



BREW CRAFT

Beer Keg System

The complete guide to kegging and dispensing your beer.



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Your Beer Keg System includes:

Two Reconditioned 19 Litre Ball Lock Kegs
CO₂ Regulator
Plastic Gas Disconnect (Grey)
Plastic Liquid Disconnect (black)
Stainless Hand Gun **OR** Stainless Fridge Tap (dependant on key system purchased)
3.6 metre length of 5mm gas/beer line
Stainless Hose Clamps x 3

You will also need:

CO₂ bottle
Converted fridge to hold your kegs
Tubing (see "Transferring your beer to the keg")
Clearing cube (see 'Helpful points to note')

Setting up your Beer Keg System

KEGS:

The kegs used in this system are second hand post-mix kegs. They are made of stainless steel with a hatch cover for ease of cleaning and filling. They include gas in and beer out valves as well as a safety release valve. These kegs have a capacity of 19 litres and have been reconditioned prior to sale.

DISCONNECTS:

The kegs supplied are fitted with ball lock (snap lock) fittings. The ball lock is made from hardened plastic and works on the same principal as your standard garden hose fitting. They click on and click off for easy connection and disconnection of the beer and gas lines from the keg. The grey disconnect is for the gas (In) side of the keg and the black one is for the dispensing (Out) side of the keg.

CO₂ GAS BOTTLE:

A gas bottle is not supplied with your keg set. Gas bottles are available for hire from your local CO₂ gas supplier. Some of your local gas suppliers will probably include BOC Gases and Air Liquid. There is usually a nominal monthly hire charge and then a charge each time the bottle is filled. The gas bottles come in various sizes, the most common and easiest to handle is the "D" size bottle. This is a bit taller than knee height and weighs less than 20kg. Other sizes are available but can be quite heavy and difficult to move, as well as a bit unsightly.

REGULATOR:

A full CO₂ bottle holds a pressure of approximately 5600 kpa (800 psi), which is a bit more than the 250 to 300 kpa (35 - 47 psi) that you will need to pressurise your system. The regulator is the piece of equipment that reduces the pressure to workable levels. The regulator screws onto the gas bottle and reduces the pressure to safe levels. The regulator is adjusted by a knob, setscrew or bolt depending on the regulator supplied.

There are two gauges on the regulator, one displaying the gas bottle pressure and the other displaying the pressure inside the keg. The CO₂ in the bottle starts out as a liquid. The pressure of the gas in the headspace of the bottle will be between 5000 - 5600 kpa (700 - 800 psi) depending on the temperature of the bottle.

The pressure gauge on the regulator showing high pressure from the gas in the bottle will only begin to fall when all the liquid is gone, so the best way to determine how much CO₂ remains in the bottle is by weight not pressure. It's a good idea to make a habit of weighing your bottle when you first get it. The bottle will be weighed and stamped when empty. The empty bottle weight is on a tag around the neck of the bottle.

PREPARING THE FRIDGE:

The easiest way of protecting and serving your beer is by storing the kegs in a fridge. Like bottled beer your kegs will need to be kept cold. With a standard keg holding a full batch of beer and being somewhat bigger than a bottle, your fridge is going to need to be changed to suit your kegs. You may need to remove some or

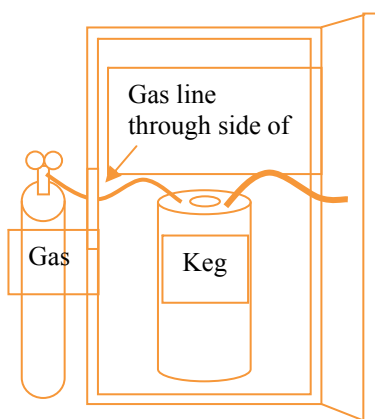
all of the shelves and you may also have to level the base, particularly if it is an older style fridge as these are often not level.

Some fridges have wiring or plumbing in the internal walls of the fridge. The following procedure will need to be performed by someone experienced with your particular fridge.

They will need to drill a small hole to bring the gas line from the regulator into the fridge. Whether they choose the side or back of the fridge depends on your preference and the location of existing wires and plumbing.

Important: Make sure all power is disconnected prior to drilling. Take care when drilling any holes through the walls of your fridge, the wiring systems and cooling systems will vary from fridge to fridge.

Try to use a drill bit just large enough to allow the gas line to fit snugly through the hole. Before sealing the gas line check there is sufficient length of line to reach the gas bottle which will be stored outside the fridge. Seal the gas line using a pair of nip end pliers to crimp the hose provided.



If your keg system is going to have a beer gun it's just a matter of cutting the beer line to a length that suits you and attaching the gun to one end of the line and the beer disconnect to the other. The length of line should be between 1.5 and 2 metres long. If you choose to have a tap, there are more holes to be drilled. If you require the tap to be fitted onto the door of the fridge then make sure there is enough beer line so that the door can be opened fully. If you decide to have the tap fitted to the door, when the back nut is tightened it may collapse the wall of the fridge door. We have found a small length of PVC pipe pushed over the shank of the tap allows the tap to be tightened so that it is secure, without damaging the wall of the door.

Using your Keg system

FERMENTING YOUR BEER:

Ferment your beer in the normal way. When fermentation is complete add Brewcraft Beer Finings and stand in a cool place. If you are using a heater pad or similar, make sure it is turned off at this point. It will usually take 2 days to settle and for the beer to become bright. When the beer is clear it is time to transfer your beer to the keg.

