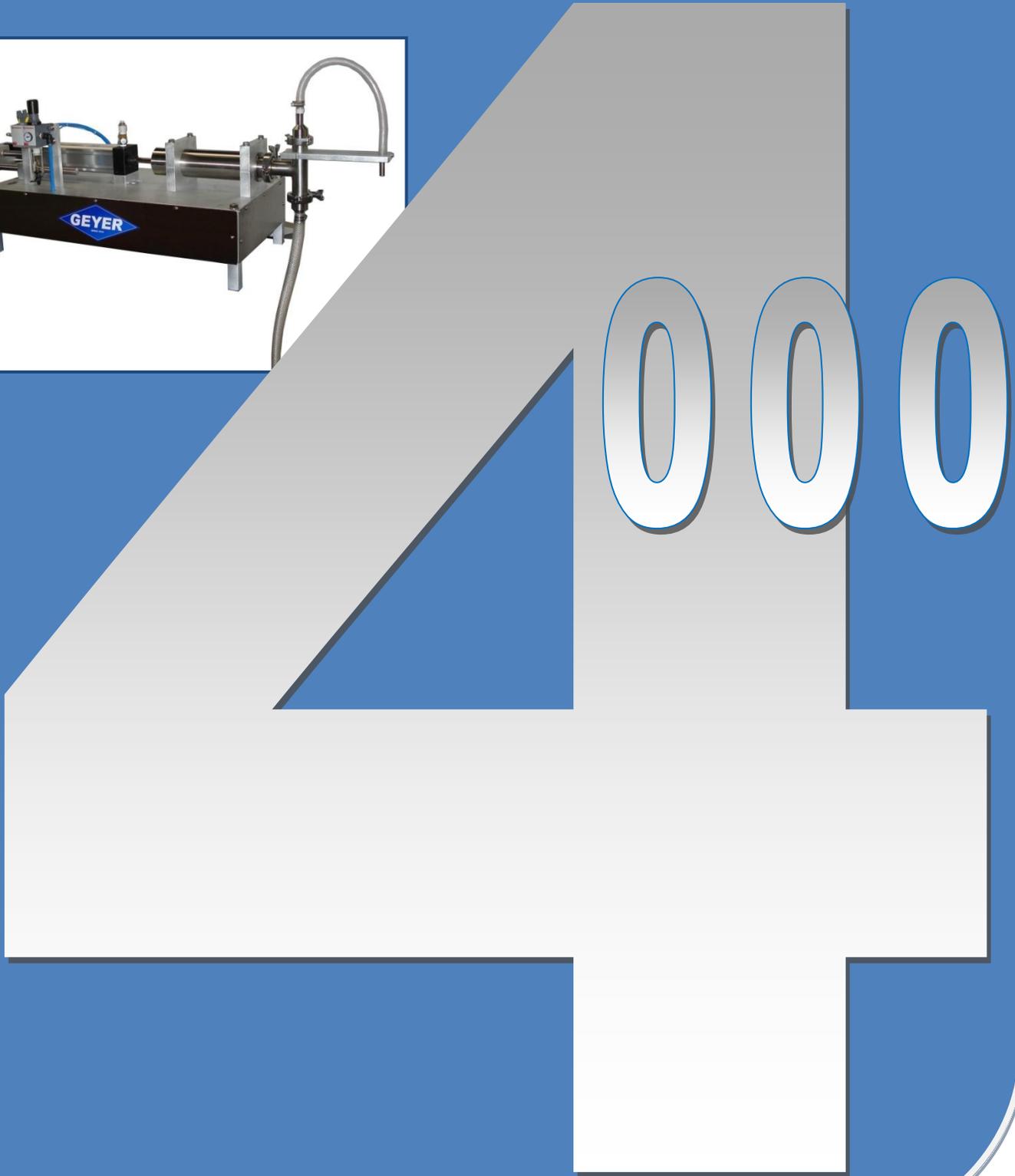




# Flo-Master



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## Table Of Contents

<b>Inspection Upon Arrival</b>	<b>Page 4</b>
<b>Locating The Machine</b>	<b>Page 4</b>
<b>Leveling The Machine</b>	<b>Page 4</b>
<b>Assembling The Machine</b>	<b>Page 4</b>
<b>Air Connections</b>	<b>Page 4</b>
<b>Machine Speed</b>	<b>Page 5</b>
<b>Altering The Machine Speed</b>	<b>Page 5</b>
<b>Continuous Mode</b>	<b>Page 6</b>
<b>Adjustment For Quantity Of Fill</b>	<b>Page 6</b>
<b>Startup</b>	<b>Page 7</b>
<b>Some Important Notes</b>	<b>Page 8</b>
<b>Safety Procedures</b>	<b>Page 9</b>
<b>Machine Maintenance</b>	<b>Page 10</b>
<b>Lubricating Your Machine</b>	<b>Page 11</b>
<b>Keep all threaded parts tightened</b>	<b>Page 12</b>
<b>How it works</b>	<b>Page 13</b>
<b>Machine Air Schematic</b>	<b>Page 14</b>
<b>Diagram of Machine Parts</b>	<b>Page 16</b>
<b>Flo-Master 4000 machine parts list</b>	<b>Page 18</b>

