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	
G2Pot-10gal-TC	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:			
aBoilCoil-10gal-240V	BoilCoil™ 10 Gallon 240V Kit	1	Comes with 240V selection
aBoilCoil-10gal-120V	BoilCoil™ 10 Gallon 120V Kit	1	Comes with 120V 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™.

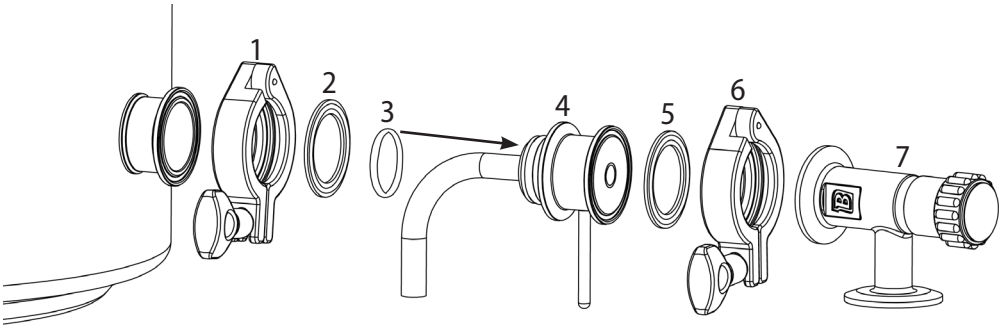
For gas BrewEasy™ Compact installations, place the kettle on the burner. Be sure to read the manual for the burner and follow any setup instructions it may have.

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.

If you purchased your system without a controller, install the included Brewmometer™ in the 1/2" hole in the front of the kettle.

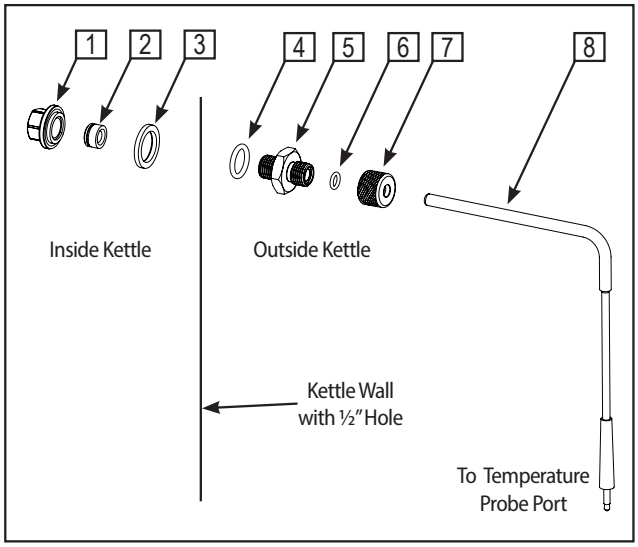
TEMPERATURE SENSOR ASSEMBLY

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:

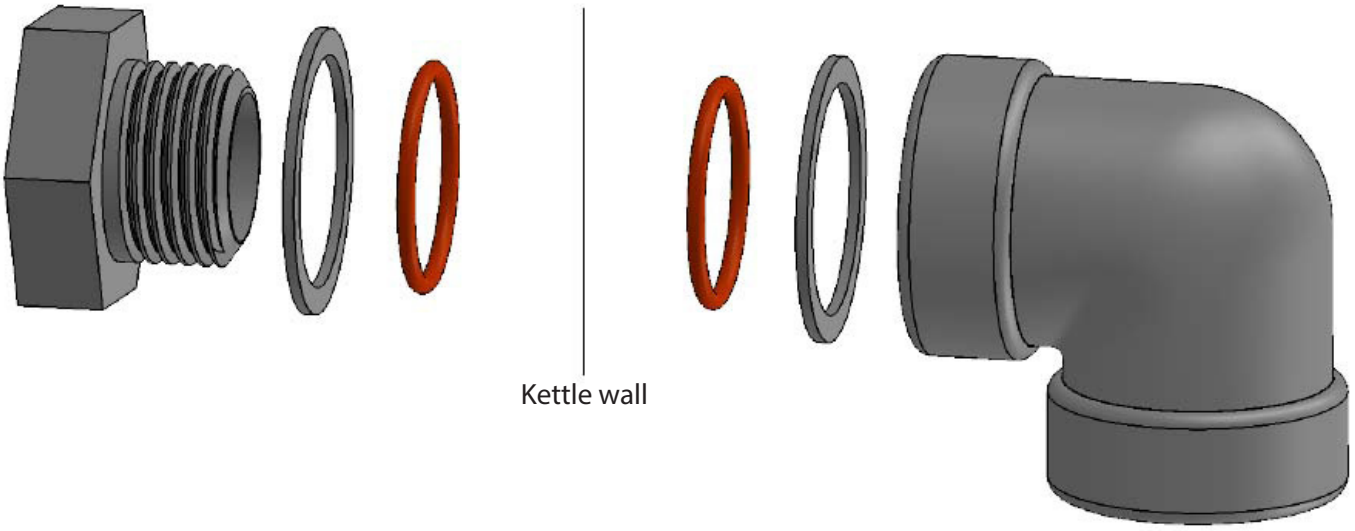
- Do not pull sensor by cord, pull by stainless sheath only.
- Do not remove sensor when kettle is full of liquid without optional thermowell.

