

Induction: A new way to power your cooking

There's a different kind of cooktop that's neither gas nor traditional electric—it's called induction. With its smooth, sleek appearance, an induction cooktop looks a lot like an electric smoothtop, yet it works quite differently.

How does it work?

With induction, it's the pan, not the cooktop, that's the actual heat source. This might sound a bit like voodoo, but it's pretty simple. Usually powered by a 240-volt hookup, induction works like this: When an electric current passes through the element below the surface of an induction cooktop, a magnetic field is created. When a metal pan comes in contact with this magnetic field, the pan's molecules get activated and create heat. But the cooktop itself generates no heat.

Is an induction burner as powerful as gas or electric?

"Burner" is a bit of a misnomer, as the element isn't producing heat. The short answer is yes, induction is just as powerful (see the box at right), but it's not easy to make a straight comparison. While there is a formula for comparing the watts of an induction cooktop to the Btu of a gas burner, it gets complicated because this formula doesn't account for the amount of heat that's lost to the kitchen with gas (or traditional electric) cooktops. Since with induction it's the pan that provides the heat, very little heat is radiated out and thus lost, making induction cooking more efficient.

Are the burners responsive?

With the controls on an induction cooktop, you're adjusting the heat by increasing or decreasing the amount of magnetic energy transmitted to the pan. Our experience is that the

response is as immediate as cooking with gas (see the box at right).

Is it safe?

There's no open flame to catch fire. The glass surface of an induction cooktop will get hot from contact with a hot pan, but the model we tested (see the box at right) cools down quickly enough so that no warning light is needed on the surface.

Speaking of a cooler cooktop, another benefit is cleanup: Spills don't get cooked onto an induction cooktop's quick-cooling surface, so they won't adhere as stubbornly as they would on an electric or gas stove.

Do I need special pans?

Pans need to be made of magnetic metal. An induction cooktop will work with cast-iron, enameled cast-iron, and some stainless-steel pans, including top-quality brands like All-Clad, Viking, and Le Creuset. Copper and anodized-aluminum pans won't work. You can use a simple test to see if your pans are induction-friendly: If a refrigerator magnet adheres to the bottom of the pan, the pan will work on an induction cooktop.

What are the downsides?

Induction cooktops aren't as widely available as gas or electric, and they don't come cheap: most four- and five-burner cooktops ring in between \$3,000 and \$4,000 (though prices are coming down), and two-burner cooktops range from about \$1,400 to \$3,000.

—Amy Albert, senior editor



With an induction cooktop, the pan heats up very, very fast, but the cooktop itself produces no heat.

Induction road test reveals fast, responsive technology

We cooked on a Diva de Provence induction cooktop to see how it handled. The heat settings are in touchpad form, rather than dial, and go from 0 to 12 in intensity. We simmered tomato sauce in a wide, shallow pan and got even bubbling and an impressively low simmer. We were able to quickly and evenly heat a sauté pan to get a nice sear on a panful of chicken breasts.

To check response time, we brought a saucepan of milk to the point of almost boiling over, turned the heat down, and left the pot on the cooktop. The pan cooled so quickly that the milk didn't boil over—the induction cooktop's response time easily matched that of a gas burner.

Finally, we boiled 8 quarts of cool water using the same stockpot on gas, electric, and induction cooktops, all at the highest setting. The water took 24 minutes to come to a rolling boil on a 12,500 Btu gas burner, it took 18½ minutes on electric, and it took only 14½ minutes on induction. —A. A.

To watch a video of induction in action, visit Finecooking.com. For more information, see *Where to Buy It*, p. 82.