

### COMPRESSOR DEFINITION

Designation	EM IS30HHR
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513305050

### 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-High Back Pressure		
4.1 Evaporating temperature range	-35°C to 15°C	(-31°F to 59°F)	
5 Motor type	RSIR/CSIR		
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)	Fan	-	103 to 140 V
8.4 HBP (43°C Ambient temperature)	Fan	-	103 to 140 V
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	1/10	[hp]
2 Displacement	3.00	[cm <sup>3</sup> ] (0.183 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	10.600	
3 Lubricant charge	160	[ml] (5.41 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	6.77	[kg] (14.93 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm <sup>2</sup> ] (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	Current Relay	
2.1 Starting device	213514091/213515003	
3 Start capacitor	88-108(150)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	MRA58130-5590	
6 Start winding resistance	14.15	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	6.55	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	16.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.99	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.23	[A] - Measured according to UL 984
11 Approval boards certification	CE - TUV - UKCA - UL	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V60Hz			ASHRAEHBP32 Fan		Evaporating temperature (Condensing temperature)		7.2°C (44.96°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]	
1480	373	434	163	1.83		9.10	2.29	2.67	

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]	
340	86	100	91	1.37	1.93	3.75	0.95	1.10	

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz			ASHRAE32 Fan		(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)	192	48	56	68	1.30	1.09	2.82	0.71	0.83
-30 (-22)	269	68	79	75	1.32	1.53	3.56	0.90	1.04
-25 (-13)	362	91	106	83	1.36	2.06	4.32	1.09	1.27
-20 (- 4)	474	120	139	92	1.40	2.70	5.12	1.29	1.50
-15 (+ 5)	610	154	179	102	1.45	3.48	5.98	1.51	1.75
-10 (+14)	771	194	226	111	1.50	4.41	6.93	1.75	2.03
-5 (+23)	961	242	281	121	1.55	5.52	7.98	2.01	2.34
0 (+32)	1183	298	347	130	1.61	6.84	9.16	2.31	2.68
+5 (+41)	1440	363	422	138	1.66	8.38	10.48	2.64	3.07
+10 (+50)	1736	437	509	145	1.71	10.17	11.98	3.02	3.51
+15 (+59)	2073	522	607	151	1.76	12.24	13.66	3.44	4.00

TEST CONDITIONS: @115V60Hz			ASHRAE32 Fan		(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)	155	39	45	67	1.29	0.87	2.36	0.59	0.69
-30 (-22)	231	58	68	75	1.32	1.32	3.10	0.78	0.91
-25 (-13)	324	82	95	84	1.36	1.84	3.83	0.96	1.12
-20 (- 4)	435	110	127	95	1.41	2.48	4.57	1.15	1.34
-15 (+ 5)	568	143	167	106	1.47	3.24	5.33	1.34	1.56
-10 (+14)	726	183	213	117	1.53	4.16	6.15	1.55	1.80
-5 (+23)	913	230	268	129	1.60	5.25	7.04	1.77	2.06
0 (+32)	1131	285	331	141	1.67	6.54	8.03	2.02	2.35
+5 (+41)	1383	349	405	152	1.75	8.05	9.13	2.30	2.68
+10 (+50)	1673	422	490	162	1.82	9.80	10.37	2.61	3.04
+15 (+59)	2003	505	587	171	1.90	11.83	11.77	2.97	3.45

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ASHRAE32 Fan			(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)	119	30	35	62	1.27	0.67	1.97	0.50	0.58
-30	(-22)	194	49	57	71	1.30	1.10	2.73	0.69	0.80
-25	(-13)	283	71	83	82	1.35	1.61	3.44	0.87	1.01
-20	(- 4)	391	99	115	94	1.41	2.23	4.13	1.04	1.21
-15	(+ 5)	520	131	152	108	1.48	2.97	4.82	1.21	1.41
-10	(+14)	673	170	197	121	1.55	3.85	5.53	1.39	1.62
-5	(+23)	854	215	250	136	1.64	4.91	6.27	1.58	1.84
0	(+32)	1065	268	312	150	1.73	6.16	7.08	1.78	2.08
+5	(+41)	1310	330	384	164	1.83	7.62	7.98	2.01	2.34
+10	(+50)	1592	401	466	177	1.93	9.33	8.98	2.26	2.63
+15	(+59)	1914	482	561	190	2.03	11.30	10.11	2.55	2.96

TEST CONDITIONS: @115V60Hz		ASHRAE32 Fan			(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)	92	23	27	57	1.25	0.52	1.55	0.39	0.46
-30	(-22)	163	41	48	68	1.29	0.93	2.34	0.59	0.69
-25	(-13)	247	62	73	80	1.34	1.41	3.06	0.77	0.90
-20	(- 4)	349	88	102	95	1.41	1.99	3.71	0.94	1.09
-15	(+ 5)	472	119	138	110	1.49	2.69	4.33	1.09	1.27
-10	(+14)	618	156	181	126	1.59	3.53	4.94	1.25	1.45
-5	(+23)	790	199	232	143	1.69	4.54	5.56	1.40	1.63
0	(+32)	993	250	291	161	1.80	5.74	6.21	1.56	1.82
+5	(+41)	1228	310	360	178	1.92	7.15	6.91	1.74	2.03
+10	(+50)	1500	378	439	195	2.05	8.79	7.69	1.94	2.25
+15	(+59)	1811	456	531	211	2.18	10.69	8.56	2.16	2.51

### 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	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		