COMPRESSOR DEFINITION

Designation	**EM R80HLR**
Nominal Voltage/Frequency	**115-127 V 60 Hz**
Engineering Number	**513400000**

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-Medium (Plus) Back Pressure		
4.1 Evaporating temperature range	-35°C to 0°C	(-31°F to 32°F)	
5 Motor type	CSIR		
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)	-	-	-
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 temperature			
9.1 Operating	14.2	[kgf/cm²] (202 psig)	/ ºC - ºF
9.2 Peak	15.9	[kgf/cm²] (226 psig)	/ ºC - ºF
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/4+	[hp]
2 Displacement	6.60	[cm³] (0.403 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	16.600	
3 Lubricant charge	180	[ml] (6.09 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	7.44	[kg] (16.40 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	Current Relay	
2.1 Starting device	213515007	
3 Start capacitor	233-280(111)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM762NFBZZ-53	
6 Start winding resistance	8.12	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	3.61	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	20.20	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	2.45	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.83	[A] - Measured according to UL 984
11 Approval boards certification	CE - IMTRO - TUV - UKCA	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS:			**ASHRAELBP32**			Evaporating temperature		**-23.3°C (-9.94°F)**
@127V60Hz			**Static**			(Condensing temperature		**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]
779	196	228	150	1.96	4.43	5.21	1.31	1.53

TEST CONDITIONS:			**ASHRAELBP32**			Evaporating temperature		**-23.3°C (-9.94°F)**
@127V60Hz			**Fan**			(Condensing temperature		**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]
808	204	237	150	1.97	4.59	5.40	1.36	1.58

E - PERFORMANCE - CURVES

TEST CONDITIONS:			**ASHRAE32**					(Condensing temperature **35ºC (+95ºF))**		
@127V60Hz			**Fan**							
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	103	1.80	2.65	4.56	1.15	1.33
-30	**(-22)**	634	160	186	116	1.83	3.60	5.46	1.38	1.60
-25	**(-13)**	834	210	244	131	1.89	4.74	6.36	1.60	1.86
-20	**(- 4)**	1076	271	315	148	1.97	6.13	7.30	1.84	2.14
-15	**(+ 5)**	1370	345	402	165	2.06	7.82	8.32	2.10	2.44
-10	**(+14)**	1724	435	505	182	2.16	9.88	9.47	2.39	2.77
-5	**(+23)**	2147	541	629	199	2.26	12.35	10.77	2.71	3.16
0	**(+32)**	2648	667	776	216	2.36	15.30	12.27	3.09	3.60

TEST CONDITIONS:			**ASHRAE32**					(Condensing temperature **45ºC (+113ºF))**		
@127V60Hz			**Fan**							
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)**	426	107	125	105	1.83	2.41	4.07	1.03	1.19
-30	**(-22)**	592	149	174	120	1.86	3.36	4.93	1.24	1.44
-25	**(-13)**	790	199	231	137	1.92	4.48	5.75	1.45	1.68
-20	**(- 4)**	1027	259	301	156	2.00	5.84	6.56	1.65	1.92
-15	**(+ 5)**	1312	331	384	177	2.11	7.49	7.41	1.87	2.17
-10	**(+14)**	1653	417	484	198	2.24	9.47	8.33	2.10	2.44
-5	**(+23)**	2060	519	604	220	2.38	11.85	9.38	2.36	2.75
0	**(+32)**	2542	641	745	242	2.52	14.68	10.58	2.67	3.10

E - PERFORMANCE - CURVES

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

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)**	367	93	108	107	1.87	2.08	3.46	0.87	1.01
-30	**(-22)**	535	135	157	123	1.89	3.04	4.33	1.09	1.27
-25	**(-13)**	731	184	214	143	1.95	4.15	5.11	1.29	1.50
-20	**(- 4)**	962	242	282	165	2.04	5.47	5.84	1.47	1.71
-15	**(+ 5)**	1238	312	363	188	2.17	7.07	6.57	1.66	1.93
-10	**(+14)**	1567	395	459	213	2.32	8.98	7.34	1.85	2.15
-5	**(+23)**	1959	494	574	240	2.49	11.27	8.17	2.06	2.39
0	**(+32)**	2421	610	709	267	2.68	13.99	9.13	2.30	2.67

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

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)**	294	74	86	109	1.91	1.66	2.70	0.68	0.79
-30	**(-22)**	463	117	136	127	1.92	2.63	3.63	0.91	1.06
-25	**(-13)**	657	165	192	148	1.98	3.73	4.43	1.12	1.30
-20	**(- 4)**	883	222	259	172	2.09	5.02	5.14	1.29	1.51
-15	**(+ 5)**	1150	290	337	199	2.23	6.56	5.80	1.46	1.70
-10	**(+14)**	1467	370	430	228	2.40	8.40	6.45	1.62	1.89
-5	**(+23)**	1843	464	540	258	2.61	10.60	7.13	1.80	2.09
0	**(+32)**	2286	576	670	290	2.84	13.21	7.88	1.99	2.31

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal AMEM		
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		