

COMPRESSOR DEFINITION

Designation	EM I60HEP
Nominal Voltage/Frequency	100 V 50-60 Hz
Engineering Number	513307040

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	100 / 50-60	[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	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)	Static	90 to 127 V	90 to 127 V
8.2 LBP (43°C Ambient temperature)	Static	90 to 127 V	90 to 127 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	1/6	[hp]
2 Displacement	4.99	[cm ³] (0.305 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	14.400	
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)	7.62	[kg] (16.80 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	100 V 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	8EA14C1/8EA1B1/QPS2-A4R7MG1	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM427NFBYY-53	
6 Start winding resistance	11.65	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	3.30	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	12.50/12.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	2.60/2.30	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CE - UKCA - UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @100V50Hz			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]
455	115	133	111	2.13	2.59	4.09	1.03	1.20

TEST CONDITIONS: @100V60Hz			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]
571	144	167	126	1.89	3.24	4.54	1.14	1.33

E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz			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)	237	60	70	84	2.09	1.34	2.83	0.71	0.83
-30	(-22)	343	87	101	95	2.13	1.95	3.61	0.91	1.06
-25	(-13)	460	116	135	107	2.18	2.61	4.30	1.08	1.26
-20	(- 4)	599	151	175	120	2.23	3.41	4.98	1.26	1.46
-15	(+ 5)	768	194	225	134	2.29	4.38	5.73	1.44	1.68
-10	(+14)	978	247	287	147	2.37	5.61	6.62	1.67	1.94

TEST CONDITIONS: @100V50Hz			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)	188	47	55	83	2.08	1.06	2.27	0.57	0.67
-30	(-22)	294	74	86	95	2.12	1.67	3.08	0.78	0.90
-25	(-13)	409	103	120	109	2.18	2.32	3.75	0.95	1.10
-20	(- 4)	543	137	159	124	2.24	3.09	4.37	1.10	1.28
-15	(+ 5)	705	178	207	140	2.32	4.02	5.01	1.26	1.47
-10	(+14)	906	228	265	157	2.42	5.19	5.75	1.45	1.69

E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz		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)	141	35	41	82	2.12	0.79	1.70	0.43	0.50	
-30 (-22)	248	62	73	95	2.15	1.41	2.58	0.65	0.76	
-25 (-13)	361	91	106	110	2.20	2.05	3.28	0.83	0.96	
-20 (- 4)	491	124	144	127	2.26	2.79	3.88	0.98	1.14	
-15 (+ 5)	646	163	189	145	2.35	3.69	4.46	1.12	1.31	
-10 (+14)	838	211	245	164	2.47	4.80	5.10	1.28	1.49	

TEST CONDITIONS: @100V60Hz		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)	292	74	86	86	1.70	1.65	3.41	0.86	1.00	
-30 (-22)	415	105	122	101	1.79	2.35	4.11	1.04	1.20	
-25 (-13)	560	141	164	117	1.89	3.18	4.78	1.21	1.40	
-20 (- 4)	732	184	214	134	2.00	4.16	5.47	1.38	1.60	
-15 (+ 5)	939	237	275	151	2.12	5.36	6.20	1.56	1.82	
-10 (+14)	1187	299	348	169	2.26	6.80	7.00	1.76	2.05	

TEST CONDITIONS: @100V60Hz		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)	267	67	78	85	1.69	1.51	3.10	0.78	0.91	
-30 (-22)	386	97	113	103	1.80	2.19	3.74	0.94	1.09	
-25 (-13)	521	131	153	121	1.91	2.96	4.31	1.09	1.26	
-20 (- 4)	678	171	199	141	2.05	3.86	4.86	1.23	1.43	
-15 (+ 5)	865	218	254	160	2.20	4.94	5.42	1.37	1.59	
-10 (+14)	1088	274	319	181	2.37	6.23	6.00	1.51	1.76	

TEST CONDITIONS: @100V60Hz		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)	188	47	55	80	1.65	1.06	2.39	0.60	0.70	
-30 (-22)	320	81	94	101	1.78	1.82	3.11	0.78	0.91	
-25 (-13)	464	117	136	123	1.93	2.63	3.73	0.94	1.09	
-20 (- 4)	624	157	183	146	2.09	3.55	4.27	1.08	1.25	
-15 (+ 5)	809	204	237	170	2.27	4.62	4.79	1.21	1.40	
-10 (+14)	1025	258	300	194	2.47	5.87	5.29	1.33	1.55	

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