COMPRESSOR DEFINITION

Designation	**EM YS60HEP**
Nominal Voltage/Frequency	**115-127 V 60 Hz**
Engineering Number	**513305002**

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	1/5+	[hp]
2 Displacement	5.19	[cm³] (0.317 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	15.000	
3 Lubricant charge	160	[ml] (5.41 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	8.23	[kg] (18.14 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	MSC31X 115V	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	12(176)	[µF(VAC minimum)]
5 Motor protection	MSC31F61F3	
6 Start winding resistance	6.60	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	4.70	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	12.80	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.91	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.31	[A] - Measured according to UL 984
11 Approval boards certification	UL	

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]
607	153	178	124	1.24	3.45	4.89	1.23	1.43

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)**	338	85	99	81	0.94	1.91	4.19	1.06	1.23
-30	**(-22)**	459	116	134	91	1.00	2.60	5.05	1.27	1.48
-25	**(-13)**	614	155	180	103	1.08	3.49	5.98	1.51	1.75
-20	**(- 4)**	805	203	236	115	1.18	4.58	6.97	1.76	2.04
-15	**(+ 5)**	1035	261	303	128	1.28	5.91	8.02	2.02	2.35
-10	**(+14)**	1304	329	382	142	1.39	7.47	9.13	2.30	2.68

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)**	317	80	93	83	0.96	1.79	3.81	0.96	1.12
-30	**(-22)**	436	110	128	96	1.04	2.47	4.58	1.15	1.34
-25	**(-13)**	585	147	171	109	1.13	3.32	5.40	1.36	1.58
-20	**(- 4)**	767	193	225	123	1.23	4.36	6.25	1.57	1.83
-15	**(+ 5)**	982	248	288	137	1.34	5.61	7.13	1.80	2.09
-10	**(+14)**	1234	311	362	152	1.47	7.07	8.06	2.03	2.36

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)**	273	69	80	81	0.96	1.54	3.36	0.85	0.98
-30	**(-22)**	394	99	116	97	1.05	2.23	4.09	1.03	1.20
-25	**(-13)**	542	137	159	113	1.16	3.08	4.83	1.22	1.42
-20	**(- 4)**	718	181	210	129	1.29	4.08	5.59	1.41	1.64
-15	**(+ 5)**	924	233	271	146	1.42	5.27	6.35	1.60	1.86
-10	**(+14)**	1163	293	341	164	1.56	6.66	7.13	1.80	2.09

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)**	205	52	60	74	0.90	1.16	2.74	0.69	0.80
-30	**(-22)**	333	84	98	94	1.03	1.89	3.47	0.87	1.02
-25	**(-13)**	483	122	142	114	1.17	2.74	4.18	1.05	1.23
-20	**(- 4)**	658	166	193	135	1.32	3.74	4.89	1.23	1.43
-15	**(+ 5)**	859	217	252	155	1.49	4.90	5.57	1.40	1.63
-10	**(+14)**	1089	275	319	175	1.66	6.24	6.23	1.57	1.83

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EG/F/AMEM version 2		
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 parallel to Base Plate		
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		
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 to Base Plate		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		