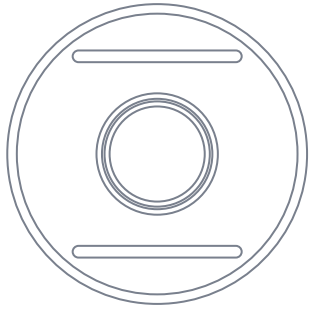




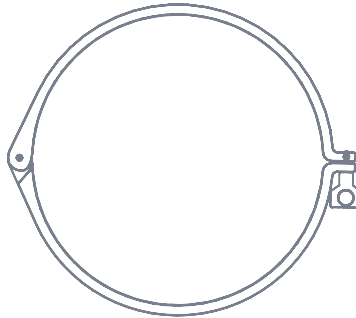
ENGINEERING BETTER BEER

Jacketed Unitank

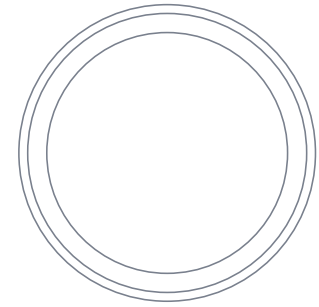
JACKETED UNITANK



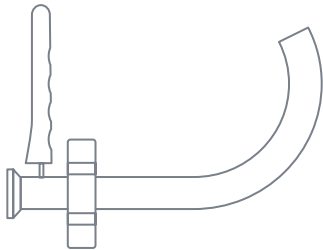
(1) 8" or 12" TC Lid Cap w/ 3" Combination Dry-hop, PRV, and CIP Port (Spray Ball sold separately)



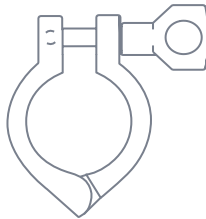
(1) 8" or 12" TC Lid Clamp



(1) 8" or 12" Lid Gasket



(1) DIN Nut Rotatable Racking Arm w/ 1.5" TC Port



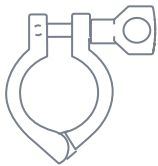
(1) 3" TC Clamp



(1) 3" TC Gasket



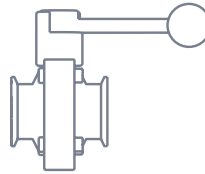
(1) 1.5" TC Blow-Off Arm



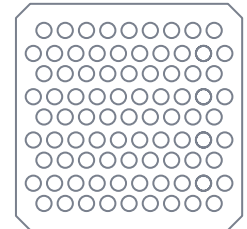
(10) 1.5" TC Clamp



(10) 1.5" TC Gasket



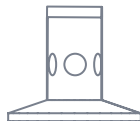
(3) 1.5" TC Butterfly Valves



(1) Stainless Lower Shelf



(4) Threaded Stem Adjustable Feet



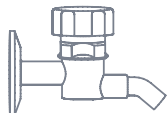
(1) 3" TC Pressure Release Valve (PRV)



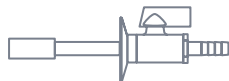
(1) 1.5" TC Pro Sanitary Pressure Gauge



(1) 1.5" TC Analog Temperature Gauge



(1) 1.5" TC Perlick Style Sampling Valve



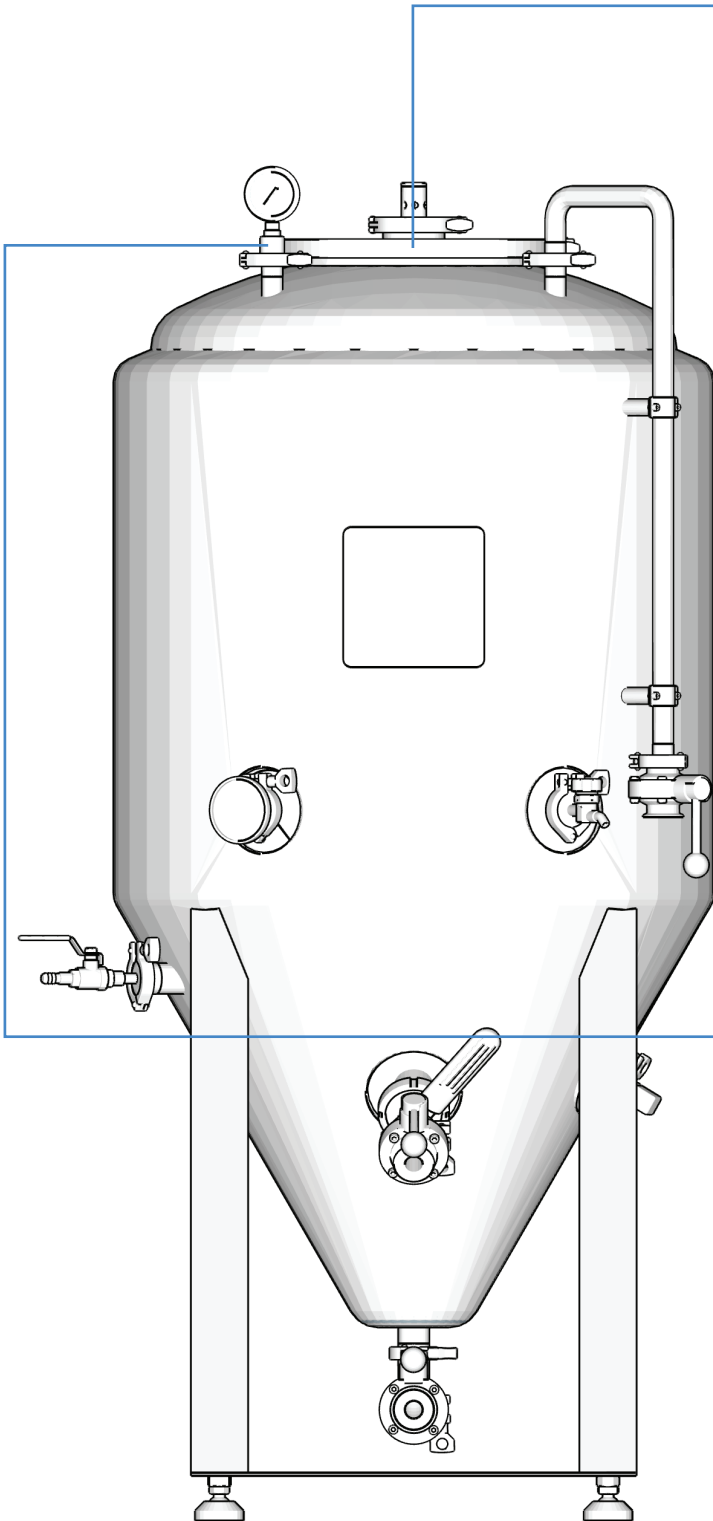
(1) 1.5" TC Carbstone w/ 3/8" Ball-Valve



