

Service

Dedicated Sage Technician

Sage Systems has established a dedicated Sage Service Technician. Our Technician verifies warranty claims, offers technical support, and connects users with Sage Systems authorized service agencies in their area.

Authorized Service Agents

Sage Systems has gathered a full network of CFESA or NAFEM service agencies across the country. These professionals are experienced food equipment repair personnel. They inspect every new remote system installation at Start-up, and can offer regular maintenance or service on demand. To obtain a list of Sage Systems authorized service agents in your area, call our dedicated Sage Technician at (888) 757-3784.

Helpful Service Tips

A complete understanding of the interrelation of all the components of a Sage System is essential before any adjustments or repairs are attempted. Please make sure to read the entire manual before proceeding with service issues.

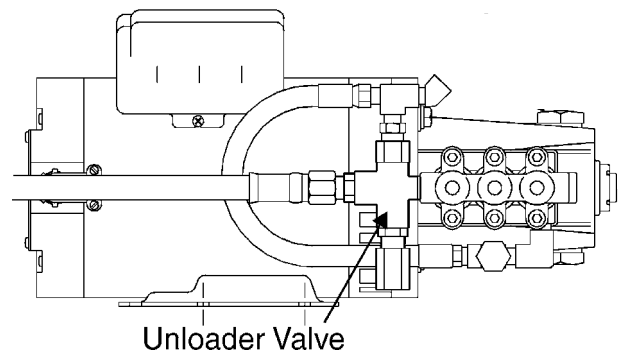
The Troubleshooting section includes many helpful tips and suggestions to overcome common problems with Sage machines. Make sure to check this section for some ideas that may not be repeated in this Service section.

High Pressure Pump(s)

The high-pressure pump is a positive displacement, direct drive design. The pump is mounted to the front of the motor with four bolts for easy maintenance. The pump rotations per minute (rpm) must be maintained at the fixed design rate in order to produce the optimal flow rate without variation. Typically, all T&S Sage machines are set to output between 2.75 and 2.95 gallons per minute, gpm (10.4 and 11.2 liters per minute, lpm)

The pump is supplied fresh water from the float tank at the rear of the machine. The tank cover removes for inspection of the valve inside. The float valve is adjustable, and should be set so that the highest water level is 1 in (2.5 cm) below the over level of the tank. The 1 in (2.5 cm) gap between the tank and cover serve as a back-siphon and back-pressure prevention device. The pump draws water from the float tank with suction. Water is pulled through an in-line water filter, down the pump inlet hose, and to the water inlet manifold of the pump. The inline water filter should be opened and the screen cleaned every month to prevent water starvation of the pump.

Bypass Unloader Valve



The Bypass Unloader Valve is attached to the pump's high pressure outlet side, and allows the pumped fluid to recirculate back to the pump inlet whenever the Spray Gun trigger is released. This valve, rather than the pump, can often be responsible for causing a drop in pressure, drop in water flow, or a binding of the pump. Be aware that down stream restrictions in the outlet line may increase pressures above the unloading valve setting. The unloader valve may need readjustment if new hoses, lines, or spray nozzles are added after the machines first installation.

When an unloader valve is not seating properly, some of the pump output will recirculate, even when spraying, causing a reduced volume and reduced pressure at the nozzle.

An unloader valve that sticks open causes a complete loss of pressure although the pump and motor are running normally.

An unloader valve that sticks in the closed position can cause severe pump damage when the spray gun is released and the excess pressure has no release. As a safety feature, all Sage machines include a Pressure Relief valve opposite the Bypass Unloader valve, which will discharge when the pressure exceeds the machine maximum by 25%.

