

# **902 Powder Coating Booth**

Customer Product Manual  
Part 334 600A

**For parts and technical support, call the Industrial Coating  
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# 902 Powder Coating Booth

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## 1. Safety

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Read and follow these safety instructions. Task- and equipment-specific warnings, cautions, and instructions are included in equipment documentation where appropriate.

Make sure all equipment documentation, including these instructions, is accessible to all persons operating or servicing equipment.

### ***Qualified Personnel***

Equipment owners are responsible for making sure that Nordson equipment is installed, operated, and serviced by qualified personnel. Qualified personnel are those employees or contractors who are trained to safely perform their assigned tasks. They are familiar with all relevant safety rules and regulations and are physically capable of performing their assigned tasks.

### ***Intended Use***

Use of Nordson equipment in ways other than those described in the documentation supplied with the equipment may result in injury to persons or damage to property.

Some examples of unintended use of equipment include

- using incompatible materials
- making unauthorized modifications
- removing or bypassing safety guards or interlocks
- using incompatible or damaged parts
- using unapproved auxiliary equipment
- operating equipment in excess of maximum ratings

### ***Regulations and Approvals***

Make sure all equipment is rated and approved for the environment in which it is used. Any approvals obtained for Nordson equipment will be voided if instructions for installation, operation, and service are not followed.

**Personal Safety**

To prevent injury follow these instructions.

- Do not operate or service equipment unless you are qualified.
- Do not operate equipment unless safety guards, doors, or covers are intact and automatic interlocks are operating properly. Do not bypass or disarm any safety devices.
- Keep clear of moving equipment. Before adjusting or servicing any moving equipment, shut off the power supply and wait until the equipment comes to a complete stop. Lock out power and secure the equipment to prevent unexpected movement.
- Relieve (bleed off) hydraulic and pneumatic pressure before adjusting or servicing pressurized systems or components. Disconnect, lock out, and tag switches before servicing electrical equipment.
- While operating manual electrostatic spray guns, make sure you are grounded. Wear electrically conductive gloves or a grounding strap connected to the gun handle or other true earth ground. Do not wear or carry metallic objects such as jewelry or tools.
- If you receive even a slight electrical shock, shut down all electrical or electrostatic equipment immediately. Do not restart the equipment until the problem has been identified and corrected.
- Obtain and read Material Safety Data Sheets (MSDS) for all materials used. Follow the manufacturer's instructions for safe handling and use of materials, and use recommended personal protection devices.
- To prevent injury, be aware of less-obvious dangers in the workplace that often cannot be completely eliminated, such as hot surfaces, sharp edges, energized electrical circuits, and moving parts that cannot be enclosed or otherwise guarded for practical reasons.

**Fire Safety**

To avoid a fire or explosion, follow these instructions.

- Ground all conductive equipment in the spray area. Check equipment and workpiece grounding devices regularly. Resistance to ground must not exceed one megohm.
- Shut down all equipment immediately if you notice static sparking or arcing. Do not restart the equipment until the cause has been identified and corrected.

- Do not smoke, weld, grind, or use open flames where flammable materials are being used or stored.
- Provide adequate ventilation to prevent dangerous concentrations of volatile materials or vapors. Refer to local codes or your material MSDS for guidance.
- Do not disconnect live electrical circuits while working with flammable materials. Shut off power at a disconnect switch first to prevent sparking.
- Know where emergency stop buttons, shutoff valves, and fire extinguishers are located. If a fire starts in a spray booth, immediately shut off the spray system and exhaust fans.
- Shut off electrostatic power and ground the charging system before adjusting, cleaning, or repairing electrostatic equipment.
- Clean, maintain, test, and repair equipment according to the instructions in your equipment documentation.
- Use only replacement parts that are designed for use with original equipment. Contact your Nordson representative for parts information and advice.

### ***Action in the Event of a Malfunction***

If a system or any equipment in a system malfunctions, shut off the system immediately and perform the following steps:

- Disconnect and lock out electrical power. Close pneumatic shutoff valves and relieve pressures.
- Identify the reason for the malfunction and correct it before restarting the equipment.

### ***Disposal***

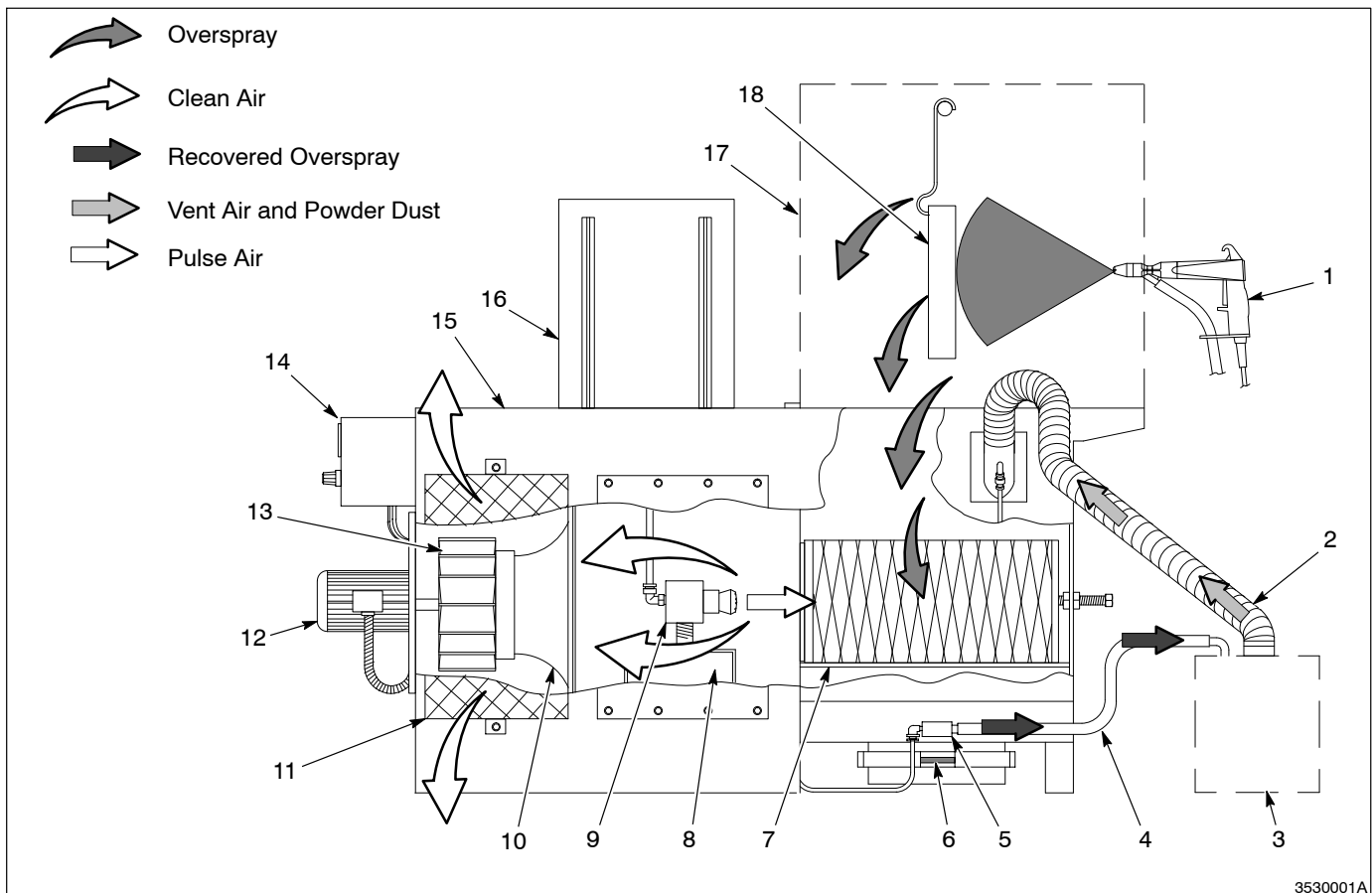
Dispose of equipment and materials used in operation and servicing according to local codes.

