You have selected a reliable, high-quality dispensing system from Nordson EFD, the world leader in fluid dispensing. The Atlas™ Cartridge Filling System was designed specifically for industrial dispensing and will provide you with years of trouble-free, productive service.

This manual will help you maximize the usefulness of your Atlas Cartridge Filling System.

Please spend a few minutes to become familiar with the controls and features. Follow our recommended testing procedures. Review the helpful information we have included, which is based on more than 50 years of industrial dispensing experience.

Most questions you will have are answered in this manual. However, if you need assistance, please do not hesitate to contact EFD or your authorized EFD distributor. Detailed contact information is provided on the last page of this document.

The Nordson EFD Pledge

Thank You!

You have just purchased the world’s finest precision dispensing equipment.

I want you to know that all of us at Nordson EFD value your business and will do everything in our power to make you a satisfied customer.

If at any time you are not fully satisfied with our equipment or the support provided by your Nordson EFD Product Application Specialist, please contact me personally at 800.556.3484 (US), 401.431.7000 (outside US), or Srinisubramanian@nordsonefd.com.

I guarantee that we will resolve any problems to your satisfaction.

Thanks again for choosing Nordson EFD.

Srini Subramanian
Srini Subramanian, General Manager
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Introduction

The Cartridge Filling System was specifically designed to automatically fill cartridges with precision and consistency. The system is easy to set up, maintain and clean. It fills cartridges from the bottom through the threaded opening. Filling cartridges from the bottom reduces air pockets in the product, increases product quality, dispense performance and productivity.

How the System Operates

The Cartridge Filling System is essentially a precision metering device. A pneumatic cylinder follows the movement of the piston in a cartridge as it fills. The cylinder’s position is tracked by magnetic switches which are set to correlate with the position of a piston in an empty and full cartridge. The machine also has a Manual Mode which bypasses the sensing circuits and leaves the filling process completely under the user’s control. This helps the user set up the machine for a particular size of cartridge. Once set, the machine is switched to Auto Mode to accurately and consistently fill the cartridges with a preset amount of product.
Nordson EFD Product Safety Statement

⚠️ WARNING
The safety message that follows has a WARNING level hazard. Failure to comply could result in death or serious injury.

**ELECTRIC SHOCK**
Risk of electric shock. Disconnect power before removing covers and/or disconnect, lock out, and tag switches before servicing electrical equipment. If you receive even a slight electrical shock, shut down all equipment immediately. Do not restart the equipment until the problem has been identified and corrected.

⚠️ CAUTION
The safety messages that follow have a CAUTION level hazard. Failure to comply may result in minor or moderate injury.

**READ MANUAL**
Read manual for proper use of this equipment. Follow all safety instructions. Task- and equipment-specific warnings, cautions, and instructions are included in equipment documentation where appropriate. Make sure these instructions and all other equipment documents are accessible to persons operating or servicing equipment.

**MAXIMUM AIR PRESSURE**
Unless otherwise noted in the product manual, the maximum air input pressure is 7.0 bar (100 psi). Excessive air input pressure may damage the equipment. Air input pressure is intended to be applied through an external air pressure regulator rated for 0 to 7.0 bar (0 to 100 psi).

**RELEASE PRESSURE**
Release hydraulic and pneumatic pressure before opening, adjusting, or servicing pressurized systems or components.

**BURNS**
Hot surfaces! Avoid contact with the hot metal surfaces of heated components. If contact can not be avoided, wear heat-protective gloves and clothing when working around heated equipment. Failure to avoid contact with hot metal surfaces can result in personal injury.
Nordson EFD Product Safety Statement (continued)

Halogenated Hydrocarbon Solvent Hazards

Do not use halogenated hydrocarbon solvents in a pressurized system that contains aluminum components. Under pressure, these solvents can react with aluminum and explode, causing injury, death, or property damage. Halogenated hydrocarbon solvents contain one or more of the following elements.

<table>
<thead>
<tr>
<th>Element</th>
<th>Symbol</th>
<th>Prefix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluorine</td>
<td>F</td>
<td>“Fluoro-”</td>
</tr>
<tr>
<td>Chlorine</td>
<td>Cl</td>
<td>“Chloro-”</td>
</tr>
<tr>
<td>Bromine</td>
<td>Br</td>
<td>“Bromo-”</td>
</tr>
<tr>
<td>Iodine</td>
<td>I</td>
<td>“Iodo-”</td>
</tr>
</tbody>
</table>

Check the Safety Data Sheet (SDS) or contact your material supplier for more information. If you must use halogenated hydrocarbon solvents, contact your EFD representative for compatible EFD components.

