Spectrum® HD
Powder Feed Center

Customer Product Manual
Part Number 7169651_01

Issued 01/12

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

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

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EC DECLARATION OF CONFORMITY
ACCORDING TO CE DIRECTIVE 2006/42/ EC ANNEX II A

DESCRIPTION	PowderFeedCenter Family/ Models: Spectrum Feed Center
APPLICABLE DIRECTIVES	CEE 2006/42 (Machinery) and following amendments ATEX 94-9-EG Explosive Atmosphere CEE 2004/108 Electromagnetic Compatibility Directive CEE 2006/95 EEC Low Voltage Directive 97/23/EC Pressure Equipment Directive
STANDARDS USED TO VERIFY COMPLIANCE	EN 60204-1 Safety of machinery-Electrical equipment EN ISO 12100 Safety of machinery-Design EN 1127-1 Explosive atmospheres
MARKING OF PRODUCT	CE
MARKING/USE OF COMPONENTS IN ATEX ZONES	Ex *II 3 D*

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.

Kai Flockenhaus,
Manager - Procurement & Process,
ICS Europe Industrial Coating Systems Europe
Nordson Deutschland GmbH

Erkrath, 28th May 2014

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.

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.

Grounding inside and around the booth openings must comply with NFPA requirements for Class II, Division 1 or 2 Hazardous Locations. Refer to NFPA 33, NFPA 70 (NEC articles 500, 502, and 516), and NFPA 77, latest conditions.

- All electrically conductive objects in the spray areas 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.
- Equipment to be grounded includes, but is not limited to, the floor of the spray area, operator platforms, hoppers, photoeye supports, and blow-off nozzles. Personnel working in the spray area must be grounded.
- There is a possible ignition potential from the charged human body. Personnel standing on a painted surface, such as an operator platform, 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.
- Operators must maintain skin-to-handle contact between their hand and the gun handle to prevent shocks while operating manual electrostatic spray guns. If gloves must be worn, cut away the palm or fingers, wear electrically conductive gloves, or wear a grounding strap connected to the gun handle or other true earth ground.
- Shut off electrostatic power supplies and ground gun electrodes before making adjustments or cleaning powder spray guns.
- 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 Feed Center conditions and supplies powder for up to 16 automatic powder spray guns or 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 Ultra Sonic sieve, level sensors, virgin feed and electrical / pneumatic controls via a Touch Screen operator interface.

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

Figure 2-1 Spectrum HD Powder Feed Center

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 vibratory sieve, where it is conditioned before delivery to the powder spray guns.

The color change operation is 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 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

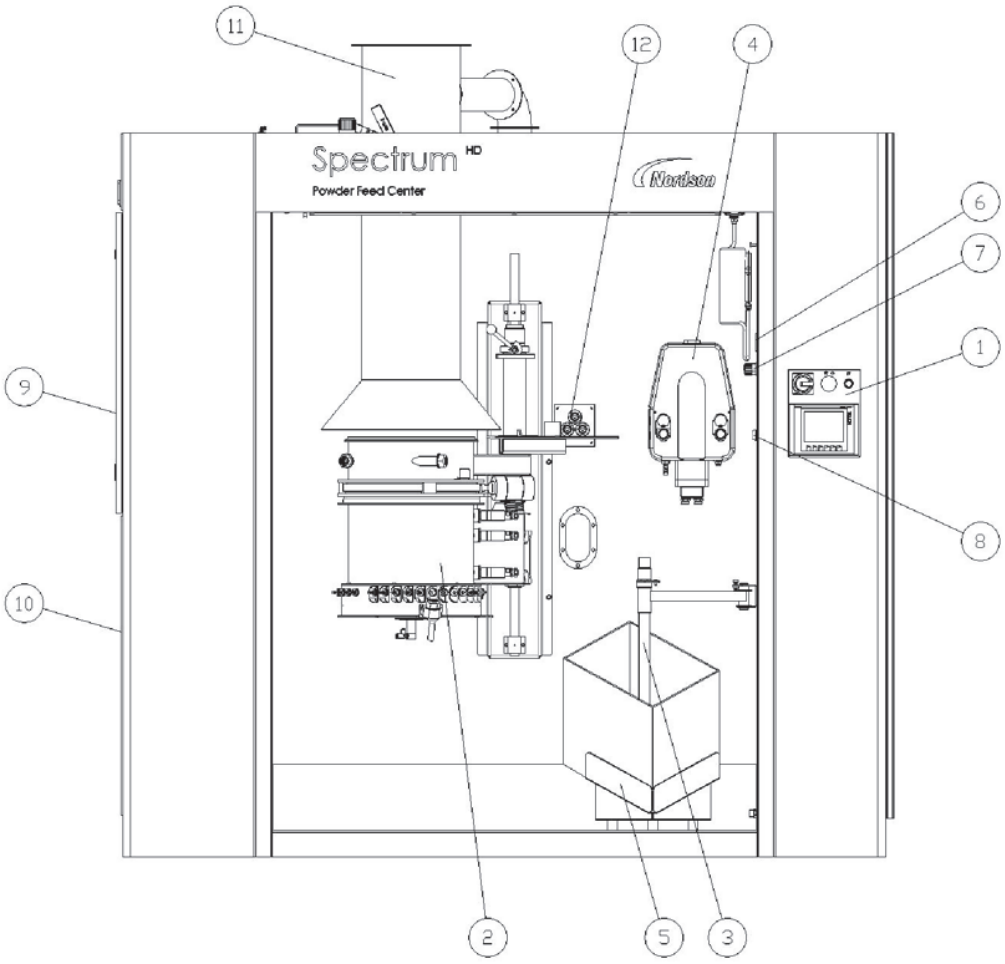


Figure 2-1 Major Components of Spectrum HD Feed Center (shown with optional Virgin Feed)

