

### COMPRESSOR DEFINITION

Designation	EG ZS70HLC
Nominal Voltage/Frequency	220-240 V 50-60 Hz
Engineering Number	513703017

### 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	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 pressures/temperature			
9.1 Operating (gauge)	16.2	[kgf/cm <sup>2</sup> ] (230 psig)	/ °C - °F
9.2 Peak (gauge)	20.6	[kgf/cm <sup>2</sup> ] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/4	[hp]
2 Displacement	5.56	[cm <sup>3</sup> ] (0.339 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	14.000	
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)	11.3	[kg] (24.91 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	7M220MD3/8EA17C3/8M220MD3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	4(380)/5(380)	[µF(VAC minimum)]
5 Motor protection	BT74-105	
6 Start winding resistance	18.38	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	15.31	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	6.15/5.75	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	0.97/0.87	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	1.20/1.07	[A] - Measured according to UL 984
11 Approval boards certification	IRAM - 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]
557	140	163	97	0.46	3.16	5.72	1.44	1.68

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]
687	173	201	116	0.53	3.90	5.93	1.49	1.74

### 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)	270	68	79	61	0.30	1.53	4.41	1.11	1.29
-30 (-22)	400	101	117	75	0.37	2.27	5.28	1.33	1.55
-25 (-13)	563	142	165	90	0.44	3.20	6.20	1.56	1.82
-20 (- 4)	756	190	221	106	0.51	4.30	7.17	1.81	2.10
-15 (+ 5)	972	245	285	120	0.58	5.55	8.19	2.06	2.40
-10 (+14)	1209	305	354	132	0.64	6.93	9.24	2.33	2.71

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)	230	58	67	54	0.27	1.30	4.26	1.07	1.25
-30 (-22)	343	86	101	70	0.34	1.94	4.90	1.23	1.44
-25 (-13)	496	125	145	88	0.43	2.81	5.59	1.41	1.64
-20 (- 4)	683	172	200	107	0.52	3.89	6.33	1.60	1.86
-15 (+ 5)	901	227	264	126	0.61	5.14	7.12	1.79	2.09
-10 (+14)	1146	289	336	144	0.70	6.56	7.95	2.00	2.33

### E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 65°C (+149°F))					
@220V50Hz		Static								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%						+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	181	46	53	49	0.24	1.02	3.71	0.93	1.09	
-30 (-22)	274	69	80	66	0.32	1.55	4.25	1.07	1.25	
-25 (-13)	412	104	121	85	0.41	2.34	4.85	1.22	1.42	
-20 (- 4)	592	149	173	107	0.52	3.37	5.50	1.39	1.61	
-15 (+ 5)	808	204	237	130	0.63	4.62	6.20	1.56	1.82	
-10 (+14)	1058	266	310	152	0.75	6.06	6.93	1.75	2.03	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 45°C (+113°F))					
@220V60Hz		Static								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%						+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	335	85	98	74	0.34	1.90	4.56	1.15	1.34	
-30 (-22)	497	125	146	90	0.41	2.82	5.46	1.38	1.60	
-25 (-13)	700	176	205	109	0.50	3.97	6.41	1.62	1.88	
-20 (- 4)	938	236	275	127	0.59	5.34	7.42	1.87	2.17	
-15 (+ 5)	1207	304	354	144	0.67	6.89	8.47	2.13	2.48	
-10 (+14)	1501	378	440	158	0.74	8.60	9.56	2.41	2.80	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 55°C (+131°F))					
@220V60Hz		Static								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%						+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	286	72	84	65	0.31	1.62	4.41	1.11	1.29	
-30 (-22)	426	107	125	84	0.39	2.42	5.07	1.28	1.49	
-25 (-13)	616	155	180	106	0.49	3.50	5.79	1.46	1.70	
-20 (- 4)	848	214	249	129	0.60	4.83	6.56	1.65	1.92	
-15 (+ 5)	1119	282	328	152	0.71	6.39	7.37	1.86	2.16	
-10 (+14)	1422	358	417	173	0.81	8.15	8.22	2.07	2.41	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 65°C (+149°F))					
@220V60Hz		Static								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%						+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	224	56	66	59	0.28	1.27	3.83	0.96	1.12	
-30 (-22)	340	86	100	79	0.37	1.93	4.40	1.11	1.29	
-25 (-13)	512	129	150	103	0.47	2.91	5.02	1.26	1.47	
-20 (- 4)	735	185	215	129	0.59	4.18	5.69	1.43	1.67	
-15 (+ 5)	1004	253	294	156	0.73	5.73	6.41	1.61	1.88	
-10 (+14)	1313	331	385	183	0.86	7.52	7.17	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	8.2 +0.12/-0.08	[mm]	(0.323" +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		