

- ↘ Air Piston & Servo Filling / Depositing Systems
- ↘ Air Piston & Hydraulic Transfer Pumps
- ↘ Spotters & Stripers
- ↘ Icers & Glazers
- ↘ Custom Integrated Designs

PARTS / SERVICE & INSTRUCTION MANUAL

PACIFIC FRUIT PROCESSORS, INC.
SOUTH GATE, CA | USA

SINGLE PISTON FILLER/DEPOSITOR

MODEL No.: SP-64B

SERIAL No.: 0005537

MFG. DATE: MAY 2007



2122 - 222nd Street S.E. | Bothell, WA 98021-4430 | U.S.A.

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Series 64 Depositors

FOOD and BAKERY PRODUCTION EQUIPMENT

HINDS-BOCK

PARTNERS IN PRODUCTION

www.hinds-bock.com



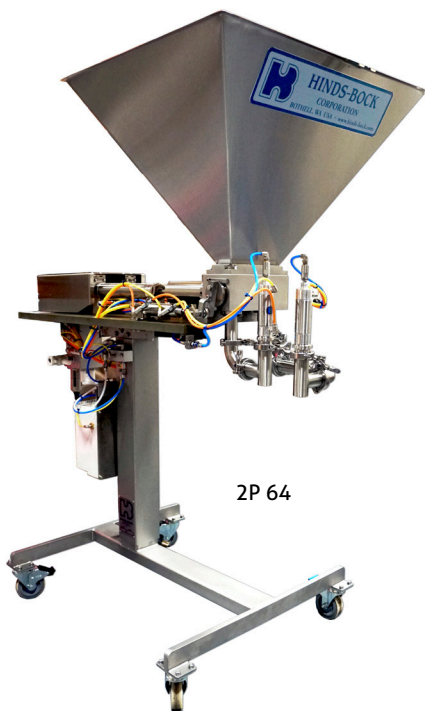
The 64 series industrial depositors are perfect for depositing and filling precise portions of food, bakery or specialty chemical based products.

ideal for

- Hummus, Guacamole, Salsa and Tzatziki
- Cake and muffin batter with/without inclusions
- Deli salads, soup, chili and stew
- All types of sauces — smooth or chunky
- Nut Butters and spreads
- Thick batters such as cheesecake and fudge brownie

Standard Features

- Air powered piston depositor.
- Large deposit range - up to 64 ounces per piston.
- Stainless steel construction with all food approved contact parts.
- Easy to clean with lift-off metering piston for rapid sanitizing.
- Heavy duty locking swivel casters.
- Easy height adjustment.
- Spouts and attachments available.



2P 64



SP 64



Options & Specs

Many options are available for the 64 series such as hand depositing nozzles, product transfer pumps, hopper agitators, and spouts.



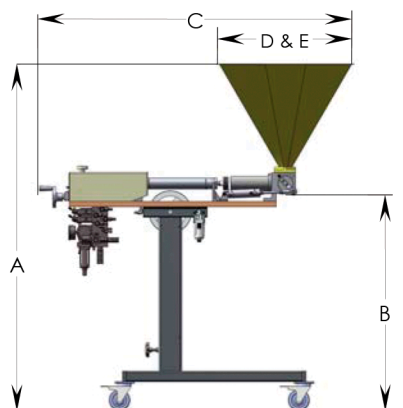
Above: Hand depositing nozzle filling cups with apple pie filling.
Below: 1" vertical cut-off spouts filling jars with mustard.



Keep Production Running 24/7
 SP 64 depositor with P-128 transfer pump



SP-64 with hopper agitator
 and extended filling spout.
 Great for bottom up filling of jars, bottles and pouches in a vertical form, fill and seal setup.



Standard Model Specifications				HOPPER WIDTH		*
MODEL	A	B	C	D	E	REQ'D CFM
SP-64 2P-64	66"-80"	41"-54.5"	59"	25.75"	32.25"	6-8

*Approximate CFM. Consult factory for exact CFM requirements.

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Safety Instructions

Definitions of label and instruction words and alerts



Indicates a high risk hazard which if not avoided will result in death or serious injury.



Indicates a medium risk hazard which if not avoided could result in death or injury.



Indicates a low risk hazard which if not avoided could result in injury and/or damage to the equipment.



Safety alert. Denotes a safety message to prevent injury.

