



# Food Service Technology Center Appliance Test Summary Report

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<b>Manufacturer</b>	Duke Manufacturing
<b>Model</b>	DG-1 Speed Oven
<b>Appliance</b>	Counter top rapid cook oven - Electric

<b>Report Number</b>	5012.09.09
<b>Date</b>	March, 2009
<b>Tested By</b>	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 F2238.

## Energy Input Rate

Test Voltage (V)	208
Rated Energy Input Rate (kW)	5.5
Measured Energy Input Rate (kW)	5.32
Difference (%)	3.2

## Preheat

Voltage (V)	208
Oven Temperature (°F)	500
Duration (min)	12.7
Energy Consumption (kWh)	1.04

## Idle

Voltage (V)	208
Oven Temperature (°F)	500
Idle Energy Rate (kW)	1.73

## Heavy-Load Cooking Energy Efficiency <sup>a</sup>

Voltage (V)	208
Food Product <sup>b</sup>	Cheese Pizza
Oven Temperature (°F)	500
Cook Time (min)	1.75
Test Time (min)	17.4
Cooking Energy Rate (kW)	4.63
Energy to Food (Btu/lb)	140
Energy to Appliance (Btu/lb)	399
Cooking-Energy Efficiency (%)	35.0 ± 1.0
Production Capacity (lb/hr)	27.5 ± 0.2

<sup>a</sup> based on a minimum of three test replicates.

<sup>b</sup> pizza was cooked with a single stage recipe:  
oven temperature 500°F, microwave setting 70%, fan setting 7.



Duke Manufacturing Company

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### Heavy-Load Test Data

	Test #1	Test #2	Test #3
<b>Measured Values</b>			
Test Voltage (V)	208	208	208
Cook Time (min)	1.75	1.75	1.75
Test Time (min)	17.4	17.4	17.5
Electric Energy to Oven (kWh)	1.34	1.34	1.36
Number of Pizzas	7	7	7
Initial Pizza Temperature (°F)	40.0	40.0	40.0
Average Final Pizza Temperature (°F)	194.6	195.6	194.7
Initial Weight of Pizza (lb)	11.470	11.585	11.540
Final Weight of Pizza (lb)	10.915	11.015	10.965
<b>Calculated Values</b>			
Sensible Heat (Btu)	1,052	1,069	1,059
Latent - Heat of Vaporization (Btu)	538	553	558
Total Energy to Food (Btu)	1,590	1,622	1,616
Energy to Food (Btu/lb)	139	140	140
Total Energy to Oven (Btu)	4,573	4,573	4,642
Energy per Pound of Food Cooked (Btu/lb)	399	395	402
Cooking-Energy Efficiency (%)	34.8	35.5	34.8
Cooking-Energy Rate (kW)	4.62	4.62	4.66
Production Capacity (lb/h)	27.6	27.6	27.4

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