Nordson

Instruction Sheet
P/N 1614725-01

Prodigy® Enhanced Pinch Valve Manifold Kit

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

Use the Prodigy® enhanced pinch valve manifold kit to rebuild the Prodigy HDLV® pump.

Perform a color change to blow the residual powder from the pump before starting procedures.

WARNING: Shut off and relieve system air pressure before performing the following tasks. Failure to relieve air pressure may result in personal injury.

Removing Pump

NOTE: Tag all air and powder tubing before disconnecting from the pump.

1. See Figure 1. Disconnect the purge air lines (4) from the top of the pump.
2. Disconnect the inlet and outlet powder tubing (6) by removing the tube nuts (5) from the bottom of the pump.
3. Remove the two screws (1), lock washers (2), and flat washers (3) securing the pump to the pump panel and move the pump to a clean work surface.

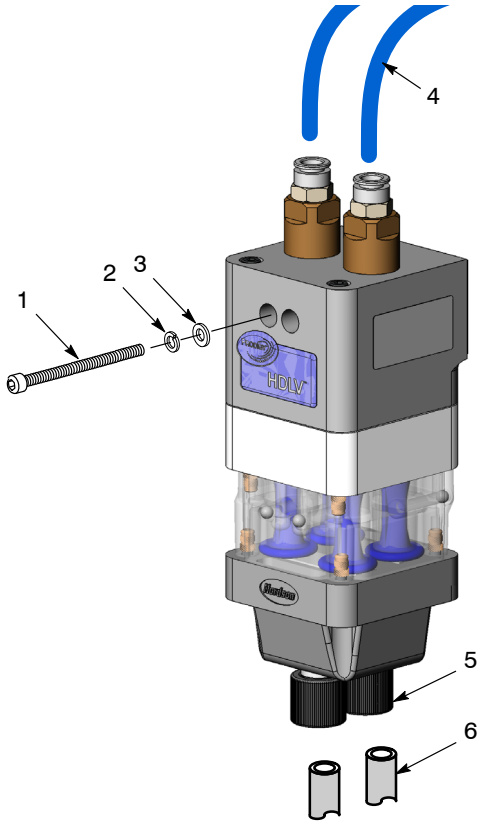

Figure 1 Removing Pump

Disassembling Pump

1. See Figure 2. Loosen the fluidizing tube access plug (1) and pull the fluidizing tube assembly (2) straight out of the pump body.

   NOTE: Retrofit hi-flow assembly shown for reference.

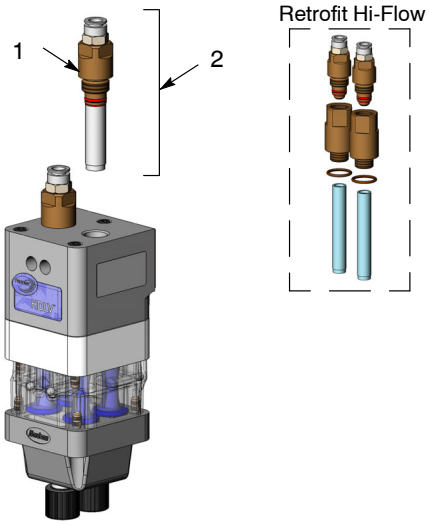

Figure 2 Removing Fluidizing Tubes

2. See Figure 3. Remove screws (3) and hardware (4) to disassemble the top (5), upper Y (6), and pinch valve (7) manifolds.

   NOTE: Retain hardware for rebuilding pump.

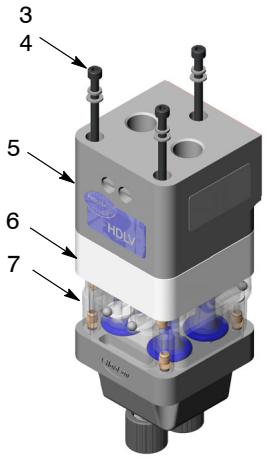

Figure 3 Disassembling Manifolds

3. See Figure 4. Remove screws (9) and hardware (10) to remove lower manifold body (8) from pinch valve manifold (7).

   NOTE: User does not need to retain hardware. New hardware available in kit for rebuilding pump.

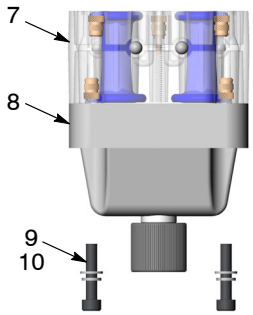

Figure 4 Removing Lower Manifold Body

Rebuilding Pump with Kit

NOTE: Upper and lower manifolds intended for repeated contact with food must be thoroughly cleansed prior to their first use.

