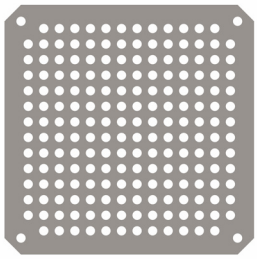
ENGINEERING BETTER BEER

Unitank 2.0 | Product Guide

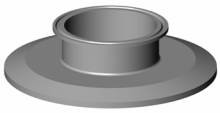
IN THE BOX

(1) **Unitank Body**
(14 gal model shown)

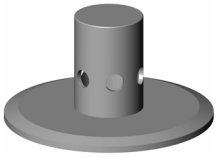
(1) **Neoprene Jacket**



(1) **Shelf**

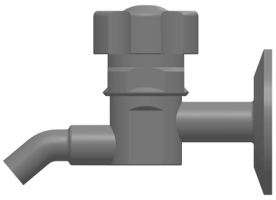


(1) **6” TC Reducer**
(8” TC Reducer on 1 bbl)



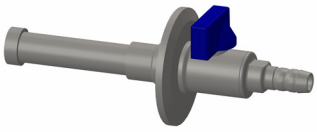
(1) **3” TC PRV**

(1) **1.5” Blow Off Arm**

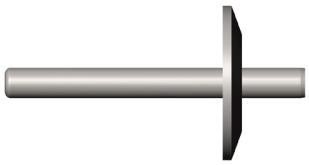


(1) **1.5” TC Sample Valve**

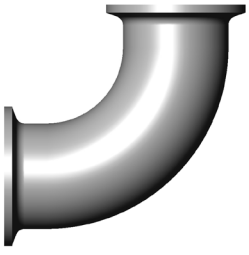
(1) **1.5” TC Pressure Gauge**



(1) **1.5” TC Carb Stone**



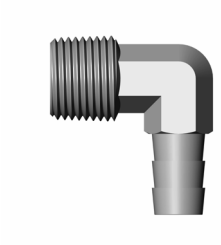
(1) **1.5” TC Thermowell**



(1) **1.5” 90° TC Elbow**

(4) **Tank Adjustment Foot**
(only (3) for 7 gal Unitank

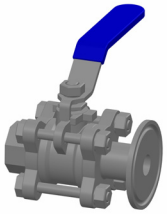
IN THE BOX (CONTINUED)



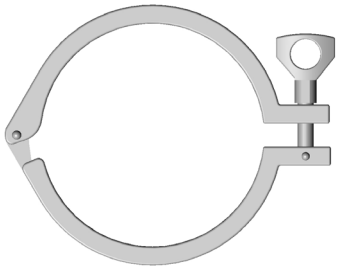
(2) **90° 3/8” NPT to 3/8” Hose Barb**

(1) **1.5” TC Keyed Butterfly Valve**

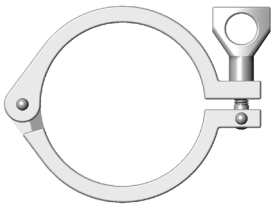
(1) **1.5” TC Butterfly Valve**



(1) **1.5” TC Blow Off Valve**

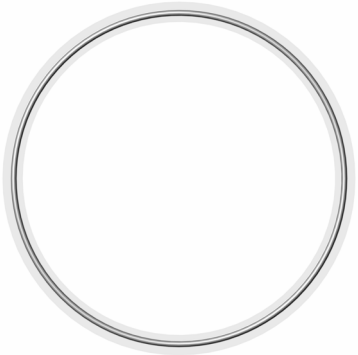


(1) **6” TC Clamp**
(8” TC Clamp for 1 bbl)



(1) **3” TC Clamp**

(9) **1.5” TC Clamp**



(1) **6” TC Gasket**
(8” TC Gasket for 1 bbl)

(1) **3” TC Gasket**

(1) **1.5”TC Keyed Racking Arm Gasket**

(3) **1.5” TC Gasket**

(5) **1.5” TC Gasket (1” ID)**

(1) **Teflon Thread Tape**

STAINLESS STEEL CARE

INITIAL CLEANING AND PASSIVATION

Pre-Clean: Prior to first-time use, thoroughly wash all surfaces of the vessel, including all valves and fittings, with Tri-Sodium Phosphate (TSP) in hot water, mixed with the manufacturer's recommendations. Scrub with a soft cloth (don't use anything abrasive) and after the initial TSP wash, rinse thoroughly and dry all surfaces. Check out our TSP Cleaning FAQ knowledge base article for more info!

Passivation: It's good practice to periodically passivate all stainless-steel equipment with an acid-based solution to establish a uniform passive oxide layer that will maximize corrosion resistance. Following the pre-clean step, fill the vessel with hot water (at 140-180°F) mixed with Citric Acid (at a concentration of 4% by weight) for at least 30 minutes (up to 2 hours.) Drain, rinse with purified water, then dry the vessel. Most tap water contains various salts and chlorides (either naturally or for taste) which can undermine the passive oxide layer you just worked to create. Check out our Passivation FAQ knowledge base article for more info!

