NRPS-200 Rotary Sieve

Customer Product Manual
Part 1025254B
Issued 9/02

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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Address all correspondence to:

Nordson Corporation
Attn: Customer Service
555 Jackson Street
Amherst, OH 44001

Notice

Trademarks

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NRPS-200 Rotary Sieve

Safety

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.

All work conducted inside the spray booth or within 1 m (3 ft) of booth openings is considered within a Class 2, Division 1 or 2 Hazardous location and must comply with 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.

Description

The NRPS-200 rotary sieve screens reclaimed powder coatings. The sieve supplies reclaimed powder for up to 24 spray guns, depending on the type of powder and screen mesh. A 60-mesh screen is standard. Optional 40-, 80-, 100-, and 120-mesh screens are available.

A three-phase ac electric motor drives the sieve rotor. Motors with a variety of voltage and frequency ratings are available.

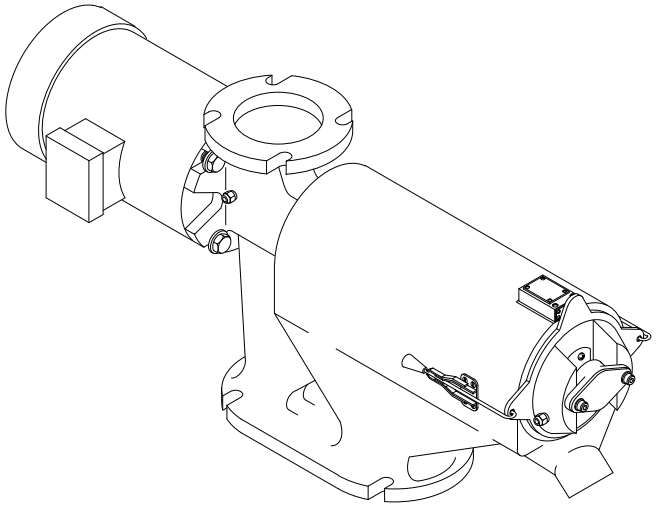

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Figure 1 NRPS-200 Rotary Sieve

Theory of Operation

See Figure 2.

The sieve mounts on top of a powder feed hopper (19). An accumulator (3) with connections for transfer hoses (20) mounts on the sieve inlet flange.

Compressed air conveys the reclaimed powder from the color module through the transfer hoses to the accumulator. A flexible hose (2) connects the accumulator vent tube (1) to the color module vent-stub (4). Without this connection, the compressed air will flow through the sieve inlet and force the powder out the discharge port (16). Vent-assist air, injected into the vent tube, increases the air flow through the hose. A regulator and gauge (7) on the air volume control panel (5) regulate the vent-assist air pressure.

The powder flows into the sieve inlet from the accumulator. The rotor's auger blades (9) transport the powder into the screen. The helical blades (11) blow the powder through the screen and into the feed hopper.

Particles that cannot pass through the screen flow out the discharge port. A flexible hose (17) connects the discharge port to a scrap container (18). The hose connections and the scrap container must be air-tight.

The lip seals (14) and the purge air flowing through the lantern rings (13) protect the motor bearing and the external bearing (15) on the sieve end door (12) from powder contamination. A regulator and gauge (8) controls purge-air pressure. Two flow meters (6) control purge-air volume.

Clamping the sieve end door against the sieve housing closes the limit switch (21). This completes an interlock circuit and allows the sieve motor to start. Another interlock circuit, in the system electrical panel, prevents the sieve motor from starting unless the booth exhaust fan is on.

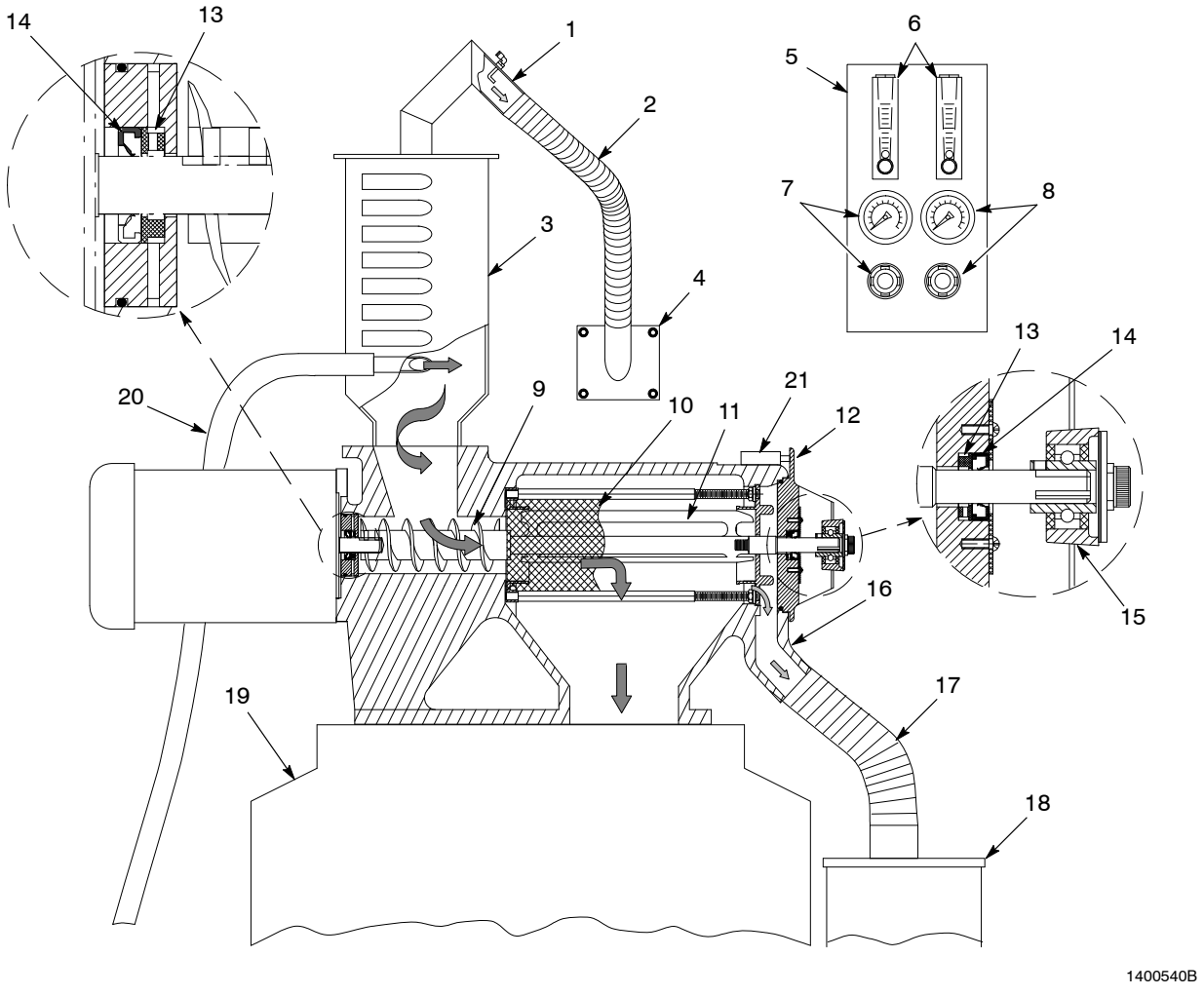

Figure 2 Sieve Components and Operation

1. Vent tube
2. Flexible hose
3. Accumulator
4. Vent stub
5. Air volume control
6. Purge-air flow meters
7. Vent-assist air regulator/gauge
8. Purge-air regulator/gauge
9. Auger blades
10. Screen
11. Helical blades
12. End door
13. Lantern ring
14. Lip seal
15. External bearing
16. Discharge port
17. Flexible hose
18. Scrap container
19. Feed hopper
20. Transfer hose
21. Limit switch

Installation

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

All Nordson rotary sieves have the same mounting hole patterns and use the same gaskets. This makes it possible for you to replace an older sieve with a NRPS-200 sieve without modifying the hopper lid or replacing the accumulator.

NOTE: See Figure 3 for the mounting hole pattern.

Sieve Mounting and Hose Connections

See Figure 3.

1. Place the base gasket (10) and sieve on the hopper lid. Align the gasket holes and sieve flange slots with the holes in the hopper lid.
2. Secure the sieve to the hopper with $^{5}/_{16}$-in. fasteners (6, 7, 8, and 9).

