



Food Service Technology Center Appliance Test Summary Report

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Manufacturer	Vulcan
Model	ER50
Appliance	14-inch Open Deep Fat Fryer - Electric

Report Number	5012.08.25
Test Date	February, 2008
Tested By	D. Cowen

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 fryer by applying the ASTM F1361-07 Standard Test Method.

Energy Input Rate

Test Voltage (V)	208
Rated Energy Input Rate (kW)	14.0
Measured Energy Input Rate (kW)	14.7
Difference (%)	4.76

Preheat to 350°F

Voltage (v)	208
Duration (min)	6.30
Energy Consumption (kWh)	1.76
Preheat Rate (°F/min)	41.6

Idle at 350°F

Voltage (V)	208
Idle Energy Rate (kW)	0.63

Heavy-Load Cooking Energy Efficiency ^a

Voltage (V)	208
Food Product	French Fries
Load Size (lb)	3.00
Cook Time (min)	2.33
Average Recovery Time (sec)	< 10
Cooking Energy Rate (kW)	14.5
Energy to Food (Btu/lb)	587
Energy to Appliance (Btu/lb)	689
Cooking-Energy Efficiency (%)	85.3 ± 1.6
Production Capacity (lb/hr)	71.9 ± 4.7

^a based on a minimum of three test replicates.



Vulcan ER50 electric fryer.

Vulcan-Hart

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Baltimore, MD 21222

www.vulcanhart.com

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Heavy-Load Test Data

	Test #1	Test #2	Test #3
Measured Values			
Test Voltage (V)	208	208	208
Energy Consumption (Wh)	3,000	3,040	3,040
Total Energy (Btu)	10,329	10,376	10,376
Cook Time (min)	2.42	2.30	2.28
Total Test Time (min)	12.9	12.4	12.3
Weight Loss (%)	29.60	31.00	30.60
Initial Weight (lb)	15.000	15.000	15.000
Final Weight (lb)	10.565	10.355	10.405
Initial Moisture Content (%)	71.1	71.1	71.1
Final Moisture Content (%)	51.6	52.8	52.0
Initial Temperature (°F)	0	0	0
Final Temperature (°F)	212	212	212
Calculated Values			
Initial Weight of Water (lb)	10.665	10.665	10.665
Final Weight of Water (lb)	5.452	5.467	5.411
Sensible (Btu)	2,210	2,210	2,210
Latent – Heat of Fusion (Btu)	1,536	1,536	1,536
Latent – Heat of Vaporization (Btu)	5,057	5,042	5,096
Total Energy to Food (Btu)	8,803	8,788	8,842
Energy To Food (Btu/lb)	587	586	589
Total Energy to Fryer (Btu)	10,239	10,376	10,376
Energy to Fryer (Btu/lb)	683	692	692
Cooking-Energy Efficiency (%)	86.0	84.7	85.2
Electric Energy Rate (kW)	13.9	14.8	14.8
Production Rate (lb/h)	69.7	72.8	73.1
Average Recovery Time (sec)	< 10	< 10	< 10

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