Instruction Sheet
P/N 1609219–01

Spectrum® VT Inline Powder Feed Pump

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

Description

See Figure 1.

Spectrum® VT inline powder pumps are used in powder feed centers to draw powder from a container, atomize the powder stream, and transfer it to powder spray guns. The pumps can be used with 11-mm or 12.7-mm Nordson antistatic powder feed hose.

Figure 1 Spectrum VT Inline Powder Feed Pump

Pump Removal

See Figure 2.

1. Shut off the spray guns.
2. Release the clamp handles (8) by lifting them upward.
3. Disconnect the hose from the throat holder (5).
4. Remove the clamp bar (4).
5. Wiggle and pull the pump (6) to remove it from the manifold block (7).

   NOTE: When disconnecting before a purge, the powder port must be cleaned before replacing the pump.

Pump Installation

NOTE: For best results, the powder feed hose should be no longer than 10.7 m (35 ft) and rise vertically over its length no more than 3.7 m (12 ft).

See Figure 2.

1. Align the pump ports.
2. Push the pump (6) into the manifold block (7) until the pump body bottoms out against the manifold block.
3. Connect the hose to the pump (6).
4. Align the clamp bar (4) with the locating pins and secure on the manifold block (7).

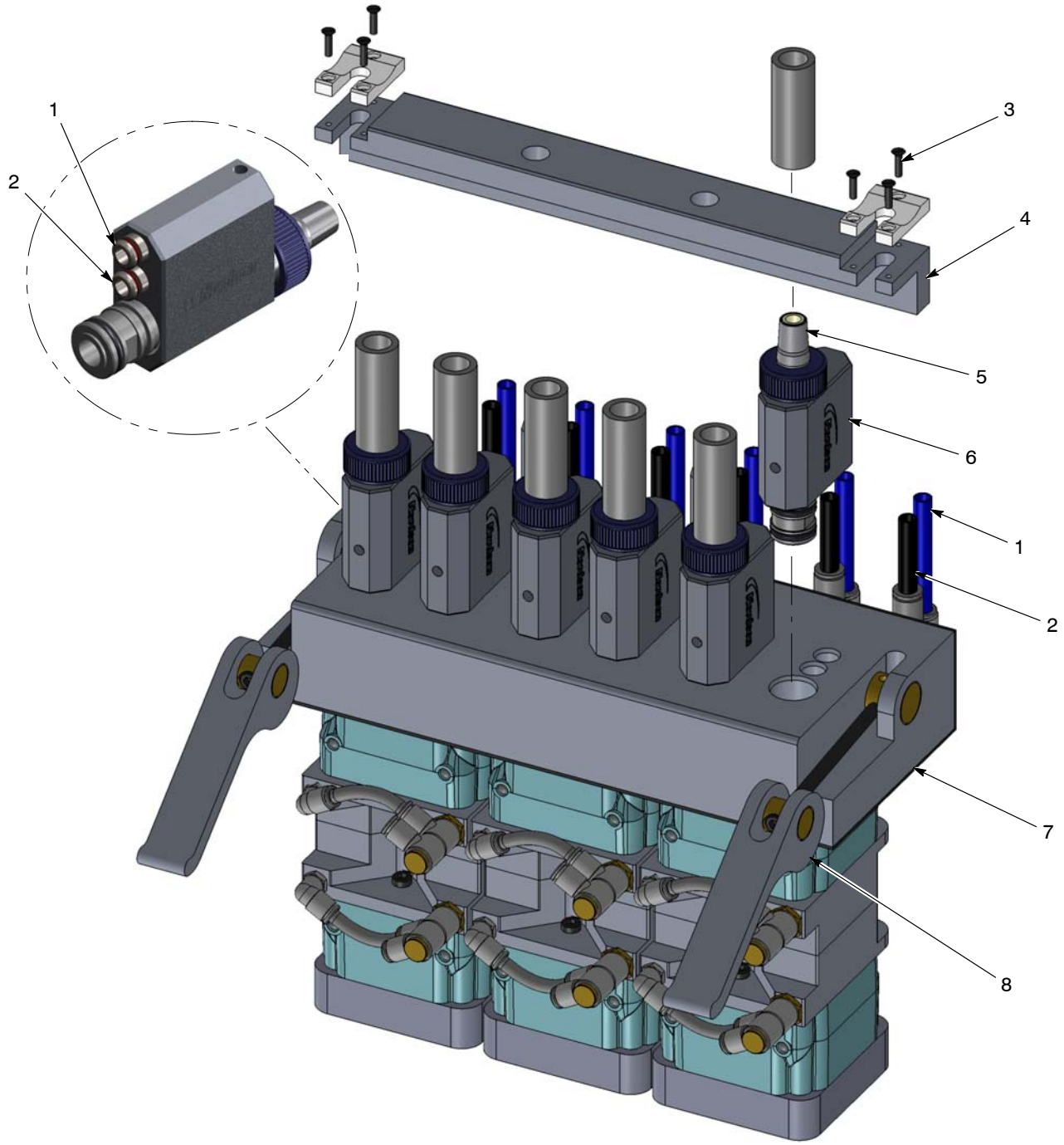

Figure 2 Removing and Installing Inline Powder Pumps

1. Atomizing Air Fitting
2. Flow Rate Air Fitting
3. Wear Piece
4. Clamp Bar
5. Throat Holder
6. Inline Powder Pump
7. Manifold Block
8. Clamp Handle

Operation

WARNING: All conductive equipment in the spray area must be connected to a true earth ground. Ungrounded, or poorly grounded equipment, can become electrically charged and cause a severe shock or create sparks hot enough to cause a fire or explosion.

Operating air pressures are determined by system variables, including powder feed hose type and size, spray gun type, powder type, conveyor speed, and desired film build.

The following air flows are average starting points. Adjust air flows to achieve the desired powder delivery volume and density.

Air Type	Air Flow
Atomizing Air	1.7 m^3/hr (1.0 cfm)
Flow Rate Air	2.5 m^3/hr (1.5 cfm)

Maintenance

CAUTION: Always blow out the powder feed hose from the pump end. Make sure that the booth exhaust fan is operating.

