



MashCamp Beer Brewing Kit Instructions



Equipment & Ingredients included

- Glass vessel for fermentation ca. 5L
- Rubber bung with a hole
- Airlock with cap
- Beer siphon with tap for bottling
- Analog thermometer
- Oxygen-based cleaner (Oxi)
- ingredients (crushed malt, hop pellets, dry yeast)
- Sugar dosing aid

Equipment Not Included But Needed

- 2 pots with a capacity of about 5-8 liters
- Fine mesh sieve with the largest possible diameter
- big wooden spoon or similar
- Ice or cooling packs to cool the wort (ideally)
- 8-10 swing-top bottles of 0.5 liters for bottling (about 2 weeks after brewing)
- Sugar for bottling



Preperation Cleaning before brewing

Cleanliness during brewing is the most important prerequisite for good beer! If the brewing equipment is not sterile, your beer could spoil and turn sour. Therefore, before use, all utensils, especially fermentation vessels and bottling equipment, must be thoroughly cleaned with hot water and then sterilized using the enclosed Oxi cleaning solution (dosage 4g/l, according to the label). Just let it drip dry afterward, the cleaner works on an oxygen basis and decomposes. No rinsing is required, although it doesn't hurt to do so.

Note: Always follow the instructions when using a cleaner, as different cleaners have different application methods. Some are oxygen-based, so no rinsing is necessary. Others must be rinsed off with clear water after use. Oxi cleaners are active for about 20 minutes and then lose their effectiveness.

Tip: You can read interesting information about cleaning and disinfection in our blog post: <https://mashcamp.shop/basiswissen-reinigung-und-desinfektion/>

1. Mashing

After cleaning your brewing utensils, you move on to the first exciting step of your brewing day, mashing. During mashing, crushed malt is mixed with tempered water (mashing comes from mixing). To convert the starch in the malt into sugar during brewing, you need to heat 5 liters of water ("main infusion") to 70°C.

Heat 5L of water ("mash water") to 70°C



Once the water has reached a temperature of 70°C, mix the brewing malt with the water while stirring constantly. Stir carefully with a wooden spoon until there are no more lumps, and the mash has the consistency of oatmeal.

After everything is well mixed, ensure that the mashing temperature of 66°C is maintained as accurately as possible for the next 60 minutes. Therefore, regularly check the temperature with a thermometer during mashing and adjust if necessary.

Stir regularly and use the thermometer to measure the temperature at different spots. You won't need to add heat constantly. Once the desired temperature is reached, you can turn off the stove.

It is important to closely monitor the mashing process and adjust the heat as needed to maintain the resting temperature as accurately as possible. Add water if the mash becomes too dry or too hot. A temperature that is too high is worse than one that is too low. During the resting period, the starch in the malt is converted into malt sugar. Once the resting period is over, heat the mash while stirring constantly to 78°C, the mash-out temperature. Once this is reached, the mashing process is complete; the lautering begins.

2. Lautering & sparge water

Now heat 2.5 liters of water ("sparge water") as accurately as possible to 78°C (better too cold than too warm).

During lautering, the spent malt ("spent grain") is separated from the liquid ("wort"). The separated malt is also rinsed with 2.5 liters of warm water ("sparge water") to dissolve the remaining residual sugar in the malt.

Lautering

For the lautering process, place a sieve over your second, still empty pot. Then, carefully scoop the malt into the sieve so that the liquid collects in the pot below and the spent grain remains in the sieve.



Sparge water

To extract the last bit of sugar from the malt, after lautering, the 78°C hot sparge water is slowly and evenly poured over the spent grains in the sieve.

Once all the sparge water has passed through the grains, the spent grains can be disposed of. The liquid collected in the pot ("sweet wort") is mixed with the wort from the first pot and then brought to a boil.

The dilution caused by the sparge water is accounted for in the recipe.



3. Boiling, adding hops and cooling the wort

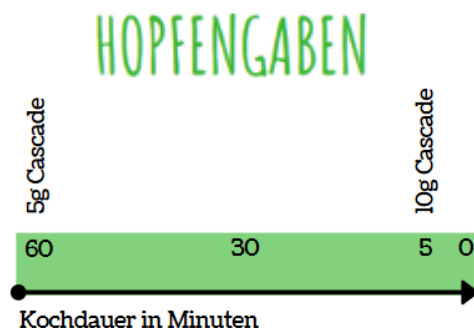
Once lautering and sparging are complete, bring the wort to a gentle boil in a pot. Once the wort begins to foam, stir the foam back in and slightly reduce the heat so that the wort continues to boil but does not boil over.

The boiling process takes 60 minutes. During this time, hops are added according to your recipe. Hops not only add bitterness to the beer but also fruity or spicy aromas, depending on the variety.

For example, if your recipe states the following, add 5g of the hop variety "Cascade" at the beginning of the boil (total boil time: 60 minutes) and 10g of "Cascade" 5 minutes before the end of the boil.

