Sure-Max®
Powder Transfer System

Customer Product Manual
Part 1064853B
Issued 7/06

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

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NORDSON CORPORATION • AMHERST, OHIO • USA

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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.

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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 2, 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

See Figure 2-1. The Sure-Max powder transfer system uses a vacuum pump to draw powder from the bottom of the cyclones and return it to the Spectrum II Powder Feed Center.

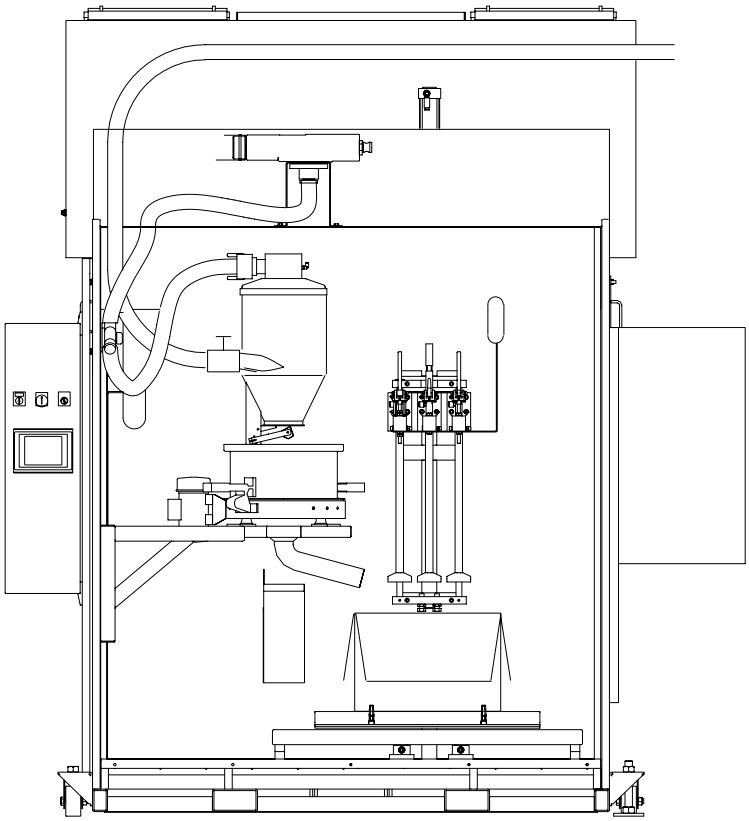

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Figure 2-1 Spectrum II Powder Feed Center with Sure-Max Powder Transfer System

Spray-to-Reclaim Operation

See Figure 2-2. During spray-to-reclaim operation, reclaimed powder collects in the transfer pan (10) at the bottom of the cyclones. The scrap port on the transfer pan is plugged, and the couplings (4, 8) connect the transfer tube (7) to the transfer pan and Sure-Max receiver (2). The diverter valve (3) is positioned to allow the vacuum pump (1) to draw the reclaimed powder out of the transfer pan and through the transfer tube. The powder collects in the Sure-Max receiver, which filters the powder from the air before it gets to the vacuum amplifier.

The bottom of the reclaim receiver periodically opens, dropping the reclaimed powder into the sieve (5). The sieve separates contaminates from the reclaimed powder before dropping the powder back into the feed source (6).

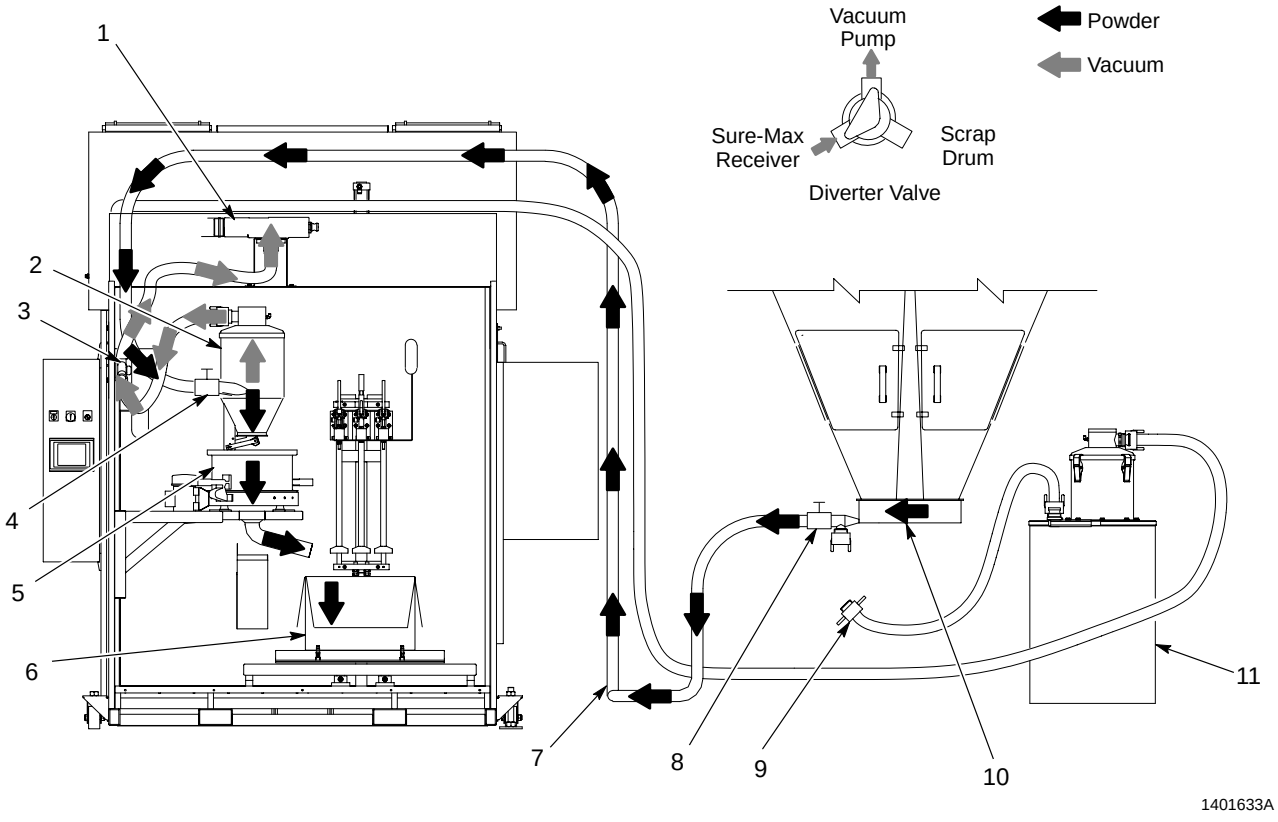

Figure 2-2 Spray-to-Reclaim Operation

1. Vacuum pump
2. Sure-Max receiver
3. Diverter valve
4. Coupling
5. Sieve
6. Powder Source
7. Transfer tube
8. Coupling
9. Scrap hose
10. Transfer pan
11. Scrap drum

Spray-to-Waste/Color Change Operation

See Figure 2-3. The Sure-Max system operates in spray-to-waste mode either at the end of a color change or during short runs in production.

At the beginning of the color change process, the Sure-Max receiver (2) remains open. Pulses of air are forced through the filter in the Sure-Max receiver, blowing loose powder off the filter.

At the end of the color change process, the operator disconnects the couplings (4, 8) attaching the transfer tube (7); cleans and plugs the transfer tube; unplugs the transfer pan (10) and installs the scrap hose (9). The operator then turns the diverter valve (3) to allow the vacuum pump (1) to draw powder out of the transfer pan and into the scrap drum (11). Spraying 0.5 kg (one lb) of overspray to waste seasons the ducts and cyclones, allowing for efficient powder reclaim during normal operation.

If Returning to Spray-to-Reclaim Mode: After 0.5 kg (one lb) of overspray has been collected in the scrap drum, the operator disconnects the scrap hose; plugs the transfer pan; unplugs and couples the transfer tube; and turns the diverter handle to allow the vacuum pump to draw powder into the Sure-Max receiver.

