

### COMPRESSOR DEFINITION

Designation	EM 2U3111U
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513305608

### 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 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)	388	98	114	73	0.66	1.15	5.29	1.33	1.55
-30	(-22)	488	123	143	81	0.71	1.45	6.03	1.52	1.77
-25	(-13)	613	154	180	89	0.78	1.82	6.92	1.74	2.03
-20	(- 4)	764	193	224	96	0.85	2.28	7.97	2.01	2.33
-15	(+ 5)	942	237	276	104	0.92	2.82	9.14	2.30	2.68
-10	(+14)	1147	289	336	110	0.98	3.45	10.45	2.63	3.06
-5	(+23)	1380	348	404	117	1.04	4.17	11.86	2.99	3.48
0	(+32)	1640	413	481	122	1.09	4.99	13.39	3.37	3.92

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)	357	90	105	75	0.71	1.06	4.77	1.20	1.40
-30	(-22)	449	113	132	84	0.77	1.33	5.35	1.35	1.57
-25	(-13)	567	143	166	93	0.83	1.69	6.07	1.53	1.78
-20	(- 4)	712	179	208	102	0.91	2.12	6.91	1.74	2.03
-15	(+ 5)	883	222	259	112	0.99	2.64	7.88	1.99	2.31
-10	(+14)	1082	273	317	121	1.07	3.25	8.95	2.26	2.62
-5	(+23)	1308	330	383	130	1.14	3.96	10.12	2.55	2.96
0	(+32)	1563	394	458	138	1.20	4.75	11.37	2.87	3.33

### 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)	329	83	96	76	0.74	0.97	4.37	1.10	1.28
-30	(-22)	412	104	121	86	0.81	1.22	4.82	1.21	1.41
-25	(-13)	520	131	152	97	0.89	1.55	5.38	1.36	1.58
-20	(- 4)	656	165	192	108	0.98	1.96	6.06	1.53	1.77
-15	(+ 5)	818	206	240	119	1.08	2.45	6.83	1.72	2.00
-10	(+14)	1009	254	296	131	1.18	3.04	7.69	1.94	2.25
-5	(+23)	1227	309	360	142	1.28	3.71	8.63	2.18	2.53
0	(+32)	1475	372	432	153	1.37	4.48	9.64	2.43	2.82

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)	298	75	87	74	0.67	0.88	3.98	1.00	1.17
-30	(-22)	369	93	108	86	0.76	1.09	4.32	1.09	1.26
-25	(-13)	467	118	137	99	0.86	1.39	4.75	1.20	1.39
-20	(- 4)	591	149	173	112	0.98	1.76	5.28	1.33	1.55
-15	(+ 5)	743	187	218	126	1.11	2.22	5.88	1.48	1.72
-10	(+14)	923	233	270	141	1.24	2.78	6.56	1.65	1.92
-5	(+23)	1131	285	332	155	1.38	3.42	7.29	1.84	2.14
0	(+32)	1369	345	401	169	1.50	4.16	8.08	2.04	2.37

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EUEM		
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	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		