General Precautions



DO NOT operate the machine until you have read the instruction manual completely. Failure to follow instructions and warnings may result in injury and/or machine damage.



WARNING

- DO NOT put fingers, hands, arms into machine while it is running or has power/air connections that have not been shut off.
- SHUT OFF and LOCK OUT air supply when cleaning, repairing, adjusting or removing jams.
- DO NOT operate machine with guards and covers open or removed.

CAUTION

- Operate machinery in a manner for which it is intended only and for food products for which it was designed.
- DO NOT move machine with product in the hopper or with the stand extended (where applicable).
- Unless equipment was ordered with special components, plastic components swell and may bind if washed in place with solutions warmer than 110°F (42.5°C)

WARRANTY

SELLER WARRANTS EQUIPMENT OF ITS OWN MANUFACTURE TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP. THIS WARRANTY EXTENDS ONLY TO THE ORIGINAL BUYER AND IS LIMITED TO REPAIR OR REPLACEMENT F.O.B. SELLER'S FACTORY OF ANY ORIGINAL PART OR COMPONENT MANUFACTURED BY SELLER WHICH IS FOUND BY SELLER TO HAVE BEEN DEFECTIVE AT THE TIME OF SHIPMENT, PROVIDED WRITTEN CLAIM HAS BEEN RECEIVED FROM BUYER WITHIN SIX MONTHS OF SHIPMENT AND SUCH ORIGINAL PART OR COMPONENT IS RETURNED PREPAID TO SELLER.

THIS WARRANTY APPLIES ONLY TO THE EQUIPMENT INSTALLED AND OPERATED IN ACCORDANCE WITH HINDS-BOCK CORPORATION'S RECOMMENDATIONS AND SUCH WARRANTY DOES NOT APPLY WHERE HINDS-BOCK CORPORATION DETERMINES THAT ANY CLAIMED DEFECT AROSE AS A RESULT OF PURCHASER'S MISUSE, NEGLIGENCE, IMPROPER INSTALLATION, REPAIR, ALTERATION, ACCIDENT OR NORMAL WEAR AND TEAR WITH RESPECT TO ANY EQUIPMENT DELIVERED HEREUNDER.

WITH RESPECT TO THE EQUIPMENT, MATERIALS, PARTS AND ACCESSORIES MANUFACTURED BY OTHERS, SELLER WILL UNDERTAKE TO OBTAIN FOR BUYER THE FULL BENEFIT OF THE MANUFACTURER'S WARRANTIES. SELLER WILL NOT BE LIABLE FOR ANY LOSS OF PROFIT, LOSS BY REASON OF PLANT SHUTDOWN, NON-OPERATIONAL OR INCREASED EXPENSE OF OPERATION, LOSS OF PRODUCT OR MATERIALS, OR OTHER SPECIAL OR CONSEQUENTIAL LOSS OR DAMAGE OF ANY NATURE, AND ALL CLAIMS FOR SUCH LOSS OR DAMAGE ARE EXPRESSLY WAIVED BY BUYER.