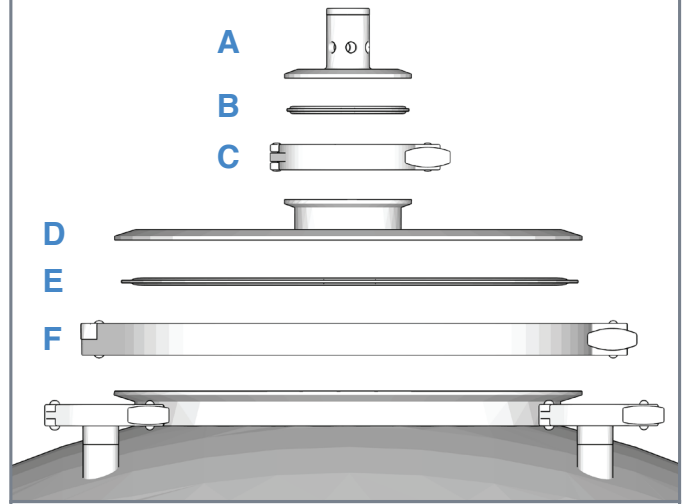
(1) 1.5" TC PT100 Thermoprobe

***NOTE: Certain features come preinstalled on the vessel for shipping purposes, some assembly is required.**

TANK FEATURES & ASSEMBLY



TC LID CAP W/ COMBINED 3" DRY HOP/ PRV/CIP PORT



A - 3" TC Pressure Release Valve (PRV)

