

COMPRESSOR DEFINITION

Designation	EM 2X3125U
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513304165

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 -		
4.1 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 - ELECTRICAL 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/QPS2-A4R7MD3 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	CE - ISI - 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 (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]	
1299	327	381	211	1.89	3.87	6.16	1.55	1.81	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ASHRAE32 Static				(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]
-40	(-40)	660	166	193	128	1.18	1.95	5.15	1.30	1.51
-35	(-31)	835	210	245	144	1.32	2.47	5.79	1.46	1.70
-30	(-22)	1047	264	307	161	1.46	3.11	6.49	1.63	1.90
-25	(-13)	1300	328	381	179	1.62	3.87	7.28	1.83	2.13
-20	(- 4)	1596	402	468	196	1.77	4.76	8.17	2.06	2.39
-15	(+ 5)	1939	489	568	212	1.90	5.81	9.20	2.32	2.70
-10	(+14)	2330	587	683	226	2.03	7.01	10.39	2.62	3.04
-5	(+23)	2773	699	813	237	2.12	8.39	11.76	2.96	3.44
0	(+32)	3272	825	959	244	2.19	9.95	13.32	3.36	3.90

TEST CONDITIONS: @115V60Hz		ASHRAE32 Static				(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]
-40	(-40)	625	157	183	133	1.23	1.84	4.71	1.19	1.38
-35	(-31)	803	202	235	151	1.37	2.38	5.32	1.34	1.56
-30	(-22)	1017	256	298	170	1.54	3.02	5.95	1.50	1.74
-25	(-13)	1270	320	372	191	1.72	3.78	6.61	1.67	1.94
-20	(- 4)	1564	394	458	212	1.90	4.67	7.34	1.85	2.15
-15	(+ 5)	1903	480	558	233	2.08	5.70	8.15	2.05	2.39
-10	(+14)	2289	577	671	252	2.26	6.89	9.07	2.29	2.66
-5	(+23)	2726	687	799	270	2.42	8.24	10.12	2.55	2.96
0	(+32)	3216	810	942	285	2.55	9.78	11.32	2.85	3.32

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ASHRAE32 Static			(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]
-40	(-40)	563	142	165	137	1.26	1.66	4.13	1.04	1.21
-35	(-31)	743	187	218	156	1.41	2.20	4.78	1.20	1.40
-30	(-22)	956	241	280	177	1.60	2.84	5.38	1.36	1.58
-25	(-13)	1207	304	354	201	1.80	3.59	5.98	1.51	1.75
-20	(- 4)	1498	377	439	226	2.02	4.47	6.59	1.66	1.93
-15	(+ 5)	1831	461	537	252	2.25	5.48	7.23	1.82	2.12
-10	(+14)	2210	557	648	277	2.48	6.65	7.94	2.00	2.33
-5	(+23)	2638	665	773	302	2.70	7.98	8.72	2.20	2.56
0	(+32)	3117	786	913	325	2.91	9.47	9.61	2.42	2.81

TEST CONDITIONS: @115V60Hz		ASHRAE32 Static			(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]
-40	(-40)	475	120	139	140	1.28	1.40	3.36	0.85	0.98
-35	(-31)	654	165	192	160	1.45	1.93	4.08	1.03	1.20
-30	(-22)	865	218	254	184	1.65	2.57	4.72	1.19	1.38
-25	(-13)	1112	280	326	211	1.88	3.31	5.30	1.34	1.55
-20	(- 4)	1397	352	409	240	2.14	4.17	5.85	1.47	1.71
-15	(+ 5)	1723	434	505	271	2.42	5.16	6.38	1.61	1.87
-10	(+14)	2093	527	613	303	2.70	6.30	6.92	1.74	2.03
-5	(+23)	2510	633	735	335	2.99	7.59	7.49	1.89	2.20
0	(+32)	2977	750	872	366	3.27	9.05	8.12	2.05	2.38

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
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		