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. Safety Switch hopper clean position
9. HDLV Pump Panel
10. Additional HDLV Pump Panel
11. Extract Duct
12. Hose Purge Positions

HD Hopper System

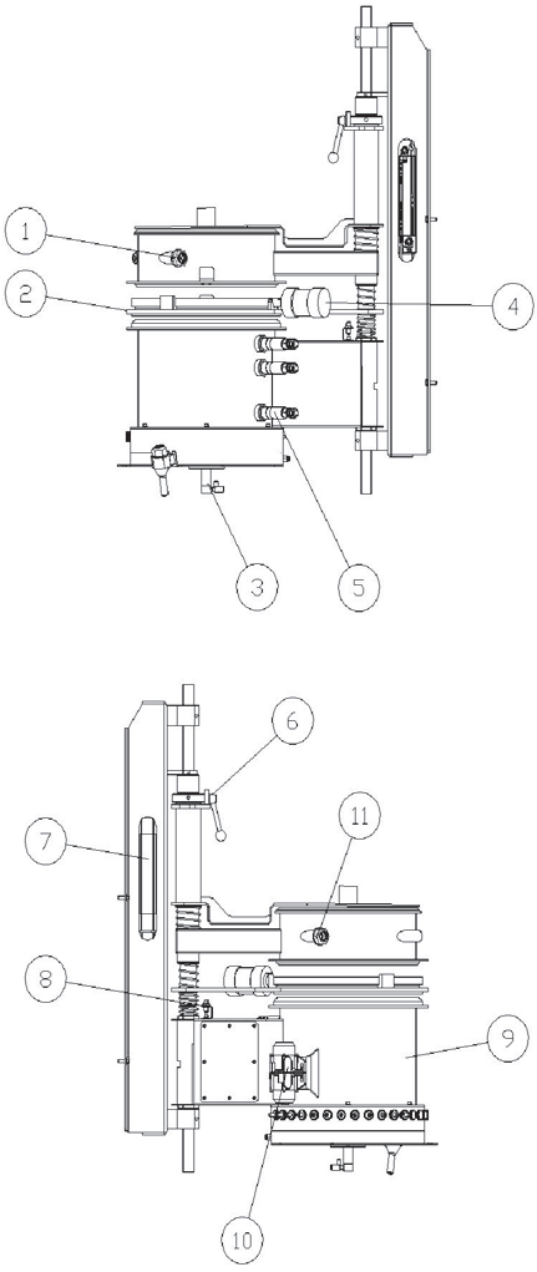


Figure 2-2 Spectrum HD Hopper Assembly

1. Sieve inlet
2. Sieve Screen
3. Dump Valve
4. Ultrasonic Transducer
5. Level Sensor
6. Handle Locking
7. Cylinder Assembly
8. Interlock, Hopper
9. Hopper
10. Vibrator
11. Plug, Sieve Inlet