Setting the Unloader Valve

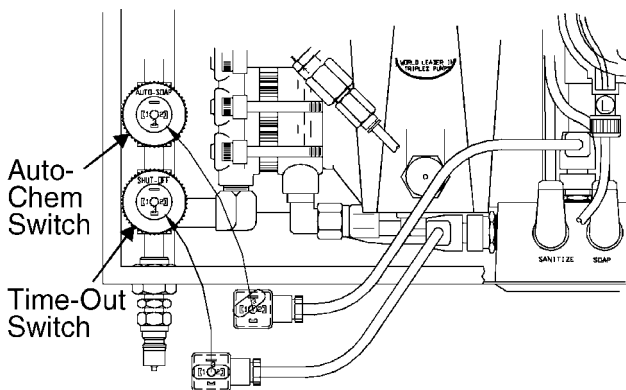
To reset the Bypass Unloader valve, you will need a 0-2000 psi pressure gauge with a 1/4" (.64 cm) QD socket inlet and a QD plug outlet, and a crescent wrench. Install the pressure gauge assembly to the plug on the front of the machine. Install the high-pressure spray hose and spray gun to the outlet of the gauge assembly. Start the machine and spray through the spray gun with the nozzle pulled in to the high-pressure position. Loosen the hex knob on the unloader valve down until the pressure is at least 100 psi (6.9 bar) below the maximum rated pressure for the machine, either 600, 800, or 1000 psi (41, 55, or 69 bar). Then tighten the hex knob on the unloader until the pressure reaches its maximum just below the maximum rated pressure. You should not be able to drive the pressure above the rated maximum, but should be able to get within 50 psi (3.5 bar) of the maximum rating.

The normal bypass pressure is within 200 psi (1.4 bar) of the unloader setting. In other words, the unloader valve will open and allow the water to bypass into recirculating mode when the spray gun is released, and the pressure goes up at least 200 psi (1.4 bar) beyond the set pressure.

Note! It is essential that the correct nozzle for the machine be installed to all spray guns on the system.

A different orifice size can greatly affect flow rate, maximum pressure, and even amperage. Each nozzle is specified for each machine to optimize flow rate at the specified pressure, while minimizing amperage. Using a different nozzle than is originally specified may cause severe machine damage, and will void warranty.

Pressure Switches



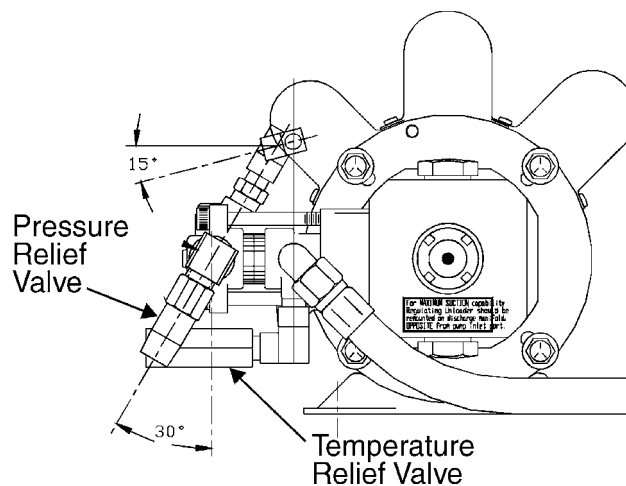
The rear pressure switch controls the AutoChem feature. At the factory, the rear switch is wired terminals 1-3, allowing chemical flow at pressures below the set point, and stopping chemical flow at pressures above the set point.

The chemical feed should work in low pressure, and stop in high pressure if the AutoChem feature is working properly. This switch is set between the high and low pressures produced by pulling in or pushing out on the spray nozzle. When the pressure drops to low, the switch signals to open the solenoid valve to start the pump, to allow chemicals to flow.

The switch can be set to allow chemical feed in both low and high pressures. For soap and sanitize to work in low and high pressure, turn the upper half of the switch clockwise to increase the kick-over point above the high pressure, but less than the unloaded pressure. The feed should work in low pressure and high pressure, but stop when unloaded into bypass mode.

Warning! The AutoChem switch setting should never allow chemical feed when the trigger is released and the pressure rises as the machine unloads into bypass mode.