B - 3" TC Gasket

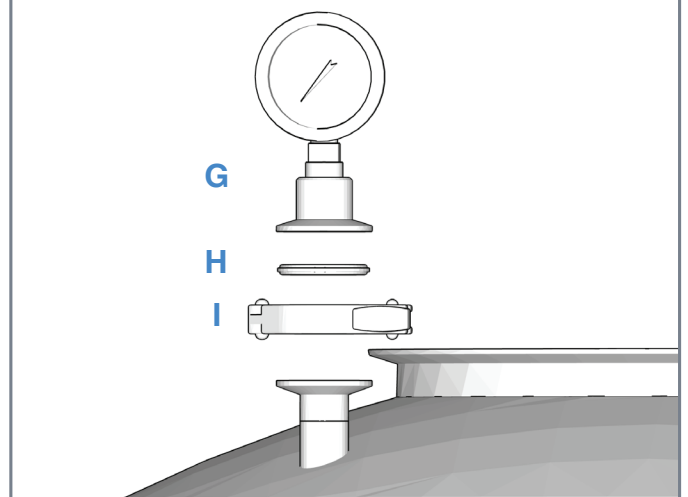
C - 3" TC Clamp

D - 8" or 12" TC Lid

E - 8" or 12" TC Lid Gasket

F - 8" or 12" TC Lid Clamp

1.5" TC PRESSURE GAUGE

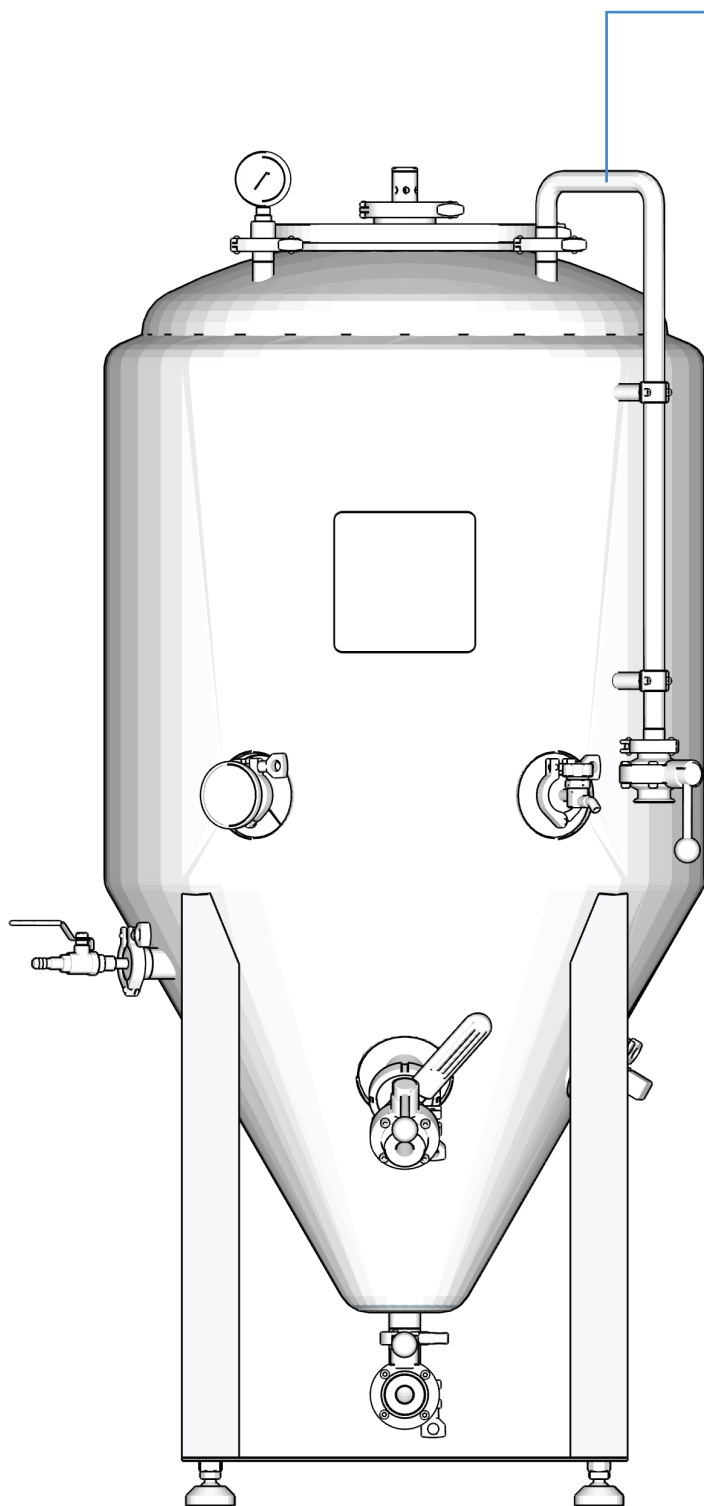


G - 1.5" TC Pro Sanitary Pressure Gauge

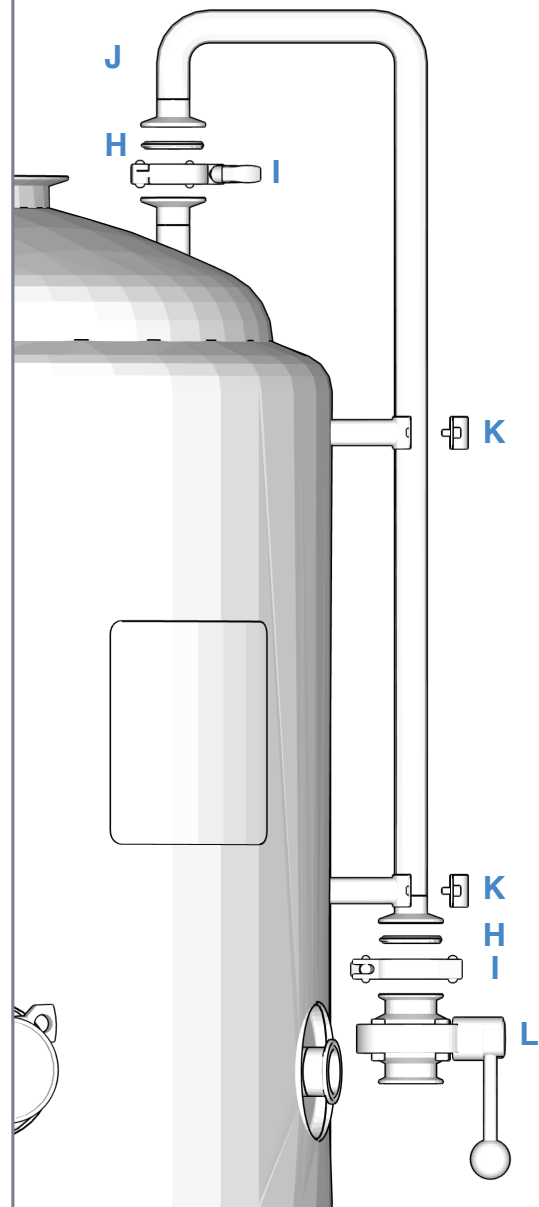
H - 1.5" TC Gasket

I - 1.5" TC Clamp

TANK FEATURES & ASSEMBLY



1.5" TC BLOW-OFF ARM W/ BUTTERFLY VALVE



J - 1.5" TC Blow-Off Arm

