

# The Fusion 25™

Electric



## Owners Manual

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# Introduction

Thank You for purchasing The Fusion 25™

Our machines are hand built and shipped almost completely assembled using high quality components and materials. With proper use and care, this equipment will provide many years of outstanding performance.

## NOTICE!

Please review this manual in its entirety prior to any operation of this equipment

Failure to follow all manufacturer's instructions could result in serious personal injury and/or property damage.

Ruby Street Brewing, LLC assumes no responsibility for personal injury or property damage sustained by or through the use of this product.

If you have any questions or need assistance please contact us at:

Ruby Street Brewing, LLC  
Fort Collins, CO

Email:

[Questions@RubyStreetBrewing.com](mailto:Questions@RubyStreetBrewing.com)

## SAVE THESE INSTRUCTIONS

# Safety Instructions

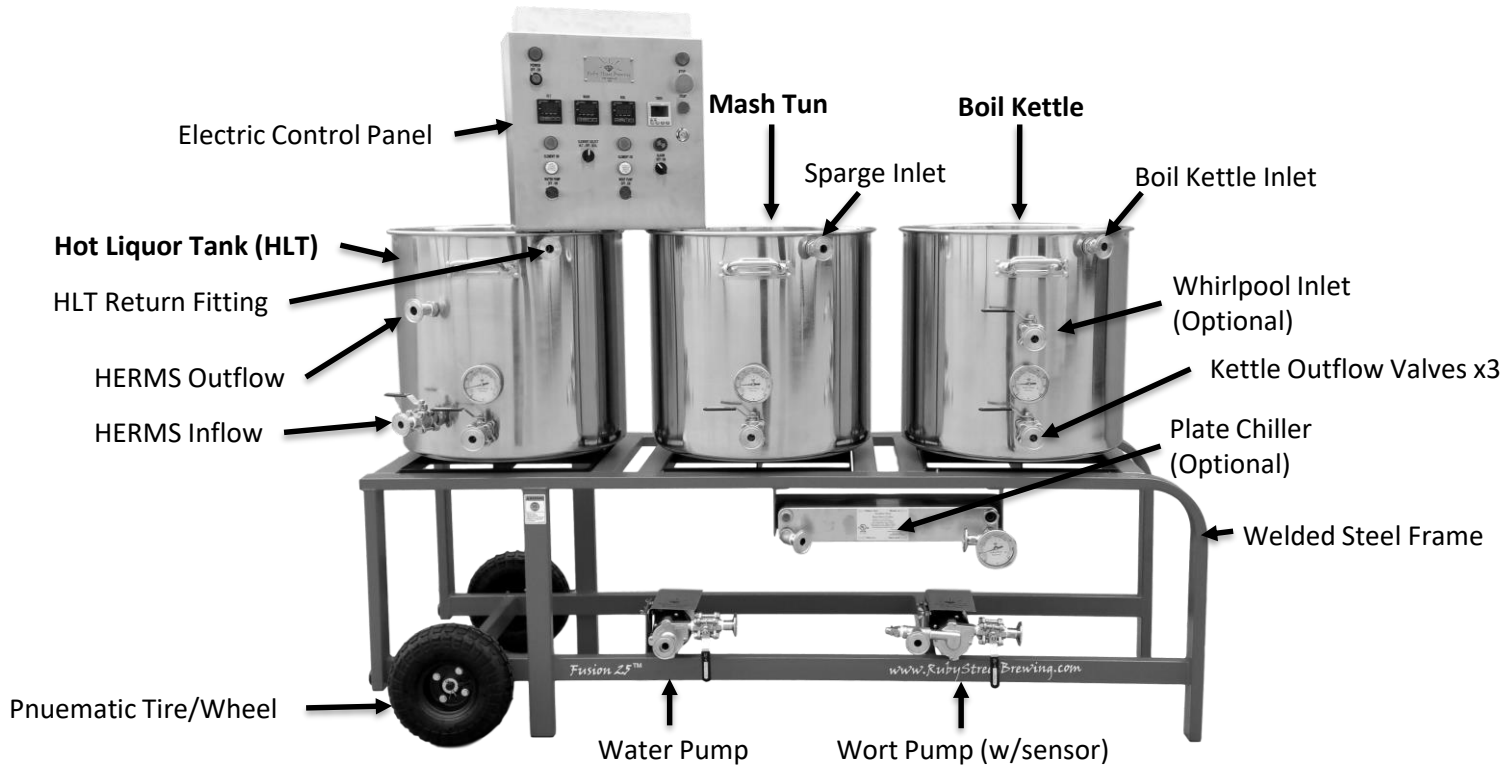


**WARNING:** To Reduce the risk of serious injury, read the following important precautions before using The Fusion 25 Brewery.

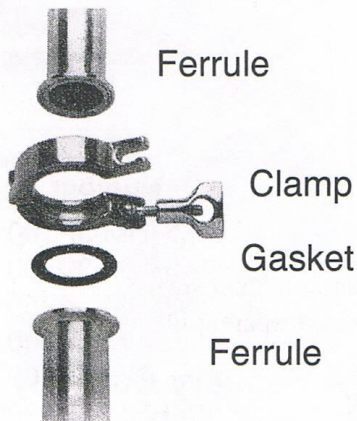
- It is the responsibility of the owner to ensure that all users of this equipment are adequately informed of all precautions.
- Use this equipment as described in this manual, do not use for anything other than its intended purpose.
- The brewing structure must only be used on a level hard surface such as concrete. Do not use on a surface that could be damaged by moisture.
- Make sure that all 4 legs contact the ground evenly, and that the frame cannot rock or sway during use. Shim legs with solid material as needed to correct for uneven surfaces.
- Inspect and tighten all parts before each use. Replace any parts that are worn or damaged immediately.
- Keep children and pets away from this equipment during use.
- **DANGER!** Water and Electricity Do Not Mix... Make sure that your circuit is a GFCI protected circuit. If in doubt consult a licensed electrician before using.
- Do not leave brewery unattended at any time during operation.
- Do not attempt to tilt or move the brewery unless all kettles have been removed
- Always make sure that the control panel is powered off and all control switches are in the off position before connecting or disconnecting any power, pump, or element connections at the panel.
- **DANGER!** Unplug Panel from the main outlet before opening or servicing the panel.
- Never dry fire stainless heating elements. Energizing an element that is not submerged in liquid will result in immediate and permanent damage.

