Nordson Corporation welcomes requests for information, comments and inquiries about its products.

Address all correspondence to
Nordson Corporation
555 Jackson Street
Amherst, OH 44001

Notice

This is a Nordson Corporation publication which is protected by copyright. Original copyright date 1998. No part of this document may be photocopied, reproduced, or translated to another language without the prior written consent of Nordson Corporation. The information contained in this publication is subject to change without notice.

Trademarks

100 Plus, Blue Box, ChromaFlex, CleanSleeve, CleanSpray, Control Coat, Cross-Cut, Easy Coat, Econo-Coat, Excel 2000, FlexiCoat, Flow Sentry, Isocoil, Isocore, Iso-Flo, Nordson, the Nordson logo, PRX, Pro-Flo, RBX, Ready-Coat, Rhino, Select Coat, Select Cure, Shur-Lok, Smart Spray, System Sentry, Thread Coat, Tribomatic, and Versa-Spray are registered trademarks of Nordson Corporation.

CPX, CanWorks, PowderGrid, Pulse Spray, SCF, Versa-Coat, Versa Screen, Package of Values, and Swirl Coat are trademarks of Nordson Corporation.
# Table of Contents

## Section 1

### Safety

1. Introduction ............................................. 1-1
2. Qualified Personnel .................................... 1-1
3. Intended Use ........................................... 1-1
4. Regulations and Approvals ............................. 1-1
5. Personal Safety ....................................... 1-2
6. Fire Safety ............................................ 1-3
7. Action in the Event of a Malfunction ............... 1-4
8. Disposal ................................................ 1-4

## Section 2

### Description

1. Introduction ............................................. 2-1
2. Manual Systems ........................................ 2-1
   - Module and Canopy Only ............................ 2-1
   - Module and Canopy with Electrostatic Fluidizing Bed 2-1
   - Options ............................................ 2-2
3. Automatic Systems .................................... 2-3
   - Standard Equipment ................................ 2-3
   - Additional Equipment ............................. 2-3
4. Theory of Operation ................................... 2-5
   - Overview ......................................... 2-5
   - Manual Systems .................................. 2-5
   - Automatic Systems ............................... 2-5
   - Electrostatic Fluidizing Bed Operation ......... 2-7
5. Booth Controls ........................................ 2-8
# Table of Contents

## Section 2
**Description (contd.)**

1. Introduction ............................................ 3-1
2. Unpacking ................................................ 3-1
3. Assembly ................................................ 3-1
4. Electrical Connections ................................. 3-6
   Electrostatic Fluidizing Bed Connections ............ 3-7
5. Pneumatic Connections ................................. 3-8
   Standard Connections .................................. 3-8
   Electrostatic Fluidizing Bed Connections .......... 3-8
   Automatic System Connections ..................... 3-8
6. Final Assembly and Adjustments ..................... 3-11
   Installing the Cartridge Filters ................. 3-11
   Final Filter Gasket ................................ 3-13
   Air Leaks ............................................. 3-13
   Fan Rotation Direction .............................. 3-13
   Powder Application Equipment .................... 3-13

## Section 3
**Installation**

1. Introduction ............................................ 3-1
2. Unpacking ................................................ 3-1
3. Assembly ................................................ 3-1
4. Electrical Connections ................................. 3-6
   Electrostatic Fluidizing Bed Connections ............ 3-7
5. Pneumatic Connections ................................. 3-8
   Standard Connections .................................. 3-8
   Electrostatic Fluidizing Bed Connections .......... 3-8
   Automatic System Connections ..................... 3-8
6. Final Assembly and Adjustments ..................... 3-11
   Installing the Cartridge Filters ................. 3-11
   Final Filter Gasket ................................ 3-13
   Air Leaks ............................................. 3-13
   Fan Rotation Direction .............................. 3-13
   Powder Application Equipment .................... 3-13

## Section 4
**Operation**

1. Introduction ............................................ 4-1
2. Startup ................................................ 4-1
3. Electrostatic Fluidizing Bed .......................... 4-2
4. Baffle Adjustment .................................... 4-2
5. Shutdown ............................................... 4-2
   Electrostatic Fluidizing Bed Shutdown ............ 4-3

## Section 6
**Specifications**

- Weight ................................................. 2-9
- Dimensions ............................................ 2-9
- Electrical Requirements ............................... 2-9
- Compressed Air Requirements ....................... 2-9
- Operating Environment ................................ 2-10
- Design Considerations ................................ 2-10
Section 5
Maintenance

1. Introduction ............................................. 5-1
2. Daily .................................................... 5-1
   Canopy ................................................. 5-1
   Air Supply ........................................... 5-1
   Grounds ............................................... 5-1
3. Periodically ............................................ 5-2
   Cartridge Filters ..................................... 5-2
   Final Filter ......................................... 5-2
   Fan Motor ........................................... 5-2
   Fluidizing Bed ....................................... 5-2

Section 6
Troubleshooting

1. Introduction ............................................. 6-1
2. Troubleshooting Charts ................................. 6-2
3. Adjusting the Automatic Filter Pulse Time .......... 6-6
4. Electrical Schematics ................................ 6-7

Section 7
Repair

1. Introduction ............................................. 7-1
2. Cartridge Filter Replacement ........................... 7-1
   Removal ............................................... 7-1
   Installation .......................................... 7-2
3. Final Filter Replacement ................................ 7-4
4. Pulse Valve Replacement ................................ 7-5
5. Fan Motor and Blower Wheel Replacement ............. 7-6
   Removal ............................................... 7-6
   Installation .......................................... 7-7
6. Porous Plate Replacement ............................... 7-9
   Electrostatic Fluidizing Bed ......................... 7-9
   Fluidizing Hopper .................................... 7-11
Section 8
Parts

1. Introduction ......................................................... 8-1
   Using the Illustrated Parts List ................................. 8-1
3. Automatic FlexiCoat Assembly ............................... 8-4
4. Filter Components ............................................... 8-6
5. Fuses ............................................................. 8-8
   500-cfm Systems .................................................. 8-8
   110-Volt Systems ................................................ 8-8
   208-Volt Systems ................................................ 8-8
   220-Volt Systems ................................................ 8-8
   460-Volt Systems ................................................ 8-8
   1000-cfm Automatic Systems ................................. 8-9
   208/220-Volt Systems ......................................... 8-9
   460-Volt Systems ............................................... 8-9
6. Non-Electrostatic Fluidizing Dipping Bed ................. 8-9
Section 1

Safety
Section 1
Safety

1. Introduction
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.

2. 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.

3. 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

4. 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.
5. **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.
6. **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.
7. **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.

8. **Disposal**

Dispose of equipment and materials used in operation and servicing according to local codes.
Section 2

Description
Section 2
Description

1. Introduction

The FlexiCoat powder application system is a flexible, fully integrated powder application and recovery system. The compact FlexiCoat system efficiently coats small objects in laboratory and batch-production environments.

The FlexiCoat system is available in the following configurations:

- Manual 500-cfm system with standard canopy
- Automatic 500- or 1000-cfm system with custom canopy

2. Manual Systems

See Figure 2-1. The standard, 500 cfm manual FlexiCoat system is available in the following two standard configurations:

- FlexiCoat collector module and canopy only
- FlexiCoat collector module and canopy with electrostatic fluidizing bed and controller

The two standard configurations of the FlexiCoat system offer several different features. The following lists detail the standard equipment included with each configuration of the FlexiCoat system.

**Module and Canopy Only**

- Collector module (1)
- Canopy (7)

**Module and Canopy with Electrostatic Fluidizing Bed**

- Collector module (1)
- Canopy (7)
- Electrostatic fluidizing bed (6)
- Electrostatic fluidizing bed control unit (4)
- Flow meter (5)
**Options**

The following options are available for the FlexiCoat system. Contact your Nordson representative for ordering information.

- Sure Coat handgun and dolly system (3)
- Non-electrostatic fluidizing dipping bed (6)

**NOTE:** The non-electrostatic fluidizing dipping bed can only be used if your system is equipped with the electrostatic fluidizing bed.