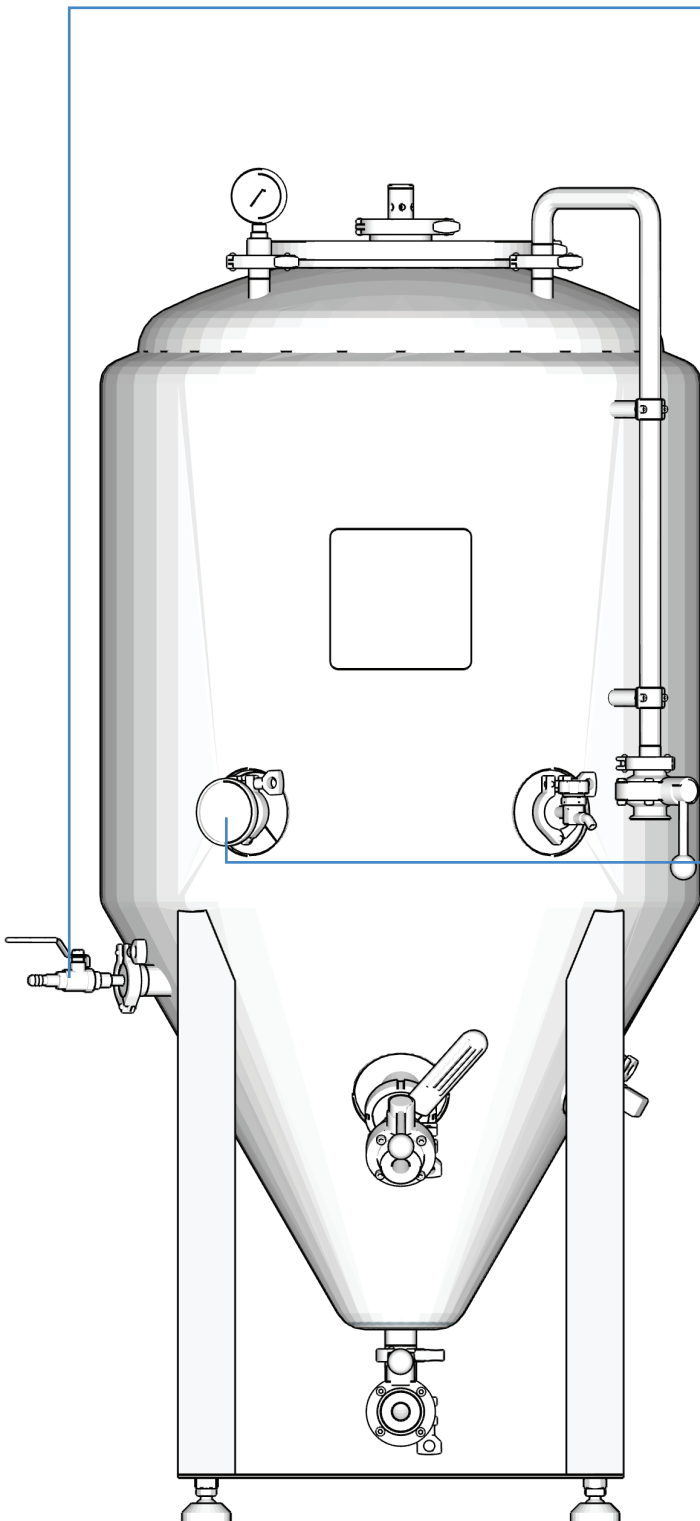
H - 1.5" TC Gasket

I - 1.5" TC Clamp

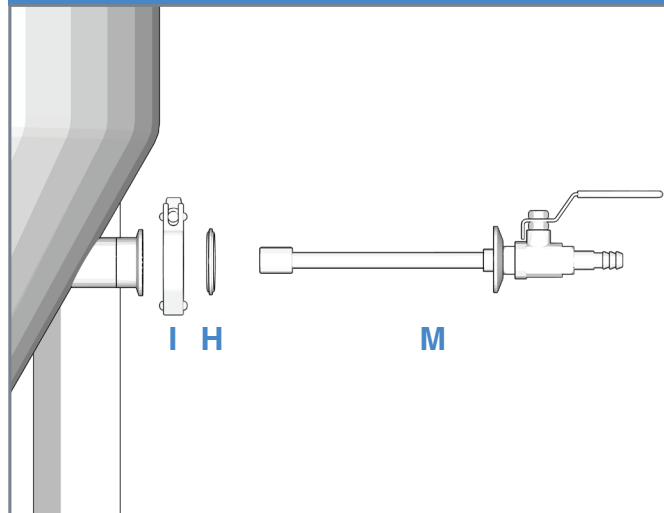
K - Clamp

L - Butterfly Valve

TANK FEATURES & ASSEMBLY



1.5" TC CARBONATION STONE WITH 3/8" BALL-VALVE

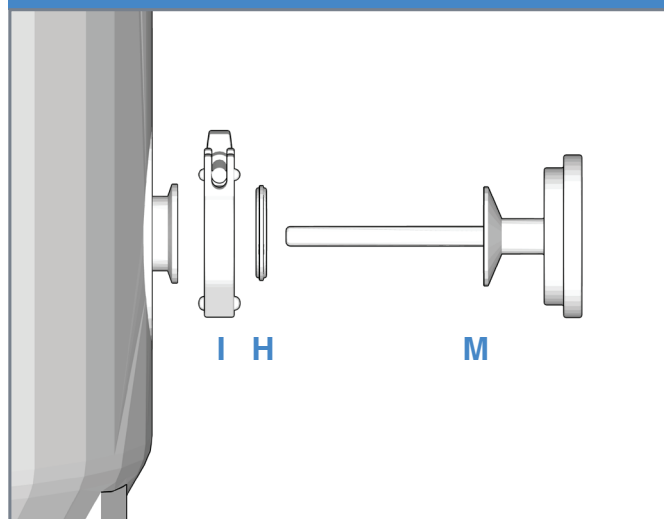


M - 1.5" TC Carbstone w/ 3/8" Ball-Valve

H - 1.5" TC Gasket

I - 1.5" TC Clamp

1.5" TC ANALOG TEMPERATURE GAUGE

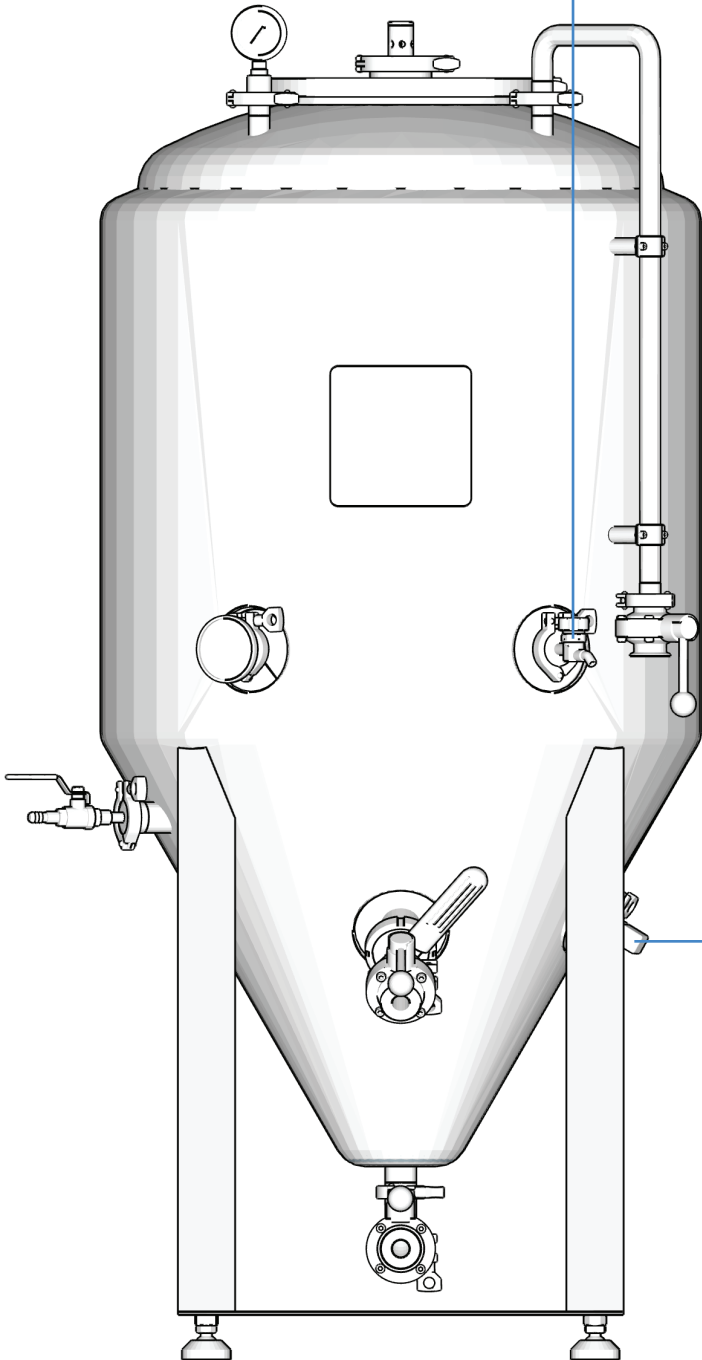


M - 1.5" TC Analog Temperature Gauge