BREW DAY

Cleaning and Sanitizing: As part of a regular cleaning regimen, both pre and post-fermentation, wash the interior surfaces of your vessel with hot water and an alkaline cleaner such as PBW. Then sanitize with hot water and an acid-based sanitizer like Star San. Check out our Cleaning FAQ and Sanitization FAQ knowledge base articles for more info! Please review dosage and disposal requirements for all chemicals before use.

https://ssbrewtech.zendesk.com/hc/en-us/articles/202239329-Before-Using-Your-Equipment-Cleaning-Guide

USE THE FOLLOWING WITH CAUTION:

-Stainless steel scrubbing pads or abrasive scouring pads. If used too aggressively, abrasive pads (like Scotch-Brite Green Heavy Duty scour pads) can damage the surface and/or finish of the stainless. Non-scratch scouring pads are recommended (like Scotch-Brite Blue non-scratch scour pads.)

-Oxalic Acid cleaners such as Bar Keeper's Friend, Kleen King, or Revere Ware Copper and Stainless Steel Cleaner on the etched volume markings or etched logo. They may cause the markings to fade.

NEVER USE THE FOLLOWING:

-Chlorine bleach or chlorine-based products. Chlorine can cause pitting of stainless steel, or pinholes through the surface which cannot be repaired.

-OxiClean or other peroxide cleaners in combination with hard water. These can cause calcium carbonate to precipitate onto the surface. If this happens, re-passivate your Chronical.

ASSEMBLY

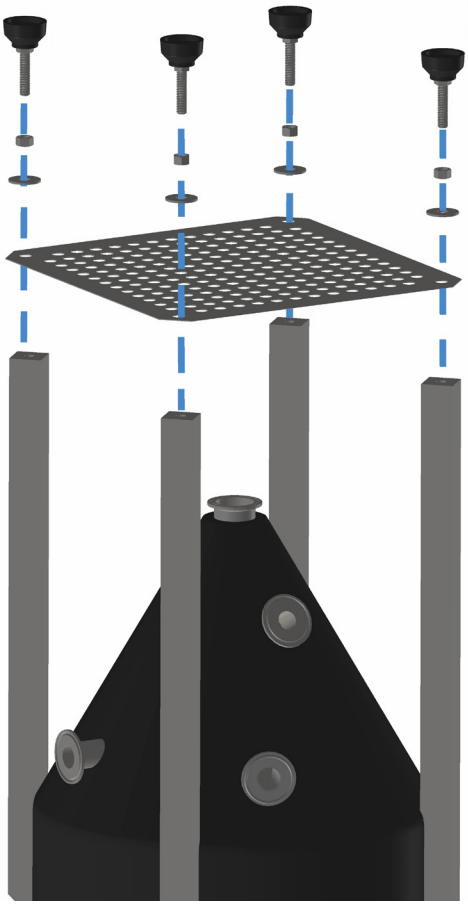
1.Remove the Unitank 2.0 body and all hardware from the box. Remove the **Blow Off Arm** from the tank and set aside. Flip the vessel upside down and place it on a flat, stable, non-marring surface.

Note: If using the optional FTSs Touch Heating Pad, it is recommended to place it on the cone at the beginning of this next step.

2. Locate the **Neoprene Jacket** from the packaging. Unzip the zipper and orientate the jacket so the Ss Brewtech logo lines up with the front of the vessel, then align the legs with the jacket's leg hole cutouts. Slowly work the jacket onto the vessel, carefully making sure that each ferrule is brought through its appropriate cutout.

3. With the vessel still upside down, apply the **Shelf** and thread the stem of each of the four **Tank Adjustment Feet** (three feet on the 7 gal model) into the Unitank 2.0's threaded leg inserts.

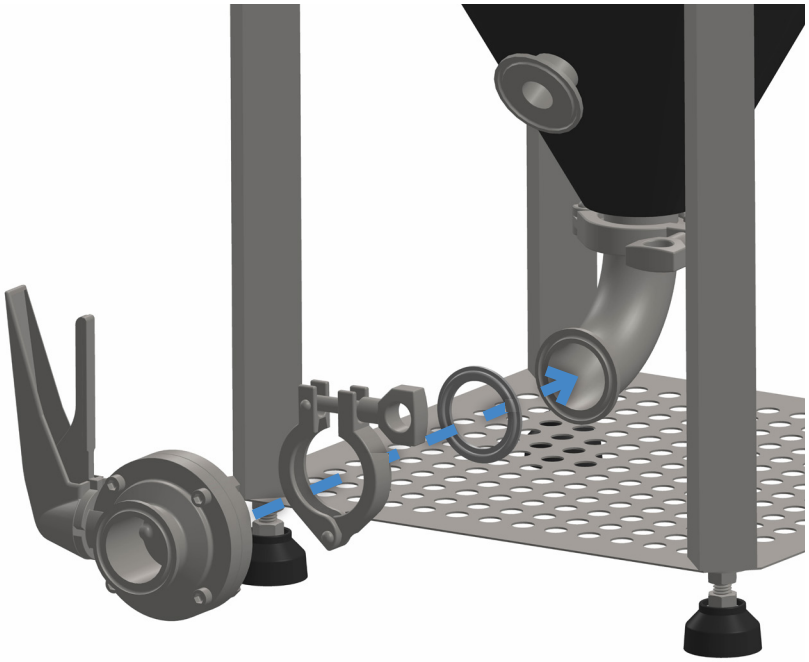
The feet should be installed with the washer first, so that it sits against the shelf, and then the leveling nut. This enables the user to level the vessel if it is sitting on a slightly uneven surface during use and then lock the feet in place. Turn the vessel right side up and place the vessel on the newly installed feet.



