Encore® Automatic Powder Spray Gun

Customer Product Manual
Document Number 1625071-03
– English –
Issued 03/25

For parts and technical support, call the Industrial Coating Solutions Customer Support Center at (800) 433-9319 or contact your local Nordson representative.

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– Original document –

Change Record

Revision	Date	Change
01	08/24	Initial Release of combined Encore HD and Encore Automatic Gun manuals
02	10/24	Description Section - compliance label address update.
03	03/25	Description Section - certification label change

Section 1
Safety

Introduction

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 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 (SDS) 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.

- Ground all conductive equipment. Use only grounded air and fluid hoses. Check equipment and workpiece grounding devices regularly. Resistance to ground must not exceed one megohm.
- Shut down all equipment immediately if you notice static sparking or arcing. Do not restart the equipment until the cause has been identified and corrected.
- Do not smoke, weld, grind, or use open flames where flammable materials are being used or stored. Do not heat materials to temperatures above those recommended by the manufacturer. Make sure heat monitoring and limiting devices are working properly.
- Provide adequate ventilation to prevent dangerous concentrations of volatile particles or vapors. Refer to local codes or your material SDS for guidance.
- Do not disconnect live electrical circuits when 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.
- Shut off electrostatic power and ground the charging system before adjusting, cleaning, or repairing electrostatic equipment.
- 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.

Grounding inside and around the booth openings must comply with NFPA requirements for Class II, Division 1 or 2 Hazardous Locations. Refer to 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 system electrical power. Close hydraulic and pneumatic shutoff valves and relieve pressures.
- Identify the reason for the malfunction and correct it before restarting the system.

Disposal

Dispose of equipment and materials used in operation and servicing according to local codes.

Section 2
Description

The Encore® automatic electrostatic powder spray gun is a device used in the application of applying powdered paint. A standard, base gun can be combined with either a bar-mount kit or a tube-mount kit to create two distinct spray gun configurations. Either of the two configurations can also be combined with the Encore HD diffuser kit to create an HD style spray gun.

The tube-mount kit is available in the following sizes:

- 156 cm (5 ft)
- 187 cm (6 ft)
- 247 cm (8 ft)

The bar-mount kit includes a swivel mount that fits into the end of the optional spray gun bar. Refer the *Options* section for the spray gun bar part number.

The base spray gun is equipped with a 100 kV integral voltage multiplier and electrode air-wash to prevent powder from collecting on the electrode. The base spray gun is used with the Nordson Encore HD iControl® system, Encore Engage, or Encore LT auto controllers, which provide electrostatic voltage control, electrode air-wash air, atomizing air, and HDLV® pump control.

The base gun has a straight-through powder path to minimize impact fusion and a quick-disconnect powder hose connector. Shipped with the spray guns are flat spray nozzles with 2.5- and 4-mm slots. Optional equipment includes:

- 8 m (26 ft), 12 m (39ft), and 16 m (52 ft) control cables, and a 4 m (13 ft) cable extension
- Standard and pivoting mounts for the bar-mount application
- Fixed extrusion spray gun mounts for the tube-mount application
- Spray gun bar with 121 cm (4 ft) bar and clamp for 1 in. (25 mm) mounting bars
- Angled spray extensions
- Ion collector kit
- A variety of flat, conical, and cross-cut nozzles
- Tube-mount kits
- Bar-mount kit
- HD diffuser kit

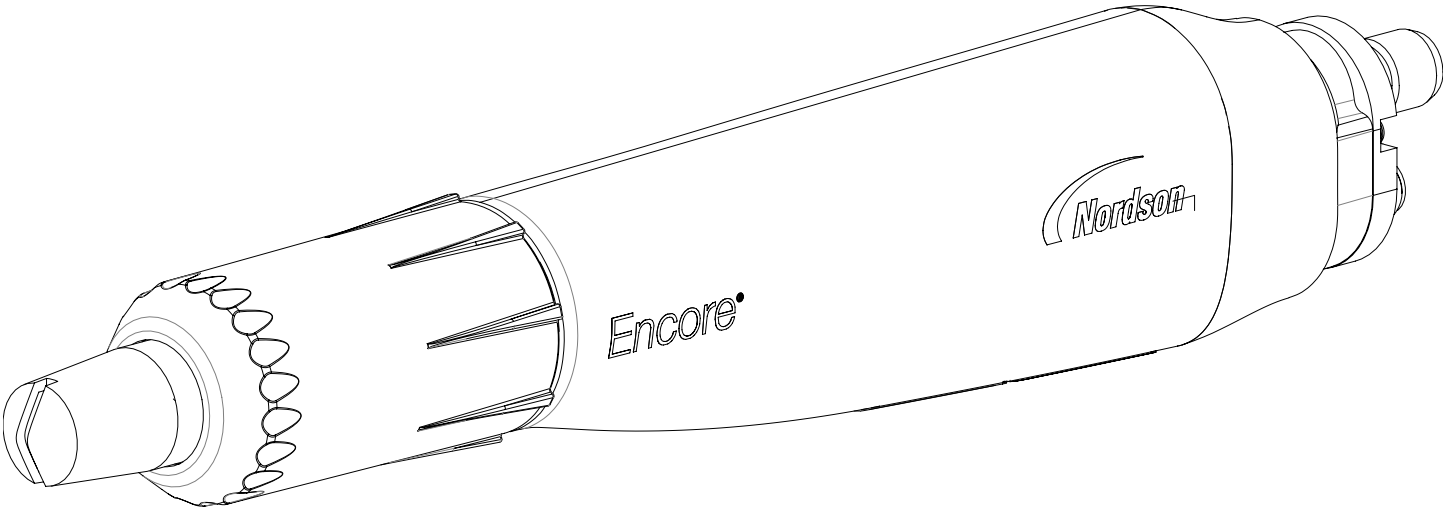


Figure 2-1 Base Spray Gun

Specifications

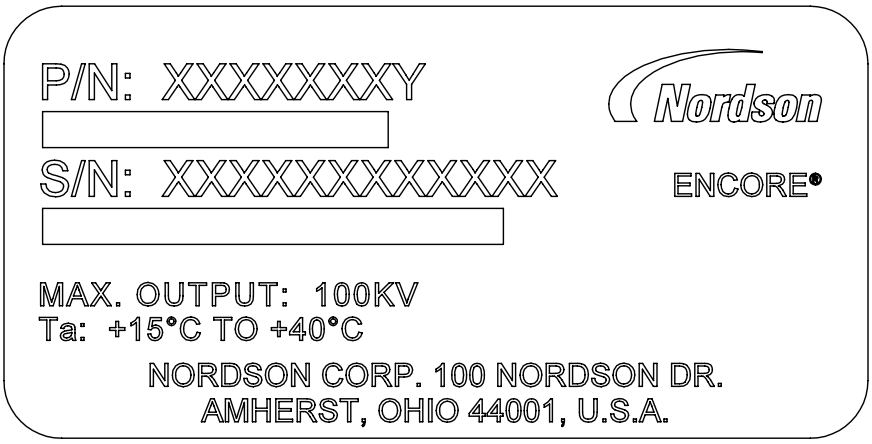
Input Rating	Output Rating
+/- 19 VAC, +/- 1 A (Peak)	100 KV, 100 µA

- Air Quality: ISO8573- 1:2010 Class 1.2.1
- Max Relative Humidity: 95% non-Condensing
- Ambient Temperature Rating: +15 to +40 °C (59- 104 °F)
- Hazardous Location Rating for Applicator: Zone 21 or Class II, Division 1

Applicator Certification Label

Serial Number Label

NOTE: The spray gun serial number contains the location, year, and month it was manufactured. The serial number starts with “AA10A”. The “AA” means the product was built in Amherst, Ohio, the “10” meaning the year 2010. The “A” means the month of January, “B” would be February, and so on.



Special Conditions for Safe Use

To meet EX requirements:

- The Encore HD powder electrostatic automatic applicators shall only be used with associated Encore LT, Encore HD iControl, or Encore Engage controllers over the ambient temperature range of +15 °C (59 °F) to +40 °C (104 °F).
- The equipment must be installed and used in accordance with Standard EN50177.

Dimensions and Weights

See Figure 2-2 and refer to Table 2-1 for tube-mount dimensions and weights.

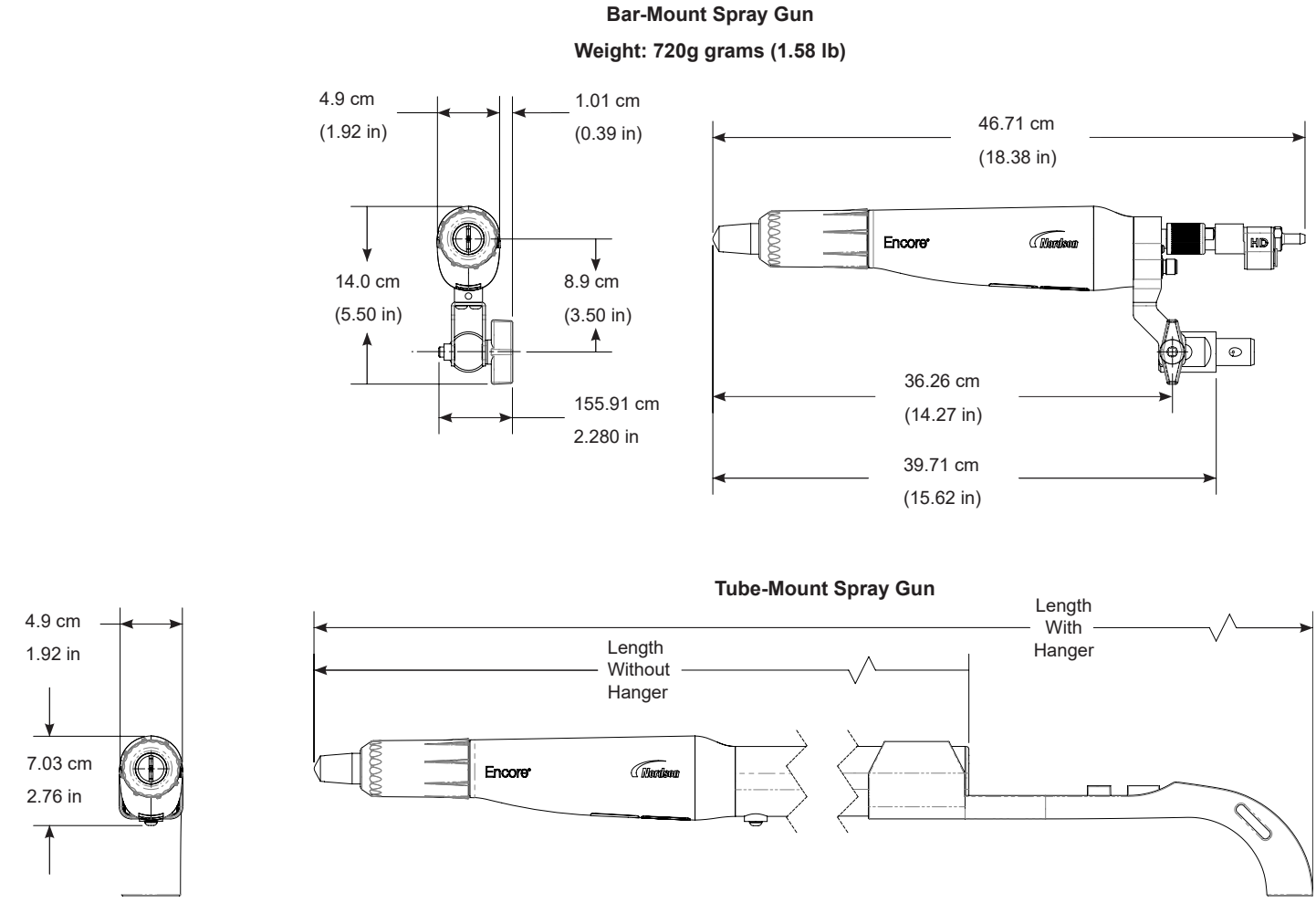


Figure 2-2 Spray Gun Dimensions and Weights

Table 2-1 Tube-mount Spray Gun Weight and Dimensions

Size	Weight	Length	
		Without Hanger	With Hanger
5 ft	1.75 kg (3.85 lb)	155.91 cm (61.38 in)	183.06 cm (72.07 in)
6 ft	2.00 kg (4.40 lb)	185.91 cm (73.19 in)	213.06 cm (83.88 in)
8 ft	2.55 kg (5.62 lb)	245.91 cm (96.81 in)	273.06 cm (107.50 in)

Section 3
Installation

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

Tube-Mount Spray Guns

Tube-mount spray gun mounting kits are available. Refer to *1625071-03* section for assembly part numbers.

See Figure 3-1.

1. Attach the mounting tube for the spray gun to a fixed stand, oscillator, or reciprocator using one of the mounting assemblies shown below.

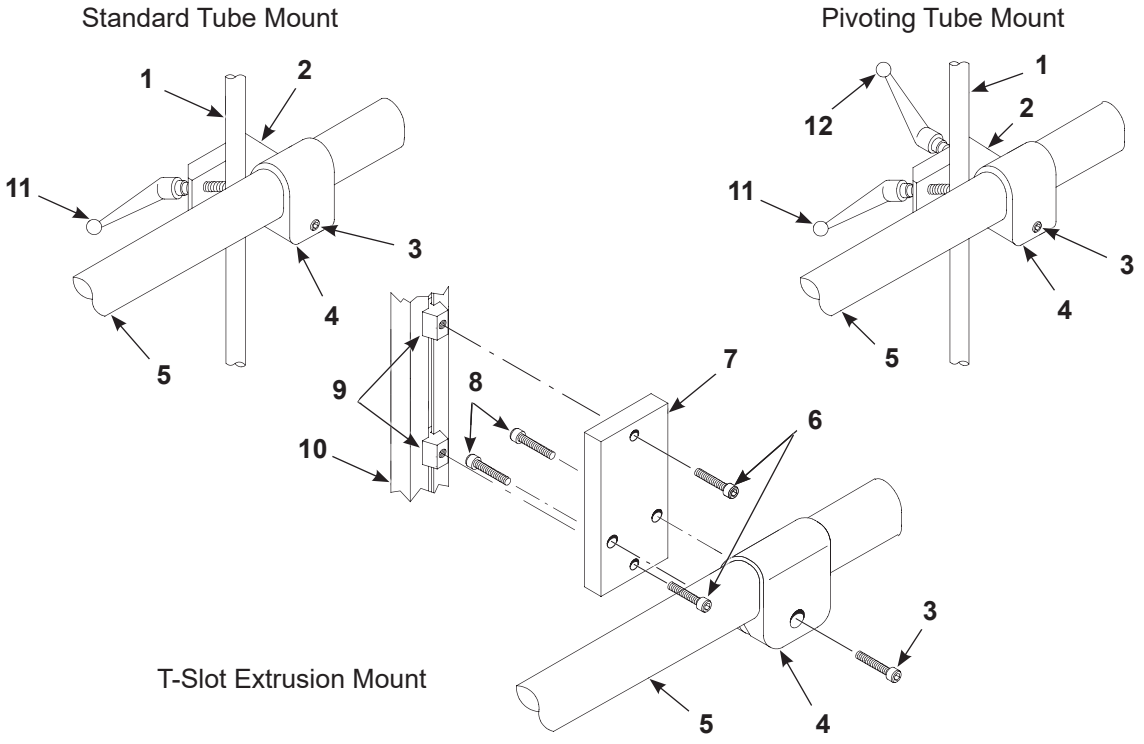


Figure 3-1 Tube-Mount Spray Gun Kit Mounting

1. Mounting bar 25.4 mm (1 in.)
2. Clamp
3. Clamping screw
4. Mounting sleeve
5. Mounting tube
6. M8 x 30 screws
7. Support plate
8. 3/8-16 x 1 in. screws
9. T-slot nuts
10. T-slot extrusion (not included in kit)
11. Clamping handle
12. Pivot handle

See Figure 3-2.

2. After the mounting tube (12) is attached to the external mounting assembly, locate the end cap, cables, tubing, and hoses necessary for operation.
3. Feed the gun cable (21), powder feed hose (18), and the electrode air-wash tube (9) through the end cap (14).

NOTE: If using the HD diffuser (6), thread the 8-mm powder feed hose (10) and the 6-mm atomizing tube (11) through the end cap (14).

4. Align the cable, tubing, and hose in the end cap slots for proper routing.
5. Feed cable, tubing and hose through the mounting tube.
6. Attach the powder feed hose to the hose connector:
   a. **For venturi systems (VT):** Attach the powder feed hose (18) to the VT hose assembly (19, 20) by pushing the powder feed hose onto the hose connector (19) until the powder feed hose is secure.

   NOTE: The venturi systems (VT) use either a 12.7-mm powder feed hose or an 11-mm powder feed hose.

   b. **For HD systems:** Attach the 8-mm powder feed hose (10) to the HD diffuser (6, 7) by pushing the powder feed hose onto the hose connector (7) until the powder feed hose is secure.
7. Attach the hose connector to the powder tube:
   a. **For venturi systems (VT):** Attach the VT hose connector (19) to the powder tube (3) by pushing the VT hose connector (19) onto the powder tube until secure. Tighten the retainer nut on the VT hose connector to secure.
   b. **For HD systems:** Attach the HD diffuser (6) to the powder tube (3) by pushing the HD diffuser (6) onto the powder tube until secure. Tighten the retainer nut on the HD diffuser to secure.

