



# Food Service Technology Center Appliance Test Summary Report

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<b>Manufacturer</b>	UltraFryer Systems, Inc.
<b>Model</b>	Par 4
<b>Appliance</b>	18-inch Large Vat Fryer - Gas

<b>Report Number</b>	5012.08.30
<b>Test Date</b>	June, 2008
<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 F2144-07 Standard Test Method.

## Energy Input Rate

Rate Energy Input Rate (Btu/h)	110,000
Measured Energy Input Rate (Btu/h)	112,710
Difference (%)	2.46

## Preheat to 350°F

Duration (min)	14.4
Energy Consumption (Btu)	15,145
Control Energy (Wh)	24.6
Preheat Rate (°F/min)	19.4

## Idle at 350°F

Idle Energy Rate (Btu/h)	4,909
Control Energy Rate (W)	19.0



UltraFryer Par 4 gas fryer.

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

Food Product	French Fries
Load Size (lb)	5.00
Cook Time (min)	2.44
Average Recovery Time (sec)	27.0
Cooking Energy Rate (Btu/h)	83,994
Energy to Food (Btu/lb)	600
Energy to Appliance (Btu/lb)	808
Cooking-Energy Efficiency (%)	74.3 ± 1.9
Production Capacity (lb/hr)	104.3 ± 8.2

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

UltraFryer Systems, Inc.

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San Antonio, TX 78201  
[www.ultrafryer.com](http://www.ultrafryer.com)

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<b>Model</b>	Par 4
<b>Appliance</b>	18-inch Large Vat Fryer - Gas

<b>Report Number</b>	5012.08.30
<b>Test Date</b>	March, 2008
<b>Tested By</b>	D. Cowen

### Heavy-Load Test Data

	Test #1	Test #2	Test #3	Test #4	Test #5
<b>Measured Values</b>					
Electrical Energy Consumption (Wh)	27.60	28.06	29.54	29.40	28.90
Energy Consumption (Btu)	19,266	19,799	20,479	20,687	20,391
Total Energy (Btu)	19,362	19,895	20,581	20,786	20,490
<b>Cook Time (min)</b>	<b>2.42</b>	<b>2.50</b>	<b>2.50</b>	<b>2.43</b>	<b>2.33</b>
Total Test Time (min)	15.01	13.37	15.41	14.74	13.57
Weight Loss (%)	29.00	30.40	30.70	30.90	30.40
Initial Weight (lb)	25.000	25.000	25.000	25.000	25.000
Final Weight (lb)	17.757	17.409	17.335	17.282	17.399
Initial Moisture Content (%)	69.9	69.9	69.9	71.1	71.1
Final Moisture Content (%)	48.9	47.9	48.5	49.1	50.2
Initial Temperature (°F)	0	0	0	0	0
Final Temperature (°F)	212	212	212	212	212
<b>Calculated Values</b>					
Initial Weight of Water (lb)	17.475	17.475	17.475	17.775	17.775
Final Weight of Water (lb)	8.683	8.339	8.407	8.485	8.734
Sensible (Btu)	3,684	3,684	3,684	3,684	3,684
Latent – Heat of Fusion (Btu)	2,516	2,516	2,516	2,560	2,560
Latent – Heat of Vaporization (Btu)	8,528	8,862	8,796	9,011	8,770
Total Energy to Food (Btu)	14,728	15,062	14,996	15,255	15,014
<b>Energy To Food (Btu/lb)</b>	<b>589</b>	<b>602</b>	<b>600</b>	<b>610</b>	<b>601</b>
Total Energy to Fryer (Btu)	19,362	19,895	20,581	20,786	20,490
<b>Energy to Fryer (Btu/lb)</b>	<b>774</b>	<b>796</b>	<b>823</b>	<b>831</b>	<b>820</b>
<b>Cooking-Energy Efficiency (%)</b>	<b>76.1</b>	<b>75.7</b>	<b>72.9</b>	<b>73.4</b>	<b>73.3</b>
<b>Control Energy Rate (W)</b>	<b>110.3</b>	<b>125.9</b>	<b>115.0</b>	<b>119.7</b>	<b>127.8</b>
<b>Gas Energy Rate (Btu/h)</b>	<b>77,013</b>	<b>88,851</b>	<b>79,737</b>	<b>84,208</b>	<b>90,159</b>
<b>Production Rate (lb/h)</b>	<b>99.9</b>	<b>112.2</b>	<b>97.3</b>	<b>101.8</b>	<b>110.5</b>
<b>Average Recovery Time (sec)</b>	<b>34.8</b>	<b>10.2</b>	<b>34.8</b>	<b>31.2</b>	<b>22.8</b>

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