

Fluidizing Pickup Tube Kits

Introduction

The fluidizing pickup tube kit retrofits your existing mobile powder system with fluidizing air. It injects fluidizing air at the pickup tube inlet with minimal air or powder escaping the powder box. Air is supplied to the pickup tube only when the gun is triggered. The air passes through a fixed orifice that regulates the air flow.



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

Fluidizing air enters the pickup tube's elbow, travels between the inner and outer pickup tubes, and is forced out the fluidizing disk. As it exits the fluidizing disk, the air disperses into the powder and gives it the properties of a liquid. The powder pump then draws the fluidized powder up the inner pickup tube.

Three fluidizing pickup tubes are available:

- **One Piece:** The fluidizing disk is part of the pickup tube and is not replaceable. The one-piece design is easy to clean and maintain.
- **Threaded:** The replaceable fluidizing disk adapter is threaded onto the pickup tube. The threaded adapter stays securely on the pickup tube when you remove it from a box of powder.
- **O-ring Fit:** The replaceable fluidizing disk adapter is held onto the pickup tube with O-rings.

Installation



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

Fluidizing Pickup Tube

1. Remove the existing pickup tube assembly from the mounting bracket.
2. **One-Piece Fluidizing Pickup Tubes Only:** If you are replacing an existing O-ring fit or threaded pickup tube, the outside diameter of the one-piece fluidizing pickup tube is greater than the diameter of the existing hole in the mounting bracket. Drill out the existing hole to the size shown in Figure 1.
3. Using the pickup tube's locknut, install the new pickup tube assembly on the mounting bracket.
4. Connect the air supply tubing to the fluidizing air elbow.

NOTE: Do not force the pickup tube into the powder. Vibration and gravity causes the tube to sink into the powder to the proper level.

Fluidizing Air Connection

The fluidizing air source depends on the application. Use the appropriate procedure to connect your fluidizing pickup tube to a fluidizing air source.

NOTE: The one-piece fluidizing pickup tube has an orifice built in and does not need to use an external orifice to regulate air flow.

No Controls

Fluidizing Air Source: Pump Flow Rate Air

NOTE: The no controls kit can connect to pumps using 8-mm, 6-mm, or 1/4-in. air tubing. Determine what size air tubing is connected to the pump, then select the corresponding size Y-union or tee and reducer. You may discard any fittings that you do not use in this procedure.

See Figure 4.

1. Disconnect the 6-mm air tubing from the pump's flow rate air inlet and install the Y-union (15) onto the tubing.
2. Install a piece of air tubing (16) between the Y-union and the pump's flow rate air inlet.
3. Connect 6-mm air tubing to the pickup tube:
 - **One-Piece Fluidizing Pickup Tubes:** Install a piece of 6-mm air tubing between the elbow and the Y-union.
 - **Threaded or O-ring Fit Pickup Tubes:** Install a piece of air tubing (16) between the Y-union and the orifice assembly (17, 18, 19). Install a piece of 6-mm air tubing (16) between the female connector (19) and the fluidizing pickup tube's elbow fitting.

Bulk Feed

Fluidizing Air Source: Pump Flow Rate Air

See Figure 5.

1. Cut the flow rate air tubing near the pump. Join the two cut ends of the air tubing using the tee (21).
2. Install the supplied 10-mm or $\frac{3}{8}$ -in. air tubing (20) into the tee.
3. Install the air fittings and connect 6-mm air tubing to the pickup tube:
 - **One-Piece Fluidizing Pickup Tubes:** Install the male (22) and female (19) connectors onto the air tubing on the tee. Install 6-mm air tubing (16) between the female connector and the pickup tube's elbow fitting.
 - **Threaded or O-ring Fit Pickup Tubes:** Install the male connector (22), orifice (18), and female connector (19) onto the air tubing on the tee. Install 6-mm air tubing (16) between the female connector (19) and the pickup tube's elbow fitting.

Versa-Spray II

Fluidizing Air Source: Gun Air Port (Gun Control Unit)

See Figure 6.

