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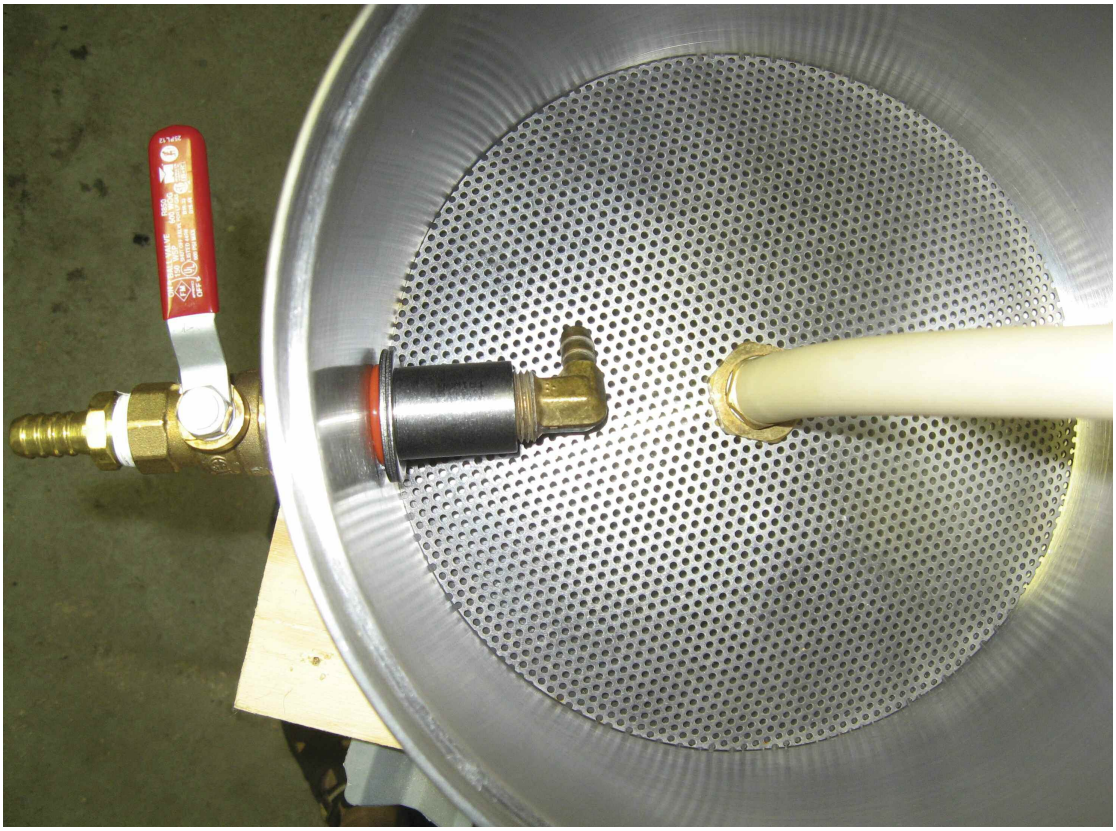
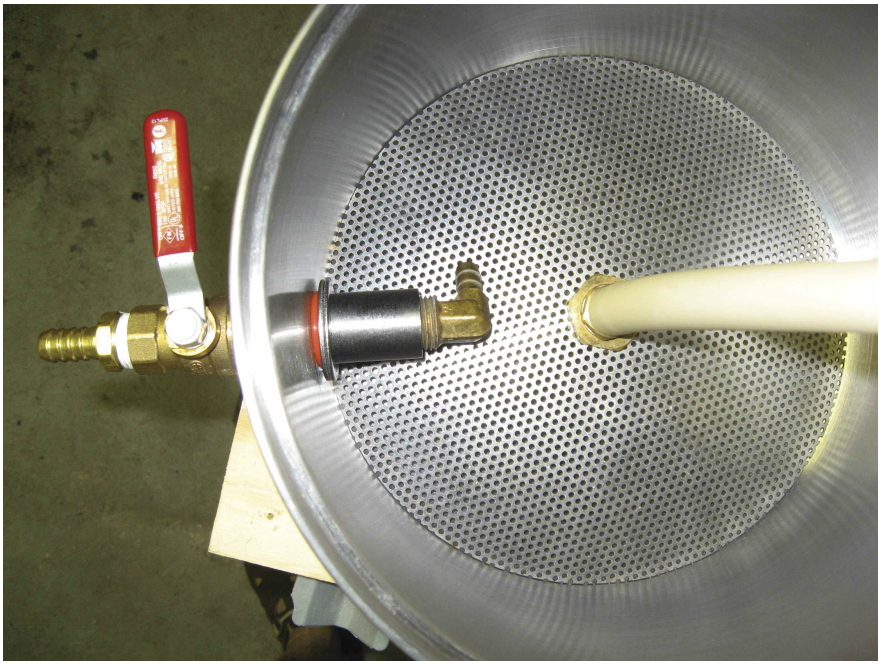
FRENCH PRESS HOPBACK



