



# **Model 105 Precision Dispenser**

## **Operating Manual**

Congratulations on the purchase of your SRA Model 105 Precision Dispenser. With this unit you can now experience the many advantages of the Precision Dispenser process. Model 105 has a vacuum pull back feature and a precision digital timer along with more features making it an ideal dispensing product.

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24 Walpole Park South, STE #10  
Walpole, MA 02081  
508-688-6044  
1-800-545-4570  
[www.sra-solder.com](http://www.sra-solder.com)

# Features and Package Contents

## Features:

- Precision Digital Timer
- Foot Pedal or Finger Switch Control
- Vacuum Pullback Feature
- 24 V Internal Voltage

## Contents:

1. Dispenser Control Box
2. Foot Pedal Switch
3. Power Cord
4. Syringe Barrel Adapter Assembly
5. Stand for Syringe Barrels
6. Startup Kit Syringe Barrels and Assorted Needles
7. Safety Clip
8. Syringe Barrel Mounted Switch

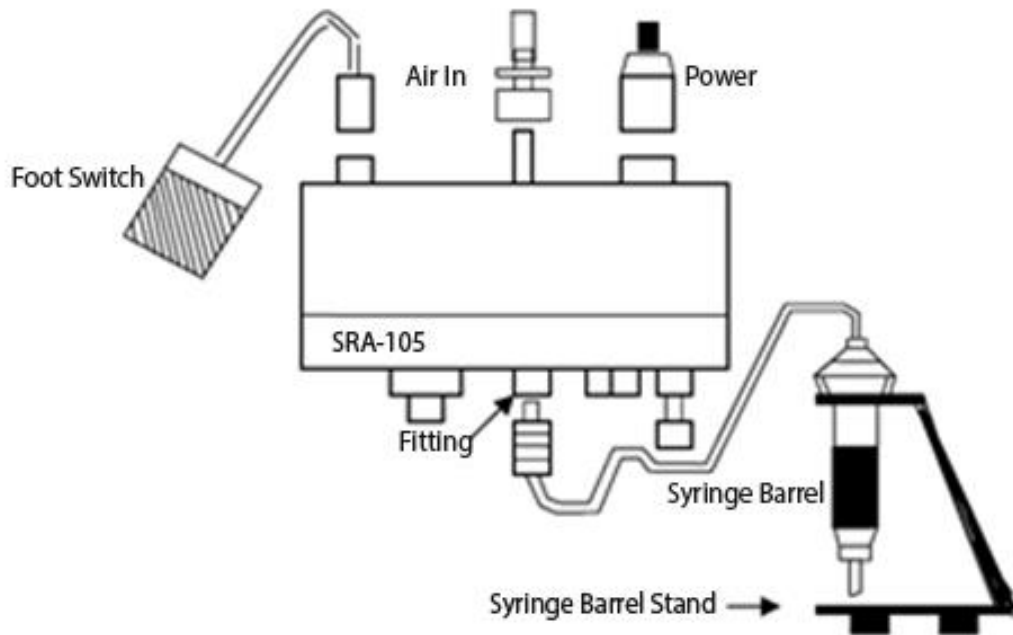
# Specifications

## Specifications Table:

Item/Model	Model 105	
Digital Timer	Programmable	0.01-1, 0.01-10, 0.2-20 and 0.3-31 seconds
Cycle Initiation	Maintained or Momentary	
Repeat Tolerance	0.10%	
Size	8.7 x 8.2 x 2.6" (22 x 21 x 6.7 cm)	
Internal Voltage	24 VDC	
Voltage	110 Volts	
Cycle Speed	600+/minute	
Air Input	30-100 psi	
Air Output	1-100 psi	

# INSTALLATION

## Air and Electrical Setup:



## Connection:

- Connect the dispenser to plant air.
- A minimum of 30 PSI compressed air from a ¼" line is required.
- The unit requires clean dry air.

