

### COMPRESSOR DEFINITION

Designation	EM X3118Y
Nominal Voltage/Frequency	100 V 50 Hz 60 Hz
Engineering Number	513301905

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	100 / 50	[ 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 <sup>2</sup> ] (98 psig)	/ °C - °F
9.2 Peak	7.8	[kgf/cm <sup>2</sup> ] (111 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/5	[hp]
2 Displacement	12.21	[cm <sup>3</sup> ] (0.745 cu.in)
2.1 Bore [mm]	26.000	
2.2 Stroke [mm]	23.000	
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)	7.6	[kg] (16.75 lb.)
5 Nitrogen charge	-	[kgf/cm <sup>2</sup> ]

### C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	100 V 50/60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA14C3-02	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	25(400)	[µF(VAC minimum)]
5 Motor protection	5TM765MFBYY-53	
6 Start winding resistance	4.20	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	2.76	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	15.00/15.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	2.10/1.70	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	2.60/2.20	[A] - Measured according to UL 984
11 Approval boards certification	VDE	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @100V50Hz			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]
710	179	208	124	1.37	2.23	5.71	1.44	1.67

TEST CONDITIONS: @100V60Hz			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]
809	204	237	141	1.42	2.54	5.74	1.45	1.68

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V60Hz		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)	515	130	151	95	0.95	1.61	5.43	1.37	1.59
-30	(-22)	666	168	195	109	1.09	2.09	6.13	1.55	1.80
-25	(-13)	864	218	253	125	1.25	2.71	6.92	1.74	2.03
-20	(- 4)	1107	279	324	143	1.43	3.48	7.75	1.95	2.27
-15	(+ 5)	1396	352	409	162	1.64	4.39	8.59	2.17	2.52
-10	(+14)	1731	436	507	184	1.86	5.46	9.42	2.37	2.76
-5	(+23)	2111	532	619	207	2.11	6.67	10.20	2.57	2.99
0	(+32)	2537	639	743	233	2.38	8.04	10.90	2.75	3.19

TEST CONDITIONS: @100V60Hz		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)	480	121	141	96	0.96	1.50	5.01	1.26	1.47
-30	(-22)	624	157	183	112	1.12	1.96	5.58	1.41	1.64
-25	(-13)	814	205	239	130	1.31	2.55	6.25	1.57	1.83
-20	(- 4)	1051	265	308	150	1.52	3.30	6.97	1.76	2.04
-15	(+ 5)	1333	336	391	173	1.75	4.20	7.71	1.94	2.26
-10	(+14)	1662	419	487	197	2.01	5.24	8.45	2.13	2.48
-5	(+23)	2036	513	597	223	2.29	6.44	9.14	2.30	2.68
0	(+32)	2456	619	720	251	2.59	7.79	9.77	2.46	2.86

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V60Hz		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)	450	113	132	98	0.99	1.41	4.61	1.16	1.35
-30	(-22)	583	147	171	116	1.15	1.83	5.07	1.28	1.49
-25	(-13)	763	192	224	136	1.34	2.39	5.63	1.42	1.65
-20	(- 4)	989	249	290	158	1.55	3.11	6.26	1.58	1.84
-15	(+ 5)	1262	318	370	182	1.79	3.97	6.93	1.75	2.03
-10	(+14)	1581	398	463	208	2.05	4.99	7.59	1.91	2.22
-5	(+23)	1946	490	570	237	2.34	6.16	8.22	2.07	2.41
0	(+32)	2358	594	691	268	2.66	7.48	8.79	2.22	2.58

### 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 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 45° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		