

COMPRESSOR DEFINITION

Designation	EM X4134U
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513300902

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-290		
3 Nominal voltage and frequency	115-127 / 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	CSIR		
6 Starting torque	HST - High starting torque		
7 Expansion device	Capillary tube or Expansion valve		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	Fan	-	103 to 140 V
8.2 LBP (43°C Ambient temperature)	Fan	-	103 to 140 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	18.4	[kgf/cm ²] (262 psig)	/ °C - °F
9.2 Peak	20.6	[kgf/cm ²] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/2	[hp]
2 Displacement	7.95	[cm ³] (0.485 cu.in)
2.1 Bore [mm]	22.500	
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 / ISO22	
4 Weight (with oil charge)	7.8	[kg] (17.20 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm ²] (2.84 to 4.27 psig)

C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	QL2-13.5	
3 Start capacitor	189-227(210)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM795KFBZZ-53	
6 Start winding resistance	5.85	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	1.77	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	30.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V60Hz			ASHRAELBP32 Fan		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]
1628	410	477	296	3.76	4.85	5.50	1.39	1.61

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz			ASHRAE32 Fan		(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)	1037	261	304	201	3.20	3.07	5.16	1.30	1.51
-30	(-22)	1310	330	384	223	3.31	3.88	5.88	1.48	1.72
-25	(-13)	1638	413	480	246	3.44	4.87	6.66	1.68	1.95
-20	(- 4)	2028	511	594	269	3.58	6.05	7.52	1.90	2.20
-15	(+ 5)	2485	626	728	293	3.72	7.45	8.50	2.14	2.49
-10	(+14)	3015	760	884	314	3.87	9.08	9.61	2.42	2.82
-5	(+23)	3624	913	1062	334	4.00	10.96	10.87	2.74	3.19
0	(+32)	4317	1088	1265	350	4.12	13.13	12.32	3.11	3.61

TEST CONDITIONS: @115V60Hz			ASHRAE32 Fan		(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)	987	249	289	211	3.22	2.92	4.68	1.18	1.37
-30	(-22)	1259	317	369	238	3.37	3.73	5.29	1.33	1.55
-25	(-13)	1583	399	464	266	3.54	4.71	5.94	1.50	1.74
-20	(- 4)	1963	495	575	296	3.72	5.86	6.63	1.67	1.94
-15	(+ 5)	2406	606	705	325	3.92	7.21	7.40	1.86	2.17
-10	(+14)	2917	735	855	353	4.11	8.78	8.26	2.08	2.42
-5	(+23)	3502	882	1026	379	4.30	10.59	9.25	2.33	2.71
0	(+32)	4167	1050	1221	402	4.47	12.67	10.38	2.62	3.04

TEST CONDITIONS: @115V60Hz			ASHRAE32 Fan		(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)	895	226	262	217	3.24	2.65	4.12	1.04	1.21
-30	(-22)	1173	296	344	250	3.43	3.48	4.70	1.19	1.38
-25	(-13)	1497	377	439	284	3.65	4.45	5.28	1.33	1.55
-20	(- 4)	1874	472	549	319	3.89	5.59	5.87	1.48	1.72
-15	(+ 5)	2308	582	676	355	4.13	6.91	6.50	1.64	1.91
-10	(+14)	2806	707	822	390	4.38	8.44	7.19	1.81	2.11
-5	(+23)	3374	850	989	423	4.63	10.20	7.97	2.01	2.34
0	(+32)	4016	1012	1177	453	4.87	12.21	8.86	2.23	2.59

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	8.2 +0.12/-0.08	[mm]	(0.323" +0.005"/-0.003")
3.1.1 Material	Copper		
3.1.2 Shape	Straight		
3.2 DISCHARGE	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.2.1 Material	Copper		
3.2.2 Shape	Straight		
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	Straight		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		