NOTE: Both the VT hose connector and the HD diffuser can be detached from the gun body by unscrewing the retainer nut and pulling the remaining connector away from the spray gun.

8. Place the hose clamp onto the powder feed hose, squeeze to secure.
9. Connect the clear, 4-mm electrode air-wash tube (9) to the small barbed fitting (5) on the gun body.
10. Attach the gun cable (21) to the gun harness receptacle (4).

NOTE: If using the HD diffuser, connect the blue, 6-mm atomizing tube (11) to the tubing union (8) attached to the HD diffuser.

11. After the cable, hose, and tubes are connected, slide the gun body onto the mounting tube until bottomed.
12. Push the end cap into the back of the mounting tube until bottomed.
13. Install the lock washer (16), saddle washer (15) and the M5 screw (17), into the grounding plate through the mounting hole. Torque the screw to 40 in-lb (4.5 N●m).

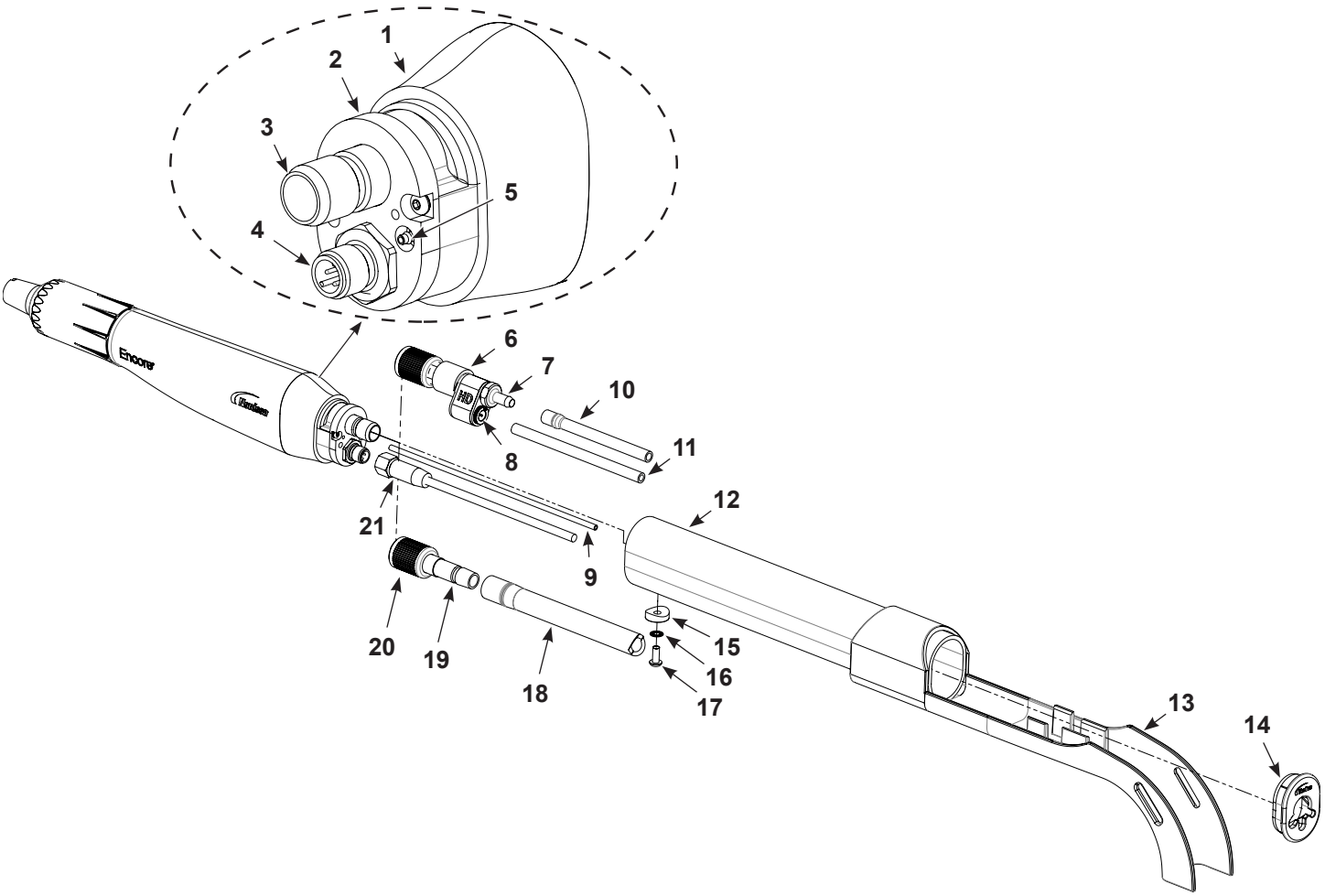


Figure 3-2 Tube-Mount Spray Gun Connections

1. Gun body
2. Grounding plate
3. Powder tube
4. Gun harness receptacle
5. Barbed fitting (air wash)
6. HD diffuser (with retainer nut)
7. HD hose connector
8. Tubing union
9. 4-mm electrode air-wash tube
10. 8-mm powder feed hose
11. 6-mm atomizing tube
12. Mounting tube
13. Hose hanger
14. End cap
15. Saddle washer
16. Lock washer
17. M5 screw
18. 12.7-mm or 11-mm powder feed hose
19. VT hose connector
20. VT hose connector retainer nut
21. Gun cable

Tube-Mounting Hardware Kit

The mounting hardware kit is required for the tube-mount options of the powder spray gun to ensure proper retention and function. Although the hardware is included in the tube-mount kits, this mounting hardware kit is available in the event the hardware is lost or needs to be replaced during routine maintenance.

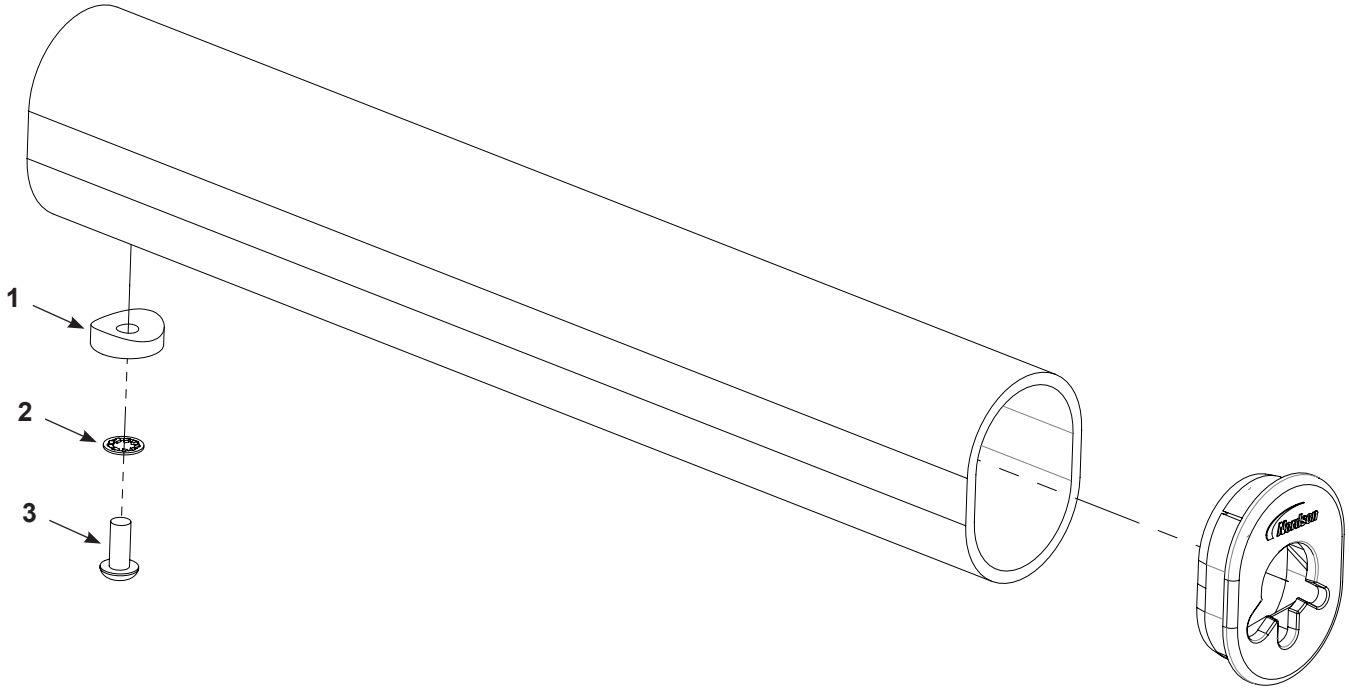


Figure 3-3 Tube-Mounting Hardware Kit

1. Saddle washer
2. Lock washer
3. M5 x 12 screw

Bar-Mount Spray Guns

The spray gun bar is optional. Refer the *Options* section for the spray gun bar part number.

See Figure 3-4.

1. Install the spray gun bar-mount adapter (6) onto the rear gun body (1). Install the lock washers over the M3 screws (17). Torque the screws with a 2 mm hex key to 5 in-lb (0.5 N●m).
2. Attach the powder feed hose to the hose connector:
   a. **For venturi systems (VT):** Attach the powder feed hose (14) to the VT hose assembly (15, 16) by pushing the powder feed hose onto the hose connector (15) until the powder feed hose is secure.

   NOTE: The venturi systems (VT) use either a 12.7-mm powder feed hose or an 11-mm powder feed hose.

   b. **For HD systems:** Attach the 8-mm powder feed hose (12) to the HD diffuser (9, 10) by pushing the powder feed hose onto the hose connector (10) until the powder feed hose is secure.
3. Attach the hose connector to the powder tube:
   a. **For venturi systems:** Attach the VT hose connector (15) to the powder tube (3) by pushing the VT hose connector (15) onto the powder tube until secure. Tighten the retainer nut on the VT hose connector to secure.
   b. **For HD systems:** Attach the HD diffuser (10) to the powder tube (3) by pushing the HD diffuser (10) onto the powder tube until secure. Tighten the retainer nut on the HD diffuser to secure.

NOTE: Both the VT hose assembly and the HD diffuser can be detached from the gun body by unscrewing the retainer nut and pulling the remaining connector away from the spray gun.

4. Place the hose clamp onto the powder feed hose, squeeze to secure.

NOTE: If using the HD diffuser, connect the blue, 6-mm atomizing tube (13) to the tubing union (11) attached to the HD diffuser.

5. Connect the clear, 4-mm electrode air-wash tube (7) to the small barbed fitting (5) on the gun body.
6. Attach the gun cable (8) to the gun harness receptacle (4).

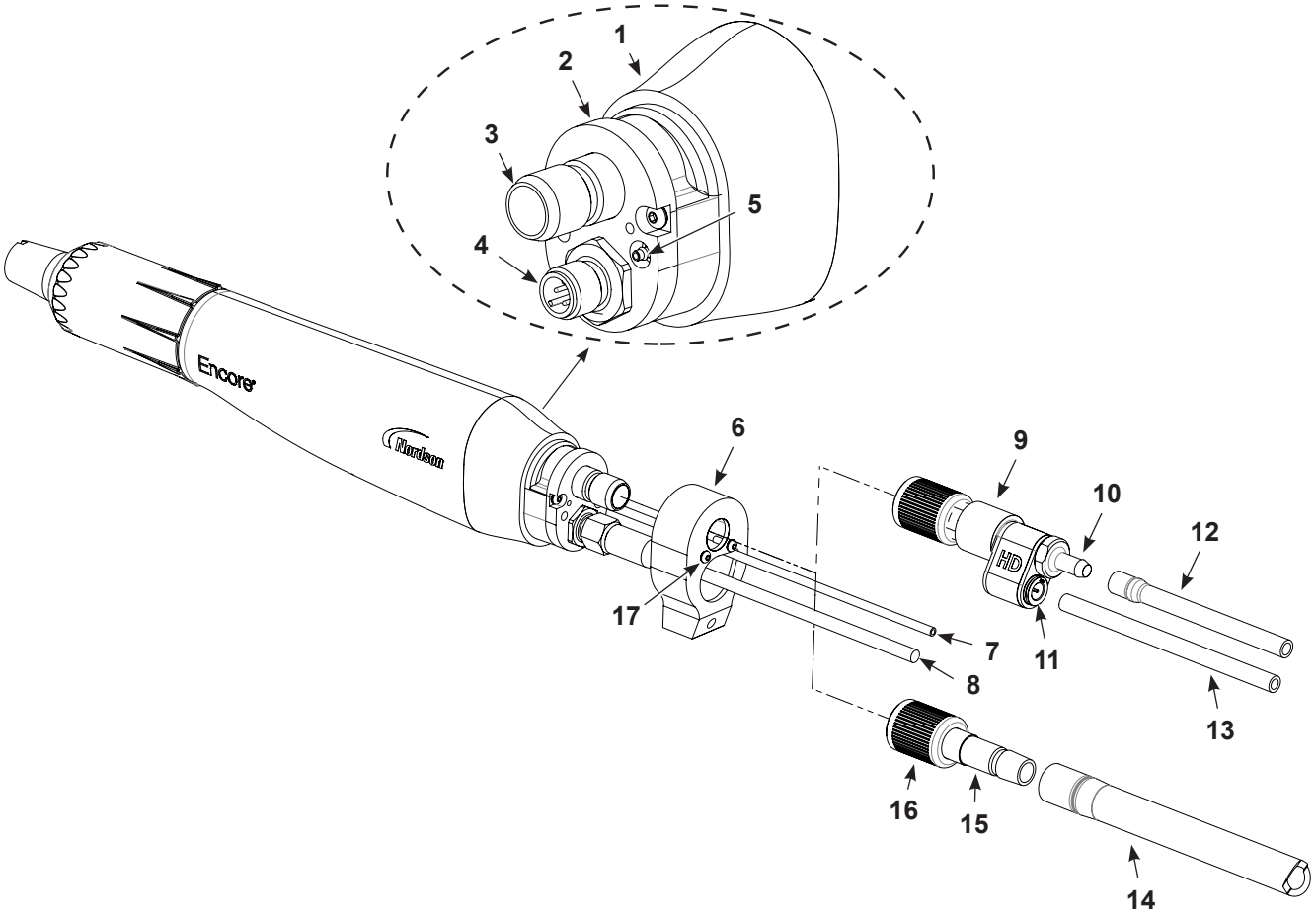


Figure 3-4 Bar-Mount Spray Gun

1. Gun body
2. Grounding plate
3. Powder tube
4. Gun harness receptacle
5. Barbed fitting (air wash)
6. Bar-mount adapter
7. 4-mm electrode air-wash tube
8. Gun cable
9. HD diffuser (with retainer nut)
10. HD hose connector
11. Tubing union
12. 8-mm powder feed hose
13. 6-mm atomizing tube
14. 12.7-mm or 11-mm powder feed hose
15. VT hose connector
16. VT hose connector retainer nut
17. M3 x 30 screw

7. See Figure 3-5. Install the spray gun bar-mount adapter (3) into the end of the gun bar (9) and secure it by tightening the set screw (10) with 4 mm hex key.
   - To move the spray gun tip from side to side, loosen the button screws (1).
   - To tilt the spray gun tip up or down, loosen the tilt knob (4).
   - To rotate or adjust the gun bar on the locking body (8), loosen the rotate handle (5).
8. To mount the spray gun on a fixed spray gun stand, oscillator, or reciprocator, position the clamp (7) on a 1 in. mounting bar and tighten the clamp handle (6).