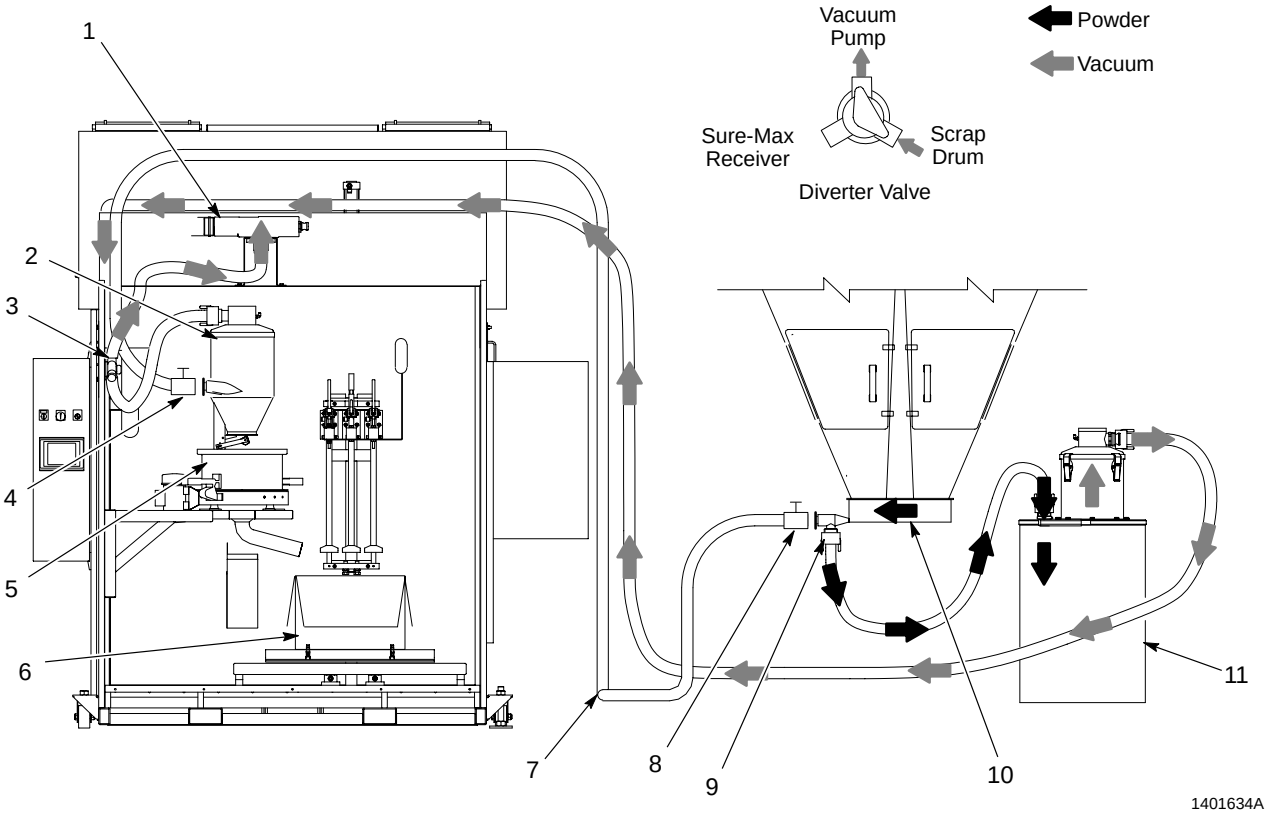

Figure 2-3 Spray-to-Waste/Color Change Operation

1. Vacuum pump
2. Sure-Max receiver
3. Diverter valve
4. Coupling
5. Sieve
6. Powder Source
7. Transfer tube
8. Coupling
9. Scrap hose
10. Transfer pan
11. Scrap drum

Optional Bulk Virgin Powder Feed System

When the powder supply runs low, the optional bulk virgin powder feed system automatically adds virgin powder from a drum to the feed source.

NOTE: The bulk virgin powder feed system only operates in spray-to-reclaim mode. Refer to page 2-2 for a description of spray-to-reclaim mode operation.

Normal Operation

See Figure 2-5. When the amount of powder being reclaimed meets the system's demand for powder, the reclaim pinch valve (3) is open and the bulk feed pinch valve (1) remains closed. The powder feed center's vacuum pump draws reclaimed powder from the cyclone's transfer pan (4) through the transfer tube (2) and into the Sure-Max receiver. The Sure-Max system cycles on and off as described in *Spray-to-Reclaim Operation* on page 2-2.

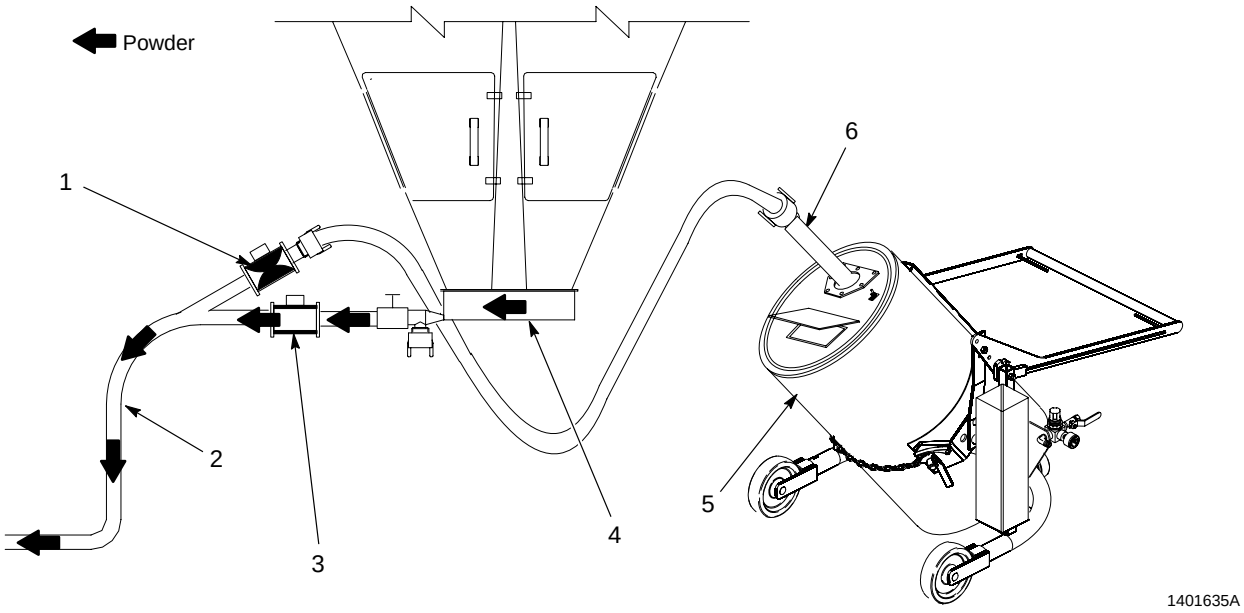

Figure 2-4 Bulk Virgin Powder Feed System — Normal Operation

1. Bulk feed pinch valve
2. Transfer tube
3. Reclaim pinch valve
4. Transfer pan
5. Bulk powder drum truck
6. Bulk powder nozzle

Bulk Feed Operation

When the feed center's PLC receives a signal from the bulk feed level sensor,

- the reclaim pinch valve (3) closes,
- the bulk feed pinch valve (1) opens, and
- the drum truck's (5) vibrator motor turns on.

The vacuum pump draws bulk virgin powder out of the drum, through the nozzle (6), and into the transfer tube (2) leading to the Sure-Max receiver in the powder feed center. After three seconds,

- the reclaim pinch valve opens,
- the bulk feed pinch valve closes, and
- the drum truck's vibrator motor turns off.

The Sure-Max powder transfer system returns to normal operation, drawing powder from the cyclones' transfer pan (4). If the bulk feed level sensor still detects a low level of powder, the bulk feed operation will cycle on for another three seconds during normal operation.

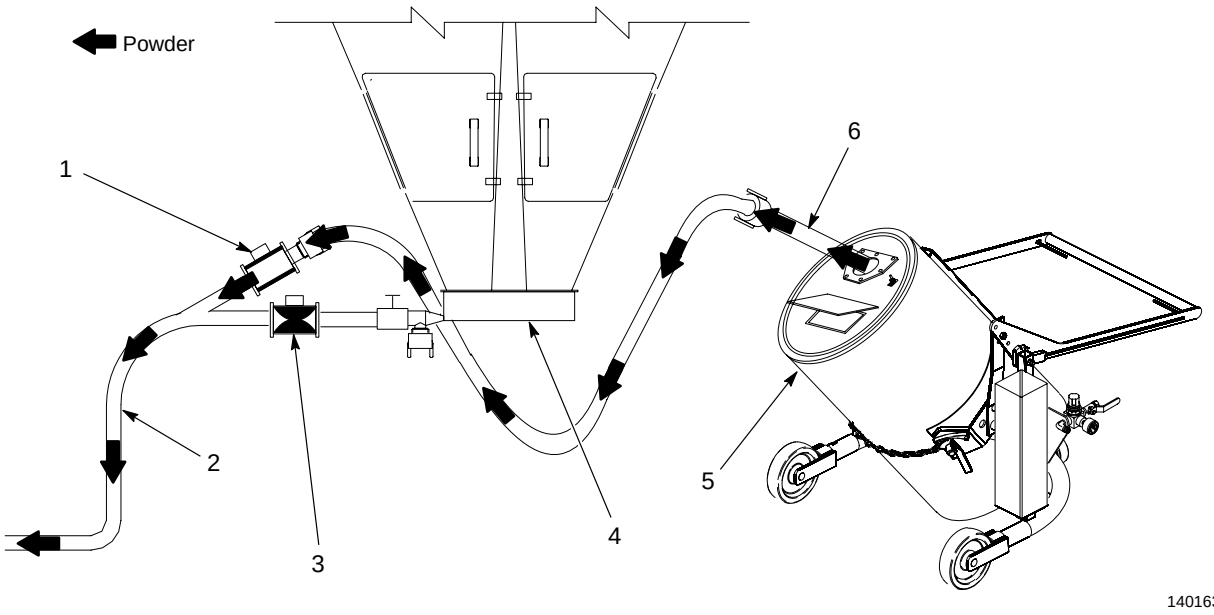

Figure 2-5 Bulk Virgin Powder Feed System — Bulk Feed Operation

1. Bulk feed pinch valve
2. Transfer tube
3. Reclaim pinch valve
4. Transfer pan
5. Bulk powder drum truck
6. Bulk powder nozzle

Section 3
Setup and Operation

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

Initial Setup

See Figure 3-1. From the **Setup Menu**, touch the **Transfer** button. The **Powder Transfer Setup** screen appears, allowing you to adjust the operating parameters of the Sure-Max powder transfer system.

Touch this button to view descriptions of the settings on the **Powder Transfer Setup** screen.

