

## Steam Cooking Offers Efficiency

**Q:** *I want a healthy and efficient method to cook meals for my family, and I don't like microwave ovens for most food. How efficient are residential steam ovens? Do they bake and roast as well as a regular oven?*

**A:** Steam ovens are used by professional bakeries and restaurants because of the quality of cooked foods and the dramatically reduced cooking time. Shorter cooking times result in less energy being used and lower utility bills.

Bear in mind the initial price of a steam oven, whether it is built-in or free-standing, is considerably greater than a standard or convection oven.

Don't run out and buy a professional steam oven. Professional ovens, steam or conventional, may be slightly less expensive, but often do not have the safety features required for home use. Play it safe and get an oven designed for home use and approved by Underwriters Laboratories (UL).

If you have used a small electric countertop steamer for vegetables and rice, you know the food cooks quickly and retains more natural flavors and nutrients than other cooking methods, enhancing the health benefits.

Built-in steam oven models look similar to a conventional wall oven. Most have a small water reservoir (typically 1.25 quarts) so they do not require a water line connection. Fill the reservoir each time you use the oven.

Food cooks much faster in a steam oven because steam has a higher heat content and heat transfer rate than hot air. Water normally boils at 212 degrees and becomes steam. Some steam ovens can produce superheated steam as hot as 500 degrees. When the steam hits the food surface, it transfers heat to cold food. As the steam transfers heat and condenses, latent heat goes into the food.

Roasting a large chicken in a steam oven takes about 20 minutes, compared

with two hours in a conventional oven. The overall heating element wattage in a steam oven rates less than the elements in a conventional oven. Most models plug into a standard 120-volt wall outlet.

Superheated steam heats the fat in meat quickly without searing the outside surface. This liquefies fat almost instantly—much of it drips off into a pan, resulting in lower-fat meat. In a steam oven, the steam keeps the meat moist and tender without the higher fat content.

An entire meal of meat, vegetables and potatoes can be made in the steam oven without using separate pots on a stovetop. Stovetop cooking is inefficient because much of the heat never gets to the food, but escapes around the sides of the pot into the room air.

Most new steam ovens have a menu of foods you select in the computer memory. It determines the proper cooking time and settings for each food. Some ovens have hundreds of food items stored in memory, and you can select combinations.

For more versatility, combination steam/convection ovens can cook even faster. Steam ovens do not brown meats, so the convection portion of the oven can be used for that task.

For breads, the moisture inside the steam oven makes much better crusts and provides even baking.

The following companies offer efficient steam wall ovens:

- Gaggenau  
(877) 442-4436  
[www.gaggenau.com](http://www.gaggenau.com)
- Kitchenaid  
(800) 334-6889  
[www.kitchenaid.com](http://www.kitchenaid.com)
- Miele  
(800) 843-7231  
[www.mieleusa.com](http://www.mieleusa.com)
- Sharp  
(800) 237-4277  
[www.sharppusa.com](http://www.sharppusa.com)
- Viking  
(888) 845-4641  
[www.vikingrange.com](http://www.vikingrange.com) ■



**Many foods can be cooked quickly in a steam oven. The electronic controls offer many cooking options.**

Photo courtesy of Viking



To ask a question, write to **James Dulley**, Energy Report, 6906 Royalgreen Dr., Cincinnati, Ohio 45244, or check his Web page, [www.dulley.com](http://www.dulley.com).

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