## 2. Description

This manual covers only a typical 902 powder coating booth designed for use with manually operated powder spray equipment. Customized booths may have other components.

### Booth Components

See Figure 1. This illustration shows the components of a typical 902 booth used with a manual spray gun (1).



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Fig. 1 Booth Components and Operation

- |                                   |                       |                      |
|-----------------------------------|-----------------------|----------------------|
| 1. Spray gun                      | 7. Cartridge filters  | 13. Exhaust fan      |
| 2. Vent hose                      | 8. Pulse air manifold | 14. Pneumatic panel  |
| 3. Scrap container or feed hopper | 9. Pulse valve        | 15. Collector        |
| 4. Transfer hose                  | 10. Inlet cone        | 16. Electrical panel |
| 5. Transfer pump                  | 11. Final filters     | 17. Canopy           |
| 6. Fluidizing plate               | 12. Motor             | 18. Workpieces       |

## **Booth Operation**

See Figure 1. The exhaust fan (12) pulls air into the canopy (16), through the cartridge filters(7), into the fan section and back into the spray room through the final filters (10). The sprayed powder is contained within the canopy by the air flowing through the canopy opening(s).

Overspray (powder that does not adhere to the workpieces (17)) collects on the external surfaces of the cartridge filters. The final filters remove any remaining powder from the air before returning it to the spray room.

When the cartridge filters become loaded with powder, the operator turns on the blowdown (pulse) air. The pulse valves (9) open, releasing a large volume of air through the centers of the cartridge filters. The air blows the collected powder off the cartridge filters. The powder falls onto the fluidizing plate (6) in the bottom of the collector. Low-pressure air flows through the fluidizing plate to fluidize the powder. The transfer pump (5) pumps the fluidized powder to a scrap drum for disposal or to a feed hopper (3) for reuse.

The air conveying the powder to the scrap drum or feed hopper, along with powder dust, flows back to the booth through the vent hose (2). Vent-assist air increase the air flow through the vent hose. Venting is necessary to prevent an increase in air pressure inside the scrap drum or feed hopper which would block powder from flowing into them.

The electrical panel (15) houses the operator controls and electrical components needed to run the booth, including pneumatic control solenoids and the pulse valve timers.

All other pneumatic valves and controls are housed in the pneumatic panel (13). A typical manual booth has a five-function (five regulator and gauge sets) panel, while a typical automatic booth has a 12-function panel.

The booth is also equipped with one or two differential pressure switches, depending on your system configuration. These devices measure the drop in air pressure across the final and cartridge filters. All systems have a switch for the final filters. If the final filters become clogged and the pressure drop across them exceeds 5-in. w.c. (water column), the switch will open and cut off power to the booth.

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### 3. Operation

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



**WARNING:** All conductive equipment in the spray area must be grounded. Failure to connect conductive equipment to ground could cause a fire or explosion, resulting in personal injury and property damage.

#### **Cartridge Seasoning**

Seasoning improves the performance and life of the cartridge filters. Season all new cartridge filters.

1. See Figure 3. Open the electrical panel and set the pulse valve ON timer on the timer circuit board to 0.07 seconds. The OFF timer is not used for this system. Close the electrical panel.
2. Turn on the booth power by turning the electrical panel disconnect switch to the ON position. Make sure the system air supply valve is fully open.
3. Press the EXHAUSTER START button on the electrical panel to start the exhaust fan.
4. On the pneumatic panel, set the collector fluidizing air pressure regulator to 0.7–1 bar (10–15 psi).
5. Measure the face velocity at the canopy openings with a hand-held velometer. Record the face velocity.
6. Fill the powder feed hopper  $\frac{2}{3}$  full of new powder.
7. Adjust the hopper fluidizing air to 0.7–1 bar (10–15 psi). Hopper fluidizing air is typically controlled by the AUX regulator on the gun control unit.
8. Remove the powder feed hose(s) from the spray gun(s).
9. Secure the hose(s) so they point into the booth, but not directly at the cartridge filters.
10. When the powder in the feed hopper is adequately fluidized (5–10 minutes), turn on the gun control unit(s) and adjust the flow rate and atomizing air pressures until you obtain a light flow of powder from the hose(s). Do not turn on the electrostatic voltage.
11. Adjust the pulse air pressure to 1.7 bar (25 psi).

12. Periodically measure the face velocity at the canopy openings. When the face velocity decreases to half that measured in step 3, turn the BLOWDOWN switch to ON and pulse the cartridge filters until the face velocity rises to 100 FPM or greater. Turn off the blowdown switch.
13. Adjust the pulse air pressure to 3.8 bar (55 psi).
14. Periodically measure the face velocity at the canopy openings. When the face velocity decreases to half that measured in step 3, turn on the blowdown air and pulse the cartridge filters until the face velocity rises to 100 FPM or greater.
15. Turn off the blowdown air, shut off the powder flow, reconnect the feed hoses to the guns, and start production.

### ***Daily Startup and Operation***

**NOTE:** Operation instructions for other system components are included in their manuals.

1. Turn on the booth power.
2. Start the exhaust fan.
3. Check the air supply pressure. Pressure should be at least 5.5 bar (80 psi).
4. Set the collector hopper fluidizing air pressure to 0.7–1 bar (10–15 psi).
5. Check the level of powder in the powder feed hopper. Add powder if necessary, but do not fill more than  $\frac{2}{3}$  full.
6. Adjust the feed hopper fluidizing air regulator (typically the AUX regulator on the gun control unit) to 0.7–1 bar (10–15 psi).
7. Set the vent-assist air pressure to 0.7–1 bar (10–15 psi). Adjust the pressure as necessary to maintain a neutral pressure in the scrap drum or feed hopper.
8. Check the pulse air pressure. Pressure should be 3.8 bar (55 bar).
9. Turn on the gun control unit(s) and start spraying powder.
10. Monitor the differential pressure gauge. When the pressure reaches 1.5-in. w.c. (water column), turn on the blowdown air and pulse the cartridge filters until the pressure falls to 1-in. w.c.
11. Monitor the powder level in the collector. Turn on the transfer pump and empty the collector before the powder level reaches the bottom of the cartridge filters.