French Press Hopback

Story and photos by **Forrest Whitesides**

The concept of a hopback — a device containing hops through which you pump your still-hot wort before it is chilled — is certainly nothing new. It's a technique both pros and homebrewers have been using for years. In professional brewing applications, a hopback (also sometimes called a hopjack or simply a hop separator) has traditionally been used to remove cone hops from the wort post-boil. The process of loading the hopback with fresh hops — as a means to add flavor and aroma to the wort as it is pumped to the chiller — was a subsequent innovation in commercial settings. But homebrewers can use the basic concepts behind a hopback to add a new dimension of hop kick to their beers.



While the designs for hopbacks are as varied as the brewers who use them, this hopback project resembles the operation of a French press coffee maker. It offers superior filtering and maximum wort-to-hops contact surface area. For this hopback (and most other hopbacks I've seen) to work properly, you should use whole hops instead of pellets. Hop pellets break down into particles too fine to be strained out and thus are not suitable for hopback use.

A lot of hopbacks are made from a CPVC or metal cylinder and often use a pump to push the wort through. The wort goes into one end of the cylinder, which is loaded with fresh leaf hops, and then flows through the other end into a counterflow chiller.

Instead of that setup, we're going to gravity-flow (or optionally pump) hot wort into a small pot with hops held under a false bottom and then let the beer flow up through the hops and out of a ball valve into a counterflow or plate chiller.

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Parts and Tools

- 8-quart (7.6 L) or larger cooking pot
- False bottom that fits into the pot
- Ball valve with bulkhead fitting
- ½-inch male NPT-threaded hose barb
- High-temperature, food-safe tubing

1: DESIGN AND POT SELECTION

The design for this hopback project is built from three main critical components: an 8-quart (7.5-L) (or larger, depending on your needs) common cooking pot, (see photo) a false bottom and a ball valve with bulkhead fitting. You'll also need a ½-inch male NPT-threaded hose barb and some high-temperature, food-safe tubing.

2: FALSE BOTTOM AND BALL VALVE

The most important thing in selecting a pot is to make sure the diameter is very close to the diameter of the false bottom you're going to use. I chose a Northern Brewer 9-inch (22.5 cm) diameter false bottom commonly used in lautering, but you can also go with a 10-inch (23-cm) or 12-inch (30.5-cm) false bottom. Whatever you choose, make sure that it fits the pot you intend to use and that it is safe for use with near-boiling liquid. (Hint: I took my false bottom into a department store and tested the fit in several pots before making a purchase. You might get a few funny looks, but it'll save you a big headache down the road.) Either stainless steel or aluminum pots are fine for this, but I recommend stainless. There are many inexpensive and widely available stainless pots in this smaller size.

I recommend a ½-inch ball valve to allow for an outflow that will be close to matching the inflow from the kettle. I used a spare weldless kettle conversion kit from Zymico from another project, but you don't necessarily need something that fancy — choose a part that suits your budget and needs.

3: DRILLING THE POT

This is probably the trickiest part of the project, and the one step you want to get right the first time. There are no do-overs when drilling a hole. For an in-depth look at proper drilling techniques for both stainless steel and aluminum, see page 22 of this special issue. I recommend using a step-drill bit for drilling, especially for stainless steel. With aluminum, you can get the job done with a spade/paddle bit.

