COMPRESSOR DEFINITION

Designation	**EM 2U80HLP**
Nominal Voltage/Frequency	**115-127 V 60 Hz**
Engineering Number	**513305507**

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	RSCR		
6 Starting torque	LST - Low Starting Torque		
7 Expantion device	Capillary tube		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32ºC Ambient temperature)	Static	-	103 to 140 V
8.2 LBP (43ºC Ambient temperature)	Static	-	103 to 140 V
8.3 HBP (32ºC Ambient temperature)	-	-	-
8.4 HBP (43ºC Ambient temperature)	-	-	-
9 Maximum condensing pressures/temperature			
9.1 Operating (gauge)	16.2	[kgf/cm²] (230 psig)	/ ºC - ºF
9.2 Peak (gauge)	20.6	[kgf/cm²] (293 psig)	/ ºC - ºF
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/4	[hp]
2 Displacement	6.76	[cm³] (0.413 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	17.000	
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)	8.19	[kg] (18.06 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm²] (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	7M4R7MD3/8EA14C3/8EA14E63/8M4R7MD3	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	12(180)/15(180)	[µF(VAC minimum)]
5 Motor protection	4TM445KFBYY-53	
6 Start winding resistance	9.90	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	3.00	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	15.80	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	2.68	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	3.27	[A] - Measured according to UL 984
11 Approval boards certification	IMTRO - TUV	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: **@127V60Hz**			**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]
790	199	231	139	1.34	4.49	5.69	1.43	1.67

E - PERFORMANCE - CURVES

TEST CONDITIONS: **@127V60Hz** — **ASHRAE32** **Static** — (Condensing temperature **35ºC (+95ºF))**

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)**	469	118	137	97	1.10	2.65	4.81	1.21	1.41
-30	**(-22)**	640	161	187	111	1.16	3.63	5.72	1.44	1.68
-25	**(-13)**	846	213	248	127	1.26	4.81	6.68	1.68	1.96
-20	**(- 4)**	1097	277	322	142	1.38	6.25	7.71	1.94	2.26
-15	**(+ 5)**	1401	353	411	159	1.51	8.00	8.83	2.23	2.59
-10	**(+14)**	1766	445	518	175	1.63	10.12	10.07	2.54	2.95

TEST CONDITIONS: **@127V60Hz** — **ASHRAE32** **Static** — (Condensing temperature **45ºC (+113ºF))**

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)**	425	107	125	98	1.11	2.40	4.34	1.09	1.27
-30	**(-22)**	594	150	174	115	1.18	3.37	5.18	1.31	1.52
-25	**(-13)**	798	201	234	132	1.29	4.53	6.04	1.52	1.77
-20	**(- 4)**	1045	263	306	150	1.43	5.95	6.94	1.75	2.03
-15	**(+ 5)**	1345	339	394	170	1.58	7.68	7.91	1.99	2.32
-10	**(+14)**	1705	430	500	190	1.73	9.77	8.98	2.26	2.63

TEST CONDITIONS: **@127V60Hz** — **ASHRAE32** **Static** — (Condensing temperature **55ºC (+131ºF))**

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)**	365	92	107	99	1.11	2.07	3.75	0.95	1.10
-30	**(-22)**	528	133	155	117	1.19	2.99	4.55	1.15	1.33
-25	**(-13)**	724	183	212	136	1.32	4.11	5.34	1.34	1.56
-20	**(- 4)**	964	243	282	157	1.47	5.49	6.14	1.55	1.80
-15	**(+ 5)**	1255	316	368	179	1.65	7.16	6.99	1.76	2.05
-10	**(+14)**	1606	405	471	203	1.83	9.20	7.90	1.99	2.31

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **65ºC (+149ºF))**
@127V60Hz **Static**

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)**	313	79	92	96	1.10	1.77	3.22	0.81	0.94
-30	**(-22)**	464	117	136	115	1.19	2.63	3.99	1.01	1.17
-25	**(-13)**	649	164	190	137	1.33	3.69	4.74	1.19	1.39
-20	**(- 4)**	876	221	257	161	1.51	4.99	5.47	1.38	1.60
-15	**(+ 5)**	1154	291	338	186	1.71	6.59	6.22	1.57	1.82
-10	**(+14)**	1491	376	437	213	1.92	8.54	7.00	1.76	2.05

F - EXTERNAL CHARACTERISTICS

1 Base plate	New Base Plate EUEM		
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 42º 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 30° up + 24° 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 45° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		