20+50 PLUS

Translated from the original

Brewing instructions

Low oxygen brewing

Item no.: 47070-10, 45050-10

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1 What is low oxygen brewing?

General information:
The aim is to produce even tastier beers with an accentuated and fresh malt aroma. The aim of this brewing process is to minimise contact with oxygen during the brewing process in the processes of mashing, cooling and transfer to the fermentation tank. The dissolved oxygen in the water, wort or beer is an indicator of how well this has been achieved. By minimising the exposure to oxygen, existing flavours in the beer are better preserved and the beer acquires a longer lasting flavour retention and shelf life.

Impact on the flavour of the beer:
When mashing with low-oxygen water combined with minimal air contact, preservation of the malt flavours in the subsequent beer is particularly noteworthy. This method is particularly suitable for malt-based beers and beers with less hops such as wheat beer, lagers and pilsners. During the brewing process, the malt aromas should not primarily exude a malty aroma in the brewing room, but should be reflected in the taste of the beer.

Dissolved oxygen:
Oxygen is important for all forms of life and all oxidation processes. However, it is not desired during the oxidation process in beer. Thus oxygen is also dissolved in the water and in the wort. The dissolved oxygen can be measured with the aid of specific measuring instruments. The lower the better for the preservation of flavours. Water or brewing water can be highly saturated right from the outset. This dissolved oxygen can be reduced e.g. by boiling the water meaning dissolving during mashing can be avoided. Only during the fermentation process is it necessary and important for the reproduction of yeast.

Advantages of low-oxygen brewing:
Delicately ("mostly light") malted beers with a longer natural shelf life

Related websites:
www.lowoxygenbrewing.com
http://www.lindhcraftbeer.com/

2 LO throughout the entire beer brewing process

General:
The aim is to reduce the dissolved oxygen in water, wort and beer. Therefore, it is important that exposure to air is reduced as much as possible with feasible effort for home and hobby brewers.

Grinding of the malt:
Coarsely ground malt is the ideal for the Brewmaster (gap 1.6mm). It is important that grinding takes place shortly before mashing in order to keep the exposure time to air to a minimum. If necessary, place a lid on the ground malt or close the lid of the malt barrel. Slow grinding with lower roll speeds is more optimal than fast rotating rolls (dust generation).

Water treatment:
The brewing water may contain dissolved oxygen of 2-8 g/ml. The less the better. Water can be reduced to less than 1 g/ml by boiling for about 5 minutes. When cooling, use the Brewmaster PLUS double jacket in conjunction with a floating lid to avoid air contact. Cool just below the mashing temperature and begin the brewing process.

Brewing process:
Fill with low-oxygen water, or prepare it, up to the top mark on the drawbar (avoid splashing). Insert the malt tube/ sieve plate, carefully add the malt and only slightly stir in. Avoid heavy foaming. Install the spacer ring, screen plate / fine sieve and tighten with the knurled nut.

With the LOB-Set it is possible to fill significantly more malt into the malt tube, because even from the outset, it is mashed with more water. Therefore, the quantity of beer is higher for the same original wort, even if more malt is added in the same ratio. Output quantity of wort for the BM 20 l approx. 23-25 l and for the BM 50 l approx. 55-60 l. The maximum malt quantities when using the screen plate on top (see also pictures in chapter 3) are 7 kg or 15 kg for the 20 l/ 50 l Brewmaster.

Then fill with water so that both the outer and inner water levels are slightly above the screen plate.

Place the floating lid and cool the water via the double jacket of the Brewmaster PLUS. Leave the floating lid in place during the entire process and at best also place the snap-on lid on top.

Purification is carried out as usual. Carefully pull out the malt tube. Avoid sparging or adding fresh water. Try to complete the purification process quickly and start the brewing/boiling process. Boiling the wort reduces the dissolved oxygen in the wort to less than 1 g/ml. Nevertheless, shorter boiling times (60 minutes) with reduced flushing are recommended.

After boiling, lay the floating lid and cool the wort to fermentation temperature via the outer cooling jacket. Always leave the floating lid placed for minimum oxygen contact.

Fermentation process (main fermentation):
Now add the wort to the fermentation tank using a pump or on a free fall. With the addition of yeast, oxygen now becomes important for the activation and proliferation of the yeast. The wort can now be oxygenated via an external source of O2 (oxygen bottle) or by vigorously stirring the wort. Nevertheless, contamination with unwanted air bacteria or dirty objects must be avoided. It is important to have a healthy and sufficient quantity of yeast to allow fermentation to start quickly. During fermentation, the dissolved oxygen is reused and converted into CO2.