THIS WARRANTY IS IN LIEU OF ALL OTHER
WARRANTIES, EXPRESSED OR IMPLIED



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Overview

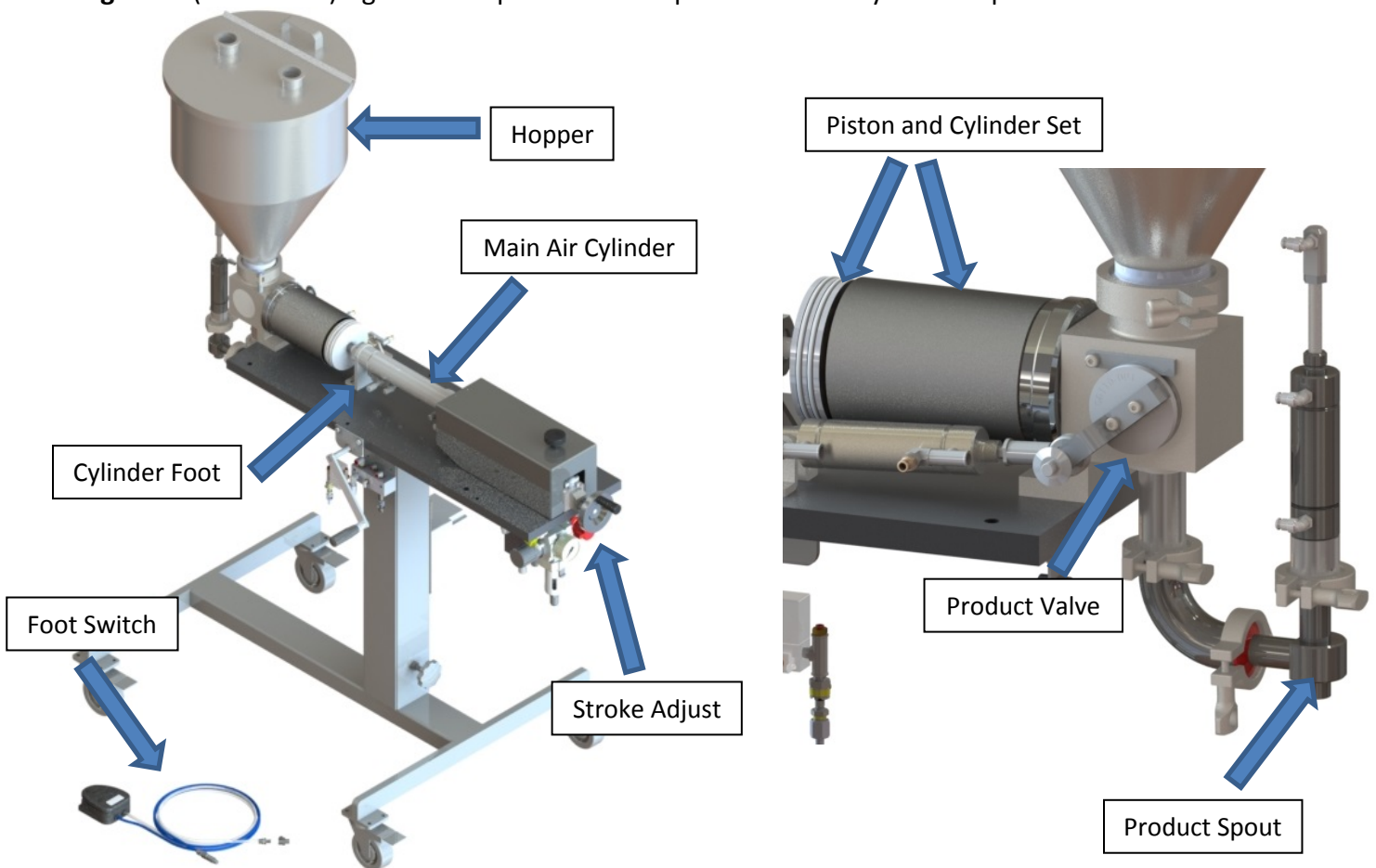
Machine Overview:

The Hinds-Bock SP-64 liquid depositor is designed to deposit liquid products such as sauces and batters. The Hinds-Bock machines are built with both the operator and the maintenance staff in mind. They are simple yet rugged, easy to operate, and to dismantle for either sanitation or routine maintenance. While it can handle a wide range product viscosities, this machine is not designed to work with products that have viscosities below that of water, which are abrasive, have large particulates, or any dry products.





Component Explanation:

*Please note that our machines are custom made based on customer's purchases and requests. Some of the following items may not be on every machine, but this manual covers most available options.

1. **Hopper:** Holds product supply for the depositing process.
2. **Main air cylinder:** Used to push (deposit) and pull (suction) the product piston in and out of the product cylinder during operation.
3. **Product spout:**(type varies with application and product) Directs product from the product valve and dispenses with a clean cutoff.
4. **Product valve:** Redirects product from the hopper to spout using a suction/deposit rotation cycle.
5. **Cylinder Foot:** Holds the product piston in line with the main air cylinder and the product cylinder.
6. **Stroke Adjust:** Increases and decreases the deposit amount by moving the product piston.
7. **Piston and Cylinder set:** The piston and cylinder are used in conjunction to pull the product from the hopper and push it to the product valve. These are interchangeable based on the deposit size needed.
8. **Foot Switch:** Used to initiate the deposit.
9. **Agitator:**(not shown) Agitates the product to keep the consistency and temperature even.