High Pressure Fluids

High pressure fluids, unless they are safely contained, are extremely hazardous. Always release fluid pressure before adjusting or servicing high pressure equipment. A jet of high pressure fluid can cut like a knife and cause serious bodily injury, amputation, or death. Fluids penetrating the skin can also cause toxic poisoning.

⚠️ WARNING

Any injury caused by high pressure liquid can be serious. If you are injured or even suspect an injury:

- Go to an emergency room immediately.
- Tell the doctor that you suspect an injection injury.
- Show the doctor the following note.
- Tell the doctor what kind of material you were dispensing.

Medical Alert — Airless Spray Wounds: Note to Physician

Injection in the skin is a serious traumatic injury. It is important to treat the injury surgically as soon as possible. Do not delay treatment to research toxicity. Toxicity is a concern with some exotic coatings injected directly into the bloodstream.

Qualified Personnel

Equipment owners are responsible for making sure that EFD 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 EFD 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.
- Operating equipment in an explosive atmosphere.

Regulations and Approvals

Make sure all equipment is rated and approved for the environment in which it is used. Any approvals obtained for Nordson EFD equipment will be voided if instructions for installation, operation, and service are not followed. If the equipment is used in a manner not specified by Nordson EFD, the protection provided by the equipment may be impaired.

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, and 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 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.
- Make sure spray areas and other work areas are adequately ventilated.
- When using a syringe barrel, always keep the dispensing end of the tip pointing towards the work and away from the body or face. Store syringe barrels with the tip pointing down when they are not in use.
- Obtain and read the Safety Data Sheet (SDS) for all materials used. Follow the manufacturer’s instructions for safe handling and use of materials and use recommended personal protection devices.
- 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.
- Know where emergency stop buttons, shutoff valves, and fire extinguishers are located.
- Wear hearing protection to protect against hearing loss that can be caused by exposure to vacuum exhaust port noise over long periods of time.
Nordson EFD Product Safety Statement (continued)

Fire Safety

To prevent a fire or explosion, follow these instructions:

- 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.
- Do not heat materials to temperatures above those recommended by the manufacturer. Make sure heat monitoring and limiting devices are working properly.
- Provide adequate ventilation to prevent dangerous concentrations of volatile particles or vapors. Refer to local codes or the SDS for guidance.
- Do not disconnect live electrical circuits when 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.

Preventive Maintenance

As part of maintaining continuous trouble-free use of this product, Nordson EFD recommends the following simple preventive maintenance checks:

- Periodically inspect tube-to-fitting connections for proper fit. Secure as necessary.
- Check tubing for cracks and contamination. Replace tubing as necessary.
- Check all wiring connections for looseness. Tighten as necessary.
- Clean: If a front panel requires cleaning, use a clean, soft, damp rag with a mild detergent cleaner. DO NOT USE strong solvents (MEK, acetone, THF, etc.) as they will damage the front panel material.
- Maintain: Use only a clean, dry air supply to the unit. The equipment does not require any other regular maintenance.
- Test: Verify the operation of features and the performance of equipment using the appropriate sections of this manual. Return faulty or defective units to Nordson EFD for replacement.
- Use only replacement parts that are designed for use with the original equipment. Contact your Nordson EFD representative for information and advice.
Nordson EFD Product Safety Statement (continued)

Important Disposable Component Safety Information

All Nordson EFD disposable components, including syringe barrels, cartridges, pistons, tip caps, end caps, and dispense tips, are precision engineered for one-time use. Attempting to clean and re-use components will compromise dispensing accuracy and may increase the risk of personal injury.

Always wear appropriate protective equipment and clothing suitable for your dispensing application and adhere to the following guidelines:

• Do not heat syringe barrels or cartridges to a temperature greater than 38° C (100° F).
• Dispose of components according to local regulations after one-time use.
• Do not clean components with strong solvents (MEK, acetone, THF, etc.).
• Clean cartridge retainer systems and barrel loaders with mild detergents only.
• To prevent fluid waste, use Nordson EFD SmoothFlow™ pistons.

