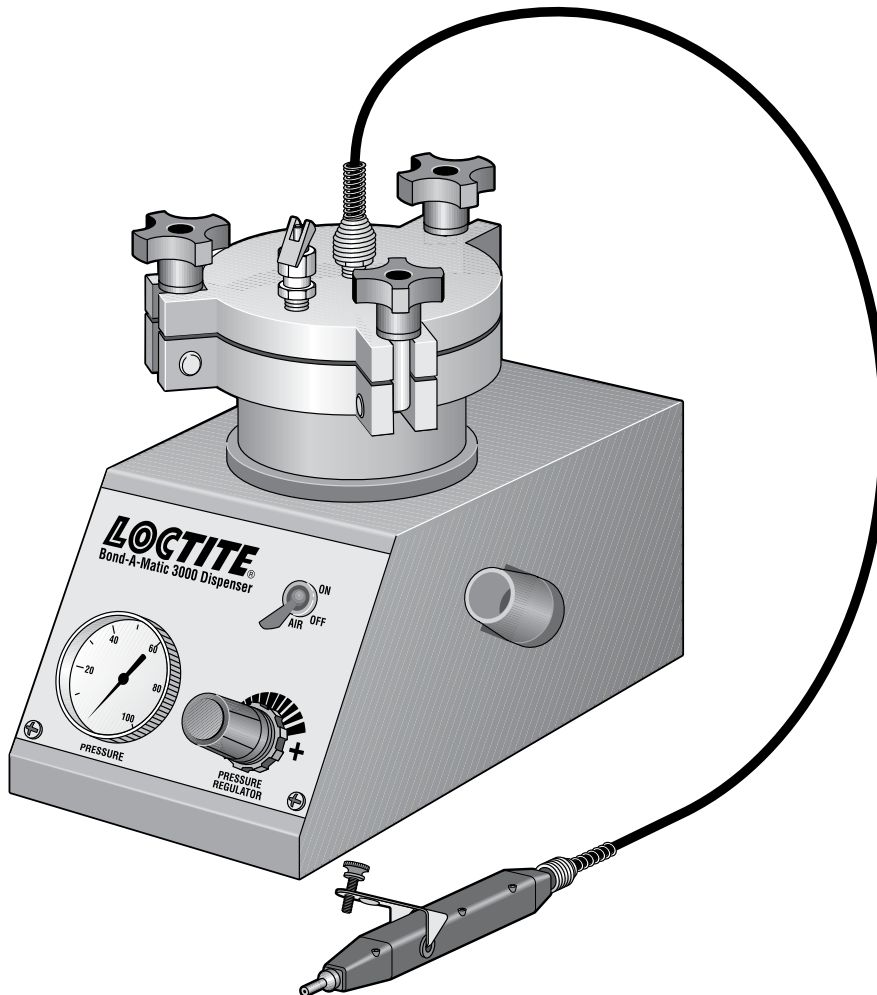




LOCTITE[®]

EQUIPMENT

OPERATION MANUAL



Bond-A-Matic[®] 3000

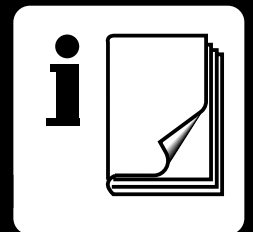
982719/982722

Reservoir Systems

982720/982721

982723/982724

982726/982727




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1

Conventions Used in This Manual


1.1 Symbols Used for Emphasis

 **Warning!**
Refers to safety regulations and requires safety measures that protect the operator or other persons from injury.

 **Caution!**
Emphasizes what must be done or avoided so that the unit or other property is not damaged.

 **Notice**
Gives recommendations for better handling of the unit during operation or adjustment as well as for service activities.

1.2 For Your Safety

 **For safe and successful operation of the unit, read these instructions completely. Loctite cannot assume responsibility if these instructions are not observed.**


Refer to the appropriate Material Safety Data Sheets (MSDS) when handling any chemicals in connection with dispensing operations.

Wear protective gear (safety glasses, gloves, aprons, etc.) as required.

