

# **A11A Compound Gun**

Customer Product Manual

Part 107977E

Issued 9/03

**For parts and technical support, call the Industrial Coating  
Systems Customer Support Center at (800) 433-9319 or  
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## Contact Us

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# A11A Compound Gun

## Safety

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.

### ***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 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.
- While operating manual spray guns, make sure you are grounded. Wear electrically conductive gloves or a grounding strap connected to the gun handle or other true earth ground. Do not wear or carry metallic objects such as jewelry or tools.
- If you receive even a slight electrical shock, shut down all electrical or electrostatic equipment immediately. Do not restart the equipment until the problem has been identified and corrected.

## Personal Safety *(contd)*

- Obtain and read Material Safety Data Sheets (MSDS) for all materials used. Follow the manufacturer's instructions for safe handling and use of materials, and use recommended personal protection devices.
- Make sure the spray area is adequately ventilated.
- 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.

## High-Pressure Fluids

High-pressure fluids, unless they are safely contained, are extremely hazardous. Always relieve fluid pressure before adjusting or servicing high pressure equipment. A jet of high-pressure fluid can cut like a knife and cause serious bodily injury, amputation, or death. Fluids penetrating the skin can also cause toxic poisoning.

If you suffer a fluid injection injury, seek medical care immediately. If possible, provide a copy of the MSDS for the injected fluid to the health care provider.

The National Spray Equipment Manufacturers Association has created a wallet card that you should carry when you are operating high-pressure spray equipment. These cards are supplied with your equipment. The following is the text of this card:



**WARNING:** Any injury caused by high pressure liquid can be serious. If you are injured or even suspect an injury:

- Go to an emergency room immediately.
- Tell the doctor that you suspect an injection injury.
- Show him this card
- Tell him what kind of material you were spraying

## MEDICAL ALERT—AIRLESS SPRAY WOUNDS: NOTE TO PHYSICIAN

Injection in the skin is a serious traumatic injury. It is important to treat the injury surgically as soon as possible. Do not delay treatment to research toxicity. Toxicity is a concern with some exotic coatings injected directly into the bloodstream.

Consultation with a plastic surgeon or a reconstructive hand surgeon may be advisable.

The seriousness of the wound depends on where the injury is on the body, whether the substance hit something on its way in and deflected causing more damage, and many other variables including skin microflora residing in the paint or gun which are blasted into the wound. If the injected paint contains acrylic latex and titanium dioxide that damage the tissue's resistance to infection, bacterial growth will flourish. The treatment that doctors recommend for an injection injury to the hand includes immediate decompression of the closed vascular compartments of the hand to release the underlying tissue distended by the injected paint, judicious wound debridement, and immediate antibiotic treatment.

## 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 MSDS 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.

## Halogenated Hydrocarbon Solvent Hazards

Do not use halogenated hydrocarbon solvents in a pressurized system that contains aluminum components. Under pressure, these solvents can react with aluminum and explode, causing injury, death, or property damage. Halogenated hydrocarbon solvents contain one or more of the following elements:

<u>Element</u>	<u>Symbol</u>	<u>Prefix</u>
Fluorine	F	“Fluoro-”
Chlorine	Cl	“Chloro-”
Bromine	Br	“Bromo-”
Iodine	I	“Iodo-”

Check your material MSDS or contact your material supplier for more information. If you must use halogenated hydrocarbon solvents, contact your Nordson representative for information about compatible Nordson components.

## 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.

## Description

The model A11A compound gun is a high on/off cycle speed gun designed for the application of sealant compounds to can ends.

When used with a Nordson FET-1 timer, the gun produces excellent results, such as a clean on/off without tails, good material utilization control, and minimal down time.

## Installation



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

### Mounting

Mount the gun to an L-shaped mounting plate that will position the gun over the curl of the can end.

**NOTE:** The mounting bracket is customer supplied.

### Fluid and Air Connections

See Figure 1. Make sure the air line between the gun and the solenoid is as short as possible and at least 3.2-mm ( $1/8$ -in.) ID. Either of the  $1/4$ -in. NPT elbows on either side of the gun may be used for fluid in or out.

