COMPRESSOR DEFINITION

Designation	**EM ZL70CLC**
Nominal Voltage/Frequency	**220-240 V 50 Hz**
Engineering Number	**513304158**

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	220-240 / 50	[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 Expantion device	Capillary tube		

8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32ºC Ambient temperature)	Static	198 to 255 V	-
8.2 LBP (43ºC Ambient temperature)	Static	198 to 255 V	-
8.3 HBP (32ºC Ambient temperature)	-	-	-
8.4 HBP (43ºC Ambient temperature)	-	-	-

9 Maximum condensing temperature			
9.1 Operating	6.9	[kgf/cm²] (98 psig)	/ ºC - ºF
9.2 Peak	7.8	[kgf/cm²] (111 psig)	/ ºC - ºF
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/4	[hp]
2 Displacement	11.14	[cm³] (0.680 cu.in)
2.1 Bore [mm]	26.000	
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)	7.1	[kg] (15.65 lb.)
5 Nitrogen charge	-	[kgf/cm²]

C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA17C3/QPS2-A22MD3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(350)	[µF(VAC minimum)]
5 Motor protection	4TM213PFBYY-53	
6 Start winding resistance	23.90	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	20.60	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	5.80	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	0.91	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	1.08	[A] - Measured according to UL 984
11 Approval boards certification	IRAM	

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 (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
652	164	191	117	0.57	2.05	5.59	1.41	1.64

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **35ºC (+95ºF))**
@220V50Hz **Static**

Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	**(-31)**	380	96	111	81	0.42	1.19	4.69	1.18	1.38
-30	**(-22)**	507	128	148	91	0.46	1.59	5.55	1.40	1.63
-25	**(-13)**	664	167	195	103	0.51	2.08	6.46	1.63	1.89
-20	**(- 4)**	855	215	251	115	0.57	2.69	7.44	1.87	2.18
-15	**(+ 5)**	1082	273	317	128	0.62	3.40	8.48	2.14	2.48
-10	**(+14)**	1347	339	395	141	0.68	4.25	9.58	2.41	2.81

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@220V50Hz **Static**

Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	**(-31)**	348	88	102	82	0.43	1.09	4.24	1.07	1.24
-30	**(-22)**	474	119	139	94	0.47	1.49	5.02	1.27	1.47
-25	**(-13)**	631	159	185	108	0.53	1.98	5.85	1.47	1.71
-20	**(- 4)**	822	207	241	122	0.59	2.58	6.71	1.69	1.97
-15	**(+ 5)**	1049	264	308	138	0.66	3.30	7.62	1.92	2.23
-10	**(+14)**	1316	332	386	154	0.73	4.15	8.56	2.16	2.51

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@220V50Hz **Static**

Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	**(-31)**	318	80	93	83	0.44	1.00	3.83	0.97	1.12
-30	**(-22)**	439	111	129	97	0.49	1.38	4.55	1.15	1.33
-25	**(-13)**	592	149	173	112	0.55	1.86	5.29	1.33	1.55
-20	**(- 4)**	779	196	228	128	0.62	2.45	6.05	1.53	1.77
-15	**(+ 5)**	1003	253	294	146	0.70	3.16	6.83	1.72	2.00
-10	**(+14)**	1266	319	371	166	0.78	3.99	7.63	1.92	2.24

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **65ºC (+149ºF))**
@220V50Hz **Static**

Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	**(-31)**	291	73	85	84	0.45	0.91	3.44	0.87	1.01
-30	**(-22)**	403	101	118	98	0.50	1.26	4.11	1.04	1.20
-25	**(-13)**	547	138	160	115	0.56	1.72	4.77	1.20	1.40
-20	**(- 4)**	726	183	213	134	0.64	2.28	5.44	1.37	1.59
-15	**(+ 5)**	941	237	276	155	0.73	2.97	6.10	1.54	1.79
-10	**(+14)**	1197	302	351	177	0.83	3.78	6.76	1.70	1.98

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EG/F/AMEM Version 2		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted parallel BP+45°to Back		
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	Slanted 30° up + 24° to Back		
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 43° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		