Make sure control air pressure is zero and that air is “off” and that no compressed air is trapped in the air lines.

Make sure product pressure is zero and that product is “off” and that no product under pressure is trapped in the product supply lines.

Product under high pressure can penetrate skin and other organs. Always position the dispense nozzle so that it will not discharge in a dangerous manner. Likewise, position any disconnected hoses so that they will not discharge in a dangerous manner.

 As a result of technical development, the illustrations and descriptions in this instruction manual may deviate from the actual unit delivered.

2.1 Description

The Bond-A-Matic® 3000 is available configured as dispensing or reservoir systems (refer to summary table of models in this section).

- Bond-A-Matic® 3000 Dispenser systems are supplied ready to dispense, complete with the Vari-Drop™ applicator, feed line and a selection of dispense needles.
- Bond-A-Matic® 3000 Reservoir systems are designed for integration into custom dispense systems. Reservoir systems are therefore not supplied with feed line, Vari-Drop™ applicator or dispense needles. Reservoir system models are available equipped with either an AC or a DC-operated low level sensor. The sensor provides an electrical output signal, warning that the fluid reservoir is approaching empty.

All Bond-A-Matic® 3000 dispenser and reservoir systems are designed to dispense Loctite products packaged in bottles and squeeze tubes. All systems can accommodate 250-millimeter, one pound, one liter and two kilogram bottles, as well as 200-gram squeeze tubes.

Summary of Bond-A-Matic® 3000 Models

	Low Viscosity: 0-15 psi Regulator Range	High Viscosity: 0-100 psi Regulator Range
Bond-A-Matic® 3000 Dispensers:	#982719	#982722
Bond-A-Matic® 3000 Reservoirs:		
Without Low Level Sensor	#982726	#982727
With DC Low-Level Sensor	#982720	#982723
With AC Low-Level Sensor	#982721	#982724

2.2 Items Supplied

These components are supplied with the specified system.

Bond-A-Matic® 3000 Dispenser
part #982719 & 982722

- 1 Bond-A-Matic® reservoir with 1/4" tank fitting
- 1 Vari-Drop™ applicator kit
- 1 Needle evaluation kit
- 1 1/4" feed line & spring strain relief
- 1 Anti-bubble tip & sleeve
- 1 Tube of silicone grease
- 1 Operation manual
- 1 Squeeze tube adapter & nut/ferrule (982722 only)
- 1 3/8" tank fitting and spring strain relief (982722 only)

Bond-A-Matic® 3000 Reservoir
part #982720, 982721, 982723, 982724, 982726 & 982727

- 1 Bond-A-Matic® reservoir with 1/4" tank fitting
- 1 1/4" feed line & spring strain relief
- 1 Anti-bubble tip & sleeve
- 1 Tube of silicone grease
- 1 Operation manual
- 1 Squeeze tube adapter & nut/ferrule (982723, 982724 and 982727 only)
- 1 3/8" tank fitting & spring strain relief (982723, 982724 and 982727 only)

Following components supplied with low level sensor equipped reservoir systems:

- 1 Bottle holder and shim
- 1 Low level sensor

3.1 Space and Utility Requirements

3.1.1 Pneumatic

Clean, dry air is essential to prevent contamination of the product being dispensed.

The air supply should be:

- regulated to a pressure no greater than 125 psig (8.5 bar 0, and transient changes should not fall below the intended reservoir pressure).
- filtered, with a maximum of 50 microns.
- dry, especially when dispensing moisture sensitive products, such as Instant Adhesives. One option is a dryer such as Loctite Air Line Filter/Dryer, part number 996149. Another option is to use a dry, inert gas such as argon or nitrogen, appropriately regulated to a maximum of 125 psig, in place of shop air.

