# Spectrum HD Feed Center Generation II

Customer Product Manual
Part 7192568_03
Issued 05/20

For parts and technical support, call your nearest Finishing Customer Support Centre.
Find your nearest centre at www.nordson.com/directory
This document is available on the Internet at http://emanuals.nordson.com/finishing

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CE

Nordson

NORDSON Deutschland GmbH

**Contact Us**

Nordson Corporation welcomes requests for information, comments, and inquiries about its products. General information about Nordson can be found on the Internet using the following address: http://www.nordson.com.

Address all correspondence to:

Nordson GmbH
Heinrich Hertz Strasse 42
40699 Erkrath
Germany

**Notice**



**Trademarks**

# Change Record

| Revision | Date | Change |
|---|---|---|
| 02 | 19/05/2017 | Wiring diagrams updated 02–258–424 |
| 02 | 19/05/2017 | Parts list to include complete pinch valve assembly |
| 03 | 25/03/2020 | Images |
| 03 | 27/03/2020 | Parts list, also inc. XXL |
| 03 | 29/04/2020 | Troubleshooting, Maintenance, Installation, Operation, E&P Drawings |
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# EC DECLARATION OF CONFORMITY
## ACCORDING TO CE DIRECTIVE 2006/42/ EC ANNEX II A

**MANUFACTURER** Nordson Deutschland GmbH,
Heinrich-Hertz-Strasse 42, 40699 Erkrath

**DESCRIPTION** PowderFeedCenter
Family/ Models: Spectrum Feed Center
Venus II
Serial number 7070xxx (see Serial-Plate)
Year of manufacturing (see Serial-Plate)

**APPLICABLE DIRECTIVES & STANDARDS USED TO VERIFY COMPLIANCE**

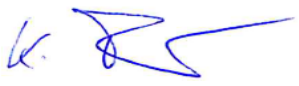
2006/42/EC Machinery
2014/34/EU Explosive Atmosphere
2014/30/EU Electromagnetic Compatibility
2014/68/EU Pressure Equipment
EN 60204-1
EN ISO 12100
EN 1127-1

**MARKING OF PRODUCT** CE ; Ex

The equipment delivered is generally intended to be part of a powder coating system, and can be operated on its own or in conjunction with other equipment.
In order to be in full compliance with the CE machinery directive and its amendments, the customer is obliged to respect the applicable regulations for his powder coating system upon incorporation of the equipment in the powder coating plant and before starting operation.

We hereby declare that the product specified conforms to the directives and standards described above and that it has been provided with a CE label. Provided the product is installed and operated in line with Nordson's manuals its operation is safe.

Name and address of the responsible person authorized to compile the technical files



Kai Flockenhaus,
Manager - Procurement & Process,
ICS Europe Industrial Coating Systems Europe
Nordson Deutschland GmbH
40699 Erkrath, Heinrich-Hertz-Strasse 42

Erkrath, 13th Nov 2017

# Table of Contents

# *Section 1*
# Safety

## 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.

## Qualified Personnel

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

## Intended Use

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

Some examples of unintended use of equipment include

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

## Regulations and Approvals

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

All phases of equipment installation must comply with all federal, state, and local codes.

# 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.
- 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.
- Noise emissions according to EC/2006/42 maximum 85dBA, ear protection must be worn.

# Fire Safety

To avoid a fire or explosion, follow these instructions.

- 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.
- 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.

# Grounding

**WARNING:** Operating faulty electrostatic equipment is hazardous and can cause electrocution, fire, or explosion. Make resistance checks part of your periodic maintenance program. If you receive even a slight electrical shock or notice static sparking or arcing, shut down all electrical or electrostatic equipment immediately. Do not restart the equipment until the problem has been identified and corrected.

All work conducted inside the FeedCenter Housing is considered within an ATEX Zone 22 and inside the Powder Hopper is ATEX Zone 20 Hazardous location and must comply with EN16985, EN50177 and any local codes latest conditions.

- All electrically conductive objects inside the FeedCenter Housing shall be electrically connected to ground with a resistance of not more than 1 megohm as measured with an instrument that applies at least 500 volts to the circuit being evaluated. Personnel working inside the FeedCenter must be grounded.
- There is a possible ignition potential from the charged human body. Personnel standing on a non-conductive surface or wearing non-conductive shoes, are not grounded. Personnel must wear shoes with conductive soles or use a ground strap to maintain a connection to ground when working with or around electrostatic equipment.
- Connect all disconnected equipment, ground cables, and wires after servicing equipment.

# Action in the Event of a Malfunction

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

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

# Disposal

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

# *Section 2*
# Description

## Introduction

The Nordson Spectrum HD Generation II Feed Center (SHD II) conditions and supplies powder for up to 16 automatic powder spray guns in its standard form, or up to 24 guns with additional Stand Alone HDLV units*. This can be a combination of automatic and manual guns. It contains a High Density sieving and powder feed system using the Nordson HDLV technology along with ultrasonic sieve, level sensors, virgin feed and electrical / pneumatic controls via a touch screen operator interface.

The SHD II provides quick color changes and automatic purge cleaning. The HD Hopper is the heart of the SHD II Feed Center; receiving reclaim and virgin powder, sieving and feeding powder to all guns using Nordson HDLV pumps.

*If more guns are required, the Spectrum HD XXL offers the capacity of up to 32 Guns.


Figure 2-1 **Spectrum HD Powder Feed Center Generation II - Image shows with PPHD Controls (standard)**

The feed center controls are designed to accommodate two HDLV transfer pumps: a reclaim pump to transport over-sprayed powder from the booth recovery system to the feed center, and a optional bulk feed pump that adds virgin powder to the system as needed.

Both transfer pumps deliver the powder to the ultrasonic sieve, where it is conditioned before delivery to the powder spray guns.

The color change operation is semi automatic. During a color change,the HD Hopper cycles through a number of cleaning processes. High-pressure purge air is pulsed through the powder feed pumps, hoses, and guns to clean them of powder. This also cleans the sieve section and hopper itself leaving minimal cleaning from the operator. The reclaim and virgin powder transfer pumps can be purged manually, as required.

The Spectrum HD Gen II feed center requires a remote air extraction system that provides a constant airflow through the enclosure, preventing powder escaping into the spray room. The typical extraction system consists of an afterfilter assembly consisting of an exhaust fan, primary cartridge filters, pulse valves and controls, and final filters. A rectangular duct connection is provided at the bottom rear of the feed center enclosure.

# Optional Component List

Optional components include:

- Ultrasonic sieve screens
- HDLV virgin powder bulk feed system
- Weight Cell

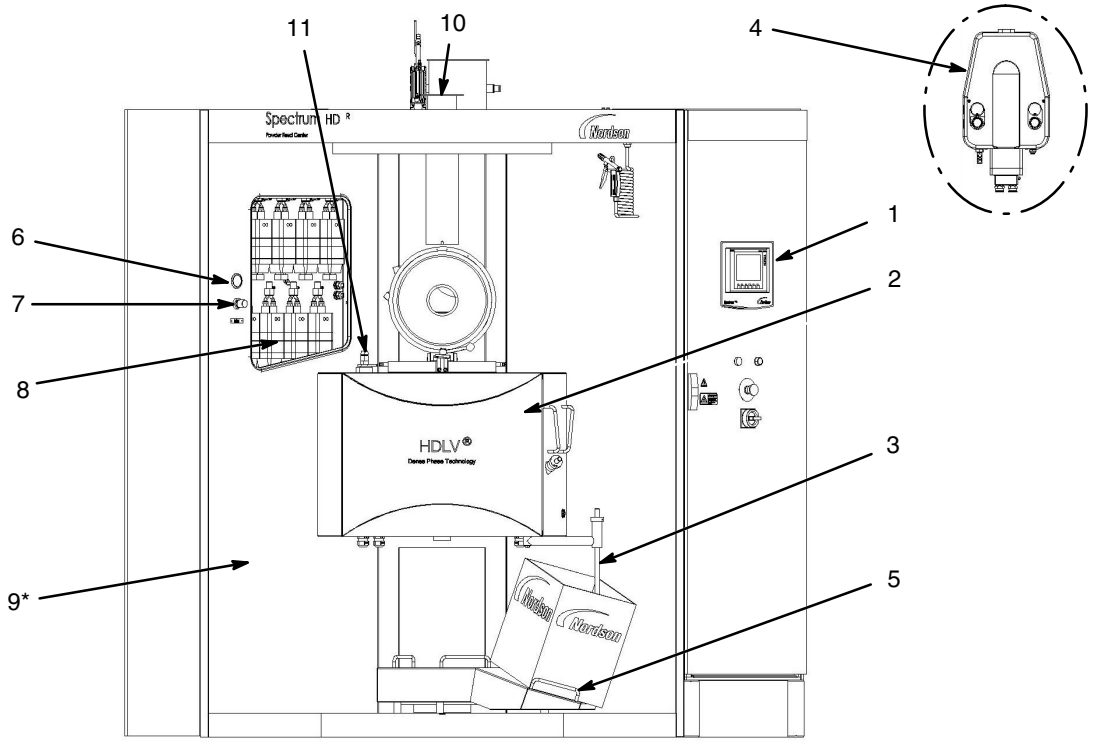



Figure 2-2 **Major Components of Spectrum HD Generation II Feed Center (shown with optional Virgin Feed)**

1. Control panel interface*
2. HD hopper
3. Virgin powder feed lance
4. HDLV transfer pump
5. VBF virgin powder feed holder
6. Pneumatic gauge for feed hopper
7. Pneumatic regulator for feed hopper
8. HDLV pump panel
9. Additional HDLV pump panel**
10. Extract duct
11. Hose purge positions

*Note:* * Stand alone version only. As standard, it is controlled via the PPHD (Powder Pilot HD controller)

*Note:* ** Optional for additional pumps

# HD Hopper System

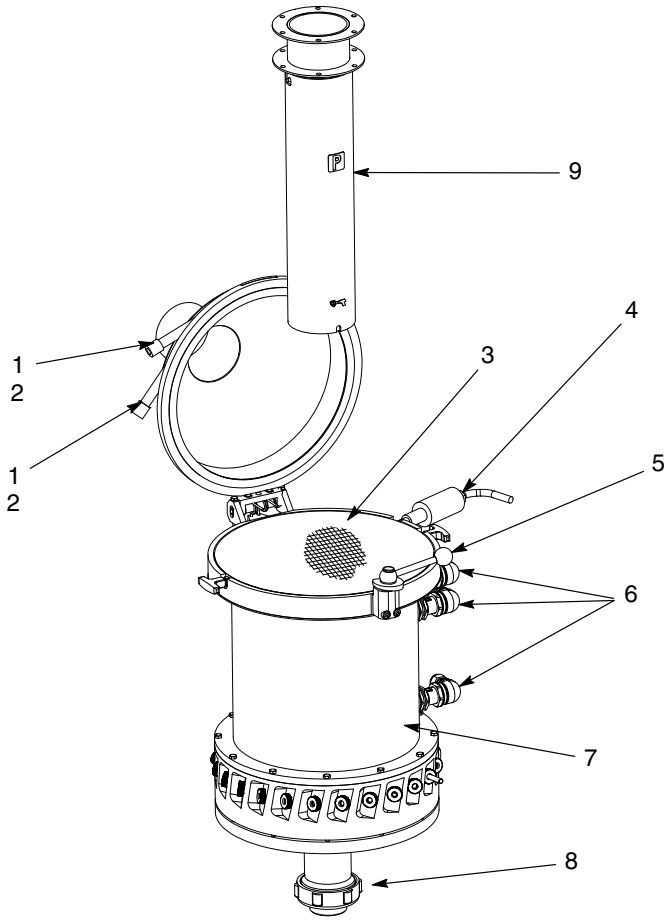



Figure 2-3 **Spectrum HD Generation II Hopper Assembly**

1. Sieve inlet
2. Plug, sieve inlet
3. Sieve screen
4. Ultrasonic probe
5. Handle locking
6. Level sensor
7. Hopper
8. Dump valve
9. Extract duct sleeve

