

WELCOME TO THE BREW TANK!

Fun times ahead!

But before you start **please read these instructions**,
for your safety and to keep your Brew Tank in tip top condition.

Happy brewing...



DARK FARM

BREW TANK: ALL-IN-ONE BREWING VESSEL. 40L & 60L MODELS.

Instruction manual version 1.0

For all electrical questions, please get advice from a certified electrician.

All Brew Tank bundles come with a 2.2kw element as standard.

ONLY a 2.2kw heater element (or smaller) can be used with an Inkbird 308 WiFi temperature controller.

If using a 3kw heater element, ONLY plug directly into an independent wall socket. We advise against using an extension cable as the element could exceed the recommend load. Do not share any other device on the same extension.

For 4.5kw and 6kw heater elements, you MUST get advice from qualified electrician.

WARNINGS!

- **NEVER LEAVE THE BREW TANK UNATTENDED WHEN IN USE OR TURNED ON!**
- **NEVER LEAVE A HEATER ELEMENT UNATTENDED WHILST ON OR HOT!**
- ALWAYS brew on a flat, strong, non flammable surface. A full BREW TANK is heavy and gets hot!
- DO NOT allow cables and hoses to cause a trip hazard.
- The Brew Tank will get HOT when in use, especially the lid. TAKE great care. We advise the use of heat proof gloves for removing the lid and grain basket when in use.
- Lifting a heavy and/or hot Brew Tank may result in serious injury. NEVER lift the Brew Tank when it is full. ALWAYS use a hose to fill your unit AND USE the pump or ball valve to transfer your wort.
- When boiling your wort, remove the lid. This will help prevent any boil over.
- We advise against using the Brew Tank while under the influence of alcohol.

1. Read ALL of these instructions before using the Brew Tank unit. If you are at all unsure about any part of the Brew Tank or accessories, please take a look at the instructions on YouTube or contact us directly. We will be happy to help. Contact: gareth@darkfarm.co.uk or call 01392 58 0700. www.youtube.com/darkfarmhops

2. DO NOT turn on the heating element if there is less than 4 liters of liquid in the BREW TANK. This is the minimum fill level.

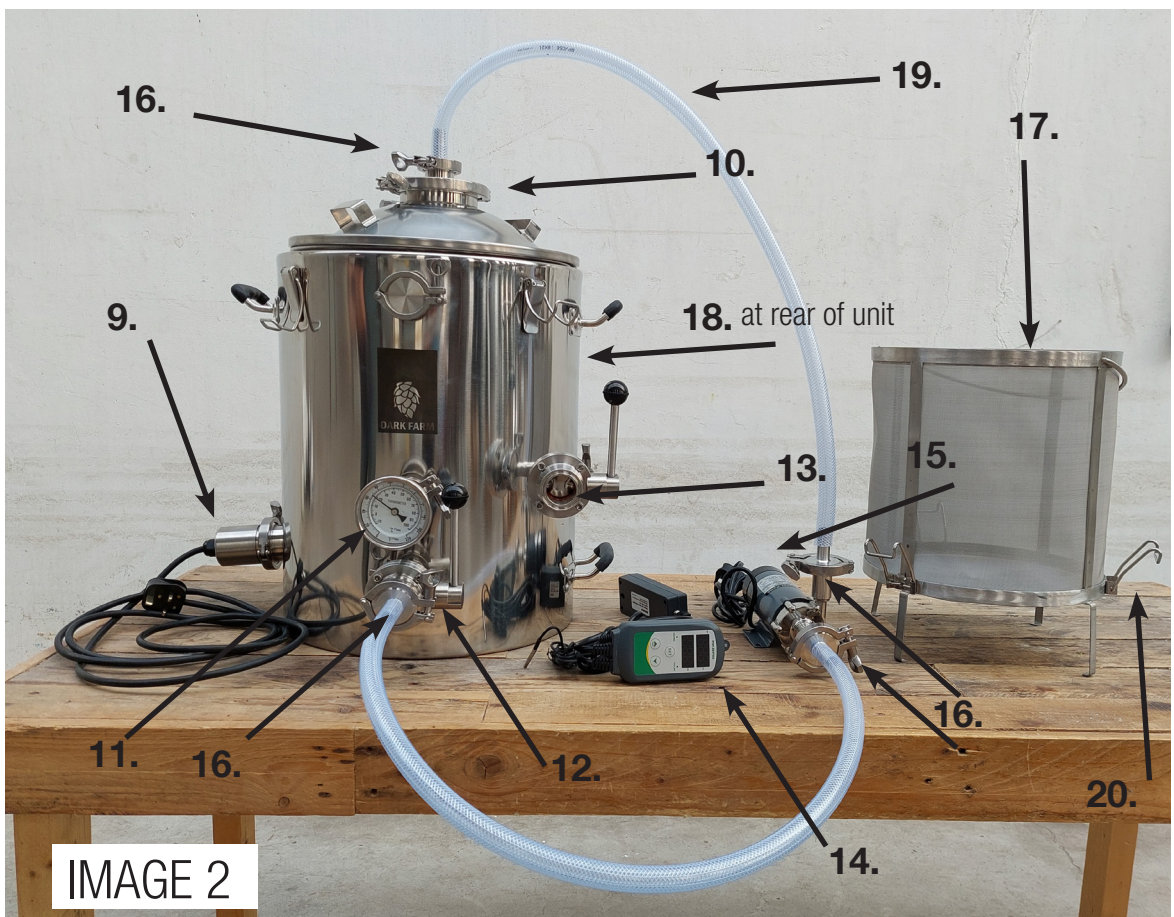
- 3.** NEVER turn on the pump without first attaching the recirculation hoses as shown in image 2 of these instructions. By failing to fit the recirculation hoses, you risk injury caused by the spray of hot wort.
- 4.** NEVER let your Brew Tank boil dry.
- 5.** NEVER clear a blocked pump by spraying water down the recirculation hose or directly into the pump inlet.
- 6.** Cleanse and sterilize your Brew Tank before first use. USE only cleansers/sanitisers such as ChemSan or SanStar on the Brew Tank. DO NOT use bleach or chlorinated cleansers. DO NOT use abrasive cleaning tools/items such as wire wool or steel wool pads. Using other chemicals and abrasive cleaning tools can result in permanent damage and void warranty.
- 7.** ALWAYS use long-handled heat proof spoons or paddles for stirring hot wort. Use heat proof gloves!

