Instruction Manual for the MoreBeer!

BrewSculptures

Customer Name:_____

Invoice Number:_____

Prepared on:_____

Table of Contents

Introduction

Thank you for purchasing a *MoreBeer!*™ BrewSculpture™. We here at MoreBeer!™ lovingly refer to these brewing systems as "BrewSculptures™" due to the beauty of their design and their pure ease of use. These systems are engineered and designed to ensure reliability through symmetry and strength. Their use is intended to be a pleasurable experience for the brewer as well as those who take part in its rewards - the beer.

Caution

Brewing is hazardous, as it involves open flame, boiling liquids, flammable gas, combustion by-products, hazardous chemicals, electricity, water, and other possible unforeseen risks. Attempting to brew without sufficient caution, appropriate safety gear, and attention to hazards can cause permanent injury, including, but not limited to, scrapes, cuts, burns, scalds, electrocution, cardiac arrest, suffocation, sprains, broken bones, or worse. If at any time you are not absolutely certain you can exercise the necessary caution to brew safely and are willing to accept the risks inherent in brewing, you should cease brewing immediately.

Accepting Shipment

As tempting as it may be to sign for the pallet and tear into your new BrewSculpture™ as soon as it is delivered, please take the time to give the shipment a thorough examination by removing the shrink wrap around the system. Ensure that there is no visible damage to the frame, kettles, or any part of the system. By signing for the shipment, you are agreeing that there is no damage to the BrewSculpture ™. We may not be able to correct any damage that may be found once the delivery driver has left.

If you do happen to see small damage to any of the kettles or other small parts, tell the driver that you would like to sign for the shipment as "*Damaged In transit*". Then call our Customer Service Team so that they can start the replacement process for you.

If you happen to see a dent in the ***frame of the BrewSculpture***™, please call us ***immediately*** while the driver is still there, and ask for Darren, our Metal Shop Manager and Head of BrewSculpture™ Construction. If it is after store hours, or if Darren is unavailable, please tell the driver that you would like to sign for the shipment as ***damaged.*** At this point it is ok to sign for the pallet, as the freight company will now have a record that the unit arrived in less-than-perfect condition, and we can work with them (and you) to get things fixed.

Please do not refuse shipment if you see signs of minor damage. Most things can be fixed on our end, and a shipment refusal will complicate matters when it comes to addressing the problem and getting your system back to you.

Unpacking

Remove all shrink wrap, cardboard, and paper from the system and kettles. Along the base of the BrewSculpture are four "U-Bolts" attached to the pallet, holding it in place during shipping. The nuts that secure the U-Bolts are 7/16", so you will need a 7/16" Deep Socket tool for easy removal. Some parts are stored inside the kettles or bubble wrap, so make sure you thoroughly inspect each one for missing items.

Initial Cleaning

Before your first brew, you need to clean off any manufacturing oils and dirt. First lightly scrub all of the brewing components with white, stainless steel safe scrub pads and an appropriate detergent. You can use a warm PBW solution for this initial scrub down, or any commercial de-greasser such as Simple Green. If you have a pump

driven system, recirculate warm PBW solution through the pump and hoses.

Clean the outside of the immersion chiller with PBW also, or if equipped with a counter-flow chiller, clean the inside. Once all of the manufacturing and shipping dirt has been removed, empty all kettles, lines, chillers, and pumps and rinse thoroughly with clean, fresh water. In between brews, if you store the equipment clean and dry, you will not need to use any soap later.

Kettle Overview

All BrewSculptures™ have several basic components in common. This section provides an overview to the basic components and their functionality.

The ***Hot Liquor Tank*** is a vessel that provides hot water for the BrewSculpture™. This hot water is used for rinsing the sugars from the grains in the mash, for controlling the temperature of the mash, and sometimes for cleanup after the brew session. A fluid level sight gauge is included for measuring the amount of water in the kettle. The sight gauge attaches separately from the spigot to allow for a more accurate reading even while the fluid flows from the kettle.

The ***Mash Tun*** on the BrewSculpture™ is used to convert the starches in the grain to sugars. The grains are kept in the Mash Tun, soaking in hot water until all of the starches are turned into sugars. Then the water from the Hot Liquor Tank is used to rinse the sugars out into the Boil Kettle. It has a temperature gauge added for monitoring and recording the exact mash temperature. Within it, there is a raised, perforated false bottom made of 18 gauge, 304 stainless steel. The perforation is 3/32" holes on 5/32" centers for better recirculation to achieve a clear run-off right from the start. The false bottom, positioned two inches up from the bottom of the tun, has a handle for easy installation and removal.

The sweet wort is boiled in the ***Boil Kettle***. This concentrates the sugars, builds melanoidin flavor compounds, extracts hop flavor and bitterness, and sanitizes the wort.

Assembly

Set the stand in the location where you will be brewing. The ideal location is outside and one that includes:

- A level area
- Free of flammable materials
- Excellent ventilation, to remove combustion gasses and steam
- A nearby source of electricity, if system includes a pump
- A nearby source of clean water
- A nearby drain for waste liquids

Make certain all gas valves are closed, and then attach the gas supply to the system regulator. Turn on the gas supply valve, open the regulator, and check all gas connections with a soapy water solution. If any gas leaks are evident, try tightening all of the fittings. If need be, remove the fittings and re-apply some Gas Pipe Dope on the threads and re-assemble the burner system. Once you are certain there are no leaks, carefully turn on gas to one of the burners and ignite it.

If you have troubles igniting the burner, turn off the gas supply and allow the area to clear of gas for a minimum of 15 minutes until the area is clear. After confirming that a burner works correctly, shut it down and test the

remaining burners. After testing each burner in turn, make sure they're all shut off and then place the boil kettle, mash tun, and liquor kettle in their respective places. Mount the pump (if so equipped) in the pump holder and connect the hoses and sensors as needed.

