

COMPRESSOR DEFINITION

Designation	EM X3125U
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513300822

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 (Plus) Back Pressure		
4.1 Evaporating temperature range	-35°C to 5°C	(-31°F to 41°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 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		[hp]
2 Displacement	6.09	[cm ³] (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)	7.65	[kg] (16.87 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

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	QP2-4.7	
3 Start capacitor	-	[μF(VAC minimum)]
4 Run capacitor	20(179)	[μF(VAC minimum)]
5 Motor protection	DRB48N61A2	
6 Start winding resistance	5.63	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	3.39	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	18.10	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	5.39	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	5.88	[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]	
1252	316	367	213	1.90	3.73	5.89	1.48	1.73	

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)	829	209	243	144	1.30	2.54	5.70	1.44	1.67
-30	(-22)	1046	264	307	166	1.49	2.24	6.25	1.57	1.83
-25	(-13)	1299	327	381	190	1.70	3.32	6.82	1.72	2.00
-20	(- 4)	1593	402	467	212	1.90	5.09	7.50	1.89	2.20
-15	(+ 5)	1938	488	568	232	2.07	6.85	8.41	2.12	2.46
-10	(+14)	2339	589	685	247	2.21	7.94	9.62	2.43	2.82
-5	(+23)	2805	707	822	255	2.28	7.65	11.26	2.84	3.30
0	(+32)	3341	842	979	253	2.27	5.30	13.40	3.38	3.93
+5	(+41)	3956	997	1159	241	2.16	0.22	16.16	4.07	4.74

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)	753	190	221	152	1.37	2.39	4.97	1.25	1.46
-30	(-22)	969	244	284	177	1.59	2.00	5.51	1.39	1.61
-25	(-13)	1218	307	357	204	1.82	3.02	5.99	1.51	1.75
-20	(- 4)	1508	380	442	231	2.06	4.76	6.51	1.64	1.91
-15	(+ 5)	1846	465	541	255	2.28	6.53	7.18	1.81	2.10
-10	(+14)	2238	564	656	276	2.46	7.64	8.08	2.04	2.37
-5	(+23)	2693	679	789	290	2.59	7.42	9.32	2.35	2.73
0	(+32)	3217	811	943	296	2.65	5.17	11.00	2.77	3.22
+5	(+41)	3817	962	1118	292	2.62	0.20	13.21	3.33	3.87

E - PERFORMANCE - CURVES

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)	647	163	190	151	1.35	2.10	4.33	1.09	1.27
-30	(-22)	861	217	252	178	1.59	1.63	4.93	1.24	1.45
-25	(-13)	1107	279	324	208	1.86	2.59	5.40	1.36	1.58
-20	(- 4)	1391	351	408	239	2.13	4.31	5.84	1.47	1.71
-15	(+ 5)	1721	434	504	269	2.40	6.09	6.34	1.60	1.86
-10	(+14)	2104	530	617	295	2.63	7.25	7.00	1.76	2.05
-5	(+23)	2547	642	746	316	2.82	7.09	7.93	2.00	2.32
0	(+32)	3057	770	896	330	2.95	4.94	9.21	2.32	2.70
+5	(+41)	3642	918	1067	333	2.99	0.11	10.96	2.76	3.21

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)	566	143	166	150	1.35	1.90	3.66	0.92	1.07
-30	(-22)	778	196	228	180	1.61	1.35	4.41	1.11	1.29
-25	(-13)	1019	257	299	214	1.91	2.27	4.94	1.25	1.45
-20	(- 4)	1297	327	380	249	2.22	3.97	5.37	1.35	1.57
-15	(+ 5)	1619	408	474	284	2.53	5.77	5.78	1.46	1.69
-10	(+14)	1991	502	583	316	2.82	6.97	6.28	1.58	1.84
-5	(+23)	2422	610	710	343	3.07	6.89	6.97	1.76	2.04
0	(+32)	2918	735	855	364	3.26	4.85	7.94	2.00	2.33
+5	(+41)	3487	879	1022	376	3.37	0.15	9.29	2.34	2.72

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
2 Tray holder	Yes		
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		