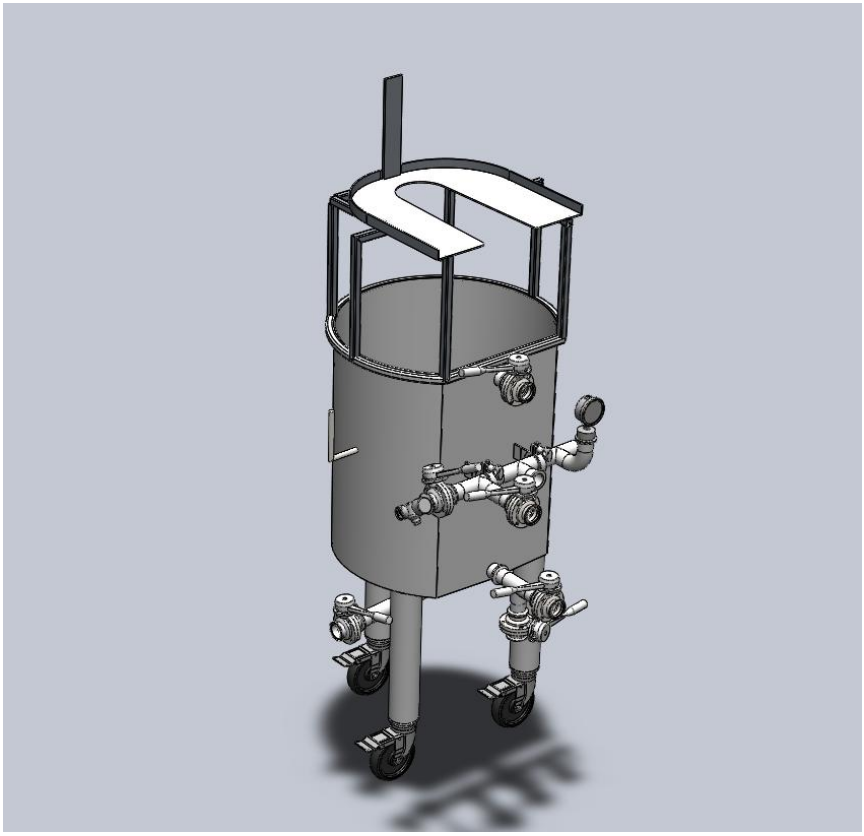
FORGEWORKS
Crafted in Colorado
Brewhouse and Cellar Vessels

4:1 Grant/Hop Back/CIP/Keg Washer $4350

Equipment Description

This equipment is a four-purpose auxiliary brewing tank on wheels. The four functions of the unit are as follows: Grant, Hop Back, CIP Remote Reservoir and Single Keg Washer. The unit will improve on Tom's Hennessy's do-it-yourself keg cleaner manifold design by adding safety features like pressure and flow regulators, as well as a fully plumbed manifold that can be operated completely by adjusting butterfly valves. This product is intended to serve smaller brewpubs who may be washing on average only 5 kegs in one session and who do not need or want a $10,000 keg washer. It also adds lots of functionality to the standard 20 gallon Forgeworks Brewer's Grant (including a 30gallon capacity).

The Wort Grant has a shape designed to greatly reduce the vortex effect when used for remote CIP.



Grant

-Inlet: Plumbed from mash tun drain
-Outlet: plumbed back to mash tun vorlauf port, later to kettle inlet

At Forgeworks, we are big believers in using grants. There are a lot of good reasons, no real disadvantages. We recommend them because they eliminate the risk of pulling a vacuum under the false floor of the mash tun, they allow you to do some filtering of the wort during vorlauf with a basic mesh strainer set in front of the inlet, and they allow you to get eyes on the wort without needing in-line sight glasses. Use of a grant, can open up the opportunity to eliminate the need for a VFD on your pump cart, or Flow Meter. When a brewery is coming together on a tight budget, and you are needing to make crucial decisions on what equipment you can start with, and what can be added later, investing in a grant is a solid decision.

Our grants have evolved over the years, we used to buy used Half Kegs and cut them in half, rigorously clean them up, and install a couple ports....but those were not large enough for ease of use and low to the ground (no legs), they were $300. Then we came out with the $1800 12 Gallon Grant, which solved the problem of the usable height issue and capacity as a grant for all the system sizes we make, but we received comments that if you wanted to use it as a remote CIP unit, the basin volume was too small for 7-15bbl brewhouses. This was great feedback, but it also was combined with the fact we didn't offer a keg washer or hop back product. As our first step toward better solutions, we came out with a 20Gallon grant, which is now our standard, solving the CIP basin issue. The 20 Gallon Grant is priced at $2200 and serve two functions.

