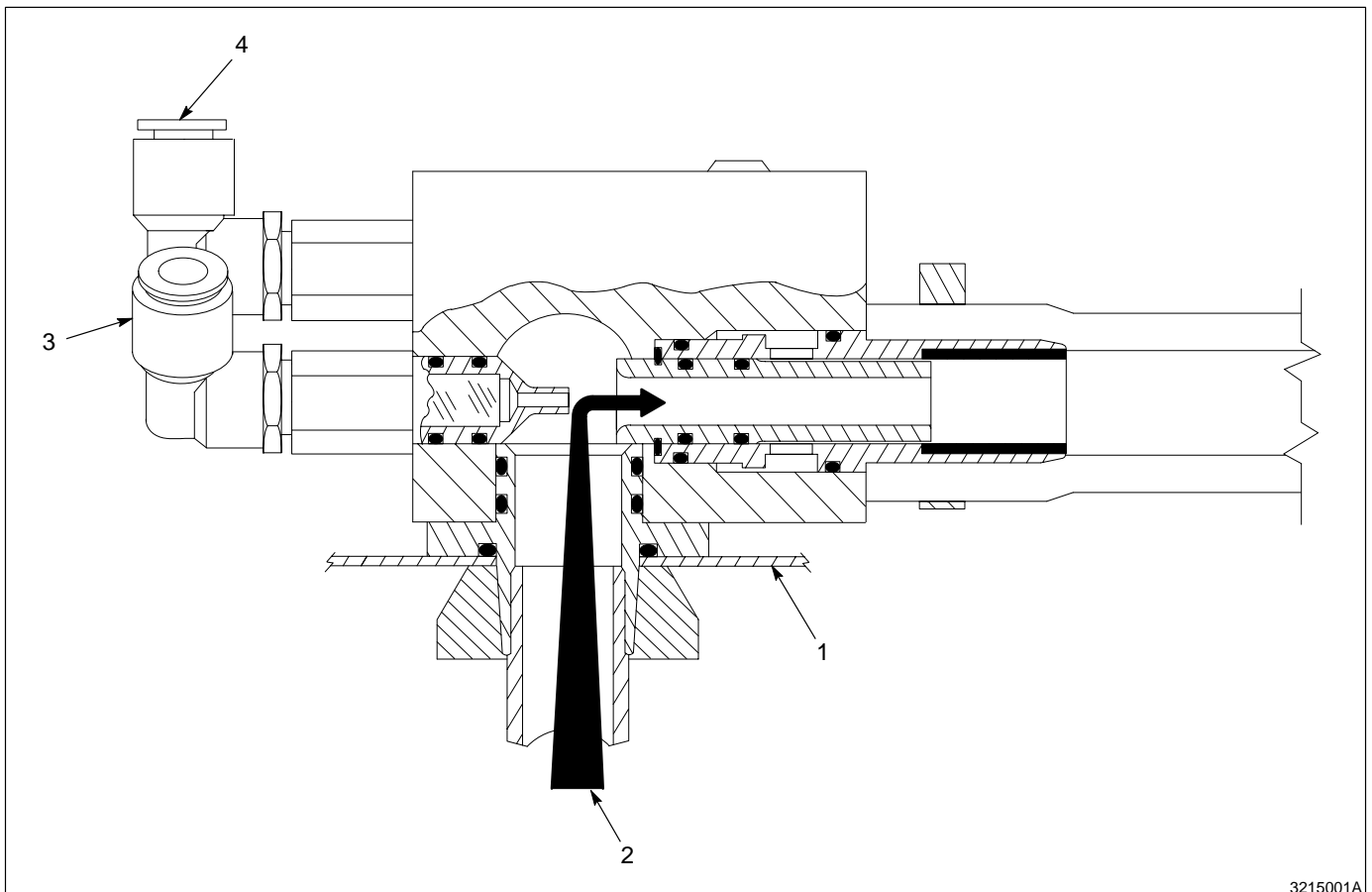


High Flow and 100 PLUS[®] FB Powder Pumps

1. Description

The Nordson High Flow and 100 PLUS Powder Pumps are highly efficient venturi-type pumps designed primarily for pipe-coating (fusion bond) applications. Both pumps are designed to lift fluidized powder out of a feed hopper, atomize the powder stream and deliver it to a powder spray gun.

Disassembly of the pumps is simple. The venturi nozzles, throat, and holder are held into the body, and the body onto the adapter, with interference fits provided by silicone O-rings.