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:

1. Disconnect and lock out system electrical power. If using hydraulic and pneumatic shutoff valves, close and relieve pressure.

2. For Nordson EFD air-powered dispensers, remove the syringe barrel from the adapter assembly. For Nordson EFD electro-mechanical dispensers, slowly unscrew the barrel retainer and remove the barrel from the actuator.

3. Identify the reason for the malfunction and correct it before restarting the system.

Disposal

Dispose of equipment and materials used in operation and servicing according to local codes.
Nordson EFD Product Safety Statement (continued)

Equipment-Specific Safety Instructions

Tipping and Dropping Hazard
BE SURE that the Cartridge Filling System is placed on a hard, level surface and that all tubing lengths are sufficient to allow free motion of all movable components attached to the machine. DO NOT pull on tubing to move the machine. Tipping the machine or otherwise supporting it on its side can cause it to be unstable, resulting in possible damage.

If any system components are damaged or worn, they must be replaced with EFD supplied or approved parts before returning to service.

Tubing Safety
Pressurized tubing can be very dangerous. Tubing whose integrity is compromised due to wear, damage or misuse can develop a leak, spraying materials at high pressure. This spray can enter the eyes or cover the skin or cause other serious bodily injury, fire or property damage. Before pressurizing any system, examine all tubing for cuts, wear, bulges and leaks. If any of these conditions exist, replace the tubing immediately with EFD supplied or approved tubing. Do not try to repair a damaged tube.

- BE SURE all tubing connections to the system are properly secured.
- BE SURE that the material to be dispensed is compatible with the system.
## Specifications

*NOTE:* Specifications and technical details are subject to change without prior notification.

### Atlas Cartridge Filling System

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>52.3W x 71.1H x 22.9D cm (20.59W x 27.99H x 9.02D&quot;)</td>
</tr>
<tr>
<td>Max. extended tower height</td>
<td>100.0 cm (39.38&quot;)</td>
</tr>
<tr>
<td>Weight</td>
<td>9.1 kg (20.0 lb)</td>
</tr>
<tr>
<td>Input AC (to power supply)</td>
<td>Universal Multi Voltage, 100/240 VAC, 50/60Hz</td>
</tr>
<tr>
<td>Machine power requirement</td>
<td>24 VDC, 0.5 Amp maximum</td>
</tr>
<tr>
<td>Fuse</td>
<td>250V, 1 Amp, slow-blow, 3 AG cartridge</td>
</tr>
<tr>
<td>Input air pressure</td>
<td>8.3 bar (120 psi) maximum</td>
</tr>
<tr>
<td>Ambient operating conditions</td>
<td>Temperature: 5–45° C (41–113° F)</td>
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<tr>
<td></td>
<td>Humidity: Maximum 85% RH at 30° C non-condensing</td>
</tr>
<tr>
<td></td>
<td>Height above sea level: 2,000 m (6,562 ft) maximum</td>
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<tr>
<td>Approvals</td>
<td>WEEE, China RoHS</td>
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### Cartridge Filler

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
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<tbody>
<tr>
<td>Baseplate</td>
<td>Anodized aluminum</td>
</tr>
<tr>
<td>Controller enclosure</td>
<td>303 stainless steel</td>
</tr>
<tr>
<td>Valve mounts</td>
<td>Anodized aluminum</td>
</tr>
</tbody>
</table>

### Valve Components

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air cylinder body</td>
<td>303 stainless steel</td>
</tr>
<tr>
<td>Fluid body and cap</td>
<td>303 stainless steel</td>
</tr>
<tr>
<td>Piston</td>
<td>Hard-coated anodized aluminum</td>
</tr>
<tr>
<td>Spool</td>
<td>Hard-chrome coated stainless</td>
</tr>
<tr>
<td>Spool seals</td>
<td>Polyester elastomer</td>
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</tbody>
</table>
Specifications (continued)

RoHS标准相关声明 (China RoHS Hazardous Material Declaration)

<table>
<thead>
<tr>
<th>产品名称</th>
<th>部件名称</th>
<th>有害物质及元素</th>
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<tr>
<td></td>
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<td>有毒或有害物质及元素</td>
</tr>
<tr>
<td></td>
<td></td>
<td>重金属及元素</td>
</tr>
<tr>
<td></td>
<td></td>
<td>铅 (Pb)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>汞 (Hg)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>镉 (Cd)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>六价铬 (Cr6)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>多溴联苯 (PBB)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>多溴联苯醚 (PBDE)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>外部接口</td>
</tr>
<tr>
<td></td>
<td></td>
<td>External Electrical Connectors</td>
</tr>
</tbody>
</table>

| | X | O | O | O | O |

0: 表示该产品所含有的危险成分或有害物质含量依照EIP-A, EIP-B, EIP-C的标准低于SJ/T11363-2006限定要求。
Indicates that this toxic or hazardous substance contained in all the homogeneous materials for this part, according to EIP-A, EIP-B, EIP-C is below the limit requirement in SJ/T11363-2006.