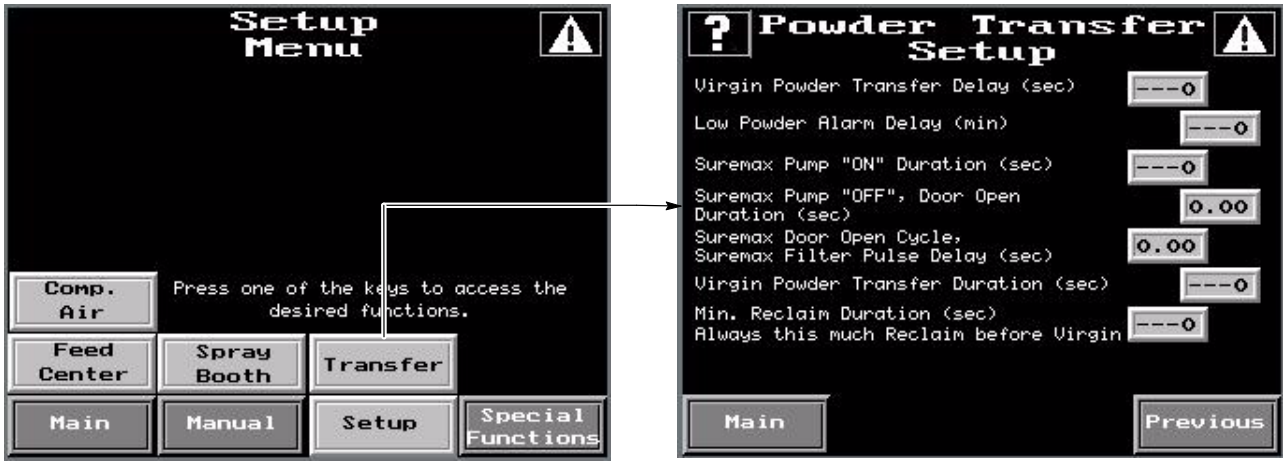

Figure 3-1 Initial Setup

Automatic Control

See Figure 3-2. The Sure-Max powder transfer system is typically controlled automatically. You may enable and disable the Sure-Max system's automated functions using the **Auto Menu** and the **Color Change** menu.

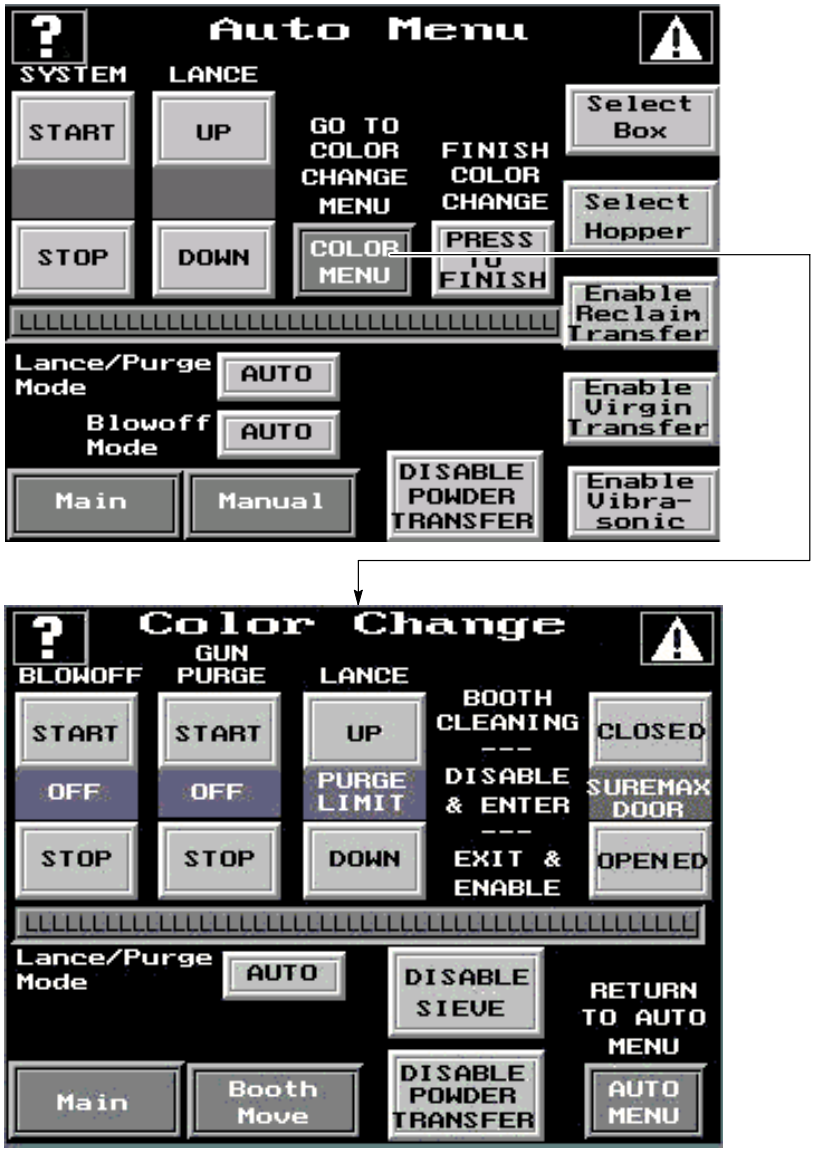

Figure 3-2 Automatic Control Menus

Manual Control

See Figure 3-3. From the **Manual Menu**, touch the **Feed Center** button. During troubleshooting and maintenance, you may manually enable and disable the Sure-Max system's functions using pages 1 and 3 of the **Feed Center Control** menus.

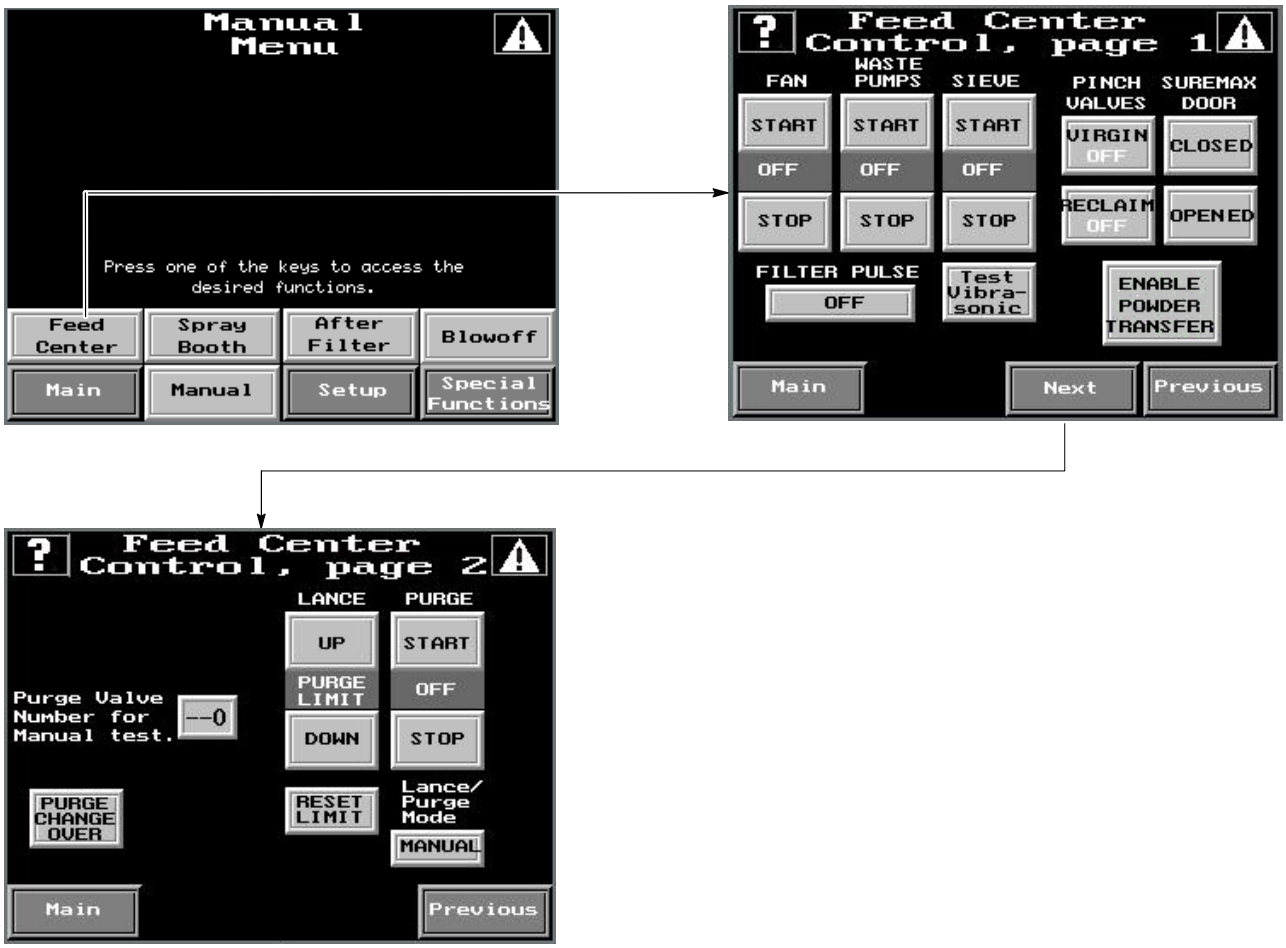

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Figure 3-3 Manual Feed Center Control Menus

Daily Maintenance

- Disassemble and clean the Sure-Max reclaim receiver. Inspect each color's reclaim filter and replace if damaged.
- Inspect the scrap drum and empty it if necessary. Inspect the scrap filter and replace if damaged.
- Check all vacuum hoses for blockages. Clean or replace them if necessary.

Section 4
Color Change

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

Introduction

Use the following procedures to change colors in the powder feed center. Follow the procedures listed in your system and application equipment manuals to clean the booth canopy and powder application equipment.

The operators start the automated tasks of the color change process by using the **Color Change** and **Auto Menu** screens.

NOTE: Your powder coating system may not have all of the equipment or functions described in this section. Disregard any steps that refer to equipment or functions that are not present in your system.

Types of Color Changes

Refer to Table 4-1 for descriptions of the two types of color changes.

Table 4-1 Types of Color Changes

Color Change Type	Description
Similar Shade	When changing from either • a light powder to another light powder, or • a dark powder to another dark powder.
Different Shade or Different Powder Type	When changing from either • a light powder to a dark powder, • a dark powder to a light powder, • a standard powder to a special powder, or • a special powder to a standard powder.
NOTE: The time that it takes to perform a different shade/powder type color change will depend on how many spray guns are in your system.	

