

Seasoner Applicator P/N SM1103

Installation and Setup Guide



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INTRODUCTION AND EQUIPMENT INSTALLATION

INTRODUCTION

This book tells you how to prepare the site for and install the PPM Systems Seasoner Applicator bar. This book contains these chapters:

- This chapter, called Introduction and Equipment Installation, which tells you about this book and tells you what you need to do to install the Seasoner equipment.
- Troubleshooting, which tells you how to solve problems you may encounter during installation.

Also included with the Seasoner is a book called the Seasoner Applicator User's Guide. It contains the information needed for daily use, maintenance and troubleshooting 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?

The PPM Seasoner Applicator equipment delivers exact patterns of dry seasoning ingredients. The equipment is easy to use and delivers the same pattern in the same way each time, so the end product is consistent.

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.

REQUIRED TOOLS

No tools are required for installation.

LIFTING REQUIREMENTS

CAUTION

You must be able to lift at least 100 pounds to install the drum and the Seasoner applicator.

UNCRATING THE SEASONER APPLICATOR

The Seasoner applicator crate includes a Pick List that lists all the parts that are shipped with each piece of equipment.

Before you remove the equipment from the crate, inspect the crate carefully for shipping damage. Report any shipping damage to the freight carrier immediately.

To uncrate the Seasoner Applicator:

- 1 Remove the equipment from the crate.
- 2 Compare each part against the Pick List, to see if all parts are in the crate.
- 3 Identify each part in your mind; use the custom AutoCAD drawings included with your system to help.
- 4 Inspect each part carefully for damage. Note any damaged parts by part number.
- 5 Report any damaged or missing parts immediately to PPM Systems, using any of the contact methods shown above.

INSTALLING THE SEASONER APPLICATOR

The Seasoner Applicator is completely assembled and ready to mount into the coating drum.

To install the Seasoner Applicator:

1. Find the mounting bracket and attach it.
 - A. If the drum rotates clockwise as you face it, position the mounting bracket so the Seasoner applicator distribution tube is in the upper left area of the drum.
 - B. If the drum rotates counterclockwise as you face it, position the mounting bracket so the distribution tube is in the upper right area of the drum. This puts the distribution tube at the top of the bed of product in the drum.
2. Once the distribution tube is in place, plug the motor's power cord into the control box or the junction box (depending on your system's configuration).

Figure 1-1 Proper distribution tube placement (clockwise rotation)



STARTING UP THE SEASONER

Applicator equipment comes with either individual electrical controls for the Continuous Oiler Applicator, the Seasoner Applicator and the drum, or with a combined control panel that controls all three.

If your Seasoner has individual controls, do the following to start it up:

1. Turn power ON to the control box.
2. Fill the storage hopper with dry powder.
3. Turn main power ON for the Seasoner.
4. Make sure you can set the speed between 0% and 100%.

STOPPING THE SEASONER

To stop the Seasoner Applicator:

1. Press the STOP button for the vibrator.

2. Press the STOP button for the Seasoner to stop the equipment.

FINDING FLOW CURVES

A flow curve is simply a graph that tells you how many pounds per minute are applied for each increment of motor speed from 10% to 100%.

Each powder you apply to the products going through the drum has different characteristics. To find out how fast to run the Seasoner Applicator for each type of coating to be applied, you must find the flow curve for each powder.

Tip: You might want to keep a written record of flow curves for the powders you typically use.

To find the flow curve for each powder that will be used:

1. Make a blank graph that has "pounds per minute" on the up-and-down scale, and "percent speed" on the left-and-right scale. Start "pounds per minute" at 0 and go up to 5 by 1s. Start "speed" at 0 and go up to 100 by 10s. Label the graph with the name of the powder to be tested.
2. Fill the Seasoner's hopper with the dry powder.
3. Make at least 5 V-shaped, cardboard catch pans that are a bit longer than the length of the Seasoner distribution tube, to catch the samples.
4. Beginning at 10% speed, run the Seasoner for 2 minutes.
5. Collect 5 one-minute samples in the catch pans. Installation and Setup Guide Introduction and Equipment Installation.
6. Carefully weigh the amount of powder collected in each sample.
7. Average the 5 samples by adding up the pounds of powder collected and dividing the total by 5. For example, if you collected samples that weigh 2.4 pounds, 2.5 pounds, 2.2 pounds, 2.5 pounds and 2.6 pounds, the total is 12.2 pounds. Divide by 5 to get an average of 2.44 pounds per minute.
8. Plot the average number on your graph at the 10% position.
9. Empty the catch pans completely. Then change the motor speed to 20% and repeat steps 4-8. Do this for speeds of 30%, 40%, 50% and so on until you have collected samples at 100% speed.
10. Connect the dots on the graph smoothly with a single curved line. This is your flow curve for that powder.

11. Repeat the process for each powder that will be run on this Seasoner Applicator. Keep these graphs with the equipment. They are needed to decide how fast to run the motor to apply the proper amount of seasoning powder to the products.

CHECKING OUT THE SYSTEM

Once all the equipment is in place and you have determined the correct distribution speed for your product/powder combinations, check out the system to make sure everything is running correctly.

Run some product and powder through the equipment:

1. Fill the hopper with dry powder.
2. Set up base product ready to feed into the drum.
3. Start up the Seasoner Applicator and the drum.
4. Check that you can set the Seasoner Applicator motor speed from 10% to 100%.
5. Begin feeding base product into the drum and set the motor speed for the correct amount of seasoning based on the flow curve for your powder.
6. Stop the Seasoner Applicator and wait for the base product to be coated.
7. Restart the Seasoner Applicator and allow product to flow through the drum while the Seasoner runs.
8. After you are certain that everything is running correctly, turn off the Seasoner Applicator and the drum.

See Troubleshooting for more information if you encounter problems.

2 TROUBLESHOOTING

COMMON INSTALLATION PROBLEMS AND CURES

Table 2-1 Common Installation Problems

Problem	Cure
Motor will not run or drum is not rotating	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.
Product is not coated enough even though the amount being applied is correct according to the flow curve	The drum is angled too much. Decrease the angle.
Product is coated too much even though the amount being applied is correct according to the flow curve	The drum is not angled enough. Increase the angle.
Product bed width is wider at the discharge than at the infeed.	The drum is not angled enough. Increase the angle.

Table 2-1 Common Installation Problems (continued)

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

Contacting PPM Technologies

If you need information not mentioned in this book, you can contact PPM Technologies by any method listed on page 2.

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