

### COMPRESSOR DEFINITION

Designation	EM X4125U
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513301801

### 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)	-	-	-
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 <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	1/3	[hp]
2 Displacement	5.89	[cm <sup>3</sup> ] (0.359 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	17.000	
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 <sup>2</sup> ] (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	Current Relay	
2.1 Starting device	QL2-9.1	
3 Start capacitor	189-227(220)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM762NFBZZ-53	
6 Start winding resistance	6.76	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	2.17	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	21.36	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	3.76	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	4.33	[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]
1210	305	355	207	2.40	3.60	5.85	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)	749	189	219	140	2.08	2.21	5.39	1.36	1.58
-30	(-22)	1001	252	293	160	2.26	2.97	6.20	1.56	1.82
-25	(-13)	1286	324	377	180	2.44	3.83	7.10	1.79	2.08
-20	(- 4)	1604	404	470	197	2.60	4.79	8.09	2.04	2.37
-15	(+ 5)	1954	492	573	213	2.75	5.85	9.19	2.32	2.69
-10	(+14)	2337	589	685	226	2.88	7.03	10.41	2.62	3.05
-5	(+23)	2753	694	807	235	2.97	8.32	11.79	2.97	3.45
0	(+32)	3201	807	938	240	3.02	9.73	13.32	3.36	3.90

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)	682	172	200	144	2.21	2.02	4.78	1.21	1.40
-30	(-22)	908	229	266	166	2.38	2.69	5.47	1.38	1.60
-25	(-13)	1173	296	344	188	2.57	3.49	6.21	1.57	1.82
-20	(- 4)	1477	372	433	210	2.75	4.41	7.02	1.77	2.06
-15	(+ 5)	1820	459	533	230	2.93	5.45	7.90	1.99	2.31
-10	(+14)	2203	555	645	248	3.10	6.63	8.88	2.24	2.60
-5	(+23)	2625	661	769	263	3.25	7.94	9.97	2.51	2.92
0	(+32)	3086	778	904	275	3.36	9.38	11.20	2.82	3.28

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)	618	156	181	145	2.22	1.83	4.23	1.07	1.24
-30	(-22)	820	207	240	169	2.41	2.43	4.85	1.22	1.42
-25	(-13)	1067	269	313	195	2.61	3.17	5.50	1.39	1.61
-20	(- 4)	1360	343	398	221	2.83	4.06	6.17	1.55	1.81
-15	(+ 5)	1698	428	498	247	3.06	5.09	6.89	1.74	2.02
-10	(+14)	2083	525	610	271	3.29	6.27	7.68	1.94	2.25
-5	(+23)	2513	633	736	294	3.50	7.60	8.56	2.16	2.51
0	(+32)	2989	753	876	314	3.70	9.09	9.53	2.40	2.79

### 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		