



Innovations in grilling equipment are reducing cooking times and energy use, while adding consistency and control.

By James J. Hodl

rilling is one of the oldest forms of cooking, requiring only that the food be placed directly over a source of dry heat, usually on a metal grate. In traditional grilling, the cooked food has the crisscross of grill marks acquired from sitting on the hot grate.

Variations in this technique

led to charbroiling, in which the heated air is infused with smoke resulting from the burning of wood or charcoal underneath the grate. This results in the smoky taste that many diners find irresistible. Besides steaks and beef, charbroilers also are used to cook poultry, lamb, fish and shellfish; and more recently pizza, tortillas and fajitas.

Another variation resulted in a solid metal surface, creating a griddle, on which foods can be grilled or fried. And griddles get more use all day long in restaurants, beginning with bacon and eggs at breakfast to that late night cheeseburger. In the middle of the day, they can be used to produce many of the same menu items as charbroilers, only without the smoky taste, which not all diners prefer.

But like all forms of restaurant cooking, innovations are occurring that not only speed cooking, but also assure a con-

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sistent product. And technologies such as infrared and induction have been introduced in recent years.

Three burner options that enable chefs to match performance with their cooking preferences are offered on Steakhouse Broilers marketed by Imperial Commercial Cooking Equipment, Corona, CA. Stainless steel burners with stainless steel radiants which deliver 20,000 btu/hr provide quick heating with minimal flare-ups. Stainless steel burners with cast-iron radiants with 20,000 btu/hr provide maximum heat retention and intense surface temperatures to better sear juices into meats; and volcanic char-rocks with 45,000-btu/ hr H-style burners that impart true charbroiled smoky taste to meat, chicken and fish.

These units come with three grate options: A cast-iron grate for meat, a 0.5-inch diameter round rod for poultry and fish. and a combo grate for fish, meat and seafood. A full-width drip pan enables workers to

easily dispose of grease.

Based in California, Montague offers two charbroiler choices in its Legend series. Radigio overfired gas Steakhouse Broilers deliver infrared radiant heat for high-speed broiling, while the UGLC heavy-duty gas underfired broiler sears meats in natural juices and adds an outdoor smoked flavor.

The former are marketed in 36 and 45 inch wide models (with two or three Radigio burners respectively) that encase the meat above and below by cool air so all cooking is performed by the radiant energy and not moving hot air. The latter models range from 24 to 72 inches wide, with stainless steel, or optional cast-iron, burners that deliver 19,000 btu/hr. To maximize cooking productivity and energy efficiency, each burner has its own automatic ignition for quick start-up, and a separate control. The hot glowing radiant burners reach cooking temperature within five minutes and rapidly reheat as required.

Legend charbroilers produce a consistent temperature over the





Nieco JF63G broiler

tem of one-inch-wide spacing of ribbed grates and wide openings that enable deeper penetration of radiant heat waves. Meats cook quickly at the center, while slightly cooler sections at the front and outer edges of the surface can be used for foods that require slower cooking. A reversible grid provides a choice of wide or narrow markings being seared into the sides of meats.

The Josper Charcoal Broiler Oven from Wood Stone, Bellingham, WA, provides a solidfuel charcoal broiler/oven solution in an oven package; that is fired entirely by charcoal. Yet it eschews the venting challenges most often associated with con-

ventional charbroilers, as it is operated by a system of adjustable dampers, with an air inlet on the top and a smoke and heat outlet on the top.

Originally developed Spain, this unit has two adjustable broiler racks that enable chefs to cook a wide variety of meats and vegetables in the oven simultaneously, boosting productivity. thus By combining features of an enclosed oven with the traditional characteristics of charbroiled cooking, this appliance offers efficiency in utilizing the

heat produced by the charcoal, explained Frank Milward, corporate chef at Wood Stone. The dual damper system helps minimize charcoal consumption while allowing the unit to maintain high cooking temperatures for extended periods of time, and helps to greatly influence and enhance the flavor profile of the foods being cooked, he adds.

Improved energy efficiency is a major feature of the VTEC Series Infrared Charbroiler introduced earlier this year by Vulcan Food Equipment Group in Louisville, KY. A winner of the 2012 Kitchen Innovations Award, this charbroiler features the patented IRX 100 percent infrared burner system that delivers maximum productivity in a smaller footprint and uses up to 50 percent less energy during operation.

The VTEC has independent gas controls in each 12 inch section that provide precision temperature control in each zone to optimize cooking results. Even heat distribution across the charbroiler platform assures consistent cooking, says Tim Murray, vice president and general manager at Vulcan. An easyto-light rotary piezo direct spark system simplifies ignition. Since debris and grease are vaporized or turned to ash, clean up is effortless. And, the VTEC's elimination of convective air movement allows food to retain up to 30 percent more of its original moisture, decreasing waste and

increasing profitability.