---

**Fig. 2-1 Manual FlexiCoat System (Electrostatic Fluidizing Bed Configuration Shown)**

1. Collector module
2. Electrical panel
3. Optional Sure Coat dolly unit
4. Electrostatic fluidizing bed control unit
5. Flow meter
6. Electrostatic fluidizing bed
7. Canopy
3. **Automatic Systems**

See Figure 2-2. The automatic FlexiCoat system is available in the following configurations:

- 500 cfm
- 1000 cfm

**NOTE:** The 500 cfm automatic system has two cartridge filters and two pulse valves. The 1000 cfm automatic system has four cartridge filters and four pulse valves.

**Standard Equipment**

The automatic system has the following standard equipment:

- Light tower (1) to alert the operator of full or low powder level in the collector module
- Collector module (2)
- Electrical panel (3)
- Fluidizing hopper (4) with two powder pumps
- High-level sensor in the bottom of the collector module
- Low-level sensor in the fluidizing hopper

**Additional Equipment**

The automatic system also has the following equipment:

**NOTE:** The models and configurations of the following equipment vary depending on customer specifications.

- Fire detection system
- Automatic powder spray guns
- Canopy built to customer specifications
Additional Equipment (contd)

Fig. 2-2  Automatic FlexiCoat System

1. Light tower
2. Collector module
3. Electrical panel
4. Fluidizing hopper
4. **Theory of Operation**

The following paragraphs explain the basic operation of the FlexiCoat powder application system.

**Overview**

See Figure 2-3. Powder is fluidized (made to assume the properties of a liquid) in a feed hopper (2) by compressed air diffused through a porous fluidizing plate. A high-voltage, low-amperage power supply in the gun generates an electrostatic field at the end of the gun (1). Powder particles passing through this field are charged and attracted to the grounded parts hanging in the booth canopy (3).

The exhaust fan (4) in the collector module (8) pulls air from the spray room through the canopy and into the cartridge filters (7). The air passes through the cartridge filters and is forced through the final filter (5). The clean, powder-free air is returned to the spray room.

Overspray (powder not adhering to the parts) is carried by the air flowing through the booth to the cartridge filters, where it collects on the outer surfaces. When activated, the pulse valves (6) force air from the pulse air manifold through the cartridge filters in the opposite direction of normal airflow. The pulse airflow cleans accumulated powder from the cartridge filter media.

**Manual Systems**

In manual systems, the powder falls to the bottom of the collector module and into the recovery pail (9) where it can be manually recovered and reused or discarded.

**Automatic Systems**

See Figure 2-2. In automatic systems, the powder falls into the fluidizing hopper (4), where the reclaimed powder is fluidized then pumped back into the powder feed hopper. During normal operation, the amber light on the light tower (1) illuminates to indicate that the powder level is between the upper and lower proximity sensors.

If the level in the fluidizing hopper gets too low, a proximity sensor in the fluidizing hopper shuts down the fluidizing hopper's powder pumps and activates the red light on the light tower. The proximity sensor reactivates the powder pumps when the powder level in the fluidizing hopper returns to normal operating level.

If the level of reclaimed powder in the collector module gets too high, a proximity sensor above the fluidizing hopper assembly activates the red light on the light tower. Normal operation will continue and the red light will remain illuminated until the problem is corrected and the powder level in the collector module returns to normal operating level.
4. **Theory of Operation**

(contd.)

Fig. 2-3  Theory of Operation (Manual Unit Shown)

1. Gun  
2. Feed hopper  
3. Canopy  
4. Exhaust fan  
5. Final filter  
6. Pulse valves  
7. Cartridge filters  
8. Collector module  
9. Recovery pail
Electrostatic Fluidizing Bed Operation

See Figure 2-4. The powder is placed in the upper bed (1). Compressed air enters the electrostatic bed (3) through the air inlet (6). The compressed air is ionized in the electrostatic bed by the electrode (4) on the voltage multiplier (5). The ionized air is forced through the porous plate (2) into the upper bed, charging the powder supply. As the powder particles become charged they repel each other, forming a cloud of charged particles (7).

When a grounded part (8) is placed in this cloud, the charged powder particles are attracted to it because of its opposite potential. As the particles become attached to the part, they form a uniform coating on the exposed areas of the part. The longer that the part is exposed to the cloud, the thicker the coating becomes.
5. **Booth Controls**

See Figure 2-5. Refer to Table 2-1 for an explanation of the controls located on the FlexiCoat electrical panel.

![Booth Controls](image)

**Table 2-1  Electrical Panel**

<table>
<thead>
<tr>
<th>Item</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Main disconnect switch</td>
<td>Turns the system electrical power on and off.</td>
</tr>
<tr>
<td>2. Pulse selector switch(^{(1)})</td>
<td>Pulses each cartridge filter individually.</td>
</tr>
<tr>
<td></td>
<td>- Switching to #1 SOL pulses left cartridge filter</td>
</tr>
<tr>
<td></td>
<td>- Switching to OFF turns both pulse valves off</td>
</tr>
<tr>
<td></td>
<td>- Switching to #2 SOL pulses right cartridge filter</td>
</tr>
<tr>
<td>3. EXHAUSTER START pushbutton</td>
<td>Turns on the exhaust fan. Turns on power to system electrical and pneumatic devices.</td>
</tr>
<tr>
<td>4. EXHAUSTER STOP pushbutton</td>
<td>Shuts off the exhaust fan. Shuts off power to system electrical and pneumatic devices.</td>
</tr>
</tbody>
</table>

\(^{(1)}\)The pulse selector switch is used only on manual systems. Automatic systems have a pulser on/off switch that activates automatic, timed filter pulsing.
6. Specifications

The following paragraphs explain the specifications required to install and operate the FlexiCoat system.

Weight

408.24 kg (900 lb)

Dimensions

| Collector Module | Height: 247.32 cm (97.38 in.) | Width: 129.54 cm (51.0 in.) |
| Manual System Canopy | Height: 77.47 cm (30.5 in.) | Width: 69.88 cm (27.5 in.) | Depth: 74.93 cm (29.5 in.) |

NOTE: The dimensions of the automatic system’s canopy varies depending on customer specifications.

Electrical Requirements

110 Vac, 1 phase, 60 Hz primary electrical service

220 Vac, 3 phase, 60 Hz primary electrical service

208 Vac, 3 phase, 60 Hz primary electrical service

460 Vac, 3 phase, 60 Hz primary electrical service

NOTE: A lockable, fused disconnect switch must be installed in the service line between the power supply and the electrical panel.

Compressed Air Requirements

Clean, dry, oil-free air; 10 scfm @ 4.1–6.89 bar (60–100 psi)

Condition the system air supply with a dedicated refrigerated or regenerative desiccant-type air dryer that can produce a pressure dewpoint of -6.7–3.4 °C (20–38 °F) or lower at 6.89 bar (100 psi). Filtration should be 99% efficient at removing all particles, including liquid and oil aerosols, larger than 0.3 microns. Oil vapor or aerosol content should not be more than 0.1 parts per million (ppm).
**Operating Environment**

The system should be located in a controlled environment. If the temperature and humidity within the spray room exceed the ranges listed below, air conditioning should be installed.

Temperature: 21−26.7 °C (70−80 °F)

Humidity: 45−55% RH

**Design Considerations**

The design considerations listed in Table 2-2 should be observed during the installation and operation of the FlexiCoat system.

<table>
<thead>
<tr>
<th>Average face velocity</th>
<th>The exhaust fan should pull air through the canopy opening at 31.25 mpm (100 fpm) minimum to contain the powder within the booth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross drafts</td>
<td>Air moving across the booth opening should not exceed 18.75 mpm (60 fpm).</td>
</tr>
<tr>
<td>Part temperature</td>
<td>Parts should not be hotter than 49 °C (120 °F). Convection currents created by hot parts will prevent powder from coating the parts evenly.</td>
</tr>
<tr>
<td>Powder quality</td>
<td>Nordson powder coating systems are designed to operate with commercially available powders. The characteristics and properties of a powder coating material can affect system performance. Powder coatings generally have an average particle size of 25−35 microns, with no more than 10% of the total being less than 10 microns (fines). If recycling and sieving causes the percentage of fines to reach 10% of the total, plugging (blinding) of the cartridge filter media can occur.</td>
</tr>
</tbody>
</table>
Section 3

Installation
Section 3
Installation

1. Introduction

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

The following section explains the procedures necessary to install the FlexiCoat system.