X: 表示该产品所含有的危险成分或有害物质含量依照EIP-A, EIP-B, EIP-C的标准高于SJ/T11363-2006限定要求。
Indicates that this toxic or hazardous substance contained in all the homogeneous materials for this part, according to EIP-A, EIP-B, EIP-C is above the limit requirement in SJ/T11363-2006.

WEEE Directive

This equipment is regulated by the European Union under WEEE Directive (2012/19/EU). Refer to www.nordsonefd.com/WEEE for information about how to properly dispose of this equipment.

Unpack and Check

Open the shipping carton and inspect the contents for the following:

- Cartridge filler machine
- Tool kit
- Accessory kit
- Desktop power supply with AC cord
- Quick Start Guide

1. Place the Cartridge Filling System on a hard, level surface. The machine can be secured with bolts through the 10 mm (0.394") holes in the baseplate.

2. Check the general condition of the machine after shipping. Inspect the tubing-to-fitting connections and make sure they are secure. Inspect the terminal strip at the rear of the controller for loose wires and tighten as necessary.
Operating Features

Controller Front Panel

a **READY**  
Illuminates when a cartridge is in place to be filled.

b **START**  
In AUTO Mode, START initiates the filling process. In MANUAL Mode, it opens the valve as long as the button is held down.

c **FILLING**  
Illuminates when the valve is activated.

d **TOP SWITCH**  
Illuminates when the air cylinder piston is aligned with the Upper Switch. In AUTO Mode, this indicates a full cartridge and ends the filling process.

e **AUTO/MANUAL**  
Switch in down position selects AUTO Mode, in up position selects MANUAL Mode.

f **NO PISTON**  
Illuminates when the machine has detected a cartridge with no piston installed. Resets when a cartridge with a piston installed is replaced.

g **POWER**  
Illuminates when the machine is powered for use.

h **POWER ON OFF SETUP**  
3-position switch. Up position is for Power On, middle position is Power Off, and down position is used during the machine setup process.

i **PISTON DETECT**  
Illuminates when the air cylinder piston is aligned with the Piston Detect switch.

j **LOAD CARTRIDGE**  
Illuminates when the Cartridge Detect switch indicates no cartridge is mounted on the machine.

k **EMERGENCY STOP**  
Pushing the E-Stop switch sets the machine to its lowest energy state, i.e., turns off all electrical power and dumps all air pressure. Rotate the E-Stop Switch knob clockwise to reset.

l **E-STOP ACTIVE**  
Illuminates when the E-Stop switch has been activated. Indicates the machine’s inputs and outputs have been inhibited.
Operating Features (continued)

Controller Rear Panel

a. **I/O terminals** — Screw terminals for electrical signals to/from the controller to the rest of the machine. Wires omitted for clarity.

b. **Fuse** — 250 Volt, slow-blow, 1 Amp, 3 AG glass cartridge fuse

c. **Power input jack** — Screw-locked jack for 24 VDC power input. Mates with Switchcraft S760K plug or equivalent.

Rear Panel Terminals

1. Cartridge detect switch +24 VDC output
2. NO CARTRIDGE signal input
3. CARTRIDGE DETECTED signal input
4. PISTON DETECT signal input
5. Magnetic switch +24 VDC output
6. NO PISTON signal input
7. TOP SWITCH signal input
8. MASTER SOLENOID ON signal output
9. CYLINDER DOWN command signal output
10. FILLING command (open dispense valve) output
11. CYLINDER UP command output
12. Sensor and solenoid DC ground output
Installation

7.0 bar
(100 psi)
Setup

• Start with input air DISCONNECTED or OFF at the source and electrical power OFF.

• Loosen the two cylinder plate mounting screws and adjust the height of the cylinder assembly so the cylinder mounting block is level with the top of the extrusion. Tighten the mounting screws.