1. See Figure 5. Remove the fittings (1) from access plugs (3) to access check valves (2).
2. Remove check valves (2) from access plug using a flat blade screwdriver.
3. Inspect O-rings (21) in access plugs (3). Remove and replace as needed.

   NOTE: O-rings (21) for inside access plugs (3) must be ordered separately.

4. Tighten the check valves (2) back onto access plugs (3) until they bottom out.
5. Pull the fluidizing tubes (5) off the access plugs (3).

   NOTE: Retrofit hi-flow assembly shown for reference.

6. Replace lower access plug O-rings (4).
7. Seat the new fluidizing tubes against the lower O-rings (4).
8. Replace gasket (7) on top manifold (6).
9. Place wear blocks (10) in new lower manifold body (11).
10. Place O-rings (17) in pinch valve manifold (9).
11. Replace O-rings (18) in upper Y manifold (8).
12. Replace filter discs (19) in top manifold (6).

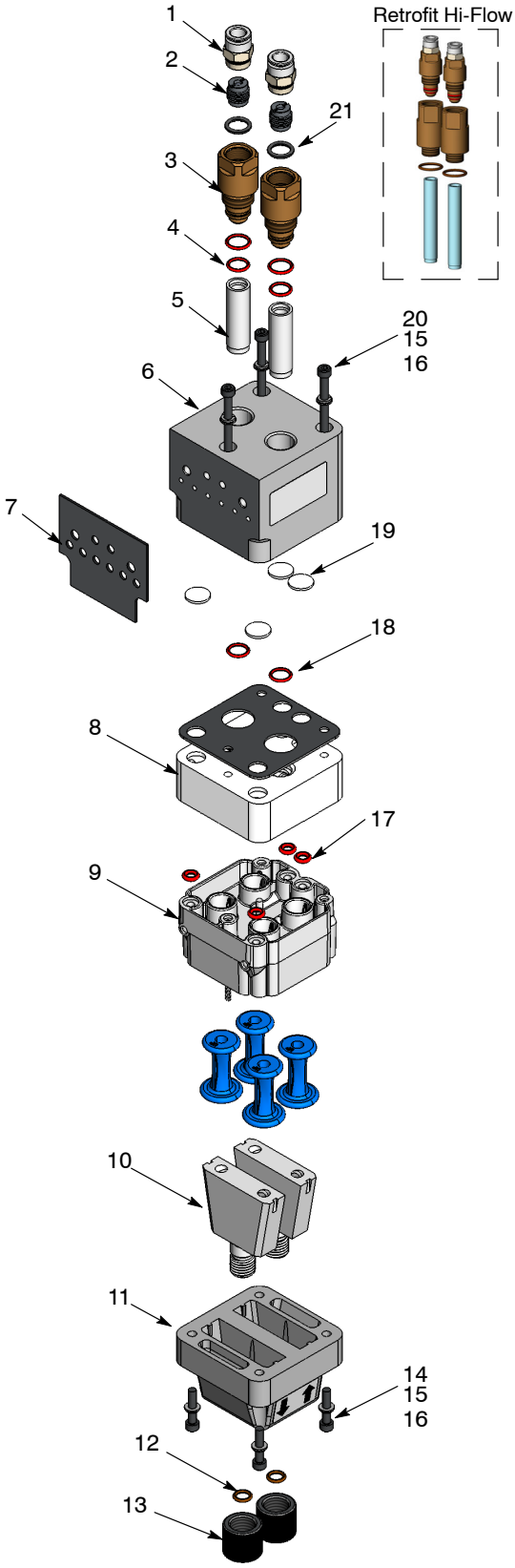

Figure 5 Disassembled Pump (All parts shown exploded for reference)

Rebuilding Pump with Kit *(contd)*

CAUTION: In the following steps, stop tightening components when the pinch valve manifold contacts the lower manifold body. Then torque screws as described.

NOTE: New pinch valve manifold comes preassembled with pinch valves.

13. See Figure 6. Use new M5 x 25 screws (14) with lock washers (15) and flat washers (16) to install new lower manifold body (11) to new pinch valve body (9).

    NOTE: Install the manifold with the the Nordson® logo in front as shown in Figure 7.

    a. Tighten screws (14) two turns at a time using an alternating pattern until pinch valve manifold (9) contacts the lower manifold body (11).

    b. Once in contact with lower manifold body, torque each screw to 20–25 in-lb (2.3–2.8 N•m).