## **Flo-Master Table Top Filling Machine**

### **A. INSPECTION UPON ARRIVAL**

Your GEYER filler has received careful final inspection and has been test run at the factory prior to shipment. It has been crated securely to insure delivery without damage or loss of parts. Upon its arrival at your plant, please inspect the shipment for any damage or loss in transit. If there is any noticeable damage, please call us at (215) 322-2122.

### **B. LOCATING THE MACHINE**

Your GEYER filler should be set up in a location, which will allow enough space around the machine for the operator and provide easy access for maintenance purposes.

### **C. LEVELING THE MACHINE**

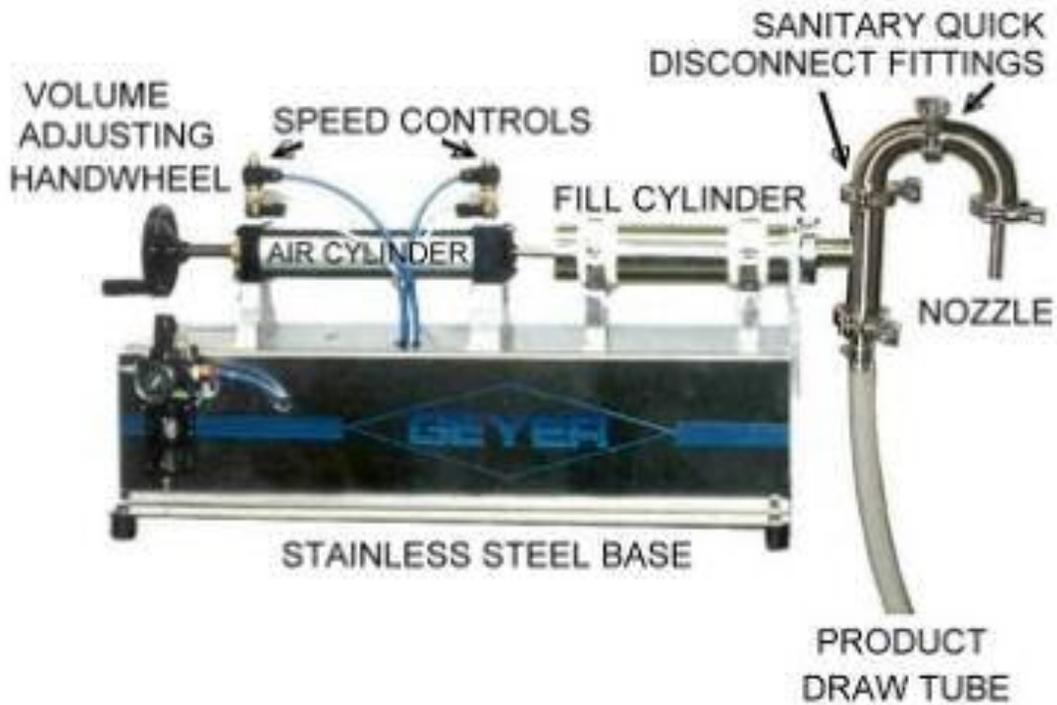
Make sure that the machine is properly leveled by placing it on a level surface.

### **D. ASSEMBLING THE MACHINE**

Generally, after the filler has been tested in our plant, it is shipped to you set up ready to operate. Remove all tape and other materials used in shipping the machine. If any parts are unattached for shipping Purposes, follow the instructions on the attached tags for re-assembly. If you have any questions please call us for technical assistance.

