

### COMPRESSOR DEFINITION

Designation	EM 2S60HLP
Nominal Voltage/Frequency	220 V 60 Hz
Engineering Number	513301002

### 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]
605	152	177	118	0.79	3.44	5.12	1.29	1.50

### 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)	317	80	93	73	0.65	1.79	4.34	1.09	1.27
-30	(-22)	441	111	129	86	0.68	2.50	5.17	1.30	1.52
-25	(-13)	603	152	177	98	0.72	3.42	6.13	1.55	1.80
-20	(- 4)	806	203	236	112	0.77	4.59	7.19	1.81	2.11
-15	(+ 5)	1055	266	309	127	0.83	6.02	8.31	2.09	2.43
-10	(+14)	1352	341	396	143	0.89	7.75	9.46	2.38	2.77
-5	(+23)	1702	429	499	160	0.96	9.79	10.62	2.68	3.11

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)	313	79	92	77	0.67	1.77	4.04	1.02	1.18
-30	(-22)	428	108	125	92	0.70	2.43	4.68	1.18	1.37
-25	(-13)	577	145	169	106	0.75	3.28	5.46	1.38	1.60
-20	(- 4)	764	192	224	121	0.80	4.35	6.34	1.60	1.86
-15	(+ 5)	992	250	291	136	0.86	5.67	7.28	1.83	2.13
-10	(+14)	1266	319	371	153	0.93	7.25	8.26	2.08	2.42
-5	(+23)	1589	400	465	172	0.99	9.14	9.25	2.33	2.71

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)	303	76	89	80	0.68	1.71	3.76	0.95	1.10
-30	(-22)	410	103	120	97	0.72	2.32	4.24	1.07	1.24
-25	(-13)	548	138	161	113	0.77	3.11	4.85	1.22	1.42
-20	(- 4)	721	182	211	130	0.83	4.10	5.57	1.40	1.63
-15	(+ 5)	931	235	273	147	0.90	5.31	6.36	1.60	1.86
-10	(+14)	1183	298	347	165	0.97	6.78	7.19	1.81	2.11
-5	(+23)	1480	373	434	184	1.04	8.51	8.03	2.02	2.35

### 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)	285	72	84	82	0.68	1.61	3.49	0.88	1.02
-30	(-22)	388	98	114	101	0.74	2.20	3.82	0.96	1.12
-25	(-13)	517	130	151	120	0.80	2.93	4.30	1.08	1.26
-20	(- 4)	677	171	198	138	0.87	3.85	4.88	1.23	1.43
-15	(+ 5)	871	219	255	157	0.95	4.97	5.53	1.39	1.62
-10	(+14)	1103	278	323	177	1.03	6.32	6.23	1.57	1.83
-5	(+23)	1376	347	403	198	1.10	7.92	6.95	1.75	2.04

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EUEM		
2 Tray holder	Yes		
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		