## Air Pressure

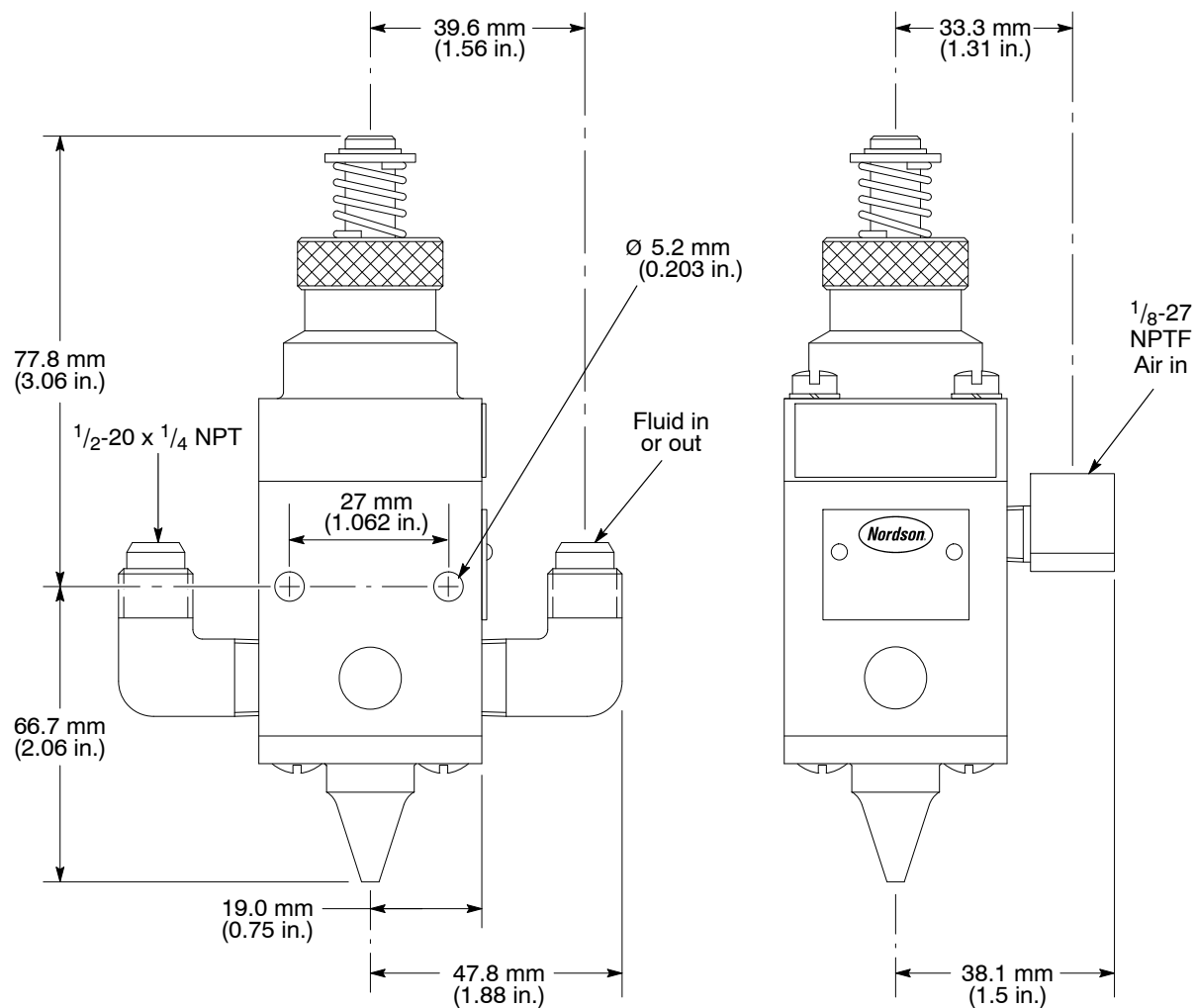
See Figure 2.

1. Adjust the air pressure to the gun air cylinder to 2.7–3.4 bar (40–50 psi).



**CAUTION:** Turn the detent knob by hand only. Using more force can cause the needle to distort the orifice in the nozzle.

2. Lift and turn the detent knob (10) to the right until the knob hits the stop.
3. Lift and turn the knob again no less than one, but no more than three turns to the right as needed for the desired material flow.