ASSEMBLY (CONTINUED)

4. Locate the (1) **Keyed Butterfly Valve**, (1) **Butterfly Valve** (1) **1.5” TC 90° Elbow**, (2) **1.5” TC Clamps**, (1) **Keyed Racking Arm Gasket**, (2) 1**.5” TC Gasket**.

Start by installing the included **1.5” TC 90° Elbow** onto the vessel’s lower 1.5” TC ferrule, located at the very bottom of the cone. Locate the non-keyed **1.5” TC Butterfly Valve** and install it onto the opposite end of the 90° Elbow using a **1.5” TC Gasket** and **1.5” TC Clamp**.



5. Next, install the **Keyed Racking Arm Gasket** into the **Keyed Butterfly Valve** as shown below *(Fig. A)*. Once assembled, feed the Racking Arm Butterfly Valve Assembly into the 1.5” TC ferrule located just above the dump valve assembly and secure it with a TC clamp. *(Fig. B)*

Note: Due to the The Keyed Racking Arm Gasket’s unique design, it does not need an additional 1.5” TC Gasket to create a proper seal.

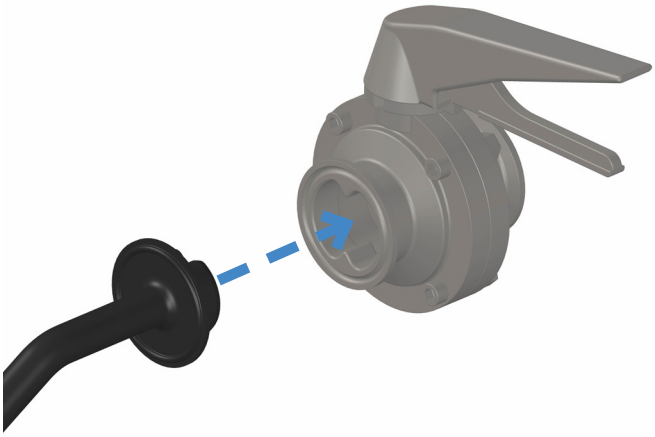


Fig. A

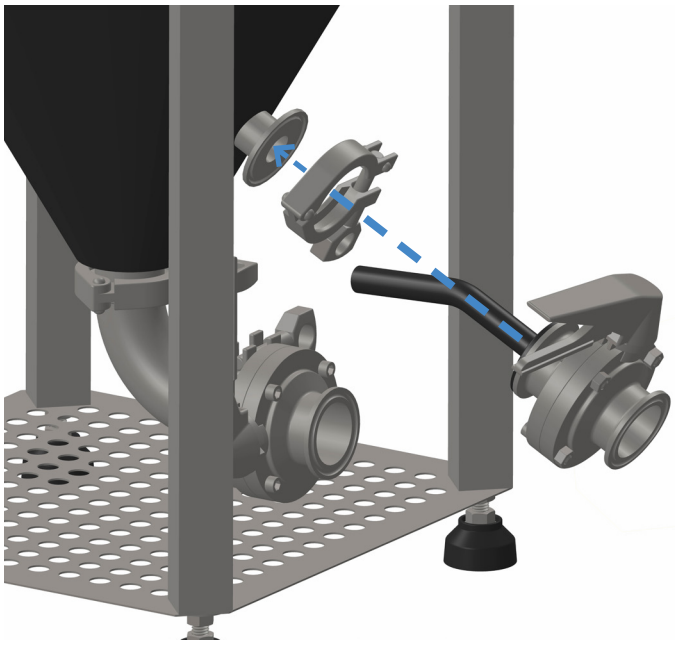


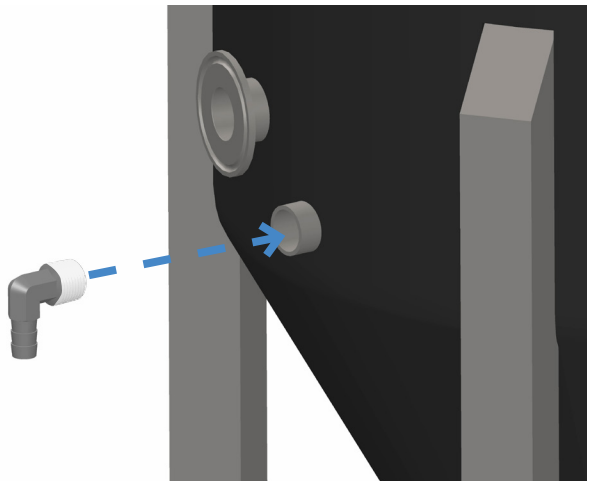
Fig. B

ASSEMBLY (CONTINUED)

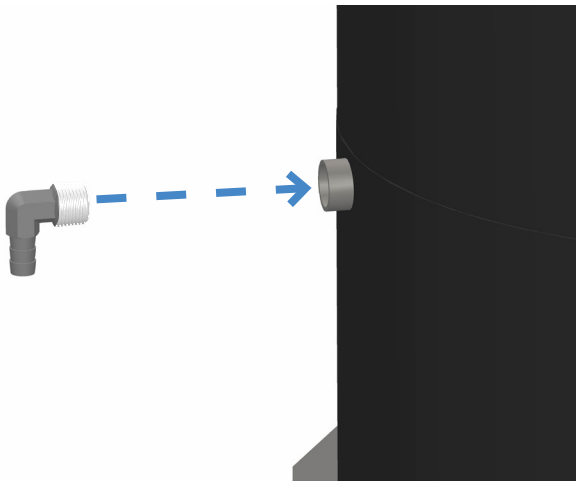
6.Locate the (2) **90° 3/8" NPT to 3/8" Hose Barb**

Using the included **Teflon Thread Tape**, wrap the threads on each of the **3/8" NPT to 3/8" Hose Barb** with about 4-5 layers. Next, hand thread the barbs into the 3/8" NPT ports on the Unitank 2.0. You may use a wrench to help snug these but be careful to not overtighten them.