### ***Daily Shutdown***

Shutdown instructions for other system components are included in their manuals.

1. Start the transfer pump and pump the powder out of the collector to the scrap drum or feed hopper.
2. Turn off the gun control unit(s).
3. Perform the daily maintenance procedures described in the Maintenance section.
4. Turn off the exhaust fan. Shut off electrical power at the booth electrical panel.

## 4. Maintenance



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

### Daily Maintenance

1. Turn on the blowdown air and pulse the cartridge filters. This should be done whenever the pressure in the fan section rises above 1.5-in.
2. Turn on the exhaust fan and clean the canopy with a rubber squeegee or other grounded, non-sparking device.
3. Disconnect the transfer hose from the transfer pump and feed hopper (or scrap drum). Place one end of the hose into the booth and turn on the exhaust fan. Blow out the hose into the booth.
4. Remove the transfer pump and disassemble it. Clean the venturi nozzle and throat. Replace any worn parts.
5. Drain the air supply filter.
6. If your system uses automatic spray guns, check the fire detection system operation. Make sure the detector head air shrouds are receiving air and that the lenses are clean.

### Periodically

Perform these procedures periodically. Include them in your regular maintenance schedule.

Equipment	Procedure
Collector	Pulse the cartridge filters. Loosen the push plate screws and remove the cartridge filters. Pump all powder out of the collector hopper. Clean the hopper and fluidizing plate with a vacuum and soft brush. If the plate is stained, the supply air is contaminated. Check the air supply filters and the air dryer for proper operation.
Fan Section	If powder is leaking into the fan compartment, tighten the push-plate screws slightly to compress the filter gaskets. If the leak continues, clogging the final filters, pulse the cartridge filters, then remove them and check the gaskets and media for damage. Replace the filters if you find any damage. Do not vacuum the cartridge filters.
Air Dryer and Filters	Hold a clean white cloth under the drip leg valve and open it. If water, oil, or other contaminants stain the cloth, check the air supply filters and air dryer. Drain the air supply filters and clean or replace the elements. Check the fluidizing plate and replace it if it is contaminated.
Equipment Grounds	Check all equipment grounds with an ohmmeter. Resistance to ground should not be more than one megohm.

## 5. Troubleshooting



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

### Introduction

This section contains troubleshooting procedures. These procedures cover only the most common problems that you may encounter. If you cannot solve the problem with the information given here, contact your local Nordson representative for help.

**NOTE:** See Figures 2 and 3 for electrical troubleshooting and component location, and Figure 4 for pneumatic troubleshooting. Your system may have additional circuits and components, depending on system configuration and options.

Problem		Page
1.	Exhaust fan will not start, or system shuts down	10
2.	Powder not transferring from collector	11
3.	Overspray escaping from canopy	11

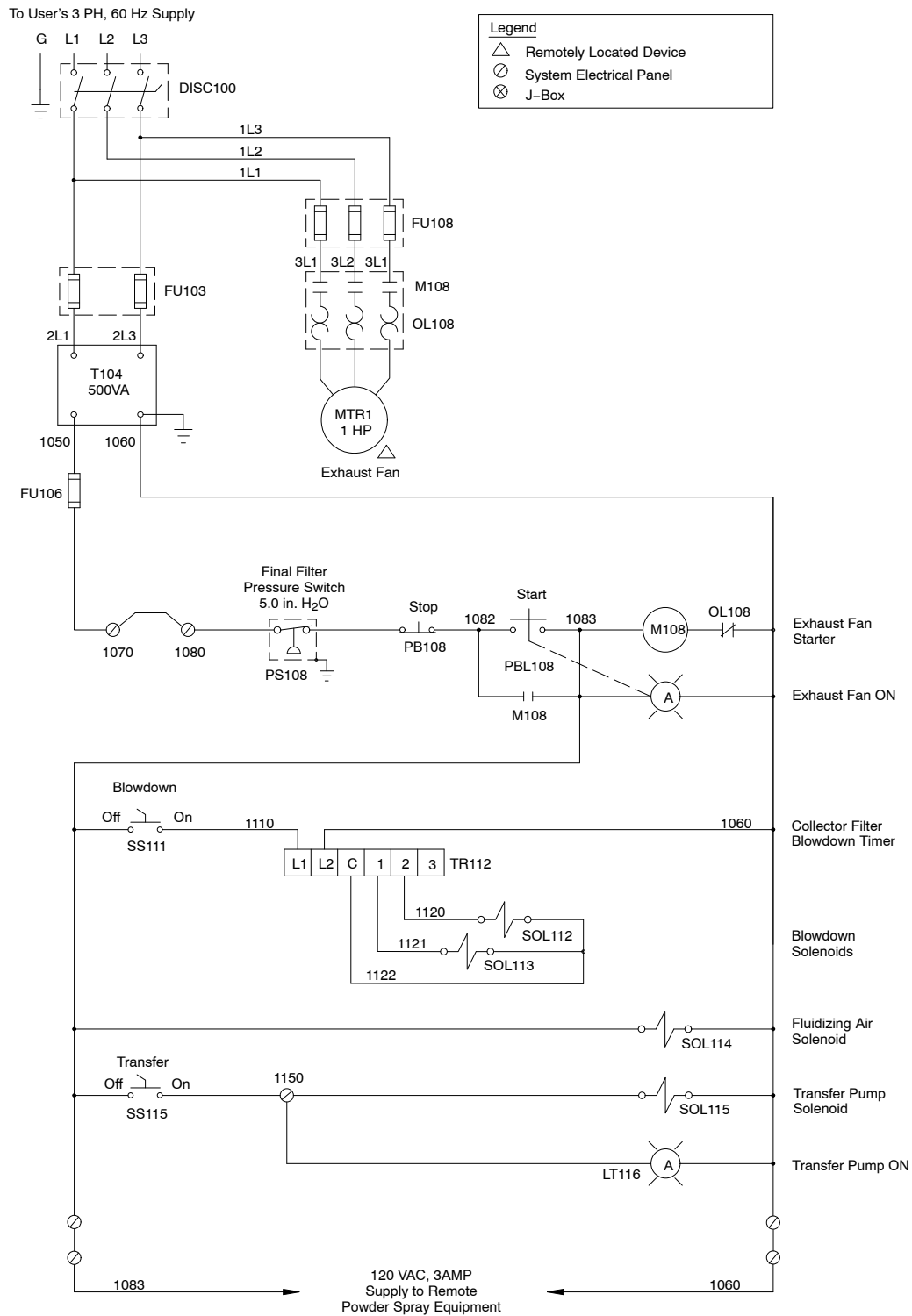
### Troubleshooting Chart

Problem	Possible Cause	Corrective Action
1. Exhaust fan will not start, or system shuts down	Final filters loaded with powder (pressure switch shuts down system if pressure in fan section rises above 5 in.)	Check for powder leaking into fan section. Tighten push-plate screws to compress cartridge filter gaskets. Seal all other leaks with RTV sealant. If cartridge filter media or gaskets are damaged, replace the damaged cartridge filters. Clean fan section and replace the final filters.
	Fuse blown	Shut off electrical panel disconnect switch. Open panel and check fuses. Replace blown fuse and correct condition that caused fuse to blow before restoring power. See Figure 3.