1. Remove the pipe plug from the gun air port on the back of the control unit.
2. Install the appropriate air fitting(s) into the control unit:
 - **One-Piece Fluidizing Pickup Tubes:** Install the male connector (17) directly into the gun air port.
 - **Threaded or O-ring Fit Pickup Tubes:** Install the orifice (23) into the gun air port. Install the male connector (17) into the orifice.
3. Route 6-mm air tubing (16) between the male connector and the fluidizing pickup tube's elbow fitting.

Sure Coat

Fluidizing Air Source: Gun Air Port (Gun Control Unit)

See Figure 7.

1. Remove the 4-mm gun air fitting from the control unit.

NOTE: If you are installing a one-piece fluidizing pickup tube, do not install the orifice (23).

2. Install the nipple (25), pipe tee (24), orifice (23) (if used), and elbow (27) into the control unit's gun air port.
3. Install the 4-mm gun air fitting into the tee.
4. Route 6-mm air tubing (16) between the elbow (27) and the fluidizing pickup tube's elbow fitting.

Parts

Fluidizing Pickup Tube Parts

One-Piece Fluidizing Pickup Tube Kit

See Figure 1.

NOTE: If you order this kit to replace an existing O-ring fit or threaded pickup tube, the outside diameter of the new tube is greater than the diameter of the hole in the bracket. You must drill out the hole to the size shown in Figure 1.

Item	Part	Description	Quantity	Note
—	1043075	KIT, one-piece fluidized pickup tube, VBF	1	
1	941185	• O-RING, silicone, conductive, 0.875 x 1.062 in.	2	
2	1043595	• NUT, M30 x 1.5, NZ steel	1	
3	1605530	• CONNECTOR, male, elbow, 6 mm T x R 1/8	1	
NS	1020208	• CONNECTOR, plug-in Y, 8-mm tube	1	A
NS	972286	• REDUCER, 8-mm stem x 6-mm tube	1	A
NS	900742	• AIR TUBING, 6-mm OD x 4 mm, blue	6 ft	

NOTE A: These parts are only used with Econo-Coat configurations. Disregard these parts when using the one-piece fluidizing pickup tube with other systems.

NS: Not Shown

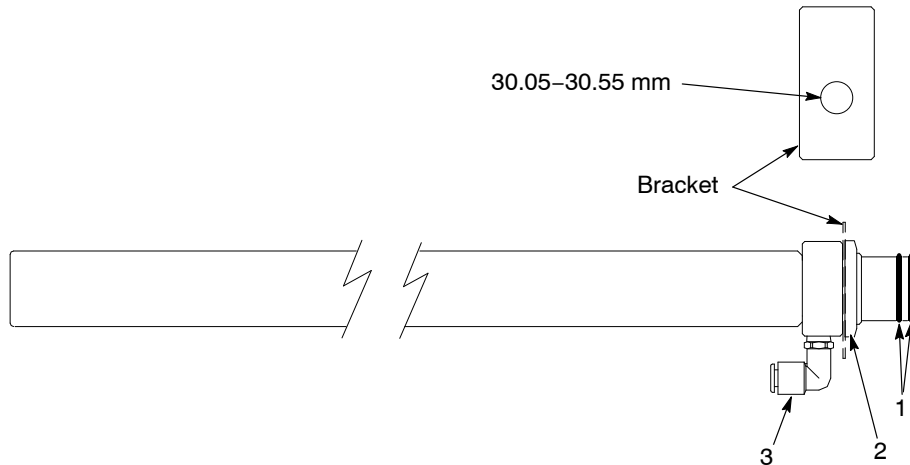


Figure 1 One-Piece Fluidizing Pickup Tube Kit

Threaded Fluidizing Pickup Tube Kit

See Figure 2.

This pickup tube's insert adapter (2) threads onto the inner pickup tube (9). The threaded parts stop the fluidizing adapter from falling off the pickup tube when it is pulled out of a box of powder.