The unit's design keeps grease away from open flames and minimizes convective air. Drippings and grease are instantly turned to smoky vapor that enhances the charbroiled flavor, Murray adds.

BroilVection technology, which cooks food faster but with up to 50 percent less energy, is featured in the JF Series broilers introduced last fall by Nieco Corp., Windsor, CA.

According to Tom Buhler, vice president of marketing at Nieco, BroilVection combines radiant broiling, natural convection, and focuses forced air over foods at high speeds. As a result, foods are charbroiled in less time. A hamburger can go

from frozen patty to ready to serve in less than two minutes. Other foods like chicken, steaks and vegetables can be charbroiled in less than five minutes. And the quicker cooking puts less heat into the kitchen, thus trimming air conditioning costs in summer while maintaining a more comfortable environment for kitchen workers, he added.

The three BroilVection broilers can broil multiple products at once and have automatic feeder systems. Model JF63 also comes with a bun grill.

Among countertop units offered by Providence, RI-based Equipex are a 24 and 32 inch wide high-temperature quartzpowered electric top salaman-

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der that are available with either quartz heating elements or vitroceramic heating zones. The latter provide a higher operating temperature of 1,058 F, compared to 635 F work surface in quartz models. These finishing ovens can do nearly every task performed by large salamanders including melting cheese over French onion soup, brown meats, glaze fish, and warm up desserts.

Griddles also are being innovated and improved. Countertop Sodir electric griddles from Equipex feature an internal grease collection system in a removable drawer and a one-piece snap-action, on-off thermostat for more accurate operations and ease of use. Each cooking zone is thermostatically controlled to maintain temperatures up to 570 F. Offered in 18, 25.5- and 35.5-inch widths, these units are available in cast iron, plancha-style steel and chrome coated cooking surfaces.

Equipex also recently unveiled the Panini XL (quartz element) and Panini VC (vitroceramic heating)

that churn out panini sandwiches in five minutes. And Equipex offers three models of electric crepe machines with single or double cooking plates, with the compact Discus model measuring only 13.75-inches in diameter and is equipped with a batter spreader.

Nobody likes to wait, especially your customers. So Garland Group, Mississauga, Ontario, created the Induction Griddle that reduces the time needed to cook tradition griddle menu items by heating to cooking temperatures faster.

By adapting induction cooking technology to the griddle, Garland has produced a unit that takes only three minutes to reach cooking temperature from a cold start and recovers to that temperature after a frozen item is placed on it in less than two minutes. These savings result from producing heat directly in the coking vessels instead as radiant heat griddles - first heating the surface before it transfers to the bottom of the



vessel. And pans and skillets can be placed anywhere on the griddle surface to make contact with the induction energy created under the surface.

The Accu-Steam line from Fort Wayne, IN -based Accu-Temp uses electricity to create steam in a sealed vacuum chamber that uniformly heats the full surface of the griddle plate. This ability plus a rapid heat recovery assures that this griddle cooks everything quickly with little shifting of foods. This product uses no water as the water under the griddle is permanently encased. The griddle is Energy Star listed.

The Steam Shell Griddle from American Griddle Corp., Fort Wayne, IN, employs steam both under and over the griddle surface to assure consistent cooking of foods in less time.

In operation, the Steam Shell creates and circulates steam beneath the griddle plate, which maintains a consistent temperature across the entire surface and facilitates quicker recovery times. And the product's lid also injects fresh steam over the food being cooked, keeping these items from drying out while trimming by up to 50 percent cooking times.

According to a company spokesman, the Steam Shell can produce crisp and hot shrimp in 1.5 minutes. It also can cook a six ounce hamburger in less than six minutes, and a four ounce chicken breast in less than four minutes. In under a minute, the Steam Shell can cook two fried eggs or a 12 inch quesadilla.

Coming full circle are IGG Series griddles from Imperial Range that produce foods that look charbroiled without actually being cooked in a charbroiler. This is accomplished by a one inch thick highly-polished steel grooved griddle plate, which is heated by a thermostatically controlled 30,000 btu burner positioned every 12 inches underneath the surface. A full-width rear flue distributes heat uniformly across the griddle surface.

Offered in five widths from 24 to 72 inches, IGG Series griddles come in models featuring just the griddle or coupled with two open PyroCentric burners.

Manufacturers Directory

- AccuTemp Products Inc. 800/210-5907 accutemp.net
- American Griddle Corp 800/428-6550 americangriddle.com
- Equipex 401/273-3300 equipex.com
- Garland Group 905/624-0260 garland-group.com
- Imperial Range Corp. 800/343-7790 imperialrange.com

- Montague Co. 510/785-8822 montaguecompany.com
- · Nieco Corp. 707/284-7100 nieco.com
- RollerGrill roller-grill.com
- Vulcan Food **Equipment Group** 502/515-5061 vulcanequipment.com
- Wood Stone Corp. 360/650-1111 woodstone-corp.com