

COMPRESSOR DEFINITION

Designation	EG ZS70HLC
Nominal Voltage/Frequency	220-240 V 50-60 Hz
Engineering Number	513701018

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 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	5.56	[cm ³] (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 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	7M220MC1/8EA17C1/8M220MC1	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM232KFBYY-53	
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)	-	[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	IRAM - TUV	

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	101	0.46	3.18	5.53	1.39	1.62

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	122	0.53	3.95	5.72	1.44	1.68

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	65	0.30	1.53	4.13	1.04	1.21
-30 (-22)	400	101	117	80	0.37	2.27	4.94	1.25	1.45
-25 (-13)	563	142	165	97	0.44	3.20	5.81	1.46	1.70
-20 (- 4)	756	190	221	113	0.51	4.30	6.72	1.69	1.97
-15 (+ 5)	972	245	285	128	0.58	5.55	7.67	1.93	2.25
-10 (+14)	1209	305	354	141	0.64	6.93	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)	230	58	67	58	0.27	1.30	4.00	1.01	1.17
-30 (-22)	343	86	101	75	0.34	1.94	4.59	1.16	1.35
-25 (-13)	496	125	145	94	0.43	2.81	5.24	1.32	1.54
-20 (- 4)	683	172	200	115	0.52	3.89	5.94	1.50	1.74
-15 (+ 5)	901	227	264	135	0.61	5.14	6.67	1.68	1.96
-10 (+14)	1146	289	336	154	0.70	6.56	7.45	1.88	2.18

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	52	0.24	1.02	3.48	0.88	1.02	
-30 (-22)	274	69	80	70	0.32	1.55	3.99	1.00	1.17	
-25 (-13)	412	104	121	91	0.41	2.34	4.55	1.15	1.33	
-20 (- 4)	592	149	173	114	0.52	3.37	5.16	1.30	1.51	
-15 (+ 5)	808	204	237	138	0.63	4.62	5.81	1.46	1.70	
-10 (+14)	1058	266	310	162	0.75	6.06	6.50	1.64	1.90	

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	78	0.34	1.90	4.28	1.08	1.25	
-30 (-22)	497	125	146	97	0.41	2.82	5.12	1.29	1.50	
-25 (-13)	700	176	205	116	0.50	3.97	6.01	1.51	1.76	
-20 (- 4)	938	236	275	135	0.59	5.34	6.95	1.75	2.04	
-15 (+ 5)	1207	304	354	153	0.67	6.89	7.93	2.00	2.32	
-10 (+14)	1501	378	440	169	0.74	8.60	8.96	2.26	2.62	

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	69	0.31	1.62	4.13	1.04	1.21	
-30 (-22)	426	107	125	90	0.39	2.42	4.75	1.20	1.39	
-25 (-13)	616	155	180	113	0.49	3.50	5.42	1.37	1.59	
-20 (- 4)	848	214	249	138	0.60	4.83	6.14	1.55	1.80	
-15 (+ 5)	1119	282	328	162	0.71	6.39	6.91	1.74	2.02	
-10 (+14)	1422	358	417	185	0.81	8.15	7.71	1.94	2.26	

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	63	0.28	1.27	3.59	0.90	1.05	
-30 (-22)	340	86	100	84	0.37	1.93	4.12	1.04	1.21	
-25 (-13)	512	129	150	109	0.47	2.91	4.71	1.19	1.38	
-20 (- 4)	735	185	215	137	0.59	4.18	5.33	1.34	1.56	
-15 (+ 5)	1004	253	294	166	0.73	5.73	6.01	1.51	1.76	
-10 (+14)	1313	331	385	195	0.86	7.52	6.72	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	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	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-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		