Label Identification and E-Stops

<p>Air Dump Valve: To remove pneumatic energy from the system, use the air dump valve. This will exhaust all of the air from the system. This also acts as an E-stop. When the dial is turned to show "EXH" in the window, then the air is dumped.</p> <p>⚠ WARNING When performing maintenance tasks, the power disconnect switch must be locked using the in plant lock out tag out (LOTO) procedures.</p>	
<p>Pinch point/Crush hazard: DO NOT operate without guards in place and shut off air and electrical power before servicing.</p>	
<p>Burn hazard: Avoid touching surfaces/ components during operation. Wait an appropriate amount of time for cool down before servicing.</p>	
<p>No Step: This designates parts or surfaces of the machine that are not designed to support the weight of a person. Using these areas as a step could result in injury and/or damage to the machine.</p>	

Setup

Receipt of Shipment:

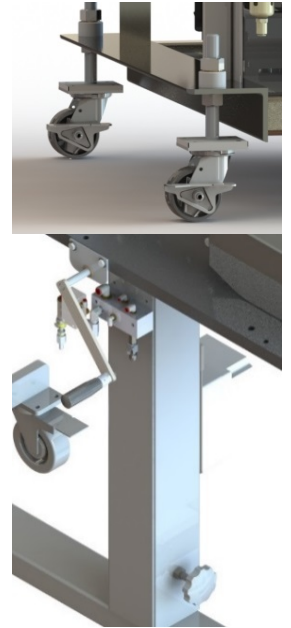
Immediately upon arrival, the Hinds-Bock machine should be uncrated and inspected for any damage that may have occurred during shipment. Check to see that all items listed on the packing sheet are included. If damages or shortages are noted, the transportation company and the Hinds-Bock Corporation should be notified immediately.

Applying Brakes:

After rolling the machine into position, apply brake levers on each of the casters before connecting air.

Adjusting Machine Height:

Once the machine has been locked in position, the height may be adjusted. Do so by loosening the star knob on the stand, and then turn the hand crank located on the side of the machine. Once the desired height is achieved, make sure to tighten the star knob to avoid accidental height changes.



Pre-Start Checkout:

Before applying air to the machine, or filling it with product, it should be disassembled, and all food contact parts should be thoroughly sanitized and lubricated. See the Maintenance and Cleaning section of this manual for instructions on cleaning.

- When disassembling or reassembling components of the machine, never use force other than hand pressure. It is not necessary to use hammers or mallets during any of the operational procedures on this machine.
- The air cylinders and connecting hoses must never be allowed to submerge in water or solvent during the sanitation process, and should be kept out of direct high-pressure spray when the hopper is being washed. If water or solvent is allowed inside the small plastic air lines connected to the cylinder, premature damage and failure of the air cylinder will result. *Unless a quick release is present, there should be no need to detach the air hoses from their respective assembly.*
- Whenever parts are removed from the machine for cleaning, maintenance, etc., they should be stored in an area safe from damage.
- If this machine is equipped with an electronic signal device, this unit along with the sensing head must be removed and placed in a dry area while the machine is being washed and sanitized.

During the sanitation and re-lubricating process all parts, especially O-ring seals and gaskets, should be inspected for nicks, cuts, cracks or other imperfections that might cause improper operation. Worn or cut O-rings or seals should be replaced. Once the machine has been placed into operation, the product should serve as a satisfactory lubricant.

As with any fine piece of equipment, the machine should be thoroughly cleaned and re-lubricated with appropriate jelly lubricant at the end of each run. Lubrication should be accomplished with a good grade of food approved jelly lubricant compatible with the product. It will then either be ready for another series of production operations or be well lubricated to prevent the seals from drying out should it be out of operation for a short period. Whenever maintenance, parts or service information are required and correspondence

with the factory is necessary, always include the model number and serial number. This will help to avoid errors and/or shipping delays. **Parts must also be requested by part number.**

Air Connection:



Under no circumstances should the air supply pressure exceed 125 psi.

Air services should be brought to the machine. Compressed air should be as clean and dry as possible. A filter and regulator have been provided as integral parts of this machine for the purpose of properly powering the machine during operation. To assure an adequate air supply to the machine, it is suggested that the airline leading to the machine be at least one-half inch inside diameter minimum. When connecting the air supply, ensure the air dump button is depressed.

Once the air and power are connected, the air pressure gauge will not register until the machine has been RESET.