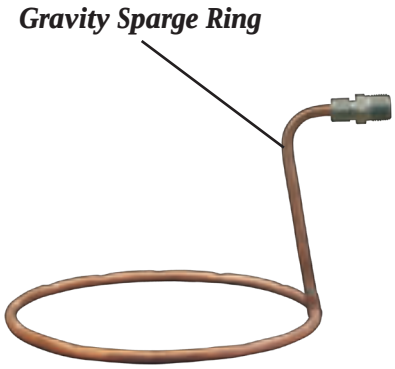
If you have a pump, your system will come with a GFCI Switch, which plugs into the wall. Your pump should plug into the switch in order to protect you in case water gets onto the ground plug of the pump.

Gravity System

For assembling the Gravity System, place the Hot Liquor Tank (the one with the sight gauge on it) on the very top shelf. Then the Mash Tun (the one with the false bottom inside) goes in the middle shelf, and the Boil Kettle sits on the very bottom shelf. Make sure to position the Hot Liquor Tank so that the spigot will be hanging over the Mash Tun below it, and that the spigot on the Mash Tun is hanging over the boil kettle. The Sparge Ring threads onto the spigot of the Hot Liquor Tank and hangs into the Mash Tun.

The Sparge Arm is adjustable, for those times when your mash is a little higher or lower than the stock positions the arm is configured in. A cotter pin at the base of the support arm holds the assembly to the ring, and removal of this pin will allow you to replace the support arm with a longer or shorter one, depending on your needs.

An easy way to calculate your water in your BrewSculpture™ kettles is to use this quick calculation to turn gallons into inches: In our 8 gallon Heavy Duty Kettles, 1 gallon equals 1.5 Inches. In our 15 gallon Heavy Duty Kettles, 1 gallon equals 0.95 inches. When using this calculation in your Mash Tun, be sure to take your measurement from the top of the False Bottom.

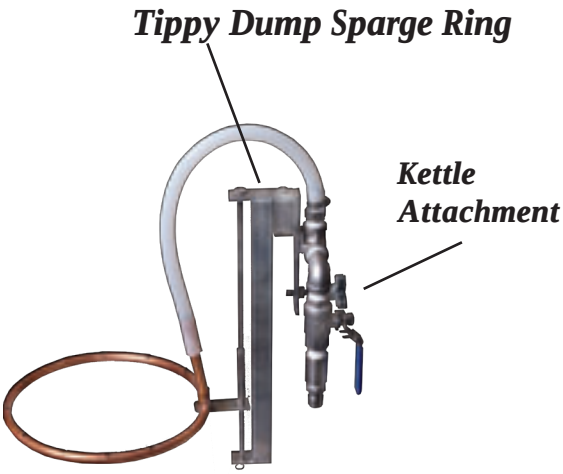


Tippy Dump™ System

The Mash Tun on the Tippy System™ is the kettle that sits in a stainless basket. The kettle goes at the top of the stand, and the two bits of metal sticking out on either side of the basket are positioned inside the two cups on either side of the stand. The whole thing is locked into place via a pin on one side. This allows for kettle stability when mashing. When you are done and you are ready to dump out your grains, simply pull the pin and tilt the Mash Tun toward the stainless chute. The grains will slide down the chute and into your garbage can. The Hot Liquor Tank rests on the stand directly below the Mash Tun, and the Boil Kettle goes on the third platform.

Our Sparge Ring for the Tippy System™ straddles the wall of the Mash Tun, and is secured to the kettle by a screw arm-type Kettle Attachment. The sparge ring sits on a rail, so the ring height can be adjusted based on your mash height.

An easy way to calculate your water in your BrewSculpture™ kettles is to use this quick equation to turn gallons into inches. In our 15 gallon Heavy Duty Kettles, 1 gallon equals 0.95 inches, and in our 26 gallon kettles 1 gallon equals 0.75 inches. When using this calculation in your Mash Tun, be sure to take your measurement from the top of the False Bottom.