NOTE: Some FlexiCoat systems may be partially or fully assembled at the factory. Complete as many of the following steps that apply to your system.

2. Unpacking

The assembled collector module is shipped attached to a wooden pallet. The canopy panels, cartridge filters, and other system components are shipped unassembled in a box attached to the wooden pallet.

Follow these steps to unpack the FlexiCoat system components.

1. Move the pallet and crates to a clean, open area near the installation site.

2. Dismantle the crate containing the system components. Identify the canopy panels, cartridge filters, support brackets, and fluidizing bed (if used) and lay them out on the floor.

3. Remove the collector module from its pallet; set it upright, and move it to the installation site.

3. Assembly

Follow these steps to assemble the FlexiCoat system.

NOTE: If you are assembling an automatic FlexiCoat system, refer to the custom assembly drawings that are included with the system.

NOTE: Disregard any steps that do not pertain to your model of the FlexiCoat system.

1. See Figure 3-1. Assemble the canopy before securing it to the collector module. Use the following steps to assemble the canopy:
3. Assembly (contd.)

a. **Fluidizing Bed Configurations Only:** Install the baffle (6) to the back panel (5) with the 1-in. hex head bolts (8) and flat washers (7).

b. Install the left and right side panels (1, 9) to the back panel using 1\(\frac{1}{4}\) nylon hex bolts (2), and 3/8-16 nylon hex nuts (3).

c. **Fluidizing Bed Configurations Only:** Install the front channel (12) between the side panels using 3/8-16 x 1-in. nylon hex bolts (10) and 3/8-16 nylon hex nuts (11).

d. Install the angle panel (4) to the left and right side panels using 1\(\frac{1}{4}\)-in. hex head bolts (2) and 3/8-16 hex nuts (3).

e. Install the top panel (13) to the left and right side panels and angle panel using 1\(\frac{1}{4}\)-in. nylon hex head bolts (2), and 3/8-16 hex nuts (3).

---

**Fig. 3-1 Assembling the Canopy**

1. Left side panel  
2. 1\(\frac{1}{4}\)-in. nylon hex bolts  
3. 3/8-16 nylon hex nuts  
4. Angle panel  
5. Back panel  
6. Baffle  
7. 3/8-in. nylon flat washers  
8. 1-in. nylon hex bolts  
9. Right side panel  
10. 3/8-16 x 1-in. nylon hex bolts  
11. 3/8-16 nylon hex nuts  
12. Front channel  
13. Top panel
2. See Figure 3-2. Ensure that the collector module (1) is level. Adjust the height of the leveling pads as necessary.

3. Install the back support bracket (2) to the collector module using $\frac{3}{8}$-16 x $\frac{3}{4}$-in. steel hex head bolts (4) and $\frac{3}{8}$-in. steel flat washers (3).

4. Install the left and right side brackets (5, 9) to the collector module using $\frac{3}{8}$-16 x $\frac{3}{4}$-in. steel hex head bolts (4), $\frac{3}{8}$-in. steel lock washers (4), and $\frac{3}{8}$-in. steel flat washers (3).

5. Install the front channel (6) between the side brackets using $\frac{1}{4}$-20 x 1-in. steel hex bolts (8) and $\frac{1}{4}$-in. steel flat washers (7).

---

**Fig. 3-2 Installing the Brackets to the Collector Module**

1. Collector module  
2. Back support angle  
3. $\frac{3}{8}$-in. steel flat washers  
4. $\frac{3}{8}$-16 x $\frac{3}{4}$-in. steel hex bolts  
5. Left side bracket  
6. Front channel  
7. $\frac{1}{4}$-in. steel flat washers  
8. $\frac{1}{4}$-20 x 1-in. steel hex bolts  
9. Right side bracket  
10. $\frac{3}{8}$-in. steel lock washers
6. See Figure 3-3. Set the deck plate (5) on the assembled brackets.

7. Set the canopy assembly on top of the deck plate. Line up the holes in the canopy’s side panels with those in the deck plate and right and left side brackets (9, 14).

8. Secure the side panels and deck plate to the side brackets using 
   \(\frac{3}{8}\)-16 x 1-in. steel hex bolts (13), \(\frac{3}{8}\)-in. steel lock washers (12), 
   \(\frac{3}{8}\)-in. steel flat washers (1), and \(\frac{3}{8}\)-16 steel hex nuts (8).

9. Secure the upper front channel (See Figure 3-1, (12)), deck plate, 
   and lower front channel (10) together using \(\frac{3}{8}\)-16 x 2-in. nylon hex 
   bolts (3), \(\frac{3}{8}\)-in. nylon flat washers (4), and \(\frac{3}{8}\)-16 nylon hex nuts (11).

10. Secure the back plate (15) to the collector module using 1-in. steel 
    hex bolts (2) and \(\frac{3}{8}\)-in. steel flat washers (1).

11. **Fluidizing Bed Configurations Only:** Secure the fluidizing bed (6) 
    to the bottom of the deck plate with \(\frac{3}{8}\)-16 x 1-in. nylon hex bolts (7) 
    and \(\frac{3}{8}\)-in. nylon flat washers (4).
Fig. 3-3  Installing the Canopy to the Collector Module

1. 3/8-in. steel flat washers
2. 1-in. steel hex bolts
3. 3/8-16 x 2-in. nylon hex bolts
4. 3/8-in. nylon flat washers
5. Deck plate
6. Fluidizing bed
7. 3/8-16 x 1-in. nylon hex bolts
8. 3/8-16 steel hex nuts
9. Right side bracket
10. Lower front channel
11. 3/8-16 nylon hex nuts
12. 3/8-in. lock washers
13. 3/8-16 x 1-in. steel hex bolts
14. Left side bracket
15. Back plate
16. Collector module
4. **Electrical Connections**

**WARNING:** Disconnect and lock out electrical service before making electrical connections to any equipment.

**WARNING:** Qualified personnel must perform electrical connections. All wiring and connections must conform to code.

Use the following steps to make the necessary electrical connections to the FlexiCoat system.

**NOTE:** Follow the procedures in the gun, controller, and fire detection system manuals to make the necessary connections to other components.

1. Install a customer-supplied, fused disconnect and lockout switch where the service line to the FlexiCoat system connects to the plant electrical system.

2. Route rigid or flexible conduit and wiring from the disconnect to a knockout in the top of the electrical panel.

3. See Figure 3-4. Connect the service line wiring to the L1, L2, L3, and ground connections in the electrical panel (1).

**WARNING:** All electrically conductive equipment in the spray area must be grounded. Ungrounded or poorly grounded equipment can store an electrostatic charge that can give personnel a severe shock or arc and cause a fire or explosion.

4. Connect the booth and the electrical panel to a true earth ground.

5. Check all wiring connections inside the electrical panel.

6. Check the conduit and wiring from the wiring from the fan motor to the electrical panel.
**Electrostatic Fluidizing Bed Connections**

See Figure 3-4. The electrostatic fluidizing bed control unit (2) is attached to the collector module at the factory. Use this procedure to connect the electrostatic fluidizing bed to the electrostatic fluidizing bed control unit.

1. Connect the bed electrical line (3) to the voltage multiplier (6).
2. Place the foot pedal (5) in a convenient place on the floor.
3. Plug input power cord (4) into a receptacle on the bottom of the electrical panel (1).

---

**Fig. 3-4  Electrostatic Fluidizing Bed Electrical Connections**

1. Electrical panel  
2. Bed control unit  
3. Bed electrical line  
4. Input power cord  
5. Foot pedal  
6. Voltage multiplier
5. Pneumatic Connections

WARNING: System or material pressurized. Relieve pressure. Failure to observe may result in serious injury.

See Figure 3-5 or 3-6. Use the following procedures to make the necessary pneumatic connections to the FlexiCoat system. Figure 3-5 shows the pneumatic connections of a typical manual system. Figure 3-6 shows the pneumatic connections of a typical automatic system.

