

COMPRESSOR DEFINITION

Designation	EM I60HEP
Nominal Voltage/Frequency	100 V 50-60 Hz
Engineering Number	513307241

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/cm²] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm²] (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 / ISO22	
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	115	2.10	2.59	3.95	1.00	1.16

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]
560	141	164	129	1.80	3.18	4.34	1.09	1.27

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	90	2.03	1.34	2.63	0.66	0.77
-30	(-22)	343	87	101	97	2.05	1.95	3.53	0.89	1.03
-25	(-13)	460	116	135	109	2.08	2.61	4.23	1.07	1.24
-20	(- 4)	599	151	175	124	2.14	3.41	4.84	1.22	1.42
-15	(+ 5)	768	194	225	140	2.21	4.38	5.49	1.38	1.61
-10	(+14)	978	247	287	156	2.29	5.61	6.27	1.58	1.84

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	88	1.97	1.06	2.14	0.54	0.63
-30	(-22)	294	74	86	97	2.01	1.67	3.03	0.76	0.89
-25	(-13)	409	103	120	111	2.07	2.32	3.70	0.93	1.08
-20	(- 4)	543	137	159	128	2.15	3.09	4.24	1.07	1.24
-15	(+ 5)	705	178	207	147	2.24	4.02	4.78	1.20	1.40
-10	(+14)	906	228	265	166	2.34	5.19	5.43	1.37	1.59

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%		
		[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	141	35	41	81	1.92	0.79	1.73	0.44	0.51
-30	(-22)	248	62	73	93	1.99	1.41	2.63	0.66	0.77
-25	(-13)	361	91	106	110	2.08	2.05	3.28	0.83	0.96
-20	(- 4)	491	124	144	130	2.18	2.79	3.78	0.95	1.11
-15	(+ 5)	646	163	189	152	2.29	3.69	4.24	1.07	1.24
-10	(+14)	838	211	245	174	2.41	4.80	4.79	1.21	1.40

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%		
		[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	286	72	84	94	1.64	1.62	3.05	0.77	0.89
-30	(-22)	406	102	119	109	1.72	2.30	3.74	0.94	1.10
-25	(-13)	553	139	162	125	1.83	3.14	4.42	1.11	1.29
-20	(- 4)	729	184	214	143	1.95	4.15	5.09	1.28	1.49
-15	(+ 5)	933	235	274	162	2.10	5.33	5.76	1.45	1.69
-10	(+14)	1166	294	342	180	2.25	6.68	6.46	1.63	1.89

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%		
		[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	256	64	75	93	1.62	1.45	2.72	0.68	0.80
-30	(-22)	363	91	106	109	1.71	2.06	3.34	0.84	0.98
-25	(-13)	498	126	146	127	1.83	2.83	3.93	0.99	1.15
-20	(- 4)	661	167	194	147	1.98	3.76	4.49	1.13	1.32
-15	(+ 5)	852	215	250	169	2.15	4.86	5.05	1.27	1.48
-10	(+14)	1071	270	314	191	2.34	6.14	5.61	1.41	1.64

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%		
		[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	208	52	61	87	1.59	1.18	2.39	0.60	0.70
-30	(-22)	309	78	91	104	1.69	1.75	2.98	0.75	0.87
-25	(-13)	439	111	128	125	1.83	2.49	3.51	0.88	1.03
-20	(- 4)	596	150	174	149	2.00	3.39	4.00	1.01	1.17
-15	(+ 5)	780	197	229	175	2.20	4.45	4.46	1.12	1.31
-10	(+14)	993	250	291	202	2.43	5.69	4.91	1.24	1.44

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	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		