

Autobonder™ 2101

110-034 / 110-035 / 110-036 / 110-037



HERNON®
MANUFACTURING, INC.
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Precision Processing Solutions

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About This Manual

Thank you for selecting Hernon's Autosealer 2650 for your application. The Autosealer 2650 was developed with your needs in mind, and has been calibrated and tested to ensure optimal performance and long life.

To ensure safe and trouble-free operation, please review the procedures and warnings contained in this manual before setting up or operating your Autosealer 2650. While safety is paramount, proper handling and operation of your Autosealer 2650 will also serve to produce quality product yield.

If you have any problems or concerns, please contact Hernon Technical Support at (407) 322-4000. Trained Hernon professionals are standing by to serve you.

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Unpacking and Inspection

Upon receipt of the Autobonder 2101, carefully remove the contents from the boxes and check for damage. **Hernon is not responsible for damage from shipping – all claims for shipping damage should be made with carrier.**

Check all boxes for contents and document any serial numbers for further reference. You may wish to retain original shipping cartons in case you need to repackage any item for return.

If you observe or experience any problem with your equipment, notify Hernon Customer Support, your authorized distributor, or your Hernon representative immediately.

NOTE: REPORT ANY SHORTAGE TO HERNON CUSTOMER SERVICE

Phone: (407) 322-4000 Fax: (407) 321-9700 Email: sales@hernon.com

Before continuing with unpacking and installation, please read the following chapters of this manual for safety recommendations and installation, running, and troubleshooting instructions.



WARNING! Always observe safety requirements!



CAUTION! Risk of Electrical Shock when enclosure is removed!

Safety

For safe and successful operation of the Autobonder 2101, read these instructions completely. If the instructions are not observed, the manufacturer can assume no responsibility. Be sure to retain this manual for future reference.

If chemical products are not properly handled, damage to health can result.

- Observe general safety regulations for the handling of chemicals.
- Observe manufacturer's instructions.
- When working with pressurized air, wear protective glasses.

While under warranty, the Autobonder 2101 may be repaired only by an authorized Heron service representative. Request a material safety data sheet for the HERNON® product used.

General

The Autobonder 2101 is a control unit for the semi-automatic dispensing of liquid. It utilizes pneumatic pressure and an electronic timer to accurately control dispense volume, and is activated with the included foot pedal switch.

Features

- Vacuum “pull back” for accurately controlled dispense volumes.
- Continuous or Timed Modes.
- Optional syringe sizes.
- Optional: 0-30psi or 0-100psi versions for compatibility of materials with different viscosities.
- Optional: 120V or 230V

Part Number Guide

Option	Part Number
<ul style="list-style-type: none"> • 120V • 0-100 PSI for dispensing medium to high viscosity materials 	110-034
<ul style="list-style-type: none"> • 120V • 0-30 PSI for dispensing low viscosity materials 	110-035
<ul style="list-style-type: none"> • 230V • 0-100 PSI for dispensing medium to high viscosity materials 	110-036
<ul style="list-style-type: none"> • 230V • 0-30 PSI for dispensing low viscosity materials 	110-037

Specifications

System Part Number	110-034/035/036/037
Power Requirements	120V, 60 Hz OR 230V, 50 Hz (see chart above)
Internal Voltage	12V, 500mA
Housing Dimensions (approx.)	7 ¾" x 7" x 3"
System Warranty	1 year from purchase
Air	Maximum 100psi (Dry Filtered Air)
Weight (approx.)	4lbs

System Includes:

Component:	Part Number:
Autobonder 2101 Controller	-
Syringe (Piston Included)	104-025
Power Supply	102-038 / 102-039
Foot Switch	110-009
Syringe Stand	106-045
Syringe Adapter Assembly	104-003
Needle Adapter Kit	110-003