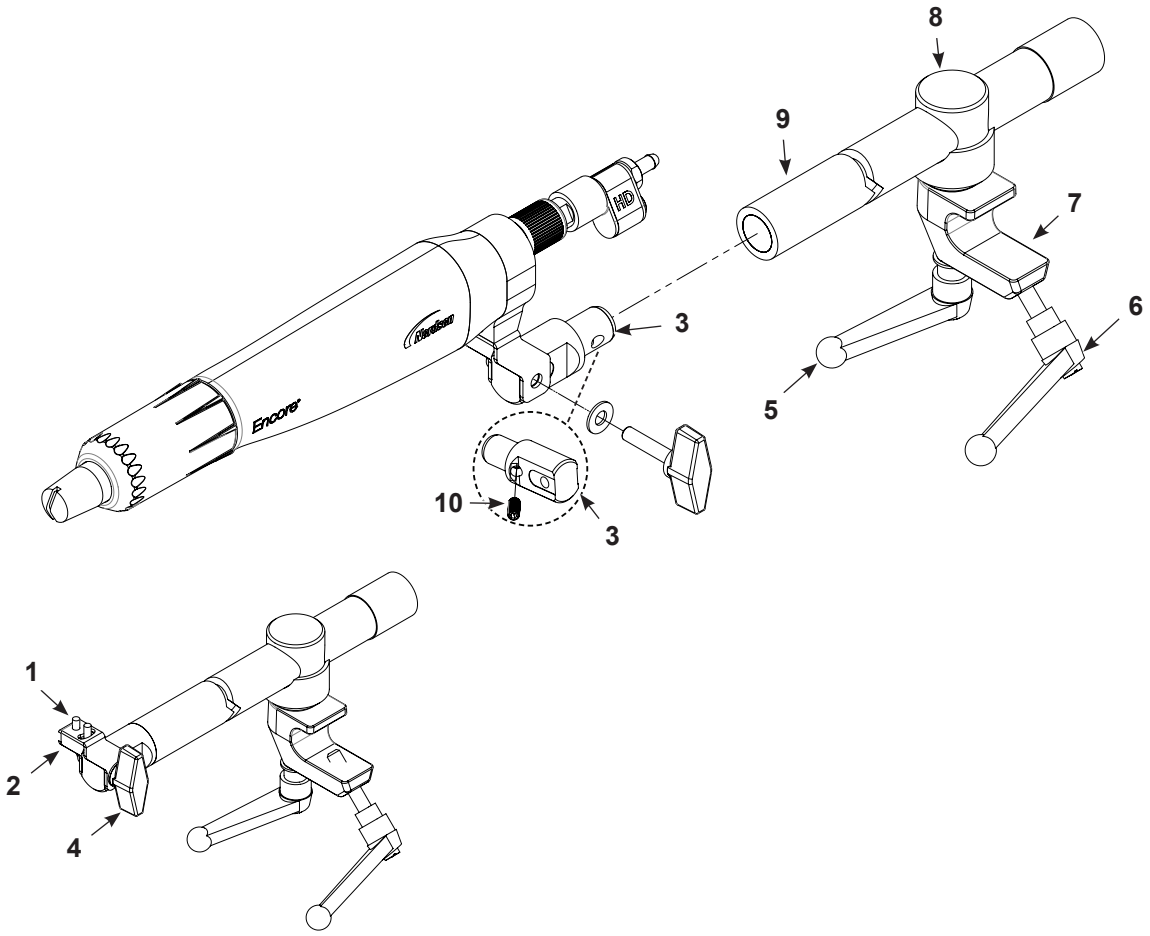


Figure 3-5 Bar-Mount Spray Gun Mounting

1. Button screws
2. Tilt bracket
3. Bar-mount adapter
4. Tilt knob
5. Rotate handle
6. Clamp handle
7. Clamp
8. Locking body
9. Gun bar
10. Set screw

Ion Collector Kit

The ion collector can improve the appearance and surface finish of cured powder coatings. It collects ions emitted from the spray gun's charging electrode instead of allowing them to deposit on the part. This reduces the rate of charge buildup in the powder deposited on the part, which may reduce defects in the cured coating such as pinholing and orange peel.

Refer to the *Options* section for part numbers.

The ion collector kit can be used on both the bar-mount and tube-mount spray guns. After installing the ion collector, adjust the collector rod position for best results as described on page 3-10.

Tube-Mount Spray Gun Installation

1. See Figure 3-6. Secure the post (2) to the grounding plate with the M5 X 10 screw (3).
2. Insert the collector rod (1) into the post and secure it with the M10 x 10 nylon-tipped set screw (4).
3. Attach the multi-point tip (6) to the collector rod with the M3 x 8 screw (7). Torque the M3 screw to 6 in-lb (0.6 N●m).

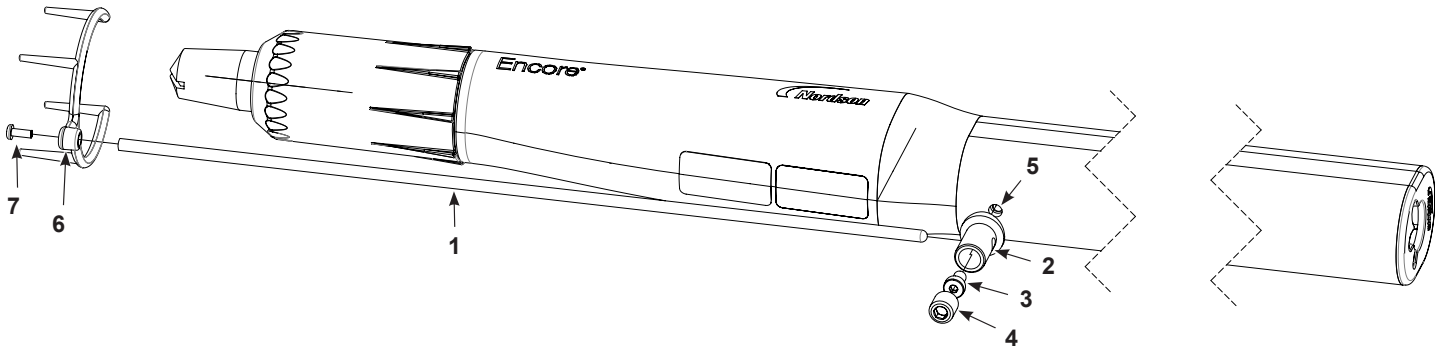


Figure 3-6 Ion Collector Installation - Tube-Mount Spray Gun (for clarity, some parts are not shown)

1. Collector rod
2. Post
3. M5 X 10 Screw
4. M10 x 10 set screw
5. Ion collector mounting hole
6. Multi-point tip
7. M3 x 8 pan screw

Bar-Mount Spray Gun Installation

1. See Figure 3-7. Insert the collector rod (1) into the bar-mount adapter and secure it with the M5 x 8 set screw (2) included in the ion collector kit.
2. Attach the multi-point tip (3) to the collector rod using the M3 x 8 screw (4).

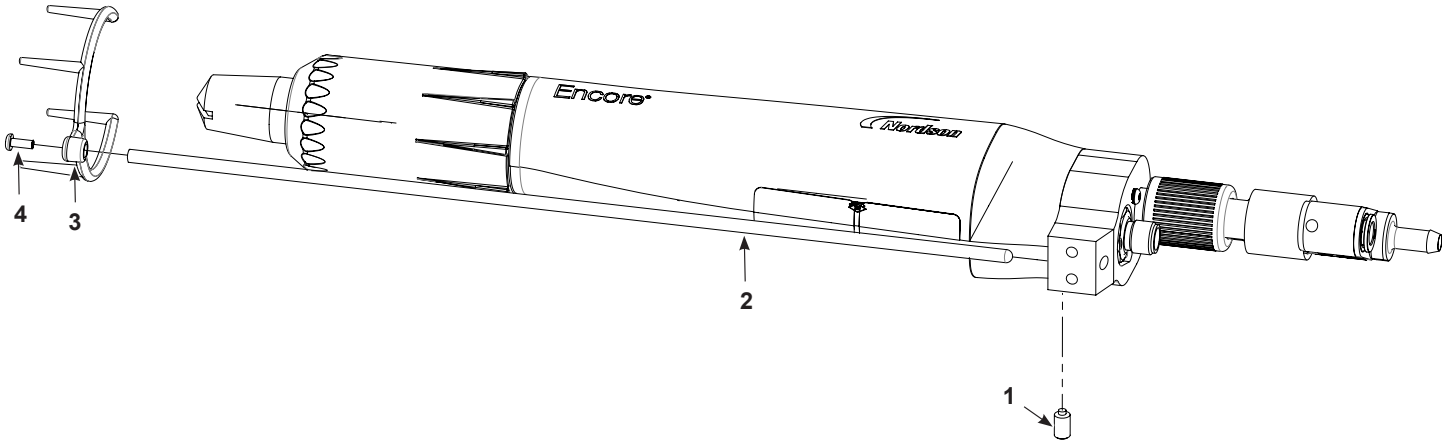


Figure 3-7 Ion Collector Installation - Bar-Mount Spray Gun (for clarity, some parts are not shown)

1. M5 x 8 set screw
2. Collector rod
3. Multi-point tip
4. M3 x 8 pan screw

Adjusting the Ion Collector Rod

The ion collector rod should be mounted so that the tip at the end of the rod is the optimum distance from the tip of the electrode for the application.

- If the tip at the end of the rod is too far away from the tip of the electrode, the ion collector will not collect any ions or improve the appearance of the cured coating.
- If the tip of the end of the rod is too close to the tip of the electrode, powder particles may not be charged efficiently and the powder transfer efficiency may be reduced.

Use this procedure to position the end of the ion collector rod.

1. Remove the rod and multi-point tip from the post, then coat several test parts. Note the current (μA) shown on the control unit display when coating the parts. Cure the coatings.
2. Install the rod into the post and the multi-point tip on the spray gun.
3. Loosen the M10 x 10 set screw for the tube-mount or the M5 x 8 set screw for the bar-mount, and move the multi-point tip far away from the front end of the spray gun.
4. Turn on the electrostatic voltage and spray powder on a test part in front of the spray gun. Slide the rod forward until the current shown on the control unit display is 5 to 7 μA higher than that displayed without an ion collector. Tighten the set screw.
5. Cure the coating on the test parts. Compare the surface finish on these parts with the finish on the parts coated in step 1 (before the ion collector kit was installed).
6. If the desired improvement in the surface finish has not been obtained, loosen the set screw and slide the rod forward approximately 1-in. Tighten the set screw.
7. Repeat steps 5 and 6 until the desired improvement in surface finish is obtained.

Section 4
Operation

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

WARNING: This equipment can be dangerous unless it is used in accordance with the rules laid down in this manual.

Automatic and manual control of electrostatic output, air-wash air flow, and pump air flow, are provided by the Nordson iControl system, Encore Engage, or the Encore LT automatic controllers. Spray gun triggering and positioning are provided by the iControl system, a Nordson axis controller, or a PLC supplied either by Nordson or the customer.

Refer to your controller manual for programming information and instructions.

Changing Flat Spray Nozzles

WARNING: Turn off the spray gun and ground the electrode before performing this procedure. Failure to observe this warning could result in a severe electrical shock.

1. See Figure 4-1. Unscrew the nozzle nut (1) counterclockwise.
2. Pull the flat spray nozzle (2) off the electrode assembly (3).

NOTE: It is not necessary to remove the electrode assembly. If the electrode assembly comes out of the spray gun when you pull the nozzle off, clean it with compressed air before re-installing it. Do not bend the electrode. The electrode holder (3A) screws into the assembly. The electrode assembly is replaceable.

3. Install a new nozzle on the electrode assembly, being careful not to bend the electrode. The nozzle is keyed to the electrode assembly.
4. Install the nozzle nut over the nozzle and screw it onto the spray gun body clockwise until the face of the nozzle nut bottoms against the shoulder of the spray gun body.

NOTE: The tapered electrode holder of the electrode assembly has been designed for optimized cleaning during color changes on systems using flat spray nozzles. This tapered electrode holder will not accept conical deflectors.

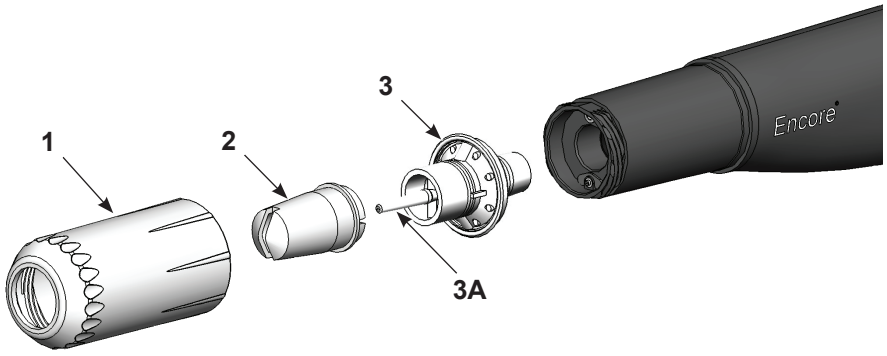


Figure 4-1 Flat Spray Nozzle Removal and Installation

Changing Optional Deflectors or Conical Nozzles

WARNING: Turn off the spray gun and ground the electrode before performing this procedure. Failure to observe this warning could result in a severe electrical shock.

NOTE: The electrode holder shipped with the spray gun will need to be changed in order to accept the optional conical deflectors. See the *Options* section for the conical nozzle kit required for this conversion.

1. See Figure 4-2. To change the deflector (4), gently pull it off the electrode assembly (3). If only changing the deflector, install the new one on the electrode assembly, being careful not to bend the electrode wire.
2. To change the entire nozzle, unscrew the nozzle nut (1) counterclockwise.
3. Pull the conical nozzle (2) off the electrode assembly.

NOTE: It is not necessary to remove the electrode assembly (3) from the spray gun. If the electrode assembly comes out of the spray gun when you pull the nozzle off, clean it with compressed air before re-installing it. Do not bend the electrode. The electrode holder (3A) screws into the assembly. The electrode assembly is replaceable.

4. Install a new conical nozzle on the electrode assembly. The nozzle is keyed to the electrode assembly.
5. Screw the nozzle nut onto the spray gun body until the face of the nozzle nut bottoms against the shoulder of the spray gun body.
6. Install a new deflector on the electrode assembly, being careful not to bend the electrode.

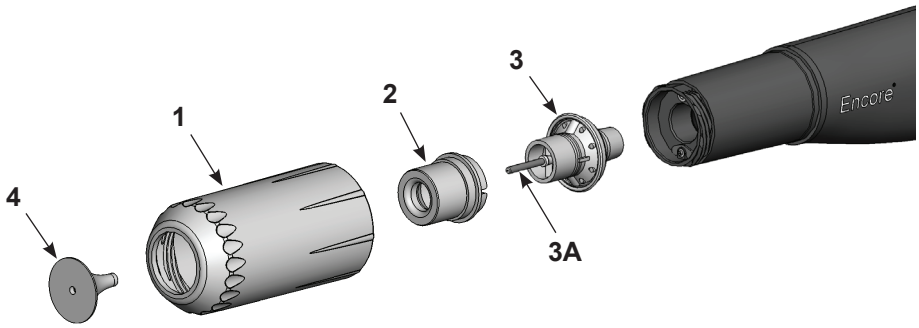


Figure 4-2 Changing Optional Deflectors and Conical Nozzles

Section 5
Maintenance

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

Powder Wear Part Maintenance

Depending on your application, you may not need to perform this procedure every day. If you regularly perform color changes with a powder feed center, the spray gun is purged internally each time a color change is performed. If this is the case, perform this procedure every 2-3 days.

Use this procedure to replace the powder wear parts on both the tube-mount and bar-mount spray guns. Replace worn or damaged parts as required.

See Figure 5-1.

1. Purge the spray guns, then shut them off.
2. Unscrew the nozzle nut (1) and remove the nozzle (2).
3. Pull the electrode assembly (3) out of the spray gun.
4. To remove the powder outlet tube (5) from the front of the spray gun, insert needle nose pliers into the powder outlet tube (5). Open the pliers against the inside walls of the powder outlet tube and pull the tube and its seal (4) out from the front of the spray gun body.
5. Disconnect the powder feed hose (7) from either the VT hose connector or HD diffuser.
6. Clean all parts removed with a low-pressure blow gun. Wipe the parts with a clean, dry cloth.
7. Carefully remove any fused powder with a wooden or plastic dowel or similar tool. Do not use tools that will scratch the plastic. Powder will build up and impact-fuse on scratches.

NOTE: If necessary, use a cloth dampened with isopropyl or ethyl alcohol to clean the parts. Remove O-rings and seal before cleaning the parts with alcohol. Do not immerse the spray gun in alcohol. Do not use any other solvents.

8. Inspect the powder tube, seal, electrode assembly, porous tube, barbed adapter and nozzle for wear. Replace worn or damaged parts.
9. Install the seal on the end of the powder tube if removed.
10. Install the powder tube into the spray gun until the seal bottoms out in the front of the spray gun.
11. Install the electrode assembly in the spray gun, so that the end of the electrode assembly slides into the seal on the end of the powder tube.
12. Install the nozzle on the electrode assembly and secure it with the nozzle nut. If used, install the deflector onto the electrode assembly.