### **E. AIR CONNECTIONS**

Your machine has been supplied with a Trio Unit (Filter, Regulator, Lubricator), which is necessary for air operation. You will need to run a line for your air compressor to the trio unit. There is a dial indicator on the trio unit (directly above the pressure gauge) for setting the required amount of air pressure (generally 100 psi). The unit will already be preset from testing at the factory. However, depending upon varying factors (different products, speeds, etc.) you will have to make adjustments to this setting. **Note: All the air components on the Flo-Master are self lubricating, No oil is needed.**



## F. MACHINE SPEED

The Flo-Master has been designed to operate on demand. In other words, a fill cycle is initiated when the operator presses the foot pedal. The machine will go through and complete one fill cycle and then automatically shut off until the foot pedal is pressed again. The machine will operate as fast as the operator can get an empty container under the nozzle and press the foot pedal (filling the container).

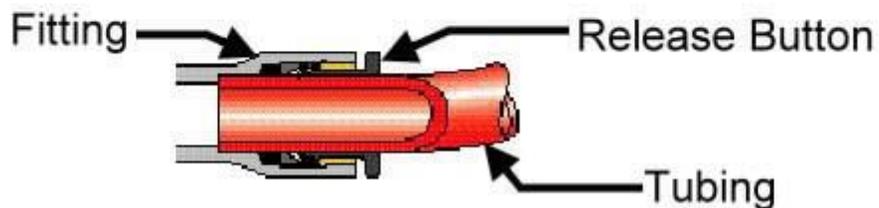
## G. ALTERING THE MACHINE SPEED

The Flo-Master has been supplied with one air cylinder. The air cylinder has been supplied with two flow controls (one at either end of the cylinder and on top) refer to diagram on page 10. Each flow control has an adjusting screw. By turning the screw with a small screwdriver you can adjust the speed of the forward stroke (the flow control closest to the discharge of the machine) and the return stroke (the control farthest from the discharge) of the air cylinder. Please note that these flow controls have been pre-set by the factory for the optimal speed and timing. However, you may want to make a small adjustment to increase (or decrease) the overall speed of the fill cycle, or just the speed of the piston intake or discharge stroke.

## H. CONTINUOUS MODE

The machine has been sent to you equipped with a foot pedal. Once the foot pedal is depressed, the machine will complete one cycle and then shut off, until the foot pedal is depressed again. If you wish to have the machine cycle continuously, you can perform the following procedure. First disconnect the air supply. There are two lines of air tubing coming from the filler to the foot pedal. About 6 to 12 inches from the foot pedal there are two plastic instant tube fittings. By pulling back on the end of either one of the plastic connectors in one hand, and with the tubing in the other hand, the tubing will be released (see illustration below). (You are in the process of disconnecting the foot pedal from the machine). On the second tube, remove the tubing with the fitting still attached. At this point you should have one tube with a Fitting and the second one is just the tube by itself. Connect the open tube into the open end of the fitting on the other tube (closing the loop). When the air is reconnected the machine will cycle continuously.

To Install simply push the tube into the fitting.  
Connection and sealing are instantly secured.  
To disconnect, push on the release button and  
pull out the tube.



## **I. ADJUSTMENT FOR QUANTITY OF FILL**

The volume of product that this filling machine dispenses depends upon the size of the inside diameter of the fill cylinder that is supplied with this machine and the length of the stroke that the piston takes. The stroke of the piston is adjustable, thereby allowing the machine to deliver different volumes.

Each size cylinder has a particular fill "range". The Smaller the diameter of the cylinder the smaller the range of fill. In general, the best accuracy of fill achieved when the cylinder has a small diameter and a long piston stroke is taken. This is why a number of cylinders may be required if you are filling a variety of container sizes.

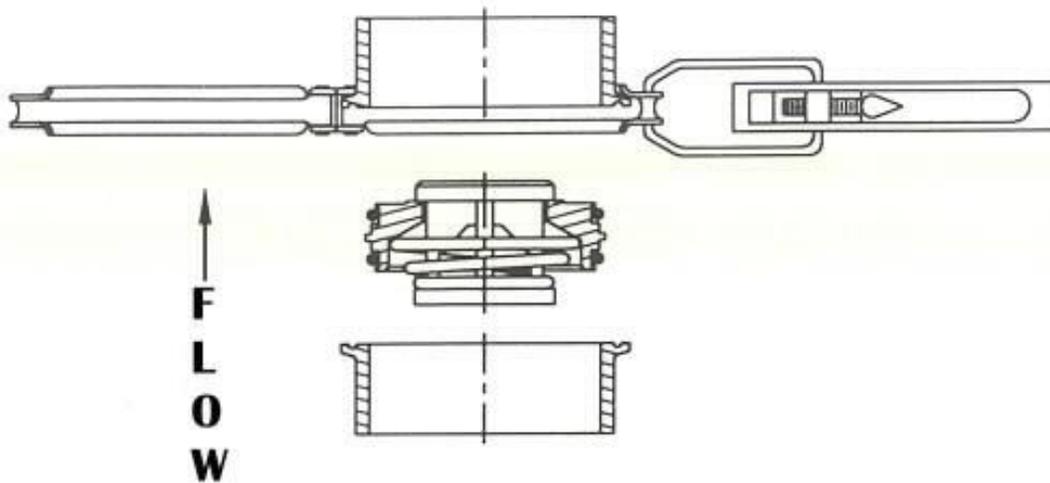
To make an adjustment in volume of fill, turn the hand wheel at the end of the air cylinder. You must first loosen the nut on the end of the threaded rod to turn the hand wheel. Turning the hand wheel clockwise will decrease the volume of fill. Turning the hand wheel counterclockwise will increase the volume of fill. Once the proper piston stroke is found, tighten the nut on the threaded rod to lock in the stroke and seal the air cylinder itself.

