

### COMPRESSOR DEFINITION

Designation	EM 2S60HLP
Nominal Voltage/Frequency	220 V 60 Hz
Engineering Number	513301007

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220 / 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	-	187 to 242 V
8.2 LBP (43°C Ambient temperature)	Static	-	187 to 242 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 <sup>2</sup> ] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm <sup>2</sup> ] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/6	[hp]
2 Displacement	5.19	[cm <sup>3</sup> ] (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 <sup>2</sup> ] (2.84 to 4.27 psig)

### C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA17C1/QPS2-A22MG1	
3 Start capacitor	-	[μF(VAC minimum)]
4 Run capacitor	-	[μF(VAC minimum)]
5 Motor protection	4TM232NFBYY-53	
6 Start winding resistance	23.90	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	17.10	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	6.20	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.10	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CE - TUV - UKCA	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V60Hz			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]
600	151	176	114	0.76	3.41	5.27	1.33	1.54

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz			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)	312	79	91	73	0.66	1.76	4.27	1.08	1.25
-30	(-22)	436	110	128	84	0.68	2.47	5.17	1.30	1.51
-25	(-13)	595	150	174	97	0.72	3.38	6.13	1.54	1.80
-20	(- 4)	795	200	233	111	0.77	4.53	7.15	1.80	2.09
-15	(+ 5)	1040	262	305	126	0.83	5.94	8.23	2.07	2.41
-10	(+14)	1333	336	391	142	0.90	7.64	9.36	2.36	2.74
-5	(+23)	1679	423	492	159	0.96	9.66	10.54	2.66	3.09

TEST CONDITIONS: @220V60Hz			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	76	0.67	1.75	4.05	1.02	1.19
-30	(-22)	424	107	124	89	0.69	2.40	4.77	1.20	1.40
-25	(-13)	571	144	167	103	0.74	3.24	5.54	1.40	1.62
-20	(- 4)	755	190	221	118	0.79	4.29	6.38	1.61	1.87
-15	(+ 5)	979	247	287	135	0.86	5.59	7.27	1.83	2.13
-10	(+14)	1248	315	366	152	0.92	7.15	8.21	2.07	2.41
-5	(+23)	1567	395	459	170	0.99	9.02	9.21	2.32	2.70

TEST CONDITIONS: @220V60Hz			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)	299	75	88	79	0.67	1.69	3.77	0.95	1.10
-30	(-22)	407	102	119	94	0.71	2.31	4.34	1.09	1.27
-25	(-13)	543	137	159	110	0.76	3.08	4.96	1.25	1.45
-20	(- 4)	713	180	209	127	0.82	4.05	5.64	1.42	1.65
-15	(+ 5)	919	232	269	144	0.89	5.25	6.37	1.61	1.87
-10	(+14)	1167	294	342	163	0.97	6.68	7.15	1.80	2.10
-5	(+23)	1460	368	428	183	1.04	8.40	7.99	2.01	2.34

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		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	82	0.69	1.59	3.43	0.86	1.00
-30	(-22)	384	97	112	99	0.73	2.18	3.87	0.98	1.13
-25	(-13)	512	129	150	117	0.79	2.91	4.37	1.10	1.28
-20	(- 4)	669	169	196	136	0.86	3.81	4.92	1.24	1.44
-15	(+ 5)	859	217	252	156	0.94	4.90	5.52	1.39	1.62
-10	(+14)	1087	274	319	176	1.03	6.23	6.18	1.56	1.81
-5	(+23)	1357	342	398	197	1.11	7.80	6.88	1.73	2.02

### 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		