To set the machine for a particular size cartridge:

1. Weigh an empty cartridge with piston installed as shown in Figure 1.
2. Place Auto/Manual switch in Manual position (up).
3. Install a cartridge with no piston on the machine.
4. Power switch to ON.
5. Extend the cylinder rod by hand until the No Piston LED illuminates.
   Be sure to stop when the No Piston LED illuminates.
Setup (continued)

6. Loosen the two cylinder plate mounting screws and adjust the height of the cylinder assembly until the tip of the cylinder rod just touches the bottom of the cartridge. When the assembly is in place, tighten the cylinder plate mounting screws as shown in Figure 2.

7. Power switch to OFF.

8. Retract the cylinder by hand. Replace the cartridge with one that has a piston installed. Confirm that the piston is located at the bottom of the cartridge.

9. Power switch to SETUP.

10. Extend the cylinder by hand until the tip of the cylinder rod touches the boss on the inside of the piston as shown in Figure 3.
11. Loosen the set screw for the Piston Detect switch and adjust it vertically until the Piston Detect LED illuminates. Note the range of vertical travel which illuminates the LED. Adjust the switch to the middle of the range. Tighten the set screw after adjustment. Confirm the Piston Detect LED remains lit after the set screw is tightened as shown in Figure 4.
**Setup (continued)**

12. Retract the cylinder by hand. The Piston Detect LED will turn off.
13. Power Switch to OFF.
14. Connect the Cartridge Filler to the shop air supply.
15. Power Switch to ON.
16. Set the air pressure regulator to 0.34–0.55 bar (5–8 psi).
17. Fill a cartridge to the desired level using Manual Mode. In Manual Mode, the Cartridge Filling System dispenses anytime the START button is pressed and a cartridge is present. The machine will not extend the cylinder to check for a piston in Manual Mode. Stop periodically and weigh the cartridge until the desired weight is reached as shown in Figure 5.

**NOTE:** The cartridge piston should not be filled to a point that drives the piston closer than ½ inch from the top of the cartridge, as shown in Figure 6.

---

**Figure 5**

**Figure 6**

- Minimum
- 12.7 mm (0.500")
Setup (continued)

18. Turn the power OFF and disconnect the shop air supply.
19. Power switch to SETUP.
20. Extend the cylinder by hand until it touches the piston in the full cartridge as shown in Figure 7.

![Figure 7](image_url)

21. Adjust the upper magnetic switch until the top Switch LED illuminates.
22. Retract the cylinder by hand. The Upper Switch LED will turn off.
23. Power OFF.
24. Place the Auto/Manual switch in the Auto position (down).
25. Power ON.
26. The Cartridge Filling System is now set to fill in the Auto Mode.

Operating Hints

- To avoid spills, be sure to thread the cartridge onto the elbow fitting until it is hand tight.
- To ensure consistent filling results, install every cartridge onto the elbow with the same number of turns.
### Preventive Maintenance
As part of maintaining continuous trouble-free use of this product, EFD recommends the following preventive maintenance checks:

- Turn off the Cartridge Filling System and release air pressure before servicing any system components.
- Periodically inspect tube-to-fitting connections for proper fit. Secure as necessary.
- Check tubing for cracks and contamination. Replace tubing as necessary.
- Check all wiring connections for looseness. Tighten as necessary.
- Confirm the output elbow fitting on the dispense valve remains centered vertically under the air cylinder rod. If it is not, loosen the bolts on the valve mount and center the fitting.