Loosening or turning counter clockwise the top half of the switch reduces the set point pressure. Tightening or turning clock-wise the top half of the switch increases the set point pressure.



Temperature Relief Valve

If the temperature reaches 165oF (74°C), the Temperature relief valve will discharge 3.4 oz (100 ml) of heated water from the recirculating loop, and replace it with cooler water from the float tank. This will repeat every time the recirculating water reaches 165°F (74°C).

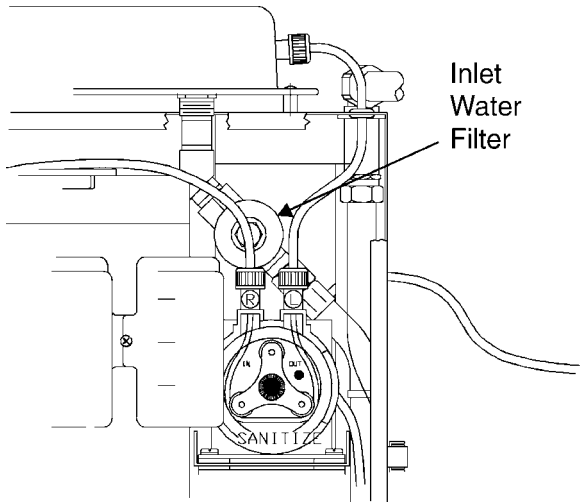
Pressure Relief Valve

The Pressure Relief Valve is set at the factory to 25% above the maximum rated pressure. Its purpose is to guarantee that the high-pressure side of the pump never sees a pressure more than 25% above the maximum rated pressure. This condition could only occur if certain components, like the unloader valve, failed or were altered from their factory state.

The PRV discharges water if the discharge pressure exceeds its set pressure. If you suspect that the PRV is the source of a problem, check it's setting. With a pressure gauge mounted to the front of the machine, and the Spray Gun spraying in high pressure, verify the pressure is within 50 psi of the maximum rated pressure. Make sure the PRV is not leaking in this condition. If not, loosen until the leaking begins and the pressure begins to fall. Then tighten 2 full turns past the leak point to reseal the PRV and to set it at 25% above the maximum rated pressure. If the PRV leaks constantly, maximum efficiency will be impossible to obtain, and the PRV should be replaced and set as described above.

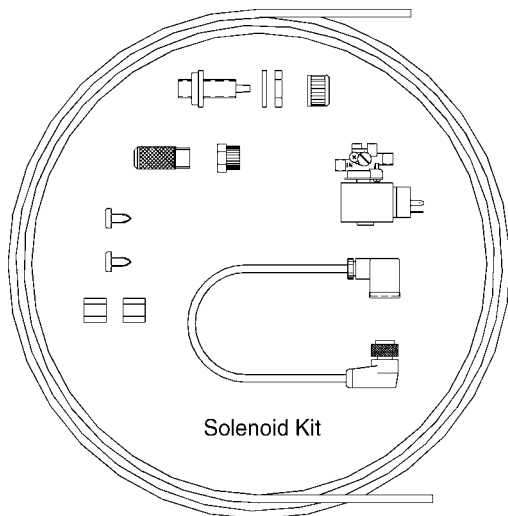
In-line Water Filter

This filter is designed to limit the debris that can enter the pump from the inlet water supply or the float tank. Regular service should include simply replacing the o-ring and filter screen by removing the big bottom cap with the hex nut feature, cleaning or replacing the two components, and reseating the cap.



