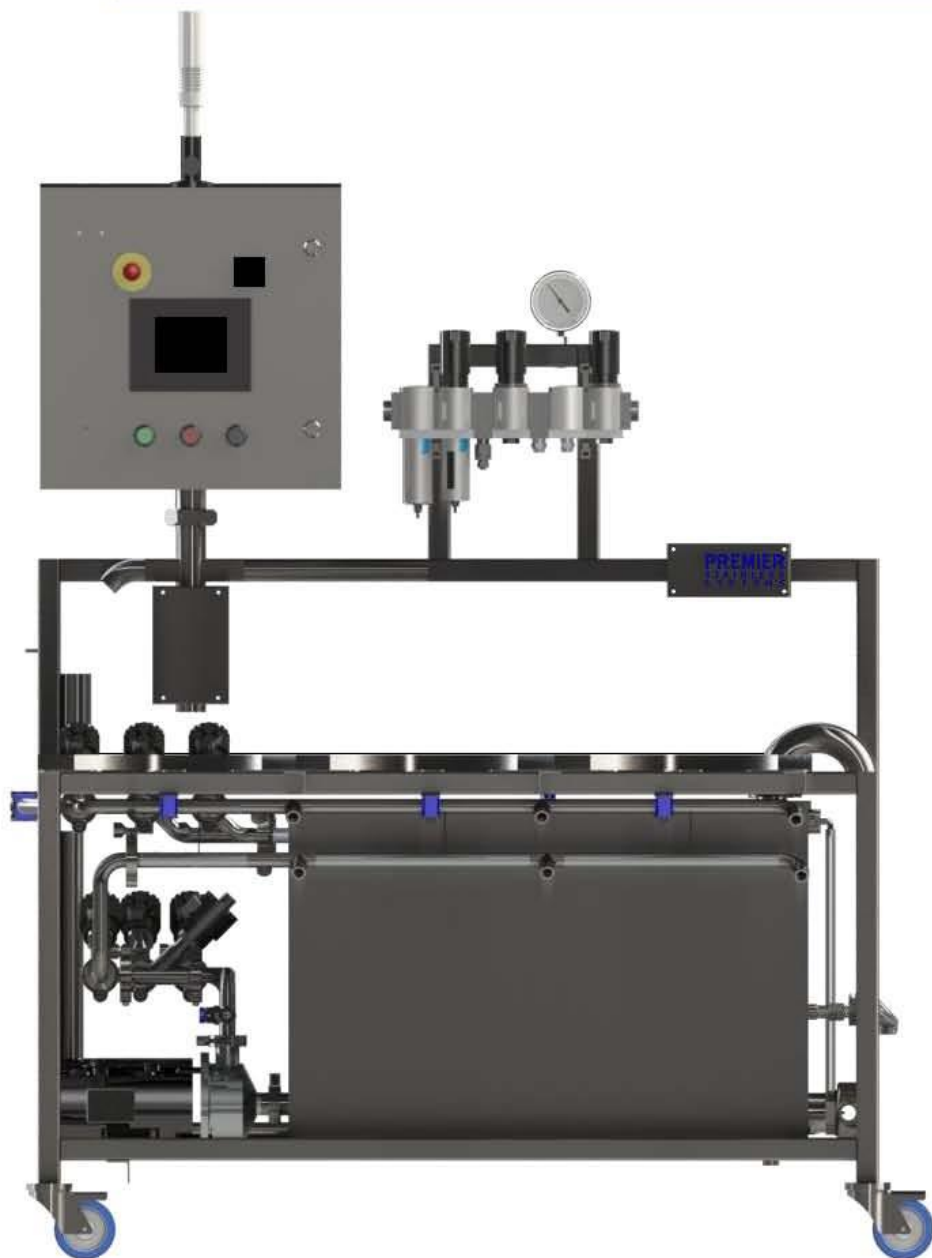




PREMIER
S T A I N L E S S
S Y S T E M S

Operations Manual

Model KW-SA-3V-CS-XXX-XP-A



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Version 5 Revised 12-2018

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1. Introduction

1.1. Overview

The **Premier Stainless KW-SA-3V-CS-XXX-XP-A** is an efficient, easy to use, versatile keg washer for even the smallest pub or microbrewery. Up to three straight sided Sankey fitting kegs of any size can be rinsed, passivated, washed, and sanitized. Cleaning can be done with cold or hot detergent, as well as sanitizing with an appropriate no-rinse sanitizer. The pump and low flow valves allow for an efficient way to thoroughly clean the keg stem and inner shell every time.

1.2. Description

The machine is a stainless-steel constructed unit with one stainless water tank, one stainless acid tank, one stainless detergent tank, immersion heater, nine air actuated couplers, three stainless Sanke valves, one peristaltic pump, three 1hp wash pumps and an automated touch screen control panel with digital temperature controller and disconnect. The immersion heater is controlled by a digital thermostat and is factory set to a maximum of 150 degrees F. (65.6°C)

SERIOUS INJURY OR DAMAGE TO THE WASHER COULD RESULT IF HIGHER TEMPERATURES ARE SET!!

The temperature controller can easily be adjusted to suit the user's specific requirements and the wash cycles can be customized by the user. This unit also employs a pressure switch to allow keg pressurization at the end of the cycle. Keg pressurization is factory set to 12-15 PSI (0.8-1.0 Bar) and is adjustable to meet end-user requirements. If you wish you adjust your pressurization setting, follow our link to our YouTube video tutorial. [\[Link\]](#)

**SERIOUS INJURY AND/OR DEATH CAN OCCUR IF ALLOWING KEGS TO OVER PRESSURIZE!
BE SURE TO KEEP PRESSURE BELOW KEG MAXIMUM WORKING PRESSURE!!**

This machine is able to rinse, passivate, clean, and sanitize kegs by the use of pneumatic angle seat valves and two custom designed and custom made manifolds. There are a total of nine pneumatic angle seat valves on your machine. These valves are PLC controlled and only allow liquids and gasses to go where they are meant to. All nine valves are mounted to either the supply or return manifold. The following list details which valves are connected to each manifold and the purpose of each valve in the rinsing, passivating, cleaning, and sanitizing process.

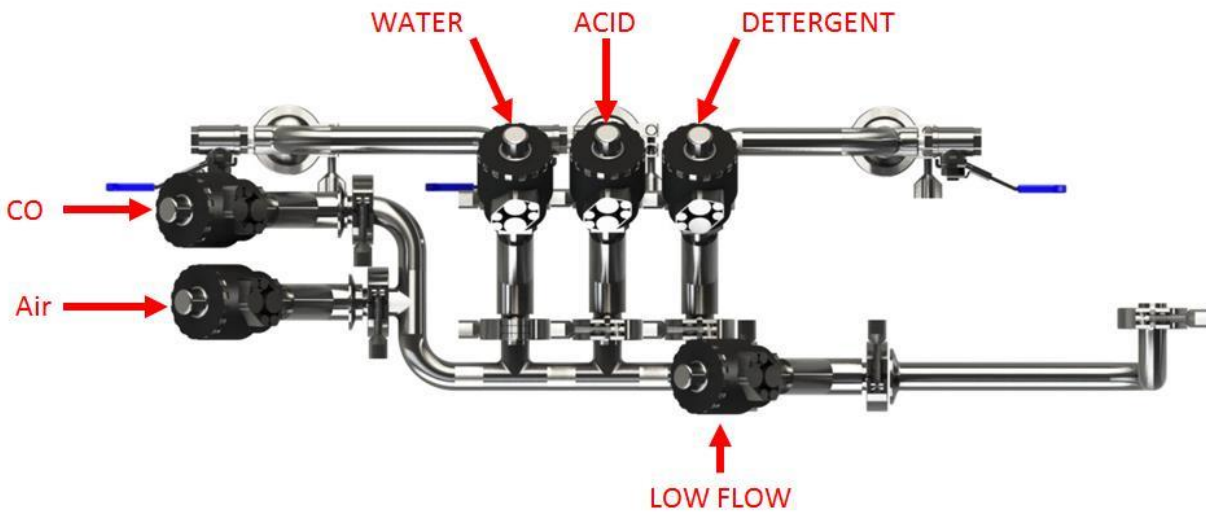


Figure 1 Supply Manifold

Supply Manifold

Air:	Air purge between cycles.
CO2:	CO2 purge and pressurize.
Water:	Rinse cycles and sanitizer blending.
Acid:	Acid washing.
Detergent:	Detergent washing.
Spear Wash:	For washing spears with solution being pumped.

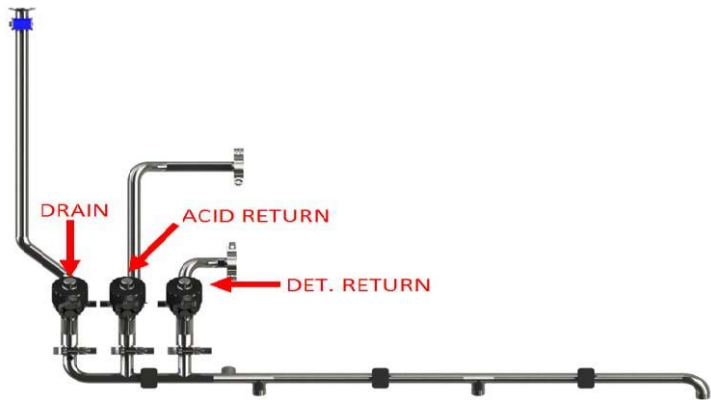


Figure 2 Return Manifold

Return Manifold

Detergent return:	Returns detergent to the tank.
Acid return:	Returns acid to the tank
Manifold drain:	Drains kegs between cleaning cycles.

1.3. Best Practices

Below is a list of best practices to follow when operating your keg washer.

- Always be sure to follow and perform everything on both the safety and preparation list before operating the keg washer.
- Before connecting any kegs to the keg washer, prime the sanitizer pump with the dose pump test button. **(See page 16)**
- Each day run one or more cycles with clean water in your sanitizer container and caustic tank. This will help extend the life of all non-metal parts on your keg washer.
- When cleaning heavily soiled kegs, run multiple cleaning cycles instead of a single, longer cycle. The keg washer accomplishes cleaning, rinsing, and sanitizing by having liquids cascade down the shell and spear, not by filling the keg. If you extend the time of the cycle, the keg will simply fill more and not be cleaned as well as it could be with multiple short cycles.
- Ensure that all compressed air and CO2 parts meet requirements on compressor and air parts guide.
- For best results, always run three kegs of the same size per cycle.
- Pull random spears to inspect for proper cleanliness
- ***IMPORTANT: Before dumping liquid from tanks containing immersion heaters, ensure the power/ breaker to the heater is off and the temperature is set for 32°F for personnel and equipment safety!***

1.4. Limited Warranty

Seller warrants that the Equipment manufactured by Seller will be free from defects in material and workmanship for a period of one (1) year from the date of manufacture. This warranty will be limited to the repair or replacement, at Seller's option, on any product manufactured by Seller, and deemed to be defective upon reasonable inspection from Seller's representative. Seller is responsible for any labor costs associated with the repair of any defective manufactured item. Seller may contract, by way of a written purchase order, a repair of defect, by others, at our option.

