

Thermal Electronics Corp.

Service & Parts Manual



Rev.1 14

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MilkMate 2005 Service Manual

The MilkMate 2005 cooler is one of a few truly environmentally friendly coolers in the food service industry today. The MilkMate 2005 uses a solid state module called a peltier module for cooling. A Dc current is passed thru the module resulting in one side cooling while the other side heats up. The hot side of the module has a large bonded heat sink and fan to expel the heat to atmosphere and the cold side is insulated causing that side to continually cool. The effect is considered a heat pump.

The MilkMate uses the room temperature as its temperature regulator. The unit is designed to maintain product at about 36-41 degrees with an ambient room temperature of 72-80 degrees. Ideal room temperature is 74-75 degrees.

Trouble shooting

1. MilkMate is freezing product

Product should be removed at the end of every day and stored in a proper fridge. If the product is left in the cooler it can either freeze or spoil over time .

2. Product is spoiling after 24 hours

Product is being left in cooler over night. It should be removed and place in a fridge for overnight storage until next day.

3. Product temperature is above safe zone

- Check to make sure room temperature has not increased over recommended room temperature.
- Cooling fan may be obstructed or unit is not circulating air properly because of equipment or product obstruction air flow.
- Dust has accumulated on fins of heat sink inside the unit causing the unit to be reduced in efficiency.

Solutions:

- Reduce room temperature to required temperature.

- Remove dust buildup by blowing out fan and fins with compressed air.
- Remove equipment that is obstructing the air from circulating.
- Remove local heat source to another location away from proximity of MilkMate cooler.

MilkMate will not work at all

- Fan not working, unit not cooling at all. No heat is coming from air blowing out of back of unit.

Solution:

- Check primary fuse in fuse holder.

Replace with **(Slow Blow 2 amp [5 x20mm glass fuse])**

Fan may not be turning replace fan. Power still coming from unit 12Vac output from rectifier or 12Vdc from capacitor.

Fan is turning but the unit is not cooling or is cooling but temperature inside well is significantly higher than usual almost hot.

Solution:

The cooling chip is failing and needs to be replaced!

- Refer to page 6 for TEC replacement procedure.