# Electrical and Pneumatic Controls

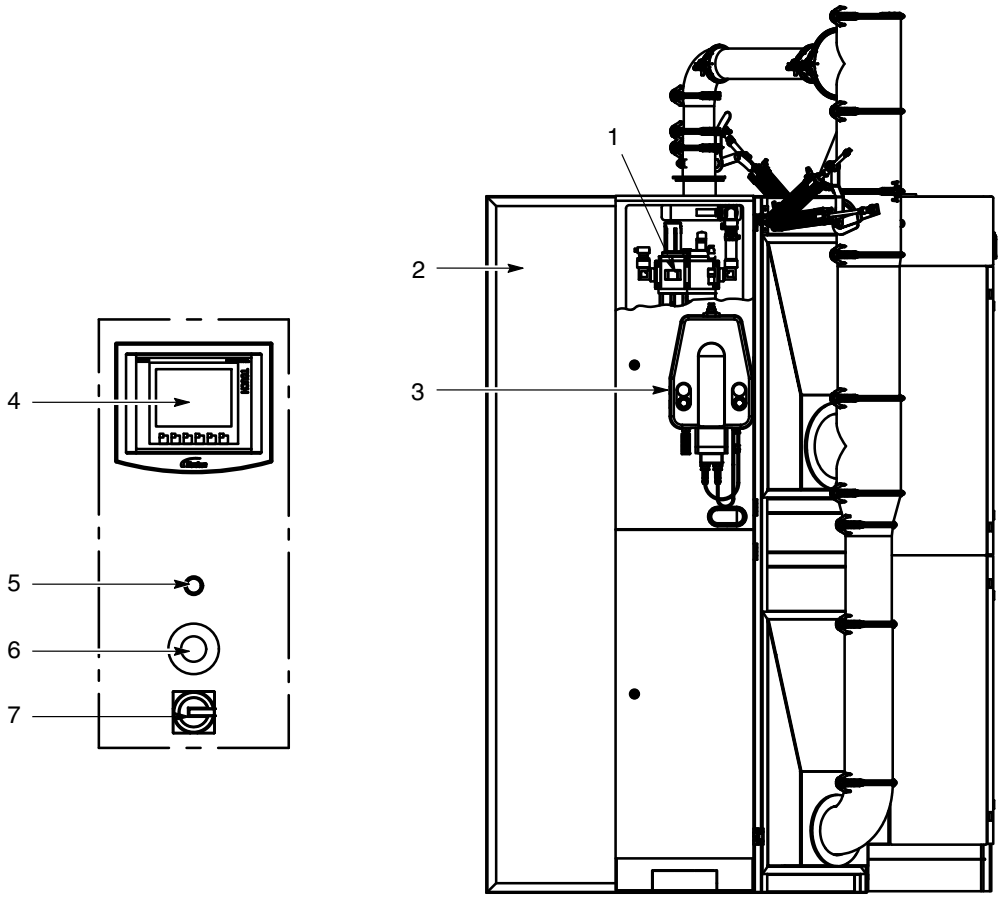



Figure 2-4 **Electrical/Pneumatic Cabinet**

1. Air service unit
2. Electric control panel
3. Virgin powder pump
4. Touch screen interface
5. Control reset
6. Emergency stop
7. Main power On/Off

Not Shown: Valve island, Regulator & recovery powder pump (mounted locally to twin cyclone)

*Note:* The Spectrum HD Generation II Feed Centre in its standard form, is controlled via the Powder Pilot HD but is also available as a stand alone unit with its own control panel as shown above. For information related to the Pilot Pilot HD control panel, please refer to the appropriate Powder Pilot HD manual. 7192721_01

# Specifications

## *Size and Weight*

Weight: Approximately 612.3 kg (1350 lbs) depending on configuration and options.

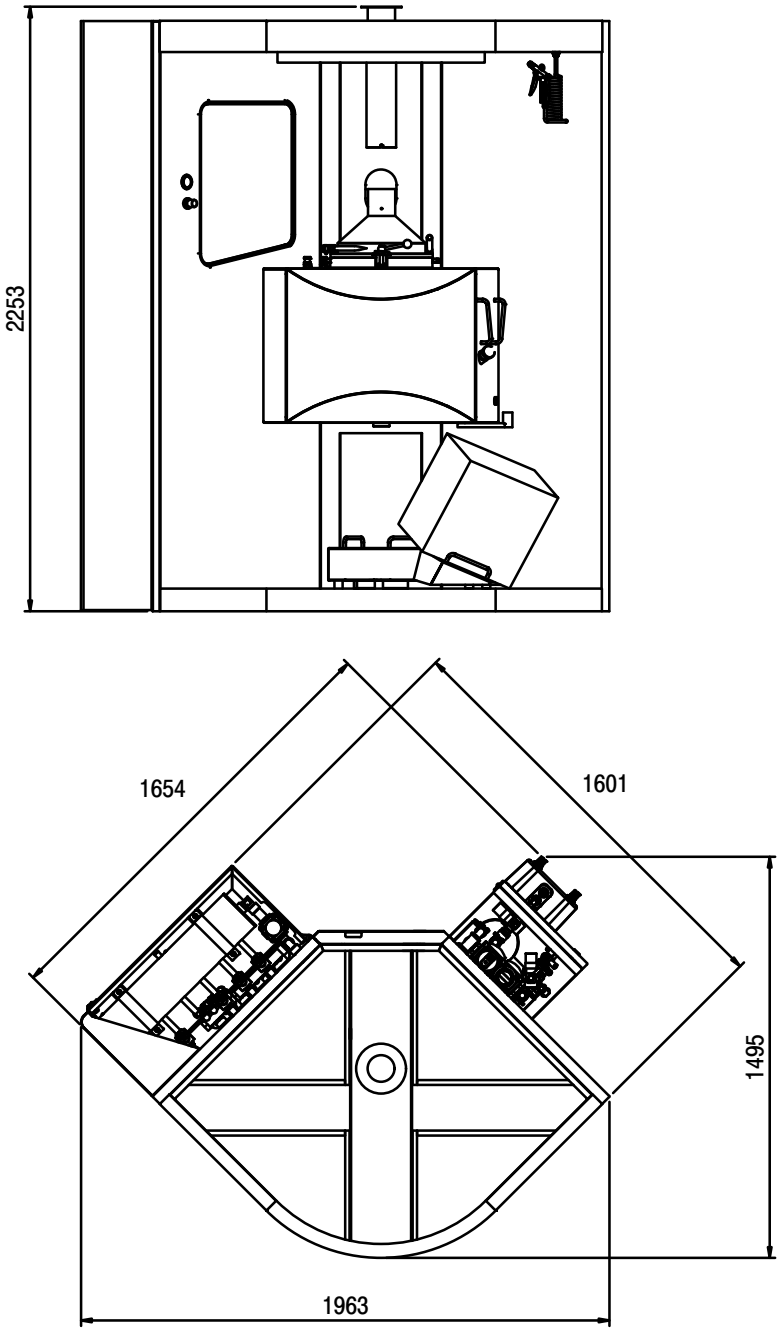



Figure 2-5 **Spectrum HD Gen II Feed Center Dimensions**

*Note:* System shown is without controls as there are 2 versions of control panel available, stand alone version or Powder Pilot HD. For details of the control panel contact your local Nordson representative.

# Electrical and Pneumatic Requirements

## *Electric Requirements*

| Electrical supply | Amps |
|---|---|
| 380v - 3 phase - 50 Hz | 3.6 |
| 415v - 3 phase - 50 Hz | 3.5 |

## *Air Requirements*

| Exhaust Air Flow | Value |
|---|---|
| During colour change | 4535 Nm3/hr / 2825.6 SCFM |
| During operation | 980 Nm3/hr / 577 SCFM |
| **Compressed Air Supply** | **Value** |
| Air input | 1” BSP |
| Minimum dynamic air pressure | 6.5 bar |
| Maximum dynamic air pressure | 7 bar |
| **Air consumption at 6.9 bar** | **Value** |
| Normal operation for 2 - 24 gun system | 41.6 Nm3/hr (25.9 SCFM) to 94.3 Nm3/hr (58.8 SCFM) |
| Maximum | 73.9 Nm3/hr (46 SCFM) to 295.7 Nm3/hr (184.2 SCFM)<br>**NOTE:** Instantaneous flow rate during purge sequence |

**NOTE:** The compressed air quality must be according to **ISO 8573.1 Class [3:4:2]** Use a dedicated, refrigerated or regenerative-desiccant air dryer with filter separators with automatic drains.

**NOTE:** For Spectrum HD Generation II with Powder Pilot HD controls, also refer to the technical manual for the Powder Pilot HD

# *Section 3*
# Installation

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

## Unpacking

**WARNING:** Allow only authorized Nordson personnel to complete.

Upon receipt, unpack the Spectrum HD Generation II (SHD II) feed center carefully to avoid damage. Report any damage immediately to the shipper and to your Nordson representative. Save packing materials for possible later use, or dispose of properly according to local regulations.

## Preparing for Installation

**WARNING:** Allow only authorized Nordson personnel to complete.

Position the SHD II feed center on a level floor, according to the general layout drawing supplied by Nordson application engineering. Use the leveling pads to level the feed center.

Fix the SHD II feed center to the floor using 3 L-shaped brackets delivered with the unit.

To ensure easy maintenance, provide a clear operating and access zone of at least 1m (3 ft) wherever possible.

## Damper Installation

A butterfly damper should be installed in the ductwork to the afterfilter. A damper is supplied with the unit.

## Extraction Duct Connection

Connect ductwork from the afterfilter/fan section to the SHD II feed center with a properly sized transition duct. A rectangular transition duct is supplied with the unit.

# Electrical Connections

**Caution:** Equipment damage may occur if the electrical panel is connected to any line voltage other than that stated on the identification plate.

**WARNING:** Power to the Spectrum HD Generation II (SHD II) feed center must be supplied from a locking disconnect switch or breaker. Failure to observe this warning may result in a severe shock during installation or repair.

Make sure that all electrical cables are correctly rated and suitable for the ambient temperature of the installation area. Provide adequate fuse/circuit protection from the power supply. Refer to the foldout wiring diagrams and schematics at the end of this manual for more information.