Standard Connections

NOTE: The system air supply must be clean, dry, and oil-free. Refer to Specifications in the Description section.

1. Install a customer-supplied particle filter (1), refrigerant air dryer (2), and coalescing air filter (3) in the air supply line.

2. Ensure that the miniature regulator (5) and pressure gauge (6) are installed in the air supply line after the tee (4).

3. Check all pneumatic connections on the bottom of the electrical control panel (8) and the collector module (7).

Electrostatic Fluidizing Bed Connections

See Figure 3-5. Follow these steps to connect the pneumatic lines if your FlexiCoat system is equipped with an electrostatic fluidizing bed.

1. Connect 10-mm poly tubing from the tee (4) to the solenoid valve (12) on the pneumatic panel (10).

2. Connect 10-mm poly tubing from the flow meter (11) to the elbow fitting on the bed (9).

Automatic System Connections

See Figure 3-6. Follow these steps to connect the pneumatic lines of automatic systems.

1. Install a Y-fitting (13) in line between the tee (4) and the regulator (5) and gauge (6).

2. Connect 10-mm poly tubing from the Y-fitting to the solenoid (12).

3. Connect 10-mm poly tubing from the solenoid to the miniature regulator (11).

4. Connect 10-mm poly tubing from the miniature regulator to the elbow on the fluidizing hopper (9).
Fig. 3-5  Manual System with Electrostatic Fluidizing Bed Pneumatic Connections

Fig. 3-6  Automatic System Pneumatic Connections

1. Particle filter  6. Pressure gauge  10. Pressure gauge
5. Miniature regulator
6. **Final Assembly and Adjustments**

**Installing the Cartridge Filters**

Follow these final steps before operating the FlexiCoat system.

See Figure 3-7. Install the cartridge filters using the following procedure.

**NOTE:** Two cartridge filters are used in 500 cfm systems. Four cartridge filters are used in 1000 cfm systems.

**NOTE:** All cartridge filters must be installed through the filter access panel. The filters that are furthest from the filter access panel (inside filters) must be installed before installing the filters closest to the filter access panel (outside filters).

1. Remove the \( \frac{3}{8} \)-16 x 1/2-in. hex head bolts (10) lock washers (9) and flat washers (8) securing the filter access panel (7) to the collector module (1).

2. Install each cartridge filter using the following steps:

   a. Install the hanger rod (2) to the hook (11) on the underside of the upper collector module (1).

   b. Guide the hanger rod through the open end of the cartridge filter (3). Guide the threaded end of the hanger rod through the hole in the closed end of the cartridge filter.

   c. Secure the cartridge filter and hanger rod to the collector module using the flat washer (4) and wing nut (5). Tighten the wing nut until the gasket is compressed evenly.

   d. Place a protective cap (6) on the threads of the hanger rod.

3. Secure the filter access panel to the collector module using the flat washers, lock washers, and 1/2-in. hex head bolts.
Fig. 3-7 Installing the Cartridge Filters

1. Collector module
2. Hanger rod
3. Cartridge filter
4. Flat washer
5. Wing nut
6. Protective cap
7. Filter access panel
8. Flat washers
9. Lock washers
10. 3/8-16 x 1/2-in. hex head bolts
11. Hook
**Final Filter Gasket**

The final filter is installed at the factory. Check the gasket between the final filter and the upper collector module. Tighten the bracket screws to compress the gasket, if necessary, to obtain a good seal on all four sides of the filter.

**Air Leaks**

Turn on system electrical power. Open the air supply manual shutoff valve and check all pneumatic connections and tubing for air leaks.

**Fan Rotation Direction**

Follow these steps to check that the fan is rotating in a clockwise direction.

**NOTE:** When viewed from the top, the cooling fan should be rotating clockwise. If the fan is rotating counterclockwise, the circuit breaker will trip.

1. Press the EXHAUSTOR START pushbutton on the system control panel. Make sure that air flows into the spray area, through the cartridge filters, and is returned to the room through the final filters.

2. If little or no air can be felt coming out of the final filters, shut off and lock out electrical power at the service line disconnect. Open the system control panel door and reverse the wiring according to the following guidelines:
   - **1 Phase Units:** Reverse the L5 and L8 wires at their terminals
   - **3 Phase Units:** Reverse the L1 and L2 wires at their terminals

3. Turn on system electrical power and restart the fan. Check for proper air flow through the booth and fan rotation.

**Powder Application Equipment**

Refer to the manuals shipped with the powder application equipment for installation instructions.
Section 4

Operation
Section 4  
Operation

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

The following section explains routine operating procedures for the FlexiCoat system.

1. Introduction

2. Startup

Follow these steps to start up the FlexiCoat system.

1. **Manual Systems Only:** Ensure that the pulse selector switch is in the OFF position.

2. Turn on the system electrical power and open the air supply shutoff valve.

3. Adjust the system air pressure to 4 bar (60 psi).

4. Press the EXHAUST ER START pushbutton. Check the cartridge filter differential pressure gauge on the collector module. During normal operation, the pressure should remain under 3.5 inches water column. If the reading reaches 3.5 or higher, the cartridge filters are clogged and should be pulsed. If the differential pressure gauge still reads 3.5 or higher after pulsing, replace the cartridge filters.

5. Refer to your powder application equipment manuals for operating instructions.
Use the following procedure to operate the electrostatic fluidizing bed.

1. Fill the bed with 2.5–3.8 cm (1–1.5 in.) of fresh powder.

**NOTE:** To obtain the desired results, the operator will have to experiment with adjusting the air pressure and voltage to the fluidizing bed. Adjust the air pressure and voltage as necessary to obtain the desired cloud.

2. Adjust the air flow to approximately 100 scfm at the flow meter regulator.

3. Set the voltage using the potentiometer on the electrostatic fluidizing bed control box. The suggested starting point for voltage adjustment is 60 kV. The digital display above the potentiometer indicates the high voltage output.

4. Ground the part to be coated with the ground clamp. Pass the part through the cloud until it is uniformly coated.

**NOTE:** The baffle is a part of only manual FlexiCoat systems.

Adjust the baffle to obtain the desired air flow into the collector module. The four screws on the edges of the baffle allow the operator to slide the baffle up or down, adjusting the amount of air that is pulled from the canopy during powder application.

Follow these steps to shutdown the FlexiCoat system.

1. Clean the powder from the canopy using the following procedure.
   a. Turn the fan motor on. Leave the pulse selector switch in the OFF position (manual systems only).
   b. Clean the inside of the canopy and collector module with a rubber squeegee or other grounded, nonmetallic device.
c. **Manual Systems Only**: Open the hinged baffle door and sweep the powder into the recovery bucket.

d. Carefully vacuum the remaining powder from the fluidizing bed (if used).

e. **Manual Systems Only**: Turn the pulse selector switch to the right to pulse the right cartridge filter, then turn the switch to the OFF (center) position. This will clean accumulated powder off the right cartridge filter. Turn the pulse selector switch to the left to repeat this step for the left cartridge filter. Repeat this step several times for each filter.

f. Press the EXHAUSTER STOP pushbutton to shut off the fan motor.

g. **Manual Systems Only**: Reclaim or discard the collected powder from the recovery bucket.

2. Turn the electrical panel's disconnect switch to the OFF position.

3. Perform the *Daily Maintenance* procedures. Refer to your powder application equipment for additional daily maintenance procedures.

**Electrostatic Fluidizing Bed Shutdown**

Use the following procedure to shutdown and clean the electrostatic fluidizing bed.

1. Turn off the electrical power at the control unit.

2. Turn off the air pressure to the bed at the flow meter.

3. Carefully vacuum any unused powder out of the bed. Be careful not to damage the porous plate at the bottom of the bed.
Section 5
Maintenance

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

1. Introduction

Perform the following steps as directed to keep the FlexiCoat system in proper working order.

2. Daily

Perform the following procedures at the end of each day.

**Canopy**

Turn the fan motor on. Leave the pulse selector switch in the OFF position. Clean the inside of the canopy and collector module with a rubber squeegee or other grounded, nonmetallic device. Scrape the powder into the collector module. Reclaim or discard the collected powder. (If your booth is equipped with a baffle for a fluidizing bed, open the hinged door to sweep the powder into the collector module.)