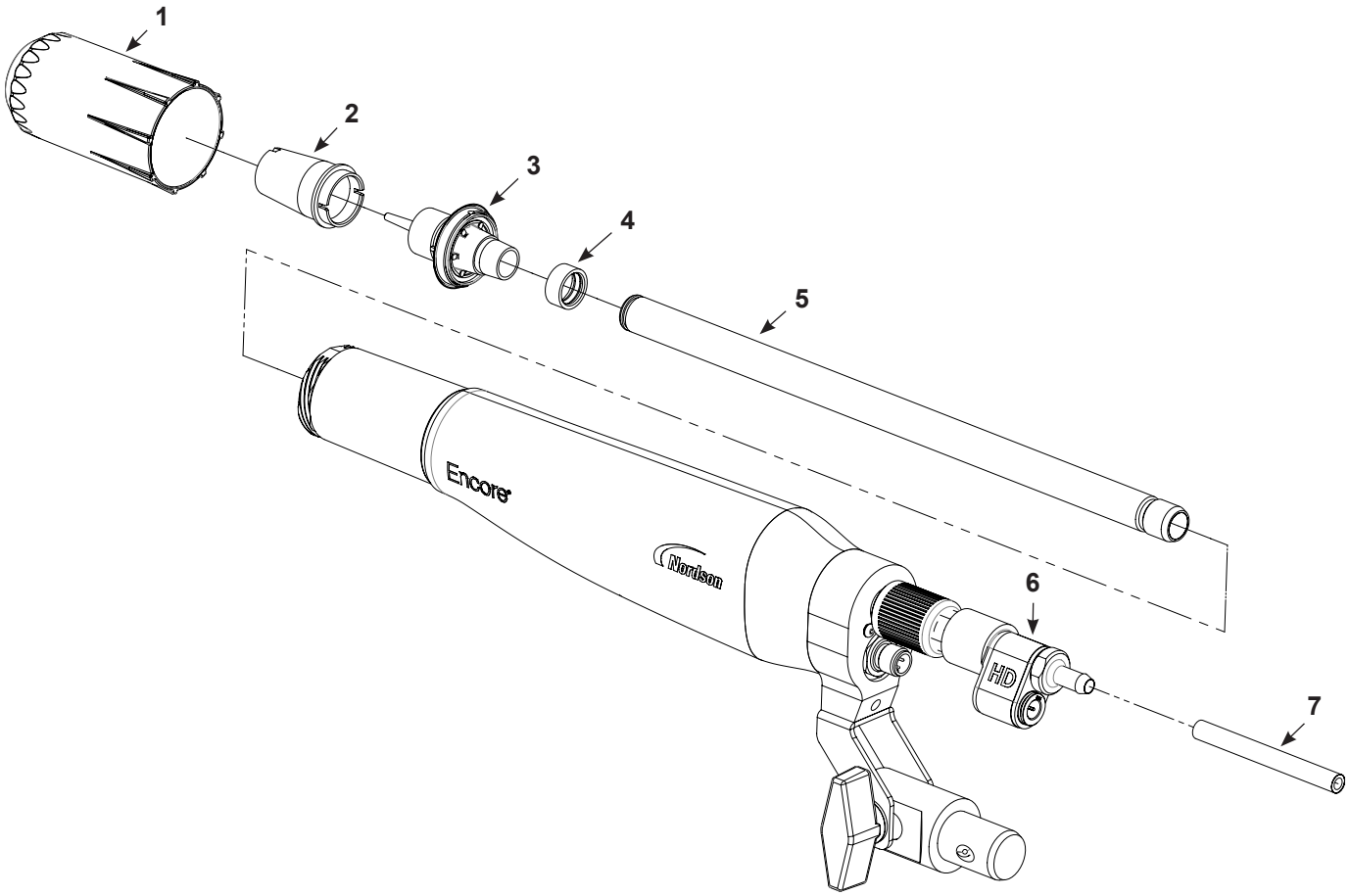


Figure 5-1 Maintenance - Bar-Mount Spray Gun Shown without Pivot Mount (shown with HD diffuser)

1. Nozzle nut
2. Nozzle
3. Electrode assembly
4. Seal
5. Powder outlet tube
6. HD diffuser
7. Powder feed hose

Section 6
Troubleshooting

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

These troubleshooting procedures cover only the most common problems. If you cannot solve a problem with the information given here, contact your local Nordson representative for help.

NOTE: Refer to the applicable controller manual for problems related to iFlow modules.

General Troubleshooting Chart

Problem	Possible Cause	Corrective Action	Note
1. Uneven pattern, unsteady or inadequate powder flow	Blockage in spray gun, powder feed hose, or pump	1. Purge the spray gun. Remove the nozzle and electrode assembly and clean them. 2. Disconnect the powder feed hose from the spray gun and blow out the powder tube with an air gun. 3. Disconnect the feed hose from the pump and spray gun and blow out the feed hose. Replace the feed hose if it is clogged with powder. 4. Disassemble and clean the pump.	
	Nozzle, deflector, or electrode assembly worn, affecting pattern	Remove, clean, and inspect the nozzle, deflector, and electrode assembly. Replace worn parts as necessary. If excessive wear or impact fusion is a problem, reduce the flow rate and atomizing air flow.	
	Damp powder	Check the powder supply, air filters, and dryer.	
	Low pump air flow/ pressure	Adjust pump air flow/pressure. Refer to your controller manual for troubleshooting procedures.	A
	Improper fluidization of powder in feed hopper	Increase the fluidizing air pressure. If the problem persists, remove the powder from the hopper. Clean or replace the fluidizing plate if contaminated.	
	iFlow module out of calibration	Perform the re-zero procedure described in the controller hardware manual.	B
		Continued...	

Problem	Possible Cause	Corrective Action	Note
2. Voids in powder pattern	Worn nozzle or deflector	Remove and inspect the nozzle or deflector. Replace worn parts.	
	Plugged electrode assembly or powder path	Remove the electrode assembly and clean. Remove powder path if necessary and clean.	
	Electrode air-wash flow too high	Air-wash flow is controlled by a fixed orifice. Refer to your controller manual for more troubleshooting information.	
3. Loss of wrap, poor transfer efficiency	Low electrostatic voltage	Increase the electrostatic voltage.	
	Poor electrode connection	Remove the nozzle and electrode assembly. Clean the electrode and check for carbon tracking or damage. Check the electrode resistance as shown on page 6-5. If the electrode assembly is good, remove the gun power supply and check its resistance as shown on page 6-4.	
	Poorly grounded parts	Check the conveyor chain, rollers, and part hangers for powder buildup. The resistance between the parts and ground must be 1 megohm or less. For best results, 500 ohms or less is recommended.	
4. No kV output from the spray gun (display shows 0 kV when spray gun triggered), but powder is spraying	Damaged spray gun cable	Perform the spray gun *Cable Continuity Tests* on page 6-5. If an open or shorted connection is found, replace the cable.	
	Spray gun power supply shorted	Perform the *Power Supply Resistance Test* on page 6-4.	
5. No kV output from the spray gun (interface shows kV output), but powder is spraying	Spray gun power supply open	Perform the *Power Supply Resistance Test* on page 6-4.	
	Damaged spray gun cable	Perform the spray gun *Cable Continuity Tests* on page 6-5. If an open or shorted connection is found, replace the cable.	
6. Insufficient electrode air-wash flow	Powder buildup on the electrode tip	Air-wash flow is controlled by a fixed orifice. Check the air-wash tubing, and check for flow at the output fitting when the spray gun is triggered on. Refer to your controller manual for more troubleshooting information.	
		Continued...	

Problem	Possible Cause	Corrective Action	Note
7. Low powder flow or powder flow surging	Low supply air pressure	Controller console air supply pressure must be greater than 5.86 bar (85 psi).	B
	Low pump flow	Adjust conveyance air. Refer to your controller manual for more troubleshooting information.	
	Supply air filter plugged or filter bowl full - water contamination of flow controller	Remove bowl and drain water/dirt. Replace filter element if necessary. Clean system, replace components if necessary.	
	iFlow module air pressure regulator set too low	Adjust the controller regulator to 5.86 bar (85 psi). Refer to the iFlow Air Flow Verification Kit instruction sheet.	B
	iFlow module flow valve or Encore LT flow valve plugged	Refer to your controller manual.	B
	Air tubing kinked or plugged	Check flow and atomizing air tubing for kinks.	A
	Pump not assembled correctly	Refer to HDLV pump manual.	A
	Pump throat worn	Replace pump throat.	A
	Pick-up tube blocked	Check for debris or bag (VBF units) blocking pick-up tube.	A
	Fluidizing air too low	If fluidizing air is set too low, the pump will not operate at peak efficiency.	A
	Powder hose plugged	Blow out powder hose with compressed air.	A
	Powder hose kinked	Checked for a kinked powder hose.	
	Powder hose too long	Shorten hose.	
	Spray gun powder path plugged	Check hose connector, powder tube, and electrode support for impact fusion or debris. Clean as necessary with compressed air.	
	Flow and atomizing air tubing reversed	Check flow and atomizing air tubing routing and correct if incorrect.	
8. No kV when spray gun is triggered ON, powder flow OK	kV set to zero	Change kV to a positive value.	
	Check the alarm screen for messages.	Refer to your controller manual for troubleshooting procedures.	
9. No powder flow when spray gun is triggered ON, kV OK	Input air turned OFF	Check the controller console air supply.	B
	Check the Alarm screen for messages.	Refer to your controller manual for troubleshooting procedures.	B
10. Gun flow % does not increment, always 0	Total air set to zero	If the total air is set to zero the flow percent cannot be adjusted. Change the total flow to a positive value.	B

NOTE: A. Only applicable with the HDLV systems.

B. Only applicable with the VT systems.

Power Supply Resistance Test

Use a megohm meter to check the resistance of the power supply, from the J2−3 feedback terminal at the connector to the contact pin inside the front end. The resistance should be between 225−335 megohms. If the reading is infinite, switch the meter probes. If the resistance falls outside this range, replace the power supply.

NOTE: There are multiple variables that can affect the Meg−Ohm readings of your meter (temperature and measurement voltage). If the Meg−Ohm meter output voltage differs from the 500 VDC setting, it will have a direct impact on the measurement accuracy. Measurements should also be taken at room temperature 22°C or 72°F. Allow time for the multiplier to cool to room temperature for repeatable results.

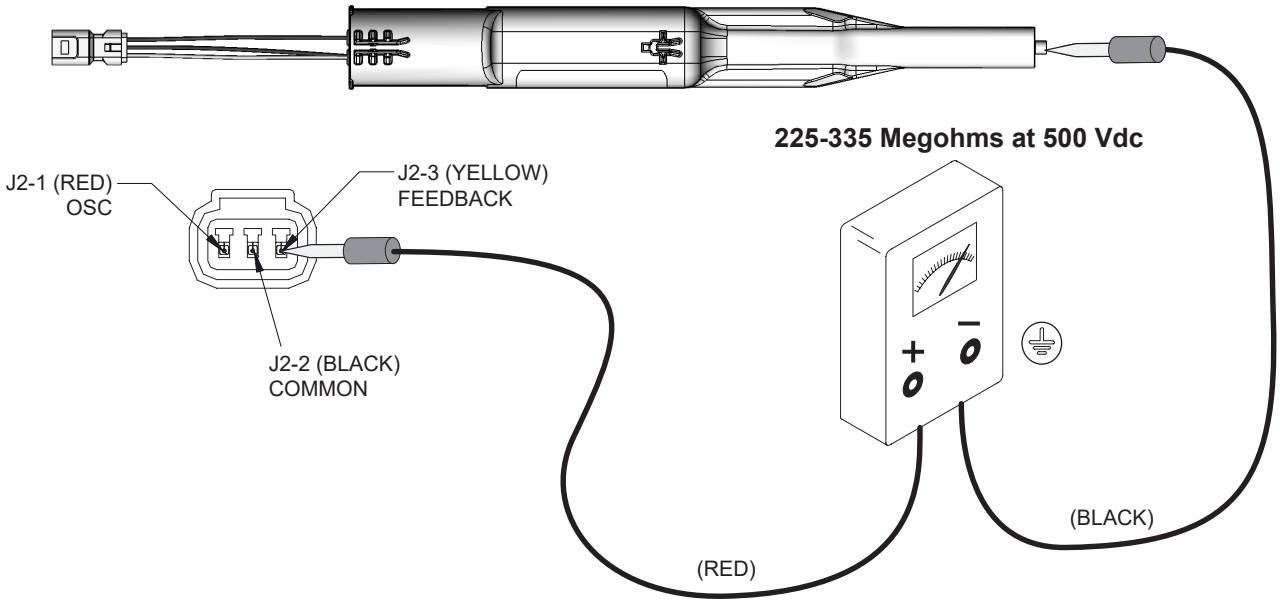


Figure 6-1 Power Supply Resistance Test

Electrode Assembly Resistance Test

Use a megohm meter to measure the resistance of the electrode assembly from the contact ring on the back to the antenna wire in the front. The resistance should be 19- 23 megohms. If the resistance is out of this range, replace the electrode assembly.

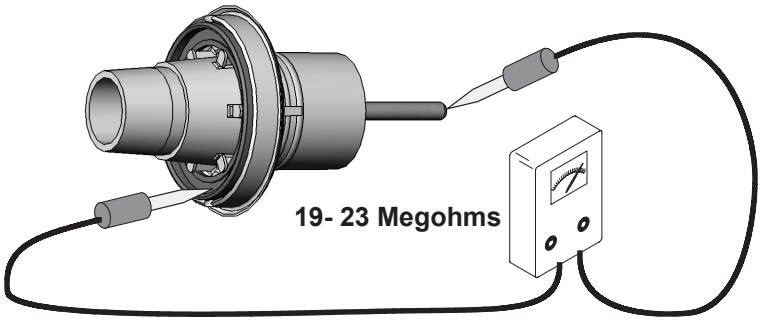


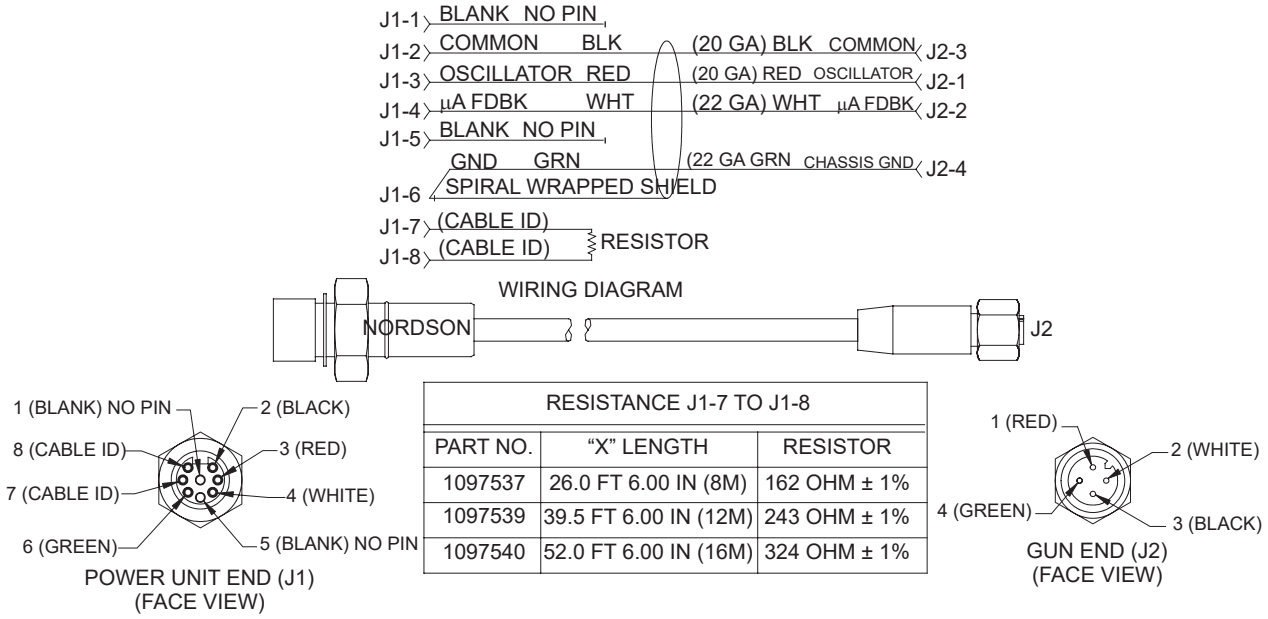
Figure 6-2 Electrode Assembly Resistance Test

Cable Continuity Tests

Use a standard ohmmeter to check the spray gun cables and harness for continuity.

Spray Gun Cable

This cable is available in 8-, 12-, and 16-meter (26-, 39-, 52-ft) lengths. It is used for both bar-mount and tube-mount spray guns.



RESISTANCE J1-7 TO J1-8		
PART NO.	"X" LENGTH	RESISTOR
1097537	26.0 FT 6.00 IN (8M)	162 OHM ± 1%
1097539	39.5 FT 6.00 IN (12M)	243 OHM ± 1%
1097540	52.0 FT 6.00 IN (16M)	324 OHM ± 1%

Figure 6-3 Spray Gun Cable

Section 7
Repair

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

Base Gun Repair

Base Gun Disassembly

WARNING: Disassembly of the base gun is not recommended as the power supply is prone to damage if not installed correctly. Allow only qualified personnel to perform the following tasks.

See Figure 7-1 and Figure 7-2 for the following procedure.

1. Unscrew the two M3 screws (19) from the grounding plate (14), and remove the lock washers (18).
2. Remove the quad ring (15) from the grounding plate (14). If the quad ring is damaged, replace it with a new one.
3. Remove the receptacle nut (16) from the receptacle harness (13), pull the grounding plate off the rear spray gun body (17), and feed the receptacle harness through the body.
4. Remove the nozzle and electrode assembly as described in *Powder Wear Part Maintenance* in the *Maintenance* section.
5. Carefully pull the rear spray gun body (17) off the bulkhead (6) and disconnect the power supply harness (4) from the receptacle harness (13).
6. Disconnect the filter assembly tubing (1) from the barbed fitting (11) inside the rear body assembly.
7. Remove the hex nuts (8) from the screw plate (7). Pull the bulkhead (6) off the front gun body (20).

