

# PulsaJet® 10000AUH-03-Z1

## USER GUIDE



**Spraying Systems Co.®**

Experts in Spray Technology

MI-10000AUH-03-Z1  
for NPT & BSPT Models

[spray.com](http://spray.com)

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## WARNINGS & PRECAUTIONS

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Using the AA(B)10000AUH-03-Z1 PulaJet® nozzle requires following these safety guidelines and precautions. Have these instructions available for persons operating or servicing the equipment.

- Only qualified personnel should install, maintain, and operate the PulaJet nozzle. It is the responsibility of the equipment owner to ensure that those working with the PulaJet nozzle are trained to safely perform their assigned tasks.
- US installations shall comply with the relevant requirements of the National Electrical Code® (ANSI/NFPA 70).
- European installations shall comply with the relevant requirements of EN 60079-14.
- Make sure voltage supply is turned off to the installation before installing or maintaining the PulaJet nozzle. Do not disconnect live circuits when working with flammable materials.
- Provide adequate ventilation to prevent dangerous concentrations of volatile vapors in spray area.
- Voltage must not be supplied to the PulaJet 10000AUH-03-Z1 unless it is in its fully assembled condition.
- Follow all the nozzle specifications during use. Working outside of these specifications may lead to unsatisfactory spray application, nozzle damage, damage to equipment, or personal injury.



- Spraying Systems Co. waives all liability and responsibility in the event of usage not in compliance with our recommendations and/or any unauthorized interventions to our equipment.
- Special Conditions of Use:
  1. Flameproof joints are not intended to be repaired, contact manufacturer.
  2. Exposed metal of spray nozzle shall be electrically bonded to a suitable earthing facility to reduce buildup of electrostatic charging.

## INTRODUCTION

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The AA(B)10000AUH-03-Z1 PulsaJet® nozzle is a high speed, electrically actuated hydraulic spray nozzle that can be used in Zone 1 rated hazardous areas when properly installed, operated and maintained. Wetted parts are constructed of stainless steel, PPS, zirconia ceramic, and perfluoroelastomers (FFKM) for superior temperature and chemical resistance.

### SPECIFICATIONS:

- Power Requirements: 27VDC Max., 0.30 AMPS Max.
- Inlet connections: 1/8 NPT for AA10000AUH-03-Z1 1/8 BSPT for AAB10000AUH-03-Z1
- Electrical conduit connection: 1/2 NPT for AA10000AUH-03-Z1 M12X1.5 for AAB10000AUH-03-Z1
- Maximum Operating Pressure: 100 psi (7 bar)
- Maximum Flow rate: 0.47 gpm @ 100 psi (1.8 lpm @ 7 bar)
- Maximum Ambient Temperature: 104°F (40°C)
- Weight: Approximately 25 oz. (0.7 kg)

### NOTES:

- The solenoid portion of the AA(B)10000AUH-03-Z1 PulsaJet nozzle is assembled, tested, and sealed at the factory for safe and proper operation. This portion of the unit should not be disassembled for cleaning or service.
- Solenoid coil is factory sealed, conduit seal not required
- Access to the valve portion of the AA(B)10000AUH-03-Z1 PulsaJet nozzle for cleaning and/or servicing can be gained by removing the spray tip and unscrewing the seat.
- Fuse must be connected for use in a hazardous environment.



# INSTALLATION

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## FLUID CONNECTIONS:

Fluid connections should be made using the appropriate 1/8" pipe connection. If a metal fitting is used, appropriate thread sealer should be applied to the threads prior to assembly. For those applications requiring recirculation, two 1/8" pipe connection ports are provided. If recirculation is not required, one of the ports should be plugged using 1/8" pipe plug which is provided with each unit.

## ELECTRICAL CONNECTIONS:

Electrical conduit connection for conduit fitting accepts 1/2" NPT (M) for NPT version. The conduit must protect the electrical cable from mechanical damage and terminate in a sealed enclosure or junction box appropriate for the hazardous location. For BSPT version, an Ex d rated cable gland is used with cable. The fuse holder and a 3/10-amp fuse should be used as shown in Figure 1. The ground connection of the PulaJet® 10000AUH-03-Z1 must be attached to a true ground.



