

PurePressure Hash Pump + Filtration System

User Manual
Rev3.1



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1. Introduction

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From all of us here at PurePressure, thank you for purchasing the PurePressure Pneumatic Hash Pump and Filtration System!

Our hash pumps are engineered to last for many years with proper care. The following user manual covers virtually every topic to ensure you setup the pump properly, understand its normal operating procedures, how to integrate with the pump and much more.

If these steps are followed, you can be sure to enjoy uninterrupted operation day in and day out. The instructions in this user manual specifically focuses on the hash pump and filtration system, but please contact us with any other needs and we'd be happy to help!

Sales Inquiries:

sales@gopurepressure.com


General Questions:

info@gopurepressure.com

Technical Support:

support@gopurepressure.com

Contact:

 720-446-9565

 purepressure.com

   @gopurepressure

— **We're always here to help. Talk to us!**

1.1 Warranty

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PurePressure's Pneumatic hash pumps are built to last for many years with proper care. We want you to be satisfied with your equipment so if there are ever any concerns, please do not hesitate to contact us. PurePressure guarantees the following warranty coverage for the hash pump and stand assembly:

- Lifetime end-user support.
- 1 year limited warranty against manufacturing defects for pump equipment.
- 1 year limited warranty against manufacturing defects for gaskets, clamps, and fittings.

Warranty Replacements: In event of an approved warranty replacement or service, PurePressure will supply the necessary part(s) and special tools, if needed. Shipping costs may be covered by PurePressure at its discretion.

Replacement Parts: Replacement parts for various components are available at reasonable prices for pump owners directly from PurePressure.

Exclusions: Warranty coverage eligibility will be determined by PurePressure and at PurePressure's sole discretion. PurePressure's warranty obligations do not include (i) reasonable wear and tear; (ii) damage or corrosion caused by outdoor elements or outdoor use; (iii) use of unapproved parts or unproved alterations to components; (iv) defects or damage caused by overpressure to the pump with inputs >104 PSI; (v) defects or damage caused by misuse or compressed air inputs over 145 PSI; (vi) vandalism, negligence, misuse or Force Majeure Events; or (vi) items expected to be consumed or expended during the normal and routine operation and maintenance. This warranty is eligible for the original purchaser only and is not transferable.

Disclaimer: Except as expressly set forth in this Limited Warranty and to the greatest extent allowed by law, PurePressure makes no other representations, warranties or conditions, express or implied, including any implied representations, warranties or conditions of merchantability, fitness for a particular purpose, non-infringement, and non-interference.

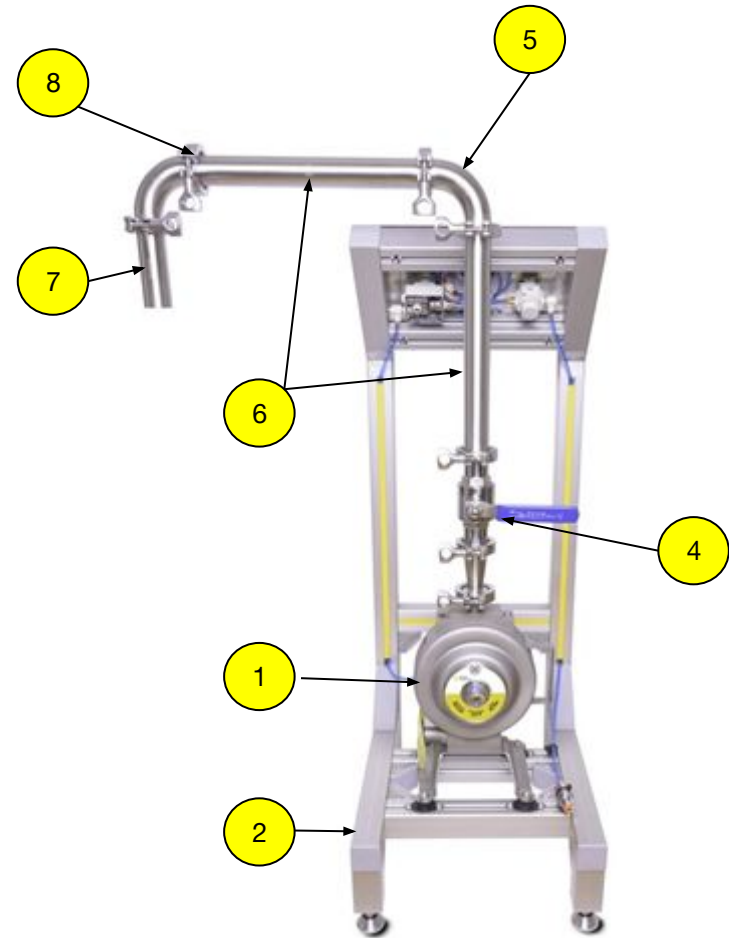
Warranty Procedures: If your pump is covered under the warranty period, please contact us with detailed information regarding the issue you are experiencing so that we can get you operational as soon as possible. If you are experiencing a problem and are outside of the warranty period, we will do everything in our power to get you affordable replacement component(s) in a timely manner. Please send all warranty and replacement part related inquiries to support@gopurepressure.com. All returned parts must be accompanied by an RMA number, which we will supply.

1.2 What's Included: Pneumatic Hash Pump

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What's Included With Your Assembly:

1. 1x Pneumatic Hash Pump
2. 1x Hash Pump Stand w/ Control Panel
3. 1x Pump Adapter, Stainless Steel, 1" to 1.5" Diameter
4. 1x Ball Valve, Stainless Steel, 1.5"
5. 2x 90° Elbows, Stainless Steel, 1.5"
6. 2x 12" Long Ferrules, Stainless Steel, 1.5"
7. 1x 3" Spout, Stainless Steel, 1.5"
8. 7x Tri-clamp Fittings, Stainless Steel, 1.5"



**Pneumatic Hash Pump
Assembly**

1.3 Technical Specifications

Specification	Pneumatic Hash Pump
Weights Pump (standalone) Pump + Stand Assembly	37.5 lbs 75 lbs
Pump Type	Self-Priming, Diaphragm pump
Overall Stand Dimensions (Length x Width x Height)	18.8" x 15.0" x 44.6"
Material Construction Pump Stand	Stainless Steel body + PTFE diaphragm / ball seats Aluminum body + stainless steel and beverage grade hardware / fittings
Pressure Requirement	Max operating pressure: 104 psi Max inlet pressure: 145 psi Dry, clean air
Operating Noise Level	~70 dB, typical maximum noise level of 85 dB
Operating Flow Rate	0-24 gpm, typical maximum flow rate of 24 gpm

1.4 Disclaimers & Safety Precautions

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Please review this information carefully prior to pump operation!

WARNING: ALWAYS WEAR EYE PROTECTION AS WELL AS COLD RESISTANT GLOVES FOR SAFE OPERATION.

WARNING: PUREPRESSURE, LLC IS NOT RESPONSIBLE FOR INJURY OR LOSS DUE TO IMPROPER USE OF EQUIPMENT.

DISCLAIMER: PROPER CLEANING MAINTENANCE IS REQUIRED IN ORDER TO ENSURE ALL SURFACES, PORTS, GASKETS, AND EQUIPMENT CONTINUE TO WORK PROPERLY. PLEASE REFER TO THE CLEANING INSTRUCTIONS AT THE END OF THIS USER MANUAL.

WARNING: MAXIMUM OPERATING AIR PRESSURE IS 104 PSI. OPERATING AT PRESSURES >145 PSI WILL CAUSE DAMAGE TO THE PUMP AND PNEUMATIC COMPONENTS.

WARNING: WHEN PERFORMING ANY CLEANING, MAINTENANCE, OR SERVICING OF THE PUMP, THE AIR SUPPLY MUST BE DISCONNECTED.

WARNING: NEVER PLACE FOREIGN OBJECTS, FINGERS, HANDS, OR OTHER BODY PARTS IN THE PUMP DURING OPERATION. THIS COULD CAUSE SERIOUS INJURY.

WARNING: ONLY USE THE PUMP TO HANDLE LIQUIDS FOR WHICH IT HAS BEEN APPROVED.

WARNING: THE PUMP IS COMPRISED OF COMPONENTS MADE FROM A PTFE MATERIAL. AT EXTREME TEMPERATURES (>250 degC), PTFE CAN PRODUCE TOXIC FUMES. DIRECT INHALATION OF THESE FUMES CAN CAUSE INFLUENZA-LIKE SYMPTOMS. DUE TO THIS, SMOKING SHOULD ALWAYS BE PROHIBITED WHEN SERVICING AND HANDLING PTFE COMPONENTS.