Performing a Color Change

Two operators typically perform the color change process. The two operators are responsible for cleaning the following things:

Operator	Responsible for these Booth Components	Refer to this Documentation
A	• Booth interior • Cyclones and/or color module	Powder coating system manual
B	Powder feed center	*Color Change Process* on page 4-4

Operators A and B typically perform their respective color change procedures at the same time.

Menu Navigation

Figure 4-1 illustrates how to access the menus necessary to perform a color change.

 Touch this button to view descriptions of the settings on the current menu.

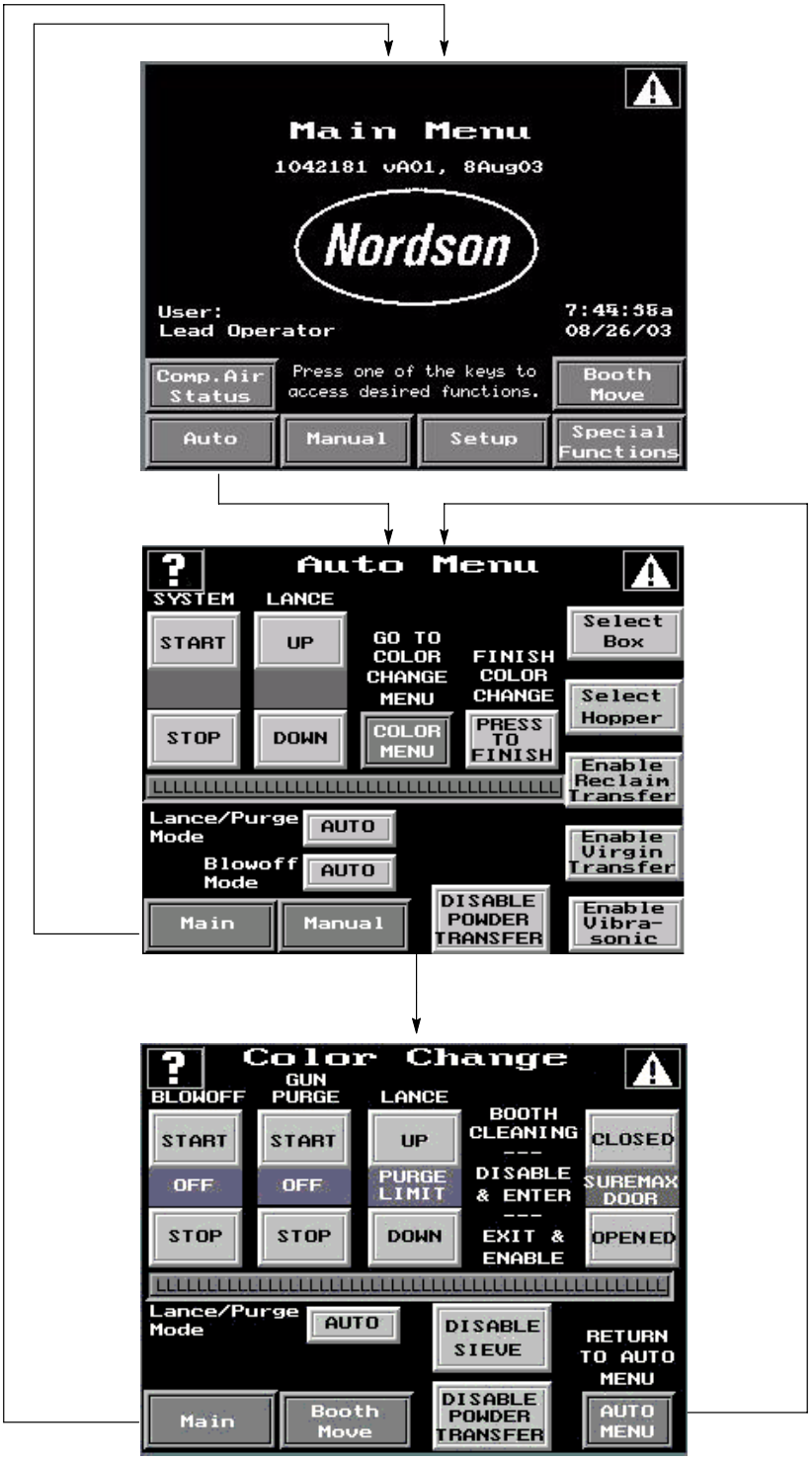

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Figure 4-1 Color Change Menu Navigation

Color Change Process

NOTE: Refer to the *Color Change* section in your quick-color change powder coating system manual for a more detailed description of the color change process.

Procedure	Tasks	
	Operator A **See Figure 4-2**	**Operator B** **See Figure 4-3**
1	Close the booth doors and, if applicable, move the booth offline.	
2	From the **Color Change** menu, touch the **BLOWOFF START** button. The system automatically performs the following tasks: **NOTE:** Perform procedure 3 while the system is performing these tasks. **NOTE:** To interrupt the gun blow-off cycle, touch the **BLOWOFF STOP** button. • Oscillators (if used) stop and the spray guns move into the fully extended position. • Feed center's vibrating table stops and lance assembly raises. • In/out gun positioners retract (one at a time) and powder is blown off the spray guns. When the gun blow-off cycle is complete, the COLOR CHANGE CYCLE DONE indicator flashes.	
3	1. Disengage the coupling (2) connecting the transfer tube (1) to the reclaim port (4). 2. Remove the plug (7) from the scrap port (5). 3. Open the transfer pan (8) and and blow out all powder remaining in the pan. 4. Send four cleaning sponges through the transfer tube. 5. Install the plug (3) in the transfer tube (1). **NOTE:** Do not close the transfer pan at this time.	1. From the **Color Change** menu, touch the **DISABLE SIEVE** button. 2. Unclamp the sieve and turn the chute (8) until it is directly over the chute on the back wall of the feed center. **NOTE:** If you are using the optional fluidizing hopper, set the fluidizing air to zero and disconnect the air tubing before removing the hopper from the feed center. 3. Remove the powder source from the feed center.

Continued...

Procedure	Tasks	
	Operator A **See Figure 4-2**	**Operator B** **See Figure 4-3**
4	Touch the **GUN PURGE START** button. The system automatically performs the following tasks: **NOTE:** Perform procedure 5 while the system is performing these tasks. **NOTE:** To interrupt the gun purge cycle, touch the **GUN PURGE STOP** button. • Lance assembly lowers onto the purge manifold. • Purge manifold sends pulses of air through the lances, pumps, feed hoses, and spray guns. • Lance assembly raises. When the gun purge cycle is complete, the COLOR CHANGE CYCLE DONE indicator flashes.	
5	Blow off all door seams from the outside of the booth.	Blow powder off the lance assembly (3).

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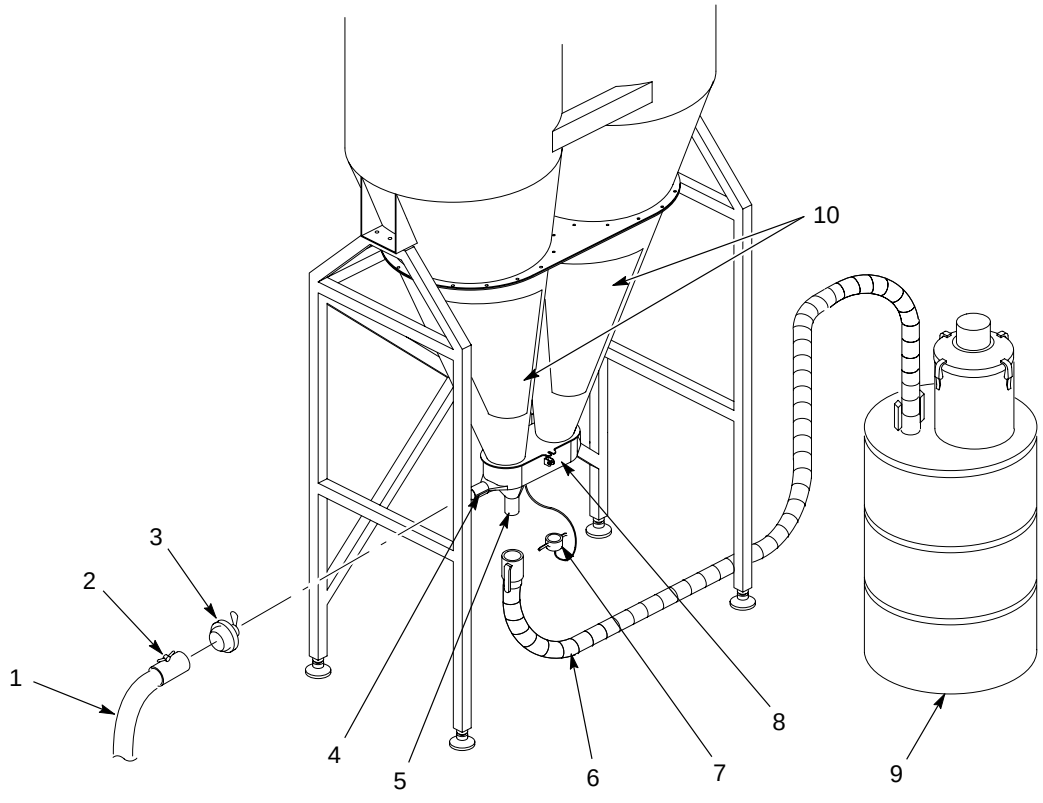

Figure 4-2 Operator A Color Change Tasks

1. Transfer tube
2. Transfer tube coupling
3. Transfer tube plug
4. Reclaim port
5. Scrap port
6. Scrap hose
7. Scrap plug
8. Transfer pan
9. Scrap drum
10. Cyclone access doors

Color Change Process *(contd)*

Procedure	Tasks	
	Operator A **See Figure 4-2**	**Operator B** **See Figure 4-3**
6	1. Turn the OPERATION keyswitch on the system control panel to the DISABLED position. This disables in/out gun positioner and oscillator operation. 2. Clean the booth interior. Refer to your powder coating system manual for booth cleaning instructions.	1. Touch the **DISABLE POWDER TRANSFER** button. This causes the following things to happen: • The sieve and Sure Max powder transfer system are disabled. • The reclaim receiver discharge door opens. • The reclaim filter is pulsed 3 times (10 seconds total). 2. Disconnect the vacuum hose and pulse air tubing from the top of the reclaim filter assembly (4). 3. Disengage the transfer tube coupling from the reclaim receiver (1). Plug the transfer tube. 4. Rotate the reclaim receiver until it locks at a 45° angle. 5. Remove the reclaim filter assembly. Remove the filter element and place it in its dedicated plastic container. 6. Remove the four cleaning sponges from the reclaim receiver and place them in their dedicated plastic container. 7. Rotate the reclaim receiver so that the small opening is facing the operator, then blow as much powder out of the receiver as possible. Rotate the reclaim receiver so that the large opening is facing the operator, then blow out any powder remaining in the receiver.