# Brewery Overview

Familiarize yourself with all system components prior to assembly



Our breweries are constructed with high quality solid stainless steel tri-clamp fittings. These fittings are extremely easy to clean and keep sanitary and offer a completely universal connection system. See illustration at right for proper assembly



½" ID silicone hoses with stainless tri-clamp ends included:

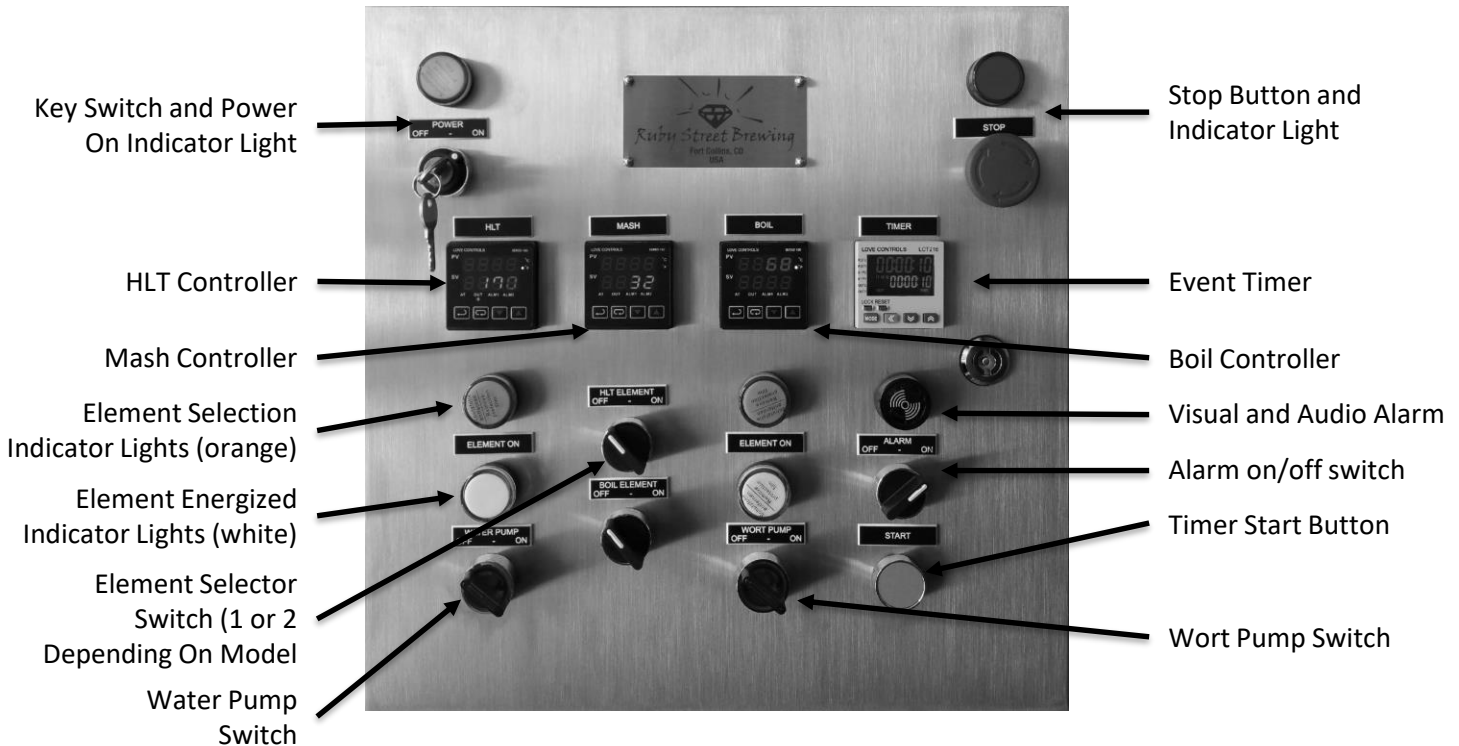
- (1) 3' Hose
- (2) 4' Hoses
- (1) 7' Hose
- (1) 9' Hose



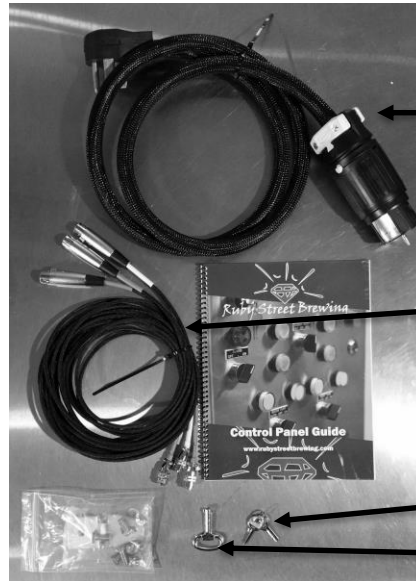
3/8" x 24" silicone hose with cork float end included (sparge hose)

# Brewery Overview

## Electric heating and control system components



2 Stainless Steel Heating Element Assemblies:  
 (1) short 8'  
 (1) long 11'



Main Power Cord

Sensor Cables (x3)