   NOTE: New hopper lids have tapped holes, eliminating the need to install nuts and washers on the underside.
3. Install the inlet gasket (12), accumulator (13), and air volume control (5) on the sieve inlet with $^{5}/_{16}$-in. fasteners (6, 7, 8, and 9).
4. Install 2-in. diameter flexible hose (11) between the discharge port and the scrap container. Secure the hose to the sieve and scrap container lid with 2-in. worm-gear clamps (14). The hose connections must be air tight.
5. Install 3.5-in. diameter flexible hose (3) between the accumulator vent tube (1) and the vent-stub (4) on the color module. Secure the hose to the accumulator and vent stub with 3.5-in. worm-gear clamps (2). The hose connections must be air tight.

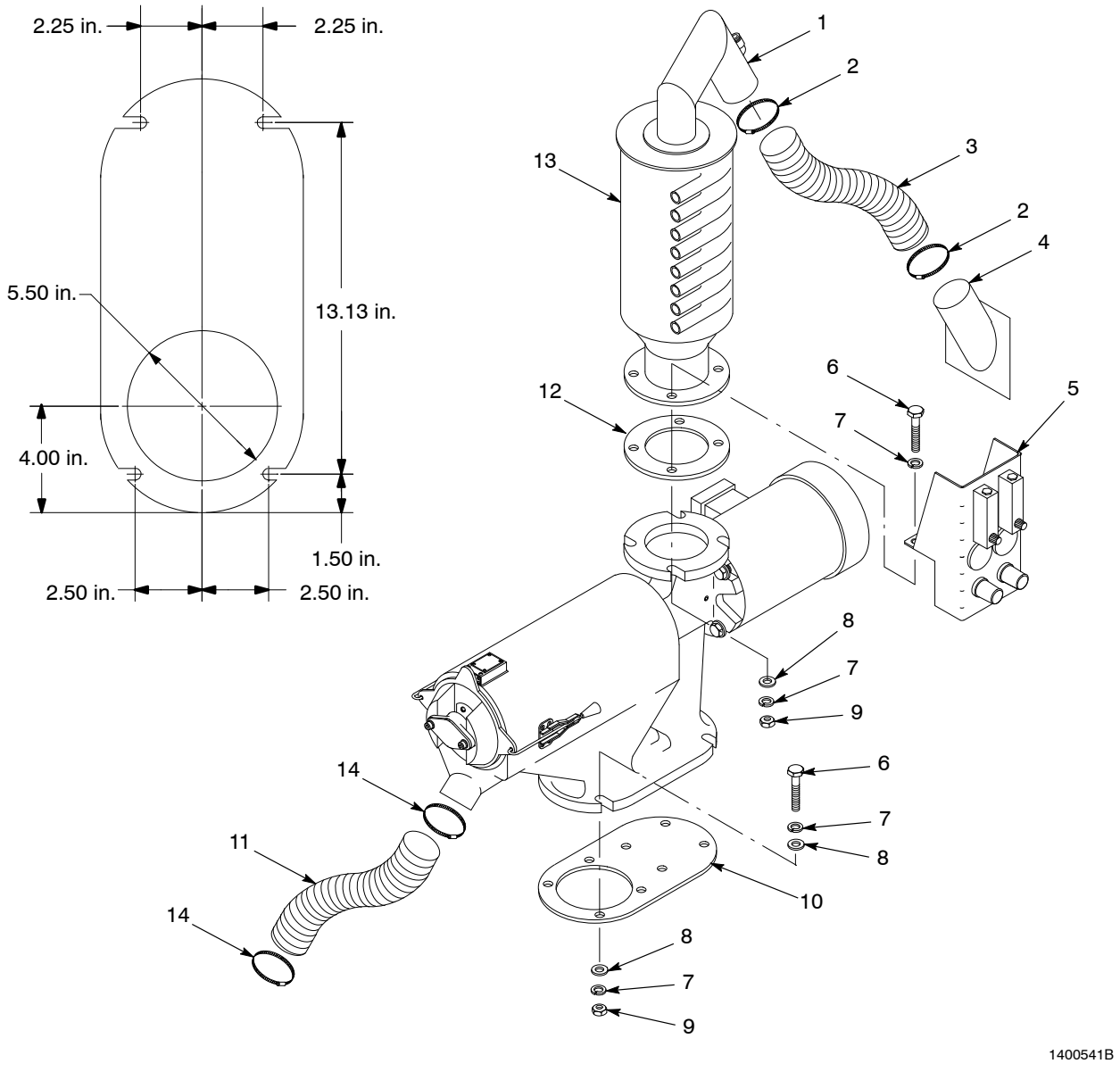

Figure 3 Sieve Mounting and Hose Connections

1. Vent tube
2. Worm-gear clamps (3.5 in.)
3. Flexible hose (3.5 in.)
4. Vent stub
5. Air volume control
6. Screws
7. Lock washers
8. Flat washers
9. Nuts
10. Base gasket
11. Flexible hose (2 in.)
12. Inlet gasket
13. Accumulator
14. Worm-gear clamps (2 in.)

Electrical Connections

Plug the sieve power and control cables into the junction boxes provided on the booth. If you are installing an NRPS-200 rotary sieve in an older system, contact your Nordson service representative for instructions.

NOTE: The sieve must rotate in a counterclockwise direction, as seen from the motor end. If the sieve does not rotate in the correct direction, shut off the system electrical power. Reverse the L1 and L2 connections at the motor junction box or at the motor starter in the system electrical panel.

Air Tubing Connections

See Figure 4.

1. Connect 12-mm air tubing from the system air volume control to the tee connector (4) in the purge-air regulator (3).
2. Connect 6-mm tubing between the straight connectors (1) on the flow meters (2) and the tubing connectors in the sieve end door and housing.
3. Connect 10-mm tubing between the elbow connector (5) on the vent-assist air regulator (6) and the accumulator vent tube or the vent-stub on the color module.

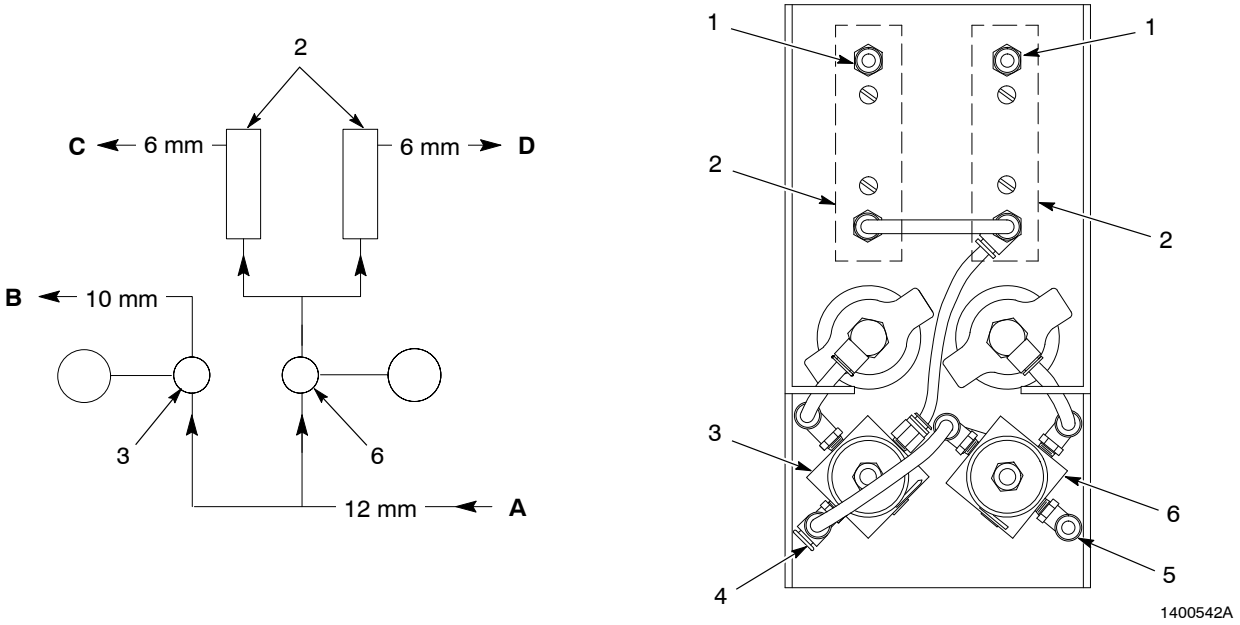

Figure 4 Air Tubing Connections

1. Straight connectors
2. Flow meters
3. Purge-air regulator
4. Tee connector
5. Elbow connector
6. Vent-assist regulator

A. Supply air
B. Vent-assist air
C. Hex bearing purge air
D. Motor bearing purge air

Operation

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

1. Before starting your powder coating system, make sure
   - all air tubing, transfer hoses, vent and scrap hoses, and electrical cables are securely connected.
   - the end door is correctly installed and clamped to the housing.
2. Turn on the system compressed air supply and electrical power.
3. Start the booth exhaust fan. In most systems, this will start the sieve motor.
4. Set the sieve air pressures and flow rates.

