

COMPRESSOR DEFINITION

Designation	EM X3115Y
Nominal Voltage/Frequency	100-127 V 60 Hz / 100 V 50 Hz
Engineering Number	513301893

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	10.61	[cm ³] (0.647 cu.in)
2.1 Bore [mm]	26.000	
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)	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	17.5(180)	[µF(VAC minimum)]
5 Motor protection	T0819/07	
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)	2.60	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	3.20	[A] - Measured according to UL 984
11 Approval boards certification		

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]
705	178	207	125	1.31	2.21	5.62	1.42	1.65

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)	403	101	118	88	0.95	1.26	4.58	1.15	1.34
-30	(-22)	523	132	153	99	1.04	1.64	5.33	1.34	1.56
-25	(-13)	687	173	201	110	1.13	2.16	6.23	1.57	1.83
-20	(- 4)	894	225	262	123	1.23	2.81	7.27	1.83	2.13
-15	(+ 5)	1143	288	335	136	1.34	3.60	8.39	2.11	2.46
-10	(+14)	1436	362	421	150	1.46	4.53	9.55	2.41	2.80
-5	(+23)	1772	447	519	166	1.58	5.60	10.72	2.70	3.14
0	(+32)	2152	542	630	181	1.71	6.82	11.85	2.99	3.47

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)	392	99	115	90	0.98	1.23	4.32	1.09	1.27
-30	(-22)	504	127	148	102	1.07	1.58	4.94	1.24	1.45
-25	(-13)	660	166	194	115	1.17	2.07	5.72	1.44	1.68
-20	(- 4)	861	217	252	130	1.28	2.71	6.63	1.67	1.94
-15	(+ 5)	1105	279	324	145	1.40	3.48	7.61	1.92	2.23
-10	(+14)	1394	351	408	161	1.53	4.40	8.64	2.18	2.53
-5	(+23)	1727	435	506	179	1.68	5.46	9.68	2.44	2.84
0	(+32)	2104	530	616	197	1.83	6.67	10.67	2.69	3.13

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)	360	91	105	92	1.00	1.13	3.92	0.99	1.15
-30	(-22)	462	116	135	105	1.09	1.45	4.41	1.11	1.29
-25	(-13)	609	153	178	120	1.20	1.91	5.07	1.28	1.49
-20	(- 4)	801	202	235	136	1.33	2.52	5.86	1.48	1.72
-15	(+ 5)	1038	262	304	154	1.47	3.27	6.72	1.69	1.97
-10	(+14)	1320	333	387	173	1.63	4.16	7.63	1.92	2.24
-5	(+23)	1647	415	483	193	1.80	5.21	8.54	2.15	2.50
0	(+32)	2020	509	592	215	1.99	6.41	9.41	2.37	2.76

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal
2 Tray holder	No
3 Connectors	
3.1 SUCTION	6.5 +0.12/-0.08 [mm] (0.256" +0.005"/-0.003")
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 42° up + 45° to Back
3.3 PROCESS	6.5 +0.12/-0.08 [mm] (0.256" +0.005"/-0.003")
3.3.1 Material	Copper
3.3.2 Shape	Slanted 46° up + 45° to Back
3.4 Oil cooler (Copper)	No [mm]
3.5 Connector sealing	Rubber Plugs