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A Great Coffee Maker for Less?
The success of our favorite—but very pricey—Dutch automatic drip model spurred the launch of new rivals. Could any brew a great cup with less pain to our wallets?

By Lisa McManus

In 2008, we tested automatic drip coffee makers and got disappointing results. Only one gave us great coffee—rich and smooth.

We discovered that it was the lone product to achieve research-based standards for brew cycle time and water temperature, two factors necessary for bringing out the fullest flavor in coffee without bitter notes. That machine, the Technivorm Moccamaster KBT 741, uses a powerful heating element of highly conductive copper that quickly brings water to the proper range of 195 to 205 degrees and sends it over the coffee grounds in no less than 2 minutes and no more than 8—the point beyond which undesirable flavor compounds are extracted, according to coffee experts.

Five years ago, that hard-hand-built Dutch machine was known only to coffee aficionados, but it was easy to use and brewed a great cup. Only problem: It cost $240. Nevertheless, coffee drinkers, perhaps tired of drinking subpar brew at home or shelling out $4 per cup at coffeehouses, still snapped it up.

Since then, other manufacturers took notice and launched their own high-end coffee makers. While a couple of models cost almost as much as the Technivorm, many are cheaper. All claim to reach the optimal time and temperature standards for great coffee flavor; a few have even won certification from the Specialty Coffee Association of America (SCAA), which five years ago endorsed only the Technivorm.

The most important question to us: Would these newcomers produce coffee just as reliably good, and with as little fuss, as the Technivorm? To find out, we bought seven coffee makers with thermal carafes (the hot plates beneath most glass carafes scorch coffee in minutes). Among those were three models that won SCAA certification, one of which was an updated Technivorm Moccamaster, now priced at an even more staggering $599. Thrifty for a bargain, we ordered pounds of coffee and set to work.

Time and Temperature
Following manufacturers’ instructions for how much coffee to use in each model, we brewed coffee in all of the machines using the same freshly roasted batch of high-quality light-medium roast beans. (This style of roast would make it easier to detect flaws in coffee flavor.) The brews’ surprisingly broad range of flavors and body reminded us that the machine you use can bring out the best in beans—or totally ruin them.

But compared with the last time we rated coffee makers, things were looking up. Three models produced great coffee (one of them was the Technivorm). The remaining four, however, still missed the mark.

We already knew that the amount of time the grounds are exposed to water (the brew cycle) influences the quality of the extraction and which of the more than 1,000 volatile flavor and aroma compounds identified in roasted coffee beans make it into your cup. For the most desirable flavor compounds to be drawn out, that exposure can be no more than 8 minutes long, the SCAA says. If the water spends more time than that in contact with the grounds, it begins to extract undesirable compounds, leading to bitter-tasting coffee. No surprise, then, that “bitter” was exactly the word tasters used to describe the brews from the two machines that averaged more than 10 minutes to run a cycle. It also wasn’t surprising that the coffee we liked best came from the machines that stayed within the optimal range. (How coarse or finely the coffee is ground also affects the quality of the extraction, but since there’s no way to know what grinder and what setting consumers might use, we didn’t consider this.)

Once again, we also discovered that brew temperature—that is, the temperature of the water when it’s in contact with the coffee grounds—factors into the quality of the extraction. According to the SCAA, optimal extraction happens when the water temperature spends most (ideally, about 90 percent) of the brew cycle between 195 and 205 degrees, and manufacturers are anxious to market their commitment to this standard. One even broadcast “Optimal Brew” on its label—but in that case, and a few others, the reality didn’t live up to the claims. When we ran two rounds of temperature checks on all of the machines by tapping thermocouple probe wires to the center of each brew basket atop the coffee grounds (where the heated water would drip directly on them) and averaged the amount of time the water spent in the optimal zone, the so-called Optimal Brew machine barely broke 60 percent. Two others spent roughly 35 percent of the cycle in the zone; one strayed above the 205-degree ceiling for most of the cycle and made “scorched” coffee. The worst averaged a feebble 16 percent. Meanwhile, two of the three SCAA-certified models, the Technivorm and the Bunn, clocked in at 87 percent, while the third SCAA-certified model, the Bonavita, trailed slightly. The numbers lined up with our tasting results: Those that hovered in the zone the longest brewed “complex,” “velvety-smooth” coffee, while more erratic models produced “weak” coffee that “lacked depth.”

