

# Brew the best of

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**YOUR OWN**

## **PORTABLE KEGENERATOR**



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# Portable Kegerator

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**a**dding a kegger system to your homebrew setup is often a welcome addition (and relief) to brewers. You can save time that would normally be spent bottling, precisely control and adjust carbonation levels, and you do not need to wait on the natural carbonation process.

The problem arises when you want to take your finely crafted draft beer on the road. You need to either use a counter-pressure filler to bottle from the kegs (see the previous project in this section), or you can simply fill a growler from the tap and then consume the beer quickly (the carbonation is hard to maintain for more than a few hours). While the counter-pressure filler is a great tool, it deprives you and those who consume your beer of the true draft experience and it requires the use (and subsequent cleaning) of glass bottles.

kegerator and take it with you to picnics, camping trips, parties, etc.

I stayed with a single-keg setup, as this is simpler and less costly than a two-keg setup. The same principles apply, so just scale up if you want to go with multiple kegs.

Also, I built this project in two different sizes — the first with a 70-qt (66-L) rolling picnic cooler, and the second with a 5-gallon (19-L) round cooler. The larger version includes a draft tower. Any big temperature differential between dispensing hardware and beer will cause foaming, and this can happen with this cooler build, especially if the tower is warm. This is not a huge deal if you are using under-carbonated beer. However, if you're in a hot environment, the tower will heat up as it's not in contact with the ice in the cooler and all the metal that the beer comes in contact with will change the beer temperature, causing



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the CO<sub>2</sub> to come out of solution until the shank or faucet cools down. Therefore, it might take pouring up to two or three pints to settle down. Just keep that in mind.

## Parts and Tools

- 3-gallon (11-L) keg
- Igloo Ice Cube Maxcold 70-qt. (66-L) roller picnic cooler or 5-gallon (19-L) round Gott or Igloo cooler
- 5-lb CO<sub>2</sub> cylinder, or one Genuine Innovations CO<sub>2</sub> charger
- Dispensing hardware (For the big cooler, I used a Perlick single-faucet draft tower. I used a 3-inch faucet shank from Northern Brewer and a cheap faucet for the round cooler. You can choose other hardware based on your needs and taste).
- 10 feet (3 m) food-safe beverage tubing
- Keg lube
- Power drill with a hole saw bit and a spade bit

## 1: KEG

The best keg size for this project is 3 gallons (11 L), although 2.5-gallon (9.5-L) kegs can work as well. Both sizes have the same diameter as their larger 5-gallon (19-L) cousins, but they are about 8 inches (20 cm) shorter. Because of the relatively small number of 3-gallon (11-L) kegs in circulation, buying new is generally only a few dollars more than buying used. The typical cost of a new 3-gallon (11-L) keg is around \$100; used is around \$85. For the extra \$15 to \$20, I'd recommend going with a new keg that you can be sure holds pressure and is clean.

I have two 3-gallon (11-L) kegs, one of which has the traditional hard rubber handles on the top, and the other which has no rubber on top and a single stainless steel handle. They are both the same height overall at the highest point (about 16.5 inches) but the one without the rubber handles is a bit easier to fit into small spaces, including the round cooler, because it is shorter and narrower around the outer top edges. The rubber-handle keg with the vinyl graphic Kegwrapz was graciously donated by Final Gravity Podcast ([www.finalgravitypodcast.com](http://www.finalgravitypodcast.com)).



## 2: COOLER, CO<sub>2</sub> SOURCE AND DISPENSING HARDWARE

For the CO<sub>2</sub> source, you have two options: a small cylinder or a mini “keg charger” that uses small CO<sub>2</sub> cartridges. The keg charger is cheaper and smaller, but it does not provide a way to monitor or regulate the pressure in the keg. For cylinders, you can choose a 2.5-pound or 5-pound cylinder.

For the dispensing hardware, there are two options as well: a through-wall faucet shank or a draft tower. The choice will come down to a combination of cost and space available in the cooler. Get your cooler first and then measure before you buy your dispensing hardware. You will also need a set of disconnects (gas and liquid) for the keg. If you plan to use the keg charger to push the beer, you must make sure that the gas-in disconnect has the MFL-style tubing connector, as this is what the charger threads into directly. Do not get the barb-style gas disconnect.



## 3: INSTALLING THE TOWER

For installing the tower, mark off where you want it centered on the cooler lid and then drill the center hole for the beer line. Some towers have a short 3/8-inch shank at the end of metal tubing, while others have 3/16-inch ID tubing. A hole saw works great for the larger hole, while a spade bit is great for the smaller diameter. Fit the tower over the center hole and drop the beverage tubing through. Now mark the holes for the retaining/mounting bolts (the tower likely has four such holes), remove the tower, and drill the mounting bolt holes. My tower took #10–24 sheet metal screws, but yours may vary. I also added neoprene and metal washers on the inside, but this is almost certainly not necessary. The nuts alone will grip the semi-soft lid material adequately.





#### 4: SHANK

If you want to go through the side of the cooler, use a  $\frac{7}{8}$ -inch hole saw to make an opening that's just the right size for a faucet shank. Before drilling, put the keg (and cylinder, if applicable) in the cooler and dry fit the shank to make sure it will clear the top of the keg. A short shank (3 inches/8 cm is a good length for the round cooler) will have enough clearance to allow inserting and removing the keg without having to first remove the shank.



#### 5: CONNECT AND TEST

Now that the dispensing hardware is fitted, you can connect all the tubing and get ready for a test run. Put the keg and CO<sub>2</sub> source in the cooler and attach the disconnects. **NOTE:** If you are using the keg charger, thread it to the gas-in disconnect but make sure you do not have a cylinder in the chamber. You are just adjusting the position of the charger and you do not want to have the charger loaded for this. Now, connect the rest of the tubing to liquid-out and gas-in sides. Like any keging system, the right amount of line resistance is required to keep the beer from foaming too much as it is dispensed. Shoot for around 8–10 feet (2–3 m) of beverage tubing and then adjust as necessary. Close the cooler lid and make sure it fully and securely closes. If it does not, rearrange the tubing or move the position of the keg and CO<sub>2</sub> source to help the lid close more securely. If you still can't get the lid closed all the way, you may need to cut out part of the lid (see photo).



#### 6: FINISHING UP

The Ice Cube cooler has a ton of room inside, so spacing should not be an issue. Since there was space, I went ahead with a 5-lb CO<sub>2</sub> cylinder. There is still plenty of room for ice as well as bottled water, soda, or packaged food. I've also seen other homebrewers fit two 3-gallon (11-L) kegs in an Ice Cube cooler, so that is also an option. If you go with a single keg, you'll want to load the cooler with ice or cold packs to keep things from shifting. The round cooler makes for a more compact option, and if you go with a shank it is by far the cheaper of the two projects, but it does have drawbacks. Unless you mount a small cylinder outside the cooler, the only thing that will fit inside is the tiny keg charger, and there is not much room left for ice. Additionally, you will likely have to cut out a portion of the lid, which will reduce the insulating properties of the lid. This may require the addition of additional insulation material to prolong the life of the small amount of ice the cooler can hold. [BYO](http://byo.com)

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