A10A-FC
Automatic Electric Spray Gun

Customer Product Manual
Part 1047721A02
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For parts and technical support, call the Industrial Coating Systems Customer Support Center at (800) 433-9319 or contact your local Nordson representative.

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Contact Us

Nordson Corporation welcomes requests for information, comments, and inquiries about its products. General information about Nordson can be found on the Internet using the following address: http://www.nordson.com.

Address all correspondence to:

Nordson Corporation
Attn: Customer Service
555 Jackson Street
Amherst, OH 44001

A10A-FC Automatic Electric Spray 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:

Element	Symbol	Prefix
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

See Figure 1. The model A10A-FC automatic electric spray gun applies nonpigmented solventborne or waterborne materials in can end repair applications.

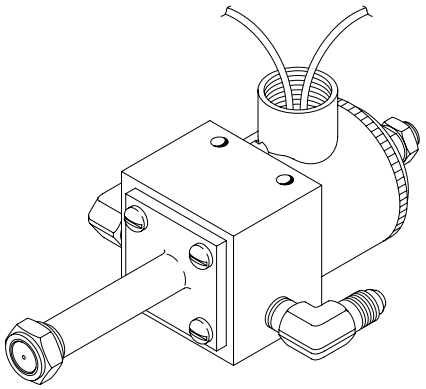

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Figure 1 A10A-FC Automatic Electric Spray Gun

Installation

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

WARNING: Pressurized system. Before installing the A10A-FC spray gun, make sure to relieve all pressure and to remove electrical power from the system.

Mounting

See Figure 2.

Use the two 5.16-mm (0.203-in.) diameter mounting holes and supplied 10-32 x 2.5-in. screws.

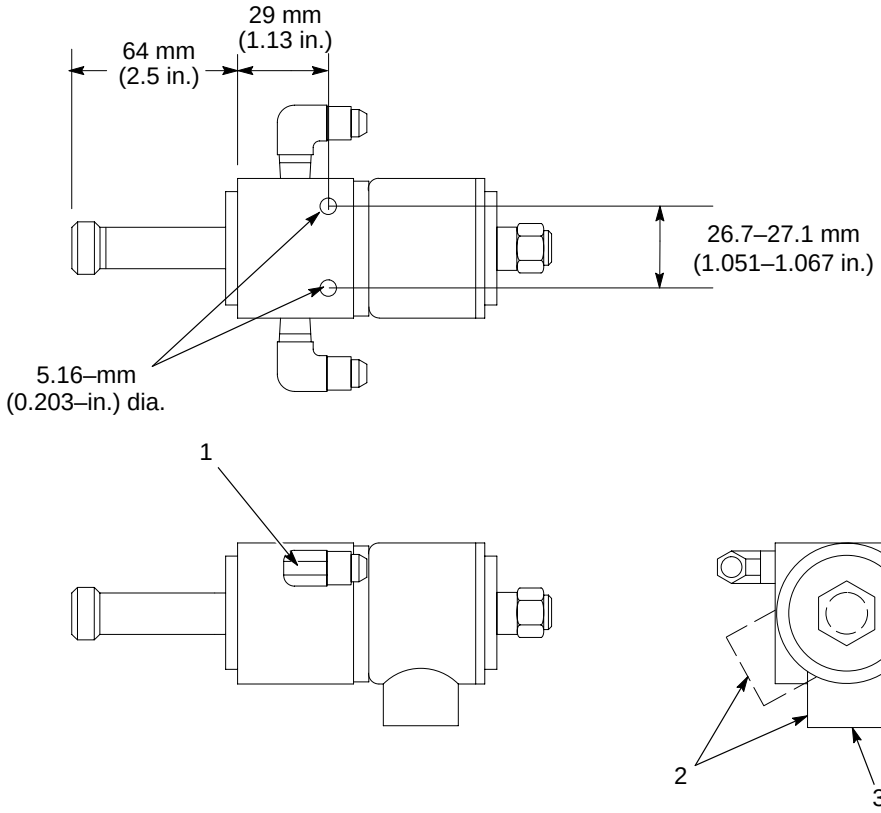

Figure 2 Key Mounting and Connection Points of the A10A-FC Spray Gun

1. $^1/_2$-20 x $^1/_4$-in. NPTF elbows
2. Rotation range (360°) for the $^1/_2$-in. NPT electrical connection
3. $^1/_2$-in. NPT electrical connection

Fluid Connection

See Figure 2.