## Power Source Connection:

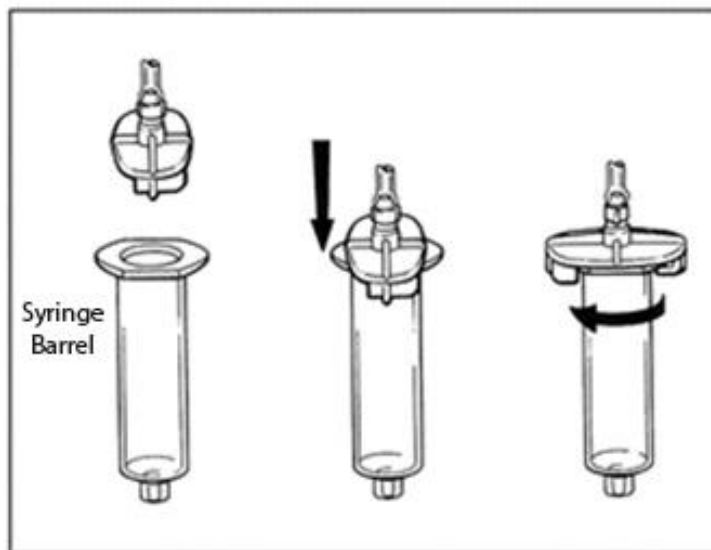
- Connect the foot pedal or finger switch to the rear dispenser control box.
- Plug the power cord into the rear of the Dispenser.
- Then plug the 3 prong end into a grounded 110 VAC outlet.

### Syringe Barrel Instructions:

- Fill the syringe barrel with the material you want to dispense.
- Install a syringe barrel stopper.
- Then insert and twist the adapter head onto the syringe barrel.

### Tubing Connection:

- Connect the tubing from the Adapter Assembly to the Dispenser using the quick disconnect fitting provided.



# USING THE MODEL 105 PRECISION DISPENSER

## Operation:

- 1) Turn the dispenser's power on by using the switch in the rear.
- 2) The large regular knob on the front control panel controls the pressure to the syringe barrel. Turning the knob clockwise will increase the pressure. The pressure can be read from the gauge on the front panel.
- 3) The dispenser offers you the choice of Timed Mode or Continuous Mode. When the foot pedal is depressed the syringe barrel is pressurized. The Mode is selected using the Mode switch on the right side of the dispenser.
  - I. When the Time Mode is selected, the syringe barrel will be pressurized for the length of time set by the timer adjustment knob.
  - II. When the Continuous Mode is selected, the syringe barrel will be pressurized as long as the foot pedal is depressed.
- 4) The dispense timer is adjusted by using the timer adjust knob in the center of the dispenser. There are markings from minimum to maximum and turning the knob clockwise will increase the time cycle. The timer is adjustable from 0.01 to 1.0 seconds by default and the time range can be changed by the internal switches. You will need to remove the cover to change this setting.
  - I. You can see the timer modes diagram next to the schematic diagram on page 13.

## **How to Use the Vacuum Control:**

- 1) Place the dispenser about 12 inches above the workbench. This will prevent any drawback of liquid into the vacuum transducer.

**Warning!** The vacuum transducer can be damaged if the material being dispensed flows through the hose into the unit.

- 2) Turn the vacuum control off (clockwise) before proceeding.
- 3) Attach the safety clip to the hose and close it on the hose.
- 4) Set the air pressure between 2 and 3 PSI.
- 5) Attach the syringe barrel to the adapter assembly.
- 6) Release the safety clip. The material in the syringe barrel may begin to drip out. CAREFULLY AND SLOWLY, turn the knob for the vacuum control counter-clockwise until you see a slight bubbling.
- 7) Then slowly decrease the vacuum until the bubbling stops. You want to achieve a balance, so that the material doesn't drip and it doesn't bubble.

**Warning!** DO NOT TIP THE SYRINGE BARREL UPSIDE DOWN OR LAY FLAT. ALWAYS REPLACE SYRINGE BARREL BACK IN THE STAND AFTER USE.