Safety Shutoff Key

Key to Open Enclosure

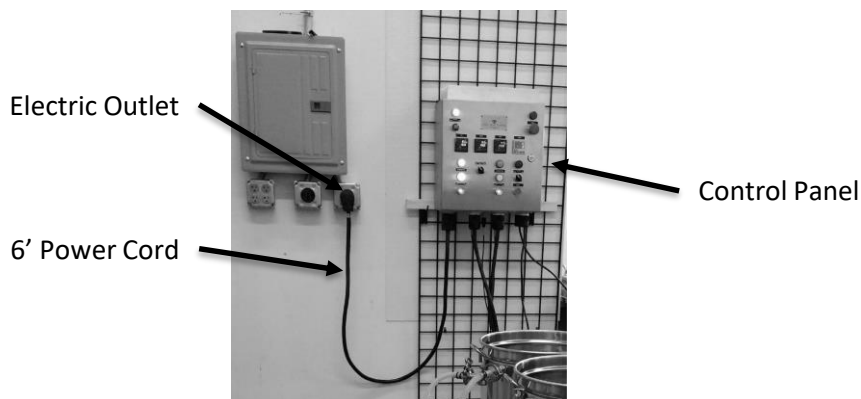
# Brewery Setup and Assembly

## Power Supply and Panel Mounting

When choosing a location for your brewery, you need to plan ahead to make sure there is adequate space for the system, wall mounted control panel, and necessary power receptacle. You also want to make sure that your flooring surface is solid and won't be damaged by moisture. The brewing system creates a significant amount of steam so make sure that you have a plan for proper ventilation, as the excess steam can damage wall and ceiling surfaces.

### Power Supply:

Your panel includes a 6' power cord that connects the panel to the wall outlet. We recommend that you place the wall outlet within 3' of the panel mounting location and close to the same height. See illustration below.



The supply outlet for your brewery must be a dedicated GFCI protected circuit installed by a licensed electrician based on the following specifications:

- 30 Amp Systems:
  - 30 Amp 240VAC Single Phase GFCI Protected (4 Wire) circuit.
  - Plug Type: NEMA 14-30
- 50 Amp Systems:
  - 50 Amp 240VAC Single Phase GFCI Protected (4 Wire) circuit.
  - Plug Type: NEMA 14-50

Our systems are shipped as either 30 or 50 amp systems (they are not interchangeable). If you are unsure of the system type that you have, please contact us for more information.

### Panel Mounting:

Choose a location to mount your control panel either directly to the left or right of the brewing system location. The panel should be mounted at a height that has good access for adult use (out of reach of small children).

Your panel includes (2) wall mounting tabs in a separate kit for securing the panel. Using the included bolts and nuts, tighten the tabs onto the panel using the (2) holes in the top corners of the back of the panel. When securing the panel to your wall make sure that you are mounting to a solid wall surface using anchors and fasteners that are rated in excess of the panel weight (the control panels are heavy!).

# Brewery Setup and Assembly

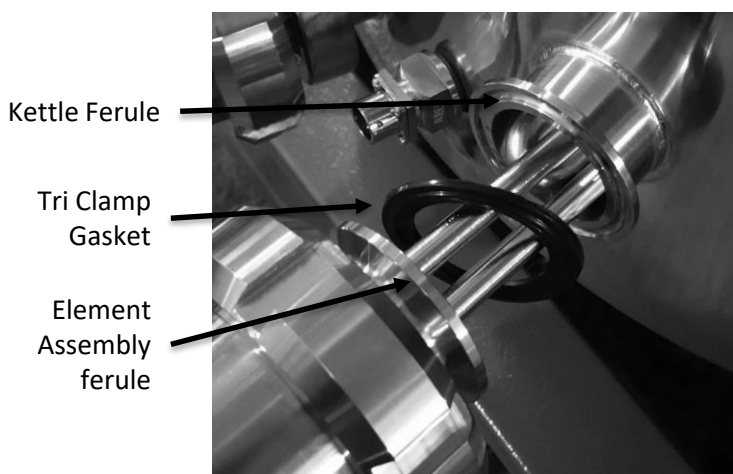
## Frame and Kettle Setup

Step 1: Place the kettles on the brewery frame in the correct locations.

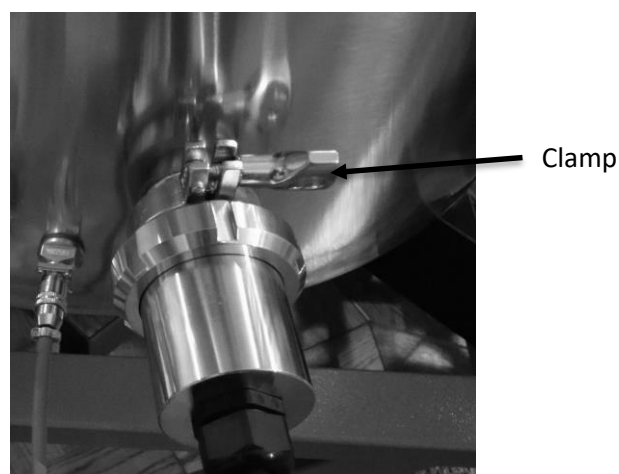
- Left side: Hot Liquor Tank (HLT) – The HLT can be identified by the stainless steel HERMS coil mounted inside
  - Center: Mash Tun – The mash tun will have a wall to wall false bottom assembly and no element ferule
  - Right Side: Boil Kettle – The boil kettle will have a domed false bottom and (1) element ferule in the back
- All kettles should be placed in the center of the black painted kettle support frames with the outlet valves facing forward. Refer to image on page 5 for proper kettle placement.

Step 2: (2) of the tri-clamp fittings may have been removed from the valves on the HLT for shipping purposes. If so, these fittings are secured to the stainless coil inside of the HLT. Carefully cut the plastic tie to remove the fittings from the coil. The fittings are already prepared with thread sealing tape. Simply thread the fittings into the two valves on the HLT by holding the valve body with one hand while tightening each fitting into the valve. Hand tight is generally adequate on these connections. Be careful to not twist the valves on the kettle.

Step 3: Install the heating elements into the HLT and Boil kettles. Place a tri-clamp gasket onto each of the two heating elements by pushing the gaskets over the ripple element and up against the sealing surface. Note that the (2) included element assemblies do not have the same length of cable. The element with the longer cable should be placed in the kettle that is furthest from the control panel. Installing the ripple elements into the kettles is a little bit of a puzzle the first time you do it. They will go in through a series of twisting and moving the element assembly as you push the ripple through the ferule on the kettle. Be sure not to use excessive force and be careful not to damage the temp sensor probe inside of the kettle. Once the element is in the kettle, make sure the tri-clamp gasket is properly mated onto both sealing surfaces (ferules), and install a stainless clamp to complete the connection as shown below.



