

### COMPRESSOR DEFINITION

Designation	EM T37HDP
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513306039

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220-240 / 50	[ V / Hz ]	
4 Application type	Low-Medium-High Back Pressure		
4.1 Evaporating temperature range	-35°C to 15°C	(-31°F to 59°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 255 V	-
8.2 LBP (43°C Ambient temperature)	Static	198 to 255 V	-
8.3 HBP (32°C Ambient temperature)	Static	198 to 255 V	-
8.4 HBP (43°C Ambient temperature)	Static	198 to 255 V	-
9 Maximum condensing pressures/temperature			
9.1 Operating (gauge)	16.2	[kgf/cm <sup>2</sup> ] (230 psig)	/ °C - °F
9.2 Peak (gauge)	20.6	[kgf/cm <sup>2</sup> ] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation		[hp]
2 Displacement	3.40	[cm <sup>3</sup> ] (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 / ISO22	
4 Weight (with oil charge)	7.24	[kg] (15.96 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	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	V230	
3 Start capacitor	-	[μF(VAC minimum)]
4 Run capacitor	-	[μF(VAC minimum)]
5 Motor protection	T0225/07	
6 Start winding resistance	31.70	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	26.10	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	4.70	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	1.60	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	1.80	[A] - Measured according to UL 984
11 Approval boards certification	VDE	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			CECOMAFHBP Static		Evaporating temperature (Condensing temperature		5°C (41°F) 55°C (131°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]
1018	257	298	141	0.83	7.33	7.21	1.82	2.11

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		CECOMAF 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)	168	42	49	57	0.00	1.04	2.97	0.75	0.87
-30	(-22)	231	58	68	63	0.00	1.48	3.61	0.91	1.06
-25	(-13)	305	77	89	71	0.00	1.96	4.25	1.07	1.25
-20	(- 4)	393	99	115	79	0.00	2.52	4.92	1.24	1.44
-15	(+ 5)	499	126	146	88	0.00	3.19	5.66	1.43	1.66
-10	(+14)	628	158	184	97	0.00	4.01	6.49	1.63	1.90
-5	(+23)	783	197	229	106	0.00	5.02	7.44	1.87	2.18
0	(+32)	968	244	284	114	0.00	6.24	8.55	2.15	2.50
+5	(+41)	1187	299	348	122	0.00	7.71	9.84	2.48	2.88
+10	(+50)	1444	364	423	128	0.00	9.48	11.36	2.86	3.33
+15	(+59)	1744	440	511	132	0.00	11.56	13.12	3.31	3.84

TEST CONDITIONS: @220V50Hz		CECOMAF 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)	108	27	32	58	0.00	0.75	1.93	0.49	0.57
-30	(-22)	166	42	48	65	0.00	1.16	2.55	0.64	0.75
-25	(-13)	231	58	68	73	0.00	1.62	3.12	0.78	0.91
-20	(- 4)	307	77	90	83	0.00	2.16	3.66	0.92	1.07
-15	(+ 5)	399	101	117	93	0.00	2.81	4.22	1.06	1.24
-10	(+14)	511	129	150	105	0.00	3.60	4.82	1.22	1.41
-5	(+23)	646	163	189	116	0.00	4.58	5.50	1.39	1.61
0	(+32)	809	204	237	128	0.00	5.78	6.29	1.58	1.84
+5	(+41)	1003	253	294	139	0.00	7.23	7.21	1.82	2.11
+10	(+50)	1233	311	361	149	0.00	8.96	8.30	2.09	2.43
+15	(+59)	1502	378	440	158	0.00	11.02	9.59	2.42	2.81

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		CECOMAF 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)	64	16	19	63	0.00	0.51	0.99	0.25	0.29
-30	(-22)	115	29	34	69	0.00	0.90	1.66	0.42	0.49
-25	(-13)	171	43	50	77	0.00	1.32	2.22	0.56	0.65
-20	(- 4)	235	59	69	88	0.00	1.83	2.72	0.69	0.80
-15	(+ 5)	312	79	91	100	0.00	2.44	3.18	0.80	0.93
-10	(+14)	405	102	119	113	0.00	3.21	3.63	0.92	1.06
-5	(+23)	520	131	152	127	0.00	4.15	4.11	1.04	1.21
0	(+32)	659	166	193	141	0.00	5.31	4.65	1.17	1.36
+5	(+41)	827	208	242	155	0.00	6.73	5.27	1.33	1.55
+10	(+50)	1027	259	301	170	0.00	8.43	6.02	1.52	1.76
+15	(+59)	1265	319	371	183	0.00	10.45	6.91	1.74	2.03

### F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EUEM		
2 Tray holder	Yes		
3 Connectors			
3.1 SUCTION	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
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 parallel BP+24°to Back		
3.3 PROCESS	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
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		