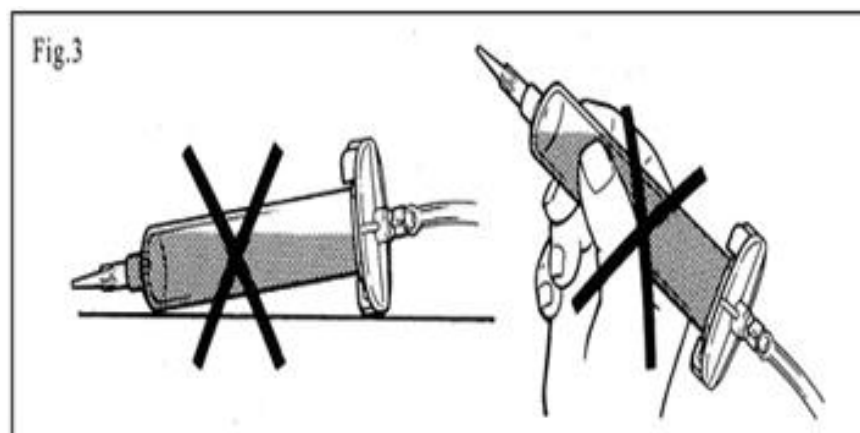
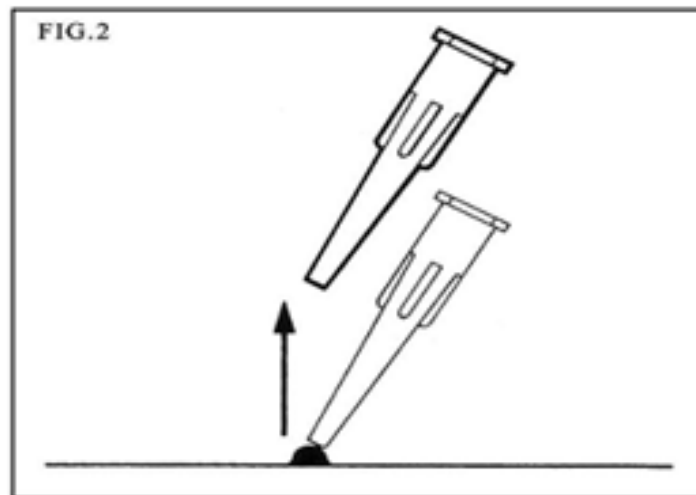
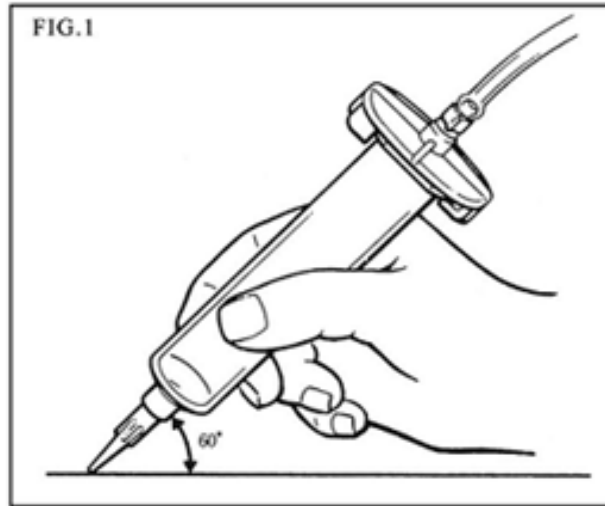


# TIPS ON DISPENSING

- 1) The syringe barrel should be held at a 60-degree angle to work surface.  
The tip should contact the work surface for more consistent deposits. See Figure 1. (On next page)
- 2) Dot size is affected by three factors: Needle size, pressure setting and the time the foot pedal is depressed. Small needle sizes, shorter timing cycles and lower pressure will each reduce the size of the deposit.
- 3) After making the deposit, lift the tip as shown in Figure 2. (On next page)
- 4) Start with the air pressure of 10-15 PSI. Most materials can easily be dispensed at this pressure.
- 5) If you are working on a component in which the metal tip could damage the piece, press a Teflon sleeve over the needle allowing it to slightly protrude past the tip.
- 6) Keep the dispenser clean. Always use clean syringe barrels and tips to ensure cleanliness and prevent contamination.

**Warning!** DO NOT lay a filled syringe on its side and permit the liquid to flow back into the controller. See Figure 3 (On next page)

## Dispensing Figures 1-3



# SELECTING THE CORRECT TIP SIZE

**The tip size depends on two things:**

- 1) The particle size of the material to be dispensed
- 2) The amount you want to dispense

When determining the time and pressure settings, it is best to use the largest tip possible and keep the time setting as short as possible.

There are 12 different Stainless Steel tip size to suit all types of materials. Your startup kit includes a sampling of 6 of those 12 needles we carry. We also carry an assortment of poly free flow tips.

