

### COMPRESSOR DEFINITION

Designation	EM 2X3134U
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513304078

### 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 (Commercial Compressors)		
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)	-	-	-
8.2 LBP (43°C Ambient temperature)	-	-	-
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing pressures/temperature			
9.1 Operating (gauge)	18.4	[kgf/cm <sup>2</sup> ] (262 psig)	/ °C - °F
9.2 Peak (gauge)	20.6	[kgf/cm <sup>2</sup> ] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/2	[hp]
2 Displacement	7.96	[cm <sup>3</sup> ] (0.486 cu.in)
2.1 Bore [mm]	24.000	
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)	7.84	[kg] (17.28 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm <sup>2</sup> ] (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	8EA14C3/8EA21E62/8EA21E63/QPS2-X4.7MD3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	12(180)	[µF(VAC minimum)]
5 Motor protection	4TM771RFBZZ-53	
6 Start winding resistance	8.72	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	1.97	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	24.80	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	3.50	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	3.40	[A] - Measured according to UL 984
11 Approval boards certification	TUV	

### 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]
1685	425	494	288	2.97	5.02	5.84	1.47	1.71

### 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]
-35 (-31)	1096	276	321	196	2.31	3.24	5.56	1.40	1.63
-30 (-22)	1365	344	400	220	2.47	4.05	6.22	1.57	1.82
-25 (-13)	1700	428	498	242	2.63	5.05	7.03	1.77	2.06
-20 (- 4)	2100	529	615	264	2.79	6.27	7.99	2.01	2.34
-15 (+ 5)	2564	646	751	283	2.95	7.68	9.09	2.29	2.66
-10 (+14)	3091	779	906	300	3.08	9.30	10.34	2.61	3.03
-5 (+23)	3679	927	1078	314	3.19	11.13	11.74	2.96	3.44
0 (+32)	4327	1090	1268	325	3.27	13.16	13.28	3.35	3.89

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]
-35 (-31)	1026	259	301	208	2.39	3.04	4.95	1.25	1.45
-30 (-22)	1302	328	382	236	2.58	3.86	5.53	1.39	1.62
-25 (-13)	1641	413	481	263	2.78	4.88	6.22	1.57	1.82
-20 (- 4)	2040	514	598	290	2.99	6.09	7.00	1.76	2.05
-15 (+ 5)	2499	630	732	315	3.20	7.49	7.89	1.99	2.31
-10 (+14)	3016	760	884	339	3.40	9.08	8.87	2.23	2.60
-5 (+23)	3590	905	1052	361	3.58	10.86	9.95	2.51	2.91
0 (+32)	4219	1063	1236	381	3.74	12.83	11.12	2.80	3.26

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]
-35 (-31)	932	235	273	211	2.42	2.76	4.43	1.12	1.30
-30 (-22)	1212	305	355	244	2.64	3.59	4.98	1.25	1.46
-25 (-13)	1550	391	454	278	2.89	4.61	5.57	1.40	1.63
-20 (- 4)	1945	490	570	311	3.16	5.80	6.22	1.57	1.82
-15 (+ 5)	2395	604	702	344	3.43	7.17	6.92	1.74	2.03
-10 (+14)	2898	730	849	376	3.70	8.72	7.68	1.93	2.25
-5 (+23)	3454	870	1012	407	3.97	10.44	8.48	2.14	2.48
0 (+32)	4061	1023	1190	436	4.22	12.34	9.32	2.35	2.73

### E - PERFORMANCE - CURVES

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]
-35	(-31)	813	205	238	206	2.38	2.40	3.91	0.99	1.15
-30	(-22)	1094	276	321	246	2.66	3.24	4.46	1.12	1.31
-25	(-13)	1428	360	418	287	2.97	4.24	5.00	1.26	1.47
-20	(- 4)	1814	457	532	328	3.30	5.41	5.56	1.40	1.63
-15	(+ 5)	2251	567	660	370	3.65	6.74	6.11	1.54	1.79
-10	(+14)	2737	690	802	411	4.01	8.23	6.67	1.68	1.96
-5	(+23)	3271	824	958	453	4.37	9.89	7.23	1.82	2.12
0	(+32)	3851	971	1129	493	4.73	11.70	7.79	1.96	2.28

### 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		