COMPRESSOR DEFINITION

Designation	**EM 2Y80HLP**
Nominal Voltage/Frequency	**115-127 V 60 Hz**
Engineering Number	**513301502**

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 Back Pressure		
4.1 Evaporating temperature range	-35°C to -5°C	(-31°F to 23°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	-	98 to 140 V
8.2 LBP (43ºC Ambient temperature)	Static	-	98 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		[hp]
2 Displacement	6.99	[cm³] (0.427 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	17.600	
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)	8.36	[kg] (18.43 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	Combo	
2.1 Starting device	5SP14X445K	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	12(180)	[µF(VAC minimum)]
5 Motor protection	5SP14X445KFX	
6 Start winding resistance	5.30	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	2.80	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	17.90	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	2.60	[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]
850	214	249	149	1.49	4.83	5.72	1.44	1.68

E - PERFORMANCE - CURVES

TEST CONDITIONS: **@115V60Hz** — **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)**	478	120	140	96	1.14	2.70	4.95	1.25	1.45
-30	**(-22)**	645	163	189	111	1.24	3.66	5.80	1.46	1.70
-25	**(-13)**	858	216	251	127	1.35	4.87	6.74	1.70	1.98
-20	**(- 4)**	1120	282	328	145	1.48	6.38	7.77	1.96	2.28
-15	**(+ 5)**	1436	362	421	162	1.62	8.20	8.87	2.23	2.60
-10	**(+14)**	1808	456	530	181	1.79	10.36	10.03	2.53	2.94
-5	**(+23)**	2240	565	656	199	1.98	12.89	11.24	2.83	3.29

TEST CONDITIONS: **@115V60Hz** — **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)**	440	111	129	99	1.15	2.49	4.45	1.12	1.30
-30	**(-22)**	600	151	176	115	1.27	3.40	5.21	1.31	1.53
-25	**(-13)**	807	203	236	133	1.40	4.58	6.04	1.52	1.77
-20	**(- 4)**	1064	268	312	153	1.55	6.06	6.94	1.75	2.03
-15	**(+ 5)**	1375	347	403	174	1.72	7.85	7.89	1.99	2.31
-10	**(+14)**	1744	439	511	196	1.91	9.99	8.89	2.24	2.60
-5	**(+23)**	2174	548	637	220	2.14	12.50	9.92	2.50	2.91

TEST CONDITIONS: **@115V60Hz** — **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)**	406	102	119	103	1.16	2.30	3.97	1.00	1.16
-30	**(-22)**	553	139	162	119	1.29	3.14	4.66	1.17	1.36
-25	**(-13)**	748	189	219	138	1.44	4.25	5.40	1.36	1.58
-20	**(- 4)**	994	250	291	160	1.61	5.66	6.19	1.56	1.81
-15	**(+ 5)**	1295	326	379	184	1.81	7.39	7.02	1.77	2.06
-10	**(+14)**	1654	417	485	210	2.03	9.47	7.87	1.98	2.31
-5	**(+23)**	2074	523	608	237	2.28	11.93	8.75	2.20	2.56

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **65ºC (+149ºF))**
@115V60Hz **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)**	376	95	110	107	1.16	2.13	3.49	0.88	1.02
-30	**(-22)**	504	127	148	123	1.31	2.86	4.12	1.04	1.21
-25	**(-13)**	681	172	199	143	1.48	3.86	4.79	1.21	1.40
-20	**(- 4)**	909	229	266	166	1.67	5.17	5.49	1.38	1.61
-15	**(+ 5)**	1193	301	350	192	1.89	6.81	6.22	1.57	1.82
-10	**(+14)**	1536	387	450	221	2.14	8.80	6.95	1.75	2.04
-5	**(+23)**	1942	489	569	252	2.43	11.17	7.69	1.94	2.25

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal 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	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		