



Food Service Technology Center Appliance Test Summary Report

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Manufacturer	American Range
Model	Majestic M-1
Appliance	Full-size convection oven - Gas

Report Number	5012.08.02
Test Date	March, 2007
Tested By	G. Sorensen

Purpose of Testing

This testing determined the energy input rate, preheat time and energy, idle energy rate and heavy-load cooking-energy efficiency of the oven by applying ASTM F1496-99.

Energy Input Rate

Rated Energy Input Rate (Btu/h)	90,000
Measured Energy Input Rate (Btu/h)	87,200
Difference (%)	3.1
Electric Energy Rate (kW)	0.47

Preheat to 350°F

Duration (min.)	9.4
Energy Consumption (Btu)	13,250
Preheat Rate (°F/min.)	28.2
Electric Energy Rate (kW)	0.49

Idle at 350°F

Idle Energy Rate (Btu/h)	15,475
Electric Energy Rate (kW)	0.41

Heavy-Load Energy Efficiency*

Food Product	Russet Potatoes
Oven Temperature (°F)	350
Cook Time (min.)	50.3
Cooking Energy Rate (Btu/h)	50,485
Electric Energy Rate (kW)	0.41
Energy to Food (Btu/lb)	241
Energy to Oven (Btu/lb)	598
Cooking Energy Efficiency (%)	40.4 ± 4.2
Production Capacity (lb/h)	86.8 ± 4.4

* based on a minimum of three test replicates



American Range

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Heavy-Load Potato Test Data

	Test #1	Test #2	Test #3
Measured Values			
Gas Energy to Oven (Btu)	41,660	41,881	43,416
Electric Energy to Oven (Btu)	1,164	1,147	1,198
Cook Time (min)	50.1	49.2	51.6
Initial Weight of Potatoes (lb)	72.665	72.383	72.290
Final Weight of Potatoes (lb)	62.838	62.941	92.869
Initial Temperature of Potatoes (°F)	74.7	75.5	74.4
Final Temperature of Potatoes (°F)	205.1	205.0	205.0
Calculated Values			
Sensible (Btu)	7,959	7,874	8,040
Latent (Btu)	9,532	9,159	10,108
Total Energy to Food (Btu)	17,492	17,033	18,149
Energy to Food (Btu/lb)	241	235	248
Total Energy to Oven (Btu)	42,824	43,028	44,614
Energy per Pound of Food Cooked (Btu/lb)	589	594	609
Cooking-Energy Efficiency (%)	40.8	39.6	40.7
Cooking-Energy Rate (Btu/h)	49,893	51,074	50,484
Electric Energy Rate (kW)	0.41	0.41	0.41
Production Capacity (lb/h)	87.0	88.3	85.2

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