



Food Service Technology Center Appliance Test Summary Report

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Manufacturer	Frymaster
Model	Protector
Appliance	14-inch Open Deep Fat Fryer - Gas

Report Number	5012.08.29
Test Date	February, 2007
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

Rated Energy Input Rate (Btu/h)	70,000
Measured Energy Input Rate (Btu/h)	71,867
Difference (%)	2.67

Preheat to 350°F

Duration (min)	22.0
Energy Consumption (Btu)	9,556
Preheat Rate (°F/min)	11.9

Idle at 350°F

Idle energy Rate (Btu/h)	4,382
Control Energy Rate (W)	3.44

Heavy-Load Cooking Energy Efficiency ^a

Food Product	French Fries
Load Size (lb)	3.00
Cook Time (min)	2.45
Average Recovery Time (sec)	12.0
Cooking Energy Rate (Btu/h)	67,997
Control Energy Rate (W)	85.7
Energy to Food (Btu/lb)	569
Energy to Appliance (Btu/lb)	1,008
Cooking-Energy Efficiency (%)	56.4 ± 0.4
Production Capacity (lb/hr)	67.7 ± 1.4

^a based on a minimum of three test replicates.



Frymaster Protector gas fryer.

Frymaster

8700 Line Avenue
Shreveport, LA 71135
www.frymaster.com

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Heavy-Load Test Data

	Test #1	Test #2	Test #3
Measured Values			
Electrical Energy Consumption (Wh)	18.86	18.98	18.94
Energy Consumption (Btu)	15,023	15,023	15,124
Cook Time (min)	2.43	2.43	2.50
Total Test Time (min)	13.24	13.41	13.21
Weight Loss (%)	29.70	29.60	29.90
Initial Weight (lb)	15.000	15.000	15.000
Final Weight (lb)	10.538	10.554	10.518
Initial Moisture Content (%)	68.6	68.6	68.6
Final Moisture Content (%)	50.3	50.8	49.9
Initial Temperature (°F)	0	0	0
Final Temperature (°F)	212	212	212
Calculated Values			
Initial Weight of Water (lb)	10.290	10.290	10.290
Final Weight of Water (lb)	5.301	5.361	5.249
Sensible (Btu)	2,210	2,210	2,210
Latent – Heat of Fusion (Btu)	1,482	1,482	1,482
Latent – Heat of Vaporization (Btu)	4,839	4,781	4,891
Total Energy to Food (Btu)	8,531	8,473	8,583
Energy To Food (Btu/lb)	569	565	572
Total Energy to Fryer (Btu)	15,087	15,088	15,189
Energy to Fryer (Btu/lb)	1,006	1,006	1,013
Cooking-Energy Efficiency (%)	56.4	56.2	56.5
Cooking Energy Rate (Btu/h)	68,080	67,217	68,693
Production Rate (lb/h)	68.0	67.1	68.1
Average Recovery Time (sec)	13.2	15.0	8.4

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