

100 PLUSr Solenoid Valve Conversion Kit

1. Description

Under conditions of low input ac power, the 100 PLUS electrostatic power unit supply board does not output sufficient dc power to actuate the 24 Vdc solenoid valve controlling flow rate and atomizing air to the powder pump. This kit contains the parts required to replace the 24 Vdc solenoid valve with a 12 Vdc solenoid valve, which the power unit will then be able to actuate with low input ac power.

The kit includes:

- 12 Vdc solenoid
- Mounting plate
- Gasket
- Circuit board
- Screws and lockwashers

NOTE: Refer to the *100 PLUS Electrostatic Power Unit* manual for component location and additional information.

2. Installation



WARNING: Allow only qualified personnel to perform the following tasks. Observe and follow the safety instructions in this document and all other related documentation.

Pneumatic Module Removal

NOTE: The electronic module is located as follows: left front of rack mount; bottom front of wall mount.

1. [See Figure 1](#). Loosen the screws (6) securing the 100 PLUS power unit electronic module to the cabinet and slide the electronic module out of the cabinet.
2. Remove the two-pin solenoid power connector J6 (5) from the power supply circuit board.

NOTE: The pneumatic module is located as follows: left rear of rack mount; right side of wall mount.

3. Loosen the screws (1) securing the pneumatic module (2) to the cabinet and slide the pneumatic module out of the cabinet.

Pneumatic Module Removal

(contd)

4. Remove the two screws in the solenoid pilot manifold (7) and the two screws in the solenoid valve (3).
5. Remove the 24 Vdc solenoid, the pilot manifold, and the gasket from the manifold.
6. Remove the two-pin connector (4) from the old solenoid and save it for use on the new solenoid.

Solenoid

NOTE: The position of each wire in the connector is not important.

1. See Figure 1. Cut the leads on the 12 Vdc solenoid valve to 102 mm (4 in.) long. Strip the end of each wire 5 mm (0.19 in.). Install both wires into the two-pin connector removed from the 24 Vdc solenoid.

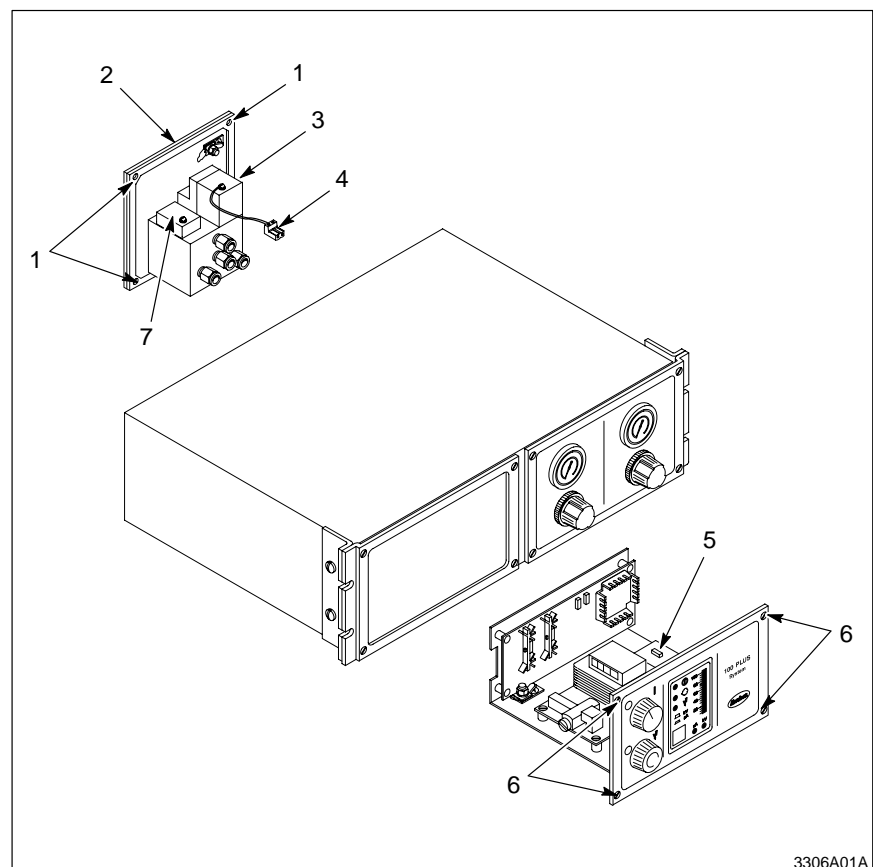


Fig. 1 Removing 24 Vdc Solenoid

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|----------------------|-------------------------------------|
| 1. Screws | 5. Two-pin solenoid power connector |
| 2. Pneumatic module | 6. Screws |
| 3. Solenoid valve | 7. Solenoid pilot manifold |
| 4. Two-pin connector | |

2. See Figure 2. Screw the solenoid valve (2) into the pilot manifold (3).
3. Position the new gasket (9) and pilot manifold on top of the air manifold (5) and secure the pilot manifold to the air manifold with four of the screws (4) and lockwashers (8) provided in the kit.

