

COMPRESSOR DEFINITION

Designation	EM X3118Y
Nominal Voltage/Frequency	100-127 V 60 Hz / 100 V 50 Hz
Engineering Number	513301903

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)	7.7	[kg] (16.98 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 (50 Hz)	17.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	2.10	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	2.60	[A] - Measured according to UL 984
11 Approval boards certification	UL	

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]
718	181	210	127	1.41	2.25	5.65	1.42	1.66

E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz			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)	433	109	127	87	1.06	1.35	4.97	1.25	1.46
-30	(-22)	552	139	162	99	1.17	1.73	5.61	1.41	1.64
-25	(-13)	715	180	209	112	1.28	2.24	6.41	1.61	1.88
-20	(- 4)	920	232	269	126	1.41	2.89	7.33	1.85	2.15
-15	(+ 5)	1167	294	342	140	1.54	3.67	8.35	2.10	2.45
-10	(+14)	1458	367	427	154	1.68	4.60	9.44	2.38	2.77
-5	(+23)	1791	451	525	170	1.82	5.66	10.56	2.66	3.09
0	(+32)	2167	546	635	185	1.98	6.87	11.69	2.95	3.43

TEST CONDITIONS: @100V50Hz			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)	387	97	113	86	1.05	1.21	4.50	1.13	1.32
-30	(-22)	512	129	150	100	1.18	1.60	5.12	1.29	1.50
-25	(-13)	677	171	198	115	1.32	2.12	5.86	1.48	1.72
-20	(- 4)	883	222	259	131	1.46	2.77	6.70	1.69	1.96
-15	(+ 5)	1129	285	331	148	1.62	3.55	7.62	1.92	2.23
-10	(+14)	1416	357	415	165	1.78	4.47	8.56	2.16	2.51
-5	(+23)	1744	440	511	183	1.96	5.52	9.52	2.40	2.79
0	(+32)	2113	532	619	202	2.14	6.70	10.45	2.63	3.06

TEST CONDITIONS: @100V50Hz			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)	344	87	101	86	1.06	1.08	3.98	1.00	1.17
-30	(-22)	471	119	138	103	1.20	1.48	4.59	1.16	1.34
-25	(-13)	637	160	187	120	1.36	2.00	5.29	1.33	1.55
-20	(- 4)	841	212	246	139	1.53	2.64	6.06	1.53	1.78
-15	(+ 5)	1084	273	318	158	1.71	3.41	6.87	1.73	2.01
-10	(+14)	1366	344	400	178	1.90	4.31	7.69	1.94	2.25
-5	(+23)	1686	425	494	199	2.11	5.33	8.49	2.14	2.49
0	(+32)	2045	515	599	221	2.33	6.49	9.23	2.33	2.70

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard		
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 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		