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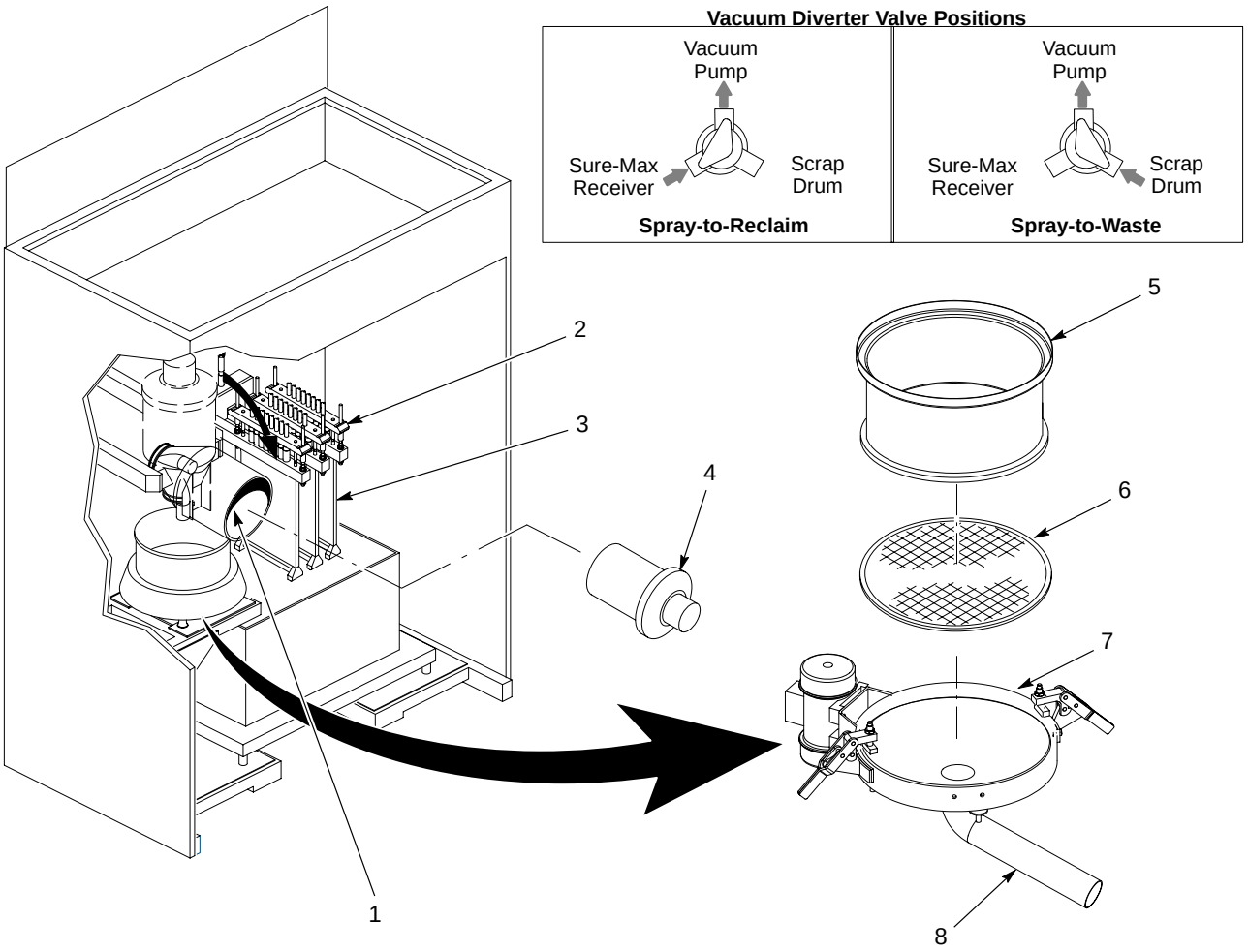

Figure 4-3 Operator B Color Change Tasks

1. Reclaim receiver
2. Feed hose manifold
3. Lance assembly
4. Reclaim filter assembly
5. Sieve deck
6. Sieve screen
7. Sieve underpan
8. Sieve chute

Procedure	Tasks	
	Operator A **See Figure 4-2**	**Operator B** **See Figure 4-3**
7	1. Plug the reclaim port (4). 2. Blow off any powder remaining in the transfer pan. 3. Open the cyclone access doors (10) and blow off all interior surfaces of the cyclones. 4. Close and latch the cyclone access doors. 5. **Spray-to-Reclaim Mode Operation:** Close and latch the transfer pan. **Spray-to-Waste Mode Operation:** Leave the cyclone access doors and transfer pan open. 6. Install the scrap hose (6) onto the scrap port (5). 7. Remove the plug (3) from the transfer tube (1) and install it into the reclaim port.	**NOTE:** Each color must have a dedicated reclaim filter element. Using a filter element for multiple colors will result in cross contamination. 1. Install the appropriate color-specific filter element and install the filter assembly (4) into the reclaim receiver (1). 2. Rotate the reclaim receiver so that it is in the upright position and couple it to the transfer tube. 3. Connect the vacuum hose and pulse air tubing to the reclaim receiver. 4. Touch the **CLOSE SURE MAX DOOR** button. **NOTE:** If your system has the optional Vibrasonic sieve screen, unplug the Vibrasonic transducer cable from its support bracket and use caution when cleaning around the screen's Vibrasonic transducer. 5. Remove the sieve deck (5) and screen (6). **Similar Shade Color Change:** a. Blow off the sieve deck, screen, and underpan (7). Turn the underpan until the chute (8) is pointed toward the lance assembly (3). b. Install the appropriate powder source. **Different Shade Color Change:** a. Set the sieve screen aside and clean it later. Blow off the sieve deck and underpan (7). Install the new sieve screen. Turn the underpan until the chute (8) is pointed toward the lance assembly (3). b. Turn the vacuum diverter valve to the spray-to-waste position.

Continued...

Procedure	Tasks	
	Operator A **See Figure 4-2**	**Operator B** **See Figure 4-3**
NOTE: Perform procedure 8 only if you are performing a different shade color change. If you are performing a similar shade color change, proceed to procedure 9.		
8	Remove the powder feed hose from each spray gun and install the other feed hose.	1. Remove the feed hose manifolds (2) from the lance assembly (3). Store the feed hoses and manifold assemblies in the appropriate hose locker. 2. Blow down into the powder pumps on the lance assembly to clear away any remaining powder. 3. Remove the appropriate feed hoses and manifold assemblies from the hose locker and install them onto the lance assembly. 4. Install the new powder feed source, connect the fluidizing air tubing, and set the fluidizing air to 0.3 bar (5 psi), if applicable.
9	1. From the **Color Change** menu, touch the **ENABLE SIEVE** button. 2. From the **Color Change** menu, touch the **AUTO MENU** button. 3. From the **Auto Menu**, touch the **FINISH COLOR CHANGE PRESS TO FINISH** button. The spray guns move back into the booth and begin oscillating, if applicable. 4. From the **Auto Menu**, touch the **ENABLE POWDER TRANSFER** button. 5. Touch either the **Select Box** or **Select Hopper** button to lower the lance assembly to the appropriate location. 6. Touch the following buttons to specify how the system will operate for this color run: **Enable Reclaim Transfer:** Operates the booth in spray-to-reclaim mode **Enable Virgin Transfer:** Turns on the optional Sure-Max bulk feed system **Enable Vibrasonic:** Turns on the optional Vibrasonic sieve screen **NOTE:** After a few minutes, the powder in the feed source will fluidize and the system will start spraying powder. Spray approximately 0.5 kg (one lb) of powder to waste before performing procedure 10. The amount of time that it will take to spray 0.5 kg (one lb) of powder will vary depending on the components in your system. Spraying the powder to waste seasons the ducts and cyclones to allow for more effective powder reclaim.	
10	**Spray-to-Reclaim Mode Operation Only:** 1. Disengage the scrap hose (6) from the scrap port (5). 2. Remove the plug (3) from the reclaim port (4) and set it aside. 3. Install the scrap plug (7) onto the scrap port (5). 4. Install the transfer tube (1) and coupling (2) onto the reclaim port (4).	**Spray-to-Reclaim Mode Operation Only:** Turn the vacuum diverter valve (9) to the fully spray-to-reclaim position.

Changing the Sure-Max Filter Element

Use this procedure to replace the Sure-Max filter element on the filter assembly.

Removal

1. See Figure 4-4. Loosen and remove the hose clamp (7) using the flexible nut driver supplied with the Sure-Max powder transfer system.
2. Remove the filter retaining nut (5) using the flexible nut driver.
3. Remove the filter element (6) from the filter basket (3).
4. Reach inside the top (clean side) of the filter element and push out the filter element's inner cone.