DISCLAIMER: IF PTFE COMPONENTS NEED DISPOSAL, THEY MUST BE CAREFULLY DISPOSED AND NEVER BURNED. IF SCRAPPING THROUGH NORMAL MEANS, LOCAL AUTHORITIES SHOULD BE NOTIFIED OF THE DISPOSAL CARRY OUT.

1.5 Unboxing your Pump

Steps to Safely Unbox your Pump

Note: Use two people to lift the pump and stand carefully.

Step 1: Ensure that the box or pallet your Pneumatic Hash Pump came in is on the floor or a level, sturdy surface.

Step 2: Carefully cut open the box on the top only, or if your pump is on a pallet, cut the tension straps. **(Figure 1A/1B)**

Step 3: Remove all accessories and items from inside the pallet on to a separate table or work area.

Step 4: Lift your Pneumatic Hash Pump off of the pallet and set onto the floor. **(Figure 2A)**

Figure 1A



Figure 1B

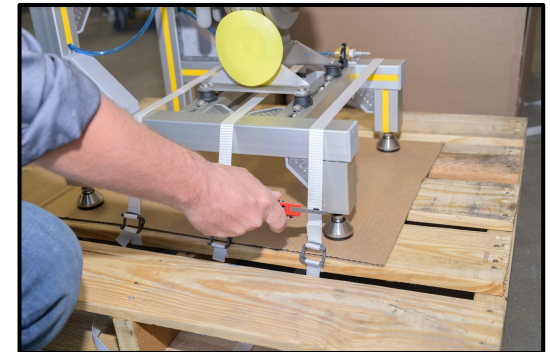
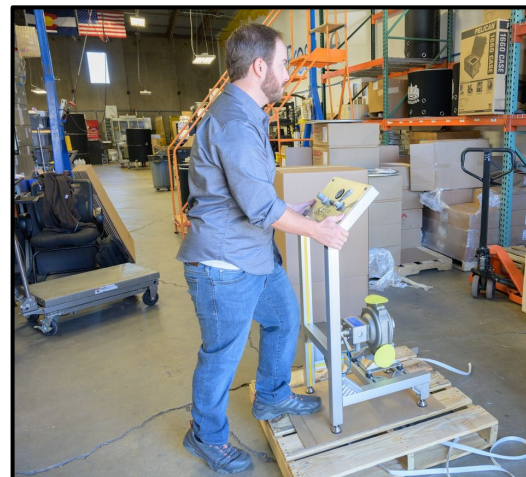


Figure 2A



2.1 System Requirements

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Pneumatic Hash Pump System Requirements

In order to successfully operate the hash pump, there are a few system requirements. You need the following items in your system:

- Air Compressor
 - Max inlet pressure to pump: 104 psi
 - Max inlet pressure to regulator: 150 psi
 - Compressor should produce 5 cfm @ 50 psi, min
 - Air consumption could be 5 cfm @ 20 psi up to 20 cfm @ 104 psi
- Air Hose Supply
 - $\frac{3}{8}$ " diameter hose; no more than 25' long
- Bruteless Wash Vessel (any size)
- Bruteless Complete 2 Hose Kit

Bruteless Complete 2 Hose Kit



Bruteless Wash Vessel



Air Hose Supply

2.2 Pneumatic Hash Pump Setup

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Note: 1" and 1.5" sanitary connections use the same clamp, but use different gaskets to ensure particulate does not become trapped between the two fittings.

Setting Up Your Hash Pump

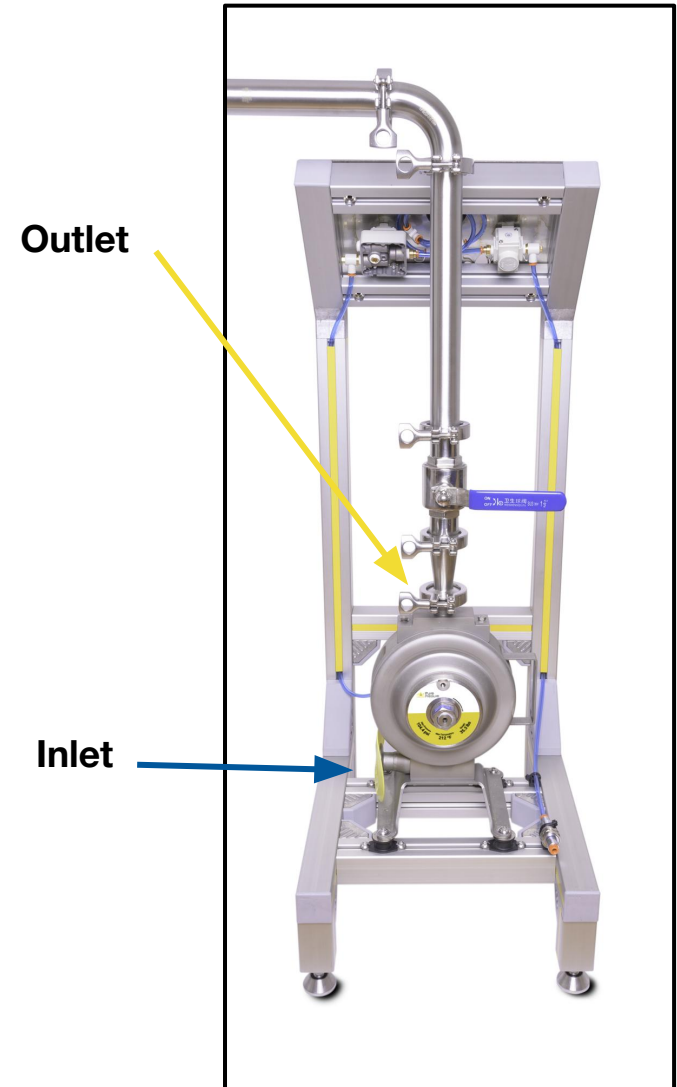
Setting up your Pneumatic Hash Pump is simple. The pump comes nearly ready for plug-and-play operation. The outlet of the pump is on top and the inlet is on the side.

First, the pump fittings should be cleaned with a 70% iso / 30% water solution and attached as shown in the picture at right. Use tri-clamp fittings to connect the pump fittings. The spout may be angled in any direction depending on your layout.

- Pump outlet -> 1" to 1.5" adapter -> ball valve -> 12" ferrule -> 90 deg elbow -> 12" ferrule -> 90 deg elbow -> 3" spout

Next, place a ball valve on the outlet of your wash vessel.

- Use a Bruteless Complete 2 Hose Kit to connect the wash vessel ball valve to the inlet of the pump.
- Be sure to use a 1" sanitary gasket on the inlet and outlet of the pump.
- All other connections should use a 1.5" sanitary gasket.



2.2.1 Pneumatic Hash Pump Setup Continued

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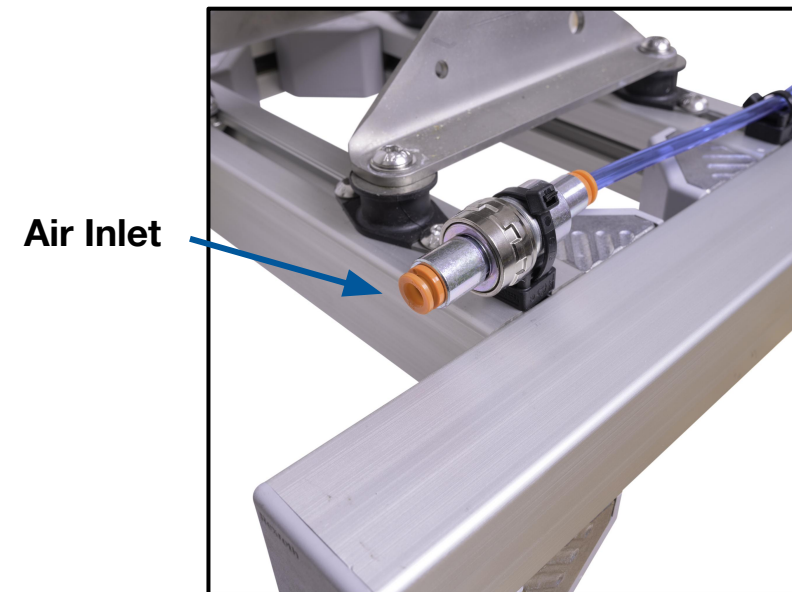
Note: For noise reduction, the air compressor may be fitted in an adjacent room to the pump.