   Vent-assist air pressure: 2.75 bar (40 psi)

   Purge air pressure (air seals): 0.35 bar (5 psi)

   Purge air flows: 75–90 SCFH

   NOTE: There are two purge air flow meters. One meter is for the air seal at the motor shaft. The other meter is for the air seal in the end door assembly.

5. Adjust the vent-assist air pressure. Refer to *Adjusting Vent-Assist Air Pressure*.

NOTE: Check the air regulator and flow meter settings when you start the system. Check the flow meters periodically during the day to make sure air is being supplied to the bearings. Check the bearings for powder when you are cleaning the sieve. If the lip seals are undamaged, but powder has contaminated the bearings, increase the purge air pressure.

Adjusting Vent-Assist Air Pressure

Adjust the vent-assist air pressure to maintain a neutral pressure in the accumulator and sieve. This prevents powder that would normally pass through the screen from being blown into the scrap container.

1. Disconnect the flexible hose from the discharge port.
2. Secure a disposable rubber glove or plastic bag to the discharge port.
3. Start the sieve and transfer pumps.
4. Adjust the vent-assist air pressure. If the pressure is too low, the glove or bag will fill with air. If the pressure is too high, the glove or bag will deflate.
5. Record the vent-assist air pressure on the record sheet provided in the *Operation* section of your Nordson powder-coating system manual.

   NOTE: You may have to readjust the vent-assist air pressure if you change the number of transfer hoses connected to the accumulator, or change the transfer-pump air pressure.

Maintenance

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

WARNING: Before performing the following procedures, disconnect electrical power to the sieve. Failure to observe this warning may result in personal injury or death.

Every Shift

Check the screen tension. If the screen is loose, tighten the screen clamps and adjust the screen frame to tighten the screen tension. Refer to *Screen and Rotor Replacement* in the *Repair* section.

Daily

1. Disconnect the system electrical power. Unplug the sieve power and control cords from the receptacles on the booth base.
2. Turn on the system electrical power and start the exhaust fan.
3. See Figure 5. Remove the end door (2), rotor (3), and screen frame (1). Refer to *Screen and Rotor Replacement* in the *Repair* section.
4. Place the parts inside the booth, and blow them clean with low-pressure compressed air. Use an OSHA-approved air gun.
5. Wipe the rotor and end door clean. If powder has impact-fused to the rotor, use a wooden or plastic tool to clean it. Use a soft brush to clean the screen.
6. Check the screen tension and inspect the screen for damage. Adjust the screen tension if necessary. Replace the screen if it is damaged. Refer to *Screen and Rotor Replacement* in the *Repair* section.
7. See Figure 9. Check the lip seal (4) and lantern ring (3). If you remove the lip seal, make sure you have a replacement. Refer to *End Door Repair* in the *Repair* section.
8. Clean the sieve housing with low-pressure compressed air and a soft brush.
9. Install the rotor, screen, and end door.
10. Disconnect the hose from the scrap container. Empty the container. If the container is full of fine powder, check and adjust the vent-assist air pressure.

Periodically

1. Refer to the *Motor, Lip Seal, Lantern Ring, and Motor Insert Replacement* procedure in the *Repair* section. Remove the motor from the sieve housing.
2. Pull the lantern ring and lip seal out of the motor insert.
3. Clean the lantern ring and lip seal. Replace them if they are damaged.
4. Lubricate the external end door bearing with one shot of grease approximately 1.2 grams or 0.04 oz) after every 1800 hours of accumulated sieve run time.

   NOTE: The actual lubrication schedule will vary depending on estimated sieve run time. For example, the lubrication schedule would be every six months if the sieve runs 10 hours per day. If the sieve runs 20 hours per day the lubrication schedule would change to every three months.

Troubleshooting

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

This section contains troubleshooting procedures. These procedures cover only the most common problems that you may encounter. If you cannot solve the problem with the information given here, contact your local Nordson representative for help.

Problem	Possible Cause	Corrective Action
1. Excessive vibration	Damaged rotor	Inspect and replace the rotor if necessary.
	External bearing failing	Replace the external bearing.
2. End door not seating properly	Rotor not fully seated on motor shaft	Verify that the two rotor keyway pins are fully engaged with the shaft keyways (line up the dog point set screws with the keyways) to make sure the rotor is completely seated on the motor shaft.
	Screen frame not fully seated and locked into housing	Make sure the screen frame is fully seated into the housing and rotated with the outer screen ring locked and engaged behind the locking block on the housing.
	End door latches are loose	Adjust the latch hook lengths to draw the door tight against the housing.
3. Motor overloading	Plugged sieve outlets	Clean the sieve outlets.
	Clogged screen	Clean or replace the screen. Check the powder for contamination. Add new powder to the hopper. Too large a ratio of reclaimed-to-new powder can cause clogging.
	Seized external bearing	Replace the external bearing.
	Powder feed rate exceeds sieve capacity	Reduce the transfer-pump air pressure and adjust the vent-assist air pressure.

Continued...

Problem	Possible Cause	Corrective Action
4. Excessive screen wear or tearing	Powder feed rate exceeds sieve capacity	Reduce the transfer-pump air pressure and adjust the vent-assist air pressure.
	Loose screens	Remove the screen frame. Tighten the screen tension.
	Erratic or heavy pulsating feed rate, causing excess pressure on screens	Check the transfer-pump air supply and pressure. Check the transfer pumps, pickup tubes, and hoses for blockages. Check the fluidizing plates and the powder in the color module hoppers for contamination.
5. Screen blinding (plugging)	Loose screen	Remove the screen frame from the sieve. Adjust the screen tension.
	Screen mesh is too fine	Change to a coarser mesh screen.
	Powder contaminated with oil or water	Check the powder for contamination. If contaminated, remove the powder from the hopper. Clean the hopper and fluidizing plate. If the plate is contaminated, replace it. Eliminate the source of contamination.
6. Good powder in scrap container	Powder feed rate exceeds sieve capacity	Reduce the transfer-pump air pressure.
	Erratic or pulsating feed rate. Heavy surges may exceed sieve capacity	Check the transfer-pump air supply and pressure. Check the transfer pumps, pickup tubes, and hoses for blockages. Check the fluidizing plates and the powder in the color module hoppers for contamination.
	Too many oversized particles in reclaimed powder	Check the powder in the color module for contamination.
	Screen mesh is too fine	Change to a coarser mesh screen.
	Loose screens	Remove the screen frame from the sieve. Adjust the screen tension.
	Clogged screens	Clean or replace the screen. Check the powder for contamination. Add new powder to the hopper. Too large a ratio of reclaimed-to-new powder can cause clogging.
	Vent-assist air pressure too low, or hose to scrap container and/or container not air tight	Adjust the vent-assist air pressure as described in the *Operation* section. Check the hose and scrap container connections and seals.
	Sieve not level, discharge end pitched down	Level the sieve and/or the feed hopper.

Continued...

Troubleshooting *(contd)*

Problem	Possible Cause	Corrective Action
7. Capacity lower than normal	Loose screens	Remove the screen frame from the sieve. Adjust the screen tension.
	Sieve not level. Discharge end is higher than inlet end	Level the sieve and/or the feed hopper.
8. Powder backing up in accumulator	Motor running backward	The sieve must rotate counterclockwise, when viewed from the motor end. If it is not, reverse the L1 and L2 connections at the sieve motor junction box or system electrical panel. Refer to your system manual.
	Sieve inlet plugged	Clean the inlet.
	Vent-assist air pressure too high	Adjust the vent-assist air pressure. Refer to *Operation*.

Repair

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

Screen and Rotor Replacement

This procedure describes screen and rotor removal and replacement. The rotor should not have to be replaced unless it is damaged.