NOTE: The studs (2) should never be removed from the front gun body (20).

8. The filter assembly tubing (1) in the spray gun body is part of the air filter assembly that provides the electrode air-wash. To replace the air filter assembly, pull it out of the front of the spray gun body.
9. Slide the power supply (3) out of the gun body.
10. The gasket (5) is attached to the bulkhead with pressure sensitive adhesive. If the gasket is damaged, replace it with a new one.
11. To disassemble the rear body assembly, remove the screw (9), lock washer (10) and barbed fitting (11) from inside the rear spray gun body (17). A 3-mm hex key and 1/4-in. deep-well socket are required.

Base Gun Disassembly (con't)

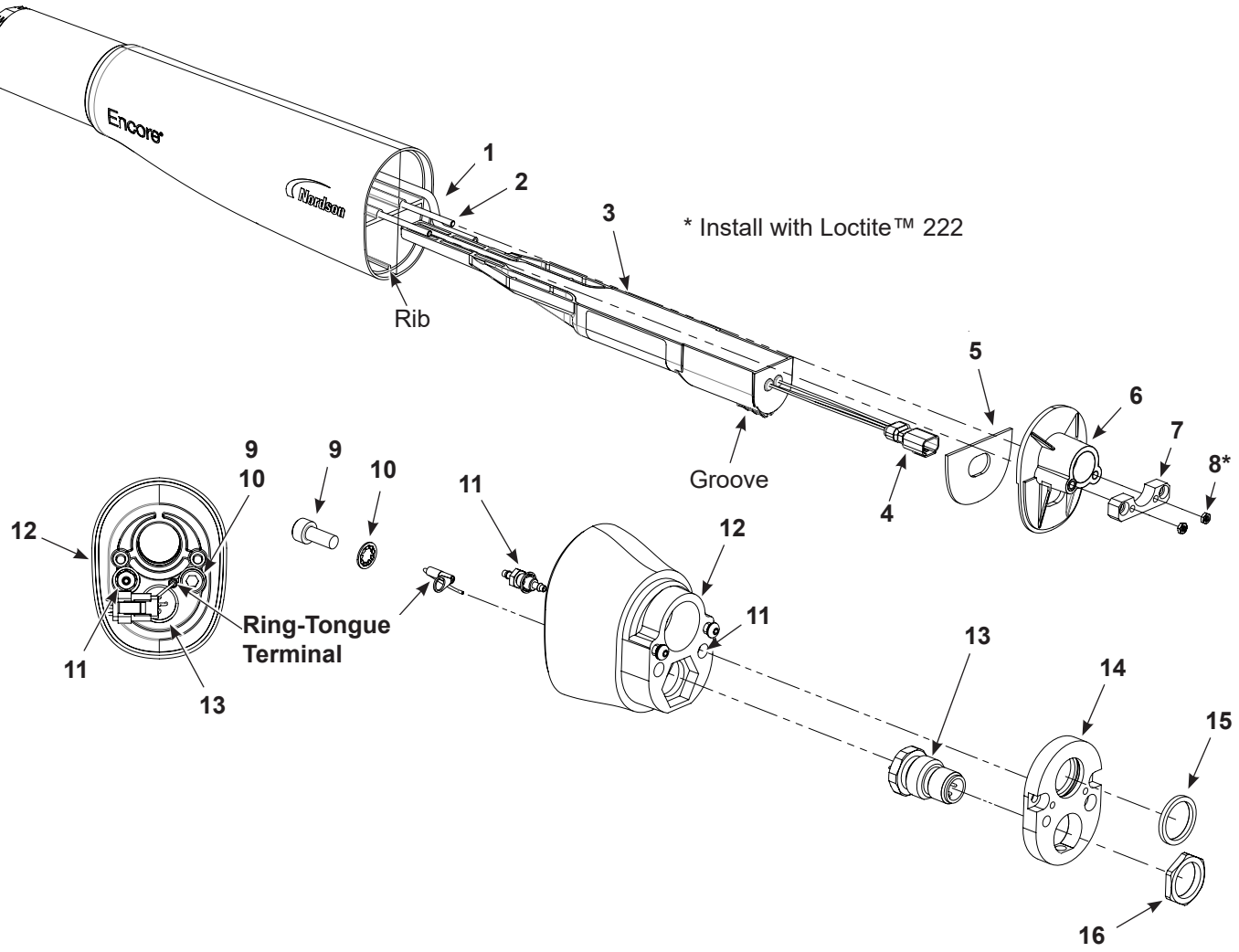


Figure 7-1 Base Spray Gun Disassembly

1. Filter assembly tubing
2. Studs
3. Power supply
4. Power supply harness
5. Gasket
6. Bulkhead
7. Screw plate
8. Hex nuts
9. Screw
10. Lockwasher
11. Barbed fitting and lockwasher
12. Rear gun body
13. Receptacle harness
14. Grounding plate
15. Quad Ring
16. Receptacle nut

Base Gun Assembly

NOTE: If you have a kit that combines the power supply and body assembly, skip step 2 and go to step 3.

Refer to Figure 7-1 and Figure 7-2.

1. When reassembling, secure the ring-tongue ground terminal to the rear spray gun body with the screw (9) and lock washer (10). Torque the screw from 12-15 in-lb (1.3-1.6 N●m).
2. Install the power supply (3) into the front gun body (20), making sure the spray gun body rib fits into the groove on the power supply. Seat the power supply firmly into the spray gun body.
3. Feed the power supply harness (4) through the bulkhead (6), then install the bulkhead and screw plate (7) over the spray gun body studs (2).
4. Apply Loctite™ 222 thread-locking adhesive to the hex nuts (8) before threading them onto the studs (2). Torque the nuts to 4 in-lb (0.4 N●m) with a 3/16-in. nut driver or socket.
5. Connect the receptacle harness (13) to the power supply harness (4). Tuck the harness connectors (4, 13) into the rear body assembly.
6. Feed the receptacle harness (13) through the rear spray gun body (17). Torque the receptacle nut (16) to 35-40 in-lb (3.5-4.5 N●m).
7. Connect the filter assembly tubing (1) to the barbed fitting (11) on the inside of the rear gun body. Feed any extra clear air tubing into the spray gun body.
8. Attach the gasket (5) to the bulkhead using the pressure sensitive adhesive.
9. Install and seat the quad ring (15) into the grounding plate (14).
10. Place the grounding plate (14) onto the rear gun body. Install the lock washers (18) over the M3 screws (19) then thread the screws into the grounding plate. Torque the M3 screws with a 2 mm hex key to 4.9 in-lb (0.5 N●m).

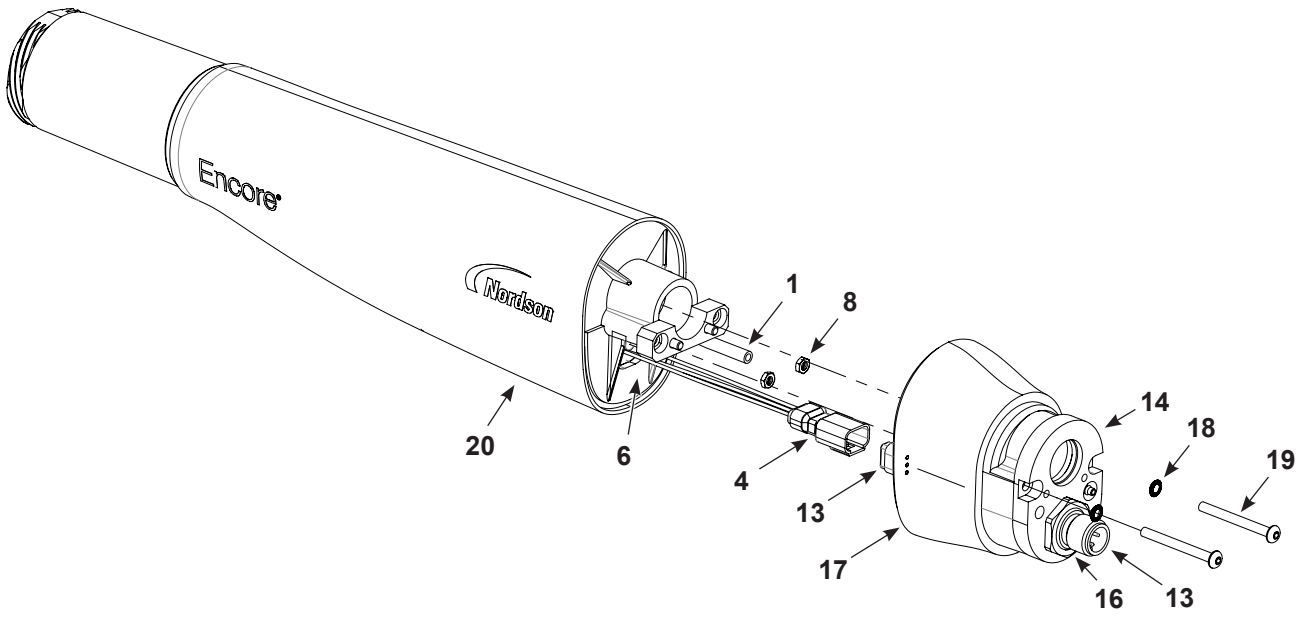


Figure 7-2 Base Spray Gun Assembly

1. Filter assembly tubing
4. Power supply harness
6. Bulkhead
8. Hex nuts
13. Receptacle harness
14. Grounding plate
16. Receptacle nut
17. Rear gun body
18. Washer
19. M3 screws
20. Front gun body

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Kit Repair

Tube-Mount Disassembly

See Figure 7-3.

1. Unscrew the M5 screw (17) and remove the lock washer (16) and the saddle washer (15) from on the grounding plate.
2. Slide the mounting tube (12) off the gun body (1).
3. Remove the hose clamp from the powder feed hose (18).
4. Remove the powder feed hose from the hose connector:
   a. **For venturi systems (VT):** Remove the powder feed hose (18) from the VT hose connector (19) by pulling the powder feed hose (18) off the hose connector (19).
   b. **For HD systems:** Remove the 8-mm powder feed hose (10) from the HD diffuser (6) by pulling the powder feed hose (10) from the hose connector (7).
5. Remove the hose connector from the powder tube:
   a. **For venturi systems (VT):** Remove the VT hose connector (19) from the powder tube (3) by loosening the retainer nut. The pull the VT hose connector (19) from the powder tube.
   b. **For HD systems:** Remove the HD diffuser (6) to the powder tube (3) by loosening the retainer nut. Then pull the HD diffuser (6) from the powder tube.
6. Remove the gun cable (21) from the gun harness receptacle (4).

NOTE: If using the HD diffuser, disconnect the blue, 6-mm atomizing tube (11) from the tubing union (8) attached to the HD diffuser.

7. Feed the cable, tubing, and hose through the mounting tube then through the end cap (14).

NOTE: Assembly is in the reverse order of disassembly. Refer to Installation section for specific instructions.

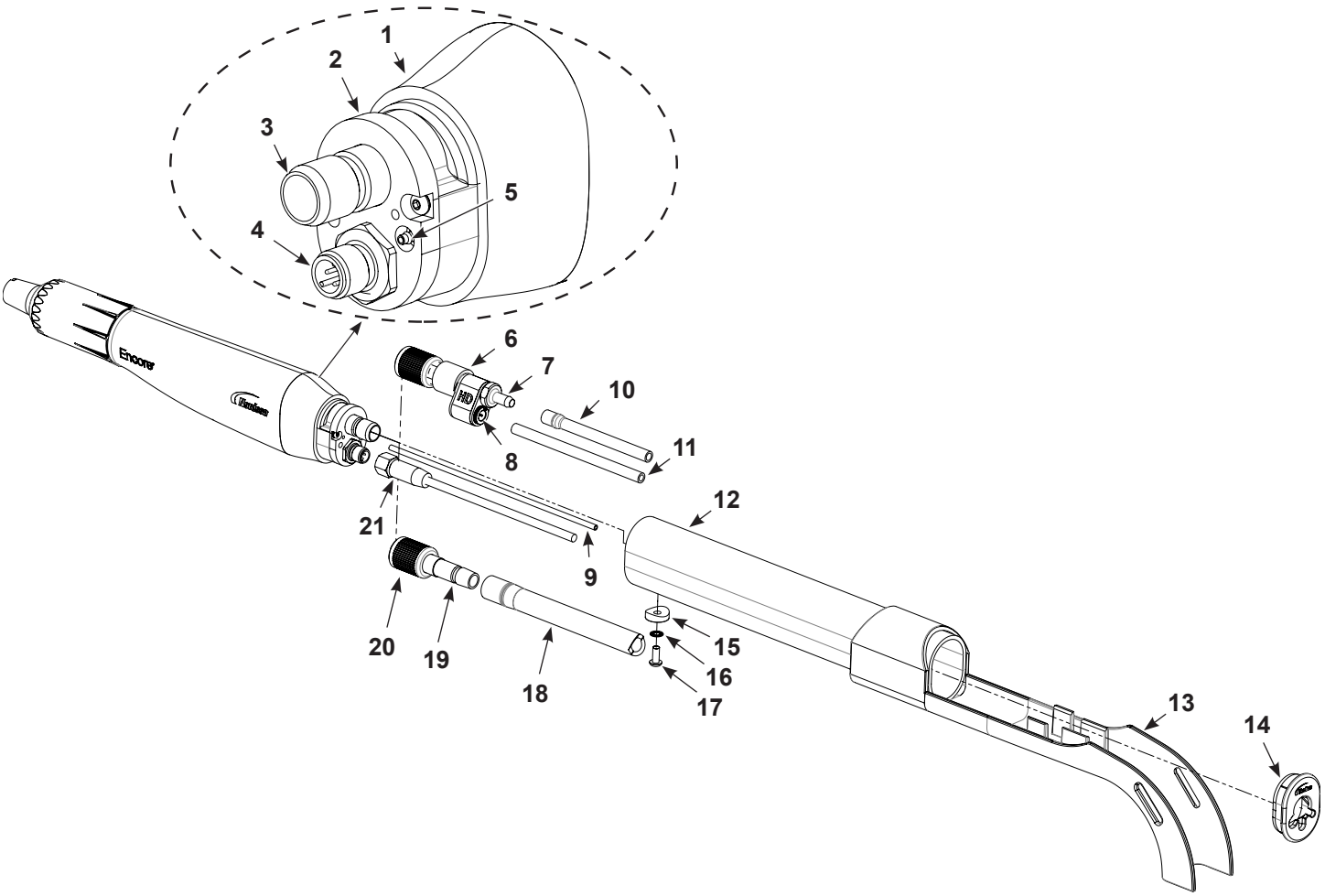


Figure 7-3 Tube-Mount Spray Gun Connections

1. Gun body
2. Grounding plate
3. Powder tube
4. Gun harness receptacle
5. Barbed fitting (air wash)
6. HD diffuser (with retainer nut)
7. HD hose connector
8. Tubing union
9. 4-mm electrode air-wash tube
10. 8-mm powder feed hose
11. 6-mm atomizing tube
12. Mounting tube
13. Hose hanger
14. End cap
15. Saddle washer
16. Lock washer
17. M5 screw
18. 12.7-mm or 11-mm powder feed hose
19. VT hose connector
20. VT hose connector retainer nut
21. Gun cable

Bar-Mount Gun Disassembly

See Figure 7-4.

1. Remove the hose clamp from the powder feed hose (14) and VT hose connector (19).
2. Remove the powder feed hose to the hose connector:
   a. **For venturi systems (VT):** Remove the powder feed hose (14) from the VT hose connector (15) by pulling the powder feed hose from the hose connector (15).
   b. **For HD systems:** Remove the 8-mm powder feed hose (12) from the HD diffuser (9) by pulling the powder feed hose from the hose connector (10).
3. Remove the hose connector from the powder tube:
   a. **For venturi systems (VT):** Remove the VT hose connector (15) from the powder tube (3) by loosening the retainer nut (16). Then, pull the VT hose connector (15) from the powder tube.
   b. **For HD systems:** Remove the HD diffuser (9) from the powder tube (3) by loosening the retainer nut. Then pull the HD diffuser (9) from the powder tube.
4. Disconnect the clear, 4-mm electrode air-wash tube (7) to the small barbed fitting (5) on the gun body.
5. Remove the gun cable (8) from the gun harness receptacle (4).

NOTE: If using the HD diffuser, disconnect the blue, 6-mm atomizing tube (13) from the tubing union (11) attached to the HD diffuser.

6. Remove the spray gun bar-mount adapter (6) from the rear gun body (1), by unscrewing the M3 screws (17) with lock washers on the back of the bar mount adapter with a 2 mm hex key.

NOTE: Assembly is in the reverse order of disassembly. Refer to installation section for specific instructions.