1200331B

Figure 1 Model A11A Compound Gun Dimensions

# Troubleshooting



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

This section contains troubleshooting procedures. These procedures cover only the most common problems that you may encounter. If you cannot solve the problem with the information given here, contact your local Nordson representative for help.

Problem	Possible Cause	Corrective Action
<b>1. Gun will not trigger</b>	Air not on or properly regulated  Faulty solenoid  Electricity not on	Turn the air on, or turn the regulator to supply 2.8–3.4 bar (40–50 psi) to the gun.  Fire the solenoid and listen for the solenoid to function. Replace the solenoid if necessary.  Check to make sure the electricity is on.
<b>2. Compound material in solenoid</b>	Leaking at seal around needle in gun body	Replace the seal and the solenoid.
<b>3. Air leak at air cylinder relief port</b>	Air piston or O-ring between needle and piston worn	Replace the piston and the O-ring.
<b>4. Fluid leak at gun body relief port</b>	Fluid seal or needle worn	Replace the seal.
<b>5. Air leak at gun body relief port</b>	Air seal on needle worn	Replace the seal.
<b>6. Poorly directed material stream</b>	Detent adjusted too far to right  Dirt in nozzle	Check the detent adjustment. It should not be less than one, but not more than three turns to the left from the bottom stop.  Clean the nozzle.

## Repair



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

### Disassembly

See Figure 2.



**WARNING:** Relieve the fluid and air pressures before attempting to work on the gun.

1. Turn the detent knob (10) 2–3 times to the left.
2. Unscrew and remove the four screws (8) that secure the air cylinder (9) to the gun body (3).
3. Lift the air cylinder up off the gun body, exposing the air piston (6).
4. Hold the seal nut (19) on the upper end of the needle and remove the hex nut (20) and lock washer (23).
5. Unscrew and remove the seal nut, air piston, and needle.
6. Remove the retaining ring (18), washer (17), and seal (16) from the rear of the gun body.
7. Remove the four screws (25) from the nozzle and pull the nozzle forward from the gun body.
8. Remove the retaining ring, washer, and seal from the front of the gun body.

## Assembly

See Figure 2.

1. After cleaning all the parts, install a seal (16), washer (17), and retaining ring (18) in both the front and rear of the gun body (3).
2. Install the nozzle using the four screws (25).
3. Insert the seal nut (19) into the piston (6). Thread the seal nut onto the needle and insert the needle into the rear of the gun body.
4. While holding the needle into the gun body, turn the piston and seal nut to the right until the piston comes in contact with the gun body.
5. Turn the seal nut to the left  $\frac{1}{2}$ – $\frac{3}{4}$  turn.
6. Install the washer (23) and hex nut (20) onto the needle. Hold the seal nut and tighten the hex nut to 0.56–0.90 N•m (5.00–8.00 in.-lb).
7. Remove the adjustable screw (14) from the air cylinder (9).
8. Place the two springs (21 and 22) onto the seal nut (19).
9. Install the air cylinder using the lock washers (7) and screws (8).
10. Install the adjustable screw into the air cylinder and adjust the detent knob (10) as needed for required flow.



## Parts

To order parts, call the Nordson Customer Service Center or your local Nordson representative. Use this five-column parts list, and the accompanying illustration, to describe and locate parts correctly.

### *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	Description	Quantity	Note
—	0000000	Assembly	1	
1	000000	• Subassembly	2	A
2	000000	• • Part	1	