WARNING: Before performing the following procedures, disconnect electrical power to the sieve. Failure to observe this warning may result in personal injury or death.

Removing the Screen and Rotor

1. Shut off power at the system electrical panel. Unplug the sieve power and control cords from the booth base receptacles.
2. See Figure 5. Make sure the sieve has come to a full stop. Release the door latches (4) and slide the end door (2) off the rotor (3).
3. Turn the screen frame (1) counterclockwise to release the outlet screen ring from behind the locking block (5).
4. Remove the screen frame and rotor from the sieve housing. Clean the screen and frame with low-pressure compressed air. Make sure the threads on the frame rods are clean.

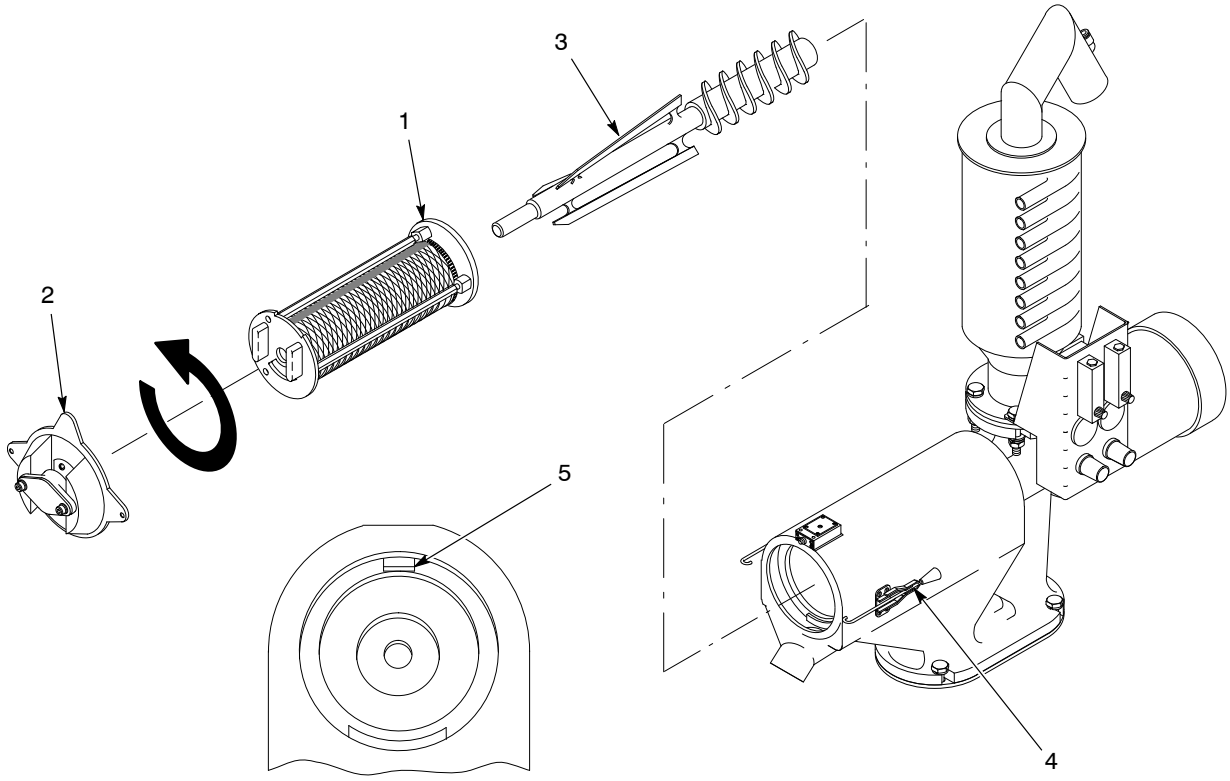

Figure 5 Removing the Screen and Rotor

1. Screen frame
2. End door
3. Rotor
4. Door latches
5. Locking block

Replacing the Screen

See Figure 6.

1. Use a $^{7}/_{16}$-inch open-end wrench on the screen frame rod (5) hexes and a $^{9}/_{16}$-inch open-end wrench on the tensioning nuts (6).

   NOTE: Do not use wrenches larger than those specified above. The ends of larger wrenches could project far enough past the frame rods and tensioning nuts to catch and tear the screen.

   a. Hold the screen frame rod stationary and rotate (loosen) the tensioning nut one complete turn.

   b. Loosen the other tensioning nuts in the same manner with two complete turns.

   c. Alternate between rods, loosening each tensioning nut two complete turns until the screen is sufficiently loose to turn the tensioning nuts by hand.

   d. Continue to loosen the nuts by hand until they bottom-out on the hex portion of the screen frame rods.

2. Loosen the worm-gear clamps (1) and remove the old screen (3).

3. Install the worm-gear clamps over the new screen. Slide the new screen over the ring flanges (10) on the screen rings. Fit the ends of the screen up against the inner and outer screen rings (4, 9).

NOTE: Install the screen so that the screen seam (2) lines up with the flats (8) on the outer screen ring (9).

4. Slide the worm-gear clamps up against the screen rings. Tighten the clamps to hold the screen securely on the flanges.

5. Make sure the frame rods are installed in the screen rings properly. Insert the threaded end of the frame rods (5) through the outer screen ring. The nylon spacer (7) should be between the tensioning nut and the outer ring. Make sure the unthreaded end of the rod is inserted through the inner screen ring (4).

6. Tighten the tensioning nuts by hand until they contact the nylon spacers and the outer screen ring. All three nuts should apply about equal pressure on the nylon spacers and the outer screen ring.

7. Use a $^{7}/_{16}$-inch open-end wrench on the screen frame rod hexes and a $^{9}/_{16}$-inch open-end wrench on the tensioning nuts.

   a. Hold the screen frame rod stationary and rotate (tighten) the tensioning nut one complete turn.

   b. Tighten the other tensioning nuts in the same manner with two complete turns. Try to keep the outer screen ring from binding by tightening each tensioning nut equal distances and not more than two complete turns at a time.

   c. Alternate between rods, tightening each tensioning nut two complete turns until all three rods are flush with the outside surface of the outer screen ring. Do not allow the screen to slip more than $^{1}/_{8}$ inch on either ring flange. The screen must be tight and smooth, with no wrinkles or twists.

