

# HOMEBREW EQUIPMENT KIT

SINCE *Brewmaster* 1971

## 1. Fermentation & Bottling Buckets (x2)

Food-Grade plastic buckets used to hold your beer during fermentation and bottling. The bottling bucket can be used to hold sanitizer on Brew Day and before bottling.

## 2. Bucket Spigot (x2)

Spigots to install in the buckets with the gasket on the outside of the bucket.

## 3. Fermometer

Liquid Crystal Thermometer adheres to the Fermentation Bucket to monitor the fermentation temperature.

## 4. Lid for Bucket:

Lid for the fermentation bucket. Has a hole drilled in the top to fit a rubber stopper and airlock. Note that there is no lid included for the bottling bucket

## 5. Plastic Mixing Spoon

Used to mix-in malt extract. Made from food-grade plastic.

## 6. Nylon Mesh Bags (x3)

Re-usable, food-grade bags with drawstrings to hold specialty grains and hop pellets during brewing.

## 7. Thermometer

Monitor temperatures throughout the process as needed.

## 8. 3-Piece Airlock

Creates a barrier between your beer and the environment outside the fermenter, while allowing the CO2 created by fermentation to escape. Easy-to-clean 3-piece design.

## 9. Rubber Stopper With Hole

Used to secure the airlock in place in the bucket lid during fermentation.

## 10. Hydrometer

Used before and after fermentation to measure the amount of sugar present. Measurements are made in Specific Gravity units, which are a comparison of your beer's density to the density of water.

## 11. Hydrometer Jar

Used to hold a sample of your beer in order to take a measurement with the Hydrometer. 2-piece design is easy to clean.

## 12. Vinyl Tubing

Used during the bottling process to transfer beer from the Fermenter to the Bottling Bucket, and then into your bottles.

## 13. Bottle Filler

Plastic wand with a pressure-activated valve on the end. Push against the bottom of the bottle (inside) and beer flows out, lift up and flow stops.

## 14. Bottle Capper

Crimps bottle caps onto bottles

## 15. Bottles Caps

Pack of 50 caps is enough for 1-2 batches, depending on the size of bottles used.

## 16. Star San

Concentrated sanitizer used to eliminate wild yeast and bacteria.

## 17. Beer Bottle Brush

A perfectly sized brush to clean out 12oz and 22oz beer bottles after use.

1.



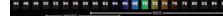
2.



4.



3.



5.



6.



7.



8.



9.



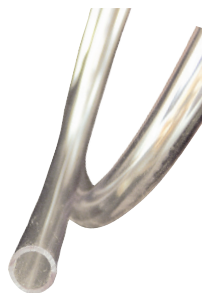
10.



11.



12.



13.



14.



15.



16.



17.



**Please Note:** Product photos for example only. Your kit may vary.

# FULL BOIL OR PARTIAL BOIL?

There are two brewing methods used to produce 5 gallon batches of beer at home, depending on what size kettle you have available. They are called **Partial Boil** and **Full Boil**, and refer to whether or not you're boiling all or just a portion of the batch. The methods are only different at a couple of points in the brew day and we will note them when you get there.

**Partial Boil** brewing starts with less than the full volume of your batch, in a smaller sized kettle--for example 3 gallons of water in a 5 gallon pot. The beer ingredients are boiled together in the smaller kettle, then that liquid is added to cold water in the fermenter to make the full batch size of 5 gallons.

By contrast, in **Full Boil** brewing the entire volume of the batch is boiled in a large kettle all together. This requires a larger kettle (6 gal minimum, 8 is best) and typically cannot be done on a stovetop, so requires a different heat source such as a propane burner, as well as specialized equipment to cool the batch afterwards.

## So why go to the extra trouble of the Full Boil? **Sanitation, Caramelization & Utilization:**

**Sanitation:** One of the key functions of the boil in the brewing process is to kill off any wild yeast or bacteria that were present in/on the water, grain and hops that went into the beer. Otherwise these organisms could consume some of the sugar in your wort, and they frequently create unwanted flavors in the process. When part of the water that goes into your batch of beer isn't boiled, there's a risk of some yeast or bacteria being present in that water and having an effect on the beer's flavor.

**Caramelization** is a darkening and complexing of the brewing sugars (just like when making caramel). This happens at a higher rate in Partial Boil batches because more of the sugar is present near the bottom of the kettle, exposing it to more heat from the burner. Caramelization can make it difficult to produce beers that are very light in color and body via the Partial Boil technique.

The third advantage to Full Boil brewing is in greater Hop **Utilization**. Hop Utilization is the way brewers talk about how strong an impact a given quantity of hops has on the batch of beer. Generally speaking, the same amount of hops have more impact in a larger batch, which means you lose a little bit of the hop character in Partial Boil batches.

All of that being said, Partial Boil brewing requires a smaller investment in equipment. Batches can be brewed on your stove, eliminating the need for expensive additional burners; and can also be cooled in an ice bath, which saves new brewers the cost of a wort chiller. In practice, wild organisms are far more likely to be present on the grain and hops, which were boiled, than in the water used to top up the batch. And the effects of increased Caramelization and decreased Hop Utilization are most pronounced in beers which are either very light in color and body, or very hoppy. Many happy homebrewers the world over make Partial Boil batches on their stovetops year after year!

Ultimately, it's up to you--do you prefer an economically friendlier entrance to the hobby, or want the assurance of your best shot at making the best beer?

	PRO	CON
FULL BOIL	No risk of spoilage from un-boiled water, best flavors from lower Caramelization and higher Hop Utilization.	Requires larger kettle and burner, cannot brew on stove/indoors. Requires specialized cooling equipment. Larger initial investment.
PARTIAL BOIL	Can be done in smaller kettle, and on stove top. No wort chiller required. Smaller initial investment.	Harder to produce lighter beers as well as very hoppy beers. Increased risk of spoiled batches from topping with un-boiled water.