

COMPRESSOR DEFINITION

Designation	EM T37HDP
Nominal Voltage/Frequency	200-230 V 50 Hz / 208-230 V 60 Hz
Engineering Number	194IB94

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	200-230 / 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 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	1/8	[hp]
2 Displacement	3.40	[cm ³] (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)	7.7	[kg] (16.98 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	200-230 V 50 Hz / 208-230 V 60 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	T0062/07	
6 Start winding resistance		[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance		[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	5.40	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	-	[A]
10 FLA - Full Load Amperage HBP (50/60 Hz)	-	[A]
11 Approval boards certification	VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @208V60Hz			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]
1440	363	422	170	0.95	9.34	8.47	2.13	2.48

E - PERFORMANCE - CURVES

TEST CONDITIONS: @208V50Hz			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)	617	156	181	83	0.65	3.34	7.44	1.87	2.18
-10	(+14)	778	196	228	90	0.68	4.22	8.64	2.18	2.53
-5	(+23)	971	245	285	97	0.71	5.29	10.03	2.53	2.94
0	(+32)	1196	301	350	103	0.74	6.54	11.61	2.92	3.40
+5	(+41)	1454	366	426	109	0.77	8.00	13.33	3.36	3.91
+10	(+50)	1746	440	512	115	0.80	9.67	15.19	3.83	4.45

TEST CONDITIONS: @208V50Hz			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)	528	133	155	86	0.66	3.09	6.14	1.55	1.80
-10	(+14)	676	170	198	96	0.70	3.96	7.05	1.78	2.06
-5	(+23)	850	214	249	105	0.74	5.00	8.09	2.04	2.37
0	(+32)	1052	265	308	114	0.77	6.22	9.24	2.33	2.71
+5	(+41)	1282	323	376	122	0.81	7.63	10.48	2.64	3.07
+10	(+50)	1543	389	452	131	0.85	9.24	11.79	2.97	3.45

TEST CONDITIONS: @208V50Hz			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)	445	112	130	90	0.67	2.83	4.94	1.25	1.45
-10	(+14)	579	146	170	102	0.72	3.70	5.68	1.43	1.67
-5	(+23)	736	185	216	113	0.76	4.73	6.49	1.64	1.90
0	(+32)	916	231	268	125	0.81	5.92	7.35	1.85	2.15
+5	(+41)	1121	282	328	136	0.86	7.29	8.23	2.08	2.41
+10	(+50)	1350	340	396	148	0.91	8.84	9.12	2.30	2.67

E - PERFORMANCE - CURVES

TEST CONDITIONS: @208V60Hz		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)	720	181	211	95	0.62	3.89	7.57	1.91	2.22
-10	(+14)	903	227	264	104	0.66	4.90	8.70	2.19	2.55
-5	(+23)	1128	284	330	112	0.70	6.14	10.07	2.54	2.95
0	(+32)	1394	351	409	120	0.73	7.63	11.62	2.93	3.40
+5	(+41)	1702	429	499	128	0.77	9.36	13.30	3.35	3.90
+10	(+50)	2051	517	601	136	0.80	11.36	15.08	3.80	4.42

TEST CONDITIONS: @208V60Hz		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)	637	161	187	103	0.66	3.72	6.20	1.56	1.82
-10	(+14)	800	202	234	114	0.70	4.69	7.00	1.76	2.05
-5	(+23)	1000	252	293	125	0.75	5.89	7.99	2.01	2.34
0	(+32)	1236	312	362	136	0.80	7.32	9.10	2.29	2.67
+5	(+41)	1509	380	442	146	0.85	8.98	10.30	2.60	3.02
+10	(+50)	1818	458	533	158	0.90	10.89	11.54	2.91	3.38

TEST CONDITIONS: @208V60Hz		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)	553	139	162	108	0.68	3.52	5.10	1.29	1.50
-10	(+14)	697	176	204	122	0.74	4.46	5.69	1.43	1.67
-5	(+23)	874	220	256	136	0.80	5.61	6.41	1.62	1.88
0	(+32)	1081	272	317	150	0.86	6.98	7.21	1.82	2.11
+5	(+41)	1320	333	387	164	0.93	8.58	8.04	2.03	2.36
+10	(+50)	1589	400	466	179	0.99	10.41	8.85	2.23	2.59

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard		
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°		
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	Straight		
3.3 PROCESS	6 +0.08/-0.08	[mm]	(0.236" +0.003"/-0.003")
3.3.1 Material	Copper(OD)		
3.3.2 Shape	Slanted 42°		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		