

COMPRESSOR DEFINITION

Designation	EM IE30HJR
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513306120

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 Back Pressure		
4.1 Evaporating temperature range	-35°C to -5°C	(-31°F to 23°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	-	103 to 140 V
8.2 LBP (43°C Ambient temperature)	Static	-	103 to 140 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	1/10	[hp]
2 Displacement	2.83	[cm ³] (0.173 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	10.000	
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)	7.24	[kg] (15.96 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	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213514008	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM739KFBYY-53	
6 Start winding resistance	15.55	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	9.85	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	12.70	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.17	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	IMTRO - TUV	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @127V60Hz			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]
301	76	88	73	1.04	1.71	4.10	1.03	1.20

E - PERFORMANCE - CURVES

TEST CONDITIONS: @127V60Hz			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)	178	45	52	56	0.88	1.01	3.20	0.81	0.94
-30	(-22)	257	65	75	63	0.96	1.46	4.08	1.03	1.20
-25	(-13)	354	89	104	70	1.01	2.01	5.03	1.27	1.47
-20	(- 4)	469	118	137	78	1.05	2.67	6.05	1.52	1.77
-15	(+ 5)	601	151	176	85	1.08	3.43	7.11	1.79	2.08
-10	(+14)	749	189	219	91	1.11	4.29	8.24	2.08	2.41
-5	(+23)	912	230	267	97	1.14	5.25	9.41	2.37	2.76

TEST CONDITIONS: @127V60Hz			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)	150	38	44	55	0.94	0.85	2.74	0.69	0.80
-30	(-22)	222	56	65	63	1.00	1.26	3.53	0.89	1.04
-25	(-13)	314	79	92	72	1.04	1.78	4.36	1.10	1.28
-20	(- 4)	426	107	125	81	1.07	2.42	5.22	1.32	1.53
-15	(+ 5)	556	140	163	91	1.11	3.18	6.12	1.54	1.79
-10	(+14)	705	178	207	100	1.15	4.04	7.04	1.77	2.06
-5	(+23)	872	220	255	110	1.21	5.02	7.98	2.01	2.34

TEST CONDITIONS: @127V60Hz			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)	118	30	35	51	0.94	0.67	2.33	0.59	0.68
-30	(-22)	181	46	53	60	0.99	1.03	3.07	0.77	0.90
-25	(-13)	267	67	78	70	1.03	1.52	3.83	0.96	1.12
-20	(- 4)	375	94	110	81	1.07	2.13	4.59	1.16	1.34
-15	(+ 5)	503	127	147	94	1.12	2.87	5.35	1.35	1.57
-10	(+14)	652	164	191	107	1.19	3.73	6.11	1.54	1.79
-5	(+23)	820	207	240	120	1.28	4.72	6.86	1.73	2.01

E - PERFORMANCE - CURVES

TEST CONDITIONS: @127V60Hz		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)	81	20	24	43	0.88	0.46	1.86	0.47	0.54
-30	(-22)	135	34	39	53	0.92	0.76	2.60	0.65	0.76
-25	(-13)	213	54	62	65	0.97	1.21	3.32	0.84	0.97
-20	(- 4)	315	79	92	78	1.03	1.79	4.02	1.01	1.18
-15	(+ 5)	440	111	129	94	1.11	2.51	4.70	1.18	1.38
-10	(+14)	587	148	172	110	1.21	3.36	5.34	1.35	1.57
-5	(+23)	756	191	222	127	1.35	4.35	5.96	1.50	1.75

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		