Other Equipment, not manufactured by Seller, is warranted for a period of one (1) year. Seller will assist in honoring any warranty for other Equipment. This Limited Warranty does NOT include liability for any interruption of service, nor does it include liability for any work, services, or parts supplied by Others, nor does it include liability for any labor charges from others for replacement or repair of defective product, nor does it cover costs for parts, fluids, shipping, Purchaser's product or materials for production and contains no contingent liabilities of any kind.

This warranty does not cover damage caused by Purchaser's negligence, neglect, improper maintenance or cleaning, accident, abuse, freezing, or for ordinary wear and tear. Purchaser is responsible for normal maintenance of the Equipment. Equipment finishes are not warranted.

2. Safety

- **USE A LICENSED ELECTRICIAN FOR MAIN POWER CONNECTION.**
- **PRIOR TO USE, ALWAYS CHECK HOSES AND FITTINGS FOR DAMAGE TO AVOID THE POSSIBILITY OF PERSONAL INJURY**
- **DISCONNECT POWER BEFORE OPENING THE ELECTRICAL CONTROL BOX**
- **ALWAYS WEAR SAFETY GLASSES WITH EYE SPLASHGUARDS AND/OR FACE SHEILD**
- **ALWAYS WEAR RECOMMENDED PROTECTIVE WEAR WHEN USING CHEMICALS/DETERGENTS**
- **NEVER RESTRICT OR BLOCK OVERFLOW (VENT) TUBE ON DETERGENT TANK SERIOUS PERSONAL INJURY COULD RESULT!**
- **ALWAYS KEEP LIQUID LEVEL ABOVE THE HEATING ELEMENT AND TEMP. PROBE**
- **CHECK DETERGENT LIQUID LEVELS AND CONCENTRATIONS OFTEN**
- **IN CASE OF EMERGENCY, USE EMERGENCY STOP BUTTON TO SHUT DOWN KEG WASHER IMMEDIATELY**
- **TO AVOID INJURY OR WORSE, ALWAYS FOLLOW ALL MANUFACTURER'S INSTRUCTIONS AND GUIDELINES**



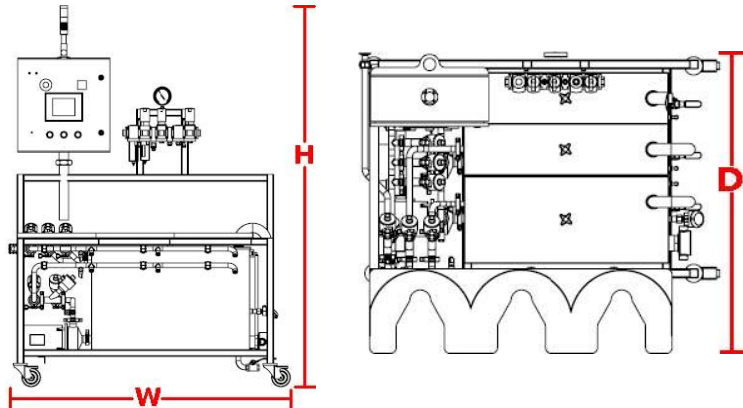
3. Specifications

3.1. Dimensions

Height - 82" (2083mm)

Width - 58" (1473mm)

Depth - 50" (1270mm)



(Dimensions above are rounded up to nearest whole number.)

3.2. Capacities

Detergent tank -

Tank capacity = 50 g (189.2L). Operational capacity 33 g (125L).

Acid tank -

Tank capacity = 30 g (113L). Operational capacity 20 g (76L).

Water tank -

Tank capacity = 30 g (113L). Tank fills automatically.

Water Consumption -

Approx. 8 g (30L) per keg (Factory Settings)

Peristaltic Pump-

23 oz (680ml) per minute

3.3. Electrical

FLA:

17.5 Amps @ 208-230 V, 3 Phase

38 Amps @ 203-230 V, 1 Phase

11 Amps @ 400 V, 3 Phase

10 Amps @ 460-480 V, 3 Phase

-w/ 2 Amps @ 120 V, 1 Phase

3.4 Recommended Utility Supply

Air Supply to the machine:

100 psi, 15+ CFM/ 6.8Bar, 26+ CMH (see section 3.5)

Air supply to the air valves:

80-100 psi/ 5.5-6.9 Bar, dry, clean air

Air Supply to the kegs:

30-40- psi/ 2.0-2.75 Bar dry, clean air

CO2 Supply to the machine:

80-100 psi, 8+ CFM/ 5.5-6.9 Bar, 14+ CMH

CO2 Supply to the Kegs:

30-40 psi/ 2.0-2.75 Bar

City Water:

50-70 psi/ 3.4-4.8 Bar, ¾" full port supply

3.5. Compressor and Air Manifold

In the case of compressors for keg washers, bigger is better. All equipment using compressed air should be accounted for when selecting a compressor. Oil free is ideal, but also very expensive, so a .01 micron, coalescing filter is **required** on oil lubricated compressors. A general purpose filter upstream of the coalescing filter is also recommended. An air dryer/ water separator is also recommended, and other machinery using air may also require dry air, so you will want to plan accordingly. A minimum of ½" ID, appropriately rated supply line is required from the compressor to the keg washer for proper operation.

All filters, valves, fittings, hoses, etc. should be at least ½" ID.

A commercial grade, 80 g (300L), 15-17 SCFM, 5hp compressor is our **MINIMUM** recommendation for the 3 station, SA keg washer.

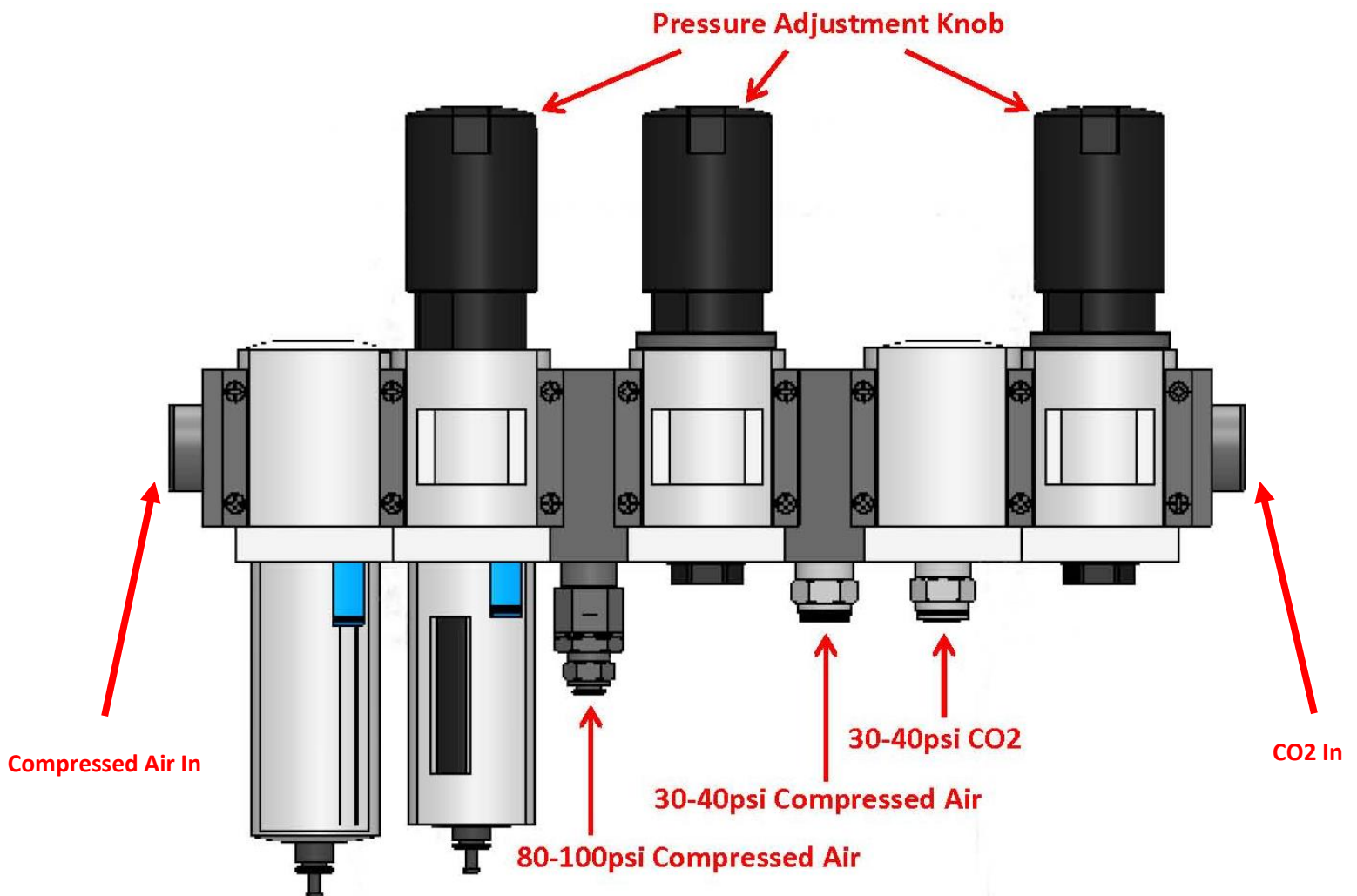


Figure 3 Festo Air Manifold

3.6. Sanitizer Pump and Dilution Rate

The peristaltic sanitizer pump, located underneath the control panel, delivers approximately 23 ounces/minute of sanitizer to the keg washer manifold. A ¼" OD semi-rigid plastic tube (provided and installed) is used to deliver the sanitizer from its container to the keg washer inlet. Keeping a backup roller assembly, pinch tube, and check valve on hand is highly recommended.

THE PINCH TUBE, ROLLER ASSEMBLY, AND CHECK VALVE HAVE A LIMITED LIFESPAN AND THEREFORE ARE NOT COVERED UNDER WARRANTY.

The factory sanitizer cycle is approximately 65 seconds, with approximately 45 seconds dedicated to a "Sanitizer Hold" rest. During a normal 65-second sanitizer cycle, the sanitizer pump runs for approximately 20 seconds, where it delivers about 8 oz. of sanitizer. Approximately 5 gallons of water is delivered between the 3 kegs during this 65-second cycle. Based on this volume, the user can determine how to dilute the sanitizer.

For example, if the no rinse sanitizer calls for 2 oz. per 5 gallons of water, then 2oz. would be required for 5 gallons. As the sanitizer pump will inject 8 oz. of liquid into the 5 gallons of water, a 3:1 dilution of water to sanitizer would meet the manufacturer's requirement for the sanitizer ratio.

Be sure to prime sanitizer pump and line before connecting kegs. Priming the sanitizer pump can be done by pushing and holding the "Dose Pump Test" button on the Settings screen. Hold the button until your sanitizer system is completely primed.

Flushing the sanitizer pump out with water at the completion of everyday is highly suggested to help extend the lifespan of all rubber parts. This is also a good time to test the evacuated sanitizer and test for the correct dilution specified by the chemical supplier.