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Fig. 1 High Flow and 100 PLUS powder pumps

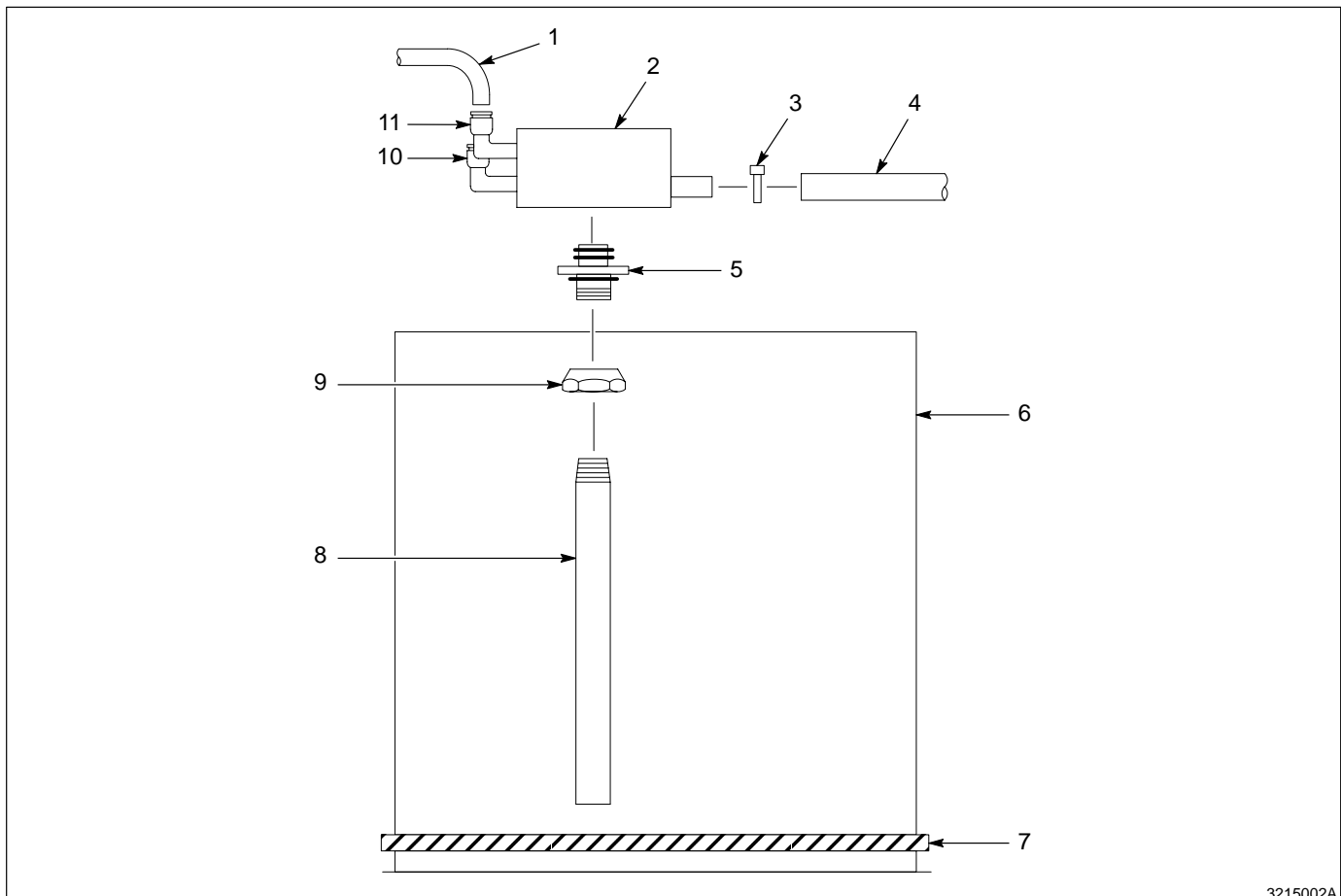
- | | | |
|---------------------|------------------|------------------|
| 1. Hopper | 3. Flow rate air | 4. Atomizing air |
| 2. Fluidized powder | | |

2. Installation

See Figure 2. Use the following steps to install the pumps.

1. If the pumps are to be mounted on a Nordson Model HTM hopper, locate the 28 mm (1.10 in.) hole used to mount the pump. If using another hopper type, make a hole in the top of the hopper for the pick-up tube (8) using a 19 mm (3/4 in.) conduit punch. This punch will provide the 28 mm (1.10 in.) hole required for installation.