For an overview of the BrewSculptures with SMART Systems, see pages 9-10

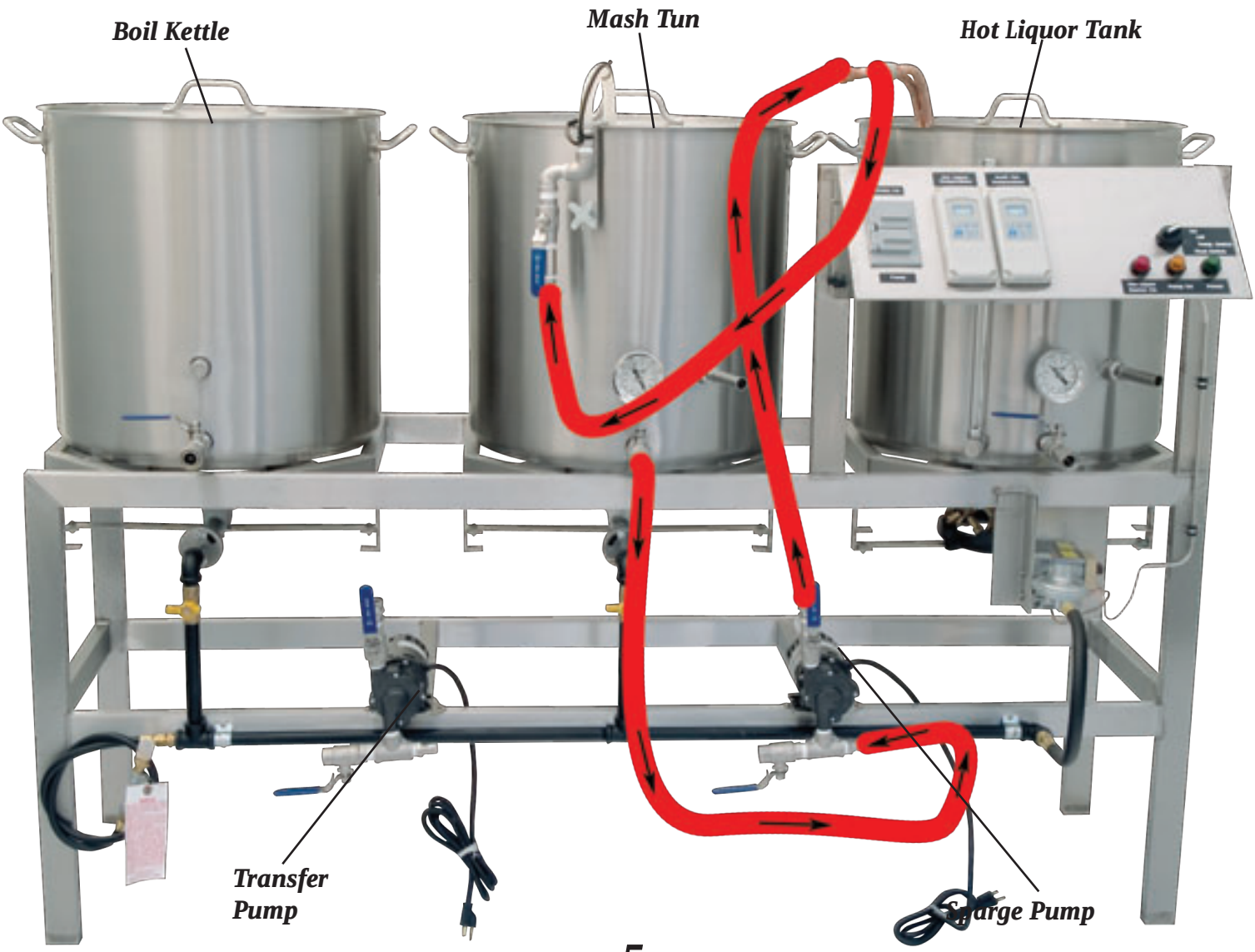
Flat System

From left to right, the kettles are positioned as follows: Boil Kettle, Mash Tun, and Hot Liquor Tank. The wort gets moved around the system via two pumps, because it is not possible to fill your boil kettle using gravity, as with our other designs.

Our Sparge Ring for the Flat System straddles the wall of the Mash Tun, and is secured to the kettle by a screw arm-type Kettle Attachment. The sparge ring sits on a rail, so the ring height can be adjusted based on your mash height.

An easy way to calculate your water in your BrewSculpture™ kettles is to use this quick equation to turn gallons into inches. In our 15 gallon Heavy Duty Kettles, 1 gallon equals 0.95 inches, and in our 26 gallon kettles 1 gallon equals 0.75 inches. When using this calculation in your Mash Tun, be sure to take your measurement from the top of the False Bottom.

SMART Recirculation Setup



Sparge After SMART Recirculation Setup

Sparge Without SMART Recirculation Setup

S.M.A.R.T.™ Systems

Both the Tippy and Flat Systems are able to use our SMART™ system, since these two systems have pumps. The system can be used for recirculating your mash in order to achieve a more clear wort, or you can use it to do Step Mashing - starting your mash at a low temperature and raising it to certain specific temperature ranges to activate different enzymes in the grain.

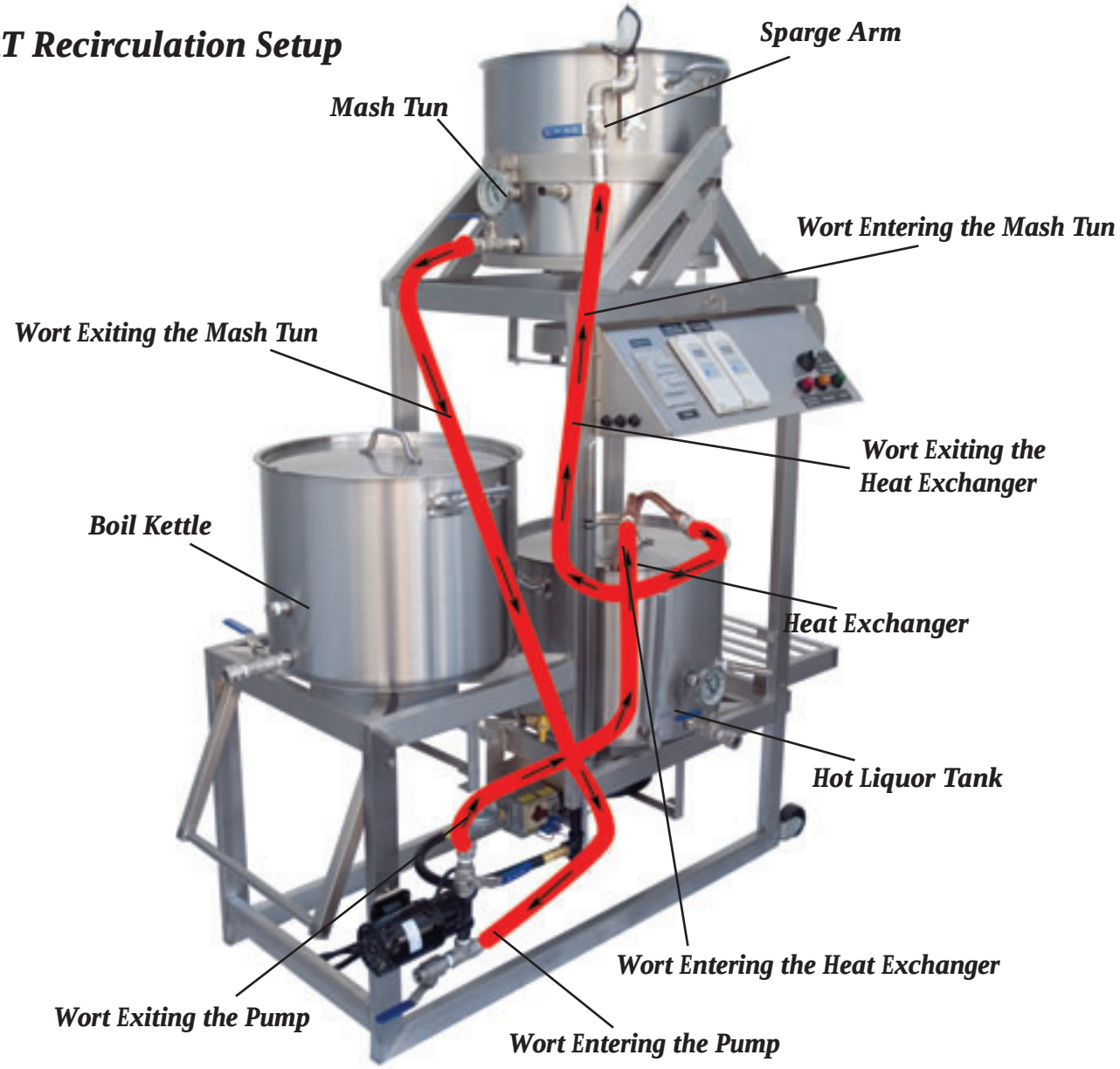
To set up your SMART™ System for a recirculation:

1. Connect tubing to the ball valve of the Mash Tun
2. Connect tubing from Mash Tun to pump "In"
3. Connect tubing to the pump "Out" and connect the other end to the left side of the Heat Exchanger
4. Connect tubing from the right side of the Heat Exchanger up to the Sparge Arm

To set up your SMART™ System for a Step Mash:

1. Set your SMART™ connectivity as listed above for a recirculation
2. Light the Hot Liquor Tank Burner, and make sure the temperature of the water in there is at least 5 degrees hotter than your target temperature for your mash.

SMART Recirculation Setup



Sparge without SMART Recirculation Setup

Sparge After SMART Recirculation Setup

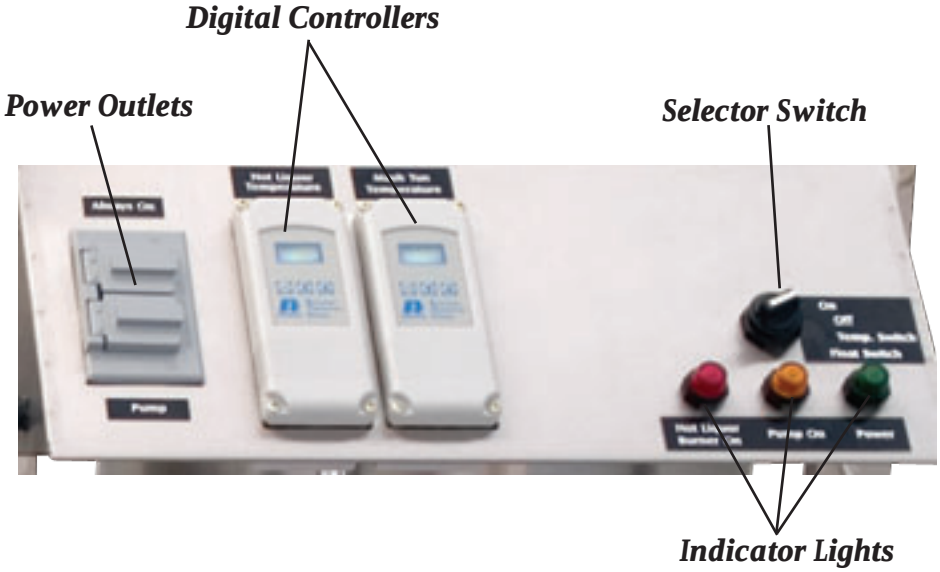
Digital SMART™ System

The Digital SMART™ System is put together exactly like the regular SMART™ System, but with the addition of a Digital Controler with mounting bracket, and a thermowell for the controller probe. The temperature controller monitors the temperature of the mash and will turn the power to the pump on, allowing you to recirculate the wort and raise the temperature or hold it without having to manually check it.

Full Digital SMART™ Package

This package includes the Digital SMART™ System, plus many upgrades. The burner underneath the Hot Liquor Tank is automated, allowing you full control of the temperature of your sparge water via a second digital controller. This is very important when doing step mashes. Both controllers - as well as two power outlets, a selector switch, and three indicator lights - are all mounted on a stainless Control Panel.

Also included are two Float Switches, one in the Mash Tun and one in the Hot Liquor Tank. The Float Switch for the Mash Tun is attached to the sparge arm, and will control the level of the sparge water (or recirculated wort) that is ran on top of the grain bed. Once the liquid level reaches the float, the power to the "Pump" outlet is cut off. Once the level drops, it re-activates the power supply to the pump. The Hot Liquor Tank Float Switch is attached to an arm that allows it to be removed for easy cleaning. Much like the float for the Mash Tun, it will turn off the power to the pump when the liquid level in the Hot Liquor Tank drops below the Float Switch. In addition to turning the pump off, it aslo turns the burner underneath the Hot Liquor Tank off, preventing you from running your propane tank dry heating an empty kettle. Both Float Switches plug into the Control Panel via the plastic sockets located on the right side of the panel.



If you are using your system for the first time and you find that the float switches are not working, the floats may be assembled upside down. Pull the cotter pin below the float and flip the float over, then replace the pin. This should fix the issue.

The center of the control panel is where all of the fun stuff is located. From left to right you have the Pump Plug in, the two digital controllers, and a selector switch. The switch is for turning the pump off and on manually when you are not using the SMART™ system or the sparge float switch. *Note: the labels are only a guide, and due to size restrictions are not lined up perfectly.* Underneath the selector switch are three indicator lights: Hot Liquor Burner On, Pump On, and Power.