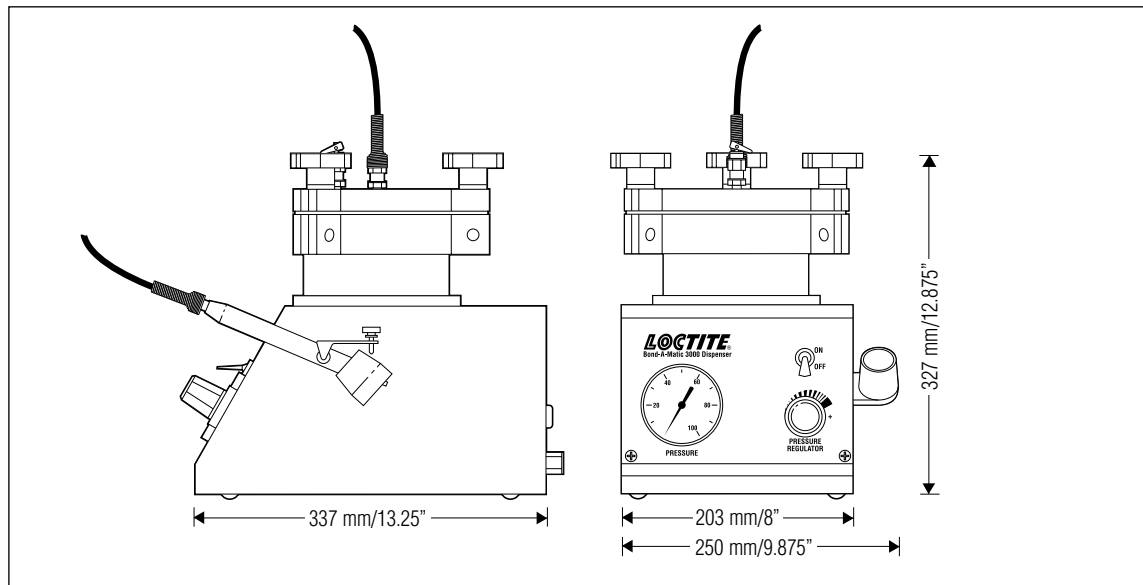
The pneumatic inlet fitting has a 1/4-inch NPT female thread.

3.1.2 Electrical

Bond-A-Matic® 3000 reservoir models equipped with a low level sensor require an electrical supply of 24 VDC or 110 V, depending on the sensor model (see Section 7).

3.1.3 Dimensions and Bench Space Requirements

The Bond-A-Matic® 3000 Dispenser weighs approximately 18 pounds (2.1 kg) unfilled. It must be located within a 48-inch radius (approximately 1.2 m) of the dispensing point. A 12-inch clearance (approximately 0.30 m) is required above the unit to allow changing bottles or tubes. Tight bends or kinks in the product feed line must be avoided.



3.2 Installation Procedure

Use the following procedure to install the Bond-A-Matic® 3000 system:

- 1.a For Bond-A-Matic® 3000 Dispense systems, connect the feed line to the Vari-Drop™ Applicator and slide a spring strain relief over the nut.
- 1.b For Bond-A-Matic® 3000 Reservoir systems, all external feed line connections will be unique to the specific applicator being connected to the reservoir.
- 2.a If dispensing from a bottle, slide a spring strain relief onto the opposite end of the feed line and insert the feed line through the tank lid fitting so that 9-3/4 inches extends into the tank (measured from the bottom of the lid). Tighten the tank lid fitting and slide a spring strain relief over the nut. The anti-bubble sleeve and adapter may be installed at the end of the feed line, if desired. The anti-bubble adapter minimizes dripping, and resulting bubbles, in the feed line when the feed line is removed from the reservoir to install a new bottle of product.
- 2.b If dispensing from a squeeze tube, slide a spring strain relief onto the opposite end of the feed line and insert the feed line through the tank lid fitting so that approximately 2 inches extends below the bottom of the lid. Tighten the tank lid fitting and slide a spring strain relief over the nut. Install the tube adapter and nut/sleeve onto the end of the feed line.
3. Apply silicone grease liberally to the O-ring seal face on the cover and to the threads of the clamping eye bolts to prevent the reservoir lid seal from bonding to its mating surfaces, which could occur if there is product spillage.
4. Connect the pneumatic supply to the 1/4" female NPT inlet fitting located at the lower right of the back panel (refer to Section 3.1.1 for pneumatic requirements).
5. Refer to Section 7 for low level sensor setup and calibration requirements.