Problem	Possible Cause	Corrective Action
<b>2. Powder not transferring from collector</b>	Transfer pump pressure too low	Increase transfer pump air pressure.
	Transfer pump clogged or venturi nozzle or throat worn	Clean the pump and replace any worn parts.
	Transfer hose plugged	Blow out transfer hose. Replace hose if plugged.
	Powder in collector not fluidized, or contaminated.	Increase fluidizing air pressure. Powder should be gently boiling. Make sure solenoid controlling fluidizing air is operating. Refer to Figures 2, 3, and 4. Make sure powder is dry. Check air supply and fluidizing plate. Replace plate if contaminated or plugged.
	Pressure in scrap drum or feed hopper too high	Increase vent-assist air pressure. Make sure vent hose is not blocked or kinked.
<b>3. Overspray escaping from canopy (insufficient air flow through system)</b>	Solenoid controlling air to transfer pump malfunctioning	Replace solenoid. See Figures 3 and 4.
	Pulse air pressure too low, cartridge filters clogged	Increase pulse air pressure.
	Powder too fine or contaminated	Reduce ratio of reclaim to new powder. Replace contaminated powder and check air dryer and filters.
	Pulse valves not aimed correctly	Make sure valves point directly into center of cartridge filters.
	Timer board settings incorrect	Adjust timers as described in <i>Cartridge Seasoning</i> .
	Pulse valves or solenoid valves clogged or malfunctioning	Open the electrical panel. If the timer LEDs light when blowdown air is turned on but one of the pulse valves does not open, either the pulse valve or solenoid valve is not operating. To isolate malfunction, disconnect the pilot air tubing from the solenoid at bottom right side of electrical panel. If the pulse valve opens, then replace the solenoid. See Figures 3 and 4. If the pulse valve does not open, replace it.

**Electrical Schematic**

This schematic is for a typical booth used with manual powder application equipment. Your system may have other circuits and equipment.

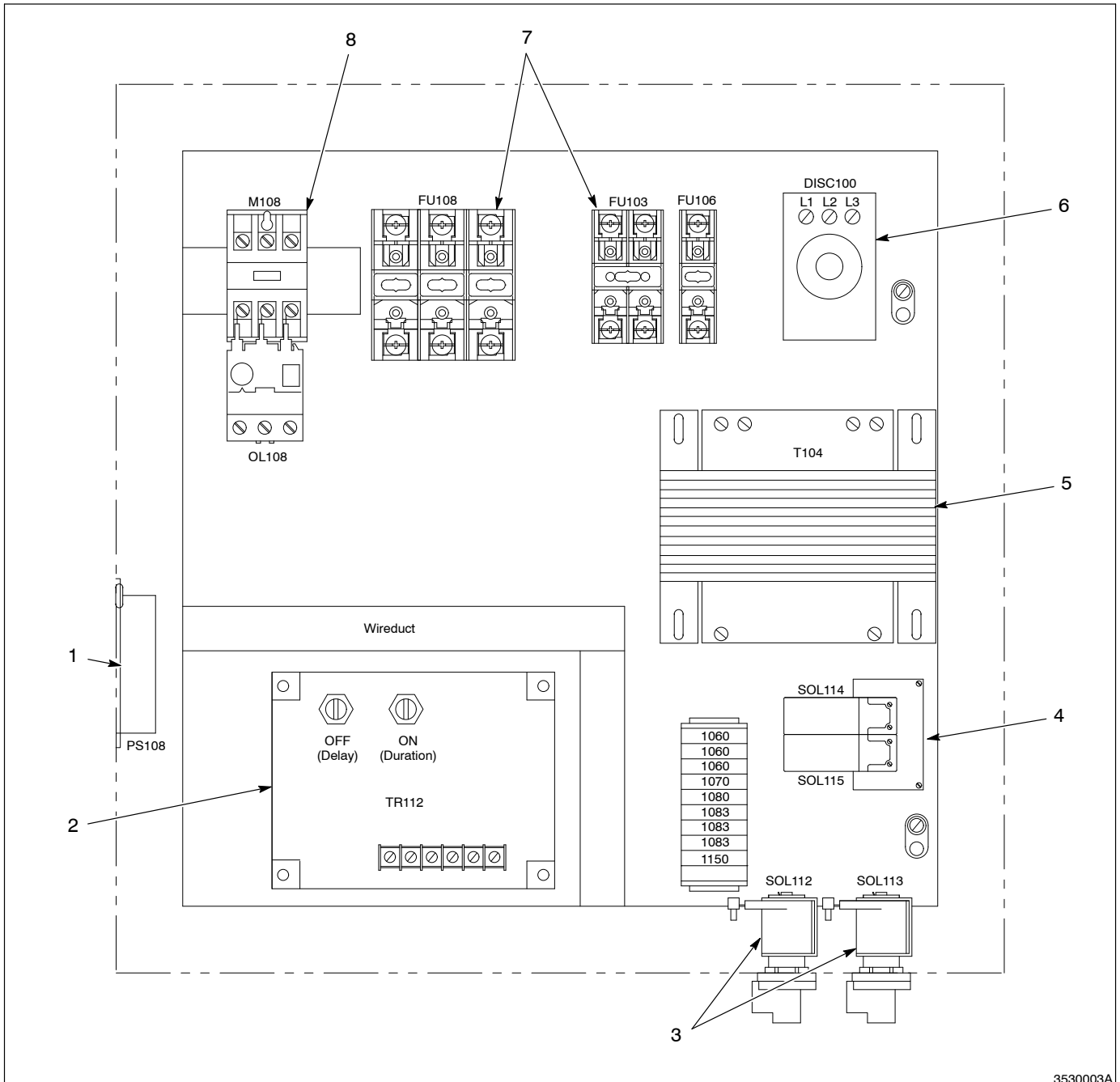


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Fig. 2 Typical Manual System Electrical Schematic

## Electrical Panel Components

This electrical panel is for a typical booth used with manual powder application equipment. Your electrical panel may have other components.