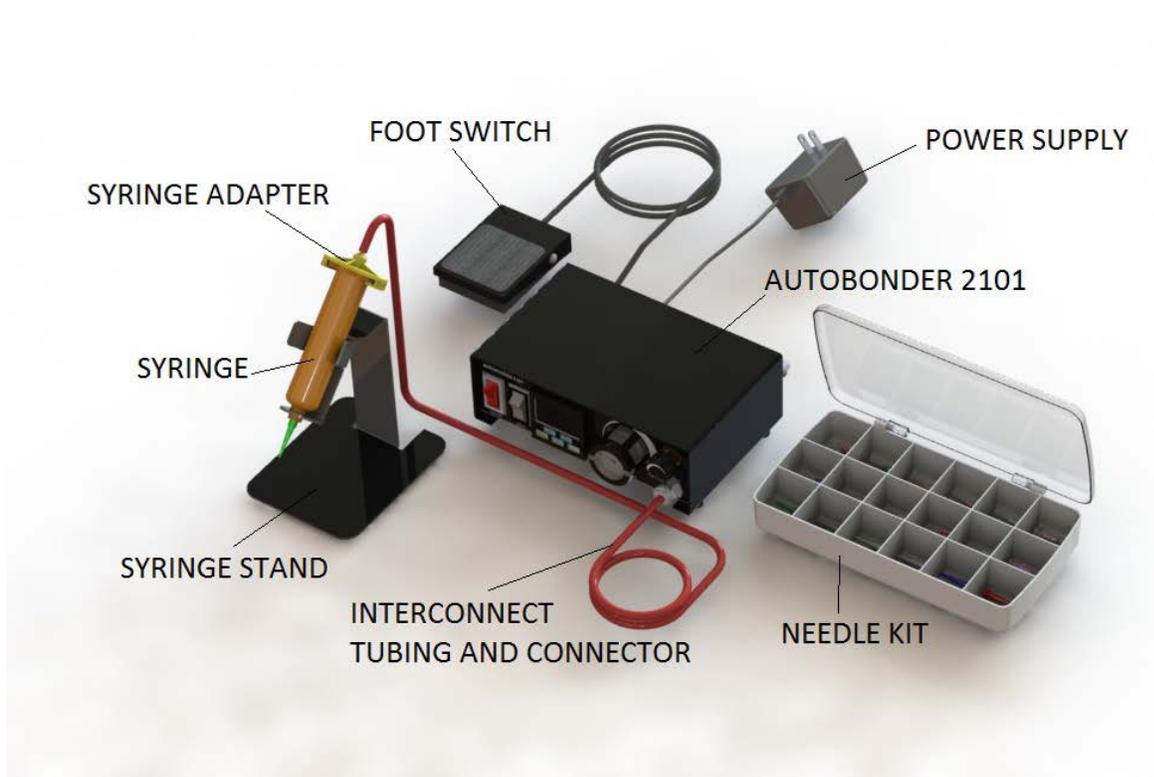


Figure 1- Autobonder 2101 Included Components

Assembly and Set-Up Procedure

1. Connect dry filtered shop air to air input on the back face of the Autobonder 2101. (Refer to Figure 3)

CAUTION: Use only dry filtered air. A five (5) micron filter is recommended.

2. Insert Power Cord into rear face of Autobonder™ 2101 to the connector labeled “POWER IN” (Refer to Figure 3)
3. Connect the foot switch to the back of the Autobonder 2101 – the connector labeled “FOOT SWITCH”. (Refer to Figure 3)
4. Twist-lock desired Dispense Tip onto syringe Luer-Lock end of syringe, as shown:



5. Twist-lock Syringe Adapter onto top of syringe, as shown:



6. Place syringe in Syringe Stand as shown in Figure 1 on page 7.
7. Insert a male syringe adapter end into the front of the Autobonder 2101 (Dispense Output). Be sure that the male and female connections are securely locked. (Refer to Figure 2)
8. After steps 1-7 have been completed, power the Autobonder 2101 ON.



Figure 2- Front face of Autobonder 2101



Figure 3- Rear face of Autobonder 2101

Operator Controls

Modes

Continuous Mode

If the application requires the dispensing of variable amounts of material that must be controlled by the operator, use the continuous operation mode. Set the Mode Toggle Switch to the “CONT.” position. This will override the timer circuitry and give complete control of the dispensing to the operator through the use of the **Foot Switch**. The Autobonder 2101 will dispense material while the foot switch is depressed and discontinue dispensing when foot switch is released.

Timed Mode

The Autobonder 2111 is equipped with a digital timer for timed dispensing operations. To set into Timer Mode, set the Mode Toggle Switch to Timer Mode. Upon activation of the foot switch the solenoid of the controller turns on the dispense air which opens the dispensing valve and begins the flow of material from the needle tip for the set interval of time. After elapse of the pre-set time, the solenoid of the controller shuts off the dispense air which closes the dispensing valve and ends the flow of the material.

Time Programming

- Timer range is: 00.01 to 99.99 seconds.
- Use the 1, 2, 3, 4, and RST keys to adjust the time. 1 sets hundredths of seconds, 2 sets tenths of seconds, and 3 and 4 set seconds. Once the desired interval of time is acquired press the RST button to set it into the machine. Refer to Figure 4.