**Air Supply**

Open the air supply drop leg and check for signs of oil, water, or other contamination. A white cloth held under the drop leg will be stained by contaminants in the air supply. Do not operate the system or spray powder with contaminated air. Drain and clean the air supply filters, if necessary. Make sure the air dryer is working properly.

**Grounds**

Check the system, part, and application equipment ground connections with an ohmmeter. All conductive equipment within 3 meters (10 feet) of the spray booth must be grounded. Resistance from part to ground should be no more than 500 ohms for best coating results.
Perform the following procedures as directed.

**Cartridge Filters**

Inspect the cartridge filters for damage to the filter media or gaskets. Remove the final filter and inspect the collector module for powder leaks. If powder is leaking past the cartridge filter gaskets, tighten the wing nuts on the cartridge filters to compress the gaskets and stop the leaks. Replace the cartridge filters if necessary.

Check the differential pressure gauge. Under normal operation, the pressure should remain under 3.5-in. w.c. If the reading reaches 3.5 or higher, the cartridge filters are clogged and are not being pulsed properly. If the differential pressure gauge still reads 3.5 or higher after pulsing, replace the cartridge filters.

**Final Filter**

Visually inspect the final filter whenever replacing the cartridge filters. Replace the final filter when it becomes clogged and negatively affects performance of the exhaust fan.

**Fan Motor**

**NOTE:** Some fan motors have sealed bearings that cannot be lubricated. Disregard this step if your fan motor does not have grease fittings.

Lubricate the fan motor bearings every six months with one of the following greases or equivalent grease. Clean the motor grease fittings and apply two full strokes from a grease gun to each fitting. Do not over-grease the fan motor.

- Dolium R (Shell Oil Co.)
- SRI No. 2 (Chevron USA, Inc.)

**Fluidizing Bed**

Inspect the porous plate in the fluidizing bed. If there is any discoloration, scratches, or other damage to the surface, replace the porous plate. Refer to *Porous Plate Replacement* in the *Repair* section.
Section 6

Troubleshooting
Section 6  
Troubleshooting

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

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.

1. **Introduction**

<table>
<thead>
<tr>
<th>Problem</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Problems with powder coating: uniformity, edge coverage, film build,</td>
<td>6-2</td>
</tr>
<tr>
<td>wrap, penetration in recesses</td>
<td></td>
</tr>
<tr>
<td>2. Powder not fluidizing, or clouds of powder erupting from surface</td>
<td>6-3</td>
</tr>
<tr>
<td>3. Powder escaping from booth openings</td>
<td>6-3</td>
</tr>
<tr>
<td>4. System will not start</td>
<td>6-4</td>
</tr>
<tr>
<td>5. Cartridge pulsing will not start</td>
<td>6-5</td>
</tr>
<tr>
<td>6. Pulsing does not clean cartridges</td>
<td>6-5</td>
</tr>
<tr>
<td>7. System shuts down; red light on tower illuminates (automatic systems)</td>
<td>6-5</td>
</tr>
</tbody>
</table>
Use the following charts to correct common problems with the FlexiCoat system. Refer to the manuals that came with your powder application equipment for additional troubleshooting procedures.

### 2. Troubleshooting Charts

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Problems with powder coating: uniformity, edge coverage, film build, wrap, penetration in recesses</strong></td>
<td>Poor workpiece ground (greater than one megohm)</td>
<td>Clean the hangers or ground clamp.</td>
</tr>
<tr>
<td></td>
<td>Incorrect gun position</td>
<td>Keep the gun 25.4–35.6 cm (10–14 in.) from the part.</td>
</tr>
<tr>
<td></td>
<td>Wrong powder for application</td>
<td>Contact your powder supplier or your Nordson representative.</td>
</tr>
<tr>
<td></td>
<td>Cartridge filter gaskets not sealing properly</td>
<td>Check the differential pressure gauges. A reading approaching 3.5 in. water column means that the final filters are clogging. Remove the cartridges and clean the gaskets and sealing surfaces. Reinstall them, checking the gasket alignment and sealing. Refer to the Repair section for cartridge filter replacement instructions.</td>
</tr>
<tr>
<td></td>
<td>Damaged cartridge filter media</td>
<td>Replace the cartridge filters. Clean or replace the final filters.</td>
</tr>
<tr>
<td></td>
<td>Damaged fluidizing bed porous plate</td>
<td>Replace the porous plate.</td>
</tr>
<tr>
<td></td>
<td>Insufficient air pressure to fluidizing bed</td>
<td>Increase the air pressure to the fluidizing bed.</td>
</tr>
<tr>
<td>Problem</td>
<td>Possible Cause</td>
<td>Corrective Action</td>
</tr>
<tr>
<td>---------</td>
<td>---------------</td>
<td>------------------</td>
</tr>
<tr>
<td><strong>2. Powder not fluidizing, or clouds of powder erupting from surface</strong></td>
<td>Fluidizing pressure too low or high</td>
<td>Check the powder in the hopper and/or fluidizing bed. Increase the fluidizing air pressure until the powder is gently boiling. Decrease the pressure if clouds of powder are erupting from the surface.</td>
</tr>
<tr>
<td></td>
<td>Moist or oil-contaminated powder</td>
<td>Open the drain valve at the air-supply drop leg and check the supply for water or oil. Check the filters, separators, and air dryer. Replace the powder in the hopper and/or fluidizing bed, then go to the next Possible Cause.</td>
</tr>
<tr>
<td></td>
<td>Air leaking from fluidizing bed gasket instead of diffusing through porous plate, or contaminated air plugging pores in porous plate</td>
<td>Check for air leaks around the fluidizing bed gaskets. If leaks are found, replace the gasket. If fluidizing air pressure increases or decreases abruptly, remove the powder from the fluidizing bed and inspect the porous plate for stains, discoloration, or polished surfaces. Replace the porous plate if it is contaminated or plugged.</td>
</tr>
<tr>
<td><strong>3. Powder escaping from booth openings</strong></td>
<td>Cartridge filters clogged because of:</td>
<td></td>
</tr>
<tr>
<td>a. Failure to pulse filters</td>
<td>Pulse the filters several times.</td>
<td></td>
</tr>
<tr>
<td>b. Inadequate pulse pressure</td>
<td>Increase the manifold air pressure to 4.14–6.20 bar (60–90 psi).</td>
<td></td>
</tr>
<tr>
<td>c. Powder too fine or contaminated</td>
<td>If using reclaimed powder, reduce the ratio of reclaimed-to-virgin powder. Check powder particle size, if necessary.</td>
<td></td>
</tr>
<tr>
<td>d. Pulse valve malfunction</td>
<td>The pulse valve diaphragm is ruptured. If you hear a hissing sound inside the fan section, check for constant air flow from the valve. Replace the damaged valve.</td>
<td></td>
</tr>
</tbody>
</table>
### Troubleshooting Charts (cont'd.)