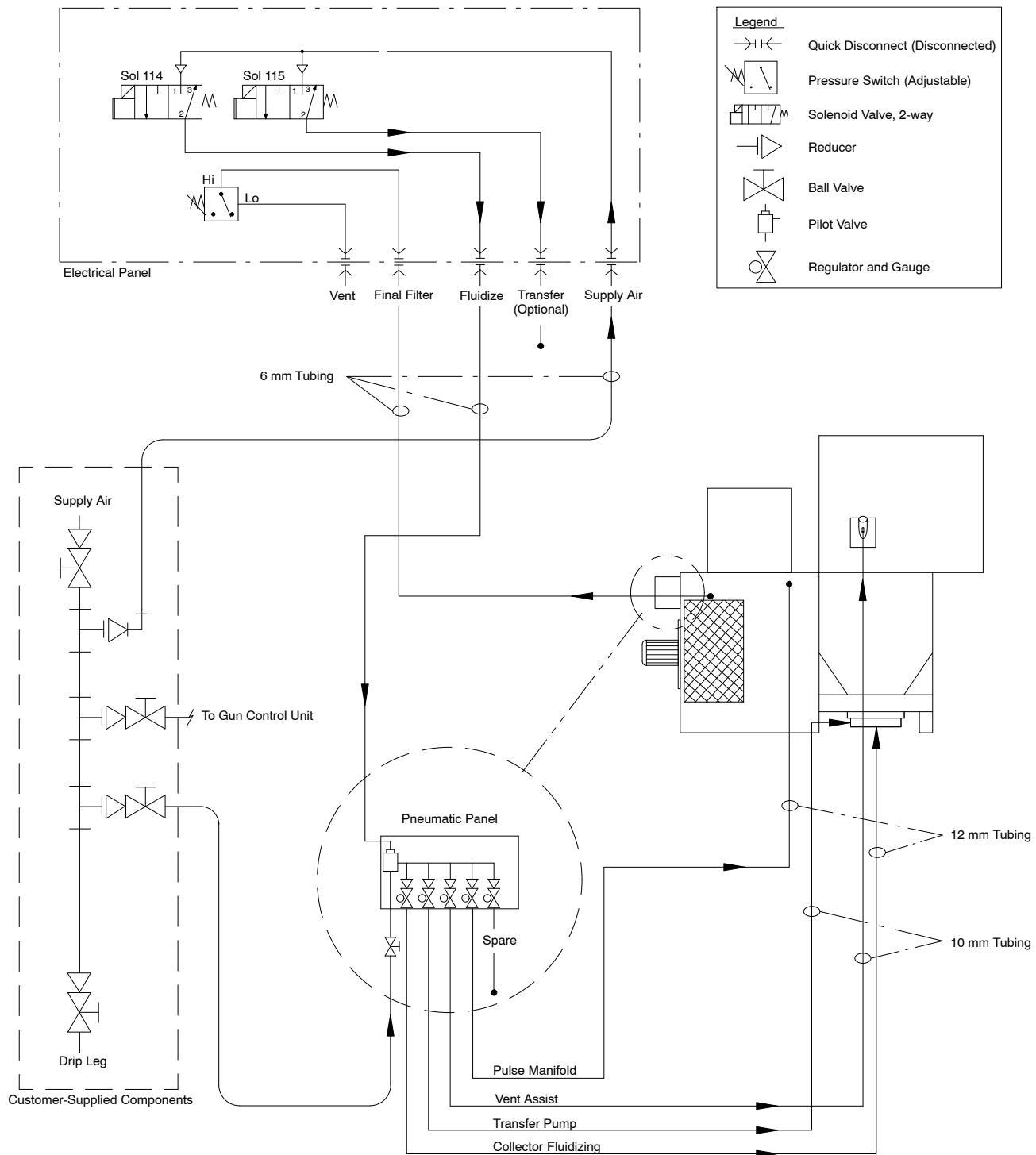
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Fig. 3 Typical Manual System Electrical Panel

- |                            |  |   |
|----------------------------|--|---|
| 1. Pressure switch         | 4. Transfer and fluidizing air solenoids | 7. Fuses                                |
| 2. Pulse valve timer board | 5. Transformer                           | 8. Motor starter and overload protector |
| 3. Pulse valve solenoids   | 6. Disconnect switch                     |   |

**Pneumatic Schematic**

This schematic is for a typical booth used with manual powder application equipment. Your system may have other circuits and equipment.



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Fig. 4 Typical Manual System Pneumatic Schematic

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## 6. Repair

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

**NOTE:** Replace parts with original equipment parts from Nordson. Do not substitute parts from other manufacturers.

### ***Final Filter Replacement***

1. Turn off electrical power to the system. Lock out and tag the disconnect switch.
2. See Figure 5. Remove the screws (4) and washers (3) securing the grille (2) to the fan section. Remove the grille.
3. Remove the final filter (1).
4. Install a new final filter in the recess.
5. Replace the grille, sliding the lower edge under the final filter.

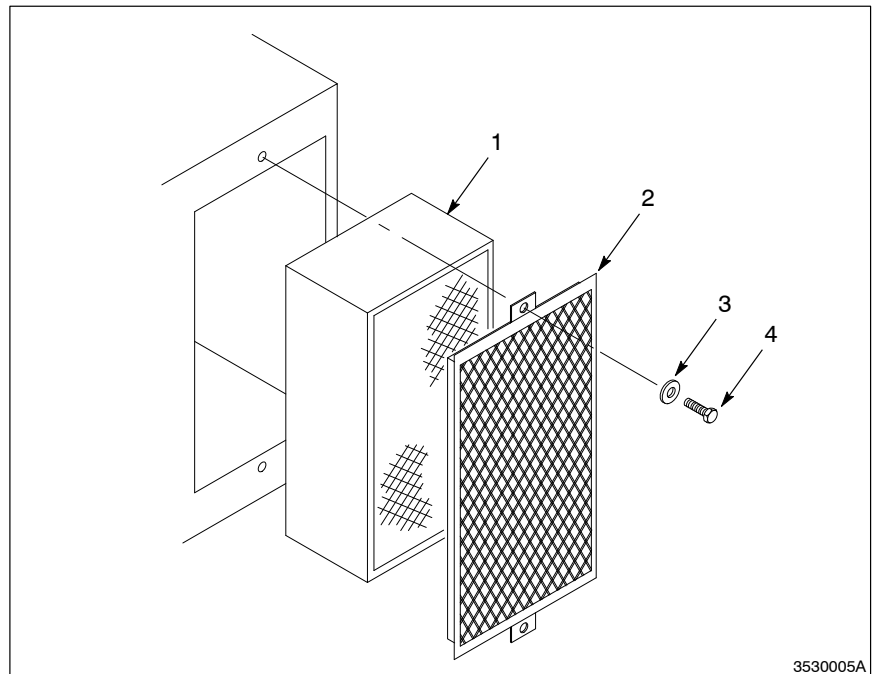


Fig. 5 Final Filter Replacement

- |                 |            |
|-----------------|------------|
| 1. Final filter | 3. Washers |
| 2. Grille       | 4. Screws  |

**Cartridge Filter Replacement**

**NOTE:** Replace both cartridge filters at the same time.

1. Turn on blowdown air and pulse the cartridge filters.
2. Turn on the transfer pump and pump as much powder out of the collector as you can.
3. Turn off electrical power to the system. Lock out and tag the disconnect switch.
4. See Figure 6. Unscrew the push plate screws (1) until the push plates (2) are retracted.
5. Lift the cartridge filters (3) out of the collector.
6. Clean the sealing surface around the openings in the back wall of the collector. Vacuum the rest of the powder out of the collector and clean the fluidizing plate. Inspect the plate for staining caused by contaminated air. Refer to *Maintenance*.
7. Remove the new cartridges from their packaging and inspect them for damage. Do not use damaged filters.
8. Install the new cartridges on the support rods (4), with the open ends facing toward the opening in the back wall of the collector.



**CAUTION:** Do not overtighten the push plate screws. Overtightening the screws can damage the cartridge filters.

9. Tighten the push plate screws to push the cartridges against the back wall and compress the cartridge gaskets enough to form an airtight seal. You should not be able to slip a 0.4-mm (0.015-in.) feeler gauge between the gasket and the back wall.