Note: The lower port is the glycol input and the upper is the outlet for glycol returning to the chiller.



Glycol Inlet
(Lower Port)

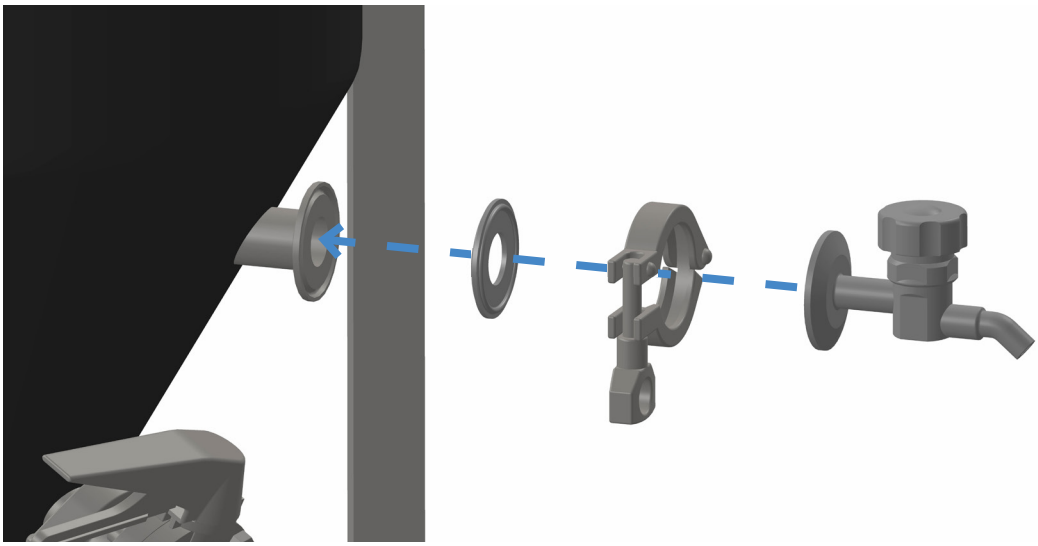


Glycol Outlet
(Upper Port)

7. Locate the **Sample Valve**, **Thermowell**, **Carb Stone**, (3) **1.5" TC Clamp**, and (3) **1.5" TC Gasket (1" ID)**.

Install the **Sample Valve** using a **1.5" TC Clamp** and **1.5" TC Gasket (1" ID)** in the far right 1.5" TC ferrule on the front of the vessel's cone.

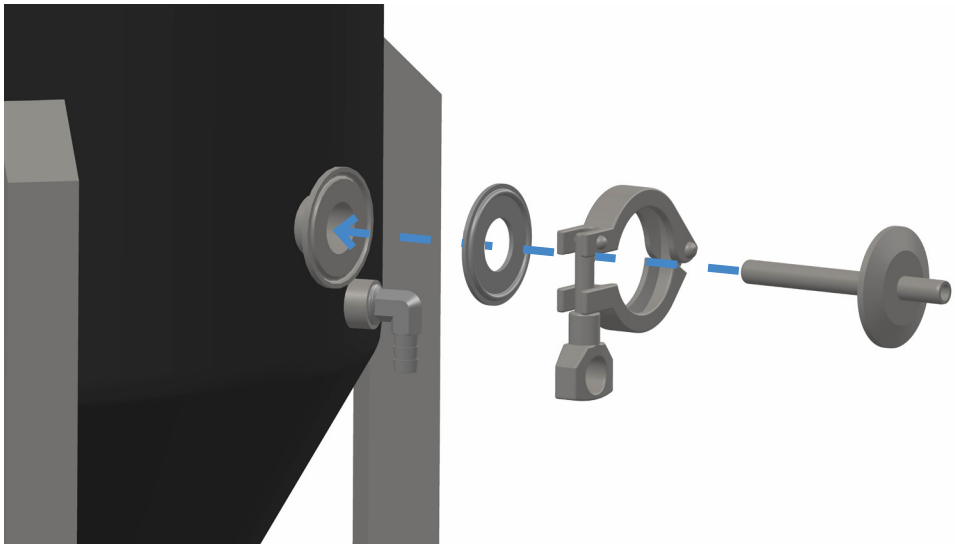
Sample Valve Installation



ASSEMBLY (CONTINUED)