Circulating Systems

The inlet/outlet fluid hoses may be connected to either of the two male elbows (1). Hold the male elbow(s) securely while tightening the hoses to prevent damage to the gun body.

Non-Circulating Systems

Replace either of the male elbows with a $^1/_4$-in. NPTF plug. Use a corrosion-resistant plug if waterborne materials will be used in the spray gun.

Electrical Connection

The A10A-FC spray gun may be connected to any 24-Vdc source that supplies a minimum of 1.5 amps.

See Figure 2. The solenoid housing on the A10A-FC spray gun contains a $^1/_2$-in. NPT female fitting (3) for connection to electrical conduit. Electrical leads from the solenoid are short, so a junction box suitable for conditions of use should be connected close to the spray gun. For easy electrical installation, the solenoid housing may be rotated 360° by loosening the jam nut and housing nut.

Testing

Trigger the spray gun two or three times before pressurizing the system to ensure that the proper electrical connection has been made and the ball is properly seated.

Operation

WARNING: The spray gun is designed for high-cycle applications only. It is not designed to be triggered on for long periods of time. Damage to the solenoid coil may occur. When flushing out the system, the spray gun should not be left on for more than 5 seconds.

Operation of the A10A-FC spray gun depends on its control unit. Refer to the control unit manual for operation procedures.

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
1. Leaking around nozzle or nozzle retaining nut	Dirty or damaged metal sealing surfaces	Remove, clean, or replace the nozzle, retaining nut, or ball and seat kit.
2. Spitting	Dirty or worn ball and seat	Clean or replace the ball and seat.
3. Spray gun will not trigger	Poor electrical connection	Check all of the electrical connections.
	Bad solenoid coil	Disconnect the solenoid wires. Make sure that the solenoid coil has a resistance of approximately 18 ohms. Replace with a coil kit, if necessary.
4. Leaking between solenoid housing and gun body	Bad O-rings	Replace the O-rings.

Checking the Compression Springs

See Figure 4. The large and small compression springs (5, 6) must be free from each other to function properly. Check to make sure that they are not tangled and that the small spring rests completely inside of the large spring.

The free length (non-compressed length) of the large diameter spring should be approximately 10.54 mm (0.415 in.). The free length of the small diameter spring should be approximately 25.4 mm (1 in.).

Checking for Ball and Seat Wear

See Figure 3. The distance between the ridge on the ball shaft (1) and the surface of the seat (2) should be 2.79–3.18 mm (0.110–0.125 in.).

- If the distance is shorter than 2.79 mm (0.110 in.), the seat is worn. Replace the ball and seat assembly.
- If the distance is longer than 3.18 mm (0.125 in.), the ball is not properly or fully seated. Push on the ball shaft until it is fully resting in the seat and the distance between the seat and the ridge on the ball shaft is within the acceptable range.

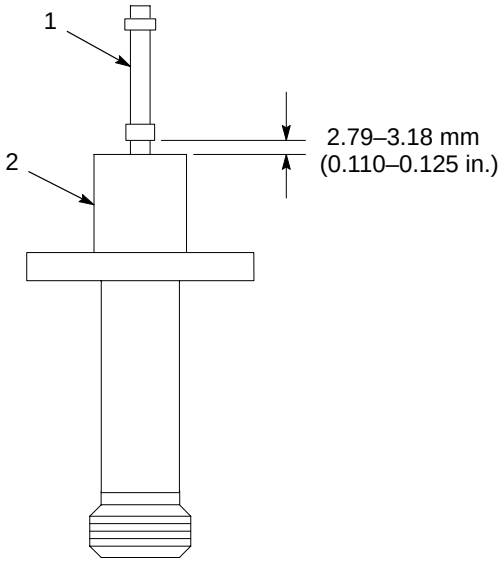

Figure 3 Ball Shaft Position When Properly Seated

1. Ball shaft
2. Seat

Repair

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

CAUTION: After any repair or disassembly, trigger the spray gun a few times before repressurizing the system to ensure that the ball is seated correctly.

