



UNITANK

— NANO SERIES —

WARNINGS

It is very important that once the vessel is empty and ready to be cleaned that the residual pressure buildup is released from the vessel before removing the lid cap. To perform this step, open the sampling valve, and allow all pressure to bleed off before loosening any of the TC connections on the vessel. Failure to do so could cause personal property damage, serious bodily injury, or death.

Never allow a vacuum to form within the vessel. During crash cooling or liquid extraction ALWAYS attach a CO2 system to the vessel and supply an amount of pressure that is less than the rated operating pressure of 15 PSI. Alternatively, open the blow-off cane's ball valve to compensate for liquid contraction. Never attach a diaphragm, vacuum, or centrifugal pump to the vessel without sufficient head venting. Failure to do so could cause personal property damage, serious bodily injury, or death.

Always assume contents are under pressure. This vessel has been designed and tested to conform with widely accepted beer serving and carbonating pressures. Never exceed the pressure threshold of 30 PSI, and never operate the vessel without the PRV in place. Never use the vessel in a manner than is otherwise directed. Always keep out of reach of children.

WHAT'S IN THE BOX?

- Unitank Conical Fermenter
- 8" TC Cap and Chiller Coil Assembly
- 8" TC Clamp
- 8" TC Gasket
- Butterfly Valve - Racking
- Butterfly Valve – Dump
- Racking Arm
- 3" to 1.5" TC Reducer
- 3" TC Clamp
- 3" TC Gasket
- Pressure Relief Valve (PRV)
- 1.5" TC Blow Off Cane
- 1.5" TC to ½" Ball Valve
- 1.5" TC Pro Sanitary Pressure Gauge
- 1.5" TC Pro Sanitary Sampling Valve
- 1.5" TC Thermowell
- 1.5" TC Carb Stone with 3/8" Ball Valve
- (10) 1.5" TC Clamps
- (10) 1.5" TC Gaskets
- LCD Thermometer Assembly
- Neoprene Insulation Jacket
- Stainless Lower Shelf
- 90 Degree Elbow
- 3/8" Threaded Stem Adjustable Feet

STAINLESS STEEL PREP

Pre-Clean: Prior to first time use, thoroughly wash all surfaces of the Unitank, including all valves and fittings, with Tri-Sodium Phosphate (TSP) in hot water, mixed to the manufacturer's recommendations. Scrub with a soft terry cloth, and after the initial TSP wash, rinse thoroughly and dry all surfaces.

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 Unitank with Star San at a concentration of 1 ounce per gallon at 70-80°F for 30 minutes.

Moving forward, for best stainless performance, passivation should be performed at least once a year or anytime you believe you may have inadvertently scratched the surface.

*****Save this Star San solution to perform the pressure testing step covered later in this guide.**

Cleaning and Sanitizing: As part of a regular cleaning regimen, both pre and post-fermentation, wash the interior surfaces of your Unitank with an alkali cleaner such as PBW at a ratio of 0.75 ounce per gallon. Then sanitize with Star San or another acid based sanitizer per the manufacturer's recommendations.

UNITANK SETUP

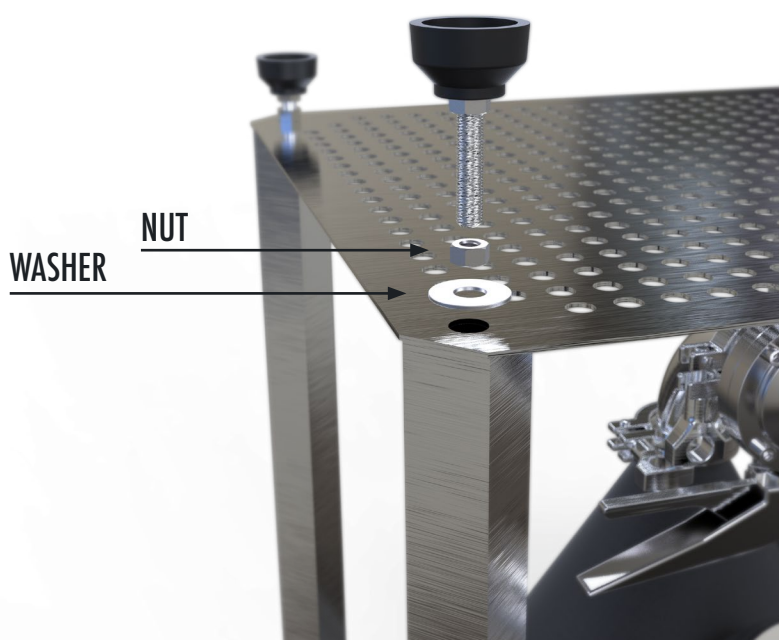
Begin by completely removing the Unitank and all accessories from the box. Remove the installed 8" TC clamp, chiller coil lid cap, and gasket and set aside for later use. Then place the vessel upside down on a flat, stable, non-marring surface. Locate the neoprene insulation jacket from the packaging. Unzip the zipper, and then 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.