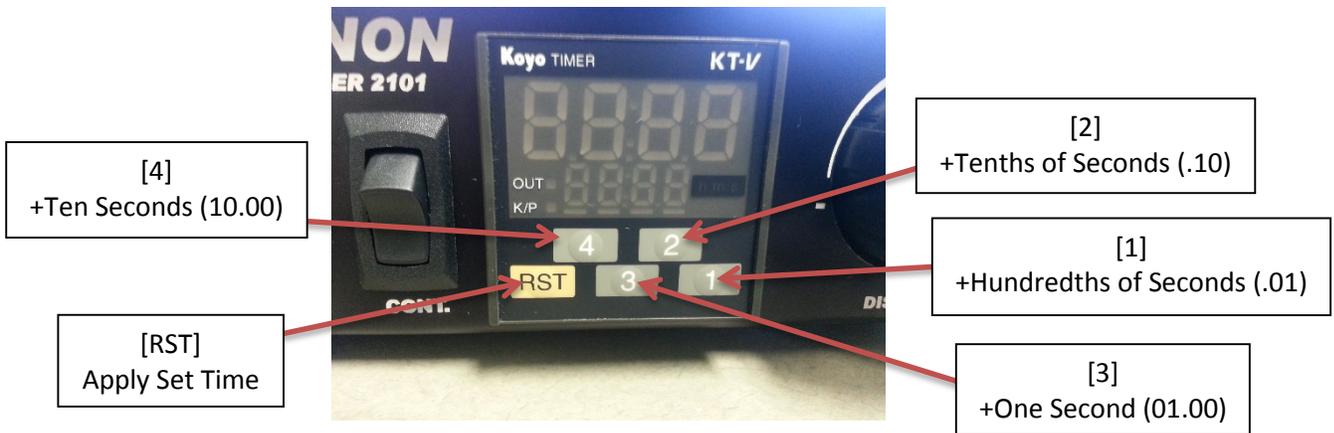


Figure 4- Timer

Pressure Regulator

The Pressure Regulator allows the user to adjust the air pressure that is propelling material. Higher pressures will dispense more material, for a given time. To adjust air pressure, pull the dispense control knob outward and turn counter-clockwise until the needle on the gauge reads below the new desired pressure setting. Then turn the knob clockwise to bring the needle up to the pressure setting desired. Press knob inward to lock.

Vacuum “Pull Back”

The vacuum “pull back” feature applies a constant vacuum pressure when the material is not dispensing. This is used to prevent material drip.

NOTES ON VACUUM CONTROL USE FOR ADHESIVE DISPENSING – READ CAREFULLY BEFORE PROCEEDING!

Before dispensing any material, it is suggested that the operator begin with water in the syringe so as to become familiar with how much vacuum control to use. To start, turn the vacuum control knob very slightly to the left until a slight “hissing” sound from the inside of the controller is heard, thus indicating the vacuum is “ON”. The vacuum control can be turned 6 full-counterclockwise turns (360° per turn) to be fully “ON”.

With a full syringe, adjust vacuum as required so that no water drips after a dispense cycle. Repeat this until you can hold water in the syringe without dripping or have excessive air bubbles rising through the syringe – from the bottom to the top (too much vacuum).

Put a dispense tip on the end of the syringe (use the smallest needles possible – the smaller the needle, the less vacuum required) to begin creating test dots.

CAUTION:

1. **Use as little vacuum as necessary.** Different vacuum levels are required for different materials; it is possible that no vacuum is needed at all.
2. The vacuum control is totally independent of the “POWER” switch. When powering the Autobonder 2101 OFF, close the vacuum by turning the vacuum knob fully clockwise.
3. Too much vacuum will cause material to travel back into the controller, and will cause damage.

4. Never lay the syringe or cartridge down on the work surface or turn it upside down – use the included Syringe Stand (P/N: 106-045).
5. Always use the syringe adaptor barrier to prevent material from entering the dispenser itself.

To begin dispensing material, manually pour material into the syringe with a needle in the end.

Dispensing

For dispensing low viscosity material, follow the procedure as outlined below:

1. Fill the syringe half full (or less) with material to be dispensed, and reattach Syringe Adapter.
2. Use the smallest possible needle at the end of the syringe.
3. Turn “VACCUM” control all the way off (clockwise). If the material begins to drip from the end of the needle, turn the vacuum control slowly to the left until the dripping stops. **Turning the “VACUUM” beyond this point can potentially damage the Autobonder™ 2101.**
4. Turn the “POWER” rocker switch to the “ON” position and the “CONT.” rocker switch to “CONT.”
5. Turn the “DISPENSE” regulator to desired pressure.
6. Depress the foot switch until a material flow is established. If no material comes out of the needle, increase the air pressure in 3-4 PSI increments until a flow is established. Adjust as required.
7. Turn the “CONT.” rocker switch to Timed Mode, if applicable.
 - a. Depress the foot switch to dispense “dots”. Increase the time as desired for larger “dots”

NOTE: For highest repeatability, adjust the time before adjusting the air pressure.

Validation

Prior to production, Heron advises customers to conduct testing to determine the desired dispense levels. When switching between materials of different viscosities, air pressure will have to be adjusted, and a different dispense tip will be required. The 0-30psi Autobonder 2101 (P/N: 110-035) will be limited in its ability to deal with materials of higher viscosity.

General Dispensing Tips

1. Never turn syringe down or lay syringe on bench – use the included Syringe Stand so that the syringe adapter assembly will not become clogged.
2. For the best uniform dot size results, hold syringe at approximate 45 degree angle with the tip of the needle just touching (or slightly above) the substrate.
3. Fill your syringe or cartridge only half full to further minimize adhesive getting on the adapter head.

Maintenance

The Autobonder 2101 is designed with minimum maintenance required. All maintenance involves consumable items. In the event that either the needle, syringe, and/or pneumatic tube is experiencing blockage; replace the required components.

Troubleshooting

Q) Why is material getting sucked back into the air output tube?

- A.** Vacuum is likely too high. Adjust vacuum down by turning “VACUUM” knob clockwise.

Q) Autobonder 2101 Controller does not power ON

- A.** Ensure that power cord is fully inserted into input on the back face of the controller.

Notes