Single Keg Manual Washer

For many brewpubs, you don't have anyone washing 30 kegs in a day, and repeat that once a week, it's more like 1-5 kegs, maybe once a week, and the kegs are typically refilled a relatively short time, and stored inside the climate controlled brewery until filled. So the $7,000-$10,000 two-cycle (acid and sanitizer) keg washers that have an automated cleaning cycle seem a quite pricey for something you don't use all that often. That said, this new 4:1 piece of equipment was born out of all of that. A primitive but user-friendly piece of equipment, with four important functions.

Although this unit is capable of both cleaning cycles (rinse/acid and sanitizer), they are performed separately. The sanitizing cycle may not be needed given your breweries volume versus keg inventory and keg filling intervals. As stated above, running just the initial rinse then acid cycle would be appropriate if the cleaned and empty kegs are refilled in a short amount of time, and are stored inside the climate-controlled brewery. Should the sanitizer cycle be needed in the case of prolonged storage (inside or outside) of the kegs without refilling, you can run the sanitizing cycle separately from the rinse and acid cycle.

<u>Keg Washing Features:</u>

- Gas Backflow check system – so that hot water cannot accidentally get sent up the gas line towards the CO2 tank in the brewery
- Hot water inlet pressure regulator – so that if the keg outlet was not open, the keg could only fill with a max of 35 psi of water pressure
- Gas inlet pressure regulator, maximum of 25psi
- Keg rack on the keg washer unit to accept all sizes of kegs,and is removable for the other functions of the equipment.

- Keg rack is designed to hold kegs steady, preventing the keg from slipping off the rack horizontally, and vertically.

Keg Washing Steps:

1. Fill keg washer basin with hot water and acid #6, 120-140 deg, 1 oz per gallon, 15gal total volume
2. Tap keg with Sanke fitting, first ensuring both valves connected to Sanke fitting are closed
3. Invert keg onto keg washer (so it sits upside down)
4. Direct gas end of Sanke fitting (keg outlet) to brewery floor drain
5. Open both valves on Sanke fitting
6. Turn on hot water to rinse keg, 30 seconds of rinsing
7. Turn off hot water
8. Allow rinse water to drain from the keg. Throttle CO2 in valve to help push rinse water out of keg
9. After fully drained (you can hear gas spraying at the end), redirect the keg outlet/gas end of Sanke into the keg washer basin to complete CIP loop
10. Open keg washer, drain to pump line
11. Prime brewery pump
12. Turn pump on
13. Open pump valve leading back to manifold, throttle butterfly valve until manifold gauge reads 15 psi
14. Cycle CIP solution through keg for 3 mins – set timer
15. Shut pump off and immediately close outlet valve to prevent loss of prime
16. Allow CIP solution to drain back into reservoir, throttle CO2 to push out all liquid
17. Redirect keg outlet to brewery floor drain
18. Perform 3 rinse cycles using the hot water in, 5 seconds, 25 seconds, 25 seconds, to rinse out all CIP solution, throttling CO2 in at the end of each rinse to push all liquid out of the keg
19. Optional – if a sanitizer cycle is needed, run all dirty kegs through steps 1-18 with acid solution, then repeat steps 1-18 with basin full of sanitizer instead of the acid #6 solution. This step is recommended if kegs are to sit in an uncontrolled environment for long periods of time, but not necessary if they are consistently dispensing beer.
20. Close exhaust/gas valve on keg
21. Pressurize keg to 12 PSI in the keg by opening CO2 in valve
22. Flip keg right side up to empty the liquid in the spear, allow to drain to bottom of keg for 5 seconds
23. Invert keg again, allowing liquid to drain back to the outlet
24. Throttle the Sanke gas valve (outlet of keg) to spray out remaining liquid inside. This results in an empty, pressurized keg. When throttling the outlet valve, only open for less than a second, you don't want to lose the pressure, just enough to spray out any remaining liquid
25. Remove Sanke fitting from the keg and spray the top with sanitizer solution
26. Apply a keg cap to identify it as clean and ready to accept beer

Hop Back

Insert the included mesh filter basket, pack dry hops and pass wort through hops, use the upper inlet port when running the hop back function. Designed as a Hot Side Hop Back, use during boil or whirlpool process. This is not a pressurized method, such as a Hop Torpedo or Cannon, which is used after fermentation.

CIP Remote Reservoir

Fill CIP3O unit with CIP cleaning solution and use as a CIP reservoir in-line with pump and vessel that needs to be cleaned. 30 Gallon Capacity.