Digital Controllers

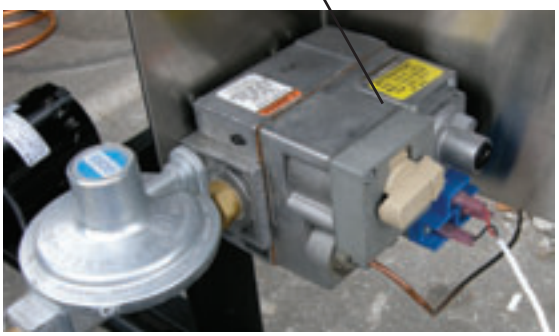
There are two Digital Controllers on the Control Panel - one for the Mash Tun and one for the Hot Liquor Tank. Each controller has three buttons on the front - "Set', an Arrow pointing up and an arrow pointing down. Push the "Set" button twice and, using the up and down arrows, set the target temperature you are looking for. Push "Set" again to set the temperature differential. Press "Set" again to make sure your controller is in the heating mode (H) rather than the cooling mode (CL). Pressing "Set" again will return you to the main screen, which shows the actual temp.

Hook up your connectivity lines to the various kettles and make sure the pump is plugged into the outlet marked "Pump" on the front of your panel. Set the selection switch on the control panel to "Temp". When the temperature of your mash drops below your set point, the controller will activate the pump, sending your mash through the SMART System and back up to the top of the mash via the Sparge Arm. Once the set point has been reached, the pump will be turned off.

The probes for the Digital Controllers are located on the side of the Control Panel. Run the black plastic end of the one labeled " Mash Tun" into the cylindrical thermowell on the face of the Mash Tun. The probe for the controller marked "Hot Liquor Tank" is ran into the thermowell on the Hot Liquor Tank.

The second controller regulates the burner underneath the Hot
Liquor Tank, keeping the sparge water at a constant temperature set by you via the controller.

Multi-Function Valve



Digital Hot Liquor Burner

If you have the Digital Hot Liquor Package, your burner is controlled by one of the two digital controllers on the Control Panel. In order for the burner's pilot light to be lit, the Float Switch must be plugged into the Control Panel, the probe must be ran into the thermowell on the Hot Liquor Tank, your target temperature must be set, and there must be enough water in the tank to cover the Float Switch.

Lighting the Pilot

1. Turn on the propane supply.
2. Turn the multifunction valve to "Pilot", located to the left of the burner behind the shield, and is labeled On, Off, and Pilot.
3. Press in and hold the multifunction valve knob and light the pilot light at the burner.
4. Continue pressing in the valve knob for 45 seconds.
5. On releasing the valve knob, the pilot should stay lit. If not, check the thermocouple to ensure that it is in the flame of the pilot. Do not use the system if you suspect a malfunction.
6. Once the pilot stays lit, turn the multifunction valve to On. BE CAREFUL - as this will ignite the burner. Make sure your face, hands, clothing, and anything flammable are away from the burner BEFORE turning the valve to to On position.

Tips on using the SMART™ System:

Mash Tun - An important thing to note before calculating your mash water is that you need to have a thinner water to mash ratio. This is usually about 1.3 quarts of water per pound of grain, as opposed to our normal 1.1 ratio. This allows you to pump the mash liquid without making the mash bed too thick. When you start to recirculate the wort, a fair amount of the liquid will leave the mash to fill the tubing and pump. If you do not start with enough water, the mash can end up too thick for recirculation.

Hot Liquor Tank – Your Hot Liquor Tank should be kept about 5 to 10 degrees higher than the mash temperature you want to reach. In the Hot Liquor Tank, the larger the amount of hot water, the greater the ability to change the temperature of the mash. Remember, the more water you have in the Hot Liquor Tank the greater the thermal mass. Two gallons of 180 water has less thermal mass than six gallons of 170 degree water.

If you use the Heat Exchanger for a recirculation or step mash, pump your sparge water through the Heat Exchanger on it's way to the Sparge Ring in order to push out the wort that still remains inside the Heat Exchanger.

Brew System – Before plugging in the pump, open all three valves fully, check for any leaks and then plug in the pump. You should then have wort flowing through the system. Wait for any bubbles to travel through the lines and then put some back pressure on the pump using the valve at the sparge/return arm. Usually the valve after the pump needs to be about ½ to ¾ open on most styles, a little more closed (slower flow) when a lot of adjuncts or a large wheat malt percentage is used. Do not restrict the flow of liquid going into the pump, as that can cause strain on the motor, and even cause it to cavitate. If you find the liquid is flowing too fast for your application, simply close the ball valve on the "Out" of the pump.

The temperature of the mash may actually go down a little at first, as it takes a little while for the wort to move down through the grain bed. Once the heated wort travels through the grain bed it will travel past the temp sensors and you will see a temperature increase.

If your Hot Liquor Tank is a lot hotter than your target mash temperature, you'll want to turn the pump off a few degrees below the target temperature. When doing a big raise (over 10F) you can sometimes overshoot the desired temperature, since it takes a little while for the mash bed to even out and reach a consistent temperature reading across the entire mash.

Even though we do thorough testing on each system before it leaves the shop, some fittings can loosen in shipment. At this time it may be a good idea to do a trial run with your system, just to get the feel for the new equipment, and to make sure that there will be no leaks during your first brew day . Fill your mash tun about half way with water and light the burner. Make sure there are no leaks coming from the welds, and that the burner is in proper working order. No need to bring the water to a boil, just a few seconds of heat is fine.

Next, attach tubing to the quick disconnect on the ball valve of the mash tun, and run the end down to the pump. Install the sparge arm assembly on top of the Mash Tun, and open the ball valves on it and the sparge assembly. Once the water has filled the pump, plug it in and let the water recirculate throughout the tubing and fittings, checking every connection for potential leaks.

Brew Day

First, choose a recipe. If you are new to all grain brewing and don't have access to all grain recipes, we can provide you with some. We can also provide you with kits, prepared for excellent results with all of our BrewSculptures™. Once you know what you are going to brew, the recipe will tell you how much grain you need. Add water to the Mash Tun until the water is even with the false bottom. Now, add 1.1 quarts of water for every pound of grain (or 1.3 if you are using your SMART™ System). This is a fairly common calculation and once you start keeping good records, you can then vary these amounts to suit your own style of brewing. With the water in the Mash Tun, fill the liquor tank with ½ gallon of water for every pound of grain.