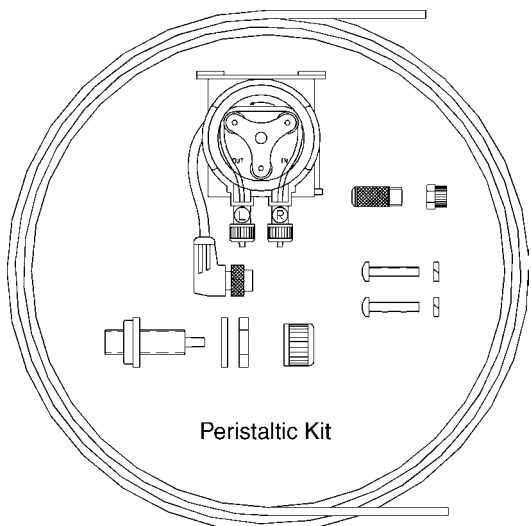
Chemical Feed Devices

Gravity fed systems, Solenoid Valves



The solenoid valves used with Sage systems are not repairable. If in troubleshooting it is determined that a solenoid valve is malfunctioning, the entire valve should be replaced using one of the Kits provided by Sage Systems.

Pump fed systems, Peristaltic pumps



The peristaltic pump(s) pull chemical from their containers with a tripod arrangement of rollers compressing surgical tubing and rolling along the tubing. This creates a suction, and forces chemical into the water lines that feeds the pump. There are two typical Peristaltic pump repair operations. First, you may need to replace the inner tubing. Or, you may need to replace the entire pump.