Electrical and Pneumatic Controls

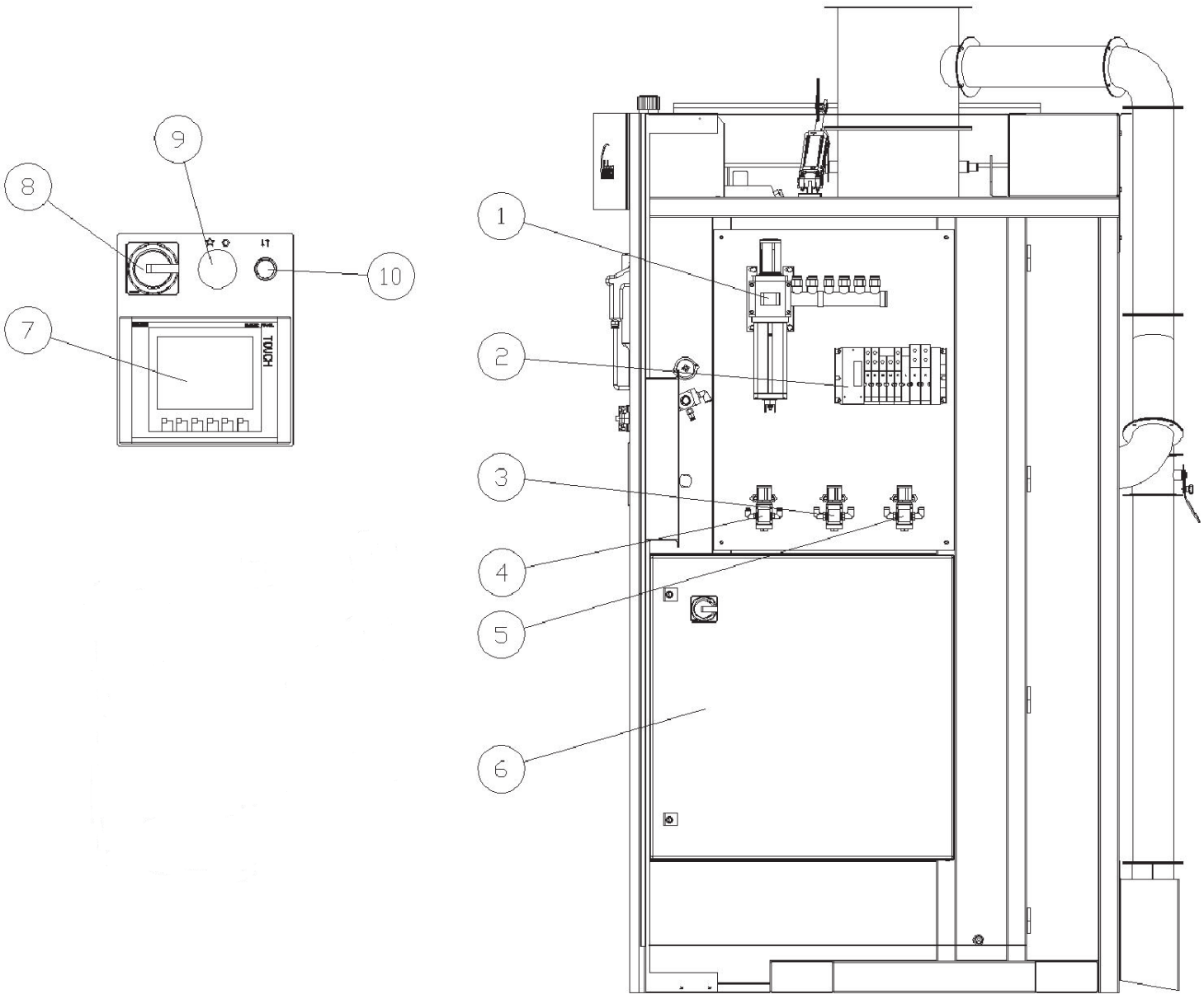


Figure 2-3 Electrical/Pneumatic Cabinet

1. Air Service Unit
2. Valve Island
3. Regulator – recovery powder pump
4. Regulator – ultrasonic colling
5. Regulator – virgin powder pump
6. Electrical Control Panel
7. Touch Screen Interface
8. Main Power On/Off
9. Emergency Stop
10. Switch – Hopper Up/Down