The Right Ratio for a Good Brew

You can start with the best beans and the best coffee maker, but those choices won’t matter if you don’t also use the right ratio of coffee to water (several of the models we tested call for insufficient coffee). For the ideal cup, the Specialty Coffee Association of America recommends 9 to 11 grams (about 2 tablespoons of medium-ground coffee) per 6 ounces of water.

Weak Links

Time and temperature numbers didn’t tell the whole story, though. Our least favorite model, as well as others, brewed coffee within the ideal time range and spent more of the brew cycle in the optimal temperature zone than many machines, yet most tasters agreed that its coffee tasted weak—or, as one taster put it, like “dishwater.”

The problem came down to the simplest consideration of all: the ratio of coffee to water. “The Gold Cup ratio is 9 to 11 grams of freshly ground coffee per 6 ounces of water,” said Emma Bladkya, the SCAA’s coffee science manager and head of its certification program. (The definition of a “cup” is not standardized throughout the coffee industry; depending on the manufacturer, it can equal anywhere from 4 to 6 ounces.) That formula breaks down to between 1.5 and 1.85 grams of coffee per ounce of water. Some models suggested less and their brews tasted predictably weak, but the biggest offender was that lowest-ranked model, Mr. Coffee, which recommended using just 0.75 grams per ounce—hence the “dishwater” comment.

A few manufacturers recommended using an adequate amount of coffee for a partial pot—and then warned that the ratio of coffee to water should be decreased when brewing a full pot. The 10-cup Bodum, for example, recommended one scoop of coffee for every cup but no more than eight scoops in total—leaving you two scoops short if you make a whole pot. The problem, Bladkya says, is small brew
Why Would a Coffee Maker Skimp on Coffee?

Several of the coffee makers we tested contain warnings in their manuals that limit the total amount of ground coffee you should use when brewing a full pot. The reason for the cap is simple: to avoid overflows. (As hot water infuses the coffee grounds, they expand.) In some cases, these limits restrict the user to just a fraction of the SCAA's recommended ratio of 2 tablespoons of ground coffee for every 6 ounces of water.

Not surprisingly, when we tried brewing the SCAA-recommended ratio of coffee to water in our three lowest-ranked machines—all of which call for too little coffee in their manuals—the results left us with messes on our hands. In the Breville, that meant adding 20 tablespoons of coffee (the manufacturer's limit is 16 tablespoons); the machine's filter basket was heaped to the brim with no room for expansion and no way to close its swing door without pushing ground coffee into the machinery. Brewed coffee grounds puffed up over the rim of the Bodum coffee maker, coated its showerhead, and sent coffee pouring down the sides of the machine. In the Mr. Coffee, grounds overflowed the 8- to 12-cup filter (the largest size we could find in the supermarket) and gunked up the brew basket.

That's putting it mildly. When we added the SCAA recommended amount of coffee for a full pot to machines that called for too little coffee, the results were disastrous. The Breville's basket was so heaped with grounds that we couldn't even close its swing door. The requisite quantity of coffee caused grounds to puff up over the rim of the Bodum basket during brewing, spilling down the side and onto the carafe (a problem we noticed even with a lesser amount of coffee). Coffee grounds flooded over Mr. Coffee's filter, creating a lavakike mess in its basket. Any other issues these machines might have aside, we weren't about to recommend them if they couldn't brew a full pot with the ideal amount of ground beans.

(Design) Detail-Oriented

Other design defects were merely bothersome. Adding water or coffee to some models meant moving them away from any obstructions: The Capresso maker requires 2 feet of vertical space; Mr. Coffee needs more than half a foot of clearance on the side—annoyances if your coffee maker must live under a countertop cabinet or wedged between other appliances. Thoughtfully designed models, like the Bunn, load coffee from the front, without requiring you to move the appliance. All the carafes kept coffee hot for at least a couple of hours, but some were hard to open and dribbled. We preferred brew-through lids; otherwise, you must remove the brew basket to pour a cup and then screw on a separate lid to keep coffee hot. One machine, the Breville, was just fussy to operate: While it features an attached burr grinder and is endlessly customizable, it is also endlessly time-consuming in terms of setup and features an upward-titting display that's hard to read. And the machine is riddled with annoying (and worrisome) reminders to clean and dry various parts or risk failure.

