

# PulsaJet® 10000AUH-03-Z1-EPFC

## USER GUIDE



EC 1935/2004



**Spraying Systems Co.®**  
Experts in Spray Technology

MI-10000AUH-03-Z1-EPFC  
For Models AA10000AUH-03-Z1-EPFC (NPT)  
& AAB10000AUH-03-Z1-EPFC (BSPT)

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

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## WARNINGS & PRECAUTIONS

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Using the AA(B)10000AUH-03-Z1-EPFC PalsaJet® 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 PalsaJet nozzle. It is the responsibility of the equipment owner to ensure that those working with the PalsaJet 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 PalsaJet 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 PalsaJet 10000AUH-03-Z1-EPFC 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 Condition 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-EPFC 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, PEEK, and ethyl propylene (EPDM) for excellent resistance to ethyl alcohol (ethanol).

### SPECIFICATIONS:

- Power Requirements: 27VDC Max., 0.30 AMPS Max.
- Inlet connections: 1/8 NPT for AA10000AUH-03-Z1-EPFC; 1/8 BSPT for AAB10000AUH-03-Z1-EPFC
- Electrical conduit connection: 1/2 NPT for AA10000AUH-03-Z1-EPFC; M12X1.5 for AAB10000AUH-03-Z1-EPFC
- 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-EPFC 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-EPFC 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

## 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 Pulsajet® 10000AUH-03-Z1-EPFC must be attached to a true ground.

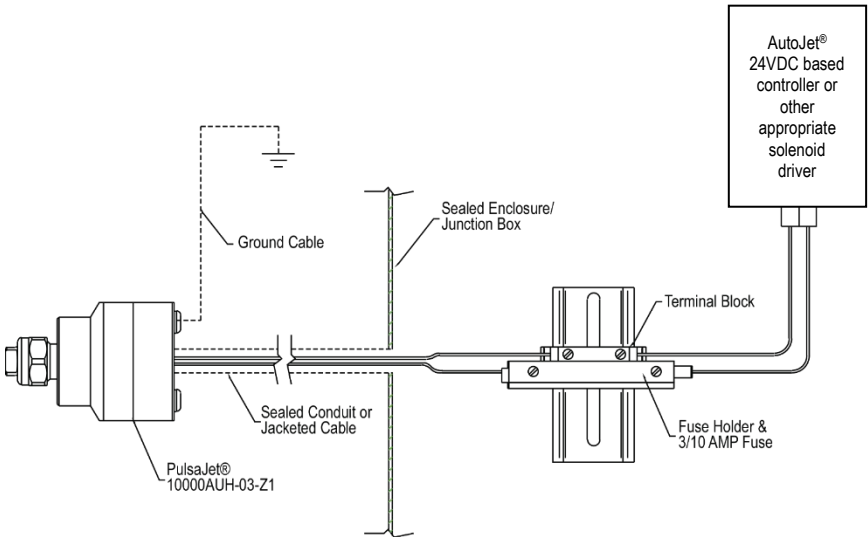


FIGURE 1 – ELECTRICAL SCHEMATICS FOR AA10000AUH-03-Z1-EPFC

## MOUNTING:

The PulsaJet® 10000AUH-03-Z1-EPFC 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.

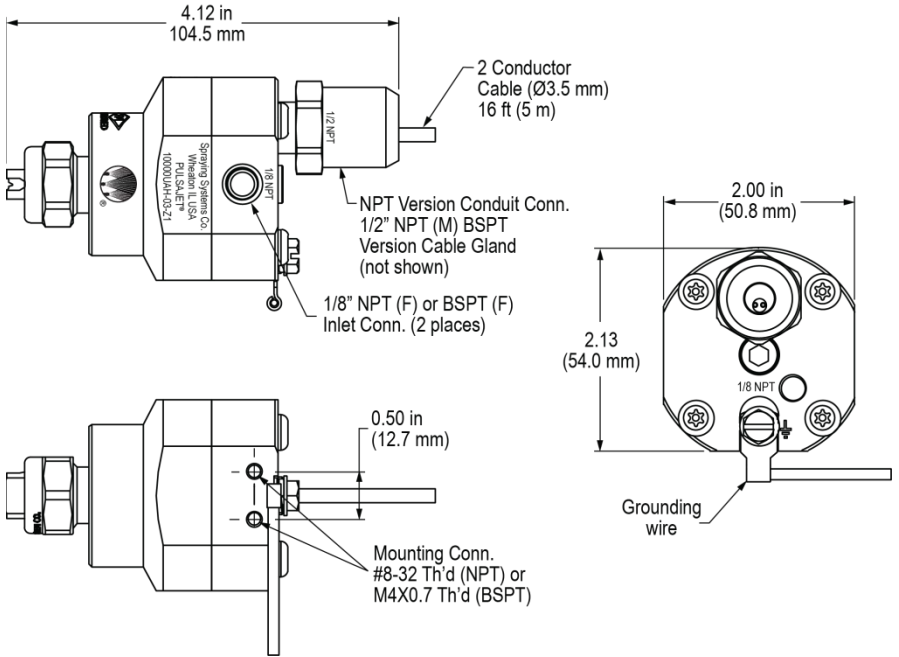


FIGURE 2 – OVERALL DIMENSION OF AA10000AUH-03-Z1-EPFC

# OPERATION

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## CHEMICAL COMPATIBILITY:

Be sure the fluids used in the AA(B)10000AUH-03-Z1-EPFC 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 PulaJet® 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 PulaJet 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 on page 8.



