



Food Service Technology Center Appliance Test Summary Report

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Manufacturer	Garland
Model	Xpress XG24
Appliance	2-foot double-sided gas griddle

Report Number	5012.08.24
Test Date	December, 2007
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 double-sided griddle by applying the ASTM F1605-95 (2001) Standard Test Method.

Energy Input Rate

Rated Gas Energy Input Rate (Btu/h)	66,000
Measured Gas Energy Input Rate (Btu/h)	66,308
Difference (%)	0.47
Rated Electrical Energy Input Rate (kW)	8.66
Measured Electrical Energy Input Rate (kW)	8.55
Difference (%)	1.81

Preheat to 350°F

	Platens Up	Platens Down
Duration (min)	9.42	9.00
Gas Energy Consumption (Btu)	9,985	9,940
Electric Energy Consumption (kWh)	1.36	1.24
Preheat Rate (°F/min)	30.7	29.1

Idle at 350°F

	Platens Up	Platens Down
Gas Idle Energy Rate (Btu/h)	8,982	4,309
Electrical Idle Energy Rate (kW)	1.28	0.54

Heavy-Load Cooking Energy Efficiency ^a

Food Product	Hamburgers
Load Size (Count)	16
Cook Time (min)	3.24
Average Recovery Time (min)	< 1.0
Gas Cooking Energy Rate (Btu/h)	38,991
Electric Cooking Energy Rate (kW)	4.40
Energy to Food (Btu/lb)	475
Energy to Appliance (Btu/lb)	930
Cooking-Energy Efficiency (%)	51.1 ± 1.0
Production Capacity (lb/hr)	58.3 ± 0.9

^a based on a minimum of three test replicates.

Food Service Technology Center
12949 Alcosta Blvd. Suite 101, San Ramon CA 94583
P: 1.800.398.3782 F: 1.925.866.2864 www.fishnick.com
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Garland Xpress XG24 double-sided gas griddle.

Garland

185 East South Street
Freeland, PA 18224-1999
www.garland-group.com

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Heavy-Load Test Data

	Repetition #1	Repetition #2	Repetition #3
Measured Values			
Gas Energy Consumption (Btu)	16,483	15,536	16,518
Electric Energy Consumption (Wh)	1,800	1,800	1,880
Cook Time (min)	3.22	3.25	3.25
Total Test Time (min)	25.12	24.85	24.72
Weight Loss (%)	35.93	34.88	36.88
Initial Weight (lb)	24.139	24.119	24.019
Final Weight (lb)	15.465	15.705	15.160
Initial Fat Content (%)	17.9	17.9	17.9
Initial Moisture Content (%)	62.1	62.1	62.1
Final Moisture Content (%)	53.9	54.1	53.8
Initial Temperature (°F)	0	0	0
Final Temperature (°F)	165	163	168
Calculated Values			
Initial Weight of Water (lb)	14.990	14.978	14.916
Final Weight of Water (lb)	8.340	8.494	8.151
Weight of Fat (lb)	4.321	4.317	4.299
Weight of Solids (lb)	4.828	4.824	4.804
Sensible to Ice (Btu)	240	240	239
Sensible to Water (Btu)	1,997	1,955	2,024
Sensible to Fat (Btu)	286	281	288
Sensible to Solids (Btu)	160	157	161
Latent – Water Fusion (Btu)	2,159	2,157	2,148
Latent – Fat Fusion (Btu)	190	190	188
Latent – Heat of Vaporization (Btu)	6,451	6,290	6,562
Total Energy to Food (Btu)	11,481	11,268	11,610
Energy To Food (Btu/lb)	476	467	483
Total Energy to Griddle (Btu)	22,627	21,680	22,934
Energy to Griddle (Btu/lb)	937	899	955
Cooking-Energy Efficiency (%)	50.7	52.0	50.6
Gas Cooking Energy Rate (Btu/h)	39,371	37,512	40,091
Electric Cooking Energy Rate (kW)	4.30	4.35	4.56
Production Rate (lb/h)	57.7	58.2	58.3
Average Recovery Time (min)	0.97	0.89	0.87

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