

COMPRESSOR DEFINITION

Designation	EM Z20CLC
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513309000

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 Expansion device	Capillary tube		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	Static	187 to 255 V	-
8.2 LBP (43°C Ambient temperature)	Static	187 to 255 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	1/12	[hp]
2 Displacement	3.97	[cm ³] (0.242 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	14.000	
3 Lubricant charge	180	[ml] (6.09 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO5	
4 Weight (with oil charge)	7.88	[kg] (17.37 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 V 50 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	2(380)	[µF(VAC minimum)]
5 Motor protection	4TM110KFBYY-73	
6 Start winding resistance	34.90	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	47.80	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	1.95	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	0.30	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification		

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			CECOMAF Static		Evaporating temperature (Condensing temperature	-25°C (-13°F) 55°C (131°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]
167	42	49	39	0.19	0.64	4.29	1.08	1.26

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			CECOMAF 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)	120	30	35	28	0.14	0.42	4.22	1.06	1.24
-30 (-22)	150	38	44	33	0.16	0.52	4.59	1.16	1.34
-25 (-13)	201	51	59	37	0.18	0.70	5.39	1.36	1.58
-20 (- 4)	269	68	79	41	0.20	0.94	6.49	1.64	1.90
-15 (+ 5)	348	88	102	45	0.22	1.22	7.72	1.95	2.26
-10 (+14)	433	109	127	48	0.23	1.52	8.95	2.26	2.62

TEST CONDITIONS: @220V50Hz			CECOMAF 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)	94	24	27	29	0.14	0.36	3.27	0.82	0.96
-30 (-22)	121	31	35	34	0.16	0.46	3.60	0.91	1.06
-25 (-13)	169	43	49	39	0.19	0.64	4.31	1.09	1.26
-20 (- 4)	232	58	68	44	0.21	0.88	5.24	1.32	1.54
-15 (+ 5)	304	77	89	49	0.23	1.17	6.25	1.57	1.83
-10 (+14)	382	96	112	53	0.26	1.47	7.18	1.81	2.10

TEST CONDITIONS: @220V50Hz			CECOMAF 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)	77	19	23	27	0.13	0.32	2.80	0.70	0.82
-30 (-22)	101	25	30	33	0.16	0.43	3.10	0.78	0.91
-25 (-13)	144	36	42	39	0.19	0.61	3.71	0.93	1.09
-20 (- 4)	201	51	59	45	0.22	0.85	4.48	1.13	1.31
-15 (+ 5)	267	67	78	51	0.25	1.13	5.26	1.33	1.54
-10 (+14)	336	85	99	57	0.28	1.43	5.90	1.49	1.73

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EUEM		
2 Tray holder	Yes		
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 42° up + 45° to Back		
3.2 DISCHARGE	4.9 +0.10/-0.05	[mm]	(0.193" +0.004"/-0.002")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted 90° up + 24° to Back		
3.3 PROCESS	6 +0.08/-0.08	[mm]	(0.236" +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		