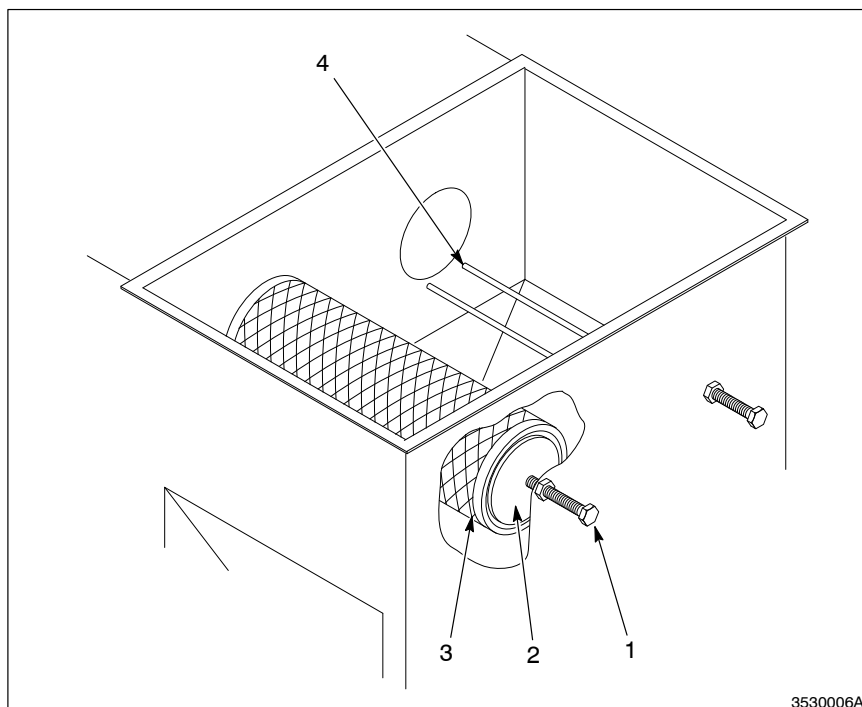


Fig. 6 Cartridge Filter Replacement

- |                      |                     |
|----------------------|---------------------|
| 1. Push-plate screws | 3. Cartridge filter |
| 2. Push plate        | 4. Support rods     |

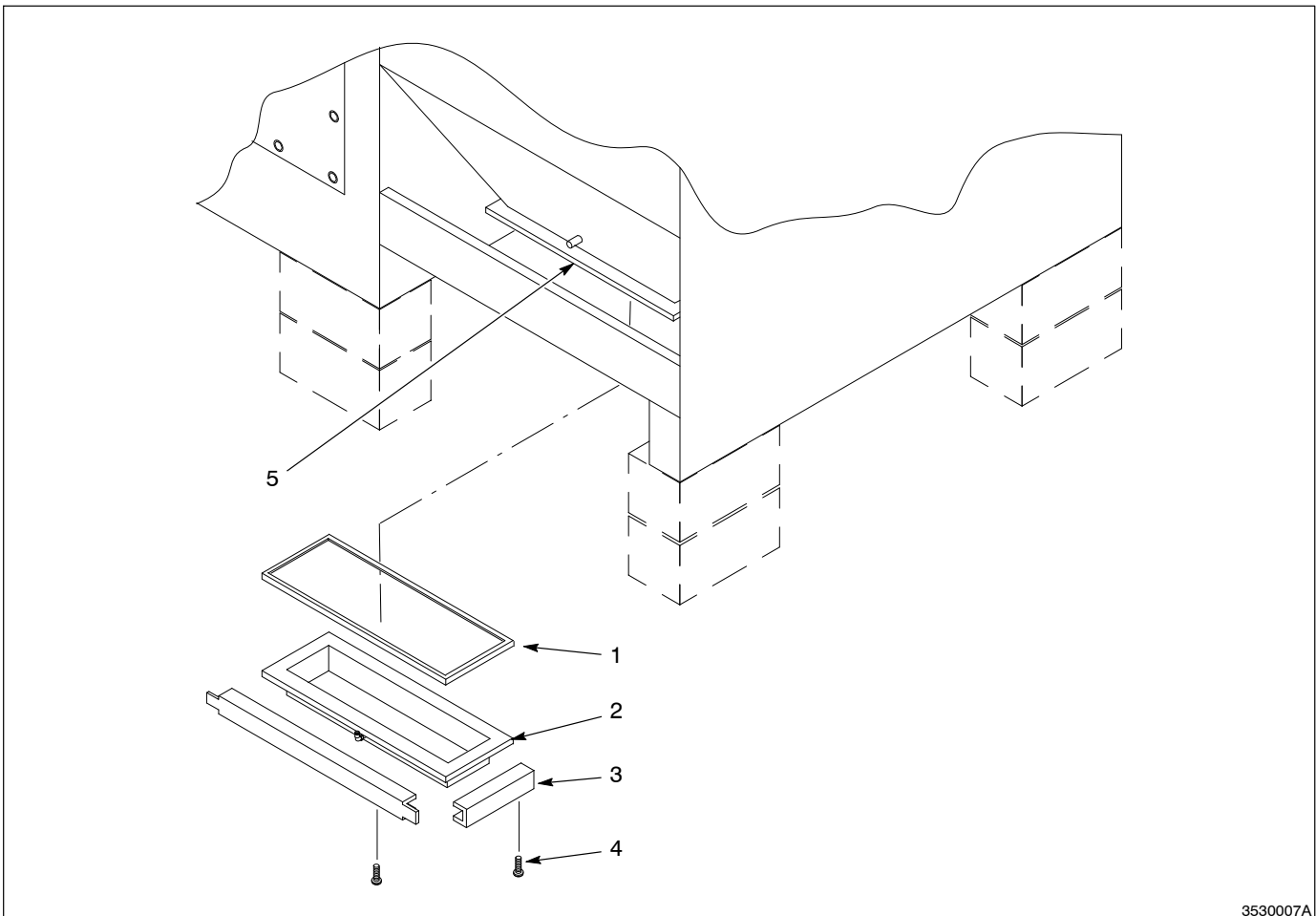
### ***Fluidizing Plate Replacement***

1. Turn on the blowdown air and pulse the cartridge filters. Turn off the blowdown air.
2. Turn on the transfer pump and pump as much powder out of the collector as you can. Turn off the transfer pump.
3. Vacuum out as much powder as you can without removing the cartridge filters.
4. Turn off electrical power to the system. Lock out and tag the disconnect switch.
5. If the air supply is hard-plumbed to the booth, disconnect the air supply line from the booth.
6. See Figure 7. Raise the booth about 1 meter (3 ft) off the floor with a forklift or other lifting device.