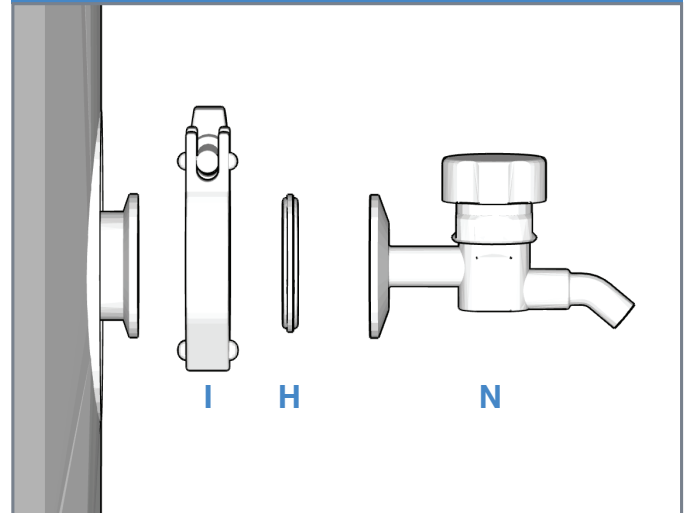
H - 1.5" TC Gasket

I - 1.5" TC Clamp

TANK FEATURES & ASSEMBLY



1.5" TC PERLICK SAMPLE VALVE

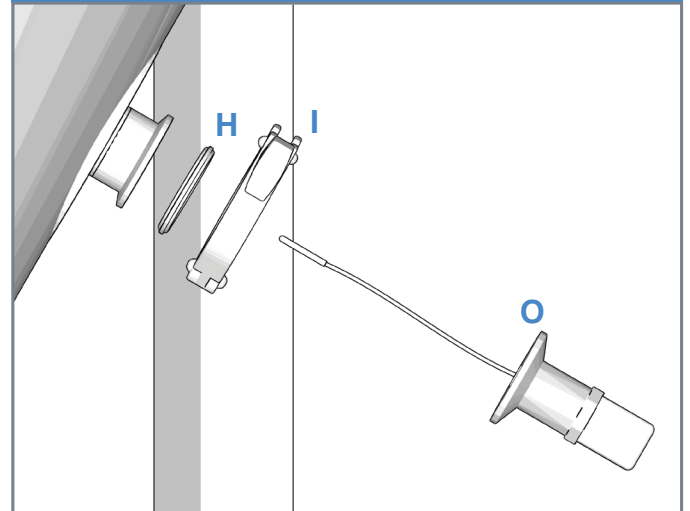


N - 1.5" TC Perlick Style Sampling Valve

H - 1.5" TC Gasket

I - 1.5" TC Clamp

1.5" TC THERMOPROBE

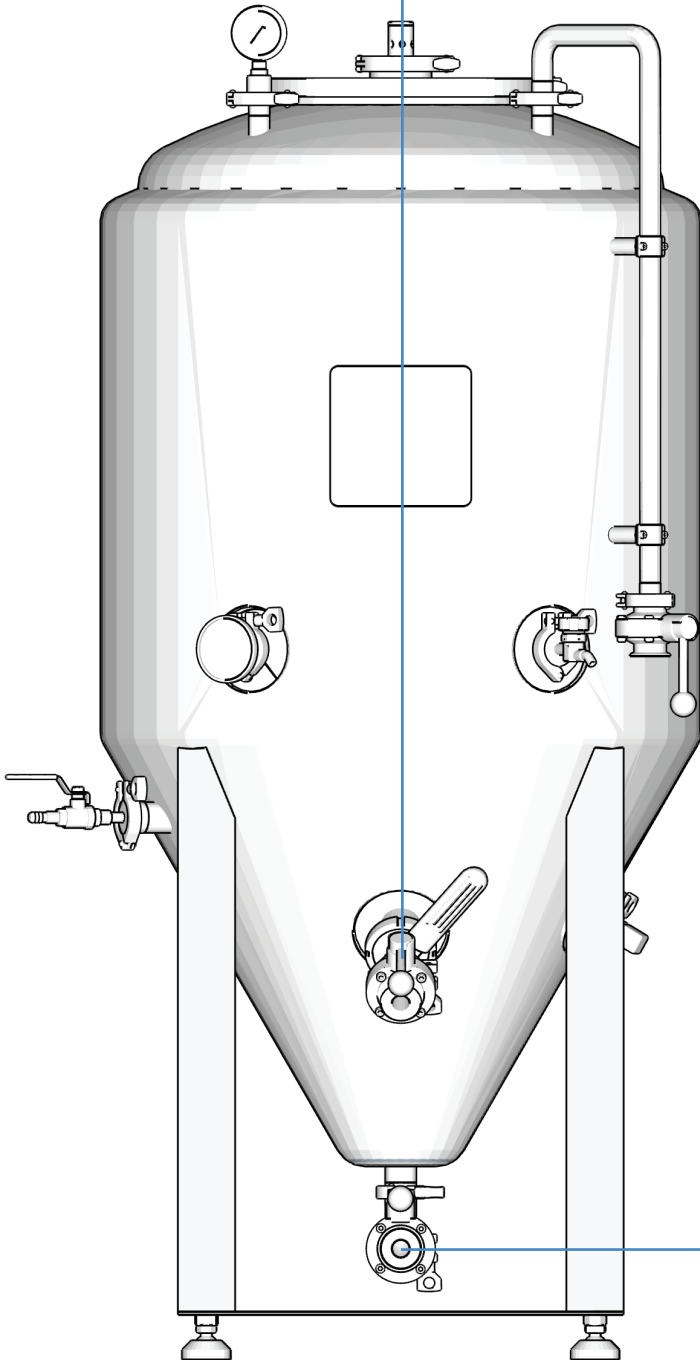


O - 1.5" TC Thermowell / Probe

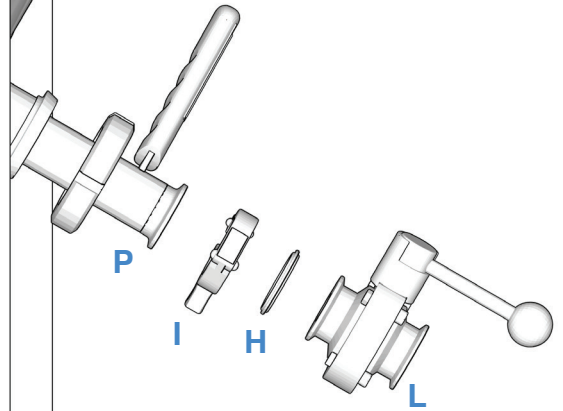
H - 1.5" TC Gasket