CAUTION: Do not vacuum the inside surface (clean side) of the filter element. Failure to observe this caution may cause the powder to become more embedded in the filter media, making it more difficult to clean and causing further blockage.

5. Using a soft brush attachment, vacuum the outside surface of the filter element, then put the filter in its storage container.
6. Remove the filter basket (3) and seal (1).
7. Remove the grommet (4) from the filter basket boss.
8. Blow off all powder from the Sure-Max filter assembly and its components.

NOTE: The Sure-Max filter element can be washed if it is either clogged or needed for use with another color powder. Refer to *Washing the Sure-Max Filter Element* for more information.

Installation

1. See Figure 4-4. Install the seal (1) onto the top of the filter basket (3).
2. Slide the new filter element (6) onto the filter basket. Make sure that the bottom of the filter element covers the basket seal.
3. Install the hose clamp (7) over the filter basket so that it covers the basket seal. Tighten the hose clamp only enough to hold it in place on the filter basket assembly.

4. Install the grommet (4) in the filter basket boss.
5. Install the filter basket assembly onto the filter housing assembly, making sure that the air shock tank stem (2) goes through the hole in the filter element.
6. Install the filter retaining nut (5) onto the air shock tank stem. Tighten the retaining nut using the flexible nut driver.

CAUTION: Make sure there are no folds in the filter element when you tighten the hose clamp. Folds in the filter element may cause powder to pass the filter, causing powder cross contamination and vacuum amplifier damage.

7. Tighten the hose clamp using the flexible nut driver.

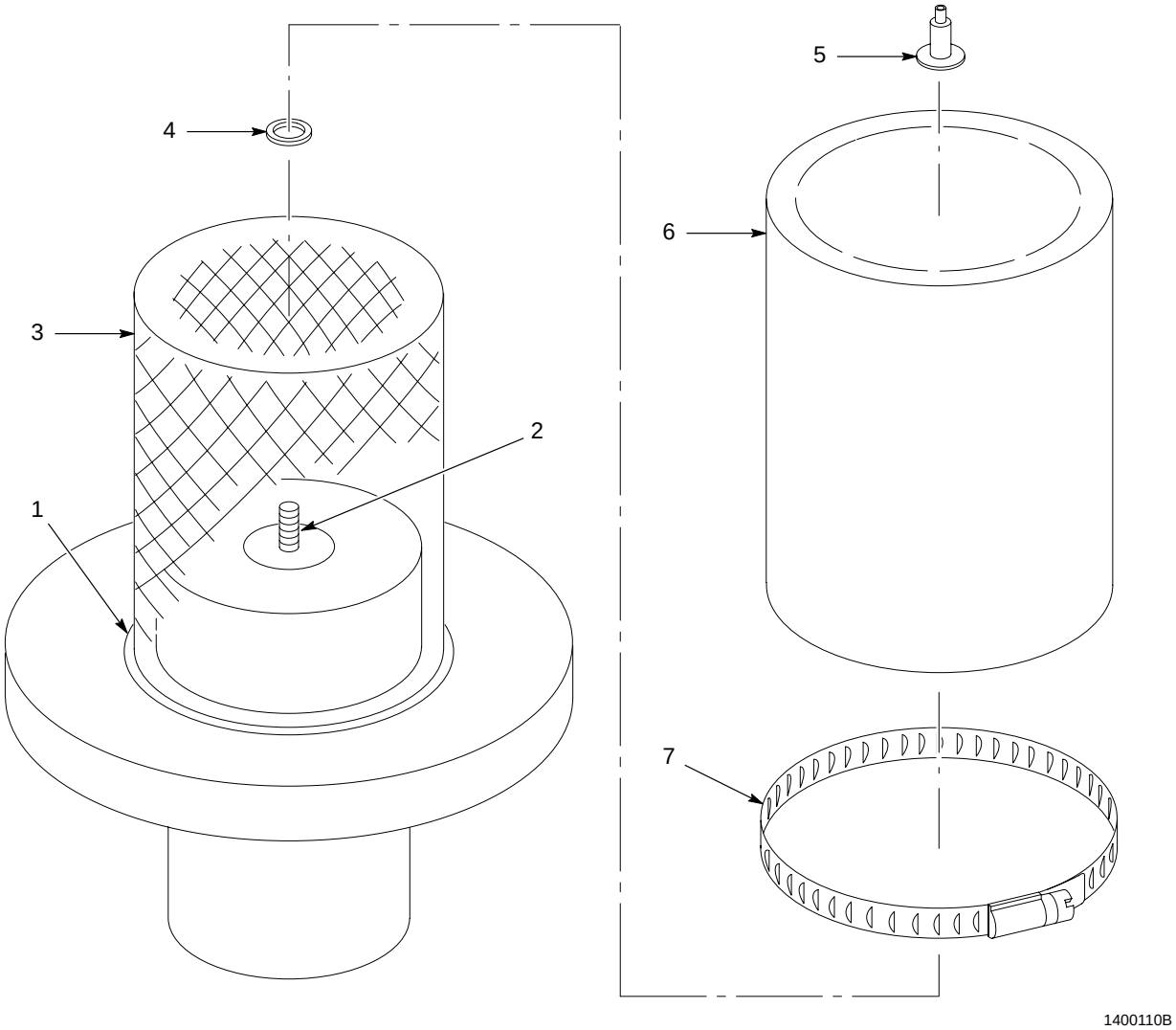

Figure 4-4 Changing the Sure-Max Filter Element

1. Basket seal
2. Air shock tank stem
3. Filter basket
4. Grommet
5. Filter retaining nut
6. Filter element
7. Hose clamp

Washing the Sure-Max Filter Element

NOTE: Repeated washing can degrade the filter element's performance. The number of times the filter element may be washed will depend on how much it is used in between washes. Nordson Corporation recommends replacing the filter element with a new one after 2-4 washes.

The Sure-Max filter element can be washed if the filter element is either

- needed for use with a different powder, or
- clogged due to continuous use.

  These are indications that the filter element is clogged:

  - The transfer pan has large amounts of powder in it while the Sure-Max system is operating.
  - During the color change process, the cleaning sponges do not come through the vacuum conveyor line easily.
  - The Sure-Max differential pressure gauge reading is higher than 8-in. wc.

Use this procedure to wash the Sure-Max filter element.

1. Remove the filter element from the filter assembly and vacuum it. Refer to *Changing the Sure-Max Filter Element* for instructions.

CAUTION: Do not use detergent when washing the filter element. Using detergent will damage the filter.

2. Wash the filter element in a standard commercial or residential washing machine in the Hand Wash cycle using cold water (40 °C).
3. Remove the filter element from the washing machine and form the filter element into its normal shape.
4. Before installing the filter element, allow it to air dry for 24 hours or until it is completely dry.

Section 5
Parts

Introduction

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

Using the Illustrated Parts List

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

The 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	

Sure-Max System Assembly

See Figure 5-1.

Item	Part	Description	Quantity	Note
1	1014514	HOSE, vacuum, $1^1/_2$ in.	50 ft	
2	- - - - - -	VALVE, diverter, $1^1/_2$ in.	1	
3	- - - - - -	TUBING, 6 mm	AR	
4	- - - - - -	ADAPTER, hose parking	1	
5	- - - - - -	HOSE, exhaust, Sure-Max pump	6 ft	
6	- - - - - -	PUMP, Sure-Max, with exhaust adapter and fittings	1	
7	1013178	GASKET, inlet, outlet, Sure-Max	2	
8	1066209	VALVE, solenoid, (CV=2)	1	
9	- - - - - -	COUPLER, shank, $1^1/_2$ in.	1	
10	- - - - - -	BODY, Sure-Max	1	
11	- - - - - -	FILTER, assembly, Sure-Max	1	A
NS	1015821	COUPLING, pipe, 51 mm, T-handle	2	B
NS	1014516	PLUG, quick-snap, $1^7/_8$ in.	2	C
NS	1013284	PADS, cleaning, Sure-Max, 10 pack	1	
NS	1054381	DRIVER, nut, flexible, 6/7 mm, Sure-Max	1	

NOTE A: Refer to *Filter Assembly* on page 5-4 for a breakdown of the parts included in this assembly.

B: The pipe couplings, part 1015821, connect the transfer tube to the reclaim receiver and transfer pan.

C: The quick-snap plugs, part 1014516, are used to plug the transfer tube during the color change process.