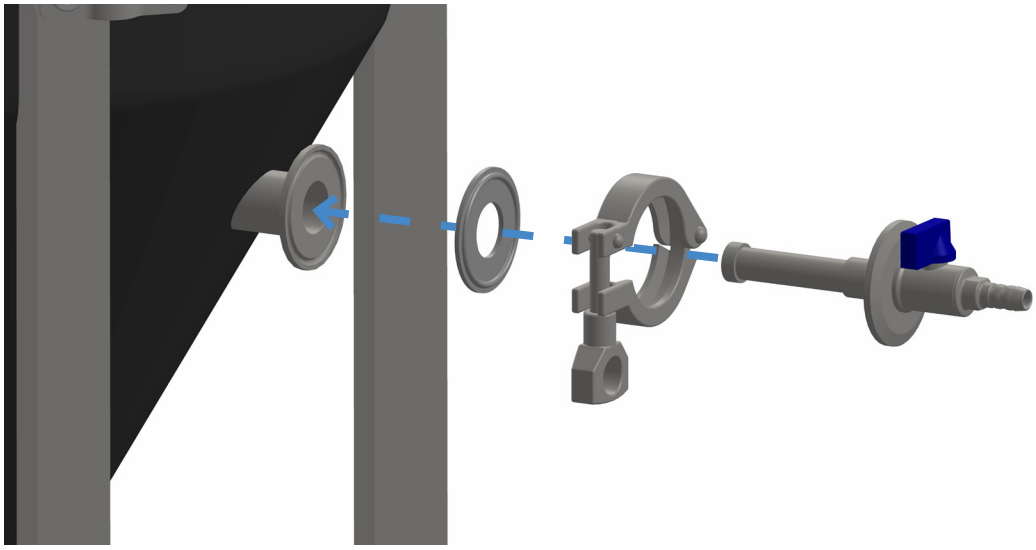
The Thermowell TC port is located on the back side of the vessel in between the glycol ports. Install the **Thermowell** into the port using the same method and the 1.5” TC gasket and clamp.

Thermowell Installation



The Carb Stone port is located on the right side of the vessel on the cone. Install the **Carb Stone** into the port using the same method and the 1.5” TC gasket and clamp.

Carb Stone Installation



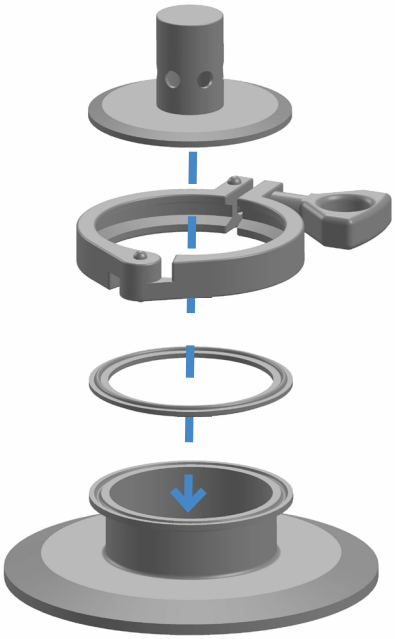
ASSEMBLY (CONTINUED)

8. Locate the **3” TC PRV**, **6” TC Reducer***, **3” TC Clamp**, **3” TC Gasket**, **6” TC Clamp***, and **6” TC Gasket***

Install the **3” TC PRV** onto the 3” ferrule located on top of the Unitank 2.0’s **6” to 3” TC Reducer**. (8” to 3” TC Reducer on the 1bbl Unitank)

Install the TC Reducer Assembly onto the Unitank using the **6” TC Clamp*** and **6” TC Gasket*** *

**8” TC Reducer, 8” TC Clamp, and 8” TC Gasket on the 1 bbl model.*

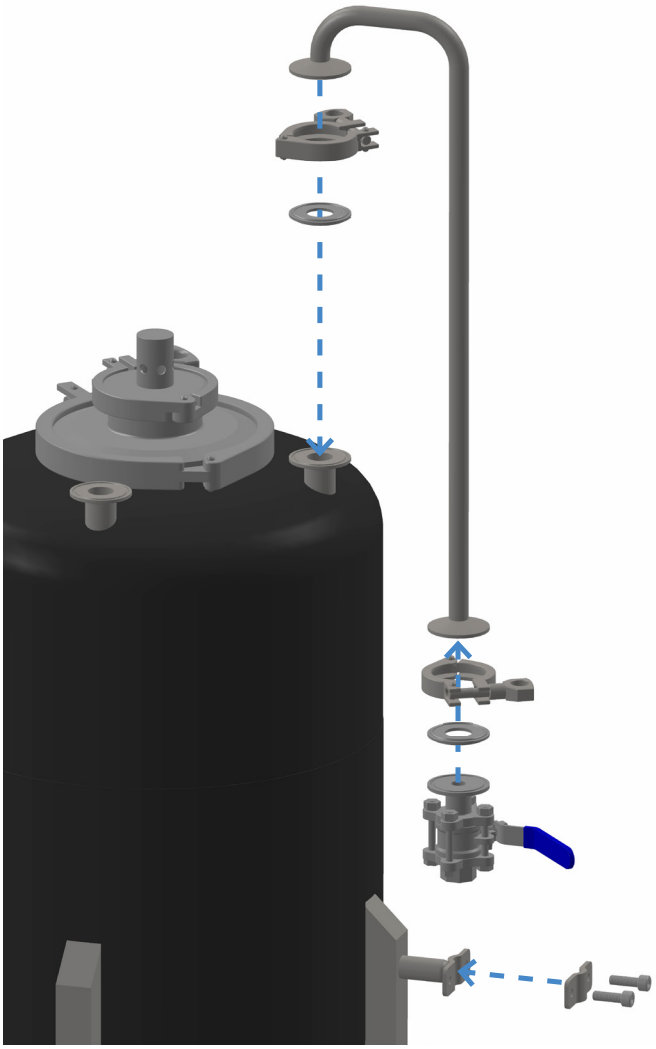


9. Locate the **Blow Off Arm**, **Blow Off Valve**, (2) **1.5” TC Clamp**, and (2) **1.5” TC Gasket (1” ID)**.

First, make sure the Blow Off Arm Mount on the leg of the Unitank is opened by unthreading one of socket cap screws completely.

