

### COMPRESSOR DEFINITION

Designation	<b>EM I40CNC</b>
Nominal Voltage/Frequency	<b>115-127 V 60 Hz</b>
Engineering Number	<b>877EJ81</b>

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
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	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	-	104 to 135 V
8.2 LBP (43°C Ambient temperature)	Static	-	104 to 135 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 <sup>2</sup> ] (98 psig)	/ °C - °F
9.2 Peak	7.8	[kgf/cm <sup>2</sup> ] (111 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/8	[hp]
2 Displacement	7.23	[cm <sup>3</sup> ] (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	ALQUILB / ISO5	
4 Weight (with oil charge)	7.55	[kg] (16.64 lb.)
5 Nitrogen charge	-	[kgf/cm <sup>2</sup> ]

### C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	V115	
3 Start capacitor	-	[μF(VAC minimum)]
4 Run capacitor	-	[μF(VAC minimum)]
5 Motor protection	4TM 419 SDBYY-53	
6 Start winding resistance	6.50	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	5.00	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	12.20	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	-	[A]
10 FLA - Full Load Amperage HBP (60 Hz)	-	[A]
11 Approval boards certification	VDE	

### 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]
472	119	138	104	1.52	1.48	4.55	1.15	1.33

### 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)	294	74	86	79	1.39	0.92	3.74	0.94	1.10
-30 (-22)	380	96	111	84	1.41	1.19	4.52	1.14	1.33
-25 (-13)	490	124	144	92	1.45	1.54	5.36	1.35	1.57
-20 (- 4)	629	158	184	101	1.49	1.98	6.25	1.58	1.83
-15 (+ 5)	801	202	235	111	1.54	2.52	7.23	1.82	2.12
-10 (+14)	1014	255	297	122	1.60	3.20	8.32	2.10	2.44

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)	280	70	82	80	1.41	0.88	3.48	0.88	1.02
-30 (-22)	365	92	107	87	1.43	1.14	4.18	1.05	1.23
-25 (-13)	472	119	138	96	1.47	1.48	4.90	1.24	1.44
-20 (- 4)	605	153	177	107	1.52	1.90	5.67	1.43	1.66
-15 (+ 5)	771	194	226	119	1.59	2.43	6.49	1.64	1.90
-10 (+14)	974	246	286	132	1.66	3.07	7.39	1.86	2.17

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)	244	62	72	80	1.42	0.76	3.07	0.77	0.90
-30 (-22)	329	83	96	89	1.44	1.03	3.71	0.94	1.09
-25 (-13)	433	109	127	100	1.48	1.36	4.36	1.10	1.28
-20 (- 4)	563	142	165	112	1.54	1.77	5.02	1.26	1.47
-15 (+ 5)	723	182	212	126	1.62	2.28	5.72	1.44	1.68
-10 (+14)	918	231	269	141	1.71	2.90	6.47	1.63	1.90

### 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)	239	60	70	78	1.42	0.75	3.04	0.77	0.89
-30	(-22)	325	82	95	88	1.45	1.02	3.66	0.92	1.07
-25	(-13)	428	108	125	100	1.50	1.34	4.26	1.07	1.25
-20	(- 4)	554	140	162	114	1.57	1.74	4.85	1.22	1.42
-15	(+ 5)	709	179	208	130	1.66	2.23	5.45	1.37	1.60
-10	(+14)	897	226	263	148	1.77	2.83	6.09	1.54	1.78

### F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard		
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°		
3.2 DISCHARGE	5.1 +0.10/+0.00	[mm]	(0.201" +0.004"/+0.000")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted 42°		
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 42°		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		