

COMPRESSOR DEFINITION

Designation	EM 2S70CLP
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513301524

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	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	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	ALQUILB / ISO5	
4 Weight (with oil charge)	7.38	[kg] (16.27 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	8EA14C1/8EA14E62/8EA14E63/8EA14E64/8EA21C1/8EA21E6	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM757LFBZZ-53	
6 Start winding resistance	6.39	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	3.83	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	14.80	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	2.34	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.69	[A] - Measured according to UL 984
11 Approval boards certification	CE - TUV - UKCA	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V60Hz			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]
712	179	209	133	1.72	2.24	5.37	1.35	1.57

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		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)	412	104	121	92	1.61	1.29	4.47	1.13	1.31
-30	(-22)	558	141	164	106	1.67	1.75	5.24	1.32	1.54
-25	(-13)	733	185	215	121	1.73	2.30	6.05	1.53	1.77
-20	(- 4)	942	237	276	137	1.79	2.96	6.91	1.74	2.03
-15	(+ 5)	1191	300	349	152	1.87	3.75	7.82	1.97	2.29
-10	(+14)	1485	374	435	169	1.97	4.69	8.79	2.21	2.58

TEST CONDITIONS: @115V60Hz		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)	383	96	112	94	1.62	1.20	4.08	1.03	1.20
-30	(-22)	522	132	153	109	1.68	1.64	4.77	1.20	1.40
-25	(-13)	692	174	203	126	1.75	2.17	5.50	1.39	1.61
-20	(- 4)	897	226	263	143	1.83	2.82	6.26	1.58	1.83
-15	(+ 5)	1143	288	335	162	1.93	3.60	7.06	1.78	2.07
-10	(+14)	1436	362	421	182	2.04	4.53	7.90	1.99	2.31

TEST CONDITIONS: @115V60Hz		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)	351	88	103	95	1.62	1.10	3.69	0.93	1.08
-30	(-22)	483	122	141	111	1.69	1.51	4.33	1.09	1.27
-25	(-13)	645	163	189	129	1.77	2.02	4.99	1.26	1.46
-20	(- 4)	844	213	247	149	1.86	2.65	5.67	1.43	1.66
-15	(+ 5)	1085	273	318	170	1.98	3.42	6.38	1.61	1.87
-10	(+14)	1373	346	402	193	2.11	4.33	7.12	1.79	2.09

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		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)	318	80	93	97	1.63	1.00	3.29	0.83	0.96
-30	(-22)	439	111	129	113	1.70	1.38	3.89	0.98	1.14
-25	(-13)	592	149	173	132	1.79	1.86	4.50	1.13	1.32
-20	(- 4)	782	197	229	153	1.89	2.46	5.12	1.29	1.50
-15	(+ 5)	1016	256	298	177	2.02	3.20	5.76	1.45	1.69
-10	(+14)	1298	327	380	202	2.18	4.10	6.41	1.62	1.88

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EG/F/AMEM Version 2		
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 parallel BP+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 parallel BP+45°to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		