Setting Up Your Hash Pump (continued)

Now that the water management side of things is tidied up, we can connect our air supply.

1. Close the ball valve on the spout and ensure the pneumatic valve on the control panel (right side) is in the down (off) position.
2. Ensure air supply is less than 150 psi going into the included air regulator on the control panel.
3. Connect the air supply to the ¼” industrial quick connect fitting. Ensure you use a 3/8” air hose that is no longer than 25’.

Note: Coil hoses tend to drop pressure more than a straight hose. If you are experiencing issues with your air supply, try sizing up the supply hose.



3. Pump Controls

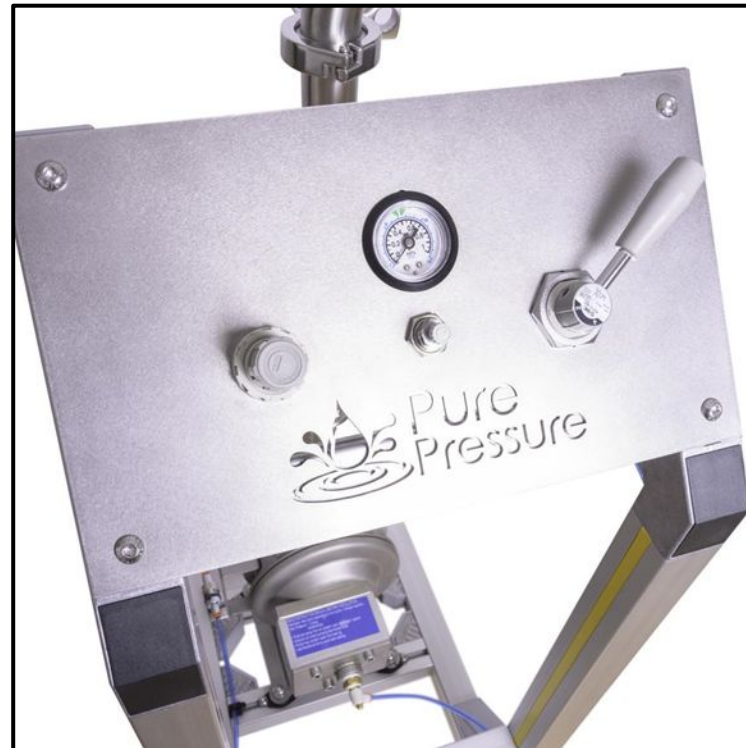
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The Hash Pump Interface Allows for Total Control

In fact, Pure Pressures' pneumatic hash pump comes complete with integrated controls.

All variables of the pump can be controlled with an extreme degree of precision, enabling you, the user, to process the highest quality solventless concentrates possible.

Contained in the following section, we will cover exactly how to use your Hash Pump controls and how you can get the most out of your pump.



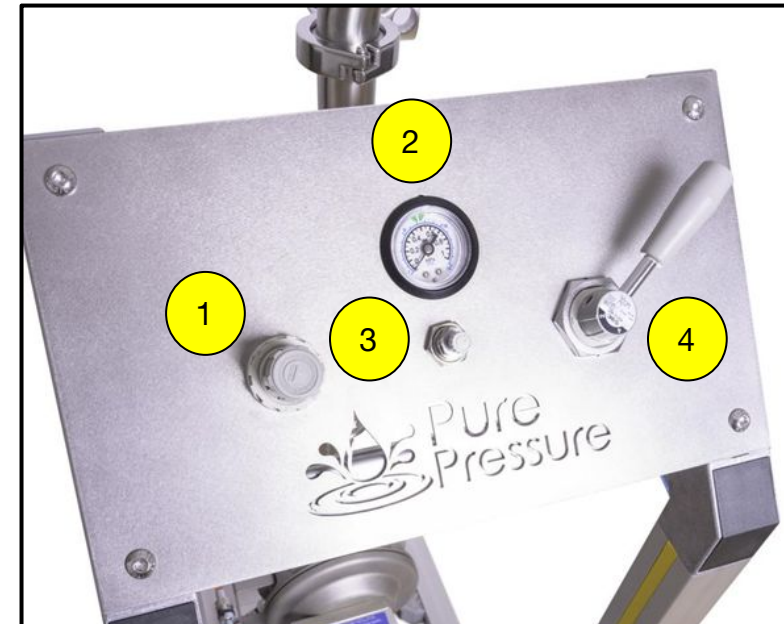
3.1 Controls Overview

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Hash Pump Integrated Controls:

1. Pressure Regulator

- The pressure regulator controls the amount of suction and pressure that is exerted on the fluid. The exact pressure you set the regulator to is the MAXIMUM pressure that the hash will experience while moving through the pump.
- If you were to close the ball valve on the outlet of the pump, but keep air pressure applied, the pump would stall and the fluid pressure would be equal to the air pressure. What this means is that YOU, the end user, has direct control over the forces exerted on your hash. You may run as low as 20 psi or speed up the system and run all the way up to 104 psi.
- We have not seen any adverse effects from running at full pressure, but the air consumption is increased dramatically at higher pressures. We believe the sweet spot is to operate around 20-60 psi and then using the speed controller to dial in the speed.



3.1.1 Controls Overview Cont.

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NOTE: The pump ships with the on/off valve set in the off-position. In order to operate the pump, turn the valve clockwise all the way to engage the on-position.

Hash Pump Integrated Controls (continued):

2. Pressure Gauge

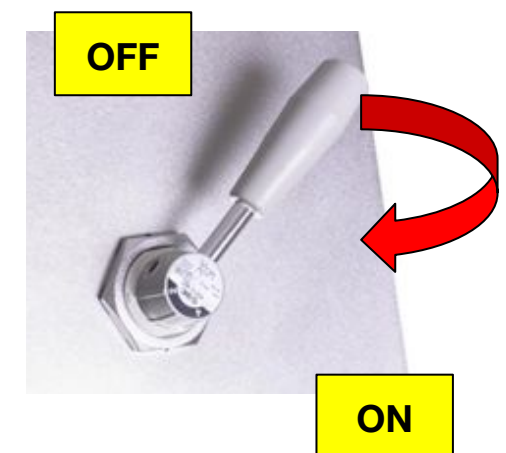
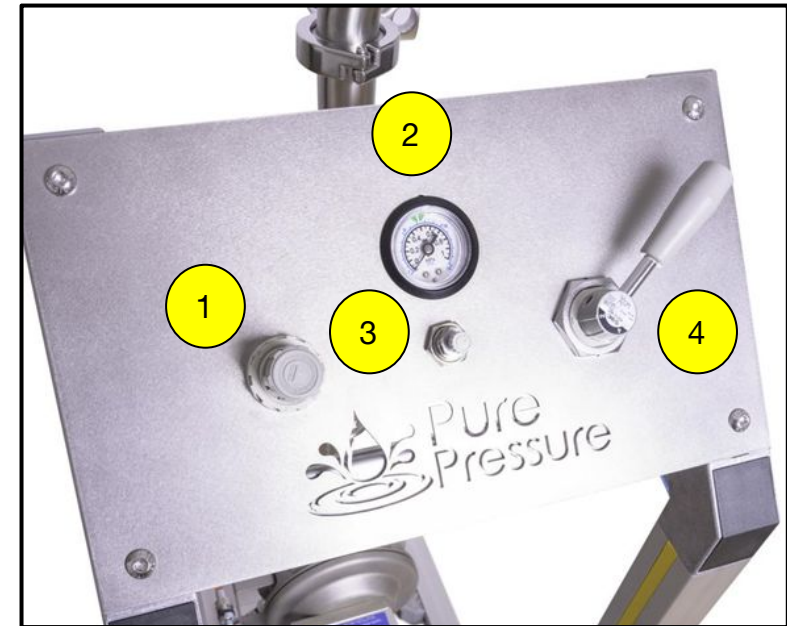
- The air pressure can be adjusted with the pressure regulator and viewed on the pressure gauge. It is best to adjust the pressure with the pump off and not running.

3. Speed Controller

- The speed controller will adjust the flow rate, not the pressure of the air supplied to the pump. This gives you full control over the speed across a range of pressures.
- If you close the speed controller too much, the pump may stall. This will not cause damage, but is something to be aware of. It is useful to control the speed of the pump to match the rate at which water is draining through your filter bags.

4. ON/OFF Valve

- The on/off valve will block the flow of air to the pump. Once your control settings are dialed in, often times all you need is the on/off valve for quick and simple operation.
- During cleanup and maintenance, it is important to disconnect the air supply completely before performing any work.
- The valve can be turned to the on or off-position. OFF is in the up position (as shown at right). To turn on, rotate the valve 90° clockwise to the ON position.



