

COMPRESSOR DEFINITION

Designation	EM 2X3125U
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513304107

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 - Curves until T.Evap -4		
4.1 Evaporating temperature range	-40°C to 0°C	(-40°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	-	103 to 140 V
8.2 LBP (43°C Ambient temperature)	Static/Fan	-	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 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	1/3+	[hp]
2 Displacement	6.09	[cm ³] (0.372 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	17.600	
3 Lubricant charge	180	[ml] (6.09 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO22	
4 Weight (with oil charge)	7.84	[kg] (17.28 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	8EA14C3/8EA14E63/QPS2-A4R7MD3/QPS2A4R7MD3 094	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	20(180)	[µF(VAC minimum)]
5 Motor protection	4TM757UFBZZ-53	
6 Start winding resistance	5.30	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	3.26	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	16.90	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.85	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.36	[A] - Measured according to UL 984
11 Approval boards certification	TUV - UL	

D - PERFORMANCE - CHECK POINT DATA

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]	
1325	334	388	211	1.89	3.94	6.28	1.58	1.84	

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]
-40	(-40)	680	171	199	129	1.20	2.01	5.25	1.32	1.54
-35	(-31)	863	217	253	146	1.34	2.55	5.89	1.48	1.73
-30	(-22)	1079	272	316	164	1.49	3.20	6.60	1.66	1.93
-25	(-13)	1333	336	391	181	1.63	3.96	7.39	1.86	2.16
-20	(- 4)	1630	411	478	198	1.78	4.86	8.28	2.09	2.43
-15	(+ 5)	1974	497	578	213	1.91	5.91	9.31	2.35	2.73
-10	(+14)	2370	597	694	227	2.03	7.13	10.50	2.65	3.08
-5	(+23)	2822	711	827	238	2.14	8.54	11.87	2.99	3.48
0	(+32)	3336	841	978	247	2.22	10.14	13.44	3.39	3.94

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]
-40	(-40)	632	159	185	134	1.23	1.86	4.76	1.20	1.39
-35	(-31)	820	207	240	153	1.39	2.43	5.38	1.35	1.58
-30	(-22)	1040	262	305	172	1.55	3.08	6.01	1.51	1.76
-25	(-13)	1295	326	379	193	1.73	3.85	6.68	1.68	1.96
-20	(- 4)	1591	401	466	213	1.91	4.75	7.42	1.87	2.17
-15	(+ 5)	1931	487	566	233	2.09	5.79	8.24	2.08	2.41
-10	(+14)	2322	585	680	253	2.26	6.99	9.17	2.31	2.69
-5	(+23)	2767	697	811	270	2.42	8.37	10.23	2.58	3.00
0	(+32)	3270	824	958	287	2.56	9.94	11.46	2.89	3.36

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]
-40	(-40)	561	141	164	136	1.25	1.66	4.16	1.05	1.22
-35	(-31)	751	189	220	157	1.42	2.22	4.79	1.21	1.40
-30	(-22)	969	244	284	179	1.61	2.87	5.40	1.36	1.58
-25	(-13)	1221	308	358	203	1.82	3.63	6.00	1.51	1.76
-20	(- 4)	1511	381	443	228	2.03	4.51	6.61	1.66	1.94
-15	(+ 5)	1844	465	540	253	2.26	5.52	7.26	1.83	2.13
-10	(+14)	2225	561	652	278	2.48	6.69	7.97	2.01	2.34
-5	(+23)	2657	670	779	302	2.70	8.03	8.77	2.21	2.57
0	(+32)	3146	793	922	326	2.91	9.56	9.69	2.44	2.84

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]
-40	(-40)	469	118	137	136	1.26	1.38	3.42	0.86	1.00
-35	(-31)	655	165	192	159	1.44	1.94	4.11	1.04	1.21
-30	(-22)	868	219	254	184	1.66	2.57	4.73	1.19	1.39
-25	(-13)	1112	280	326	212	1.90	3.31	5.29	1.33	1.55
-20	(- 4)	1392	351	408	241	2.15	4.15	5.81	1.47	1.70
-15	(+ 5)	1713	432	502	272	2.42	5.13	6.33	1.60	1.86
-10	(+14)	2079	524	609	303	2.70	6.25	6.87	1.73	2.01
-5	(+23)	2494	629	731	334	2.98	7.54	7.45	1.88	2.18
0	(+32)	2964	747	869	366	3.26	9.01	8.09	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		