Figure 4 Peristaltic Pump

4. Operation

4.1 Preparation

- Be sure float valve is connected in the water tank.
- Connect cold water supply to water tank inlet (must not exceed 100 F/38 C.).
- Fill detergent reservoir to about 75% capacity (about 33 g/113L) with water and appropriate cleaning chemicals. **DO NOT OVERFILL**
- Fill acid reservoir to about 75% capacity (about 20 g/76L) with water and appropriate cleaning chemicals. **DO NOT OVERFILL**
- Connect both Air and CO2 lines.
- Inspect and drain the air valve regulator trap as needed.
- Connect appropriate drain hose. **1 ½" ID HOSE RECOMMENDED.**
- Immerse ¼" sanitizer tube into the sanitizer container. Be sure tube is completely immersed in sanitizer.
- Connect power and turn on main control panel disconnect.
- Set temperature controller to appropriate detergent temperature.
- Allow cleaning solution to reach proper cleaning temperature.
- Inspect all hose clamps and tri-clamp connections.
- Inspect and tighten all Sankey connections.
- Prime pumps for proper operations. (see Figure 5 below)
- Connect drain hose to appropriate drain.
- Ensure correct CO2 and air supply pressure.

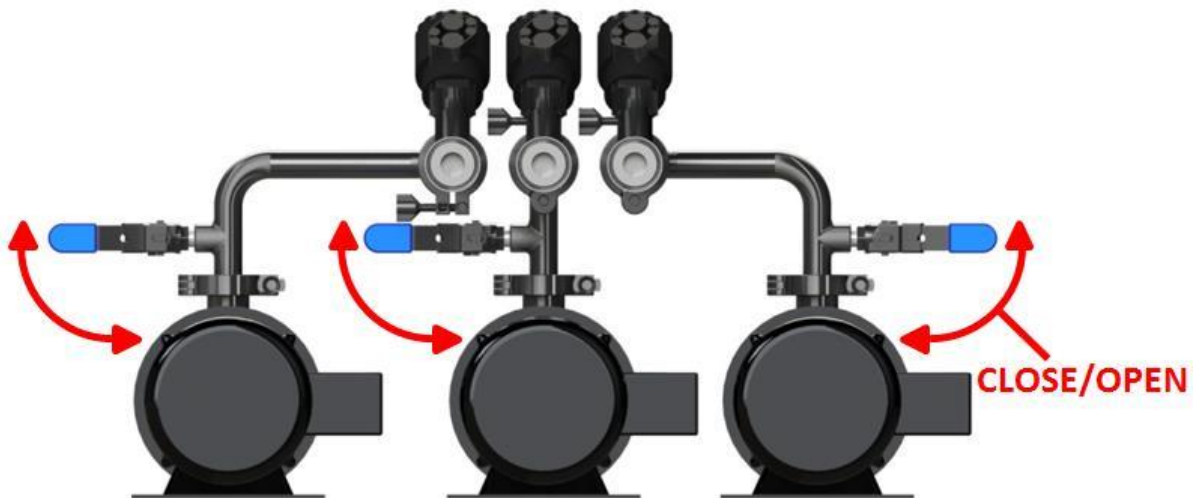
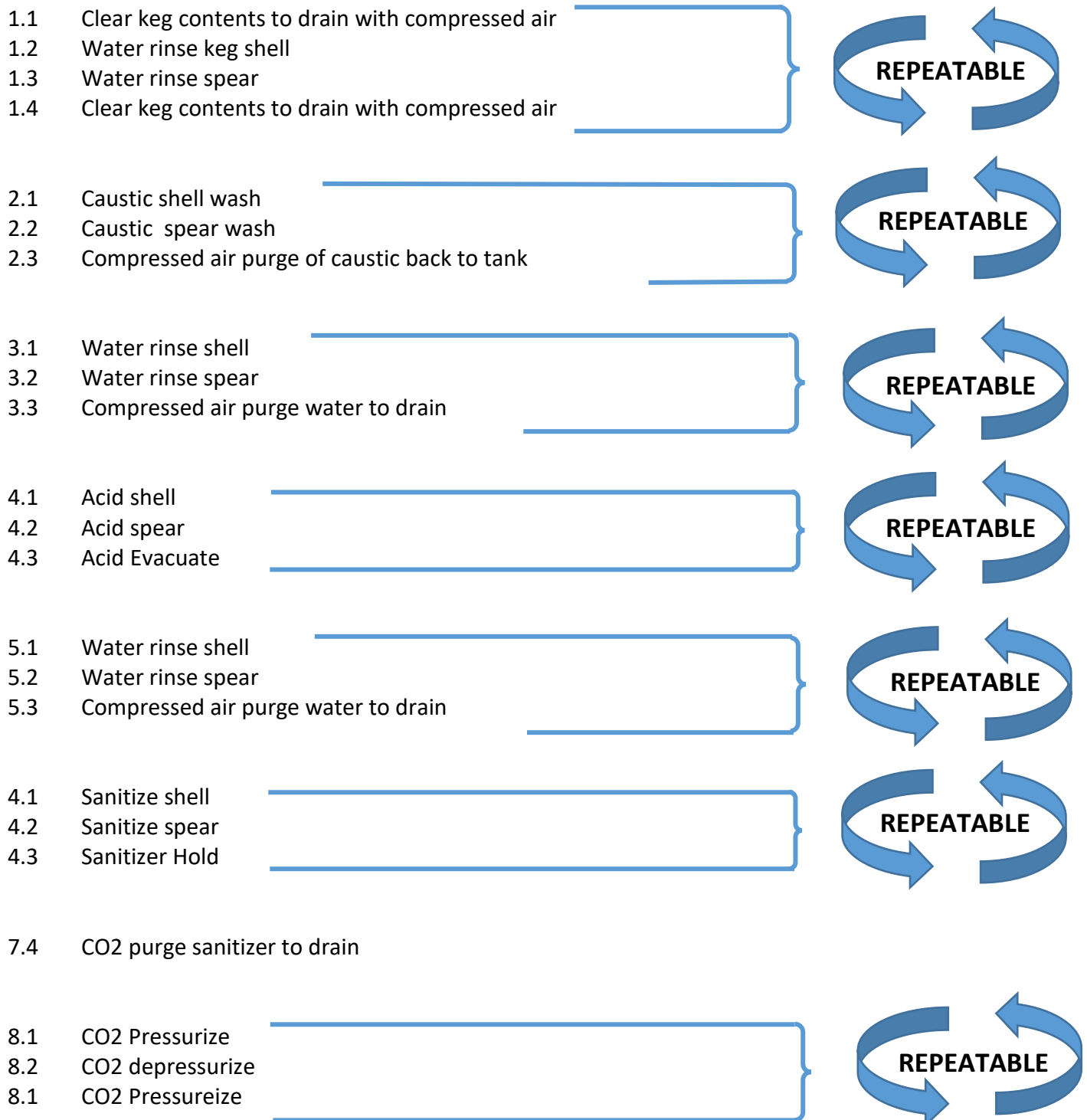


Figure 5 Bleeding Air from Pump

3 Vessel Kegwasher

4.2 Operation sequence -3V

Only on Wash 1 or Wash 2,
not on Factory Settings



4.3 Operator Interface Panel

The operator interface panel is used to monitor keg washing cycles, choose cleaning programs, and count cleaning cycles. Once powered up, the keg washer will display the wash cycles available.

PRIOR TO USE, ALWAYS FOLLOW PREPARATION AND SAFETY PROCEDURES IN SAFETY SECTION.

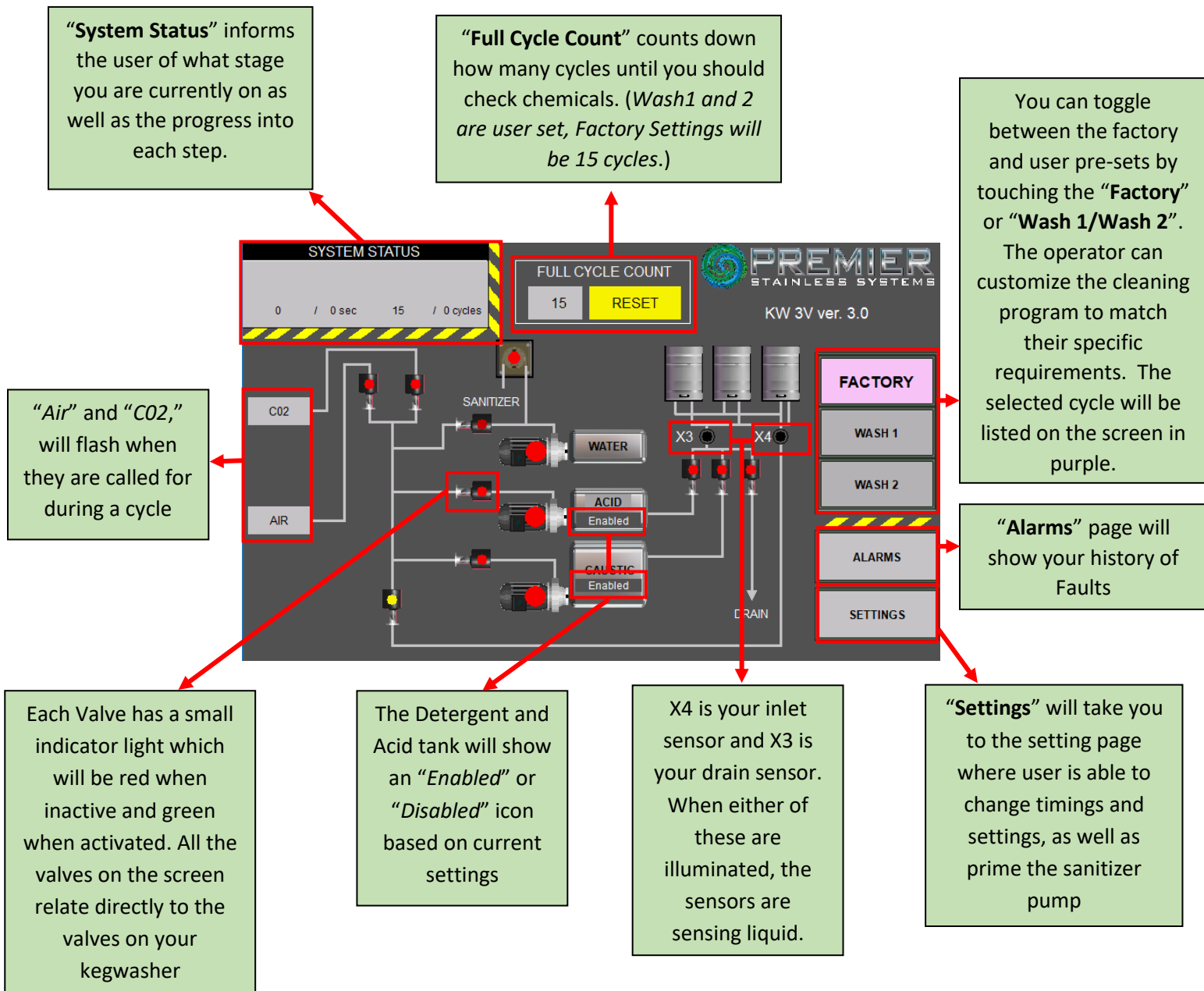


Figure 6 – Home Screen

“Wash 1” and “Wash 2” settings are User adjusted for specific wash settings to your brewery’s personal preferences or needs.