## **J. START-UP**

Once the air connection has been made, and you have tried dry cycling (running without any product) the machine to make sure it is functioning, you may now test fill. It will take one or two cycles to prime the filling head and for product to come out the filling nozzle. Check the volume of fill and if necessary make adjustments as explained in paragraph I above.

## **SOME IMPORTANT NOTES:**

1. Keep the O-Rings on the piston well lubricated. (We suggest using Sana-Lube #2000 Food Grade Lubricant (Which may be ordered through us).
2. In order for your machine to work properly, the head must be completely air tight. If it is not completely air tight, the product will not draw or you may experience variable fill. In order for the filling head to be completely airtight, all gaskets must be in place and all sanitary clamps must be at least hand tight.
3. If all gaskets are in place and all threaded parts are tightened and the machine still does not draw product, one or both of the check valve(s) may have a foreign particle inside which may impede the action of the ball and spring. Remove these parts from the machine, clean thoroughly and replace.
4. Make sure that the springs in the check valves are on the side of the tank and away from the nozzle (this is a must, reversal of one may damage the machine or check valves, reversal of both will reverse the flow).



# **Safety Procedures**

Please make sure that all operators use extreme caution when operating, cleaning, and repairing the filling machine. Make sure that all operators and maintenance personnel read and understand all warning stickers that have been placed on your machine. NEVER REMOVE THESE STICKERS!!!

## GENERAL SAFETY GUIDLINES:

- I. Never operate machine with out all guarding securely in place.
- II. Never clean machine with hands while it is in operation. It is recommended that you turn the machine off while cleaning it.
- III. Never place hands or fingers around moving parts.
- IV. While cleaning the machine, making adjustments or replacing parts, Please turn the machine off first before performing these operations, and make sure that it can not be accidentally restarted, by using the Safety Shut-Off Valve (page 12 and 17).
- V. Packaging Enterprises, Inc. has made every effort to provide adequate guarding to provide you with a safe machine. However, Please remember this is a machine and it has many moving parts. Good judgment and caution should be exercised at all times when dealing with the machine. It is the responsibility of the buyer to inspect the filler upon receipt and inform us if the machine has any missing guards or lacks reasonable safety protection. It is also the responsibility of the buyer to make sure that all operators have been adequately trained and understand the above safety guidelines completely.