4.1 Explanation of Controls

The Bond-A-Matic® 3000 Dispenser control system consists of an on-off air switch (1), a pressure regulator (2), a pressure gage (3), a quick exhaust safety relief valve (4), and a flow control actuator on the Vari-Drop™ applicator (5). Refer to the diagram on page 7.

When the air switch is ON, the reservoir is pressurized. When the air switch is turned OFF, the reservoir pressure will exhaust.

The pressure regulator and pressure gage allow adjustment of the reservoir pressure; the pressure is increased by turning the regulator knob clockwise, decreased by turning it counterclockwise. The gage indicates the pressure from 0 to 15 psig or 0 to 100 psig, depending on the model.

The manually operated Vari-Drop™ applicator is used to start and stop product flow. The Vari-Drop™ applicator valve is opened by depressing the actuator lever. The stroke can be controlled by the adjustment screw on the actuator lever. When the actuator lever is released, an internal spring forces a clamping mechanism to close the pinch tube and stop the flow of product.

The quick exhaust valve automatically vents when the reservoir pressure exceeds 15 psig or 100 psig, depending on the unit.

4.2 Loading the Reservoir



Warning: To avoid possible injury, always make sure that any pressure within the reservoir is vented before removing the reservoir lid.



Caution: Do not set the exposed product feed line onto the work surface as contaminants may be transferred to the product.



Caution: Do not pour materials directly into the reservoir, as this will allow material to enter the pneumatic control circuit.

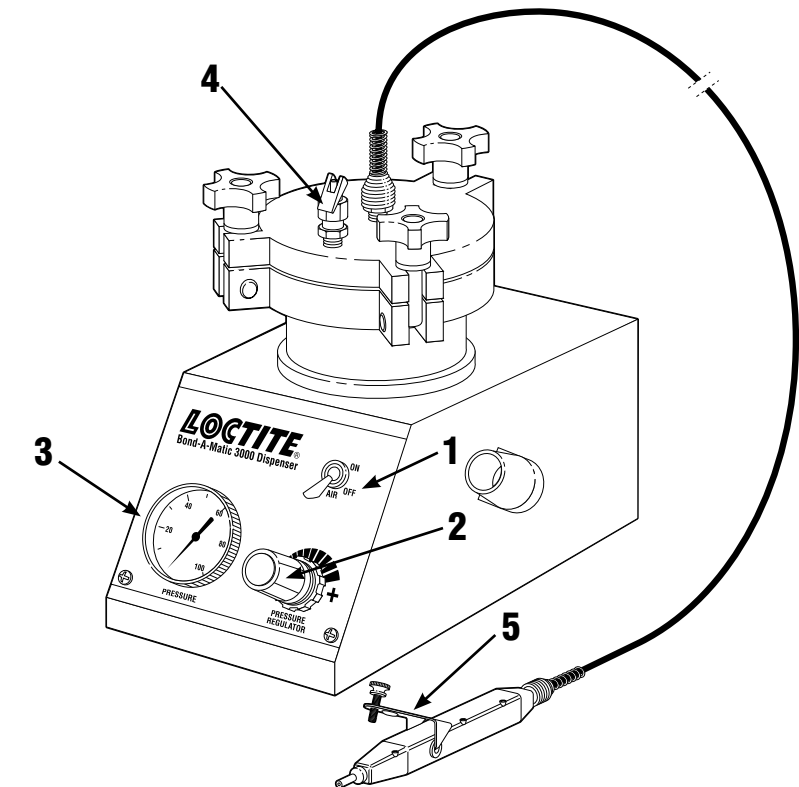
- a. Set the air switch to the OFF position, and open the relief valve to be sure that the reservoir pressure is completely vented.
- b. Loosen the three knobs securing the reservoir lid, pivot back the I-bolts, and remove the lid.
 - c.1 Bottle loading - place the new product bottle into the reservoir. For level sensor equipped reservoirs, be sure the bottle is fully inserted into the holder with the bottle shim in place. Place the product feed line into the bottle and close the reservoir lid.
 - c.2 Tube loading - unscrew (counterclockwise) the product tube from the tube adapter. Apply a thin film of silicone grease, Loctite part number 997569, to the threads of the new tube. Open the end of the tube with the piercer on the tube cap. Screw on the new tube and close the reservoir lid.
- d. Tighten the three knobs firmly by hand; do not overtighten with a tool.

