

COMPRESSOR DEFINITION

Designation	EM IE40HJP
Nominal Voltage/Frequency	220 V 50-60 Hz
Engineering Number	513306122

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	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	198 to 242 V	198 to 242 V
8.2 LBP (43°C Ambient temperature)	Static	198 to 242 V	198 to 242 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	1/8	[hp]
2 Displacement	3.40	[cm ³] (0.207 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	12.000	
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)	6.55	[kg] (14.44 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	220 V 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	MSC34X 220V	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	MSC34A23J3	
6 Start winding resistance	19.75	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	33.45	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	4.15/3.70	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	0.81/0.70	[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	IMTRO - IRAM - TUV	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			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]
325	82	95	83	0.69	1.85	3.94	0.99	1.15

TEST CONDITIONS: @220V60Hz			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]
393	99	115	90	0.62	2.23	4.36	1.10	1.28

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			ASHRAE32 Static		(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)	190	48	56	62	0.66	1.08	3.08	0.78	0.90
-30 (-22)	249	63	73	68	0.67	1.41	3.72	0.94	1.09
-25 (-13)	336	85	98	74	0.68	1.91	4.57	1.15	1.34
-20 (- 4)	454	114	133	81	0.69	2.58	5.62	1.42	1.65
-15 (+ 5)	606	153	178	88	0.70	3.46	6.87	1.73	2.01
-10 (+14)	796	201	233	95	0.72	4.56	8.31	2.09	2.44

TEST CONDITIONS: @220V50Hz			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)	181	46	53	62	0.66	1.03	2.88	0.73	0.84
-30 (-22)	237	60	70	69	0.67	1.34	3.43	0.86	1.01
-25 (-13)	315	79	92	77	0.68	1.79	4.11	1.04	1.20
-20 (- 4)	419	105	123	85	0.69	2.38	4.91	1.24	1.44
-15 (+ 5)	550	139	161	94	0.71	3.14	5.85	1.47	1.71
-10 (+14)	713	180	209	103	0.73	4.09	6.90	1.74	2.02

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		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)	146	37	43	61	0.66	0.83	2.39	0.60	0.70	
-30 (-22)	207	52	61	70	0.67	1.17	2.98	0.75	0.87	
-25 (-13)	285	72	83	79	0.68	1.62	3.61	0.91	1.06	
-20 (- 4)	381	96	112	89	0.70	2.17	4.31	1.09	1.26	
-15 (+ 5)	501	126	147	99	0.72	2.86	5.05	1.27	1.48	
-10 (+14)	645	163	189	110	0.75	3.70	5.85	1.47	1.71	

TEST CONDITIONS: @220V50Hz		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)	93	24	27	57	0.65	0.53	1.68	0.42	0.49	
-30 (-22)	168	42	49	68	0.66	0.95	2.43	0.61	0.71	
-25 (-13)	253	64	74	79	0.68	1.44	3.15	0.79	0.92	
-20 (- 4)	352	89	103	91	0.70	2.00	3.86	0.97	1.13	
-15 (+ 5)	467	118	137	103	0.73	2.66	4.55	1.15	1.33	
-10 (+14)	601	152	176	116	0.76	3.44	5.22	1.32	1.53	

TEST CONDITIONS: @220V60Hz		ASHRAE32 Static			(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)	232	58	68	66	0.56	1.31	3.52	0.89	1.03	
-30 (-22)	311	78	91	75	0.58	1.77	4.17	1.05	1.22	
-25 (-13)	414	104	121	84	0.60	2.35	4.94	1.25	1.45	
-20 (- 4)	541	136	158	93	0.63	3.08	5.84	1.47	1.71	
-15 (+ 5)	693	175	203	101	0.65	3.96	6.84	1.72	2.00	
-10 (+14)	873	220	256	110	0.68	5.00	7.94	2.00	2.33	

TEST CONDITIONS: @220V60Hz		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)	216	54	63	67	0.56	1.22	3.23	0.81	0.95	
-30 (-22)	297	75	87	78	0.58	1.69	3.84	0.97	1.12	
-25 (-13)	400	101	117	88	0.61	2.27	4.52	1.14	1.33	
-20 (- 4)	525	132	154	99	0.64	2.99	5.28	1.33	1.55	
-15 (+ 5)	675	170	198	110	0.68	3.85	6.10	1.54	1.79	
-10 (+14)	850	214	249	122	0.72	4.87	6.98	1.76	2.04	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		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)	183	46	54	66	0.56	1.03	2.76	0.70	0.81
-30	(-22)	266	67	78	79	0.59	1.51	3.36	0.85	0.99
-25	(-13)	368	93	108	92	0.62	2.09	4.00	1.01	1.17
-20	(- 4)	491	124	144	105	0.66	2.79	4.66	1.17	1.37
-15	(+ 5)	637	161	187	119	0.71	3.64	5.34	1.34	1.56
-10	(+14)	807	203	236	134	0.76	4.62	6.02	1.52	1.77

TEST CONDITIONS: @220V60Hz		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)	137	35	40	62	0.55	0.77	2.23	0.56	0.65
-30	(-22)	220	55	65	76	0.58	1.25	2.86	0.72	0.84
-25	(-13)	321	81	94	92	0.62	1.82	3.48	0.88	1.02
-20	(- 4)	442	111	129	108	0.67	2.51	4.08	1.03	1.20
-15	(+ 5)	583	147	171	126	0.73	3.33	4.66	1.17	1.36
-10	(+14)	746	188	219	144	0.80	4.28	5.19	1.31	1.52

F - EXTERNAL CHARACTERISTICS

1 Base plate	New Base Plate EUEM		
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	Slanted 42° up + 45° to Back		
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 30° up + 24° to Back		
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	Slanted 45° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		