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Powder escaping from booth openings (contd.)</td>
<td>Cross drafts</td>
<td>Check for cross drafts across the booth face and correct as necessary.</td>
</tr>
<tr>
<td></td>
<td>Parts entering booth are too hot</td>
<td>Cool the parts to 48 °C (120 °F) or below before bringing them into the booth.</td>
</tr>
<tr>
<td></td>
<td>Powder flow exceeds ability of exhaust fans to contain</td>
<td>Reduce the powder flow.</td>
</tr>
<tr>
<td></td>
<td>Parts too large, interrupting flow of air through booth</td>
<td>Contact your Nordson representative.</td>
</tr>
<tr>
<td></td>
<td>Exhaust fan rotation reversed</td>
<td>Reverse the rotation of the motor by switching the wiring.</td>
</tr>
<tr>
<td>4. System will not start</td>
<td>Fuse(s) blown</td>
<td>Check for the reason fuse(s) blew and correct it. Replace the blown fuse(s).</td>
</tr>
<tr>
<td></td>
<td>Fan motor overload shutdown</td>
<td>Correct one of the following possible motor, contactor, fuse or operational problem as needed:</td>
</tr>
<tr>
<td></td>
<td>Incorrect, shorted, or open electrical wiring</td>
<td>Check the electrical circuits.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Check the exhaust fan for proper rotation direction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Check for mechanical binding of the motor/fan assembly.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Check for contact corrosion at the motor starters (M108, M110, M112, or M114 in the electrical panel).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Check the overload protectors for failure (OL108, OL110, OL112, or OL114 in the electrical panel).</td>
</tr>
<tr>
<td>Problem</td>
<td>Possible Cause</td>
<td>Corrective Action</td>
</tr>
<tr>
<td>-----------------------------------------------------</td>
<td>----------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>5. Cartridge pulsing will not start</td>
<td>No air supply to pulse manifold</td>
<td>Check the air supply.</td>
</tr>
<tr>
<td>6. Pulsing does not clean cartridges</td>
<td>Insufficient frequency or duration of pulsing</td>
<td>Adjust the frequency or duration of the filter pulsing. Refer to Adjusting the Automatic Filter Pulse Time.</td>
</tr>
<tr>
<td></td>
<td>Cartridges are clogged</td>
<td>Replace the cartridge filters. Refer to Replacing the Cartridge Filters in the Repair section.</td>
</tr>
<tr>
<td>7. System shuts down; red light on tower illuminates (automatic systems)</td>
<td>Powder backed up in collector module</td>
<td>Correct one of the following possible problems:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Check the powder pumps on the fluidizing hopper. Replace damaged pumps as necessary.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Replace the fluidizing hopper porous plate. Refer to Porous Plate Replacement—Fluidizing Hopper in the Repair section.</td>
</tr>
</tbody>
</table>
3. **Adjusting the Automatic Filter Pulse Time**

If the differential pressure gauge reads 3.5-in. w.c. or higher, the cartridge filters are not being cleaned properly. Adjust the duration and frequency of the pulsing as needed until the filters are being cleaned properly. If adjusting the duration and frequency of pulses does not solve the problem, replace the cartridge filters.

**WARNING:** Disconnect and lock out electrical power before servicing. Risk of electrical shock. Failure to observe may result in personal injury, death, or equipment damage.

Use the following procedures to adjust the duration and frequency of the cartridge filter pulses in an automatic system.

1. Turn the main power switch on the electrical panel to the OFF position and open the electrical panel door.

2. The pulse timer board is located in the lower left corner of the electrical panel. Adjust the frequency and duration using the following guidelines:
   - Adjust the screw marked ON TIME to adjust the duration.
     **NOTE:** The duration is adjustable from 0.05–0.5 seconds. The nominal setting is 0.2 seconds.
   - Adjust the screw marked OFF TIME to adjust the frequency.
     **NOTE:** The frequency is adjustable from 1.5–30 seconds. The nominal setting is 5 seconds. The setting of the frequency will vary depending on such factors as type of powder being used, humidity, and age of filters.

3. Check the pressure regulator on the right front leg of the collector module. If the regulator is set too low, the differential pressure gauge may read 3.5 or higher. Increase the pressure at the regulator to increase the intensity of the pulses.
4. **Electrical Schematics**

See Figures 3-5 and 3-6 for pneumatic schematics of the FlexiCoat system. See Figures 6-1, 6-2, and 6-3 for electrical schematics of the FlexiCoat system.

---

**Fig. 6-1** 500 cfm Manual System Electrical Schematic
4. Electrical Schematics

(contd.)

Fig. 6-2  500 cfm Automatic System Electrical Schematic
Troubleshooting

1000 cfm Automatic System Electrical Schematic

Fig. 6-3

PLANT POWER
230V OR 460V
3PH., 60HZ.

1L1

1L2

1L3

LPJ10SP(230V)
LPJSSP(460V)

1M

OL

OL

OL

2L1

2L2

2L3

3L2

1T1

1T2

1T3

COLLECTOR
POWDER COLL.
BLOWER MOTOR
3L.P. 220V, 7.5 F.L.A.
3PH., 60HZ.
BALDOR HWM 3610
T.E.F.C. FACE

3526026A

1MTR

230V OPERATION
H1 H3 H2 H4

460V OPERATION
H1 H3 H2 H4

X2

X1

T1

2

1

3

4

10L

5

15A

125V

FILTER PULSER
OFF

ON

FILTER PULSER
OFF

ON

1SW

1RECP

1RECP

NOTE:
FOR 230VOLT, 3PH. OPERATION
USE CHCuC15RN3P OVERLOAD
SET TO 6 AMP.
FOR 460VOLT, 3PH. OPERATION
USE CHCuC15RN3L OVERLOAD
SET TO 4 AMP.

CONNECT OPTIONAL POWDER
LEVEL WARNING LIGHT TO
TERMINALS #1, #2 AND GROUND

CONNECT OPTIONAL POWDER
FLUIDIZING AIR SOLENOID TO
TERMINALS #1 AND #4

BLOWER MOTOR
STARTER

TRANSFORMER
230V 460V PRIMARY
115V SECONDARY
A.M.B.A.T.A. 2-81213
250VA

15A 125V
FLANGED
RECEPTACLE
Section 7

Repair
Section 7
Repair

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

WARNING: Disconnect and lock out system electrical power before performing any repair procedures.

WARNING: System or material pressurized. Relieve pressure. Failure to observe may result in serious burns.

This section contains common repair procedures for the FlexiCoat system. Refer to the manuals that came with your powder application equipment for further repair procedures.

1. Introduction

2. Cartridge Filter Replacement

   See Figure 7-1. Use the following procedure to replace the cartridge filters.

   NOTE: All cartridge filters are accessible through the filter access panel. The filters closest to the filter access panel (outside filters) must be removed in order to access the filters that are furthest from the filter access panel (inside filters).

   1. Remove the hex head bolts (10), lock washers (9) and flat washers (8) securing the filter access panel (7) to the collector module (1). Remove the filter access panel.

   2. Remove the protective cap (6) from the threaded end of the hanger rod (2).

   3. While supporting the bottom of the cartridge filter with one hand, remove the wing nut (5) and flat washer (4) securing the cartridge filter (3) to the hanger rod. Remove the cartridge filter and discard it.
**Removal (contd)**

4. Remove the hanger rod from the hook (11) in the upper collector module.

5. Repeat step 2 to remove the inside cartridge filter, leaving its hanger rod in place on its hook.

**Installation**

1. Remove the new cartridge filters from their cartons and inspect them for damage. Do not use damaged cartridge filters.

2. Guide the installed hanger rod through the open end of the cartridge filter. Guide the threaded end of the hanger rod through the hole in the closed end of the cartridge filter.

3. Secure the cartridge filter and hanger rod to the collector module using the flat washer (4) and wing nut (5). Tighten the wing nut until the cartridge filter gasket is compressed evenly.

4. Install a protective cap (6) over the threads of the hanger rod.

5. Hang the outside hanger rod on its hook and repeat steps 2–4 to install the outside cartridge filter.

6. Secure the filter access panel to the collector module using the flat washers and hex head bolts.
Fig. 7-1  Replacing the Cartridge Filters

1. Collector module
2. Hanger rod
3. Cartridge filter
4. Flat washer
5. Wing nut
6. Protective cap
7. Filter access panel
8. Flat washers
9. Lock washers
10. Hex head bolts
11. Hook
3. **Final Filter Replacement**

Use the following procedure to replace the final filter.

1. See Figure 7-2. Remove the hex nuts (1) and lock washers (2) securing the Z-brackets (3) to the collector module (5).

2. Remove the old final filter (4) from the collector module.

3. Remove the new final filter from its carton and inspect it for damage. Do not use a damaged final filter.

4. Set the new final filter in place with the gasket facing the collector module. Do not damage the gasket.

5. Install the Z-brackets in place over the final filter. Install the lock washers and hex nuts and finger-tighten the nuts.

6. Check the position of the final filter to make sure that the gasket will seal on all four sides.

7. Tighten the hex nuts until the gasket is compressed slightly. Make sure the gasket is compressed equally on all four sides of the final filter.

---

**Fig. 7-2 Replacing the Final Filter**

1. Hex nuts
2. Lock washers
3. Z-brackets
4. Final filter
5. Collector module
4. **Pulse Valve Replacement**

Use the following procedure to replace a defective pulse valve.

