
The “New” Coffee Makers

Not content with Mr. Coffee-style drip machines, consumers are demanding better coffee through improved technology. Is the coffee any better?

≧ BY ADAM RIED ≦

In our experience, automatic-drip coffee machines make coffee easily, but rarely well. In fact, only one model in our November/December 1998 tests received a passable rating. Recently, appliance makers have introduced machines with improved technologies aimed at brewing better tasting coffee. We selected seven of these for this new round of tests. Three combine a coffee grinder with an automatic-drip machine; two are electric vacuum machines; and two are pump-driven, single-cup brewers that function rather like espresso machines but produce regular filtered coffee. Prices range from a low of \$60 to a high of \$250.

According to the Specialty Coffee Association of America, the quality of a cup of coffee is affected by 10 primary variables, from the chemistry of the beans to the composition of the water and the method used to hold the finished beverage. Automatic brewers, whether drip or another type, should control at least four of the 10 variables. Those are brewing time (four to six minutes for a full pot using medium-grind coffee, optimally), temperature (195 to 205 degrees for brewing and 155 to 175 degrees for serving, optimally), delivery of water and resulting agitation of the grounds (large filter basket to provide room for grounds to swell without compacting), and holding conditions (assuming that you brew a partial or entire pot, as opposed to a single cup).

Grind and Brew

Grind-and-brew coffee machines are automatic-drip machines with an integrated grinder that grinds the beans immediately before brewing. Theoretically, this feature enhances flavor by limiting the dissipation of compounds that contribute to both flavor and aroma. The loss of these volatile compounds is said to begin as soon as beans are ground and to continue over time.

To test this notion, we conducted an informal tasting of coffee brewed from fresh- and pre-ground beans, and our tasters easily recognized and preferred the former. That was good news for the grind-and-brews. Unfortunately, all three models mitigated their advantage with 10- to 12-minute brewing times, much longer than the four to six minutes experts consider ideal for a full pot. (Longer brewing times overextract flavor compounds from the ground beans, often leading to

a bitter cup of coffee.) Even so, tasters rated coffee from both the Cuisinart and the Capresso as pretty good (the Melitta produced bitter coffee), yet neither machine was perfect. The Cuisinart required painstaking cleaning of four intricate parts after each use. The Capresso, despite offering a burr grinder (which many coffee experts prefer over the blade grinders found in the other two) and considerable adjustability, lacked a thermal carafe (which is essential for preserving the temperature and flavor of brewed coffee). This machine also costs a hefty \$200.

The Vacuum Method

Vacuum brewing is, in fact, not new at all; it dates from the mid-1800s. A vacuum brewer consists of two bowls, one sitting directly on top of the other. The bottom bowl—the carafe—contains water, the top bowl ground coffee. When the water boils, steam forces it into the top bowl, where it mixes with the grounds. When the air in the carafe cools and contracts, it forms a vacuum that draws the liquid, now coffee, through a filter that keeps the grounds aloft.

What’s new about these machines? Until recent years, vacuum brewers were rather fragile glass chambers that, if they didn’t come with their own weak spirit lamp, required a heat source such as a burner. They looked like (and often were) accidents waiting to happen. The Bodum and Black & Decker electric models improve matters considerably, with shock-resistant plastic chambers, strong seals between the top and bottom bowls, and built-in electric heating elements. How was the coffee? Tasters liked the coffee from these units but consistently described it as strong and robust. In short, vacuum brewers make a very distinct style of coffee that will appeal to many (but not all) coffee drinkers. That said, both vacuum brewers made exceptionally hot coffee and had brew cycles nearly within the ideal four- to six-minute range. Without thermal carafes, however, coffee from neither unit fared well as it aged. We felt the Black & Decker had a slight advantage over the Bodum because it was both less expensive and easier to clean.

Espresso-Method Single-Cup Brewers

The most interesting innovation in coffee-brewing methods is the single-cup, pump-action brewer. Each time you want a cup of coffee, you

brew just that—a single cup—in less than one minute. In theory and function, they are closer to espresso machines than to automatic-drip brewers. Like espresso machines, these units use pumps—two air pumps for the Keurig and a steam pump for the Melitta—to force hot, pressurized water through packaged coffee grounds (they come in small sealed plastic cups or filters) to extract flavor in seconds.