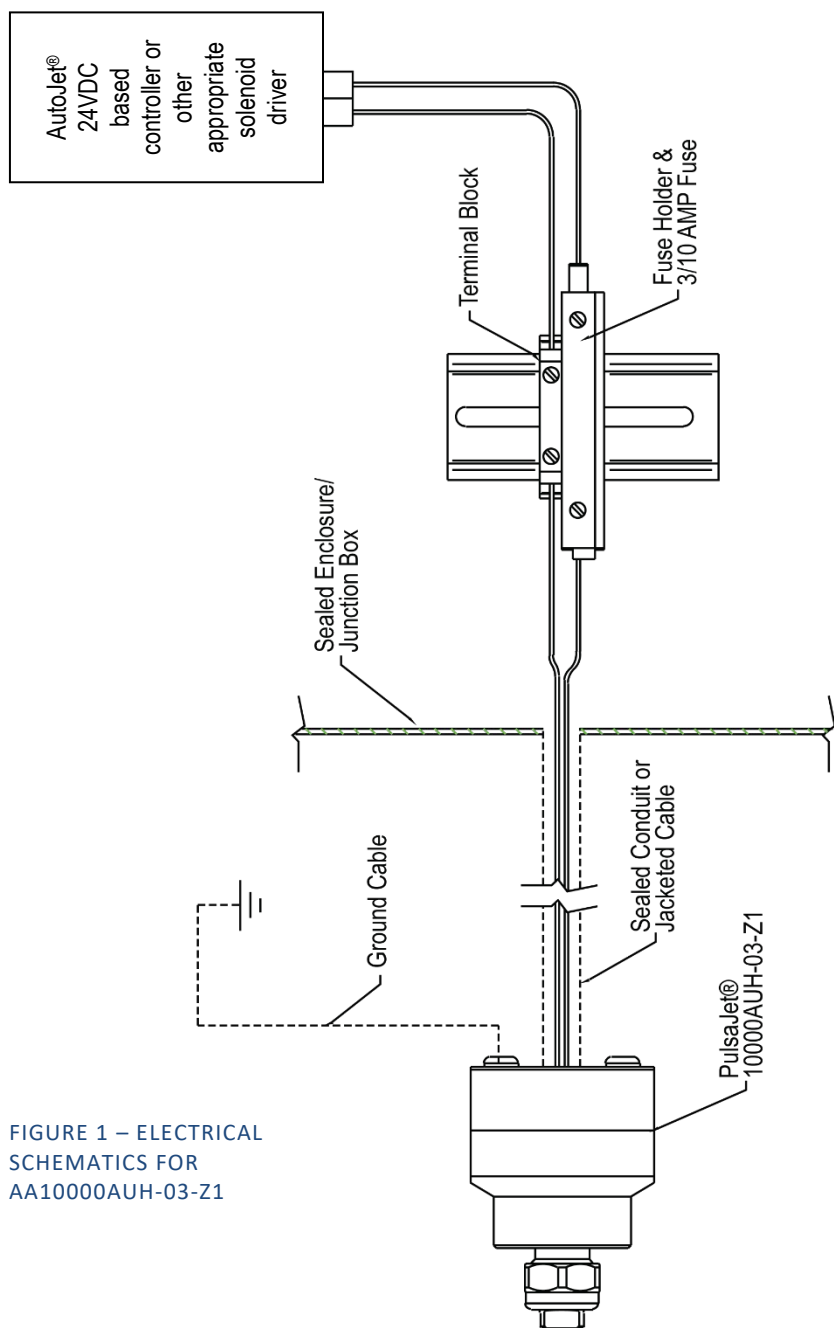


FIGURE 1 – ELECTRICAL  
SCHEMATICS FOR  
AA10000AUH-03-Z1

**MOUNTING:**

The PulsaJet® 10000AUH-03-Z1 can be mounted in any orientation using the threaded holes to mount to a bracket or other surface. Alternately, it may be supported by the inlet piping if rigid pipe is used. Mounting holes, inlet connections and outer dimensions are shown on Figure 2.

