

### COMPRESSOR DEFINITION

Designation	EM I50HNP
Nominal Voltage/Frequency	115 V 60 Hz
Engineering Number	513307160

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	115 / 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	85 to 110 V	103 to 135 V
8.2 LBP (43°C Ambient temperature)	Static	85 to 110 V	103 to 135 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing pressures/temperature			
9.1 Operating (gauge)	16.2	[kgf/cm <sup>2</sup> ] (230 psig)	/ °C - °F
9.2 Peak (gauge)	20.6	[kgf/cm <sup>2</sup> ] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/6	[hp]
2 Displacement	4.60	[cm <sup>3</sup> ] (0.281 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	13.300	
3 Lubricant charge	190	[ml] (6.42 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	7.55	[kg] (16.64 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm <sup>2</sup> ] (2.84 to 4.27 psig)

### C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	115 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	490C814R7/8EA14C1/8EA1B1	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM319RFBYY-53	
6 Start winding resistance	7.70	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	3.85	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	12.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	2.30	[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: @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]
510	129	149	124	1.74	2.90	4.12	1.04	1.21

### E - PERFORMANCE - CURVES

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)	268	68	79	89	1.58	1.52	3.00	0.76	0.88
-30 (-22)	364	92	107	101	1.63	2.06	3.62	0.91	1.06
-25 (-13)	498	126	146	115	1.71	2.83	4.35	1.10	1.27
-20 (- 4)	668	168	196	129	1.79	3.80	5.15	1.30	1.51
-15 (+ 5)	869	219	255	145	1.88	4.96	5.98	1.51	1.75
-10 (+14)	1096	276	321	160	1.97	6.28	6.83	1.72	2.00

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)	217	55	64	87	1.56	1.23	2.50	0.63	0.73
-30 (-22)	317	80	93	101	1.63	1.80	3.15	0.79	0.92
-25 (-13)	452	114	133	117	1.71	2.57	3.86	0.97	1.13
-20 (- 4)	620	156	182	134	1.81	3.53	4.60	1.16	1.35
-15 (+ 5)	815	205	239	152	1.92	4.65	5.34	1.34	1.56
-10 (+14)	1033	260	303	171	2.04	5.92	6.04	1.52	1.77

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)	166	42	49	81	1.55	0.94	2.02	0.51	0.59
-30 (-22)	265	67	78	97	1.62	1.50	2.73	0.69	0.80
-25 (-13)	397	100	116	115	1.71	2.26	3.44	0.87	1.01
-20 (- 4)	558	141	164	135	1.82	3.18	4.14	1.04	1.21
-15 (+ 5)	744	187	218	156	1.95	4.24	4.79	1.21	1.40
-10 (+14)	950	239	278	178	2.09	5.44	5.35	1.35	1.57

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EG/F/AMEM version 2		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.1.1 Material	Copper		
3.1.2 Shape	Straight		
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	Straight		
3.3 PROCESS	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.3.1 Material	Copper		
3.3.2 Shape	Straight		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		