Specifications

Size and Weight

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

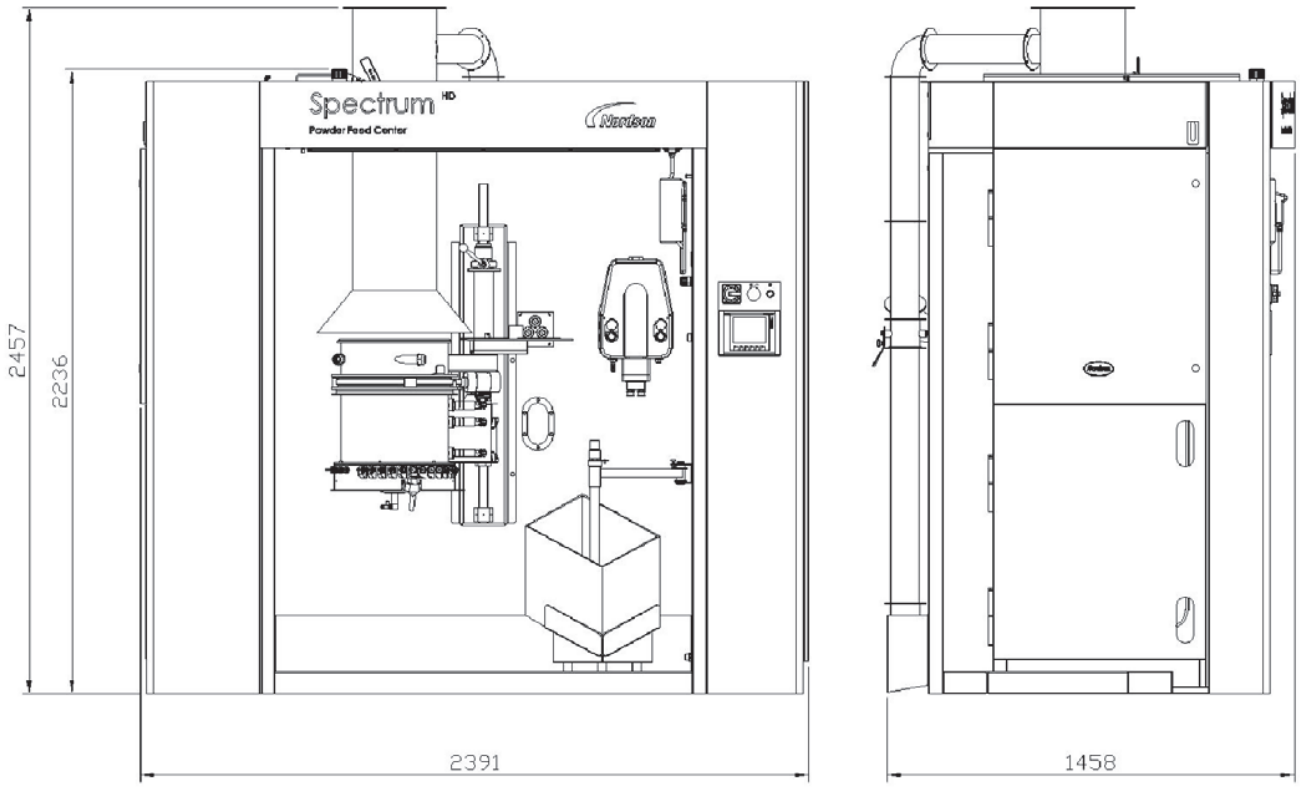


Figure 2-4 Spectrum HD Feed Center Dimensions

Electrical Requirements

380V, 3 phase, 50 Hz, 3.6 amps
415V, 3 phase, 50 Hz, 3.5 amps

Air Requirements

Exhaust Air Flow

1800 CFM / 3058 m^3/hr

Compressed Air Supply

Air input: 1 in. BSP
Air consumption at 6.9 bar (100 psi):
76 m^3/hr (45 SCFM) – Normal operation
611 m^3/hr (360 SCFM) – Maximum
(instantaneous flow rate during purge sequence)

The air must be clean and dry. Use a dedicated, refrigerated or regenerative-desiccant air dryer that can produce a 3 °C (38 °F) or lower dewpoint at 6.9 bar (100 psi), and filter/separators with automatic drains.

Air Pressures

Function	Recommended Pressure
Purge Air	5.5 bar (80 psi)
Hopper Fluidizing	See note
NOTE: Adjust fluidizing air as needed. Powder should be gently boiling, without geysering.	

Sieves

Sieve Motor Voltage Requirements
380/415V, 3 phase, 50 Hz

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

Upon receipt, unpack the Spectrum HD 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

Position the Spectrum HD 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.

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 Spectrum HD 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 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 Spectrum HD 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.

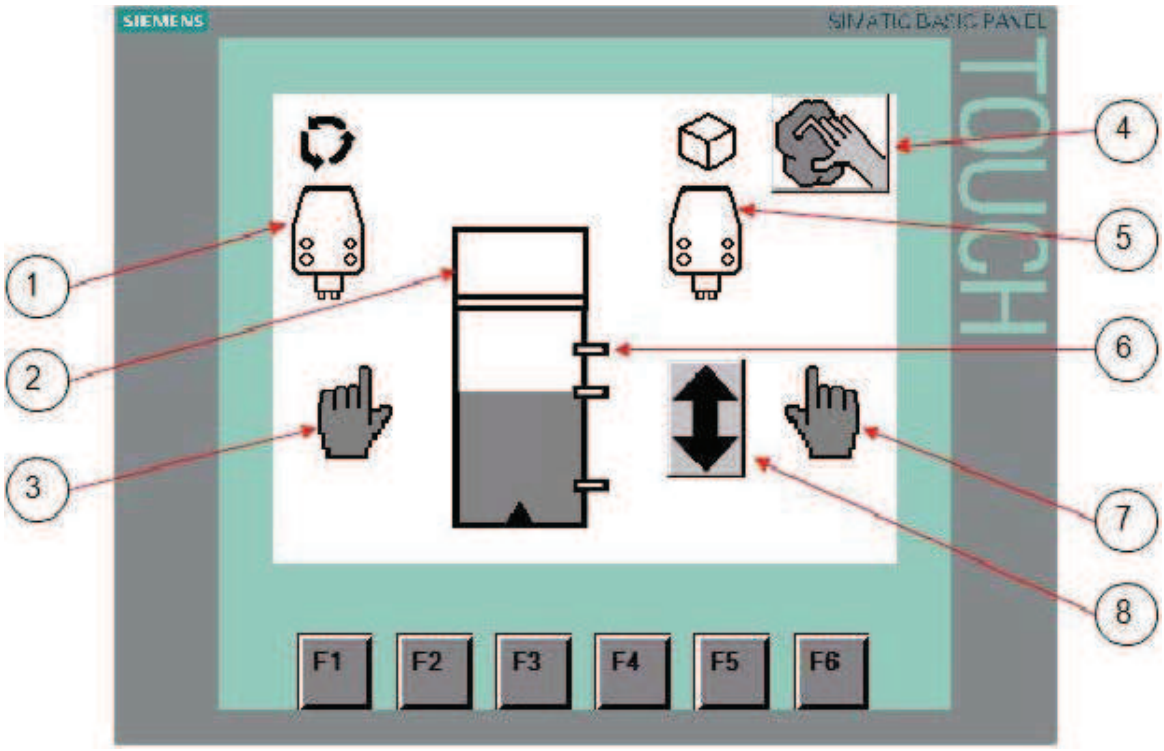
Virgin Powder Feed System: A typical bulk feed system includes a HDLV transfer pump as well a process valve to control system operation. The process valve is typically connected directly to the air drop inside the feed center electrical/pneumatic cabinet.

