

COMPRESSOR DEFINITION

Designation	EM 2S70CLC
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513304546

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
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	RSCR		
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	6.9	[kgf/cm ²] (98 psig)	/ °C - °F
9.2 Peak	7.8	[kgf/cm ²] (111 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/5	[hp]
2 Displacement	10.61	[cm ³] (0.647 cu.in)
2.1 Bore [mm]	26.000	
2.2 Stroke [mm]	20.000	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	MINERAL / ISO10	
4 Weight (with oil charge)	7.52	[kg] (16.58 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

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	8EA14C3/QPS2-A4R7MD3/QPS2-A4R7MD3 094	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	15(180)	[µF(VAC minimum)]
5 Motor protection	4TM762KFBYY-53	
6 Start winding resistance	5.90	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	2.78	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	20.75	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	3.07	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	3.67	[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]
717	181	210	135	1.37	2.25	5.33	1.34	1.56

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)	417	105	122	98	1.14	1.30	4.25	1.07	1.25
-30 (-22)	542	137	159	109	1.19	1.70	5.00	1.26	1.46
-25 (-13)	690	174	202	119	1.24	2.16	5.83	1.47	1.71
-20 (- 4)	875	221	257	130	1.30	2.75	6.73	1.70	1.97
-15 (+ 5)	1115	281	327	144	1.37	3.51	7.70	1.94	2.26
-10 (+14)	1424	359	417	162	1.46	4.49	8.73	2.20	2.56

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)	412	104	121	102	1.15	1.29	4.03	1.01	1.18
-30 (-22)	539	136	158	116	1.22	1.69	4.65	1.17	1.36
-25 (-13)	683	172	200	128	1.28	2.14	5.35	1.35	1.57
-20 (- 4)	859	217	252	140	1.35	2.70	6.14	1.55	1.80
-15 (+ 5)	1085	273	318	155	1.43	3.41	6.99	1.76	2.05
-10 (+14)	1375	346	403	173	1.53	4.34	7.89	1.99	2.31

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)	397	100	116	102	1.15	1.24	3.89	0.98	1.14
-30 (-22)	527	133	154	119	1.24	1.65	4.39	1.11	1.29
-25 (-13)	668	168	196	134	1.32	2.10	4.98	1.25	1.46
-20 (- 4)	837	211	245	149	1.40	2.63	5.65	1.42	1.66
-15 (+ 5)	1050	265	308	165	1.49	3.30	6.39	1.61	1.87
-10 (+14)	1321	333	387	184	1.59	4.17	7.18	1.81	2.10

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)	363	91	106	99	1.15	1.14	3.69	0.93	1.08
-30	(-22)	496	125	145	120	1.25	1.56	4.09	1.03	1.20
-25	(-13)	636	160	187	138	1.35	2.00	4.57	1.15	1.34
-20	(- 4)	799	201	234	156	1.44	2.51	5.13	1.29	1.50
-15	(+ 5)	1000	252	293	174	1.54	3.15	5.77	1.45	1.69
-10	(+14)	1255	316	368	194	1.65	3.96	6.46	1.63	1.89

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EG/F/AMEM Version 2		
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 parallel BP+24°to Back		
3.3 PROCESS	6.35 +0.08/-0.08	[mm]	(0.250" +0.003"/-0.003")
3.3.1 Material	Copper(OD)		
3.3.2 Shape	Slanted 43° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		