4. Pump Operation

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Basic Operation Summary

In order to get the most of your Pneumatic Hash Pump, there are some basic operational steps that must be followed. This pump operates with low shear forces on the fluid. This means that instead of shearing or cutting through the fluid to create movement (like an impeller), there are alternating suction and pressure forces moving the fluid. The result is a trichome particle that can move through the liquid management system at decent flow rates without damage. In the following section, we will outline exactly how to operate the unit in order to create a seamless production cycle.

1. Ensure the pneumatic on/off lever on the control panel is in the off position (pictured in Section 3.1).
2. Connect the air supply.
3. Ensure the pump is properly secured to the inlet hose coming from the wash vessel. Open the ball valve at the vessel to allow fluid flow.
4. Align the drain vessel under the spout and open the ball valve on the spout.
5. Check air pressure on the gauge. You should be between 20-104 psi. Try starting at 40 psi and adjust from there to find the right speed and pressure.
- 6.
7. You are now ready to pump. Open the pneumatic on/off lever to start the pump. This is a self-priming pump and is capable of pulling through up to 12 feet vertically of dry hose.
8. Once pumping has started, you may use the speed controller to adjust the speed of the pump. If you close it all the way, it will be very slow and if you open it up, it will run much faster.
9. Monitor the draining rate through the filter bags and adjust flow as necessary.
10. Flush a small amount of clean RO water through the pump to ensure all trichome heads are flushed through the pump system after each run.
11. Close the pneumatic ball valve when you are finished pumping.
12. At the end of the day, flush clean water through the system.

5. Filtration System Setup

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Filtration System Overview

The following instructions will show you how to setup up your Bruteless Filtration System.

The Bruteless Filtration system is designed to mesh the filtering and washing aspects of the solventless extraction process. The goal of the system is to maximize throughput, keep the paddle turning, and seamlessly move vessels through the wash & filter process

If you need any help with assembly or want to talk to someone on the team, please contact us at support@gopurepressure.com or give us a call at 720-446-9565 during normal business hours.



5.1 What's Included: Filtration System

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Note: Wash vessels are not included in the configuration package; those are sold separately and are intended to tie into the system for the filtration process.

The following components are included in the standard configuration:

<u>Part#</u>	<u>Component Description</u>	<u>Qty</u>
PPE028	Remote Control Outlet Kit	1
PPK010	Bruteless Hash Pump Station	1
PPK094	Bruteless Hose Kit	2
PPM083	44 Gallon Hash Washer Barrel	2
PPU007	Bruteless End Cap 1.5"	6
PPU008	Bruteless Ball Valve 1.5"	2
PPU009	Bruteless 90 Degree Elbow 1.5"	1
PPU010	Bruteless Sanitary Clamp 1.5"	11
PPU011	Bruteless BUNA-N Gasket 1.5"	12
PPU019	Leader EcoPlus 230 1/2hp 115v Pump	1

<u>Part#</u>	<u>Component Description</u>	<u>Qty</u>
PPU022	Bruteless Wye - Tri Clamp 1.5"	1
PPU027	Bruteless Sanitary Clamp 2"	2
PPU028	Bruteless BUNA-N Gasket 2"	2
PPU029	Bruteless End Cap 2"	2
PPU038	Bruteless 4" Straight Ferrule	1
PPU046	44 Gallon Classic 8 bag kit	1
PPU094	Bruteless Tri Clamp U Bend 1.5"	1
PPU110	44 Gallon Elevated Dolly	2
PPU122	Spring Loaded 1.5" Sanitary Clamp	1

5.2. Staging the Filtration System

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Staging

To make the most efficient use of time, start with your components unpackaged and staged for the build. Unpackaging each component and grouping them strategically can help expedite the assembly process.



We strongly suggest to fully clean your vessels, fittings, and hoses before running your first wash and filter cycle.

5.3. Placement of System

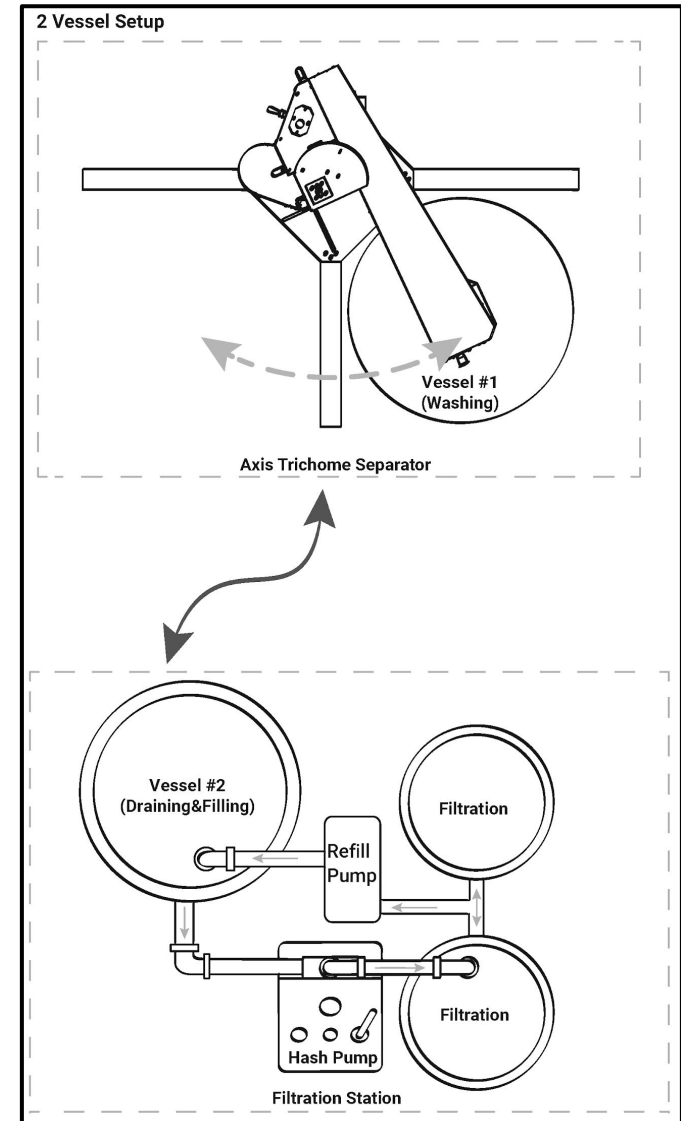
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Where to Setup the System

This system is configured to work seamlessly with the Axis Trichome Separator. The Axis truly shines when the operator is able to take advantage of multiple vessel operations. The idea here is to maximize throughput by keeping the Axis paddle turning.

Strategize where to place your equipment to complement your production workflow. It is important to consider factors like your operating square footage, doors and windows location, proximity to other equipment, power source, etc. Allow enough space for the movement and clearance of the vessels. Your layout is a critical component of your operation.

PureCannalabs specializes in site planning & Lab Design. For more information on cannabis extraction consulting or to talk to a solventless specialist, please contact them at team@purecannalabs.com or give them a call at 720-729-8518 during normal business hours.



5.3. Energizing System

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The filtration system uses both pneumatic and electrical power to operate the equipment. Everything to process post filtration is included.

- a. Hash Pump - See Section 2.1 for compressed air requirements.
- b. Centrifugal Pump - Remotely control up to three Bruteless water pumps from a distance with the Bruteless remote control plugs. Each circuit is rated at 13 amps / 1625 watts.
- c. Pure Pressure recommends a IP rated waterproof power cord protector box and/or IP rated splash guard outlet cover to be used in the wet lab environment with electrical connections. Splash-back and standing water may occur during operation.
- d. Be sure to check with local regulations for electrical safety requirements.



5.4. Assembling the System

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The following instructions layout how to assemble your filtration system. We build these configurations as guidance tools for our product line, however, the sanitary fittings over a range of solution possibilities. Use these instructions as a starting point and remember that you can always modify your configuration to match your methods of operation.

- a. *Vessels and Dolly Set Up* - In most cases, PurePressure will be shipping the vessel and dolly attached to one another. There should not be much assembly required. There are instructions for all our dolly setups located in the Axis user manual. See user manual for additional details.
- b. *Hash Pump* - refer to Section 2.2 of this user manual.
- c. *Hose Kit Assembly* - We suggest you save this step for LAST after you have positioned the filtration vessels and hash pump. Your hose kit comes with 2x - 25ft hose lengths. Cut your hose lengths once you have positioned the hash pump, centrifugal pump, and the vessels for operation.

