

**Instruction Manual**

Products: Spray Nozzles
<b>VP-TPVDF Series</b> <b>VEP-TPVDF Series</b>

Thank you for purchasing this product.  
Prior to use, read this manual carefully and familiarize yourself with the proper operation of the product for best performance.  
H. Ikeuchi & Co., Ltd. takes no responsibility for any accidents and/or injuries resulting from improper handling, installation and/or operation.  
After reading, keep this manual handy for quick reference.  
Please be aware that due to continuing efforts to improve our products, some details in this manual may differ from the actual product.

H. Ikeuchi & Co., Ltd.

## 1. Precautions

### (1) Ceramic Parts

The ceramic parts used in spray nozzles feature high chemical and wear resistance, but the following restrictions need to be considered:

- Use of hydrofluoric acid and concentrated alkali will lead to corrosion.
- While the material is hard, it is also brittle which can cause chipping.
- The ceramic will crack if abruptly cooled down from high temperatures (200°C).

### (2) Installation

- Be sure to flush the pipes before installing the nozzle to remove any dirt and foreign matter.
- Apply sealant or sealing tape to the thread of the nozzle before installation.  
(Recommended tightening torque: 3.0–3.5 N m)
- Avoid installing the nozzle immediately on or after a bend in the pipe or an elbow.  
Turbulence may affect the nozzle performance.
- Pay attention to the spray direction when installing the nozzle

### (3) Operation

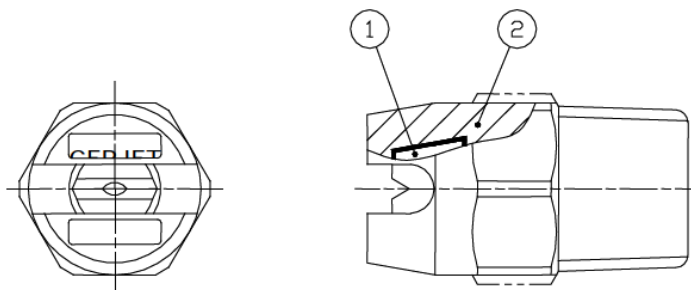
- Start spraying at a water pressure of 0.05–0.1 MPa to avoid water hammer and then gradually increase to operating pressure.
- After spraying chemical solution, spray clean water for a while to clean the nozzle orifice and the inside of the nozzle.
- To prevent the nozzle from clogging, install strainers or use a water treatment system, depending on the water quality.

### (4) Use

- Do not damage or scratch the nozzle.
- Do not clean the ceramic tip with nails, pins or other hard objects, which may damage the nozzle.
- Do not apply any strong force, shock or vibration to the nozzle.
- Store the nozzle in a clean, dust-free place.
- Do not use in freezing cold environments to prevent damage to the nozzle. The nozzle body is made of plastic (PVDF) and fragile.

## 2. Component of Nozzle

### (1) Assembly



### (2) Components and Materials

No.	Component	Material	Remarks
1	Orifice	Ceramic	
2	Nozzle Body	PVDF	

Note: Appearance and dimensions may slightly vary depending on the nozzle code.

## 3. Troubleshooting

If there is a problem, please check the following items first. If the problem persists, please replace the nozzle.

No.	Problem	Possible reason	Solution
1	Nozzle not spraying, or the spray pattern is irregular.	Liquid pressure is too low.	Check the pressure in the pipe and apply the proper pressure.
		Nozzle and/or strainer are clogged.	Clean both, the nozzle and strainer (ultrasonic cleaning, compressed air, etc.). Replace the nozzle.
2	Water leaks.	Sealant or sealing tape is damaged or worn.	Replace the sealant or sealing tape.
		Nozzles are not screwed in tight enough.	Tighten the nozzles properly with a torque wrench.