

### COMPRESSOR DEFINITION

Designation	<b>EM 2X3134U</b>
Nominal Voltage/Frequency	<b>220 V 60 Hz</b>
Engineering Number	<b>513304094</b>

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-290		
3 Nominal voltage and frequency	220 / 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 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	1/2	[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	ALQUILB / ISO22	
4 Weight (with oil charge)	7.55	[kg] (16.64 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	220 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA17C3/8EA17E61/QPS2-A22MD3	
3 Start capacitor	-	[μF(VAC minimum)]
4 Run capacitor	5(350)	[μF(VAC minimum)]
5 Motor protection	4TM743LDBYY-53	
6 Start winding resistance	19.20	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	8.89	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	12.15	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	TUV	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V60Hz			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]	
1674	422	491	290	1.50	4.98	5.77	1.45	1.69	

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz			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)	1083	273	317	201	1.15	3.20	5.39	1.36	1.58
-30 (-22)	1389	350	407	224	1.24	4.12	6.17	1.56	1.81
-25 (-13)	1740	439	510	246	1.33	5.18	7.05	1.78	2.07
-20 (- 4)	2142	540	628	267	1.41	6.39	8.04	2.03	2.36
-15 (+ 5)	2599	655	762	285	1.48	7.79	9.14	2.30	2.68
-10 (+14)	3117	786	913	302	1.55	9.38	10.36	2.61	3.04
-5 (+23)	3702	933	1085	317	1.62	11.20	11.71	2.95	3.43
0 (+32)	4359	1098	1277	329	1.67	13.25	13.20	3.33	3.87

TEST CONDITIONS: @220V60Hz			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)	1012	255	297	212	1.19	2.99	4.80	1.21	1.41
-30 (-22)	1305	329	383	239	1.29	3.87	5.45	1.37	1.60
-25 (-13)	1646	415	482	266	1.40	4.90	6.16	1.55	1.81
-20 (- 4)	2040	514	598	292	1.51	6.09	6.96	1.75	2.04
-15 (+ 5)	2493	628	730	317	1.61	7.47	7.85	1.98	2.30
-10 (+14)	3009	758	882	340	1.71	9.05	8.83	2.23	2.59
-5 (+23)	3594	906	1053	363	1.81	10.87	9.92	2.50	2.91
0 (+32)	4254	1072	1247	384	1.91	12.93	11.12	2.80	3.26

TEST CONDITIONS: @220V60Hz			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)	929	234	272	214	1.20	2.75	4.36	1.10	1.28
-30 (-22)	1210	305	355	247	1.33	3.59	4.91	1.24	1.44
-25 (-13)	1542	389	452	280	1.46	4.58	5.51	1.39	1.62
-20 (- 4)	1929	486	565	312	1.60	5.75	6.17	1.55	1.81
-15 (+ 5)	2377	599	697	344	1.73	7.12	6.88	1.73	2.02
-10 (+14)	2892	729	847	376	1.87	8.70	7.67	1.93	2.25
-5 (+23)	3478	877	1019	407	2.01	10.52	8.53	2.15	2.50
0 (+32)	4142	1044	1214	437	2.15	12.59	9.48	2.39	2.78

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		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)	835	210	245	208	1.17	2.47	3.98	1.00	1.17
-30	(-22)	1105	278	324	247	1.33	3.28	4.48	1.13	1.31
-25	(-13)	1428	360	418	287	1.49	4.24	5.00	1.26	1.47
-20	(- 4)	1809	456	530	327	1.66	5.40	5.55	1.40	1.63
-15	(+ 5)	2254	568	660	368	1.84	6.75	6.14	1.55	1.80
-10	(+14)	2768	697	811	409	2.02	8.33	6.77	1.70	1.98
-5	(+23)	3356	846	983	450	2.20	10.15	7.45	1.88	2.18
0	(+32)	4024	1014	1179	491	2.38	12.23	8.19	2.06	2.40

### 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		