

Hybrid™ Manifold

Assembly



Congratulations on your purchase, and thank you for selecting the Hybrid™ Manifold 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 assembly of 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.

What's In the Box?

Base Manifold

Item Number	Description	Quantity
BE-001435-01	Upper Assembly	1
BE-001436-01	Frame Assembly	1
BE-001438-00	Leveling Feet	4
BE-001532-00	Square Cap	4
BE-001522-00	Label Sheets	1
BE-000868-00	1.5" Gasket	54
BE-000633-00	1.5" Clamp	54
BE-001356-00	1.5" Multi Position Valve	10
BE-001357-00	1.5" TC 3-way "L" Valve	1
BE-001358-00	1.5" TC 3-way "T" Valve	1
BE-001316-00	1.5" Sight Glass	1
BE-000863-00	1.5" Elbow	8
BE-001123-00	1.5" Sample Valve	1
BE-000630-00	1.5" Cap	3
BE-001135-00	1" Diaphragm Valve	1
BE-001186-00	1.5" TC Pipe, 6"	1
BE-000864-00	1.5" TC Tee	1
BE-000020-00	1/4"-20 x 2.25" Screw	6
BE-000029-00	1/4"-20 Nut	6
BE-000048-00	1/4" SS Washer	6
BE-001440-00	Saddle Washer	2
BE-001499-00	Switch	1
BE-000375-00	NEMA 5-15P Power Cord	1
BE-001547-00	Barrell Plug	2
BE-001533-00	5/16"-18 x 2.5" SS Screw	4
BE-001216-00	5/16" SS Washer	12
BE-001030-01	5/16" SS Nut	12
BE-001543-00	Power Cord - 4 ft.	1
BE-001573-00	5/16" x 1.5" OD Fender Washer	4

Optional Manifold with 1/5 HP Pump

Item Number	Description	Quantity
	Base Manifold	1
BE-001401-00	1/5 HP Pump	1

Optional Manifold with 1 HP Pump

Item Number	Description	Quantity
	Base Manifold	1
BE-001401-00	1 HP Pump	1
BE-001433-00	1 HP VFD	1
BE-001425-01	Power Cord	1
BE-001481-00	VFD Cord	1
BE-000296-00	9-16mm Gland Connector	1
BE-001362-00	1/2" NPT Gland Connector	2
BE-001492-00	1/2" NPT Gland Nut	2
BE-001498-00	SS Washer	4

Optional 1 HP Fittings and Accessories

Item Number	Description	Quantity
BE-000864-00	1.5" TC Tee	6
BE-000863-00	1.5" Elbow	8
BE-001356-00	1.5" Multi Position Valve	5
BE-000633-00	1" Clamp	16
BE-000868-00	1.5" Gasket	16

We recommend purchasing the 1 HP Fittings and Accessories with our 5 BBL and 7 BBL Hybrid™ Brewhouses.

Please check your box to make sure you have received all parts.

ASSEMBLY

STEP ONE: The first step to assembling your Hybrid™ Manifold is to attach the (4) leveling feet to the base of the manifold. Screw each of the feet into the holes on the bottom of the manifold. See **Figure 1**. Once each of the leveling feet has been set to the desired height, it can be locked in place by tightening the locking nut.

STEP TWO: Installing the pump. If your pump comes installed, skip to Step Three.

To install your pump, determine the correct hole configuration. Align your pump mounting holes to the base of the manifold. See **Figure 2** for mounting hole configurations.

Once you've selected the hole configuration that aligns with your pump, attach the pump using the (4) 5/16" bolts, (12) 5/16" nuts, (12) 5/16" washers and (4) 5/16" x 1.5" OD fender washers provided. To install, remove the pump from the base. Place a washer on each bolt and insert the assembled bolts through the bottom of your selected hole configuration. See **Figure 2**. Place another washer and nut onto each bolt and thread all of the way down to the base. This should hold the bolt in place. **NOTE:** We do not recommend tightening all of the way as you still need to adjust the bolt forwards or backwards in the slot. Please see **Figure 4** to see the correct configuration of how to assemble the washers, bolts and nuts.

Place another nut and washer (5/16" x 1.5" OD) on each of the 4 bolts and thread about half way down. These nuts will be used to set the height of the pump. Place the pump on the bolts and then place another washer and nut to hold the pump in place. **NOTE:** Do not tighten the last nut, as you will need to adjust the height once the top of the manifold and fittings are attached to the pump. For questions on how to assemble the proper configuration of nuts and washers, please reference **Figure 3** and **Figure 4**.