Any questions? Call us!
Dark Farm Hops Ltd
Email: gareth@darkfarm.co.uk
Tel: 01392 58 0700
www.darkfarm.co.uk



BREW TANK 40L & 60L

See next page for key to parts



KEY TO PARTS

IMAGE 1 - BREW TANK UNIT

- 1.** 2" Tri clamp (Heater element)
- 2.** 1.5" Tri clamp (Outlet)
- 3.** 1.5" Tri clamp (Thermometer)
- 4.** 1.5" Tri clamp (Inlet 1)
- 5.** 1.5" Tri clamp (Whirlpool arm)
- 6.** 4" Tri clamp (Lid)
- 7.** 1.5" Tri clamp (Inlet 2)
- 8.** 1.5" Tri clamp (Thermowell) (at rear of unit)
- 21.** Lid clamps
- 22.** Handles

IMAGE 2 - BASIC SET UP

- 9.** Heater element
- 10.** 4" to 1.5" reducer
- 11.** Analogue thermometer
- 12.** Butterfly valve
- 13.** Butterfly valve
- 14.** InkBird temperature controller
- 15.** Pump
- 16.** 5/8th barbed to 1.5" Tri clamp
- 17.** Grain basket
- 18.** Thermowell (at rear of unit)
- 19.** Hose
- 20.** Grain basket hooks

Buy additional Brew Tank accessories, brew kits and kegs from
[www. darkfarm.co.uk](http://www.darkfarm.co.uk)!



Operating your Brew Tank

There are many ways you can brew using your Brew Tank, this versatility is one of its best benefits! We will demonstrate two ways using the tools available from www.darkfarm.co.uk.

STEW AND NO SPARGE METHOD

This technique is quick and easy to do for any level of homebrewer. Removing the sparge stage speeds up the brewing time and removes the need for additional equipment. There is a lot of debate about no sparge and how it can affect your end results. One of the reasons for sparging is to reduce the liquor volume in the kettle whilst mashing, allowing the equipment to better regulate the temperature. The thermal properties of the Brew Tank maintains the wort temperature for up to 60 mins without the need of additional heat.

Step 1 - Make sure your equipment is clean and sterilized.

Good sanitation and cleaning is one of the corner stones of successful brewing. The Brew Tank is constructed out of 1.5mm food grade stainless steel and is very easy to clean. All the tri clamp fittings are also specifically designed to be easily removed and cleaned/sterilized - so there is no excuse to not keep your equipment in good shape, preventing unnecessary contamination.

TIP! Have a bucket of sterilized water set up to rinse or store components in whilst brewing.

