

COMPRESSOR DEFINITION

Designation	EM 2S70CLC
Nominal Voltage/Frequency	220 V 60 Hz
Engineering Number	513304579

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	ALQUILB / ISO5	
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	7M220MD3/8EA17C3/8M220MD3/QPS2-A22MD3/QPS2-A22MD3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(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	IMTRO - TUV	

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]
736	185	216	132	0.71	2.31	5.57	1.40	1.63

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)	400	101	117	92	0.58	1.25	4.34	1.09	1.27
-30	(-22)	531	134	156	103	0.61	1.66	5.17	1.30	1.51
-25	(-13)	687	173	201	114	0.65	2.16	6.05	1.52	1.77
-20	(- 4)	880	222	258	126	0.69	2.76	7.01	1.77	2.05
-15	(+ 5)	1120	282	328	139	0.74	3.52	8.07	2.03	2.36
-10	(+14)	1417	357	415	153	0.80	4.47	9.26	2.33	2.71

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)	396	100	116	93	0.57	1.24	4.26	1.07	1.25
-30	(-22)	523	132	153	106	0.62	1.64	4.92	1.24	1.44
-25	(-13)	673	170	197	120	0.67	2.11	5.62	1.42	1.65
-20	(- 4)	856	216	251	134	0.72	2.69	6.40	1.61	1.87
-15	(+ 5)	1084	273	318	149	0.78	3.41	7.27	1.83	2.13
-10	(+14)	1367	345	401	165	0.85	4.31	8.27	2.08	2.42

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	91	0.57	1.23	4.30	1.08	1.26
-30	(-22)	515	130	151	107	0.63	1.62	4.79	1.21	1.40
-25	(-13)	659	166	193	124	0.69	2.07	5.33	1.34	1.56
-20	(- 4)	834	210	245	140	0.75	2.62	5.95	1.50	1.74
-15	(+ 5)	1051	265	308	158	0.82	3.31	6.66	1.68	1.95
-10	(+14)	1320	333	387	177	0.90	4.17	7.49	1.89	2.19

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	87	0.56	1.13	4.18	1.05	1.22
-30	(-22)	483	122	142	106	0.63	1.51	4.54	1.14	1.33
-25	(-13)	622	157	182	126	0.70	1.95	4.94	1.24	1.45
-20	(- 4)	789	199	231	146	0.78	2.48	5.41	1.36	1.59
-15	(+ 5)	995	251	292	166	0.86	3.13	5.97	1.50	1.75
-10	(+14)	1251	315	367	188	0.95	3.95	6.64	1.67	1.95

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		