



NORTHERN BREWER

12 GALLON MASH/LAUTER TUN

INVENTORY

- 12 Gallon Northern Brewer Cooler
- 11.5" Stainless Steel False Bottom w/Hardware
- 1/2" Stainless Steel Ball Valve
- IsoFlow Bulkhead w/Hardware
- 3.5 Feet 3/8" Thermoplastic Tubing
- Stainless Steel 1/2" NPT to 3/8" Barbed Fitting
- (4) Worm Gear Clamps
- Northern Brewer Weldless Thermometer with EZ Clean Thermowell

WARNING - READ AND UNDERSTAND THIS DOCUMENT BEFORE USE

- *All grain brewing involves vessels full of very hot liquids.*
- *Do not under any circumstance lift or move the mash/lauter tun when full. Use a pump or gravity to remove liquid prior to moving. Severe injury and burns can result from attempting to move or carry full coolers. The handles are provided to move only empty coolers.*

ASSEMBLY

1. Install the Isoflow valve and false bottom barb per the included instructions into the bottom hole of the cooler. *Ensure the gasket remains installed between the cooler walls.*
2. Assemble the false bottom with the included hardware domed side up.
3. Insert the false bottom, barb up, into the cooler.
4. Connect the barbed elbow fitting on the false bottom to the barbed fitting on the bulkhead using several inches cut off of the thermoplastic tubing. Secure each end of the tubing to the barbs using worm gear clamps.
5. Pass the weldless thermometer through the top hole of the cooler and thread on the thermowell until tight. *Ensure the gasket remains installed between the cooler walls.*
6. Slide the remaining length of thermoplastic tubing onto the barb of the output valve on the cooler and secure with the remaining worm gear clamp.
7. **Important** - Leak test all of your connections to make sure you are ready for brew day!

PREPARATION

Clean, rinse and sanitize all components before the first use. After the initial use, it is not necessary to sanitize the equipment before subsequent uses as long as the equipment is surface clean.

SAFETY NOTES

WARNING - READ AND UNDERSTAND BEFORE USING THIS PRODUCT.

1. All grain brewing involves vessels full of very hot liquids.
2. Do not under any circumstance lift or move the cooler when full of water, grain or both. Use a pump or gravity to remove liquid prior to moving. Severe injury and burns can result from attempting to move and/or carry a full cooler. The handles on the coolers are provided only to move EMPTY coolers.
3. Always ensure the mash/lauter tun is set on a secure/stable location.
4. Keep children, pets and unauthorized persons away from the mash/lauter tun at all times while in use.
5. Allow the system to cool before attempting to clean or drain.



NORTHERN BREWER

BEGINNER'S GUIDE TO SINGLE INFUSION MASHING

The information below is for a single infusion mash. This is the simplest mash schedule and is used extensively in brewing.

CRASH COURSE IN MASHING - PROCEDURE

1. **Collect the strike water:** You will need 1.5 quarts of water for every pound of grain to be mashed. Collect this amount of water in your boil kettle to heat.
2. **Heat the strike water to 170°F:** Once the water has been heated in the boil kettle, pour it into the mash/lauter tun. Slowly add the grist (crushed grain) to the water in the mash/lauter tun. Stir well to prevent clumping. The temperature should stabilize around 152°F. Hot or cold water can be added to correct temperature, but a few degrees above or below your target temperature is fine. **DO NOT EXCEED 168°F DURING THIS STEP**, or you may destroy the enzymes needed for starch conversion. **NOTE:** If you are following an all grain recipe, use the mash temperature specified in the recipe and adjust the strike water temperature accordingly.
3. **Rest at this temperature for 60 minutes:** During this rest (saccharification rest), malt enzymes convert the grain's starches into fermentable sugar.
4. **While the mash is resting, collect sparge water:** You will need 1/2 gallon of sparge water per pound of dry grist in the recipe. Heat the sparge water in the boil kettle to 175°F. In a separate pot, heat 1 gallon of water to near boiling.
5. **Mash out by raising the temperature to 168-170°F:** Add the near boiling water to the mash while stirring constantly until 168-170°F is reached.
6. **Rest at this temperature for 5-15 minutes:** The main benefit of mashing out is to raise the temperature of the mash in preparation for sparging, or rinsing the sugars out of the mash. If the temperature of the mash gets too cold, the sugars can gum up making it difficult for water to flow through the grain bed. Mashing out also destroys the enzymes in the mash, preventing any additional starch conversion.
7. **Transfer the sparge water:** Once the sparge water has reached 175°F, move water to the hot liquor tank and continue with the procedure for sparging.

CRASH COURSE IN MASHING - PRINCIPLES AND ADVICE

- At a mash temperature range of 148-160°F, enzymes present in the malt activate and convert complex starches to simple, fermentable sugar molecules.
- Avoid temperatures greater than 168°F until you are ready to mash out, or finish the mashing process. If you measure temperatures greater than this in your mash, quickly cool the mash by adding cold water.
- If you undershoot the target mash temperature by more than a few degrees, you may add near boiling water to the mash while stirring constantly until the desired temperature is reached.
- In order to increase the accuracy at which you hit mash temperatures, it is absolutely essential that you take good notes. At a minimum, you should log the time and temperature before and after every significant heat input.