CERJET®

NKS1186-5E

Rotary Jetter RJ Series

Rotating Nozzles for 3-Dimensional Cleaning

1*1/2F RJ3-2L/4L

Instruction Manual

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H. Ikeuchi & Co., Ltd.

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

Be aware of the product temperature and do not perform maintenance until it has cooled down enough to avoid burns.

CAUTION

Use a motor wrench or adjustable wrench on the mounting fixture (part #4) to install or remove the RJ Series.
Never grasp the main body (#2) for tightening or loosening as it may cause damage to the inside gear.

1. Suggestions & Cautions

(1) Installing the RJ Series should be done after the piping system is completely installed and flushed.
- Never install an RJ Series 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 RJ Series. 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 RJ Series 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.
- Install strainers to prevent clogged nozzles. Clogging will impact nozzle performance.
  Regardless of the type of cleaning liquid, whether it is for one-time use or recirculated, always ensure it runs through a #50 or finer mesh strainer before entering the RJ series.
  Foreign particles and deposits still may cause rotation issues depending on the cleaning liquid type and quality. In that case, use a finer mesh strainer or install a filter cartridge.

(2) Use a motor wrench or adjustable wrench on the mounting fixture (part #4) to install or remove the RJ Series. Never grasp the main body (#2) for tightening or loosening as it may cause damage to the inside gear.

(3) RJ Series may be heavy and need to be handled carefully.

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

(5) Operate within the specified pressure range of 0.3 to 0.8 MPa unless otherwise indicated in the provided flow-rate diagram.

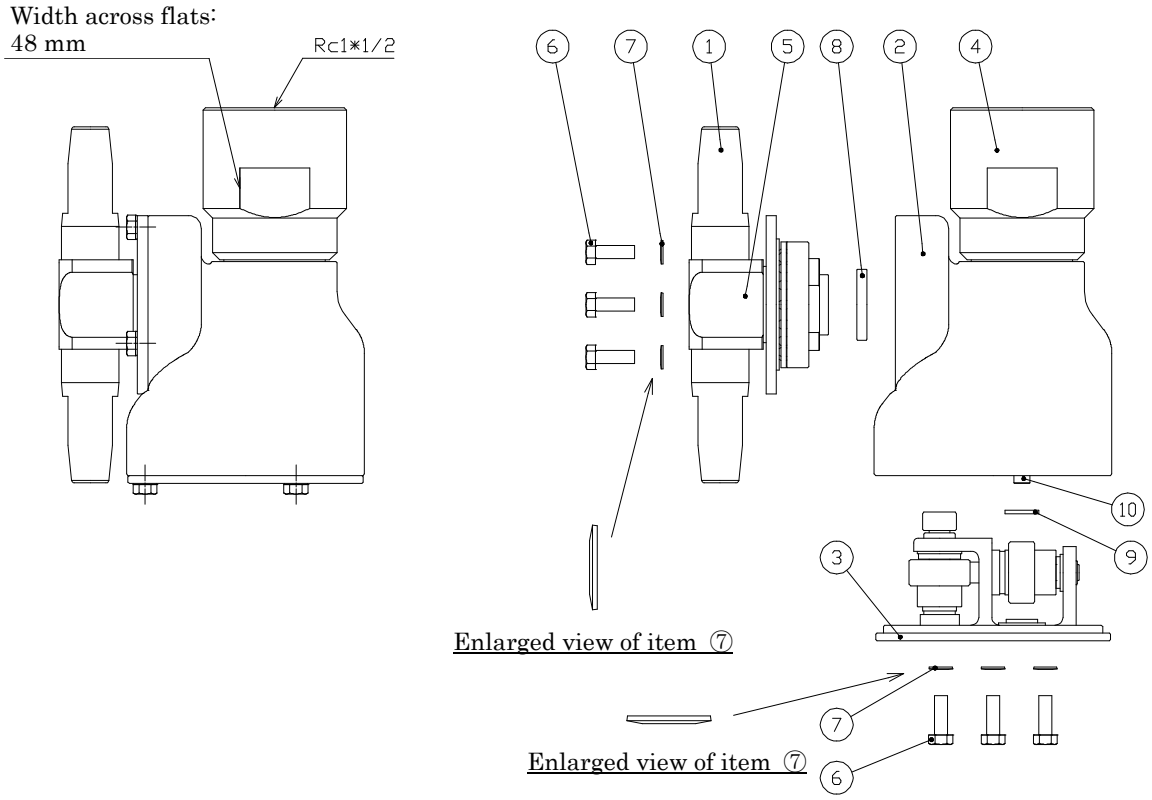
(6) Avoid damaging or scratching the RJ Series and pipes. When disassembling an RJ Series for maintenance, always use a motor wrench, spanner, adjustable wrench, and milling vice.

