

### COMPRESSOR DEFINITION

Designation	EM R70HLC
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513400018

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220-240 / 50	[ 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)	-	-	-
8.2 LBP (43°C Ambient temperature)	Static	187 to 255 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 <sup>2</sup> ] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm <sup>2</sup> ] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/5	[hp]
2 Displacement	5.96	[cm <sup>3</sup> ] (0.364 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	15.000	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	7.46	[kg] (16.45 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm <sup>2</sup> ] (2.84 to 4.27 psig)

### C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA17C3/QPS2-A22MD3	
3 Start capacitor	-	[μF(VAC minimum)]
4 Run capacitor	5(350)	[μF(VAC minimum)]
5 Motor protection	4TM734KDBYY-53	
6 Start winding resistance	20.00	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	20.78	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	5.65/5.84	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	1.04/0.89	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	IRAM	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 54.4°C (129.92°F)	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
538	135	158	115	0.64	3.05	4.67	1.18	1.37

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			ASHRAE32 Static		(Condensing temperature 35°C (+95°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	302	76	88	86	0.59	1.71	3.48	0.88	1.02
-30	(-22)	434	109	127	96	0.61	2.46	4.50	1.13	1.32
-25	(-13)	589	148	173	107	0.62	3.34	5.52	1.39	1.62
-20	(- 4)	774	195	227	118	0.64	4.40	6.56	1.65	1.92
-15	(+ 5)	992	250	291	130	0.68	5.66	7.65	1.93	2.24
-10	(+14)	1249	315	366	143	0.74	7.16	8.79	2.22	2.58

TEST CONDITIONS: @220V50Hz			ASHRAE32 Static		(Condensing temperature 45°C (+113°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	261	66	76	87	0.60	1.47	3.01	0.76	0.88
-30	(-22)	385	97	113	97	0.65	2.18	3.95	1.00	1.16
-25	(-13)	536	135	157	109	0.68	3.04	4.88	1.23	1.43
-20	(- 4)	717	181	210	123	0.70	4.08	5.81	1.46	1.70
-15	(+ 5)	935	236	274	138	0.72	5.34	6.76	1.70	1.98
-10	(+14)	1193	301	350	154	0.76	6.84	7.76	1.96	2.27

TEST CONDITIONS: @220V50Hz			ASHRAE32 Static		(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	223	56	65	87	0.49	1.26	2.57	0.65	0.75
-30	(-22)	335	84	98	97	0.61	1.90	3.45	0.87	1.01
-25	(-13)	475	120	139	110	0.69	2.70	4.29	1.08	1.26
-20	(- 4)	648	163	190	126	0.75	3.69	5.13	1.29	1.50
-15	(+ 5)	859	216	252	143	0.80	4.90	5.96	1.50	1.75
-10	(+14)	1112	280	326	163	0.84	6.37	6.83	1.72	2.00

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		ASHRAE32 Static			(Condensing temperature 65°C (+149°F) )					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	189	48	55	88	0.13	1.07	2.11	0.53	0.62
-30	(-22)	283	71	83	97	0.36	1.60	2.94	0.74	0.86
-25	(-13)	406	102	119	111	0.53	2.31	3.72	0.94	1.09
-20	(- 4)	565	142	166	127	0.67	3.22	4.47	1.13	1.31
-15	(+ 5)	764	192	224	147	0.78	4.36	5.21	1.31	1.53
-10	(+14)	1007	254	295	169	0.87	5.77	5.95	1.50	1.74

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal AMEM		
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 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 0° 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		