Before starting up the SHD II feed center, turn on the feed center power and refer to the Setup procedure to program the controls for the application. This should be performed only by a Nordson field engineer or technician.

# Pneumatic Connections

For the connection size, location and volume required please refer to your Service Requirements drawing or contact your Nordson representative.

Clean, dry, compressed air should be supplied from a refrigerated or desiccant air dryer and filter/separators. Refer to Specifications in Section 2 for compressed air specifications.

**NOTE:** For information on the Pump Panel please refer to technical manual on Nordson emanuals website.

# Reclaim and Virgin Powder Feed Options

The bulk feed systems is optional. Most systems will use at least one reclaim system. Dual reclaim systems are often specified for coating wire goods.

Refer to your system drawings for additional information and installation information.

**Reclaim Powder Systems:** The HDLV transfer pump is mounted on the cyclone stand. When the reclaim pump is turned on, air flows from the feed center control manifold through 8-mm tubing to the pump operating air regulator.

During a color change cycle, when the operator selects Pump Purge, the valve opens and allows air at line pressure to flow through the pump and the 16-mm suction and delivery powder tubing to clean them.

**Virgin Powder Feed System:** A typical bulk feed system includes a HDLV transfer pump as well a process valve to control system operation. The process valve is typically connected directly to the air drop inside the feed center electrical/pneumatic cabinet.

During a color change cycle, when the operator selects Pump Purge, the valve opens and allows air at line pressure to flow through the pump and the 16-mm suction and delivery powder tubing to clean them.

**NOTE:** For HDLV transfer pump see technical manual on Nordson emanuals website.

# Checks to Complete Installation & Default Parameters

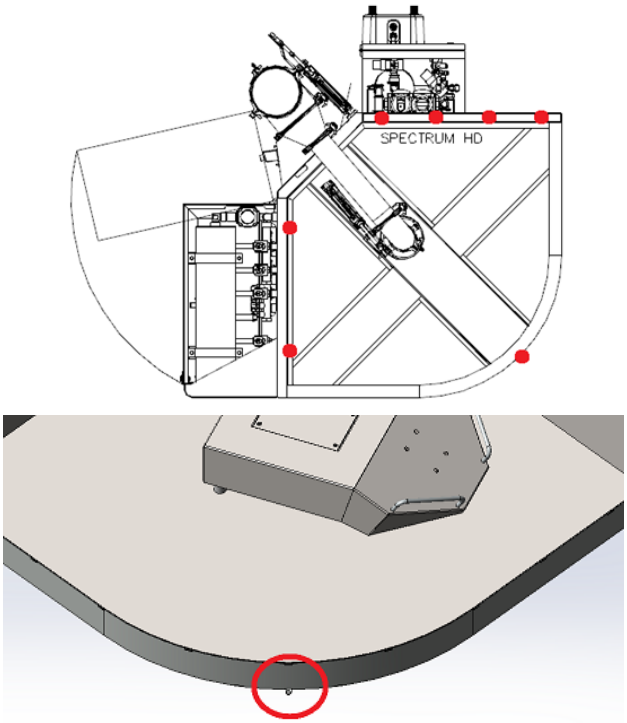



Figure 3-1 **Floor Fixing Locations**

1. Ensure the unit is level and fixed to the floor at locations highlighted in red below

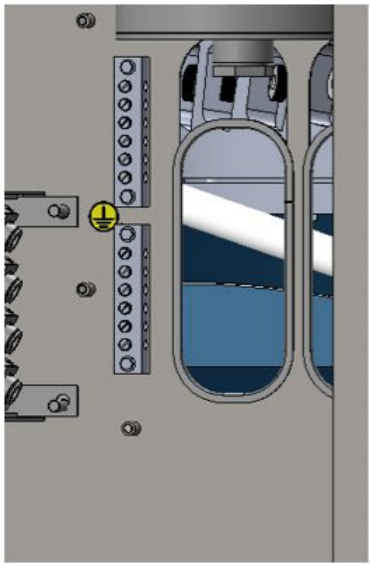


Figure 3-2 **Grounding Location Point**

2. Ensure the housing is grounded

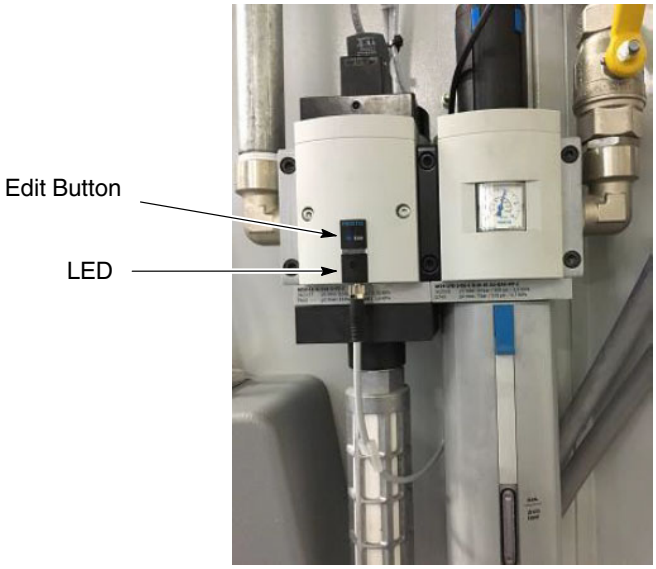



Figure 3-3 **Festo Service Unit**

3. Adjust the pressure switch on the Festo Service Unit using the “Teach Mode”. Ensure the minimum dynamic pressure of 6.5 bar does not drop below 6 bar during colour change.

**Set the switching pressure (SP) with one teach pressure (TP1)**

- Switch on the operating voltage
- Pressurise the unit with the desired teach pressure TP1
- Press the Edit button (>2 s) until the LED flashes
- Let go of the Edit button

  The current teach pressure TP1 is saved as the switching pressure SP

- Ensure that there is power supply for at least 10 seconds
- Carry out a test run with various pressures to ascertain whether the SDES switches as desired. When the switching signal is emitted, the LED also illuminates.

**NOTE:** For more information see the Festo technical manual online - www.festo.com/net/SupportPortal/Files/469182/SDE5_2017-09e_8068031g1.pdf

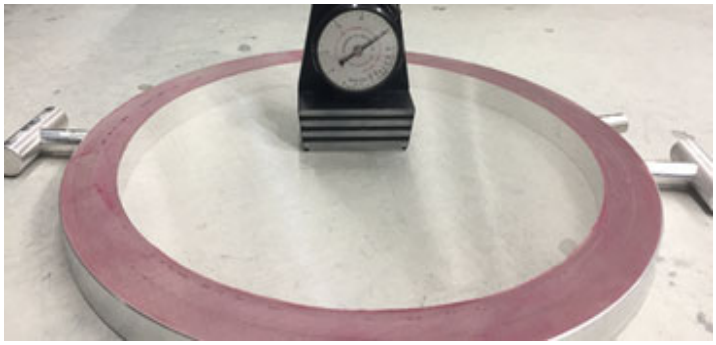


Figure 3-4 **Sieve Screen Tension**

Using a tension meter, ensure the tension of the screen mesh is 20-25 N/cm. If it is outside of this reading, replace it. A loose or worn screen, can tear and cause contamination.

Figure 3-5 **Sieve Probe Tightening**

Using an open ended torque wrench, similar to the example shown above, ensure the probe is tight to 15-20 Nm

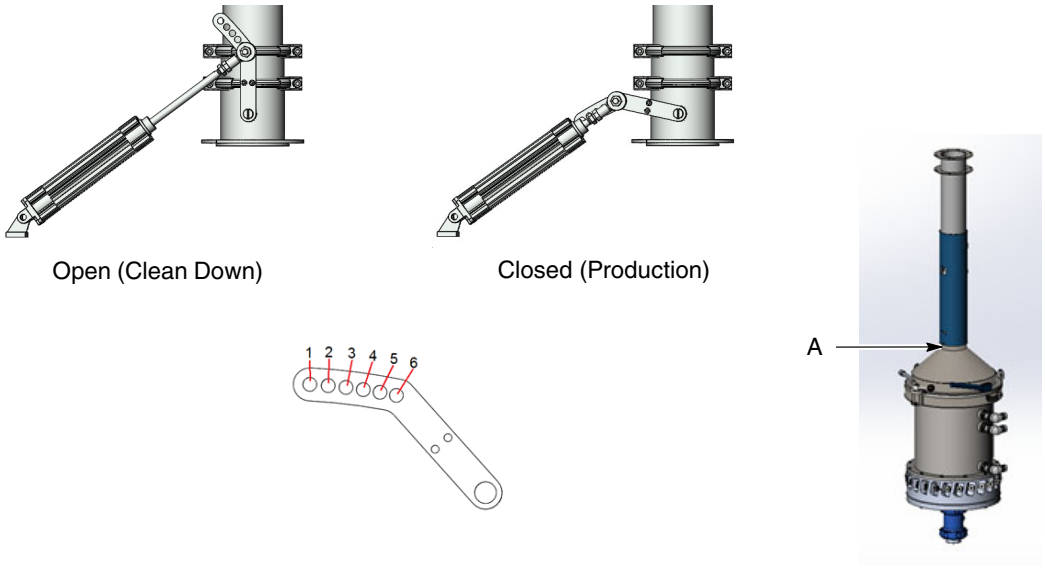



Figure 3-6 **Extract Duct Damper**

4. Check the dampers are working correctly. The default hole is 3. If powder can be seen to leak between the hopper lid and the blue extract sleeve (A) during normal production, increase the suction by 1 hole towards number 6.

   For each hole, the damper will still *Open* fully 100%. The different hole position determines the restriction for the *Closed* (production) position. Hole 1 means the damper will be 86% closed when in the *Closed* position and hole 6 will be 52% closed when in the *Closed* position. Start with fixing to hole 3 then adjust if necessary according to requirements.

