# BrewEasy™ Compact TC

## Assembly, Operation, & Maintenance

Congratulations on your purchase and thank you for selecting the BrewEasy™ Compact from Blichmann Engineering™. We are confident that it will provide you years of service and many gallons of outstanding beer. This manual will familiarize you with the use, assembly, and sanitation procedures for the product.


# IMPORTANT INFORMATION

## PLEASE READ AND THOROUGHLY UNDERSTAND THIS MANUAL PRIOR TO USE FOR IMPORTANT SAFETY INFORMATION!

**WARNING:** Sections labeled "Warning" can lead to serious injury or death if not followed. Please thoroughly read these sections and understand them completely before use. If you do not understand them or have any questions, contact your retailer or Blichmann Engineering (www.BlichmannEngineering.com) before use.

**CAUTION:** Sections labeled "Caution" can lead to equipment damage or unsatisfactory performance of the equipment. Please read these sections thoroughly. If you have any questions, contact your retailer or Blichmann Engineering (www.BlichmannEngineering.com) before use.

**IMPORTANT:** Sections labeled "Important" should specifically be followed to ensure satisfactory results with the product.

Brewing has inherent hazards and requires care, focus, and a mindset of safety and precaution. Hot liquids, steam, flame, electricity, heavy lifting, slippery surfaces, cuts, and harsh chemicals to name a few.

- Always thoroughly read and understand all product manuals before using the product.
- Always keep children and pets safely away from the brewing area.
- Always wear protective clothing, safety glasses/goggles, shoes, and burn/chemical resistant gloves.
- Always use GFCI protected circuits for ALL electrical equipment.
- Always keep flame away from flammable surfaces.
- Always brew on hard surfaces such as concrete.
- Always disconnect electrical equipment from power and propane tanks after each use.
- Never lift hot and/or heavy liquids.
- Never use drugs or alcohol while brewing.
- Never leave the brewing area unattended.

# What's In the Box?

| Part Number | Description | Quantity | |
|---|---|---|---|
| G2Kettle-10gal | G2 BoilerMaker™ 10 Gallon TC Kettle | 1 | |
| BE-001593-03 | Grain Basket w/ Handle | 1 | |
| aSightGlass-10gal | External Level Gauge | 1 | |
| N/A | Basket Side Catches | 2 | |
| N/A | Basket Hardware (Screw, Nut, & Washer) | 4 of each | |
| aRotating-Diptube-TC | Tri-Clamp Rotating Diptube | 1 | |
| BE-001139-00 | Tri-Clamp Thermometer Adapter Cap | 1 | |
| BE-000868-00 | 1.5" Tri-Clamp Gasket | 1 | |
| BE-000633-00 | 1.5" Tri-Clamp | 1 | |
| N/A | Cleaning Toolkit | 1 | |
| **Optional Parts:** | | | |
| **Heating Source Parts:** | | | |
| G2Kettle-10gal-Surface | BoilerMaker Surface™ Kettle | 1 | Comes with Surface™ Kettle selection |
| aBoilCoil-10gal-240V | BoilCoil™ 10 Gallon 240V Kit | 1 | Comes with 240V BoilCoil™ selection |
| aBoilCoil-10gal-120V | BoilCoil™ 10 Gallon 120V Kit | 1 | Comes with 120V BoilCoil™ selection |
| aHellFireBurner-FLR | Hellfire™ Burner | 1 | Comes with gas selection |
| **Controller Parts:** | | | |
| aBrewCommander-240V | Electric 240V BrewCommander™ | 1 | Comes with 240V selection |
| aBrewCommander-120V | Electric 120V BrewCommander™ | 1 | Comes with 120V selection |
| aBrewCommander-Gas | Gas BrewCommander™ | 1 | Optional with gas selection |
| BMA-002F-A | Brewmometer™ °F | 1 | Optional with gas selection |
| **Recirculation Kit Parts:** | | | |
| BE-001996-00 | Sparge Tube Kit | 1 | |
| BE-500004-00 | Sparge Tube Port Bulkhead | 1 | |
| BE-000067-00 | Retaining O-ring | 2 | |
| KTL-010-00 | Retaining Washer | 2 | |
| BE-000623-01 | Wort Flow Meter | 1 | |
| BE-000359-00 | Silicone Hose | 3ft | |
| BE-000374-00 | Reusable Hose Clamps | 4 | |
| aQC-15TCAdapter | QuickConnect to Tri-Clamp Adapter | 1 | |
| aRipTide-Pump-TC | Tri-Clamp RipTide™ Pump | 1 | |
| BE-000628-00 | Tri-Clamp x 1/2" Hose Barb | 4 | |
| BE-000868-00 | 1.5" Tri-Clamp Gasket | 6 | |
| BE-000633-00 | Tri-Clamp | 6 | |
| BE-000635-00 | 1" Tri-Clamp Elbow | 2 | |
| **Therminator™ Cooling Kit:** | | | |
| HE-002-03 | Therminator™ | 1 | |
| BE-001997-00 | QuickConnect™ to 1/2" Barb | 2 | |
| BE-000628-00 | Tri-Clamp x 1/2" Hose Barb | 1 | |
| BE-000359-00 | 1/2" Silicone Hose | 6ft | |
| aThruMometer-1/2 | Thrumometer™ | 1 | |
| BE-000374-00 | Reusable Hose Clamps | 5 | |
| **Immersion Chiller Kit:** | | | |
| AB-500067-00 | Stainless Immersion Chiller | 1 | |
| AB-500071-00 | GTH Adapter - Brass | 1 | |
| BE-000722-00 | Hose Clamps - Stainless | 3 | |
| BE-000730-01 | 3/8" Vinyl Hose | 10ft | |
| **Whirlpool Kit:** | | | |
| aWhirlpool-Molded-G2 | G2 Whirlpool Valve Assembly | 1 | |