COMPLETE TEMPERATURE SENSOR ASSEMBLY



Step Four (Optional Recirculation Kit):

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 (Optional Recirculation Kit):

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.

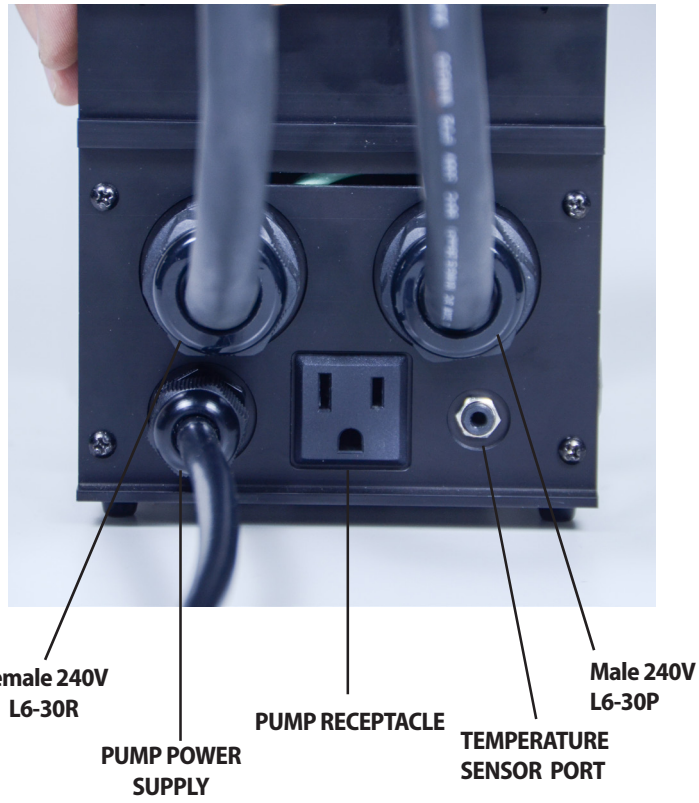
TIP: On straight QuickConnectors™ leave approximately 1/8" of space between the QuickConnector™ nut and silicone hose before tightening the plastic clamp.

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 (Optional BoilCoil™):

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™.



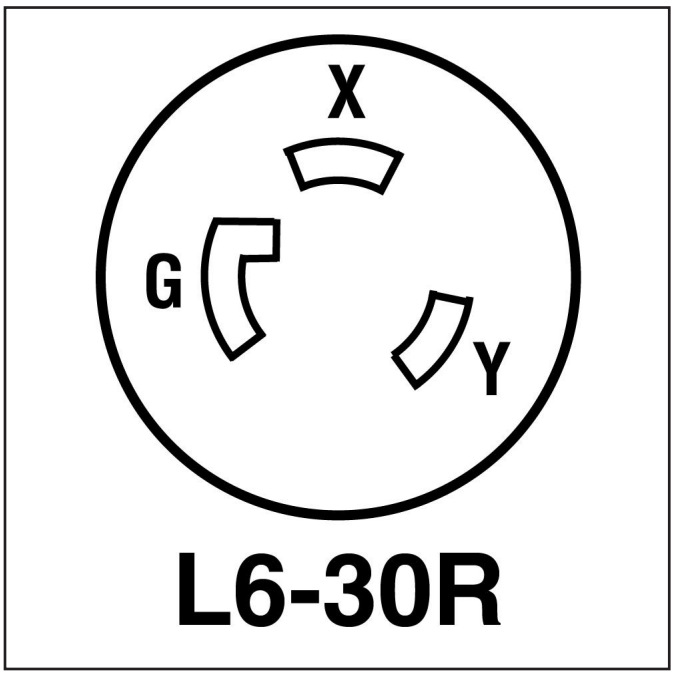
Step Seven (Optional Whirlpool):

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 (Optional Recirculation Kit):

During the mash, install the sparge tube by pushing it into the hole at the top of the kettle 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 (Optional with Recirculation Kit)

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.