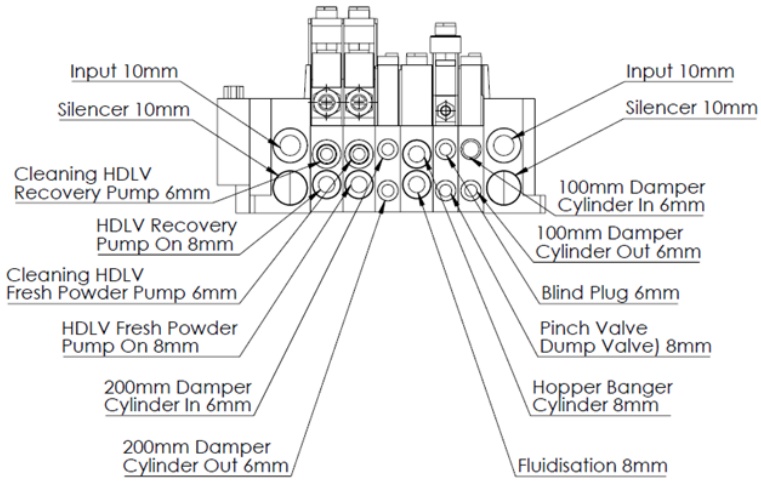



Figure 3-7 **Pneumatic Valve Island**

5. Check the pressures are set according to the default parameters on the following page.

| # | Spectrum HD Configuration | Default Value |
|---|---|---|
| 1 | Hopper empty minimum run time | 30 seconds |
| 2 | Hopper empty air on timeout | 15 seconds |
| 3 | Pump to hopper purge dump valve open after | 10 seconds |
| 4 | Hopper banger count | 10 bangs |
| 5 | Level probe off time delay | 2 seconds |
| 6 | Level probe on time delay | 2 seconds |
| 7 | HDLV transfer pump purge pulse on time | 1 second |
| 8 | HDLV transfer pump purge pulse off time | 1 second |
| **#** | **Colour Change Settings** | **Default Value** |
| 1 | Number of gun purges | 60 |
| 2 | Gun purge duration | 9 seconds |
| 3 | Number of siphon pulses | 40 |
| 4 | Siphon purge duration | 10 seconds |
| 5 | Purge pulse off time | 0.7 seconds |
| 6 | Purge pulse on time | 0.7 seconds |
| **#** | **Ultrasonic Sieve** | **Default Value** |
| 1 | Active job number | 2 |
| 2 | Amplitude | 50 |
| 3 | Sweep bandwidth | 200 Hz |
| 4 | Sweep frequency | 50 |
| 5 | Frequency limit minimum | 30000 |
| 6 | Frequency limit maximum | 38000 |
| 7 | Power unit (W) | 30 |
| 8 | Power window minimum (W) | 0 |
| 9 | Power window maximum (W) | 50 |
| **#** | **Spectrum HD - Pneumatic** | **Default Value** |
| 1 | Hopper fluid bed pressure | 1.0 bar |
| 2 | Fresh powder HDLV transfer pump pressure - valve island air in | 5.0 bar |
| 2a | Conveying air (left regulator) | 1.0 bar |
| 2b | Pinch pressure (right regulator) | 2.0 bar |
| 3 | Pressure tank | 6.5 bar |
| 4 | Air service unit | 6.5 bar |
| 5 | Hopper pinch valve | 2.0 bar |
| 6 | Fresh powder HDLV transfer pump purge pressure | 6.0 bar |
| 7 | Recycle powder HDLV transfer pump pressure - valve island air in | 5.0 bar |
| 7a | Conveying air (left regulator) | 1.5 bar |
| 7b | Pinch pressure (right regulator) | 2.5 bar |
| 8 | STS Sensor cleaning pressure | 1.5 bar |
| 9 | Cooling air - guns | 0.5 bar |
| 10 | Pump cabinet vacuum air pressure | 3.4 bar |
| 10a | Pinch high air | 5.0 bar |
| 10a | Pinch low air | 2.5 bar |

# *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 SHD (Spectrum HD) Gen II feed center has 2 options of controls:

- Feed Center Stand Alone Control - covered in this manual
- Powder Pilot HD, refer to Powder Pilot HD manual for more information - 7192721_01

# Controls - Stand Alone (Home Screen)

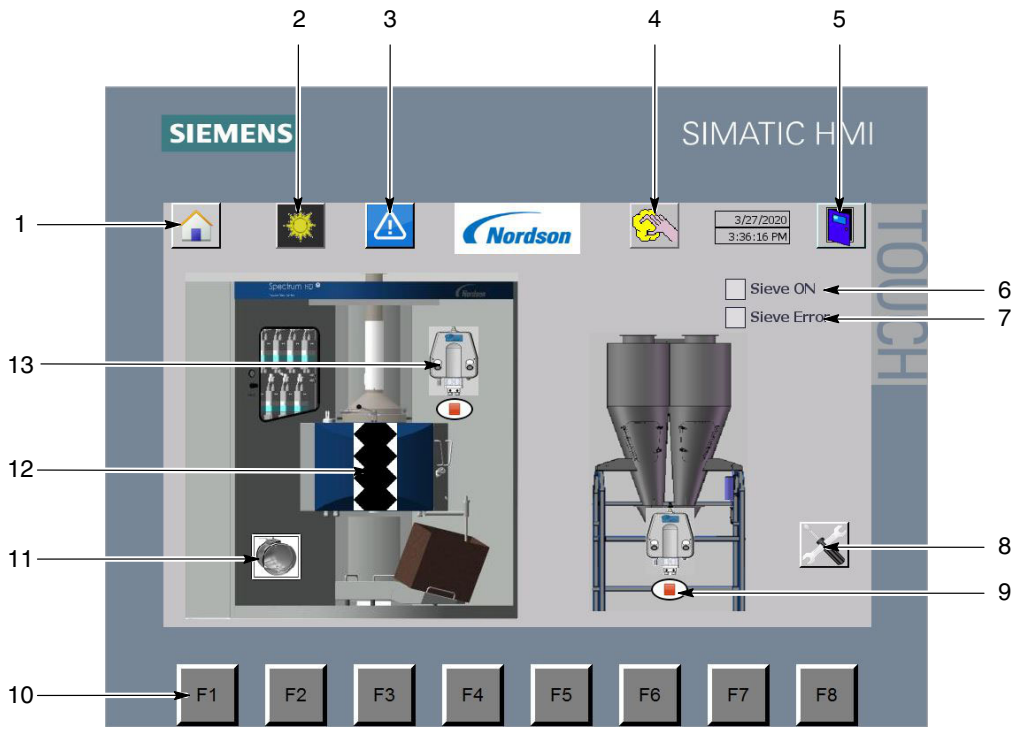



Figure 4-1 **Main Operation Touch Screen**

| Item | Element | Function |
|---|---|---|
| 1 | Home | Press this on any screen to bring you back to this Home screen |
| 2 | Lights | Switches the lights On and Off |
| 3 | Alarm List | This will display any alarms logged. The alarm can be silenced here. |
| 4 | Colour Change | Initiates the colour change sequence. Follow the onscreen instructions. |
| 5 | Exit | Press this on any screen to go back to the previous screen |
| 6 | Sieve On/Off | Square highlighted Green means Sieve is On, Grey means Sieve is Off |
| 7 | Sieve Error | Square highlighted Red means there is a fault, Grey means no error |
| 8 | Configuration | Brings the operator to the configuration screen. Only trained operators or maintenance staff should use this screen. A password is required for access to this screen. |
| 9 | HDLV Reclaim Powder | Enables the reclaim feed depending on the powder level inside the hopper. When activated, this pump will always run unless the top level probe is reached/covered. |
| 10 | Manual Mode | Turns off the automatic running function and allows individual elements of the SHD to be controlled manually. |
| 11 | Duct Valve Override | Toggles between normal running and maximum extract in the SHD |
| 12 | Powder Level | Indicates the current powder level in accordance to the 3 level probes |
| 13 | HDLV Fresh Powder | Enables the fresh powder feed depending on the powder level inside the hopper. If the low or mid level sensor is clear of powder, the pump will start with an adjustable delay. If the sensor gets covered the pump will stop, also with an adjustable delay |

# Sieve Operation

Powder is supplied to the feed center by HDLV reclaim and virgin powder transfer pumps. The powder is screened before flowing into the feed hopper. The sieve is turned on and off with the Touch Screen.

When the sieve is turned off, the reclaim and virgin powder transfer pumps are disabled.

# Reclaim and Virgin Pump Selector Switch Operation

The operation of the Reclaim and Virgin powder transfer pumps are controlled by separate selector buttons on the Touch Screen.

The transfer pumps are disabled when the sieve is turned off.

# Reclaim Transfer Pump Operation

The reclaim pump operates continuously as long as it is turned on and the sieve is on.

# Virgin Transfer Pump Operation

The virgin transfer pump operation is controlled by the level sensors. If the powder level in the feed hopper falls below the level sensor a delay timer is started. When the delay timer runs out the virgin powder transfer pump is started. The pump runs until the powder in the feed hopper reaches the level sensor, then turns off.

Transfer Pump Manual Purging.

If a transfer pump becomes clogged during operation, purging the pump may clear it.

# Powder Level Sensor Operation

## *Hopper Operation*

When the level of powder falls below the level sensor, a delay timer (field-adjustable) is started. When the delay timer runs out, the virgin transfer pump is turned on to refill the hopper. When the level sensor detects powder, the virgin transfer pump is turned off. If the level sensor detects no powder for greater than 3 minutes (field-adjustable), the low powder alarm is turned on.

## *Silencing the Low Powder Alarm*

Touch the alarm silence icon on the touch screen.

# Startup

1. Ensure that the system is safe to start.
2. Using the front door panel on the isolator, turn on the system components in the following sequence:

- Booth Control Panel
- After Filter Control Panel
- Spectrum HD Generation II Feed Center

3. Ensure the emergency stop buttons are pulled out on the booth, feed center, and after filter panels.
4. Make sure compressed air is being supplied to the feed center at 6.5 bar (95 psi) and that air pressures are adjusted properly.

# Color Change Procedure

1. Press the **Color Change** button to begin the color change procedure.
2. See Figure 4-2. Operator must select the **OK** button to continue cleaning the guns from inside.

**NOTE:** At anytime, the operation can be cancelled by pressing the **Cancel** button (red X).

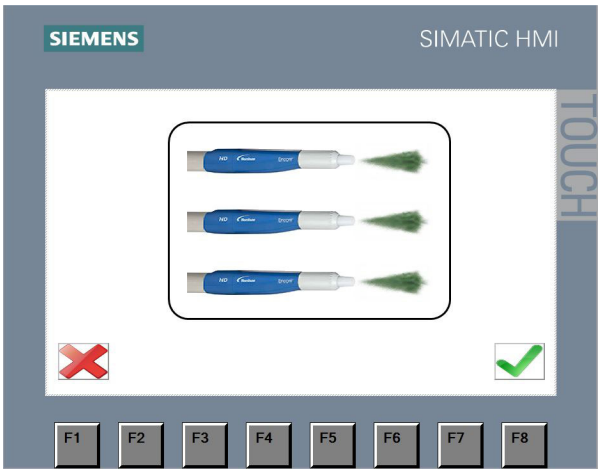



Figure 4-2 **Cleaning Confirmation Screen**

3. The screen shown in Figure 4-3 directs the operator to place the power box underneath the hopper. Once this is complete, press **OK** (green tick) to release the powder into the box.


Figure 4-3 **Install Hopper Box Screen**

4. See Figure 4-4. A countdown will start on the screen once the powder inside the hopper clears the low level probe. When the countdown is finished press the **OK** button to move to the next step.

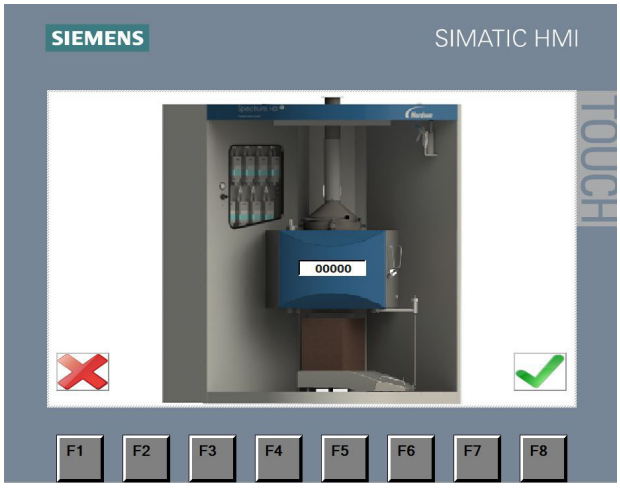



Figure 4-4 **Powder Load Countdown Screen**

5. The screen in Figure 4-6 directs the operator to connect the hoses to the extract position and bring the exhaust pipe of the hopper into the cleaning position by turning it 180°.

