

Jet Attacker JA2 series
Rotating Nozzles for 2-Dimensional Cleaning

Instruction Manual

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Preface

This instruction manual describes the correct usage and maintenance of JA2 series.

Before use, be sure to read this manual thoroughly and follow the instructions to allow the best use of this product.

After reading, keep this manual in a safe, handy place.

For purposes of product improvement, part dimensions or design are subject to change without notice.

Please note that in such cases, the contents of this manual may differ from the product.

Safety Precautions:

Prior to use, read this manual to familiarize yourself with the proper operation of the nozzle for best performance.

H. Ikeuchi & Co., Ltd. takes no responsibility for any accidents and/or injuries resulting from improper handling, installation and/or operation.



Wear safety gloves.

The screw thread or nozzle edges may cause injury.



Ensure that the nozzle is firmly installed.

Untightened or loose screws may cause the nozzle to detach or fall off during operation and lead to serious accidents.



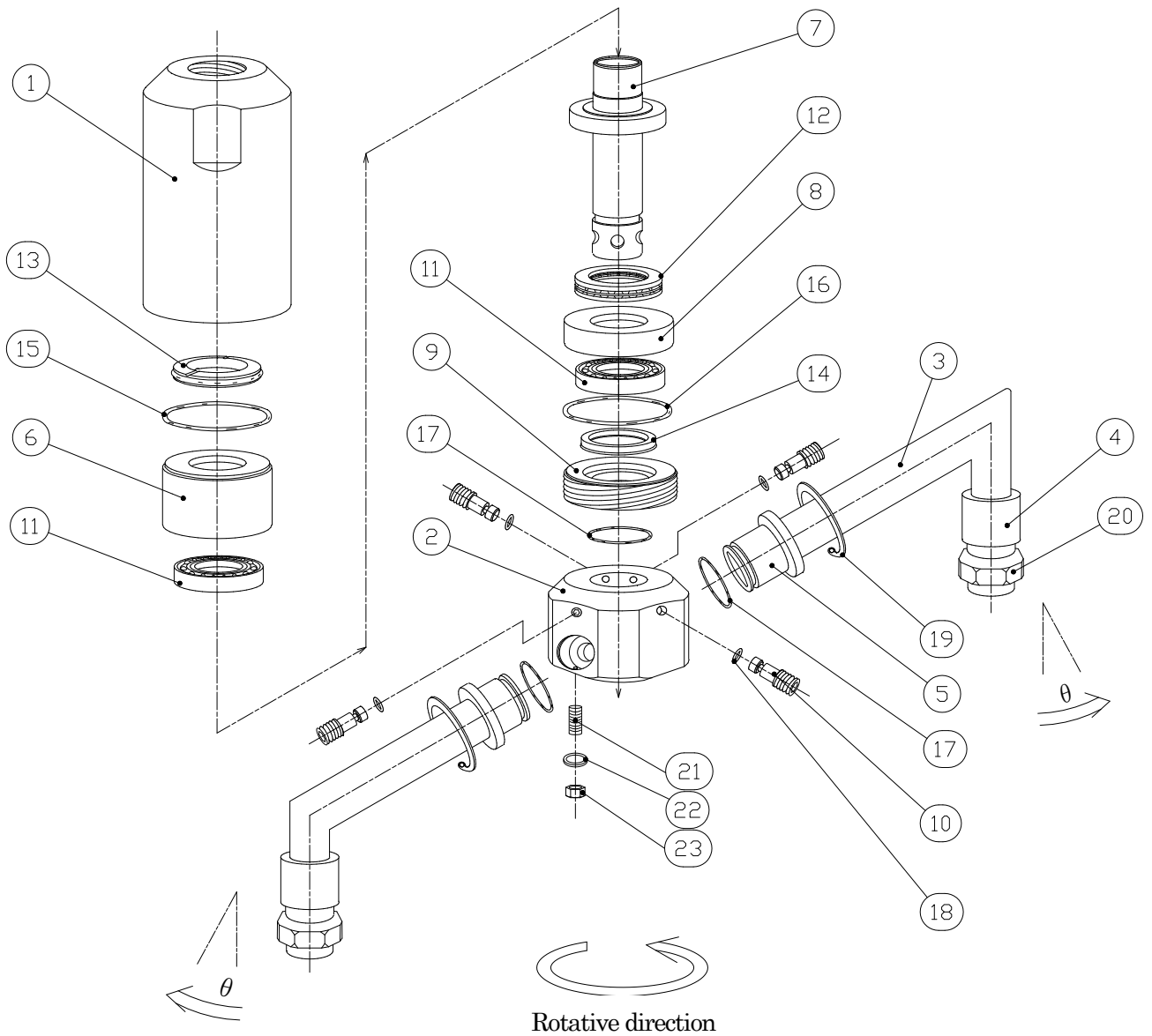
Maintenance shall be done after the nozzle cools down to avoid risk of burns.