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.

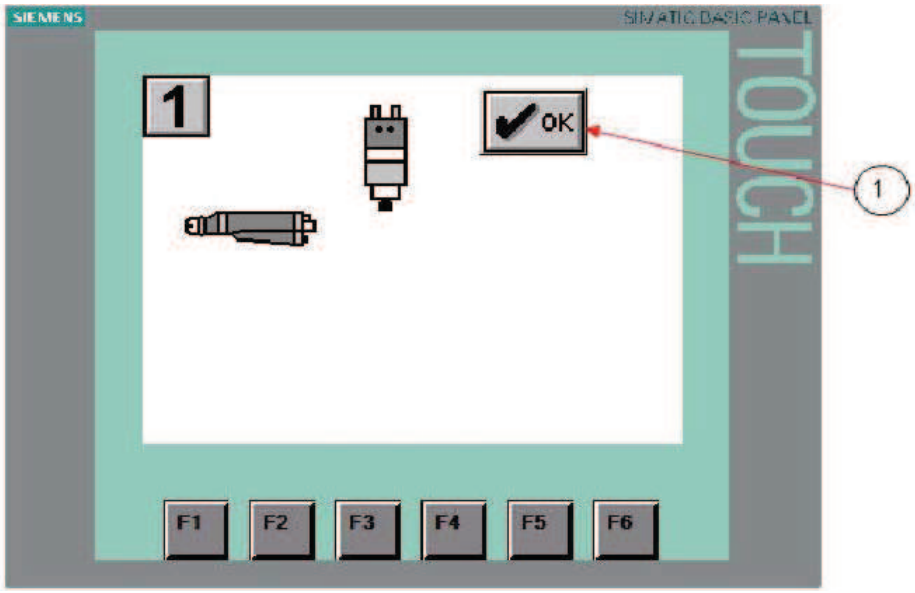
Section 4
Operation

Controls (Home Screen)

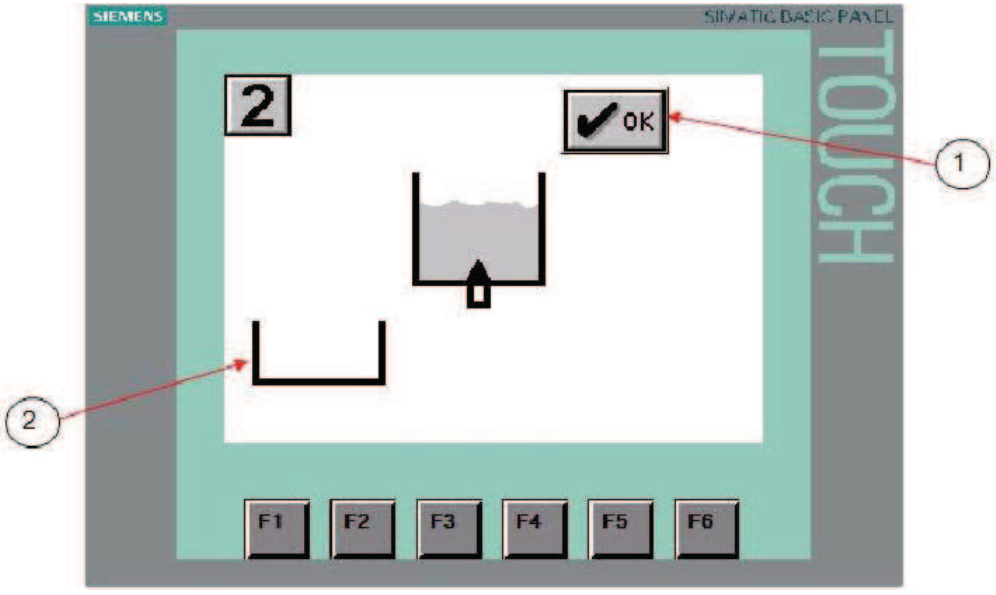


1. Recovery ON/OFF
2. US sieve status
3. Safety button (for hopper UP/DOWN)
4. Start cleaning
5. Virgin powder ON/OFF
6. Powder level inside Hopper
7. Safety button (for hopper UP/DOWN)
8. Hopper UP/DOWN

