

COMPRESSOR DEFINITION

Designation	EG ZS70HLP
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513701385

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	115-127 / 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	-	103 to 140 V
8.2 LBP (43°C Ambient temperature)	Static	-	103 to 140 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	230	[ml] (7.78 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	10.16	[kg] (22.40 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	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	TSD	
2.1 Starting device	TSD2-115V/TSD2-115V0.6	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	12(183)/15(187)/20(192)	[µF(VAC minimum)]
5 Motor protection	4TM319NFBYY-53	
6 Start winding resistance	7.75	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	5.67	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	11.70	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.73	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	1.73	[A] - Measured according to UL 984
11 Approval boards certification	UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V60Hz			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]
683	172	200	123	1.15	3.88	5.55	1.40	1.63

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz			ASHRAE32 Static		(Condensing temperature 35°C (+95°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)	553	139	162	91	0.69	3.13	6.07	1.53	1.78
-30 (-22)	624	157	183	99	0.89	3.54	6.35	1.60	1.86
-25 (-13)	755	190	221	109	1.03	4.28	6.95	1.75	2.04
-20 (- 4)	947	239	277	121	1.13	5.39	7.85	1.98	2.30
-15 (+ 5)	1200	302	352	133	1.21	6.85	9.06	2.28	2.65
-10 (+14)	1517	382	445	144	1.29	8.69	10.55	2.66	3.09

TEST CONDITIONS: @115V60Hz			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)	437	110	128	92	0.75	2.47	4.79	1.21	1.40
-30 (-22)	533	134	156	101	0.93	3.02	5.30	1.34	1.55
-25 (-13)	682	172	200	113	1.07	3.87	5.99	1.51	1.76
-20 (- 4)	886	223	260	128	1.18	5.04	6.85	1.73	2.01
-15 (+ 5)	1145	288	335	145	1.30	6.54	7.86	1.98	2.30
-10 (+14)	1460	368	428	162	1.43	8.37	9.03	2.28	2.65

TEST CONDITIONS: @115V60Hz			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)	321	81	94	93	0.83	1.82	3.51	0.88	1.03
-30 (-22)	436	110	128	102	0.97	2.47	4.30	1.08	1.26
-25 (-13)	598	151	175	116	1.10	3.40	5.13	1.29	1.50
-20 (- 4)	808	204	237	133	1.23	4.60	6.00	1.51	1.76
-15 (+ 5)	1066	269	312	154	1.37	6.09	6.88	1.73	2.02
-10 (+14)	1375	346	403	177	1.55	7.88	7.78	1.96	2.28

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		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)	206	52	60	94	0.92	1.16	2.15	0.54	0.63
-30	(-22)	334	84	98	103	1.02	1.90	3.28	0.83	0.96
-25	(-13)	503	127	147	117	1.13	2.86	4.31	1.09	1.26
-20	(- 4)	713	180	209	137	1.26	4.06	5.24	1.32	1.54
-15	(+ 5)	966	243	283	161	1.43	5.51	6.05	1.52	1.77
-10	(+14)	1261	318	370	189	1.66	7.22	6.73	1.70	1.97

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		