Installing Element



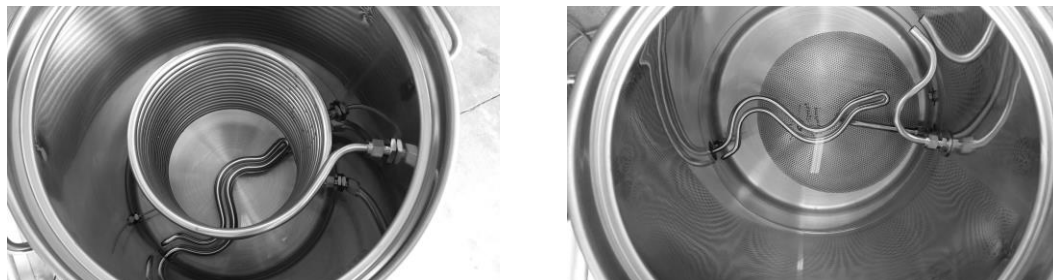
Installed with Clamp



# Brewery Setup and Assembly

## Frame and Kettle Setup (cont.)

Step 4: Verify that the elements are positioned properly inside of the kettles using the images below for reference. Make sure that the installed elements are not touching the temp sensor probes.



Step 5: Install the pumps onto the frame by removing the (2) wing nuts from each pump assembly and placing the stainless bolts on the pump assembly through the holes in each welded pump bracket. While holding the pumps in place, secure the wing nuts back onto the pump assemblies. The pump with the temp sensor connection should be mounted on the right side bracket as shown below.



Step 6: If your system included the optional plate chiller package, secure the plate chiller to the mounting bracket as shown above using the included stainless wing nuts to secure.

Step 7: Connect the temp sensor cables to the HLT, Pump (Mash), and Boil Kettle connections on the system. All (3) sensor cables are identical. The color coding is for your reference only. Gently push the cable ends onto the connectors until they click (they are indexed inside, so they will only go on one way). To disconnect the cables simply pull back on the metal connector sleeve. Make the 3 system connections as shown below.



# Brewery Setup and Assembly

## Frame and Kettle Setup (cont.)

Step 8: Connect the (3) temp sensor cables into the correctly labeled sockets on the control panel as shown. Use the color coding on the cable to verify that each connections is correct. The socket that is labeled mash should connect to the pump sensor cable.



Step 9: Plug the (2) pump power cables into the panel as shown below. Left Pump = Water Pump; Right Pump = Wort Pump.



Step 10: Plug the (2) element power cables into the panel as shown below, making sure that the correct kettle is plugged into the corresponding labeled socket.



Step 11: Make sure that all switches (including the key switch) are in the off position on the control panel. Connect the 240 Volt power cable into the socket on the control panel, and then plug the power cable into the wall socket.

Congratulations, your brewery is all setup and ready for use. Before brewing on the system, please complete the steps on the next few pages to test, tune, and get familiar with the control systems.

# Tune and Test

## Important Information on using the system

The following 3 things are very important to know before operating your brewery to prevent damage to any of the components:

1. **Never Dry Fire the Elements** – The electric elements must be submerged in liquid (water or beer wort) any time they are energized. Supplying power to a dry element for even a few seconds will permanently damage the element. The best way to ensure that this never happens is to always verify that your element selector switch(s) are turned off until you have confirmed that the element is completely submerged. Make sure to turn elements off prior to liquid level falling below the element any time you are draining a kettle. If an element is damaged, replace immediately
2. **Pumps – DO NOT RUN DRY** – Any pump that you are using must be properly primed with the pump head completely flooded with liquid prior to starting the pump. The pump impeller bearings rely on liquid for lubrication. Running a pump dry for even a few seconds will damage the pump impeller resulting in need for replacement.
3. **How to Prime Your Pumps** – Connect the appropriate hose from the kettle you wish to pump from to the inlet side of the pump (the connection opposite the pump flow control valve). Connect an outflow hose to the outflow (valve) side of the pump. With the power off, hold the open end of the outflow hose above the level of the Tanks, open the ball valve on the pump completely followed by opening the ball valve on the kettle completely. This should allow the pump head to flood with liquid and at this point you should see liquid flow through the pump and into the beginning of the outflow hose. Do not start the pump. Once you have confirmed that the pump head is filled with liquid, close the outflow valve on the pump. Connect the pump outflow hose to the proper connection or simply place the hose into the bottom of the kettle you want to pump into. Start the appropriate pump from the control panel. Slowly open the pump control valve to the desired flow rate. If liquid is not flowing from the outflow hose, the pump did not prime. Stop the pump, and repeat the process above. Priming centrifugal force pumps can be tricky, as any air trapped in the pump head can cause failure.

# Tune and Test



## Auto Tuning the HLT Controller

The PID Controllers that are included with your system are designed to perform complex mathematic calculations that determine the duty cycle or on-time needed for each element to properly hit and maintain desired temperatures with minimal overshoot. The controllers feature 'Auto Tune' which is a function that helps the controller learn how to react based on the typical volume of liquid in the kettle. Follow the steps below to properly Auto Tune your HLT controller. There is no need to perform any tuning on the other two controllers.

Step 1: Make sure that both valves on the HLT are in the closed position. Fill the HLT with enough water to cover the stainless HERMS coil (about  $\frac{3}{4}$  full).

Step 2: Connect the 3' hose to the HLT and to the Inlet side of the water pump (left pump). Connect a 4' length of hose to the water pump outflow valve. Prime the water pump by following directions on page 11. Connect the 4' hose onto the return fitting at the top of the HLT.

Step 3: Confirm that all pump switches and element selector switches on the control panel are in the 'OFF' position. Turn the key switch on the control panel to the 'ON' position, twist the red Stop button clockwise to release the button if pressed in. At this point, all three controllers should be reading temperatures on the top Process Value (PV) display relative to the temp probe positions. If any displays are not reading temperatures, double check all sensor cable connections.