Maturing process (secondary fermentation):
Maturing and carbonation should be carried out using residual sugar during secondary fermentation. Fill a keg, a bottle or a pressure tank in due time and allow the beer to carbonate. In contrast to carbonation from the outside by means of CO2 after filling a completely fermented beer, the dissolved oxygen in the beer is reduced to almost 0 g/ml and lengthens the beer's shelf-life and better preserves the flavours. Externally supplied CO2 for carbonation contains too much oxygen.

Beer:
Give it a try. Especially for lagers and lightly hopped beers, this procedure offers surprising taste experiences!

3 Using the LOB accessories for the Brewmaster

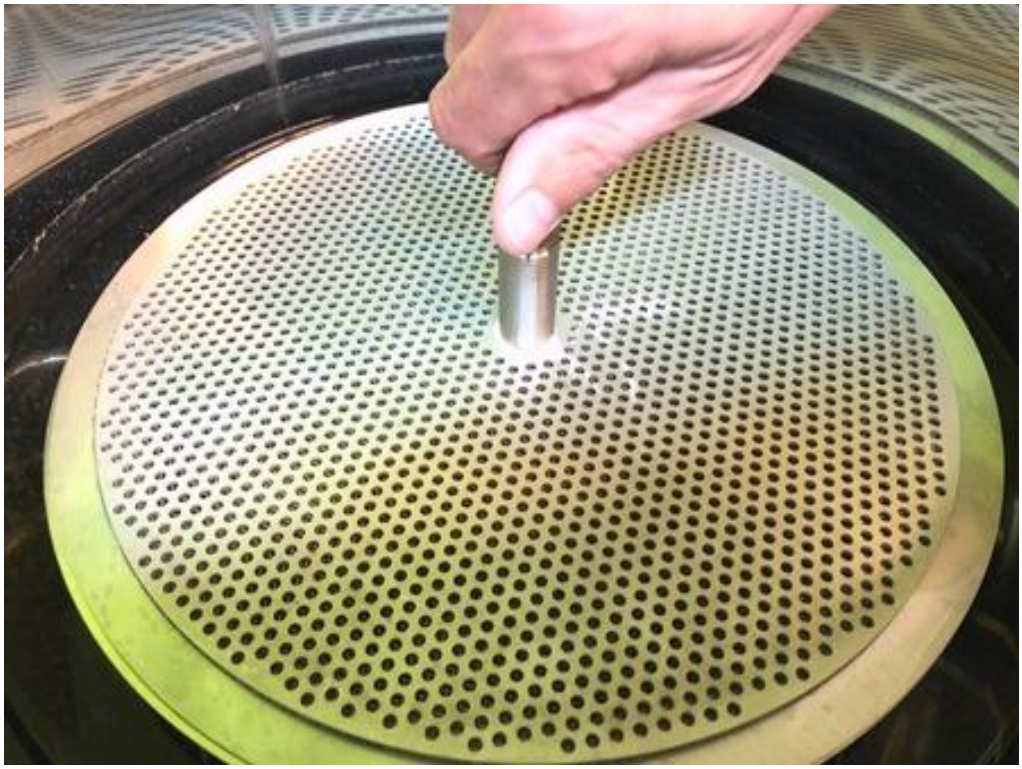
First boil the water for about 5 minutes to reduce the oxygen content of the water to 0.

Place the floating lid and cool the water via the double jacket of the Brewmaster PLUS.

Hang the malt tube at the top in the lautering position so that water just covers the lower sieve plate. Fill the malt into the malt tube and then lower it very slowly, so that the water flows around the malt from below. Avoid foaming and excessive stirring.

Place the spacer ring on the edge of the malt tube.

Place the fine sieve on top.



Push the screen plate with the guide tube onto the balance rod downwards to the BOTTOM and push it through the hole of the fine sieve screen and the spacer ring. Now tighten the screen plate with the knurled nut so that it is fixed on the spacer ring on the malt tube.

Fill with additional brewing water up to 1-2 cm over the screen plate and start the brewing process.

Place the floating lid during the entire brewing process.

After the mashing process, remove the floating lid and unscrew the knurled nut. Clear wort should be seen. Now, carefully purify and continue the brewing process as usual. Use the floating lid again when cooling down after brewing.