



**HI FRIENDS**—it’s been awhile! We apologize we haven’t been around much lately, and we could give you a bunch of excuses like, “Traffic has been terrible,” or, “The sight of a keyboard makes my arthritis flare up.” But all we really needed was a good ol’ fashioned “Get back in there, slugger!” from our pals Sarah and Ken of *Barista Magazine*! All kidding aside, we’re stoked to be back in this special 15th-anniversary issue with some great new questions. Please feel free to send in any of your own questions for us to answer—this column wouldn’t exist without them! And if you find yourself in our beautiful

hometown of Portland, Ore., for the Specialty Coffee Expo April 23–26, please try to stop by the Black Rabbit Service shop and say hello if you have time. We love meeting new people and can’t wait to share Portland with y’all!

*How long do I need to flush the groups on a heat exchanger machine?*

Great question! Let’s talk about what a heat exchanger machine is first. To put it simply, a heat exchanger-style espresso machine refers to when we transfer heat from the steam boiler

to the water we use for espresso. This is done by running a fully saturated tube of cold water through the steam boiler and up to the brew group. As the steam boiler heats from the electric heating element (or gas if you're old-school), it also heats the water in the tube, allowing us to dispense hot water from the grouphead. Such a simple and clever way to heat water without having to install multiple boilers, heating sources, and electronics, right?!

It does, however, leave a lot to be desired in the way of temperature control. Because the steam boiler needs to be set around 255–265° Fahrenheit to generate and maintain steam, that means the water in the heat exchange tube is probably boiling, which is not typically desirable for espresso. If this is happening, it will be obvious to the barista because when they turn on the brew group, the water will hiss and sputter on its way out. But as you run/flush the group, you're bringing in fresh cold water to the heat exchanger, thus cooling it down.

Many shops will do this once an hour, for example. Espresso machine cleaning detergent should be brought out for the end-of-the-day backflush. This is what really gets those oils and residues broken down and helps keep the rancid flavors that can build up in the valves and on the group components at bay. You can also soak the portafilters and screens, but try to keep the actual handles out of the solution.

To your question of removing coatings, some manufacturers use brass portafilters that have a nickel-plate coating over the brass, and over time this nickel definitely can wear off, exposing the brass beneath. Some manufacturers like La Marzocco have moved to stainless steel portafilters to avoid this issue, and as a side benefit, they tend to also be easier to clean with just some hot water and a wipe with a towel. Airpots and shuttle dispensers should also be cleaned daily. Most are made of an all-steel thermally insulated bottle, and some are lined with an insulated glass bottle. Either way, they can

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My advice for how long to flush the group before pulling a shot is simply until you have a smooth stream or shower of hot water and it's no longer sputtering and hissing. Then you know you are somewhere in the ballpark of an ideal brewing temperature. You can over-flush and make the water too cool for brewing espresso by not giving the water enough time to heat in the exchanger tube, so be mindful of that.

Baristas working on heat exchanger machines really need to be in tune with their equipment. Over the years engineers have figured out a few different ways to temper the water at the brew groups by mixing in cold water after it goes through the heat exchanger or by restricting the flow rates, and the size and length of tubing. So some modern heat exchange machines have fewer issues with boiling water at the grouphead.

—Double J

*Is there such a thing as “too much cleaning” (i.e., can you backflush too much, or is it possible to strip some kind of protective coating from the inside of your airpots)?*

Cleaning should be a big part of any café's daily duties. While I am sure that there is a point where someone might be doing “too much” cleaning, in my experience there are many more and much worse problems that are caused when people do not clean enough. That said, let's talk about how often you really should be cleaning. For commercial espresso machines you can backflush with water (sans detergent) throughout the day,

stand up to repeated soaks with no issue. The main thing is to not run any of this stuff through a dishwasher or sanitizer, as that will often shorten their life span considerably.

—Alex

*How can baristas learn more about taking care of simple issues that come up with equipment?*

I might answer this question slightly differently than the person who asked it intended, but I like where my thoughts went when I read it. One thing that has become clear from answering so many service calls all these years is that what is simple for one person can be challenging for another. I think the best approach for baristas is learning a few key things:

1. Know where the breaker panel is.
2. Learn where the power switches on the equipment are.
3. Know how to shut the water off.
4. Have the contact information for your local service technician handy.

I would also like to mention that if you do need to call a technician, make sure you do it while standing in front of the equipment that needs attention. We often get calls from owners, managers, and coffee leads when they're not on site, and that can really slow down any potential troubleshooting that could be done over the phone. I understand needing to get approval before scheduling a service call, but critical

information often gets lost when it comes secondhand.

Another helpful thing to do is strengthen your barista vocabulary. I'm not talking about Gibraltar versus flat white here; I mean you should learn what things on the machine are called. Maybe the "coffee handle thingy" actually has a name? Knowing the brand and model of the equipment you use every day is an invaluable piece of knowledge, and you can go the extra mile and learn what brand and type of water filters you use, too!

I hope that answers your question. I really do think knowing some of those things adds huge value to any baristas skill-set and to the café where they work. As far as digging into the machines goes, I like to leave that to the trained technicians!

—Double J

*Is it OK to just use one grouphead or steam wand for most of your drinks, or should I use all parts of the machine equally?*

You should definitely use all the groups on your machine if you have more than one, even if that means that you assign a different group to be used per day of the week. The point is you want to keep the water flowing through all the internal parts of the machine (valves, jets, tubes, heat exchangers, etc.) or you can run into minerals and other nastiness that will start growing in the areas where water flow is low. Another issue caused by disproportionate use of groups is imbalanced wear and tear on the group bayonet clamp ring (the part of the group that

the portafilter fits up into), and on the portafilters themselves, which results in certain portafilters only fitting into certain groups or your friendly technician needing to use two or three different gasket sizes to make all the portafilters fit at the same angles when you get that quarterly preventive maintenance.

Almost every shop has a preferred steam valve, sometimes because that left wand is too close to the grinders. Or maybe the right one is stuck up against the wall. Either way, it seems every shop has a favored steam wand, and that's OK. I would say again it's a good idea to maybe open both valves once in a while just to keep things flowing through them both, but in my experience, this is less important with steam valves than it is with groups.

—Alex

## Got a question about coffee equipment?

We'd love to help! Just email your thoughts and queries to [highmaintenance@baristamagazine.com](mailto:highmaintenance@baristamagazine.com).

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