Example Brew

This is an example recipe for a ten-gallon batch. You can cut this recipe in half or double this recipe if you wish to make a five or twenty gallon batch. This example recipe will be for a single infusion mash schedule.

Style: California Common
Size: 10 gallons
Grains: 19 lbs. 2-Row (Great Western)
2 lbs. Crystal 60L
21 lbs. Total

Water to be added to Mash Tun:
21lbs x 1.1qts (water) = 23.1 / 4 (qts per gal) = 5.78 gallons

For simple measuring, turn gallons to inches:
8 Gallon Kettles - 1 Gallon equals 1.5 Inches
15 Gallon Kettles - 1 Gallon equals 0.95 Inches
26 Gallon Kettles - 1 Gallon equals 0.75 Inches

5.78 gallons x 0.95" (inches per gallon) = 5.5" from the false bottom.

Water to be added to Hot Liquor Tank:
21lbs x 1/2 gal = 10.5 gallons

10.5 gallons x 0.95" (inches per gallon) = 10" from the bottom of the Hot Liquor Tank.

You can see that you start with nearly 16 gallons of water but want just 10-11 in your fermenter(s). There are a few places you lose water. You will loose about 0.1 gallons per each pound of grain used in the mash. The grain absorbs this water and it gets left behind in the spent grain. About a gallon of water gets left behind in the Hot Liquor Tank, as the ball valve height is about an inch off the bottom. During the boil you'll lose about 1-2 gallons.

The ½ gallon per pound is really a rough calculation and ends up being too much sparge water with the 20 gallon system. However, it is better to have too much sparge water than too little. You can always turn off the ball valve on the Mash Tun when your optimum starting boil volume has been reached; you do not need to keep sparging until you run out of sparge water. After you have brewed a couple batches, and seen what type of boil off you get, and how much is retained in the grains, you can calculate the amount of sparge water more exactly.

Water

If your water tastes good, chances are it is fine to brew with. If you have bad tasting water you may want to consider alternatives including bottled water or filtering with an activated carbon filter that removes all organic flavor.

Mashing

Mashing is the term used for the process in which we convert the starches in the grains into sugars, or sweet wort. The heat and water in the Mash Tun activates the enzymes naturally present in malt. It is these malt enzymes that convert the starch to sugar over time.

Once the enzymes convert the starches into sugars, you need to rinse the sugars out of the grain into the Boil Kettle. We use a false bottom to prevent the ball valve on the Mash Tun from clogging or letting a bunch of grain run through and into the Boil Kettle. Install the false bottom by holding the handle and turning the false bottom parallel to the kettle wall, so that the handle that you are holding is up and the back end of the false bottom is pointing down at the bottom of the kettle. Insert it in the Mash Tun, slipping the bottom of the false bottom past the temperature probe. Fill the Mash Tun with the proper amount of water for the amount of grain being used. Don't forget – the measurement you take will be from the top of the false bottom.

Because we are doing a single infusion mash as an example (the mash schedule used the most), heat the water in the Mash Tun to between 160-170 degrees. The optimum strike, or mash, temperature varies with the temperature of the grain and the ambient temperature (if your grain is cold, it will lower the temp of your mash water. Ideally, we would like the mash to end up between 148-158 degrees after the addition of the grain. If you're brewing at room temperature you can expect a temperature drop of around 10 degrees when you add the grain). Put the lid on the mash tun and watch the temperature gauge. If the temperature is a little high, remove the lid and stir the mash until the temperature drops to the appropriate level. Cover and leave for one hour.

If you have a SMART™ or SMART Digital™ system, you'll use the pump to recirculate the mash liquid through the coil in the Hot Liquor Tank and back to the top of the Mash Tun. This will clarify the wort and will allow you to keep the temperature steady during the one hour mash.

Sparging

While the malted grains are converting in the Mash Tun, heat the sparge water to about 175 Fahrenheit. The temperature will drop to 170 Fahrenheit by the time it reaches the grain, depending on the ambient temperature.

After the mash has sat for one hour, connect the sparge ring to the Hot Liquor Tank, open the ball valve, and allow at least one inch (more is ok) of water to slowly accumulate on top of the grain bed in the mash tun. If you have a system with a pump, use the pump to pump the sparge water up to the Mash Tun.

Water seeks the path of least resistance on its way through the grain, so maintaining a minimum level of one inch of sparge water on top of the mash during the sparging process is crucial to getting an efficient extraction of sugars. Be careful to do this as gently as possible, as you do not want to disturb the grain bed too much.

The next step is to recirculate some of the run off. We do this to get a clear run off from the mash, using the grain itself as a filter. (If you're using a SMART or SMART Digital system, this is already complete, as you recirculated the mash liquid with the pump.) If you're not using a SMART system, recirculate out of the Mash Tun, through the pump, and back into the Mash Tun through the sparge ring. If you don't have a pump, open the bottom valve on the Mash Tun and collect some of the sweet wort in a heat-resistant container. Gently pour this wort

back onto the top of the mash. Repeat this step until you can no longer see significant pieces of grain exiting the Mash Tun.

Once the wort is clear, attach the hose without a fitting at the end to the Mash Tun outlet. The hose should reach the bottom of the Boil Kettle. This will allow the sweet liquid to run out into the kettle without splashing. If you have a Flat System design, you will be connecting your Mash Tun to the pump, and the pump to the ball valve of the Boil Kettle.

Next, open the Mash Tun valve slightly to produce a slow trickle of wort into the Boil Kettle. Try to set the flow so that the flow of water from the Hot Liquor Tank onto the grain bed of the Mash Tun is about the same as the flow out of the Mash Tun into the Boil Kettle. The sparge should last between 45-60 minutes; the slower the sparge, the better the sugar extraction. The flow can be set by eye (you will get good at judging after a batch or two) or more scientifically by dividing sparge water by 60 minutes and setting a flow rate accordingly. If it is your first time and your sparge is accidentally over in 30 minutes don't sweat it, you may have just left a little sugar behind. Once you have your flow set and you have a couple inches in the Boil Kettle go ahead and light the burner, keeping the flame at a low setting. Once you have 3/4 of your wort collected, turn the flame on high for the remainder of the sparge.