Top Pots

After brewing gallons of coffee, we still think the Technivorm Moccamaster is the best auto drip machine on the market. It's utterly consistent: During every cycle, it hits the ideal temperature zone for the optimal length of time, which explains why its coffee was always smooth and full-flavored. It was also intuitive to use—a perk we don't take for granted when we're dialing up our first cup of coffee in the morning. On this updated model, the KBGT 741, Technivorm removed the manual "hold-back" switch on the brew basket that lets users choose to slow or temporarily stop the flow of coffee into the carafe (which you might do to steep the grounds longer or to pour a quick cup before brewing finishes). The new model does this automatically, holding back the outflow of coffee for about 30 seconds before letting it drip into the carafe, to ensure that water fully saturates the grounds; it also cuts off flow if you pull out the carafe to pour a cup. Whether you like this change depends on how much you enjoy (and would miss) coffee-geek-like tinkering; for example, some precisionists might prefer to vary the hold-back time. (The old model, the KBGT 741, is still available and we still highly recommend it.)

That said, we also identified an excellent alternative for half the money. The Bonavita 8-Cup Coffee Maker ($149) achieves nearly the same high standards for brew time and temperature as the Technivorm, but because it heats the water to a slightly higher temperature, its coffee is brighter and slightly more acidic—a plus or not, depending on your taste preference. Either way, it's our highly recommended Best Buy.

Which Winner Is Right for You?

Many coffee drinkers will be pleased with the excellent performance of the Bonavita, but if you want to invest in the best machine money can buy, the Technivorm might be for you. Here's how they differ:

**BREWING PERFORMANCE**

The Technivorm is robotic, reaching the same optimal time and temperature numbers every single time you brew a pot. The Bonavita wavers in and out of the ideal temperature zone a bit more.

**HEATING ELEMENT**

Though its exterior parts are made from inexpensive lightweight plastic (meant to be replaceable), the Technivorm's nervous system is built to last. Specifically, its heating element is made of expensive, highly conductive copper—a metal that can reach a higher temperature more quickly than can aluminum, which is what Bonavita (and most other coffee maker manufacturers) uses.

**SATURATION OF GROUNDS**

The new Technivorm KBGT and the older Technivorm KB each have a hold-back function that slows or stops the flow of coffee into the carafe, steeping the grounds longer. (On the old model, this function is manually controlled; on the new model, it automatically waits about 30 seconds.) The Bonavita does not have this function, though it's equipped with a showerhead that helps saturate the grounds evenly.

**CARAFE LID**

The Technivorm's carafe features a convenient brew-through lid; the Bonavita requires you to remove the brew basket and screw on a separate lid to keep coffee hot.

**CONSTRUCTION**

The Technivorm is hand-built in the Netherlands. The Bonavita is machine-built in China from a German design.

**LENGTH OF WARRANTY**

Technivorm: five years; Bonavita: two years.
We tested seven automatic drip coffee makers with thermal carafes. All were purchased online; sources for highly recommended models are on page 32.

**BREW FLAVOR:** We used the same batch of freshly roasted, freshly ground beans; brewed the beans with spring water; and followed manufacturer directions for a full pot. We held a blind taste test, assessing flavor, acidity, body, and overall appeal.

**BREW TIME AND TEMPERATURE:**
We brewed full pots, measuring brew cycle time, water temperature, and the percentage of brew time that the water temperature was in the ideal range. Models that brewed coffee in no more than 8 minutes and kept water between 195 and 205 degrees for nearly 90% of the cycle—industry standards for optimal flavor—rated best.

**DESIGN:** We assessed the coffee maker's and the carafe’s construction and user-friendliness, including how difficult it was to fill the water reservoir, and load the coffee and filter; to set up and start the machine and monitor its progress; and to clean the carafe, as well as to remove the used grounds and clean up.

**CARAFE TEMPERATURE:**
All carafes kept the coffee at or above 165 degrees for 1 hour and 150 degrees for 2 hours. Carafes that kept the most heat got more stars, but the score didn't affect a machine's ranking.

**WATER CAPACITY:** We listed the water capacity of each machine in ounces because the definition of a "cup" isn't standardized throughout the industry. Coffee maker "cups" range from 4 to 6 ounces.