I - 1.5" TC Clamp

TANK FEATURES & ASSEMBLY



ROTATABLE RACKING ARM



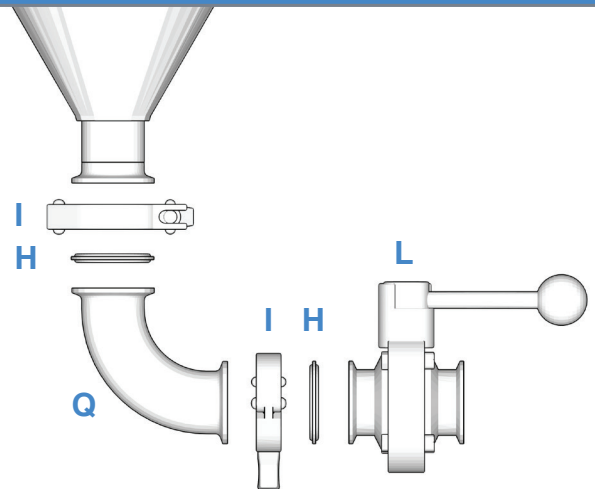
L - 1.5" TC Butterfly Valve

H - 1.5" TC Gasket

I - 1.5" TC Clamp

P - DIN Nut Rotatable Racking Arm w/ 1.5" TC Port

1.5" TC BUTTERFLY DUMP VALVE



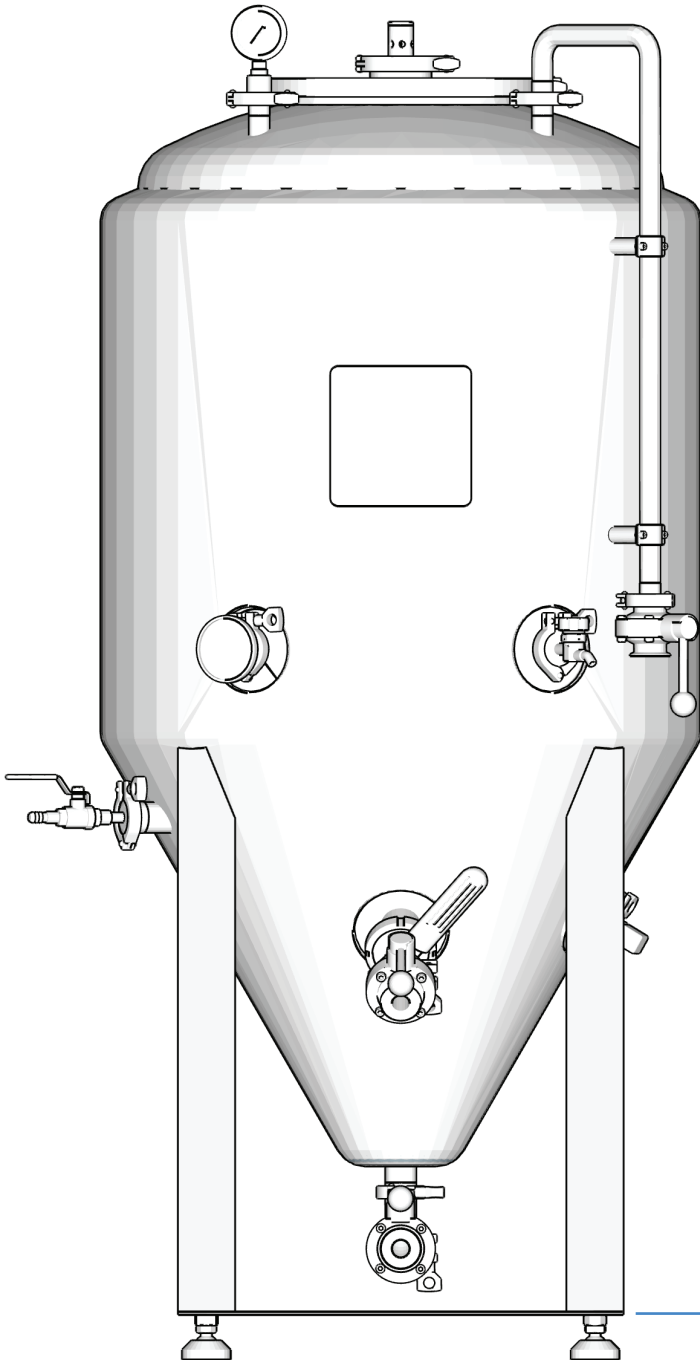
L - 1.5" TC Butterfly Valve

H - 1.5" TC Gasket

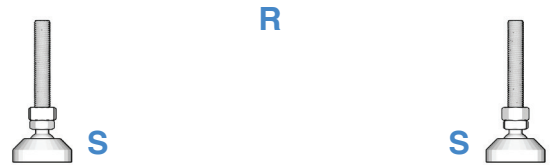
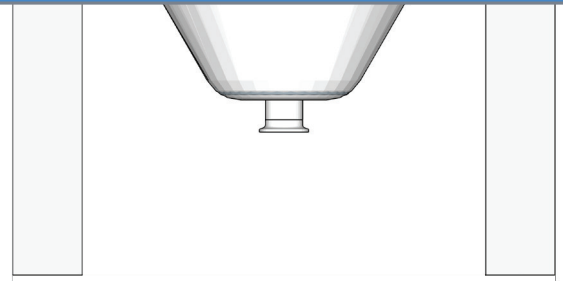
I - 1.5" TC Clamp