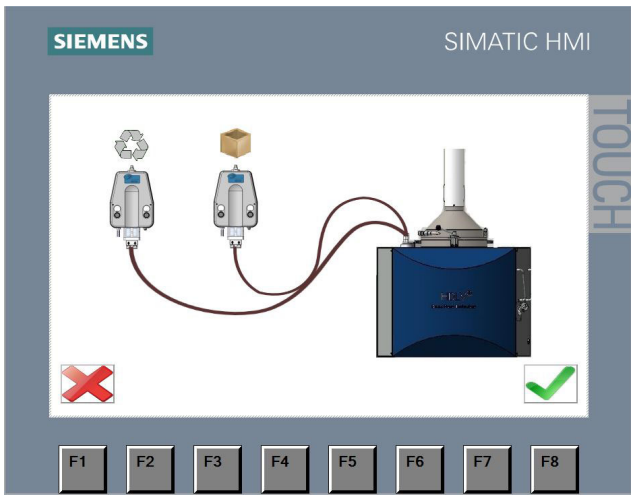



Figure 4-5 **Hose Connections and Positioning**

6. After connections and positioning are complete, press the **OK** button to begin the cleaning of the hopper.
7. When the cleaning is complete, the operator will be asked to press the **OK** button again to advance to the next step.

# Color Change Procedure *(contd)*

8. Figure 4-6directs the operator to manually clean the feed center.
9. Once manual cleaning is complete, use the **Virgin HDLV Pump Cleaning** button and the **Reclaim HDLV Pump Cleaning** button to clean the virgin and reclaim pumps.
10. When all cleaning is complete, and system is clear of old powder, press the **OK** button to complete the color change process and return to the **Main Operation Screen**.

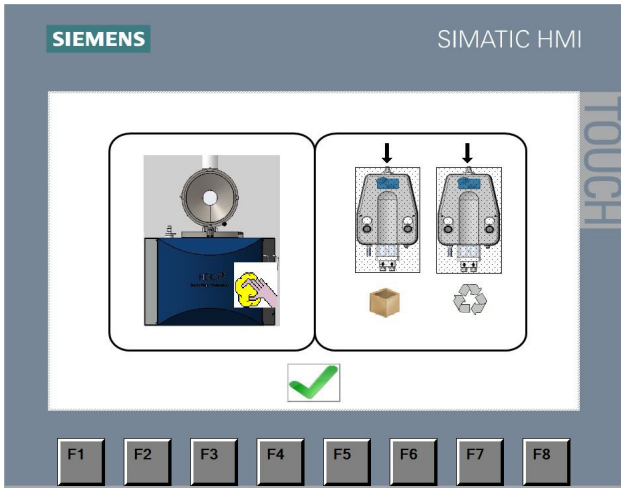



Figure 4-6 **Manual Cleaning and Pump Cleaning Screen**

# Configuration

**NOTE:** Password is required for the configuration screens.

Press the **F6 (Configuration)** button to advance to the Configuration Screen.

See Tables and Figures in this section for configuration definitions. Use the **Arrow** buttons to move between configuration screens.

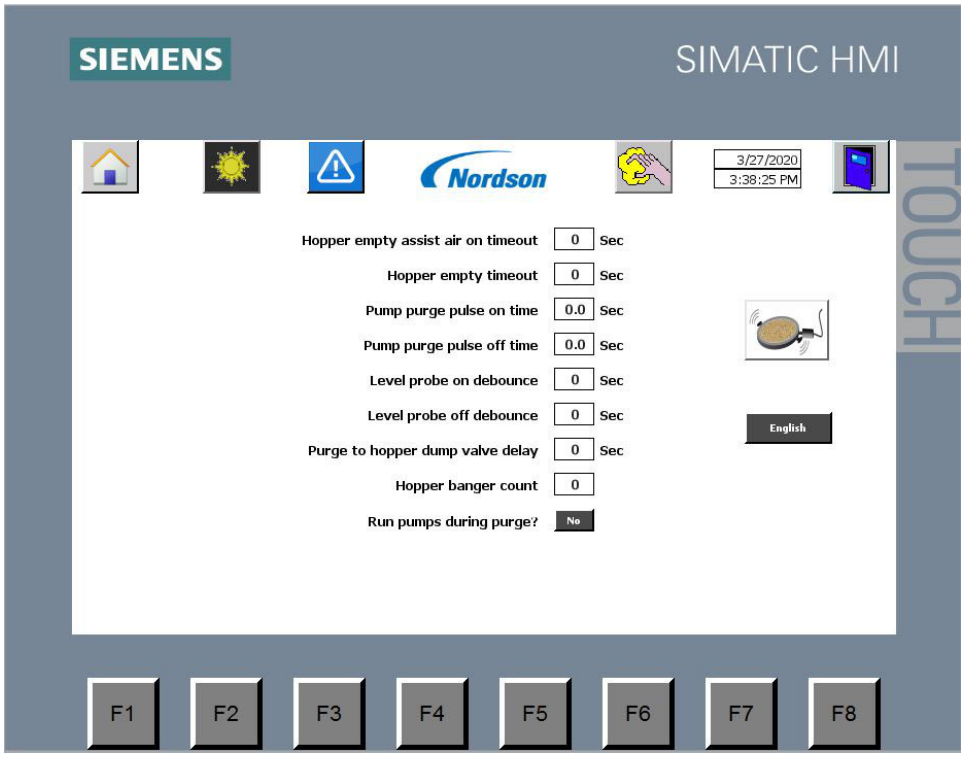



Figure 4-7 **Configuration Screen**

| | |
|---|---|
| 1 | Time assist air will start after powder clears low lever probe when emptying the hopper |
| 2 | Start of countdown time once powder clears low level probe when emptying the hopper |
| 3 | On time of the purge pulse for pumps cleaning |
| 4 | Off time of the purge pulse for pumps cleaning |
| 5 | Time required for mid level probe to be seen as on |
| 6 | Time required for mid level probe to be seen as off |
| 7 | Delay for the opening of the dump valve while cleaning the hopper |
| 8 | Number of beats to the hopper while emptying |
| 9 | Option to run the pumps during purge cleaning |

# Shutdown

1. Move the system offline, if applicable.
2. Clean the system by performing the color change process, but do not install a new powder source.
3. If you will be shutting down the powder feed center for maintenance, repair, or an extended period of time, perform these steps:
   a. Press the STOP button on the system control panel.
   b. Turn the electrical disconnect switch on the powder feed center control panel to the off position.

# *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.

This document is created as an overview of **preventive maintenance** tasks and details of each task should be obtained from product official manuals and data-sheets. Before performing the following tasks, turn off and disconnect system power. Relieve system air pressure and disconnect the system from its input air supply. Failure to observe this warning may result in personal injury.

Table 5-1 Preventative Maintenance Procedures

**NOTE:** OP = Operator / TT = Trained Technician

| Location | Maintenance Task | Resp. | Interval (h) | Procedure | Tools/Material |
|---|---|---|---|---|---|
| Hopper | Check powder fluidisation | OP | 8 | Increase/Decrease the fluidising air pressure until the powder is gently simmering. 0-2 bar | Visual Inspection, Fluidisation regulator, Fluidisation needle valve |
| Prodigy High-Capacity HDLV Transfer Pump | Check transfer pump is functioning | OP | 8 | Prodigy High-Capacity HDLV Transfer Pump supply air 4.8 bar. No restriction or blockage in the powder delivery hose | Visual inspection |
| Pneumatic Supply | Check incoming air pressure gauge | OP | 8 | Min. 6.5 bar during operation and colour change. (pressure drop below 6.5 bar can cause insufficient cleaning of powder path) | Visual inspection |
| Sieve | Clean and inspect the sieve screen | OP | 24 | Check powder fusion and mechanical damages | Visual inspection, Air blow gun |
| SHD II Feed Centre Housing | Clean the interior and exterior of the SHD Feed Centre | OP | 160 | No powder residue or dirt left | Clean cloths, air blow gun, vacuum cleaner (ATEX) |
| Air Service Unit | Inspect for impurities (oil - dirt - water) check the level indicator | OP | 160 | Drain if maximum level is reached | Visual inspection |
| Prodigy High-Capacity HDLV Transfer Pump | Inspect clear block for signs of powder leakage | OP | 600 | Ensure no powder is around the pinch valves | Visual inspection |
| Sieve | Ensure sieve probe is tight to sieve frame | TT | 600 | Lock the sieve probe with an open jaw torque wrench to 15-20Nm | Torque wrench (open jaw) |
| Air Service Unit | Replace the filter element | TT | 1000 | Recommended to replace after 1000 hours | Visual inspection, Filter element |

| | | | | | |
|---|---|---|---|---|---|
| Vibratory Table | Check functionality of the motor and condition of AV mounts | TT | 2000 | No excessive resonance | Visual inspection |
| Prodigy High-Capacity HDLV Transfer Pump | Replacement of wear parts | TT | 2000 | Replace fluidising tubes and all pinch valves at the same time | Insertion tool (part of the Pinch Valve Kit) |
| Damper | Functional check of the dampers | TT | 2000 | Check opening and closing functionality. Check for airflow restrictions (cloth, paper, bag etc.) | Visual inspection |
| Vibratory Table | Check the function of the weight cell | TT | 2000 | Use a predefined weight to confirm the calibration | Visual inspection, Physical inspection, Predefined weight |
| Hopper Level Sensor | Functional check of level sensors | TT | 2000 | Check if level sensors are detecting correctly by covering and uncovering the level sensors. Adjust the settings if needed. | Visual inspection, Physical inspection |
| Hopper | Check the hopper banger is functioning | TT | 2000 | Check that powder releases so no powder accumulates on the hopper walls and level sensors | Visual inspection |
| Hopper | Check tightness of the hopper lid | TT | 2000 | No powder leakage is allowed. In case of powder leakage, adjust the lid hinges and check the condition of the hopper seals | Visual inspection |
| Sieve | Check the tension of the sieve screen | TT | 2000 | Check the tension value is between 20-25 N/cm | Tension meter |
| Hopper | Functional check of the pinch valve (empty) | TT | 2000 | Fully opening and fully closing (operation: 2 bar). If not opening/ closing properly then replace | Visual inspection |
| Hopper | Replace the pinch valve (empty) | TT | 4000 | | Pinch valve kit, Pinch valve wrench (PN 1610714) |
| SHD II Feed Centre | Measure the airflow at the face of the SHD Feed Centre | TT | 4000 | Airflow min 0.25 m/s. Exhaust airflow during colour change = 3000 m3/hr. During colour change = 1500 m3/hr | Air measurement protocol, Air flow meter (e.g. Testo 405i) |
| Grounding Points | Measure point to point grounding of whole system | TT | 4000 | <1 ohm, point to point | Multimeter (e.g.BEHA ProInstall 100, SN4225110) Booth grounding protocol |

## *Sieve Maintenance*

Refer to the manufacturer's sieve manual for more information on sieve maintenance. This can be obtained from your local Nordson representative.

