

Instruction Manual**DSP Series Nozzles**

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.



“The Fog Engineers”
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.
- 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.

See Table 1 for recommended torque to install the nozzle.

Table 1. Recommended tightening torque

Nozzle thread size	Recommended tightening torque (N m)
1/8	8
3/8	20

(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 nozzles from clogging, install strainers or use a water treatment system, depending on the water quality.

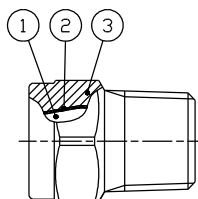
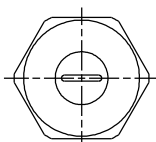
(4) Use

- 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 nozzles.
- Store the nozzle in a clean, dust-free place.

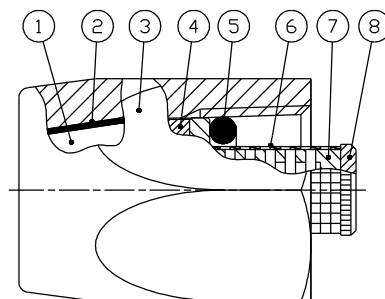
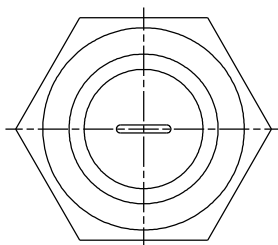
2. Components of Nozzle

(1) Components and Materials

R1/8



Rc3/8



No.	Component	Material*1	Remarks
1	Orifice	Ceramic	
2	Adhesive	Araldite (epoxy resin)	
3	Nozzle body	S303	
4*2	Packing	PTFE	
5*2	O-ring	NBR	
6*2	Strainer screen	S316	
7*2	Strainer holder	S303	
8*2	Strainer cap	S303	

*1) In our material code, "S" represents "stainless steel".

For example, S303 stands for stainless steel 303.

*2) Only Rc3/8 models are available with parts No. 4 to 8.

Note:

(1) Appearance and dimensions may slightly vary depending on the nozzle code.

(2) Part No. 5, O-ring, is to prevent Packing (No. 4) and Strainer (No. 6 to 8) from falling off, but does not seal between the nozzle and a pipe.

3. Disassembly

Disassemble the nozzle in a clean, dust-free environment. Always clean the nozzle surface before disassembly to prevent any dust and dirt to enter the nozzle. Be careful not to lose the parts.

No.	Procedure	Diagram
1	Pull out the strainer (part #6-#8) by hand and remove the packing (#4).	
2	Remove the O-ring (#5). Loosen the strainer cap (#8) to detach the strainer screen (#6).	

Note:

- (1) This procedure is only applicable for the size Rc3/8 with strainer.
- (2) Appearance and dimensions may slightly vary depending on the nozzle code.

4. Assembly

No.	Procedure	Diagram	Precautions
1	Insert the strainer screen (part #6) into the strainer holder (#7). Screw the strainer cap (#8) into the strainer holder (#7).		
2	Insert packing (#4), strainer (#6-#8), and O-ring (#5) into the nozzle body (#1-#3). (Use a thin rod* or R3/8 nipple to push in the O-ring for easier insertion.)		*Do not use nails, needles or other sharp objects.

Note:

- (1) This procedure is only applicable for the size Rc3/8 with strainer.
- (2) Appearance and dimensions may slightly vary depending on the nozzle code.

5. 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.).
2	Water leaks.	Deterioration of sealant or sealing tape.	Replace or change the sealant or sealing tape.
		Nozzles are not screwed in tight enough.	Tighten the nozzles properly with a torque wrench.