**Fluidizing Plate Replacement**

(contd)

7. Install blocks under the booth to hold it up securely.
8. Block up the fluidizing plenum (2).
9. Loosen the screws (4) on the clamping channels (3). Remove the plenum and fluidizing plate (1) from under the collector.
10. Clean the plenum and the collector flanges (5) thoroughly.
11. Install a new fluidizing plate and gasket on the plenum.
12. Block the plenum up under the collector and line up the edges of the collector and plenum flanges and the edge of the fluidizing plate gasket.
13. Install the clamping channels over the flanges. Tighten the screws in a criss-cross fashion to compress the gasket and form an airtight seal. Do not overtighten the screws and crush the plate.



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Fig. 7 Fluidizing Plate Replacement

- |                                |                      |            |
|--------------------------------|----------------------|------------|
| 1. Fluidizing plate and gasket | 3. Clamping channels | 5. Flanges |
| 2. Fluidizing plenum           | 4. Screws            |            |

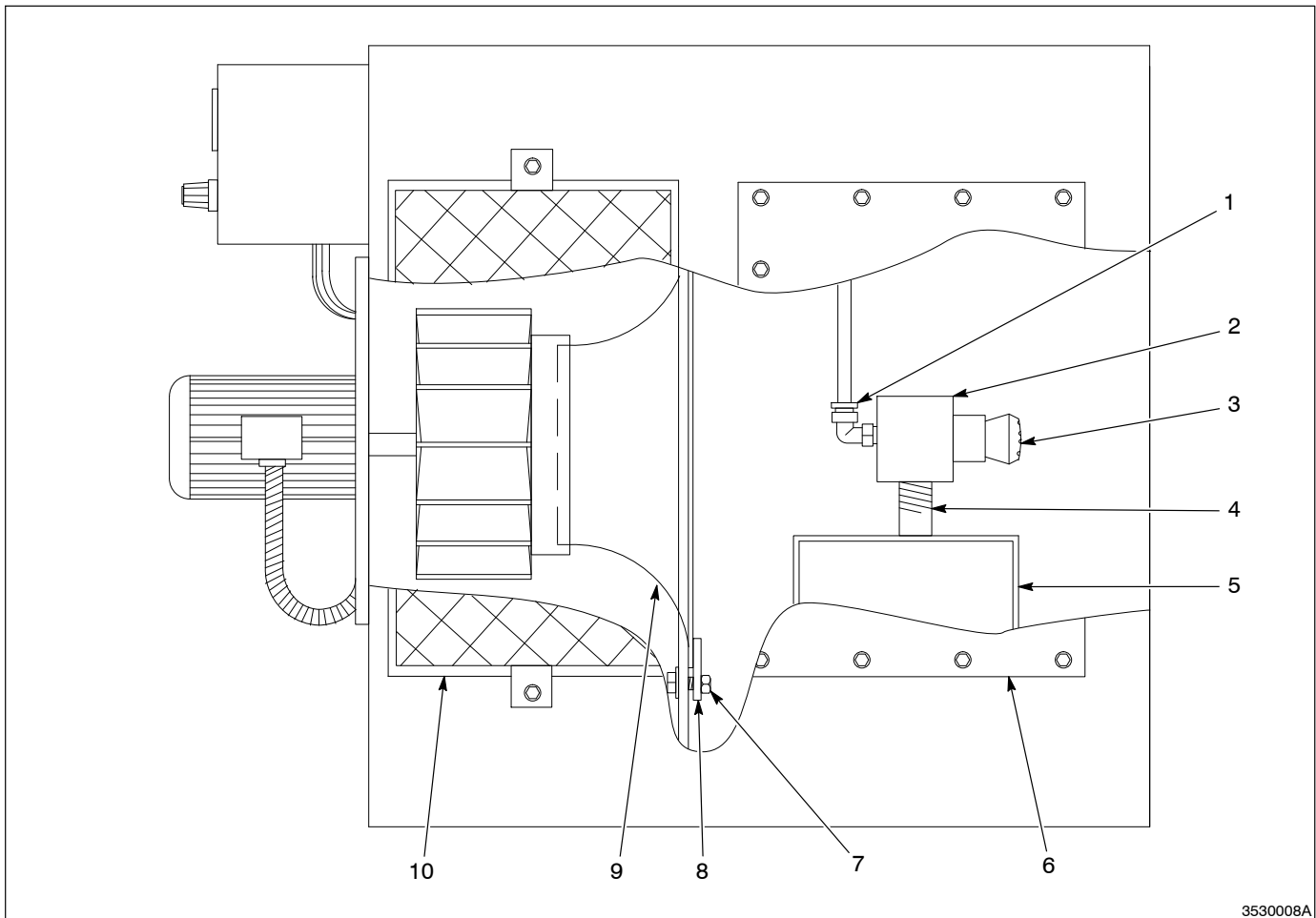
### ***Pulse Valve Replacement***

1. Turn off electrical power to the system. Lock out and tag the disconnect switch.
2. See Figure 8. Remove the access panels (6).
3. Disconnect the air tubing from the quick-disconnect fittings (1).
4. Unscrew the pulse valves (2) from the manifold nipples (4).
5. Remove the quick-disconnect fittings and nozzles (3) from the old pulse valves.
6. Clean the fitting and nozzle threads and wrap them with PTFE tape.
7. Install the fittings and nozzles into the new valves.
8. Clean the manifold nipple threads and wrap them with PTFE tape.
9. Screw the pulse valves onto the nipples and tighten them to securely to prevent leaking. Make sure that when you tighten the valves they point directly into the cartridge filter openings. The center of the nozzle should line up with the center of the filter opening.
10. Connect the air tubing to the quick-disconnect fittings.

### ***Inlet Cone Replacement***

1. Turn off electrical power to the system. Lock out and tag the disconnect switch.
2. See Figure 8. Remove one of the final filters (10) and the access panel (6) next to it.
3. Remove the screws (7) and retainer plates (8) from around the circumference of the inlet cone (9).
4. Remove the inlet cone.
5. Install a new inlet cone, making sure it fits inside the fan hub. Secure the cone with the screws and retainer plates. Hand-tighten the screws.
6. With your finger, check the clearance between the fan hub and the inlet cone around the circumference of the cone. Adjust the inlet cone position to equalize the clearance around the circumference of the cone.
7. Tighten the screws securely.