Tools to assemble hose kit:

- i. 5/16" socket driver (You can also use a socket driver fitting in an impact drill).
- ii. A hose cutting tool (included in your kit).



5.4.1 Assembling the System continued

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To assemble the filtration system, continue to follow these steps:

- d. *Layout* - The placement of components (shown at right) provides the most compact footprint with numerous other configurations possible. The hash pump outlet can be oriented within a 180 degree swing for flexibility of vessel placement.
- e. *Ball Valves* - The two included ball valves are meant to be attached directly to the filter vessels. This gives the operator full control of draining each vessel and the ability to disconnect or isolate a vessel that is holding fluid.
- f. *Wye Fitting* - This is used on the inlet side of the centrifugal pump and has multiple purposes:
 - i. With the pump off, install a Wye fitting and open both vessel ball valves. This allows water to equalize between the two vessels during the filtration process. Two vessels are used instead of one to achieve a taller, narrow filter bag which reduces the time required for hash to filter and water to drain through the filtration media.
 - ii. Allows the operator to pump out water from both vessels simultaneously.



5.4.2 Assembling the System continued

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To assemble the filtration system, continue to follow these steps:

- d. *Elbows* - The 90 degree elbow fitting is to improve hose runs and can be customized to your situation.
- e. *Spring Loaded Tri-Clamp* - Connect the hash pump inlet to the hose that comes from the wash vessel to be filtered. We supply one spring loaded tri-clamp to make disconnecting easy. Use the spring loaded triclamp on the wash vessel outlet for quick and easy connection. Cut enough length so that the hose can be stored inside the hash pump frame to keep it off the floor while not being utilized.
- f. *Drain Hook Assembly* - This assembly is mounted to the hose that comes from the outlet of the centrifugal pump. It consists of a U-Bend and a 4" straight fitting. The drain hook allows unique versatility; a detailed description is included in the operation portion of this user manual.



6. Filtration System Operation

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How to Operate the Filtration System

The filtration system is dedicated to the filtering portion of the ice water wash operation. It has been configured to mate with either the Axis Trichome Separator or Bruteless Hand Wash Systems. This allows the operator to modularize processes and achieve greater throughput.

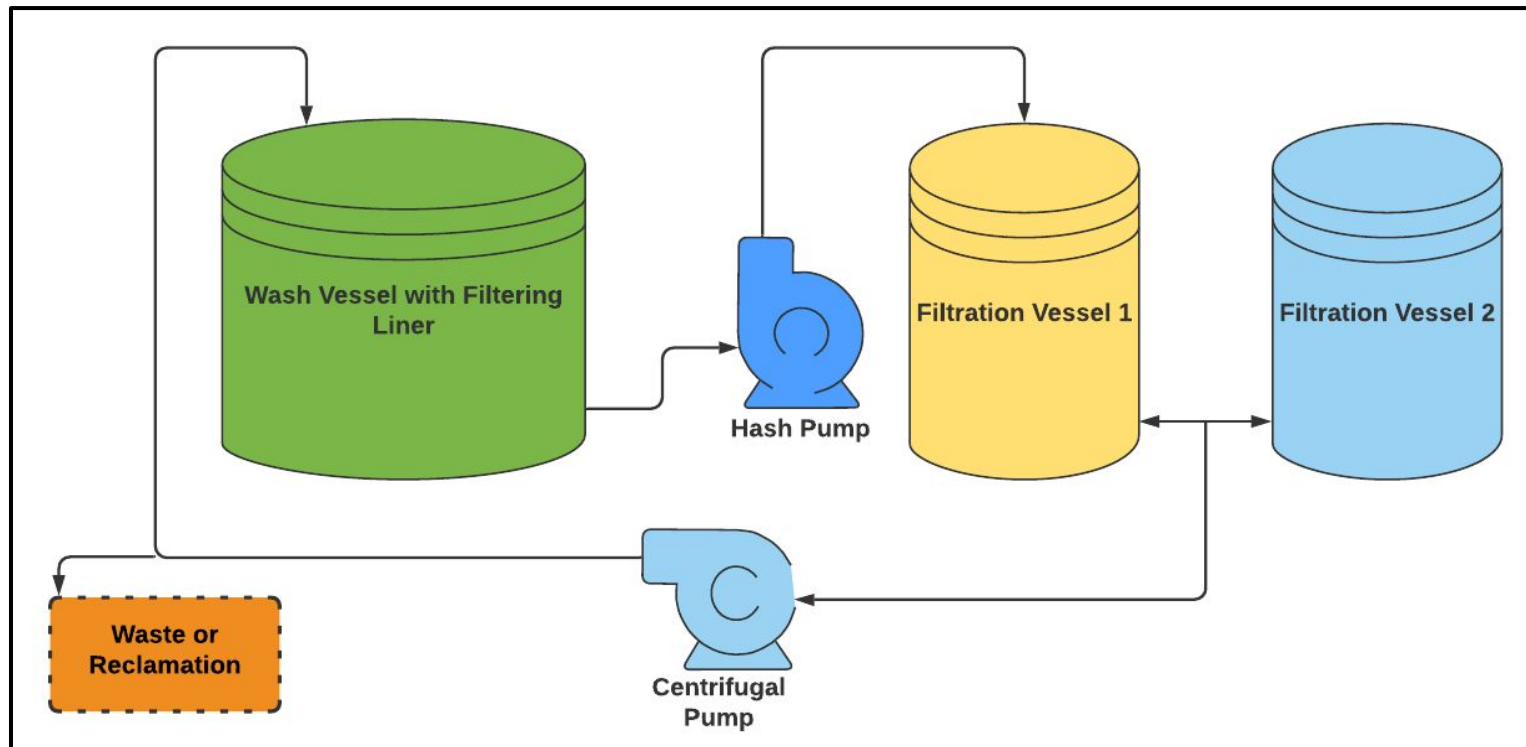
The throughput and cadence of your system includes a number of factors to achieve volume. We will focus on explaining the draining and filtering of one wash vessel.



6.1 Fluid Transfer

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The filtration system is all about moving fluid efficiently. The wash vessel contains ice, water and cannabis plant biomass inside a filtration liner. The water containing trichomes is drained and dispensed into a filter stack resting in one of the filter vessels via the pneumatic hash pump.



6.2 Spring Loaded Tri-Clamp

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The spring loaded tri clamp is used for connecting the wash vessel to the filtration system. The clamp offers an easier method of attaching a tri clamp, while trying to hold the sanitary fittings and gasket aligned for assembly. Make sure to shut the ball valve OFF on the wash vessel before disconnecting the fitting.

Disconnecting the hose from the wash vessel can cause the hose to drain or spill out. When draining hash rich water from the wash vessel, we recommend you flush thoroughly with fresh water so that you do not lose valuable product during the disconnect process.



6.3 Refilling and Draining

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Refilling and draining from the centrifugal pump occurs via a remote control that is supplied with the system. The drain hook can be hooked onto the wash vessel for top filling. The same hook can also be used on a sink or additional vessel for disposal of water after a wash.

PurePressure recommends to follow local regulations when addressing waste water disposal.



7.1 Maintenance & Troubleshooting

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WARNING: The diaphragm is made of a PTFE material, which can be toxic when exposed to flames. Due to this, smoking is prohibited at all times during maintenance.

Your PurePressure Pneumatic Hash Pump is engineered to go the distance and requires minimal maintenance for proper care. Make sure to do the following to ensure long term reliability.

- During maintenance, it is important to disconnect the air supply completely before performing any work.
- Ensure the pump **does not** run dry for >5 min continuously.
- At all times during maintenance, the installer must wear suitable personal protection (clothing, footwear, goggles, etc...).
- Adopt a regular maintenance schedule including:
 - Check for any leaks from gaskets/seals. The condition of the divider seal must be checked regularly to ensure correct functionality of the pump.
 - Check any dust/dirt is removed from operational areas.
 - Renew the thrust bearings every 1000 runnings hours.
 - Inspect the diaphragms for wear at least every 1000 running hours. If damage is apparent, replace diaphragms.
- **Do not** attempt to modify, alter, or reconstruct the pump in any way as this will invalidate any warranty.
- When performing maintenance on the PTFE diaphragms, tighten, leave 5 minutes for compression settling before retightening them.
- If a diaphragm needs replacement, it is recommended to change in pairs. Proper disposal should be carefully controlled, not burned. Contact local authorities if scrapping through normal means.
- Always re-tighten the main nut to 100 ft-lbs. All manifold screws re-tighten to 7 ft-lbs.
- Do not lubricate the air valve.
- Avoid entrapment of liquids.