SIR BOX (Where applicable):

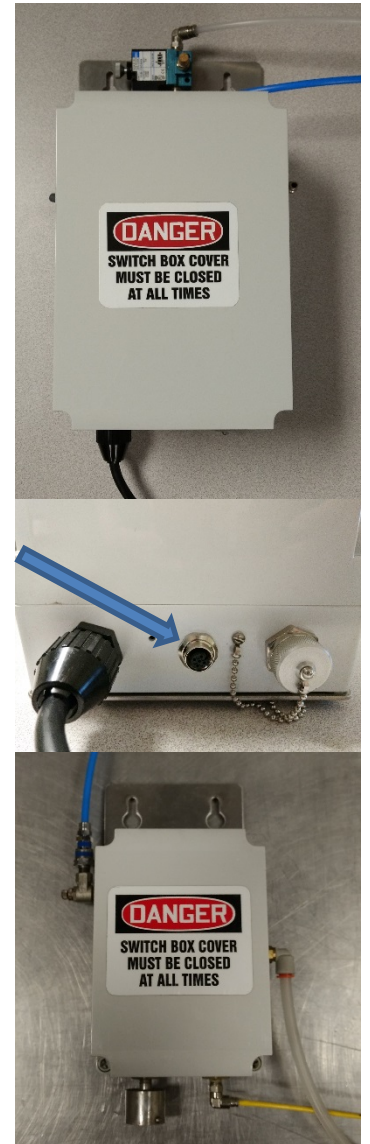
The SIR (Single Impulse Relay) box is used to communicate between an electrically driven machine, and a pneumatic machine.

The two air hoses on the top of the box should be attached to the quick connects on the Hinds-Bock depositor air assembly in place of the foot pedal hoses.

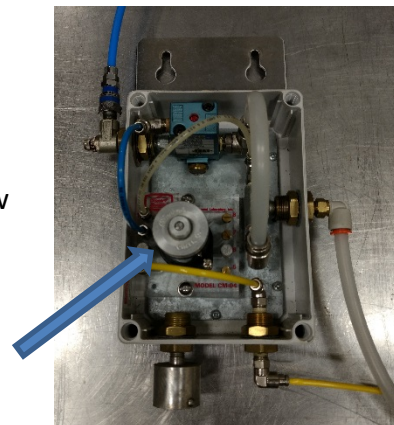
Either a connection from another machine, or a photo eye mounted on a conveyor should be connected to the bottom of the SIR box. This will provide the electric “Go” signal that will be converted to the pneumatic “Go” signal that the depositor will use to initiate the deposit.

Blow Off Box (Where applicable):

The blow off box is used to adjust the length (in time) of the blow off once the deposit is complete. The yellow hose carries the air signal from the depositor when the deposit is complete. The clear hose gives the blow off box a constant air supply from the air prep assembly. The blue hose connects to the spout and is the air supply for the blow off which is metered by the box.



When the machine is done with the deposit, the blow off box is signaled to initiate the blow off. The round dial in the middle area of the box controls how long the blow off will last. To reduce the amount of time, turn the knob clockwise, and the opposite direction to increase the time.



Production Start-Up

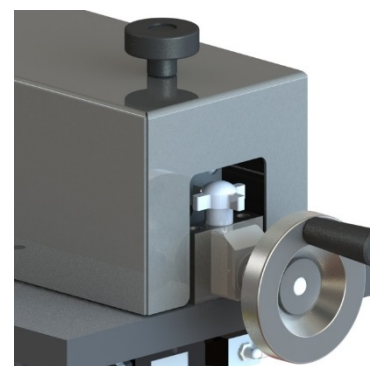
Starting the Machine/E-Stops:

Confirm that the emergency stop button is disengaged and that all safety covers are in place. The air valve is off when the red air dump knob shows “EXH”. Turn the knob to the open position (it will display “SUP”). If some pressure other than 90 PSI is indicated, adjust it by pulling the lock sleeve away from the dial, located on the regulator, and turn it until 90 PSI is indicated on the gauge. Push the sleeve back into its original position to lock.

Fill the hopper with product, place an empty container beneath the spout, and cycle the machine using the foot pedal (or signals from another machine’s inputs) until product is dispensed consistently. To set the fill volume or amount required per cycle, hold an empty container under the nozzle and cycle the machine. Weigh the output of the product. To adjust the deposit weight, follow the instructions under the “Stroke Adjust” portion in the following section. When the proper weight is achieved, record the settings of the machine for recipe creation with future production runs.