CAUTION: Do not scrape impact-fused powder off the pump parts with any sharp or hard tools. Powder will build up in any scratches on the powder contact surfaces, causing impact fusion and pump clogging.

Daily	Purge the pump when performing either a color change or system shutdown. Refer to the powder feed center manual for more information.
Periodically	Periodically disassemble the pump and clean its parts following these guidelines: • Use low-pressure compressed air and lint-free cloths. • Inspect all parts and replace any that are worn or damaged. • Clean the parts with an ultrasonic cleaner and an emulsion cleaning solution as described in the *Recommended Cleaning Procedures.*

Recommended Cleaning Procedures

Nordson recommends using an ultrasonic cleaning machine and Oakiter BetaSolv emulsion cleaner to clean powder pumps.

1. Fill an ultrasonic cleaner with BetaSolv or an equivalent emulsion cleaning solution at room temperature. Do not heat the cleaning solution.
2. Disassemble the pump and remove the O-rings. Blow off the pump parts.

   NOTE: Do not allow the O-rings to come in contact with the cleaning solution. Do not immerse the check valves in the solution.
3. Place the pump parts in the ultrasonic cleaner and run the cleaner until all parts are clean and free of impact fusion.
4. Rinse all parts in clean water and dry before re-assembling the pump. Inspect the O-rings and replace any that are damaged.

   NOTE: The tip of the injector must be clean and undamaged. The injector directs the air flow directly into the center of the venturi throat. Any obstruction or damage to the injector will produce an off-center air stream that wears a non-uniform pattern in the throat and reduces its usable life.

Pump Repair

Venturi Throat Replacement

See Figure 3.

1. Unscrew and remove the nut (5).
2. With a slight twisting motion, pull the throat holder (4) and throat (2) out of the pump body (1). Inspect the holder and the two conductive silicone O-rings (3) installed on it for wear or damage. Replace any worn or damaged parts.
3. Install the new throat (2) into the throat holder (4), then push the throat holder into the pump body (1) with a slight twisting motion.
4. Install the nut (5) over the throat holder (4) and thread it onto the pump body (1). Tighten the nut hand-tight.