7.1.1 Maintenance & Troubleshooting Cont.

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NOTE: A suitable anti-seizing compound should be applied to the tie rod thread to aid tightening and removal of large nut. Food quality should be used (EX - Never Seez from Bostik)

In the case maintenance is needed on the pump assembly, the following instructions should be followed to ensure correct assemblage.

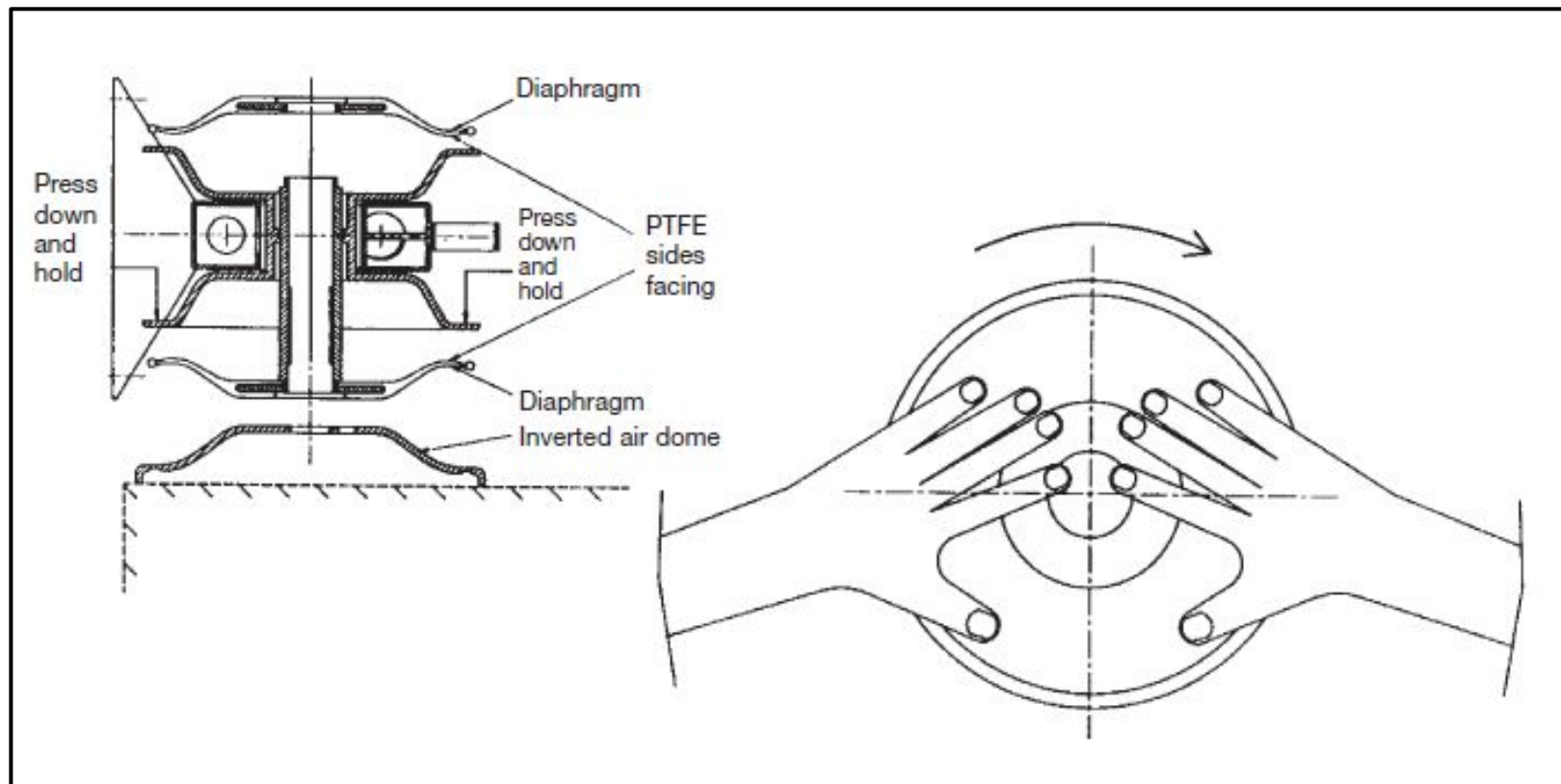
- The pump is constructed via a horizontal center, where a single nut holds on the air system, diaphragms, and thrust tube assembly to a tie rod.
- To obtain access to the diaphragms:
 - Unscrew nut at the end of the tie rod.
 - Remove adjacent washers and the air dome. Be careful to avoid damage to the O-ring seal inside the air dome.
 - The diaphragms should be exposed. If needed, remove them by gripping edges with your fingers and prying them away from the body of the pump. Sharp edge tools should never be used to remove.
- Inspect the diaphragms for wear and tear. If new diaphragms are needed, refitting should be carried out with the below steps:
 - Rotate diaphragms anti-clockwise from each other and unscrew from center tube. Repeat process for second diaphragm.
 - Ensure that the center tube thread and seal faces are cleaned and free from dirt.
 - Lightly grease the thread.
 - Screw on 1st diaphragm, with PTFE face inwards toward thrust tube, as tight as possible.
 - Wait 5 minutes after initially tightening before retightening to ensure good seal.
 - Fit the thrust tube with one diaphragm attached passing the tube through the center body.
 - Repeat steps to screw on the 2nd diaphragm. Make sure to wait 5 minutes before retightening the 2nd diaphragm.

7.1.2 Maintenance & Troubleshooting Cont.

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NOTE: PTFE diaphragms will creep around seal depending on temperature. Fit diaphragms and leave for a few minutes before giving final pinch to the seals.

- If you are experiencing difficulties fitting the 2nd diaphragm:
 - The diaphragm can be warmed in hot water (not boiling).
 - The pump body can be turned on its side and placed on top of an air dome.
 - Use your hands to tighten in a clockwise rotation against one another.
 - Never use sharp edge tools or pliers to install.

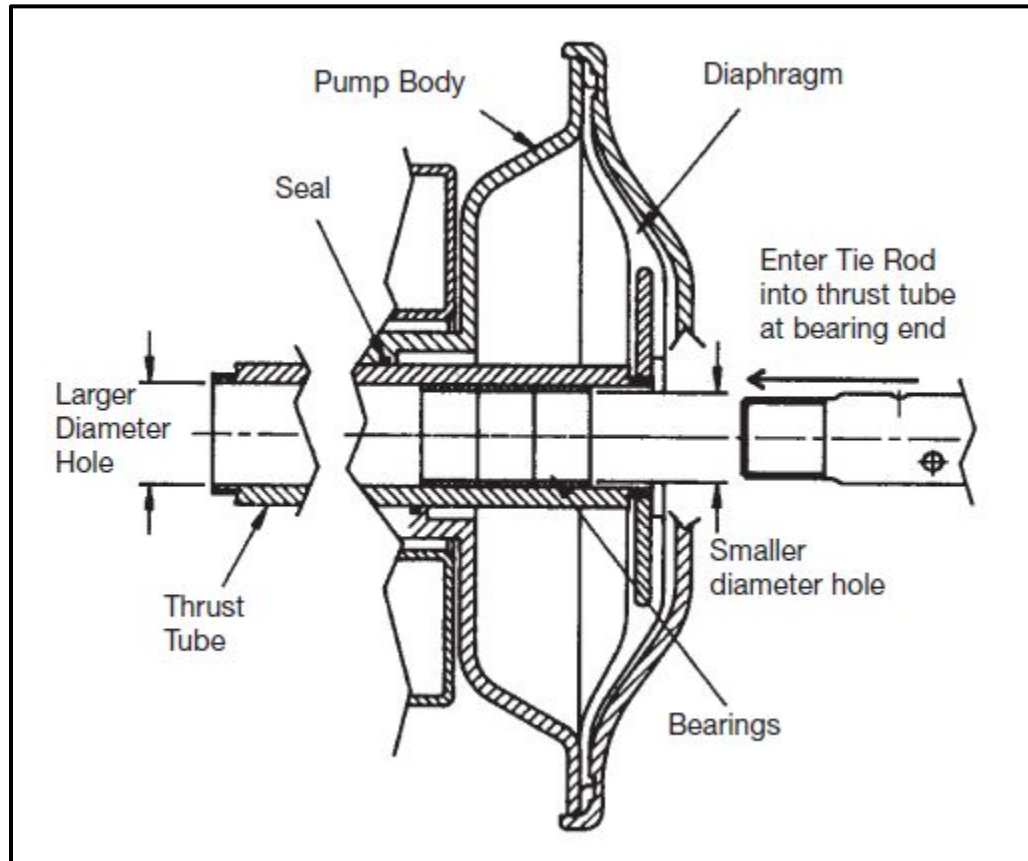


7.1.3 Maintenance & Troubleshooting Cont.

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Tie Rod Assembly:

- ★ When reassembling the pump, the tie rod must be inserted. The tie rod must be inserted into the end of the thrust tube that is closest to the bearing end. See drawing below.

