

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-RSCR		
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	12(165)	[µF(VAC minimum)]
5 Motor protection	MSC31F65J3	
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	TUV - 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	138	1.42	3.92	5.00	1.26	1.47

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)	397	100	116	94	1.10	2.25	4.22	1.06	1.24
-30	(-22)	550	139	161	107	1.11	3.12	5.14	1.29	1.51
-25	(-13)	726	183	213	121	1.12	4.12	6.00	1.51	1.76
-20	(- 4)	934	235	274	136	1.13	5.31	6.87	1.73	2.01
-15	(+ 5)	1185	299	347	153	1.13	6.77	7.77	1.96	2.28
-10	(+14)	1492	376	437	170	1.14	8.55	8.74	2.20	2.56

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)	370	93	109	97	1.30	2.10	3.81	0.96	1.12
-30	(-22)	516	130	151	111	1.32	2.92	4.62	1.16	1.35
-25	(-13)	682	172	200	127	1.34	3.87	5.37	1.35	1.57
-20	(- 4)	880	222	258	144	1.35	5.01	6.11	1.54	1.79
-15	(+ 5)	1121	283	328	162	1.37	6.40	6.88	1.73	2.02
-10	(+14)	1415	357	415	183	1.39	8.11	7.73	1.95	2.26

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)	339	85	99	98	1.55	1.92	3.48	0.88	1.02
-30	(-22)	477	120	140	114	1.58	2.70	4.19	1.06	1.23
-25	(-13)	635	160	186	131	1.62	3.61	4.85	1.22	1.42
-20	(- 4)	824	208	241	150	1.65	4.69	5.49	1.38	1.61
-15	(+ 5)	1054	266	309	171	1.69	6.02	6.16	1.55	1.80
-10	(+14)	1337	337	392	194	1.73	7.66	6.89	1.74	2.02

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)	298	75	87	98	1.84	1.69	3.05	0.77	0.89
-30	(-22)	430	108	126	115	1.90	2.44	3.70	0.93	1.08
-25	(-13)	580	146	170	135	1.96	3.29	4.29	1.08	1.26
-20	(- 4)	760	191	223	157	2.02	4.32	4.85	1.22	1.42
-15	(+ 5)	980	247	287	180	2.08	5.60	5.43	1.37	1.59
-10	(+14)	1252	316	367	206	2.14	7.17	6.06	1.53	1.78

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		