

COMPRESSOR DEFINITION

Designation	EM 2S60HLP
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513301021

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	-	103 to 140 V
8.2 LBP (43°C Ambient temperature)	Static	-	103 to 140 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 ²] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm ²] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/5	[hp]
2 Displacement	5.75	[cm ³] (0.351 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	16.600	
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)	7.42	[kg] (16.36 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	8EA14C1/QPS2-A4R7MG1	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM427NFBYY-53	
6 Start winding resistance	8.40	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	4.30	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	13.10	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	4.23	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	4.57	[A] - Measured according to UL 984
11 Approval boards certification	CE - IMTRO - TUV - UKCA	

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]
653	165	191	126	1.51	3.71	5.19	1.31	1.52

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]
-35	(-31)	386	97	113	84	1.28	2.18	4.58	1.15	1.34
-30	(-22)	523	132	153	98	1.35	2.97	5.34	1.35	1.57
-25	(-13)	693	175	203	113	1.43	3.94	6.17	1.55	1.81
-20	(- 4)	899	227	263	128	1.52	5.12	7.05	1.78	2.07
-15	(+ 5)	1145	289	336	144	1.61	6.54	7.98	2.01	2.34
-10	(+14)	1436	362	421	160	1.72	8.23	8.96	2.26	2.63

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]
-35	(-31)	328	83	96	84	1.28	1.85	3.90	0.98	1.14
-30	(-22)	467	118	137	100	1.35	2.65	4.64	1.17	1.36
-25	(-13)	639	161	187	117	1.44	3.63	5.42	1.37	1.59
-20	(- 4)	847	214	248	136	1.55	4.82	6.23	1.57	1.82
-15	(+ 5)	1097	276	321	155	1.67	6.26	7.06	1.78	2.07
-10	(+14)	1392	351	408	176	1.81	7.97	7.92	2.00	2.32

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]
-35	(-31)	277	70	81	83	1.28	1.57	3.38	0.85	0.99
-30	(-22)	410	103	120	100	1.35	2.32	4.09	1.03	1.20
-25	(-13)	576	145	169	119	1.45	3.27	4.81	1.21	1.41
-20	(- 4)	779	196	228	140	1.58	4.43	5.54	1.40	1.62
-15	(+ 5)	1024	258	300	163	1.72	5.85	6.27	1.58	1.84
-10	(+14)	1315	331	385	188	1.89	7.53	7.00	1.76	2.05

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)	233	59	68	79	1.26	1.32	2.94	0.74	0.86
-30	(-22)	351	88	103	97	1.34	1.99	3.62	0.91	1.06
-25	(-13)	503	127	147	118	1.44	2.86	4.29	1.08	1.26
-20	(- 4)	693	175	203	141	1.58	3.95	4.93	1.24	1.45
-15	(+ 5)	926	233	271	167	1.75	5.28	5.55	1.40	1.63
-10	(+14)	1205	304	353	196	1.95	6.90	6.15	1.55	1.80

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 parallel to Base Plate		
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 parallel to Base Plate		
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 parallel to Base Plate		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		