

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	AccuTemp Products Inc.
Model	N61201E0000250
Appliance	Single Compartment 6 Pan Steamer - Gas

Report Number	501310009
Test Date	July, 2010
Tested By	K. Sham

Purpose of Testing

This testing determined the energy input rate, preheat time and energy, idle energy rate, uniformity and heavy/light-load cooking-energy efficiency of the steamer by applying ASTM F1484-05.

Energy Input Rate

Rated Energy Input Rate (Btu/h)	60,000
Measured Energy Input Rate (Btu/h)	57,709
Difference (%)	3.82

Preheat to 210°F

Duration (min)	15.34
Energy Consumption (Btu)	9,682

Idle in Cook Mode at 212°F

Idle Energy Rate (Btu/h)	8,361
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Idle in Hold Mode at 182°F

Idle Energy Rate (Btu/h)	1,168
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Red Potato Cooking Energy Efficiency and Production Capacity Test Results

Load ^a	Heavy Load	Light Load
Number of Pans	6	1
Cook Time (min)	21.08	22.56
Electric Control Energy (W)	61	61
Gas Energy to Steamer (Btu)	11,274	4,598
Total Energy Consumed (Btu)	11,348	4,670
Energy to Food (Btu/lb)	103	104
Cooking Energy Rate (Btu/h)	32,098	12,235
Cooking Energy Efficiency (%)	46.87	19.15
Production Capacity (lb/h)	139	21.4
Water Consumption Rate (gal/load)	3	3

^a Each Load is based on a minimum average of three test replicates.



AccuTemp Products, Inc.
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Frozen Green Pea Cooking Energy Efficiency and Production Capacity Test Results

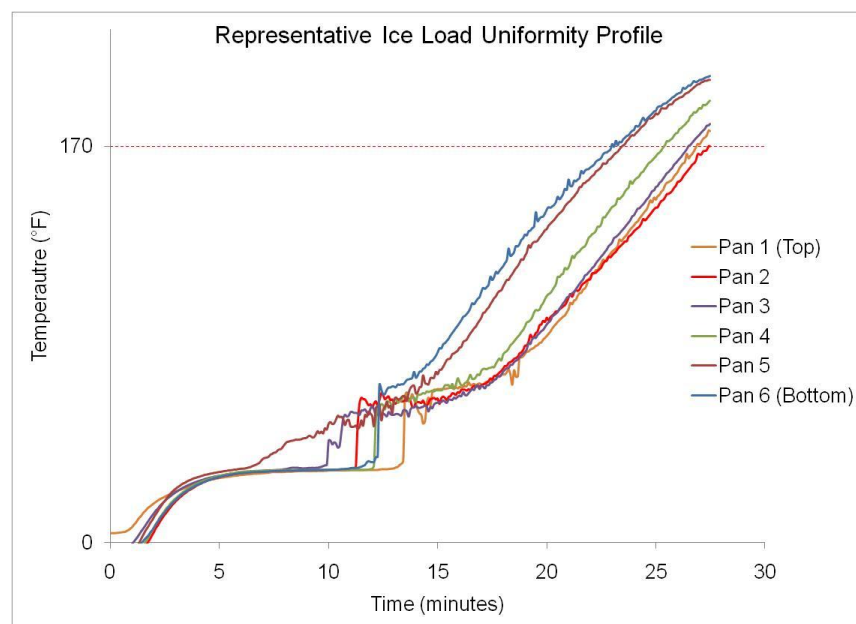
Load ^a	Heavy Load	Light Load
Number of Pans	6	1
Cook Time (min)	22.43	14.53
Electric Control Energy (Wh)	23	14
Gas Energy to Steamer (Btu)	20,562	5,303
Total Energy Consumed (Btu)	20,641	5,352
Energy to Food (Btu/lb)	262	260
Cooking Energy Rate (Btu/h)	55,005	21,902
Cooking Energy Efficiency (%)	61.36	39.19
Production Capacity (lb/h)	129	33
Water Consumption Rate (gal)	<3	<3

^a Each Load is based on a minimum average of three test replicates.

Ice Load Uniformity Test Results

Load ^a	Heavy Load
Number of Pans	6
Cook Time (min)	27.48
Average Initial Ice-Load Temperature (°F)	-5
Average Final Ice Load Temperatures (°F):	183
Pan #1 (bottom)	200
Pan #2	198
Pan #3	190
Pan #4	179
Pan #5	170
Pan #6 (top)	177

^a Each Load is based on a minimum average of three test replicates.