## Highly Recommended

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
<th>Brew Time</th>
<th>Water Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TECHNIVORM Moccamaster 10-Cup Coffee Maker with Thermal Carafe</strong></td>
<td>$299</td>
<td>6 min, 11 sec</td>
<td>40 oz</td>
</tr>
<tr>
<td><strong>BONAVITA 8-Cup Coffee Maker with Thermal Carafe</strong></td>
<td>$149</td>
<td>8 min, 43 sec</td>
<td>40 oz</td>
</tr>
<tr>
<td><strong>BUNN HT Phase Brew 8-Cup Thermal Carafe Coffee Maker</strong></td>
<td>$139</td>
<td>4 min, 49 sec</td>
<td>40 oz</td>
</tr>
<tr>
<td><strong>CAPRESSO MT600 PLUS 10-Cup Programmable Coffee Maker with Thermal Carafe</strong></td>
<td>$129.99</td>
<td>10 min, 26 sec</td>
<td>40 oz</td>
</tr>
<tr>
<td><strong>BODUM BISTRO b. over Coffee Machine</strong></td>
<td>$250</td>
<td>5 min, 54 sec</td>
<td>40 oz</td>
</tr>
<tr>
<td><strong>BREVILLE YouBrew Drip Coffee Maker with Built-In Grinder</strong></td>
<td>$279.95</td>
<td>10 min, 57 sec</td>
<td>60 oz</td>
</tr>
<tr>
<td><strong>MR. COFFEE Optimal Brew Thermal Coffeeemaker, 10 Cup</strong></td>
<td>$69.99</td>
<td>7 min, 41 sec</td>
<td>50 oz</td>
</tr>
</tbody>
</table>

### Criteria

- **Brew Flavor**
- **Design**
- **Carafe**

### Testers' Comments

**TECHNIVORM Moccamaster 10-Cup Coffee Maker with Thermal Carafe**

Certified by the SCAA, the updated version of our old favorite (the KBT 741, now also $299) meets time and temperature guidelines with utter consistency. As a result, it produces a "smooth," "velvety" brew. It's also intuitive to use. The carafe lost some heat after 2 hours but still kept the coffee above 150 degrees.

**BONAVITA 8-Cup Coffee Maker with Thermal Carafe**

Simple to use and SCAA-certified, this brewer spends most of the cycle in the ideal temperature range. Its coffee had "bright," "full" flavor that was a bit more "acidic" than the Technivorm's. The wide-mouthed carafe is easy to clean, but there's no brew-through lid; you must remove the brew basket and screw on a separate lid to keep coffee hot.

**BUNN HT Phase Brew 8-Cup Thermal Carafe Coffee Maker**

This SCAA-certified pot heats the water completely before releasing it over the grounds. That explained its impressive temperature accuracy, though the coffee was somewhat "acidic." (Note: Early versions of this model showed out when home voltage fluctuated; Bunn states that it has solved this problem, and our machine worked fine.)

**CAPRESSO MT600 PLUS 10-Cup Programmable Coffee Maker with Thermal Carafe**

This model's water temperature climbed above the ideal zone for most of the cycle—hence the "bitter" complaints. Its cycle also ran too long. The design wasn't great. Controls were confusing; loading the reservoir was awkward (you must peer around the side to see the water level), and the carafe dribbled.

**BODUM BISTRO b. over Coffee Machine**

This machine's brew cycle was erratic (running first cool and then hot); its design was flimsy; and most damning, its small brew basket overflowed, pouring coffee and grounds onto its power button, which stuck "on." The carafe was the best heat retainer of the lineup and was easy to pour from.

**BREVILLE YouBrew Drip Coffee Maker with Built-In Grinder**

This is a pricey grind-and-brew machine that does the thinking for you—after you fuss with the endless customizable options. It spent a mealy 16 percent of its long brew cycle in the ideal temperature zone—no wonder the coffee tasted "weak" and "bitter." Most important, the brew basket is too small to hold the SCAA-recommended amount of coffee when brewing a full pot.

**MR. COFFEE Optimal Brew Thermal Coffeeemaker, 10 Cup**

By prescribing far less than the SCAA-recommended amount of grounds, this machine brewed "dishwater." Adding the right amount of coffee for a full pot caused the grounds to overflow the filter and gunk up the brew basket. Other design flaws: The basket's side drawer must be pulled out completely to fill—annoying if your counter is crowded—and its reservoir acquired a musty smell we couldn't eradicate.