

# **Seasoner Applicator P/N SM1104**

## ***User's Guide***

## PPM contact information:

### AMERICAS

PPM TECHNOLOGIES  
 500 E. Illinois St.  
 Newberg, OR 97132 | USA  
 (503) 538-3141  
 (800) 523-8123 toll free in the US  
 (503) 538-8575 fax

### EUROPE | MIDDLE EAST | AFRICA

PPM TECHNOLOGIES EMEA Ltd.  
 Axis 40 Oxford Road  
 Stokenchurch  
 Buckinghamshire HP14 3SX  
 +44 1494 682800  
 +44 1494 682801 fax

Webpage: [www.ppmtech.com](http://www.ppmtech.com)

Email: [Parts.na@ppmtech.com](mailto:Parts.na@ppmtech.com)

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## INTRODUCTION

This book tells you how to use, maintain and troubleshoot the PPM Systems Seasoner applicator. This book contains these chapters:

- This chapter, called Introduction, which tells you about the rest of this book, gives you safety information and tells you about the Seasoner Applicator.
- Using the Seasoner Applicator, which tells you how to use the Seasoner Applicator in daily operations.
- Maintenance, which tells you how to do routine maintenance on the Seasoner Applicator.
- Troubleshooting, which tells you how to solve problems you may encounter.

Also included with the Seasoner Applicator is a book called the Seasoner Applicator Installation and Setup Guide. It contains the information needed to prepare the site and to install the Seasoner Applicator.

The Seasoner Applicator is one of several pieces of equipment that can make up an applicator system. Each separate piece has its own book. Your system may include one or more of these manuals as well:

- Rotating Drum Installation and User's Guide if you purchased a rotating drum.
- Continuous Oil Applicator Installation Guide and Continuous Oil Applicator User's Guide if you purchased a Continuous Oil applicator.
- Documents from third-party manufacturers who supply things such as motors, blowers, and pumps.

## WHAT IS THE SEASONER APPLICATOR?

The PPM Seasoner Applicator equipment accurately and uniformly distributes dry powder onto base product. The powder is stored in a hopper and an auger moves the powder into a distribution tube that is usually attached to a rotating drum. Some Seasoner Applicators may be equipped with agitators or vibrators to best allow the powder to flow freely. It can also be connected to an automatic powder supply system that transfers new powder into the hopper when a sensor indicates the level is low.

*Figure 1-1 The Seasoner Applicator*



## SAFETY FIRST

### WARNING



Improper use or maintenance of the Continuous Oil Applicator equipment is a safety hazard. Operators, maintenance workers, and all other nearby persons must carefully observe all precautions marked on the equipment or mentioned in this book. Failure to observe the proper safety precautions can result in serious personal injury, electric shock, or death.

General safety precautions include:

- Turn off or disconnect all electrical power before opening guards, access doors, or covers. Failure to do so can result in an electrical shock hazard.
- All electrical work must be performed by a licensed, qualified electrician and comply with all applicable electrical codes.
- Turn off the compressed air supply before working on or near it. Failure to do so exposes you and others to the risk of injury from hoses and other pressurized or moving parts.
- Turn off any electrical or air-operated accessories and other devices near the applicator equipment. Such devices are often triggered by automatic sensors. If left powered, they might activate unexpectedly, causing injury.
- Keep all covers and guards in place while the equipment is running. Remove the covers or guards only for maintenance and testing. Running without its covers or guards can expose moving parts such as fan blades, coils, and springs that can cut, pinch, or otherwise injure you or other nearby persons.
- Always wear protective eye wear when installing, adjusting, or operating the Seasoner equipment.

### CAUTION



You must be able to safely lift at least 100 pounds to install the Drum and the Seasoner Applicator.