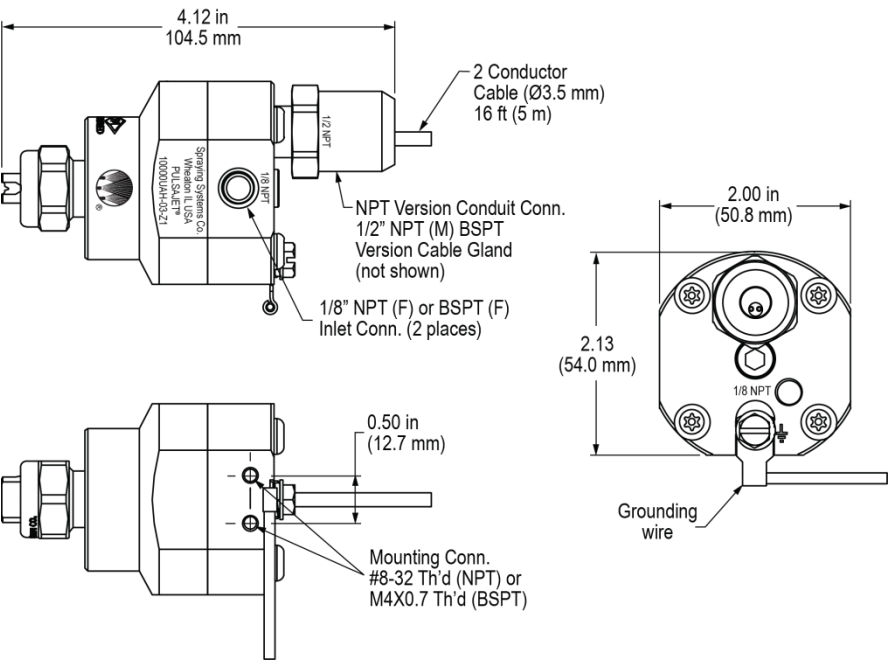


FIGURE 2 – OVERALL  
DIMENSION OF  
AA10000AUH-03-Z1

# OPERATION

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## CHEMICAL COMPATIBILITY:

Be sure the fluids used in the AA(B)10000AUH-03-Z1 are compatible with and will not cause deterioration of the materials of construction shown in the introduction to this document.

## SAFETY:

- To prevent possible ignition, do not disconnect while energized.
- Make sure all equipment is rated and approved for the environment in which it is used.

## FLUID SUPPLY:

- Make sure maximum pressure rating of 100 psi (7 bar) is not exceeded.
- To help prevent clogging problems, the fluid supply line needs to include a line strainer.

# MAINTENANCE

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- All power to the PulsaJet® nozzle must be turned off before any maintenance is performed on the unit.
- Overspray or other material should not be allowed to build up on the outside of the PulsaJet nozzle.
- If clogging occurs, the valve components can be removed from the front by first removing the spray tip and then unscrewing the seat. See Rebuild Instructions below.



# TROUBLESHOOTING

Certain conditions could occur to cause a malfunction or unsatisfactory operation of the spray nozzle. These conditions are addressed in the table below:

Problem	Possible Cause
Poor spray performance	Clogged spray tip. Remove spray tip and clean orifice or replace tip.
No fluid flow	Clogged spray tip. Remove spray tip and clean orifice or replace tip.
	Debris in fluid passages. Disassemble nozzle and clean fluid passages.
	Plunger not operational. Check coil for nominal resistance of 67 Ohms. If open or shorted, replace nozzle.
	Check fuse. If open, replace with 3/10 amp fast acting fuse.
No shut-off	Debris in fluid passages. Disassemble nozzle and clean fluid passages.
	Broken spring. Disassemble nozzle and replace spring.
	Worn seat. Disassemble nozzle and replace with AB10000AUH-03-Z1-KIT spare parts kit.