Next, install the **Blow Off Arm** onto the tank using the TC clamp and gasket. Position the blow off cane so that the arm fits into the arm mount, and then secure the 1.5” TC connection. For a 7 gal Unitank 2.0 specific diagram, please see Page 10.

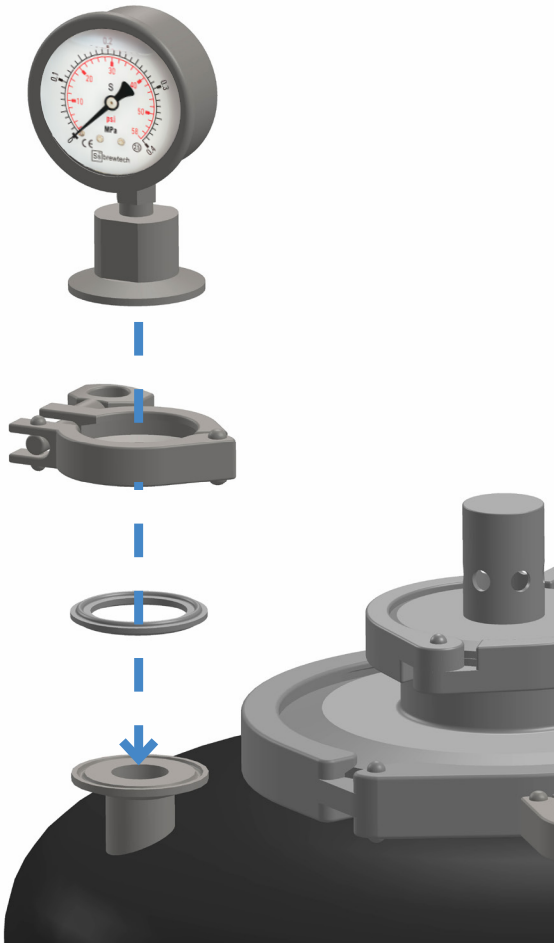
Then, secure the Blow Off Arm into the mount by threading the socket cap screw back into place and hand tightening it down. Next, attach the **Blow Off Valve** to the 1.5” TC flange located at the bottom of the Blow Off Arm.



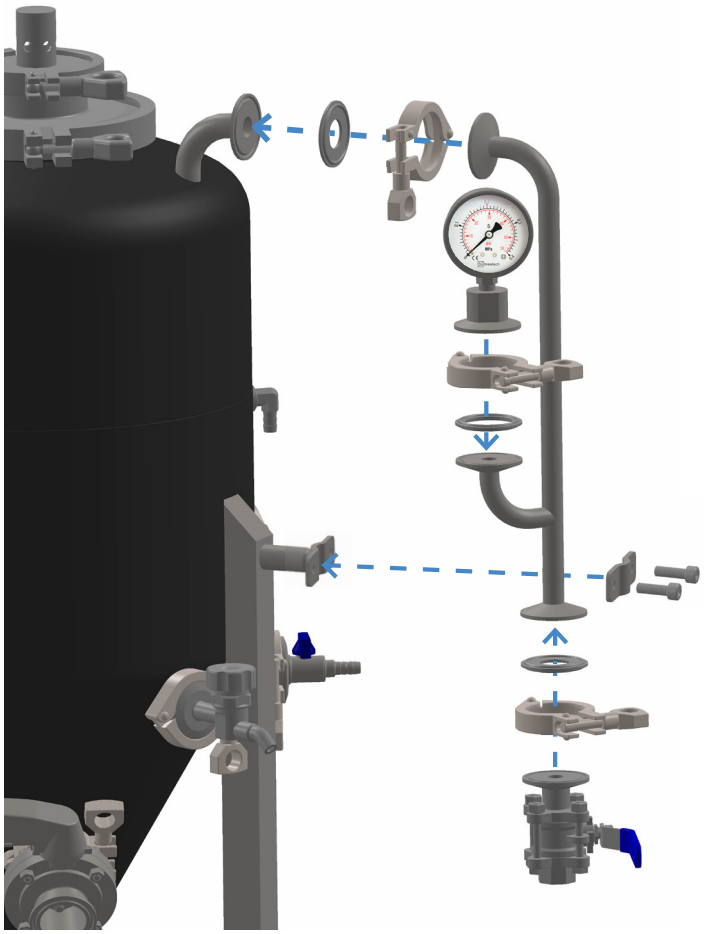
ASSEMBLY (CONTINUED)

10. Locate the **Pressure Gauge**, (1) **1.5” TC Clamp**, and (1) **1.5” TC Gasket**.

Mount the **Pressure Gauge** to the Unitank using the TC clamp and gasket. On the 14 gal, 1/2 bbl, and 1 bbl models, the gauge is positioned on the top left 1.5” TC port. On the 7 gal model, the gauge is positioned on the Blow Off Arm.



Pressure Gauge Installation for 14 gal, 1/2 bbl, and 1 bbl Unitank 2.0



Blow Off Arm and Pressure Gauge Installation for 7 gal Unitank 2.0

OPERATION

VALVES

Unlike ball valves, the butterfly valves included with your Unitank 2.0 fermenter were designed with zero dead space, meaning that there are no crevices for bacteria or yeast to hide. As a result, standard cleaning and sanitation practices should ensure proper operation without complete valve body disassembly

Be mindful that butterfly valves create a much larger fluid passageway than a comparably sized ball valve. As a result, familiarize yourself with how quickly fluid transfers and dump operations occur with water before fermenting your first batch. This will ensure that you don't inadvertently release more liquid than originally intended when operating the valves.

