

COMPRESSOR DEFINITION

Designation	EM ZL70CLP
Nominal Voltage/Frequency	220 V 60 Hz
Engineering Number	513301797

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	220 / 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 242 V
8.2 LBP (43°C Ambient temperature)	Static	-	198 to 242 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	6.9	[kgf/cm ²] (98 psig)	/ °C - °F
9.2 Peak	7.8	[kgf/cm ²] (111 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	0.13	[hp]
2 Displacement	9.50	[cm ³] (0.580 cu.in)
2.1 Bore [mm]	24.000	
2.2 Stroke [mm]	21.000	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO5	
4 Weight (with oil charge)	7.5	[kg] (16.53 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA17C1/QPS2-A22MG1	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM189NFBYY-53	
6 Start winding resistance	19.69	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	15.81	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	5.89	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification		

D - PERFORMANCE - CHECK POINT DATA

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	118	0.73	2.16	5.80	1.46	1.70

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		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)	423	107	124	80	0.60	1.32	5.31	1.34	1.56
-30	(-22)	543	137	159	89	0.63	1.70	6.12	1.54	1.79
-25	(-13)	694	175	203	100	0.66	2.18	6.94	1.75	2.03
-20	(- 4)	880	222	258	113	0.71	2.77	7.82	1.97	2.29
-15	(+ 5)	1108	279	325	126	0.76	3.49	8.79	2.22	2.58
-10	(+14)	1381	348	405	139	0.81	4.35	9.90	2.50	2.90

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)	384	97	113	83	0.61	1.20	4.65	1.17	1.36
-30	(-22)	508	128	149	94	0.64	1.59	5.42	1.37	1.59
-25	(-13)	660	166	193	107	0.69	2.07	6.16	1.55	1.80
-20	(- 4)	844	213	247	122	0.74	2.65	6.91	1.74	2.03
-15	(+ 5)	1065	268	312	138	0.80	3.35	7.72	1.95	2.26
-10	(+14)	1330	335	390	154	0.87	4.19	8.63	2.18	2.53

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)	346	87	101	86	0.62	1.08	4.04	1.02	1.18
-30	(-22)	474	119	139	99	0.66	1.49	4.81	1.21	1.41
-25	(-13)	627	158	184	114	0.71	1.97	5.51	1.39	1.61
-20	(- 4)	810	204	237	131	0.78	2.54	6.18	1.56	1.81
-15	(+ 5)	1026	259	301	149	0.85	3.23	6.88	1.73	2.02
-10	(+14)	1283	323	376	168	0.93	4.05	7.63	1.92	2.24

E - PERFORMANCE - CURVES

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)	307	77	90	89	0.63	0.96	3.43	0.87	1.01
-30	(-22)	441	111	129	103	0.68	1.38	4.25	1.07	1.24
-25	(-13)	597	150	175	120	0.74	1.87	4.95	1.25	1.45
-20	(- 4)	778	196	228	139	0.81	2.45	5.59	1.41	1.64
-15	(+ 5)	991	250	290	160	0.89	3.12	6.21	1.57	1.82
-10	(+14)	1240	312	363	181	0.98	3.91	6.85	1.73	2.01

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EUEM		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	7.6 +0.05/-0.05	[mm]	(0.299" +0.002"/-0.002")
3.1.1 Material	Copper(OD)		
3.1.2 Shape	Slanted parallel to Base Plate		
3.2 DISCHARGE	4.25 +0.05/-0.05	[mm]	(0.167" +0.002"/-0.002")
3.2.1 Material	Copper		
3.2.2 Shape	Straight		
3.3 PROCESS	6.35 +0.08/-0.08	[mm]	(0.250" +0.003"/-0.003")
3.3.1 Material	Copper(OD)		
3.3.2 Shape	Slanted 45° up		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		