

## Espresso Basics

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The ultimate goal of any beverage innovation team is to increase same store sales and this goal should be based on, in part, great seasonal menu development.

One of the most flexible and increasingly popular beverages is espresso. What is espresso? Is it a blend or specific coffee bean? A particular grind size? Or is it a method of coffee brewing or a specialized beverage? Many of these individual aspects do make up part of the definition of espresso. At its core, espresso is a method of preparation and a beverage. It is a process for extracting flavor from coffee beans. **The Specialty Coffee Association of America (SCAA) defines espresso as “a 25-35ml beverage prepared from 7-9 grams of coffee through which clean water of 195°-205°F (92°-95°C) has been forced at 9-10 atmospheres of pressure, and where the grind of the coffee is such that the brewing ‘flow’ time is approximately 20-30 seconds.”** This defines what is commonly referred to as a “single shot” of espresso. Many modern espresso beverages double the liquid volume as well as the dose of coffee, and the SCAA further recommends that espresso be prepared specifically for, and immediately served to, its intended customer.

### The 5 M’s of Espresso

There are five very important factors in the production of an espresso beverage and they are characterized as the 5 M’s: *miscela* is the mix, or blend of coffee used; *macinadosatore* is the grinder; *macchina* espresso is the machine used to produce the beverage; *mano dell’operatore* is the hand of the operator; and finally *manutenzione* is the maintenance of all equipment in peak operating performance.

**Extraction: The role of the barista and the role of the equipment in manual preparation and implications for super-automatics.** The barista has a great responsibility to ensure that each espresso served is prepared properly. The barista is generally responsible for dosing, volume and tamping according to the SCAA standards stated above. For example, the grind size of the coffee is a constant experiment. A good way to remember proper grind size is to envision how water flows through a bed of sand versus a bed of rocks. A finer grind size will slow down the flow of the water while a coarser grind size allows the water to flow more freely. If the barista observes the flow to be inadequate, an adjustment must be made. The added requirement for the barista to evaluate is that the SCAA definition stipulates proper flow time must occur in approximately 20-30 seconds.

Depending on the type of machine used, there are varying numbers of variables that the machine can control. The first, and most obvious, is that the machine is set to heat the brewing water to the proper temperature between 195°-205°F (92°-95°C). Also, the pump should force the water through the coffee between 9 and 10 atmospheres (or bars) of pressure. Finally, the proper amount of liquid volume for a single espresso beverage should fall in the range of 25 ml to 35 ml (0.8-1.2 oz). Ultimately, the machine regulates the flow, pressure and temperature of the water and provides

steam for frothing. However, it is the responsibility of the barista to ensure the machine remains in peak condition with proper cleaning after each pour and proper cleaning rituals on a daily basis. It doesn't take long for a poorly maintained machine to reflect its neglect in the quality of the drink. In a manual preparation, it is easy to imagine how all of these variables can differ on a day-to-day basis. Only experienced baristas who work with espresso on a daily basis become intuitive to the process and can adjust the variables by look and feel.

### **Common Beverages**

The two most common drinks are the latte (or caffe latte) and the cappuccino. Over time and between regions there has been much debate as to what defines these two drinks. Most modern baristas agree that there is a difference in the ratios of steamed and frothed milk to espresso, while some also say there is a difference in milk texture. In general, a latte is roughly one third or less espresso, and two thirds steamed milk with only a little bit of frothed milk (or foam) on top. A cappuccino is often described as having equal parts espresso, steamed milk, and frothed milk. The SCAA recommends a range from 140°–160°F (60°–70°C). At around 140°F milk's natural sugars are the most dominant taste. A temperature hotter than 160°F can lead to a nuttier, baked quality.

**Macchiato**—Espresso can be 1-2 shots. Topped with a small amount of textured milk, or foam only.

**Cappuccino**—One shot of espresso. Equal parts steamed and micro-foam milk, poured together and the micro-foam separate.

**Latte**—In general, 1-2 shots per 8 oz of beverage. Most of the beverage is steamed milk. Then topped with micro-foam milk.

**Iced Latte**—Espresso pulled over approximately 4 oz of milk, and then topped with ice in a 16 oz cup. Adding espresso to milk first creates a sweeter, nuttier flavor.

**Mocha**—In general, 1-2 shots per 8 oz of beverage. Combine espresso, milk, and chocolate sauce. Most of the beverage is steamed milk. Topped with micro-foam and/or whipped cream.

**Iced Mocha**—Espresso pulled into chocolate sauce, stirred while adding approximately 4 oz of milk, then topped with ice in a 16 oz cup. Mixing espresso with chocolate first helps incorporate chocolate flavor throughout the beverage.

**Americano**—In general, 2-3 shots of espresso per 8 oz of beverage. Hot water to fill cup about  $\frac{3}{4}$  full. Top with espresso.

**Iced Americano**—Espresso pulled over approximately 4 oz of fresh cold water, then topped with ice in a 16 oz cup.

## **Machine Maintenance**

Machine maintenance is the final and most important part of the 5 M's of espresso. Unfortunately, since maintenance is a very detailed and back-of-the-house process, it is often the most forgotten of the 5 M's. With the proper preventative maintenance a company can prevent downtime and avoid costly repairs.

One of the most common issues is the invisible damage that happens internally from poor-quality water. Water quality varies immensely depending upon geography, and each location means different treatment to be acceptable for use in espresso equipment. Having the water tested to find the proper filtration method required is the first step, but it must be maintained on a regular basis. Quality water not only keeps the machine in good working order, it also ensures the highest standards of taste in the espresso beverage.

Coffee is a powerful flavoring agent, such that everything that comes into contact with the coffee during the espresso-making process will need periodic maintenance. The espresso machine itself will require periodic maintenance to ensure that coffee oils do not build up, which can adversely affect espresso flavor.

Grinder chambers and burrs will also need scheduled cleaning. Over time, grinder burrs will wear down and need replacing.

As we learned in the previous section, there are other parts of the machine that are involved in the beverage creation process, such as the milk steaming wand or other accessory. Depending on the machine type there could be various steps to take to ensure the milk steaming parts are both sanitized and in good repair.

Fortunately with super-automatics, the machine often reminds the barista crew of required maintenance. Although manual preparation may have a certain allure, it is for this reason that a customer can depend on a super-auto to deliver consistent drink quality, shot after shot.