Next, with the vessel still upside down, locate the stainless lower shelf and align the lower shelf's pre-punched leg insert holes with the corresponding threaded inserts on the legs. Thread the stem of each of the four adjustable feet into the Unitank's threaded leg inserts. The adjustable feet should be installed with the washer first, so that it sits against the lower shelf, and then the nut as shown. This enables the user to adjust the height of the vessel and then lock the feet in place.

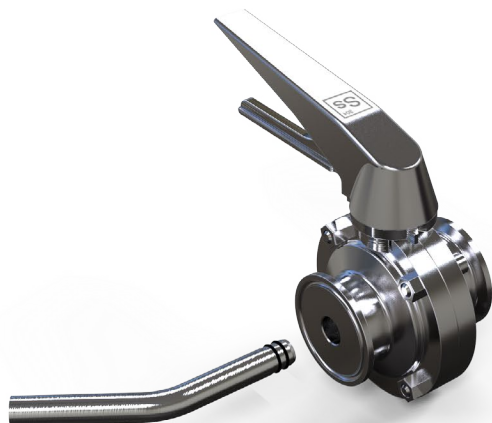
Turn the vessel right side up and place the vessel on the newly installed feet. Locate the (2) butterfly valves, (1) 1.5" TC 90-degree elbow, (3) 1.5" TC clamps, and (3) 1.5" TC gaskets.

Start by installing the included 1.5" TC 90-degree elbow onto the vessel's lower 1.5" TC ferrule, located at the very bottom of the cone.

The Nano Unitank is shipped with two versions of butterfly valves; one racking valve and one dump valve. The racking valve is easily identifiable since it has a smaller diameter inlet machined into the body to accept the racking arm.



Locate the dump valve and install it onto the opposite end of the 90-degree elbow. Next, install the racking arm into the racking butterfly valve as shown. Take note, as a result of tight machining tolerances, always use food-safe lubricant or Star San when inserting the racking arm into the racking valve. Additional spare O-rings (and other supporting / related parts) are available for purchase on our website.



Finally, once assembled, feed the racking valve and arm assembly into the 1.5" TC ferrule located just above the dump valve assembly and secure it with a TC clamp and gasket.

Installing the Carb Stone, Sampling Valve, and Thermowell:

Begin by locating the sampling valve, carb stone valve assembly, and thermowell, along with (3) 1.5" TC clamps and (3) 1.5" TC gaskets. Beginning with the carb stone valve assembly, when facing the Ss Brewtech Logo on the front of the Unitank, install the carb stone using a TC clamp and gasket in the far left 1.5" TC ferrule on the vessel's cone. Take care to not touch the carb stone itself with your hands, even the natural oils on your skin can clog the 0.5 micron pores of the stone.

NOTE ON CARB STONE CARE: If your carb stone becomes clogged for any reason, a concentrated Star San solution (like that used in the passivation process) can help clear up the carb stone's pores. Another common method for cleaning the carb stone is to boil it in water for approximately 20 minutes to remove any oils or buildup that have accumulated on the surface.

Next, locate the sampling valve, and install it into the far-right port opposite the carb stone, using the same method described above. Lastly, locate the thermowell, and install it into the center port using the same method.

Once the thermowell is in place, install the included batteries into the LCD thermometer. To do this, slide the back cover off and install the two button cell batteries in the proper orientation (you'll see a + and – sign on the inside of the thermometer that correspond to the terminals on the batteries). Then install the LCD assembly into the included silicone boot. Lastly, feed the thermoprobe into the thermowell, and seat the silicone boot as close to the thermowell's TC flange as possible.

Installing the Blow-Off Cane, PRV, and Pressure Gauge: Begin by locating the blow-off cane, 1.5" TC to ½" Ball Valve, Pressure Gauge, PRV, 1.5" TC to 3" TC Reducer along with (4) 1.5" and (1) 3" TC Clamps and (4) 1.5" TC and (1) 3" TC Gaskets.

