

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 ²] (230 psig)	/ °C - °F
9.2 Peak (gauge)	20.6	[kgf/cm ²] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation		[hp]
2 Displacement	4.50	[cm ³] (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 ²] (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	CCC - VDE	

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]
440	111	129	99	0.75	2.50	4.43	1.12	1.30

E - PERFORMANCE - CURVES

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)	226	57	66	73	0.70	1.28	3.10	0.78	0.91
-30 (-22)	319	80	93	84	0.71	1.81	3.76	0.95	1.10
-25 (-13)	431	109	126	95	0.73	2.45	4.50	1.13	1.32
-20 (- 4)	566	143	166	106	0.76	3.22	5.32	1.34	1.56
-15 (+ 5)	729	184	214	116	0.80	4.16	6.23	1.57	1.83
-10 (+14)	923	233	271	127	0.84	5.28	7.24	1.82	2.12
-5 (+23)	1153	291	338	138	0.89	6.63	8.35	2.10	2.45
0 (+32)	1423	359	417	149	0.93	8.23	9.57	2.41	2.80
+5 (+41)	1737	438	509	160	0.97	10.11	10.90	2.75	3.19
+10 (+50)	2099	529	615	170	1.01	12.30	12.34	3.11	3.62
+15 (+59)	2513	633	736	181	1.04	14.83	13.92	3.51	4.08

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)	176	44	51	68	0.70	0.99	2.77	0.70	0.81
-30 (-22)	266	67	78	83	0.71	1.51	3.27	0.83	0.96
-25 (-13)	375	94	110	97	0.73	2.13	3.84	0.97	1.13
-20 (- 4)	506	127	148	112	0.77	2.88	4.48	1.13	1.31
-15 (+ 5)	664	167	195	127	0.81	3.79	5.20	1.31	1.52
-10 (+14)	853	215	250	141	0.87	4.88	6.00	1.51	1.76
-5 (+23)	1076	271	315	155	0.92	6.19	6.89	1.74	2.02
0 (+32)	1339	338	392	169	0.99	7.74	7.88	1.99	2.31
+5 (+41)	1645	415	482	183	1.05	9.58	8.97	2.26	2.63
+10 (+50)	1999	504	586	196	1.11	11.71	10.17	2.56	2.98
+15 (+59)	2404	606	704	210	1.16	14.19	11.48	2.89	3.36

E - PERFORMANCE - CURVES

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)	147	37	43	45	0.69	0.83	3.23	0.81	0.95
-30	(-22)	230	58	67	66	0.70	1.31	3.53	0.89	1.03
-25	(-13)	332	84	97	87	0.73	1.89	3.88	0.98	1.14
-20	(- 4)	455	115	133	108	0.77	2.59	4.29	1.08	1.26
-15	(+ 5)	604	152	177	128	0.83	3.45	4.76	1.20	1.40
-10	(+14)	784	198	230	149	0.89	4.48	5.31	1.34	1.56
-5	(+23)	997	251	292	168	0.97	5.73	5.93	1.50	1.74
0	(+32)	1249	315	366	188	1.04	7.22	6.65	1.67	1.95
+5	(+41)	1544	389	452	207	1.13	8.98	7.45	1.88	2.18
+10	(+50)	1885	475	552	225	1.21	11.05	8.34	2.10	2.45
+15	(+59)	2277	574	667	244	1.29	13.44	9.35	2.35	2.74

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		