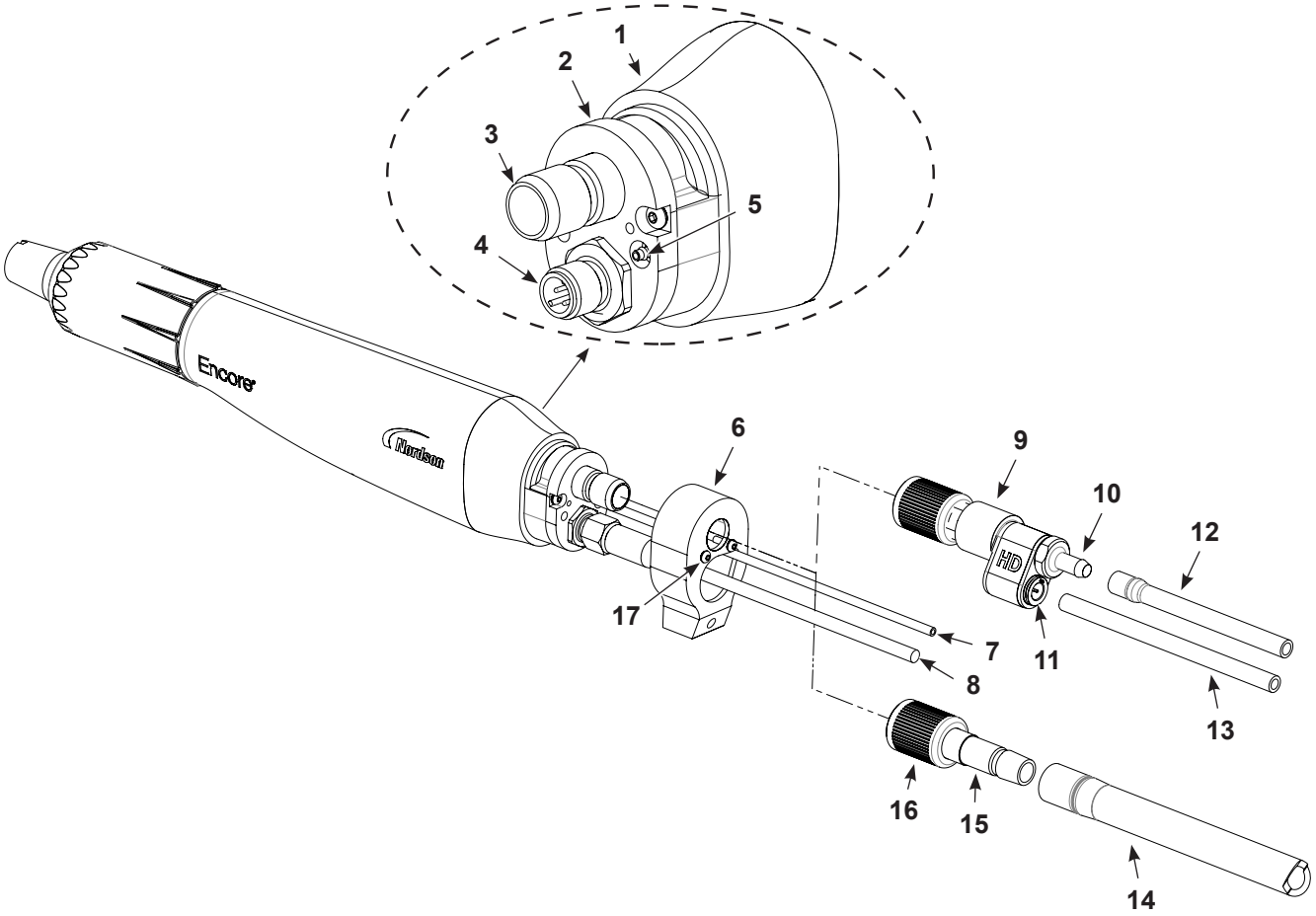


Figure 7-4 Bar-Mount Spray Gun

1. Gun body
2. Grounding plate
3. Powder tube
4. Gun harness receptacle
5. Barbed fitting (air wash)
6. Bar-mount adapter
7. 4-mm electrode air-wash tube
8. Gun cable
9. HD diffuser (with retainer nut)
10. HD hose connector
11. Tubing union
12. 8-mm powder feed hose
13. 6-mm atomizing tube
14. 12.7-mm or 11-mm powder feed hose
15. VT hose connector
16. VT hose connector retainer nut
17. M3 x 30 screw

Section 8
Parts

Parts

To order parts, call the Nordson Industrial Coating Solutions Customer Support Center at (800) 433-9319 or contact your local Nordson representative.

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	Part	Part	Description	Quantity	Note
—	- - - - - -	—	—		—	
1	- - - - - -					
2						

Continued...

NOTE: A.

B.

NS: Not Shown

AR: As Required

Base Spray Gun

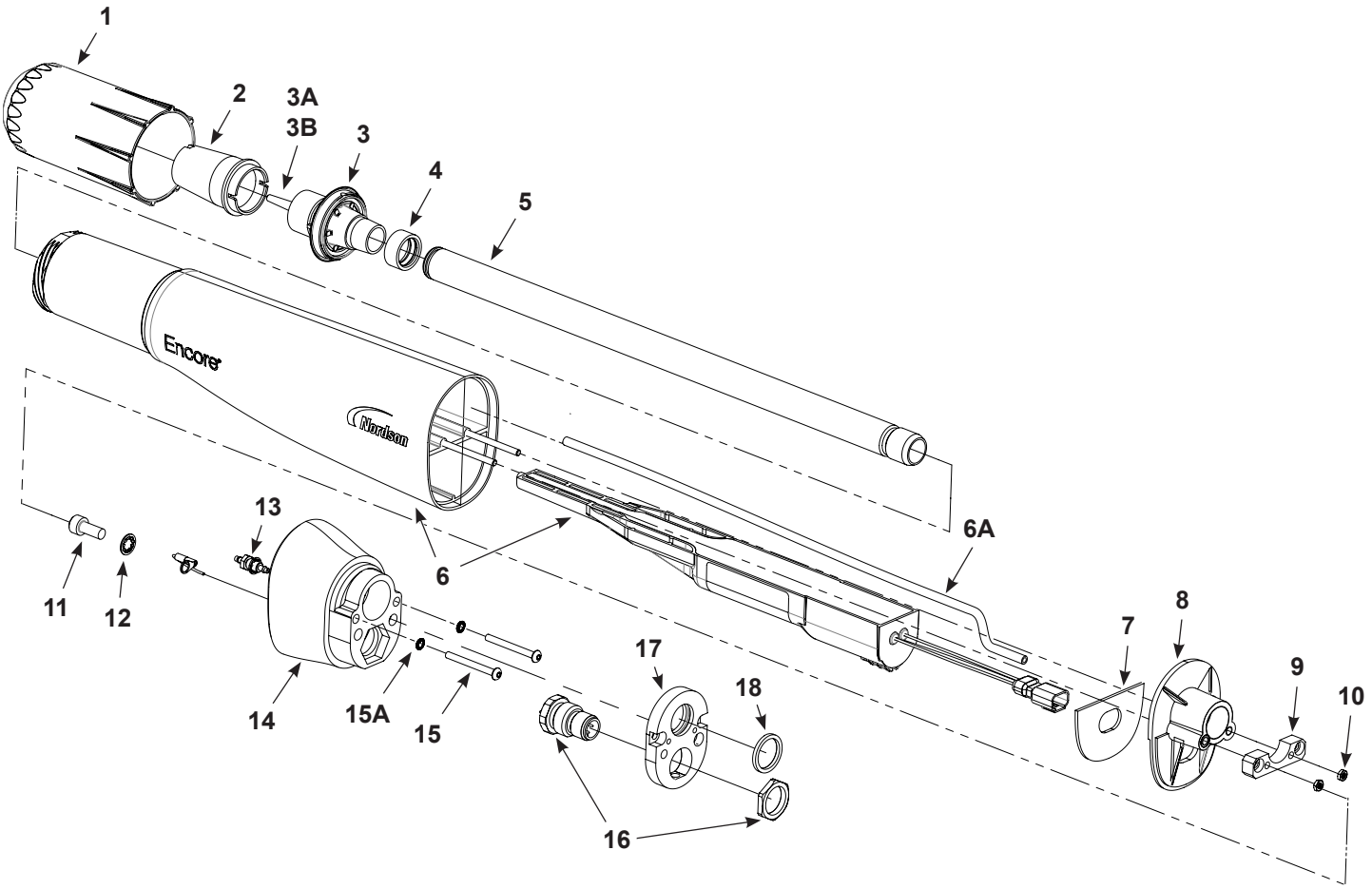


Figure 8-1 Spray Gun Parts

See Figure 8-1.

Item	Part	Description	Quantity	Note
—	1624523	APPLICATOR, auto, encore,		
1	1081638	• NUT, nozzle, applicator, Encore	1	
2	1081657	• NOZZLE, flat spray, 3 mm, Encore,	1	A
3	1604824	• ELECTRODE ASSEMBLY, Encore, flat spray	1	B
3A	- - - - - -	• • ELECTRODE, spring contact, packaged	1	
3B	- - - - - -	• • HOLDER, electrode, M3, flat spray, Encore	1	B
4	1097527	• SEAL, tube, powder	1	
5	1097524	• TUBE, powder, bar mount, auto, Encore	1	C
6	1608279	• KIT, negative power supply/auto body, Encore	1	
6A	- - - - - -	• • FILTER ASSEMBLY, applicator	1	
—	1625607	• KIT, bulkhead, auto, Encore	1	
7	- - - - - -	• • GASKET, multiplier cover, applicator, Encore	1	
8	- - - - - -	• • BULKHEAD, body, front, auto, Encore	1	
9	- - - - - -	• • PLATE, screw, zinc	1	
10	UA	• • NUT, Hex, 4-40	2	
—	1625590	• KIT, rear body, gun, auto, Encore	1	
11	UA	• • SCREW, socket, M5 x 12, steel, zinc	1	
12	UA	• • WASHER, lock, internal, M5, zinc	1	
13	- - - - - -	• • FITTING, bulkhead, barbed, dual, 10- 32 x 4 mm tubing	1	
14	- - - - - -	• • BODY, gun, rear, auto, Encore	1	
15	UA	• • SCREW, socket head, M3 x 30, ZN	2	
15A	UA	• • WASHER, lock, internal, M3, steel, zinc	2	
16	- - - - - -	• • RECEPTACLE, gun harness	1	
17	- - - - - -	• • PLATE, grounding, auto, Encore,	1	
18	- - - - - -	• • QUAD RING, Viton™, 0.614ID x 0.070	1	
NS	UA	• CLAMP, hose, 0.637- 0.795 OD	2	

NOTE: A. Refer to the Parts section for a complete list of available flat spray nozzles, conical nozzles and deflectors.

B. For flat spray nozzle use only. Refer to the Options section for assemblies/parts for use with conical nozzles and deflectors.

C. For use with 11 mm and 12.7 mm hose.

UA: Unavailable for purchase through Nordson. Contact local distributor or local source.

Tube-Mounting Applicator

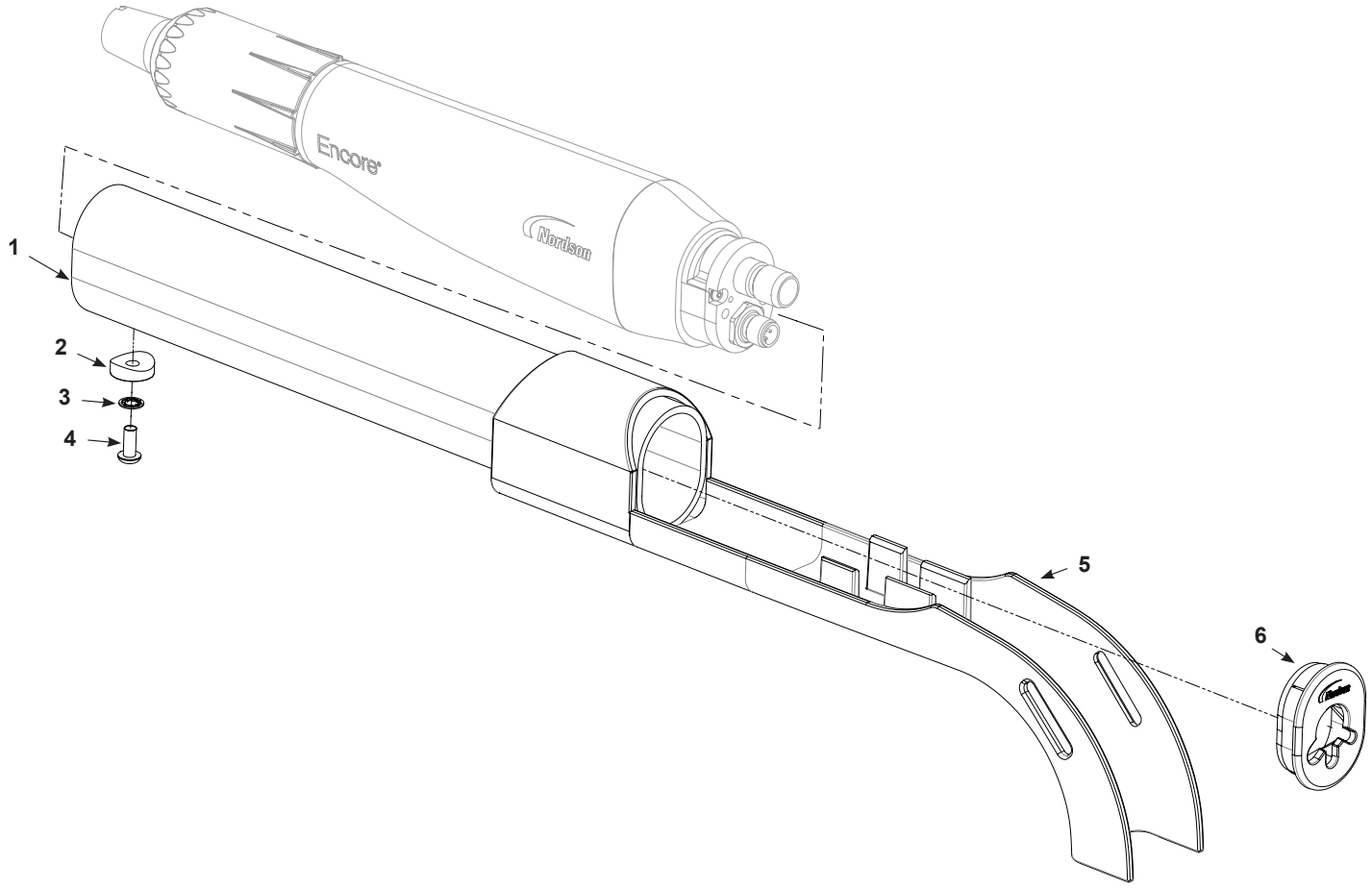


Figure 8-2 Tube-Mount Spray Gun Parts

See Figure 8-2.

Item	Part	Description	Quantity	Note
—	1625163	KIT, Tube, mount, auto, Encore, 5 ft	1	A
—	1625164	KIT, Tube, mount, auto, Encore, 6 ft	1	A
—	1625165	KIT, Tube, mount, auto, Encore, 8 ft	1	A
1	- - - - - -	• TUBE, mount, auto, Encore	1	A
—	1626031	• KIT, hardware, tube mount, Encore	1	
2	- - - - - -	• • WASHER, saddle, tube mount, auto, Encore	1	
3	UA	• • WASHER, lock, interior, M5, zinc	1	
4	UA	• • SCREW, button, socket, M5 x 12, zinc	2	
5	1612462	• HANGER, hose, automatic gun	1	
6	- - - - - -	• CAP, end, tube-mount	1	

NOTE: A. The length of the tube mount is application specific.