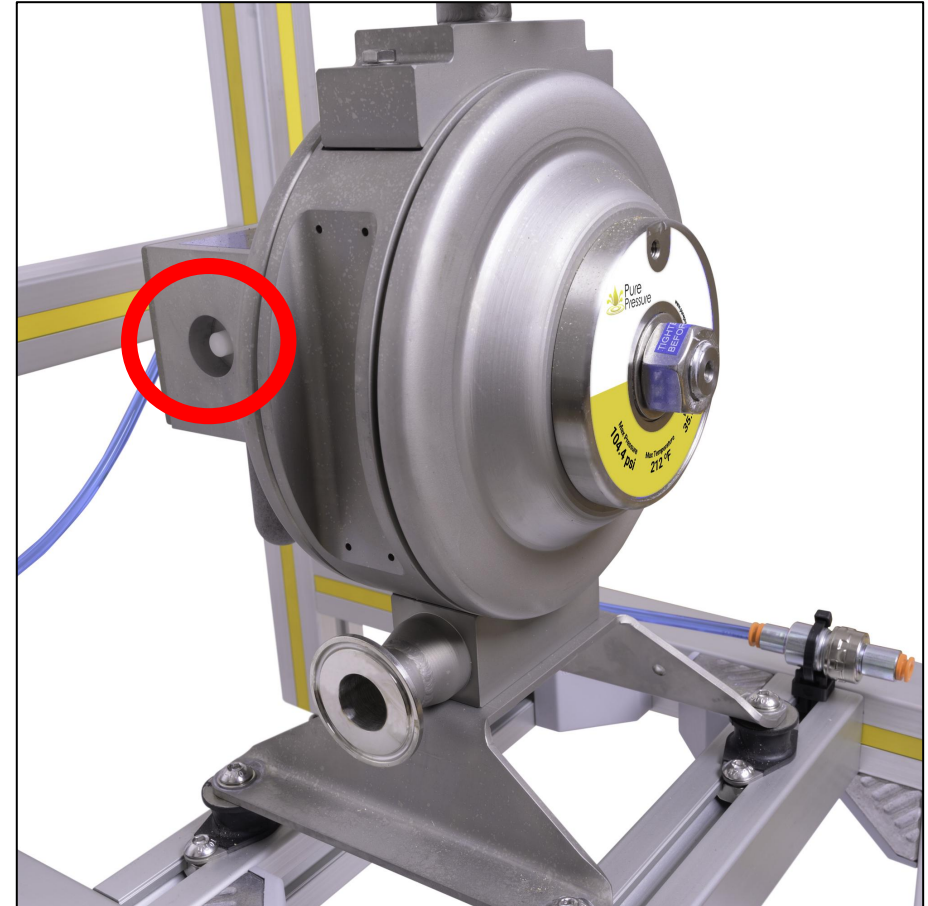


7.1.4 Maintenance & Troubleshooting Cont.

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Air Manual Override Button:

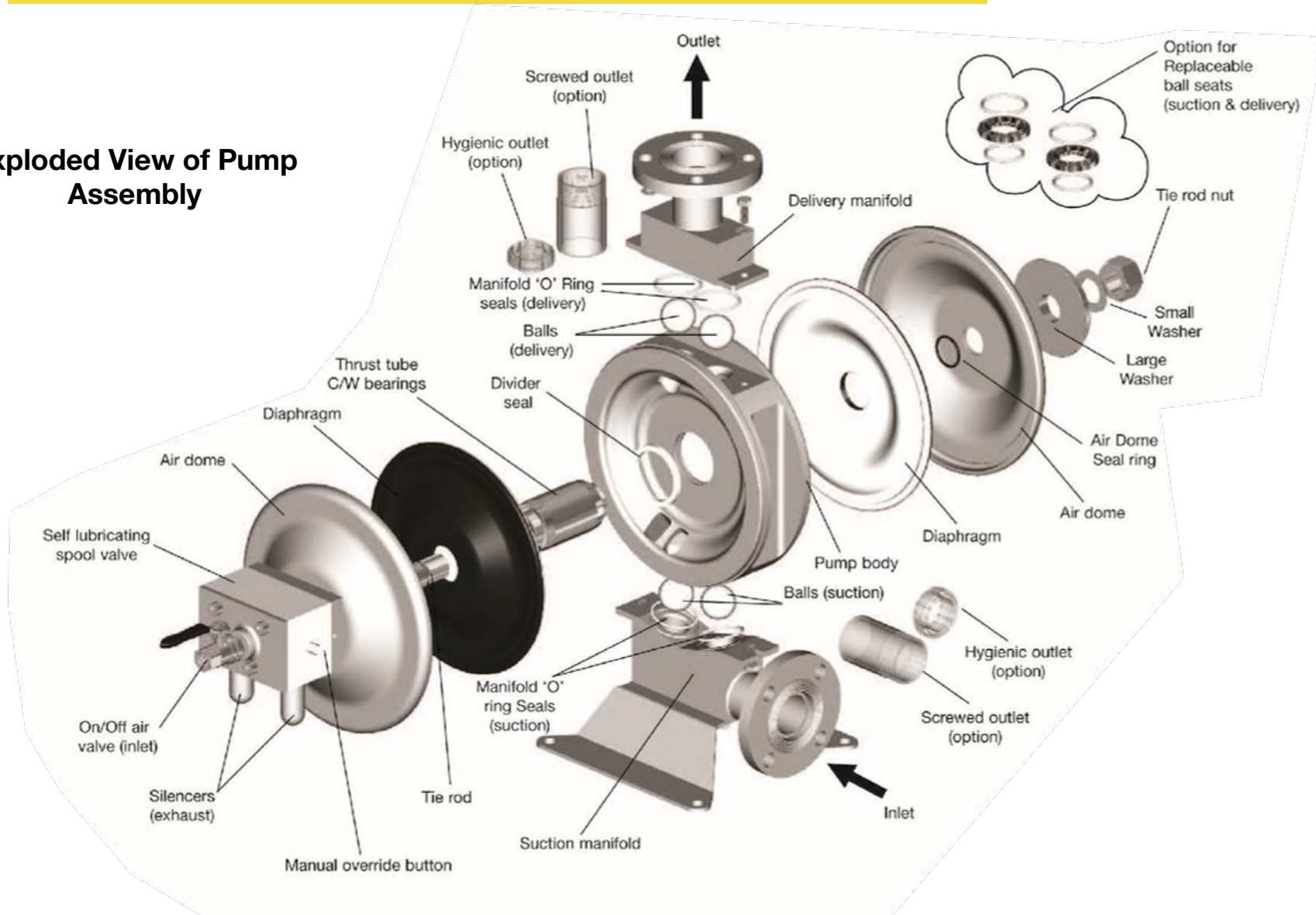
- ★ The simple construction of this pump lends itself to great reliability. Air pressure is applied to the pump. An internal air piston directs that air pressure to one diaphragm, which pushes the diaphragm over and moves fluid through the outlet.
- ★ As the diaphragm is pushed to one side, the air piston is pushed over as well, which in turn changes the direction of air flow to the opposite diaphragm. The air pushes the diaphragm and air piston over to the other side and the process repeats.
- ★ Sometimes the pump is shut off in the middle of this movement from side to side. In that scenario the air piston cannot direct air to either diaphragm and the pump is stalled. Simply push the exposed air piston on either side of the pump with your finger. This should move the air piston all the way over and allow proper air flow.
- ★ This is completely normal and will be part of normal operation whenever this scenario presents itself



7.1.5 Maintenance & Troubleshooting Cont.

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Exploded View of Pump Assembly



If you encounter an issue with your pump that is not described in the following pages, please contact us at support@gopurepressure.com - we're always here to help!

7.2 Cleaning Instructions - Pump

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Note: Make sure to check your local waste management regulations for proper fluid disposal protocols.

