

COMPRESSOR DEFINITION

Designation	EM 2U3115Z
Nominal Voltage/Frequency	220 V 60 Hz
Engineering Number	513305593

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220 / 60	[V / Hz]	
4 Application type	Low-Medium (Plus) Back Pressure		
4.1 Evaporating temperature range	-35°C to 5°C	(-31°F to 41°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	-	198 to 242 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	220 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213514148	
3 Start capacitor	-	[μF(VAC minimum)]
4 Run capacitor	-	[μF(VAC minimum)]
5 Motor protection	4TM743KDBYY-53	
6 Start winding resistance	26.40	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	13.50	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	12.12	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.20	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	1.32	[A] - Measured according to UL 984
11 Approval boards certification	IMTRO - TUV	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V60Hz			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]
757	191	222	148	1.05	4.30	5.11	1.29	1.50

TEST CONDITIONS: @220V60Hz			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]
781	197	229	148	1.05	4.44	5.27	1.33	1.54

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz			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)	455	115	133	100	0.92	2.57	4.53	1.14	1.33
-30 (-22)	622	157	182	113	0.96	3.53	5.46	1.38	1.60
-25 (-13)	822	207	241	129	1.00	4.67	6.39	1.61	1.87
-20 (- 4)	1065	268	312	146	1.05	6.06	7.34	1.85	2.15
-15 (+ 5)	1358	342	398	163	1.10	7.75	8.36	2.11	2.45
-10 (+14)	1709	431	501	181	1.16	9.79	9.49	2.39	2.78
-5 (+23)	2126	536	623	198	1.22	12.24	10.75	2.71	3.15
0 (+32)	2617	660	767	215	1.28	15.14	12.18	3.07	3.57
+5 (+41)	3191	804	935	230	1.35	18.56	13.82	3.48	4.05

TEST CONDITIONS: @220V60Hz			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)	408	103	120	107	0.94	2.31	3.84	0.97	1.13
-30 (-22)	573	144	168	120	0.97	3.25	4.77	1.20	1.40
-25 (-13)	770	194	226	136	1.02	4.37	5.63	1.42	1.65
-20 (- 4)	1006	253	295	155	1.07	5.72	6.48	1.63	1.90
-15 (+ 5)	1290	325	378	175	1.14	7.36	7.34	1.85	2.15
-10 (+14)	1629	411	477	197	1.22	9.33	8.25	2.08	2.42
-5 (+23)	2032	512	596	219	1.30	11.69	9.24	2.33	2.71
0 (+32)	2507	632	735	242	1.39	14.50	10.35	2.61	3.03
+5 (+41)	3062	772	897	265	1.49	17.81	11.62	2.93	3.40

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		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)	348	88	102	113	0.96	1.97	3.12	0.79	0.92
-30	(-22)	512	129	150	125	0.99	2.91	4.10	1.03	1.20
-25	(-13)	705	178	207	142	1.03	4.01	4.96	1.25	1.45
-20	(- 4)	936	236	274	162	1.10	5.32	5.75	1.45	1.68
-15	(+ 5)	1211	305	355	186	1.18	6.91	6.50	1.64	1.90
-10	(+14)	1540	388	451	212	1.27	8.82	7.25	1.83	2.12
-5	(+23)	1931	487	566	240	1.38	11.11	8.02	2.02	2.35
0	(+32)	2390	602	700	269	1.50	13.82	8.87	2.24	2.60
+5	(+41)	2927	738	858	299	1.63	17.02	9.82	2.47	2.88

TEST CONDITIONS: @220V60Hz		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)	274	69	80	117	0.98	1.55	2.31	0.58	0.68
-30	(-22)	438	110	128	129	1.00	2.49	3.38	0.85	0.99
-25	(-13)	629	158	184	147	1.05	3.57	4.29	1.08	1.26
-20	(- 4)	855	215	250	169	1.12	4.86	5.08	1.28	1.49
-15	(+ 5)	1123	283	329	196	1.21	6.41	5.78	1.46	1.69
-10	(+14)	1443	364	423	226	1.33	8.26	6.42	1.62	1.88
-5	(+23)	1821	459	534	259	1.46	10.47	7.04	1.77	2.06
0	(+32)	2266	571	664	295	1.61	13.10	7.67	1.93	2.25
+5	(+41)	2786	702	816	332	1.77	16.20	8.36	2.11	2.45

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		