WASH 1 SETTINGS	Step Control	Shell Wash	Spear Wash	Post Step Purge Gas	Number of Cycles
Pre Run Purge				Air	
Step 1: Water Rinse	Enabled Disable	16sec.	8sec.	Air	1 x
Step 2: Detergent	Enabled Disable	25sec.	8sec.	Air	1 x
Step 3: Water Rinse		16sec.	8sec.	Air	1 x
Step 4: Acid Wash	Enabled Disable	25sec.	8sec.	AIR CO2	1 x
Step 5: Water Rinse		16sec.	8sec.	AIR CO2	1 x
Step 6: Sanitize Wash	Enabled Disable	15sec.	5sec.	Sanitizer Hold Time: 45sec.	1 x
Step 7: Keg Purge				AIR CO2	
Step 8: CO2 Purge		2 x	Cycles Until Chemical Change	15 Cycles	Back

System Configuration allows the user flexibility with purging options, switching between Air and Co2. *This screen is code-protected, to access this screen follow the instructions on pages 24 and 25.*

SYSTEM CONFIGURATION

ENABLE CO2 PURGE CONTROL ON ALL STEPS
Verify compatibility of chemicals used in tanks before enabling CO2 purge.

Control Disabled Control Enabled

HOME

BACK

ACID TANK SET UP
The Acid Tank can be used to recycle sanitizer instead of acid using this setting. This will disable the acid wash and associated water rinse cycle. The sanitizer cycle will return to the tank instead of drain.

Acid Tank Sanitizer Tank

“Screen Settings” allows you to change the brightness of your touchscreen.

“Dose Pump Test” turns on the peristaltic sanitizer pump manually when held down, perfect for priming your pump.

WASH 1 SETTINGS

WASH 2 SETTINGS

SCREEN SETTINGS

SYSTEM CONFIGURATION

Dose Pump Test

Press To Test

Reset Factory Default Settings

Reset

HOME

TOTAL SYSTEM CYCLES

“Factory Settings” now contains Factory adjusted settings for all wash options. It requires a code to access, which can be provided by a Premier Stainless Systems Kegwasher Specialist should troubleshooting issues occur.

“Reset” returns all Factory Settings to original set parameters. *This button should be pressed on initial setup of kegwasher, after long durations of no power to kegwasher, or after power outages.*

“Home” takes you back to the home screen.

SYSTEM STATUS

0 / 0 sec 15 / 0 cycles

FULL CYCLE COUNT 15 RESET

PREMIER STAINLESS SYSTEMS

KW 3V ver. 3.0

CO2

AIR

SANITIZER

WATER

ACID Enabled

CAUSTIC Enabled

DRAIN

FACTORY

WASH 1

WASH 2

ALARMS

SETTINGS

Allows user to turn off the screen when not in use. The screen can be turned back on by simply touching anywhere on the screen again.

Figure 7 – Settings Screen

“Enable/Disable” allows you to turn off certain steps should you not need them during your custom wash. When Disabling *Step 2: Detergent Wash*, you will also disable *Step 3: Water Rinse* as this will be unnecessary. When Disabling *Step 4: Acid Wash*, you will also disable *Step 5: Water Rinse* as this will also be unnecessary.

Wash times are all custom set by user. The current settings shown below are the **“Factory Settings.”**

“Number of Cycles” are the amount of times you would like that step to go. Default is One cycle, any number above that would be repeating that particular step of the cycle.

WASH 1 SETTINGS	Step Control	Shell Wash	Spear Wash	Post Step Purge Gas	Number of Cycles
Pre Run Purge				Air	
Step 1: Water Rinse	Enabled Disable	16sec.	8sec.	Air	1 x
Step 2: Detergent	Enabled Disable	25sec.	8sec.	Air	1 x
Step 3: Water Rinse		16sec.	8sec.	Air	1 x
Step 4: Acid Wash	Enabled Disable	25sec.	8sec.	AIR CO2	1 x
Step 5: Water Rinse		16sec.	8sec.	AIR CO2	1 x
Step 6: Sanitize Wash	Enabled Disable	15sec.	5sec.	Sanatizer Hold Time: 45sec.	1 x
Step 7: Keg Purge				AIR CO2	
Step 8: C02 Purges	2 x	Cycles Until Chemical Change		15 Cycles	Back

“Chemical Cycles” is the number of cycles the user would like to be reminded to check chemicals.

Ability to change your sanitize step purge gas between CO2 or Air.

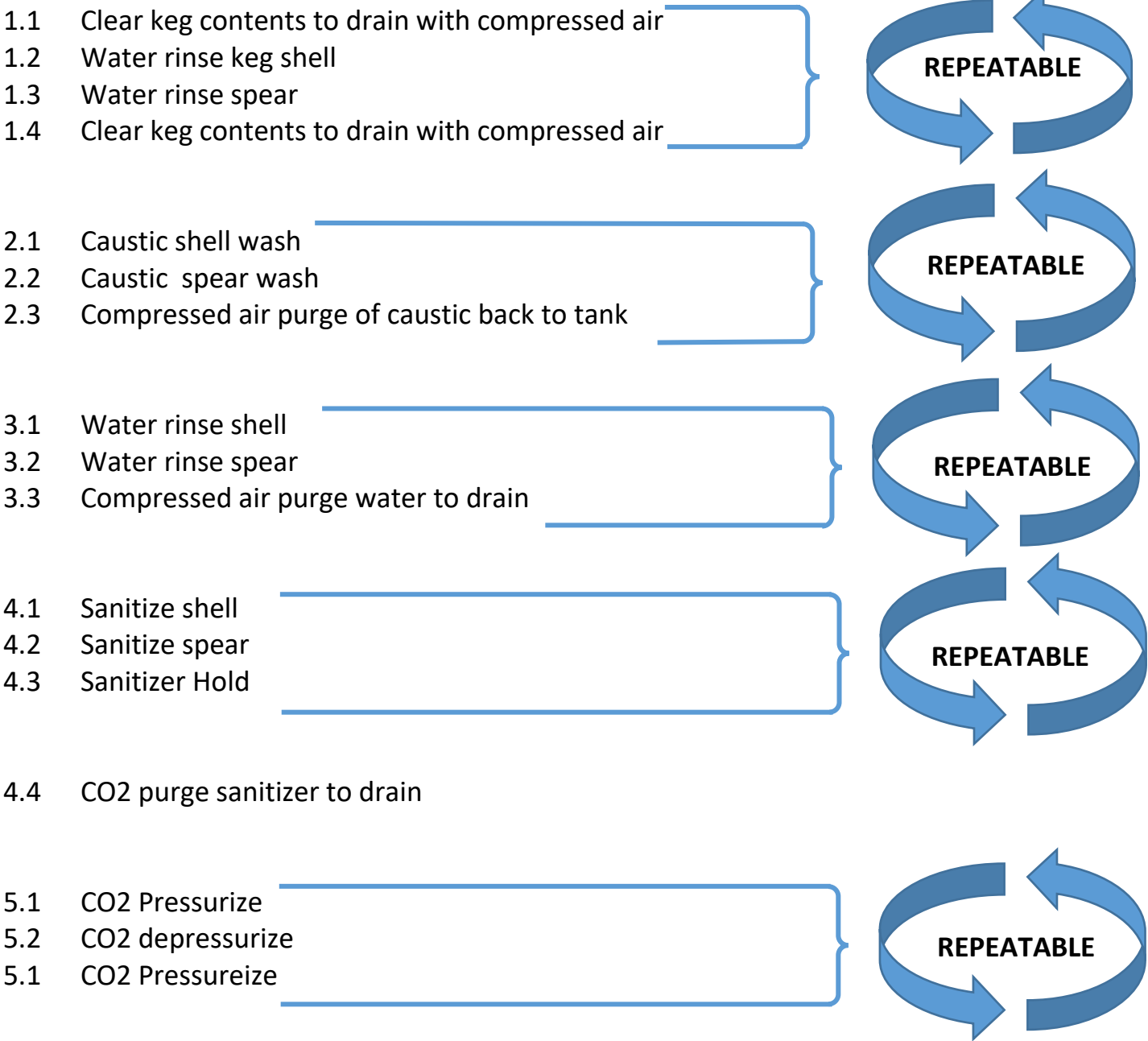
“Back” will take you to the Main Settings page again.

Figure 8 – Wash 1 Settings Screen

2 Vessel Kegwasher

4.4 Operation sequence – 2V

Only on Wash 1 or Wash 2,
not on Factory Settings



4.5 Operator Interface Panel

The Operator Interface Panel is used to monitor keg washing cycles, choose cleaning programs, and count cleaning cycles. Once powered up, the keg washer will display the wash programs available.

PRIOR TO USE, ALWAYS FOLLOW ALL PREPARATION AND SAFETY PROCEDURES.

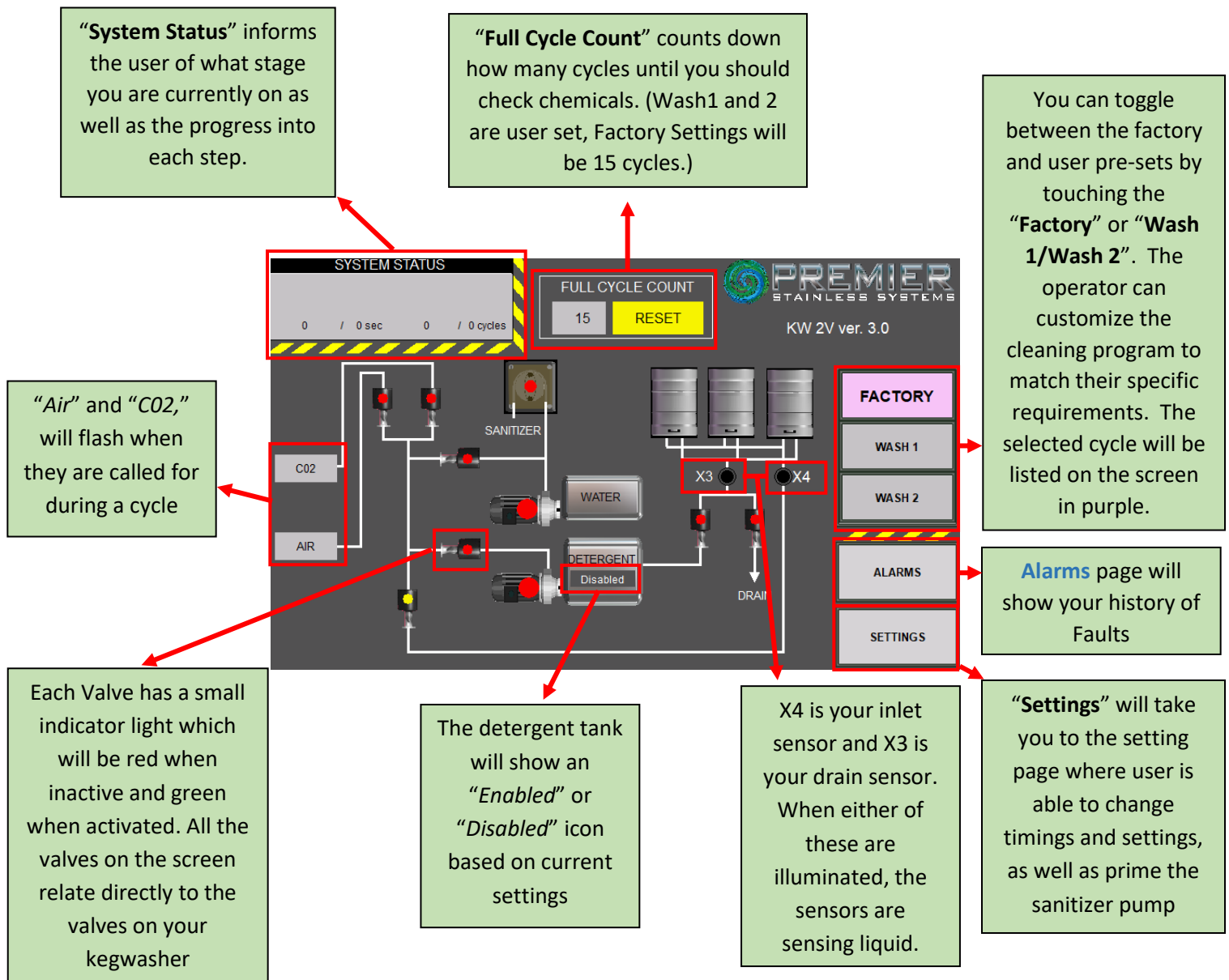


Figure 9 – 2V Home Screen

“Wash 1” and “Wash 2” settings are User adjusted for specific wash settings to your brewery’s personal preferences or needs.