**NOTE:** The pulse valves are located on opposite sides of the main air manifold. Each pulse valve is accessible from a different pulse valve access panel. It is not necessary to remove both pulse valve access panels to replace a single pulse valve.

1. See Figure 7-3. Remove the hex head bolts (5), lock washers (6), and flat washers (7) securing the pulse valve access panel (8) to the collector module (9). Remove the pulse valve access panel. Do not damage the gasket on the panel.

2. Disconnect the air tubing from the pulse valve elbow fitting (2).

**NOTE:** 500-cfm systems use two pulse valves. 1000-cfm systems use four pulse valves.

3. Unscrew the pulse valve (3) from the manifold pipe nipple (1).

4. Remove the showerhead nozzle (4) and elbow fitting from the pulse valve. Discard the old pulse valve.

---

**Fig. 7-3  Replacing the Pulse Valves**

1. Pipe nipple  
2. Elbow fitting  
3. Pulse valve  
4. Shower head nozzle  
5. Hex head bolts  
6. Lock washers  
7. Flat washers  
8. Valve access panel  
9. Collector module
4. **Pulse Valve Replacement**  
 *(contd.)*

5. Wrap the pipe nipple threads with PTFE tape.

6. Wrap the showerhead nozzle and elbow fitting threads with PTFE tape and install them on the new pulse valve.

7. Screw the new pulse valve onto the manifold pipe nipple. Position the valves so that the nozzle points straight down into the center of the cartridge filter.

8. Reconnect the air tubing to the pulse valve.

9. Inspect the gasket on the pulse valve access panel for damage. If the gasket is damaged, replace it.

10. Secure the pulse valve access panel to the collector module with the hex head bolts and flat washers.

---

5. **Fan Motor and Blower Wheel Replacement**

**Warning:** The fan motor is heavy. Do not attempt to lift it by yourself. Get help or use lifting equipment.

**Removal**

1. Remove the cover plate from the motor junction box and disconnect the wiring from the motor leads. Note the wire colors and numbers so that you can reconnect them correctly later.

2. Disconnect the flexible conduit from the junction box. Note the orientation of the junction box for installation.

3. See Figure 7-4. Remove the hex head bolts (10), lock washers (9), and flat washers (8) securing the motor plate (3) to the collector module (5).

4. Carefully lift the fan motor and plate assembly out of the collector module. Move the fan motor assembly to a clean workspace.

5. Loosen the set screw in the blower wheel (4) hub and pull the blower wheel off the fan motor shaft. Save the shaft key (2) for reuse. The blower wheel must be keyed to the shaft.

6. Inspect the blower wheel for damage. If the blower wheel is damaged (bent, missing fins, etc.), replace it.

7. Remove the hex head bolts (6) and lock washers (7) securing the fan motor to the motor plate.
Installation

1. Install the new fan motor on the motor plate, with the junction box oriented in the same position as noted during removal.

2. Insert the key into its key way in the new fan motor shaft.

3. Align the slot in the blower wheel hub with the key in the motor shaft.

4. Slide the blower wheel onto the shaft. Leave a gap of 7/16 in. between the flanged face of the blower wheel and the motor plate.

5. Tighten the set screw against the blower wheel hub.

6. Install the fan motor and blower wheel assembly onto the collector module with the hex head bolts, lock washers, and flat washers.

7. Rotate the blower wheel 360° to make sure it does not rub against the inlet cone. If it does, remove one of the valve access covers and adjust the cone’s position.

   **NOTE:** The gap between the blower wheel and the inlet cone should be approximately 1/8 in.

8. Remove the motor junction box cover and connect the flexible conduit to the box.

9. Connect the motor leads to the booth wiring in the same positions that you disconnected them.

10. Restore the system electrical power. Turn on the fan motor and make sure it is rotating in the correct direction. Figure 7-4 indicates the correct fan rotation direction. Follow these steps if the fan is not rotating in the correct direction.

   a. If the fan motor is running backwards, the breaker will trip within a few minutes.

   b. Disconnect system electrical power and reverse any two leads in the motor junction box.

   c. Restore the system electrical power and turn on the fan motor.
Installation (cont'd)

Fig. 7-4 Replacing the Fan Motor and Blower Wheel

1. Fan motor
2. Key
3. Motor plate
4. Blower wheel
5. Collector module
6. Hex head bolts
7. Lock washers
8. Flat washers
9. Lock washers
10. Hex head bolts
**6. Porous Plate Replacement**

**Electrostatic Fluidizing Bed**

Use the following procedures to replace the porous plates in the electrostatic fluidizing bed and fluidizing hopper.

Use the following procedure to replace the porous plate in the fluidizing bed.

**WARNING:** Disconnect and lock out system electrical power before servicing equipment. Failure to observe this warning may result in personal injury or death.

1. Clean the powder from the canopy. Refer to Shutdown in the Operation section.

**CAUTION:** Pull the electrical plug straight down to disconnect it from the voltage multiplier. The plug will be damaged if it is twisted during removal.

2. See Figure 7-5. Disconnect the electrical plug (6) from the voltage multiplier (5).

3. Disconnect the air tubing from the air inlet elbow (4).

4. Remove the hex head screws (9), flat washers (8), and hex nuts (7) securing the fluidizing bed assembly to the mounting flange (1). Remove the fluidizing bed (3) and move it to a clean work space.

5. Carefully remove the porous plate (2) and discard it. Be careful not to damage the gasket material on the mounting flange and electrostatic bed.

6. Place the new porous plate on top of the electrostatic bed.

7. Place the bed and new porous plate back into position, lining up the holes in the mounting flange with those in the electrostatic bed. Secure them with the hex head screws, flat washers, and nuts. Tighten the nuts in an alternating pattern to evenly compress the gasket material.

8. Connect the electrical plug to the voltage multiplier.

9. Restore the system to normal operation.

10. Connect the air tubing to the air inlet elbow.
Electrostatic Fluidizing Bed
(contd)

Fig. 7-5  Replacing the Electrostatic Fluidizing Bed Porous Plate
1. Mounting flange
2. Porous plate
3. Electrostatic bed
4. Air inlet elbow
5. Voltage multiplier
6. Electrical plug
7. Nuts
8. Flat washers
9. Hex head screws
**Fluidizing Hopper**

Use the following procedure to replace the porous plate in the fluidizing hopper.

**WARNING:** System or material pressurized. Relieve pressure. Failure to observe may result in serious burns.

**WARNING:** Wear protective clothing, safety goggles, and approved respiratory protection. Failure to observe may result in serious injury.

1. See Figure 7-6. Turn the air supply at the main air regulator to zero.

2. Carefully vacuum all powder out of the lower part of the collector module.

3. Disconnect the 10-mm air tubing from the air inlet elbow (7). Note the orientation of the elbow in relation to the collector module.

4. While supporting the lower hopper body (4) from the bottom, unhook the four clamps (2) securing the lower hopper body to the upper hopper body (1). Take the lower hopper body to a clean work surface.

5. Remove the 12 bolts (5) and washers (6) securing the porous plate (3) to the lower hopper body. Be careful not to damage the gasket material between the lower hopper body and the porous plate.


7. Orient the lower hopper body so that the air inlet elbow is in its original location. While supporting the lower hopper body from the bottom, secure the lower hopper body to the upper hopper body using the four clamps.

8. Connect the 10-mm air tubing to the air inlet elbow.

9. Restore the FlexiCoat system to normal operation. Refer to the *Operation* section for more information.
Fig. 7-6  Replacing the Fluidizing Hopper Porous Plate

1. Upper hopper body
2. Clamps
3. Porous plate
4. Lower hopper body
5. Bolt
6. Washer
7. Air inlet elbow
Section 8
Parts

1. Introduction

To order parts, call the Nordson Customer Service Center or your local Nordson representative. Use this five-column parts list, and the accompanying illustration, to describe and locate parts correctly.

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.

<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>—</td>
<td>000 000</td>
<td>Assembly</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>000 000</td>
<td>Subassembly</td>
<td>2</td>
<td>A</td>
</tr>
<tr>
<td>2</td>
<td>000 000</td>
<td>Part</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

- 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.
### 2. Manual FlexiCoat Assembly

See Figure 8-1. Use the following list to order common replacement parts for the manual FlexiCoat system.