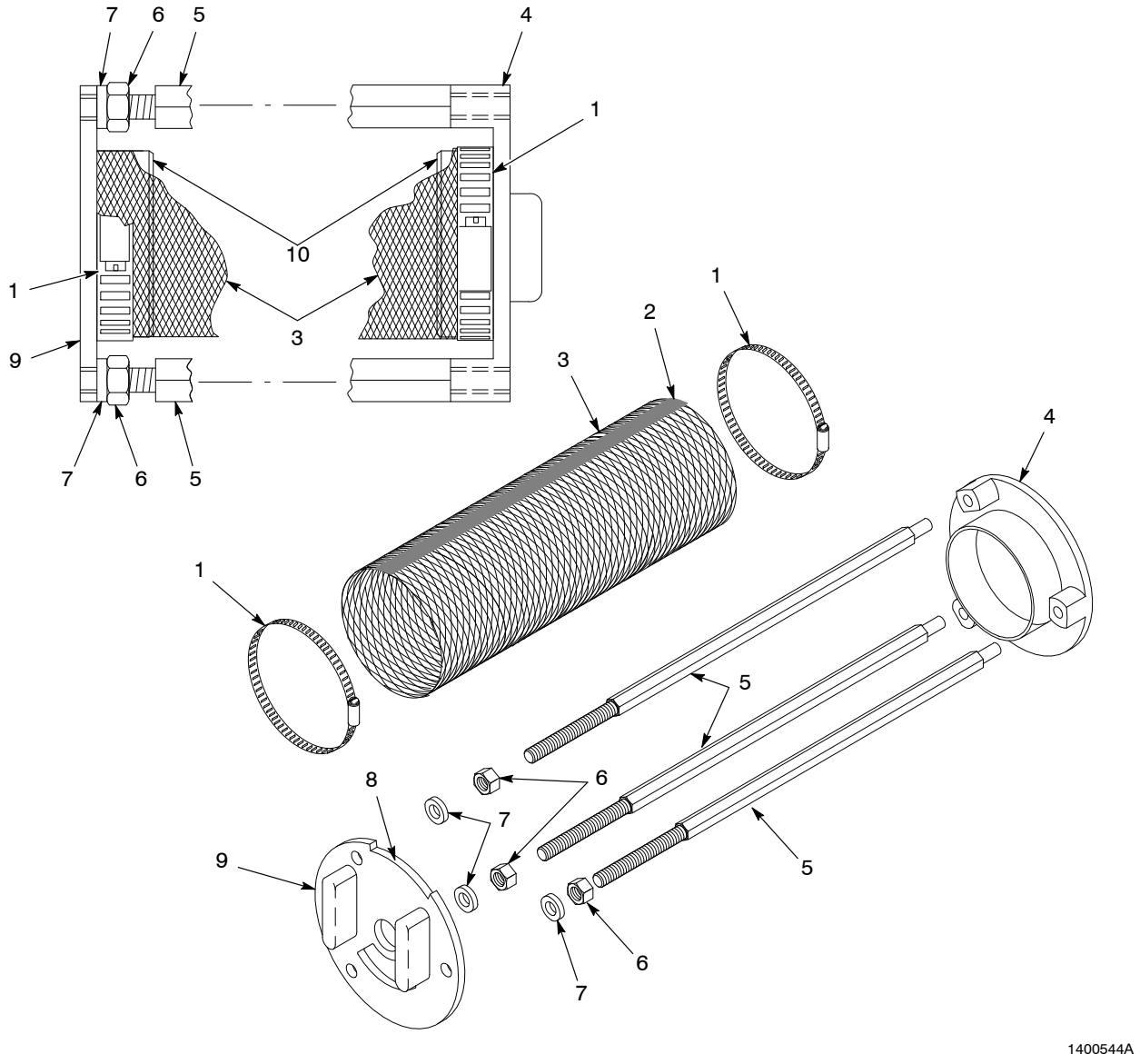

Figure 6 Replacing the Screen

1. Worm-gear clamps
2. Screen seam
3. Screen
4. Inner screen ring
5. Frame rods
6. Tensioning nuts
7. Spacers
8. Flats on outer screen ring
9. Outer screen ring
10. Ring flanges

Installing the Rotor and Screen

See Figure 7.

1. Install the rotor (5) into the housing. Fit the end of the rotor over the motor shaft. Slowly rotate the rotor until the key pins line up with the motor shaft keyways. Then slide the rotor fully onto the motor shaft.
2. Install the screen frame (1) over the rotor and into the housing.
3. Slide the flats on the outer screen ring (2) past the locking block (8). Rotate the screen frame clockwise to lock the ring behind the locking block.
4. Make sure the O-ring (4) is undamaged and correctly installed on the end door (3).
5. Slide the end of the rotor into the bearing in the end door. Install the end door on the housing and clamp it into place with the door latches (7). Make sure the limit switch (6) closes.

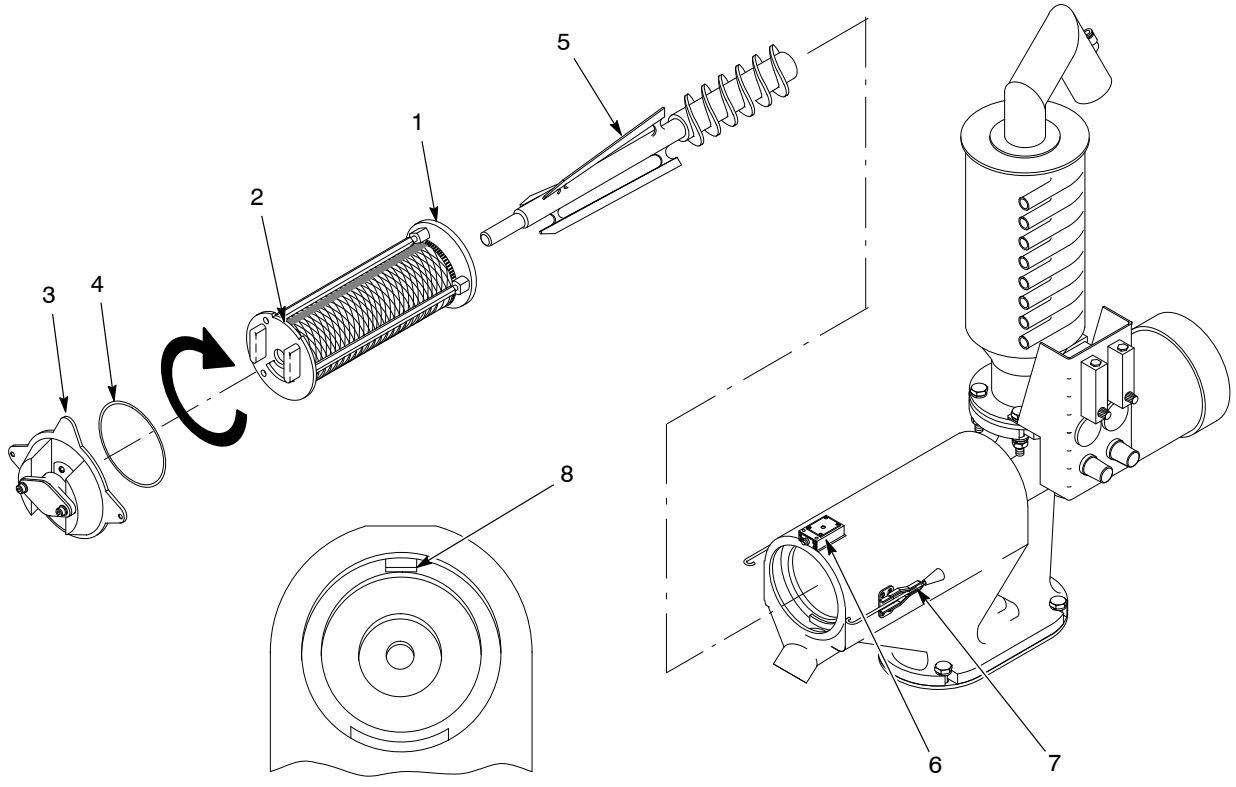

Figure 7 Installing the Rotor and Screen Frame

1. Screen frame assembly
2. Flats on outer screen ring
3. End door
4. O-ring
5. Rotor
6. Limit switch
7. Door latches
8. Locking block

Motor, Lip Seal, Lantern Ring, and Motor Insert Replacement

Use this procedure to replace the motor or the lip seal and lantern ring in the motor end of the housing. Removing the lip seal may damage it. Make sure you have a replacement seal.

WARNING: Before performing the following procedures, disconnect power at the system electrical panel. Lock and tag the disconnect switch. Failure to observe this warning may result in personal injury or death.

See Figure 8.

Disassembly

1. Shut off power at the system electrical panel. Lock out and tag the disconnect switch or unplug. Allow the sieve to come to a full stop.
2. If you are replacing the motor, open the motor junction box (1). Tag the cable leads so you can correctly reconnect them. Disconnect the cable leads from the motor leads, and the cable and strain relief from the junction box.
3. Remove the screen frame and rotor, as described in the *Screen and Rotor Replacement* procedure.
4. Support the motor and remove the mounting screws (10), lock washers (9) and flat washers (8). Carefully pull the motor straight out of the housing and motor insert (7) until the shaft is clear.
5. Remove the lip seal (4) and lantern ring (5) from the motor insert (7). You may have to drive them out with a dowel.
6. If the motor insert is damaged, loosen the set screw (11) on the side of the housing and pull the motor insert straight out of the housing to remove it.