NOTE: To install a ball and seat, skip steps 1 and 2 and perform steps 3 and 4 only.

1. See Figure 4. Unscrew the jam nut (18), housing nut (17), and solenoid cap (16) to remove the solenoid coil (14) from its housing (13).
2. Unscrew the four screws (10) and remove the sleeve (12) and O-ring (11). Remove the two springs (5 and 6) from the rear of the gun body.
3. Remove the four screws (2) to remove the ball and seat (4), O-ring (7), and armature (3).

NOTE: To make assembly easier, hold the spray gun vertically (pointing down) as you insert the springs, armature, O-ring, and ball and seat into the gun body.

4. Reverse steps 1 through 3 to assemble the spray gun.

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	

Spray Gun Parts

See Figure 4.

Item	Part	Description	Quantity	Note
—	1047414	GUN, A10A-FC, flange mount coil	1	
1	123200	• NUT, nozzle, anti-foul, stainless steel	1	
2	981160	• SCREW, pan head, 10-32 x 0.50 in., slotted, zinc plated	4	
3	246072	• ARMATURE	1	
4	141196	• BALL AND SEAT service kit, A10A,	1	A
5	270905	• SPRING, compression, 0.990 x 0.157 OD x 0.022 in.	1	
6	270863	• SPRING, compression, 0.415 x 0.247 OD x 0.015 in.	1	
7	940190	• O-RING, hotpaint, 0.813 x 0.938 x 0.063 in.	1	
8	972177	• ELBOW, male, 37, $^1/_2$-20 x $^1/_4$ in., stainless steel	2	
9	- - - - - -	• BODY	1	
10	337755	• SCREW, flat head, 10-32 x 0.375 in., slotted, zinc	4	
11	940200	• O-RING, hotpaint, 0.875 x 1.000 x 0.063 in.	1	A
12	1047391	• SLEEVE, solenoid	1	
13	246069	• HOUSING, solenoid	1	
14	106300	• COIL service kit	1	
15	942060	• O-RING, silicone, 0.500 x 0.750 x 0.125 in.	1	
16	246067	• CAP, solenoid	1	
17	246066	• NUT, housing	1	
18	984171	• NUT, hex, jam, $^1/_2$-20, steel, zinc	1	
NS	981116	• SCREW, fillister, 10-32 x 2.500, slotted, zinc	2	B
NS	983120	• WASHER, lock, e, split, #10, steel, nickel	2	B

NOTE A: When rebuilding or installing a new ball and seat kit, you also need to order O-ring part, 940200. This O-ring installs on the portion of the coil sleeve that enters the gun body.

B: Use these fasteners to mount the A10A-FC spray gun to a mounting surface.

NS: Not Shown

Recommended Spare Parts

Keep one of each of these parts on hand to reduce downtime.