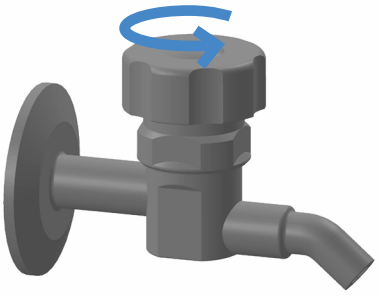
Once the fermenter is cleaned, sanitized, and prepped for fermentation, we recommend orienting the Racking Arm Valve so that the racking arm is pointed down during active fermentation; a clog could ensue if trub and yeast settle into the racking arm's opening. After fermentation is complete, when rotating the butterfly valve to reposition the racking arm in the upward position for kegging or bottling, take care to only loosen the TC Clamp slightly to allow for smooth rotation. Over-loosening the clamp could result in a leak and/or spillage.

Never attempt to reposition any of the Unitank 2.0 TC connections when the vessel is under pressure.

FERMENTATION

The Unitank 2.0 fermenter features a 3" TC Port in the 6" TC Reducer that can operate as a port for our optional clean-in-place (CIP) spray ball or the included Pressure Release Valve. Furthermore, this 3" TC port allows the user to practice some more-advanced brewing practices such as dry-hopping or adding adjuncts without having to remove the entire lid.

We recommend that users pitch yeast or dry hop through the 3" TC port located on the 6" TC Reducer top of the vessel. After ensuring that the tank is not pressurize, simply remove the 3" TC clamp and remove the PRV assembly to add yeast or hops to the beer. Then replace the PRV and secure the 3" TC fitting. Once yeast has been pitched, verify the ball valve on the blow off arm is in the open position. ½" threaded barbs and tubing are available for purchase on our website to divert any blow off material to a nearby blow off vessel.



During active fermentation, the user can monitor the pressure within the vessel with the supplied gauge and take samples for checking gravity using the sanitary sample valve. To operate the valve, rotate the knob counterclockwise to initiate flow and then rotate clockwise to close the valve again. During fermentation, yeast and sediment may settle in the Sample Valve port and can be ejected during sampling so it may be helpful to purge an ounce or two through the valve first and then collect a clear and clean sample. Always rinse and sanitize the valve spout with a spray bottle after taking a sample.

OPERATION (CONTINUED)

TRUB DUMP AND YEAST HARVESTING

Two key features of all Unitank 2.0 are the ability to dump trub and harvest yeast. Once primary fermentation has begun, we recommend that users dump trub using the lower dump valve within the first 48 hours to prevent solidification of break material. A typical trub dump will result in the loss of about 1-2 pints. Keep in mind the 1.5" TC Butterfly valve will allow a lot of fluid to flow so be mindful of this when performing this step

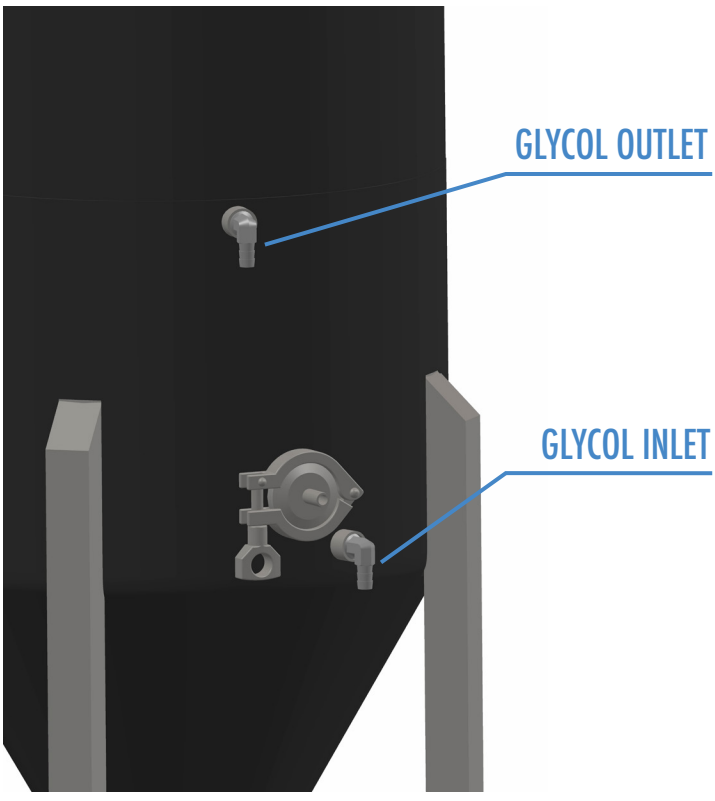
Performing a trub dump will allow you to collect a cleaner sample of yeast once you get to the harvesting step because the majority of the trub has already been removed. There are many different techniques to harvest yeast but for the purpose of this guide, we'll detail a simple but effective way that doesn't require any specialized equipment.

Generally, yeast should be harvested from a conical fermenter toward the end of primary fermentation and up to a day or two after fermentation ends. The longer you wait, the more compacted the yeast cake can become thus making it more difficult to get the yeast to flow during collection. To harvest yeast, place a small, sanitized container under the bottom dump port. Be sure double check your blowoff tube is in a location that won't cause sanitizer to be pulled into your beer.

