

### COMPRESSOR DEFINITION

Designation	EM 65HHR
Nominal Voltage/Frequency	220 V 50-60 Hz
Engineering Number	513307376

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220 / 50-60	[ V / Hz ]	
4 Application type	Midium-High Back Pressure		
4.1 Evaporating temperature range	-10°C to 15°C	(14°F to 59°F)	
5 Motor type	RSIR-CSIR		
6 Starting torque	LST - Low Starting Torque		
7 Expantion 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)	-	-	-
8.3 HBP (32°C Ambient temperature)	Fan	187 to 242 V	187 to 242 V
8.4 HBP (43°C Ambient temperature)	Fan	187 to 242 V	187 to 242 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	1/6+	[hp]
2 Displacement	5.54	[cm <sup>3</sup> ] (0.338 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	16.000	
3 Lubricant charge	160	[ml] (5.41 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	7.2	[kg] (15.87 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	220 V 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213514172	
3 Start capacitor	88-108(220)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM743KDBYY-53	
6 Start winding resistance	28.20	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	10.70	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	14.30/13.90	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	2.40/2.00	[A] - Measured according to UL 984
11 Approval boards certification	CE - IMTRO - TUV - UKCA - UL - VDE	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			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]	
2200	554	645	263	1.91		8.36	2.11	2.45	

TEST CONDITIONS: @220V60Hz			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]	
2615	659	766	300	1.77		8.71	2.19	2.55	

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			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]	
-10 (+14)	979	247	287	185	1.73	5.64	5.38	1.36	1.58	
-5 (+23)	1328	335	389	206	1.78	7.64	6.46	1.63	1.89	
0 (+32)	1703	429	499	224	1.82	9.84	7.60	1.92	2.23	
+5 (+41)	2105	530	617	239	1.86	12.24	8.79	2.22	2.58	
+10 (+50)	2533	638	742	252	1.89	14.84	10.05	2.53	2.94	
+15 (+59)	2988	753	875	263	1.92	17.64	11.35	2.86	3.33	

TEST CONDITIONS: @220V50Hz			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]	
-10 (+14)	1036	261	304	202	1.81	5.97	5.13	1.29	1.50	
-5 (+23)	1325	334	388	222	1.83	7.62	5.97	1.50	1.75	
0 (+32)	1653	417	484	240	1.86	9.55	6.88	1.73	2.01	
+5 (+41)	2021	509	592	258	1.89	11.75	7.85	1.98	2.30	
+10 (+50)	2428	612	711	274	1.92	14.22	8.88	2.24	2.60	
+15 (+59)	2875	724	842	288	1.96	16.97	9.98	2.52	2.93	

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		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]
-10 (+14)	988	249	290	213	1.82	5.69	4.61	1.16	1.35	
-5 (+23)	1243	313	364	234	1.84	7.15	5.32	1.34	1.56	
0 (+32)	1550	391	454	254	1.87	8.95	6.10	1.54	1.79	
+5 (+41)	1910	481	560	274	1.92	11.10	6.96	1.75	2.04	
+10 (+50)	2322	585	680	294	1.98	13.61	7.88	1.99	2.31	
+15 (+59)	2788	702	817	314	2.06	16.46	8.88	2.24	2.60	

TEST CONDITIONS: @220V60Hz		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]
-10 (+14)	1327	334	389	196	1.43	7.64	6.71	1.69	1.97	
-5 (+23)	1671	421	490	220	1.49	9.61	7.60	1.91	2.23	
0 (+32)	2065	520	605	243	1.56	11.93	8.52	2.15	2.50	
+5 (+41)	2508	632	735	265	1.63	14.58	9.49	2.39	2.78	
+10 (+50)	3000	756	879	286	1.72	17.58	10.50	2.65	3.08	
+15 (+59)	3541	892	1038	306	1.82	20.91	11.55	2.91	3.38	

TEST CONDITIONS: @220V60Hz		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]
-10 (+14)	1299	327	381	215	1.48	7.48	6.00	1.51	1.76	
-5 (+23)	1613	406	473	239	1.55	9.28	6.75	1.70	1.98	
0 (+32)	1981	499	581	264	1.63	11.44	7.51	1.89	2.20	
+5 (+41)	2405	606	705	290	1.72	13.98	8.29	2.09	2.43	
+10 (+50)	2884	727	845	317	1.83	16.90	9.08	2.29	2.66	
+15 (+59)	3418	861	1001	345	1.94	20.18	9.89	2.49	2.90	

TEST CONDITIONS: @220V60Hz		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]
-10 (+14)	1232	310	361	240	1.49	7.09	5.07	1.28	1.49	
-5 (+23)	1526	385	447	262	1.59	8.78	5.83	1.47	1.71	
0 (+32)	1882	474	551	286	1.70	10.87	6.59	1.66	1.93	
+5 (+41)	2298	579	673	313	1.82	13.36	7.33	1.85	2.15	
+10 (+50)	2774	699	813	343	1.96	16.25	8.07	2.03	2.36	
+15 (+59)	3311	834	970	377	2.11	19.55	8.79	2.22	2.58	

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal 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	4.94 +0.08/-0.08	[mm]	(0.194" +0.003"/-0.003")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted		
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		