

COMPRESSOR DEFINITION

Designation	EM X3113Y
Nominal Voltage/Frequency	100-127 V 60 Hz / 100 V 50 Hz
Engineering Number	513301898

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	100-127 / 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 temperature			
9.1 Operating	6.9	[kgf/cm ²] (98 psig)	/ °C - °F
9.2 Peak	7.8	[kgf/cm ²] (111 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/7	[hp]
2 Displacement	9.04	[cm ³] (0.552 cu.in)
2.1 Bore [mm]	24.000	
2.2 Stroke [mm]	20.000	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO5	
4 Weight (with oil charge)	8	[kg] (17.64 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	100-127 V 60 Hz / 100 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	V115	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	12.5(200)	[µF(VAC minimum)]
5 Motor protection	T0886/07	
6 Start winding resistance	5.60	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	3.27	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	14.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.73	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.15	[A] - Measured according to UL 984
11 Approval boards certification	UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V60Hz			ASHRAE LBP-NOFAN Static		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 54.4°C (129.92°F)	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
614	155	180	105	0.99	1.93	5.84	1.47	1.71

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz			ASHRAE32-NOFAN Static		(Condensing temperature 35°C (+95°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	368	93	108	70	0.71	1.15	5.21	1.31	1.53
-30	(-22)	473	119	138	80	0.79	1.48	5.91	1.49	1.73
-25	(-13)	615	155	180	90	0.87	1.93	6.81	1.72	2.00
-20	(- 4)	797	201	233	101	0.96	2.50	7.87	1.98	2.31
-15	(+ 5)	1017	256	298	112	1.05	3.20	9.04	2.28	2.65
-10	(+14)	1275	321	374	124	1.15	4.02	10.29	2.59	3.01
-5	(+23)	1572	396	461	136	1.25	4.97	11.57	2.92	3.39
0	(+32)	1908	481	559	149	1.35	6.05	12.85	3.24	3.76

TEST CONDITIONS: @115V60Hz			ASHRAE32-NOFAN Static		(Condensing temperature 45°C (+113°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	343	87	101	72	0.72	1.08	4.77	1.20	1.40
-30	(-22)	445	112	130	83	0.80	1.40	5.38	1.36	1.58
-25	(-13)	584	147	171	95	0.90	1.83	6.16	1.55	1.81
-20	(- 4)	760	192	223	107	1.00	2.39	7.08	1.78	2.07
-15	(+ 5)	974	245	285	120	1.12	3.07	8.09	2.04	2.37
-10	(+14)	1225	309	359	134	1.23	3.86	9.15	2.31	2.68
-5	(+23)	1514	381	444	148	1.36	4.79	10.23	2.58	3.00
0	(+32)	1840	464	539	163	1.49	5.83	11.28	2.84	3.31

TEST CONDITIONS: @115V60Hz			ASHRAE32-NOFAN Static		(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	311	78	91	72	0.73	0.97	4.29	1.08	1.26
-30	(-22)	410	103	120	85	0.82	1.29	4.85	1.22	1.42
-25	(-13)	546	138	160	98	0.93	1.71	5.56	1.40	1.63
-20	(- 4)	717	181	210	112	1.04	2.25	6.39	1.61	1.87
-15	(+ 5)	925	233	271	127	1.17	2.91	7.28	1.84	2.13
-10	(+14)	1169	295	343	143	1.30	3.69	8.21	2.07	2.41
-5	(+23)	1450	365	425	159	1.45	4.59	9.13	2.30	2.68
0	(+32)	1767	445	518	176	1.60	5.60	10.01	2.52	2.93

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard		
2 Tray holder	No		
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 42° up + 45° to Back		
3.2 DISCHARGE	4.94 +0.08/-0.08	[mm]	(0.194" +0.003"/-0.003")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted parallel BP+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 45° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		