

COMPRESSOR DEFINITION

Designation	EM 2Y70CLC
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513301517

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	1/4	[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)	7.5	[kg] (16.53 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	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	12(173)	[µF(VAC minimum)]
5 Motor protection	4TM757KDBYY-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)	13.55	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.81	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.35	[A] - Measured according to UL 984
11 Approval boards certification	IMTRO - TUV - UL	

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]
710	179	208	126	1.25	2.23	5.66	1.43	1.66

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)	427	108	125	85	0.94	1.34	5.01	1.26	1.47
-30	(-22)	572	144	168	99	1.04	1.79	5.77	1.45	1.69
-25	(-13)	755	190	221	114	1.16	2.37	6.61	1.67	1.94
-20	(- 4)	975	246	286	130	1.29	3.06	7.49	1.89	2.20
-15	(+ 5)	1232	310	361	147	1.43	3.88	8.40	2.12	2.46
-10	(+14)	1526	384	447	164	1.57	4.81	9.32	2.35	2.73

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)	387	98	113	87	0.95	1.21	4.49	1.13	1.32
-30	(-22)	524	132	153	101	1.06	1.64	5.18	1.31	1.52
-25	(-13)	701	177	205	117	1.19	2.20	5.95	1.50	1.74
-20	(- 4)	919	232	269	135	1.33	2.89	6.77	1.71	1.98
-15	(+ 5)	1177	297	345	154	1.49	3.71	7.62	1.92	2.23
-10	(+14)	1476	372	432	174	1.66	4.66	8.48	2.14	2.48

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)	354	89	104	86	0.95	1.11	4.12	1.04	1.21
-30	(-22)	476	120	139	101	1.06	1.49	4.71	1.19	1.38
-25	(-13)	643	162	188	119	1.20	2.02	5.38	1.36	1.58
-20	(- 4)	853	215	250	139	1.36	2.68	6.11	1.54	1.79
-15	(+ 5)	1108	279	325	161	1.54	3.49	6.88	1.73	2.02
-10	(+14)	1406	354	412	184	1.74	4.44	7.66	1.93	2.25

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)	327	82	96	84	0.93	1.02	3.88	0.98	1.14
-30	(-22)	430	108	126	100	1.05	1.35	4.35	1.10	1.27
-25	(-13)	580	146	170	119	1.20	1.82	4.90	1.24	1.44
-20	(- 4)	779	196	228	141	1.38	2.45	5.52	1.39	1.62
-15	(+ 5)	1025	258	300	166	1.59	3.23	6.18	1.56	1.81
-10	(+14)	1318	332	386	192	1.81	4.16	6.85	1.73	2.01

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
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	Straight		
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	Straight		
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	Straight		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		