# Set-Up

## Step One:

For electric BrewEasy™ Compact installations, place the kettle on stable, level surface such as the KettleKart™.

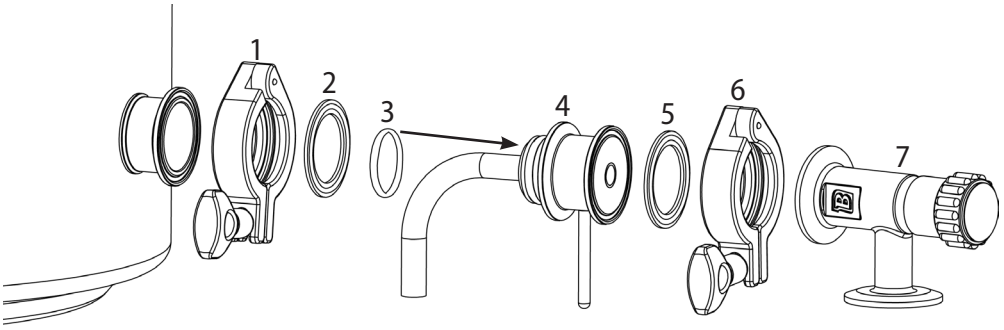
For gas BrewEasy™ Compact installations, place the kettle on the burner. Be sure to read the manual for the burner and follow any setup instructions it may have.

**IMPORTANT:** If you are using the Blichmann HellFire™ Burner, it comes configured for LP operation. For use with natural gas, you will need to install a natural gas conversion kit.

## Step Two:

Next, install the dip tube and drain valve on the front of your kettle per the diagram below.

**Rotating 1.5" G2 Linear Flow Valve** - Install the rotating valve as shown below. During operation, loosen tri-clamp and rotate the dip tube to draw from a higher point above any hops or trub.




| # | Description | Item # |
|---|---|---|
| 1 | 1.5" Clamp | BE-000633-00 |
| 2 | 1.5" Gasket | BE-000868-00 |
| 3 | Dip Tube O-ring | BE-500386-00 |
| 4 | Rotating Dip Tube | BE-001686-02 |
| 5 | 1.5" Gasket | BE-000868-00 |
| 6 | 1.5" Clamp | BE-000633-00 |
| 7 | G2 Tri-Clamp Valve | BE-002055-00 |

## The following steps contain assembly procedures for optional accessories that may not pertain your system.

## Step Three:

If you purchased your system with a controller, install the temperature probe into the tri-clamp adapter cap and install on the back-left tri-clamp port as shown in the exploded view below.

