

### COMPRESSOR DEFINITION

Designation	EM 2U3115Z
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513306295

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	115-127 / 60	[ V / Hz ]	
4 Application type	Low-Medium (Plus) Back Pressure		
4.1 Evaporating temperature range	-35°C to 0°C	(-31°F to 32°F)	
5 Motor type	RSIR		
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)	-	-	-
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	14.2	[kgf/cm <sup>2</sup> ] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm <sup>2</sup> ] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/4+	[hp]
2 Displacement	6.60	[cm <sup>3</sup> ] (0.403 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	16.600	
3 Lubricant charge	180	[ml] (6.09 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	7.44	[kg] (16.40 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	Current Relay	
2.1 Starting device	213514083	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM762NFBZZ-53	
6 Start winding resistance	8.12	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	3.61	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	24.35	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	2.20	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.87	[A] - Measured according to UL 984
11 Approval boards certification	CE - IMTRO - TUV - UKCA	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @127V60Hz			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]	
779	196	228	150	1.96	4.43	5.21	1.31	1.53	

TEST CONDITIONS: @127V60Hz			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]	
808	204	237	150	1.97	4.59	5.40	1.36	1.58	

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @127V60Hz		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)	469	118	137	103	1.80	2.65	4.56	1.15	1.33
-30	(-22)	634	160	186	116	1.83	3.60	5.46	1.38	1.60
-25	(-13)	834	210	244	131	1.89	4.74	6.36	1.60	1.86
-20	(- 4)	1076	271	315	148	1.97	6.13	7.30	1.84	2.14
-15	(+ 5)	1370	345	402	165	2.06	7.82	8.32	2.10	2.44
-10	(+14)	1724	435	505	182	2.16	9.88	9.47	2.39	2.77
-5	(+23)	2147	541	629	199	2.26	12.35	10.77	2.71	3.16
0	(+32)	2648	667	776	216	2.36	15.30	12.27	3.09	3.60

TEST CONDITIONS: @127V60Hz		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)	426	107	125	105	1.83	2.41	4.07	1.03	1.19
-30	(-22)	592	149	174	120	1.86	3.36	4.93	1.24	1.44
-25	(-13)	790	199	231	137	1.92	4.48	5.75	1.45	1.68
-20	(- 4)	1027	259	301	156	2.00	5.84	6.56	1.65	1.92
-15	(+ 5)	1312	331	384	177	2.11	7.49	7.41	1.87	2.17
-10	(+14)	1653	417	484	198	2.24	9.47	8.33	2.10	2.44
-5	(+23)	2060	519	604	220	2.38	11.85	9.38	2.36	2.75
0	(+32)	2542	641	745	242	2.52	14.68	10.58	2.67	3.10

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @127V60Hz		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)	367	93	108	107	1.87	2.08	3.46	0.87	1.01
-30	(-22)	535	135	157	123	1.89	3.04	4.33	1.09	1.27
-25	(-13)	731	184	214	143	1.95	4.15	5.11	1.29	1.50
-20	(- 4)	962	242	282	165	2.04	5.47	5.84	1.47	1.71
-15	(+ 5)	1238	312	363	188	2.17	7.07	6.57	1.66	1.93
-10	(+14)	1567	395	459	213	2.32	8.98	7.34	1.85	2.15
-5	(+23)	1959	494	574	240	2.49	11.27	8.17	2.06	2.39
0	(+32)	2421	610	709	267	2.68	13.99	9.13	2.30	2.67

TEST CONDITIONS: @127V60Hz		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)	294	74	86	109	1.91	1.66	2.70	0.68	0.79
-30	(-22)	463	117	136	127	1.92	2.63	3.63	0.91	1.06
-25	(-13)	657	165	192	148	1.98	3.73	4.43	1.12	1.30
-20	(- 4)	883	222	259	172	2.09	5.02	5.14	1.29	1.51
-15	(+ 5)	1150	290	337	199	2.23	6.56	5.80	1.46	1.70
-10	(+14)	1467	370	430	228	2.40	8.40	6.45	1.62	1.89
-5	(+23)	1843	464	540	258	2.61	10.60	7.13	1.80	2.09
0	(+32)	2286	576	670	290	2.84	13.21	7.88	1.99	2.31

### 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	Slanted 42° up + 45° to Back
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	Slanted 30° up + 24° to Back
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	Slanted 46° up + 45° to Back
3.4 Oil cooler (Copper)	No [mm]
3.5 Connector sealing	Rubber Plugs