NOTE: The pump must be mounted above the powder level.



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Fig. 2 Pump installation

- | | | |
|---|---------------------|-------------------|
| 1. 8 mm (5/16 in.) OD polyethylene air tubing | 5. Pump adapter | 9. Conduit nut |
| 2. Pump | 6. Hopper | 10. Atomizing air |
| 3. Clamp | 7. Fluidizing plate | 11. Flow rate air |
| 4. Delivery hose | 8. Pick-up tube | |

2. Insert the pump adapter (5) into the hole in the hopper (6).
3. Tighten the grounding nut (9) on the pump adapter.

2. Installation (contd.)

4. Screw the pick-up tube (8) into the pump adapter. The end of the pick-up tube usually extends 25–50 mm (1–2 in.) above the fluidizing plate (7). Cut the pick-up tube to proper length if necessary.
5. Place the pump (2) on the pump adapter.
6. Connect the 8 mm OD polyethylene tubing (1) to the atomizing and flow air fittings (10). The atomizing air fitting is the upper fitting, and the flow air fitting is the lower fitting.

NOTE: Older installations of the High Flow Powder Pump use $\frac{3}{8}$ in. polyethylene tubing. Older installations of the 100 PLUS FB Powder Pump use $\frac{1}{4}$ in. OD polyethylene tubing. The 8 mm polyethylene tubing is used with all newer models.

NOTE: The High Flow model of the pump will use a 19 mm ($\frac{3}{4}$ in.) ID polyurethane delivery hose. The 100 PLUS model of the pump will use a 12.7 mm ($\frac{1}{2}$ in.) ID polyurethane delivery hose.

NOTE: The polyurethane powder delivery tubing is very stiff and may need to be heated before it can be placed onto the pump outlet fittings. Use an air gun to heat the end of the tubing to soften it and make it pliable.

3. Operation

Typical operating air pressures are:

Atomizing: 0.7 bar (10 psi)
Flow: 2.7 bar (40 psi)

These pressures are an average starting point and can be adjusted higher or lower until the desired delivery volume and cloud density is achieved.

4. Maintenance

Disconnect the atomizing and flow air tubing and blow out the pump and powder feed tubing daily. The pump should be disassembled and thoroughly cleaned periodically.

NOTE: Reassemble the pump with care, so as not to cut or damage the O-rings.



WARNING: Do not use compressed air to blow powder off skin or clothing. Compressed air injected under the skin can cause serious injury or death.

Blow parts clean with low pressure compressed air and wipe with a clean, lint free cloth. The cloth may be moistened with a non-toxic solvent if necessary, but do not immerse the O-rings in the solvent. Solvents will swell and damage the O-rings. Do not scrape parts with sharp objects as burrs or scratches on powder contact surfaces will contribute to powder buildup or impact fusion. Inspect parts for wear and replace if necessary.

5. Parts

High Flow FB Powder Pump

See Figure 3.

Item	Part	Description	Quantity	Note
—	118 829	Pump, powder, hi-flow, FB	1	
1	972 277	• Elbow, male, 8 mm tube x 1/4 thread	2	
2	118 842	• Nozzle, air, atomizing, hi-flow	1	
3	118 831	• Housing, pump, powder, hi flow	1	
4	118 834	• Throat, venturi, powder, hi flow, w/O-rings	1	
5	986 111	• • Retaining ring, exl., invert, 0.625 in. ID	1	
6	940 142	• • O-ring, silicone, 0.500 x 0.625 x 0.063 in.	2	
7	940 184	• O-ring, silicone, conductive, 0.750 x 0.875 x 0.063 in.	1	A
8	973 571	• Plug, pipe, 1/4 NPT	1	
9	940 148	• O-ring, silicone, conductive, 0.875 x 1.062 x 0.094 in.	1	A
10	118 833	• Holder, throat, hi-flow	1	
11	939 459	• Clamp, hose	1	
12	118 832	• Tube, wear, holder, hi-flow	1	
13	940 147	• O-ring, silicone, conductive, 0.500 x 0.625 x 0.063 in.	4	A B
14	118 836	• Nozzle, air, flow, hi-flow pump	1	
NS	972 183	• Elbow, male, 3/8 tube x 1/4 thread	2	C

