

1 HP PUMP CART



OPERATION MANUAL

Congratulations on your purchase and thank you for selecting the Blichmann Engineering Pro Brewing 1 HP Pump Cart! We are confident that it will provide you years of service, as you continue to craft many gallons of outstanding beer. This manual will familiarize you with the recommended operational procedures and general pump information.



Guidelines and General Information

Before operating the pump, please familiarize yourself with the below:

- Centrifugal pumps are not self-priming!
- The pump casing must be filled with liquid before its started, or the pump will not function correctly.
- If the pump head becomes filled with vapors or gases, the impeller will be air-locked and incapable of pumping.

CAUTION: NEVER RUN THE PUMP DRY. CRITICAL COMPONENTS OF THE PUMP WILL LIKELY BECOME DAMANGED IF THE PUMP IS EVER OPERATED WITHOUT FLUID DUE TO THE LACK OF LUBRICATION. THIS IS COMMONLY CALLED CAVITATION, AND THE PUMP WILL MAKE LOUD AUDIBLE NOISES.

Restriction Flow of the Input:

Other possible causes of cavitation to watch for are restricting the flow of the input.

- The input should *never* be restricted.
- An appropriately sized hose feeding the inlet of the pump is important to ensure it maintains the proper amount of flow coming into the pump.
- Keep in mind that once the pump begins to flow it will pull the liquid in.
- To prevent inlet restriction, a hose larger than or equal to the inlet diameter of the pump is required.

WARNING: USING A VALVE TO THROTTLE THE INLET OF THE PUMP CAUSES CAVITATION. NEVER USE A VALVE ON THE INLET OF THE PUMP TO RESTRICT THE INLET.

Priming the Pump:

The process of filling the pump with liquid is called “priming.” Priming the pump and venting the pump housing before startup should prevent gas buildup.

- To prime the pump, make sure the inlet and outlet are both open. Hoses usually are attached to both sides.
- Make sure the valves are fully open so liquid can flow freely in and out of the pump.
- Many brewers will put a sight glass on the output of the pump to ensure it fills with liquid before starting.
- You can also install a Tee fitting and valve on the output of the pump to bleed the air off or “bleed valve,” which ensures that you will not have pump cavitation on startup.

TIP: THE PUMP SHOULD ALWAYS BE LOWER THAN THE SOURCE OF THE FLUID IT IS PUMPING. THIS WILL HELP TO ENSURE IT DOES NOT RUN DRY, AS GRAVITY FEEDS THE PUMP.

Starting/Stopping the Pump:

- To start up the pump, once it is primed, press the start/stop button on the variable frequency drive or the VFD (as pictured below).
- To control the flow, you the potentiometer knob to raise or lower the speed. It is advisable to start with a lower flow rate and increase once the fluid is moving. The speed will be displayed in ROM on the display and can be adjusted without the pump running.
- When pumping is complete, press the start/stop button.



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 warranty 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.