

COMPRESSOR DEFINITION

Designation	EM YE70HEP
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513309520

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	-	98 to 140 V
8.2 LBP (43°C Ambient temperature)	Static	-	98 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	180	[ml] (6.09 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	7.4	[kg] (16.31 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	8EA14C1/8EA21C1/QPS2-A4R7MG1/QPS2-A4R7MG1 090	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM427NFBYY-53	
6 Start winding resistance	5.20	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	3.25	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	15.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	2.43	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.91	[A] - Measured according to UL 984
11 Approval boards certification	CE - TUV - UKCA - VDE	

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]
686	173	201	132	1.73	3.90	5.19	1.31	1.52

E - PERFORMANCE - CURVES

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)	384	97	113	90	1.47	2.17	4.27	1.07	1.25
-30 (-22)	503	127	147	104	1.54	2.85	4.88	1.23	1.43
-25 (-13)	652	164	191	119	1.63	3.70	5.52	1.39	1.62
-20 (- 4)	838	211	245	135	1.74	4.77	6.20	1.56	1.82
-15 (+ 5)	1069	269	313	154	1.87	6.10	6.93	1.75	2.03
-10 (+14)	1354	341	397	175	2.02	7.76	7.72	1.94	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)	334	84	98	90	1.47	1.89	3.71	0.94	1.09
-30 (-22)	465	117	136	107	1.56	2.64	4.34	1.09	1.27
-25 (-13)	618	156	181	125	1.66	3.51	4.96	1.25	1.45
-20 (- 4)	801	202	235	144	1.79	4.56	5.59	1.41	1.64
-15 (+ 5)	1021	257	299	164	1.93	5.83	6.24	1.57	1.83
-10 (+14)	1287	324	377	186	2.09	7.37	6.92	1.74	2.03

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)	262	66	77	83	1.43	1.48	3.17	0.80	0.93
-30 (-22)	407	103	119	105	1.55	2.31	3.80	0.96	1.11
-25 (-13)	566	143	166	128	1.69	3.21	4.40	1.11	1.29
-20 (- 4)	746	188	219	150	1.84	4.25	4.97	1.25	1.46
-15 (+ 5)	957	241	280	174	2.00	5.46	5.53	1.39	1.62
-10 (+14)	1205	304	353	199	2.19	6.90	6.08	1.53	1.78

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EUEM		
2 Tray holder	Yes		
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 42° 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	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.3.1 Material	Copper		
3.3.2 Shape	Slanted 45° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		