

COMPRESSOR DEFINITION

Designation	EG ZS100HLC
Nominal Voltage/Frequency	220-240 V 50-60 Hz
Engineering Number	513701349

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220-240 / 50-60	[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/Fan	198 to 255 V	198 to 255 V
8.2 LBP (43°C Ambient temperature)	Static/Fan	198 to 255 V	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	1/3	[hp]
2 Displacement	7.95	[cm ³] (0.485 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	20.000	
3 Lubricant charge	230	[ml] (7.78 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	11.3	[kg] (24.91 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 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	7M220MD2/7M220MD3/8EA17C3/8M220MD2/8M220MD3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	4(380)/5(400)	[µF(VAC minimum)]
5 Motor protection	4TM302KFBYY-53	
6 Start winding resistance	25.08	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	9.84	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	9.85/8.85	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	1.60/1.38	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	1.90/1.70	[A] - Measured according to UL 984
11 Approval boards certification	IMTRO - IRAM - TUV - VDE	

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]
855	215	251	147	0.82	4.86	5.80	1.46	1.70

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]
1050	265	308	175	0.83	5.97	5.99	1.51	1.76

E - PERFORMANCE - CURVES

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)	442	111	129	97	0.55	2.50	4.56	1.15	1.34
-30 (-22)	620	156	182	114	0.64	3.52	5.47	1.38	1.60
-25 (-13)	828	209	242	132	0.73	4.70	6.32	1.59	1.85
-20 (- 4)	1074	271	315	150	0.82	6.11	7.16	1.80	2.10
-15 (+ 5)	1369	345	401	170	0.93	7.82	8.03	2.02	2.35
-10 (+14)	1724	434	505	191	1.04	9.88	8.99	2.26	2.63

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)	362	91	106	92	0.53	2.05	3.92	0.99	1.15
-30 (-22)	554	140	162	114	0.64	3.14	4.84	1.22	1.42
-25 (-13)	769	194	225	136	0.75	4.36	5.65	1.42	1.66
-20 (- 4)	1016	256	298	159	0.87	5.78	6.41	1.62	1.88
-15 (+ 5)	1306	329	383	182	0.99	7.45	7.16	1.80	2.10
-10 (+14)	1648	415	483	207	1.13	9.44	7.94	2.00	2.33

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)	263	66	77	78	0.46	1.49	3.38	0.85	0.99	
-30 (-22)	471	119	138	107	0.61	2.67	4.31	1.09	1.26	
-25 (-13)	695	175	204	135	0.76	3.94	5.09	1.28	1.49	
-20 (- 4)	945	238	277	164	0.91	5.38	5.77	1.45	1.69	
-15 (+ 5)	1231	310	361	194	1.07	7.03	6.38	1.61	1.87	
-10 (+14)	1564	394	458	224	1.23	8.96	6.99	1.76	2.05	

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)	543	137	159	115	0.55	3.07	4.70	1.18	1.38	
-30 (-22)	762	192	223	136	0.64	4.32	5.63	1.42	1.65	
-25 (-13)	1017	256	298	157	0.74	5.77	6.50	1.64	1.91	
-20 (- 4)	1319	332	387	179	0.83	7.51	7.36	1.85	2.16	
-15 (+ 5)	1682	424	493	203	0.94	9.60	8.25	2.08	2.42	
-10 (+14)	2117	534	620	228	1.05	12.13	9.24	2.33	2.71	

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)	445	112	130	110	0.53	2.52	4.03	1.02	1.18	
-30 (-22)	681	172	200	136	0.64	3.86	4.98	1.25	1.46	
-25 (-13)	945	238	277	163	0.76	5.36	5.82	1.47	1.70	
-20 (- 4)	1248	314	366	190	0.88	7.10	6.59	1.66	1.93	
-15 (+ 5)	1604	404	470	218	1.01	9.15	7.36	1.85	2.16	
-10 (+14)	2024	510	593	247	1.14	11.60	8.16	2.06	2.39	

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)	323	81	95	93	0.46	1.83	3.47	0.87	1.02	
-30 (-22)	578	146	170	127	0.61	3.28	4.44	1.12	1.30	
-25 (-13)	854	215	250	161	0.76	4.85	5.24	1.32	1.54	
-20 (- 4)	1160	292	340	196	0.91	6.60	5.93	1.50	1.74	
-15 (+ 5)	1512	381	443	231	1.07	8.63	6.57	1.65	1.92	
-10 (+14)	1921	484	563	268	1.24	11.00	7.18	1.81	2.10	

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		