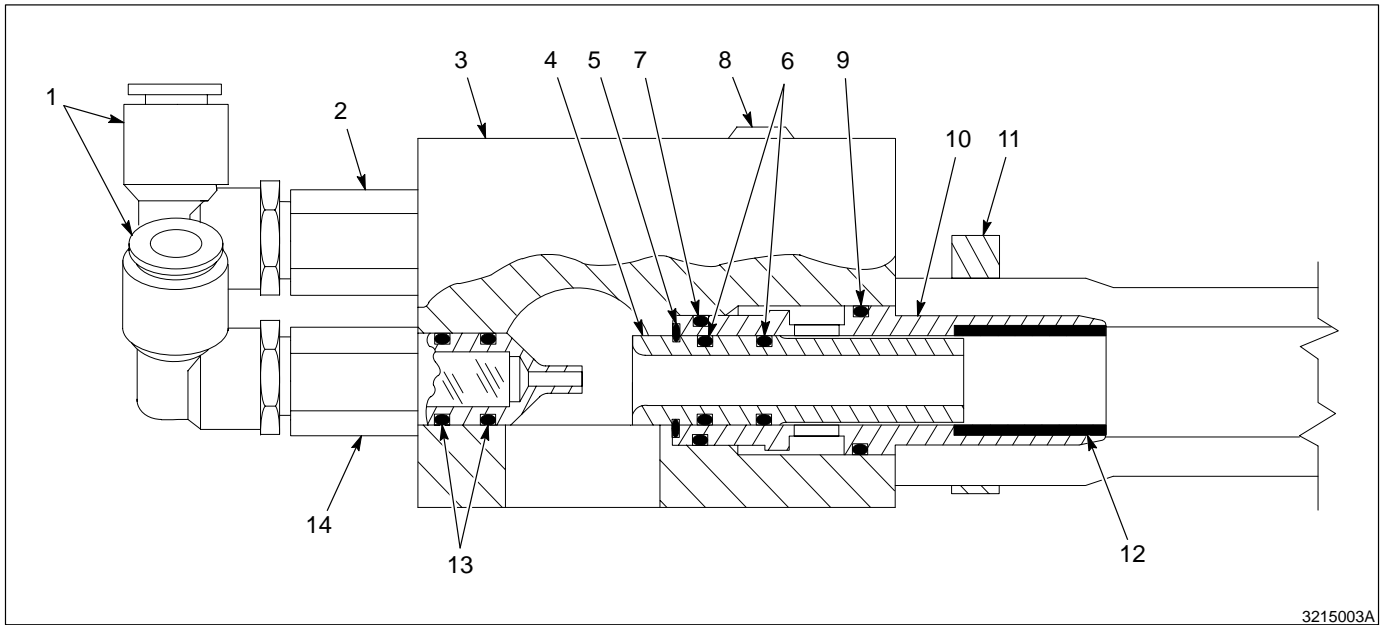
NOTE A: Black silicone O-rings are electrically conductive. Do not substitute non-conductive O-rings.

B: Used on items 2 and 14.

C: Optional fitting shipped with pump. Used in place of the 8 mm tube fittings on air nozzles, for use with older EXP-100 control units and 3/8 in. OD air tubing.

NS: Not Shown

High Flow FB Powder Pump
(contd.)



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Fig. 3 High Flow FB Powder Pump