Step 2 - Assembly

To accompany these assembly instructions, we also have a video on our YouTube channel.
www.youtube.com/darkfarmhops



Important: Place your Brew Tank on a secure, heat poof and supported surface. Allow enough head room for you to be able to remove the grain basket and support it on the top of the tank.

Note: While it's important to properly tighten all the fightings to avoid leakage, do not over tighten as this will cause damage. Securely hand tight is sufficient.

- 1) Remove caps 1,2,3 and 8 (see image 1)
- 2) Add the heating element (see #9, image 2) to Tri Clamp Fitting #1 (image 1) and seal and secure using a 2" gasket and clamp.
- 3) Add the butterfly valve (see #12, image 2) to Tri clamp fitting #2 (image 1) seal and secure using a 1.5" gasket and clamp.
- 4) Add the 1.5" Tri Clamp with ½" thread to Tri Clamp Fitting 3. Seal and secure using a 1.5" gasket and clamp. (see #11, image 2)
- 5) Remove bolt, seals and metal washers from the analogue thermometer. Replace the seal, followed by the metal washer. Cover the thread with Plumbing tape. Screw the thermometer to hand tight into the Tri Clamp Fitting with ½" thread.
- 6) Add the thermowell to Tri Clamp Fitting 8. (see image 1) Seal and secure using a 1.5" gasket and clamp.
- 7) Check all seals are secure, but don't over tighten. As a test, slowly add cold water to the Brew Tank to check you have water tight connections.

Step 3 - Strike Temperature

Now you are ready to brew! Fill your Brew Tank with water. This brewing method can reach brewing efficiency of around 75-80%, so if you are making a 20L brew add around 25L of water. For my strike temperatures I add 5°C to my mashing temperature. For example, a 67°C mash would have a strike temperature of 72°C. The strike temperature allows for the temperature loss when adding the grains.

If you are using a InkBird (#14, image 2) **(ONLY FOR 2.2KW elements - see electrical warnings above)** you can use it to set your strike temperature. This will send power to the heating element until it reaches the set temperature, for this example 72 °C .

Step 4 - Mash

Once you have hit your strike temperature, you can now add your grain. Carefully pour your grain bill into the grain basket (#17, image 2) inside the Brew Tank. When all the grains are in the basket, give them a good stir. Once you are happy that the grains are loose and have not “stuck”, you can seal up the Brew Tank. Attach the lid and use the four clamps (#21, image 1) to secure it. The Brew Tank’s dual wall property will insulate your wort and hold its temperature. But just in case, this is a good time to reprogramme your InkBird to the mash temperature, for this example set it to 67°C . Now set your timer to 60 minutes or as specified in your recipe.

TIP! Depending on your recipe, you may want to stir the wort occasionally with a long handled heat resistant spoon or paddle. The wort is hot so watch out for splashes! The lid of the Brew Tank may also get hot so use heatproof gloves.

Step 5 - Drain

After 60 minutes, your mash is done. Undo the clamps (#21, image 1) and carefully remove the lid. Be careful as the lid and tank may be hot. And your wort will definitely be hot! Using suitable heat proof gloves, get hold of the grain basket handle and lift the basket to the rim of the Brew Tank. Use the clips (#20, image 2) on the side of the basket to suspend the grain basket above the Brew Tank. Leave in this position to drain - you can use your brew paddle to help with this process.

TIP! The grain basket can become heavy so get help with this part. You can buy small winches to help with lifting the grain basket.

Step 6 - Boil

With your grains draining on top of the Brew Tank, reset your InkBird (#14, image 2) to 100°C and bring your wort to the boil. **To avoid boil over, do not replace the lid at this stage.** When you are happy the grains are drained, remove the basket from the top of the Brew Tank and put aside. Once you have a good rolling boil (be careful not to boil too fiercely) add your hop spider and secure it to the side of the tank. Set your timer to 60 minutes or as stated in your recipe. Add your hops to the hop spider as and when necessary. Remember to add your finings toward the end of the boil.

Step 7 - Cool

Once you have boiled your brew for 60 minutes, you need to cool it. There are a few ways this can be done (see cooling techniques) but for this example we are using the hot cubing technique. Remove the hop spider and hops from the Brew Tank and put aside. Next, stir your wort to create a whirlpool inside the Brew Tank. This will help clear your wort, sinking particles to the bottom of the tank. Once done, attach the lid and clamp it shut providing you a sterilised environment. Leave to cool for 24 hours without opening the lid.