# 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   |
|-------------------------------|--|
| <b>Poor spray performance</b> | Clogged spray tip. Remove spray tip and clean orifice or replace tip.                                      |
| <b>No fluid flow</b>          | 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.   |
| <b>No shut-off</b>            | 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-EPFC spare parts kit.                      |



# REBUILD INSTRUCTIONS:

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

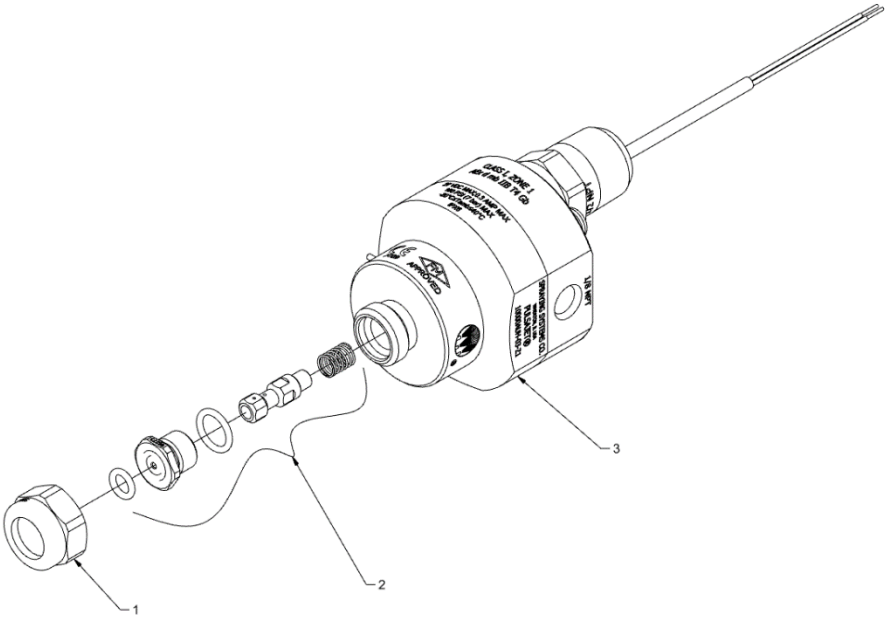


FIGURE 3 – AA10000AUH-03-Z1-EPFC EXPLODED VIEW

| Item | Part No.              | Description  |
|------|-----------------------|--|
| 1    | CP1325-SS             | Retaining Cap; Stainless Steel Type 303                                    |
| 2    | AB10000AUH-03-Z1-EPFC | Spare Part Kit; Food Compliant Stainless Steel, PEEK, and EPDM             |
| 3    |                       | Nozzle Body; Wetted parts are Food Compliant Stainless Steel, EPDM and PPS |



## RATINGS AND LABEL INFORMATION:


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



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



# Declaration of Conformity

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

Spraying Systems Co.  
North Avenue at Schmale Road  
P.O. Box 7900  
Wheaton, IL 60187-7900  
USA

Declare that our AA(B)10000AUH-03-Z1-EPFC 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<br>EN 60079-1<br>EN 60079-18 | FM10ATEX0040X1    |
| The Electromagnetic Compatibility Directive 2014/30/EU of 26 February 2014                      | EN 61000-6-4<br>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  
Spraying Systems Co.

## Declaration of Conformity

Subject: DECLARATION OF COMPLIANCE FOR MATERIALS AND ARTICLES  
INTENDED TO COME INTO CONTACT WITH FOOD.

Referenced Product No. AA(B)10000AUH-Z1-EPFC Automatic Spray Nozzle



We hereby provide the following information of food contact compliance under EC No. 1935/2004 and the U.S. FDA under regulation CFR21 for food contact materials Code of Federal Regulations.

The new Directive for Good Manufacturing Practice 2023/2006/EC is part of the framework legislation for 1935/2004/EC to ensure a high standard of production quality and documentation.

Materials listed below and certifications are specific to the Spraying Systems Co. part number listed above.

All stainless steel components are in accordance with European Standard EN10088 as well as guidelines for 300 series and 430 series stainless steel as offered by the Federal Food and Drug Administration using AISI guidelines.

Plastic components, gaskets, seals and O-rings follow either EU Directive No. 10/2011 including all amendments and/or certified under Title 21 of the Code of Federal Regulations, including Food Contact Notifications for all non-metallic components.

Based on the above information the referenced product meets standard practices for food contact applications. It is however the responsibility of the end user to ensure that Spraying Systems Co. products do not adulterate food.

**Specification of intended use: Spraying ethyl alcohol (ethanol)**



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

Experts in Spray Technology

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