## *Encore HD Pump Maintenance*

For maintenance on the Encore HD Pump, refer to the technical manual 1605708-03. For the complete Encore HD Automatic System Pump Panel refer to technical manual 1612312-01.

## *Prodigy HDLV Transfer Pump Maintenance*

For more detailed maintenance and repair information, refer to the Prodigy HDLV High-Capacity Pump manual - 1092270-08

## *Cleaning*

**CAUTION:** Clean any impacted powder with clean cloths being careful not to make contact with any plastics or painted surfaces.

## *Dump Valve Sleeve*

**WARNING:** Before performing procedure, shut down power and air to the system.

**Tools Required**:

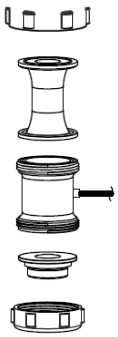
- Wrench
- Liquid soap solution for lubrication

**NOTE:** Do not use a petroleum based product such as WD-40™

- Special Tool

**NOTE:** A special tool is required for this procedure. The tool must be ordered in addition to the sleeve. See the *Parts* section for more information.

1. Remove the blue hopper cover to allow access.
2. Disconnect the air supply tube.
3. Use the special tool to remove the upper pinch valve nut to allow the assembly to drop.
4. Place the valve body on a solid surface.
5. Remove the lower pinch valve nut and outlet adaptor.
6. Remove the damaged sleeve.
7. Lubricate the outside diameter of the flange on one end of the new sleeve with liquid soap solution.
8. Starting with the lubricated end, push the sleeve at an angle into the valve body until the top flange is seated.
9. Using the same liquid soap solution, lubricate both flange ends of the valve nuts.
10. Continue to install the valve nuts, air supply tube and then the blue hopper cover.
11. Pressurize to fully close and depressurize to fully open the valve and check visually that it functions correctly.



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## *Level Sensors*

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

1. Remove the cable from the sensor.
2. Remove the faulty sensor.
3. Screw in the new sensor, ensuring there are 1 or 2 threads into the hopper.
4. Connect the cable to the new sensor.
5. Place hand in front of the sensor to ensure the controller screen reads the sensor.

## *Sieve Screen*

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

1. Open the control panel and shut off the generator.
2. Disengage the lid latch and open the lid.
3. Remove the damaged sieve screen from the hopper.
4. Disconnect the convertor.
5. Connect the convertor to the new sieve screen.
6. Place the new sieve screen onto the hopper.
7. Close and lock the lid by engaging the lid latch.

# *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.

These troubleshooting procedures cover only the most common problems. If you cannot solve a problem with the information given here, contact the Nordson ICS Customer Support Center at (800) 433-9319 or your local Nordson representative for help.
Refer also to the wiring diagrams and schematics at the end of this manual.

## Troubleshooting Chart

| Problem | Possible Cause | Corrective Action |
|---|---|---|
| **1. Powder not contained within feed center enclosure, afterfilter fan not running** | E-Stop button pressed | Reset the E-Stop. |
| | Final filters clogged | Check the final filters. The fan is shut off automatically if the pressure across the filters reaches 3 in. w.c. If the filters are clogged check the cartridge filter media and gaskets for leaks. Replace damaged cartridge filters. |
| | | Replace the final filters. |
| | Fan start/stop button or wiring defective | Check the fan motor control circuits (main system electrical panel). |
| | Fan motor overload tripped | Overload occurs when the motor operates at a greater amperage than designed for. |
| | | Make sure the overload is set to the proper limit. |
| | | Make sure nothing is stopping the motor and fan from turning. |
| | | Check the fuses. Failure of one of three fuses in a 3-phase motor circuit can cause the overload to trip. |
| | | Check the motor and electrical connections. Reset the overload. |
| | Fan motor fuse failure | Check the motor and electrical circuits. Replace the fuses. |
| | Fan motor failure | Replace the motor. |

| Problem | Possible Cause | Corrective Action |
|---|---|---|
| **2. Powder escaping from enclosure openings** | Afterfilter cartridge filters clogged; pulsing not cleaning filters | Check the pulse air pressure. |
| | | Check the cartridge filter pulse sequence. |
| | | If the Off duration is too short the pulse manifold may not build up enough pressure to blow off the cartridge filters. |
| | | If the On duration is too short not enough air is released to blow off the filters. |
| | | If the On duration is too long the pulse manifold may not be able to build up enough air pressure. |
| | | Replace the cartridge filters if pulsing does not correct the problem. |
| | Pulse pressure too low | Increase the pulse pressure to the recommended level. |
| | Pulse valve failed | Replace the pulse valve. |
| | Cartridge filters leaking | Check the cartridge filter gaskets and media for damage. Replace filters as necessary. |
| | Cross drafts interfering with exhaust fan draw | Check for cross drafts at the enclosure opening. Eliminate or divert drafts. |
| | Fan rotation backward | Reverse the motor rotation. |
| | Access panels not sealed | Tighten all access panels. Check and replace the panel gaskets as necessary. |
| **3. Hopper level sensors giving a false positive reading** | Level sensors may not be installed far enough into the hopper body | Ensure level sensors are are protruding by 1 or 2 threads into the hopper |
| **4. No feed hopper fluidizing air** | Afterfilter fan not running, interlock valve closed | Start the afterfilter exhaust fan. |
| | | Check feed center E-stop. |
| | | Check valve connections. |
| | Fan interlock circuit or solenoid valve circuit defective | Check the fan interlock wiring between the feed center panel and main system panel. |
| | | Check the wiring from the feed center panel to the solenoid valve assembly on top of the feed center air drop. |
| | Fluidizing air regulator defective | Check the fluidizing air regulator. |

| Problem | Possible Cause | Corrective Action |
|---|---|---|
| **5. Powder in feed hopper not fluidizing, or clouds of powder erupting from surface** | Fluidizing air pressure too low or too high | Increase the fluidizing air pressure until the powder is gently boiling. Decrease the pressure if clouds of powder are erupting from the surface. |
| | Moist or oil-contaminated powder | Check the air supply for water or oil. Check the filters, separators, and air dryer. Replace the powder in the feed source if it is contaminated. Refer to the next possible cause. |
| | Fluidizing plate gasket leaking, or fluidizing plate plugged, cracked, or installed incorrectly | Check for air leaks around the fluidizing plate gasket. If leaks are found, replace the gasket |
| | | Inspect the fluidizing plate for stains, discoloration, polished surfaces, or cracks. Replace it if it is contaminated, plugged, or damaged. The plate should be installed with the smooth surface up (in contact with the powder). |
| | Incorrect ratio of reclaimed to virgin powder | Increase or decrease the transfer rate. The powder supply should be no more than three parts reclaim-to-one part virgin powder. |
| | Uneven distribution of powder in feed source | Check the powder and the fluidizing plate for contamination as previously described. |
| **6. Large dump valve on bottom of hopper leaking air/powder** | Pinch valve inner sleeve failure | Replace inner sleeve |
| **7. Large dump valve on bottom of hopper not closing fully** | Supply regulator set too low | Check/set supply air to pinch valve is set according to the default settings |
| **8. Hopper not cleaning sufficiently** | Low system air pressure during colour change | Ensure the operating pressure does not fall below 6 bar during colour change. Must remain consistent throughout. |
| | | Note: Hopper cleaning consistency will also vary based on the number of gun in the system. Lower number of guns may need additional cleaning time. |
| **9. Contaminants in feed hopper powder** | Sieve screen torn | Replace the screen. |
| | Sieve screen not thoroughly cleaned before installation | Remove and clean the sieve screen. |
| **10. Damage to sieve screens** | The Ultrasonic Sieve uses very fine wire on the sieve screens. Mishandling during cleaning or replacement can damage the sieve screen. | Use care when handling and cleaning sieve screens. |
| **11. Powder build up on sieve screen** | Screen not cleaned frequently enough | Clean the sieve mesh at more frequent intervals. |

| Problem | Possible Cause | Corrective Action |
|---|---|---|
| **12. Sieve screen backing up with certain powders** | Incorrect amplitude setting in controller. | Default setting for sieve screen amplitude is set to 50% from factory. Contact your Nordson representative to adjust the amplitude. |
| | Loose ultrasonic transducer/probe (if sieve not operating) | Check connection is the correct torque setting, 15-20 Nm |
| **13. Excessive sieve noise** | Knobs or clamps not tightened; screen gasket damaged | Make sure the clamps are tight. Check the screen gasket and replace it if damaged. |
| **14. Reclaim or fresh powder transfer pump turned on, but pump does not run** | E-Stop button pressed | Reset the E-Stop button. |
| | Afterfilter exhaust fan not running, or fan interlock circuit defective | Turn on the exhaust fan. Check the fan interlock wiring between the feed center panel and the main system panel. |
| | Sieve motor not running | Reclaim or Virgin pumps will not run unless the sieve is on. Turn on the sieve. |
| | Reclaim or Virgin Powder wiring circuit is defective | Check the wiring. Repair or replace as needed. |
| | No air supply to solenoid valve assembly, or solenoid valve not opening | Check the air supply to the solenoid valve assembly on the side of feed center. Check the solenoid valve and wiring. Replace the valve or repair the wiring as needed. Refer to Section 2 for the solenoid valve location. |
| | Problem with transfer pump controls or pump. | Check the pump and controls. Refer to High Capacity HDLV pump manual. |
| | Level sensor failed or wiring defective | Check level sensor and wiring. Repair or replace as needed. |
| **15. Reclaim or Fresh powder transfer pump cannot be purged** | Reclaim or Virgin pump not turned on | Turn the Reclaim or Virgin pump switch to the On position. |
| **16. Reclaim or Fresh powder transfer pump turned off but continues to run** | Solenoid valve in manual override | Check the solenoid valve assembly. Make sure the manual operator on the valve is not in override position. |
| | Solenoid valve failed open | Replace the valve. |
| **17. Fresh powder transfer pump is turned on but pump not running** | Level sensor on feed hopper is detecting powder in hopper | The pump will not turn on until the powder level falls below the level sensor and the delay timer runs out. |
| | Refer to Problem 14 for other causes | |