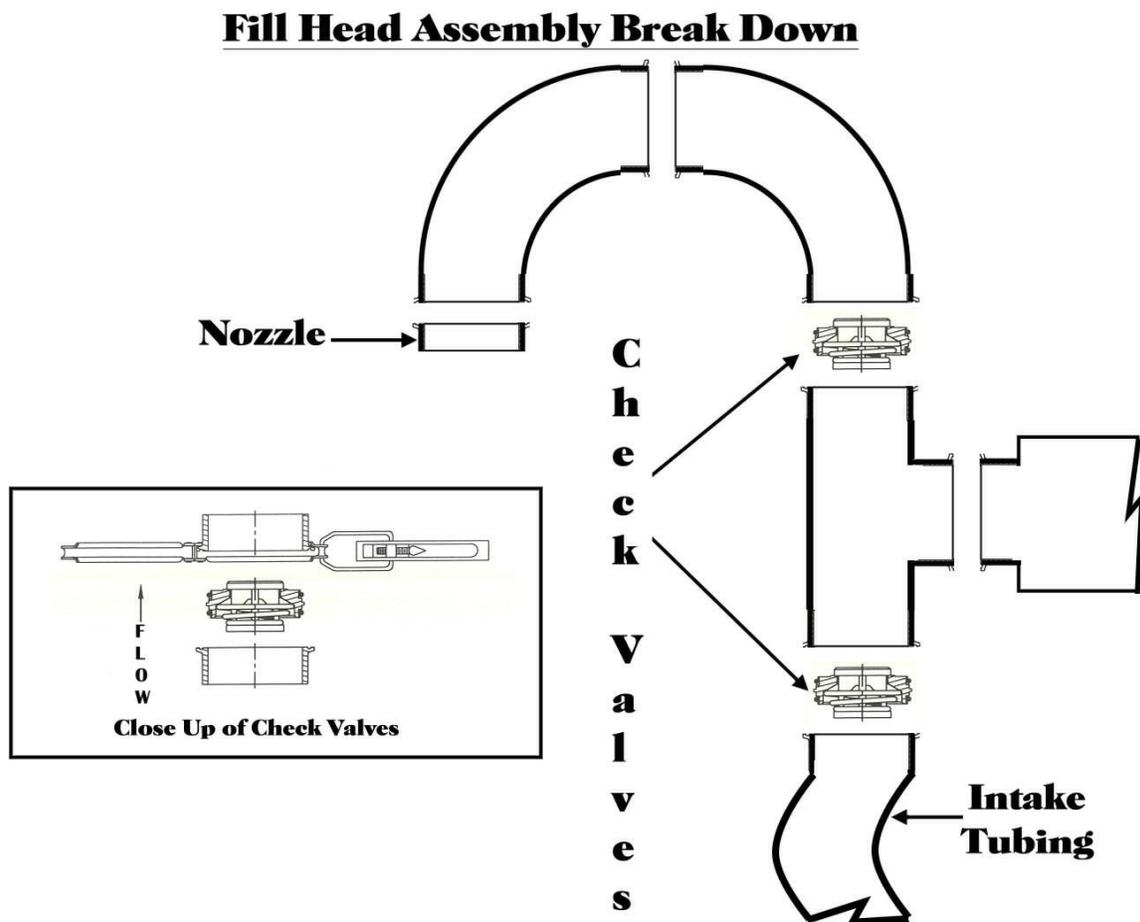
## Machine Maintenance

These procedures should be performed at least twice a week to keep the machine in top running order and to maintain cleanliness. **(Food Plants must perform this cleaning procedure once a day, after run is complete, to prevent growth of bacteria.)** If there are any questions on part names in this section, refer to the drawing on the next page. This procedure should take no more than 10 minutes, once you become familiar with it.

1. Make sure the air compressor is disconnected. There is an air connector right as the air comes into the machine. The air will be dumped, and the machine is now completely inoperable, just like unplugging a blender from the wall. It is not necessary to cycle the machine, since it cannot. The foot pedal can be anywhere as long as it is out of the way.
2. Now remove the filling head by removing the quick disconnect clamp attaching it to the fill cylinder.
3. Now you can remove the two screws on the top of the plate holding the cylinder to the front of the machine base. Next loosen the screws on the front of the plate and push it down below the fill cylinder (you may need to remove 2 of the screws to get it low enough)
4. Loosen the nuts and bolts on the hex clamps, that hold the cylinder in place; you may wish to remove the top half of the hex clamps all together. (what ever you feel most comfortable with)
5. Now you should be able to easily pull the cylinder off the piston. Sometimes it takes one person to hold the machine, so it doesn't move, and the another person to pull the cylinder off. The piston can be washed in place if you would like or you could remove it with a wrench to hold the coupler and just unscrew it, you may need to wipe the piston off to get a good grip.
6. Clean all the parts. You can use any cleaner. (soap and water usually works fine, but you will know what best cleans your product) The Flo-Master's fill head uses sanitary pipefittings and can be completely disassembled for cleaning. Take care when removing the clamps and fittings from the tee, because the check valves are inside those fittings.
7. Once everything is clean you can put it back together, as follows.
8. Start by putting some lubricant on the piston and just at the beginning of the cylinder (see section "Lubricating Your Machine") and slide the cylinder over the piston (don't cover the opening, you won't be able to push it on the because, the air has to escape) again two people are better than one.

9. Reattach the plate to the cylinder; make sure the front of the cylinder touches the back of the plate. Now position the cylinder so the plate is against the front of the base. Then tighten the hex clamps so that they hold the cylinder in place. (don't over or under tighten) Next tighten all the bolts on the plate.

