



# Food Service Technology Center Appliance Test Summary Report

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<b>Manufacturer</b>	Dean / Frymaster
<b>Model / Serial Number</b>	HD1814 / 0908BZ0005
<b>Appliance</b>	14" x 18" Fryer – Gas

<b>Report Number</b>	50130915
<b>Report Date</b>	January, 2011
<b>Tested By</b>	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)	120,000
Measured Energy Input Rate (Btu/h)	119,957
Difference (%)	0.04

## Preheat to 350°F

Duration (min)	8.08
Gas Energy Consumption (Btu/h)	14,503
Preheat Rate (°F/min)	34.1

## Idle at 350°F

Gas Idle Energy Rate (Btu/h)	14,579
Control Energy (W)	16.9

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

Food Product	French Fries
Load Size (lb)	5.00
Cook Time (min)	2.73
Average Recovery Time (min)	0.37
Gas Cooking Energy Rate (Btu/h)	106,062
Control Energy Rate (W)	20.0
Energy to Food (Btu/lb)	574
Energy to Appliance (Btu/lb)	1,095
Cooking-Energy Efficiency (%)	52.4 ± 0.8
Production Capacity (lb/h)	96.9 ± 5.6

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



Dean HD1814 gas fryer.

## Frymaster

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Shreveport, LA 71106-6814  
[www.frymaster.com](http://www.frymaster.com)

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### Heavy-Load Test Data

	Test #1	Test #2	Test #3
<b>Measured Values</b>			
Electrical Energy Consumption (Wh)	5.22	5.18	5.11
Gas Energy Consumption (Btu)	27,489	27,292	27,341
Total Energy (Btu)	27,506	27,309	27,358
<b>Cook Time (min)</b>	<b>2.80</b>	<b>2.72</b>	<b>2.67</b>
Total Test Time (min)	15.61	15.55	15.30
Weight Loss (%)	30.70	30.60	30.20
Initial Weight (lb)	25.000	25.000	25.000
Final Weight (lb)	17.332	17.342	17.459
Initial Moisture Content (%)	66.0	66.0	66.0
Final Moisture Content (%)	45.8	46.9	44.7
Initial Temperature (°F)	0	0	0
Final Temperature (°F)	212	212	212
<b>Calculated Values</b>			
Sensible (Btu)	3,684	3,684	3,684
Latent – Heat of Fusion (Btu)	2,376	2,376	2,376
Latent – Heat of Vaporization (Btu)	8,305	8,116	8,435
Total Energy to Food (Btu)	14,365	14,176	14,495
<b>Energy To Food (Btu/lb)</b>	<b>575</b>	<b>567</b>	<b>580</b>
Total Energy to Fryer (Btu)	27,506	27,309	27,358
<b>Energy to Fryer (Btu/lb)</b>	<b>1,100</b>	<b>1,092</b>	<b>1,094</b>
<b>Cooking-Energy Efficiency (%)</b>	<b>52.2</b>	<b>51.9</b>	<b>53.0</b>
<b>Gas Cooking Energy Rate (Btu/h)</b>	<b>105,659</b>	<b>105,307</b>	<b>107,220</b>
<b>Control Energy Rate (W)</b>	<b>20.1</b>	<b>20.0</b>	<b>20.0</b>
<b>Production Rate (lb/h)</b>	<b>96.1</b>	<b>96.5</b>	<b>98.0</b>
<b>Average Recovery Time (min)</b>	<b>0.32</b>	<b>0.39</b>	<b>0.39</b>

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