Motor, Lip Seal, Lantern Ring, and Motor Insert Replacement *(contd)*

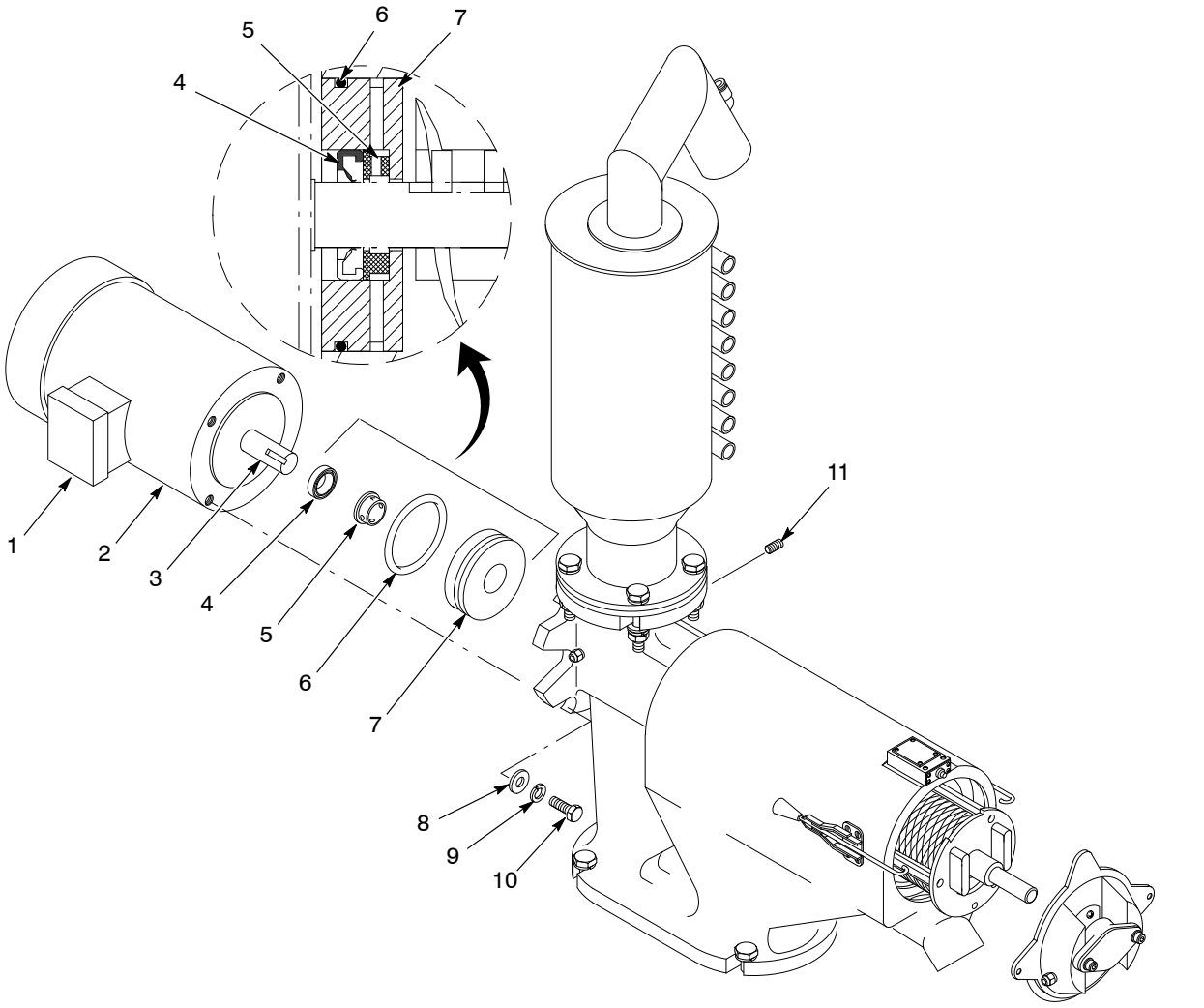

Figure 8 Motor, Lip Seal, Lantern Ring, and Motor Insert Replacement

1. Junction box
2. Motor
3. Motor shaft
4. Lip seal
5. Lantern ring
6. O-ring
7. Motor insert
8. Flat washers
9. Lock washer
10. Screws
11. Set screw

Assembly

1. Clean and inspect the lip seal (4) and lantern ring (5). Replace them if they are damaged.
2. Clean the motor insert (7) bore and housing flange.

NOTE: There is a motor insert kit available that includes the motor insert, O-ring (6), lip seal, and the lantern ring. The lip seal and lantern ring can also be ordered separately if the motor insert does not need to be replaced. Refer to the *Parts* section for ordering information.

3. If the motor insert is damaged, replace the motor insert.
   a. Install the O-ring on the outside of the motor insert.
   b. Install the assembled motor insert into the housing bore with the lantern ring and lip seal bore facing outward until it is fully bottomed into the housing bore.
   c. Tighten the set screw (11).
4. Install the lantern ring, with the flanged end facing out, into the bore of the motor insert. Install the lip seal, with the groove facing in, in the bore of the motor insert.

   NOTE: The lantern ring is properly installed when the flanged end is outward.
5. Carefully slide the motor shaft through the lip seal. Secure the motor to the housing flange with the screws (10), lock washers (9) and flat washers (8). Tighten the screws evenly.
6. If you replaced the motor, open the motor junction box. Install the cable and strain relief through a knockout in the bottom of the box. Connect the cable leads to the motor leads.
7. Install the rotor, screen frame, and end door.

End Door Repair

Use this procedure to replace the external bearing assembly, lip seal, and lantern ring in the end door. Removing the lip seal may damage it. Make sure you have a replacement seal.

See Figure 9.

1. Remove the end door (2) from the housing.
2. Remove the two shoulder bolts (8), lock washers (10), and external bearing assembly (7).
3. Remove the two screws (6) and the cover (5).
4. Remove the lip seal (4) and lantern ring (3). You may have to drive them out with a dowel.
5. Clean the end door. Remove the tubing connector (9), if necessary, to blow out the air passage. Use PTFE tape on the fitting threads. Check the O-ring (1) and replace it if it is damaged.
6. Install the lantern ring in the end door with the flanged end facing out. Install the lip seal with the groove facing in.
7. Install the cover over the lip seal with the two screws.
8. Install the external bearing assembly, lock washers, and shoulder bolts.
9. Install the end door on the housing and clamp it in place.

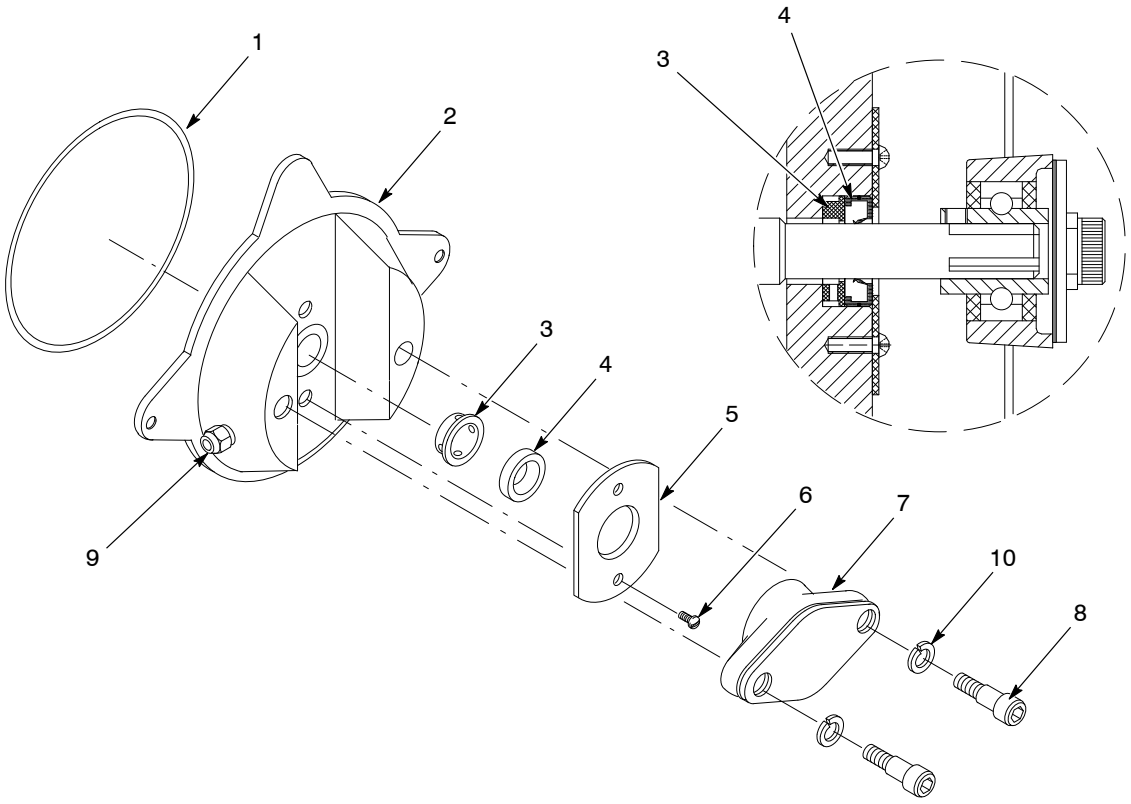

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Figure 9 End Door Repair

1. O-ring
2. End door
3. Lantern ring
4. Lip seal
5. Cover
6. Screws
7. External bearing assembly
8. Shoulder bolts
9. Tubing connector
10. Lock washers