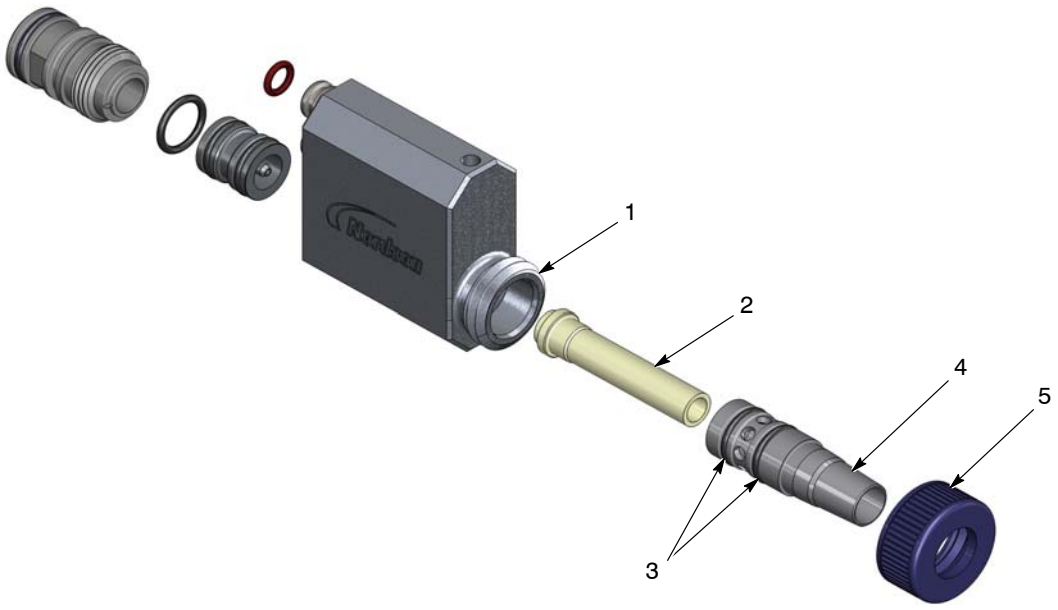

Figure 3 Throat Removal and Installation

1. Pump Body
2. Venturi Throat
3. O-rings (0.489 ID x 0.070 W)
4. Throat Holder
5. Nut

NOTE: All O-rings are conductive silicone. Do not replace with non-conductive O-rings.

Injector Replacement

Tools Required:

- Wrench
- Extraction Tool

NOTE: These tools are optional and must be ordered separately. Refer to the *Options* section for part numbers.

See Figure 4.

1. Unscrew the injector adapter (4) from the pump body (2) with a wrench.
2. Insert the extraction tool (1) into the injector (3) and rotate it clockwise to hook the injector spider as shown. Turn the extraction tool clockwise while pulling on it to remove the injector from the pump body (2).
3. Inspect the injector (3), injector adapter (4), and all four O-rings (5, 6) for wear or damage. Replace any damaged or worn parts.
4. Install two O-rings (6) onto the injector (3), then press the injector into the pump body (2), making sure the injector nozzle is pointing toward the output end of the body. The extraction tool (1) can be used to seat the injector fully into the bottom of the pump body core.
5. Inspect the loose O-ring (6) and make sure it is not damaged or twisted. Insert it into the pump body (2) and seat it against the injector (3). The end of the extraction tool (1) can be used to make sure it is seated correctly.
6. Make sure the larger O-ring (5) is installed on the injector adapter (4). Screw the injector adapter into the pump body (2) and tighten it snugly with a wrench.

