

### 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	High Back Pressure (Commercial Compressors)		
4.1 Evaporating temperature range	-15°C to 10°C	(5°F to 50°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)	-	-	-
8.2 LBP (43°C Ambient temperature)	-	-	-
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 <sup>2</sup> ] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm <sup>2</sup> ] (226 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	T0521/07	
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	CE - UKCA - VDE	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			ASHRAEHBP46 Static		Evaporating temperature (Condensing temperature		7.2°C (44.96°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]
1620	408	475	184	1.05	10.50	8.80	2.22	2.58

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			ASHRAE46 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]
-15	(+5)	811	204	238	102	0.78	4.39	7.93	2.00	2.32
-10	(+14)	1032	260	302	111	0.81	5.60	9.31	2.35	2.73
-5	(+23)	1293	326	379	120	0.85	7.04	10.81	2.72	3.17
0	(+32)	1594	402	467	128	0.88	8.72	12.41	3.13	3.64
+5	(+41)	1935	488	567	137	0.91	10.64	14.13	3.56	4.14
+10	(+50)	2314	583	678	145	0.94	12.81	15.96	4.02	4.68

TEST CONDITIONS: @220V50Hz			ASHRAE46 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]
-15	(+5)	695	175	204	109	0.80	4.06	6.39	1.61	1.87
-10	(+14)	893	225	262	121	0.84	5.23	7.39	1.86	2.16
-5	(+23)	1128	284	331	133	0.89	6.64	8.48	2.14	2.48
0	(+32)	1400	353	410	145	0.93	8.29	9.66	2.43	2.83
+5	(+41)	1709	431	501	156	0.98	10.17	10.93	2.76	3.20
+10	(+50)	2053	517	602	167	1.03	12.30	12.29	3.10	3.60

TEST CONDITIONS: @220V50Hz			ASHRAE46 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]
-15	(+5)	603	152	177	116	0.83	3.84	5.19	1.31	1.52
-10	(+14)	772	195	226	131	0.87	4.94	5.88	1.48	1.72
-5	(+23)	976	246	286	147	0.93	6.27	6.66	1.68	1.95
0	(+32)	1213	306	355	162	0.98	7.83	7.50	1.89	2.20
+5	(+41)	1483	374	435	176	1.05	9.64	8.42	2.12	2.47
+10	(+50)	1785	450	523	190	1.12	11.69	9.40	2.37	2.75

### 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		