

COMPRESSOR DEFINITION

Designation	EM Y70HSC
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513308568

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 Expansion device	Capillary tube		
8 Compressor cooling	Operating voltage range		
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	Static	85 to 110 V	103 to 140 V
8.2 LBP (43°C Ambient temperature)	Static	85 to 110 V	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	5.72	[cm ³] (0.349 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	14.400	
3 Lubricant charge	190	[ml] (6.42 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	7.86	[kg] (17.33 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	7M4R7MD3/8EA14C3/8EA1B3/8EA21C3/8EA3B3/8EA4B3/QPS	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	12(180)	[µF(VAC minimum)]
5 Motor protection	4TM319RFBYY-53	
6 Start winding resistance	5.80	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	3.65	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	11.80	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.80	[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]
680	171	199	129	1.20	3.86	5.28	1.33	1.55

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)	378	95	111	88	0.84	2.14	4.28	1.08	1.25
-30 (-22)	512	129	150	105	0.99	2.90	4.87	1.23	1.43
-25 (-13)	681	172	200	122	1.14	3.87	5.56	1.40	1.63
-20 (- 4)	887	223	260	140	1.29	5.05	6.32	1.59	1.85
-15 (+ 5)	1130	285	331	158	1.44	6.45	7.14	1.80	2.09
-10 (+14)	1414	356	414	177	1.61	8.10	7.98	2.01	2.34

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)	318	80	93	86	0.83	1.80	3.70	0.93	1.08
-30 (-22)	445	112	130	104	0.99	2.52	4.29	1.08	1.26
-25 (-13)	610	154	179	123	1.15	3.46	4.95	1.25	1.45
-20 (- 4)	815	205	239	143	1.32	4.64	5.67	1.43	1.66
-15 (+ 5)	1062	268	311	165	1.51	6.06	6.41	1.62	1.88
-10 (+14)	1352	341	396	189	1.71	7.74	7.16	1.80	2.10

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)	266	67	78	86	0.82	1.51	3.09	0.78	0.91
-30 (-22)	381	96	112	104	0.98	2.16	3.69	0.93	1.08
-25 (-13)	538	136	158	124	1.15	3.05	4.34	1.09	1.27
-20 (- 4)	738	186	216	147	1.35	4.20	5.02	1.26	1.47
-15 (+ 5)	983	248	288	172	1.57	5.61	5.70	1.44	1.67
-10 (+14)	1274	321	373	200	1.81	7.30	6.37	1.61	1.87

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard		
2 Tray holder	Yes		
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		