

### COMPRESSOR DEFINITION

Designation	EG ZS90HLC
Nominal Voltage/Frequency	220-240 V 50-60 Hz
Engineering Number	513701009

### 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	RSIR		
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	198 to 255 V
8.2 LBP (43°C Ambient temperature)	Static	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 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	1/4+	[hp]
2 Displacement	7.15	[cm <sup>3</sup> ] (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 / ISO10	
4 Weight (with oil charge)	11.29	[kg] (24.89 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	220-240 V 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA17C1/QPS2-A22MG1/QPS2-A22MG1 092	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM283NFBYY-53	
6 Start winding resistance	21.70	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	10.40	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	10.00/9.30	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CE - IRAM - TUV - UKCA	

### 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]
770	194	226	135	0.71	4.38	5.71	1.44	1.67

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]
950	239	278	162	0.72	5.40	5.86	1.48	1.72

### 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)	405	102	119	89	0.48	2.29	4.51	1.14	1.32
-30 (-22)	572	144	167	106	0.56	3.24	5.35	1.35	1.57
-25 (-13)	758	191	222	125	0.65	4.30	6.10	1.54	1.79
-20 (- 4)	977	246	286	143	0.75	5.56	6.84	1.72	2.00
-15 (+ 5)	1245	314	365	162	0.85	7.10	7.66	1.93	2.24
-10 (+14)	1574	397	461	181	0.94	9.02	8.66	2.18	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)	334	84	98	85	0.46	1.89	3.93	0.99	1.15
-30 (-22)	507	128	149	106	0.56	2.88	4.76	1.20	1.40
-25 (-13)	696	176	204	128	0.66	3.95	5.45	1.37	1.60
-20 (- 4)	915	231	268	151	0.78	5.21	6.08	1.53	1.78
-15 (+ 5)	1178	297	345	175	0.90	6.73	6.74	1.70	1.97
-10 (+14)	1500	378	439	198	1.02	8.59	7.53	1.90	2.21

### 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)	256	64	75	76	0.42	1.45	3.36	0.85	0.98	
-30 (-22)	432	109	127	101	0.53	2.45	4.21	1.06	1.23	
-25 (-13)	620	156	182	127	0.66	3.52	4.87	1.23	1.43	
-20 (- 4)	834	210	244	155	0.80	4.74	5.42	1.37	1.59	
-15 (+ 5)	1088	274	319	183	0.95	6.21	5.95	1.50	1.74	
-10 (+14)	1397	352	409	213	1.10	8.00	6.55	1.65	1.92	

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)	499	126	146	107	0.49	2.82	4.65	1.17	1.36	
-30 (-22)	704	177	206	127	0.57	3.99	5.52	1.39	1.62	
-25 (-13)	934	235	274	149	0.66	5.30	6.29	1.58	1.84	
-20 (- 4)	1205	304	353	171	0.76	6.86	7.05	1.78	2.07	
-15 (+ 5)	1535	387	450	194	0.86	8.77	7.91	1.99	2.32	
-10 (+14)	1942	489	569	217	0.95	11.13	8.94	2.25	2.62	

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)	412	104	121	102	0.47	2.33	4.06	1.02	1.19	
-30 (-22)	626	158	183	127	0.57	3.55	4.91	1.24	1.44	
-25 (-13)	859	217	252	153	0.68	4.88	5.62	1.42	1.65	
-20 (- 4)	1130	285	331	180	0.80	6.43	6.27	1.58	1.84	
-15 (+ 5)	1454	366	426	209	0.92	8.30	6.96	1.75	2.04	
-10 (+14)	1851	466	542	237	1.04	10.60	7.77	1.96	2.28	

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)	316	80	92	91	0.42	1.78	3.46	0.87	1.01	
-30 (-22)	533	134	156	120	0.54	3.02	4.34	1.09	1.27	
-25 (-13)	765	193	224	152	0.67	4.34	5.02	1.27	1.47	
-20 (- 4)	1029	259	302	185	0.81	5.86	5.59	1.41	1.64	
-15 (+ 5)	1343	339	394	219	0.96	7.67	6.14	1.55	1.80	
-10 (+14)	1724	435	505	254	1.12	9.88	6.76	1.70	1.98	

### 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		