
BROUWLAND



Brewer's starter kit SUPERIOR GAS

This package contains all the materials needed to brew your own beer starting with uncrushed malt.

Contains :

- Maltmill with adjustable fineness.
- Gas burner with 2 meter propane gas hose.
- homebrew kettle SST 35 l with ball valve
- Mash scoop 3 l.
- Hop boiling bags.
- Lauter tun 30 l.
- Plate heat exchanger welded with 2 x 1 m silicone tubing + 2 x 1,5 m pvc tubing 10/15 reinforced.
- Brewing spoon.
- Graduated measuring jug 5 l.
- Brewing thermometer -10° +110°C with protective cover.
- Hydrometer and plastic cylinder 200 ml.
- Fermentation bin 30 l with airlock and tap.
- Bottle filler.
- Chemipro® OXI cleaning product.
- Iodine tincture.
- Crown capper with 100 crown corks.
- Manual.

Brewing beer consists of carefully following the 11 steps below :

1. Screening the malt
2. Mashing
3. Filtering and rinsing
4. Boiling
5. Cooling the wort
6. Creating and siphoning the starter
7. Adding yeast and fermentation
8. Checking fermentation
9. Ripening
10. Bottling
11. Tasting

Before starting :

**All materials used must be cleaned every time. This is because infection is always possible if we were to use unclean material. An infection arriving in our beer (before, during or after fermentation) will cause a poor taste or even make the beer undrinkable.*

**If you know on which day you are going to start brewing and you are planning to use a WYEAST yeast, you may have to start the yeast working a few days beforehand. For this carefully read the instructions for use for the WYEAST yeast.*

The day before actual brewing you already make a starter from a yeast grain (dry yeast). See point 6.

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1 Screening the malt

The malt grinder must be used to mash the malt. Screening therefore clearly does not mean grinding. The grain must only be broken, and the flesh around the grain must remain intact. We must have no flour or as little as possible. So at the start check the set-up of the grinder. This is important for filtration after the mashing process.

Fill the boiler with the mash water. The mash water must have a temperature approx. 5°C higher than the first mashing temperature. Add to this the mashed malt and stir everything thoroughly until there is no longer any dry malt.

2 Mashing

Mashing means the saccharification of the starches. Starch is present in the malt grains, that we are now going to convert into sugars. These sugars are required for subsequent fermentation. As you know, yeast converts sugars to alcohol, but it also determines the taste of your beer.

Check the temperature of the moist malt with the thermometer. This must now reach the same temperature as the first mash temperature. To do this add the rest of the heated mash water. Heat the mash briefly if necessary. In this case make sure the mash is constantly stirred to prevent burning.

When the first temperature has been reached, this temperature must be kept during the time indicated. Once this time has passed, the other temperatures and times must be observed.

When the last resting time has passed (5 minutes at 75°C) filtering and rinsing follows.

3 Filtering and rinsing

Ultimately we only need a sugar solution, so we must separate the solid parts from the solution. To do this you need the filter bucket. The Brewferm filter bucket is fitted with a perforated filtering plate and a tap. Pour the grain mixture on the filter bottom in this bucket. Make sure that the indicated quantity of rinsing water is heated to 78°C, and pour a few litres of it in the grain mixture. Place the now cleaned boiler under the tap of the bucket and slightly open the tap. The liquid obtained now runs into the boiler. Little by little pour the rest of the rinsing water on the malt and allow further rinsing until the water has been fully added and filtered through.

In this way we have taken a large part of the sugars from the malt.

What remains in the filter bucket is called draff, and is used as animal feed or compost. Remove this draff and clean everything.

4 Boiling

By boiling the liquid (wort) now obtained, it becomes fully sterile and an important chemical process will take place and the proteins will settle.

So pour the liquid back in the boiler and heat to boiling point. Make sure that when the boiling point is reached the wort does not boil over. Turn the heat down a little if necessary. Depending on the recipe used you must then add hops and possibly herbs at specific times. Add the hops in a hop bag and tie it shut. The hop bag is then laid in the boiling wort. Regularly stirring the wort is required to have the hops add as much of their taste as possible.

Switch the heat off after the boiling time. You will soon see that clouds form in the wort. These are the proteins that settle. These were proteins present in the malt that we do not all require. In the course of time these proteins settle in the liquid. Immediately after boiling take the hop bag out of the hot wort.

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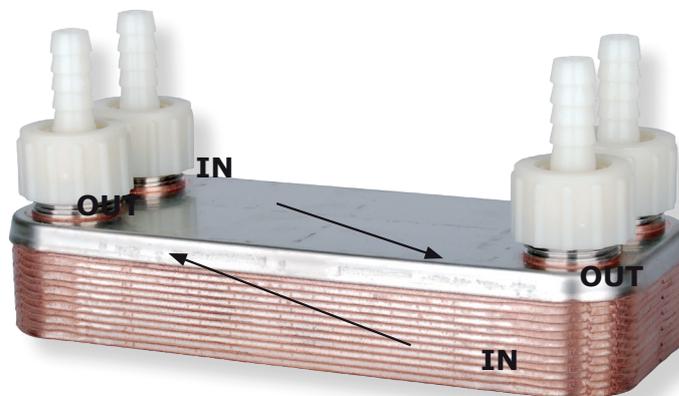


5 Cooling the wort

A very important aspect now is having the wort cool down as quickly as possible. This is important because any form of infection must be avoided. When you remember that infections can most easily originate at temperatures of 15° to 40°C, and that we must now go to this temperature, you will soon understand that we need to use very clean materials. So, once more: before using any material it must always be cleaned using the CHEMIPRO® OXI cleaner supplied. Read the instructions for using this product.

