

COMPRESSOR DEFINITION

Designation	EM Z40CLC
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513309003

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 pressures/temperature			
9.1 Operating (gauge)	7.7	[kgf/cm ²] (109 psig)	/ °C - °F
9.2 Peak (gauge)	9.8	[kgf/cm ²] (139 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/10	[hp]
2 Displacement	7.23	[cm ³] (0.441 cu.in)
2.1 Bore [mm]	24.000	
2.2 Stroke [mm]	16.000	
3 Lubricant charge	180	[ml] (6.09 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	MINERAL / ISO7	
4 Weight (with oil charge)	7.89	[kg] (17.39 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-220V	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	4(280)	[µF(VAC minimum)]
5 Motor protection	4TM189KFBYY-73	
6 Start winding resistance	22.40	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	28.80	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	3.30	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	0.60	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CCC - VDE	

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]
417	105	122	71	0.34	1.31	5.85	1.47	1.71

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)	225	57	66	49	0.24	0.70	4.59	1.16	1.35
-30 (-22)	303	76	89	57	0.27	0.95	5.34	1.34	1.56
-25 (-13)	411	104	120	66	0.31	1.29	6.27	1.58	1.84
-20 (- 4)	544	137	160	74	0.34	1.71	7.33	1.85	2.15
-15 (+ 5)	698	176	204	83	0.38	2.20	8.44	2.13	2.47
-10 (+14)	866	218	254	91	0.42	2.73	9.54	2.41	2.80

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)	193	49	56	52	0.25	0.60	3.73	0.94	1.09
-30 (-22)	270	68	79	60	0.28	0.85	4.50	1.13	1.32
-25 (-13)	377	95	110	70	0.32	1.18	5.41	1.36	1.58
-20 (- 4)	509	128	149	79	0.36	1.60	6.40	1.61	1.88
-15 (+ 5)	659	166	193	89	0.41	2.08	7.41	1.87	2.17
-10 (+14)	824	208	242	99	0.45	2.60	8.36	2.11	2.45

TEST CONDITIONS: @220V50Hz			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)	155	39	45	48	0.23	0.49	3.24	0.82	0.95
-30 (-22)	229	58	67	58	0.27	0.72	3.96	1.00	1.16
-25 (-13)	331	83	97	69	0.32	1.04	4.79	1.21	1.40
-20 (- 4)	457	115	134	81	0.37	1.44	5.66	1.43	1.66
-15 (+ 5)	602	152	176	93	0.43	1.90	6.51	1.64	1.91
-10 (+14)	760	192	223	105	0.49	2.40	7.26	1.83	2.13

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	4.94 +0.08/-0.08	[mm]	(0.194" +0.003"/-0.003")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted parallel BP+24°to Back		
3.3 PROCESS	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.3.1 Material	Copper		
3.3.2 Shape	Slanted 45° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		