### General Cleaning
Avoid using alcohol-based, solvent-based cleaners or cleaners that contain abrasives.

### Valve Cleaning

### Optimum™ Cartridge System Components

<table>
<thead>
<tr>
<th>Clear Cartridges with Pistons Installed</th>
<th>Green Cartridges with Pistons Installed</th>
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</thead>
<tbody>
<tr>
<td><strong>Part #</strong></td>
<td><strong>Size</strong></td>
</tr>
<tr>
<td>7012395</td>
<td>2.5 fl oz (75 mL)</td>
</tr>
<tr>
<td>7012404</td>
<td>6 fl oz (180 mL)</td>
</tr>
<tr>
<td>7012413</td>
<td>12 fl oz (360 mL)</td>
</tr>
<tr>
<td>7012418</td>
<td>20 fl oz (600 mL)</td>
</tr>
<tr>
<td>7014096</td>
<td>32 fl oz (960 mL)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Amber Cartridges with Pistons Installed</th>
<th>Black Cartridges with Pistons Installed</th>
</tr>
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<tbody>
<tr>
<td><strong>Part #</strong></td>
<td><strong>Size</strong></td>
</tr>
<tr>
<td>7012396</td>
<td>2.5 fl oz (75 mL)</td>
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<tr>
<td>7012405</td>
<td>6 fl oz (180 mL)</td>
</tr>
<tr>
<td>7012414</td>
<td>12 fl oz (360 mL)</td>
</tr>
<tr>
<td>7012738</td>
<td>20 fl oz (600 mL)</td>
</tr>
<tr>
<td>7014097</td>
<td>32 fl oz (960 mL)</td>
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</table>
Part Number

<table>
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<tr>
<th>Part #</th>
<th>Description</th>
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<tr>
<td>7014123</td>
<td>Atlas Cartridge Filling System</td>
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Replacement Parts

<table>
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<tr>
<th>Item</th>
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<tbody>
<tr>
<td>Not shown</td>
<td>7022019</td>
<td>Power supply, 40 W</td>
</tr>
<tr>
<td>1</td>
<td>7015379</td>
<td>Plunger, CF</td>
</tr>
<tr>
<td>2</td>
<td>7013449</td>
<td>736HPA-NV valve</td>
</tr>
<tr>
<td>3</td>
<td>7015448</td>
<td>Kit, air cylinder assembly with switch</td>
</tr>
<tr>
<td>4</td>
<td>7015458</td>
<td>Cartridge detect switch, CF</td>
</tr>
<tr>
<td>5</td>
<td>7015460</td>
<td>Lever arm, CF</td>
</tr>
<tr>
<td>6</td>
<td>7015447</td>
<td>Fuse kit, CF 3 (package of 3)</td>
</tr>
<tr>
<td>7</td>
<td>7014872</td>
<td>Kit, European input power cord</td>
</tr>
</tbody>
</table>
## Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause and/or Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>No electrical power</td>
<td>• External power supply is not plugged into AC source or is not connected to machine</td>
</tr>
<tr>
<td></td>
<td>• Power switch set to OFF or SETUP</td>
</tr>
<tr>
<td></td>
<td>• E-stop switch is set</td>
</tr>
<tr>
<td>Air pressure gauge registers zero</td>
<td>• Shop air not connected</td>
</tr>
<tr>
<td></td>
<td>• Power switch not in ON position</td>
</tr>
<tr>
<td></td>
<td>• E-stop switch is set</td>
</tr>
<tr>
<td></td>
<td>• Air Pressure Regulator set to zero</td>
</tr>
<tr>
<td>Air cylinder extends; then machine stops</td>
<td>• Cartridge is not threaded far enough onto elbow fitting</td>
</tr>
<tr>
<td></td>
<td>• Check Controller terminals for loose wires</td>
</tr>
<tr>
<td>In Auto mode, cartridge fills beyond desired level</td>
<td>• Upper Switch position is incorrect</td>
</tr>
<tr>
<td></td>
<td>• Check Controller terminals for loose wires</td>
</tr>
</tbody>
</table>
NORDSON EFD ONE YEAR LIMITED WARRANTY

This Nordson EFD product is warranted for one year from the date of purchase to be free from defects in material and workmanship (but not against damage caused by misuse, abrasion, corrosion, negligence, accident, faulty installation, or by dispensing material incompatible with equipment) when the equipment is installed and operated in accordance with factory recommendations and instructions.

Nordson EFD will repair or replace free of charge any defective part upon authorized return of the part prepaid to our factory during the warranty period. The only exceptions are those parts which normally wear and must be replaced routinely, such as, but not limited to, valve diaphragms, seals, valve heads, needles, and nozzles.

In no event shall any liability or obligation of Nordson EFD arising from this warranty exceed the purchase price of the equipment.

Before operation, the user shall determine the suitability of this product for its intended use, and the user assumes all risk and liability whatsoever in connection therewith. Nordson EFD makes no warranty of merchantability or fitness for a particular purpose. In no event shall Nordson EFD be liable for incidental or consequential damages.

This warranty is valid only when oil-free, clean, dry, filtered air is used, where applicable.

To register your equipment, please go to www.nordsonefd.com/warranty/one_year.htm.