

### COMPRESSOR DEFINITION

Designation	EM 2U50HLP
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513300650

### 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	-	103 to 140 V
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	14.2	[kgf/cm <sup>2</sup> ] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm <sup>2</sup> ] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/6	[hp]
2 Displacement	4.50	[cm <sup>3</sup> ] (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)	7.2	[kg] (15.87 lb.)
5 Nitrogen charge	-	[kgf/cm <sup>2</sup> ]

### 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	8EA14C1/QPS2-A4R7MG1	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM319KFBYY-53	
6 Start winding resistance		[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance		[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	-	[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 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]
500	126	147	105	1.46	2.84	4.77	1.20	1.40

### 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)	311	78	91	72	1.30	1.76	4.30	1.08	1.26
-30	(-22)	429	108	126	84	1.35	2.43	5.13	1.29	1.50
-25	(-13)	571	144	167	96	1.40	3.24	5.98	1.51	1.75
-20	(- 4)	740	186	217	108	1.47	4.21	6.88	1.73	2.01
-15	(+ 5)	942	237	276	121	1.54	5.38	7.81	1.97	2.29
-10	(+14)	1182	298	346	134	1.63	6.77	8.80	2.22	2.58

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)	267	67	78	71	1.29	1.51	3.77	0.95	1.10
-30	(-22)	380	96	111	84	1.34	2.16	4.53	1.14	1.33
-25	(-13)	517	130	151	97	1.41	2.94	5.30	1.33	1.55
-20	(- 4)	682	172	200	112	1.49	3.88	6.09	1.53	1.78
-15	(+ 5)	880	222	258	127	1.59	5.02	6.90	1.74	2.02
-10	(+14)	1117	281	327	144	1.70	6.40	7.76	1.96	2.27

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)	216	54	63	67	1.28	1.22	3.22	0.81	0.94
-30	(-22)	321	81	94	82	1.33	1.82	3.92	0.99	1.15
-25	(-13)	450	113	132	97	1.41	2.55	4.62	1.16	1.35
-20	(- 4)	608	153	178	114	1.50	3.46	5.32	1.34	1.56
-15	(+ 5)	799	201	234	132	1.62	4.56	6.04	1.52	1.77
-10	(+14)	1030	260	302	152	1.75	5.90	6.78	1.71	1.99

### 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)	170	43	50	63	1.27	0.96	2.71	0.68	0.79
-30	(-22)	265	67	78	78	1.32	1.50	3.37	0.85	0.99
-25	(-13)	384	97	112	96	1.40	2.18	4.01	1.01	1.18
-20	(- 4)	532	134	156	115	1.51	3.03	4.65	1.17	1.36
-15	(+ 5)	714	180	209	135	1.64	4.08	5.28	1.33	1.55
-10	(+14)	936	236	274	158	1.80	5.36	5.91	1.49	1.73

### 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 plated steel		
3.1.2 Shape	Slanted 42°		
3.2 DISCHARGE	4.9 +0.10/-0.05	[mm]	(0.193" +0.004"/-0.002")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted 46°		
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 parallel B.Plate 30°		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		