Like the vacuum brewers, which produced coffee with robust flavor, these machines produced a distinct style of coffee. It was mild, with a light body and not much nuance. It was, in short, what we think of as classic American coffee. We should note, however, that in testing these models, we could not use the same coffee that we used in the other brewers. The Keurig and the Melitta One:One operate only with the coffee cups, or pods, designed for them by their respective manufacturers, so we were limited to the samples they provided.

And therein lies the rub with the single-cup brewers. You’ll have no choice but to buy packaged coffee from the machine’s manufacturer. Keurig has partnered with well-known coffee roasters to offer almost 80 varieties, so, theoretically, you should be able to find a strong or mild flavor profile that suits you. The selection from Melitta is narrower; there are just six types, of which we sampled four and really liked only one—the light roast. Also keep in mind that you may pay considerably more for your coffee this way.

A Better Mousetrap?

If you are a fan of light, American-style coffee (we aren’t), we suggest the single-cup brewers over the grind-and-brew machines, largely because of design idiosyncrasies among the latter. Because we like robust coffee, not to mention the spectacle of the brewing process, we prefer the electric vacuum brewers, despite their lack of thermal carafes. (If the R&D people were to produce a vacuum brewer that incorporated a thermal carafe, we’d buy it in a second. For now, we simply pour the brewed coffee into a separate thermal carafe, not an odious task.) The Black & Decker suits us better than the Bodum because it is a bit easier to clean the carafe, and it’s less expensive.

Have we moved beyond the automatic-drip brewer of yesteryear? Yes, certainly. But there is still some distance to go before we reach the Valhalla of automatic coffee brewers.

RATING "NEW WAVE" COFFEE MAKERS

RATINGS

GOOD: ★★★

FAIR: ★★

POOR: ★

Our tests included seven electric coffee makers (of which three were prototypes because production models were not avail-

able at press time), each with designs or features aimed at improving the flavor of the coffee, ease of use, or both. Whenever possible, we chose models with a thermal carafe, which we prefer over a traditional glass carafe on a hot burner plate for keeping coffee hot and fresh tasting over time. For all of the machines except the single-cup brewers, we brewed three full pots and evaluated the coffee when fresh, after 30 minutes, and after 60 minutes. With the single-cup machines, we evaluated the coffee only when fresh.

We evaluated the machines according to the criteria listed below. The flavor of the coffee when fresh and the machines' convenience factor—how easy they were to set up, use, and clean up—were our most (and equally) important tests. The machines are listed by type and in order of preference within each type.

PRICE: Manufacturers' suggested price for pre-production prototype models. For models purchased retail, prices paid in Boston-area stores, from national mail-order catalogs, or from Web sites.

FLAVOR: Tasters sampled black coffee from three fresh batches. Rated according to tasters' perceptions of acidity, body, aroma, taste, and serving temperature.

CONVENIENCE: The easier a machine was to set up, use, and clean, the better.

FULL-POT BREW TIME: Averaged from three pots; includes grinding or heating water where applicable.

FULL-POT TEMPERATURE, FRESH: Averaged from three pots of coffee, rounded to the nearest degree. The hotter, the better.

FULL-POT TEMPERATURE, 30 MINUTES/60 MINUTES: Averaged from three pots of coffee, rounded to the nearest degree. The hotter, the better.

TESTERS' COMMENTS: These comments augment the information on the chart with observations about the coffee makers' performance.

