

COMPRESSOR DEFINITION

Designation	EM 2S70CLC
Nominal Voltage/Frequency	220 V 60 Hz
Engineering Number	513304545

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	220 / 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	-	198 to 242 V
8.2 LBP (43°C Ambient temperature)	Static	-	198 to 242 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)	7.3	[kg] (16.09 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

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	8EA17C3/QPS2-A22MD3/QPS2-A22MD3 091	
3 Start capacitor	-	[μF(VAC minimum)]
4 Run capacitor	4(315)	[μF(VAC minimum)]
5 Motor protection	5TM283KFBYY-53	
6 Start winding resistance	18.33	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	11.72	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	9.60	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.67	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	1.97	[A] - Measured according to UL 984
11 Approval boards certification	CE - IMTRO - 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]
718	181	210	134	0.79	2.25	5.35	1.35	1.57

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)	411	104	121	94	0.62	1.29	4.36	1.10	1.28
-30	(-22)	539	136	158	106	0.70	1.69	5.08	1.28	1.49
-25	(-13)	695	175	204	118	0.74	2.18	5.93	1.49	1.74
-20	(- 4)	889	224	261	130	0.77	2.79	6.89	1.74	2.02
-15	(+ 5)	1131	285	332	142	0.80	3.56	7.97	2.01	2.34
-10	(+14)	1432	361	420	156	0.85	4.52	9.16	2.31	2.68

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)	400	101	117	96	0.65	1.25	4.16	1.05	1.22
-30	(-22)	524	132	154	110	0.74	1.64	4.73	1.19	1.39
-25	(-13)	674	170	198	124	0.79	2.12	5.41	1.36	1.59
-20	(- 4)	860	217	252	138	0.82	2.70	6.21	1.57	1.82
-15	(+ 5)	1091	275	320	153	0.86	3.44	7.12	1.79	2.09
-10	(+14)	1379	348	404	169	0.92	4.35	8.14	2.05	2.39

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)	392	99	115	94	0.64	1.23	4.17	1.05	1.22
-30	(-22)	513	129	150	111	0.74	1.61	4.59	1.16	1.35
-25	(-13)	657	166	192	128	0.81	2.06	5.13	1.29	1.50
-20	(- 4)	835	210	245	145	0.86	2.62	5.77	1.46	1.69
-15	(+ 5)	1056	266	309	162	0.91	3.32	6.53	1.64	1.91
-10	(+14)	1330	335	390	181	0.98	4.20	7.38	1.86	2.16

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)	362	91	106	89	0.59	1.13	4.08	1.03	1.20
-30	(-22)	480	121	141	110	0.71	1.50	4.37	1.10	1.28
-25	(-13)	619	156	181	130	0.80	1.94	4.76	1.20	1.40
-20	(- 4)	788	199	231	150	0.87	2.48	5.26	1.33	1.54
-15	(+ 5)	999	252	293	170	0.93	3.15	5.87	1.48	1.72
-10	(+14)	1261	318	370	192	1.02	3.98	6.57	1.66	1.92

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		