

COMPRESSOR DEFINITION

Designation	EM 2U3111U
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513305566

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	ESTER / 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 - 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	8EA14C3/8EA14E62/8EA14E63/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 +/- 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]	
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 +/- 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]	
582	147	171	103	0.90	1.73	5.68	1.43	1.66	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ASHRAE32 Fan				(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)	386	97	113	77	0.69	1.14	5.01	1.26	1.47
-30	(-22)	487	123	143	83	0.73	1.44	5.89	1.48	1.72
-25	(-13)	606	153	178	89	0.79	1.80	6.79	1.71	1.99
-20	(- 4)	749	189	220	96	0.85	2.24	7.79	1.96	2.28
-15	(+ 5)	921	232	270	103	0.92	2.76	8.94	2.25	2.62
-10	(+14)	1127	284	330	110	0.98	3.39	10.30	2.60	3.02
-5	(+23)	1371	346	402	115	1.04	4.15	11.94	3.01	3.50
0	(+32)	1659	418	486	119	1.09	5.04	13.91	3.50	4.08

TEST CONDITIONS: @115V60Hz		ASHRAE32 Fan				(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)	354	89	104	78	0.70	1.05	4.54	1.14	1.33
-30	(-22)	460	116	135	86	0.76	1.36	5.35	1.35	1.57
-25	(-13)	580	146	170	94	0.83	1.73	6.13	1.54	1.80
-20	(- 4)	720	181	211	104	0.91	2.15	6.93	1.75	2.03
-15	(+ 5)	884	223	259	113	0.99	2.65	7.82	1.97	2.29
-10	(+14)	1077	271	316	121	1.07	3.24	8.86	2.23	2.59
-5	(+23)	1304	329	382	129	1.15	3.94	10.10	2.54	2.96
0	(+32)	1570	396	460	136	1.21	4.77	11.61	2.93	3.40

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ASHRAE32 Fan			(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)	305	77	89	78	0.71	0.90	3.92	0.99	1.15
-30	(-22)	418	105	123	88	0.78	1.24	4.75	1.20	1.39
-25	(-13)	542	137	159	99	0.87	1.61	5.49	1.38	1.61
-20	(- 4)	680	171	199	110	0.96	2.03	6.18	1.56	1.81
-15	(+ 5)	838	211	246	121	1.06	2.51	6.89	1.74	2.02
-10	(+14)	1021	257	299	132	1.17	3.07	7.69	1.94	2.25
-5	(+23)	1233	311	361	143	1.26	3.73	8.62	2.17	2.53
0	(+32)	1480	373	434	152	1.34	4.50	9.76	2.46	2.86

TEST CONDITIONS: @115V60Hz		ASHRAE32 Fan			(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)	239	60	70	78	0.72	0.71	3.07	0.77	0.90
-30	(-22)	362	91	106	89	0.81	1.07	4.01	1.01	1.18
-25	(-13)	490	124	144	102	0.91	1.46	4.79	1.21	1.40
-20	(- 4)	629	159	184	116	1.03	1.88	5.46	1.38	1.60
-15	(+ 5)	783	197	230	129	1.15	2.35	6.09	1.53	1.78
-10	(+14)	958	241	281	143	1.27	2.88	6.73	1.70	1.97
-5	(+23)	1158	292	339	156	1.38	3.50	7.44	1.88	2.18
0	(+32)	1388	350	407	167	1.49	4.22	8.30	2.09	2.43

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		