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Parts

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	

NRPS-200 Sieves

Part	Description
1025043	230–460 Vac, 3 phase, 60 Hz
1025044	200–400 Vac, 3 phase, 60 Hz
1025045	200–400 Vac, 3 phase, 50 Hz
1025046	380 Vac, 3 phase, 60 Hz
1025047	380 Vac, 3 phase, 50 Hz
1025048	575 Vac, 3 phase, 50 Hz

1/2 HP Motors

Part	Description
226680	TEFC, 56C, 230/460 Vac, 3 phase, 60 Hz
226693	TEFC, 56C, 200/400 Vac, 3 phase, 60 Hz
226694	TEFC, 56C, 200/400 Vac, 3 phase, 50 Hz
226691	TEFC, 56C, 380 Vac, 3 phase, 60 Hz
226692	TEFC, 56C, 380 Vac, 3 phase, 50 Hz
226689	TEFC, 56C, 575 Vac, 3 phase, 60 Hz

NRPS Sieve Screens

Part	Description
247736	20 mesh
226673	40 mesh
226674	60 mesh
226675	80 mesh
226676	100 mesh
248849	120 mesh

Sieve Parts

See Figure 10.

Item	Part	Description	Quantity	Note
—	- - - - - -	SIEVE, rotary, NRPS-200	1	A
1	- - - - - -	• MOTOR	1	B, C
2	1017351	• INSERT, motor, with seal and lantern ring, kit	1	D
3	226695	• • SEAL, lip, PTFE, sieve, NRPS	1	C, D
4	226681	• • RING, lantern, brass, NRPS	1	D
5	941430	• • O-RING, Buna, 0.563 x 0.750 x 0.094 in.	1	D
6	- - - - - -	• • INSERT, motor	1	
7	981212	• SCREW, socket set, $^1/_4$-20 x 0.375 in., cup	1	
8	982973	• SCREW, cr, pan head, 8-32 x 1.500, zinc	2	
9	983110	• WASHER, lock, external tooth, #8, steel, zinc	2	
10	226696	• SWITCH, limit, NRPS, sieve	1	
11	971100	• CONNECTOR, male, 6-mm tube x $^1/_4$-in. UNI	1	
12	983061	• WASHER, flat, English, 0.406 x 0.812 x 0.065 in., zinc	4	
13	983530	• WASHER, lock, English, split, $^3/_8$ in. steel, zinc	4	
14	981402	• SCREW, hex head, $^3/_8$-16 x 1.00 in., cap zinc	4	
15	226701	• CLAMP, pull action, NRPS, sieve	2	
16	981877	• SCREW, round head, self tapping, #10-16 x 0.500 in., zinc	8	
17	226674	• SCREEN, sieve, NRPS, 60 mesh	1	C, E
18	226704	• SCREEN, frame assembly, NRPS sieve	1	C
19	247740	• • RING, outer discharge screen	1	
20	247738	• • CLAMP, worm gear, #48	2	
21	247739	• • ROD, assembly, NRPS sieve	1	
22	249050	• • • ROD, screen, frame	3	
23	983129	• • • WASHER, flat, nylon 0.38 x 0.62 x 0.125 in.	3	
24	984152	• • • NUT, hex, reg., $^3/_8$-16, steel, plain	3	
25	247737	• • RING, inner screen	1	
26	1025040	• ROTOR, assembly, NRPS, sieve	1	C

NOTE A: Refer to *Sieves* for part numbers.

B: Refer to *$^1/_2$ HP Motors* for part numbers.

C: Recommended spare part.

D: Part can be ordered separately or as a part of the motor insert service kit, part 1017351. Refer to *Motor Insert Service Kit*.

E: The 60-mesh screen is standard. Refer to *Screens* for part numbers of optional screens.

Continued...

Sieve Parts *(contd)*

Item	Part	Description	Quantity	Note
27	1025041	• END DOOR ASSEMBLY	1	
28	942510	• • O-RING, silicone, 5.125 x 5.375 x 0.125 in.	1	C
29	1025619	• • DOOR, end, sieve, NRPS-200	1	C
11	971100	• • CONNECTOR, male, 6-mm tube x $^1/_4$- in. UNI	1	C
3	226695	• • SEAL, lip, PTFE, sieve, NRPS	1	C
4	226681	• • RING, lantern, brass, NRPS	1	C
30	226687	• • COVER, end, NRPS, sieve	1	
31	981145	• • SCREW, pan head, #10-24 x 0.500 in., slotted, zinc	2	C
32	1025049	• • BEARING ASSEMBLY, external, end door, NRPS sieve	1	C, F
33	- - - - - -	• • • SCREW, socket set, 1/4–28 x 0.375 in., dog point	2	
34	- - - - - -	• • • FITTING, lubrication	1	
35	- - - - - -	• • • WASHER, lock, English, split, $^1/_2$ in., steel, nickel	2	
36	- - - - - -	• • • SCREW, shoulder, $^3/_8$-16, 0.500 x 0.625-in. shoulder, 1.25-in. long	2	
NS	1030155	TRAINING GUIDE, NRPS-200 rotary sieve	1	G
NS	1031790	PARTS POSTER, NRPS-200 rotary sieve	1	H

NOTE C: Recommended spare part.

F: The bearing assembly, part 1025049, is shipped pre-assembled and pre-greased with two temporary $^3/_8$-in. nuts on the shoulder screws. These $^3/_8$-in. nuts are for shipping purposes only. Remove the nuts and install the assembly bearing assembly on the end door.

G: This is a spiral-bound training manual that uses full-color photographs to show basic operation, disassembly, assembly, and troubleshooting.

H: This is a laminated, 11 x 17-inch full-color photograph of the rotary sieve. This exploded view of the rotary sieve shows the part numbers next to the individual rotary sieve parts.

NS: Not Shown

Motor Insert Service Kit

See Figure 10.

Item	Part	Description	Quantity	Note
2	1017351	INSERT, motor, with seal and lantern ring, kit	1	
3	226695	• SEAL, lip, PTFE, NRPS, sieve	1	
4	226681	• RING, lantern, brass, NRPS	1	
5	941430	• O-RING, Buna, 0.563 x 0.750 x 0.094 in.	1	
6	- - - - - -	• INSERT, motor	1	