Item	Part	Description	Quantity	Note
1	1031622	KIT, adapter, fluidizing, threaded	1	
2	1031591	• ADAPTER, insert, fluidizing box feeder	1	
3	940243	• O-RING, silicone, 1.125 x 1.250 x 0.063 in.	1	
4	305789	• INSERT, fluidizing disc, box feeder	1	
5	305786	• CAP, pickup tube, fluidizing box feeder	1	
6	941178	• O-RING, silicone, conductive, 0.812 x 1.00 in.	1	
8	305785	TUBE, pickup, outer, fluidizing box feeder	1	
9	1031590	TUBE, pickup, fluidizing box feeder	1	
10	972310	ELBOW, male, M5 x 6 mm	1	
11	941145	O-RING, silicone, conductive, 0.625 x 0.812 in.	2	
12	939613	LOCKNUT, conduit, ³ / ₄ -in. NPS	1	
13	152227	ADAPTER, pump, vibratory box feeder	1	
14	941185	O-RING, silicone, conductive, 0.875 x 1.062 in.	2	

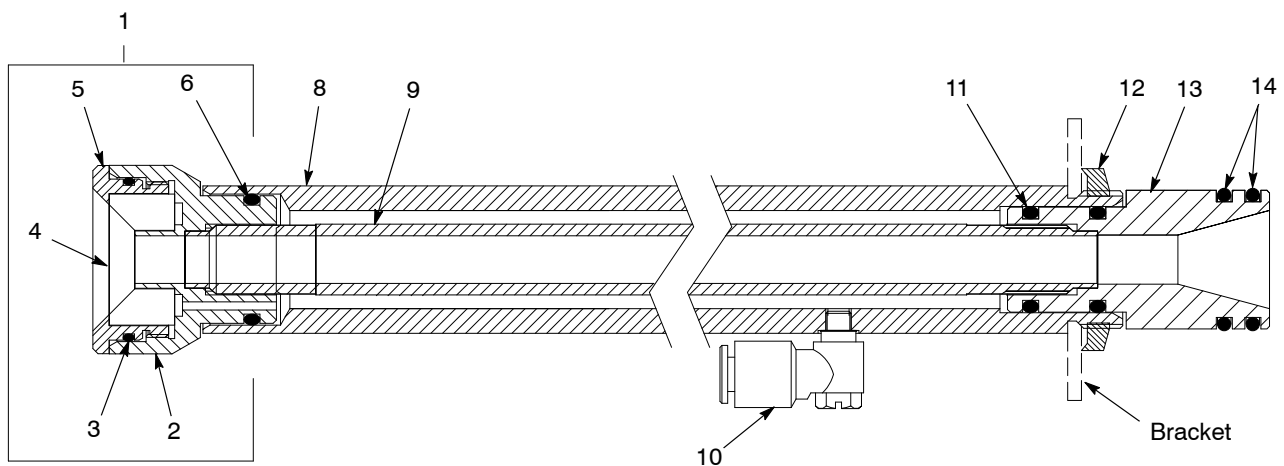


Figure 2 Threaded Fluidizing Pick-Up Tube Kit

O-Ring Fit Fluidizing Pickup Tube Kit

See Figure 3.

This pickup tube's insert adapter (2) fits into the inner and outer pickup tubes using an O-ring (7).

NOTE: The O-ring fit adapter pickup tube has been discontinued. Replacement parts are still available.

Item	Part	Description	Quantity	Note
1	306175	KIT, adapter, fluidizing, O-ring fit	1	A
2	305787	• ADAPTER, insert, fluidizing box feeder	1	A
3	940243	• O-RING, silicone, 1.125 x 1.250 x 0.063 in.	1	
4	305789	• INSERT, fluidizing disc, box feeder	1	
5	305786	• CAP, pickup tube, fluidizing box feeder	1	
6	941178	• O-RING, silicone, conductive, 0.812 x 1.00 in.	1	
7	940137	O-RING, silicone, 0.437 x 0.562 x 0.063 in.	1	
8	305785	TUBE, pickup, outer, fluidizing box feeder	1	
9	305784	TUBE, pickup, fluidizing box feeder	1	A
10	972310	ELBOW, male, M5 x 6 mm	1	
11	941145	O-RING, silicone, conductive, 0.625 x 0.812 in.	2	
12	939613	LOCKNUT, conduit, $\frac{3}{4}$ -in. NPS	1	
13	152227	ADAPTER, pump, vibratory box feeder	1	
14	941185	O-RING, silicone, conductive, 0.875 x 1.062 in.	2	

NOTE A: To convert the O-ring fit adapter pickup tube to a threaded adapter pickup tube, order the threaded insert adapter (part 1031591) and inner pickup tube (part 1031590). If you order the threaded fluidizing adapter kit (part 1031591), you will still have to order the threaded inner pickup tube (part 1031590).