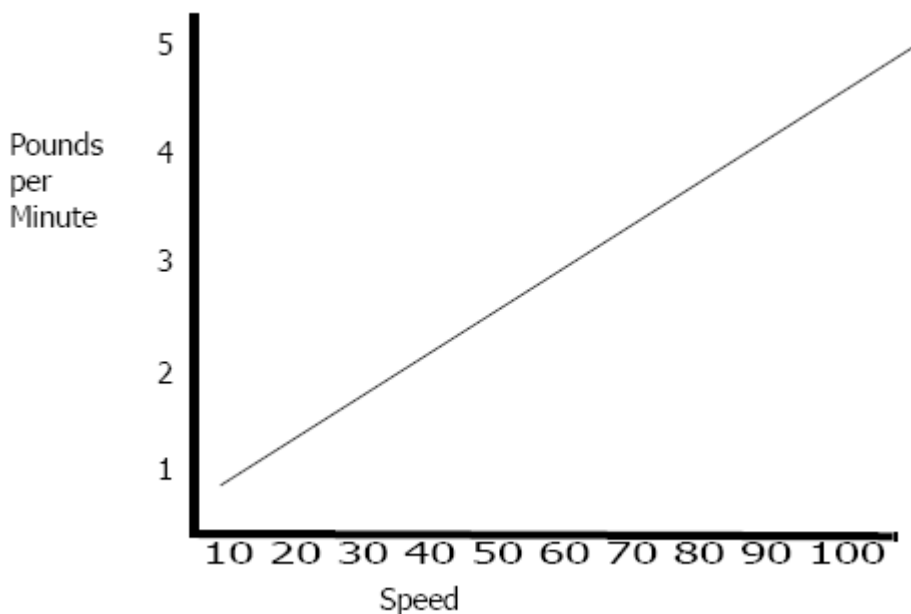
## 2

# USING THE SEASONER APPLICATOR BEFORE YOU BEGIN

Before you start using the Seasoner Applicator for a run, you need to know which powdered seasoning you are going to apply. When you know which powder, then find the flow curve graph for that powder. There should be one flow curve graph for each kind of powder that will be run on this Seasoner Applicator. A flow curve graph tells you what speed to run the Seasoner Applicator at in order to get the right amount of powder per minute.

**NOTE:** If there are no flow curve graphs, see your foreman or supervisor. Instructions for creating flow curve graphs are given in the Seasoner Applicator Installation and Setup Guide.

A flow curve graph looks similar to this:



Once you find the flow curve graph for the powder that will be used for this run, find the right number of pounds per minute to be applied for this run. Using a ruler or other straight edge, read across from the right number of pounds per minute until you hit the curved line. Then, using a ruler or other straight edge, go straight down from that point to find out what motor speed will give you that amount of powder. This number is where you set the Speed Potentiometer when you start up the Seasoner Applicator equipment.

## **RUNNING THE SEASONER APPLICATOR**

The Seasoner Applicator on your system may have its own separate control panel, or it may be controlled by a combined control panel that also controls other parts of your system, such as the Continuous Oiler or the drum.

If your system uses combined controls, please see the System User's Guide for information about starting and stopping the Seasoner Applicator.

If your system uses separate controls, the process to start it is this:

1. Make sure there is power to the control panel, either by plugging it in or seeing that the main breaker is ON.
2. Fill the hopper with the dry powder seasoning.
3. Make sure the holes on the dispensing tube are fully open. Gently turn the ADI knob to slide the outer tube to open the holes.
4. Turn on the main power switch to the Seasoner Applicator.
5. Adjust the Speed Potentiometer to the setting that will give you the right amount of powder; this is what you found from the flow curve graph above.
6. Stop the Seasoner Applicator.
7. Wait for the base product that is to be coated, then restart the Seasoner Applicator.
8. Repeat the stop and restart process until the entire run is coated.

### **Getting Even Distribution**

Depending on the product to be coated and the powder you are using, you may need to adjust the distribution tubes to allow the product to be coated evenly.

Always make very small adjustments, then allow 1-2 minutes for the change to take effect before you decide whether it is working correctly or not.

If you close the openings, the powder moves closer to the end of the tube, putting more powder on product that is farther in the drum.

If you open the openings, the powder moves closer to the hopper, putting more powder on product that is closer to the hopper.



## Working with Dense Powders

The Seasoner Applicator equipment is equipped with an agitator inside the storage hopper, which can help keep powder flowing freely. This is especially true with light or moist powders.

However, for many dense, dry, free-flowing powders it is better to disengage the agitator completely.

## SHUTTING DOWN

To shut down the Seasoner Applicator, simply turn the power off.

## CLEANING AND SANITIZING

### CAUTION



Be sure to unplug the Seasoner Applicator controls or turn the main breaker OFF before cleaning or sanitizing the equipment. Failure to do so could cause serious injury.

The entire Seasoner Applicator is made of stainless steel and can be taken apart for cleaning and sanitizing.

To clean:

- 1 Empty the hopper by unlocking the lower hopper door and releasing any material still in the hopper.
- 2 Slide the Seasoner Applicator out of the drum on the slide-out bracket.
- 3 Remove the auger.
- 4 Remove the distribution tube.
- 5 Clean and sanitize according to your plant's specifications.
- 6 Blow dry all parts with air.
- 7 Reassemble.

# 3

## MAINTENANCE

### REQUIRED TOOLS

There are no special tools required for Seasoner Applicator maintenance.