10. Now reassemble the fill head. Remember that the check valves go on the top and bottom of the tee and the springs on the check valves must be on the side the flow is coming from. Also, when inserting the check valves you must be sure that they go in evenly if they go in crooked the O-ring seal could be broken. (a little sanitary lubricant on the o-rings will help slip in the check valves) Once reassembled reconnect the fill head to the front of the cylinder.



11. Finally reconnect the air compressor. You're back in business.

All you should need for this maintenance procedure is two adjustable wrenches, a 3/16", and a 5/16" allen wrench. We do offer a complete tool kit with a large assortment of all kinds of tools. Contact us for pricing.

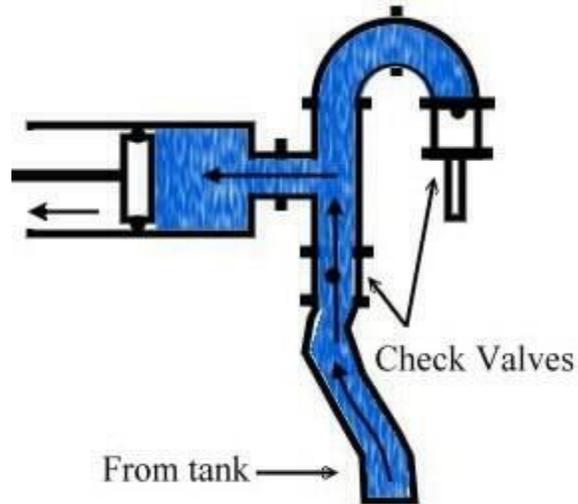
## **Lubricating Your Machine**

After cleaning the product contact parts and prior to reassembling the machine, make sure to apply a small amount of Sana-Lube #2000 or other food grade lubricant to the piston. Make certain to coat the entire part, but do not over apply it. You can order Sana-Lube #2000 by calling us at (215) 379-1234 or email to [parts@packagingenterprises.com](mailto:parts@packagingenterprises.com). Also, it is advisable to apply some Sana-Lube #2000 to the air cylinder rod periodically to help maintain a smooth operation.

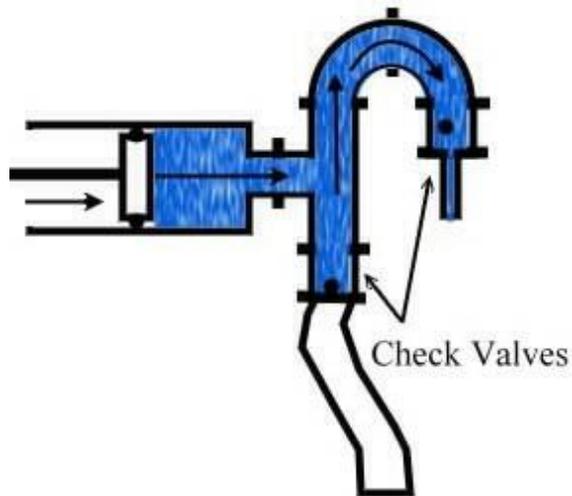
## **Keep all threaded parts tightened**

All bolts, nuts, screws, piston parts are screwed in place for ease of cleaning. Keep these parts tight! They may come loose during every day use. Check them at the end of every day. Loose parts could cause problems! The quick disconnect clamps must be kept tight. Hand tightened is usually good enough, if not use a pair of pliers. Keep all bolts on the fill cylinder and air cylinders tight as well (just a couple of turns beyond hand tightened). If any air is getting into the product or leaking occurs in the fill head you may need to tighten the fill head.

## How it works!



- I. Piston takes an intake stroke drawing product from the hopper through the lower check valve while closing the upper check valve.



- II. On the discharge stroke, the piston pushes product from the cylinder through the upper check valve to the nozzle, while closing the lower check valve.