100 PLUS FB Powder Pump

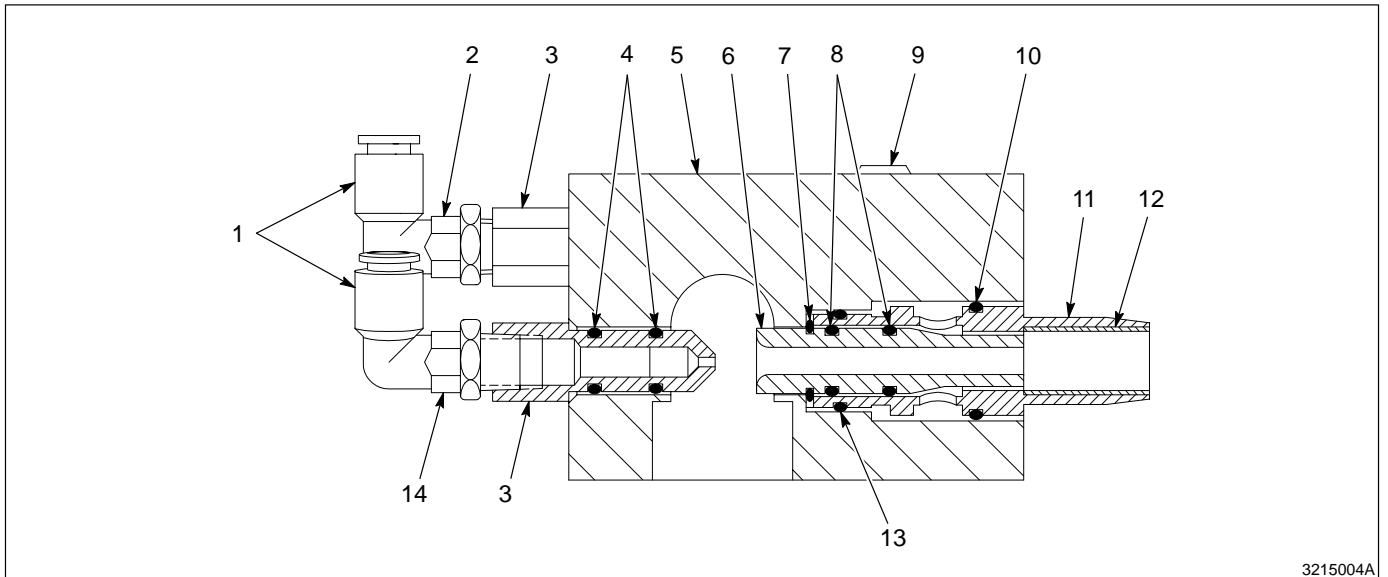
See Figure 4. Use this list to order parts for the 100 PLUS FB Powder Pump.

Item	Part	Description	Quantity	Note
—	237 011	Pump, powder, 100 PLUS, FB	1	
1	972 276	• Elbow, male, 8mm x 1/8 thread	2	
2	939 108	• Marker, clip, "A" (for atomizing air nozzle)	1	
3	631 420	• Nozzle, air, 0.073 in. ID	2	
4	940 129	• O-ring, silicone, conductive, 0.375 x 0.500 x 0.063 in.	4	A
5	249 502	• Housing, pump, powder,	1	
6	114 221	• Throat, venturi, Tivar, w/O-rings	1	
7	986 100	• • Retaining ring, ext., invert, 0.500 x 0.063 in.	1	
8	940 126	• • O-ring, silicone, conductive, 0.750 x 0.875 x 0.063 in.	2	A
9	973 402	• Plug, pipe, 1/8 NPT	1	
10	940 184	• O-ring, silicone, conductive, 0.750 x 0.875 x 0.063 in.	1	
11	249 506	• Holder, throat	1	
12	249 507	• Tube, wear, holder	1	
13	940 163	• O-ring, silicone, 0.625 x 0.750 x 0.063 in.	2	
14	939 109	• Marker, clip, "f" (for flow air nozzle)	1	
NS	972 119	Elbow, male, 1/4 tube x 1/8 thread	AR	B

NOTE A: Black silicone O-rings are electrically conductive. Do not substitute non-conductive O-rings.
 B: Optional fitting (not shipped with pump). Use in place of the 8 mm tube fittings on air nozzles, for use with older EXP-100 control units and 1/4 in. OD air tubing.

AR: As Required
 NS: Not Shown

100 PLUS FB Powder Pump
(contd.)



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Fig. 4 100 PLUS FB Powder Pump

6. Spare Parts

See Figure 5. Use these lists to order spare parts for the FB (fusion bond) style pump mount and pick-up tube.