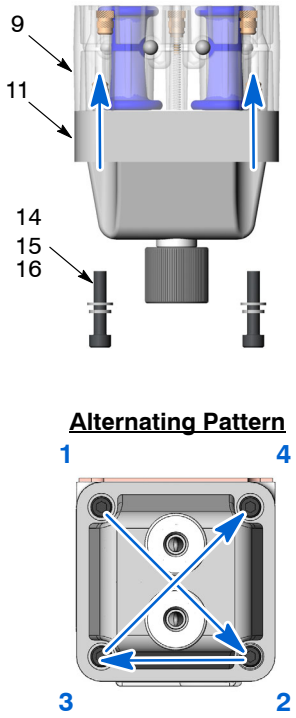

Figure 6 Installing Lower Body to Pinch Valve Manifold

CAUTION: In the following steps, stop tightening components when the pinch valve manifold contacts the upper Y manifold. Then torque screws as described.

14. See Figure 7. Use retained M5 x 100 screws (20) with lock washers (15) and flat washers (16) to secure the top (6), upper Y (8), and pinch valve (9) manifolds together.

    a. Tighten screws (20) two turns at a time using an alternating pattern until pinch valve manifold (9) contacts upper Y manifold (8).

    b. Once in contact with upper Y manifold, torque each screw to 20–25 in-lb (2.3–2.8 N•m).

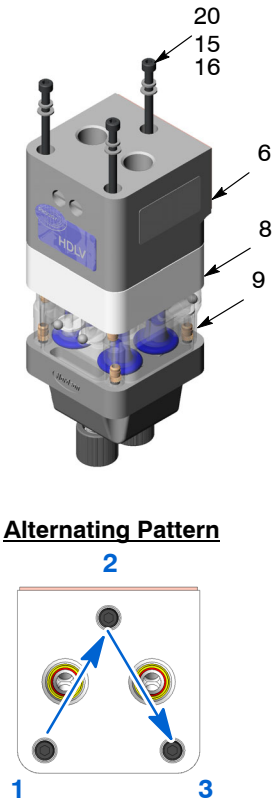

Figure 7 Assembling Manifolds

15. See Figure 8. Install fluidizing tube assemblies (21) into pump and tighten securely.

    NOTE: Retrofit hi-flow assembly shown for reference.

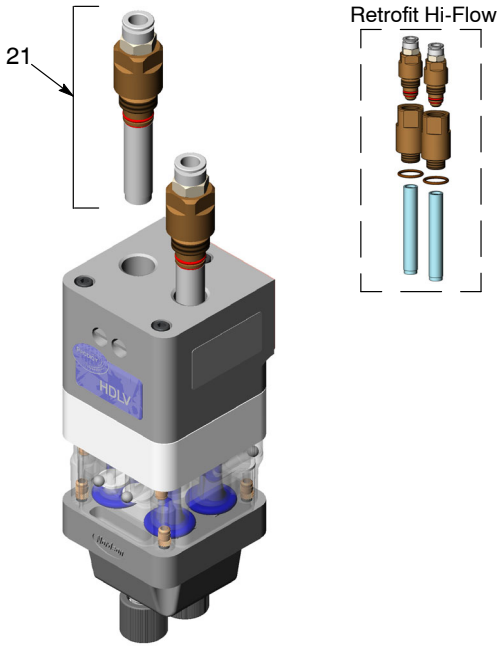

Figure 8 Installing Fluidizing Tube Assembly

Reinstalling Pump

1. See Figure 9. Secure pump to pump panel using two screws (1), lock washers (2), and flat washers (3).
2. Reconnect the purge air lines (4) to the top of the pump.
3. Replace the tube nut O-rings (12) shown in Figure 5.
4. Using the tube nuts (5), reconnect the inlet and outlet powder tubing (6) to the bottom of the pump.