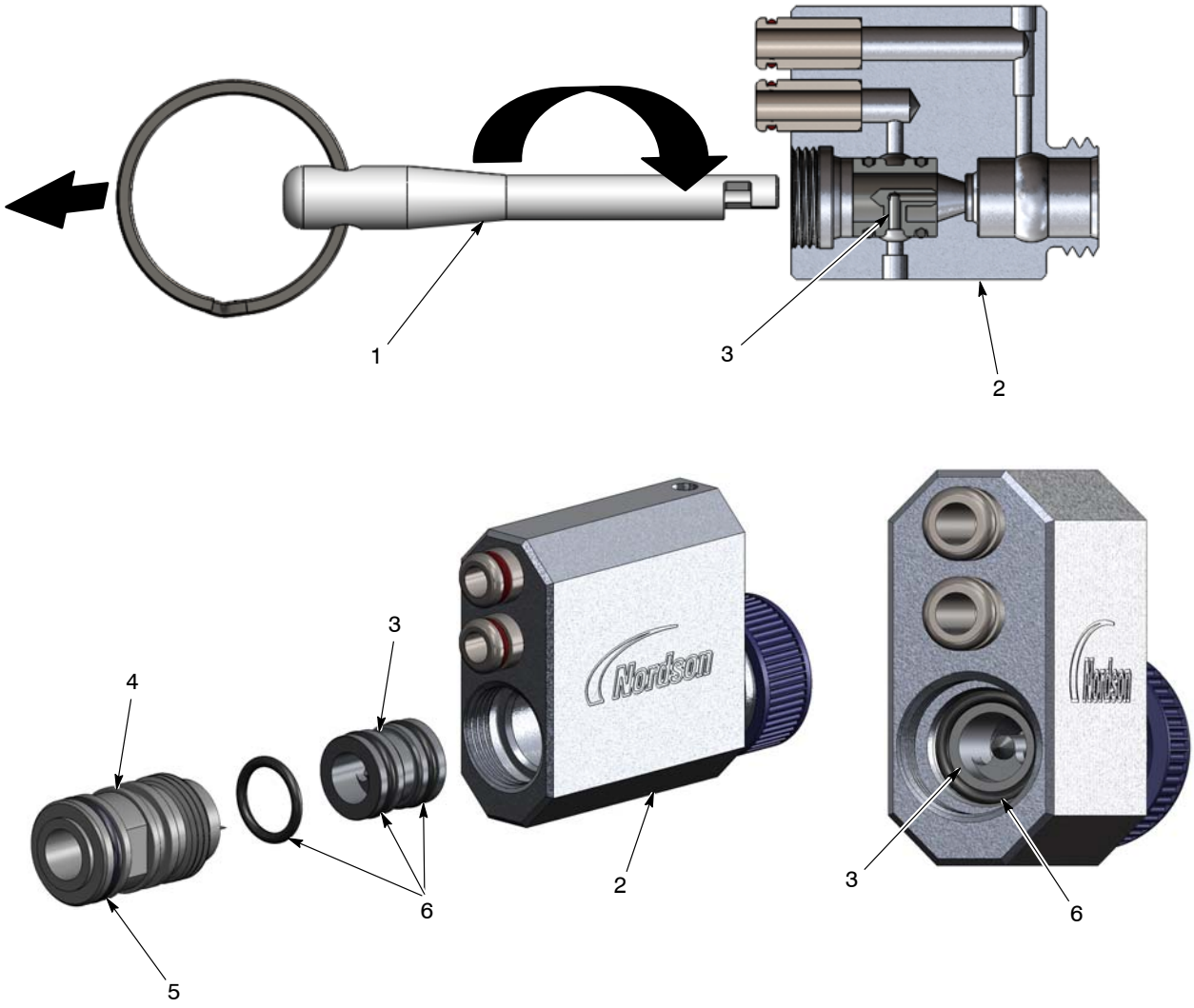

Figure 4 Injector Removal and Installation

1. Injector Tool
2. Pump Body
3. Injector
4. Injector Adapter
5. O-ring (0.627 ID x 0.080 W)
6. O-ring (0.489 ID x 0.070 W)

NOTE: All O-rings are conductive silicone. Do not replace with non-conductive O-rings.

Parts

To order parts, contact Nordson customer support at (800) 433−9319 or contact a local Nordson representative.