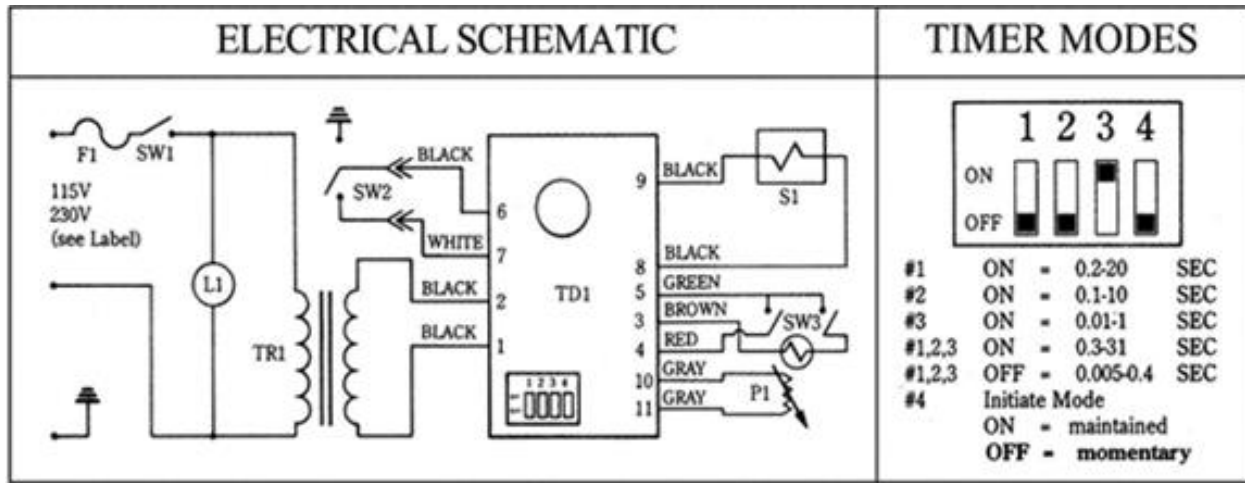
<u>Gage</u>	<u>Size</u>	<u>Color</u>
14	.063	White
15	.054	Brown
16	.047	Dark Purple
18	.033	Dark Green
19	.027	Light Green
20	.023	Pink
21	.020	Medium Purple
22	.016	Blue
23	.013	Orange
25	.010	Red
27	.008	Lavender
30	.007	Light Gray

# WHAT CAN I DISPENSE?

**Below is a list of products that can be dispensed:**

- 1) Solder and Brazing Pastes – All types can be dispensed.
  - Vacuum pullback should not be used for soldering and brazing pastes because it can cause separation.
- 2) Lubricants – Thick grease and oils
- 3) Epoxies – One or two part epoxies can be used. If two part epoxies are used, remember that the viscosity changes with time and the pressure will have to be adjusted to compensate.
- 4) Cyanoacrylates – A filter should be used to stop the instant adhesives from running back into the dispenser.
  - These materials can permanently damage your dispenser.
  - The filter can be easily installed by cutting the adapter hose about 12” from the quick-disconnect fitting and press both ends in to the filter.
- 5) Anaerobics – Use similar precautions as for Cyanoacrylates.
- 6) Solder Mask/Solder Resist – If solvent evaporation is a problem, than an inert gas such as nitrogen can be used in place of compressed air.
- 7) Acrylics

# ELECTRICAL SCHEMATIC AND TIMER MODES



**NOTE:** Circuit is operated by switch SW2 closure. If control is transferred from foot pedal to external device, be sure NO VOLTAGE is introduced into the circuit. Use only mechanical relay or switch to provide contact closure.

<b>F1</b>	FUSE 230VAC
<b>S1</b>	SOLENOID
<b>SW1</b>	POWER SWITCH 115V
<b>TD1</b>	TIMER
<b>P1</b>	TIMER POTENTIOMETER
<b>SW2</b>	FOOT PEDAL SWITCH
<b>TR1</b>	TRANSFORMER 115V-24V
<b>SW3</b>	CONTINUOUS/TIMED SWITCH

# SRA WARRANTY INFORMATION

## 2-YEAR LIMITED WARRANTY

Your dispenser is warranted to the original purchaser for 2 years from the date of purchase; to be free from defects in materials and workmanship (but not against damages caused by misuse, negligence, accident, and faulty installation or by using materials incompatible with the equipment.)

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