

COMPRESSOR DEFINITION

Designation	EM YS70HEP
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513305006

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	RSIR		
6 Starting torque	LST - Low Starting Torque		
7 Expansion device	Capillary tube		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	Static	-	103 to 140 V
8.2 LBP (43°C Ambient temperature)	Static	-	103 to 140 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	14.2	[kgf/cm ²] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm ²] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/5	[hp]
2 Displacement	5.96	[cm ³] (0.364 cu.in)
2.1 Bore [mm]	22.500	
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)	8.04	[kg] (17.72 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm ²] (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	-	[µF(VAC minimum)]
5 Motor protection	MSC31A65J3	
6 Start winding resistance	8.40	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	2.88	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	15.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	2.69	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	3.11	[A] - Measured according to UL 984
11 Approval boards certification	CE - TUV - UKCA - 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]
690	174	202	143	1.88	3.92	4.82	1.21	1.41

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ASHRAE32 Static				(Condensing temperature 35°C (+95°F))			
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)	399	101	117	101	1.64	2.26	3.96	1.00	1.16
-30 (-22)	552	139	162	124	1.65	3.13	4.47	1.13	1.31
-25 (-13)	724	183	212	141	1.66	4.11	5.21	1.31	1.53
-20 (- 4)	928	234	272	153	1.66	5.28	6.12	1.54	1.79
-15 (+ 5)	1175	296	344	165	1.66	6.71	7.15	1.80	2.10
-10 (+14)	1479	373	433	179	1.66	8.47	8.26	2.08	2.42

TEST CONDITIONS: @115V60Hz		ASHRAE32 Static				(Condensing temperature 45°C (+113°F))			
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)	372	94	109	96	1.79	2.11	3.85	0.97	1.13
-30 (-22)	521	131	153	119	1.81	2.95	4.34	1.09	1.27
-25 (-13)	686	173	201	137	1.83	3.90	5.01	1.26	1.47
-20 (- 4)	881	222	258	152	1.84	5.01	5.79	1.46	1.70
-15 (+ 5)	1118	282	328	168	1.85	6.38	6.65	1.68	1.95
-10 (+14)	1410	355	413	186	1.86	8.08	7.54	1.90	2.21

TEST CONDITIONS: @115V60Hz		ASHRAE32 Static				(Condensing temperature 55°C (+131°F))			
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)	333	84	98	98	2.00	1.88	3.43	0.87	1.01
-30 (-22)	476	120	140	120	2.03	2.70	3.94	0.99	1.15
-25 (-13)	635	160	186	139	2.07	3.60	4.57	1.15	1.34
-20 (- 4)	821	207	241	156	2.10	4.67	5.27	1.33	1.54
-15 (+ 5)	1048	264	307	175	2.13	5.98	5.99	1.51	1.75
-10 (+14)	1328	335	389	199	2.16	7.61	6.68	1.68	1.96

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ASHRAE32 Static			(Condensing temperature 65°C (+149°F))					
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)	296	75	87	100	2.28	1.67	2.95	0.74	0.86
-30	(-22)	434	109	127	122	2.34	2.46	3.50	0.88	1.03
-25	(-13)	586	148	172	141	2.40	3.32	4.13	1.04	1.21
-20	(- 4)	763	192	224	161	2.45	4.34	4.78	1.20	1.40
-15	(+ 5)	980	247	287	183	2.51	5.59	5.40	1.36	1.58
-10	(+14)	1248	314	366	211	2.57	7.15	5.94	1.50	1.74

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard 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	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		