# Flo-Master Air Schematic

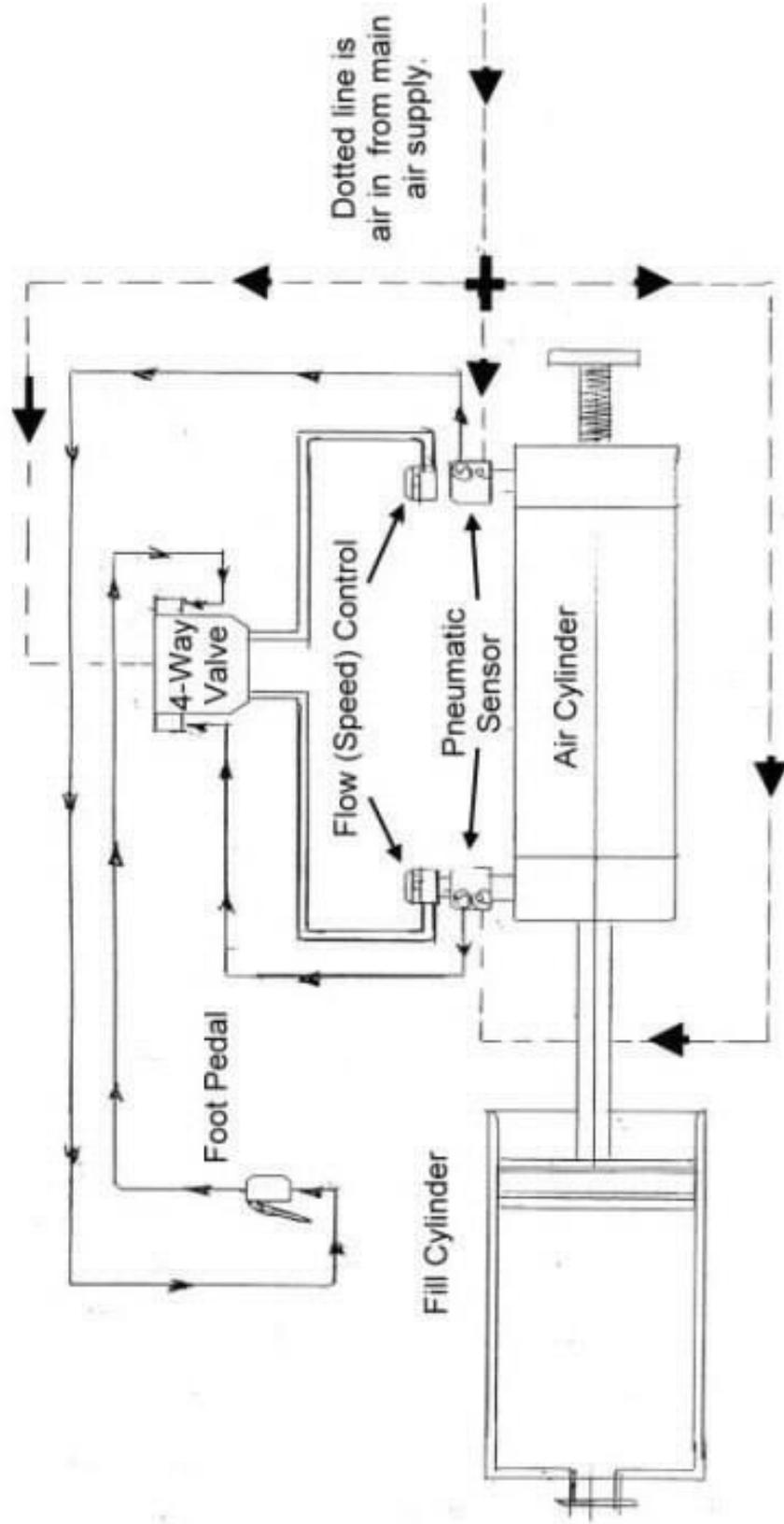


Diagram of Machine Parts

Diagram 1

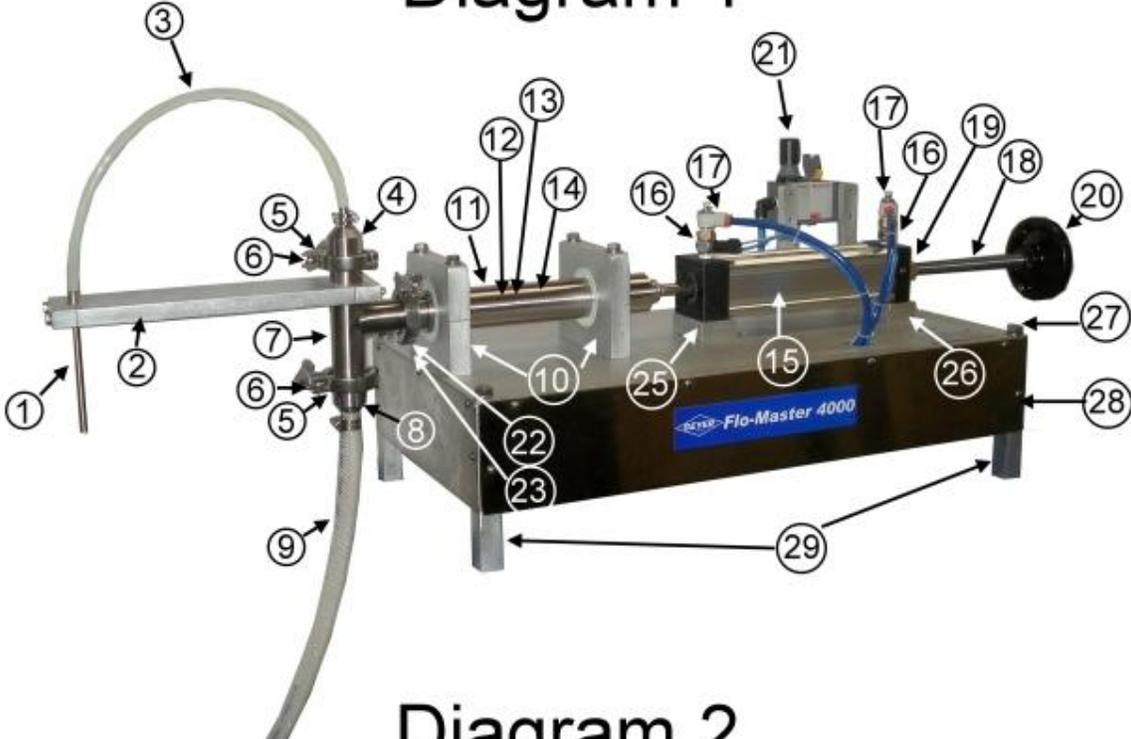
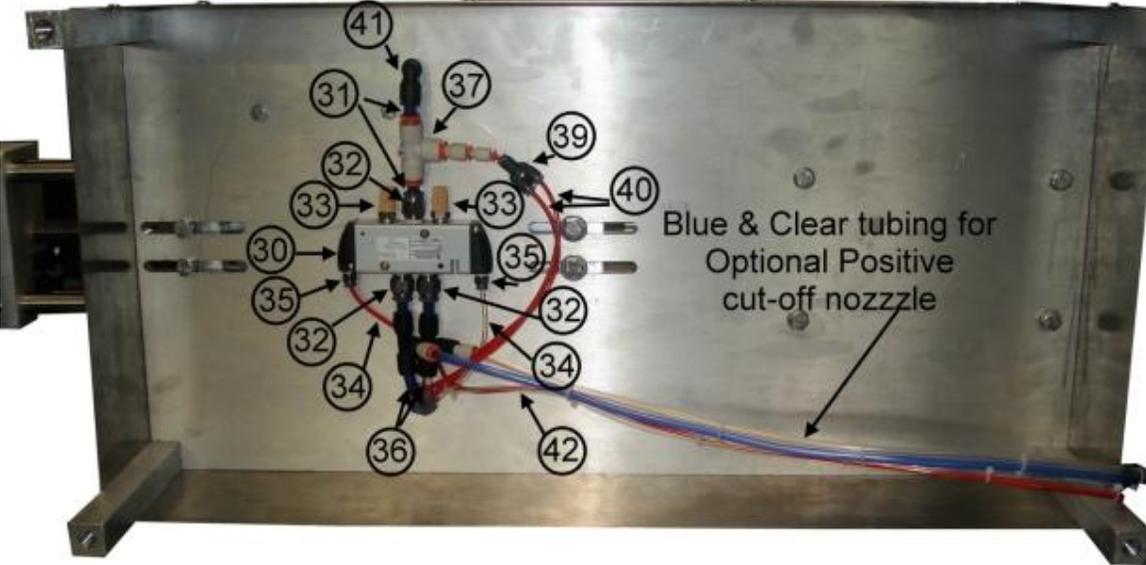


Diagram 2





Flo-Master 4000 filling machine parts list				
Item Number	Description	Size	Material	Unit
	<b>Diagram 2</b>			
30	Main Air Valve	3/8" Tube		1
31	Main air valve Air Supply Tube	3/8"		1
32	Male Tube Fitting	3/8" Tube		3
33	Muffler - Main Air Valve			2
34	Sensor Signal Tube	5/32"		1
35	Male Tube fitting - Sensor Line	5/32"		2
36	Main Air Cylinder Tube	3/8"		1
37	Tube Tee with Reducer	3/8" to 1/4"		1
38	Tube Tee	5/32" Tube		1
39	Main Air Cylinder Mounting Bar		304 Stainless Steel	2
39	Sensor Supply Y	5/32" Tube		1
40	Sensor Supply Tube	5/32"		2
41	Main Air Supply Elbow	3/8"		1
42	Foot Switch Tube	5/32"		2

Prices are available by going to our website [www.philapack.com](http://www.philapack.com) and clicking on "Parts and Service".