

COMPRESSOR DEFINITION

Designation	EM 2S70CLP
Nominal Voltage/Frequency	220 V 60 Hz
Engineering Number	513304541

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	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	-	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)	8.6	[kg] (18.96 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	8EA17C1/8EA17E61/QPS2-A22MG1/QPS2-A22MG1 092	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	CP4TMC291K61	
6 Start winding resistance	20.00	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	13.00	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	8.80	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.83	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.11	[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]
728	183	213	140	1.02	2.29	5.22	1.32	1.53

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)	453	114	133	94	0.90	1.42	4.80	1.21	1.41
-30	(-22)	584	147	171	108	0.93	1.83	5.44	1.37	1.59
-25	(-13)	747	188	219	119	0.96	2.34	6.28	1.58	1.84
-20	(- 4)	947	239	278	130	0.99	2.98	7.27	1.83	2.13
-15	(+ 5)	1192	300	349	142	1.02	3.75	8.33	2.10	2.44
-10	(+14)	1488	375	436	157	1.07	4.69	9.41	2.37	2.76

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)	419	106	123	98	0.91	1.31	4.25	1.07	1.25
-30	(-22)	549	138	161	114	0.95	1.72	4.81	1.21	1.41
-25	(-13)	708	178	207	128	0.98	2.22	5.56	1.40	1.63
-20	(- 4)	902	227	264	140	1.02	2.83	6.44	1.62	1.89
-15	(+ 5)	1137	286	333	154	1.06	3.58	7.38	1.86	2.16
-10	(+14)	1420	358	416	170	1.11	4.48	8.31	2.09	2.44

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)	377	95	110	99	0.91	1.18	3.82	0.96	1.12
-30	(-22)	510	129	149	118	0.96	1.60	4.32	1.09	1.26
-25	(-13)	669	169	196	134	1.00	2.10	4.99	1.26	1.46
-20	(- 4)	861	217	252	149	1.04	2.71	5.78	1.46	1.69
-15	(+ 5)	1091	275	320	165	1.09	3.44	6.62	1.67	1.94
-10	(+14)	1366	344	400	184	1.16	4.31	7.44	1.88	2.18

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)	326	82	96	95	0.90	1.02	3.45	0.87	1.01
-30	(-22)	467	118	137	118	0.96	1.47	3.91	0.99	1.15
-25	(-13)	632	159	185	138	1.01	1.98	4.53	1.14	1.33
-20	(- 4)	826	208	242	157	1.07	2.60	5.26	1.32	1.54
-15	(+ 5)	1056	266	309	176	1.13	3.33	6.02	1.52	1.76
-10	(+14)	1328	335	389	198	1.20	4.19	6.75	1.70	1.98

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		