Figure 1

Locking Nut

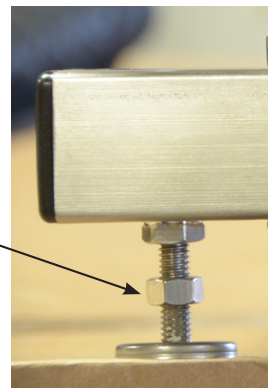


Figure 2

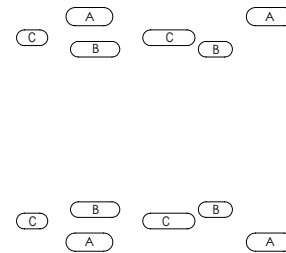


Figure 3



Figure 4



Correct Configuration

STEP THREE: Attach the tri-clamp (TC) sight glass and NPT to Tri-Clamp (TC) adapter (if necessary) to the inlet of the pump.

STEP FOUR: Attach the butterfly valve to Port B in **Figure 6**. There are two different hole configurations on the base of the manifold. Slide the pump forward or backward to determine your configuration. Once you've determined the configuration, clamp the TC butterfly valve to the TC sight glass. Attach the top of the manifold to the base of the manifold with the supplied (4) washers and (4) nuts utilizing the hole configuration that best lines up with the pump location. You may need to slide the pump and the top of the manifold forwards and backwards to line up with the holes in the base of the manifold. See **Figure 5** and **Figure 6**. Once you have mounted the top of the manifold, you can now torque down all of the nuts and bolts. **NOTE:** Make sure to check the height of the pump before tightening the mounting nuts and bolts.

Figure 5

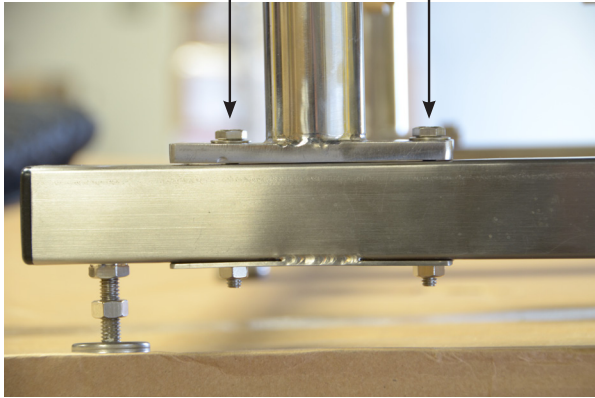
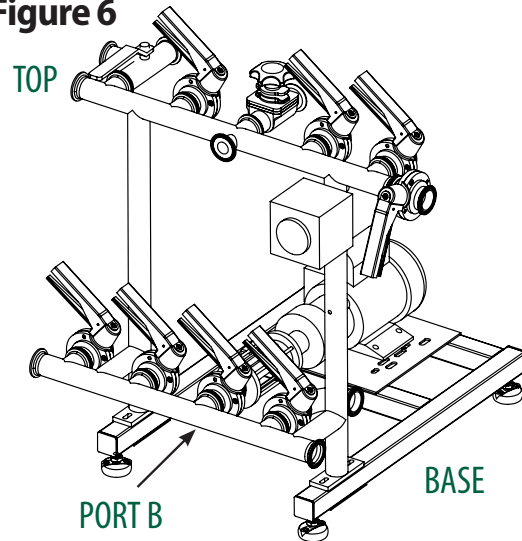


Figure 6



STEP FIVE: Wire the On/Off switch. (If your pump is controlled by a Variable Frequency Drive, then you will not need the switch, and you can skip ahead to step 6. You can remove the switch and mount your VFD in its place should you desire.)