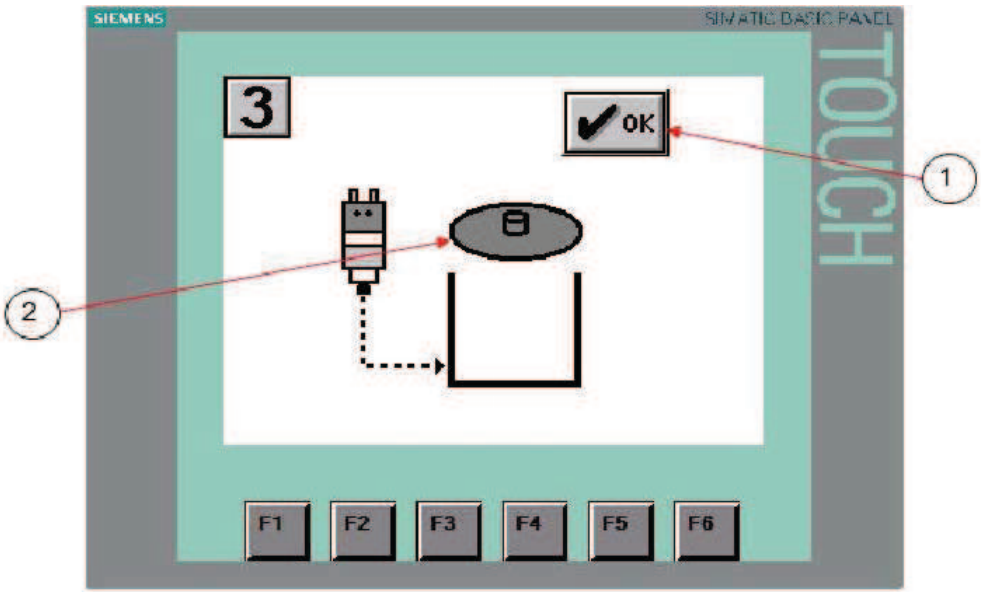
Feed Center Operation



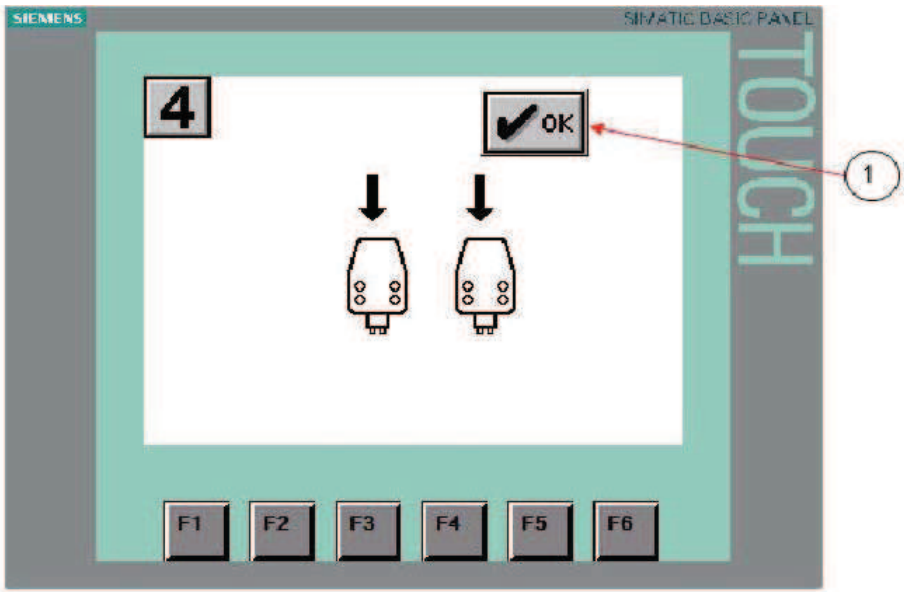
1. Start cleaning step 1



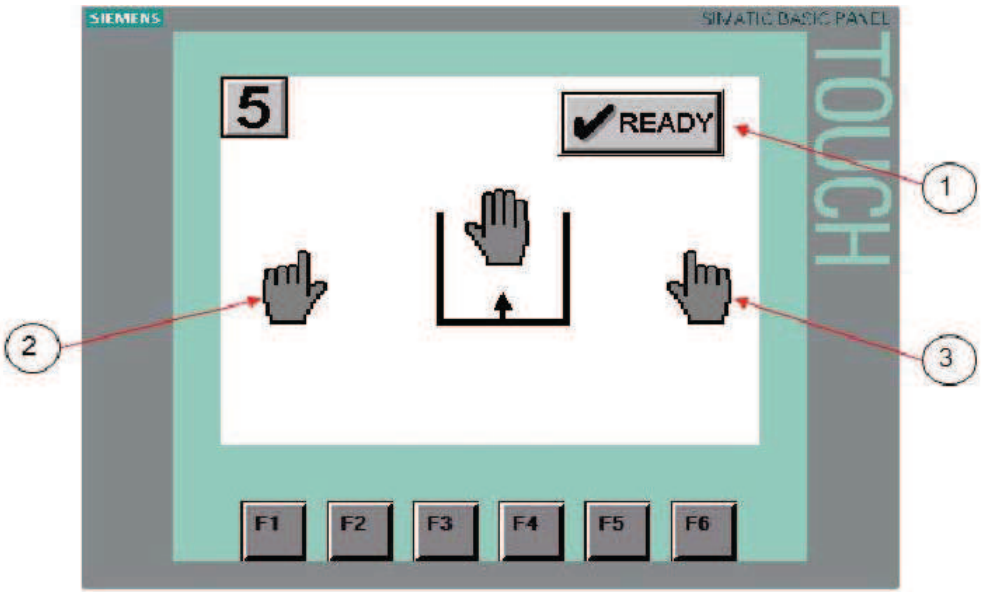
1. Start cleaning step 2
2. Animated information to advise operator to bring box under hopper



1. Start cleaning step 3
2. Animated information to advise operator to remove lid



1. Start cleaning step 4



1. Start cleaning step 5
2. Safety button (for hopper UP/DOWN)
3. Safety button (for hopper UP/DOWN)

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 sensor. 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

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

Make sure all settings in the Setup section of this manual have been completed before starting up the system for the first time.