| Problem | Possible Cause | Corrective Action |
|---|---|---|
| **18. Fresh powder transfer pump does not stop automatically** | No powder supply at bulk feed system | Check the virgin powder supply. |
| | Feed hopper level sensor not adjusted properly | Level sensor stops pump when it detects powder. Sensor indicating light should be yellow when powder is detected. Adjust the level sensor if it is not detecting powder. Refer to level sensor documentation. |
| | Level sensor failed or wiring defective | Check level sensor and wiring. Repair or replace as needed. |
| **19. Reclaim and/or Fresh powder transfer pump purge cycle does not start** | Reclaim and Virgin transfer pumps not turned on | Pumps must be on before purge can start. Turn on pump to be purged. |
| | Screen or wiring defective | No signal from screen to controller. Turning the switch to Pump Purge position should turn on signal. Check wiring, repair or replace as needed. |
| | Purge solenoid valves or wiring defective | Check wiring from feed center control panel to solenoid valve assembly on top of feed center. Check solenoid valve operation. Check air supply to solenoid valve assembly. Repair or replace as needed. |
| | Purge air pilot valve or pilot air tubing defective | Check pilot air tubing. Make sure air signal is reaching pilot valve. Check pilot valve operation. Check air supply to pilot valve. Repair or replace as needed. |
| **20. Feed center low powder level alarm on** | Alarm delay timer has run out, level sensor not detecting powder | Alarm timer starts when the transfer pump turns on. If the timer runs out and the level sensor has still not detected powder then the alarm is turned on. The timer default is 3 minutes. |
| | Problem with powder supply or Virgin transfer pump | Refer to Problems related to powder, sieve, or pump. |

| Problem | Possible Cause | Corrective Action |
|---|---|---|
| **21. Color change does not start** | E-Stop button pressed | Reset E-Stop button. |
| | Afterfilter exhaust fan not running, or fan interlock circuit defective | Turn on exhaust fan. Check fan interlock wiring between feed center panel and main system panel. |
| | PLC not initiating color change sequence. | Check PLC operation. Contact your Nordson representative or technical support center for help. |
| | Parts still in booth | Control system tracks parts through booth and will delay color change start until parts clear booth. Booth length is configurable through Control Configuration. Refer to Control Operator Interface manual for more information. |
| | Control gun positioners not in manual or auto mode | Set the gun positioners to either manual or auto mode. |
| | Control gun positioner #1 controller did not receive Color Change start signal from feed center | The feed center passes signals for color change to the gun positioner #1 electrical panel which then communicates with the Control system. |
| | | Check the wiring and connections between the feed center control panel and the gun positioner #1 panel. |
| | Reciprocator not in auto mode | Reciprocator must be in auto mode for color change cycle to start. |
| | | Set the reciprocator to auto mode. |
| **22. Color change cycle started, gun positioner stopped at forward limit switch** | Reciprocator not in Park position | Reciprocator must be at Park position for spray guns to be in position for gun blow off/cleaning. |
| | | Check reciprocator position. Make sure Park position is configured within stroke range. Refer to Control Operator Interface manual for reciprocator configuration settings. |
| | ColorMax not selected on Control gun positioner configuration screen | Check gun positioner configuration. |
| | Reciprocator not stopped | Reciprocator gets stop command from gun positioner #1 control panel. Check wiring and connections between gun positioner control panel and main system panel. |

| Problem | Possible Cause | Corrective Action |
|---|---|---|
| **23. Color change cycle started, blowoff air does not turn on** | No air supply to solenoid valve or pilot valve, failed valve, or bad electrical connection | Solenoid valve (typically located in the main system panel) is activated by signal from the gun positioner control panel. Solenoid valve sends air signal to large pilot valve that provides air to the blowoff nozzles.<br>Make sure main system panel air supply is on.<br>Check solenoid valve output. If solenoid coil is energized but no air flows from valve, replace valve.<br>Check air tubing to pilot valve.<br>Check pilot valve operation.<br>Check the wiring and connections between the gun positioner panel and main system panel. |

# *Section 7*
# Parts

## Introduction

To order parts, call the Nordson Industrial Coating Systems Customer Support Center at (800) 433-9319 or contact your local Nordson representative.

### *Using the Illustrated Parts List*

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

The 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.

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.

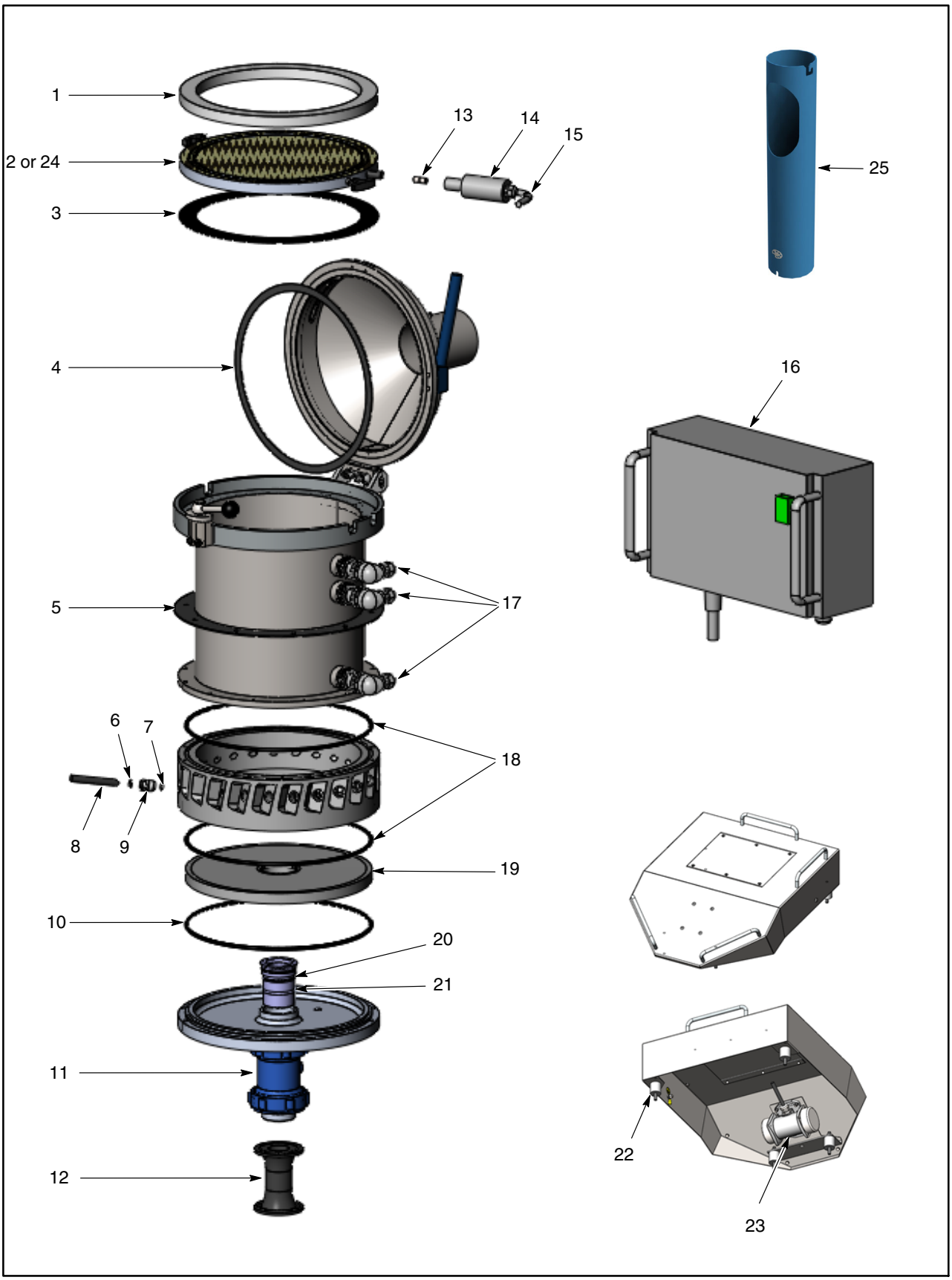


Figure 7-1 **SHD Spare Parts**

See Figure 7-1.

## HD Hopper and Sieve

| Item | Part | Description | Quantity | Quantity |
|---|---|---|---|---|
| 1 | 7035232 | PVC, RING, 300DIA, SPECTRUM HD/VT | 1 | |
| 2 | 768675 | SCREEN,A300 SIEVE,300 MICRON ULTRASONIC | 1 | A |
| 2 | 768676 | SCREEN,A300 SIEVE,250 MICRON ULTRASONIC | 1 | A |
| 2 | 768677 | SCREEN,A300 SIEVE,200 MICRON ULTRASONIC | 1 | A |
| 2 | 768678 | SCREEN,A300 SIEVE,160 MICRON ULTRASONIC | 1 | A |
| 2 | 7035201 | SCREEN,A300 SIEVE,125 MICRON ULTRASONIC | 1 | A |
| 3 | 1609234 | GASKET,SIEVE,LOWER,300MM,SPECTRUM PFC | 1 | |
| 4 | 1609233 | GASKET,SIEVE,UPPER,300MM,SPECTRUM PFC | 1 | |
| 5 | 1606617 | GASKET,MOUNTING,HOPPER,300MM | 1 | |
| 6 | 940117 | O RING,SLCNE, .312X .438X.063 | AR | |
| 7 | 940115 | O RING,BUNA N, .312X .438X.063 | AR | |
| 8 | 1606619 | PLUG, PUMP | AR | |
| 9 | 1047934 | KNOB,LOCK,POWDER TUBE | AR | |
| 10 | 1606669 | O-RING,SILICONE,-381 | 1 | |
| 11 | 1619734 | VALVE,PINCH,1.5",SILICONE | 1 | |
| 12 | 1619735 | VALVE,PINCH,REPLACEMENT SLEEVE,SILICONE | 1 | C |
| 13 | 768681 | CONNECT ROD M10*25,A300 PROBE TO SCREEN | 1 | |
| 14 | 768680 | PROBE,ULTRASONIC,SIEVE A300 | 1 | |
| 15 | 768682 | EXTENTION CABLE,A300 SIEVE,5M | 1 | |
| 16 | 768679 | CONTROLLER,SIEVE A300 | 1 | |
| 17 | 7032221 | PROBE,LEVEL SENSOR,24VDC ATEX,PNP,90 DEG | 1 | |
| 18 | 1606672 | O-RING,SILICONE,-382 | 1 | |
| 19 | 1606621 | PLATE,FLUIDISING,SHD GENII HOPPER | 1 | |
| 20 | 1606671 | O-RING,SILICONE,-140 | 1 | |
| 21 | 327986 | ORING,SILICONE,2.063X2.250X.094 | 1 | |
| 22 | 1018596 | ISOLATOR,VIBRATION,32MM DIA X 8MM STUDS | 4 | D |
| 23 | 1076854 | KIT,SERVICE,220V,VIB MOTOR W/CAP | 1 | |
| 24 | R768675 | SCREEN,A300 SIEVE,300 MICRON US REPAIR | 1 | A,B |
| 24 | R768676 | SCREEN,A300 SIEVE,250 MICRON US REPAIR | 1 | A,B |
| 24 | R768677 | SCREEN,A300 SIEVE,200 MICRON US REPAIR | 1 | A,B |
| 24 | R768678 | SCREEN,A300 SIEVE,160 MICRON US REPAIR | 1 | A,B |
| 24 | R7035201 | SCREEN,A300 SIEVE,125 MICRON US REPAIR | 1 | A,B |
| NS | 1606648 | TUBE,PICK UP,TRANSFER,ASSY,ENCORE | 1 | |
| NS | 1610701 | KIT,TOOL,FLUID PLATE,HOPPER,SPECTRUM | 1 | |
| 25 | 7035355 | BLUE SLEEVE, SPECTRUM HD, HOPPER VENT | 1 | |
| NS | 1619912 | PUMP,HDLV,ELEC,BARB,NG,PRODIGY,PKG | 1 | E |

NOTE A: Check the micron size that you are using and require, prior to ordering

B: These are reconditioned Sieve Screens. When ordered, you will receive the screen in the normal delivery time and collection of your old screen will be arranged. Nordson must receive the old screen back in order to receive the special price.