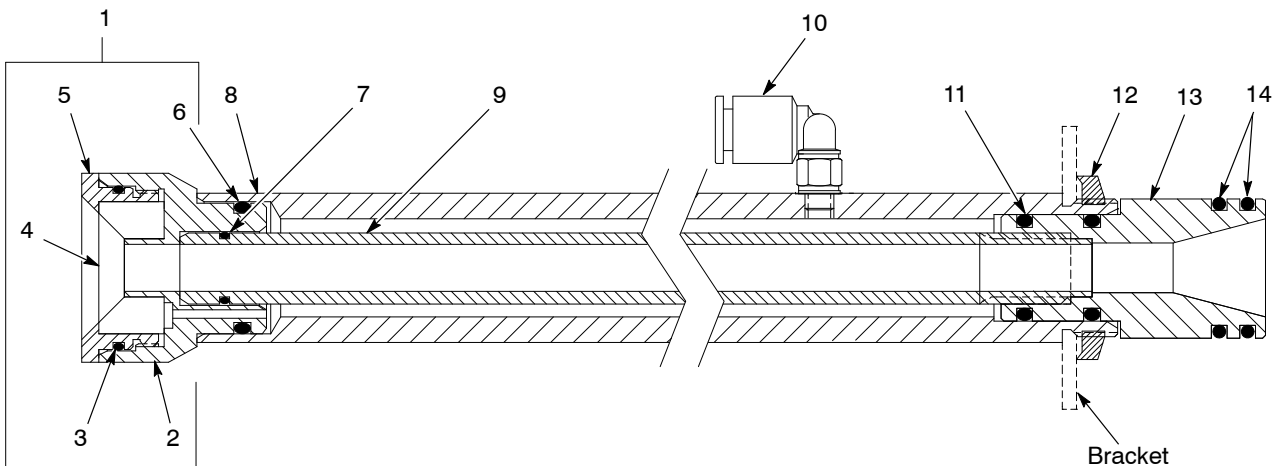


Figure 3 O-Ring Fit Fluidizing Pick-Up Tube Kit

No Controls Fluidizing Pickup Tube Kit (6-mm, 8-mm, and 1/4-in.)

See Figure 4.

Item	Part	Description	Quantity	Note
—	1031592	KIT, adapter, fluidizing, 1/4 in. and 6 mm	1	
1-14	-----	• PICKUP TUBE	1	A
15	972287	• UNION, 6-mm tube x 6-mm tube, plastic	1	B
15	972672	• UNION, Y, 1/4-in. tube x 1/4-in. tube, plastic	1	C
16	900586	• TUBING, polyethylene, 6-mm OD x 4 mm, blue	1	B
16	900730	• TUBING, polyurethane, 0.250 x 0.040 in.	1	C
17	972141	• CONNECTOR, male, 6-mm tube x 1/8-in universal	1	B
17	972716	• CONNECTOR, male, 1/4-in. tube x 1/8-in. NPT	1	C
18	972243	• ORIFICE, 0.026, 1/8-in. NPT x 1/8-in. NPT	1	
19	972157	• CONNECTOR, female, M6 tube x 1/8-in. RPT	1	
20	972313	• TEE, union, 8-mm x 8-mm tube	1	D
21	972268	• REDUCER, 8-mm stem, 6-mm tube	1	D

NOTE A: Refer to *Fluidizing Pickup Tube Parts*.
 B: Use these parts with pumps using 6-mm air tubing.
 C: Use these parts with pumps using 1/4-in. air tubing.
 D: Use these parts with pumps using 8-mm air tubing.