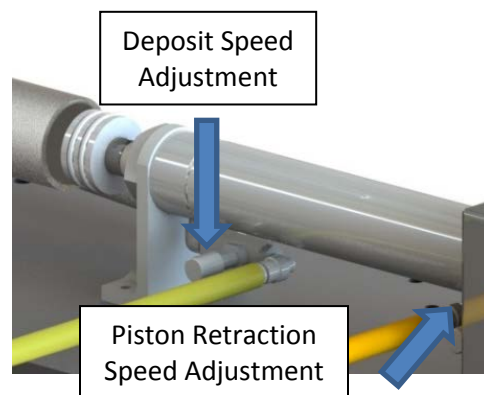
Stroke Adjust:

Adjust the weight of each deposit by bringing the stroke adjust forward or by moving it backward. Do this by loosening the knob on the top of the assembly, then rotating the hand wheel to move the stroke adjust. Small adjustments can be made while the machine is depositing; but for larger adjustments, dump the system air before making the adjustment. Once the proper weights are obtained, tighten the knob to prevent the hand wheel from moving unintentionally.



Flow Controls:

Use the flow control (found on or near the main air cylinder) to adjust the air flow out of the air cylinder, changing the speed of the deposit. The orange air hose supplies air to push the piston towards the hopper (initiating the deposit), and the yellow air hose moves the pistons back away from the hopper. The controls adjust the pressure at which the air flows out of the cylinder; lowering the pressure on the side closest to the hopper will increase the speed at which the machine deposits. For thick products, or those that have a tendency to foam, the speed should be slowed to reduce the amount of air that will be pulled in with the product as the pistons retract.



Controlling the Machine:

On the most basic level, the machine is controlled by either of two methods: Manual or Automatic.

Manual cycling can be accomplished in the following ways:

- Hand operation, either air or electric, is accomplished by activating a switch by hand.
- Foot operation, either air or electric, is accomplished by depressing a foot switch.
- Semi-automatic operation can be accomplished by holding either a hand or foot switch in the depressed position, thereby causing the machine to continue to cycle at a preset speed.

Automatic cycling can be accomplished in these ways:

- No contact actuation: In this situation the container to be filled passes a photoelectric, electronic or pneumatic sensor which will send signals back to a switch causing the filler to cycle.
- Signal actuation: The machine receives a signal from other equipment telling the filler to cycle.

If the machine signaling device is to be attached to the conveyor or some other piece of equipment, care should be taken to locate the device in such a manner that it will cause the machine to cycle when the container to be filled is in the appropriate position.

Maintenance and Cleaning

- While Hinds-Bock supplies a system and basic guidelines, it is the customer's responsibility to validate the cleanliness of the machine and its parts.
- When cleaning the machine or performing maintenance, all O-rings should be inspected and replaced if any damage or wear is noted. Lubricate all O-rings with a good grade of food approved jelly lubricant compatible with the product before re-assembling the machine.
- Ideally, the cleaning processes should be performed in the order shown below.

WARNING

When cleaning the machine or performing maintenance tasks, the power disconnect switch and the air dump valve must be locked using in plant lock out tag out (LOTO) procedures.

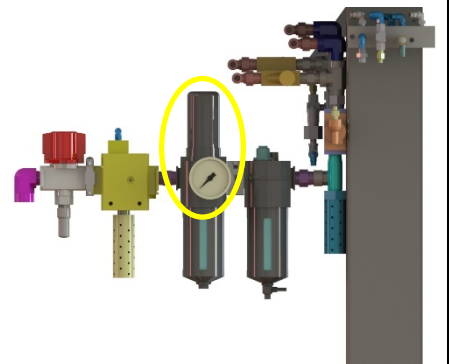
CAUTION

1. **If the machine has Delrin parts:** Do not use hot water when cleaning; it can cause the white Delrin parts to swell making disassembly difficult.
2. Do not use CHLORINATED cleaning or sanitizing chemicals on the depositor; they can cause damage to the machine.
3. The air cylinders and connecting hoses should be kept out of direct high-pressure spray when the hopper is being washed and should never be submerged in water.

Air Supply:

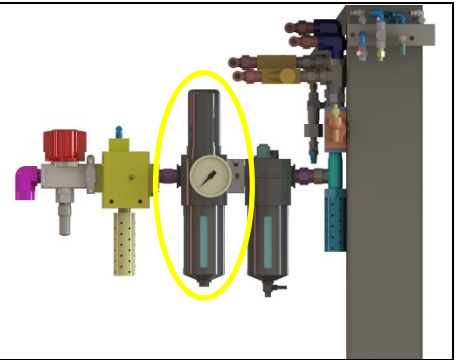
The air pressure regulator is used to maintain a constant pressure in the system. Avoid pressure drops greater than 10psi. If the pressure does drop more than 10psi, the CFM being supplied to the depositor may be too low. Maintain a consistent air pressure in the system (85-90psi) to achieve the best results.

