

COMPRESSOR DEFINITION

Designation	EM 2X3125U
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513304052

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)		
4.1 Evaporating temperature range	-35°C to 0°C	(-31°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	150	[ml] (5.07 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	8EA14C3/8EA14E63/8EA21C3/QPS2-A4R7MD3/QPS2-A4R7MI	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	20(180)	[µF(VAC minimum)]
5 Motor protection	CP4TMC460N61	
6 Start winding resistance	5.41	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	2.86	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	16.80	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	3.84	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	4.23	[A] - Measured according to UL 984
11 Approval boards certification	CE - IMTRO - 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]
1217	307	357	212	1.89	3.62	5.74	1.45	1.68

TEST CONDITIONS: @115V60Hz			ASHRAELBP32 Fan		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]
1231	310	361	213	1.90	3.66	5.79	1.46	1.70

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]
-35	(-31)	773	195	226	144	1.28	2.29	5.36	1.35	1.57
-30	(-22)	984	248	288	162	1.44	2.92	6.09	1.53	1.78
-25	(-13)	1228	309	360	178	1.59	3.65	6.93	1.75	2.03
-20	(- 4)	1511	381	443	193	1.71	4.51	7.88	1.99	2.31
-15	(+ 5)	1842	464	540	207	1.84	5.52	8.92	2.25	2.61
-10	(+14)	2227	561	652	221	1.97	6.70	10.05	2.53	2.94
-5	(+23)	2673	674	783	237	2.12	8.09	11.26	2.84	3.30
0	(+32)	3189	804	934	254	2.30	9.70	12.55	3.16	3.68

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]
-35	(-31)	718	181	210	152	1.35	2.12	4.74	1.19	1.39
-30	(-22)	936	236	274	173	1.54	2.78	5.39	1.36	1.58
-25	(-13)	1184	298	347	193	1.72	3.52	6.12	1.54	1.79
-20	(- 4)	1470	370	431	212	1.89	4.39	6.93	1.75	2.03
-15	(+ 5)	1801	454	528	230	2.05	5.39	7.81	1.97	2.29
-10	(+14)	2184	550	640	249	2.23	6.57	8.75	2.20	2.56
-5	(+23)	2626	662	770	269	2.42	7.94	9.74	2.45	2.85
0	(+32)	3136	790	919	291	2.64	9.53	10.78	2.72	3.16

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]
-35	(-31)	646	163	189	154	1.36	1.91	4.22	1.06	1.24
-30	(-22)	868	219	254	179	1.59	2.57	4.83	1.22	1.41
-25	(-13)	1118	282	328	203	1.81	3.32	5.48	1.38	1.61
-20	(- 4)	1403	354	411	227	2.02	4.19	6.18	1.56	1.81
-15	(+ 5)	1732	436	507	250	2.23	5.19	6.93	1.75	2.03
-10	(+14)	2110	532	618	274	2.45	6.35	7.70	1.94	2.26
-5	(+23)	2546	642	746	299	2.69	7.70	8.51	2.14	2.49
0	(+32)	3047	768	893	327	2.96	9.26	9.33	2.35	2.73

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]
-35	(-31)	557	140	163	149	1.32	1.65	3.73	0.94	1.09
-30	(-22)	780	197	229	180	1.60	2.31	4.31	1.09	1.26
-25	(-13)	1030	259	302	209	1.86	3.06	4.92	1.24	1.44
-20	(- 4)	1312	331	385	237	2.12	3.91	5.55	1.40	1.63
-15	(+ 5)	1636	412	479	266	2.38	4.90	6.19	1.56	1.81
-10	(+14)	2007	506	588	295	2.65	6.04	6.83	1.72	2.00
-5	(+23)	2434	613	713	326	2.94	7.36	7.48	1.88	2.19
0	(+32)	2923	737	857	359	3.26	8.88	8.11	2.04	2.38

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EUEM		
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		