CERJET®

SR Series

Low-speed Rotating Cleaning Nozzles

Instruction Manual

Preface

Thank you for purchasing the spray nozzle product from H. Ikeuchi & Co., Ltd.
This manual gives detailed instructions for the basic handling, maintenance and cautions of the product.
Please take note that due to our continuous efforts to improve our products, some details in this manual may differ from the actual product.
After reading, keep this manual handy for quick reference.

Safety Precautions

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.

⚠ CAUTION   **Wear safety gloves.**
Screw threads, edges and corners may be sharp and could cause injury.

⚠ CAUTION   **Ensure that the nozzle/product is firmly installed.**
Loose screws may cause the nozzle to come off during operation and lead to serious accidents.

⚠ CAUTION   **To install or remove the SR Series nozzle, use an adjustable wrench or spanner on the wrench flats of the connecting adaptor (part #1).**
Never grasp the shaft bearing (#3) to screw in the nozzle, as the thread of the shaft bearing is left-handed. Doing so may cause it to fall off. (See 4. Reassembly on page 4 for details.)

1. Cautions

  (1) Installing the nozzle should be done <u>after</u> the piping system is completely installed and flushed.

      ・ Never install the nozzles during installation work of the plant or equipment.

      ・ Use piping and valves large enough to prevent the pressure from dropping.

      ・ Use new stainless steel pipes, as dust and debris in old pipes may clog the nozzles. Never use pipes that can rust.

      ・ Even new pipes may have chips, seal tape or other debris inside. ALWAYS flush the pipe system thoroughly before installing the nozzles to remove any debris that has collected during the construction and assembly to avoid clogging. This flushing should be done at or near the maximum flow rate to thoroughly clean the system.

      ・ Clogging can negatively affect nozzle performance. Install filters to prevent clogged nozzles.
Regardless of the type of cleaning liquid, whether it is used once or can be reused multiple times, it should always run through a #200 or finer mesh strainer to prevent the nozzle from clogging.

  (2) Screw threads, edges and corners may be sharp. Wearing safety gloves is recommended.

  (3) Use with the specified operating pressure of 0.15 to 0.5 MPa.

  (4) Avoid damaging or scratching the nozzles. When disassembling the nozzle for maintenance, always use spanner, adjustable wrench, and milling vice.

2. Components of Nozzle
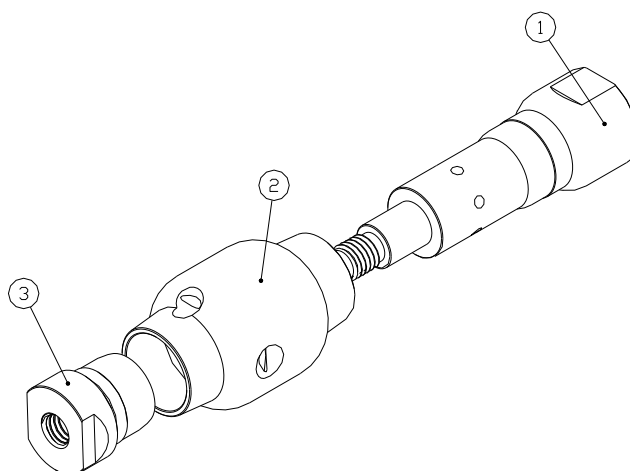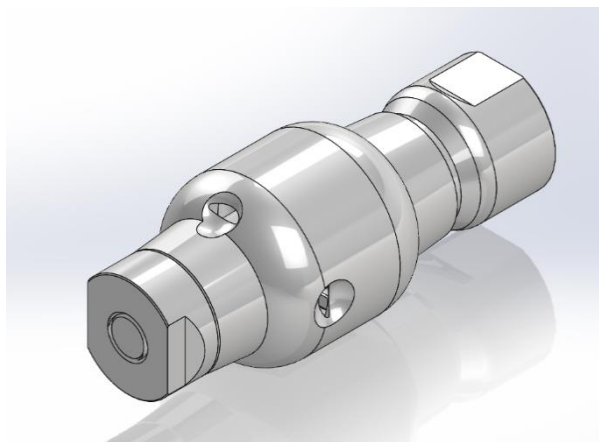
No.	Component	Material
1	Connecting Adaptor	S316L
2	Nozzle Body (rotating part)	S316L
3	Shaft Bearing	S316L

Note:
(1) The lifetime of each component varies depending on the operational conditions. Replace the nozzle when nozzle performance significantly deteriorates due to wear and tear on the parts.
(2) Dimensions and materials may differ depending on the model number of the nozzle.
(3) In the material code, "S" represents "stainless steel". For example, S316L stands for stainless steel 316L.

3. Disassembly (see parts list on the previous page)

(1) Loosen the connecting adaptor (part #1) with an adjustable wrench or spanner and remove the nozzle from the equipment.

(2) Hold the connecting adaptor (#1) in a milling vice, unscrew the shaft bearing (#3) with an adjustable wrench or a spanner. Note that the thread of the shaft bearing (#3) is left-handed.