1. Turn on the afterfilter exhaust fan.
2. Turn on power and air to the feed center, if not already on.

Startup *(contd)*

3. Make sure compressed air is being supplied to the feed center at above 5.5 bar (80 psi) and that air pressures are adjusted properly.

Table 4.1Feed Center Air Pressure Settings

Air Pressure	Typical Setting
Feed Hopper Fluidizing (Typical)	0.3 bar (5 psi)
Purge	5.5 bar (80 psi)

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 or turn the pumps, sieve, or vibratory table.
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.

NOTE: Maintenance procedures given here are for the feed center only. Refer to your system component manuals for maintenance procedures for all other system equipment.

Daily Maintenance

NOTE: You may need to perform these procedures more or less often, depending on your application requirements.

Table 5-1 Daily Maintenance Procedures

Component	Maintenance Procedure
Sieve	Disassemble and clean the sieve and screen. Inspect the sieve screen and replace it if powder is fused to it or it is damaged. Make sure the ground clip is installed.
Cables, Tubing, and Feed Hoses	Check all external cables, powder hoses, and air tubing for damage. Repair or replace as necessary.
HDLV Transfer Pumps	Purge the pumps. Inspect the pinch valve body for signs of powder leakage. If powder is present in the pinch valve section, replace the pinch valves. Refer to the Prodigy HDLV High-Capacity pump manual for repair procedures.
Powder Supply	Check the powder supply level regularly and add powder as necessary.
Compressed Air Supply	Check the compressed air dryers and filters. Drain filters if needed. Perform maintenance as necessary.
Enclosure	Clean the interior and exterior of the Spectrum HD feed center. Check all equipment ground connections.

Periodic Maintenance

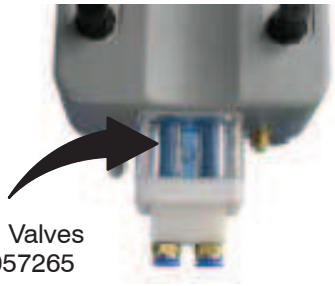
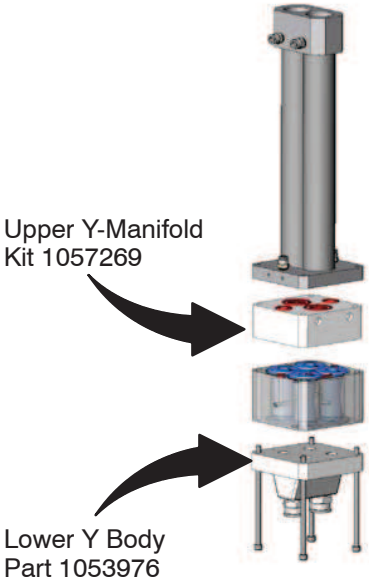
NOTE: You may need to perform these procedures more or less often, depending on your application requirements.

Table 5-2 Periodic Maintenance Procedures

Component	Maintenance Procedure
Air Flow	Take regular air flow readings at the face of the Spectrum HD feed center. A properly functioning powder feed center should provide a face velocity of around 2.8 m^3/min. (100 ft^3/min). A lower reading indicates clogged ducts or filters, or a malfunctioning fan.
Compressed Air System	Open the drop leg and use a clean, white cloth to check for contaminants. Correct any problems immediately. Drain the air filters and change the elements as necessary.
Electrical System	Tighten all electrical connections and inspect for loose or broken wires. Check the electrical system for electrical safety every 12 months. The system must comply with all local, state, and federal codes.
System Grounds	Check all equipment grounds. Electrical equipment must be grounded according to code. For maximum transfer efficiency and safety, electrostatic equipment must be grounded to provide a complete circuit from the spray guns through the workplace hangers, conveyors, and booth back to the gun controllers. Refer to *Grounding* in the *Safety* section of this manual and to publication number TCTT-06-3881 on the Nordson emanuals web site (http://emanuals.nordson.com/finishing) for more information on powder coating system grounding.
Air Tubing	Pressurize the system and listen for air leaks. Replace or repair leaking tubing or fittings.

HDLV Transfer Pump Maintenance

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

Component	Maintenance Procedure	
HDLV Reclaim and Virgin Transfer Pumps	**Daily** Inspect the pinch valve body for signs of powder leakage. If you see powder in the pinch valve body or stress cracks in the pinch valves, replace the pinch valves.	 Pinch Valves Kit 1057265
	Every Six Months or Each Time You Disassemble the Pump Disassemble the pump assembly and inspect the lower Y body and upper Y-manifold for signs of wear or impact fusion. Clean these parts in an ultrasonic cleaner if necessary. **NOTE:** To reduce downtime, keep a spare upper Y-manifold and lower Y body in stock to install while you are cleaning the other set.	 Upper Y-Manifold Kit 1057269 Lower Y Body Part 1053976

Cleaning

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

x

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.