Next, remove the (2) socket cap screws securing the blow-off arm mount that's welded on the Unitank's leg. When looking at the vessel, attach the blow off cane to the 1.5" TC ferrule located on the right of the Unitank's domed top, which corresponds to the arm mount. Position the blow off cane so that the arm fits into the arm mount, and then secure the 1.5" TC connection along with the mount with the (2) socket cap screws. Next, attach the 1.5" TC Ball valve to the 1.5" TC flange located at the bottom of the blow off arm.

When looking at the Ss Brewtech logo on the front of the vessel, attach the pressure gauge to the 1.5" TC ferrule located on the left of the Unitank's domed top.

Next, install the 1.5" to 3" reducer to the 3" ferrule located on the backside of the vessel's domed top. Then attach the PRV to the 1.5" TC flange on the reducer.

Finally, reinstall the 8" TC gasket, Chiller Coil Lid Cap, and 8" TC clamp to the vessel's center lid opening. The Nano Series Unitank is now fully assembled and ready for pressure testing and use.

PRESSURE TESTING

Once all fittings have been installed, it is mandatory that the vessel be leak tested prior to first use. As noted in the Passivation section, in interest of not being wasteful, we recommend using the Star San solution that was mixed for passivation. Begin by closing all valves, and filling the Unitank up to at least the 1.5" TC ferrules located on the cone, then install the lid cap using the TC lid gasket and TC lid clamp. Tighten the TC lid clamp firmly so there is no chance of leaks.

Pressurize the vessel with CO₂ to standard operating pressure of 15 PSI +/- 1 PSI. Over the next few hours, monitor the vessel closely for liquid leaks from any of the installed fittings. If there is evidence of a leak, reseal and retighten the fitting. If there is no evidence of Star San leaking from the vessel, the fittings below the liquid level are now ready for service. Open the dump butterfly valve to release pressure and drain the Star San solution.

If there is fluid inside the Unitank that you don't want to drain and you need to relieve some pressure, very gently turn the ball valve on the blow-off cane until the desired amount of pressure is released.

As a result of pressurizing the vessel while it contains Star San solution, which will absorb CO₂, the vessel will need to be pressure tested once more to insure the lid cap fittings are also not leaking. Empty the Unitank completely, and pressurize the vessel once more with CO₂ to 15 PSI +/- 1 PSI. Monitor the lid cap pressure gauge over the next few hours, if you see pressure fall by more than 3 PSI, remove and re-seat the lid cap fittings. If no pressure is lost, then the vessel is ready for service, open the dump butterfly valve to release pressure.

OPERATION

Once the fermenter is cleaned, sanitized, pressure tested and prepped for fermentation, we recommend that you orient the racking arm so that it is aligned opposite to the butterfly valve's squeeze trigger, as shown. Moreover, insure that the racking arm is pointed sideways or down during active fermentation; a clog could ensue if trub and yeast settle into the racking arm's opening.

As a best practice to avoid contamination, we recommend users fill the fermenter with wort from the bottom up using the dump valve. When attempting to fill the unit, always make sure the ball valve located on the blow off arm is open to release head pressure. 1.5" TC to ½" and 1" hose barbs are available for purchase on our website for both the racking and dump butterfly valves.

It is also good practice to purge the tank with CO₂ before filling. In order to purge the vessel, close all valves and seal all openings with their respective fittings or caps. Then open the ball valve on the blow-off cane and connect your CO₂ line to the carbonation stone. Set your regulator to approximately 2PSI and allow CO₂ to flow through the tank for about a minute. Then turn off your CO₂ supply and close the blow-off vane valve until you are ready to begin filling the vessel.



The Unitank's carb stone can double as an oxygenation stone, however, you will need to convert your oxygen regulator's output to a 3/8" hose to interface with the carb stone's ball valve. Once the wort is thoroughly oxygenated, we recommend pushing a small amount of CO₂ through the carb stone to purge any remaining oxygen in the valve assembly. This will prevent the risk of any oxidation when the user carbonates post-fermentation.

We recommend that users pitch yeast or dry hop through the 3" TC port located on the domed top of the vessel. Simply remove the 3" TC clamp, and remove the reducer and PRV assembly to add yeast or hops to the beer. Then replace the reducer and secure the 3" TC fitting.

Once yeast has been pitched ALWAYS verify the ball valve on the blow off arm is in the open position. 1/2" 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 lever so that it is parallel with the sampling valve outlet port. To close the valve, rotate the lever perpendicular to the sampling valve outlet port.