Cleaning Advice and Instructions

We strongly recommend deep cleaning your Pneumatic Hash Pump and fittings with 99% ISO at the end of each day. This will help ensure that your system stays contaminant free, which is crucial. It is important to disconnect the air supply before performing any cleaning.

Suggested Cleaning Product Mixture

RO water with at least 30 - 70% ISO.

Never Use These Products

Bleach, Comet, or any other abrasive cleaning product or solution.

How To Clean Your Pump.

Using a wrench, loosen the single nut holding the pump together. Clean the PTFE diaphragm and PTFE ball seats with alcohol solution and wipe down the pump. Inspect the diaphragms for wear or signs of cracking. Any visual damage requires a diaphragm replacement; please contact your PurePressure sales representative. Re-install components and tighten the single nut to 100 ft-lbs.

Hash Pump Stand care

The stand accompanying the hash pump assembly is made out of aluminum. The material can simply be wiped down and cleaned as necessary.

7.2.1 Cleaning Instructions - Filtration System

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Note: Make sure to check your local waste management regulations for proper fluid disposal protocols.

We strongly recommend deep cleaning your Bruteless stainless steel vessel, fittings, and paddle at the end of each day's washing. This will help ensure that your system stays contaminant free, which is crucial. RO water can be extremely corrosive; surface rust can appear even on stainless steel because of rogue particulate in standing water on the metal. We have two different cleaning recommendations depending on if you are cleaning your lines or the stainless steel surfaces of your system.

Lines, tubes, fittings cleaning: It is important to clean your equipment on a daily basis in order to keep your equipment operating at peak performance! Removable parts shall be removed and cleaned in a hot water commercial dishwasher or equivalent. The use of isopropyl alcohol mixture with water may be circulated in our equipment. Consult the label on the isopropyl alcohol container to achieve an appropriate concentration. Use a water rinse cycle after any alcohol cleaning cycle before placing the equipment back into service.

WARNING – alcohol is toxic – always work in a well ventilated area.

WARNING – alcohol is flammable – extreme care shall be taken during the use of this solvent.

Stainless steel surface cleaning: Use tap water with Bar Keepers Friend. We recommend using Bar Keepers Friend brand cleaning powder because it passivates your stainless and prevents rust. Use a gentle abrasive pad such as the Scotch-Brite 7445 Light Duty Cleansing Pads. Dry the surfaces well & do not leave standing water on the metal to dry off.

Never Use These Products

Bleach, Comet, or any other abrasive cleaning product or solution.

Neoprene Insulation Sleeve Care

The insulation jacket is composed of a shell and a core. The shell is neoprene and can be wiped clean if needed. The core is a moisture resistant closed cell foam and should not absorb liquid.

7.3 Common Issues

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My hash pump is not working.

If the pump stalls out and stops, check that all fluid ball valves are fully open. Closing the spout valve will immediately stop the pump even though air pressure is still applied.

If the pump is still stalled out after checking valves, increase the air pressure using the pump regulator. The bare minimum pressure is roughly 20 psi to operate the pump, but this can vary slightly depending on hose lengths and the particular setup.

If the pump is still stalled out after adjusting air pressure, ensure the speed controller is not fully closed. This will prevent air from being able to reach the pump. This feature can be used to control speed, but throttling too much will prevent the pump from operating.

If the pump still remains stalled, contact us and we will do our best to resolve.

The pump is not moving fluid.

The air supply can be increased or decreased depending on how fast the operator need the pump to perform. Check that the speed control is open. If air is going to the pump try the valve regulator button.

The pump will not cycle.

Check that you have air pressure to the pump. The head of the liquid may be equal to the air supply pressure available. Relieve the head pressure or increase the air pressure. If this does not work, try pressing the valve regulator button on either side of the pump. This white button helps to redirect the airflow to one side or the other of the diaphragm.

7.3.1 Common Issues continued

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The hose connections are leaking.

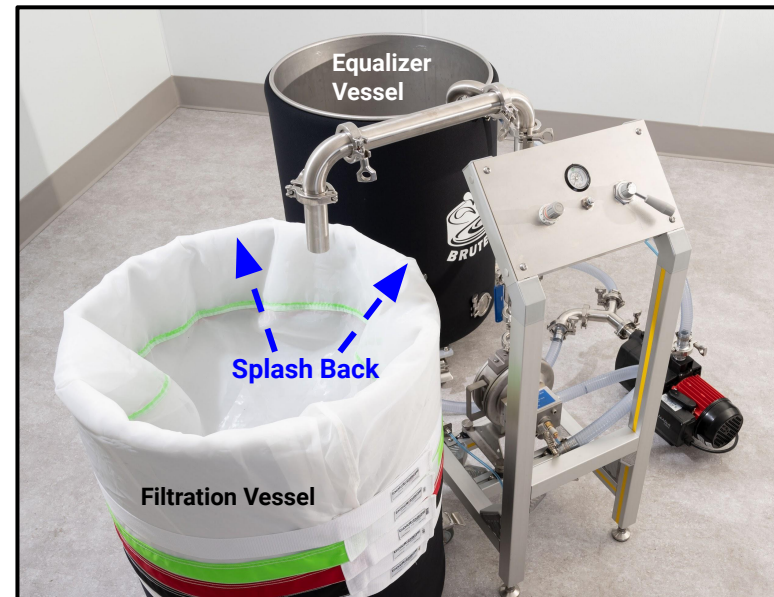
If you have a leak in your system, make sure all the hose clamps and tri clamp fittings are secured and tight.

The filtration bags are sliding inside the filtration vessel.

This can be caused by suction pulling water from under the filtration bags. The solution is one of two things. You may cinch the bags tight around the vessel or you may install a butterfly valve (not a ball valve) on the outlet of the centrifugal pump. The butterfly valve will reduce the flow of water being pumped from under the filtration bags and therefore reduces the suction.

Splash back is happening in the vessel.

Splash back can occur if the filtration vessel gets too full during utilization of the hash pump. This typically happens if the pump is set on a higher speed while the hash rich water is not given enough time to drain through the filtration bag stack. Adjust down your regulator psi and speed control to slow down the pump action and allow time for filtration vessel to drain and the 2 vessels to equalize.



7.4 Frequently Asked Questions

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Can I adjust the air spool cylinder in the perforated tube?

No, do not pull the cylinder out of its perforated tube. This will not go back in once it is removed.

How do I disassemble my pump for cleaning & maintenance?

Using a wrench, loosen the single nut holding the pump together. Perform any cleaning & maintenance necessary and re-install components. Tighten the single nut to 100 ft-lbs.

At what pressure should I operate the pump?

The pump should be operated at the lowest pressure that will give adequate performance from the pump without stalling. We have not seen any adverse effects from running at full pressure, but air consumption is dramatically increased. We believe the sweet spot is between 20-60 psi and using the speed controller to dial in the speed.

Do I need to purge my system before using each time?

Yes, we recommend to run cold water through the system first to cool everything down and help prevent hash from sticking to the system components.

Will this pump do damage to my hash?

No, this pump operates with low shear forces on the fluid. This means that instead of shearing or cutting through the fluid to create movement (like an impeller), there are alternating suction and pressure forces moving the fluid. The result is a trichome particle that can move through the liquid management system at decent flow rates without damage.

Air supply is not adequate for the pump.

Tip: Use at least $\frac{3}{8}$ " ID air hose to supply the pump with air and limit the hose length to 25'. This will ensure proper airflow to the pump.

7.4.1 Frequently Asked Questions continued

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Why do I need two vessels for filtration?

When washing in a 65 gallon vessel, you have the benefit of a large, wide and shallow vessel. This is great for washing because the trichomes have room to spread out and a short distance to settle after the wash. However, when you are filtering hash, a tall and skinny vessel tends to be more effective. This is because the hash can pool at the bottom of each bag, leaving a tall sidewall for water to move through. This speeds up the filtration process significantly. We use two vessels so that you can hold the entire volume of water from the 65 gallon vessel while gaining the benefits of filtering in a properly sized vessel.

Can I put filtration bags in both vessels?

You absolutely can put filtration bags in both sets, but you would not want to equalize or connect the two vessels. When you pump water into one set of filter bags and the vessels are equalizing, the filtered water will fill up in the second vessel. If you have a bag set in there, it won't be doing anything other than getting wet. We find a single set of bags to be the most efficient, however, you can split this up. Isolate the sets from each other, pump into one bag, and then switch to pumping into the other bag.



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___ **We're always here to help.**

User Manual Rev.3.1