4.3 Operation

To operate the Bond-A-Matic® 3000 dispenser:

- a. Load the reservoir with product (refer to section 4.2).
- b. Turn the regulator fully counterclockwise.
- c. Turn the air switch to ON.
- d. Depress the Vari-Drop™ actuator lever to begin the dispense cycle. Adjust the dispense rate using the pressure regulator, the stroke adjustment screw on the Vari-Drop™ actuator lever and the size (length and bore) of the dispense tip. Release the actuator lever to end the dispense cycle.
- e. To shut down the system, turn the air switch to OFF.

For extended idle periods (greater than 2 weeks), it is recommended that the product be removed from the reservoir and the feed line and that the Vari-Drop™ applicator be replaced.



5 Maintenance

The Bond-A-Matic® 3000 systems are designed to provide long, reliable performance with a minimum of maintenance. Normal maintenance activities are described below.


5.1 Vari-Drop™ Applicator

The Vari-Drop™ Applicator can be rebuilt or replaced. Refer to Section 5.5 for part numbers. Directions are included with the replacement repair kit.

5.2 Feed Line

Inspect the feed line on each bottle or tube replacement and replace the entire feed line if stress cracks or kinks are observed. Refer to section 3.2 for installation instructions.

5.3 Reservoir O-Ring

 Warning: To avoid possible injury, always make sure that any pressure within the reservoir is vented before removing the reservoir lid.

Inspect the o-ring on each bottle or tube replacement and relubricate or replace, as necessary.

5.4 Air Supply

Routinely check the air supply to confirm that it is dry and free of contamination. Refer to section 3.1.1 for requirements.

5 Maintenance

5.5 Spare Parts

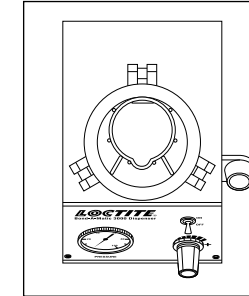
Description	Part No.
Tank Lid O-Ring	981880
Low Level Sensor, 110V	982731
Low Level Sensor, 24V	982732
Silicone Grease	997569
Gel Kit	982450
Anti-Bubble Components	992533/992663
Vari-Drop™ Applicator	998130
Vari-Drop™ Applicator Repair Kit	998149
Feed Line, Black Tubing, 10 meter *	97972

*Original equipment for Bond-A-Matic® 3000 dispensers includes a 2-meter length of this lined black feed line. This lined black feed line is recommended for all moisture and/or light sensitive products, such as instant adhesives and light curable adhesives. Clear, unlined tubing can be used for products that are not light or moisture sensitive, such as anaerobic products. Clear, unlined tubing is available by ordering:

Feed line kit, clear tubing, 4 ft. . . . 997562

Feed line kit, clear tubing, 12 ft. . . . 997564

Type of Malfunction	Possible Causes	Correction
Reservoir does not pressurize.	<ul style="list-style-type: none"> a. Air supply is not on. b. Air switch is not on. c. Cover O-ring seal is defective. d. Air switch defective. e. Regulator defective. 	<ul style="list-style-type: none"> a. Turn on air supply b. Turn switch to ON. c. Clean flange or replace O-ring. d. Replace air switch. e. Replace regulator.
Product cures in the dispensing tip.	<ul style="list-style-type: none"> a. Idle period is too long. b. Product is incompatible with the dispense needle. 	<ul style="list-style-type: none"> a. Replace the tip and refer to Section 5.6 of this manual. In the case of Instant Adhesives, a piece of silicone tubing can be knotted up and then slipped over the end of the tip. b. Switch to dispense with needles made of a different material.
Product does not dispense.	<ul style="list-style-type: none"> a. Reservoir pressure is too low. b. Product is cured in the dispensing tip. c. Product is cured inside feedline/applicator. d. Stroke adjustment screw turned in too far. 	<ul style="list-style-type: none"> a. Increase reservoir pressure. b. Replace tip. c. Replace feedline/rebuild applicator. d. Back screw out several turns.
Vari-Drop™ Applicator leaking.	<ul style="list-style-type: none"> a. Applicator pinch mechanism defective or cured product is in the pinch tube. 	<ul style="list-style-type: none"> a. Replace or rebuild applicator.
Air bubbles are in the product feed line.	<ul style="list-style-type: none"> a. The product feed tube is not properly connected. b. Feed line inside the reservoir is ruptured. 	<ul style="list-style-type: none"> a. Clean the tube connector and secure the tube to the fitting. b. Replace product feed line.



The low level sensor signals when the product level approaches empty by detecting a corresponding change in capacitance and changes the state of the output at that time. Either 110 volt/60 Hz or 10 to 35 volts DC are supplied to the unit, depending on the model (see Section 2.1). Loctite® 250-mL, 1-pound and 2-liter packages are compatible with the sensor when used with the basket holder.

To install and calibrate the low level sensor system:

- a. Orient the basket holder so that the eccentric part of the holder is directly opposite the sensor opening.
- b. Push down the basket holder until it is seated on the bottom of the reservoir. Make certain that the two spring levers of the basket are in contact with the reservoir wall. If they are not, remove the basket and adjust the springs to a slightly more extended position (see diagram).
- c. Place a product package into the basket holder. If the sensor face does not make contact with the bottle, thread the sensor into the reservoir until it does make contact and secure its position by tightening the mounting nut.

Notice: To reduce the amount of residual product remaining when the sensor reacts, place the plastic bottle shim in the bottle holder underneath the bottle to raise its position with respect to the sensor.

- d. These sensors have a selector switch which allows you to change the state of the sensor's output to suit your specific needs (see the sensor wiring diagram). The sensors are "shipped" set up for the following outputs:

24 VDC Version: Normally open, PNP

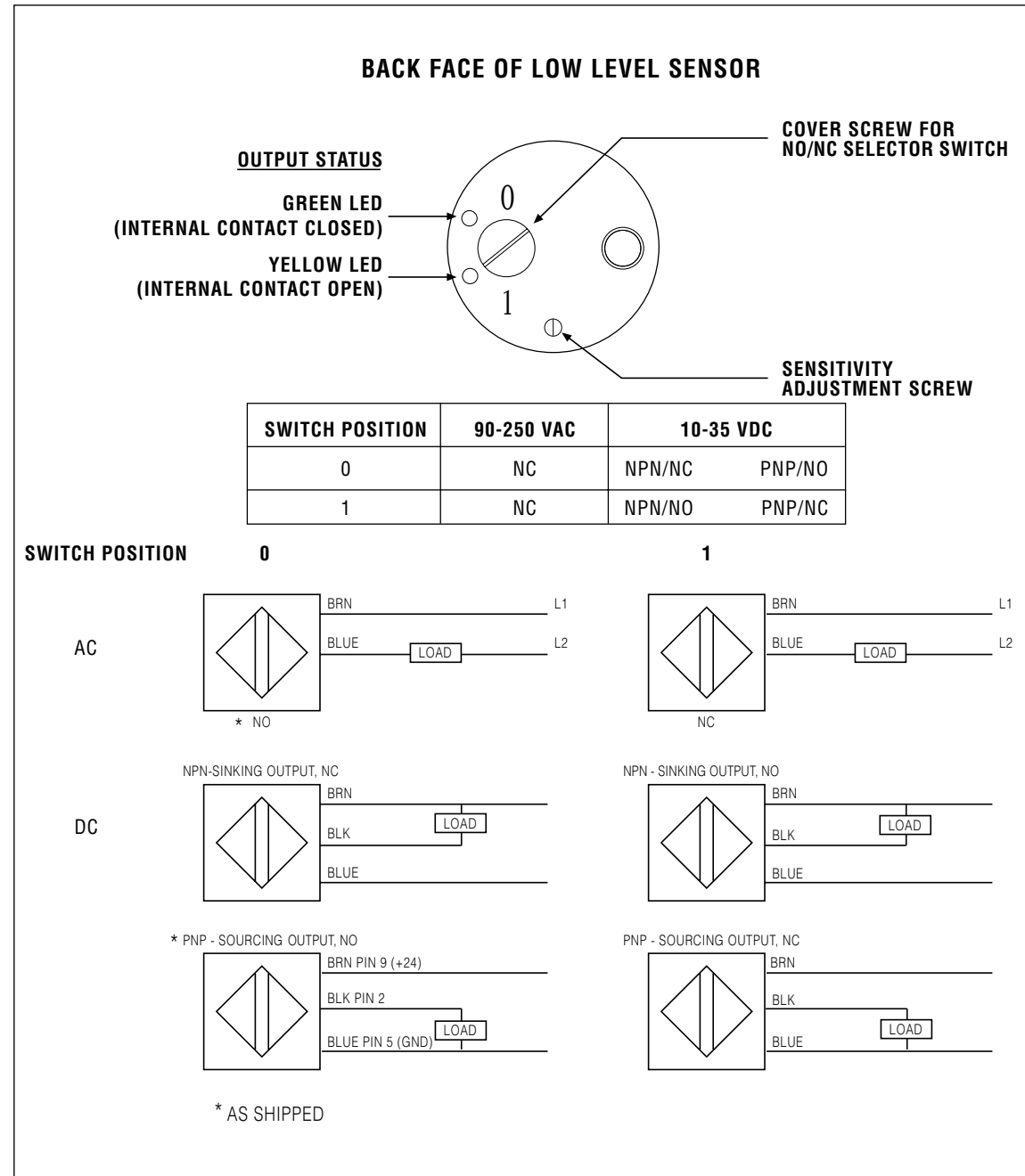
110 VAC Version: Normally open

(NOTE: The sensor cable plug is for interfacing with Loctite controllers. If you are not using Loctite controllers, simply remove the plug, and wire as needed.)

- e. These sensors have a Sensitivity Adjustment Screw which allows you to fine tune how responsive the sensor is to the presence of product.

Calibration Procedure:

1. Place a full bottle of product in the reservoir.
2. Apply 24 VDC or 110 V/60 Hz to sensor per wiring instructions.
3. Adjust the Sensitivity Adjustment Screw to the transition point where a slight rotation in either direction reverses the status of the indicator lights.
Green Indicator Light ON = sensor's internal contact "closed"
Yellow Indicator Light ON = sensor's internal contact "open"
Once in this position, turn the screw clockwise so that the light tripped by clockwise rotation "just" turns on.
4. Now turn the screw clockwise an additional 1/2 turn.
5. Remove the bottle and confirm that removing the bottle reverses the status of the indicator lights.



Loctite expressly warrants that all products referred to in this Instruction Manual for the Bond-A-Matic® 3000 Systems (hereafter called “Products”) shall be free from defects in materials and workmanship. Liability for Loctite shall be limited, at its option, to replacing those Products which are shown to be defective in either materials or workmanship or to credit the purchaser the amount of the purchase price thereof (plus freight and insurance charges paid therefor by the user). The purchaser’s sole and exclusive remedy for breach of warranty shall be such replacement or credit.

A claim of defect in materials or workmanship in any Products shall be allowed only when it is submitted in writing within one month after discovery of the defect or after the time the defect should reasonably have been discovered and in any event, within one year after the delivery of the Products to the purchaser. No such claim shall be allowed in respect of products which have been neglected or improperly stored, transported, handled, installed, connected, operated, used or maintained or in the event of unauthorized modification of the Products including, where products, parts or attachments for use in connection with the Products are available from Loctite, the use of products, parts or attachments which are not manufactured by Loctite.

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