NS: Not Shown

AR: As Required

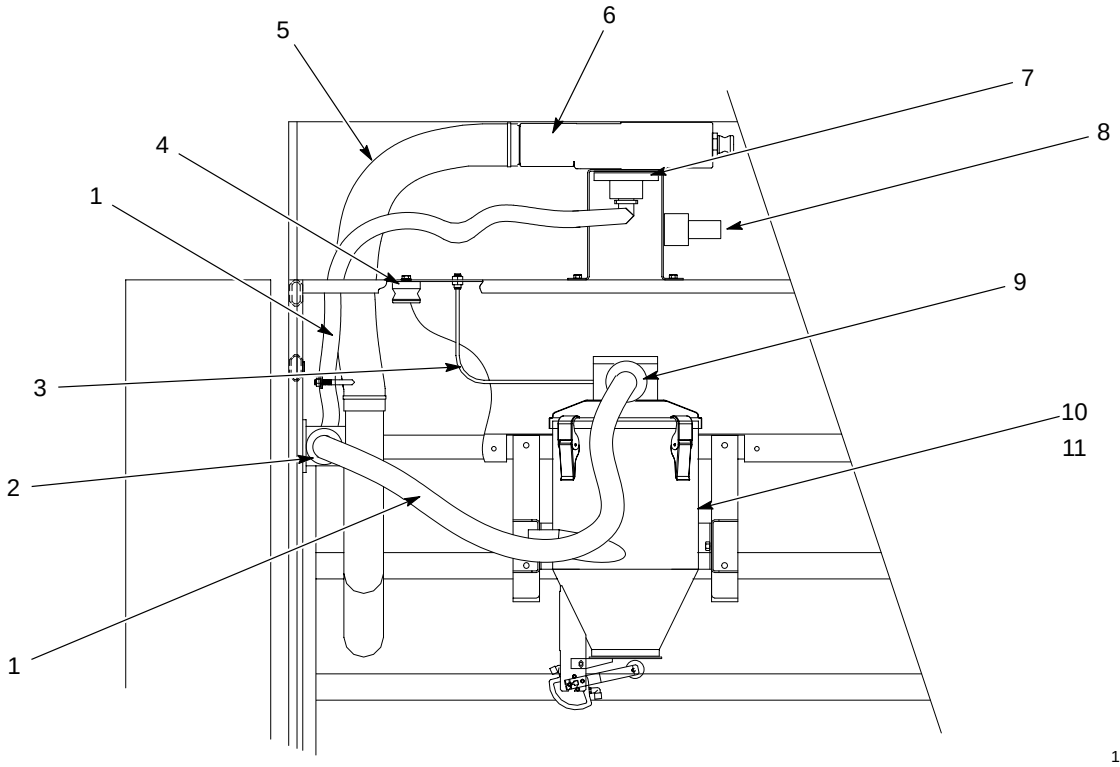

Figure 5-1 Sure-Max System Assembly

Scrap Drum

See Figure 5-2.

Item	Part	Description	Quantity	Note
—	1054258	DRUM, scrap, 55 gallon, Sure-Max	1	
1	- - - - - -	• FILTER, assembly, Sure-Max	1	A
2	240674	• TAG, ground	2	
3	134575	• WIRE, ground	2	
4	939458	• • CLIP, ground	2	
NS	1014514	HOSE, vacuum, $1^1/_2$ in.	AR	
NOTE A: Refer to *Filter Assembly* on page 5-4 for a breakdown of the parts included in this assembly.				

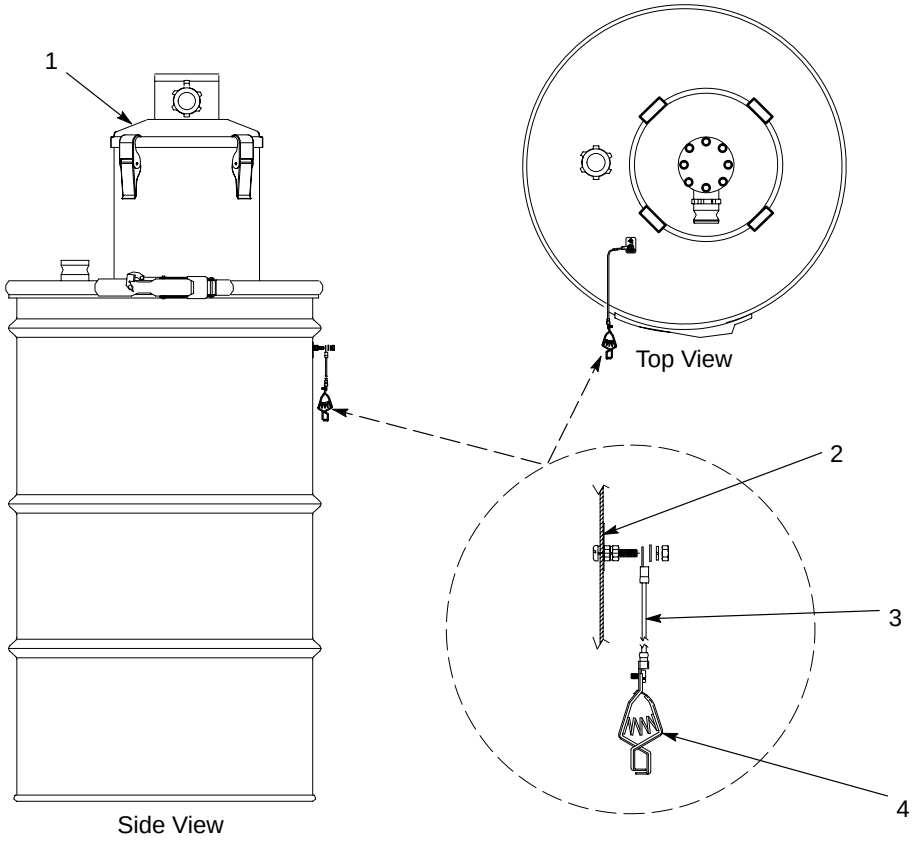

Figure 5-2 Scrap Drum

Filter Assembly

See Figure 5-3.

Item	Part	Description	Quantity	Note
—	- - - - - -	FILTER ASSEMBLY, Sure-Max	2	
1	- - - - - -	• ELBOW, 5 mm, 6-mm tubing	1	
2	- - - - - -	• TUBING, 6 mm	AR	
3	- - - - - -	• FITTING, banjo, male adapter/male thread	1	
4	- - - - - -	• ELBOW, 90 degree, $^1/_8$-in. NPS, 6-mm tubing	2	
5	1015487	• CLAMP, hose, 130-165 mm, stainless steel	1	
6	1013177	• SEAL, Pitex filter, Sure-Max	1	
7	- - - - - -	• BASKET, filter	1	
8	1014511	• BODY SEAL/MODULE SEAL	1	
9	1013178	• GASKET, inlet/outlet, Sure-Max	2	
10	- - - - - -	• SCREW, socket head, cap, M5 x 20, stainless steel	16	
11	- - - - - -	• VALVE, air shock	1	
12	- - - - - -	• SCREW, hex head, M5 x 20, stainless steel	4	
13	- - - - - -	• WASHER, nylon, 5 mm	8	
14	- - - - - -	• TANK, air shock, 275	1	
15	1013179	FILTER ELEMENT, Pitex	1	

AR: As Required

Filter Containers

Use these containers to store color-specific Sure-Max filters and cleaning sponges when they are not in use. Use one dedicated container to store the filter and cleaning sponges for each color used in your system.

Part	Description	Note
1017571	CONTAINER, filter element, Sure-Max	A
1017572	CONTAINER, filter assembly, Sure-Max	B

NOTE A: Use this container to store a spare Pitex filter element, part 1013179, and cleaning sponges when they are not in use.

B: Use this container to store a complete, spare Sure-Max filter assembly when it is not in use.

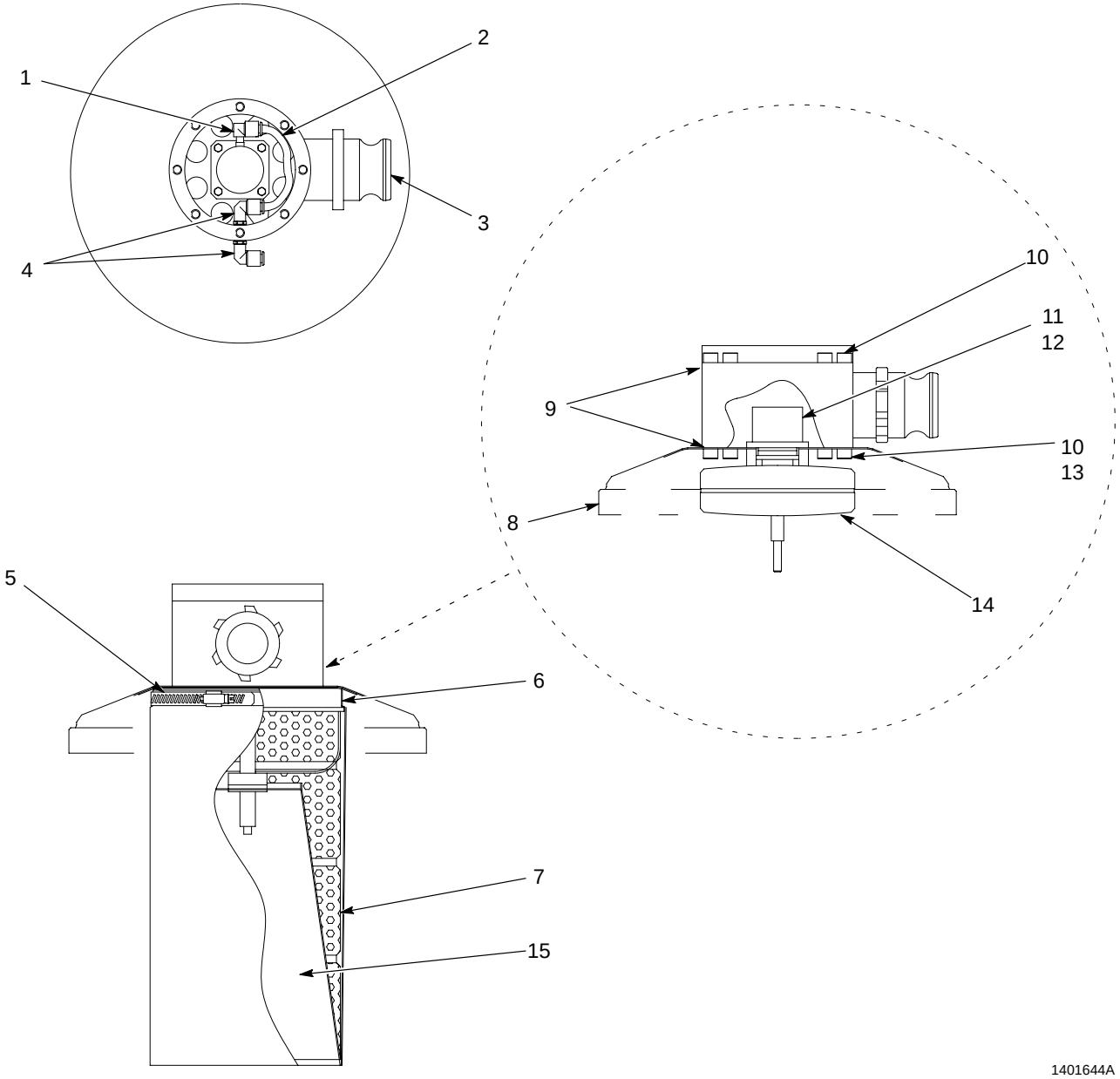

Figure 5-3 Filter Assembly

Optional Bulk Virgin Powder Feed System

See Figure 5-4.

