



THE INDOOR/ OUTDOOR BREWERY



Please note all file contents are Copyright © 2020 Battenkill Communications, Inc. All Rights Reserved. This file is for the buyer's personal use only. It's unlawful to share or distribute this file to others in any way including e-mailing it, posting it online, or sharing printed copies with others.

THE INDOOR/ OUTDOOR BREWERY

Don't let a wall stop you

Like so many homebrewers, I started off several years ago by brewing 5-gallon (19-L) extract batches in my kitchen. When it was time to step up to all-grain brewing and 10-gallon (38-L) batches, I was faced with several options: 1) I could set up a brewery in my filthy, too hot/too cold garage with no plumbing, 2) I could drag everything out to my yard and back inside again and be completely at the mercy of the elements, or 3) I could set up a full brewery in my basement. The third option would require a heavy-duty exhaust fan system to remove the 1–2 gallons (4–8 L) of moisture from the boil-off, the overpowering hops smell (which my family doesn't care for), and the carbon monoxide (CO) from high-power gas burners. And I was told by more than one contractor that an exhaust system would create negative air pressure in my basement, which would pull in dangerous radon gas (welcome to New Jersey!). I could eliminate the CO problem by having an electrician run 240 V lines for a full electric brewery, but that would still leave me with the moisture, smell, and radon issues.

As none of these three options were particularly attractive to me, I racked my brain to come up with an alternative: How about an indoor/outdoor brewery?! Why not mash and ferment in the comfort of my climate-controlled finished basement, then conduct my hour-long boil with a high-

powered gas burner in my backyard? Since I didn't have a conveniently located window (for those that do, you could just run a hose through it), all I needed for this plan to work was the willingness to drill a ½-in. (15 mm) hole in the back wall of my house to install a copper transfer pipe with the appropriate fittings and quick disconnects. So if you don't have a window, or if you want to keep insects and the heat/wind/cold out of your house while brewing, or if you simply prefer a more clean solution, then this project may be for you.

I collect my wort in a grant (I use an insulated beverage cooler) instead of a boil kettle. Once all the wort is collected in the grant, I pump it through the wall pipe and out to the kettle. When the boil is over, I pump (or just use gravity) the wort from the kettle, back through the wall pipe, and into the fermenter. This setup has allowed me to brew year-round in relative comfort, and at a great price. If you already have all of the other brewing equipment, the cost of the wall pipe itself, with camlock fittings, is less than \$20!

As a recent upgrade (optional but highly recommended), I purchased a wireless BBQ thermometer with a temperature alarm. I attached the stainless steel temperature probe to the kettle using a compression fitting and some small O-rings, so I can monitor the kettle temperature from my basement to avoid boil-overs.

Why not mash and ferment in the comfort of my climate-controlled finished basement then conduct my hour-long boil with a high-powered gas burner in my backyard?

Tools and Materials

- 1 ft. (30 cm) of ½-in. (15-mm) copper pipe
- (2) ½-in. (15-mm) copper x FPT adapters
- (2) ½-in. (15-mm) MPT camlock fittings
- Pipe soldering equipment (solder, flux, torch)
- Teflon tape
- Epoxy putty
- ½-in. (15-mm) drill bit (masonry or wood)
- Electric drill (hammer drill preferred for masonry)
- A brewing pump (if you don't already have one)
- Wireless remote digital thermometer (optional)
- Probe compression fitting ½-in. MNPT x ¼-in. probe (optional)



Photos by Brian Budris

STEP BY STEP

1. CHOOSE A LOCATION FOR THE WALL PIPE AND CUT PIPE TO LENGTH

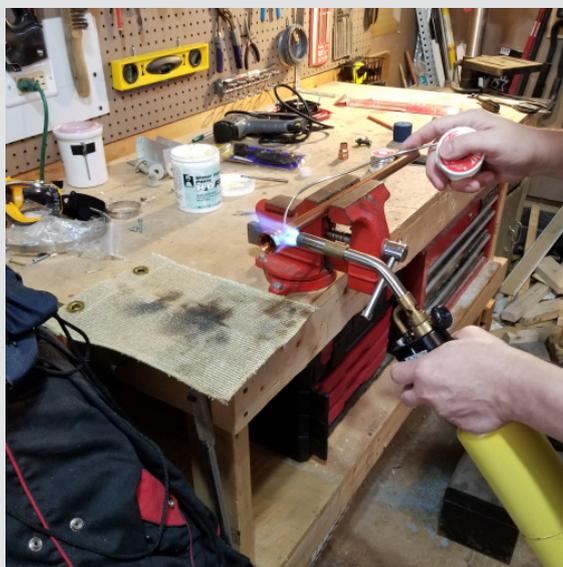
You will want to pick a location that's near a water and/or natural gas source inside, with a level spot outside for your kettle burner. If you don't have a paved surface outside, you may want to buy a large patio block paver for the burner to rest on. I installed my pipe approximately 1 ft. (30 cm) above exterior-ground level, through the concrete block basement wall. Cut the pipe approximately 4 in. (10 cm) longer than the thickness of your exterior wall to allow for a 2-in. (5-cm) protrusion on either side.

2. DRILL A HOLE THROUGH THE WALL

Drill a ½-in. (15-mm) hole through the exterior wall of your house using a hammer drill and a ½-in. (15-mm) masonry drill bit. I drilled my hole as level as I could, but if I had to do it again, I would have drilled it at a slight angle to allow the pipe to drain better. If you are running the pipe through a wood frame wall, use a wood drill bit. Make sure that you don't hit any plumbing or electrical lines inside the wall!

3. ATTACH THE INTERIOR FPT ADAPTER AND INSERT PIPE THROUGH THE HOLE

Solder on the interior FPT adapter prior to inserting the pipe through the hole. If your interior wall is finished, you may want to slide a trim ring onto the pipe before running it through the wall. If the pipe does not go through the wall easily, you may need to try to slightly enlarge the hole or else cover one end of the pipe with a wood block for protection and tap the block with a hammer.



4. ATTACH THE EXTERIOR FPT ADAPTER AND CLEAN THE PIPE

Solder the exterior FPT adapter onto the outdoor end of the pipe. Clean the flux from the inside of the pipe using soap, water, and a tube brush.



5. SEAL AROUND THE PIPE

If you ran the pipe through a masonry wall, use epoxy putty to seal around the pipe and hold it firmly in place. Roll the putty between your hands to form a tube, wrap it around the pipe at the wall, and press in place with your fingers. If you ran the pipe through a wood frame wall, you will want to caulk around the pipe and hold it in place by attaching a right angle bracket to the wall on either side of the hole and clamping it to the pipe with a hose clamp.



6. SCREW ON THE MALE CAMLOCK FITTINGS

Wrap the threads with Teflon tape and screw a male camlock fitting (other quick connect fitting) into both of the FPT adapters. You will now be able to easily attach transfer hoses to both ends of the pipe. You may want to purchase a couple of small buckets to hang from either end of the pipe as drip catchers (a set of three 1-qt./1-L galvanized buckets with handles is available online for around \$15). You may also want to purchase a couple of camlock caps or covers from Brewhardware.com to keep hot/cold air and insects from entering your house through the pipe when not in use. 

