

COMPRESSOR DEFINITION

Designation	EM E60HER
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513308539

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		
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/cm²] (230 psig)	/ °C - °F
9.2 Peak (gauge)	20.6	[kgf/cm²] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/6	[hp]
2 Displacement	4.99	[cm ³] (0.305 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	14.400	
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)	8.24	[kg] (18.17 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	213514002	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM757NFBYY-53	
6 Start winding resistance	10.65	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	3.60	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	21.00	[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]
609	153	178	119	1.53	3.46	5.12	1.29	1.50

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE32				(Condensing temperature 35°C (+95°F))				
@115V60Hz		Static								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	353	89	103	81	1.32	2.00	4.38	1.10	1.28
-30	(-22)	476	120	139	91	1.37	2.70	5.21	1.31	1.53
-25	(-13)	629	158	184	103	1.44	3.57	6.09	1.54	1.79
-20	(- 4)	816	206	239	116	1.52	4.64	7.03	1.77	2.06
-15	(+ 5)	1041	262	305	130	1.61	5.94	8.03	2.02	2.35
-10	(+14)	1308	330	383	144	1.71	7.49	9.10	2.29	2.67

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)	330	83	97	83	1.33	1.87	3.96	1.00	1.16
-30	(-22)	450	113	132	96	1.40	2.55	4.68	1.18	1.37
-25	(-13)	598	151	175	110	1.48	3.39	5.43	1.37	1.59
-20	(- 4)	778	196	228	125	1.58	4.43	6.20	1.56	1.82
-15	(+ 5)	994	250	291	142	1.69	5.67	7.02	1.77	2.06
-10	(+14)	1250	315	366	158	1.81	7.16	7.90	1.99	2.31

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)	295	74	87	82	1.33	1.67	3.56	0.90	1.04
-30	(-22)	413	104	121	98	1.42	2.34	4.20	1.06	1.23
-25	(-13)	558	141	163	115	1.52	3.17	4.84	1.22	1.42
-20	(- 4)	733	185	215	134	1.64	4.17	5.49	1.38	1.61
-15	(+ 5)	942	237	276	153	1.78	5.38	6.16	1.55	1.81
-10	(+14)	1189	300	349	173	1.93	6.81	6.87	1.73	2.01

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)	236	60	69	78	1.31	1.34	3.05	0.77	0.89
-30	(-22)	355	89	104	97	1.41	2.01	3.64	0.92	1.07
-25	(-13)	498	126	146	118	1.53	2.83	4.21	1.06	1.23
-20	(- 4)	670	169	196	141	1.68	3.81	4.76	1.20	1.40
-15	(+ 5)	874	220	256	164	1.85	4.99	5.32	1.34	1.56
-10	(+14)	1115	281	327	189	2.04	6.39	5.90	1.49	1.73

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal AMEM		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	8.2 +0.12/-0.08	[mm]	(0.323" +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		