Q - Elbow

TANK FEATURES & ASSEMBLY



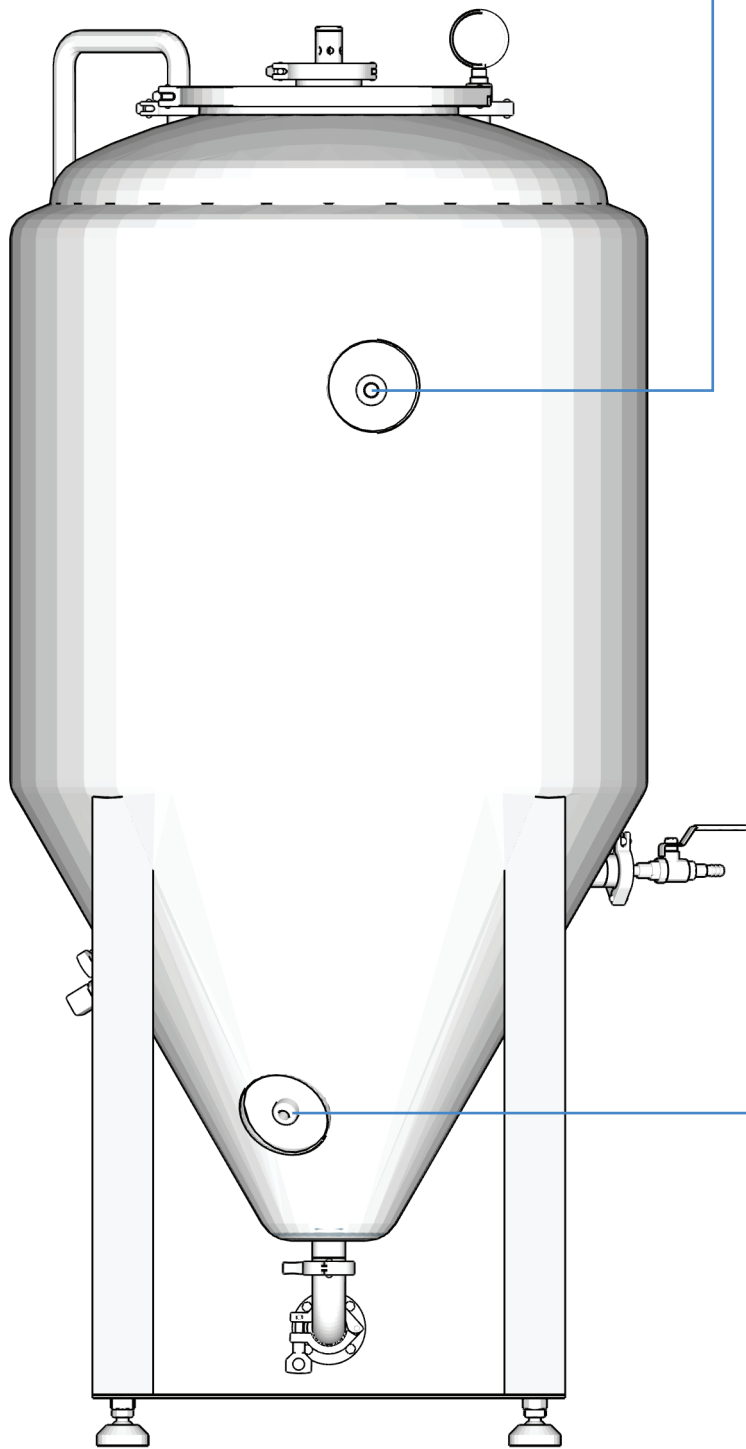
STAINLESS STEEL SHELF & FEET



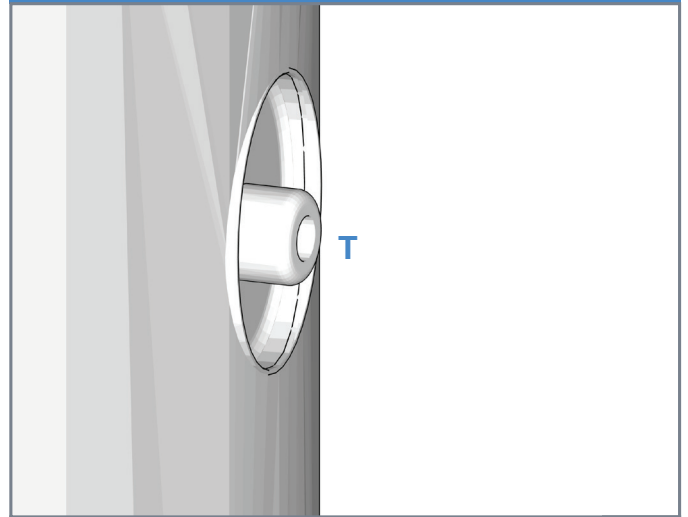
R - Stainless Steel Shelf

S - Threaded Stem Adjustable Feet

TANK FEATURES & ASSEMBLY

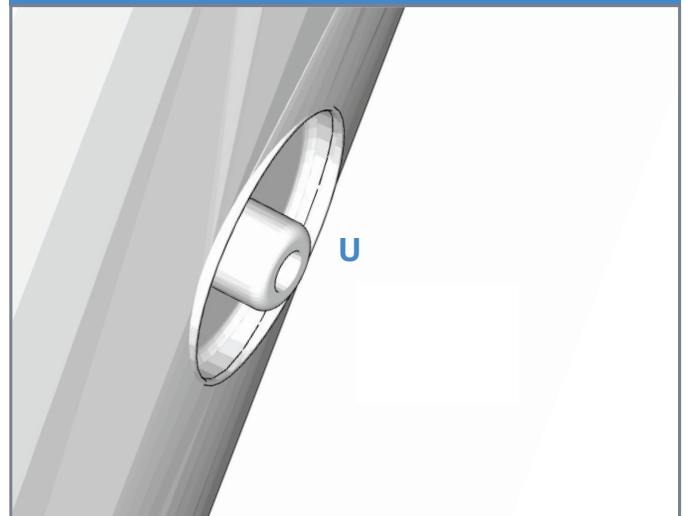


1/2" NPT GLYCOL RETURN LINE PORT



T - 1/2" NPT Glycol Return Line Port

1/2" NPT GLYCOL SUPPLY LINE PORT

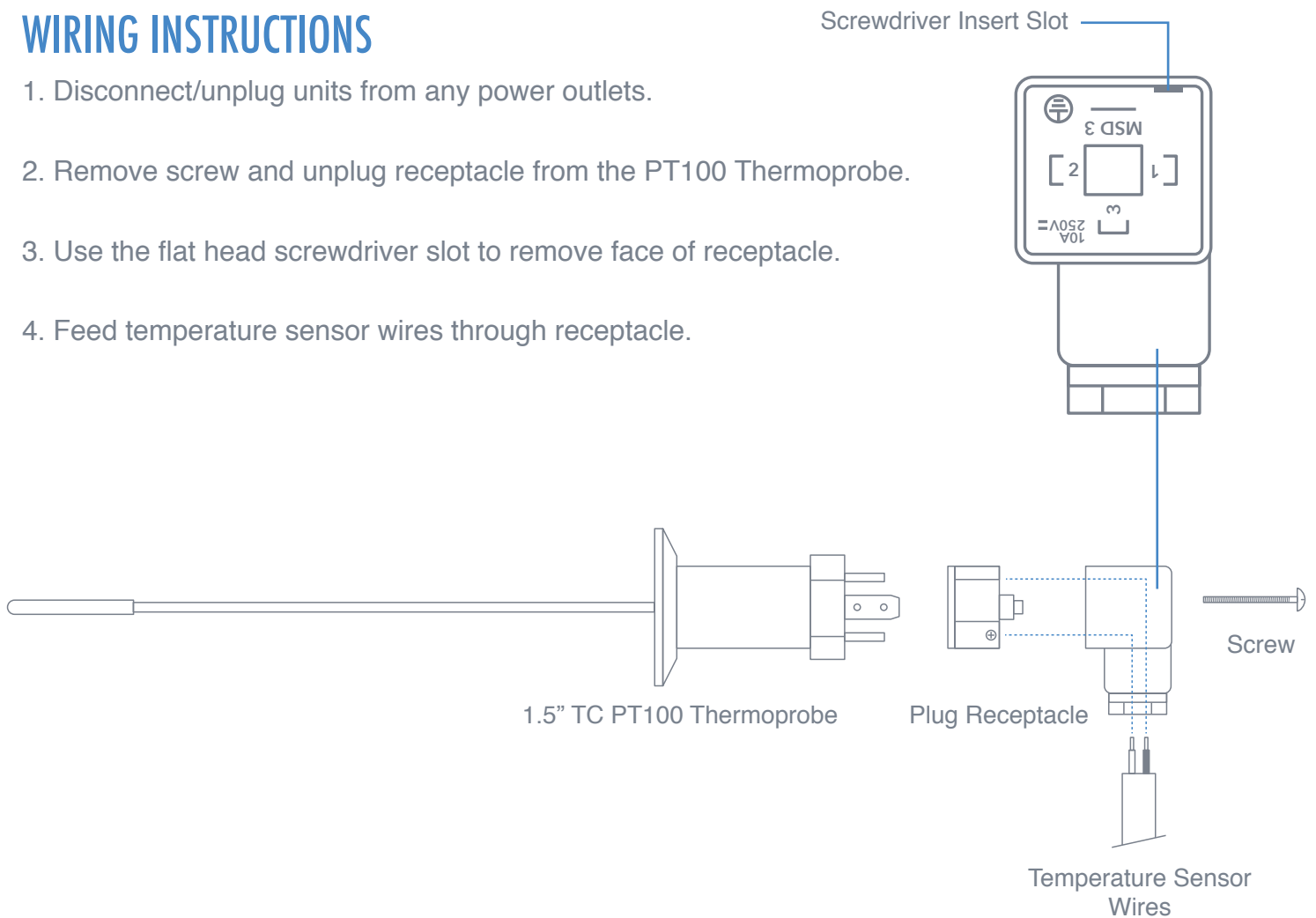


U - 1/2" NPT Glycol Supply Line Port

PT 100 THERMOPROBE

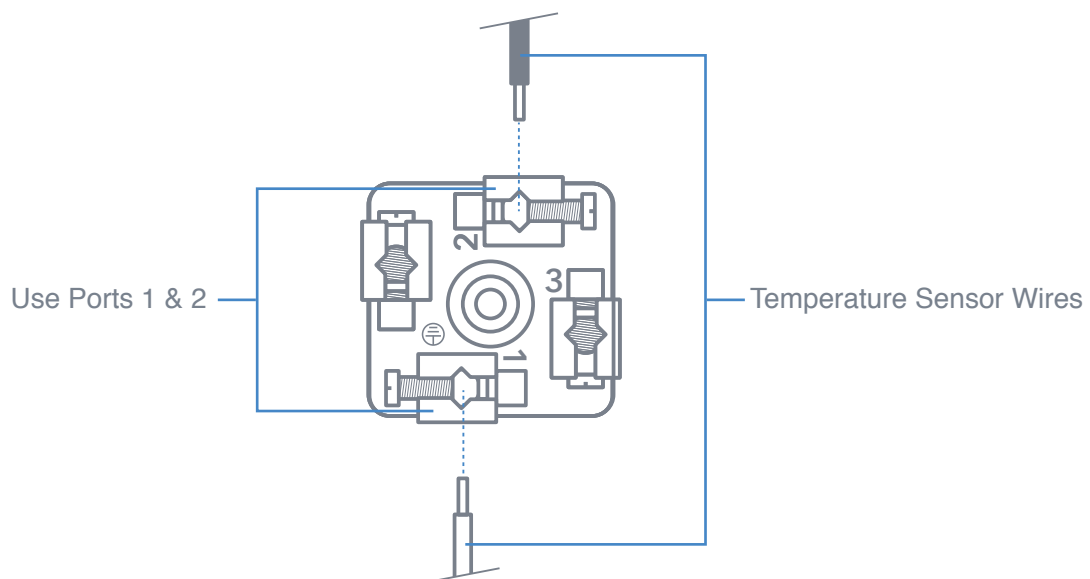
WIRING INSTRUCTIONS

1. Disconnect/unplug units from any power outlets.
2. Remove screw and unplug receptacle from the PT100 Thermoprobe.
3. Use the flat head screwdriver slot to remove face of receptacle.
4. Feed temperature sensor wires through receptacle.



5. Loosen set screws marked 1 and 2 and feed one temperature sensor wire into one of the ports. There is no polarity, so either wire can be used in either port (one wire per port). Tighten set screws to secure wires in place.

6. Reinstall face plate into plug receptacle and plug back in to the PT100 Thermoprobe. Secure assembly with screw.



WARNING

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.

PRESSURE / LEAK TESTING

After assembling your Unitank, we recommend a pressure / leak test before introducing any chemicals for cleaning or product to the vessel. To do so, simply fill the vessel with enough water to cover the lower ports then seal up the vessel by closing all valves. Next, introduce head pressure through the blow-off arm. We recommend the full operating load of 15 PSI for testing purposes. Check for leaks over the course of a few hours and take note of any gaskets or TC clamps that may need to be adjusted or tightened. Once testing is completed, carefully vent the tank by slowly opening the butterfly valve on the blow-off arm.

PASSIVATION

Contrary to popular belief, stainless steel is not truly stainless. It is corrosion-resistant, but not corrosion-proof. The ability of stainless steel to resist corrosion is dependent upon its protective oxide layer. This layer must be periodically re-introduced by cleaning the stainless steel to remove any iron and surface contaminants and allowing the surface to react with oxygen in the atmosphere. We recommended passivation of your tank upon delivery, as well as setting a routine schedule for re-passivation. Your basic procedure would be to clean the vessel with an acid solution (nitric, phosphoric, citric, etc.) to remove iron or other contaminants from the surface of the stainless steel, then lightly rinse and allow to air dry so that oxygen can react to form the protective oxide layer. We recommend contacting a chemical provider to obtain the best practices for passivation of 304 stainless steel based on the chemical being used.

CALIBRATING YOUR THERMOMETER / THERMO-PROBE

Before use, it is important to ensure that your analog thermometer and PT100 thermo-probe are properly calibrated and consistent with one another. There are several ways of calibrating a thermometer and thermo-probe, but the simplest way is to use an ice-water mixture. When you insert your thermometer and/or thermo-probe into an ice-water mixture, they should read 32° F (0° C). There is a small screw on the back of the analog thermometer that can be adjusted to correct for error, if any. Set an off-set on your digital controller temperature readout to correct for any thermo-probe error.

