

COMPRESSOR DEFINITION

Designation	EM X3118Y
Nominal Voltage/Frequency	100-127 V 60 Hz / 100 V 50 Hz
Engineering Number	513301921

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	1/5	[hp]
2 Displacement	12.21	[cm ³] (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)	8.15	[kg] (17.97 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	25(180)	[μF(VAC minimum)]
5 Motor protection	T0798/07	
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 (60 Hz)	17.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	2.40	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	3.00	[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]
809	204	237	148	1.30	2.54	5.47	1.38	1.60

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)	473	119	139	99	0.89	1.48	4.76	1.20	1.40
-30	(-22)	628	158	184	114	1.02	1.97	5.52	1.39	1.62
-25	(-13)	829	209	243	131	1.16	2.60	6.36	1.60	1.86
-20	(- 4)	1077	271	315	148	1.31	3.38	7.27	1.83	2.13
-15	(+ 5)	1370	345	401	167	1.47	4.31	8.21	2.07	2.40
-10	(+14)	1709	431	501	187	1.64	5.39	9.15	2.31	2.68
-5	(+23)	2094	528	614	208	1.83	6.62	10.08	2.54	2.95
0	(+32)	2525	636	740	230	2.03	8.00	10.96	2.76	3.21

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)	446	112	131	102	0.91	1.40	4.38	1.10	1.28
-30	(-22)	596	150	175	118	1.05	1.87	5.06	1.27	1.48
-25	(-13)	792	200	232	136	1.20	2.48	5.81	1.46	1.70
-20	(- 4)	1034	260	303	156	1.37	3.25	6.62	1.67	1.94
-15	(+ 5)	1321	333	387	177	1.55	4.16	7.45	1.88	2.18
-10	(+14)	1655	417	485	200	1.75	5.22	8.29	2.09	2.43
-5	(+23)	2034	512	596	224	1.96	6.43	9.09	2.29	2.66
0	(+32)	2458	619	720	250	2.19	7.79	9.84	2.48	2.88

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)	416	105	122	105	0.93	1.30	3.96	1.00	1.16
-30	(-22)	560	141	164	122	1.08	1.76	4.60	1.16	1.35
-25	(-13)	749	189	219	141	1.24	2.35	5.31	1.34	1.55
-20	(- 4)	984	248	288	162	1.43	3.09	6.06	1.53	1.77
-15	(+ 5)	1265	319	371	185	1.63	3.98	6.82	1.72	2.00
-10	(+14)	1591	401	466	210	1.84	5.02	7.58	1.91	2.22
-5	(+23)	1963	495	575	237	2.08	6.21	8.30	2.09	2.43
0	(+32)	2380	600	698	266	2.33	7.55	8.95	2.26	2.62

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 + 45° 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		