

### COMPRESSOR DEFINITION

Designation	EM 2U3111U
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513305614

### 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	-	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	18.4	[kgf/cm <sup>2</sup> ] (262 psig)	/ °C - °F
9.2 Peak	20.6	[kgf/cm <sup>2</sup> ] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/6	[hp]
2 Displacement	3.00	[cm <sup>3</sup> ] (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 <sup>2</sup> ] (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	DRB35N61A2	
6 Start winding resistance	7.95	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	6.90	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	8.90	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CE - TUV - UKCA	

### 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]	
581	146	170	103	0.91	1.73	5.67	1.43	1.66	

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]	
599	151	175	104	0.92	1.78	5.76	1.45	1.69	

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ASHRAE32 Fan			(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)	400	101	117	75	0.68	1.18	5.29	1.33	1.55
-30	(-22)	507	128	148	83	0.74	1.50	6.10	1.54	1.79
-25	(-13)	631	159	185	90	0.80	1.88	6.99	1.76	2.05
-20	(- 4)	778	196	228	98	0.87	2.32	7.99	2.01	2.34
-15	(+ 5)	950	240	279	105	0.93	2.85	9.12	2.30	2.67
-10	(+14)	1154	291	338	111	0.99	3.47	10.42	2.63	3.05
-5	(+23)	1392	351	408	117	1.04	4.21	11.93	3.01	3.50
0	(+32)	1669	420	489	122	1.09	5.07	13.66	3.44	4.00

TEST CONDITIONS: @115V60Hz		ASHRAE32 Fan			(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)	357	90	104	77	0.69	1.06	4.62	1.16	1.35
-30	(-22)	466	117	136	86	0.76	1.38	5.40	1.36	1.58
-25	(-13)	590	149	173	95	0.84	1.76	6.21	1.56	1.82
-20	(- 4)	735	185	215	104	0.92	2.19	7.06	1.78	2.07
-15	(+ 5)	904	228	265	113	1.00	2.71	7.99	2.01	2.34
-10	(+14)	1101	277	322	122	1.08	3.31	9.04	2.28	2.65
-5	(+23)	1330	335	390	130	1.16	4.02	10.23	2.58	3.00
0	(+32)	1596	402	468	138	1.23	4.85	11.60	2.92	3.40

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ASHRAE32 Fan			(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)	298	75	87	78	0.70	0.88	3.87	0.98	1.13
-30	(-22)	410	103	120	87	0.78	1.22	4.68	1.18	1.37
-25	(-13)	534	135	157	98	0.87	1.59	5.45	1.37	1.60
-20	(- 4)	677	171	198	109	0.96	2.02	6.22	1.57	1.82
-15	(+ 5)	841	212	246	120	1.06	2.52	7.01	1.77	2.05
-10	(+14)	1031	260	302	131	1.16	3.10	7.86	1.98	2.30
-5	(+23)	1252	315	367	142	1.26	3.78	8.80	2.22	2.58
0	(+32)	1506	380	441	153	1.36	4.58	9.86	2.49	2.89

TEST CONDITIONS: @115V60Hz		ASHRAE32 Fan			(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)	231	58	68	77	0.70	0.68	3.00	0.76	0.88
-30	(-22)	344	87	101	88	0.79	1.02	3.89	0.98	1.14
-25	(-13)	469	118	137	100	0.89	1.39	4.69	1.18	1.37
-20	(- 4)	609	153	178	112	0.99	1.82	5.43	1.37	1.59
-15	(+ 5)	768	194	225	126	1.11	2.30	6.14	1.55	1.80
-10	(+14)	952	240	279	139	1.23	2.86	6.85	1.73	2.01
-5	(+23)	1163	293	341	153	1.36	3.52	7.59	1.91	2.23
0	(+32)	1406	354	412	167	1.49	4.27	8.40	2.12	2.46

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EUEM		
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		