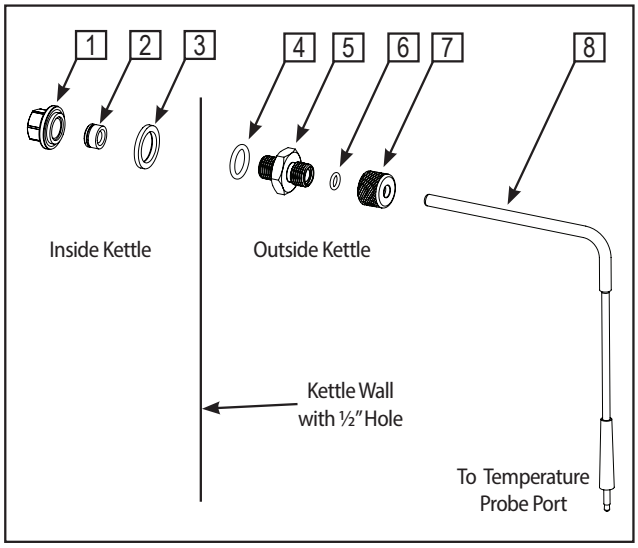
## TEMPERATURE SENSOR ASSEMBLY

| Number | Part Number | Description |
|---|---|---|
| 1 | BE-000882-01 | Sanitary Nut |
| 2 | BE-000882-01 | Sanitary Nut Inner Seal |
| 3 | BE-000882-01 | Sanitary Nut Outer Seal |
| 4 | BE-000013-00 | Bulkhead O-ring -113 |
| 5 | BE-001474-00 | Weldless Captive Bulkhead |
| 6 | BE-001511-00 | Captive Nut O-ring |
| 7 | BE-001475-00 | Captive Nut |
| 8 | BE-001500-00 | Temperature Sensor Probe |

**CAUTION:**

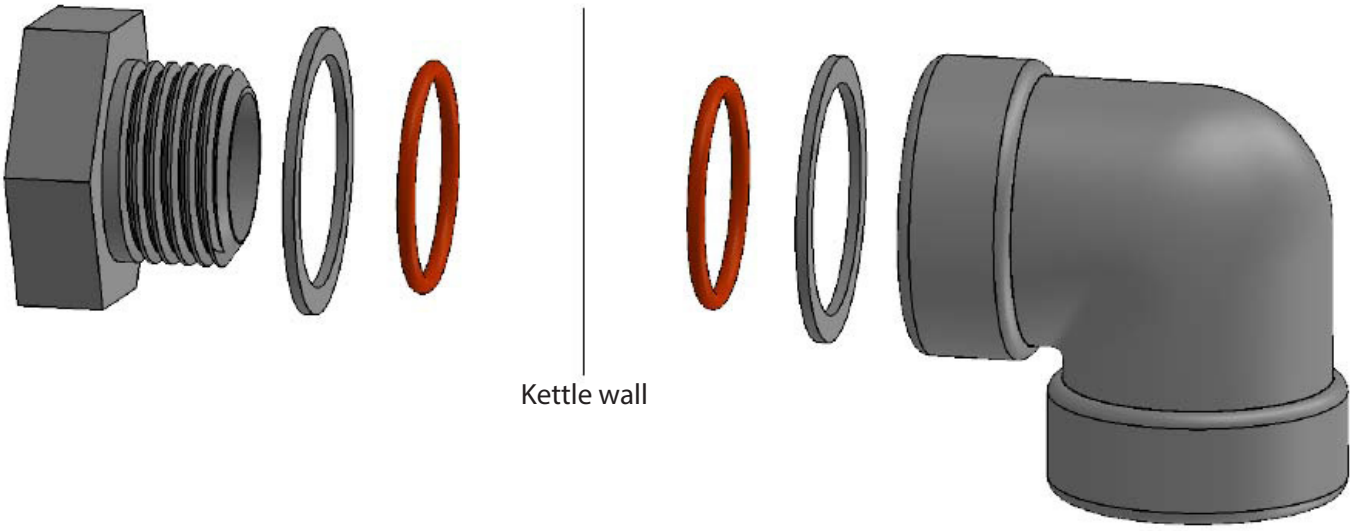
- Do not pull sensor by cord, pull by stainless sheath only.
- Do not remove sensor when kettle is full of liquid without optional thermowell.