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Heavy-Load Red Potato Data

	Run #1	Run #2	Run #3
Measured Values			
Number of Pans	6	6	6
Cook Time, m	21.50	20.17	21.58
Temperature of Uncooked Potatoes, °F	72.8	77.5	76.8
Temperature of Cooked Potatoes, °F	193.7	194	195.8
Weight of Stainless Steel Pans, lbs	15.9	16.0	16.0
Weight of Potatoes, lbs	48.8	48.7	48.8
Total Potato Count	300	300	300
Moisture Content, %	84	84	84
Condensate Temperature, °F	n/a	n/a	n/a
Water Consumption, gal	<3	<3	<3
Calculated Values			
Moisture Weight in Potatoes, lbs	41.00	40.90	41.01
Average Weight of Each Potato, lbs	0.16	0.16	0.16
Energy Consumed by Potatoes, Btu	5,133	4,935	5,056
Energy to Food, Btu/lb	105	101	103
Energy Consumed by Pans, Btu	241	241	244
Energy of Boiler re-init, Btu	n/a	n/a	n/a
Energy Consumed by the Steamer, Btu	11,300	10,996	11,527
Energy to Steamer, Btu/lb of food cook	232	226	236
Cooking Energy Rate, Btu/hr	31,535	32,711	32,048
Productivity, lb/h	136	145	136
Energy Efficiency, %	47.6	47.1	46.0

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Light-Load Red Potato Data

	Run #1	Run #2	Run #3
Measured Values			
Number of Pans	1	1	1
Cook Time, m	21.98	22.44	23.25
Temperature of Uncooked Potatoes, °F	72.7	74.8	77.2
Temperature of Cooked Potatoes, °F	193.7	194.8	195.6
Weight of Stainless Steel Pans, lbs	2.79	2.67	2.79
Weight of Potatoes, lbs	8.11	8.02	8.03
Total Potato Count	50	50	50
Moisture Content, %	84	84	84
Condensate Temperature, °F	n/a	n/a	n/a
Water Consumption, gal	<3	<3	<3
Calculated Values			
Moisture Weight in Potatoes, lbs	6.81	6.74	6.75
Average Weight of Each Potato, lbs	0.16	0.16	0.16
Energy Consumed by Potatoes, Btu	854	837	827
Energy to Food, Btu/lb	105	104	103
Energy Consumed by Pans, Btu	42	40	42
Energy of Boiler re-init, Btu	n/a	n/a	n/a
Energy Consumed by the Steamer, Btu	4,577	4,562	4,655
Energy to Steamer, Btu/lb of food cook	564	569	580
Cooking Energy Rate, Btu/hr	12,495	12,197	12,014
Productivity, lb/h	22	21	21
Energy Efficiency, %	19.6	19.2	18.7

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Heavy-Load Frozen Green Peas Data

	Run #1	Run #2	Run #3
Measured Values			
Number of Pans	6	6	6
Cook Time, m	22.43	22.34	22.52
Initial Water Temperature, °F	76	75	76
Final Water Temperature, °F	118	118	119
Frozen Food Temperature, °F	0	0	0
Weight of Empty Calorimeter, lbs	43.7	43.7	43.7
Weight of Full Calorimeter, lbs	103.7	103.7	103.7
Weight of Calorimeter Water, lbs	60	60	60
Weight of Cooked Food, lbs	47.80	48.40	48.47
Weight of Frozen Food, lbs	48	48	48
Weight of Stainless Steel Pans, lbs	15.8	15.8	15.8
Moisture Content, %	81	81	81
Condensation Temperature	n/a	n/a	n/a
Water Consumption, gal	<2.5	<2.5	<2.5
Calculated Values			
Moisture Weight in Green Peas, lbs	39.7	39.2	39.2
Final Food Temp, °F	181	182	182
Control Energy, Wh	23	23	23
Energy Consumed by Green Peas, Btu	12,248	12,426	12,444
Energy to Food, Btu/lb	261	262	262
Energy Consumed by Pans, Btu	237	240	241
Energy of Boiler re-init, Btu	n/a	n/a	n/a
Energy Consumed by the Steamer, Btu	20,987	20,458	20,241
Energy to Steamer, Btu/lb of food cook	439	423	418
Control Energy Rate (W)	62	62	62
Productivity, lb/h	128	130	129
Energy Efficiency, %	59.5	61.9	62.7

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Light-Load Frozen Green Peas Data

	Run #1	Run #2	Run #3
Measured Values			
Number of Pans	1	1	1
Cook Time, m	14.87	14.19	14.52
Initial Water Temperature, °F	78	78	78
Final Water Temperature, °F	121	117	118
Frozen Food Temperature, °F	0	0	0
Weight of Empty Calorimeter, lbs	43.7	43.7	43.7
Weight of Full Calorimeter, lbs	61.7	61.7	61.7
Weight of Calorimeter Water, lbs	10	10	10
Weight of Cooked Food, lbs	8	8	8
Weight of Frozen Food, lbs	8	8	8
Weight of Stainless Steel Pans, lbs	2.66	2.67	2.68
Moisture Content	81	81	81
Condensation Temperature	n/a	n/a	n/a
Water Consumption, gal	<2.5	<2.5	<2.5
Calculated Values			
Moisture Weight in Green Peas, lbs	6.48	6.48	6.48
Final Food Temp, °F	184.4	176	178
Control Energy, Wh	15	14	14
Energy Consumed by Green Peas, Btu	2,110	2,055	2,025
Energy to Food, Btu/lb	264	257	258
Energy Consumed by Pans, Btu	40	40	40
Energy of Boiler re-init, Btu	n/a	n/a	n/a
Energy Consumed by the Steamer, Btu	5,548	5,271	5,137
Energy to Steamer, Btu/lb of food cook	694	653	642
Control Energy Rate, W	62	62	62
Productivity, lb/h	32	34	33
Energy Efficiency, %	38.0	39.3	40.2

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