Brand	Testing Criteria	Testers' Comments
GRIND AND BREW		
Cuisinart Grind & Brew Thermal 10-Cup Coffee Maker, Model DGB-600	 <p>PRICE: \$149.99 FLAVOR: ★★★ CONVENIENCE: ★★ FULL-POT BREW TIME: 10 min, 21 sec FULL-POT TEMP, FRESH: 178° FULL-POT TEMP, 30 MIN: 175° FULL-POT TEMP, 60 MIN: 172°</p> <p>FEATURES: Built-in blade grinder, small batch setting, clock, programmable automatic start, pause-and-pour, audible "brew finished" tone, automatic shutoff, water filter Recommended with reservations</p>	TESTERS' COMMENTS: Though coffee was good, unit was nuisance to clean. Lacks grind adjustment feature and maximum fill mark in carafe, both of which would be nice. Grinder chamber is small.
Melitta Automatic Mill & Brew with Thermal Carafe, Model MEMBIOT	 <p>PRICE: \$95.00 FLAVOR: ★★★ CONVENIENCE: ★★★ FULL-POT BREW TIME: 12 min, 28 sec FULL-POT TEMP, FRESH: 172° FULL-POT TEMP, 30 MIN: 167° FULL-POT TEMP, 60 MIN: 165°</p> <p>FEATURES: Built-in blade grinder, adjustable grind, clock, programmable automatic start, pause-and-pour, automatic shutoff Recommended with reservations</p>	TESTERS' COMMENTS: Tasters found coffee to be bitter unless grind was set to coarse, which improved it some. Very easy to use, and grinder/filter assembly was larger and easier to clean than the Cuisinart model.
Capresso CoffeeTEAM Luxe, Model 453th	 <p>PRICE: \$199.99 FLAVOR: ★★★ CONVENIENCE: ★★ FULL-POT BREW TIME: 10 min, 49 sec FULL-POT TEMP, FRESH: 180° FULL-POT TEMP, 30 MIN: 174° FULL-POT TEMP, 60 MIN: 171°</p> <p>FEATURES: Built-in burr grinder, adjustable grind, adjustable brew strength, adjustable batch size, clock, programmable automatic start, automatic shutoff, water filter Recommended with reservations</p>	TESTERS' COMMENTS: Brews good coffee, but filter basket twice failed to position itself correctly after being filled with ground coffee, which arrests brewing. Can be quirky—you must change two settings to brew partial pot, and you have to position carafe just so to prevent condensation from building in coffee feeder channel.
VACUUM		
Black and Decker InFuze 10-Cup Vacuum-Brew Coffeemaker (PROTOTYPE)	 <p>PRICE: \$69.99–\$79.99 FLAVOR: ★★★ CONVENIENCE: ★★★ FULL-POT BREW TIME: 13 min, 42 sec FULL-POT TEMP, FRESH: 203° FULL-POT TEMP, 30 MIN: 192° FULL-POT TEMP, 60 MIN: 186°</p> <p>FEATURES: Clock, programmable automatic start, automatic shutoff Recommended</p>	TESTERS' COMMENTS: As easy to set up and use, and easier to clean (owing to carafe with wider mouth), as more expensive Bodum. Brewed hottest coffee of all machines, but, like Bodum, does not hold coffee very well. Can also be used as electric kettle.
Bodum Santos Electric Vacuum Coffee Maker	 <p>PRICE: \$99.99 FLAVOR: ★★★ CONVENIENCE: ★★ FULL-POT BREW TIME: 8 min, 20 sec FULL-POT TEMP, FRESH: 191° FULL-POT TEMP, 30 MIN: 182° FULL-POT TEMP, 60 MIN: 169°</p> <p>FEATURES: Clock, programmable automatic start, automatic shutoff Recommended with reservations</p>	TESTERS' COMMENTS: Part coffee brewer, part side show. Easy to set up and use, but small mouth of carafe necessitates use of bottle brush for cleaning. Does not hold coffee as well as thermal carafe. Can be used as electric kettle.
SINGLE CUP		
Melitta One:One Java-Pod Coffee Maker, Model MES1W (PROTOTYPE)	 <p>PRICE: \$59.99 FLAVOR: ★★★ CONVENIENCE: ★★★ FULL-POT BREW TIME: 36 sec/cup FULL-POT TEMP, FRESH: 170° FULL-POT TEMP, 30 MIN: NA FULL-POT TEMP, 60 MIN: NA</p> <p>FEATURES: Adjustable brew strength, automatic shutoff Recommended</p>	TESTERS' COMMENTS: Coffee splashes as it's dispensed into cup and can dribble from spout after mug has been removed. That said, the coffee was good, strength adjustable, and machine inexpensive. Good value, as long as you don't mind depending on Melitta's choice of coffee.
Keurig B-100 Single-Cup Brewing System (PROTOTYPE)	 <p>PRICE: \$249.95 FLAVOR: ★★★ CONVENIENCE: ★★★ FULL-POT BREW TIME: 45 sec/cup FULL-POT TEMP, FRESH: 180° FULL-POT TEMP, 30 MIN: NA FULL-POT TEMP, 60 MIN: NA</p> <p>FEATURES: 80-ounce water tank Recommended</p>	TESTERS' COMMENTS: Like an exotic sports car—everyone who walked by stopped to ooh and ahh. Brewing is quick, easy, and clean, but machine lacks adjustable brew strength (beyond choosing stronger coffee).