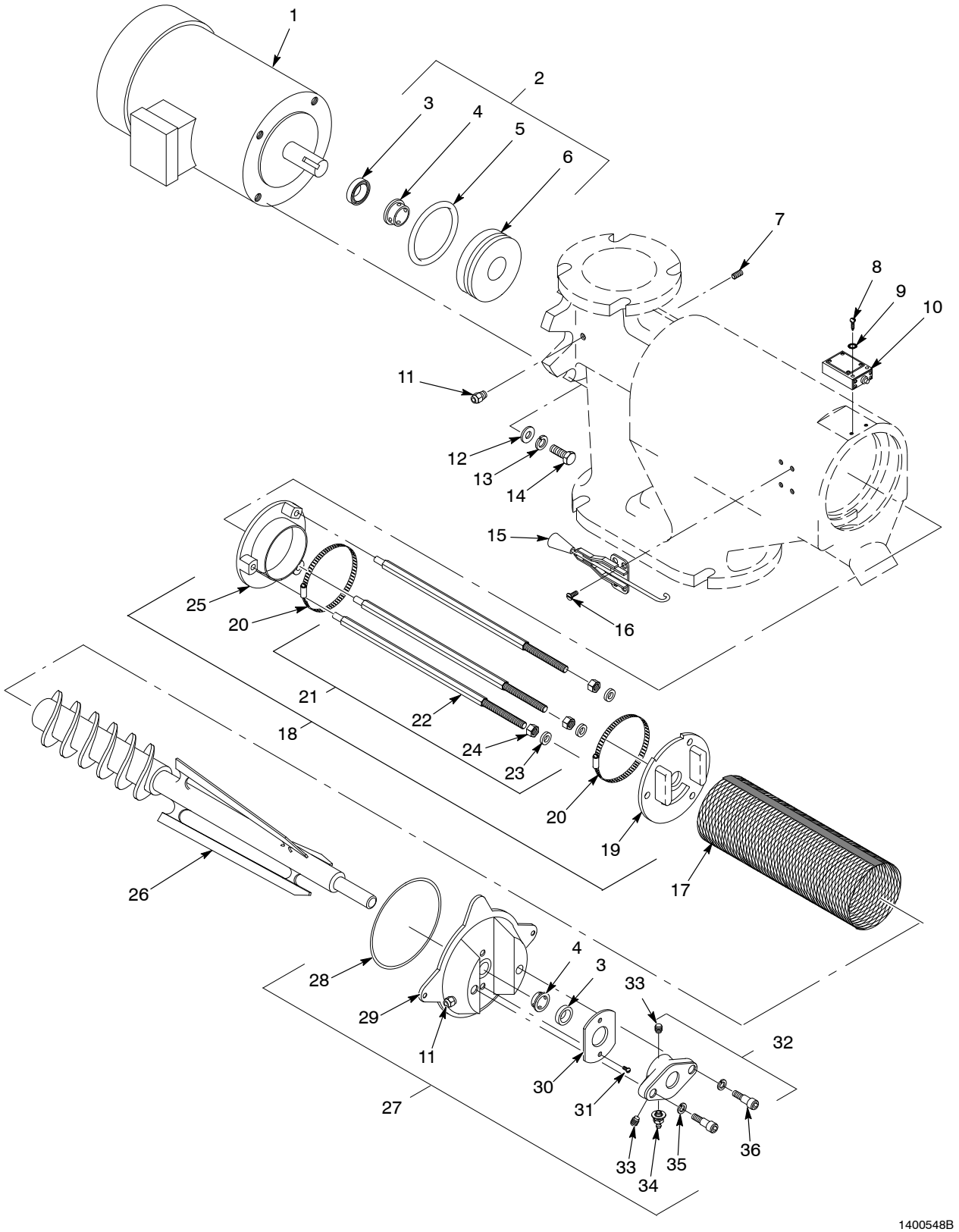

Figure 10 Sieve and Motor Insert Service Kit Parts

Air Volume Control

See Figure 11.

Item	Part	Description	Quantity	Note
—	226703	SERVICE KIT, air volume control	1	
1	981141	• SCREW, pan head, #10-32 x 0.250 in.	4	
2	972141	• CONNECTOR, male, 6 mm x $^1/_8$-in. UNI	3	
3	226699	• FLOW METER, 20–200, with brass valve	2	
4	226714	• GAUGE, air, 0–2 bar (0–30 psi), kPa	1	
5	226715	• GAUGE, air, 0–7 bar (0–100 psi), kPa	1	
6	941301	• O-RING, Viton, 1.625 x 1.813 x 0.094 in.	2	
7	972915	• TEE, male run, 12-mm tube x $^1/_4$-in. RPT	1	
8	973402	• PLUG, pipe, socket, flush, $^1/_8$-in. NPT, zinc	2	
9	972125	• ELBOW, male, 10 mm x $^1/_4$-in. UNI	1	
10	972126	• ELBOW, male, 6-mm tube x $^1/_8$-in. UNI	4	
11	901444	• REGULATOR, air, 5–125 psi, $^1/_4$-in. NPT	1	
12	972093	• ELBOW, male, 12-mm tube x $^1/_4$-in. UNI	1	
13	971100	• CONNECTOR, male, 6-mm tube x $^1/_4$-in. UNI	1	
14	901446	• REGULATOR, air, 0–25 psi	1	
15	973572	• COUPLING, pipe, hydraulic, $^1/_8$-in. NPT	2	
16	972840	• TEE, male run, 6-mm tube x $^1/_8$-in. UNI	1	
17	- - - - - -	• PANEL, control, volume, air, sieve	1	
NS	900742	• TUBING, polyurethane, 6/4 mm, blue	AR	
NS	226690	• TUBING, polyurethane, 12/8 mm, blue	AR	

AR: As Required

NS: Not Shown

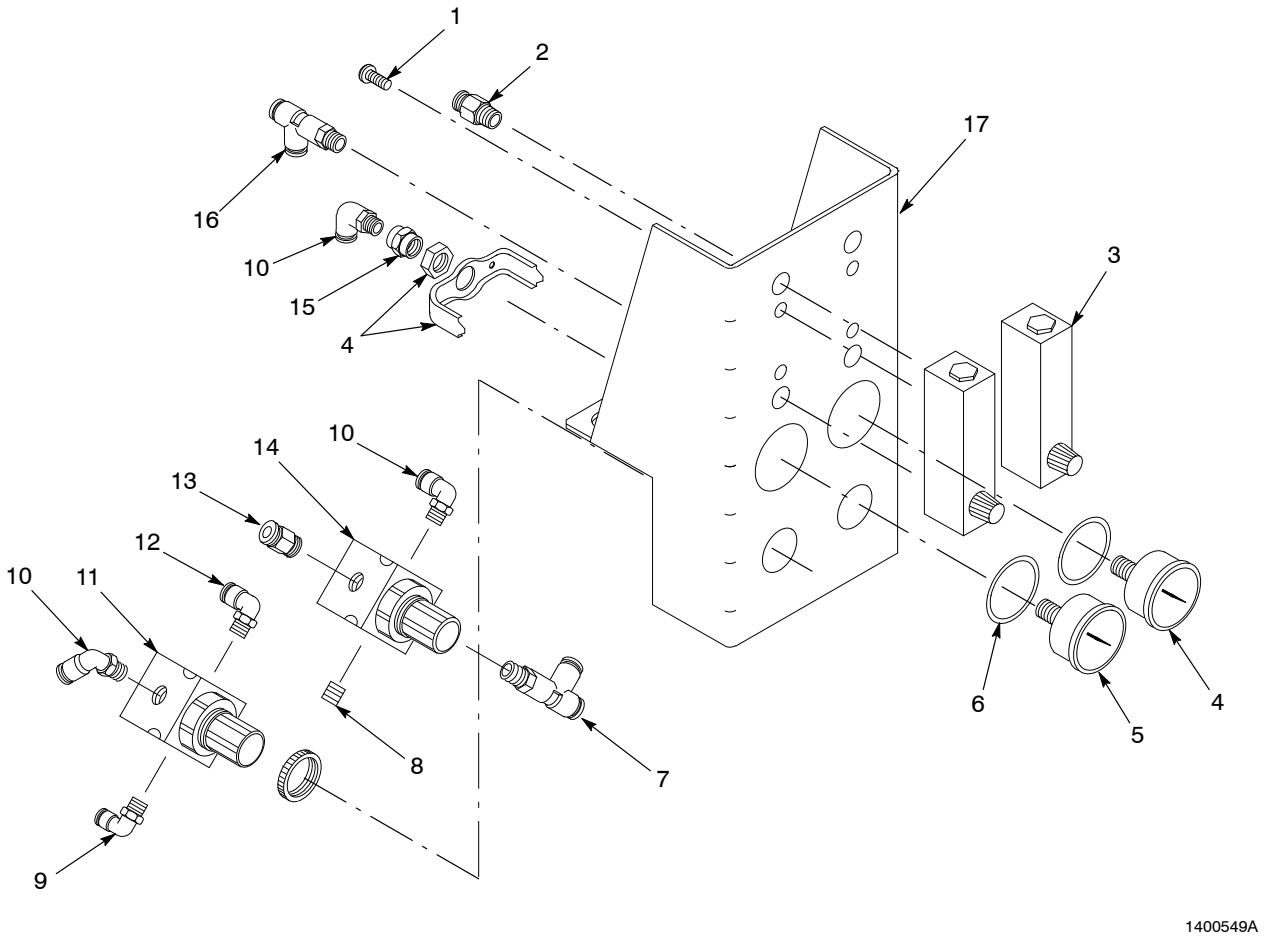

Figure 11 Air Volume Control Parts

Specifications

Size

85.54-cm (33.28-in.) long x 22.38-cm (8.81-in.) wide x 29.87-cm (11.76-in.) high

Air Requirements

Supply air pressure: 5.5 bar (80 psi) (minimum system pressure)

Purge air pressure (air seals): 0.35 bar (5 psi)

Purge air flows: 75–90 SCFH

NOTE: There are two purge air flow meters. One meter is for the air seal at the motor shaft. The other meter is for the air seal in the end door assembly.

Air Quality

The purge air must be the same quality as the powder application system air. Use 3-micron filter/separators with automatic drains, and a refrigerated or regenerative-desiccant air dryer capable of producing a 38 °F or lower dew point at 6.9 bar (100 psi).