

COMPRESSOR DEFINITION

Designation	EM R70HLR
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513400004

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-Medium (Plus) Back Pressure		
4.1 Evaporating temperature range	-35°C to 0°C	(-31°F to 32°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)	-	-	-
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	5.75	[cm ³] (0.351 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	16.600	
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)	7.46	[kg] (16.45 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm ²] (2.84 to 4.27 psig)

C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213514083	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	DRB230M61B*F	
6 Start winding resistance	8.12	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	3.61	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	25.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CE - IMTRO - TUV - UKCA	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @127V60Hz			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]
665	168	195	129	1.80	3.78	5.16	1.30	1.51

TEST CONDITIONS: @127V60Hz			ASHRAELBP32 Fan		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]
679	171	199	129	1.80	3.86	5.26	1.33	1.54

E - PERFORMANCE - CURVES

TEST CONDITIONS: @127V60Hz		ASHRAE32 Fan			(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)	380	96	111	88	1.70	2.15	4.30	1.08	1.26
-30	(-22)	525	132	154	101	1.74	2.97	5.20	1.31	1.52
-25	(-13)	702	177	206	115	1.79	3.99	6.13	1.55	1.80
-20	(- 4)	919	232	269	129	1.85	5.23	7.14	1.80	2.09
-15	(+ 5)	1183	298	347	143	1.91	6.75	8.25	2.08	2.42
-10	(+14)	1500	378	440	158	1.98	8.60	9.49	2.39	2.78
-5	(+23)	1878	473	550	172	2.06	10.80	10.91	2.75	3.20
0	(+32)	2322	585	680	186	2.14	13.42	12.52	3.16	3.67

TEST CONDITIONS: @127V60Hz		ASHRAE32 Fan			(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)	348	88	102	90	1.70	1.97	3.88	0.98	1.14
-30	(-22)	490	123	144	104	1.75	2.78	4.72	1.19	1.38
-25	(-13)	662	167	194	119	1.81	3.76	5.55	1.40	1.63
-20	(- 4)	871	219	255	136	1.88	4.96	6.41	1.62	1.88
-15	(+ 5)	1124	283	329	153	1.96	6.42	7.33	1.85	2.15
-10	(+14)	1428	360	418	171	2.06	8.18	8.34	2.10	2.44
-5	(+23)	1790	451	525	189	2.16	10.30	9.48	2.39	2.78
0	(+32)	2217	559	650	207	2.27	12.80	10.77	2.71	3.16

E - PERFORMANCE - CURVES

TEST CONDITIONS: @127V60Hz		ASHRAE32 Fan			(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)	297	75	87	91	1.70	1.68	3.28	0.83	0.96
-30	(-22)	439	111	129	106	1.75	2.49	4.13	1.04	1.21
-25	(-13)	608	153	178	123	1.82	3.45	4.93	1.24	1.45
-20	(- 4)	811	204	238	142	1.91	4.62	5.72	1.44	1.67
-15	(+ 5)	1057	266	310	162	2.01	6.03	6.51	1.64	1.91
-10	(+14)	1351	340	396	183	2.12	7.74	7.36	1.85	2.16
-5	(+23)	1700	428	498	205	2.25	9.78	8.28	2.09	2.43
0	(+32)	2111	532	619	227	2.39	12.19	9.32	2.35	2.73

TEST CONDITIONS: @127V60Hz		ASHRAE32 Fan			(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)	227	57	66	92	1.70	1.28	2.48	0.62	0.73
-30	(-22)	371	93	109	108	1.75	2.10	3.41	0.86	1.00
-25	(-13)	540	136	158	127	1.83	3.06	4.25	1.07	1.25
-20	(- 4)	741	187	217	148	1.93	4.22	5.03	1.27	1.47
-15	(+ 5)	981	247	288	170	2.05	5.60	5.77	1.45	1.69
-10	(+14)	1268	319	371	195	2.19	7.26	6.52	1.64	1.91
-5	(+23)	1607	405	471	220	2.34	9.24	7.30	1.84	2.14
0	(+32)	2005	505	588	246	2.51	11.58	8.16	2.06	2.39

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	Straight		
3.2 DISCHARGE	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-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		