Step 4: Press and hold the up or down  arrow keys on the HLT controller until the Set Value (SV) display reads 170 degrees F. Press the Enter Key  one time to enter the new temperature set-point. The Output (OUT) indicator light on the controller should now glow green.

Step 5: Start the water pump using the control switch on the panel, and slowly open the flow control valve on the water pump to the full open position. Water should now be pumping back into the HLT. If water does not flow with the pump running, refer to the priming process on page 11.

Step 6: Turn the Element selector switch to 'HLT' on the control panel. At this point both the orange and white HLT indicator lights should illuminate on the control panel, and the HLT water should begin heating.

Step 7: To start the Auto-Tune process, press the Enter key one time. The display should now read 'AT OFF'. Press the Up Arrow key one time to change the display to 'AT ON'. Press the Enter key one time to start the Auto-Tune Process. The AT light on the display should now flash to indicate that Auto-Tuning is in process. Pressing the enter key again will return you to temperature readout mode. The Auto-Tune light will continue to flash until auto-tuning is complete.



The controller will likely raise the HLT temp above the 170 set-point, and let it fall below 170 several times during the auto-tune process. The white indicator light will flash on and off indicating when power is applied to the element. The AT light will stop flashing when auto-tune is complete (less than an hour), and the controller will hold the 170 set-point. At this time you can switch the HLT element Off and the pump switch Off. We recommend carefully pumping the hot water over to the boil kettle in order to perform the boiling test on the next page.

# Tune and Test

## Testing the Boil Controller

The PID Controller for the Boil kettle is not setup for precise PID temperature control like the HLT is. PID type control does not work for boiling, because there is not a perfect temp that provides a steady boil. Instead, the Boil controller is setup for manual duty cycle control or % on-time of the element. By adjusting the output % of the controller, you can attain a more or less vigorous boil based on your needs.

Step 1: Make sure there is enough water in the boil kettle to cover the electric element (we recommend at least 1" above).

Step 2: Press the Index key  one time to enter the manual control menu. The controller display should now read 'RUN' (if the controller displays 'STOP' press the up arrow one time to change to 'RUN' and press the enter key to register change). Now press the Index key  twice more to display Output (OUT). Now press and hold the Up Arrow key until the controller reads 'OUT 100' (or 100% output). Press the Enter key one time to register the change.

Step 3: Turn the Element selector switch to 'BOIL' on the control panel. At this point both the orange and white BOIL indicator lights should illuminate on the control panel, and the Boil kettle water should begin heating. While heating gently stir the boil kettle. With electric heat, you must always keep the water moving while heating in order to avoid stratification. If the water isn't stirred, the temp probe and thermometer will not read accurately, and the boil will take longer to achieve.

Step 4: Once the water in the boil kettle begins boiling, you can reduce the output % by using the down arrow key to adjust and then the enter key to register the new value. We find that 75% output generally provides a nice rolling boil on the Fusion 15 systems. Keep in mind you will likely always use 100% output while heating to the boiling point to save time. Note that in case you are close to boil over, the element selector switch is the fastest and easiest way to stop the boil kettle (much faster than dialing down the output percentage).

You have now tested both control circuits. Please note that the mash controller is a temperature readout device only. All mash heat is provided by recirculation through the HERMS coil.

## Timer and Alarm Operation

For complete instructions on timer and alarm use, please refer to the Control Panel Guide that is included with your brewing system. Note that all 3 controllers are wired into the alarm system, and specific alarms can be programmed based on temperature set-points of the controllers. This can be handy for alerting you when your mash tun strike water has reached desired temp, or when you're close to boiling temp. The controllers on your panel are Love Controls brand Series 16C controllers. There are several on-line resources for additional programming and use of these controllers.

# Brewing Instructions

Please note that these instructions are only intended to illustrate the basic use of this system and its components. We highly recommend that you read one of the many available books on all grain brewing procedures. Contact your brewing equipment supplier for recommendations. The following brewing scenario is based on a single step infusion mash using highly modified 2-row malt. Electric brewing also relies on a HERMS heat exchanger coil to provide heat to the mash tun. While the directions below are based on fly-sparging, batch sparging is also possible with this system and is becoming a popular alternative for many brewers.

Clean all kettles, hoses, pumps, and chillers with PBW brand cleaner and rinse well before using. We also recommend doing a complete water run before actually brewing beer so you are familiar with how the system operates prior to brewing.

1. Fill the HLT tank with just enough water to cover the top of the HERMS coil.
2. Add cool clean water (strike water) to the mash tun at a rate of 1.25 quarts of water per pound of grain. At this time, add any water treatments as necessary.
3. Connect Hoses as shown below to begin simultaneously heating the HLT and Mash Tun. Prime both pumps per direction on page 11. Start recirculation of the HLT followed by recirculation of the mash tun through the HERMS coil as shown.



#### Connections:

- 3' Hose – HLT to Water Pump Inlet
- 4' Hose – Water Pump Outlet to HLT Return
- 4' Hose – Mash Tun to Wort Pump Inlet
- 9' Hose – Wort Pump Outlet to HERMS Inlet
- 7' Hose – HERMS Outlet to Mash Tun Sparge Inlet

4. Begin heating the HLT from the control panel with a set-point well above your desired mash strike temp (example: 200 Degrees)
5. Heat the strike water in the mash tun to the required infusion temperature. There are many online programs and even cell phone apps to help you calculate the correct strike water temperature. Generally the strike water temp range is around 165° – 169° F. The Mash Tun temp will lag behind the HLT temp as the HLT is being heated directly by the element, while the Mash Tun is being indirectly heated by the heat exchanger (HERMS) coil in the HLT. Use the Mash Tun controller to monitor the rising temp of the strike water.