Item	Part	Description	Quantity	Note
1	768530	PINCH VALVE, 50 mm, WP ends	2	
NS	393397	• SLEEVE, inner, pinch valve, WP ends, 50 mm	1	A
2	1039986	HOSE, 2 in. ID, PVC, vacuum, bulk feed	AR	
3	1039984	NOZZLE, 2 in. OD, 36 in. long, vacuum, aluminum with coupling	1	
4	- - - - - -	DOLLY, drum, powder, 55 gallon	1	
NS	1014553	PROBE, level sensor, normally closed, quick disconnect, M18	1	
NS	1040031A	BRUSH, cleaning, plastic bristles, bulk feed	1	
NS	- - - - - -	PINCH valve plugs	2	
NS	1013284	PADS, cleaning, Sure-Max, 10 pack	1	

NOTE A: Order this sleeve to rebuild a leaking pinch valve.

AR: As Required

NS: Not Shown

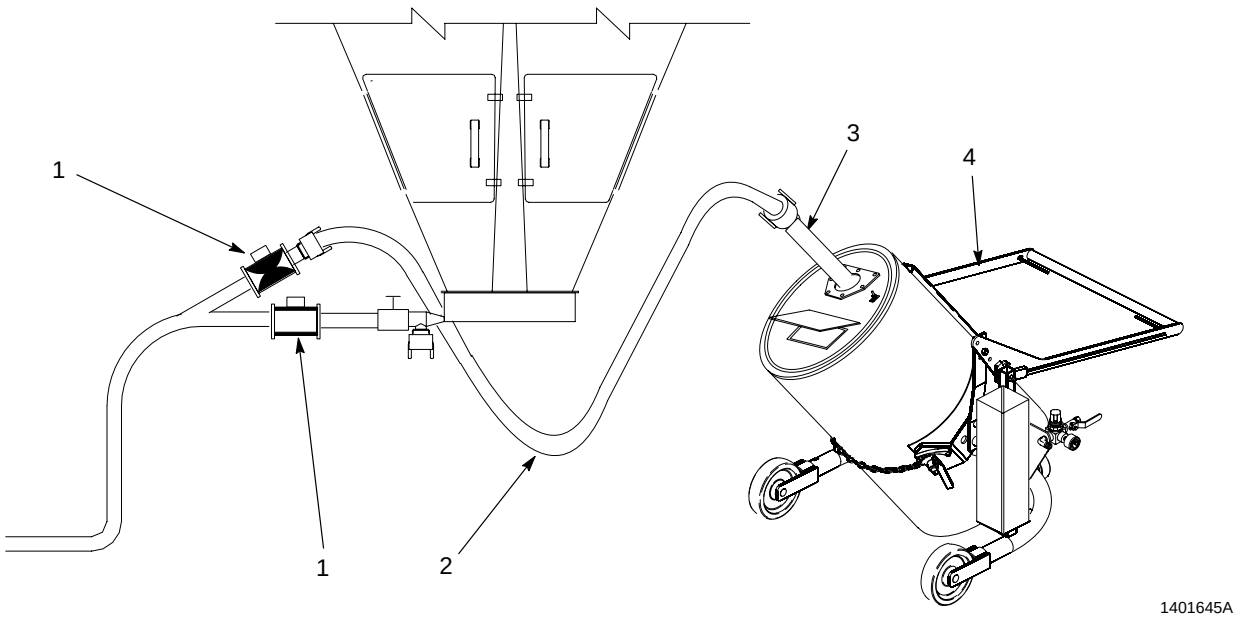

Figure 5-4 Bulk Virgin Powder Feed System

Section 6

Pneumatic and Vacuum Diagram

Refer to Table 6-1 and see Figure 6-1 for a description of the pneumatic and vacuum connections in the Sure-Max Powder Transfer System.

Table 6-1 Sure-Max Powder Transfer System Pneumatic and Vacuum Connections

Item	Tubing Size	Description
A	10 mm	Lance Down
B	10 mm	Lance Up
C	6 mm	Reclaim Pinch
D	6 mm	Reclaim Powder Transfer
E	6 mm	Virgin Pinch
F	6 mm	Sure-Max Scrap Drum Filter Pulse
G	10 mm	Lance Fluidizing
H	10 mm	Hopper Fluidizing
J	10 mm	Collector Fluidizing
K	10 mm	Collector Transfer
L	10 mm	Collector Pulse
M	6 mm	Final Filter
N	6 mm	Sure-Max Pump
P	6 mm	Sure-Max Receiver Filter Pulse
Q	6 mm	Sure-Max Discharge Door Close
R	6 mm	Sure-Max Discharge Door Open
T	10 mm	Sure-Max Pulse Solenoid
V1	$1^1/_2$ in.	Sure-Max Pump To Vacuum Diverter Vacuum Air
V2	$1^1/_2$ in.	Vacuum Diverter To Sure-Max Receiver Vacuum Air
V3	$1^1/_2$ in.	Vacuum Diverter To Sure-Max Scrap Drum Vacuum Air
V4	$1^1/_2$ in.	Sure-Max Transfer Pan To Sure-Max Scrap Drum Vacuum
SMP	2 in.	Sure-Max Stainless Steel Reclaim Transfer Pipe
H2	—	Supply Air from Air Manifold
H4	—	Supply Air to Vacuum Pump
H5	—	Supply Air to Feed Center Blow Gun

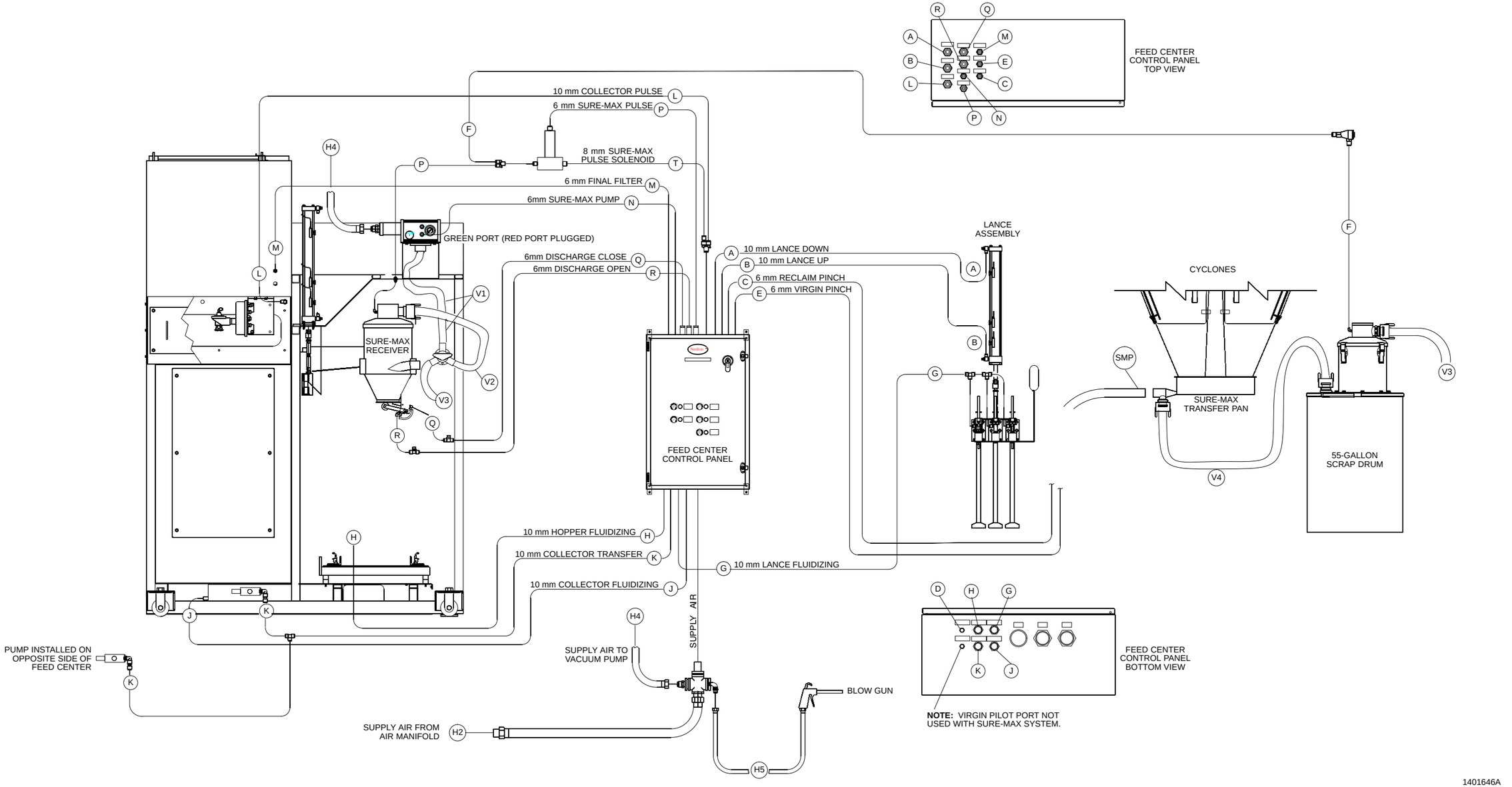

Figure 6-1 Pneumatic and Vacuum Diagram