(7) Always install a valve in the liquid supply pipe.

(8) To start spraying, first ensure that the valve is completely closed, turn on the liquid supply pump and then gradually open the valve to the rated pressure. Sudden or excessive pressure application can cause damage to the inside gear.

(9) To stop spraying, gradually close the valve. Ensure that the valve is completely closed, then stop the pump.

2. Components of RJ Series (Main Parts)



No.	Component	Material	Remark	No.	Component	Material	Remark
1	Nozzle	S304		3	Washer (D17)	Carbon-filled PTFE	
2	Main Body	SCS13			Washer (D13)	Carbon-filled PTFE	
3	Bottom Cover Assembly	See below	Consists of the following parts.		Hexagon socket set screw (M4x6)	S304 equivalent	
	Bottom Cover	SCS13		4	Mounting Fixture	S304	
	Worm Shaft	S304		5	Rotor	S304	
	Worm Wheel (Right)	PEEK		6	Hexagon Head Bolt (M5x15)	S304 equivalent	
	Worm Wheel (Left)	PEEK		7	Belleville Spring Washer (5)	S304 equivalent	Single-use
	Spur Gear with Shaft	S304		8	Bushing	UPE	
	Bushing (D16)	Carbon-filled PTFE		9	Washer (D13)	Carbon-filled PTFE	
	Bushing (D12)	Carbon-filled PTFE		10	Turbine Shaft	S304	

Note:

- In the material code, "S" represents "stainless steel". For example, S303 stands for stainless steel 303.
- Belleville spring washer (part #7) is a single-use part. Replace it when loosening or removing the hexagon head bolt.
- The above diagram is of 1*1/2F RJ3-2L (RJ with 2 nozzles). RJ3-4L is equipped with 4 nozzles.

3. Disassembly (Please refer to the parts list on previous page)

To disassemble the RJ Series for maintenance, follow the procedure below.
DO NOT disassemble the product other than described as follows.

(1) Loosen the hexagon head bolt (part #6) on the side with a spanner/adjustable wrench and remove the nozzle (#1) and rotor (#5).
(2) Loosen the hexagon head bolt (#6) on the bottom with a spanner/adjustable wrench and remove the bottom cover assembly (#3) and washer (#9).
The washer (#9) is a part that is inserted into the turbine shaft (#10).

Note:
(1) Be careful not to lose or damage these small parts.
(2) Avoid damaging or scratching the sealing and sliding surfaces.
(3) Disassembled parts should be kept free from dust and dirt. Do not expose them to physical shocks and/or vibration.

4. Reassembly

(1) After cleaning each part completely, dry them with compressed air and make sure to visually check the condition of each part (including gear and packing) to confirm they are not damaged in any way before reassembling them.
(2) Assemble in the reverse order of the above 3. Disassembly.
- Tighten hexagon head bolt (#6) with a torque of 3 N•m.
- Belleville spring washers (#7) are single-use parts and should be replaced with new ones after each disassembly.

Note:
(1) Remove dust and debris carefully from the gear and sliding surfaces with a soft brush.
(2) Avoid damaging or scratching the sealing and sliding surfaces.
(3) Pay attention to the orientation of the Belleville spring washer during assembly. Refer to the enlarged view on the previous page.
(4) Make sure that bushing (#8) is inserted in rotor (#5) and washer (#9) is inserted in turbine shaft (#10) before assembling.

5. Maintenance

(1) Visually inspect the RJ Series for deformation and distortion.
(2) If the rotation is not smooth and/or it does not rotate after spraying is initiated, maintenance is required. Contact IKEUCHI or perform maintenance according to 3. Disassembly and 4. Reassembly above.

Note:
When performing maintenance, do not disassemble the product beyond the procedure described in 3. Disassembly. Doing so may damage the parts.

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.
	This Product/ piping	・RJ Series or pipe is clogged. ・RJ Series or pipe is clogged due to damage.	・Check and clean the clogged part. ・Replace the damaged part.
Rotation issues	・ Dust/foreign particles adhered to the sliding surfaces, or damage on the parts. ・ Nozzle is clogged. ・ Wear-and-tear of gears and sliding parts.		・Clean the gear and sliding surfaces. Replace the damaged part. ・Clean the nozzle. ・Replace the worn part.
Irregular spray pattern	・ Nozzle or pipe is clogged.		・Clean the nozzle and pipe. Replace the part.

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:

H. IKEUCHI & CO., LTD.
Email: overseas@kirinoikeuchi.co.jp
https://www.dry-fog.com/en/