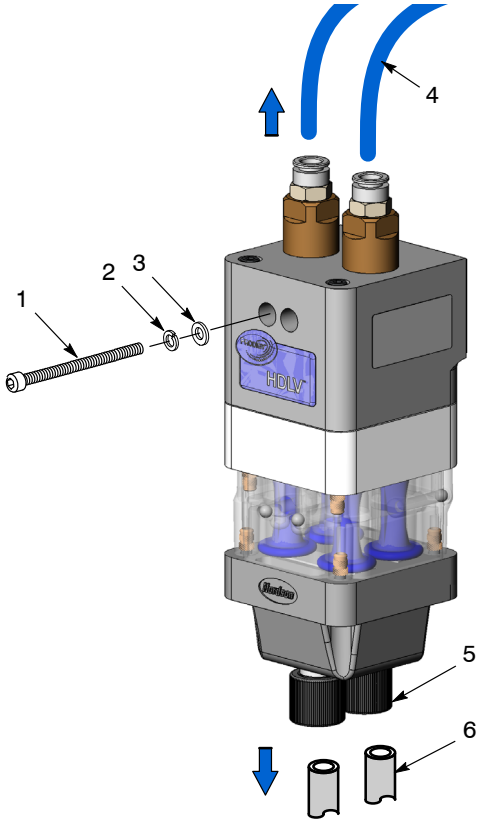

Figure 9 Reinstalling Pump

Parts

See Figure 10.

Item	Part	Description	Quantity	Note
—	1614438	KIT, enhanced manifold, HDLV pump	1	
1	- - - - - -	• CHECK VALVE, assembly, pump, Prodigy	2	
2	940137	• O-RING, silicone, 0.437 x 0.562 x 0.063 in.	4	
3	- - - - - -	• TUBE, fluidizing, HDLV pump	2	
4	1613040	• GASKET, face, HDLV pump	1	
5	1053293	• O-RING, silicone, 0.219 x 0.406 x 0.094 in.	4	
6	1614272	• MANIFOLD, pinch valve, HDLV pump	1	A
7	- - - - - -	• VALVE, pinch, HDLV pump	4	A
8	- - - - - -	• BODY, lower manifold, HDLV pump	1	
9	945115	• O-RING, Viton®, 8.00 x 2.00	2	
10	982085	• SCREW, socket, M5 x 25, black	4	
11	983401	• WASHER, lock, M, split, M5, steel, zinc	4	
12	983035	• WASHER, flat, M, regular, 5, steel, zinc	4	
13	1080408	• DISC, filter, Prodigy HDLV pump	4	
NS	941113	O-RING, silicone, 0.438 x 0.625 x 0.094 in.	AR	B

NOTE A: Pinch valves come assembled in pinch valve manifold when ordered in kit 1614438.

B: Not included in kit 1614438. Must be ordered separately.

NS: Not Shown

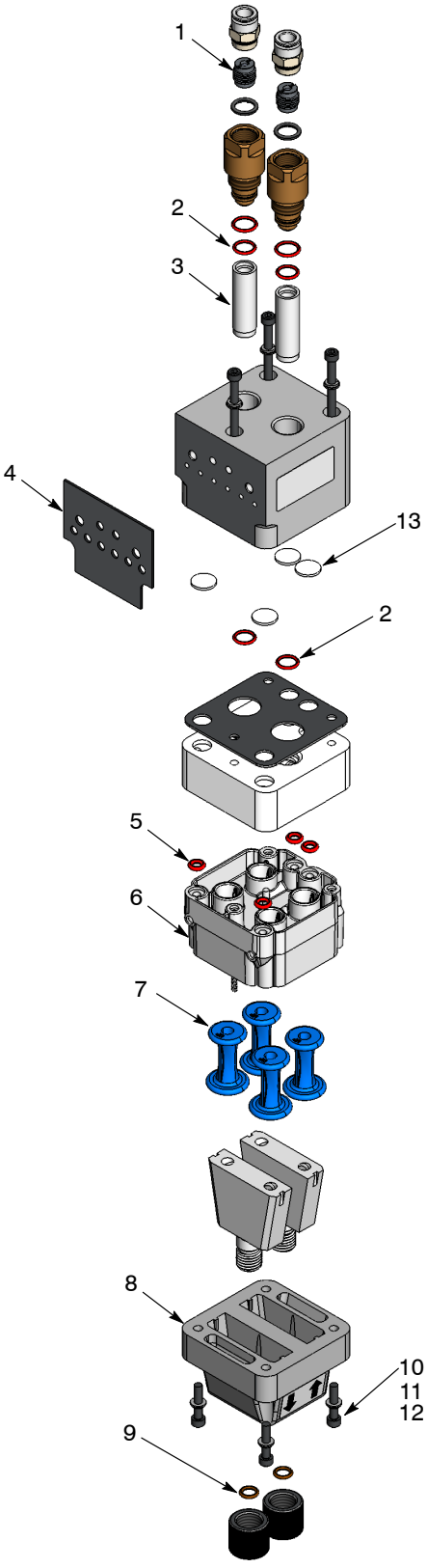

Figure 10 Exploded View of Pump

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