Instruction Manual

Products: Spray Nozzles

CP Series

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 from high temperatures (100°C). Check that the other parts are also heat resistant to the expected operating conditions.

(2) Installation Instructions

- Be sure to flush the pipes before installing the nozzle to remove any dirt and foreign matter.
- Apply sealant or sealing tape to the nozzle threads.
- Avoid installing the nozzle immediately on or after a bend in the pipe or an elbow. Turbulence may affect the nozzle performance.
- See Table 1 for recommended tightening torque to install the nozzle.

Table 1. Recommended lightening torque				
Nozzle Thread Size (Pipe Connection Size)	Tightening Torque (N-m)			
R1/8	8			
R1/4	15			
R3/8	20			

Table 1. Recommended tightening torque

(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 filters or use a water treatment system, depending on the water quality.

(4) Handling Instructions

- Do not damage or scratch the nozzle.
- Do not poke the ceramic orifice with nails, metal pins or other hard objects.
- Do not apply any strong force, shock or vibration to the nozzle.
- The maximum operating pressure for the CP series is 15 MPa. To prevent a water hammer, avoid a sudden increase in liquid pressure. The maximum allowable temperature is 60°C. However, the heat resistance of spray nozzles varies widely depending on the operating conditions, environment, liquid sprayed, etc.
- Store the nozzle in a clean, dust-free place.

2. Component of Nozzle

(1) Components and Materials



Note: Shapes may differ depending on nozzle codes.

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Pipe conn

No.	Component	$Material^{*1}$	Remarks
1	Orifice	AL ₂ O ₃ (99%)	Orifice diameter code: ø 0.1 to ø0.8
			Spray capacity code: 25 to 210
		Ceramic	Spray capacity code: 223 to 1040
2	Adhesive	Araldite (epoxy resin)	
3	Nozzle Body	$\mathrm{S303^{*2}}$	
4^{*3}	Strainer Holder	$S303^{*2}$	
5 ^{*3} Strainer Screen	C210	Orifice diameter code: ø 0.1 to ø0.8 (Strainer mesh size: #200, #150, #100, #50)	
	Strainer Screen	5316	Spray capacity code: 25, 31 (Strainer mesh size: #50)
6^{*3}	Strainer Cap	$S303^{*2}$	

^{*1}In our material code, "S" represents "stainless steel". For example, S303 stands for stainless steel 303.

*2 Optional material: S316

^{*3} Strainer parts No. 4 to 6 are optional and available only for models with R1/8 or R1/4 threads, and either spray capacity codes 25 or 31, or orifice diameter codes Ø0.1 to Ø0.8. No strainer is available for models with R3/8.

(2) Dimensions and Weight

Pipe Connection Size	Dimensions (mm)			Woight (g)*4		
	L1	L2	Н	øD	Ν	Weight (g)
R1/8	16.5	30	12	7.5	7	8
R1/4	26	39.5	14	7.5	10.5	19.5
R3/8	30	-	19	-	11	38

 *4 With strainer parts No. 4–6, add 2g for R1/8 and 5g for R1/4 to the listed weight.

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3. Disassembly

This procedure applies only to models with R1/8 and R1/4 threads equipped with strainer parts (No. 4-6).

- Disassemble the product in a clean, dust-free environment. Always clean the nozzle surface before disassembly to prevent any dust and dirt from entering the nozzle. Be careful not to lose any parts.
- The strainer holder (#4) is press-fitted and cannot be removed. If it comes off unexpectedly, press it back into place using a vise or similar tool. Take care to avoid tilting the strainer during reinstallation.



Note: Shapes may differ depending on nozzle codes.

4. Maintenance

Impurities are most likely to adhere to the orifice of the nozzle tip. Pay special attention to check the condition of this part.

Carefully remove any dust and dirt with a brush, toothpick, bamboo skewer, or compressed air. Clean each part thoroughly from foreign particles to maintain performance.

5. Reassembly

This procedure applies only to models with R1/8 and R1/4 threads equipped with strainer parts (No. 4–6).

Procedure	Diagram	Caution
Mount the strainer screen (#5) onto the strainer holder (#4). Hand-tighten the strainer cap (#6), then grip its knurled portion with pliers to further tighten.		The recommended tightening torque for the strainer cap is approximately 2 N-m when using a torque wrench.

Note: Shapes may differ depending on nozzle codes.

6. Troubleshooting

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

Problem	Possible reason	Solution
Nozzle not spraying or	Liquid pressure is too low.	Check the pressure in the pipe and apply the proper pressure.
irregular spray pattern	Nozzle and/or strainer is clogged.	Clean with ultrasonic cleaner and air blower.
Water leakage	Sealant or sealing tape is damaged or worn.	Replace or change the sealant or sealing tape.
	Nozzles are not screwed in tight enough.	Tighten the nozzles properly with the recommended torque shown on page 1.

7. Warranty

There is a one year warranty from the date of our shipment.

Seller shall be responsible for any damage due to design or production and will replace the item free of charge.

Neither this warrant nor any implied warranty applies to damage or harm caused by any or all of the following: 1. Damage due to misapplication and/or misuse, 2. Improper repair and/or modification, 3. Natural disasters, 4. Normal wear-and-tear of consumable parts including clogged nozzles.