Blichmann Engineering Product Warranty

A. Limited Warranty

1. Blichmann Engineering warrants to the original purchaser that this product will be free from manufacturing defects in material and workmanship for a period of one (1) year from the date of purchase by the customer. Proof of purchase is required. Blichmann Engineering's obligation to repair or replace defective materials or workmanship is the sole obligation of Blichmann Engineering under this limited warranty.
2. This product is for home use only. The limited warranty covers only those defects that arise as a result of normal use of the product and does not cover any other problems, including, but not limited to, those that arise as a result of:
    a. Improper maintenance or modification;
    b. Damage due to incorrect voltage or improper wiring by customer;
    c. Operation outside of the product's specifications;
    d. Carelessness or neglect to operate the product in accordance with instructions provided with the product;
    e. Damaging the tamper label on the product;
    f. Damage by over-tightening the fasteners;
    g. Failure to follow cleaning and / or maintenance procedures; or
    h. Exceeding published operational temperatures.
3. Blichmann Engineering reserves the right to request delivery of the defective component for inspection before processing the warranty claim. If Blichmann Engineering receives, during the applicable warranty period, notice of a defect in any component that is covered by the warranty, Blichmann Engineering shall either repair or replace the defective component with a new or rebuilt component at Blichmann Engineering's option.
4. Blichmann Engineering must be notified within seven (7) days of the delivery date of any shipping damage. Customer is responsible for shipping damage outside of this time period. Approval for return must be provided by Blichmann Engineering prior to any return. Customer is responsible for keeping all original packaging material for warranty returns. Blichmann Engineering is not responsible for damage from improperly packaged warranty returns, and these repair costs will be the sole responsibility of the customer. Shipping costs for warrantee returns are covered only for the contiguous United States.
5. Blichmann Engineering's limited warranty is valid in any country where the product is distributed.

B. Limitations of Warranty

1. Any implied warranty that is found to arise by way of state or federal law, including any implied warranty of merchantability or any implied warranty of fitness, is limited in duration to the terms of this limited warranty and is limited in scope of coverage to this warranty. Blichmann Engineering disclaims any express or implied warranty, including any implied warranty of fitness for a particular purpose or merchantability, on items excluded from coverage as set forth in this limited warranty.
2. Blichmann Engineering makes no warranty of any nature beyond that contained in this limited warranty. No one has authority to enlarge, amend, or modify this limited warranty, and Blichmann Engineering does not authorize anyone to create any other obligation for it regarding this product.
3. Blichmann Engineering is not responsible for any representation, promise, or warranty made by any independent dealer or other person beyond what is expressly stated in this limited warranty. Any selling or servicing dealer is not Blichmann Engineering's agent, but an independent entity.

C. Limitations of Liability

1. The remedies provided in this warranty are the customer's sole and exclusive remedies.
2. Except for the obligations specifically set forth in this warranty, in no event shall Blichmann Engineering be liable for direct, indirect, special, incidental, or consequential damages, whether based on contract, tort, or any other legal theory and whether or not advised of the possibility of such damages.
3. This warranty does not cover, and in no event shall Blichmann Engineering be liable for, travel, lodging, or any other expense incurred due to manufacturing defects in material and workmanship, or any other reason.
4. Any performance of repairs after the warranty coverage period has expired or performance of repairs regarding anything excluded from coverage after this limited warranty shall be considered good-will repairs and they will not alter the terms of this limited warranty, or extend any warranty coverage period.
5. Venue for any legal proceedings relating to or arising out of this warranty shall be in Tippecanoe County, Indiana, United States, which courts will have exclusive jurisdiction.

D. Local Law

1. This warranty gives the customer specific legal rights. The customer may also have other rights that vary from state to state in the United States or other countries.
2. To the extent that this warranty is inconsistent with local law, it shall be deemed modified, only to the extent necessary to be consistent with such local law.

This product uses food grade materials anywhere the product touches the beverage.

Warning: This product contains or may contain chemical(s) known to the State of California to cause cancer, birth defects, or other reproductive harm.