

### COMPRESSOR DEFINITION

Designation	EG ZS70HLC
Nominal Voltage/Frequency	220-240 V 50-60 Hz
Engineering Number	513701159

### 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 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	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	TSD	
2.1 Starting device	TSD-220V0.6	
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)	-	[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 - UKCA - 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]
560	141	164	93	0.46	3.18	6.00	1.51	1.76

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]
695	175	204	112	0.53	3.95	6.18	1.56	1.81

### 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	60	0.30	1.53	4.48	1.13	1.31
-30 (-22)	400	101	117	74	0.37	2.27	5.36	1.35	1.57
-25 (-13)	563	142	165	89	0.44	3.20	6.30	1.59	1.84
-20 (- 4)	756	190	221	104	0.51	4.30	7.29	1.84	2.13
-15 (+ 5)	972	245	285	118	0.58	5.55	8.32	2.10	2.44
-10 (+14)	1209	305	354	130	0.64	6.93	9.39	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)	230	58	67	53	0.27	1.30	4.33	1.09	1.27
-30 (-22)	343	86	101	69	0.34	1.94	4.97	1.25	1.46
-25 (-13)	496	125	145	87	0.43	2.81	5.68	1.43	1.66
-20 (- 4)	683	172	200	106	0.52	3.89	6.43	1.62	1.89
-15 (+ 5)	901	227	264	124	0.61	5.14	7.24	1.82	2.12
-10 (+14)	1146	289	336	142	0.70	6.56	8.08	2.04	2.37

### 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)	181	46	53	48	0.24	1.02	3.77	0.95	1.10	
-30 (-22)	274	69	80	65	0.32	1.55	4.32	1.09	1.27	
-25 (-13)	412	104	121	84	0.41	2.34	4.93	1.24	1.44	
-20 (- 4)	592	149	173	105	0.52	3.37	5.59	1.41	1.64	
-15 (+ 5)	808	204	237	128	0.63	4.62	6.30	1.59	1.85	
-10 (+14)	1058	266	310	150	0.75	6.06	7.04	1.77	2.06	

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)	335	85	98	73	0.34	1.90	4.62	1.17	1.35	
-30 (-22)	497	125	146	89	0.41	2.82	5.53	1.39	1.62	
-25 (-13)	700	176	205	107	0.50	3.97	6.50	1.64	1.90	
-20 (- 4)	938	236	275	125	0.59	5.34	7.51	1.89	2.20	
-15 (+ 5)	1207	304	354	142	0.67	6.89	8.58	2.16	2.51	
-10 (+14)	1501	378	440	156	0.74	8.60	9.68	2.44	2.84	

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)	286	72	84	64	0.31	1.62	4.46	1.12	1.31	
-30 (-22)	426	107	125	83	0.39	2.42	5.13	1.29	1.50	
-25 (-13)	616	155	180	105	0.49	3.50	5.86	1.48	1.72	
-20 (- 4)	848	214	249	127	0.60	4.83	6.64	1.67	1.95	
-15 (+ 5)	1119	282	328	150	0.71	6.39	7.47	1.88	2.19	
-10 (+14)	1422	358	417	171	0.81	8.15	8.33	2.10	2.44	

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)	224	56	66	58	0.28	1.27	3.88	0.98	1.14	
-30 (-22)	340	86	100	78	0.37	1.93	4.45	1.12	1.30	
-25 (-13)	512	129	150	101	0.47	2.91	5.08	1.28	1.49	
-20 (- 4)	735	185	215	127	0.59	4.18	5.77	1.45	1.69	
-15 (+ 5)	1004	253	294	154	0.73	5.73	6.50	1.64	1.90	
-10 (+14)	1313	331	385	180	0.86	7.52	7.26	1.83	2.13	

### 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		