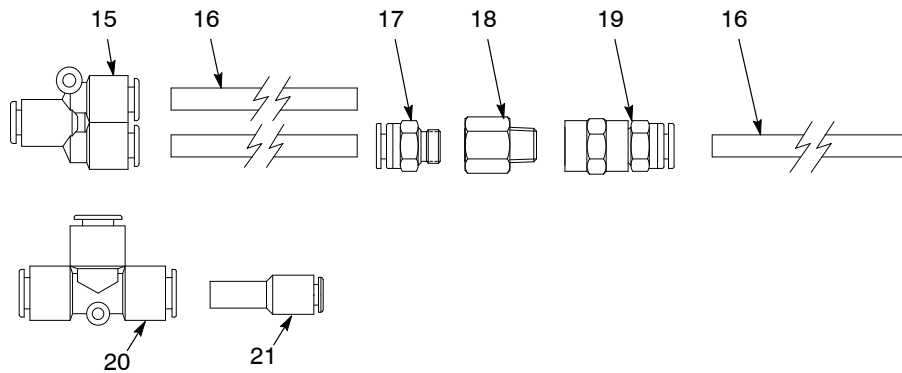


Figure 4 No Controls Fluidizing Pickup Tube Kit (6-mm and 1/4-in.)

Bulk Feed Fluidizing Pickup Tube Kit (10-mm and 3/8-in.)

See Figure 5.

Item	Part	Description	Quantity	Note
—	1031598	KIT, adapter, fluidizing, 3/8 in. and 10 mm	1	
1-14	-----	• PICKUP TUBE	1	A
16	900586	• TUBING, polyethylene, 6-mm OD x 4 mm, blue	1	
18	972243	• ORIFICE, 0.026, 1/8-in. NPT x 1/8-in. NPT	1	
19	972157	• CONNECTOR, female, M6 tube x 1/8-in. RPT	1	
20	900593	• TUBING, polyethylene, 10-mm OD x 8 mm, blue	1	B
20	900511	• TUBING, polyethylene, 3/8 x 0.062 in.	1	C
21	971115	• TEE, union, 10-mm tube x 10-mm tube	1	B
21	972494	• TEE, union, 3/8-in. tube x 3/8-in. tube	1	C
22	971123	• CONNECTOR, male, 10 mm x 1/8-in. universal	1	B
22	971175	• CONNECTOR, male, 3/8-in. tube x 1/8-in. NPT	1	C

NOTE A: Refer to *Fluidizing Pickup Tube Parts*.
 B: Use these parts with pumps using 10-mm air tubing.
 C: Use these parts with pumps using 3/8-in. air tubing.
 NS: Not Shown

