

COMPRESSOR DEFINITION

Designation	EM 2U3111U
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513305555

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-290		
3 Nominal voltage and frequency	115-127 / 60	[V / Hz]	
4 Application type	Low-Medium Back Pressure (Light Commercial)		
4.1 Evaporating temperature range	-35°C to 0°C	(-31°F to 32°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/Fan	-	98 to 140 V
8.2 LBP (43°C Ambient temperature)	Static/Fan	-	98 to 140 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	18.4	[kgf/cm ²] (262 psig)	/ °C - °F
9.2 Peak	20.6	[kgf/cm ²] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/6	[hp]
2 Displacement	3.00	[cm ³] (0.183 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	10.600	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO22	
4 Weight (with oil charge)	7.08	[kg] (15.61 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm ²] (2.84 to 4.27 psig)

C - ELECTRICAL 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	8EA14C3/8EA14E62/8EA14E63/QPS2-A4R7MD3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	12(180)	[µF(VAC minimum)]
5 Motor protection	4TM302KFBYY-53	
6 Start winding resistance	7.80	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	7.10	[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)	1.80	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.00	[A] - Measured according to UL 984
11 Approval boards certification	CE - IMTRO - TUV - UKCA - 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 (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
566	143	166	101	0.88	1.68	5.59	1.41	1.64

TEST CONDITIONS: @115V60Hz			ASHRAELBP32 Fan		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 54.4°C (129.92°F)	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
582	147	171	103	0.90	1.73	5.68	1.43	1.66

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ASHRAE32 Static			(Condensing temperature 35°C (+95°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	372	94	109	74	0.66	1.10	5.03	1.27	1.47
-30	(-22)	471	119	138	80	0.70	1.40	5.86	1.48	1.72
-25	(-13)	588	148	172	87	0.75	1.75	6.75	1.70	1.98
-20	(- 4)	728	184	213	94	0.82	2.17	7.74	1.95	2.27
-15	(+ 5)	897	226	263	101	0.90	2.69	8.89	2.24	2.61
-10	(+14)	1100	277	322	108	1.00	3.31	10.26	2.59	3.01
-5	(+23)	1342	338	393	113	1.11	4.06	11.91	3.00	3.49
0	(+32)	1629	411	477	117	1.24	4.95	13.88	3.50	4.07

TEST CONDITIONS: @115V60Hz		ASHRAE32 Static			(Condensing temperature 45°C (+113°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	342	86	100	76	0.69	1.01	4.52	1.14	1.33
-30	(-22)	445	112	130	84	0.74	1.32	5.29	1.33	1.55
-25	(-13)	562	142	165	93	0.80	1.67	6.04	1.52	1.77
-20	(- 4)	698	176	204	102	0.87	2.08	6.82	1.72	2.00
-15	(+ 5)	858	216	251	111	0.95	2.57	7.70	1.94	2.26
-10	(+14)	1048	264	307	120	1.04	3.15	8.74	2.20	2.56
-5	(+23)	1274	321	373	128	1.15	3.85	9.98	2.51	2.92
0	(+32)	1540	388	451	135	1.27	4.68	11.48	2.89	3.36

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	296	75	87	77	0.70	0.88	3.89	0.98	1.14
-30	(-22)	405	102	119	87	0.78	1.20	4.68	1.18	1.37
-25	(-13)	524	132	154	97	0.85	1.56	5.38	1.36	1.58
-20	(- 4)	658	166	193	108	0.93	1.96	6.06	1.53	1.77
-15	(+ 5)	811	204	238	120	1.02	2.43	6.76	1.70	1.98
-10	(+14)	991	250	290	131	1.12	2.98	7.55	1.90	2.21
-5	(+23)	1202	303	352	141	1.22	3.63	8.48	2.14	2.48
0	(+32)	1450	365	425	151	1.34	4.41	9.60	2.42	2.81

TEST CONDITIONS: @115V60Hz		ASHRAE32 Static			(Condensing temperature 65°C (+149°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	234	59	69	77	0.72	0.69	3.05	0.77	0.89
-30	(-22)	351	89	103	88	0.82	1.04	3.95	0.99	1.16
-25	(-13)	474	119	139	101	0.93	1.41	4.70	1.18	1.38
-20	(- 4)	607	153	178	114	1.03	1.81	5.35	1.35	1.57
-15	(+ 5)	757	191	222	128	1.14	2.27	5.97	1.50	1.75
-10	(+14)	928	234	272	141	1.25	2.79	6.60	1.66	1.93
-5	(+23)	1126	284	330	154	1.36	3.40	7.31	1.84	2.14
0	(+32)	1357	342	398	166	1.48	4.12	8.14	2.05	2.39

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EG/F/AMEM version 2		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	8.2 +0.12/-0.08	[mm]	(0.323" +0.005"/-0.003")
3.1.1 Material	Copper		
3.1.2 Shape	Straight		
3.2 DISCHARGE	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-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		