Boiling

If you have brewed before, you'll be familiar with everything from here on out. The boil should last at least an hour for best hop utilization. During a one-hour boil you should expect to lose at least one gallon of fluid from the kettle, about 10 percent.

Cooling the Wort

The immersion chiller should be connected to the water source prior to putting it in the boiling wort, though the water should remain off initially. The line for "hot water out" must be connected to an appropriate hose and directed away from you or anything else that can get burned. If there is any residual water in the coil, it will turn to steam and spray scalding steam possibly on you or others. You want to place the immersion chiller in the boil for at least 15 minutes prior to the end, which will sanitize the chiller. If you're using a counter flow chiller, you can sanitize it by pumping hot (>180) water or your boiling wort through it for 20 minutes. Since the Whirlpool chiller uses a pump, this pump, the lines connecting it to your wort, and the copper arm should all be sanitized as well. Once the boil is complete, turn off the burner, cover the boil kettle with the notched lid, and turn on the cooling water. Once your wort has cooled to a temperature safe for pitching your yeast, you can run it out of the boil kettle into your fermenter.

Clean Up

After your beer is safely in your fermenter, you should clean your system up. Drain any extra water out from your Mash Tun and dump the spent grains in the trash (be careful, as the grains will still be very hot!). Hose any residual grain out and give it a good scrubbing with a stainless-safe scrub pad. The Hot Liquor Tank should just be a matter of dumping out any remaining water left over from sparging. The Boil Kettle will need the most work, but should clean up pretty quickly. Once this is clean, put some hot water in the Boil Kettle and run it through any piece of equipment that had your sweet wort inside - tubing, the pump, SMART™ system, counter-flow chillers, etc. This will prevent anything from growing inside them. Once everything has been cleaned, hang your tubing up to dry in such a way that the water can fully drain out.

Components With Common Questions

Any questions that you may have about your BrewSculpture™ can probably be found here.

Burners

The flame is regulated by the ball valve on the stem of the burners, and it is controlled more accurately by the knob on the propane tank regulator. You can adjust the flow of oxygen to the flame by spinning the metallic vents on the ends of each burner. If you ever need to take the burners or gas system apart, we recommend sealing the threads with pipe dope, rather than teflon tape.

All new propane tanks come equipped with an overflow valve. This valve will close if the pressure is coming out of the tank too quickly, the valve will close and prevent any gas from coming out of the tank. If this happens, turn the tank off and remove the regulator. When you reattach the regulator, make sure that the valve on it is closed all the way. Once the regulator has been reattached, you can turn on the tank valve, and then the regulator valve.

Digital Hot Liquor Burner - With this option, the burner under the Hot Liquor Tank is controlled by a digital controller mounted to the control panel through a thermowell that we weld into the Hot Liquor Tank. The controller turns the burner on and off through an automated gas valve that comes complete with a pilot light. You must have enough water in the Hot Liquor Tank to activate the float switch. If the water is lower than the switch, the burner will not light.

Warning:

- All devices that control gas are dangerous. Please use care and caution when using or modifying your gas system.
- Do not leave the system unattended! If the burner will not light, shut off the gas and diagnose the problem.
- Do not use in wind. Wind can cause the burner to not fully light. All jets put out gas whether they are lit or not.
- Use only in adequate ventilation. Carbon monoxide kills.
- Make sure you have access to the main valve on your propane tank in case of emergency.
- Please have a fire extinguisher handy.
- Do not bypass the low-pressure regulator. This system is designed to run at a specific pressure. Running the system at higher pressure can cause gas leaks and explosions.

Pump Cavitation

Cavitation is caused by air getting into the lines and into the pump head, disrupting the flow of the liquid. If this happens, check your hose clamp connections and make sure they are tightened down fairly well and not loose, as often times this can be a source of air getting into the lines. Next, check your quick disconnects to make sure those are sealed properly.

To purge the lines of air, unplug the pump and wait for the liquid to achieve equal levels within the lines. This will force all of the air to the top of the liquid, and you can usually re-start the pump and have no further issues. Also, the pumps that come with our BrewSculptures™ are equipped with a secondary ball valve on the "In" side of the pump head. To purge the line with the ball valve, keep the pump running and open the valve very slowly, as you are probably dealing with very hot wort at this point. The air and some fluid will come out of the ball valve here, enabling you to continue your brew day without having to stop the pump.

Sparge Arm Flow Issues

Within the quick disconnect of the Sparge Arm there is a ball that acts as a one-way flow valve. Sometimes grain will get stuck in there and water cannot flow through. If this happens, simply disconnect the tubing and blow into the quick disconnect - be careful, because the metal will be hot. (This feature is not included with our gravity systems)

Maintenance and Storage

In order to get the most out of your BrewSculpture™, it should be stored and maintained properly

The Stand

After every brew, you should wipe off any excess wort that may have spilled or boiled over during brewing. If you have a painted stand, be careful not to scratch off any of the paint, as this can promote the rusting of the underlying metal. If you do happen to see rust building up, sand it down before re-painting that portion of the stand. Make sure you use a high-quality, high-temp paint.

Both of the stainless stands can be cleaned with a soft scrub pad. If you have a boil over during your brew session, put some water on it right away, being careful not to get the burners wet. This will help the cleanup after the fact.

Burners

Make sure the burners are clean from any wort or water after your brew, as this can result in rusting over the years. Make sure to cover the input on the regulator in order to prevent bugs from living in there, clogging your gas flow.

Kettles

The kettles should all be rinsed out and have had any solid matter removed before storage. Every 10 brews or so, the kettles should be cleaned with a hot PBW solution and a soft white scrub pad in order to remove any build up of beer stone. Be careful not to scratch the kettles while cleaning. Make sure there is no residual water inside, and store the ball valves half way open to promote a through drying.