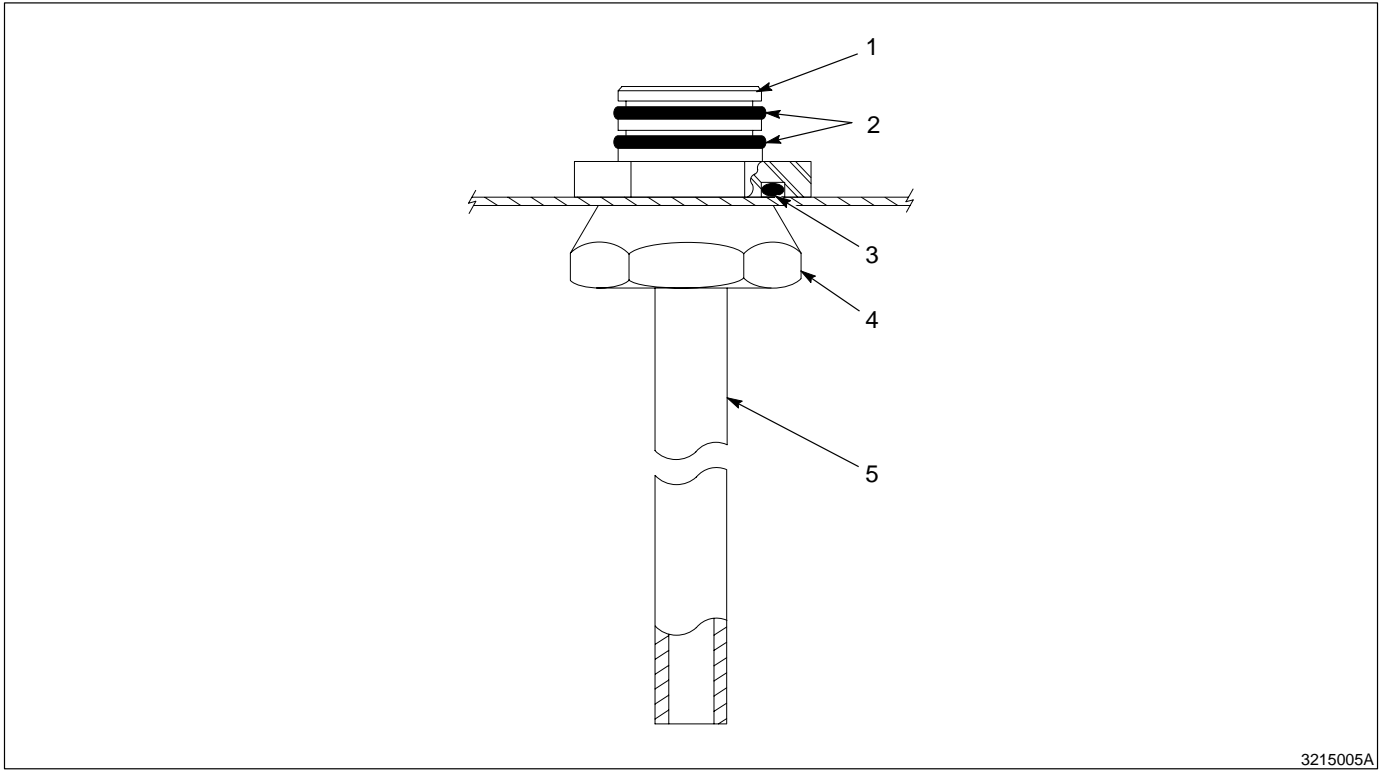
Item	Part	Description	Quantity	Note
—	180 777	Mount, pump, w/pick-up tube, fixed, 18 in.	1	
1	114 225	• Adapter, pump	1	
2	941 185	• O-ring, silicone, conductive, 0.875 x 1.062	2	A
3	942 161	• O-ring, silicone, 1.125 x 1.375 x 0.125	1	
4	142 382	• Nut, ground, pump mount	1	
5	180 778	• Tube, pick-up, 0.490 ID x 18 in.	1	

NOTE A: Black silicone O-rings are electrically conductive. Do not substitute non-conductive O-rings.

Item	Part	Description	Quantity	Note
—	224 721	Mount, pump, w/pick-up tube, fixed, 24 in.	1	
1	114 225	• Adapter, pump	1	
2	941 185	• O-ring, silicone, conductive, 0.875 x 1.062	2	A
3	942 161	• O-ring, silicone, 1.125 x 1.375 x 0.125	1	
4	142 382	• Nut, ground, pump mount	1	
5	224 722	• Tube, pick-up, 0.490 ID x 24 in.	1	

NOTE A: Black silicone O-rings are electrically conductive. Do not substitute non-conductive O-rings.

6. Spare Parts (contd.)



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Fig. 5 Pick-up tube and assembly

Powder Delivery Hose and Air Tubing

Use this list to order tubing for the High Flow and 100 PLUS FB pump.

Part	Description	Quantity	Note
900 724	Tubing, powder, polyurethane, 0.485 ID	AR	A
900 725	Tubing, powder, polyurethane, 0.735 ID	AR	B
173 101	Tubing, air, polyethylene, 8 mm OD, natural	AR	
173 102	Tubing, air, polyethylene, 8 mm OD, black	AR	

NOTE A: Used with 100 PLUS FB pump.
 B: Used with High Flow FB pump.
 AR: As Required

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