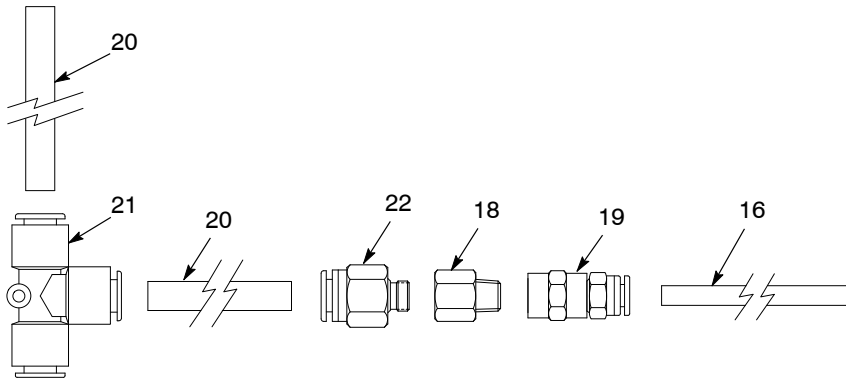


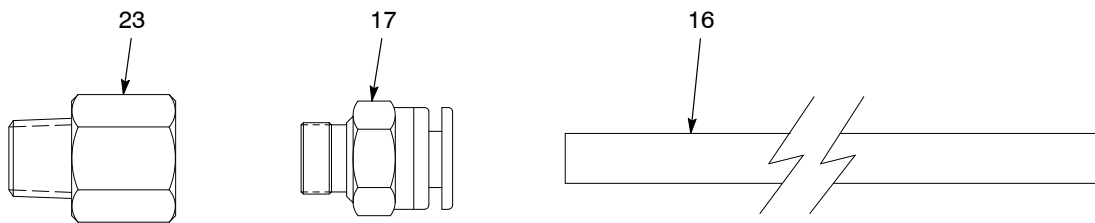
Figure 5 Bulk Feed Fluidizing Pickup Tube Kit (3/8-in. and 10-mm)

Versa-Spray II Fluidizing Pickup Tube Kit

See Figure 6.

Item	Part	Description	Quantity	Note
—	1031601	KIT, adapter, fluidizing, Versa-Spray II	1	
1-14	-----	• PICKUP TUBE	1	A
16	900586	• TUBING, polyethylene, 6-mm OD x 4 mm, blue	1	
17	972141	• CONNECTOR, male, 6-mm tube x 1/8-in. universal	1	
23	972244	• ORIFICE, 0.010, 1/8-in. NPT x 1/8-in. NPT	1	

NOTE A: Refer to *Fluidizing Pickup Tube Parts*.



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Figure 6 Versa-Spray II Fluidizing Pickup Tube Kit

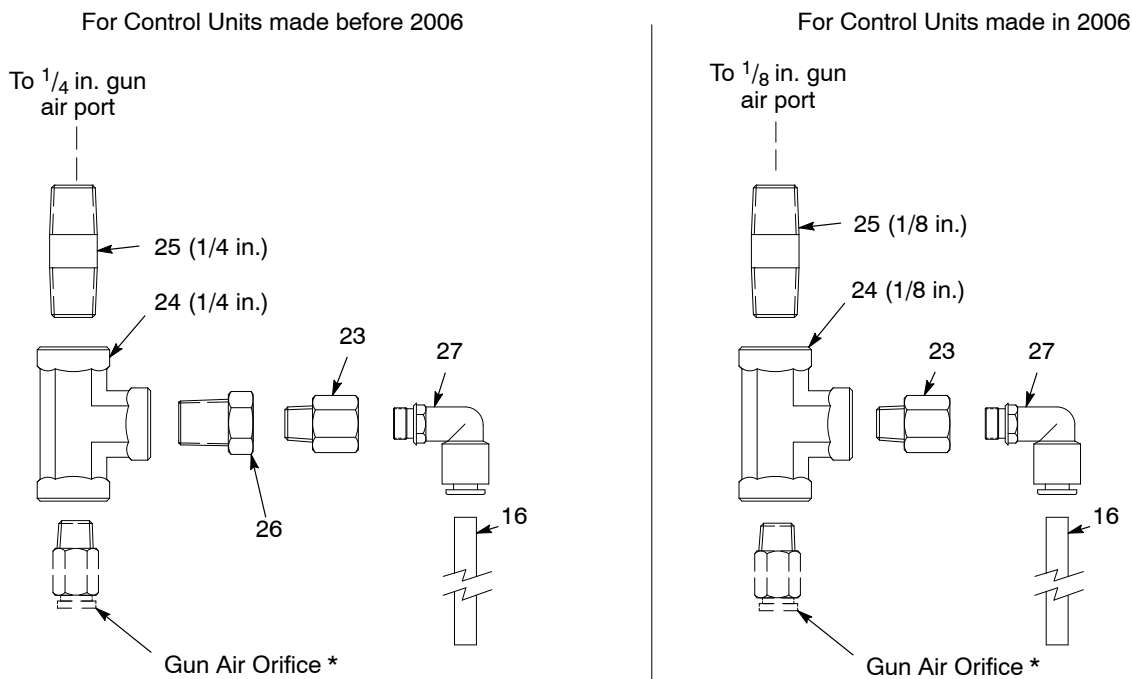
Sure Coat Fluidizing Pickup Tube Kit

See Figure 7.