If you cannot solve your problem with the information in this manual or related equipment manuals, contact the Nordson ICS Customer Support Center at (800) 433-9319 or your local Nordson representative.

Refer also to the wiring diagrams and schematics at the end of this manual.

Troubleshooting Chart

Problem	Possible Cause	Corrective Action
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.

Continued...

Problem	Possible Cause	Corrective Action
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.
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.

Continued...

Problem	Possible Cause	Corrective Action
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.

Continued...

Problem	Possible Cause	Corrective Action
Sieve turned ON, but no vibration	E-Stop button pressed	Reset the E-Stop button.
	Afterfilter exhaust fan not running	Start the exhaust fan.
	Sieve switch or wiring defective	Check the switch and wiring. Replace the switch or repair the wiring as needed.
	Sieve motor overload	Overload occurs when motor operates at higher amperage than designed for. Make sure nothing is preventing motor vibration. Check the motor and electrical connections. Check the motor internal weights for proper adjustment. Make sure the overload protector is set to the proper limit. Reset the overload.
	Sieve motor failed	Replace the sieve motor.
Powder build up on sieve screen	Screen not cleaned frequently enough	Clean the sieve mesh at more frequent intervals.
	Screen mesh size too small for powder being used	Use a sieve screen with a larger mesh size.
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.
Contaminants in feed hopper powder	Sieve screen torn	Replace the screen.
	Sieve screen not thoroughly cleaned before installation	Remove and clean the sieve screen.

Continued...

Problem	Possible Cause	Corrective Action
Reclaim or Virgin 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.
Reclaim or Virgin transfer pump cannot be purged	Reclaim or Virgin pump not turned on	Turn the Reclaim or Virgin pump switch to the On position.
Reclaim or Virgin 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.
Virgin 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 9 for other causes	

Continued...

Problem	Possible Cause	Corrective Action
Virgin 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.
Reclaim and/or Virgin 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.
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.

Continued...

Problem	Possible Cause	Corrective Action
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	iControl system tracks parts through booth and will delay color change start until parts clear booth. Booth length is configurable through iControl Configuration. Refer to iControl Operator Interface manual for more information.
	iControl gun positioners not in manual or auto mode	Set the gun positioners to either manual or auto mode.
	iControl 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 iControl 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.

Continued...

Problem	Possible Cause	Corrective Action
Color change cycle started, gun positioner stopped at forward limit switch	Oscillator not at bottom of stroke	Oscillator must be at bottom of stroke for spray guns to be in position for gun blowoff. Blowoff will not start until bottom of stroke sensor is on and remains on. Check oscillator position.
	ColorMax not selected on iControl gun positioner configuration screen	Check gun positioner configuration.
	Oscillator not stopped	Oscillator gets stop command from gun positioner #1 control panel. Check wiring and connections between gun positioner control panel and main system panel. USA only – Oscillator bottom of stroke sensor not sending signal to main system panel. Sensor detects rotating lever arm. Make sure sensor is positioned to detect arm and check wiring and connections to sensor.
	Reciprocator not at Park position	Reciprocator must be at Park position for spray guns to be in position for gun blowoff. Blowoff will not start until Park position is achieved. Check reciprocator position. Make sure Park position is configured within stroke range. Refer to iControl Operator Interface manual for reciprocator configuration settings.
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. Make sure main system panel air supply is on. Check solenoid valve output. If solenoid coil is energized but no air flows from valve, replace valve. Check air tubing to pilot valve. Check pilot valve operation. Check the wiring and connections between the gun positioner panel and main system panel.

Section 7
Parts

Introduction

To order parts, call the Nordson ICS Customer Support Center at:

US – (800) 433-9319

EU – 00800 700 17001

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. Indentions show the relationships between assemblies, subassemblies, and parts.

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

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

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

Item	Part	Description	Quantity	Note
—	0000000	Assembly	1	
1	000000	• Subassembly	2	A
2	000000	• • Part	1	

HD Hopper

Part	Description	Min. Quantity
768324	VALVE,DUMP,SPECTRUM HD HOPPER	1
7033100	SENSOR, LEVEL PROBE, 3 WIRE	1
768338	KIT,SEAL,SPECTRUM HD HOPPER	1
768487	PROBE,ULTRASONIC,SPECTRUM HD HOPPER	1
768337	MAGNETS,POSITIONING,SPECTRUM HD HOPPER	1

NOTE: For part numbers and instructions on the HDLV Pump Panel please refer to Nordson emanuals

Powder Transfer Tubing

Part	Description	Note
1063654	TUBING, polyethylene, 16 mm OD, natural	

Air Tubing and Fittings

Part	Description	Min. Quantity
900742	TUBING, polyurethane, 6 mm OD, blue	50
900618	TUBING, polyurethane, 8 mm OD, blue	50
900619	TUBING, polyurethane, 8 mm OD, black	50
900740	TUBING, polyurethane, 10 mm OD, blue	50
900613	TUBING, polyurethane, 12 mm OD, blue	50
183804	PLUG, blanking, 6 mm tube	–
972930	PLUG, push in, 8 mm tube, plastic	–
148256	PLUG, 10 mm, tubing	–

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	