Pump Parts

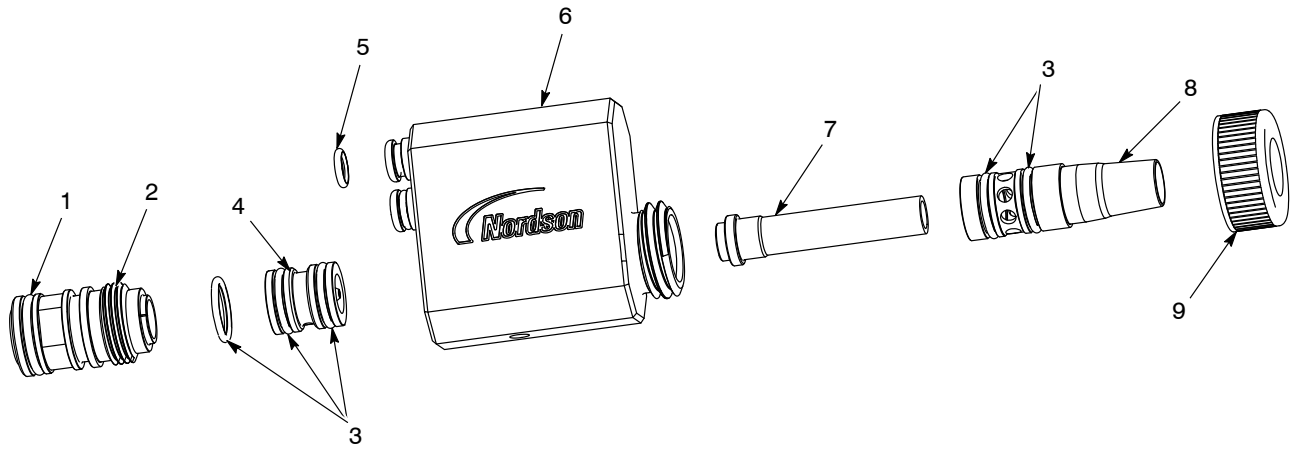

Figure 5 Spectrum VT Pump Assembly

Item	Part	Description	Quantity	Note
—	1609159	PUMP ASSEMBLY, inline, Spectrum VT		
—	−−−−−−−	• PUMP ASSEMBLY, inline, Spectrum VT	1	
1	1088590	• • O-RING, silicone, conductive, .627 x .080	1	
2	1608596	• • ADAPTER, threaded, inline pump	1	
3	940147	• • O-RING, silicone, conductive, .500 x .625	5	
4	1600594	• • INJECTOR, machined, inline pump, Encore, SS	1	
5	1608598	• • O-RING, silicone, 7 mm ID, 1.5 mm W, A70 durometer	2	
6	1608595	• • BODY, pump, inline Spectrum VT	1	
7	1095899	• • THROAT, pump, Encore Gen II, Tivar	1	
8	1095898	• • HOLDER, pump, throat, Encore Gen II	1	
9	1095914	• • NUT, pump, Encore Gen II	1	

Options

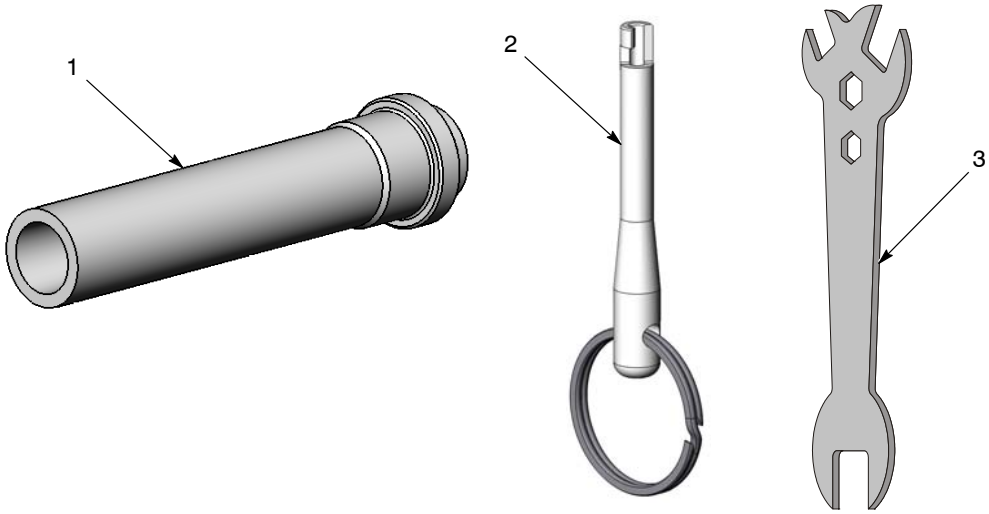

Figure 6 Options

Item	Part	Description	Quantity	Note
1	1095910	THROAT, pump, Encore Gen II, PTFE	1	
2	152999	WRENCH	1	
3	1097913	TOOL, extraction, inline pump, Encore	1	

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