WASH 1 SETTINGS	Step Control	Shell Wash	Spear Wash	Post Step Purge Gas	Number of Cycles
Pre Run Purge					
Step 1: Water Rinse	Enabled Disable	16sec.	8sec.	Air	1 x
Step 2: Detergent	Enabled Disable	25sec.	8sec.	Air	1 x
Step 3: Water Rinse	Enabled Disable	16sec.	8sec.	Air	1 x
Step 4: Sanitize Wash	Enabled Disable	15sec.	5sec.	Sanitizer Hold Time: 45sec.	1 x
Step 5: Keg Purge	AIR CO2				
Step 6: CO2 Purges	2 x				
Chemical Cycles		15 RUNS			
Back					

System Configuration allows the user flexibility with purging options, switching between Air and Co2. *This screen is code-protected, to access this screen follow the instructions on page 24.*

SYSTEM CONFIGURATION

ENABLE CO2 PURGE CONTROL ON ALL STEPS

Verify compatibility of chemicals used in tanks before enabling CO2 purge.

Control Disabled Control Enabled

HOME

BACK

“Screen Settings” allows you to change the brightness of your touchscreen.

“Dose Pump Test” turns on the peristaltic sanitizer pump manually when held down, perfect for priming your pump.

WASH 1 SETTINGS

WASH 2 SETTINGS

SCREEN SETTINGS

SYSTEM CONFIGURATION

Dose Pump Test

FACTORY SETTINGS

Press To Test

SCREEN OFF

Reset Factory Default Settings

Reset

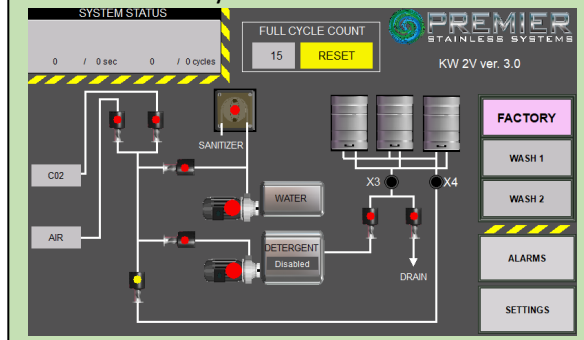
HOME

TOTAL SYSTEM CYCLES 0

“Factory Settings” now contains Factory adjusted settings for all wash options. It requires a code to access, which can be provided by a Premier Stainless Systems Kegwasher Specialist should troubleshooting issues occur.

“Reset” returns all Factory Settings to original set parameters. ***This button should be pressed on initial setup of kegwasher, after long durations of no power to kegwasher, or after power outages.***

“Home” takes you back to the home screen.



Allows user to turn off the screen when not in use. The screen can be turned back on by simply touching anywhere on the screen again.

Figure 10 – 2V Settings Screen

“Enable/Disable” allows you to turn off certain steps should you not need them during your custom wash. When Disabling *Step 2: Detergent Wash*, you will also disable *Step 3: Water Rinse* as this will be unnecessary.

Wash times are all custom set by user. The current settings shown below are the “**Factory Settings.**”

“**Number of Cycles**” are the amount of times you would like that step to go. Default is One cycle, any number above that would be repeating that particular step of the cycle.

WASH 1 SETTINGS	Step Control	Shell Wash	Spear Wash	Post Step Purge Gas	Number of Cycles
Pre Run Purge		Air			
Step 1: Water Rinse	Enabled Disable	16sec.	8sec.	Air	1 x
Step 2: Detergent	Enabled Disable	25sec.	8sec.	Air	1 x
Step 3: Water Rinse		16sec.	8sec.	Air	1 x
Step 4: Sanitize Wash	Enabled Disable	15sec.	5sec.	Sanatizer Hold Time: 45sec.	1 x
Step 5: Keg Purge		AIR CO2			
Step 6: C02 Purges					2 x
		Chemical Cycles	15 RUNS		
					Back

“**Chemical Cycles**” is the number of cycles the user would like to be reminded to check chemicals.

Ability to change your sanitize step purge gas between C02 or Air.

“**Back**” will take you to the Main Settings page again.

Figure 11 – 2V Wash 1 Settings Screen

4.6 Alarms

For all troubleshooting information, refer to our [Interactive Troubleshooting Guide](#).

[illegible]

Figure 12 – Alarm Screen

4.7 Enabling Co2 Purge Control

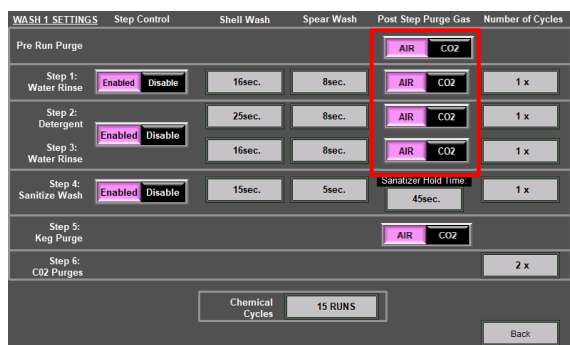
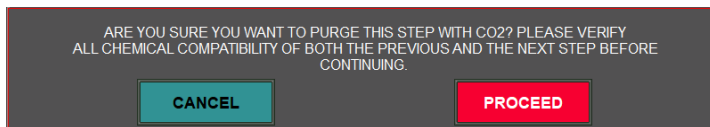
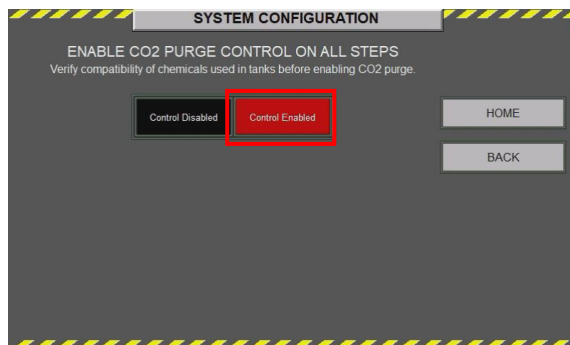
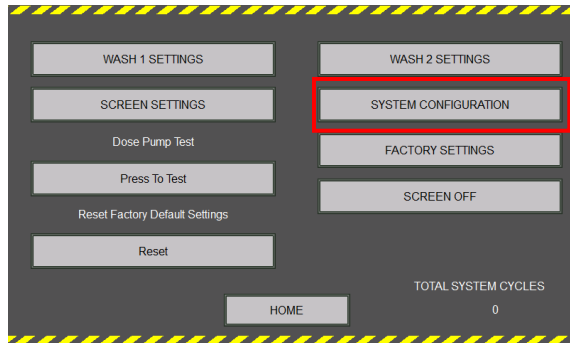


Figure 13 – System Configuration

BEFORE PROCEEDING, BE AWARE THAT ONLY TRAINED AND QUALIFIED TECHNICIANS SHOULD BE ACCESSING THIS SCREEN AND MAKING THESE CHANGES. ENSURE THE CHEMICALS YOU ARE USING ARE CLEARED TO BE COMBINED WITH YOUR PREFERRED GAS CHOICE. CHANGES FROM AIR TO CO2 PURGES SHOULD ONLY BE MADE IN SPECIFIC-NEED CASES. IF YOU ARE CONCERNED ABOUT O2 LEVELS, PLEASE CALL PREMIER STAINLESS SYSTEMS FOR TECHNICAL SUPPORT FIRST.

1. From the Home screen, press on the “Settings” button.
2. Select the “System Configuration” button.
3. You will be Prompted to enter a code, the code is 9*8*0*1, then Enter.
4. You will have two options to either “Disable” or “Enable” control of Co2 Purges. Select “Control Enabled.”
5. Press “Back” and click onto either Wash 1 or Wash 2 Settings.
6. You will see options to purge each step with either Air or Co2. **For some of the steps you may be prompted to check with your chemical supplier to verify that chemical may be used with Co2.** (ex. Caustic has a negative and dangerous reaction with Co2.)
7. When finished with your settings, disable the ability of anyone changing your purges. Press “Back” to go into the Main Settings Menu.
8. Press “System Configurations” and 9*8*0*1, then Enter.
9. Press “Control Disabled” which will disable the ability to change the purges from what they were last set to.

4.8 Enabling Sanitizer Reservoir Option (instead of Acid Reservoir)

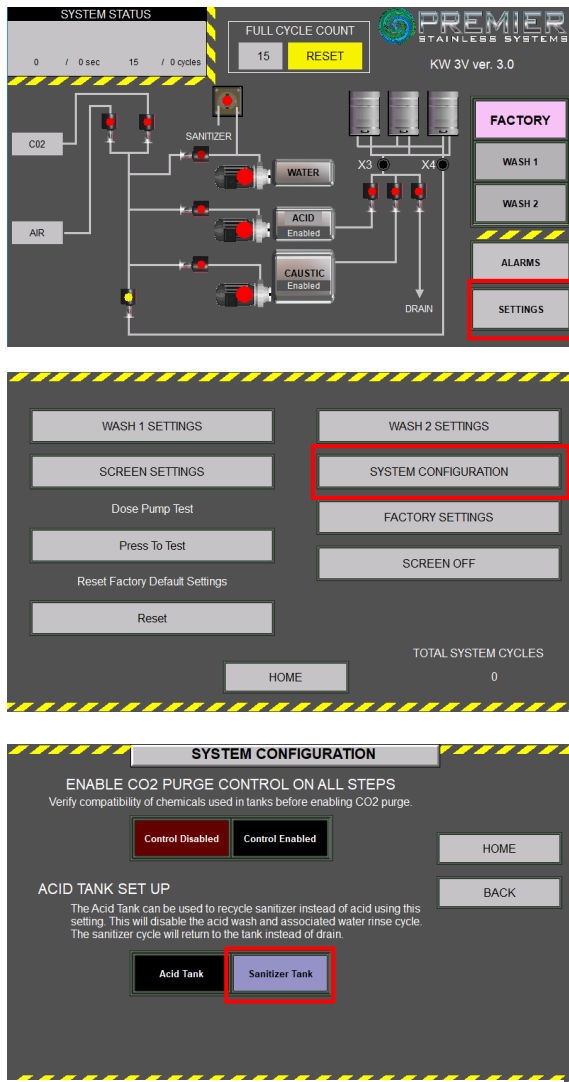


Figure 14 – Sanitizer Tank Configuration

BEFORE PROCEEDING, BE AWARE THAT ONLY TRAINED AND QUALIFIED TECHNICIANS SHOULD BE ACCESSING THIS SCREEN AND MAKING THESE CHANGES. ENSURE THE CHEMICALS YOU ARE USING ARE CLEARED TO BE COMBINED WITH YOUR PREFERRED GAS CHOICE. FOLLOW ALL GOVERNMENT AND CHEMICAL HANDLING PROCEDURES AND REGULATIONS WHEN SWITCHING CHEMICAL HOLDING TANKS.