Part	Description	Note
106300	COIL service kit	
141196	BALL AND SEAT service kit, A10A	
246072	ARMATURE	

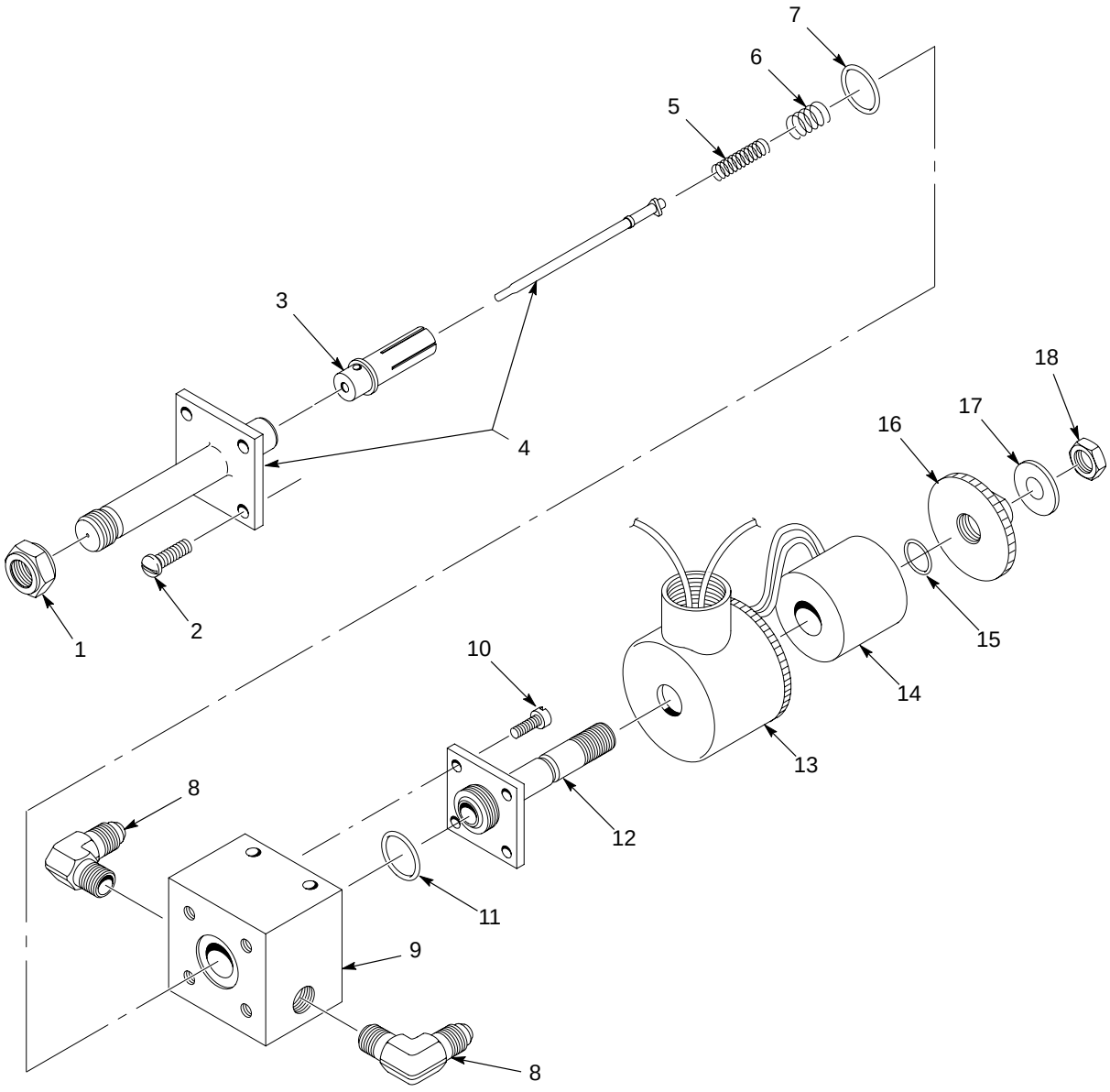

Figure 4 Exploded View of Model A10A-FC Automatic Electric Spray Gun

Specifications

Fluid Pressure:	75.86 bar (1100 psi) maximum
Electrical:	24 Vdc, 1.5 amps
Ambient Temperature:	60 °C (140 °F) maximum
Weight:	0.91 kg (2.0 lb)
Dimensions:	See Figure 5