<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>322 111</td>
<td>Motor, fan, 1 hp, 110 V, 1 phase</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>322 113</td>
<td>Motor, fan, 1 hp, 220/440 V, 3 phase</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>322 115</td>
<td>Fan wheel, cw rotation, 10 1/4 x 3 bc</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>174 710</td>
<td>Pulse valve, 1 in. NPT</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>165 726</td>
<td>Nozzle, cartridge pulse</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>176 331</td>
<td>Gauge, differential pressure, Minihelic, 0–10 in.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>322 509</td>
<td>Enclosure, controls</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>321 036</td>
<td>• Meter, digital</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>334 993</td>
<td>• Potentiometer, 50 ohm, 5 Watt</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>288 803</td>
<td>• Power supply</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>- - - -</td>
<td>Panel, pneumatic</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>288 832</td>
<td>• Valve, solenoid, 4 way, 24 Vdc</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>322 127</td>
<td>• Regulator, miniature</td>
<td>1 A</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>322 206</td>
<td>• Meter, flow</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td>322 204</td>
<td>• Gauge, pressure, Marsh J2648</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>322 125</td>
<td>Clamp, hose, 5 5/8–8 1/2 in.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>322 122</td>
<td>Boot, flexible, 8 in. dia x 4 in. long</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>322 205</td>
<td>Gauge, pressure, Norgren #18-013-212</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>322 127</td>
<td>Regulator, miniature</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>322 119</td>
<td>Switch, foot</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>288 552</td>
<td>Multiplier, voltage</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>288 560</td>
<td>Electrode</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>322 126</td>
<td>Plate, porous</td>
<td>1 A</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE A:** These are recommended spare parts. Keep one of each of these parts be kept in stock to reduce downtime.

**NS:** Not Shown
Fig. 8-1 Manual FlexiCoat System Assembly
3. **Automatic FlexiCoat Assembly**

See Figure 8-2. Use the following list to order replacement parts for the automatic FlexiCoat system.

<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>322 113</td>
<td>Motor, fan, 1 hp, 208/230/460 V, 3 phase</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>1</td>
<td>174 760</td>
<td>Motor, fan, 3 hp, 208/230/460 V, 3 phase</td>
<td>1</td>
<td>B</td>
</tr>
<tr>
<td>2</td>
<td>322 115</td>
<td>Fan wheel, cw rotation, 10(^1/4) x 3 bc</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>2</td>
<td>321 038</td>
<td>Fan wheel, cw rotation</td>
<td>1</td>
<td>B</td>
</tr>
<tr>
<td>3</td>
<td>321 091</td>
<td>Light, bulb, clear</td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td>4</td>
<td>336 998</td>
<td>Module, logic</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>174 710</td>
<td>Pulse valve, 1 in. NPT</td>
<td>AR</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>165 726</td>
<td>Nozzle, cartridge pulse</td>
<td>AR</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>176 331</td>
<td>Gauge, differential pressure, Minihelic, 0−10 in.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>322 127</td>
<td>Regulator, miniature</td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td>9</td>
<td>322 205</td>
<td>Gauge, pressure, Norgren #18-013-212</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>336 997</td>
<td>Solenoid</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>321 037</td>
<td>Sensor, level, FlexiCoat</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>631 401</td>
<td>Pump, Tribomatic II, single</td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td>13</td>
<td>321 039</td>
<td>Plate, fluid</td>
<td>1</td>
<td>C</td>
</tr>
<tr>
<td>14</td>
<td>983 020</td>
<td>Washer, flat, 0.203 x 0.625 x 0.062</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>981 211</td>
<td>Screw, hex, 1/4-20 x 3/4, cap</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

**Note**

A: Use these parts if you have a 500-cfm system.
B: Use these parts if you have a 1000-cfm system.
C: These are recommended spare parts. Keep one of each of these parts be kept in stock to reduce downtime.

AR: As Required
Fig. 8-2  Automatic FlexiCoat System Assembly
4. Filter Components

See Figure 8-3. Use the following list to order replacement filters and their components. These are recommended spare parts. Nordson recommends that at least one of each of these parts be kept in stock to reduce downtime.

<table>
<thead>
<tr>
<th>Item</th>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>322 415</td>
<td>Hanger, filter rod</td>
<td>AR</td>
<td>A</td>
</tr>
<tr>
<td>2</td>
<td>7099102</td>
<td>Filter, cartridge, 10 x 22 in.</td>
<td>AR</td>
<td>A</td>
</tr>
<tr>
<td>3</td>
<td>322 419</td>
<td>Washer, gasket, filter mount</td>
<td>AR</td>
<td>A</td>
</tr>
<tr>
<td>4</td>
<td>322 422</td>
<td>Nut, wing, filter mount</td>
<td>AR</td>
<td>A</td>
</tr>
<tr>
<td>5</td>
<td>322 417</td>
<td>Cap, rod protector</td>
<td>AR</td>
<td>A</td>
</tr>
<tr>
<td>6</td>
<td>101 432</td>
<td>Filter, final, 500 series</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

NOTE A: Quantity of these parts varies depending on the system you have. Two of each of these parts are used with 500-cfm systems; 1000-cfm systems use 4 of each of these parts.

AR: As Required
Fig. 8-3  Filter Components
5. Fuses

Use the following list to locally obtain replacement fuses for the system electrical control panel. Nordson recommends that one of each fuse for your voltage be kept in stock to reduce downtime. Order the correct fuses for your system's voltage.

500-cfm Systems

Use the following lists as a reference when obtaining fuses for a 500 cfm manual or automatic system.

110-Volt Systems

<table>
<thead>
<tr>
<th>Fuse Number</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPJ-15SP</td>
<td>Fuse</td>
<td>1</td>
</tr>
<tr>
<td>FNQ-R-3</td>
<td>Fuse</td>
<td>1</td>
</tr>
</tbody>
</table>

208-Volt Systems

<table>
<thead>
<tr>
<th>Fuse Number</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPJ4SP</td>
<td>Fuse</td>
<td>3</td>
</tr>
<tr>
<td>FNQR3.5</td>
<td>Fuse</td>
<td>3</td>
</tr>
</tbody>
</table>

220-Volt Systems

<table>
<thead>
<tr>
<th>Fuse Number</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPJ4SP</td>
<td>Fuse</td>
<td>3</td>
</tr>
<tr>
<td>FNQR3.5</td>
<td>Fuse</td>
<td>2</td>
</tr>
<tr>
<td>FNQR3</td>
<td>Fuse</td>
<td>1</td>
</tr>
</tbody>
</table>

460-Volt Systems

<table>
<thead>
<tr>
<th>Fuse Number</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPJ2SP</td>
<td>Fuse</td>
<td>3</td>
</tr>
<tr>
<td>FNQR1.5</td>
<td>Fuse</td>
<td>2</td>
</tr>
<tr>
<td>FNQR3</td>
<td>Fuse</td>
<td>1</td>
</tr>
</tbody>
</table>
1000-cfm Automatic Systems

Use the following lists as a reference when obtaining fuses for 1000 cfm automatic systems.

208/220-Volt Systems

<table>
<thead>
<tr>
<th>Fuse Number</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPJ10SP</td>
<td>Fuse</td>
<td>3</td>
</tr>
<tr>
<td>FNQR3.5</td>
<td>Fuse</td>
<td>3</td>
</tr>
</tbody>
</table>

460-Volt Systems

<table>
<thead>
<tr>
<th>Fuse Number</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPJ5SP</td>
<td>Fuse</td>
<td>3</td>
</tr>
<tr>
<td>FNQR1.5</td>
<td>Fuse</td>
<td>2</td>
</tr>
<tr>
<td>FNQR3.5</td>
<td>Fuse</td>
<td>1</td>
</tr>
</tbody>
</table>

6. Non-Electrostatic Fluidizing Dipping Bed

The non-electrostatic fluidizing dipping bed option is available for manual systems that are already equipped with the electrostatic fluidizing bed.

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>322 423</td>
<td>Kit, dipping bed</td>
<td>1</td>
</tr>
</tbody>
</table>