## Gun Part Numbers

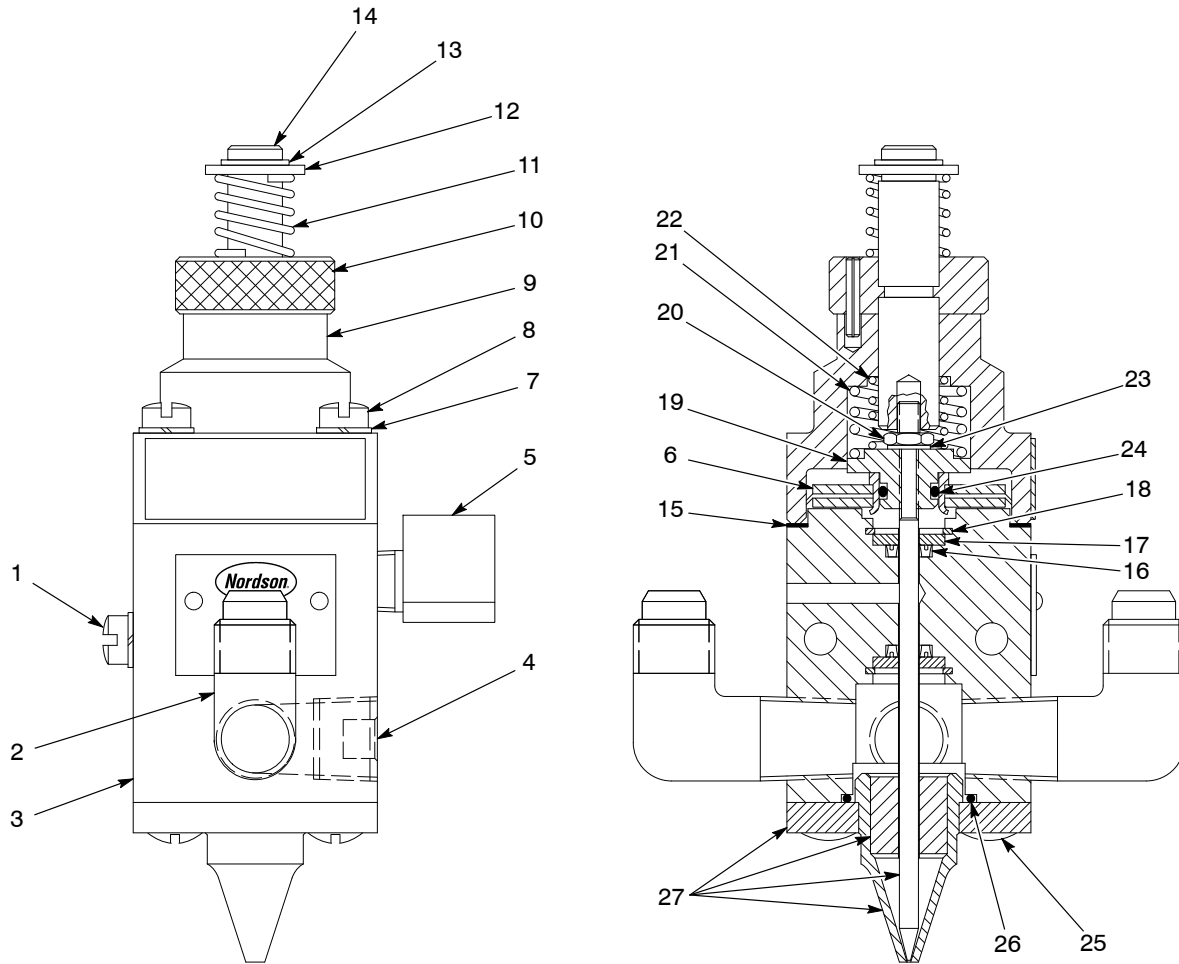
These part numbers are the top-level part numbers for the available gun assemblies. Locate the part number on the ID plate on the gun body to determine which gun you have.

Part	Description	Note
-----	GUN, A11A, compound, 0.020 nozzle	
115035	GUN, A11A, compound, special, 0.020 nozzle	
711197	GUN, A11A, compound, special, hard, 0.028 nozzle	
-----	GUN, A11A, compound, 0.036 nozzle	
247210	GUN, A11A, compound, 0.060 nozzle	

## Common Gun Parts

See Figure 2. These parts are the same for every A11A compound gun listed in the *Gun Part Numbers* chart. Refer to *Needle and Nozzle Assemblies* on page 9 for items 19–27.