NS: Not Shown

AR: As Required

Bar-Mounting Applicator

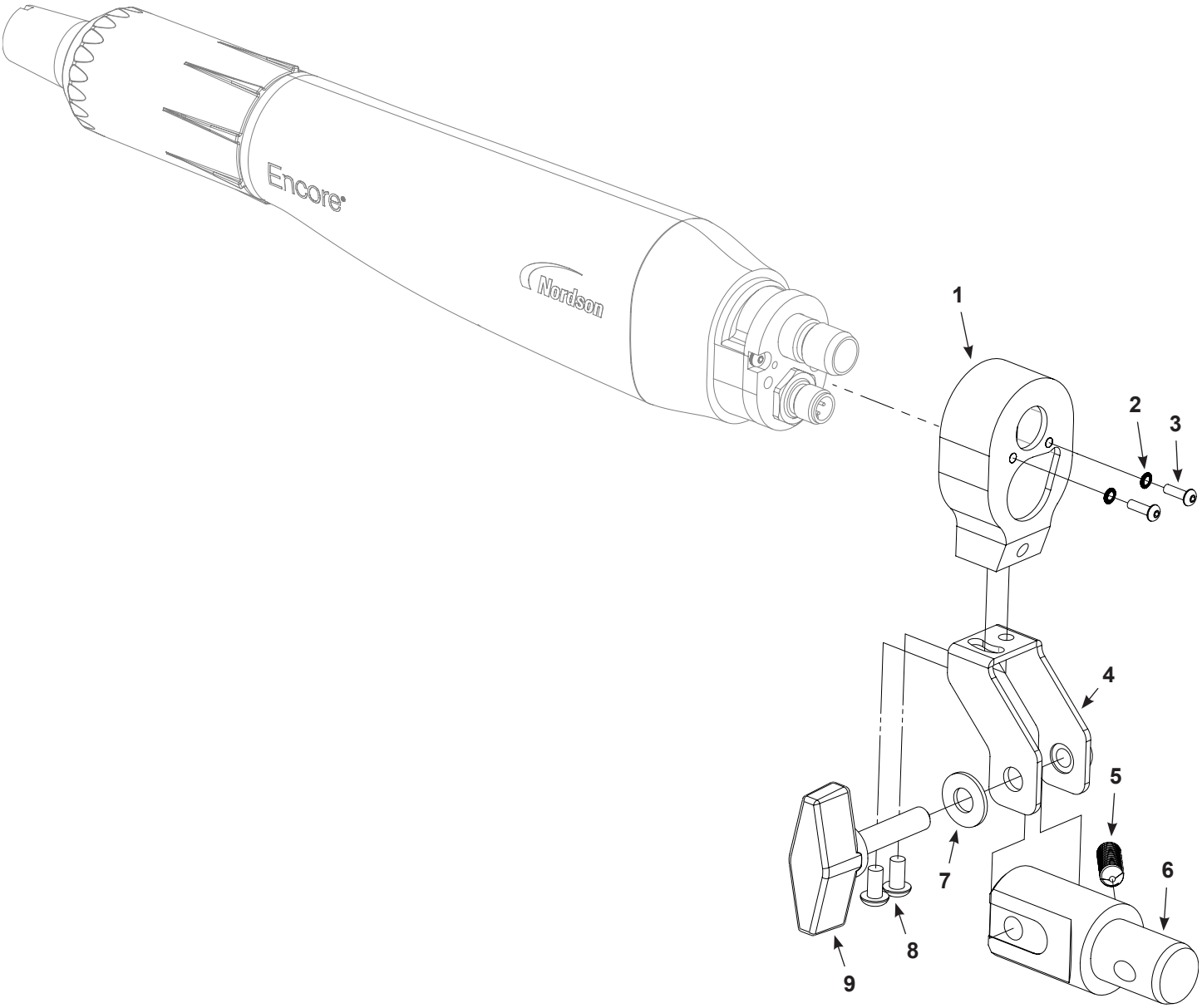


Figure 8-3 Bar-Mount Spray Gun Parts

See Figure 8-3.

NOTE: Cables for the bar-mount spray gun are optional. Refer to *Cables* in the *Parts* section for available cables.

Item	Part	Description	Quantity	Note
—	1625160	KIT, bar mount, auto, Encore	1	
1	- - - - - -	• ADAPTER, mount, bar	1	
2	UA	• WASHER, lock, M3, double serrated, zinc	2	
3	UA	• SCREW, button, socket, M3 x 0.5 x 10, zinc	2	
4	- - - - - -	• BRACKET, mount, bar	1	
5	UA	• SCREW, set, cone, M8 x 20, fastener	1	
6	- - - - - -	• ADAPTER, tube, mount, bar	1	
7	UA	• WASHER, flat, 0.34 x 0.74 x 0.06 in., nylon	1	
8	UA	• SCREW, button, socket, M5 x 10	2	
9	- - - - - -	• KNOB, T-handle	1	

NS: Not Shown

UA: Unavailable for purchase through Nordson. Contact local distributor or local source.

HD Diffuser for Encore Automatic Applicator

See Figure 8-4. This HD diffuser is optional.

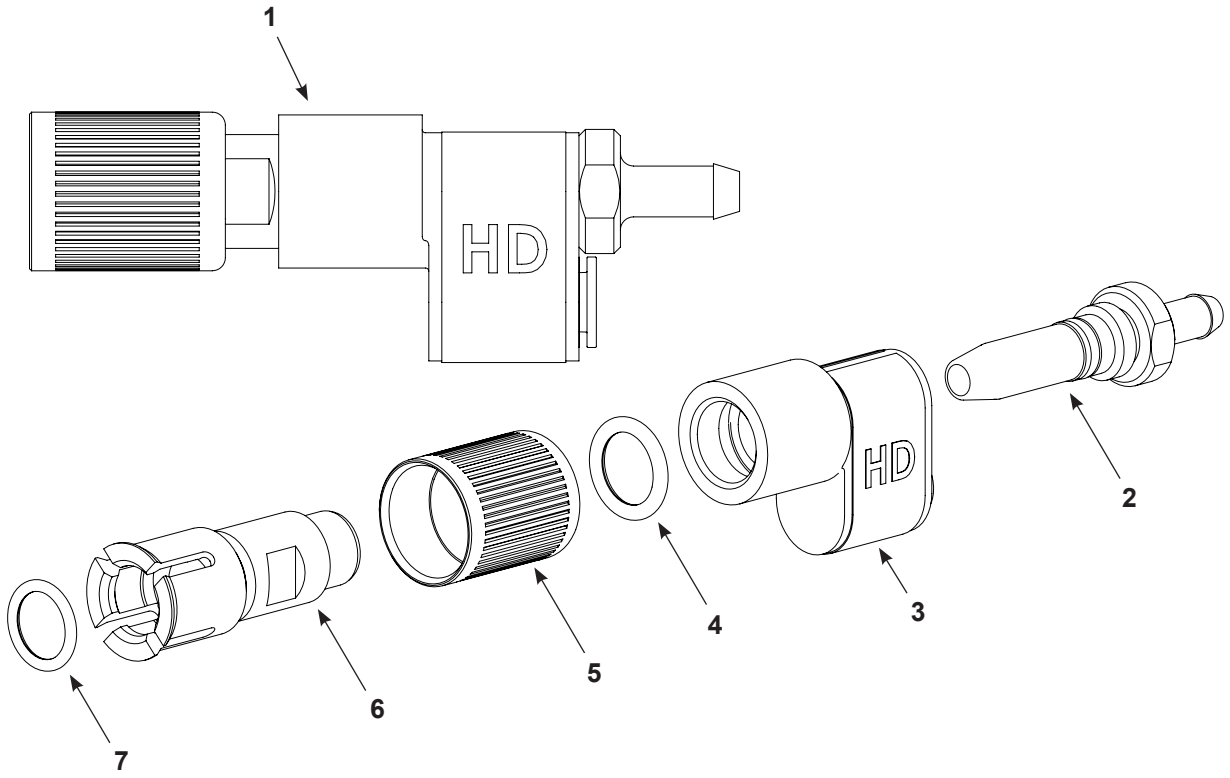


Figure 8-4 Encore HD Internal Diffuser

Item	Part	Description	Quantity	Note
1	1625279	KIT, diffuser, auto, Encore HD	1	
2	- - - - - -	• ADAPTER, hose, diffuser, Encore HD	1	
3	- - - - - -	• HOUSING, external diffuser, Encore HD	1	
4	UA	• O-RING, silicone, 0.563 x 0.750 x 0.094	1	
5	- - - - - -	• RETAINER, connector, hose, univ, auto, Encore	1	
6	- - - - - -	• ADAPTER, diffuser, Encore HD	1	
7	UA	• O-RING, silicone, 13 mm ID x 2 mm W	1	
NS	- - - - - -	• FITTING, straight, 10 mm t - 8 mm t	1	A

NOTE: A. This fitting is used for installations with 10 mm tubing coming from the pump cabinet or feed center. These installations need to reduce down to 8 mm tube for the last 3 meters prior to gun/diffuser connection.

UA: Unavailable for purchase through Nordson. Contact local distributor or local source.

NS: Not Shown

Section 9
Options

Cables

These cables connect the spray gun to the spray gun controller (Encore HD iControl integrated control unit).

Part	Description	Note
1097537	CABLE, auto, Encore, 8 m (26.25 ft)	
1097539	CABLE, auto, Encore, 12 m (39.4 ft)	
1097540	CABLE, auto, Encore, 16 m (52.5 ft)	
1601344	CABLE, extension, Encore, 4 m (13.1 ft)	

Flat Spray Nozzles

See Figure 9-1. The 2.5- and 4-mm flat spray nozzles are shipped with the spray gun. All other flat spray nozzles are optional.

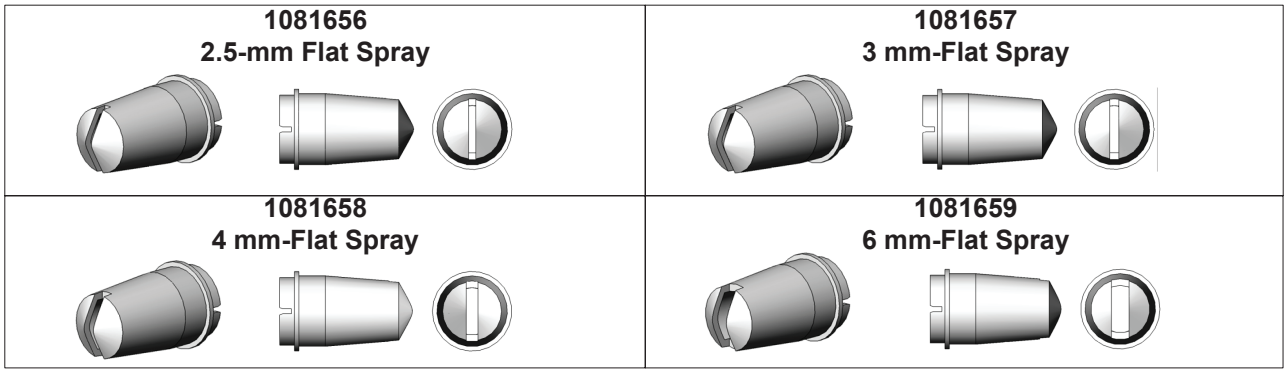


Figure 9-1 Flat Spray Nozzles

Cross-Cut Nozzles

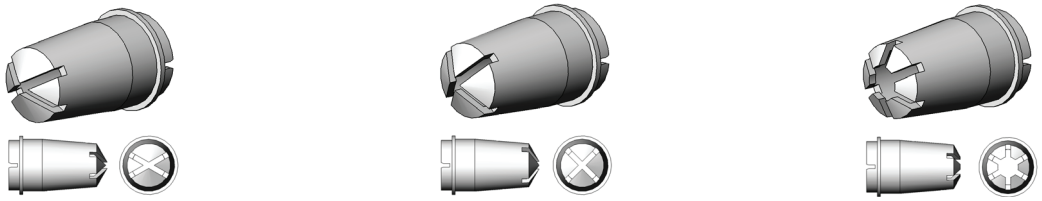


Figure 9-2 Cross-Cut Nozzles

45-Degree Corner-Spray Nozzle

See Figure 9-3.

Spray Pattern	Wide fan pattern perpendicular to the spray gun axis
Slot Type	Angled, cross slot
Application	Flanges and recesses

Part	Description	Note
1102872	NOZZLE, corner spray, Encore	

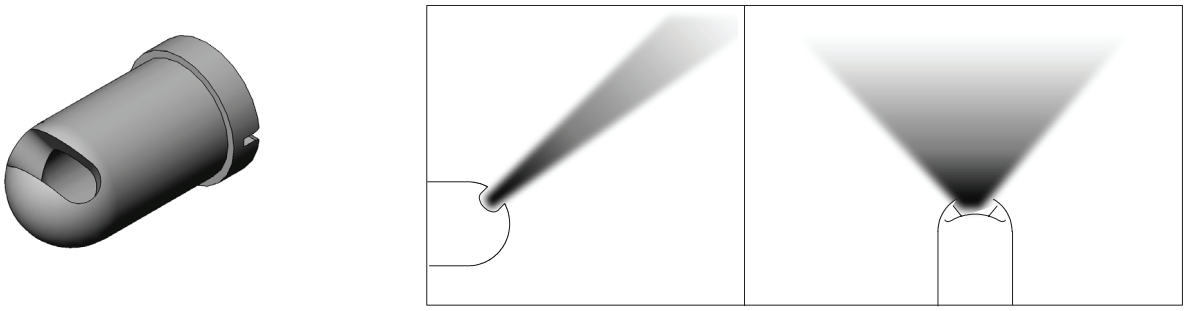


Figure 9-3 45-Degree Corner Spray Nozzle

45-Degree In-Line Flat-Spray Nozzle

See Figure 9-4.

Spray Pattern	Narrow fan pattern in-line with spray gun axis
Slot Type	Three angled slots in-line with spray gun axis
Application	Top and bottom coating; typically no in/out part positioning

Part	Description	Note
1102871	NOZZLE, 45-degree, flat spray, Encore	

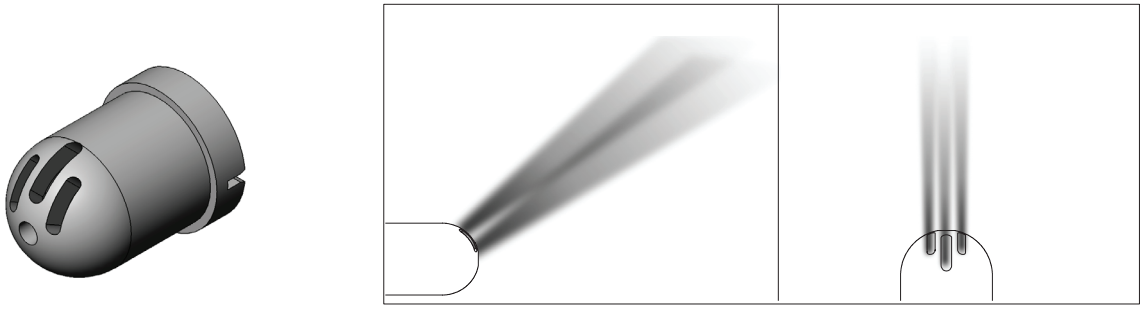


Figure 9-4 45-Degree Flat Spray Nozzle

Conical Nozzle, Deflectors, and Electrode Assembly

See Figure 9-5. The conical nozzle and deflectors must be used with the conical electrode holder. These parts are optional and must be ordered separately.

Conical Nozzle and Deflectors

Figure 9-5 Conical Nozzle and Deflectors

Conical Nozzle Kit

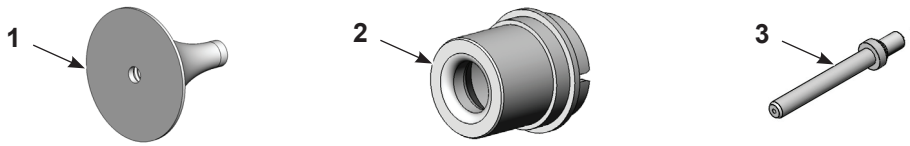


Figure 9-6 Conical Nozzle Kit

Item	Part	Description	Quantity	Note
—	1604828	KIT, conical nozzle, Encore	1	
1	1083206	• DEFLECTOR, 26mm	1	
2	1082060	• NOZZLE, conical	1	
3	1605861	• ELECTRODE HOLDER, conical	1	

Conical Electrode Assembly

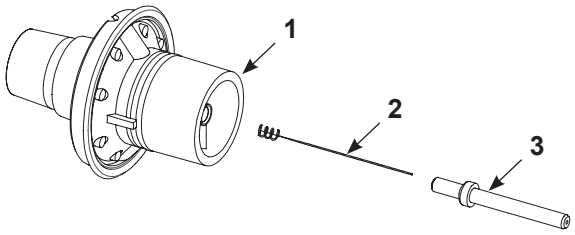
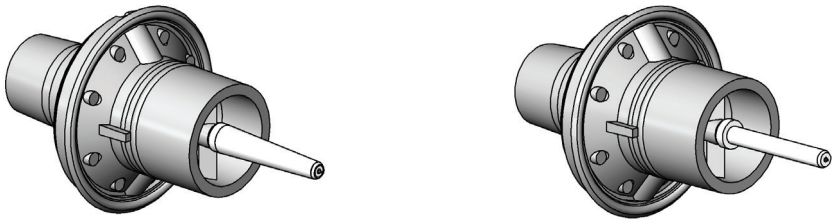


Figure 9-7 Conical Electrode Assembly

Item	Part	Description	Quantity	Note
—	1106076	ELECTRODE ASSEMBLY, conical, Encore	1	
1	- - - - - -	• ELECTRODE SUPPORT	1	
2	1106078	• ELECTRODE	1	
3	1605861	• ELECTRODE HOLDER, Conical	1	

XD Electrode Support

The XD (extended duty) Electrode Support provides 2 to 3 times longer wear life than that of the standard duty electrode support.



1613834
XD Flat Spray Electrode Support

1613835
XD Conical Spray Electrode Support

Figure 9-8 Conical Spray and Flat Spray Electrode Supports

Encore Angled Spray Extensions

See Figure 9-9. Encore angled spray extensions are available in 45, 60, and 90 degree versions. They are designed to be used on Encore automatic powder spray guns, allowing powder to be sprayed at varying angles to the spray gun mounting orientation.

All angled spray extensions are optional. See instruction sheet P/N 1605615 for parts, service kits, and more information.

