



Food Service Technology Center Appliance Test Summary Report

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Manufacturer	Imperial
Model	Turbo-Flow ICVG-1
Appliance	Full-size convection oven - Gas

Report Number	5012.08.05
Test Date	February, 2006
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)	70,000
Measured Energy Input Rate (Btu/h)	73,410
Difference (%)	4.9
Electric Energy Rate (kW)	0.30

Preheat to 350°F

Duration (min.)	11.8
Energy Consumption (Btu)	13,370
Preheat Rate (°F/min.)	22.7
Electric Energy Rate (kW)	0.30

Idle at 350°F

Idle Energy Rate (Btu/h)	11,340
Electric Energy Rate (kW)	0.26

Heavy-Load Energy Efficiency*

Food Product	Russet Potatoes
Oven Temperature (°F)	350
Cook Time (min.)	58.1
Cooking Energy Rate (Btu/h)	45,463
Electric Energy Rate (kW)	0.27
Energy to Food (Btu/lb)	248
Energy to Oven (Btu/lb)	617
Cooking Energy Efficiency (%)	40.1 ± 2.2
Production Capacity (lb/h)	75.2 ± 5.0

* based on a minimum of three test replicates



Imperial Range Co

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Heavy-Load Potato Test Data

	Test #1	Test #2	Test #3
Measured Values			
Gas Energy to Oven (Btu)	43,477	44,494	43,963
Electric Energy to Oven (Btu)	904	903	904
Cook Time (min)	58.8	59.1	56.3
Initial Weight of Potatoes (lb)	72.620	72.785	72.680
Final Weight of Potatoes (lb)	62.360	62.440	62.940
Initial Temperature of Potatoes (°F)	70.5	70.6	72.0
Final Temperature of Potatoes (°F)	205.0	205.0	205.0
Calculated Values			
Sensible (Btu)	8,205	8,217	8,120
Latent (Btu)	9,952	10,035	9,448
Total Energy to Food (Btu)	18,157	18,252	17,568
Energy to Food (Btu/lb)	250	251	242
Total Energy to Oven (Btu)	44,382	45,397	44,867
Energy per Pound of Food Cooked (Btu/lb)	611	624	617
Cooking-Energy Efficiency (%)	40.9	40.2	39.2
Cooking-Energy Rate (Btu/h)	44,365	45,172	46,852
Electric Energy Rate (kW)	0.27	0.27	0.28
Production Capacity (lb/h)	74.1	73.9	77.5

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