COMPLETE TEMPERATURE SENSOR ASSEMBLY



## Step Four:

To install the flow meter onto the side of your kettle, gather the flow meter, sparge tube port bulkhead, retaining o-rings, and the retaining washers. Place one o-ring and one retaining washer on the threaded side of the bulkhead, and insert the threads through the inside of the upper hole on the right side of the kettle. The threads should be facing outward. Install the remaining retaining o-ring and retaining washer on the outside of the kettle. Then, screw the bulkhead into the stainless steel elbow of the flow meter. No thread tape is required.




## Step Five:

Next, you will measure and cut your silicone hose into two lengths to facilitate your recirculation kit. One of the hoses will connect the bottom of the flow meter to the outlet of your RipTide™ pump. The other hose will connect the kettle drain valve to the inlet of your pump.

After you measure the lengths that you will need your hoses to be, cut them and install QuickConnectors™ and plastic clamps on each silicone hose end. Place the plastic clamp over the hose before installing the QuickConnector™. We recommend that the elbow-barbed QuickConnectors™ go on the hose that attaches to the flow meter and the pump outlet. We recommend that the straight-barb QuickConnectors™ go on the hose that attaches to the drain valve and the pump inlet.

**TIP:** On straight QuickConnectors™ leave approximately 1/8" of space between the QuickConnector™ nut and silicone hose before tightening the plastic clamp.

**TIP:** Install the QuickConnectors™ is such a way that minimizes the potential for kinks that can restrict flow.

**TIP:** Do not mount the pump higher than the standard liquid level within the kettle.

## Step Six:

Install your BoilCoil™ into the two smaller holes on the back-right side of your kettle. The threaded ends should point outward and will be used to connect the power cable to the BoilCoil™. Slide the rectangular metal frame onto the two protruding ends and, using a 7/8" socket wrench, tighten the nuts onto the threads of the BoilCoil™. Plug the power cable into the BoilCoil™ and connect the other end to the BrewCommander™.

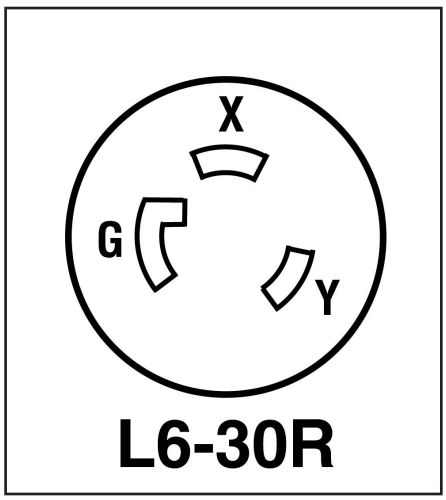

## Step Seven:

Install the Whirlpool into the lower tri-clamp port on the right side of your kettle. The whirlpool tube has an integrated gasket and only requires a clamp and valve to connect into the kettle.

## Step Eight:

During the mash, install the sparge tube by pushing it into the hole at the top of the kettle (image shown to the right) that conencts to the flow meter.

## Outlets Required for This System

# Operation:

## Prep and Adding Water

Clean all equipment as recommended in the cleaning section, fill with the desired amount of water, make any water mineral additions as needed, and heat to the desired strikewater temperature. Free online calculators or brewing software such as BeerSmith2™ will help to calculate these water volumes based on mash parameters such as grain absorption, boil off, wort lost in your lines, and other downstream losses including shrinkage from cooling.

**Note:** After adding water, be sure to check for any leaks in the system and check that the pump is functioning properly.