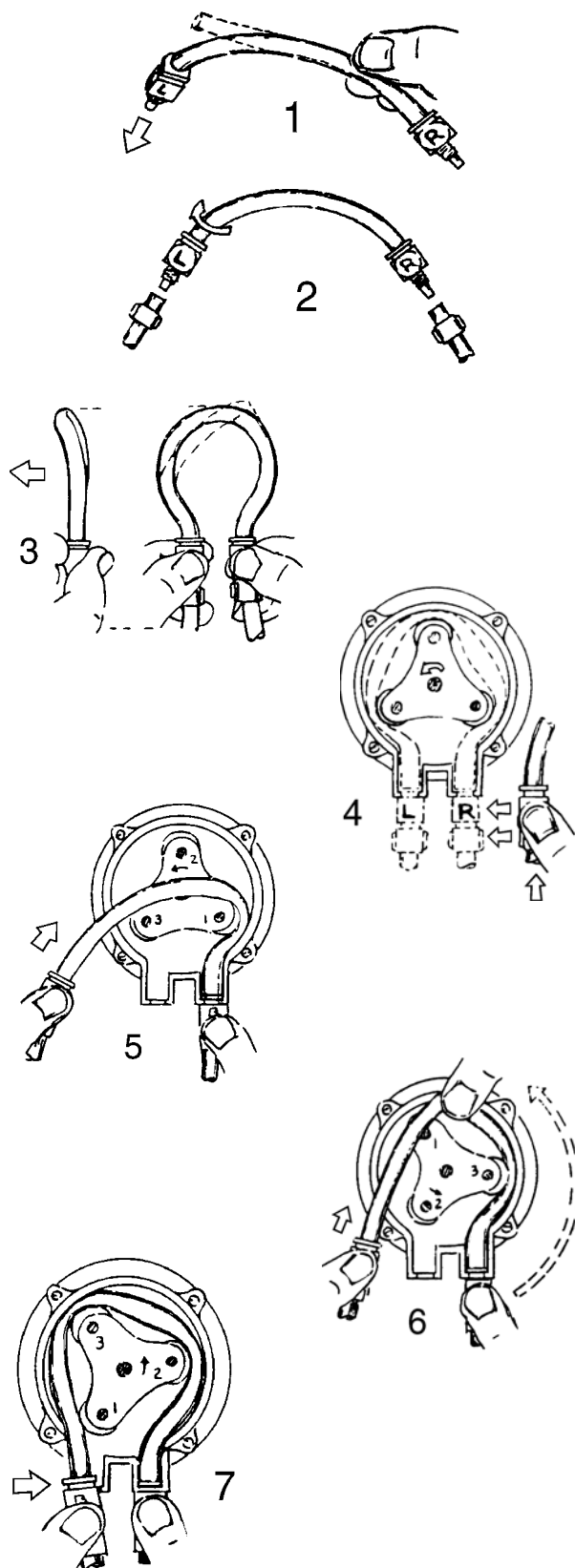
Replacing the Tubing

First, turn the speed control to OFF. Unscrew the nuts attaching the polytubing to the pump, and pull the polytubing from the white fittings. Pull off the red retaining knob from the motor shaft, and remove the clear cover. Lift out the tubing and fitting assembly. Be careful not to come in contact with any non-diluted chemicals in the tubing or pump assembly. You may turn the pump rollers by hand to assist with removing the tube. Wipe clean the pump head area, and if necessary, clean with a mild soap solution, and rinse with clean water. Lubricate the shaft and rollers with one of the two approved lubricants, either Union Carbide L-45 Dimethylpolysioxane or GE SF96-100 silicone fluid.

Note! The replacement tube is not symmetrical.

Position the rollers so that there is space between the first roller and the right side wall. Hold one end of the replacement tubing with fittings in your right hand, with the BW on the fitting facing you. The other end should turn down and to the left. If not, you are holding the wrong end. This twist is essential to allow for the difference of inside and outside length when the tube is threaded into the pump.

Replacing the Tubing



Hold the right fitting in the right hand, and left in the left, in a loop with thumbs on the BW letters. The looped tube should bend away from you. To thread in the tube, insert the right side fitting firmly and all the way into the right lock socket. Feed the tubing between one roller at a time, turning the rollers as necessary to help feed the tubing between the roller and the wall. Keep the BW in the left hand facing up, without twisting the tubing to do so. Use the right thumb to assist with pressing the tubing down between the roller and the wall.

Caution! Be careful to avoid pinching fingers in he turning rollers.

After the tubing is in place at all three rollers, press the left fitting into its place. Replace the cover and rotating knob. Cut about 0.25 in (0.2 cm) from the end of the inlet and outlet polytubing, making sure to keep the nut up the tubing while cutting. Press the freshly cut inlet and outlet tubing onto the pump fittings, and tighten the nuts over the connections. Reset the control knob to its previous position for the same feed rate as before.

Replacing the Pump

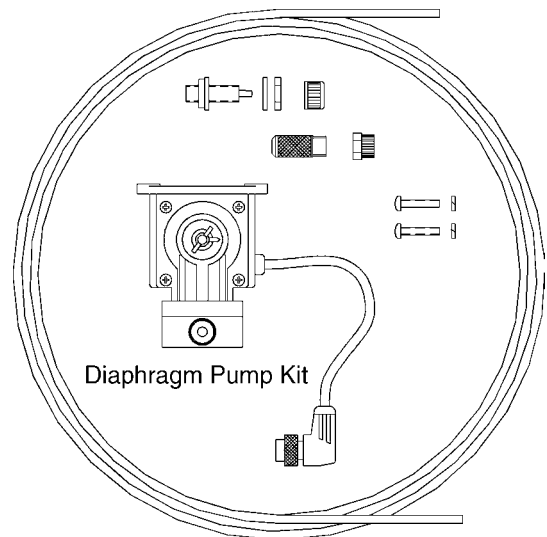
Turn the Machine and Master Power off at the MCP. Disconnect the inlet and outlet polytubing. Disconnect the yellow electrical fitting from the wiring box in the machine.

Unscrew the two screws that hold the pump to the welded vertical bracket inside the machine. Remove the pump.

Insert the new pump, and attach to the bracket with the two screws. Attach the ¼ turn electrical connector of the new pump to the same port where the previous plug was attached.

Cut about 0.25 in (0.2 cm) from the end of the inlet and outlet polytubing, making sure to keep the nut up the tubing while cutting. Press the freshly cut inlet and outlet tubing onto the pump fittings, and tighten the nuts over the connections.

Pump fed systems, Diaphragm pumps



The diaphragm pump(s) pump chemical from their containers with an oscillating diaphragm that forces chemical into the water lines that feeds the pump. Diaphragm pumps are not repairable and must be replaced as a unit if found to be defective. Sage Systems offers kits complete with all items necessary to replace Diaphragm pumps.