Item	Part	Description	Quantity	Note
—	1031609	KIT, adapter, Sure Coat	1	
1-14	-----	• PICKUP TUBE	1	A
16	900586	• TUBING, polyethylene, 6-mm OD x 4 mm, blue	1	
23	972244	• ORIFICE, 0.010, 1/8-in. NPT x 1/8-in. NPT	1	
24	973260	• TEE, pipe, hydraulic, 1/4 in., steel, zinc	1	B
24	973250	• TEE, pipe, hydraulic, 1/8 in., steel, zinc	1	B
25	973117	• NIPPLE, steel, schedule 40, 1/4, 1.50 in.	1	B
25	973002	• NIPPLE, steel, schedule 40, 1/8, 1.50 in.	1	B
26	973372	• BUSHING, pipe, hydraulic, 1/4 x 1/8 in., steel, zinc	1	B
27	972126	• ELBOW, male, 6-mm tube x 1/8-in. universal	1	

NOTE A: Refer to *Fluidizing Pickup Tube Parts*.

B: These parts were changed in 2006 to 1/8 in. threads because the control unit gun air port size changed to 1/8 in. Use the bushing to connect the kit to control units with 1/4 in. gun air ports.



* Remove Gun Air Orifice from control unit and install in tee.

Figure 7 Sure Coat Fluidizing Pickup Tube Kit

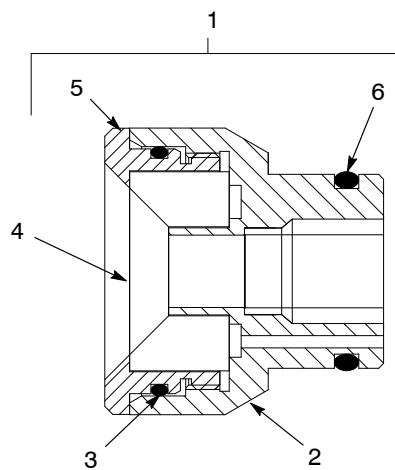
Fluidizing Adapter Kits

Order the appropriate kit to replace the fluidizing adapter on a threaded or O-ring fit fluidizing pickup tube.

Threaded Fluidizing Adapter Kit

See Figure 8.

Item	Part	Description	Quantity	Note
1	1031622	KIT, adapter, fluidizing, threaded	1	
2	1031591	• ADAPTER, insert, fluidizing box feeder	1	
3	940243	• O-RING, silicone, 1.125 x 1.25 x 0.063 in.	1	
4	305789	• INSERT, fluidizing disc, box feeder	1	
5	305786	• CAP, pickup tube, fluidizing box feeder	1	
6	941178	• O-RING, silicone, conductive, 0.0812 x 1.00 in.	1	



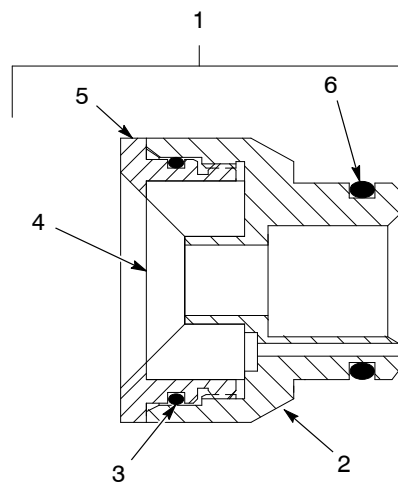
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Figure 8 Threaded Fluidizing Adapter Kit

O-Ring Fit Fluidizing Adapter Kit

See Figure 9.

Item	Part	Description	Quantity	Note
1	306175	KIT, adapter, fluidizing, O-ring fit	1	
2	305787	• ADAPTER, insert, fluidizing box feeder	1	
3	940243	• O-RING, silicone, 1.125 x 1.25 x 0.063 in.	1	
4	305789	• INSERT, fluidizing disc, box feeder	1	
5	305786	• CAP, pickup tube, fluidizing box feeder	1	
6	941178	• O-RING, silicone, conductive, 0.0812 x 1.00 in.	1	



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Figure 9 O-Ring Fit Fluidizing Adapter Kit

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