C: Special tool kit (1610701) is required when replacing sleeve. Lubricate the outside diameter of the flange using liquid soap. (MUST not contain silicone) The same liquid soap can be used to lubricate the threads of the locking nuts of the pinch valve assembly. Do NOT use petroleum based products such as WD-40®.

D: 4 off included in the kit.

E: Fitted to systems from 01/04/2021 onwards. If you have an earlier version system, please contact your Nordson representative about the upgrade.

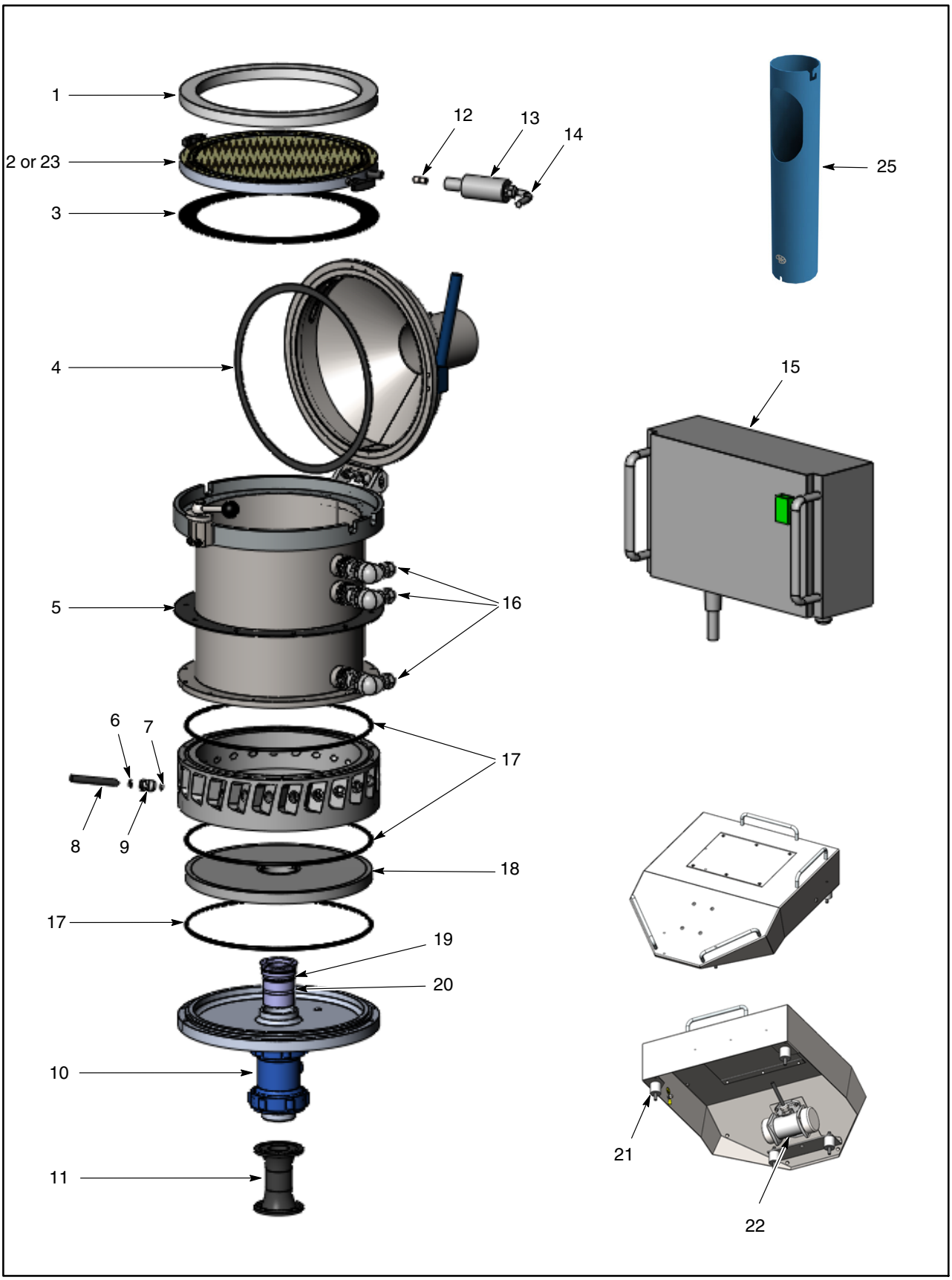


Figure 7-2 **SHD XXL Spare Parts**

See Figure 7-2.

## XXL - HD Hopper and Sieve

| Item | Part | Description | Quantity | Quantity |
|---|---|---|---|---|
| 1 | 7035357 | PVC, RING, 425DIA, SPECTRUM HD | 1 | |
| 2 | 7035317 | SCREEN,425 SIEVE,300 MICRON ULTRASONIC | 1 | A |
| 2 | 7035316 | SCREEN,425 SIEVE,250 MICRON ULTRASONIC | 1 | A |
| 2 | 7035315 | SCREEN,425 SIEVE,200 MICRON ULTRASONIC | 1 | A |
| 2 | 7035314 | SCREEN,425 SIEVE,160 MICRON ULTRASONIC | 1 | A |
| 3 | 1610406 | GASKET,SIEVE,LOWER,425MM,SPECTRUM PFC | 1 | |
| 4 | 1610405 | GASKET,SIEVE,UPPER,425MM,SPECTRUM PFC | 1 | |
| 5 | 1610614 | GASKET,MOUNTING,HOPPER,425MM | 1 | |
| 6 | 940117 | O RING,SLCNE, .312X .438X.063 | AR | |
| 7 | 940115 | O RING,BUNA N, .312X .438X.063 | AR | |
| 8 | 1606619 | PLUG, PUMP | AR | |
| 9 | 1047934 | KNOB,LOCK,POWDER TUBE | AR | |
| 10 | 1619734 | VALVE,PINCH,1.5",SILICONE | 1 | |
| 11 | 1619735 | VALVE,PINCH,REPLACEMENT SLEEVE,SILICONE | 1 | C |
| 12 | 768681 | CONNECT ROD M10*25,A300 PROBE TO SCREEN | 1 | |
| 13 | 768680 | PROBE,ULTRASONIC,SIEVE A300 | 1 | |
| 14 | 768682 | EXTENTION CABLE,A300 SIEVE,5M | 1 | |
| 15 | 768679 | CONTROLLER,SIEVE A300 | 1 | |
| 16 | 7032221 | PROBE,LEVEL SENSOR,24VDC ATEX,PNP,90 DEG | 1 | |
| 17 | 1610534 | O-RING,SILICONE,-387 | 1 | |
| 18 | 1610336 | PLATE,FLUIDISING,SHD GENII HOPPER - 425MM | 1 | |
| 19 | 1606671 | O-RING,SILICON,-140 | 1 | |
| 20 | 327986 | ORING,SLCNE,2.063X2.250X.094 | 1 | |
| 21 | 1018596 | ISOLATOR,VIBRATION,32MM DIA X 8MM STUDS | 4 | D |
| 22 | 1076854 | KIT,SERVICE,220V,VIB MOTOR W/CAP | 1 | |
| 23 | 7035217 | SCREEN,A425 SIEVE,300 MICRON US REPAIR | 1 | A,B |
| 23 | 7035216 | SCREEN,A425 SIEVE,250 MICRON US REPAIR | 1 | A,B |
| 23 | 7035315 | SCREEN,A425 SIEVE,200 MICRON US REPAIR | 1 | A,B |
| 23 | 7035314 | SCREEN,A425 SIEVE,160 MICRON US REPAIR | 1 | A,B |
| NS | 1606648 | TUBE,PICK UP,TRANSFER,ASSY,ENCORE | 1 | |
| NS | 1610701 | KIT,TOOL,FLUID PLATE,HOPPER,SPECTRUM | 1 | |
| 25 | 7035355 | BLUE SLEEVE, SPECTRUM HD, HOPPER VENT | 1 | |
| NS | 1619912 | PUMP,HDLV,ELEC,BARB,NG,PRODIGY,PKG | 1 | E |

NOTE A: Check the micron size that you are using and require, prior to ordering

B: These are reconditioned Sieve Screens. When ordered, you will receive the screen in the normal delivery time and collection of your old screen will be arranged. Nordson must receive the old screen back in order to receive the special price.

C: Special tool kit (1610701) is required when replacing sleeve. Lubricate the outside diameter of the flange using liquid soap. (must NOT contain silicone) The same liquid soap can be used to lubricate the threads of the locking nuts of the pinch valve assembly. Do NOT use petroleum based products such as WD-40™.

D: 4 off included in the kit.

E: Fitted to systems from 01/04/2021 onwards. If you have an earlier version system, please contact your Nordson representative about the upgrade.

AR: As Required

NS: Not Shown

## Transfer Pump

For more information and spare parts related to transfer pumps on systems installed before 01/04/2021, see *Prodigy Generation II High Capacity HDLV Pump* manual 1092270–08. For systems dating 01/04/2021 onwards refer to technical manual 1619979–01 on Nordson eManuals: https://emanuals.nordson.com/finishing

## Powder Transfer Tubing & Antistatic Grounding Kit

| Part | Description | Note |
|---|---|---|
| 768178 | TUBING,PWDR,ANTISTATIC,12.7MM | |
| 7032432 | KIT,GROUNDING,ANTISTATIC HOSE 12.7MM | |

**NOTE:** For additional tubing information and parts lists, refer to technical manual - Powder Tubing, Antistatic - 1070652A & Air Tubing, Powder Tubing, Fittings, and Miscellaneous Accessories - 108662D

## Fittings for Transfer Pump Air

Use these fittings to supply air from the control manifold to the HDLV transfer pump when runs are greater than 25 ft. or when dual reclaim transfer pumps are used.

| Part | Description | Note |
|---|---|---|
| 1106371 | VALVE, straight fitting, 10 mm, Festo | |
| 7404027 | FITTING, Y-branch, 10mm plug-in x 10 mm tube | |
| 1070536 | FITTING, straight, 10 mm tube -- 8 mm tube | |

## Air Filter for Stand Alone Spectrum HD

| Part | Description | Note |
|---|---|---|
| 7035361 | FILTER ELEMENT,HD STD-ALONE,SVT,SHD,AIR | |
| | | |

# *Section 8*
# System Diagrams

**NOTE:** Electrical and Pneumatic drawings will be supplied with the system. For more information please contact your Nordson representative.

| Diagram | Sheets |
|---|---|
| Spectrum HD Pneumatics | 16 |
| Junction Box SHD | 40 |