Gesamtkochdauer 60min

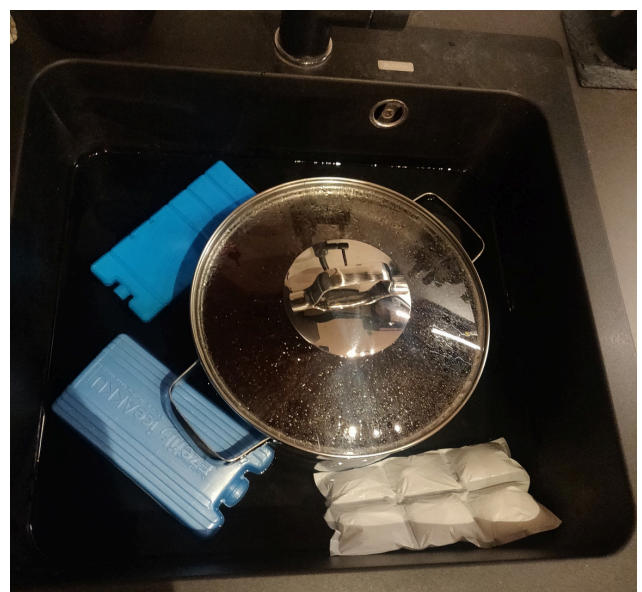
1. Sobald der Kochbeginn erreicht ist, werden 1/3 des Cascade Hopfen (ca. 5g) zugegeben.
2. Die restlichen 2/3 Cascade Hopfen (ca. 10g) werden 5 min vor Kochende zugegeben.



Cooling the wort

After boiling the hops, the wort must be cooled as quickly as possible. This works best if you prepare a cold water bath in your kitchen sink (preferably with ice cubes or cooling packs). Then, carefully place the pot with the hot wort in it and wait until the wort has completely cooled down.

The target temperature during wort cooling is the fermentation temperature specified in the recipe. This is usually around 20°C and should be adhered to as closely as possible.



4. Fermentation

Once the wort has reached the target temperature, you can transfer the wort to the sterilized fermentation bottle using a sterilized funnel.

If you have less than 5 liters of wort in the fermentation bottle, you can top up the missing amount with tap water until the fill level is 12 cm below the opening. After transferring the wort, open the yeast packet and pour about half of the contents into the fermentation bottle; the rest of the yeast is not needed. Then close the fermentation vessel with the rubber bung and insert the airlock into the hole (both as always cleaned and sterilized beforehand).

To protect your fermenting beer from germs, fill the airlock with water up to the mark. This allows the CO₂ produced during fermentation to escape while protecting the beer from germs in the surrounding air.

Place the fermentation bottle in a dark, cool place (16-22°C). After at most two days, you will notice bubbles and foam forming on the surface of the beer; fermentation has started.

Fermentation will take about 7 days. If the beer is still producing bubbles, let it sit until it completely stops.

This is important because if you bottle beer that has not finished fermenting, the fermentation would continue in the bottle. In the meantime, you can drink a few beers (swing-top bottles) to have enough empty bottles for bottling. If you rinse these immediately afterward, it will save you a lot of time. Of course, we also have brand-new bottles available for purchase.



5. Adding sugar & Bottling

After about a week the time has come: your beer is ready to be bottled!

After about a week, it's time: your beer can be bottled! When your beer has finished fermenting, it's bottling time!

To do this, rinse your swing-top bottles thoroughly with water again, removing all residues. Use the Oxi cleaner again to sterilize the bottles. The easiest way is to prepare about 1L of cleaning solution and pour some into each bottle. Then shake the bottle and empty it after about 2 minutes. Finally, rinse the bottles with some cold water.

To ensure that your beer has carbonation later when you drink it, you need to add some crystal sugar when bottling. Carbonation (CO₂ content) is only created by adding sugar during bottling! If you don't do this, your beer would have no carbonation and would taste flat.

Secondary fermentation in the bottle by adding sugar - That's how beer gets carbonated

In your MashCamp Beer Brewing Kit, you will find an included three-part sugar dosing aid. Before bottling, add one level spoonful of granulated sugar to each of your empty bottles. The size of the spoon to use depends on the size of the bottle; the dosing aid allows you to choose between 0.3L, 0.5L, or 0.75L bottles.

Bottling your beer

The fully fermented beer is now transferred from the fermentation vessel into individual bottles using the beer siphon with a tap. The best way to do this is as follows:

1. Thoroughly disinfect the beer siphon, including the hose, inside and out, with the Oxi cleaner.
2. Fill the beer siphon with water and close the tap.
3. Place the beer siphon in the fermentation bottle and open the tap at the end of the hose. The water in the hose will start to flow and draw the beer along with it. Once beer starts coming out of the hose, close the tap and have your beer bottle ready.
4. Make sure the hose end of the beer siphon is below the level of the fermentation bottle.
5. Be careful not to transfer too much sediment into the pot in the bottle.
6. When handling the young beer, make sure it doesn't splash too much.

When bottling, leave as much headspace in the bottle as you would with store-bought beer. After that, close the swing-top and let the beer ferment and mature for about 2 weeks in a dark place. The temperature there should be approximately the same as during fermentation.

6. Enjoy!

Before drinking, you should place your beer in the fridge overnight—this will help clarify the beer. The sediments that have settled on the bottom of the bottle consist of yeast and trub, which are not harmful. They give the homemade beer a fuller flavor and the typical haziness of a Zwickl (unfiltered beer). Enjoy your beer and share it with your friends!

We wish you happy brewing and a lot of fun making & enjoying your homemade beer!
Your Mash Camp Team!

P.S.: You can find a lot of useful information about brewing in our blog at <https://mashcamp.shop/blog/>. If you have any further questions, we are always available during our support hours—whether by phone or email!

