

COMPRESSOR DEFINITION

Designation	EM 3U50HLP
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513301649

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	115-127 / 60	[V / Hz]	
4 Application type	Low Back Pressure		
4.1 Evaporating temperature range	-35°C to -10°C	(-31°F to 14°F)	
5 Motor type	RSIR		
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)	Static	98 to 122 V	103 to 140 V
8.2 LBP (43°C Ambient temperature)	Static	98 to 122 V	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	14.2	[kgf/cm²] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm²] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/5	[hp]
2 Displacement	4.50	[cm ³] (0.275 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	13.000	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	6.8	[kg] (14.99 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm ²] (2.84 to 4.27 psig)

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA14B1/8EA14C1/QPS2-A4R7MG1	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM427KFBYY-53	
6 Start winding resistance	7.37	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	5.18	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	12.30	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	2.53	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	3.12	[A] - Measured according to UL 984
11 Approval boards certification	UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V60Hz			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 54.4°C (129.92°F))	
Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
554	140	162	104	1.42	3.15	5.35	1.35	1.57

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ASHRAE32 Static				(Condensing temperature 35°C (+95°F))				
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	303	76	89	66	1.09	1.71	4.59	1.16	1.35
-30	(-22)	425	107	125	78	1.15	2.41	5.44	1.37	1.59
-25	(-13)	565	142	166	89	1.20	3.21	6.35	1.60	1.86
-20	(- 4)	731	184	214	100	1.26	4.16	7.35	1.85	2.15
-15	(+ 5)	933	235	273	110	1.31	5.33	8.48	2.14	2.49
-10	(+14)	1180	297	346	120	1.36	6.76	9.76	2.46	2.86

TEST CONDITIONS: @115V60Hz		ASHRAE32 Static				(Condensing temperature 45°C (+113°F))				
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	281	71	82	69	1.11	1.59	4.05	1.02	1.19
-30	(-22)	400	101	117	82	1.17	2.27	4.85	1.22	1.42
-25	(-13)	535	135	157	95	1.23	3.04	5.66	1.43	1.66
-20	(- 4)	695	175	204	107	1.29	3.95	6.51	1.64	1.91
-15	(+ 5)	888	224	260	119	1.36	5.07	7.44	1.88	2.18
-10	(+14)	1124	283	329	132	1.43	6.44	8.47	2.13	2.48

TEST CONDITIONS: @115V60Hz		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	241	61	71	71	1.12	1.36	3.41	0.86	1.00
-30	(-22)	361	91	106	85	1.18	2.05	4.21	1.06	1.23
-25	(-13)	494	124	145	99	1.25	2.80	4.98	1.26	1.46
-20	(- 4)	649	164	190	113	1.32	3.69	5.75	1.45	1.68
-15	(+ 5)	836	211	245	128	1.41	4.77	6.53	1.65	1.91
-10	(+14)	1064	268	312	144	1.50	6.09	7.37	1.86	2.16

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ASHRAE32 Static			(Condensing temperature 65°C (+149°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	185	47	54	69	1.12	1.05	2.68	0.68	0.79
-30	(-22)	307	77	90	85	1.18	1.74	3.55	0.90	1.04
-25	(-13)	440	111	129	101	1.26	2.50	4.34	1.09	1.27
-20	(- 4)	594	150	174	117	1.35	3.38	5.07	1.28	1.49
-15	(+ 5)	777	196	228	135	1.45	4.43	5.78	1.46	1.69
-10	(+14)	999	252	293	154	1.56	5.72	6.48	1.63	1.90

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	Straight		
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	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		