To make adjustments to the air pressure, pull the knob on the pressure gauge away from the dial. Rotate the knob until the dial reads approximately 90psi. Push the knob back in to lock into place once more.



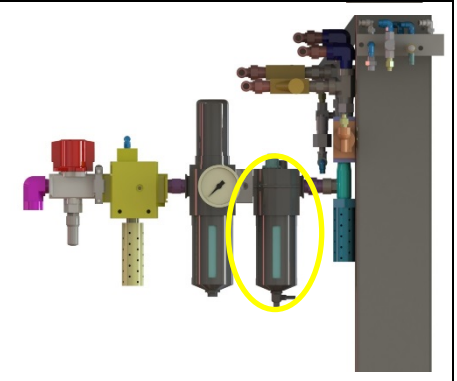
Air Filter:

The air filter protects the pneumatic system from excess particulates and condensation. The filter bowl is equipped with a normally closed auto drain feature. When condensation builds up in the filter bowl the float lifts, activating the drain. The air filter bowl on air assembly should be drained daily. It is normal for this bowl to collect water during the use of the machine and this water should never be allowed to stand in the bowl. There is a small drain valve in the bottom of the plastic bowl. Never use pliers to tighten this valve. Finger tight is all it will ever need.



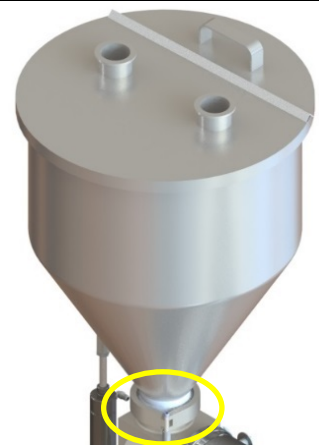
Air Supply Lubricator:

The air supply lubricator should be checked daily. This ensures that the air motor agitator stays well lubricated, which is necessary to avoid damage.



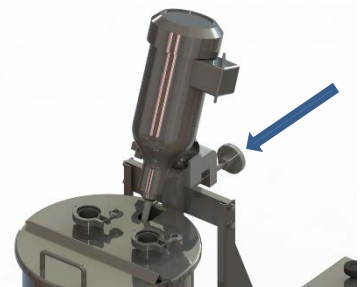
Cleaning the Hopper:

1. Run any remaining product out of hopper.
2. Turn the air dump valve knob to dump the air from the machine.
3. Put approximately 2 gallons of LUKEWARM water into the hopper with about a teaspoon of Dawn® or equivalent grease dissolving liquid dish washing detergent. Gently scrub off any remaining product with a soft brush.
4. Reset the machine.
5. Run the cleaning solution through the machine, and then continue with clean water until no residue remains.
6. Remove the hopper from the product head by taking off the tri-clamp at its base.



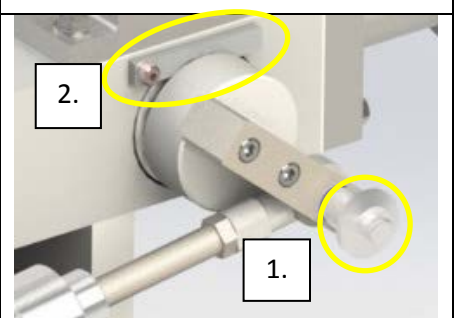
Cleaning the Agitator (if present):

1. Follow the instructions for cleaning the hopper prior to cleaning or removing the agitator.
2. **E-Stop the machine and remove the air supply.**
3. Remove the hopper lid.
4. Loosen the knob on the back side of the agitator mount and gently lift out the agitator.
5. Keep the air hoses and upper portion of the agitator away from the water as much as possible.
6. Clean the agitator shaft in a COP or similar washing basin.