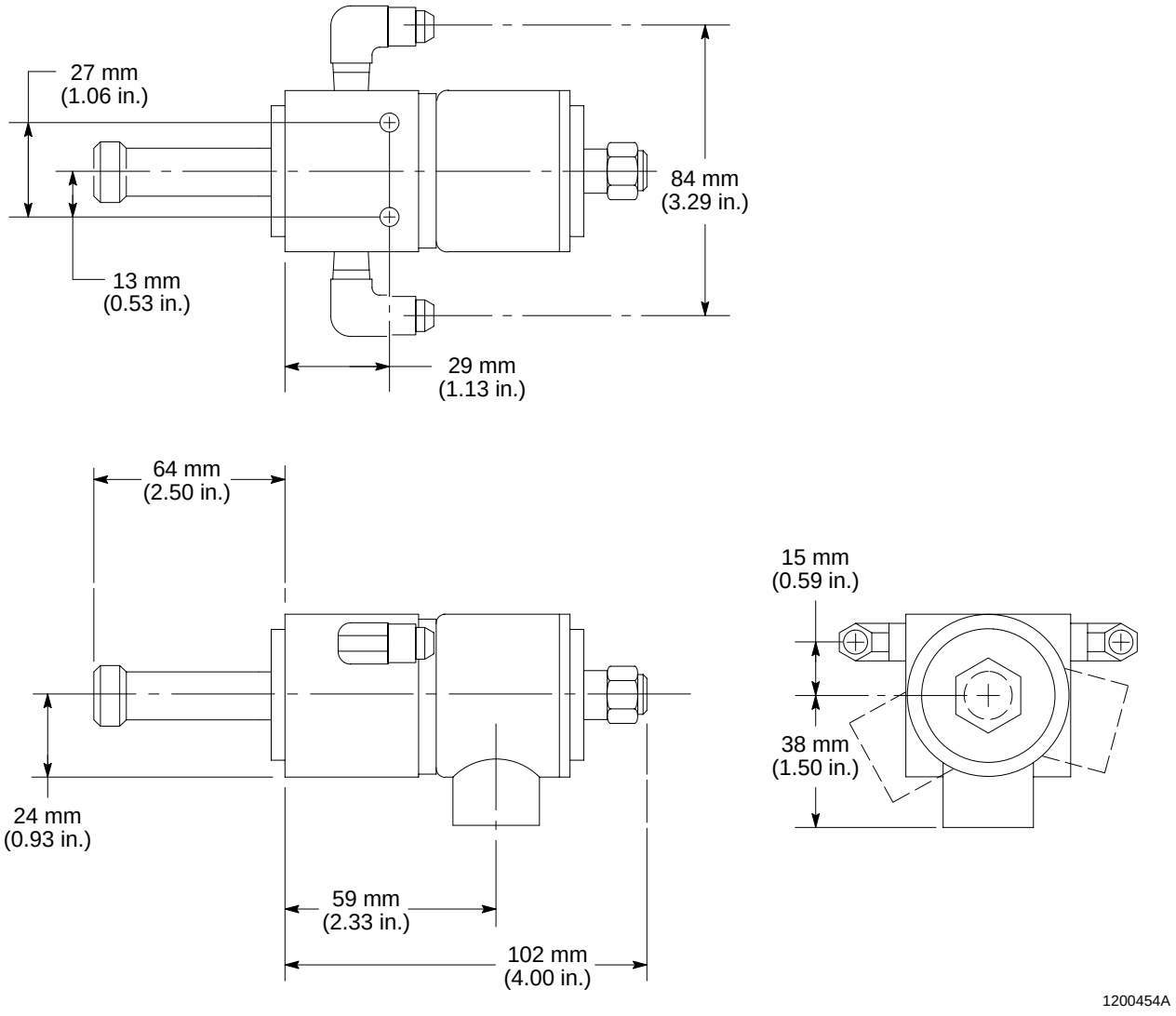

Figure 5 Model A10A-FC Automatic Electric Spray Gun Dimensions