***NOTE:** In order to use your PT100 thermo-probe, you will need some type of digital temperature controller. We recommend our FTSS Pro Modular Temperature Controller for ultimate compatibility. The FTSS Pro Modular Temperature Controller and user guide can both be found at www.ssbrewtech.com.

CLEANING AND SANITIZING: CIP

In simplest form, the basic principle of a vessel CIP (clean in place) is to recirculate a mixture of water and cleaning agent from the bottom of the vessel up through the spray ball of the vessel using an external pump in a continuous loop. This is accomplished by hooking up a hose from the trub dump port to the inlet of the pump, and from the outlet of the pump to the CIP spray ball (spray ball sold separately). This will allow you to pull fluid from the cone of the tank and push it up through the spray ball, where it will cascade down the inner walls of the vessel and collect back into the cone creating a continuous loop.

WARNING

Be sure to use **EXTREME** caution anytime you are working with chemicals, high temperatures, and pressure. Improper CIP procedures can lead to property damage, bodily injury or even death if not performed properly and with the utmost attention to safety!

ACID-BASED CLEANSERS

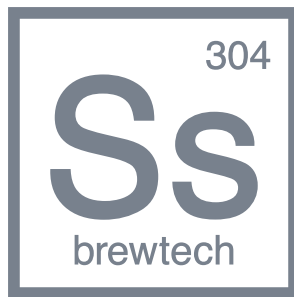
Acid-based cleaners are best for removing hard water deposits, “beer stone” and other inorganic matter. In many cases, the acid-based cleaning agent may be the same chemical you use to passivate (see section on Passivation). While acid-based cleaners are generally used less often than alkaline-based cleaners, it is important to set a routine schedule for cleaning with acid to keep the tanks polished and passivated and heat-exchange surfaces free of fouling deposits.

ALKALINE-BASED CLEANSERS

Organic soil loads are most effectively cleaned using an alkaline cleaning agent. PBW (Powdered Brewery Wash) has become the go-to cleaning product for many homebrewers. It is relatively safe to use, and effective on light-medium soil loads. Professional breweries on the other hand tend to use some type of non-chlorinated caustic for cleaning purposes. Caustic is far more powerful but must be handled with **EXTREME** care, as exposure to skin can cause severe burns. It is important that the caustic solution is non-chlorinated, as chlorine can cause pitting to stainless steel.

SANITIZER

It is important to remember that cleaning and sanitizing are separate but equally important processes. Before filling, you must sanitize your Unitank (and any lines or fittings that will come into contact with your product) to ensure microbial stability of your product. StarSan has become quite popular amongst the homebrew crowd based on its effectiveness and safety toward humans and the environment. Saniclean, much like StarSan, is relatively safe, easy to use, and a low-foaming option compared to StarSan which may be better for pump driven CIP's. In the professional brewing industry, paracetic acid tends to reign supreme as the chemical of choice. Paracetic acid, or PAA, is low-foaming, effective, and relatively easy on the wallet. That said, PAA is much more dangerous chemical and must be handled with care.



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