Manifold Switch Wiring

1. Loosen Gland Connector B. See **Figure 7**.
2. Loosen all 4 screws holding the cover on the switch. See **Figure 7**.
3. Remove switch cover from housing and slide the wire through Gland Connector B to give yourself room to move the switch. See **Figure 8**.
4. Run the wire from your pump through Gland Connector A on the switch housing. (You may first need to cut the plug off of the end of your pump wire, and strip it so that it can be wired into the switch.) See **Figure 8**.
5. Place the stripped end of each wire into the corresponding terminal on the switch cover. The Hot wire should be connected to terminal 2, the Neutral wire should be wired into terminal 4, and the Ground wire should be connected into terminal 6. (Ensure no wires are loose and sticking out of the terminals.) See **Figure 9**. Tighten screws on the side to secure wires.
6. Slide wires back through both Gland connector A & B to place the switch back onto the housing.
7. Tighten all 4 screws to secure the cover to the switch.
8. Tighten both Gland Connector A & B around the wires to seal the housing.

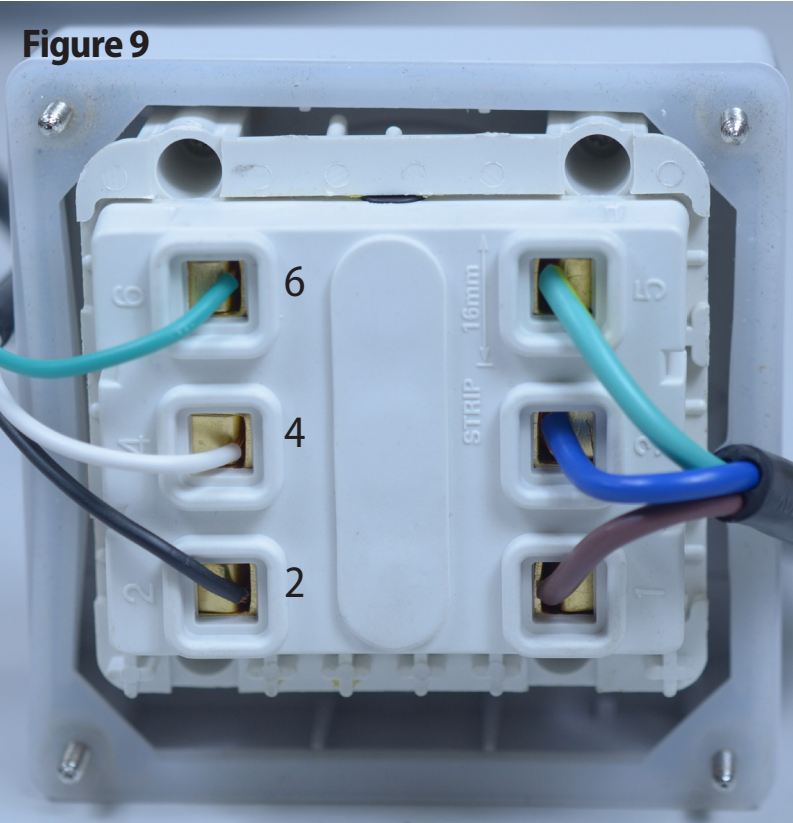
Figure 7



Figure 8

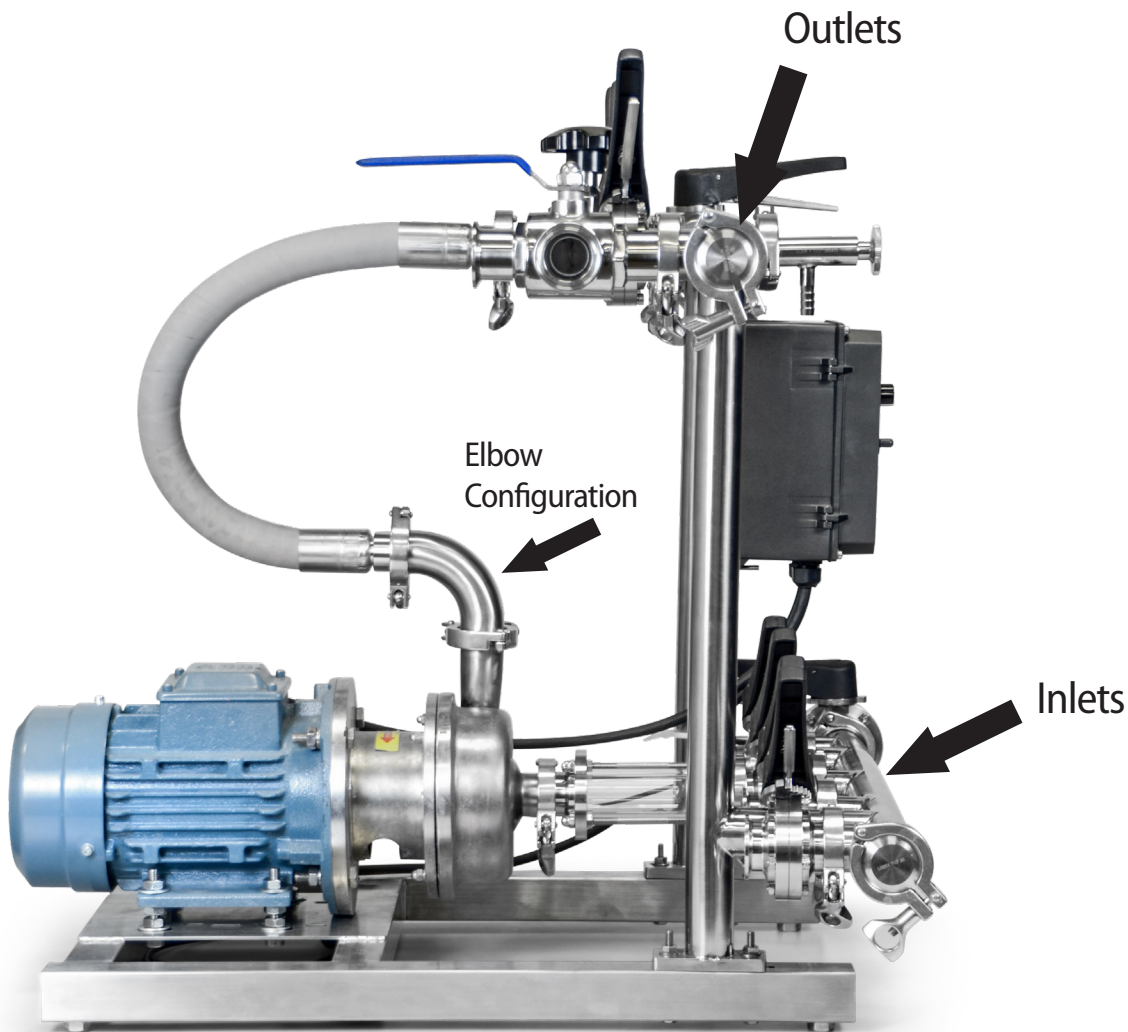


Figure 9



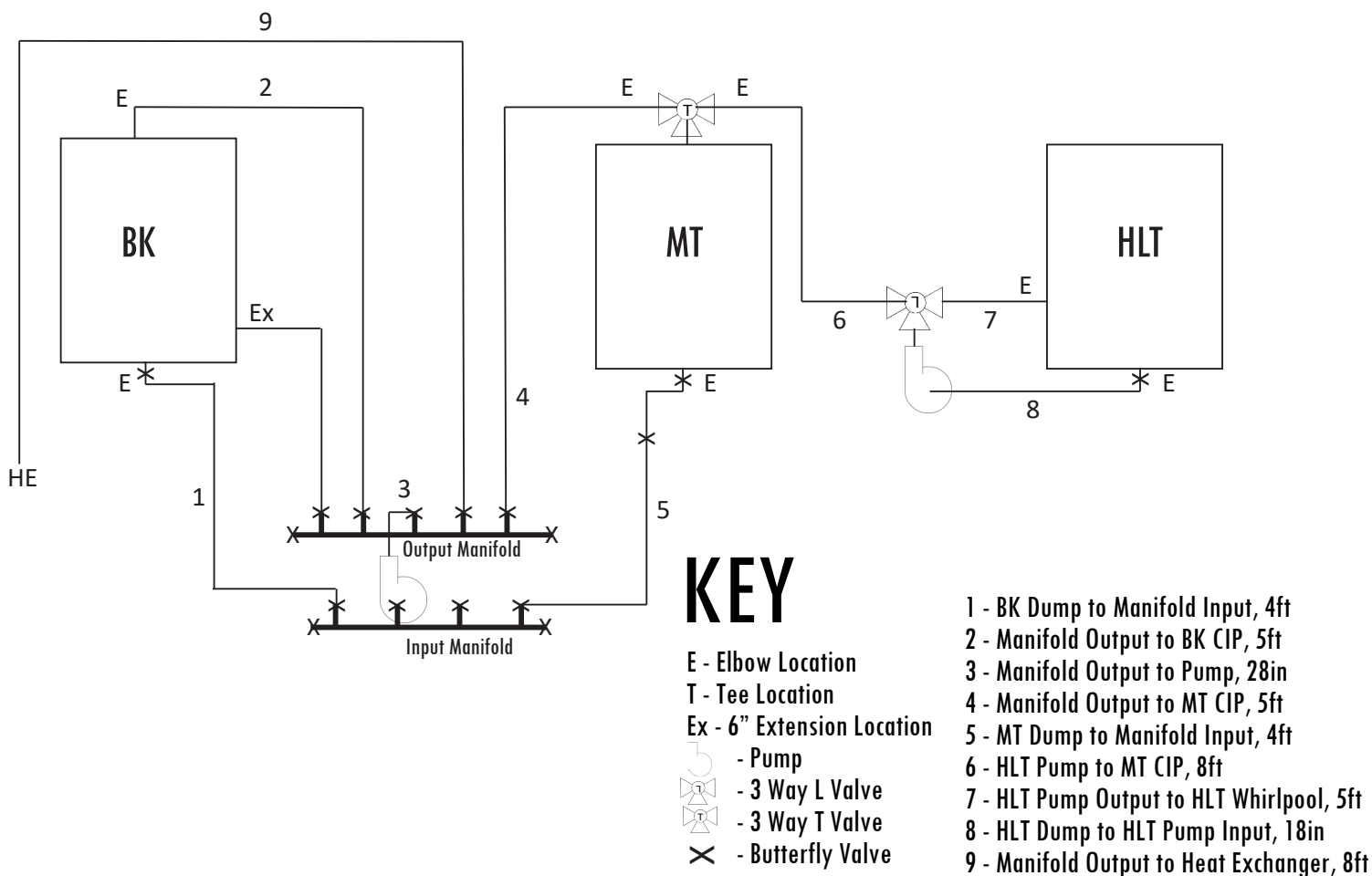
STEP SIX: Attach customer supplied hose from the outlet of the pump to the top of the manifold or diaphragm valve. It is helpful to use the supplied elbow angled towards the back of the pump when attaching the hose. See **Figure 10** for a photo of this setup. (There is a sanitary diaphragm valve included to help control flow. If your pump utilizes a VFD, then the diaphragm valve use is optional.) At this point, the manifold installation is complete. You can attach valves and hoses to suit your own custom