

### COMPRESSOR DEFINITION

Designation	EM T50HDP
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513306041

### 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	4.50	[cm <sup>3</sup> ] (0.275 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	13.000	
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)	7.51	[kg] (16.56 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	T0521/26	
6 Start winding resistance	32.78	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	18.20	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	5.40	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	1.80	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	2.05	[A] - Measured according to UL 984
11 Approval boards certification	CCC - VDE	

### D - PERFORMANCE - CHECK POINT DATA

### 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)	204	51	60	73	0.70	1.28	2.78	0.70	0.81
-30	(-22)	284	72	83	84	0.71	1.81	3.37	0.85	0.99
-25	(-13)	383	97	112	95	0.73	2.45	4.03	1.02	1.18
-20	(- 4)	505	127	148	106	0.76	3.22	4.77	1.20	1.40
-15	(+ 5)	652	164	191	116	0.80	4.16	5.58	1.41	1.64
-10	(+14)	827	208	242	127	0.84	5.28	6.48	1.63	1.90
-5	(+23)	1034	261	303	138	0.89	6.63	7.47	1.88	2.19
0	(+32)	1276	321	374	149	0.93	8.23	8.55	2.15	2.51
+5	(+41)	1555	392	456	160	0.97	10.11	9.73	2.45	2.85
+10	(+50)	1875	472	549	170	1.01	12.30	11.02	2.78	3.23
+15	(+59)	2238	564	656	181	1.04	14.83	12.42	3.13	3.64

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)	143	36	42	68	0.70	0.99	2.25	0.57	0.66
-30	(-22)	216	54	63	83	0.71	1.51	2.66	0.67	0.78
-25	(-13)	304	76	89	97	0.73	2.13	3.13	0.79	0.92
-20	(- 4)	410	103	120	112	0.77	2.88	3.64	0.92	1.07
-15	(+ 5)	538	136	158	127	0.81	3.79	4.22	1.06	1.24
-10	(+14)	691	174	203	141	0.87	4.88	4.86	1.23	1.42
-5	(+23)	872	220	256	155	0.92	6.19	5.58	1.41	1.63
0	(+32)	1084	273	318	169	0.99	7.74	6.37	1.60	1.87
+5	(+41)	1329	335	390	183	1.05	9.58	7.24	1.82	2.12
+10	(+50)	1612	406	472	196	1.11	11.71	8.20	2.07	2.40
+15	(+59)	1934	487	567	210	1.16	14.19	9.25	2.33	2.71

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)	106	27	31	45	0.69	0.83	2.33	0.59	0.68
-30	(-22)	168	42	49	66	0.70	1.31	2.56	0.65	0.75
-25	(-13)	242	61	71	87	0.73	1.89	2.82	0.71	0.83
-20	(- 4)	331	83	97	108	0.77	2.59	3.11	0.78	0.91
-15	(+ 5)	438	110	128	128	0.83	3.45	3.45	0.87	1.01
-10	(+14)	566	143	166	149	0.89	4.48	3.84	0.97	1.13
-5	(+23)	718	181	210	168	0.97	5.73	4.28	1.08	1.25
0	(+32)	897	226	263	188	1.04	7.22	4.78	1.20	1.40
+5	(+41)	1106	279	324	207	1.13	8.98	5.34	1.34	1.56
+10	(+50)	1348	340	395	225	1.21	11.05	5.97	1.50	1.75
+15	(+59)	1627	410	477	244	1.29	13.44	6.67	1.68	1.95

### 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		