



## PILOT INSTRUCTIONS

### Brewing Basics

Beer ingredients are barley malts, sugars, hops, yeast and water. Combinations of these ingredients produce the varieties and styles of beer. Yeast ferments barley malts and sugars into alcohol while releasing carbon dioxide. Hops add bitterness and flavor. You will brew from highly refined "beer mixes" which are concentrates of barley malts and hops carefully blended by our Master Brewers.

### Sanitation

There is one Cardinal Rule of Brewing: all of your brewing equipment and bottles must be washed, cleaned and "sanitized". Sanitized means dipping or rinsing any equipment that will come in contact with fermenting beer in a solution equal in concentration to about 2 tablespoons of household bleach to 1 gallon of cold (tap) water. Wash or rinse the items in such a solution and then rinse the bleach solution off with tap water. Sanitizing kills microscopic bacteria which are detrimental to the beer.

### Your First Brew

There are many recipes, techniques and processes of brewing which use the Mr. Beer® Microbrewery System. These instructions will acquaint you with the basic principles of brewing. Although the Pilot Brewery brews up to 20 - 12oz. beers (8 quarts), our first recipe following these instructions makes 6 quarts, equivalent to 16 - 12 oz. beers. This recipe produces a beer stronger than a normal American commercial beer. For your next brew, choose a recipe from the Pilot Brewing & Formulations Table at the end of these instructions.

### Let's Brew!

- 1) **SANITIZE** the Pilot Brewer, lid, gasket, airlock assembly, tap, washer and nut. Open and close the tap several times to allow sanitizing solution to flow through it.
- 2) **FIT** the gasket inside the lid. Place the washer on the tap with the flat portion of washer up against the tap (it actually works either way) and **ASSEMBLE** the tap to the Pilot Brewer. **HAND TIGHTEN** firmly by turning tap while holding nut on inside of the Pilot Brewer. Do not use wrenches or pliers to tighten. Test with tap water to make sure you have a good seal.
- 3) **FILL** Pilot Brewer with two (2) quarts cold (tap) water. Soak the beer mix in hot water for 10 minutes to soften contents and make them easier to pour out in step 4. below.
- 4) In a saucepan, bring three (3) cups of water to a **BOIL**. Remove from the heat source and stir

in the whole can of beer mix with one (1) cup of ordinary white table sugar. (Omit sugar for lower alcohol beer or add additional ½ cup of sugar for higher alcohol beer) POUR the "wort" (pronounced "wert", a brewer's term for the mixture of malts, sugars, hops and water) into the Pilot Brewer. ADD additional cold tap water to bring the volume to five (5) quarts. CAUTION: Boiling more than three (3) cups of water makes the wort too hot to add yeast to. Wort temperature should be between 70° and 103° F. when yeast is added.

5) SPRINKLE the yeast from the packet on top of the wort, allow to sit for 5 minutes, then stir the wort. The brewer's term is to "pitch" the yeast, meaning to add the yeast to the wort.

6) SCREW the lid and gasket assembly tightly onto the Pilot Brewer. FILL the airlock with about ¾" of water and insert the assembly into the lid. Fermentation will start within 24 hours. While the wort is fermenting, carbon dioxide gas will be released through the airlock without allowing contaminants to enter the Pilot Brewer. Often times the wort may foam up through the airlock. If this happens, just remove, clean, refill with water, and reinsert the airlock. This does not affect your beer.

7) Allow your beer to FERMENT and CLEAR seven (7) days at room temperature between 68° and 85° F. and out of direct sunlight. Actual fermentation time may be as little as one (1) day when you notice the airlock stops bubbling. Before bottling, however, wait for the beer to clear from the top down as the inactive yeast settles. When clear, it is then ready for bottling.

8) SANITIZE your bottles and caps.