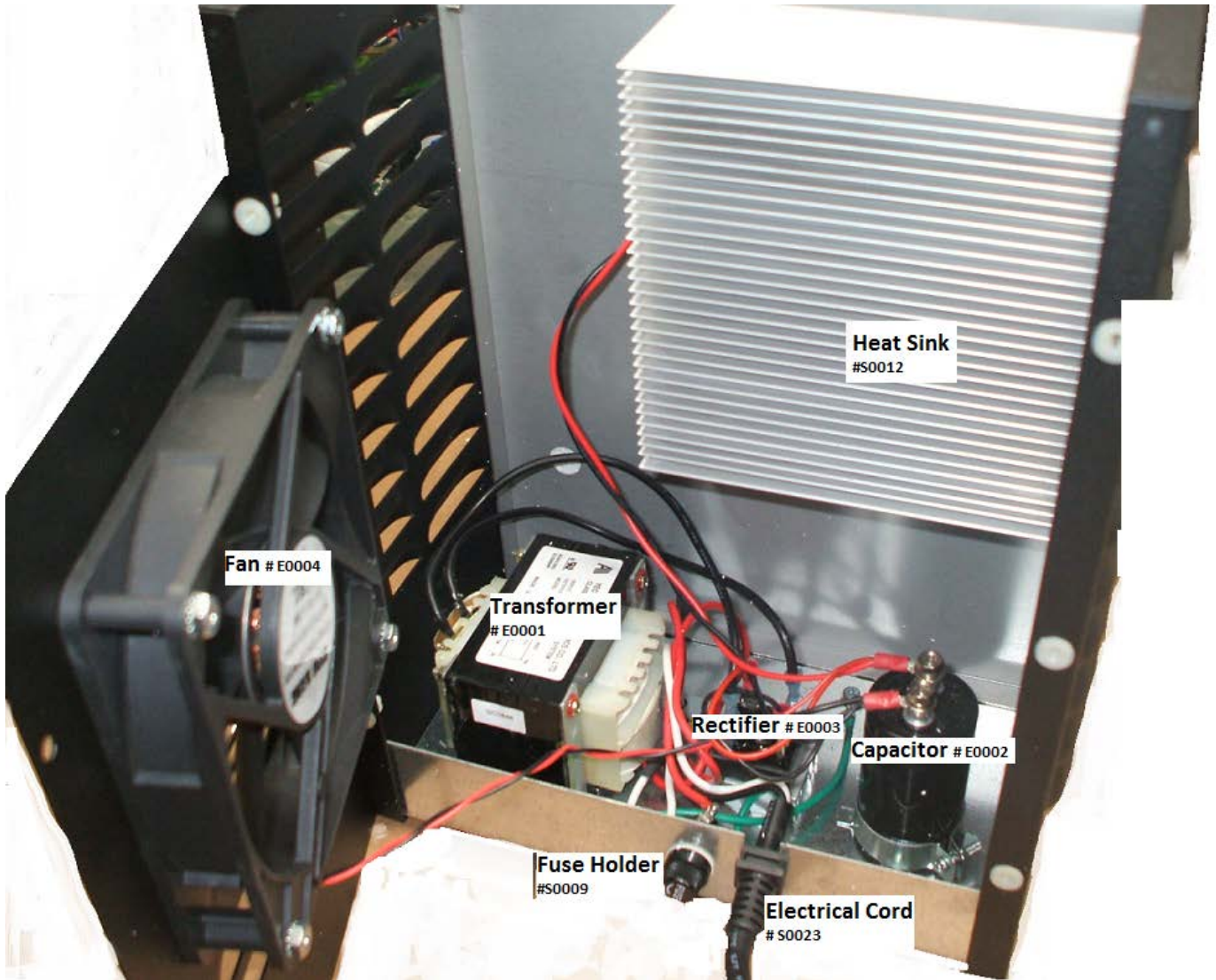
- Fan not turning and unit cooling well is hot:

Procedure for replacing chip

Undo the four screws that hold down top plate cover. (Fig 1)
Remove back plate. Two screws holding the Cold L-plate must be removed from inside the well

Parts List MilkMate 2005 & 2G

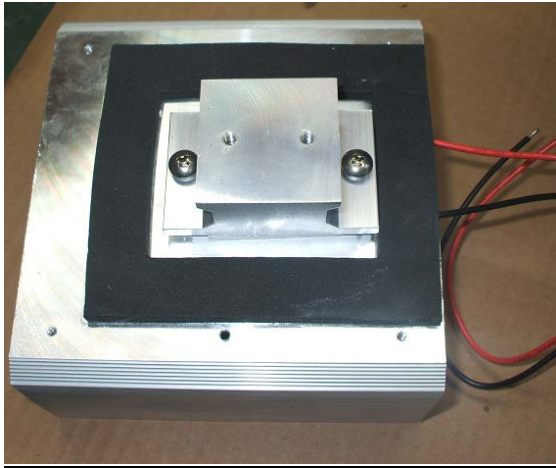
Ratio	Part#	Electrical Description	Spare Part
		Distributor Cost	
1.	E0001	100VA Transformer	54.90
2.	E0002	16V DC Capacitor	14.50
3.	E0003	Full Bridge rectifier	14.10
4.	E0004	12V DC 120mm Fan	25.50
5.	E0005	Ht-8 Extreme Modules	34.50
6.	E0006	2 amp Slow Blow Glass fuse 5x20mm	1.50
7.	S0007	Fan Guard	4.50
8.	S0008	Fan Screws(Nuts)set 4	4.00
9.	S0009	Fuse holder	5.20
10.	S0010	Neoprene gasket (heat sink)	3.95
11.	S0011	Extender Block	12.39
12.	S0012	Heat Sink (Large)	85.90
13.	S0013	Cold sink (L-Shape)	25.95
14.	S0014	Cold sink Screws(2)	1.50
15.	S0015	Extender Block Screws(2)	1.50
16.	S0016	Thermometer	8.90
17.	S0017	Base feet Adhesive	2.90
18.	S0018	Thermal Grease	3.50
19.	S0019	Insulation	22.50
20.	S0020	Body Screws and body	199.00
21.	S0021	Plastic Well Container	28.90
22.	S0022	Plastic well container(2000)	38.90
23.	S0023	Electrical cord SVT 3 conductors	9.90
24.	S0024	Plastic top	35.90
25.	S0025	Plastic top cone(2000)	39.50
26.	S0027	Fan 80mm (2G)	18.50
27.	S0028	Power Board 115V/230V to 24V dc	169.00
28.	S0029	HS-32Fin-127mm.EX	84.00
29.	S0030	Power Board leads AC & DC	10.49



