173	123	0.59	3.35	4.85	1.22	1.42
-20	(- 4)	808	204	237	149	0.71	4.60	5.44	1.37	1.59
-15	(+ 5)	1063	268	312	175	0.83	6.07	6.08	1.53	1.78
-10	(+14)	1351	341	396	201	0.95	7.74	6.71	1.69	1.97

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)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		