Thermometers

Re-calibrate your thermometers at least twice a year. On the backside of the dial face, there is a Hex (Allen) screw - by turning this screw you can re-calibrate your thermometers. To get an accurate reading, either use a spirit

thermometer, or put the probe in an ice bath first, then into boiling water to get a range of temps.

Tubing and QD's

After your brew, run water through all of your tubing, in order to flush out any residual wort that may have been left behind. Hang the tubing so that any water left inside can run out. This will limit the amount of potential mold growth inside the tubing. Using a little Keg Lube on the quick disconnects will help extend the life of the inner o-rings.

Pump

Run water through the pump as well, to remove any leftover wort or trub matter. Every 10 brews or so, take the pump head apart and do a through cleaning inside. Sometimes the buildup from brewing will not be 100% removed, even after a PBW rinse. Also, make sure to always run your pump with water or some liquid in it - never run your pump while it is dry! The motor should be oiled at least once every six months with 4-5 drops of SAE 20-weight non-detergent oil in each bearing.

Chillers

Immersion - Hose off the outside of the chiller and remove any solid particles from the coils. Do not leave the Immersion Chiller outside if you live in an area that has freezing temperatures, as the residual water inside can freeze, breaking your chiller.

CounterFlow/Plate - Run water through the "Beer" side of your chiller to push out any leftover wort or trub. Make a cleaning solution of hot water and PBW, and recirulate this through the "Beer" side of the chiller for about 15 minutes. Flush with warm water.

Suggested Items

Along with the BrewSculpture™ you will need some additional equipment in order to make your brew day successful.

PBW - a powdered cleaner that will clean most any organic residue from your system.
Teflon Tape - standard plumbers Teflon Tape. Use 4-6 wraps per male threaded hardware part.
Crescent Wrench - for taking apart ball valves and various fittings without damaging the hardware.
Flat Head Screw Driver - for tightening hose clamps and various pump maintenence.
1/2" Line Brush - a great way to help remove dirt and organic material from your tubing.
White Scrub Pads - ideal for srcubbing stainless kettles and stands without scratching the metal.
Keg Lube - for those hard-to-put-on quick disconnects.
Star San - a general sanitizer, for anything that touches the beer.
Pipe Dope - rated for gas systems. In case you ever need to take your gas system apart, make sure you have some of this to seal up the threads.

Warranty

All MoreBeer!™ BrewSculptures™ frames and stands carry a ***Lifetime Guarantee*** against defects in manufacturing. BrewSculpture parts and sub-systems which are not manufactured by MoreBeer!™ carry their respective manufacturers warranty and are covered by our customer satisfaction guarantee.

All Heavy Duty Kettles included in our BrewSculptures carry a ***Ten Year warranty*** on all parts and welds.

Limited Warranties and Return Policy

What is covered by this limited warranty?
This limited warranty covers defects in materials and workmanship in hardware products.

What is not covered by this limited warranty?
This limited warranty does not cover problems that result from:

1. External causes such as accident, abuse, misuse, or problems with electrical power
2. Servicing or alteration not performed or authorized by MoreBeer!™.
3. Usage that is not in accordance with product instructions
4. Failure to follow the product instructions or failure to perform preventive maintenance
5. Problems caused by using accessories, parts, or components not supplied by MoreBeer!
6. Products for which MoreBeer!™ has not received payment

MoreBeer!™'s responsibility for malfunctions and defects in hardware is limited to repair and replacement as set forth in this warranty statement. All expressed and implied warranties for the products, including but not limited to any implied warranties and conditions of merchantability and fitness for a particular purpose, are limited in time to the term of the limited warranty period. No warranties, whether expressed or implied, will apply after the limited warranty period has expired.

We do not accept liability beyond the remedies provided for this limited warranty or for consequential or incidental damages, including, without limitation, any liability for third-party claims against you for damages, for products not being available for use or for lost consumable materials, our liability will be no more than the amount you paid for the product that is the subject of a claim. This is the maximum amount for which we are responsable. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

How long does this limited warranty last?
This limited warranty lasts for one year. The limited warranty on all MoreBeer!™-branded products begins on the date of the packing slip or invoice. The warranty period is not extended if we repair or replace a warranted product or any parts. MoreBeer!™ may change the availability of limited warranties, at its discretion, but any changes will not be retroactive.

What do I do if I need warranty service?
Before the warranty expires, please call us at 800-600-0033. Please also have your invoice number available.

What will MoreBeer!™ do?
We will repair any MoreBeer!™-branded hardware products returned to us that prove to be defective in materials or workmanship. If we are not able to repair the product, we will replace it with a comparable product that is new or

refurbished.
When you contact us, we will issue a Return Material Authorization number for you to include with your return. We will return the repaired or replacement products to you and pay to ship the repaired or replaced products to you if you use an address in the United States (excluding Puerto Rico and U.S. possessions and territories). If we determine that the problem is not covered under this warranty, we will notify you and inform you of service alternatives that are available to you on a fee basis.

NOTE: Before you ship the product to us, make sure to clean and drain all liquids or solid brewing materials from the system. Remove any confidential, proprietary, or personal items that are not part of the original product.
We will replace any defective part with new or refurbished parts, if we agree that it needs to be replaced. When you contact us, we will require a valid credit card number at the time you request a replacement part, but we will not charge you for the replacement part as long as you return the original part to us within 30 days after we ship the replacement part to you. If we do not receive the original part within 30 days, we will charge to your credit card the then-current standard price for that part.
We will pay to ship the part to you if you use an address in the United States, (excluding Puerto Rico and U.S. possessions and territories). Otherwise, we will ship the part freight collect. We will also include a prepaid shipping container with each replacement part for your use in returning the replaced part to us.

How will MoreBeer!™ fix my product?
We use new and refurbished parts made by various manufacturers in performing warranty repairs and in building replacement parts and systems. Replacement parts and systems are covered for the remaining period of the limited warranty for the product you bought.