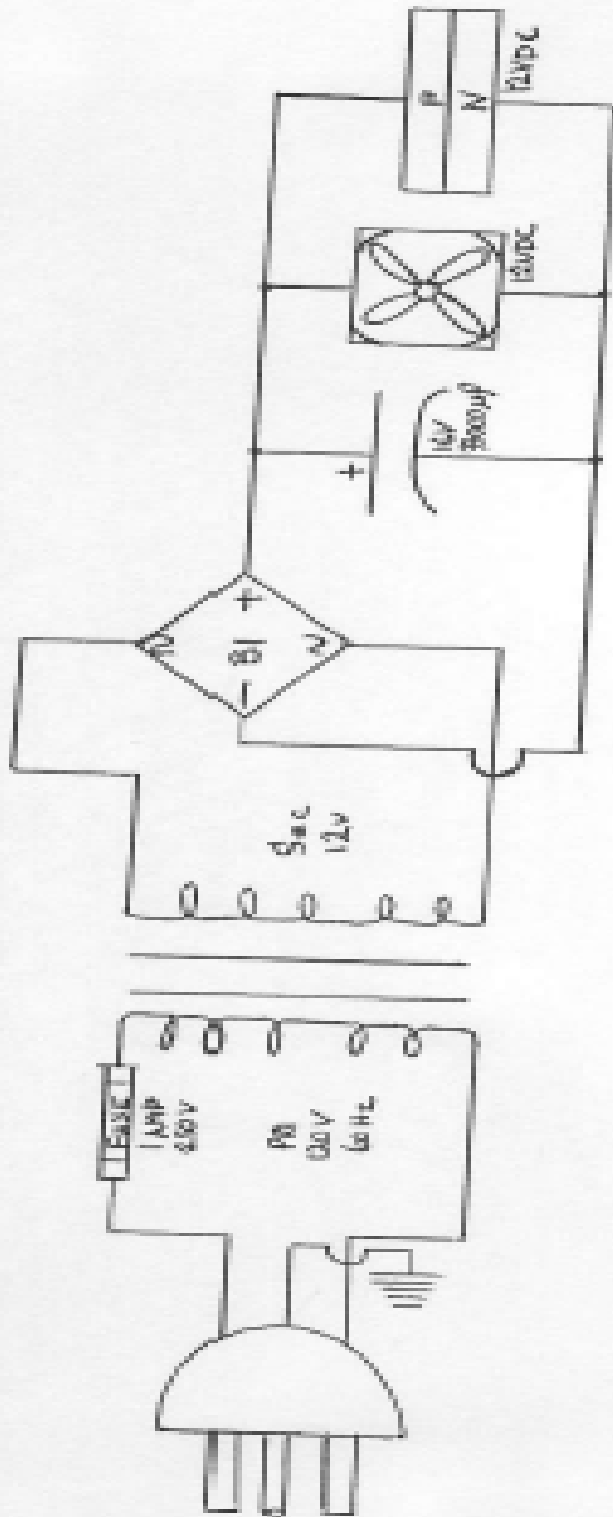
MILKMATE 2005 Component View



Exploded view of MilkMate



View of heat sink assembly



Electrical Schematic Wiring Diagram