

COMPRESSOR DEFINITION

Designation	EM 35HNR
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513303521

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	-	98 to 140 V
8.2 LBP (43°C Ambient temperature)	Static	-	98 to 140 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 ²] (230 psig)	/ °C - °F
9.2 Peak (gauge)	20.6	[kgf/cm ²] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/10	[hp]
2 Displacement	3.29	[cm ³] (0.201 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	11.600	
3 Lubricant charge	170	[ml] (5.75 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	6.75	[kg] (14.88 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	213514008/213515002	
3 Start capacitor	108-130(115)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM283RFBYY-53	
6 Start winding resistance	18.00	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	6.15	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	11.80	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.60	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	TUV - 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]
330	83	97	86	1.20	1.88	3.85	0.97	1.13

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)	169	43	49	60	1.10	0.96	2.83	0.71	0.83
-30 (-22)	245	62	72	69	1.15	1.39	3.56	0.90	1.04
-25 (-13)	342	86	100	80	1.21	1.94	4.27	1.08	1.25
-20 (- 4)	463	117	136	92	1.27	2.64	5.02	1.26	1.47
-15 (+ 5)	609	153	178	104	1.34	3.47	5.83	1.47	1.71
-10 (+14)	779	196	228	115	1.40	4.46	6.75	1.70	1.98

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)	121	31	36	58	1.10	0.69	2.06	0.52	0.60
-30 (-22)	194	49	57	68	1.14	1.10	2.89	0.73	0.85
-25 (-13)	289	73	85	80	1.20	1.64	3.64	0.92	1.07
-20 (- 4)	405	102	119	94	1.27	2.30	4.35	1.10	1.27
-15 (+ 5)	544	137	159	108	1.36	3.11	5.05	1.27	1.48
-10 (+14)	708	178	207	122	1.45	4.05	5.80	1.46	1.70

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)	50	13	15	50	1.05	0.28	1.02	0.26	0.30
-30 (-22)	127	32	37	62	1.08	0.72	2.04	0.52	0.60
-25 (-13)	224	56	66	76	1.15	1.27	2.92	0.74	0.86
-20 (- 4)	342	86	100	92	1.24	1.95	3.69	0.93	1.08
-15 (+ 5)	482	121	141	110	1.35	2.75	4.39	1.11	1.29
-10 (+14)	645	163	189	128	1.47	3.70	5.06	1.28	1.48

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		