Next, slightly open the butterfly valve to allow the yeast to slowly flow out the valve and into your container. Note, yeast flows slower than other liquids so be patient. If the valve is opened too quickly or too far, tunneling can occur through the yeast cake which can suddenly overfill your container, create a mess, and prevent you from collecting any more yeast for a period of time. The yeast collected should look creamy and off-white in color with no dark areas or obvious signs of trub.

CRASH COOLING

When liquid is cooled, it will contract and produce a slight bit of negative pressure in the fermenter which could draw sanitizer from the blow off apparatus into the vessel during cold crashing. To minimize this, we recommend introducing a nominal amount of positive pressure supplied through the blow off arm or carb stone to prevent the formation of a vacuum in the tank. Typically, CO2 is used for this step to prevent the introduction of oxygen A vacuum can damage the vessel and cause personal property damage, serious bodily injury, or death.



OPERATION (CONTINUED)

CARBONATING

Since your Unitank comes equipped with a carbonation stone, this allows for carbonation directly in the vessel after fermentation is complete. The stone features fine porous holes that allow the brewer to push CO2 into the Unitank through the stone and create micro bubbles that allow for quicker gas diffusion into the beer.

ATTACHING YOUR GAS LINE:

1. Set up your CO2 tank and regulator assembly near the Unitank. Use a section of gas line that is long enough to reach the barb on the carb stone assembly and connect it to the regular on your tank. Keep the flow of gas turned off for the time being. Go ahead and make sure the blow-off valve on the tank is closed as well.

2. Use some sanitizer on the hose barb to ensure it is clean and sanitary prior to installing the gas line. You may also want to sanitize your gas line.

3. Slide the gas line onto the carb stone's hose barb and secure it with a hose clamp.

4. Open your regulator so some CO2 can flow through the gas line to the carb. We recommend starting with the CO2 tank's regulator set to about 10psi then adjusting as needed from there.

5. Once CO2 is flowing, you can open the valve on the carb stone so CO2 can flow into the tank and you can begin carbonating! You can use the pressure gauge on the Unitank to monitor the head pressure within the tank.

Keep in mind, due to the porous nature of these carb stones, they have a "wetting pressure", which is the minimum amount of pressure required to push gas through the stone. The wetting pressure varies based on stone to stone but is usually in the range of 2-5psi. So, for example, if the wetting pressure on this stone is 5psi, you will need to apply 6psi to achieve a pressure of 1psi in the tank.

If you are using the "low and slow" method of carbonating by setting it to serving pressure and letting it set, you may have to wait between 1 and 3 weeks.

For faster turnaround times, burst carbonation can be helpful for quickly carbonating your beer but it can over-carbonate if you aren't careful. Our recommendation for this process is to set your regulator to 15psi and start flowing CO2 through the stone until the PRV begins to bleed off. Allow this to run CO2 with the PRV blowing off for 2 minutes, then turn of the CO2, wait 1 minute and test, repeat if necessary. DO NOT allow the head pressure in the tank to exceed 15psi. If the included gauge displays a pressure higher than 15psi, this indicates the PRV is stuck and should be serviced before continuing

OPERATION (CONTINUED)

PRESSURIZED TRANSFERS

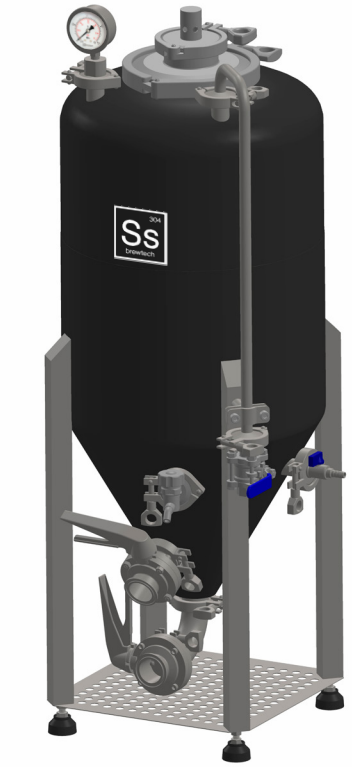
Ss Brewtech does not recommend lifting full or partially full tanks. Tanks should only be moved when they are completely empty. Instead of moving the Unitank for gravity transfers, Ss Brewtech recommends performing pressurized transfers.

Full details on how to perform a pressurized transfer can be found in our Pressure Transfer / Kegging Guide in the link below.

https://www.ssbrewtech.com/pages/guides

On the Unitank, you can hook your CO2 supply on to the blowoff arm valve with a Hose Barb 3/8" to 1/2" MPT fitting. You will just need to provide CO2 tank, regulator, and hose clamps

Typically, only 1-2 psi is needed to transfer beer over to your keg(s). Using pressures higher than 15 psi to transfer fluid from your Unitank may result in damage to your unit or personal injury. Also, keep in mind that transferring to a keg/vessel that is located much higher the fermenter and/or the use of an in-line filter greatly increases the pressure required to transfer the beer. You should never exceed 15psi regardless of the circumstances.



If you have any further questions about your Unitank 2.0, be sure check out our website and take a look at our extensive knowledge base in the Support section. If after searching our FAQs, you still can't find an answer to your specific question, please submit a ticket to our support team.

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