Trub Dump and Yeast Harvesting: Two key features of the Unitank 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. Typical dump rates usually result in the loss of 1-2 pints. Before dump operation, make sure to disengage your airlock to prevent Star San from getting drawn into the vessel as a result of a vacuum forming.

Thereafter, once fermentation is nearly complete, a cleaner yeast sample can be harvested once the majority of trub has been removed. To harvest yeast, begin with a small sanitized container, and then samples can be taken from either the dump valve or racking valve as long as the racking arm is orientated in the downward position.

Once primary and secondary fermentation are complete, and BEFORE the vessel is pressurized, the user should rotate the racking butterfly valve to reposition the racking arm in the upward or sideways position for kegging or bottling. Take care to only slightly loosen the tri-clamp on the racking butterfly valve 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's TC connections when the vessel is under pressure!

CRASH COOLING

When liquid is cooled, it will contract, which could draw sanitizer from the blow off apparatus into the vessel during cold crashing. For users operating the vessel with a glycol system to crash cool their beer before packaging, we recommend a nominal amount of positive pressure supplied through the carb stone to prevent the formation of a vacuum. Alternatively, the blow off apparatus should be removed, and the blow off cane ball valve should remain open during cold crashing to keep the vessel at atmospheric pressure. A vacuum can damage the vessel and cause personal property damage, serious bodily injury, or death.

CARBONATING

Since your Unitank comes equipped with a pressure gauge, you can monitor the head pressure of your beer juxtaposed your regulator output. This gives the user a safe way to burst carb, or quickly carbonate in under 24 hours.

To use the burst carb method, attach a length of 3/8" tubing to the Unitank's carb stone port, secure it with a hose clamp. Then set your regulator output to 20 PSI. Open the carb stone valve, and begin carbonating. Pay close attention to the PRV, if it releases pressure your regulator is set too high and should be turned it down to avoid venting CO2. Take care to monitor the head pressure closely, since you will want to turn down regulator pressure when the head pressure registers the desired amount of CO2 volumes, or 10-14 PSI. Users not interested in using the burst carb method, often called the "low and slow" method, can set their CO2 regulator to their desired output pressure and wait for the head pressure to equalize over time.

PRESSURIZED TRANSFERS AND KEGGING

For users that want to utilize their CO2 system to perform a pressurized transfer, you can use the included blow-off cane ball valve. Most users will require a reducer barb to convert their regulators 5/16" or 3/8" output to the ball valve's 1/2" barb input. A detailed write up and parts list is available on our website in the FAQ section.

Begin by setting the CO2 system's regulator pressure to match the head pressure reading on the Unitank's pressure gauge. Next, run a length of tubing from the CO2 regulator to the 5/16" or 3/8" side of the reducer fitting. Then another length of 1/2" tubing from the reducer assembly to the blow-off cane ball valve. Finally, run a length of sanitized tubing from the Unitank's racking valve to a freshly cleaned and sanitized keg using one of the fittings described below:

Those using Sanke Kegs, should use a 1.5" TC to 1/2" Barb fitting on their Unitank's racking arm that will interface with their Sanke filler head.

Those using Corny Kegs, should use a 1.5" TC to 1/4" Male Flare fitting on their Unitank's racking arm that will interface with their Corny Keg's liquid-out quick disconnect fitting.

Both TC fittings are available for purchase on our website.

Finally, open the racking valve and allow beer to flow into the keg. Once full, modulate the flow of beer using the Unitank's racking valve.

SERVING

The Unitank can also be used as a serving vessel. Once your beer is carbonated and ready to serve, there are several accessories available to connect your Unitank to a draught system. For users that utilize 3/16" beer line and standard 1/4" flare swivel nut assemblies, we offer a 1.5" TC to 1/4" Male Flare fitting available on our website that will allow you to connect the vessel directly to a draft tower or picnic tap.

USE THE FOLLOWING WITH CAUTION:

Stainless steel scrubbing pads or Scotch-Brite pads. If used too aggressively, abrasive pads can damage the surface and/or finish of the stainless.

Oxalic Acid cleaners such as Bar Keeper's Friend, Kleen King, or Revere Ware Stainless cleaners 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 pin holes 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.

If you have any further questions about your Unitank go to our website and take a look at our extensive knowledgebase in the Support section. Over the years it has become a treasure trove of information. If after searching our FAQs, you still can't find an answer to your specific question, please submit a ticket to our support team.

