

COMPRESSOR DEFINITION

Designation	EM 2S60HLP
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513301010

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-Medium Back Pressure		
4.1 Evaporating temperature range	-35°C to -5°C	(-31°F to 23°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/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	1/6	[hp]
2 Displacement	5.19	[cm ³] (0.317 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	15.000	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	7.68	[kg] (16.93 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	PTC	
2.1 Starting device	7M4R7MC1/8EA14C1	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM427KFBYY-53	
6 Start winding resistance	11.48	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	4.86	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	12.09	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.85	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.18	[A] - Measured according to UL 984
11 Approval boards certification	TUV - UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @127V60Hz			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]
602	152	176	117	1.49	3.42	5.15	1.30	1.51

E - PERFORMANCE - CURVES

TEST CONDITIONS: @127V60Hz		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)	313	79	92	76	1.19	1.77	4.11	1.03	1.20
-30	(-22)	435	110	127	85	1.27	2.46	5.13	1.29	1.50
-25	(-13)	594	150	174	96	1.34	3.37	6.16	1.55	1.81
-20	(- 4)	795	200	233	110	1.41	4.52	7.20	1.82	2.11
-15	(+ 5)	1040	262	305	126	1.50	5.94	8.25	2.08	2.42
-10	(+14)	1333	336	391	143	1.61	7.64	9.31	2.35	2.73
-5	(+23)	1678	423	492	162	1.75	9.65	10.39	2.62	3.04

TEST CONDITIONS: @127V60Hz		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)	309	78	91	80	1.21	1.75	3.84	0.97	1.13
-30	(-22)	422	106	124	91	1.30	2.39	4.67	1.18	1.37
-25	(-13)	569	143	167	103	1.38	3.23	5.51	1.39	1.62
-20	(- 4)	753	190	221	118	1.47	4.29	6.37	1.60	1.87
-15	(+ 5)	979	247	287	135	1.58	5.59	7.23	1.82	2.12
-10	(+14)	1248	315	366	154	1.71	7.15	8.12	2.05	2.38
-5	(+23)	1566	395	459	174	1.87	9.01	9.02	2.27	2.64

TEST CONDITIONS: @127V60Hz		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)	298	75	87	84	1.22	1.69	3.54	0.89	1.04
-30	(-22)	404	102	118	96	1.32	2.29	4.21	1.06	1.23
-25	(-13)	541	136	158	111	1.42	3.07	4.90	1.23	1.44
-20	(- 4)	711	179	208	127	1.53	4.05	5.60	1.41	1.64
-15	(+ 5)	918	231	269	145	1.65	5.24	6.32	1.59	1.85
-10	(+14)	1166	294	342	165	1.79	6.68	7.07	1.78	2.07
-5	(+23)	1459	368	427	186	1.97	8.39	7.83	1.97	2.29

E - PERFORMANCE - CURVES

TEST CONDITIONS: @127V60Hz		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)	281	71	82	88	1.23	1.59	3.21	0.81	0.94
-30	(-22)	382	96	112	101	1.34	2.17	3.76	0.95	1.10
-25	(-13)	510	129	149	117	1.45	2.90	4.33	1.09	1.27
-20	(- 4)	668	168	196	136	1.57	3.80	4.92	1.24	1.44
-15	(+ 5)	859	217	252	155	1.71	4.90	5.53	1.39	1.62
-10	(+14)	1088	274	319	177	1.87	6.23	6.17	1.55	1.81
-5	(+23)	1357	342	398	199	2.07	7.80	6.83	1.72	2.00

F - EXTERNAL CHARACTERISTICS

1 Base plate	New Base Plate EUEM		
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 42° up + 45° to Back		
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	Slanted 30° up + 24° to Back		
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 45° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		