9) ADD two and one-half (2 ½) teaspoons of ordinary white table sugar to each quart bottle. (Use a piece of paper as a funnel to add the sugar.) Residual yeast in the beer will work on the sugar causing a secondary fermentation in the bottle after capping. This activity carbonates your beer. Be cautious, as too much sugar may over carbonate the beer, resulting in gushing or burst bottles. Too little sugar will result in a flat beer. The brewer's term for sugar added to the bottle for carbonation is known as the "priming" sugar.

10) ADD 1 ¼ cup of tap water to each bottle to adjust the flavor and alcohol content of the beer since you "pilot brewed" a stronger wort.

11) REMOVE the airlock assembly and FILL the bottles from the tap up to the bottom of the neck (3" from the top). Try not to disturb the yeast which has settled to the bottom of the Pilot Brewer. Don't worry if you do, the beer will clear again in the bottle. HAND TIGHTEN the bottle caps.

12) KEEP the bottles at room temperature (68° to 85° F.) for at least 7 days to allow carbonation. Using PET bottles allows you to see the beer clear in the bottle and to feel the bottle firm and harden as the secondary fermentation causes the internal pressure to build. After carbonation, STORE the beer upright in a cool dark place for several days or until the beer clears in the bottle. Your beer will improve in taste by allowing an extra week of maturing in the bottle.

13) YOUR BEER has been naturally brewed and carbonated and thus has a small yeast sediment at the bottom of the bottle. This is known as a "live" or "fresh" draft beer. The yeast is rich in Vitamin B and is good for you, but would cause the beer to turn cloudy if disturbed. When serving, pour in one continuous motion into a glass pitcher so as not to disturb the sediment. When cooling in the refrigerator, perfectly clear beer may appear hazy. This is also typical of naturally brewed beer as it is rich in proteins. Rinse the bottle immediately after use and re-use the bottle and cap many times. Drink your beer within 4 months of bottling and store in a cool place

The normal amount of priming sugar to add for bottle carbonation for different bottle sizes is as follows:

12 oz. 3/4 Teaspoon

16 oz. 1 Teaspoon

22 oz. 1 1/2 Teaspoons

1 liter/quart 2 1/2 Teaspoons

2 liter 1 1/2 Tablespoons

#### Pilot Brewing Strengths and Formulations

Mr. Beer® Mixes are formulated and balanced to brew different flavors and alcohol strengths by varying the measure of sugar and water according to the following table. Brew 4 quarts of strong flavored, full bodied beer or up to 8 quarts of milder, light bodied, sparkling beer. This table is based upon using (1) one 1.21 lb. (550 gram) Mr. Beer® Pilot Beer Mix per batch.

Size of batch : 4 Quarts

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Amount of Sugar for Brewing: 1/4 cup

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Fill brewer with wort and water to: 4 1/2 Quarts

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Tap water to be added to each quart bottle: None

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Priming sugar added to each quart bottle: 2 teaspoons

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Size of batch : 5 Quarts

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Amount of Sugar for Brewing: 1/2 cup

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Fill brewer with wort and water to: 5 Quarts

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Tap water to be added to each quart bottle: 1/2 cup

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Priming sugar added to each quart bottle: 2 1/2 teaspoons

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Size of batch : 6 Quarts

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Amount of Sugar for Brewing: 1 cup

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Fill brewer with wort and water to: 5 Quarts

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Tap water to be added to each quart bottle: 1 1/4 cups

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Priming sugar added to each quart bottle: 3 teaspoons

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Size of batch : 7 Quarts

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Amount of Sugar for Brewing: 1  $\frac{1}{4}$  cup

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Fill brewer with wort and water to: 5 Quarts

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Tap water to be added to each quart bottle: 1  $\frac{1}{2}$  cups

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Priming sugar added to each quart bottle: 3  $\frac{1}{2}$  teaspoons

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Size of batch : 8 Quarts

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Amount of Sugar for Brewing: 1  $\frac{1}{2}$  cup

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Fill brewer with wort and water to: 5 Quarts

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Tap water to be added to each quart bottle: 2 cups

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Priming sugar added to each quart bottle: 3  $\frac{1}{2}$  teas

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