



Food Service Technology Center Appliance Test Summary Report

The information in this report is based on data generated at the PG&E Food Service Technology Center.
California consumers are not obligated to purchase any full service or other service not funded by the program.
This program is funded by the California utility rate payers under the auspices of the California Public Utilities Commission.

Manufacturer	Vulcan Hart
Model	VK45 SN: 48-1663819
Appliance	14 inch gas fryer

Report Number	50130912
Report Date	December, 2010
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)	85,000
Measured Energy Input Rate (Btu/h)	72,655
Difference (%)	14.5

Preheat to 340°F

Duration (min)	7.25
Gas Energy Consumption (Btu)	8,602
Control Energy Consumption (Wh)	8.91
Preheat Rate (°F/min)	38

Idle at 350°F

Gas Idle Energy Rate (Btu/h)	4,365
Control Idle Energy Rate (W)	22.5

Heavy-Load Cooking Energy Efficiency ^a

Food Product	French Fries
Load Size (lb)	3.00
Cook Time (min)	2.33
Average Recovery Time (min)	0.26
Gas Cooking Energy Rate (Btu/h)	64,350
Control Energy Rate (W)	70
Energy to Food (Btu/lb)	562
Energy to Appliance (Btu/lb)	930
Cooking-Energy Efficiency (%)	60.5 ± 2.0
Production Capacity (lb/hr)	69.4 ± 1.9



Vulcan Hart Corporation

3600 North Point Boulevard
Baltimore, MD 21222
www.vulcanhart.com

Manufacturer	Vulcan Hart
Model	VK45 SN: 48-1663819
Appliance	14 inch gas fryer

Report Number	50130912
Report Date	December, 2010
Tested By	D. Cowen

Heavy-Load Test Data

	Test #1	Test #2	Test #3
Measured Values			
Control Energy Consumption (Wh)	14.8	14.4	14.7
Gas Energy Consumption (Btu)	14,090	13,603	14,027
Total Energy (Btu)	14,140	13,652	14,077
Cook Time (min)	2.33	2.33	2.33
Total Test Time (min)	12.85	13.13	12.93
Weight Loss (%)	29.5	29.0	29.2
Initial Weight (lb)	15.000	15.000	15.000
Final Weight (lb)	10.572	10.646	10.627
Initial Moisture Content (%)	66.1	66.1	66.1
Final Moisture Content (%)	46.7	47.2	46.5
Initial Temperature (°F)	0	0	0
Final Temperature (°F)	212	212	212
Calculated Values			
Sensible (Btu)	2,210	2,210	2,210
Latent – Heat of Fusion (Btu)	1,428	1,428	1,428
Latent – Heat of Vaporization (Btu)	4,829	4,743	4,824
Total Energy to Food (Btu)	8,466	8,381	8,462
Energy To Food (Btu/lb)	564	559	564
Total Energy to Fryer (Btu)	14,140	13,652	14,077
Energy to Fryer (Btu/lb)	943	910	938
Cooking-Energy Efficiency (%)	59.9	61.4	60.1
Gas Energy Rate (Btu/hr)	65,790	62,160	65,090
Production Rate (lb/h)	70.0	68.5	69.6
Average Recovery Time (min)	0.24	0.30	0.26

Legal Notice

This report was prepared as a result of work sponsored by the California Public Utilities Commission (Commission). It does not necessarily represent the views of the Commission, its employees, or the State of California. The Commission, the State of California, its employees, contractors, and subcontractors make no warranty, express or implied, and assume no legal liability for the information in this report; nor does any party represent that the use of this information will not infringe upon privately owned rights. This report has not been approved or disapproved by the Commission nor has the Commission passed upon the accuracy or adequacy of the information in this report.

Disclaimer

Neither Fisher-Nickel, inc. nor the Food Service Technology Center nor any of its employees makes any warranty, expressed or implied, or assumes any legal liability of responsibility for the accuracy, completeness, or usefulness of any data, information, method, product or process disclosed in this document, or represents that its use will not infringe any privately-owned rights, including but not limited to, patents, trademarks, or copyrights.

Reference to specific products or manufacturers is not an endorsement of that product or manufacturer by Fisher-Nickel, inc., the Food Service Technology Center or Pacific Gas & Electric Company (PG&E).

Retention of this consulting firm by PG&E to develop this report does not constitute endorsement by PG&E for any work performed other than that specified in the scope of this project.