## Inlet Cone Replacement (contd)



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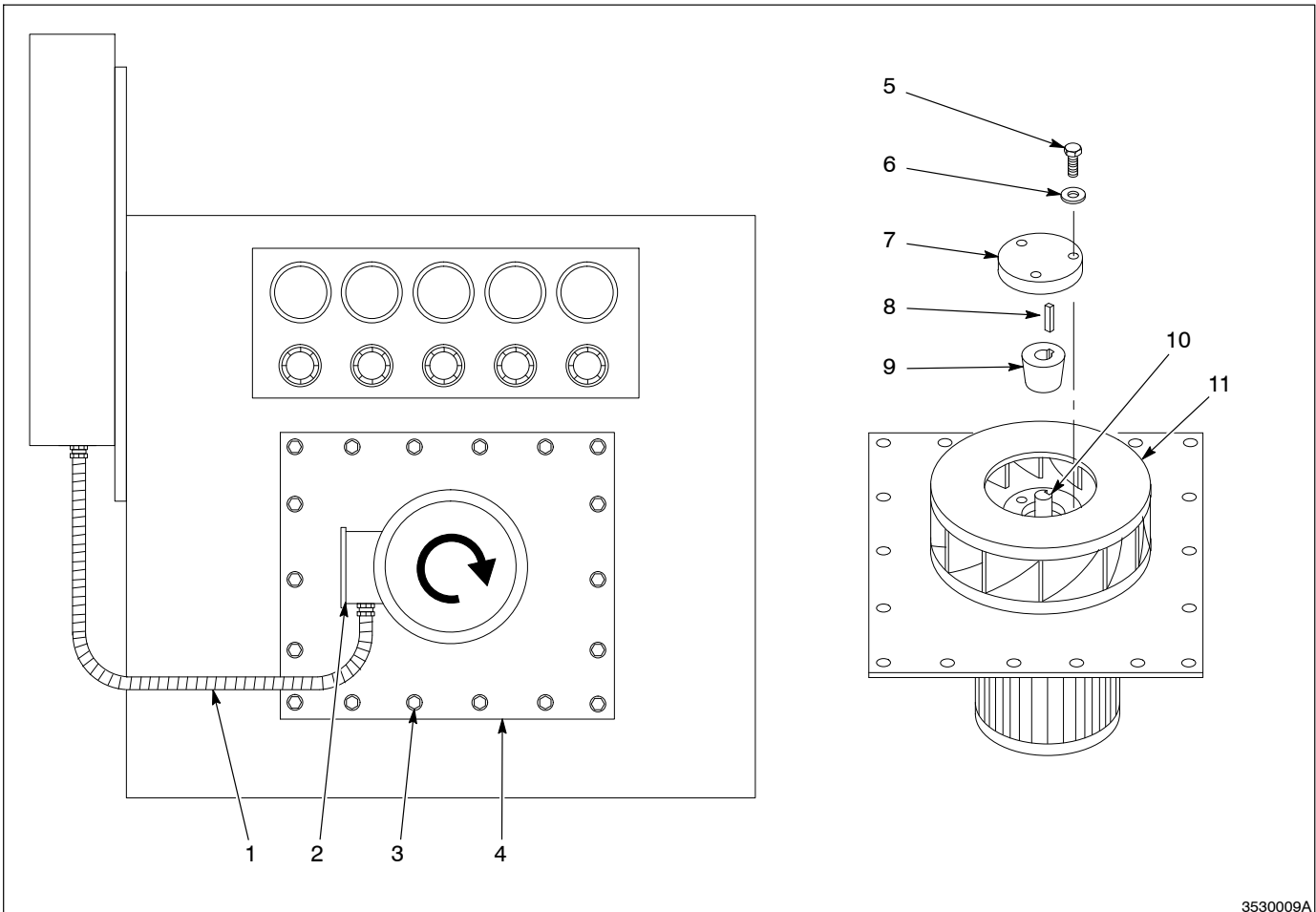
Fig. 8 Pulse Valve and Inlet Cone Replacement

- |                             |                   |                    |
|-----------------------------|-------------------|--------------------|
| 1. Quick-disconnect fitting | 5. Pulse Manifold | 8. Retainer plates |
| 2. Pulse valve              | 6. Access panel   | 9. Inlet cone      |
| 3. Nozzle                   | 7. Screws         | 10. Final filters  |
| 4. Nipple                   |                   |                    |

## ***Fan and Motor Replacement***

1. Turn off electrical power to the system. Lock out and tag the disconnect switch.
2. Remove one the final filters. Refer to *Final Filter Replacement*.
3. See Figure 9. Remove the cover from the motor junction box (2). Disconnect the wiring from the motor leads and the conduit (1) from the junction box.
4. Remove the screws and washers (3) from around the circumference of the motor mounting plate (4).
5. Pull the motor, mounting plate, and fan (11) straight out from the fan section.
6. Remove the three screws and washers (5, 6) and retainer plate (7) from the fan hub. Save the screws and retainer plate.
7. Lift the fan off the motor shaft (10), saving the tapered collar (9) and key (8).
8. If you are replacing the motor, remove the screws and washers securing the motor to the mounting plate. Remove the motor from the mounting plate. Install the new motor on the mounting plate with the screws and washers.
9. Install the collar and key in the new fan hub.
10. Install the new fan on the motor shaft, making sure the key fits into the collar and motor shaft keyways.
11. Install the retainer plate and screws on the fan hub and tighten the screws securely.
12. Inspect the mounting plate gasket. If it is damaged, replace it with a new one.
13. Install the fan and motor into the fan section, making sure not to damage the mounting plate gasket or inlet cone. Secure the mounting plate with the screws and washers.
14. With your finger, check the fan hub-to-cone clearance around the circumference of the cone. If the clearance is not equal, adjust the cone position. Refer to *Inlet Cone Replacement* in this section.

## Fan and Motor Replacement (contd)



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Fig. 9 Fan and Motor Replacement

- |                       |                   |                 |
|-----------------------|-------------------|-----------------|
| 1. Conduit            | 5. Screws         | 9. Collar       |
| 2. Junction box       | 6. Washers        | 10. Motor shaft |
| 3. Screws and washers | 7. Retainer plate | 11. Fan         |
| 4. Mounting plate     | 8. Key            |                 |

## 7. Parts

To order parts, call the Nordson Customer Service Center or your local Nordson representative.

### Using the Illustrated Parts List

Numbers in the Item column correspond to numbers that identify parts in illustrations following each parts list. The code NS (not shown) indicates that a listed part is not illustrated. A dash (—) is used when the part number applies to all parts in the illustration.

The six-digit number in the Part column is the Nordson Corporation part number. A series of dashes in this column (- - - - -) means the part cannot be ordered separately.

The Description column gives the part name, as well as its dimensions and other characteristics when appropriate. Indentions show the relationships between assemblies, subassemblies, and parts.

Item	Part	Description	Quantity	Note
—	000 000	Assembly	1	A
1	000 000	• Subassembly	2	
2	000 000	• • Part	1	

- If you order the assembly, items 1 and 2 will be included.
- If you order item 1, item 2 will be included.
- If you order item 2, you will receive item 2 only.

The number in the Quantity column is the quantity required per unit, assembly, or subassembly. The code AR (As Required) is used if the part number is a bulk item ordered in quantities or if the quantity per assembly depends on the product version or model.

Letters in the Note column refer to notes at the end of each parts list. Notes contain important information about usage and ordering. Special attention should be given to notes.

**Parts**

Parts not listed here can be ordered through your Nordson representative or Nordson Customer Service.

Part	Description	Note
147 163	Filter, cartridge	
174 710	Valve, pulse	
165 726	Nozzle, showerhead	
PM11079	Filter, final (AAF/Varicel 12 x 24 x 6)	
-----	Plate, fluidizing, 23.812 x 33	
-----	Gasket, fluidizing plate	
-----	Motor, fan 1 hp, 3450 rpm (Baldor/VM3545 56CFR TEFC)	
-----	Wheel, airfoil, fan (Size 1000, cast alum., $\frac{5}{8}$ -in. bore)	
-----	Cone, inlet, fan (100% width steel)	