CHANGES FROM AIR TO CO2 PURGES SHOULD ONLY BE MADE IN SPECIFIC-NEED CASES. IF YOU ARE CONCERNED ABOUT O2 LEVELS, PLEASE CALL PREMIER STAINLESS SYSTEMS FOR TECHNICAL SUPPORT FIRST.

1. From the Home screen, press on the “Settings” button.
2. Select the “System Configuration” button.
3. You will be Prompted to enter a code, the code is 9*8*0*1, then Enter.
4. Select “Sanitizer Tank” under *Acid Tank Set Up*
5. Go back to the Main Settings Menu, then into either Wash 1 or Wash 2 and you will find the Acid tank Disabled.
6. If you would like to switch back from using the Sanitizer Tank option, follow steps 1-3 again followed by selecting “Acid Tank” under *Acid Tank Set Up*.

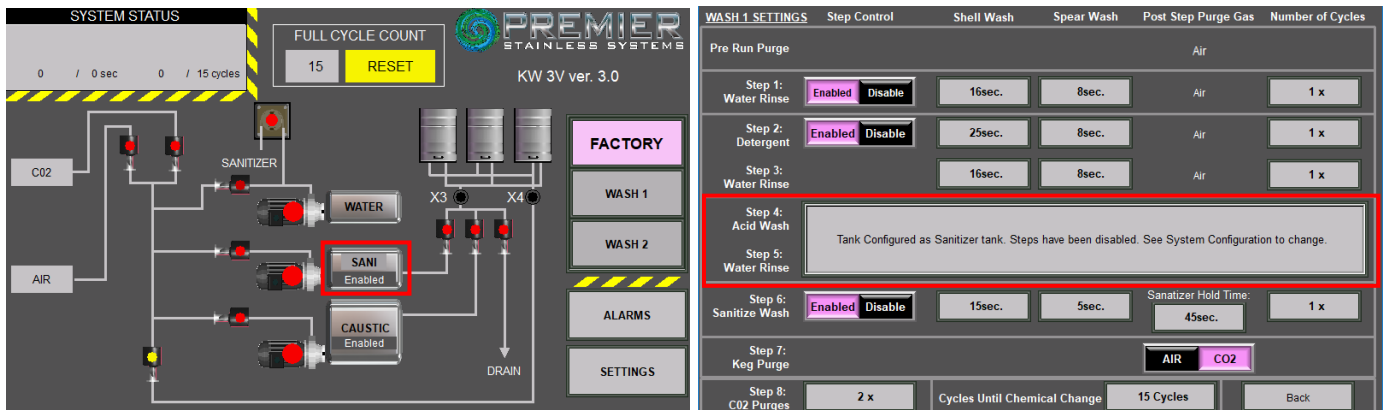


Figure 15 – Sanitizer Tank Configured Wash 1 Settings

4.9 Operation



Figure 16

BEFORE YOU START:

FOLLOW PREPARATION AND SAFETY PROCEDURES IN SAFETY AND PREPARATION SECTIONS

1. Connect Sanke couplers to dirty kegs
2. Open Micro-Matic shut-off valves
3. Place kegs upside down on the keg rack
4. Select appropriate keg washing program from the "Operator Interface Panel."
5. Press the green "Start" button.
6. The wash cycle will start with the appropriate valve operation displayed along with the current cycle displayed on the "System Status" window on the "Operator Interface Panel."
7. Once cycle is complete, remove kegs from the rack, close valves on keg couplers and remove kegs.
8. Load new kegs, press the "Reset" button, and press the "Start" button to begin the cycle over again.

THE USER CAN USE THE CYCLE COUNTER TO MONITOR THE NUMBER OF KEGS WASHED WITH THE CURRENT DETERGENT RESERVOIR SOLUTION. THE USER CAN THEN CHECK AND TEST THE DETERGENT LIQUID LEVEL AND CONCENTRATIONS AT SPECIFIC POINTS DURING THE CLEANING DAY FOR MAXIMUM CLEANING EFFICIENCY.

Air Pressure:

Insufficient air pressure/volume can cause numerous issues from prolonged cycle times to fault messages. Premier Stainless recommends a **minimum** of ½" ID air supply from compressor to keg washer with all filters, regulators, valves, fittings, etc. being ½" ID minimum as well. The air supply to the keg washer should be 80-100 psi/5.5-6.9 Bar. The filter/regulator supplying air pressure to the air valve manifold should also be 80-100 psi/5.5-6.9 Bar. Assure that this pressure doesn't drop below 60 psi/4.1 Bar during the washing cycle, especially during evacuation stages, or proper valve operation may be diminished. A pressure drop of more than a few psi during evacuation stages may indicate a restriction in the air supply and should be addressed or monitored. This is most often caused by using air supply line and/or fittings with too small an ID. Dirty, or otherwise plugged, filters can also cause air flow reductions. The regulator supplying air to the kegs should be 30-40 psi.

CO2 Pressure:

Follow the same guidelines for the CO2 pressure as for the air pressure. If a ½", high flow CO2 regulator is not readily available, use the next largest size available. Low or restricted CO2 pressure/volume can result in a sensor fault and/or prolonged evacuation and pressurization cycles.

5. Troubleshooting

For all troubleshooting information, refer to our [Interactive Troubleshooting Guide](#).

Sensor Fault

A Sensor Fault is caused by the drain (X3) sensor sensing liquid for an extended amount of time. This is to inform the user that either the set times are outside of a normal amount of time for operation or that evacuations are taking too long. For troubleshooting information refer to our [**Interactive Troubleshooting Guide**](#).

Water Line Fault

A Water Line Fault is caused by the inlet sensor not receiving liquid. This issue is usually caused by either your water valve/ stem valve failing to open or your water pump failing to send liquid into the keg. Your inlet sensor is shown by your X4 light on your PLC and as well as your panel. When X4 is lit, your sensor is detecting liquid. For troubleshooting information refer to our [**Interactive Troubleshooting Guide**](#).

Detergent Line Fault

A Detergent Line Fault is caused by the inlet sensor not receiving liquid. This issue is usually caused by either your Detergent valve failing to open or your detergent pump failing to send liquid into the keg. Your inlet sensor is shown by your X4 light on your PLC and as well as your panel. When X4 is lit, your sensor is detecting liquid. For troubleshooting information refer to our [**Interactive Troubleshooting Guide**](#).

Acid Line Fault

An Acid Line Fault is caused by the inlet sensor not receiving liquid. This issue is usually caused by either your Acid valve failing to open or your Acid pump failing to send liquid into the keg. Your inlet sensor is shown by your X4 light on your PLC and as well as your panel. When X4 is lit, your sensor is detecting liquid. For troubleshooting information refer to our [**Interactive Troubleshooting Guide**](#).

Appendices

Appendix A: Factory Settings

Step 1: Water Rinse

Shell:	16 seconds
Spear:	8 seconds

Step 2: Caustic Wash

Shell:	25 seconds
Spear:	8 seconds

Step 3: Water Rinse 2

Shell:	16 seconds
Spear:	8 seconds

Step 4: Acid Wash

Shell:	25 seconds
Spear:	8 seconds

Step 5: Water Rinse 3

Shell:	16 seconds
Spear:	8 seconds

Step 6: Sanitizer Wash

Shell:	15 seconds
Spear:	5 seconds
Hold:	45 seconds

Step 7: CO2 pressurize

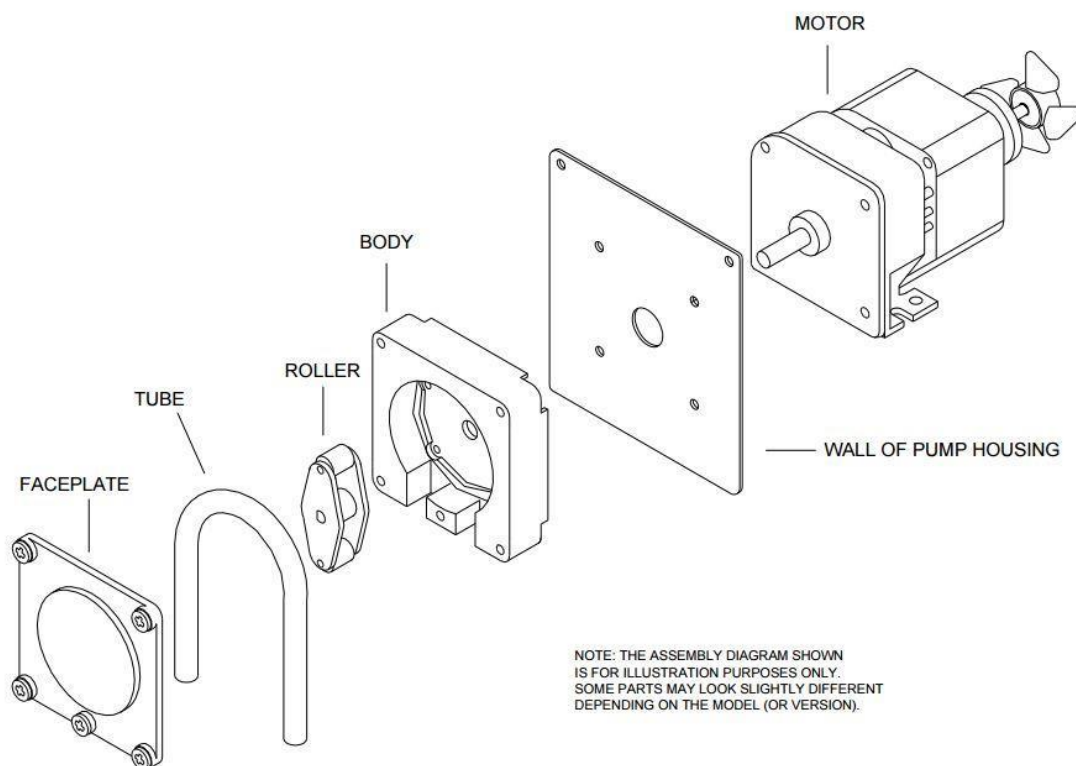
2 cycles

Cycles until Chemical Change warning screen appears:

15 cycles

Appendix B: Peristaltic Pump

TYPICAL PUMPHEAD ASSEMBLY



PUMPSPEC9/072103

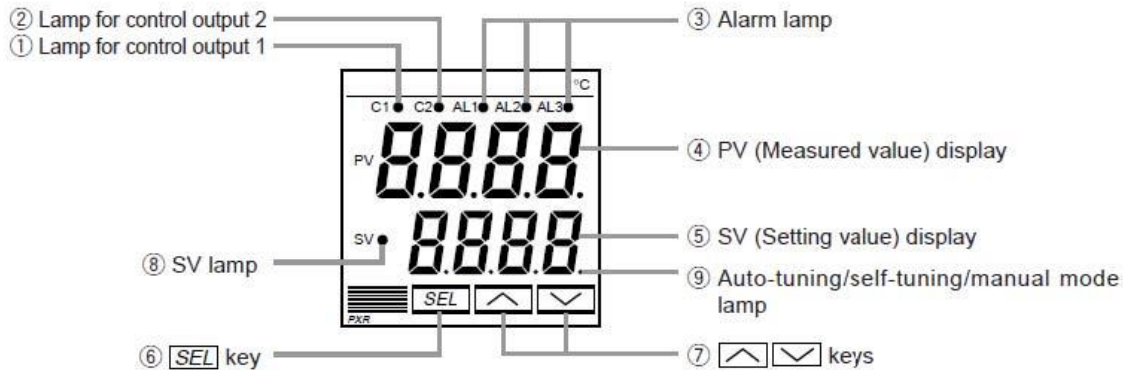
MAINTENANCE

The PMP Series of Metering Pumps require a minimal amount of maintenance to achieve optimal performance. Periodically check the squeeze tube for cracks, deterioration, or swelling. The squeeze tube will typically need to be replaced about every 6 months (chemical compatibility and duty cycle can cause this interval to vary).