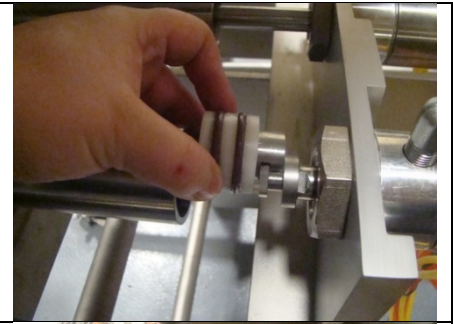
Removing the Product Valve:

7. Remove the quick pin connecting the product valve H-arm and cylinder.
8. Lift the lock bar away from the product valve.
9. Pull the product valve out while rotating back and forth to prevent the O-rings from getting caught on the product head ports.



Removing the Product Piston:

1. Move the stroke adjust to its most retracted position (as shown).
2. Depending on the type of piston, it may need to be removed in one of the following ways:
 - a. Unscrew pistons from the air cylinder foot.
 - b. Slide the piston head off of the piston rod through the cutout located on the base of the piston head (shown here).



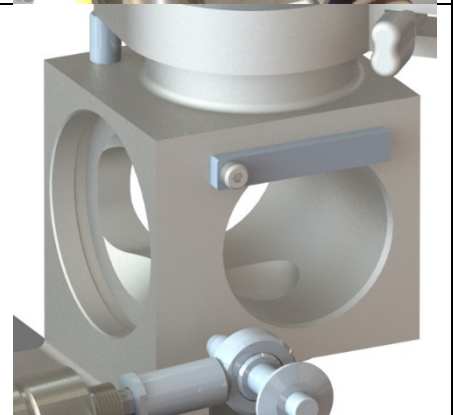
Removing the Product Cylinder:

1. Follow the procedure for removing the product piston prior to removing the product cylinder.
2. Depending on the type of cylinder, it may need to be removed in one of the following ways:
 - a. Grip the product cylinder and turn counter clockwise to remove.
 - b. Use a spanner wrench to loosen the product cylinders from the product head.



Cleaning the Product Head:

1. Remove the product valve and cylinder prior to cleaning the product head.
2. Use a soft round brush to gently scrub out the ports using a mixture of approximately 2 gallons of LUKEWARM water with about a teaspoon of Dawn® or equivalent grease dissolving liquid dish washing detergent.
3. Rinse with clean water until no residue remains.



Removing the Product Spout:

Depending on the product being dispensed, the product spout can come in many different styles. All should be detached and cleaned in approximately the same way (as described below). If further instructions are needed for your particular spout, please contact the Hinds-Bock corporation for further diagrams and details.

1. Begin by detaching the clamps shown.
2. Be sure to keep the air hoses and cylinder out of the water when cleaning the spout. Water in the air hoses can cause damage to the machine.



Hinds-Bock Depositing System: Recommended Preventative Maintenance (where applicable)				
Item	Part	Action	Frequency (weeks)	Notes
1	O-rings (moving parts)	Clean, inspect, lubricate	daily	Product pistons, valves, spouts; lubricate with Petrol-Gel before each use.
2	O-rings (moving parts)	Replace	3	Always replace when worn flat or damaged
3	O-rings (stationary seals)	Inspect for wear	1	Improper seating is the most likely cause of damage
4	O-rings (stationary seals)	Replace	8	
5	Lip Seals	Clean, inspect, lubricate	daily	
6	Lip Seals	Replace	8	
7	Bushings	Inspect for wear	1	Replace if there is slop
8	Bushings	Replace	16	
9	Quick Pins	Inspect for wear	1	Replace if there is slop
10	Quick Pins	Replace	8	Damage can occur if excessively worn
11	Spout air cylinders	Check for air leaks and abnormal movement	4	Sluggish movement is an indication of compromised performance
12	Spout air cylinders	Replace	12	May vary with cycle rate & run time
13	Product valve air cylinders	Check for air leaks and abnormal movement	4	Sticking and air leaks are most common. Misalignment can also shorten life of air cylinder
14	Product valve air cylinders	Replace	16	May vary with cycle rate & run time
15	Main air cylinders	Check for air leaks and abnormal movement	4	Ratcheting of strong-back is an indication that one air cylinder is worn before the other.
16	Main air cylinders	Replace	16	Best to replace in pairs, to prevent ratcheting
17	Pneumatic valves	Replace	52	Modules may be replaced individually
18	Pneumatic quick disconnects	Check fit and inspect for leaks and wear	4	
19	Pneumatic quick disconnects	Replace	26	
20	Jam nuts	Check tightness	daily	
21	Other threaded fasteners	Check tightness	2	