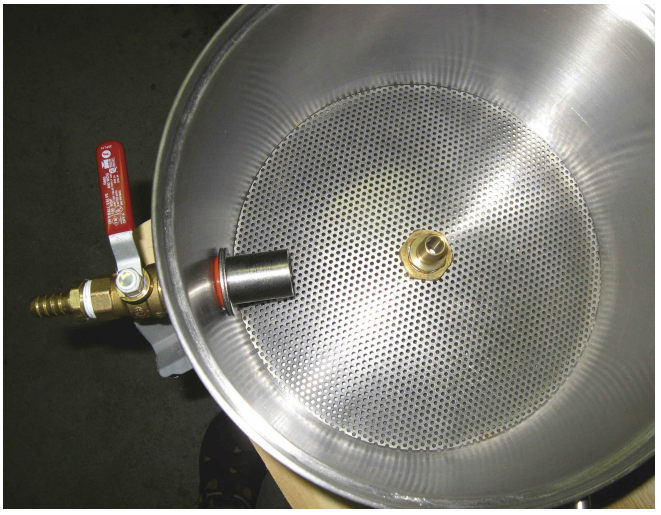
Drill a ⅞-inch hole approximately 1.5 inches (4 cm) up from the bottom of your pot. What is critical here is to put the hole high enough so that when the ball valve and bulkhead are installed there is enough clearance for the false bottom to be easily inserted and removed. I highly recommend doing a few test placements of the bulkhead - before you drill - to make sure it's high enough (you'll need an extra set of hands to help you do this). The horizontal placement of the hole is up to you, but I personally prefer to have it about 90 degrees from the handles.

4: INSTALLING THE VALVE AND FALSE BOTTOM

Install the bulkhead portion of the valve and then screw on the ball valve itself. Do not over-tighten, as you could possibly damage the gaskets.

The false bottom comes with a 90-degree barbed elbow fitted in the center of the screen. Unscrew the top nut holding in the elbow and remove the fitting. In its place, screw in a ½-inch male NPT-threaded hose barb and replace the top nut to secure it.

Now simply slide the false bottom in under the bulkhead fitting and you're done. If you used a Zymico weldless bulkhead (or made your own with similar parts), you can use the barbed elbow that you removed from the false bottom as a pickup tube to minimize the wort lost to the dead space in the hopback. Just screw it into the bulkhead and push the barb down against the false bottom.



5: USING THE HOPBACK

The operation of this hopback is fairly straightforward:

- Put some hops in the bottom of the hopback
- Slide in the false bottom (above the hops)
- connect the hopback's hose barb to your kettle's ball valve via high-temp tubing
- open the outlet valve on the hopback, and then
- open the valve on your kettle.

The hopback's outlet valve, of course, will be connected to the "wort in" side of your counterflow chiller, also with high-temperature tubing.

6: SOME THINGS TO CONSIDER

If you use the barbed elbow as a dip tube, be aware that it will somewhat restrict the outlet flow of your wort. In this case, your kettle valve should only be opened between half and two-thirds of maximum flow to make sure the hopback valve can keep up with the inflow of wort.

Also, because of the nature of the design, if you intend to use a pump with this hopback, be sure you can restrict the flow rate enough to avoid an overflow of the hopback reservoir (the pot).

Another consideration is that since the flow into your chiller will likely be at a lower rate than you are used to, you should adjust your cooling water flow rate accordingly.

With the hopback pictured (9-in./23 cm false bottom in a 8-quart/7.6 L pot), I find that 1–3 ounces (28–85 g) of whole leaf hops works best. More than three ounces (28 g) is a tight fit once the hops are fully hydrated, but it can be done. If you're going to try to cram a whole lot of hops in there, I recommend not breaking up the hops after taking them out of their vacuum-packed bags. Using too much, however, may cause the false bottom to lift up and allow hops to get pulled into the valve and into your chiller (possibly causing a frustrating clog). Using a larger false bottom will more easily accommodate larger quantities of hops. Stepping up the size of the false bottom and pot may be a good option if you plan to brew 10-gallon (38-L) batches. BYO