#### **DANGER**

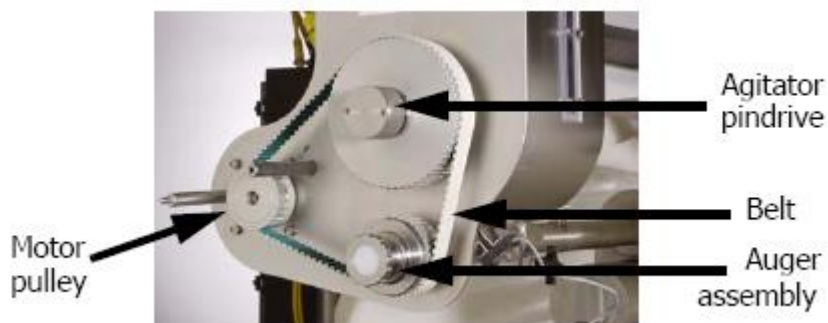


Always disconnect the electrical power before servicing any piece of equipment, including the Seasoner Applicator. Do not just turn the power switch off. Disconnect the power entirely.

### To Do DAILY

1 Inspect the belt and belt drive assembly. Remove the pulley cover by unscrewing the threaded knob on the face of the pulley cover. Check that the tension is correct. Check that there is no wear or fraying on the edges of the belt. Replace the belt when it begins to wear.

*Figure 3-1 Pulley Drive Assembly*



2 Inspect the pulleys and the bearings for wear. Replace them as they wear.

3 Inspect all fasteners. Check that they are at 20 ft-lbs of torque. Re-torque the fasteners to 20 ft-lbs if they are loose. Do not over tighten.

## To Do WEEKLY

1 Check the distribution tube adjustment assembly. Be sure it moves freely. If it does not move freely, then:

**A** Remove the auger assembly from the body of the Seasoner Applicator.

**B** Loosen the locking knob that clamps the distribution tube in place and gently remove it from the distribution tube locking sleeve.

**C** Separate the inner and outer tubes by fully unscrewing the adjusting knob and then sliding the tubes apart.

**D** Make sure the tubes are clean and dry.

### CAUTION



Damage to the two tubes may make the tubes impossible to service.

2 Check the UHMW auger for wear. Replace it if it is worn. To remove the auger assembly, first remove the pulley cover. Then rotate the auger hub clockwise and pull it back.

3 Check the auger's locking hub and clean any foreign material out of the key slots.

## To Do MONTHLY

There are no monthly tasks.

## To Do EVERY 60 DAYS

Check the DC motor (if you have one) to make sure the brushes are not worn. Replace them when they wear. See the motor manufacturer's instructions that were included with your system.

# TROUBLESHOOTING

## COMMON PROBLEMS AND CURES

Table 4-1 Common Problems

Problem	Cure
<b>Motor will not run or drum is not rotating</b>	1. There is no power. Check that all electrical connections have been made correctly and that the main power is ON.  2. The fuse or motor starter protector has failed. Replace the fuse or protector. Check the system to see why it failed and correct any electrical problem.  3. The DC or AC drive has failed. Refer to the manufacturer's data manual for more information.  4. The low-powder sensor timed out and the bypass was turned off. Turn the bypass on.
<b>Product is not coated enough even though the amount being applied is correct according to the flow curve</b>	The drum is angled too much. Decrease the angle.
<b>Product is coated too much even though the amount being applied is correct according to the flow curve</b>	The drum is not angled enough. Increase the angle.

Table 4-1 Common Problems (continued)

Problem	Cure
<b>Product bed width is wider at the discharge</b>	The drum is not angled enough. Increase the angle.

<b>than at the infeed.</b>	
<b>Product bed width is narrower at the discharge than at the infeed.</b>	The drum is angled too much. Decrease the angle.
<b>Powder only comes out the first few holes</b>	The distribution tube is adjusted to be too open. Adjust the tube so the holes are smaller.
<b>Excessive powder comes out the end of the tube</b>	<ol style="list-style-type: none"> <li>1. The distribution tube is adjusted wrong. The opening is too narrow or is completely closed. Adjust the tube so the holes are larger.</li> <li>2. The distribution tube holes are plugged. Remove and clean the distribution tube assembly.</li> </ol>
<b>Agitator does not turn</b>	<p>The drive pin is disengaged. To engage it:</p> <ol style="list-style-type: none"> <li>1. Disconnect all power.</li> <li>2. Open the drive cover.</li> <li>3. Engage the agitator.</li> <li>4. Close the drive cover.</li> <li>5. Reconnect the power.</li> </ol>
<b>Auger does not turn</b>	<ol style="list-style-type: none"> <li>1. The auger hub is not in the locked position. To lock it:             <ol style="list-style-type: none"> <li>a. Disconnect all power.</li> <li>b. Open the drive cover.</li> <li>c. Check that the key slots are in the locked position</li> <li>d. Close the drive cover.</li> <li>e. Reconnect the power.</li> </ol> </li> <li>2. The auger is broken. Remove and replace the auger.</li> </ol>
<b>Material continues to flow after the motor stops</b>	The product is too free-flowing. Move the entire distribution tube so the holes are in the 8 o'clock position when you view the tube from the hub end of the hopper.

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