

OXYGENATION KIT INSTRUCTIONS

Official NORTHERN BREWER Instructional Document



DISPOSABLE O2 TANK
(Sold separately-available at most hardware stores.)

INVENTORY

- A: Regulator for Disposable Oxygen Regulator
- B: 3/16" Beverage Tubing (4 feet)
- C: Worm Gear Clamp (2)
- D: Carb Stone - 0.5 micron

BACKGROUND

Yeast require plenty of oxygen during the very first stages of fermentation. Oxygen-deprived yeast are more likely to produce off-flavors and have lower attenuation. Because oxygen is removed from the wort during the boil, it's recommended to add oxygen back to the wort and ensure a healthy and complete fermentation.

Oxygenating (or aerating) the wort cuts down on the lag phase that takes place between pitching the yeast and the onset of vigorous fermentation. Yeast that has a readily available supply of oxygen are less likely to produce compounds that cause off-flavors. Oxygenating is especially important when brewing high-gravity beers and lagers.

NOTE: NEVER HANDLE THE CARB STONE WITH BARE HANDS. Skin oils can clog the fine pores. Wear cotton or latex gloves, or use a clean cloth when touching the stone.

WHEN TO OXYGENATE

Oxygenate wort after it has been chilled and before yeast is pitched and fermentation has begun. Oxygenating wort while it is still hot can cause off-flavors in the finished beer, as can adding oxygen to fermenting beer.

OXYGENATION VS. OXIDATION

OXYGENATION is beneficial because it supplies yeast cells with oxygen needed for reproduction and fermentation; a wort should only be oxygenated after it is chilled and prior to fermentation.

OXIDATION is a staling process that occurs when oxygen is introduced either while the wort is still hot or after fermentation has begun.

USING THE OXYGENATION KIT

ASSEMBLE THE SYSTEM. Attach one section of tubing to the nipple on the oxygen regulator and clamp using one of the worm gear clamps; attach the other end of the tubing to the carb stone and clamp with the remaining worm gear clamp. To make the tubing more flexible and easier to get over the barbs, soak it in some hot water briefly. Attach the regulator to a disposable oxygen cylinder, available at hardware stores. **DO NOT HANDLE THE CARB STONE WITH YOUR BARE HANDS.**

SANITIZE THE CARB STONE AND TUBING. Immerse the tubing and carb stone in a sanitizer solution. The stone can also be removed from the tubing and boiled or baked for 15 minutes to sterilize it.

OXYGENATE THE CHILLED WORT. The temperature of the wort should be 80°F or cooler. Lower the carb stone into the fermenter; it should rest at or near the bottom. Open the regulator valve by rotating it in the "ON" direction and begin oxygenating the wort. Oxygenation can create lots of foam, so watch it closely. Strive for a steady "simmer" instead of a "rolling boil" of bubbles. For best results, oxygenate wort for 1 minute prior to pitching yeast. For a very high gravity beer (above 1.080 or so) you can do a second round of oxygenating about 12 hours after pitching the yeast.

CLEANING AND STORAGE

Rinse tubing and stone with clean water after use. You may also wish to soak them in a solution of a cleanser such as PBW or B-Brite. Allow to dry thoroughly before storage. Keep the diffusion stone in a clean plastic bag.