configuration. The bottom row of ports are the inlets to the pump and the top row of ports are the outlets. **NOTE:** Contact us or check our website www.blichmannpro.com for more information on pre-configured hose kits or custom hose packages to fit your specific brewhouse.

Figure 10



HOSE KITS FOR HYBRID™ BREWHOUSES

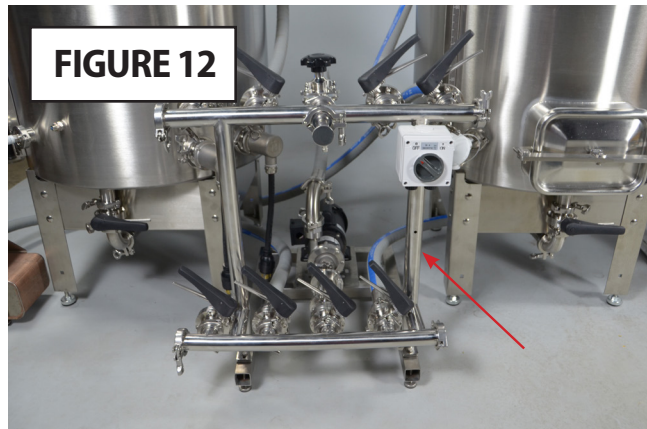
We have available pre-configured hose kits for our 2 BBL to 7 BBL Hybrid™ Brewhouses. The intended plumbing diagram as well as hose lengths are listed in the diagrams below. There are numerous ways to connect your manifold. We have found the diagrams listed below to be the most clean and efficient way to assemble the manifold. Please pay attention to the elbow, tee and valve locations. Reference photos below for the 2 BBL and 3.5 BBL (**FIGURES 11 - 16**). Reference photos below for the 5 BBL and 7 BBL (**FIGURES 17 - 24**).