(3) Detach the nozzle body/rotating part (#2) from the connecting adaptor (#1).

Note:

(1) Be careful not to lose or damage these small parts.

(2) The nozzle orifices and sliding surfaces are the most important parts. Take extreme care when handling them to avoid damaging them.

(3) Disassembled parts should be kept free from dust and dirt. Do not expose them to physical shocks and/or vibration.

4. Reassembly

(1)　Attach the connecting adaptor (#1) to the right side of the nozzle body (#2) when the engraved markings on the nozzle body (#2) are facing forward and in the correct orientation as shown in Figure 1 below.
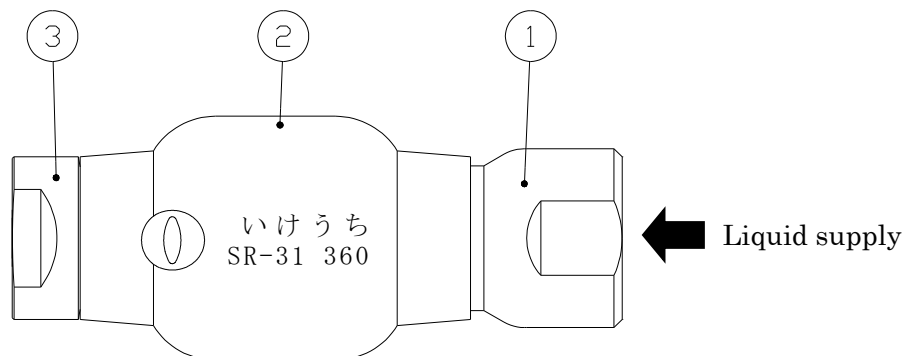

Figure 1 (Model: SR-31)

　　Ensure that the connecting adaptor (#1) is attached to the correct side of the nozzle body (#2). Attaching it to the opposite side can cause damage.

(2)　Screw in the shaft bearing (#3) by hand, and then use a spanner/wrench to tighten it with the recommended torque shown in Table 1.

(3)　When installing the nozzle, first hand-tighten it, and always use an adjustable wrench or spanner on the wrench flats of the connecting adaptor (#1) to finish tightening it with the recommended torque shown in Table 2.

Note:
(1)　Remove dust and debris carefully from the nozzle orifices and sliding surfaces with a soft brush. Be careful not to damage them.
(2)　When installing the nozzle, never hold the shaft bearing (#3) to tighten as the thread of the shaft bearing is left-handed. Doing so may cause it to fall off.
(3)　Screw in the nozzle correctly when installing the nozzle in an equipment.

Table 1. Tightening torque for shaft bearing (#3)

Model number	Torque (N·m)
SR-13	6
SR-20	6
SR-31	8
SR-42	8
SR-70	15
SR-150	20

Table 2. Tightening torque for nozzle installation

Model number	Torque (N·m)
SR-13	8
SR-20	15
SR-31	20
SR-42	20
SR-70	40
SR-150	60

5. Maintenance

（1） Visually inspect the nozzle for deformation and distortion.

（2） Manually rotate the nozzle body/rotating part (#2) lightly to check the rotation.

（3） If something is wrong with the rotation in (2), the most common cause is foreign particles on the sliding surfaces. Follow steps (4) and (5) below to remove foreign particles on sliding surfaces.

（4） According to the procedure of 3. Disassembly on the previous page, check the sliding surfaces with a magnifying glass and confirm they are free from foreign particles.

（5） Use a soft brush or soft cloth to carefully remove any foreign particles from the nozzle orifices and sliding surfaces.
Note: Trouble/malfunction of SR Series nozzles are caused mostly by foreign particles such as grit, dust, debris, scale, chips, and small metal cuttings.

（6） Always contact your supplier or IKEUCHI for repair.

6. Troubleshooting

Problems	Probable Causes		Solutions
No spray is being created	Control	・ Controller is not switched on. ・ Valves are not opened.	・ Switch it on. ・ Open the valves.
	Nozzle	・ Nozzle or pipe is clogged. ・ Nozzle or pipe is clogged due to damage.	・ Check and clean the clogged part. ・ Replace or repair the damaged part. ・ Replace or repair the nozzle.
Liquid leaks	・ Nozzle or pipe is cracked. ・ Nozzle or pipe is corroded.		・ Replace the cracked part. . ・ Replace the corroded part. ・ Replace or repair the nozzle.
Rotation issues	・ Adhesion of dust/foreign particles on sliding surfaces. ・ Nozzle is clogged. ・ Shaft bearing is scratched or damaged.		・ Clean the sliding surfaces. ・ Clean the nozzle. ・ Replace or repair the nozzle.
Irregular spray pattern	・ Nozzle or pipe is clogged. ・ Nozzle body/rotating part is corroded.		・ Clean the nozzle or pipe. ・ Replace the nozzle.

7. Disposal

Disposal should be practiced according to the regulations and codes of local authorities, or ask a disposal professional.

8. Inquiries

For spare parts or any trouble, contact your supplier or the following:

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