# Brewing Instructions

- Once the strike water has reached the target temperature, stop the wort pump and turn off the HLT element. Add the entire grain bill to the kettle all at once. Immediately stir until all grain is completely submerged and saturated. Using the kettle mounted thermometer, check the temperature of the mash. The temperature should be around 149° – 154° F depending on your recipe. Stir the mash until the temperature reading stabilizes.
- At this point you want the HLT water to be approx. 1 degree above your desired mash temp in order to maintain the correct Mash Tun temperature. While the HLT is still recirculating, slowly add cold water to bring the temperature of the HLT back down to the desired temp (example: if your desired mash temp is 150 degrees, add cold water to the HLT to bring the temp down to 151 degrees).
- Set the HLT controller to the desired temp (1 degree above mash) and turn HLT element back on to maintain the HLT temp.
- Close the outflow valve on the wort pump about half-way and restart the wort pump so that the mash liquid circulates through the HERMS coil and gently back onto the top of the mash. Allow the mash to recirculate for at least 60 minutes.
- Once the Mash is complete, adjust the HLT controller to 170 degrees and continue to recirculate the mash.
- When the HLT temp has reached the 170 degree set-point, close the outflow control valves on both pumps, and close the inlet valve on the HERMS coil (the pumps can be left running or turned off)
- Remove the 7' hose from the system at this time and set aside. Please note that the hose will be full of hot wort so be careful (Tip: kink the hose near the HERMS coil, disconnect, and then hold the end of the hose up to drain the remaining wort into the mash tun prior to disconnecting).
- Move the 4' hose from the HLT return fitting over to the sparge inlet fitting. Remove the 9' hose from the HERMS inlet fitting and place the end of the hose into the bottom of the boil kettle. New hose arrangement should match image below.



- Open the valve on the wort pump slightly allowing beer wort to flow through the pump from the Mash Tun and into the Boil Kettle. We recommend using a measured container to adjust this flow rate to about 1 quart per minute

# Brewing Instructions (Cont)

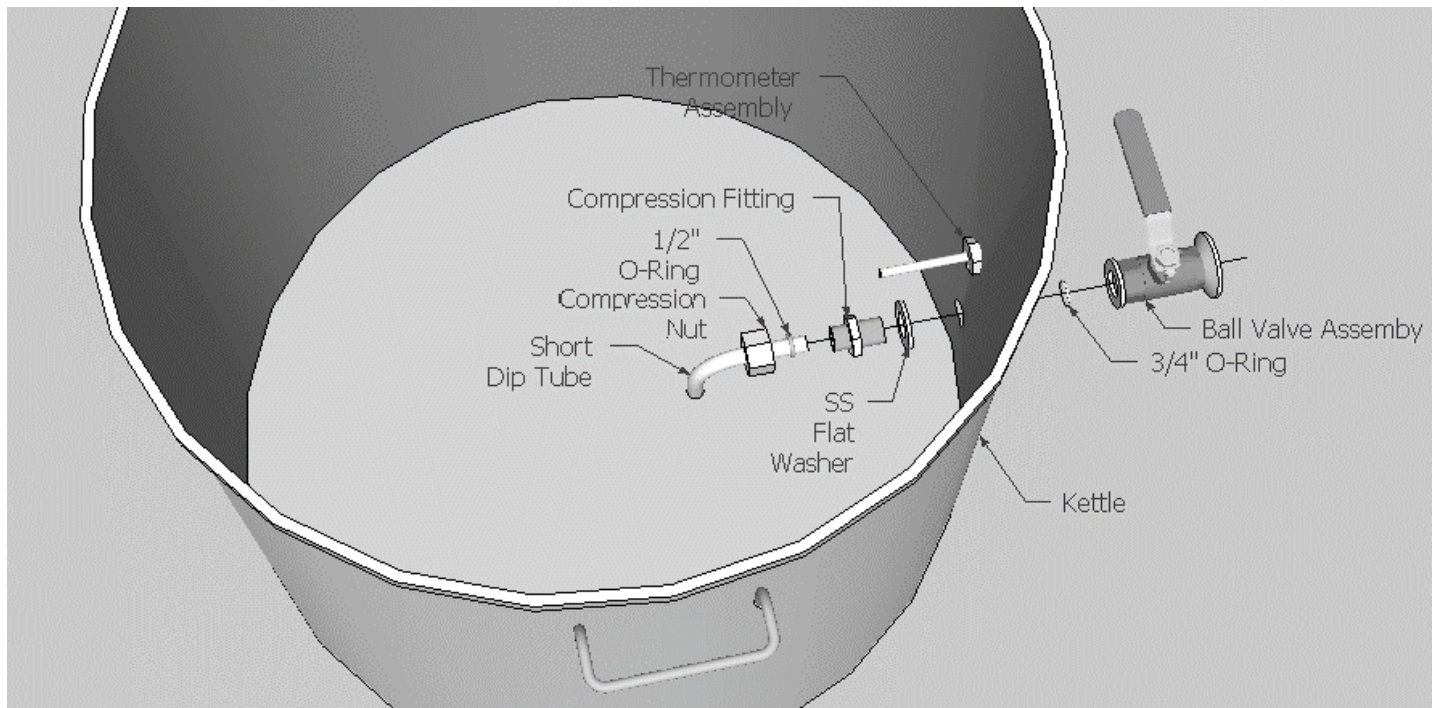
15. Open the valve on the water pump slightly to regulate the flow of 170° F sparge water into the Mash Tun. Adjust this valve as needed to always maintaining a water level between ¼” and 1” on top of the grain bed (we do not advise allowing the water level to fall below the level of the grain).
16. Once the wort in the boil kettle is above the element, you can start heating the wort in the boil kettle to save time. By doing this you will be able to boil immediately upon hitting target volume. (on 30 amp systems you can switch back and forth between the HLT and Boil elements; on 50 amp systems both can be run simultaneously)
17. Continue the runoff process until you have collected the desired amount of pre-boil wort in your Boil Kettle (approximately 18-19 gallons for a 15.5 gallon batch). At this time, close the outflow valves on both pumps, turn off both pumps, and turn off the HLT element.
18. Begin heating the Boil Kettle in order to bring the wort volume to a full boil. Be very careful to avoid a messy boil-over by stirring and reducing the element output % as liquid nears boiling temperatures.
19. Boil wort for a full 60 minutes following recipe guidelines for all hop additions, and any instructions regarding the addition of Irish Moss and or immersion chillers. Note that this system has a false bottom in the boil kettle which makes it perfect for using whole loose leaf hops!
20. While the wort is boiling remove the 9’ hose from the boil kettle and use the pump to transfer all of the remaining liquid out of the Mash Tun into a bucket or suitable drain. Once the grain bed has completely drained you can use a scoop to clean the grain out of the mash tun. Do not attempt to lift the mash tun from the frame with grain inside. The handles are only intended to lift empty kettles.
21. During the last 5 minutes or so of the boil, place the open end of the 9’ hose back into the boil kettle. Connect a 4’ length of tubing from the valve on the boil kettle to the inlet of the wort pump.
22. Slowly open the outflow valve on the wort pump about halfway allowing the wort to recirculate into the boil kettle. Recirculate the boiling wort through the pump and tubing for about 1 minute in order to completely heat sanitize the pump, valves, fittings, and tubing. **WARNING!** Be extremely careful not to allow the tubing end to come out of the kettle as the flow of boiling wort could cause severe burns. Do not touch the valve bodies, tri-clamp fittings, or pump head during this operation, as they will all be at boiling temperatures.
23. Upon completion of the wort boil the wort must be quickly chilled to yeast pitching temperature, and pumped into a suitable fermenter. There are several options for achieving this process. Please consult your brewing equipment supplier for recommendations.
24. Pitch yeast according to manufacturer’s recommendations and seal fermenter with appropriate airlock or blow off tube assembly.
25. After brewing is complete, remove any remaining grain and or hops from kettles and spray out with garden hose. Place the kettles back on the brewery frame for further cleaning. Use remaining hot water from Hot Liquor Tank to make a brewery wash solution using a product such as PBW™. Connect the pumps and tubing so that this solution gets thoroughly circulated through all fittings, valves, tubing, pump heads, HERMS coil, plate chillers, etc. After circulating wash solution, make sure that all kettles, fittings, valves, tubing, and pump heads get flushed with clean water.
26. Make sure to empty all liquid from the pumps by separating the pumps from the pump brackets by removing the two stainless steel wing nuts. Hold the pumps at several different angles and shake gently to ensure that no liquid remains trapped within the pump heads.
27. Dry all kettles and kettle components immediately to prevent water spots.