# REBUILD INSTRUCTIONS:

Spare Part Kit AB10000AUH-03-Z1-KIT contains all replacement parts necessary to rebuild spray nozzle. Refer to the Parts List for an exploded view and identification of numbered items.

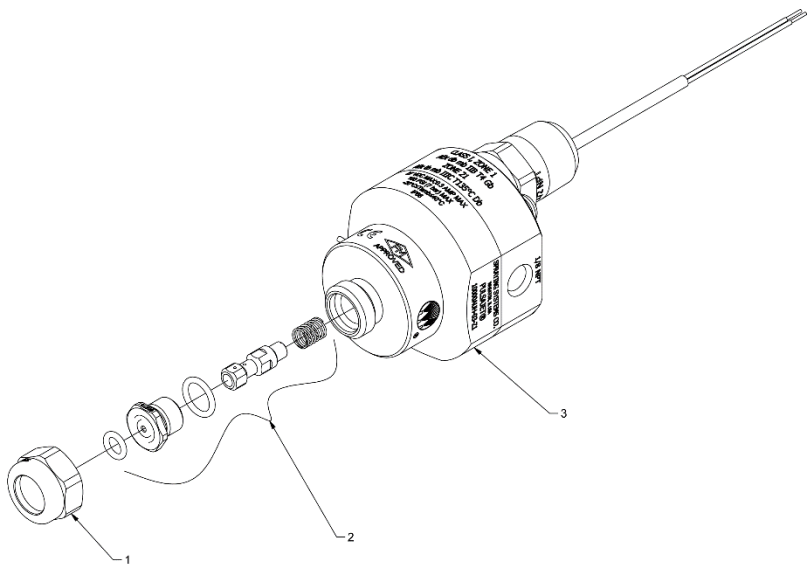


FIGURE 3 – AA10000AUH-03-Z1 EXPLODED VIEW

Item	Part No.	Description
1	CP1325-SS	Retaining Cap; Stainless Steel Type 303
2	AB10000AUH-03-Z1-KIT	Spare Part Kit; Stainless Steel, Zirconia Ceramic, and FFKM
3		Nozzle Body; Wetted parts are Stainless Steel, FFKM, and Ryton PPS

**RATINGS AND LABEL INFORMATION:**


FIGURE 4A– PULSAJET  
AA10000AUH-03-Z1  
SPRAY NOZZLE LABEL  
(NPT VERSION)



FIGURE 4B – PULSAJET  
AAB10000AUH-03-Z1  
SPRAY NOZZLE LABEL  
(BSPT VERSION)



## Declaration of Conformity

We,  **Spraying Systems Co.<sup>®</sup>**

Spraying Systems Co.  
200 W. North Ave.  
Glendale Heights, IL 60139  
USA

Declare that our AA(B)10000AUH-03-Z1 Automatic Spray Nozzle models, to which this declaration relates, are in conformity with:

Directive	Standards	Certification No.
Equipment for potentially Explosive Atmospheres (ATEX) Directive 2014/34/EU of 26 February 2014	EN 60079-0 EN 60079-1 EN 60079-18 EN 60079-31	FM10ATEX0040X1
The Electromagnetic Compatibility Directive 2014/30/EU of 26 February 2014	EN 61000-6-4 EN 61000-6-2	N/A

As per Article 14, and Annex II and III of 2014/30/EU, a technical construction file was developed and is available to competent authorities upon request.

The analysis, tests and measurements were performed according to Harmonized Standards.

<sup>1</sup>Certificate issued by FM Approvals Europe Limited, One Georges Quay Plaza, Dublin, Ireland. D02 E440. NB number 2809.

Signed by:



Evelyn Celio  
Director of Product Engineering  
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***Spraying Systems Co.®***

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