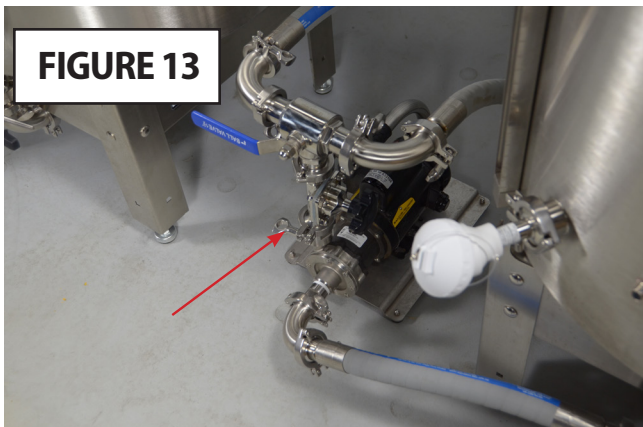
2 BBL / 3.5 BBL Plumbing Diagram



Please note the orientation of elbow and valve.



Please note that the hoses are tucked under to allow ease of portability, this reduces tripping hazards.



Please note the orientation of the sanitary diaphragm valve.



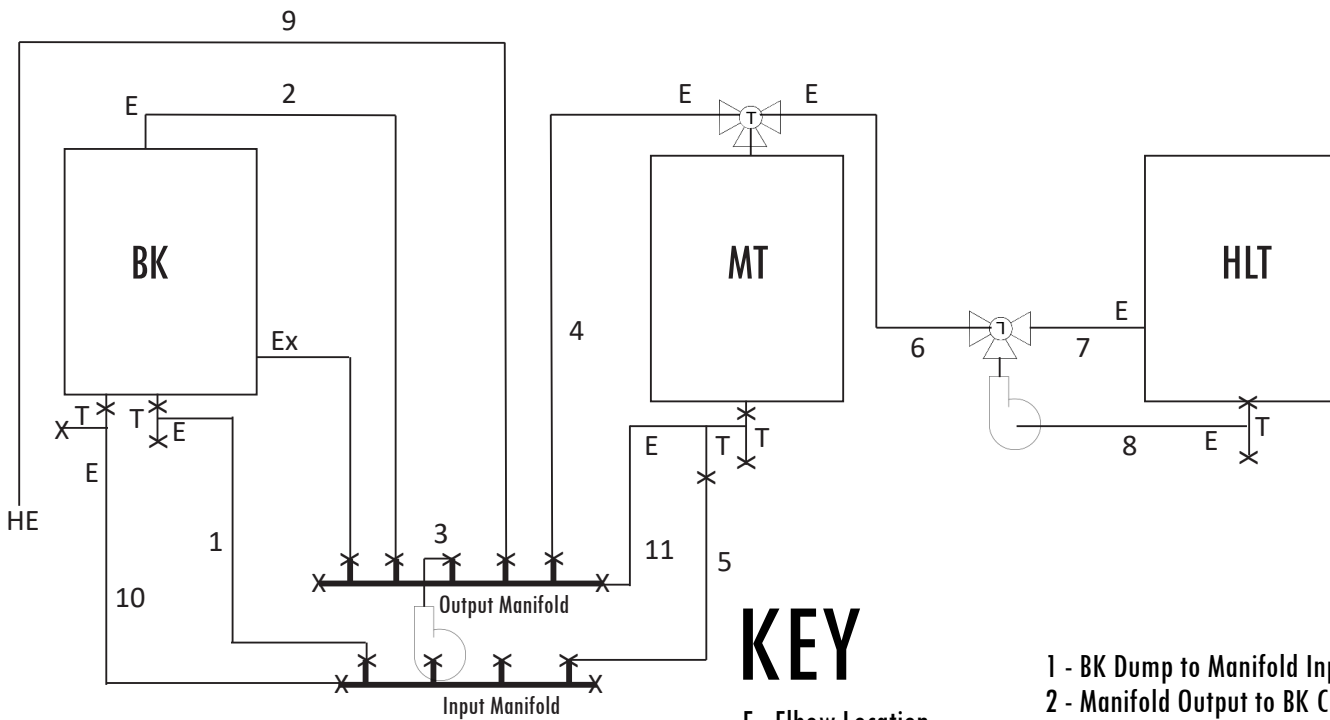
Top view of manifold.



Front view of manifold.



T-shaped three-way valve on top of the mash tun allows the flexibility to bypass the mash tun kettle or it can be turned for sparging or CIP (Clean-In-Place).