Applying lube to the squeeze tube once a month will extend the life of the tube, minimize wear on other contacting parts, and promote smoother pump operation. Use Knight Tube Lube (P/N 7506621) or an equivalent silicone-based lubricant.

- (1) Remove the faceplate of the pump.
- (2) Apply a thin bead of Tube Lube to the inner surface (the side that the rollers contact) of the squeeze tube between the 9 o'clock and 3 o'clock positions. Avoid getting lube near the pinch points where the bottom of the faceplate grips the tube.
- (3) Put the faceplate back on the pump.
- (4) Activate the pump under normal operation — the lubricant will be evenly distributed as the pump rotates.

Appendix C: Temperature Controller



① Lamp for control output 1
Lights up while control output 1 stays ON.



② Lamp for control output 2
Lights up while control output 2 stays ON.

③ Alarm lamp
Lights up on detecting an alarm. The alarm output is turned ON at the same time.
If the optional heater break alarm is provided, the AL3 lamp lights up on detecting a heater break.

④ PV (Measured value) display
Displays the PV. When setting a parameter, its name appears.

⑤ SV (Setting value) display
Displays the SV. When setting a parameter, its value appears.

⑥ **SEL** key
Used to select a parameter block and a parameter, and register a set value.

⑦   keys
Used to change the SV, call parameters, and change parameter values.

⑧ SV lamp
Lights up while the SV is displayed in the SV display. When parameters and data are displayed, the SV lamp goes out.

⑨ Auto-tuning/self-tuning/manual mode lamp
Flashes under an auto-tuning or self-tuning operation. The lamp is kept on in manual mode.

Preventative Maintenance Tips

The **KW-SA-3V-CS-XXX-XP-A** keg rinser, washer, and sanitizer should require very little maintenance outside of routine inspection of the hoses and Sankey valves that carry media to the kegs. In addition, periodic checks of the air and CO2 supplies to ensure proper pressures and regular replacement of air filter or desiccant dryer material is advised. In order to help extend the lifespan of all gaskets and rubber or plastic type materials on the machine, Premier recommends running a cycle or two of water through the machine at the completion of each use. Here is a list of other practices that will also help to extend lifespans on your keg washer:

- Drain and clean tank(s) regularly.
- Check and Drain the filter/regulator(s) as needed. Moisture getting into the air valve manifold on the control panel can cause corrosion and inhibit performance of the angle seat valves.
- Rinsing the detergent pump after every keg run ensures no “muck” stays in the system and you have a much cleaner run the next use.
- Check the immersion heater for any mineral build up and remove as necessary. Excess mineral build-up may cause slower heating times, and also may cause the elements to overheat and fail.
- Mineral build up can also occur in the pumps and, if excessive, can diminish their performance. Running an acid mix occasionally through the water and caustic pumps would be good if you have hard water issues.
- Pulling a few random spears after each keg run to inspect keg and spear for proper cleaning is highly recommended.
- Test drain water periodically after the sanitize cycle to confirm a proper mixture. A weak/diluted solution can indicate wear or improper performance to the rubber tube and/or check valve.
- Flushing the sanitizer lines with water after each keg run could prolong the life of the rubber tube and check valve.
- ***Do not use chlorinated cleaners, as chlorine damages and corrodes stainless steel!***
- Check for nicks/cuts/abrasions on the braided hose and replace as needed.
- Be observant of proper operation when running the machine and investigate anything that doesn't appear right.
- Be cognizant of sudden pressure spikes. Refer to troubleshooting guide.
- **Always wear personal protective equipment; especially face protection, when using any keg washing machine.**



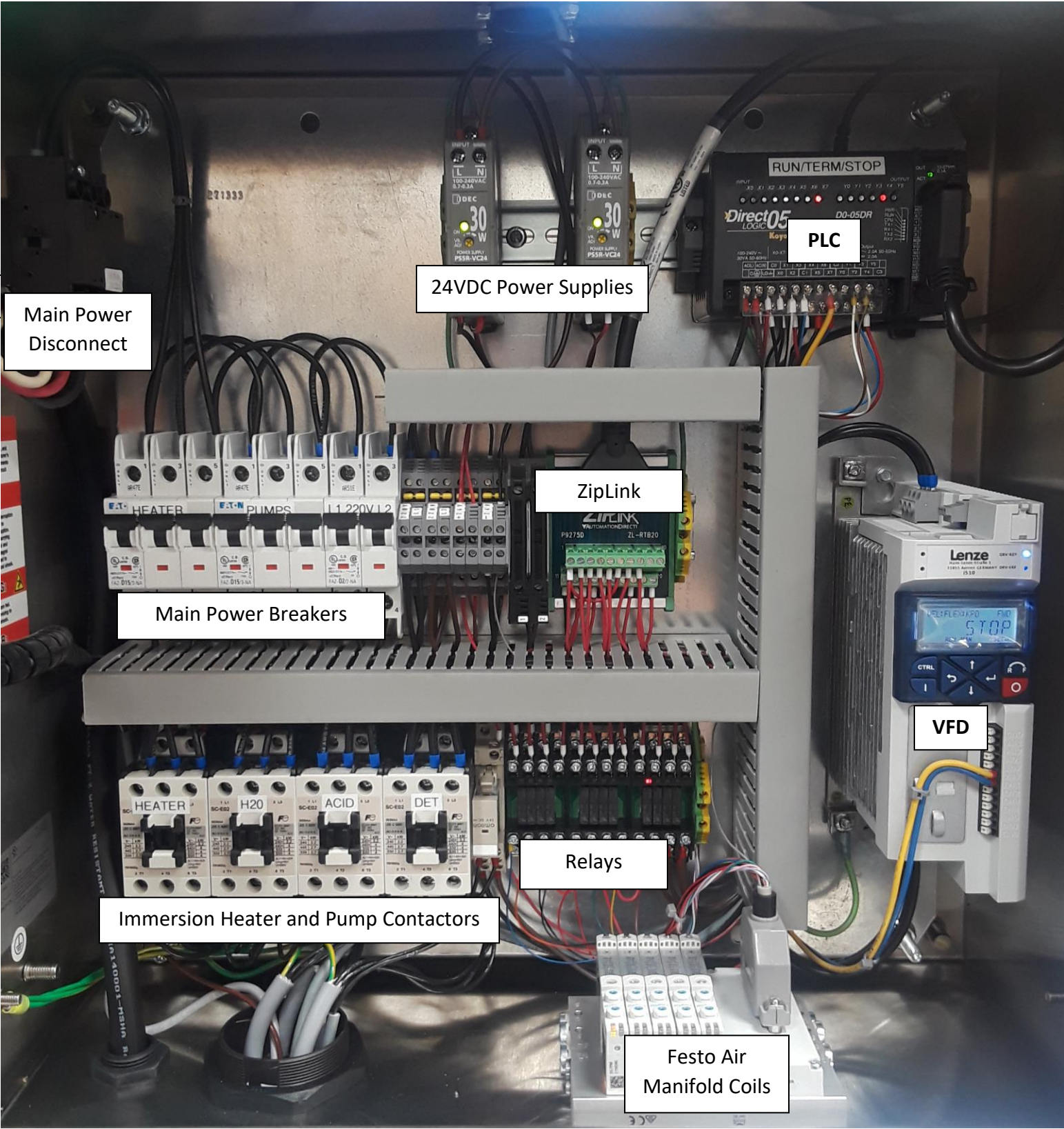


Figure 17 – Control Panel Components

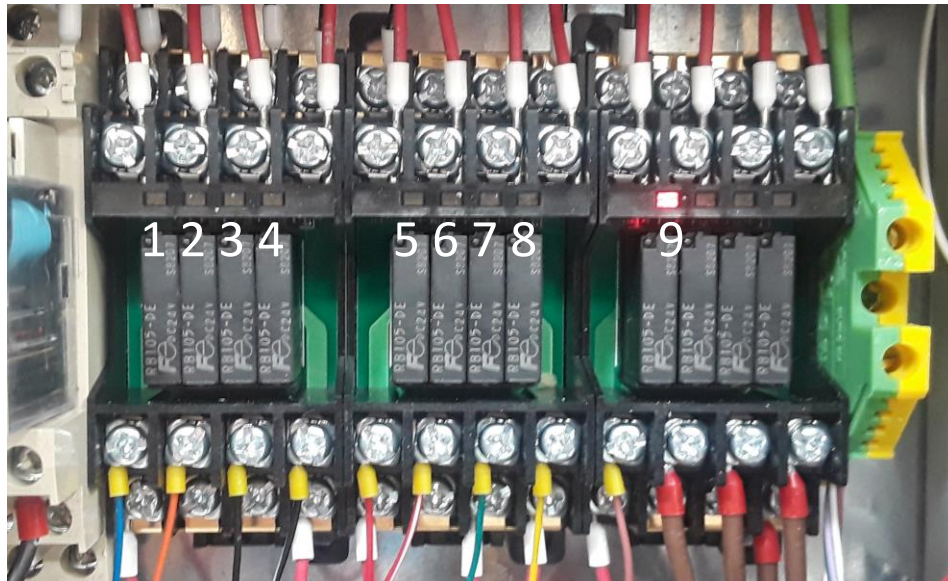


Figure 18



Figure 19

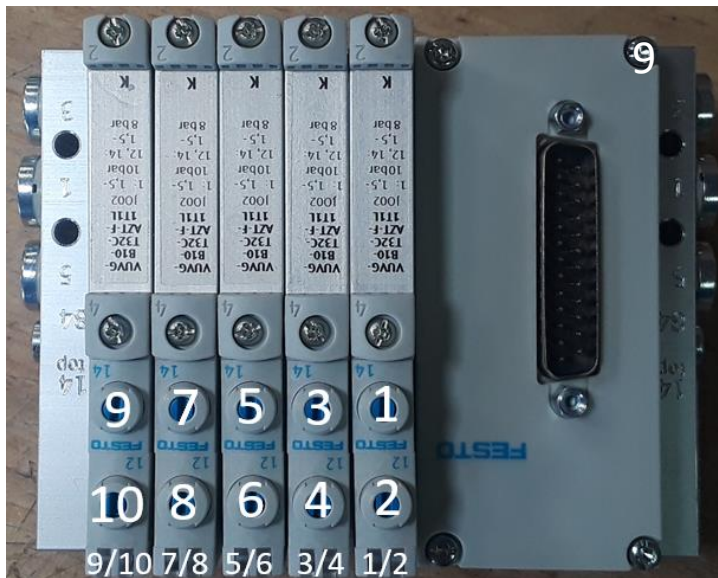


Figure 20

3V Valves	
1	Caustic Return
2	Drain
3	Air Supply
4	CO2 Supply
5	Detergent Supply
6	Acid Supply
7	Water Supply
8	Acid Return
9	Low Flow (Always ON)
10-12	Pumps
2V Valves	
1	Caustic Return
2	Drain
3	Air Supply
4	CO2 Supply
5	Detergent Supply
6	Water Supply
7	Low Flow (Always ON)
8, 9	Pumps

