

### COMPRESSOR DEFINITION

Designation	EM 2X3125U
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513300454

### 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	L/MBP(LC-Curve until T.E. -40°C) Hot Gas Defrost Not Allowed		
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)	-	-	-
8.2 LBP (43°C Ambient temperature)	-	-	-
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 <sup>2</sup> ] (262 psig)	/ °C - °F
9.2 Peak	20.6	[kgf/cm <sup>2</sup> ] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/4+	[hp]
2 Displacement	6.09	[cm <sup>3</sup> ] (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	ESTER / ISO22	
4 Weight (with oil charge)	7.8	[kg] (17.20 lb.)
5 Nitrogen charge	-	[kgf/cm <sup>2</sup> ]

### 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	8EA14C3/8EA21E62/8EA21E63/QP2-4.7	
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	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 +/- 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]	
1246	314	365	215	1.91	3.71	5.80	1.46	1.70	

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]	
1276	322	374	218	1.92	3.80	5.86	1.48	1.72	

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz			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]	[W/W]	
-40 (-40)	705	178	207	127	1.13	2.08	5.50	1.39	1.61	
-35 (-31)	910	229	267	147	1.28	2.69	6.23	1.57	1.82	
-30 (-22)	1147	289	336	164	1.42	3.40	7.04	1.77	2.06	
-25 (-13)	1427	360	418	181	1.57	4.24	7.96	2.01	2.33	
-20 (- 4)	1758	443	515	196	1.71	5.25	9.01	2.27	2.64	
-15 (+ 5)	2150	542	630	210	1.84	6.44	10.22	2.58	3.00	
-10 (+14)	2613	658	766	224	1.97	7.87	11.62	2.93	3.40	
-5 (+23)	3155	795	924	238	2.09	9.54	13.22	3.33	3.87	
0 (+32)	3786	954	1109	252	2.20	11.51	15.05	3.79	4.41	

TEST CONDITIONS: @115V60Hz			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]	[W/W]	
-40 (-40)	605	153	177	129	1.18	1.79	4.71	1.19	1.38	
-35 (-31)	805	203	236	152	1.35	2.38	5.33	1.34	1.56	
-30 (-22)	1027	259	301	173	1.51	3.05	5.98	1.51	1.75	
-25 (-13)	1282	323	376	192	1.68	3.81	6.68	1.68	1.96	
-20 (- 4)	1579	398	463	211	1.85	4.71	7.46	1.88	2.19	
-15 (+ 5)	1927	486	565	230	2.01	5.77	8.35	2.10	2.45	
-10 (+14)	2335	588	684	248	2.18	7.03	9.37	2.36	2.75	
-5 (+23)	2813	709	824	266	2.34	8.51	10.55	2.66	3.09	
0 (+32)	3370	849	988	284	2.49	10.24	11.90	3.00	3.49	

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		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)	492	124	144	129	1.20	1.45	3.82	0.96	1.12
-35	(-31)	692	174	203	156	1.40	2.05	4.40	1.11	1.29
-30	(-22)	904	228	265	182	1.60	2.68	4.96	1.25	1.45
-25	(-13)	1139	287	334	207	1.81	3.39	5.52	1.39	1.62
-20	(- 4)	1406	354	412	231	2.02	4.19	6.10	1.54	1.79
-15	(+ 5)	1715	432	502	254	2.23	5.13	6.74	1.70	1.98
-10	(+14)	2074	523	608	278	2.45	6.24	7.46	1.88	2.19
-5	(+23)	2493	628	730	301	2.66	7.54	8.27	2.09	2.42
0	(+32)	2981	751	874	325	2.87	9.06	9.22	2.32	2.70

TEST CONDITIONS: @115V60Hz		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)	328	83	96	118	1.11	0.97	2.83	0.71	0.83
-35	(-31)	532	134	156	152	1.36	1.58	3.44	0.87	1.01
-30	(-22)	740	186	217	184	1.61	2.20	3.98	1.00	1.17
-25	(-13)	960	242	281	215	1.88	2.86	4.47	1.13	1.31
-20	(- 4)	1203	303	352	246	2.15	3.59	4.93	1.24	1.44
-15	(+ 5)	1477	372	433	276	2.42	4.42	5.39	1.36	1.58
-10	(+14)	1792	451	525	306	2.70	5.39	5.87	1.48	1.72
-5	(+23)	2157	543	632	337	2.98	6.52	6.40	1.61	1.88
0	(+32)	2581	651	756	368	3.27	7.85	7.01	1.77	2.05

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted 40° up + 45° to Back		
3.2 DISCHARGE	4.9 +0.10/-0.05	[mm]	(0.193" +0.004"/-0.002")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted 0° up + 24° to Back		
3.3 PROCESS	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.3.1 Material	Copper		
3.3.2 Shape	Slanted 40° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		