

COMPRESSOR DEFINITION

Designation	EM 2U3115Z
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513305592

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	CSIR		
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 ²] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm ²] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/4+	[hp]
2 Displacement	6.60	[cm ³] (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 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	Current Relay	
2.1 Starting device	213515007	
3 Start capacitor	233-280(111)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	DRB230M61B*F	
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)	20.20	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	2.45	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.83	[A] - Measured according to UL 984
11 Approval boards certification	IMTRO - TUV	

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 +/- 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]	
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 +/- 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]	
808	204	237	150	1.97	4.59	5.40	1.36	1.58	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @127V60Hz		ASHRAE32 Static				(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)	482	121	141	109	1.85	2.73	4.48	1.13	1.31
-30	(-22)	391	99	115	90	1.58	2.19	4.66	1.17	1.36
-25	(-13)	672	169	197	108	1.68	3.80	5.98	1.51	1.75
-20	(- 4)	1144	288	335	145	1.96	6.52	7.78	1.96	2.28
-15	(+ 5)	1627	410	477	184	2.26	9.31	9.39	2.37	2.75
-10	(+14)	1941	489	569	206	2.38	11.14	10.14	2.56	2.97
-5	(+23)	1906	480	558	195	2.17	10.95	9.36	2.36	2.74
0	(+32)	1342	338	393	131	1.43	7.72	6.38	1.61	1.87

TEST CONDITIONS: @127V60Hz		ASHRAE32 Static				(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)	446	112	131	109	1.85	2.53	4.01	1.01	1.18
-30	(-22)	333	84	97	96	1.62	1.85	3.90	0.98	1.14
-25	(-13)	598	151	175	119	1.74	3.37	5.03	1.27	1.47
-20	(- 4)	1061	267	311	159	2.04	6.05	6.72	1.69	1.97
-15	(+ 5)	1543	389	452	199	2.34	8.83	8.30	2.09	2.43
-10	(+14)	1863	469	546	221	2.46	10.69	9.11	2.30	2.67
-5	(+23)	1841	464	539	207	2.24	10.58	8.47	2.14	2.48
0	(+32)	1297	327	380	140	1.49	7.46	5.72	1.44	1.68

E - PERFORMANCE - CURVES

TEST CONDITIONS: @127V60Hz		ASHRAE32 Static			(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)	409	103	120	108	1.85	2.32	3.63	0.92	1.06
-30	(-22)	273	69	80	102	1.65	1.52	3.24	0.82	0.95
-25	(-13)	523	132	153	129	1.79	2.95	4.17	1.05	1.22
-20	(- 4)	978	246	286	172	2.11	5.57	5.75	1.45	1.69
-15	(+ 5)	1458	367	427	213	2.41	8.35	7.32	1.84	2.14
-10	(+14)	1784	450	523	235	2.54	10.24	8.19	2.06	2.40
-5	(+23)	1775	447	520	219	2.30	10.21	7.71	1.94	2.26
0	(+32)	1252	316	367	149	1.53	7.21	5.20	1.31	1.52

TEST CONDITIONS: @127V60Hz		ASHRAE32 Static			(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)	372	94	109	107	1.85	2.11	3.31	0.83	0.97
-30	(-22)	213	54	62	107	1.68	1.18	2.65	0.67	0.78
-25	(-13)	447	113	131	138	1.85	2.51	3.39	0.85	0.99
-20	(- 4)	894	225	262	184	2.18	5.09	4.87	1.23	1.43
-15	(+ 5)	1373	346	402	227	2.49	7.86	6.42	1.62	1.88
-10	(+14)	1705	430	500	248	2.62	9.79	7.37	1.86	2.16
-5	(+23)	1710	431	501	231	2.37	9.83	7.05	1.78	2.06
0	(+32)	1207	304	354	157	1.58	6.95	4.78	1.21	1.40

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal AMEM		
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		