Replacement Parts

Common Links:

<https://cannonwater.com/chemical-pumps/pumps-by-brand/premier-stainless-systems/>

www.aspumps.com

www.mcmaster.com

www.grainger.com

www.festo.com/us

<http://www.gemssensors.com/>

www.macvalves.com/distributors/united-states/mac-valves-distributors/

SANITIZER PARTS

(Replacing check valve and tube together is recommended)

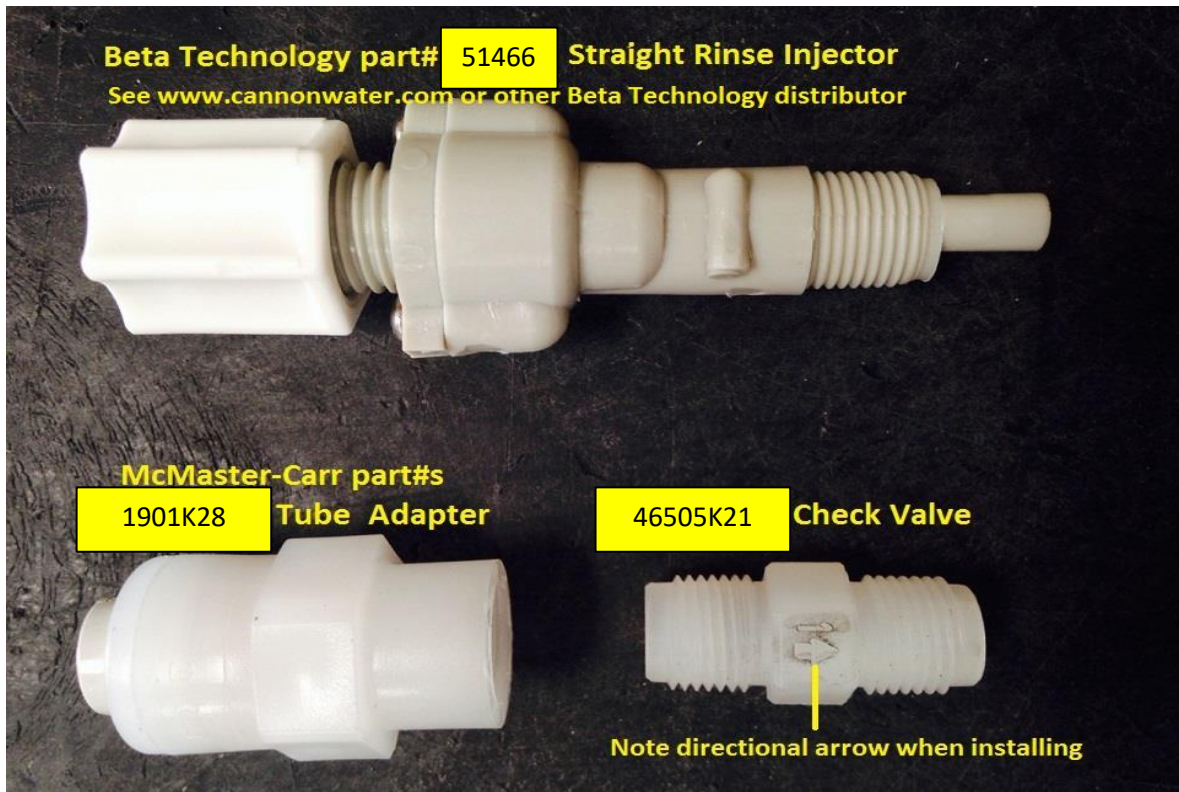


Figure 34



Figure 35

<https://cannonwater.com/chemical-pumps/pumps-by-brand/premier-stainless-systems/>

Peristaltic Pump Parts

Figure 35 Knight Tube-- **At Least 1 Spare Recommended** [7019060](#)



Knight Roller Assembly

[763330](#)

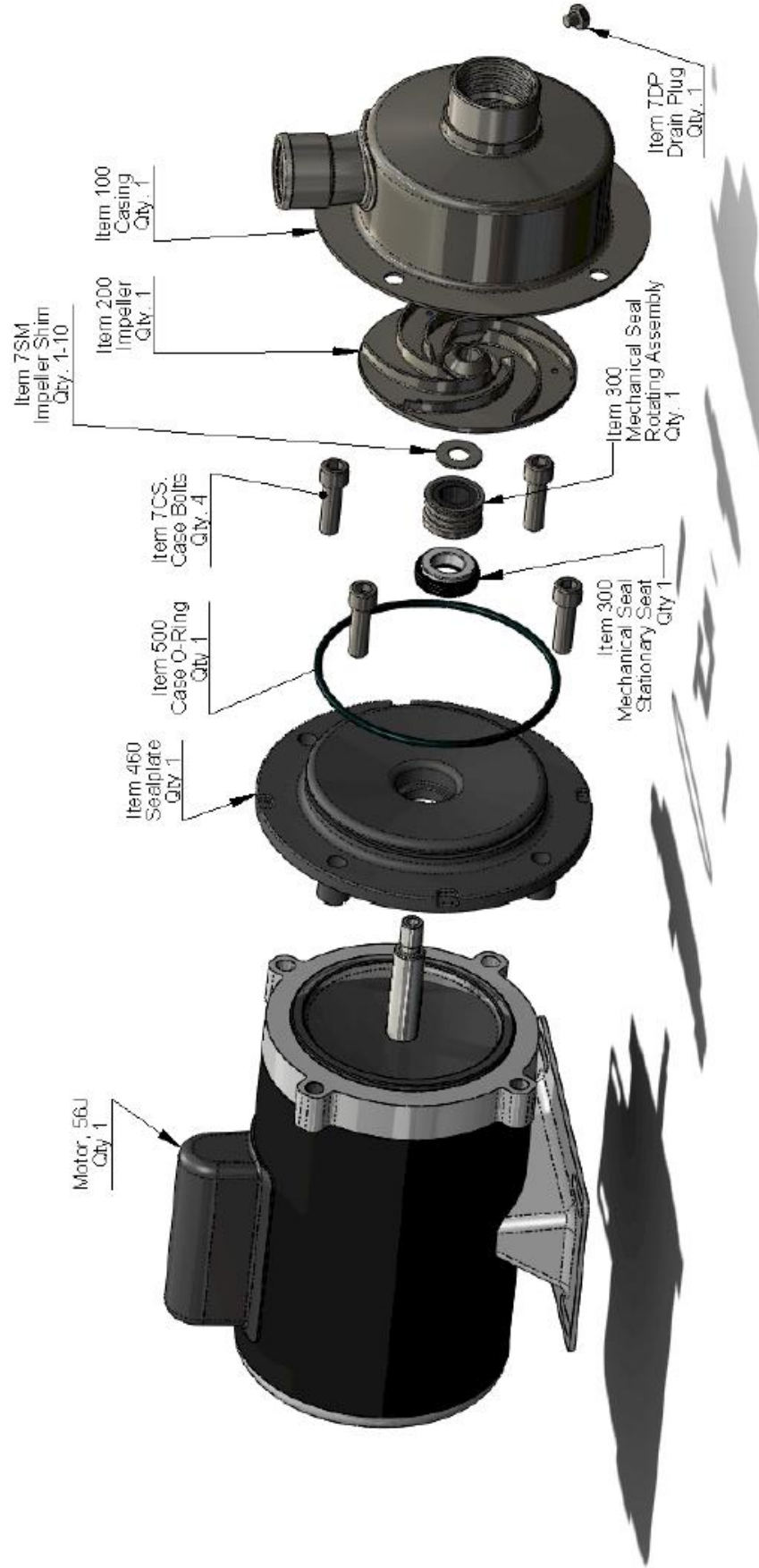
Figure 34 Straight Rinse Injector (check valve) --**At Least 1 Spare Recommended** [051466](#)



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Model FSP Exploded View




Model FSP Exploded View.doc
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American Stainless Pumps (ASP) Links for Seal Kit Replacement

Home website: www.aspumps.com
Troubleshooting: <http://www.aspumps.com/troubleshooting/sspcrepair.htm>
Information/parts: <http://www.aspumps.com/products/sspc/model-ssp-sspc/>

Call Premier or ASPumps	Pump Seal Replacement kit, including O-ring	KMS01012 (EPR, Carbon, Ceramic)
Call Premier or ASPumps	Pump Seal Replacement kit, including O-ring	KMS01017 (EPR, SiC, SiC)
 McMaster*	Mechanical Seal	9281K62 (Viton, Phenolic, Ceramic)
 McMaster*	Lg. O-ring	9464K556 (Viton)
 Grainger*	Mechanical Seal	1R300 (Viton, Carbon, Ceramic)
 Grainger*	Mechanical Seal	3ACE8 (Viton, SiC, SiC)
 Grainger*	Lg. O-ring #258 round	1KAK9 (Viton)

MISC. PARTS

www.mcmaster.com



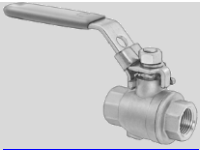
Schrader Valve

[6281T13](#) (for priming pumps)



Pump Priming Upgrade- SS Thread adapter (for use with SS ball valve)

[48805K86](#)



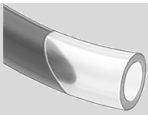
Pump Priming Upgrade- SS Ball Valve (above adapter required)

[46325K26](#)



Polyethylene (plastic) Tubing for sanitize line

[5181K39](#)



Clear sight tubing (tank level)

[5233K65](#)



Braided Tubing

[5238K658](#)



Crimp Clamps

[52545K72](#),
[52545K73](#),
[52545K71](#),
[52545K55](#)



1/2" Air Tubing

[5648K33](#)



1/4" Air Tubing

[5648K31](#)



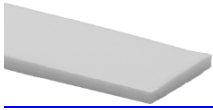
5/32" Air Tubing

[5648K23](#)



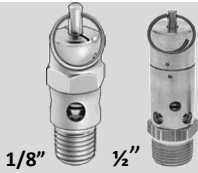
Peristaltic pump tube Grease

[1204K32](#)



Gasket material for tank lids

[93565K75](#)



Pressure Relief Valve (50psi)

1/8" npt

[5784T11](#)

1/2" npt

[48435K82](#)



1/8" npt x 5/32" Swivel 90(most valves)

[51495K212](#)



1/8" npt x 1/4" Swivel 90

[51495K214](#)



1/4" npt x 1/4" Swivel 90

[51495K218](#)



1/2" npt x 1/2" Swivel 90

[51495K227](#)



1/8" npt x 5/32" Straight (some valves)

[51495K182](#)



1/8" npt x 1/4" Straight

[51495K184](#)



1/4" npt x 1/4" Straight

[51495K191](#)



1/2" npt x 1/2" Straight

[51495K197](#)



Sensor Override Pushbutton

[7397K23](#)



Rubber Boot for Pushbutton

[70205K74](#)

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