

COMPRESSOR DEFINITION

Designation	EM X4130U
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513301789

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	CSIR		
6 Starting torque	HST - High starting torque		
7 Expansion device	Capillary tube or Expansion valve		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	Fan	-	103 to 140 V
8.2 LBP (43°C Ambient temperature)	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	6.92	[cm ³] (0.422 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	20.000	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	8.5	[kg] (18.74 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	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	QL2-11.9	
3 Start capacitor	189-227(220)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM 771NFBZZ-53	
6 Start winding resistance	7.85	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	2.03	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	26.42	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	4.31	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	4.94	[A] - Measured according to UL 984
11 Approval boards certification	UL	

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]
1397	352	409	247	2.80	4.16	5.66	1.43	1.66

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)	912	230	267	168	2.29	2.70	5.42	1.37	1.59
-30	(-22)	1136	286	333	186	2.35	3.37	6.10	1.54	1.79
-25	(-13)	1418	357	416	206	2.46	4.22	6.90	1.74	2.02
-20	(- 4)	1762	444	516	225	2.61	5.26	7.81	1.97	2.29
-15	(+ 5)	2169	547	636	245	2.78	6.50	8.87	2.23	2.60
-10	(+14)	2641	666	774	262	2.96	7.95	10.09	2.54	2.96
-5	(+23)	3180	801	932	277	3.13	9.62	11.49	2.90	3.37
0	(+32)	3786	954	1110	289	3.27	11.51	13.10	3.30	3.84

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)	859	216	252	178	2.41	2.54	4.83	1.22	1.41
-30	(-22)	1082	273	317	201	2.51	3.21	5.41	1.36	1.58
-25	(-13)	1358	342	398	225	2.66	4.04	6.04	1.52	1.77
-20	(- 4)	1690	426	495	250	2.85	5.04	6.75	1.70	1.98
-15	(+ 5)	2080	524	609	274	3.04	6.23	7.56	1.91	2.22
-10	(+14)	2529	637	741	298	3.24	7.61	8.49	2.14	2.49
-5	(+23)	3038	766	890	318	3.42	9.19	9.55	2.41	2.80
0	(+32)	3611	910	1058	336	3.57	10.98	10.76	2.71	3.15

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)	760	191	223	181	2.39	2.25	4.20	1.06	1.23
-30	(-22)	989	249	290	209	2.57	2.93	4.75	1.20	1.39
-25	(-13)	1267	319	371	239	2.79	3.77	5.31	1.34	1.56
-20	(- 4)	1595	402	467	271	3.04	4.76	5.90	1.49	1.73
-15	(+ 5)	1975	498	579	302	3.30	5.91	6.55	1.65	1.92
-10	(+14)	2408	607	706	331	3.55	7.24	7.26	1.83	2.13
-5	(+23)	2897	730	849	359	3.77	8.76	8.06	2.03	2.36
0	(+32)	3443	868	1009	384	3.95	10.47	8.97	2.26	2.63

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
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		