# Kettle Assembly

## Hot Liquor Tank

Please note that all 3 kettles are not the same. The hot liquor tank has only two holes, one for the valve and one for the thermometer (depending on options). The mash tun and boil kettle have three holes, one for the valve, one for the thermometer, and one near the top for the inlet fitting. Make sure that you thoroughly clean and sanitize all kettles and components prior to use. We recommend using PBW™ or a similar product for this task.



Step 1: Place (1) stainless steel flat washer over the longer threaded end of the included compression fitting

Step 2: Place the fitting and washer assembly through the hole from the inside of the kettle. While holding the fitting from the inside, slide the 3/4" silicone O-ring over the threaded fitting end on the outside of the kettle.

Step 3: Install the valve onto the threaded fitting by screwing the fitting into the ball valve from the inside of the kettle. Tighten the fitting until the valve is firmly mounted. **Caution!** Twisting the valve assembly after the assembly has been tightened may damage the O-ring. Check for leaks prior to use.

Step 4: Slide the compression nut onto the longer end of the dip tube, followed by the 1/2" O-ring as illustrated above. Position the O-ring about approx. 3/4" from the end of the dip tube.

Step 5: Hand tighten the compression nut onto to compression fitting while holding the valve assembly from the outside of the kettle.

Step 6: Refer to instructions included with the thermometer for proper thermometer installation.

# Kettle Assembly

## Mash Tun / Boil Kettle

Figure 1

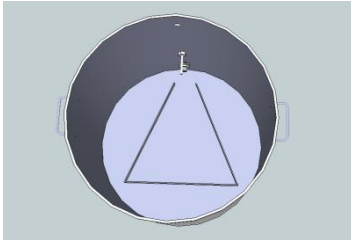


Figure 2

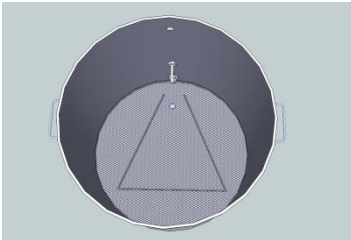
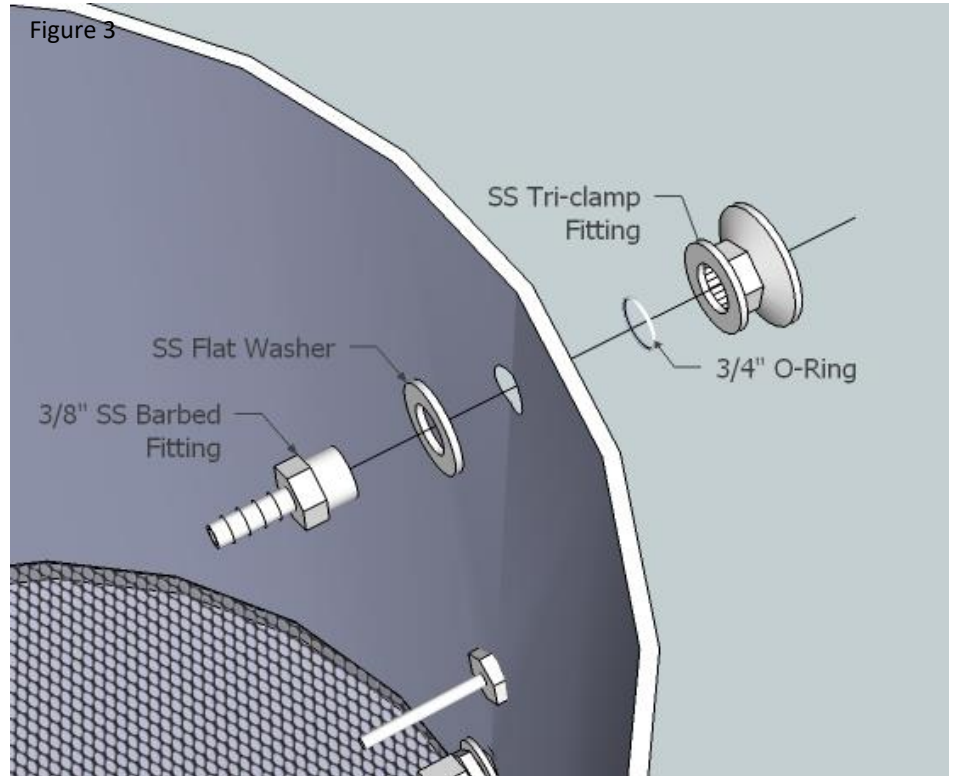
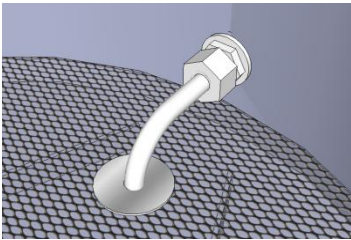