KEY

E - Elbow Location

T - Tee Location

Ex - 6" Extension Location

- Pump

- 3 Way L Valve

- 3 Way T Valve

× - Butterfly Valve

1 - BK Dump to Manifold Input, 5ft

2 - Manifold Output to BK CIP, 6ft

3 - Manifold Output to Pump, 3ft

4 - Manifold Output to MT CIP, 8ft

5 - MT Dump to Manifold Input, 4ft

6 - HLT Pump to MT CIP, 8ft

7 - HLT Pump Output to HLT Whirlpool, 9ft

8 - HLT Dump to HLT Pump Input, 3ft

9 - Manifold Output to Heat Exchanger, 12ft

10 - BK Draw Point to Manifold Input, 6ft

11 - Manifold Output to MT Underlet, 6ft

5 BBL / 7 BBL Plumbing Diagram



FIGURE 17

Side view of the manifold assembled.



FIGURE 18

Please note the orientation of the tees and elbows.



FIGURE 19

Straight view of the manifold assembled.

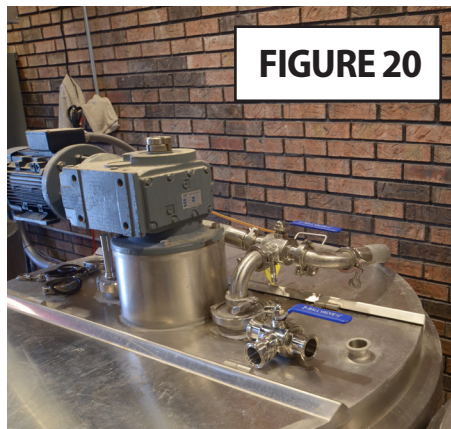


FIGURE 20

T-shaped three-way valve on top of the mash tun allows the flexibility to bypass the mash tun kettle or it can be turned for sparging or CIP (Clean-In-Place).



FIGURE 21

Front view of HLT pump.

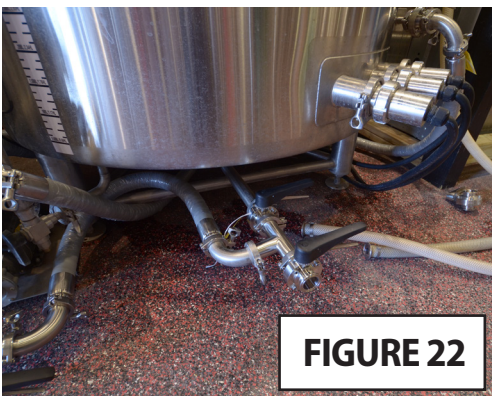


FIGURE 22

Please note that the hoses are tucked under to allow ease of portability, this reduces tripping hazards.

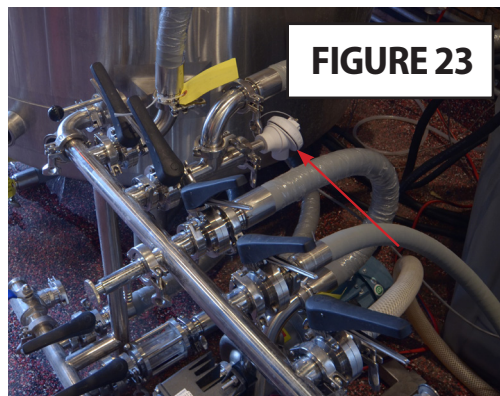


FIGURE 23

Top view of manifold. Mash Tun Temperature Sensor can be mounted to the output of the manifold for temperature readings during mash tun recirculation.

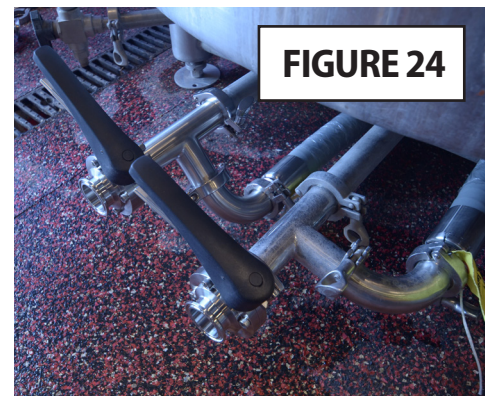


FIGURE 24

Please note the orientation of the tees and elbows.

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.