Item	Part	Description	Quantity	Note
1	981127	SCREW, fillister, #10-32 x 2.00 in.	2	
2	972177	ELBOW, male, 1/2-20 x 1/4-in. NPT, stainless steel	2	
3	-----	BODY, A11A gun	1	
4	973415	PLUG, pipe, socket, standard, 1/4 in., stainless steel	1	
5	973125	ELBOW, pipe, 1/8 in., brass	1	
6	246264	PISTON	1	
—	106311	AIR CYLINDER KIT, detent	1	
7	983120	• WASHER, lock, e, split, #10, steel, nickel	6	
8	981140	• SCREW, fillister, #10-32 x 1.00 in.	4	
9	246251	• CYLINDER, air	1	
10	246253	• KNOB	1	
11	246257	• SPRING, compression, 0.950 x 0.433 x 0.041 in.	1	
12	246928	• WASHER, flat, 349 ID, special	1	
13	986013	• RETAINING RING, external, 34, basic	1	
14	246252	• SCREW	1	
—	106313	SEAL KIT, A11A, compound	1	
15	153031	• GASKET, gun, H2O	1	
16	247207	• SEAL, spring, 1/8 x 1/4 x 3/32 in.	2	
17	246256	• WASHER, flat, 0.213 x 0.425 x 0.062 in., aluminum	2	
18	986014	• RETAINING RING, internal, 43, basic	2	
24	940090	• O-RING, Viton, 0.208 ID x 0.070 in.	1	
26	940174	• O-RING, Viton, black, 0.688 x 0.813 in.	1	



1200332A

Figure 2 A11A Compound Gun Parts

## Needle and Nozzle Assemblies

Use the following chart to determine which needle and nozzle kit to order for your A11A gun. Refer to the ID plate on the gun body to determine the gun part number. Refer to the parts list on page 10 for a list of parts included with these kits.

Gun Part Number	Needle and Nozzle Kit	Nozzle Description
246260	106312	0.020
115035	-----	0.020 (special)
711197	713812	0.028 (hard)
247209	106351	0.036
247210	106352	0.060

## Needle and Nozzle Assemblies *(contd)*

See Figure 2. Each kit contains items 19–26 and the appropriate needle and nozzle (item 27).

Item	Part	Description	Quantity	Note
—	106312	0.020 NEEDLE AND NOZZLE KIT	1	
—	-----	0.020 SPECIAL NEEDLE AND NOZZLE KIT	1	
—	713812	0.028 HARD NEEDLE AND NOZZLE KIT	1	
—	106351	0.036 NEEDLE AND NOZZLE KIT	1	
—	106352	0.060 NEEDLE AND NOZZLE KIT	1	
19	248084	• NUT, seal, lock	1	
20	984111	• NUT, hex, machined, #8-32, steel, zinc	1	
21	247206	• SPRING, compression, 0.750 x 0.720 OD x 0.063 in.	1	
22	246254	• SPRING, compression, 0.620 x 0.480 OD x 0.051 in.	1	
23	983110	• WASHER, lock, e, external, #8, steel, zinc	1	
24	940090	• O-RING, Viton, 0.208 ID x 0.070 in.	1	
25	981115	• SCREW, oval, 10-32 x 0.50 in.	4	
26	940174	• O-RING, Viton, black, 0.688 x 0.813 in.	1	
27	-----	• 0.020 NEEDLE AND NOZZLE	1	
NS	248087	• • 0.020 Needle	1	
NS	248088	• • 0.020 Nozzle and guide	1	
27	-----	• 0.020 SPECIAL NEEDLE AND NOZZLE	1	
NS	248087	• • 0.020 Needle	1	
NS	-----	• • 0.020 Nozzle and guide, special	1	
27	-----	• 0.028 NEEDLE AND NOZZLE	1	
NS	713822	• • 0.26/0.028 Needle, stainless steel	1	
NS	-----	• • 0.028 Nozzle, 416 stainless steel	1	
27	-----	• 0.036 NEEDLE AND NOZZLE	1	
NS	248086	• • 0.036 Needle	1	
NS	248089	• • 0.036 Nozzle and guide	1	
27	-----	• 0.060 NEEDLE AND NOZZLE	1	
NS	248085	• • 0.060 Needle	1	
NS	248090	• • 0.060 Nozzle and guide	1	
NS: Not Shown				

## Specifications

Maximum Hydraulic Pressure	41 bar (600 psi)
Maximum Air Pressure	4.1 bar (60 psi)
Weight	454 g (16 oz)
Dimensions	See Figure 1