COMPRESSOR DEFINITION

Designation	**EM 2S80HLR**
Nominal Voltage/Frequency	**220 V 60 Hz**
Engineering Number	**513301025**

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220 / 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 Expantion device	Capillary tube		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32ºC Ambient temperature)	Static	-	198 to 242 V
8.2 LBP (43ºC Ambient temperature)	Static	-	198 to 242 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	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	7.13	[kg] (15.72 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	220 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213514148	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM743KDBYY-53	
6 Start winding resistance	26.40	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	13.50	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	12.12	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.20	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	1.32	[A] - Measured according to UL 984
11 Approval boards certification	CE - IMTRO - TUV - UKCA	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: **@220V60Hz**			**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]
733	185	215	149	1.06	4.16	4.91	1.24	1.44

E - PERFORMANCE - CURVES

TEST CONDITIONS: **@220V60Hz** — **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)**	439	111	129	97	0.93	2.48	4.51	1.14	1.32
-30	**(-22)**	592	149	174	112	0.96	3.36	5.28	1.33	1.55
-25	**(-13)**	787	198	231	130	1.01	4.47	6.07	1.53	1.78
-20	**(- 4)**	1028	259	301	149	1.07	5.85	6.90	1.74	2.02
-15	**(+ 5)**	1321	333	387	169	1.13	7.54	7.83	1.97	2.30
-10	**(+14)**	1669	421	489	188	1.20	9.57	8.89	2.24	2.61

TEST CONDITIONS: **@220V60Hz** — **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)**	389	98	114	99	0.94	2.20	3.92	0.99	1.15
-30	**(-22)**	538	135	158	116	0.97	3.05	4.63	1.17	1.36
-25	**(-13)**	725	183	212	136	1.02	4.12	5.32	1.34	1.56
-20	**(- 4)**	957	241	280	158	1.09	5.45	6.04	1.52	1.77
-15	**(+ 5)**	1237	312	363	181	1.17	7.06	6.82	1.72	2.00
-10	**(+14)**	1572	396	461	204	1.25	9.00	7.69	1.94	2.25

TEST CONDITIONS: **@220V60Hz** — **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)**	337	85	99	102	0.96	1.91	3.33	0.84	0.98
-30	**(-22)**	481	121	141	119	0.99	2.72	4.03	1.02	1.18
-25	**(-13)**	661	167	194	141	1.04	3.75	4.69	1.18	1.37
-20	**(- 4)**	883	222	259	165	1.11	5.02	5.34	1.35	1.56
-15	**(+ 5)**	1151	290	337	191	1.20	6.57	6.01	1.52	1.76
-10	**(+14)**	1470	371	431	217	1.30	8.42	6.76	1.70	1.98

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **65ºC (+149ºF))**
@220V60Hz **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)**	283	71	83	105	0.98	1.60	2.70	0.68	0.79
-30	**(-22)**	421	106	123	122	1.00	2.39	3.45	0.87	1.01
-25	**(-13)**	594	150	174	145	1.05	3.37	4.11	1.04	1.21
-20	**(- 4)**	806	203	236	170	1.13	4.58	4.74	1.19	1.39
-15	**(+ 5)**	1061	267	311	198	1.23	6.06	5.36	1.35	1.57
-10	**(+14)**	1366	344	400	227	1.34	7.82	6.02	1.52	1.76

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EG/F/AMEM Version 2		
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	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	6.35 +0.08/-0.08	[mm]	(0.250" +0.003"/-0.003")
3.3.1 Material	Copper(OD)		
3.3.2 Shape	Slanted 45° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		