

COMPRESSOR DEFINITION

Designation	EM T50HDP
Nominal Voltage/Frequency	200-230 V 50 Hz / 208-230 V 60 Hz
Engineering Number	194NB67

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	1/6	[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)	7.7	[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	T0864/07	
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)	9.10	[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]
1920	484	563	221	1.20	12.45	8.69	2.19	2.55

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)	811	204	238	103	0.78	4.39	7.88	1.99	2.31
-10	(+14)	1032	260	302	112	0.81	5.60	9.19	2.32	2.69
-5	(+23)	1293	326	379	122	0.85	7.04	10.64	2.68	3.12
0	(+32)	1594	402	467	130	0.88	8.72	12.22	3.08	3.58
+5	(+41)	1935	488	567	139	0.91	10.64	13.93	3.51	4.08
+10	(+50)	2314	583	678	147	0.94	12.81	15.75	3.97	4.61

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)	695	175	204	110	0.80	4.06	6.31	1.59	1.85
-10	(+14)	893	225	262	123	0.84	5.23	7.27	1.83	2.13
-5	(+23)	1128	284	331	135	0.89	6.64	8.33	2.10	2.44
0	(+32)	1400	353	410	147	0.93	8.29	9.51	2.40	2.79
+5	(+41)	1709	431	501	158	0.98	10.17	10.78	2.72	3.16
+10	(+50)	2053	517	602	169	1.03	12.30	12.15	3.06	3.56

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)	603	152	177	117	0.83	3.84	5.15	1.30	1.51
-10	(+14)	772	195	226	133	0.87	4.94	5.82	1.47	1.70
-5	(+23)	976	246	286	149	0.93	6.27	6.57	1.66	1.93
0	(+32)	1213	306	355	164	0.98	7.83	7.41	1.87	2.17
+5	(+41)	1483	374	435	178	1.05	9.64	8.32	2.10	2.44
+10	(+50)	1785	450	523	192	1.12	11.69	9.30	2.34	2.73

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE46			(Condensing temperature 35°C (+95°F))					
@208V60Hz		Static								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-15	(+ 5)	978	246	287	123	0.79	5.29	7.94	2.00	2.33
-10	(+14)	1212	305	355	133	0.83	6.58	9.13	2.30	2.67
-5	(+23)	1499	378	439	144	0.88	8.16	10.41	2.62	3.05
0	(+32)	1841	464	539	156	0.93	10.07	11.79	2.97	3.45
+5	(+41)	2239	564	656	169	0.99	12.32	13.24	3.34	3.88
+10	(+50)	2695	679	790	183	1.06	14.92	14.74	3.71	4.32

TEST CONDITIONS:		ASHRAE46			(Condensing temperature 45°C (+113°F))					
@208V60Hz		Static								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-15	(+ 5)	860	217	252	130	0.81	5.02	6.61	1.67	1.94
-10	(+14)	1075	271	315	144	0.88	6.31	7.46	1.88	2.19
-5	(+23)	1336	337	392	159	0.94	7.87	8.41	2.12	2.47
0	(+32)	1644	414	482	174	1.01	9.73	9.45	2.38	2.77
+5	(+41)	2001	504	586	190	1.08	11.91	10.54	2.66	3.09
+10	(+50)	2409	607	706	206	1.16	14.44	11.69	2.95	3.42

TEST CONDITIONS:		ASHRAE46			(Condensing temperature 55°C (+131°F))					
@208V60Hz		Static								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-15	(+ 5)	738	186	216	138	0.85	4.71	5.36	1.35	1.57
-10	(+14)	936	236	274	156	0.93	5.98	5.98	1.51	1.75
-5	(+23)	1171	295	343	175	1.01	7.52	6.68	1.68	1.96
0	(+32)	1445	364	423	194	1.09	9.33	7.46	1.88	2.19
+5	(+41)	1761	444	516	212	1.17	11.45	8.30	2.09	2.43
+10	(+50)	2121	534	621	231	1.26	13.89	9.18	2.31	2.69

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard		
2 Tray holder	No		
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	4.86 +0.07/+0.00	[mm]	(0.191" +0.003"/+0.000")
3.2.1 Material	Copper		
3.2.2 Shape	Straight		
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 42°		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		