Once cooled, you can now transfer your brew into your fermenting vessel and pitch your yeast. To transfer the wort, attach one end of the hose to the butterfly valve and the other in to the fermenting vessel. Open the valve by pushing down on the knob and level it to the open position.

Tip! To help protect your brew use a Brew Tank Ball Post Cap to purge the tank with CO2 - available from www.darkfarm.co.uk

Buy additional accessories from
darkfarm.co.uk!



RECIRCULATION, WHIRLPOOL AND SPARGE METHOD

This technique uses a few more toys on the Brew Tank, but the basics outlined in the previous example are very similar. Recirculation of the wort over the grains helps extract flavour and sugars from your grain bill. Even though the Brew Tank's thermal properties will prevent heat loss, using a recirculation will promote some heat dispersion - but your temperature controller will manage this for you. This technique also requires an external system to heat additional water - a hot liquor tank or pot - for the sparging and a method to distribute the water over the grain bed.

Step 1 - Make sure your equipment is clean and sterilized.

Good sanitation and cleaning is one of the corner stones of successful brewing. The Brew Tank is constructed out of 1.5mm food grade stainless steel and is very easy to clean. All the tri clamp fittings are also specifically designed to be easily removed and cleaned/sterilized - so there is no excuse to not keep your equipment in good shape, preventing unnecessary contamination.

TIP! Have a bucket of sterilized water set up to rinse or store components in whilst brewing. Also fill a spray bottle the pre diluted sterilizer. Ideal for spraying on to connections before attaching them.

Step 2 - Assembly

To accompany these assembly instructions, we also have a video on our YouTube channel:
www.youtube.com/darkfarmhops



Important: Place your Brew Tank on secure, heat poof and supported surface. Allow enough head room for you to be able to remove the grain basket and support it on the top of the tank.

Note: While it's important to properly tighten all the fightings to avoid leakage, do not over tighten as this will cause damage. Securely hand tight is sufficient.

- 2.1 Remove caps 1,2,3,6 and 8 (see image 1)
- 2.2 Add the heating element (#9, image 2) to Tri Clamp Fitting #1 (image 1) and seal and secure using a 2" gasket and clamp.
- 2.3 Add the butterfly valve (#12, image 2) to Tri Clamp Fitting #2 (image 1), seal and secure using a 1.5" gasket and clamp.
- 2.4 Add the second butterfly valve (#13, image 2) to Tri Clamp Fitting #4, seal and secure using a 1.5" gasket and clamp.
- 2.5 Add the 1.5" Tri Clamp (#11, image 2) with ½" thread to Tri Clamp Fitting 3. Seal and secure using a 1.5" gasket and clamp.
- 2.6 Remove bolt, seals and metal washers from the analogue thermometer. Replace seal then the metal washer. Cover the thread with plumbing tape . Screw the thermometer to hand tight into the Tri Clamp Fitting with ½" thread.
- 2.7 Add the thermowell to Tri Clamp Fitting 4. Seal and secure using a 1.5" gasket and clamp.
- 2.8 Add the 4" to 1.5" Tri clamp reducer (#10, image 2) to the 4" connection on the lid. Secure using gasket and clamp.
- 2.9 You will have received 2 x 1metre lengths of braided hose. Slide on 2 jubilee clips to each hose. Attach the Tri Clamp Fitting with 5/8th barbed connection to each end of the hose. Then secure with jubilee clips. (See #16, image 2)
- 2.10 Connect 2 Tri Clamp Fittings with ½" thread to the pump. Use plumbing tape to create a good seal. Tighten by hand. (See #15, image 2)
- 2.11 Attach one end of the first hose to the butterfly valve on the wort outlet (See #12, image 2)using a clamp and gasket. Attach the other end of the same hose to the inlet of the pump using a clamp and gasket. (See #15, image 2)
- 2.12 Using the second hose, attach one end to the outlet on the pump (See #15, image 2) and the other end to the 1.5 Tri clamp reducer on the lid (See #10, image 2) using a clamp and gasket for both connections.
- 2.13 Check all seals are secure, but don't over tighten. As a test, slowly add cold water to the Brew Tank to check you have water tight connections.

Step 3 - Strike Temperature

Now you are ready to brew! Fill your Brew Tank with water. This brewing method can reach brewing efficiency of around 75-80%, so if you are making a 20L brew add around 25L of water. For my strike temperatures I add 5°C to my mashing temperature. For example, a 67°C mash would have a strike temperature of 72 °C. The strike temperature allows for the temperature loss when adding the grains.