Circuit Board

1. See Figure 2. Mount the circuit board (6) to the side of the air manifold using the screws and lockwashers provided.
2. Plug the solenoid valve connector (1) into the mating connector P1 (7) on the circuit board.

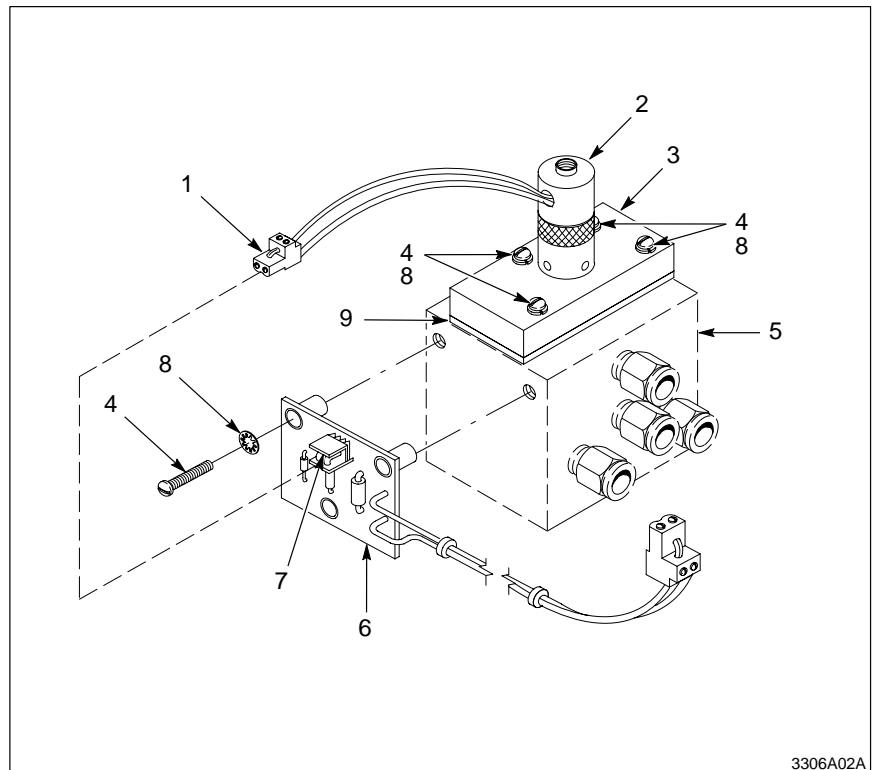


Fig. 2 Installing New Solenoid and Circuit Board

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|-----------------------------|------------------------|
| 1. Solenoid valve connector | 6. Circuit board |
| 2. Solenoid valve | 7. Mating connector P1 |
| 3. Pilot manifold | 8. Lockwashers |
| 4. Screws | 9. Gasket |
| 5. Air manifold | |

Pneumatic Module Installation

1. [See Figure 1](#). Slide the pneumatic module back into the cabinet, making sure to position the new circuit board cable and connector in the cabinet so that it can be connected to the power supply circuit board. Tighten the four screws securing the module to the cabinet.
2. Plug the solenoid circuit board connector into the mating J6 connector on the power supply circuit board.
3. Slide the electronic module back into the cabinet and tighten the four screws securing the module to the cabinet.

3. Parts

NOTE: To avoid future downtime, make sure that parts lists in the manuals for the modified power units are changed to reflect the parts added or changed with this kit.

NOTE: Parts included in an assembly are indented to each assembly.

| Item | Part | Description | Quantity | Note |
|------|---------|---|----------|------|
| — | 143 982 | Service kit, manifold, pneumatic, 12 volt | 1 | |
| 6 | 143 027 | Board, 12 volt manifold | 1 | A |
| 2 | 129 503 | Valve, solenoid, 12 Vdc, normally open | 1 | A |
| 3 | 129 329 | Manifold, pilot | 1 | A |
| 9 | 129 423 | Gasket, pilot, manifold | 1 | A |
| 4 | 982 069 | Screw, pan, slotted, M4 x 16, zinc | 6 | A |
| 8 | 983 403 | Washer, lock, split, M4, steel, zinc | 6 | A |

NOTE A: [See Figure 2](#).