Figure 4



Step 1: Install ball valve assembly by following Steps on page 17

Step 2: Place the triangle shaped false bottom support into the bottom of the kettle with the open end facing the valve assembly (Figure 1)

Step 3: Insert the large perforated false bottom disk into the kettle so that it rests on top of the false bottom support. Make sure that the elongated hole in the false bottom is aligned with the valve assembly (Figure 2)

Step 4: Insert the dip tube assembly by placing the  $\frac{1}{2}$ " SS washer over the large hole in the perforated false bottom (figure 4). Slide the dip tube into the compression fitting and tighten nut to compress internal O-ring.

Step 5: Assemble the thru-wall sparge assembly by placing a flat washer onto the threaded end of the barbed fitting. Insert the fitting through the upper hole in the kettle wall from the inside. While holding the fitting from the inside, slide the  $\frac{3}{4}$ " silicone O-ring over the threaded fitting end on the outside of the kettle. Install the tri-clamp fitting onto the threaded fitting by screwing the fitting into the tri-clamp from the inside of the kettle. Tighten the fitting until the assembly is firmly mounted (Figure 3)

# Care and Storage

Properly cleaning, maintaining, and storing your Fusion 25™ and related components will ensure many years of trouble free operation.

- **Frame** – The frame has a highly durable powder coated finish. The frame should only be cleaned with a soft cloth using a mild solution of dish soap and water. Never use alcohol, paint thinners, or any other solvents on the frame. Do not use abrasive pads or cleaners on the frame. In the event that the frame finish becomes chipped or damaged exposing bare metal, use an automotive grade touch up paint to refinish the compromised area in order to prevent rust formation.
- **Kettles** – Kettles and related stainless steel components should be cleaned before and after each brewing session. Kettles should be cleaned with a soft cloth and mild soap. **DO NOT EVER USE STEEL WOOL** or soap filled pads on stainless steel components or kettles as this will cause excessive rust. For stubborn or hard to clean residue, a synthetic scrubbing pad can be used (note that this may dull the finish of your kettles). After cleaning, kettles and components should be rinsed with clean water and dried immediately to prevent water spotting. If any rust should occur from iron contamination, use Bar Keepers Friend brand cleanser to make a paste that can be used to remove rust.
- **Tubing, O-rings, and Gaskets** – Your brewery includes high quality silicone tubing, O-rings, and gaskets for all liquid connections. All silicone tubing and parts should be rinsed with a brewery wash solution prior to and after brewing, then thoroughly flushed with clean water. Tubing should be stored hanging with open ends downward so that all moisture will drain out. If you notice that the tubing has become sticky or if you identify any small tears on the exterior surface of the tubing, O-rings, or gaskets, replace immediately. Contact your brewing equipment supplier for replacement silicone parts. Some discoloration of the silicone accessories is normal (especially when using iodine based sanitizers).
- **Pump and Valves** – Pump head and valves should be flushed with a brewery wash solution prior to and after brewing, then thoroughly flushed with clean water. Make sure that no liquid is left in the pump head by separating the pump from the pump bracket by removing the two stainless steel wing nuts. Hold the pump at several different angles and shake gently to ensure that no liquid remains trapped within the pump head. All valves should be left at the 45° half open position during storage (this ensures that no moisture becomes trapped within the valve ball or in the housing surrounding the valve ball).
- **Storage** – We recommend storing your Fusion 25™ indoors when not in use.
- **Upright Storage** – The frame does have rubber feet on one end to accommodate upright storage.

# Limited Warranty

Ruby Street Brewing, LLC warrants this product to be free from defects in workmanship and material, under normal use and service conditions for one year from the date of purchase. This warranty extends only to the original purchaser. Ruby Street Brewing, LLC's obligation under this warranty is limited to replacing or repairing at Ruby Street Brewing, LLC's option. All repairs for which warranty claims are made must be pre-authorized by Ruby Street Brewing, LLC. This warranty does not extend to any product or damage to a product caused by or attributable to freight damage, abuse, misuse, improper or abnormal usage, or repairs not provided by Ruby Street Brewing, LLC authorized service personnel. Specifically excluded are damages caused by or attributable to the following incidents: Any damage to the frame, kettles, or components attributable to improper handling or freight damage; damage resulting from improper storage; damage to the pump, motor, plumbing, and components due to improper maintenance; or damage resulting from failure to properly follow owners manual operating and maintenance instructions. Excluded are components that are subject to replacement due to normal wear including but not restricted to silicone tubing, o-rings, and gaskets. The warranty also excludes any deterioration, burning, or discoloration of the applied finish on the frame. No other warranty beyond that specifically set forth above is authorized by Ruby Street Brewing, LLC.

Ruby Street Brewing, LLC is not responsible or liable for indirect, special or consequential damages arising out of or in connection with the use or performance of the product or damages with respect to any economic loss, loss of or damage to property including water damage, fire damage, loss of revenues or profits, loss of use, or other consequential damages of any nature. Some states do not allow the exclusion or limitation of incidental or consequential damages. Accordingly, the above limitation may not apply to you.

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

Ruby Street Brewing, LLC, Fort Collins, CO