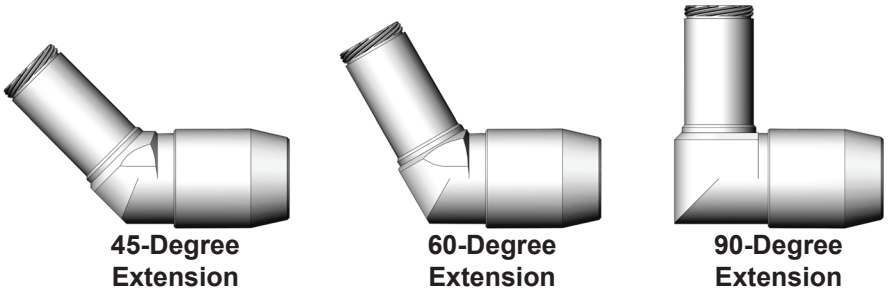


Figure 9-9 Angled Spray Extensions

Item	Part	Description	Note
—	1605703	EXTENSION, spray, 45 degree, Encore	
—	1605614	EXTENSION, spray, 60 degree, Encore	
—	1604084	EXTENSION, spray, 90 degree, Encore	

Tube-Mount Spray Gun Mounting Assemblies

All mounting assemblies are optional.

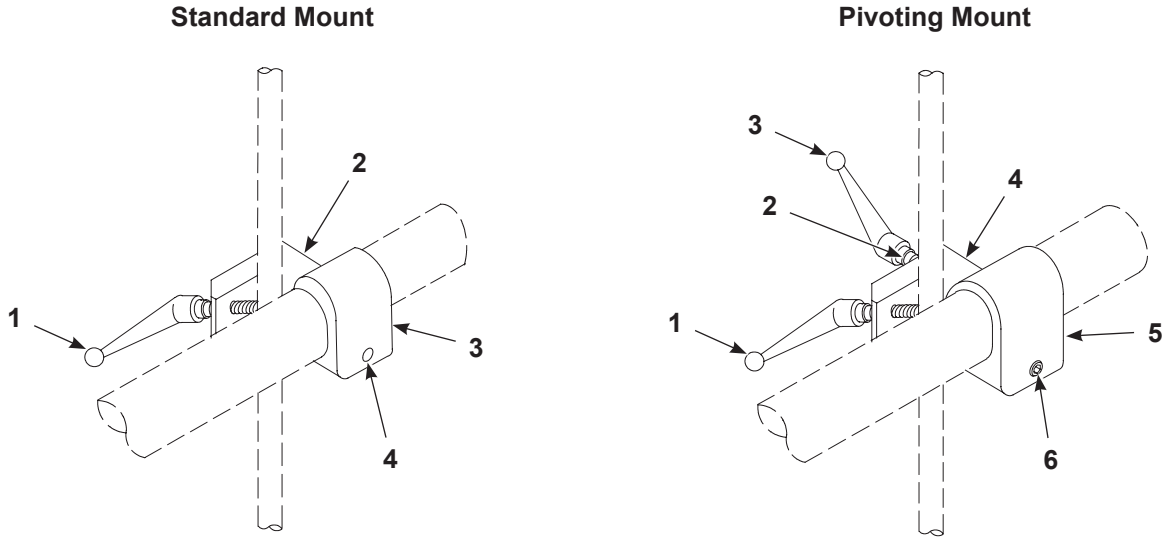


Figure 9-10 Spray Gun Bar Mounts for Tube-Mount Spray Guns

Standard Mount Assembly

Item	Part	Description	Quantity	Note
—	1010717	MOUNT, assembly, automatic gun	1	
1	248957	• HANDLE, adjustment, 3/8- 16 x 1.77 in.	1	
2	- - - - - -	• MOUNT, clamp, automatic gun	1	
3	- - - - - -	• MOUNT, sleeve, automatic gun	1	
4	UA	• SCREW, socket, 3/8- 16 x 1.00 in., zinc	3	
UA: Unavailable for purchase through Nordson. Contact local distributor or local source.				

Pivot Mount Assembly

Item	Part	Description	Quantity	Note
—	341756	MOUNT, tube holder, assembly	1	
1	248957	• HANDLE, adjustment, 3/8- 16 x 1.77 in.	1	
2	UA	• WASHER, flat, 0.406 x 0.812 x 0.065 in., zinc	1	
3	249074	• HANDLE, adjustment, 3/8- 16 x 2.75 in.	1	
4	- - - - - -	• MOUNT, clamp, automatic gun	1	
5	- - - - - -	• MOUNT, sleeve, automatic gun	1	
6	UA	• SCREW, socket, 3/8- 16 x 1.00 in., zinc	3	
UA: Unavailable for purchase through Nordson. Contact local distributor or local source.				

Extrusion Mounting Assembly

Use this assembly to mount a tube-mount spray gun to a rigid bracket mounted on a T-slot extrusion.

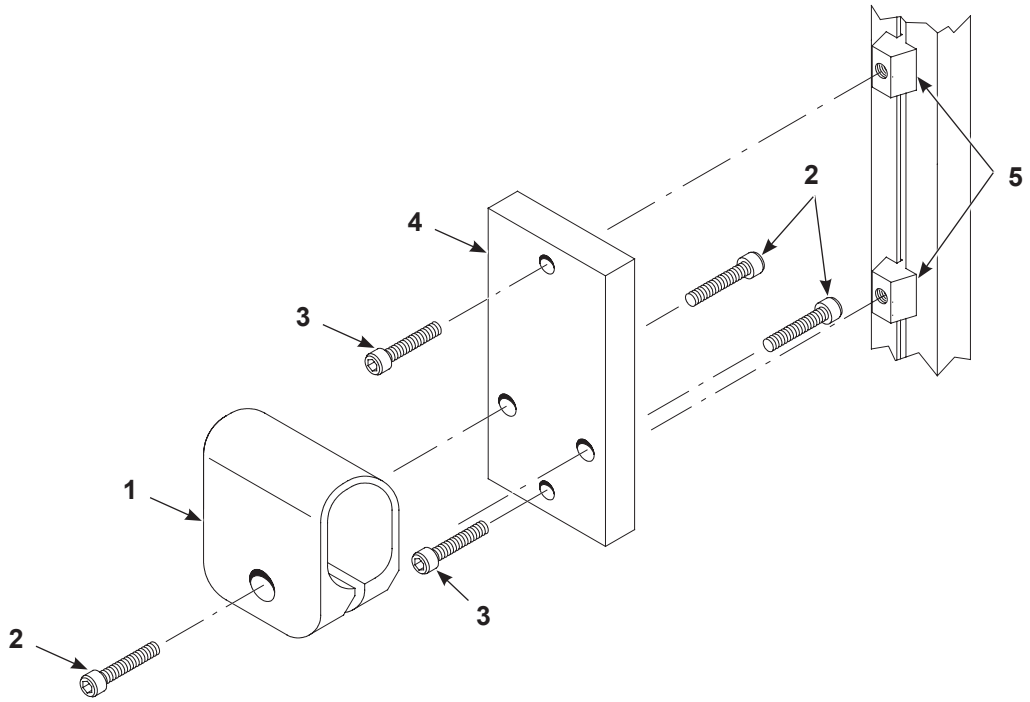


Figure 9-11 Extrusion Spray Gun Mount Assembly for Tube-Mount Spray Guns

Item	Part	Description	Quantity	Note
—	1016515	PLATE, adapter, support, gun bar assembly	1	
1	1013964	• MOUNT, sleeve, with screws, automatic	1	
2	UA	• • SCREW, socket, 3/8- 16 x 1.00 in., zinc	3	
3	UA	• SCREW, socket, M8 x 30, zinc	2	
4	1016458	• PLATE, attachment, support, gun bar	1	
5	1016533	• NUT, T-slot, steel, M8	2	
UA: Unavailable for purchase through Nordson. Contact local distributor or local source.				

Spray Gun Bar for Bar-Mount Spray Guns

The spray gun bar is optional. It clamps onto 1-in. diameter mounting bars.

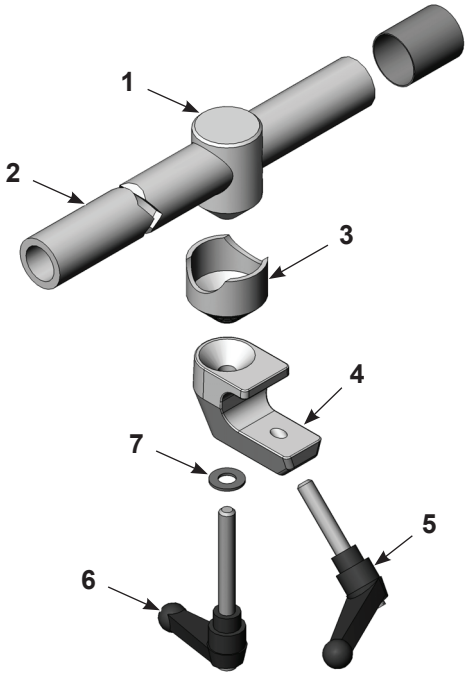


Figure 9-12 Spray Gun Bar for Bar-Mount Spray Guns

Item	Part	Description	Quantity	Note
—	341727	GUN BAR, aluminum, 1.25 in. OD x 4 ft., assembly	1	
1	327732	• BODY, locking, 1.25 in. diameter	1	
2	327704	• ROD, adjusting, aluminum, 1.25 in. OD x 4 ft	1	
3	327733	• SLEEVE, locking, 1.25 in. diameter	1	
4	248669	• BODY, adjust mounting	1	
5	248957	• HANDLE, adjust, 3/8- 16 x 1.77 in.	1	
6	249074	• HANDLE, adjust, 3/8- 16 x 2.75 in.	1	
7	UA	• WASHER, flat, 0.406 x 0.812 x 0.065 in., zinc	1	
UA: Unavailable for purchase through Nordson. Contact local distributor or local source.				

Ion Collector Kit

The ion collector kit is optional. It can be used with either the bar-mount or tube-mount kits.

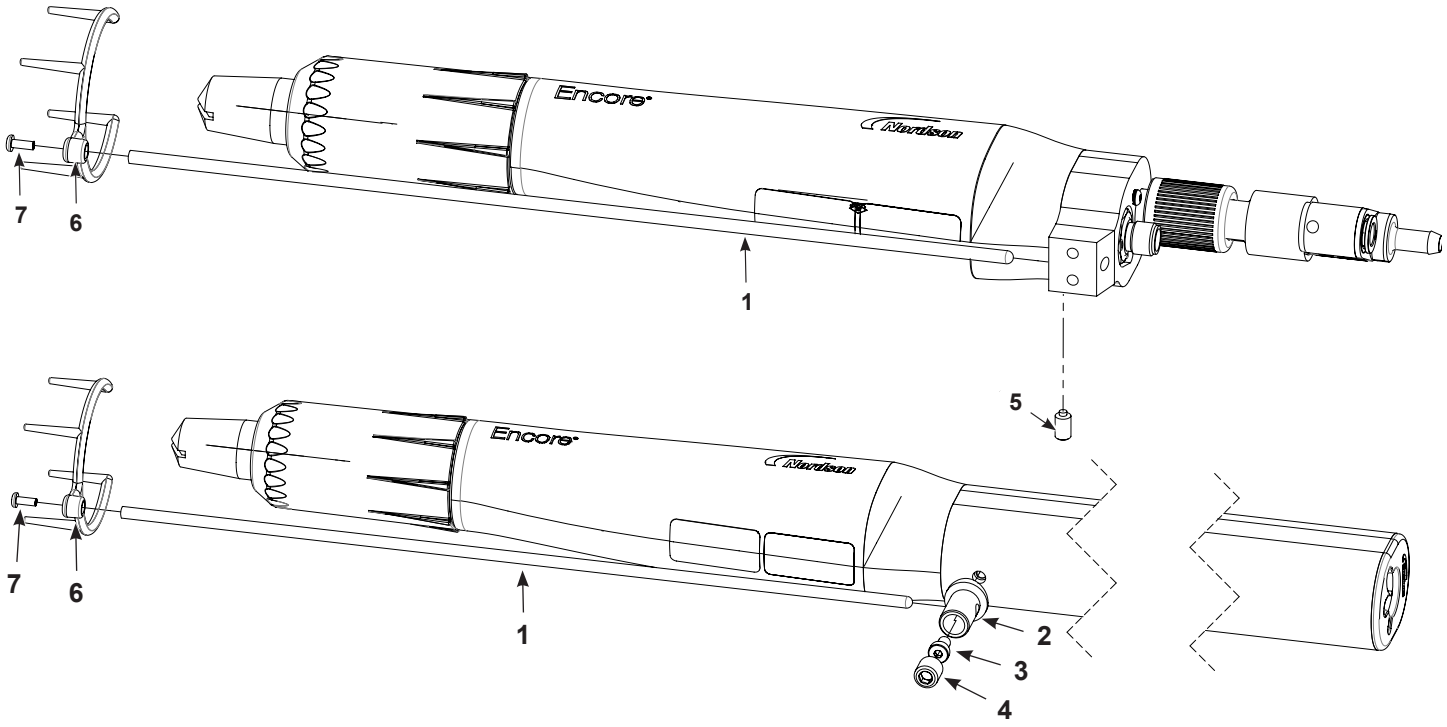


Figure 9-13 Ion Collector Kit (for clarity, some parts are not shown)

Item	Part	Description	Quantity	Note
—	1625161	KIT, collector, ion, Encore HD	1	
1	- - - - - -	• ROD, ion collector, 332MM, auto, Encore	1	
2	- - - - - -	• POST, collector, ion, GEN 3	1	
3	UA	• SCREW, low, M5 x 10, stainless, steel,	1	
4	UA	• SCREW, set, nylon tip, M10 x 10, black	1	
5	UA	• SCREW, set, nylon tip, M5 x 8, black	1	
6	- - - - - -	• TIP, ion collector, multi-point	1	
7	UA	• SCREW, pan, rec, M3 x 8, zinc	1	
UA: Unavailable for purchase through Nordson. Contact local distributor or local source.				

EU DECLARATION of CONFORMITY

Product: Encore Automatic Powder Spray System

This Declaration is issued under the sole responsibility of the manufacture.

Models: Encore Automatic Applicator, Encore HD Automatic Applicator, and Encore HD iControl 2

Description: This high density, automatic electrostatic powder spray system includes applicator, control cable and associated controllers. These controls are available in a 4 - 32 applicator control cabinets as a main console with a pc and display or an auxiliary console without the pc or display. There is an optional Pedestal unit for remote mounting of the display within the hazardous zone or classified area.

Applicable Directives:
2006/42/EC - Machinery Directive
2014/30/EU - EMC Directive
2014/34/EU - ATEX Directive

Standards Used for Compliance:

EN/ISO12100 (2010)	EN60204-1 (2018)	EN61000-6-3 (2007)
EN60079-0 (2020)	EN50050-2 (2013)	EN61000-6-2 (2005)
EN60079-31 (2014)	EN50177 (2012)	EN55011 (2016)

Type of Protection:
- Ambient Temperature: +15ºC to +40ºC
- Ex II 2 D / 2mJ = Auto Applicators
- Ex II (2) D = Main Console and Auxiliary Console Controllers
- Ex II (2) 3 D = Optional Pedestal

ATEX Product Certificates:
- FM13ATEX0006X (Applicators) (Dublin, Ireland)
- FM16ATEX0055X (Controllers) (Dublin, Ireland)

ATEX Quality System Certificate
- 0598 SGS Fimko Oy (Helsinki, Finland)

Date: **10Oct2024**

Jeremy Krone
Engineering Manager
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Nordson Authorized Representative in the EU
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D-40699 Erkrath

UK DECLARATION of CONFORMITY

Product: Encore Automatic Powder Spray System

This Declaration is issued under the sole responsibility of the manufacture.

Models: Encore Automatic Applicator, Encore HD Automatic Applicator and Encore HD iControl 2

Description: This high density, automatic electrostatic powder spray system includes applicator, control cable and associated controllers. These controls are available in a 4 - 32 applicator control cabinets as a main console with a pc and display or an auxiliary console without the pc or display. There is an optional Pedestal unit for remote mounting of the display within the hazardous zone or classified area.

Applicable Directives:
Supply Machinery Safety 2008
Equipment & Protective Systems Intended for use in Potentially Explosive Atmosphere Regulation 2016
Electromagnetic Compatibility Regulation 2016

Standards Used for Compliance:

EN/ISO12100 (2010)	EN60204-1 (2018)	EN61000-6-3 (2007)
EN60079-0 (2018)	EN50050-2 (2013)	EN61000-6-2 (2005)
EN60079-31 (2014)	EN50177 (2012)	EN55011 (2016)

Type of Protection:
- Ambient Temperature: +15ºC to +40ºC
- Ex II 2 D / 2mJ = Auto Applicators
- Ex II (2) D = Main Console and Auxiliary Console Controllers
- Ex II (2) 3 D = Optional Pedestal

ATEX Product Certificates:
- FM21UKEX0223X (Applicators) (Maidenhead, Berkshire, UK)
- FM21UKEX0221X (Controllers) (Maidenhead, Berkshire, UK)

ATEX Quality System Certificate
- SGS Baseefa NB 1180 (Buxton, Derbyshire, UK)

Date: 10Oct2024

Jeremy Krone
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