It is a stainless steel plate heat exchanger with 4 connecting points : in/out water and in/out wort. Connect the tube of the exit (lower left side) on the cold water tap. This is the "coolwater in". The tube of the exit on the upper left side will become the "coolwater out". Put this tube in a big water tub or a sink. Now attach the tube of the exit on the upper right side on tap of the kettle, this is the "wort in" and the tube on the exit on the lower right side "wort out". You can put this last one in the fermentation tank. The cooling starts when you open the cold water tap and the tap of the kettle. The rapidity of the incoming cold water and wort influences the exit temperature of the wort. Let the wort flow slowly and settle the output of the water in such way you become an optimal cooling. The out coming wort will have a temperature of +/- 25°C.

While the cooling process is happening you can proceed with the following point.



6 Creating and siphoning the starter

You require a yeast type depending on the type of beer you want to obtain. If you are to use a WYEAST yeast, for a quantity of 20 litres of wort you do not have to make a special starter (with the WYEAST package XL you start up to 40 litres of wort). Follow the instructions for use for this yeast type (it may be the case that you have to start this earlier). If however you use the yeast grain (dry yeast) you must create a starter beforehand. This is because fermentation must start quickly, again to reduce the likelihood of infection. During the first days of fermentation carbon dioxide gas forms, as does alcohol little by little, and it is this abundance of carbon dioxide that can prevent an infection. You can best make the starter the day previous to or on the morning of brewing. To do this boil a sugar solution for

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15 minutes (about a smoothed tablespoon of sugar in 250ml water) so it is sterile. When this solution has cooled to 25°C, pour it into a glass or fermentation bottle and add the dry yeast. Make sure that all yeast is dissolved. Cover the glass with some foil, or the fermentation bottle with the cap, and put at room temperature. After several hours the fermentation will normally already start. You can see this by the rising air bubbles in the solution and the formation of foam.

After the wort is cooled by the plate heat exchanger till about 25°C, you can measure the density for the first time : fill the measuring glass with wort.

A correct density measurement is carried out at a temperature of 20°C. Carefully place the densimeter (hydrometer and densimeter are synonyms) in the measuring glass and read off the density (for beer this normally lies between approximately 1050 and 1100, but can sometimes differ slightly). Write this figure down together with the date of measuring. This is your initial density.

7 Adding yeast and fermentation

Once the wort has been siphoned you can add the starter. Stir this thoroughly into the wort and shut the receptacle with the cover. Fill the outer ring of the air trap with approximately 2 cm of water. Put the complete air trap on the cover.

When you are ready, start the fermentation within several hours and the excess carbon dioxide will escape through the air trap.

8 Checking fermentation

Keep a close eye on the fermentation. If this visibly reduces (less air trap movement) carry out another density measurement (at 20°C). If the density has fallen to between 1020 and 1025 (this can take up to 1 week) syphon over to the boiler again. You will see that a mash has attached to the bottom of the vessel. This is a mixture of dead and live yeast cells and different waste materials that we do not require. Once transferred, and after the vessel has been thoroughly cleaned, we pour the beer back into the vessel and seal it again. After approximately ten days of further fermentation (much less actively now) we measure the density again, and depending on the type of beer (for strong beers approximately 1010-1015, for light beers 1000-1005) you can start bottling the beer. Now you have measured the final density of your beer. If you determine the difference between the initial and final density and convert this figure in a conversion table you can approximately see how much alcohol there is in your beer.

9. Ripening

It is recommended to let the beer ripen. The beer is transferred to another barrel for this purpose, and it is stored in a cool place. This is how excessive yeast in the beer is removed. Due to the cooler temperature, a larger amount of carbonic acid is dissolved in the beer, but, more importantly, a number of undesirable flavouring substances are removed, such as for instance diacetyl, a buttery flavour. The foam stability of the beer also improves and it will become clearer. Ripening takes longer at low temperatures. You can count on about 10 days at cellar temperatures and approximately three weeks at a temperature of 7°C.

10 Bottling

To do this you must first obviously clean the bottles and crown corks. Siphon the beer over into the cleaned boiler, but make sure that the dregs at the bottom in the fermentation tank are not also siphoned over. Dissolve the stipulated grams of sugar per litre of beer needed for refermentation in your beer. You must therefore approximately know how much beer you still have. Be certain not to add too much sugar!

When all this has been done you can fill the bottles using the syphon. Immediately close the bottles,

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and if everything has taken place properly after 6 to 8 weeks you will have a tasty beer. In the first week put the bottles in a warm place (above 20°C). Then move the bottles to a cellar or other cool place where the beer can continue to mature in the bottle.

The bottles can now be given a nice label.

11 Tasting

The most important comes now : tasting your beer.

When pouring do not allow the bottom to be disturbed to prevent the unnecessary clouding of the beer.

It also has to look nice: is the beer clear and does it have an attractive and firm head?

Then the aroma: can you distinguish different aromas (wort, hops, herbs, etc.) and does it not smell?

Does it have a good taste and do you like it?

If this is all satisfactory you have followed the procedure perfectly.

Should, however, there be something wrong with the appearance, aroma, taste or aftertaste of your beer it may be the case that a small mistake happened during the brewing process, but by brewing more beer you will see that you can make further improvements and even put together your own recipes. So always note down your brewing process and the evaluation of the beer afterwards too. The possibilities are boundless, and the pleasure always remains as great.

Enjoy!

Cheers !