## Dough-In

After the brewing water has reached the desired strike temperature, reset the set temperature on the BrewCommander™ to the desired mash temperature. With the grain basket already in the kettle, add the grains into the basket. Slowly stir in the crushed grains being certain to break up any and all clumps (dough balls). After the entire grain bill has been added to the grain basket, plug in the sparge tube arm if using the optional recirculation kit, and allow a minimum of 10 minutes for air entrained in the grist to escape before recirculating.

## Mashing

After dough-in and waiting the recommended 10 minutes, turn the pump on and allow the BrewEasy™ to continuously recirculate the wort for the duration of the mashing period. Set the flow of the pump to 0.75 gallons per minute and monitor this flow by checking the flow meter throughout the mash.

If desired, after starch conversion, you can heat the mash to the desired mash-out temperature using the same method described in the Mashing section of this manual. Allow the mash to rest at the mash-out temperature for an adequate amount of time to stop enzymatic activity. Generally, a minimum of ten minutes for the mash-out is required to denature saccharification enzymes.

After the completion of the mash, shut off the pump and remove the sparge tube arm from the kettle. Then, lift the basket out and allow it to drip drain by mounting it on the lip of the kettle using the side catches on the basket. You may begin heating the wort to a boil as soon as the grain basket is pulled out.

## Optional Sparge

At this point, to achieve a better mash efficiency, a sparge can be done by dumping hot sparge water over the grain in the basket to rinse the grains and extract any remining sugars present on the grains.

## Boil

Once the draining of the wort from the basket has slowed to a light drip, you can remove the basket from the edge of the kettle and dispose of the grains in a careful manner as to not get burnt from the still very hot basket and grain. Proceed with your typical boil process by adding hops and other boil ingredients as required. Chill and transfer to your sanitized fermentor after the boil is complete.

### Tips for success:

- Do not skip the pH measurements! If your mash is much above the recommended pH you risk astringency in your beer among other detrimental changes. Adding water salts and acid may be necessary to achieve proper pH in any all-grain brewing system.
- During dough-in, an occasional gentle stirring will break up any clumps and release air pockets. The dough-in process is vital for problem free recirculation.
- Let the grain sit (dough-in) for about 10 min to absorb the liquor and for the air to purge out of the grain.
- Consult the two recommended books, How to Brew and Water by John Palmer and Colin Kaminski (published by the Brewers Association) to learn how to properly adjust your mash pH and to educate yourself on good brewing practices.
- Measure the specific gravity periodically. The SG of the mash is the same as the pre-boil wort SG. Make adjustments to your wort such as adding malt extract, water, or mashing longer to achieve the desired SG of the pre-boil wort

**Tip:** As with any new system it will take a few batches to dial in your efficiency and water usage requirements. Always make careful notes, and closely follow recommendations found in this manual. If you are new to all grain brewing we suggest reading John Palmer's book "*How to Brew"*, published by the Brewers Association before your first batch. This manual is not intended to be a complete all-grain brewing text.

**IMPORTANT:** The quality of your finished beer will be directly related to the quality of your brewing water. If you have especially hard water in your area, it is strongly recommended that you dilute your tap water with distilled or reverse osmosis water or build your brewing water from scratch. For optimum results, the mash pH must fall within a range of 5.2 – 5.6 at room temperature. Additionally, a minimum of 100 ppm of Ca is required. For more information, further reading is recommended, specifically John Palmer & Colin Kaminski's book "*Water*", published by the Brewers Association.

**IMPORTANT:** We highly recommend the purchase of a digital pH meter for monitoring pH. Test strips, while inexpensive, do not provide adequate precision for brewing. Despite many pH meters being automatic temperature correcting, pH levels change with temperature. If you are reading the meter at mash temperatures, the range for mash pH is between 5.1 and 5.4 pH. This will result in a room temperature pH at the recommended range of 5.2-5.6 pH.

# Cleaning Procedures

Cleaning of the BrewEasy™ Compact system is very straight-forward. Clean any components that will contact the liquid, wort, or other brewing ingredients with a mild detergent (non- chlorine) or Powdered Brewery Wash (PBW) before your first use and after every subsequent use. Soak the hoses in a PBW solution, rinse with hot tap water and soak in a non-chlorine sanitizer.