



Food Service Technology Center Appliance Test Summary Report

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Manufacturer	Ultrafryer Systems, Inc.
Model	BP 20-18
Appliance	18-inch Large Vat Fryer - Gas

Report Number	5012.09.43
Report Date	Sept., 2009
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 F2144-07 Standard Test Method.

Energy Input Rate

Rated Energy Input Rate (Btu/h)	65,000
Measured Energy Input Rate (Btu/h)	67,691
Difference (%)	4.14

Preheat to 350°F ^a

Duration (min)	15.6
Gas Energy Consumption (Btu)	16,923
Control Energy Consumption (Wh)	62.2
Preheat Rate (°F/min)	18.9

^a The preheat incorporated a melt cycle to prevent scorching the frying medium.

Idle at 350°F

Gas Idle Energy Rate (Btu/h)	5,641
Control Idle Energy Rate (W)	188.6

Heavy-Load Cooking Energy Efficiency ^a

Food Product	French Fries
Load Size (lb)	5.00
Cook Time (min)	2.84
Average Recovery Time (min)	1.49
Gas Cooking Energy Rate (Btu/h)	65,949
Control Energy Rate (W)	256
Energy to Food (Btu/lb)	607
Energy to Appliance (Btu/lb)	985
Cooking-Energy Efficiency (%)	61.7 ± 6.1
Production Capacity (lb/hr)	67.9 ± 4.4

^a based on a minimum of three test replicates.



Ultrafryer BP 20-18 Gas fryer.

Ultrafryer Systems, Inc

302 Spencer Lane
San Antonio, TX 78201
www.ultrafryer.com

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Heavy-Load Test Data

	Test #1	Test #2	Test #3
Measured Values			
Control Energy Consumption (Wh)	95.5	94.3	90.48
Gas Energy Consumption (Btu)	24,803	24,614	23,472
Total Energy (Btu)	25,129	24,614	23,781
Cook Time (min)	2.80	2.82	2.90
Total Test Time (min)	22.53	22.33	21.45
Weight Loss (%)	31.75	31.52	30.12
Initial Weight (lb)	25.000	25.000	25.000
Final Weight (lb)	17.063	17.120	17.471
Initial Moisture Content (%)	68.9	68.9	68.9
Final Moisture Content (%)	47.2	46.6	44.4
Initial Temperature (°F)	0	0	0
Final Temperature (°F)	212	212	212
Calculated Values			
Initial Weight of Water (lb)	17.224	17.224	17.224
Final Weight of Water (lb)	8.045	7.984	7.755
Sensible (Btu)	3,684	3,684	3,684
Latent – Heat of Fusion (Btu)	2,480	2,480	2,480
Latent – Heat of Vaporization (Btu)	8,904	8,963	9,185
Total Energy to Food (Btu)	15,068	15,127	15,349
Energy To Food (Btu/lb)	603	605	614
Total Energy to Fryer (Btu)	29,859	29,644	29,770
Energy to Fryer (Btu/lb)	1,005	997	951
Cooking-Energy Efficiency (%)	60.0	60.7	64.5
Electrical Energy Rate (kW)	66,053	66,136	65,657
Production Rate (lb/h)	66.6	67.2	69.9
Average Recovery Time (min)	1.57	1.54	1.35

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