



# Food Service Technology Center Appliance Test Summary Report

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<b>Manufacturer</b>	Merrychef
<b>Model</b>	402S
<b>Appliance</b>	Counter top rapid cook oven - Electric

<b>Report Number</b>	5012.09.10
<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)	6.2
Measured Energy Input Rate (kW)	6.00
Difference (%)	3.2

## Preheat

Voltage (V)	208
Oven Temperature (°F)	525
Duration (min)	16.1
Energy Consumption (kWh)	0.900

## Idle

Voltage (V)	208
Oven Temperature (°F)	525
Idle Energy Rate (kW)	1.12

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

Voltage (V)	208
Food Product <sup>b</sup>	Cheese Pizza
Oven Temperature (°F)	525
Cook Time (min)	1.50
Test Time (min)	14.5
Cooking Energy Rate (kW)	5.17
Energy to Food (Btu/lb)	145
Energy to Appliance (Btu/lb)	424
Cooking-Energy Efficiency (%)	34.2 ± 1.5
Production Capacity (lb/hr)	28.9 ± 1.6

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

<sup>b</sup> pizza was cooked with a single stage recipe:  
oven temperature 525°F, microwave setting 100%, fan. setting 100%.



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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)	1.50	1.50	1.50
Test Time (min)	14.3	14.4	14.9
Electric Energy to Oven (kWh)	1.24	1.24	1.28
Number of Pizzas	7	7	7
Initial Pizza Temperature (°F)	40.0	40.0	40.0
Average Final Pizza Temperature (°F)	192.8	193.7	193.3
Initial Weight of Pizza (lb)	10.070	10.020	10.155
Final Weight of Pizza (lb)	9.515	9.445	9.595
<b>Calculated Values</b>			
Sensible Heat (Btu)	912	913	923
Latent - Heat of Vaporization (Btu)	538	558	543
Total Energy to Food (Btu)	1,451	1,471	1,466
Energy to Food (Btu/lb)	144	147	144
Total Energy to Oven (Btu)	4,232	4,232	4,369
Energy per Pound of Food Cooked (Btu/lb)	420	422	430
Cooking-Energy Efficiency (%)	34.3	34.8	33.6
Cooking-Energy Rate (kW)	5.20	5.17	5.15
Production Capacity (lb/h)	29.4	29.2	28.2

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