If you are using an InkBird (#14, image 2) **(ONLY FOR 2.2KW elements - see electrical warnings above)** you can use it to set your strike temperature. This will send power to the heating element until it reaches the set temperature, for this example 72°C.

Step 4 - Mash

Once you have hit your strike temperature, you can now add your grain. Carefully pour your grain bill into the grain basket (See #17, image 2) inside the Brew Tank. When all the grains are in the basket give them a good stir. Once you are happy that the grains are loose and have not “stuck”, you can seal up the Brew Tank. Attach the lid and use the four clamps to secure it (see #21, image 1). Reprogramme your InkBird (See #14, image 2) to the mash temperature, for this example set it to 67°C. Now set your timer to 60 minutes or as specified in your recipe.

TIP! Depending on your recipe, you may want to stir the wort occasionally with a long handled heat resistant spoon or paddle. The wort is hot so watch out for splashes! The lid of the Brew Tank may also get hot so use heatproof gloves.

Step 5 - Recirculation

Important: DO NOT turn on the pump when there is NO wort. Running the pump dry will damage it.

Once your happy and you have made sure you have connected ALL ends of the hoses, open the butterfly valve. Wort should now be sent to the pump. You can now turn on your pump. The pump will circulate the wort coming out of the outlet valve through the pump up to the lid. Once circulating, the wort will be taken from the bottom of the tank and back over the top of the grain bed. For additional distribution over your grains you can install the sprayer inside the lid. This is available on our website www.darkfarm.co.uk

Step 6 - Sparge water

This is a good time to get your sparging water up to temperature in your external liquor tank or pot. Heat your water to a strike temperature of around 75-80°C.

Step 7 - Drain

After 60 minutes, your mash is done. Undo the clamps (see #21, image 1) and carefully remove the lid. Be careful as the lid and tank may be hot. And your wort will definitely be hot! Again, use suitable heat proof gloves to get hold of the grain basket handle and lift the basket to the rim of the Brew Tank. Use the clips on the side of the basket (see #20, image 2) to suspend the grain basket above the Brew Tank. Leave in this position to drain - you can use your brew paddle to help with this process.

TIP! The grain basket can become heavy so get help with this part. You can buy small winches to help with lifting the grain basket.

Step 8 - Sparging

With your grain basket still suspended over your tank you can now pour your sparging water over the grain bed. This can be done either manually or via a pump. Remember to protect you hands with heatproof gloves whilst handling hot water.

Step 9 - Boil

With your grains still draining on top of the Brew Tank, reset your InkBird to 100°C and bring your wort to the boil. **When boiling it's best to remove the lid. This will help prevent any boil over.** When you are happy the grains are drained, remove the basket from the top of the Brew Tank and put aside. Once you have a good rolling boil (be careful not to boil too fiercely) add your hop spider and secure it to the side of the tank. Set your timer to 60 minutes or as stated in your recipe. Add your hops to the hop spider as and when necessary. Remember to add your finings toward the end of the boil.

Tip! With around 5 minutes to go, connect your cooling coil to your water hoses and carefully submerge the coil into the Brew Tank. Watch out for hot splashes - use heatproof gloves! This makes sure the boiling wort sterilises your coil.

Step 10 - Cool

Once you have boiled your brew for 60 minutes, you need to cool it. There are a few ways this can be done, but for this example we are using a cooling coil technique.

A cooling coil is a metal coil that is attached to a cold water supply, usually your mains tap on one end and the other is connected to a hose which is placed in a drain, allowing waste water to escape.

When you turn the cold water tap on, cold water is circulated through the coil, absorbing heat from the wort and reducing its temperature.

Step 11 - Whirlpool

A whirlpool will help clear your wort, sinking particles to the bottom of the tank. To create a whirlpool inside the Brew Tank, you need to disconnect the hose from your lid (see #10, image 2) and secure it on the butterfly valve (see #13, image 2) on your whirlpool arm. Once you are sure it's secure, you can open the butterfly valve on the wort outlet and whirlpool arm. Making sure wort has reached your pump, you can now turn your pump on.

Wort will now be sent from the bottom of the tank back into it at an angle, creating a steady whirlpool. This process can be done whilst the wort is cooling.

Once cooled, you can now transfer your brew into your fermenting vessel and pitch your yeast. To transfer the wort, attach one end of the hose to the butterfly valve and the other end to the fermenting vessel. Open the valve by pushing down on the knob and level it to the open position.

Tip! To help protect your brew use a Brew Tank Ball Post Cap to purge the tank with CO2 - available from: www.darkfarm.co.uk

Buy additional accessories from
darkfarm.co.uk!