CLEANING AND STERILISING YOUR KEG:

Once fermentation is complete it is time to clean and sterilise your keg using Brewcraft Keg & Line Cleaner.

How to clean and sterilise your keg ready for use:

Release any pressure in the keg by operating the pressure relief valve.

Remove the lid and rinse out any remaining beer from the previous batch.

Add 4 teaspoons of Brewcraft Keg & Line Cleaner and top up with warm water.

Leave to stand for 15 minutes.

Empty the keg and scrub the inside surface with a brush or plastic scouring cloth to remove any build up.

Add 4 teaspoons of Brewcraft Keg & Line Cleaner and top up with warm water to within 25mls of the small gas inlet tube (approximately 19 litres).

Fit the hatch cover and connect up the gas connect to the IN post and the tap to the OUT post.

Adjust the pressure to 70kpa (10psi) and open the tap to run some steriliser through the beer line and out the tap.

Let stand for 5 minutes and repeat process to sterilise the inside of the beer line. Disconnect the gas inlet and release the pressure from inside the keg, drain the keg and refill with clean water.

Reconnect the gas and set at 70kpa (10psi).

Open the tap so that the water in the keg replaces all the steriliser in the line.

Disconnect the gas and empty out any water from the keg.

TRANSFERRING YOUR BEER TO THE KEG:

Fit a length of sterilised tubing to your fermenter tap. This tubing should be long enough to reach the bottom of the keg so that you fill the keg from the bottom without splashing the beer. You will notice that there is a tube in the keg running from the top of the keg to the centre at the bottom. This is called the Dip Tube and is used to draw the beer from the keg. There is also another tube that is quite short in length. This is the CO₂ inlet, where the CO₂ is injected into the beer.

Your keg should be filled to approximately 12-25 mm (1/2 to 1 inch) from the bottom of this tube. Any remaining beer can be bottled using 2 Brewcraft Carbonation Drops for each 750 ml bottle, making sure to seal the bottle securely. Once the keg is full, replace the hatch cover and move keg to the prepared fridge. Assuming your gas line was cut to length it should be long enough to reach outside the fridge so you can connect it to the gas bottle. Turn the gas bottle on and set the pressure on the regulator to between 70 and 100 kpa (10 - 15 psi) and connect the gas line to the keg.

PRIMING THE KEG WITH CO₂:

You need to purge the headspace of the keg of any oxygen to protect the beer from oxidation. By releasing the pressure release valve, the CO₂ will flow into the keg and the air will flow out through this valve. This is called burping the keg and is best done in three short bursts.

CARBONATING:

The absorption of the CO₂ into your beer can depend on many things, most particularly the temperature of the beer, the pressure at which it is applied and the length of time pressure is applied.

The CO₂ will be absorbed at a faster rate when the beer is cold (the beer will not absorb gas at room temperature) so if you apply 230kpa (32 psi) continually for 2 days under normal refrigeration temperature (4°C) your beer should be gassed correctly. Reduce the pressure to the dispensing pressure of 70kpa (10psi) and test for carbonation.

To reduce the pressure in the keg, turn down the pressure on the regulator by unscrewing the adjuster. Vent the keg to reduce excess pressure then slowly screw the adjuster in until the new pressure is achieved. If liquid is forced back into the regulator then it may be damaged beyond repair.

When you are satisfied with the level of carbonation leave the keg at the dispensing pressure and it will not absorb any more gas even under refrigeration.

Remember that the amount of carbonation your beer needs is dependent on several factors:

*dispensing temperature
beer style
personal preference
type of tap used*

Your exact situation may need some trial and error to find what is best for you. For example with an English style Bitter you may prefer a lower rate of carbonation but with a German Weizen you may want it more effervescent. The rate of carbonation is entirely up to you.

If you have over carbonated your keg in error then gas can be removed from the keg. Turn off the gas bottle and vent the gas from the headspace by releasing the pressure relief valve. Leave the gas bottle off and let stand for 1 hour while you repeatedly release any gas from the headspace. This will release some of the gas that is dissolved in the beer. When you have removed enough gas you can again turn on the gas and test. Repeat if necessary.

DISPENSING:

Now for the good part - pulling that first beer! First reduce your keg from carbonating pressure to dispensing pressure. Do this by turning down the set screw on the regulator. If the pressure doesn't come down as you turn the screw you may have to vent the keg using the safety relief valve to release the excess pressure. A suggested dispensing pressure is 70kpa (10 psi).

Even if the beer was clear when you kegged it, you will still get some settlement at the bottom of the keg, so the first glass may be a little cloudy. We suggest pulling a couple of glasses through until it clears. Whether using a gun or a tap always dispense with it fully open, if it is only part way opened you will end up with all froth and no beer. Dispensing, like carbonating, can be trial and error - plenty of practice will see you right!

HELPFUL POINTS TO NOTE:

- To convert kpa to psi - Divide kpa by 7 (7 kpa = 1psi).
- Beer matures quicker in kegs than in bottles.
- The beer will keep indefinitely in the keg as long as you have been careful with cleaning and sterilising. As the beer is dispensed it is replaced by sterile CO₂, this protects the beer while dispensing.
- To further improve the clarity of your kegged beer, transfer the cleared beer into a clearing cube and store in a fridge for 3 days prior to transferring to the keg. This should be done at the time that you add the finings. This will further reduce any sediment that will be transferred into your keg.