

COMPRESSOR DEFINITION

Designation	EM 30HNR
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513307006

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
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/CSIR		
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/Fan	-	98 to 140 V
8.2 LBP (43°C Ambient temperature)	Static/Fan	-	98 to 140 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	14.2	[kgf/cm ²] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm ²] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/10	[hp]
2 Displacement	3.00	[cm ³] (0.183 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	10.600	
3 Lubricant charge	200	[ml] (6.76 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	7.1	[kg] (15.65 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm ²] (2.84 to 4.27 psig)

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213514075	
3 Start capacitor	88-108(115)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM283NHBYY-53	
6 Start winding resistance	17.95	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	7.70	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	10.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.30	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	UL	

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]
305	77	89	82	1.06	1.73	3.70	0.93	1.08

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)	145	36	42	57	0.86	0.82	2.54	0.64	0.74
-30 (-22)	224	56	66	65	0.90	1.27	3.43	0.87	1.01
-25 (-13)	319	80	93	74	0.96	1.81	4.28	1.08	1.25
-20 (- 4)	430	108	126	85	1.02	2.44	5.08	1.28	1.49
-15 (+ 5)	557	140	163	95	1.09	3.18	5.85	1.47	1.71
-10 (+14)	699	176	205	106	1.17	4.01	6.60	1.66	1.93

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)	104	26	30	56	0.85	0.59	1.84	0.46	0.54
-30 (-22)	177	45	52	64	0.89	1.01	2.77	0.70	0.81
-25 (-13)	268	68	79	74	0.95	1.52	3.61	0.91	1.06
-20 (- 4)	377	95	111	86	1.03	2.15	4.39	1.11	1.29
-15 (+ 5)	503	127	147	99	1.13	2.87	5.11	1.29	1.50
-10 (+14)	647	163	190	112	1.23	3.70	5.77	1.45	1.69

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)	66	17	19	52	0.84	0.37	1.28	0.32	0.38
-30 (-22)	134	34	39	60	0.88	0.76	2.24	0.57	0.66
-25 (-13)	221	56	65	71	0.94	1.25	3.09	0.78	0.91
-20 (- 4)	327	82	96	85	1.03	1.86	3.84	0.97	1.13
-15 (+ 5)	452	114	133	101	1.14	2.58	4.50	1.13	1.32
-10 (+14)	596	150	175	118	1.27	3.42	5.07	1.28	1.49

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal AMEM		
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	Slanted parallel to Base Plate		
3.2 DISCHARGE	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-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	Slanted parallel to Base Plate		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		