

COMPRESSOR DEFINITION

Designation	EM 2U3125U
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513304141

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-290		
3 Nominal voltage and frequency	220-240 / 50	[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	198 to 255 V	-
8.2 LBP (43°C Ambient temperature)	Static	198 to 255 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	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA17C3/QPS2-A22MG1/QPS2-A22MG1 092	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(346)	[µF(VAC minimum)]
5 Motor protection	4TM283NFBYY-53	
6 Start winding resistance		[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance		[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	6.77	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	0.87	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	1.05	[A] - Measured according to UL 984
11 Approval boards certification		

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			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]
1012	255	297	185	0.88	3.01	5.48	1.38	1.61

TEST CONDITIONS: @220V50Hz			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]
1042	262	305	184	0.88	3.10	5.68	1.43	1.66

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			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]
-40	(-40)	526	133	154	114	0.58	1.56	4.60	1.16	1.35
-35	(-31)	671	169	197	129	0.64	1.99	5.20	1.31	1.52
-30	(-22)	851	215	249	144	0.70	2.52	5.91	1.49	1.73
-25	(-13)	1069	269	313	159	0.77	3.18	6.73	1.70	1.97
-20	(- 4)	1326	334	388	173	0.83	3.96	7.67	1.93	2.25
-15	(+ 5)	1624	409	476	187	0.89	4.86	8.75	2.21	2.56
-10	(+14)	1964	495	576	198	0.94	5.91	9.97	2.51	2.92
-5	(+23)	2350	592	689	208	0.98	7.11	11.33	2.86	3.32
0	(+32)	2781	701	815	215	1.02	8.46	12.85	3.24	3.77

TEST CONDITIONS: @220V50Hz			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]
-40	(-40)	486	122	142	120	0.60	1.43	4.09	1.03	1.20
-35	(-31)	624	157	183	135	0.67	1.85	4.62	1.16	1.35
-30	(-22)	796	201	233	152	0.74	2.36	5.22	1.32	1.53
-25	(-13)	1006	254	295	169	0.81	2.99	5.90	1.49	1.73
-20	(- 4)	1255	316	368	187	0.89	3.74	6.66	1.68	1.95
-15	(+ 5)	1544	389	452	204	0.97	4.62	7.51	1.89	2.20
-10	(+14)	1875	472	549	221	1.04	5.64	8.47	2.13	2.48
-5	(+23)	2250	567	659	237	1.11	6.80	9.53	2.40	2.79
0	(+32)	2671	673	783	250	1.18	8.12	10.71	2.70	3.14

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		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]
-40	(-40)	441	111	129	122	0.62	1.30	3.64	0.92	1.07
-35	(-31)	570	144	167	138	0.68	1.69	4.14	1.04	1.21
-30	(-22)	734	185	215	157	0.76	2.18	4.67	1.18	1.37
-25	(-13)	934	235	274	177	0.85	2.78	5.25	1.32	1.54
-20	(- 4)	1172	295	343	199	0.94	3.50	5.86	1.48	1.72
-15	(+ 5)	1450	365	425	221	1.04	4.34	6.53	1.65	1.91
-10	(+14)	1770	446	519	243	1.14	5.33	7.26	1.83	2.13
-5	(+23)	2134	538	625	264	1.24	6.45	8.06	2.03	2.36
0	(+32)	2542	641	745	285	1.34	7.73	8.94	2.25	2.62

TEST CONDITIONS: @220V50Hz		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]
-40	(-40)	392	99	115	121	0.62	1.16	3.18	0.80	0.93
-35	(-31)	511	129	150	139	0.69	1.51	3.69	0.93	1.08
-30	(-22)	664	167	194	160	0.78	1.97	4.19	1.06	1.23
-25	(-13)	852	215	250	183	0.88	2.53	4.69	1.18	1.38
-20	(- 4)	1078	272	316	209	0.99	3.22	5.20	1.31	1.52
-15	(+ 5)	1344	339	394	235	1.10	4.02	5.73	1.44	1.68
-10	(+14)	1650	416	484	263	1.23	4.96	6.27	1.58	1.84
-5	(+23)	2000	504	586	291	1.36	6.05	6.85	1.73	2.01
0	(+32)	2394	603	702	320	1.49	7.28	7.47	1.88	2.19

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	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 45° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		