1. Suggestions & Cautions

- (1) Install nozzles as the final installation step after all piping installation is completed and the entire piping system is cleaned .
 - Never install a nozzle during installation work of the plant or equipment.
 - Use larger size pipes and valves to prevent pressure drop.
 - Use new stainless steel pipes. Dust and foreign particles in old pipes may clog nozzles.
 - Chips or seal tape inside a pipe may also clog nozzle. Purge all pipes before installing nozzles. Flush the pipes thoroughly to purge foreign particles before installing nozzles. Flushing should be at or near the maximum flow rate, such that turbulent flow occurs in the piping to promote cleaning.
 - Use of strainers is recommended to prevent nozzles from clogging. Liquid should be supplied to a nozzle after it runs through a strainer, regardless of whether cleaning liquid is in a recirculating system or not.
- (2) Nozzles may be relatively heavy. Be careful in handling.
- (3) The edges of threads or some parts may be sharp. Wear safety gloves to protect hands.
- (4) Operate nozzle under the specified pressures. If the pressures are not specified, refer to our published flow-rate diagram.
- (5) Do not damage or scratch nozzles. When disassembling nozzles for maintenance, use a spanner, adjustable wrench and milling vice.
- (6) Don't rotate the nozzles in the reverse direction. Normally the horizontal shaft and nozzles rotate counterclockwise. If nozzle rotation direction is reversed, it can loosen the gear and may result in improper rotation.
- (7) Never make a rapid and/or large change in the operation pressure. Such changes may cause water hammer phenomena.

2. Components of Nozzle

(1) Illustrated parts breakdown



*The above diagram is of JA2-2 (JA with 2 nozzle arms)

JA2-4 is equipped with 4 nozzle arms.

No.	Component	Material	Code	Quantity		Remark	No.	Component	Material	Code	Quantity		Remark
				JA2-2	JA2-4						JA2-2	JA2-4	
1	Body casing	S304	#217776	1	1		13	High-pressure seal	Special PTFE, FKM	#267331	1	1	Consumable
2	Nozzle connector	S304	JA2-2 : #217777 (1pcs.) JA2-4 : #217778 (1pcs.)				14	Top seal	Special PTFE, S304	#210048	1	1	Consumable
3	Bending pipe	S304	-	2	4		15	O-ring(S-35)	FKM	#217788	1	1	Consumable
4	Welding socket	S304	#215128	2	4		16	O-ring(S-40)	FKM	#217787	1	1	Consumable
5	Nozzle adaptor	S304	#221896	2	4		17	O-ring(G-18)	FKM	#210804	3	5	Consumable
6	First bearing box	S304	#217779	1	1		18	O-ring(S-4)	FKM	#217789	4	4	Consumable
7	Rotation shaft tube	S304	#221929	1	1		19	Snap ring(24)	FKM	#217792	2	4	Consumable
8	Second bearing box	S304	#217782	1	1		20	Nozzle(1/4")	S303	-	2	4	
9	Body mechanism fixing screw	S304	#217784	1	1		21	Cap screw (Hexagon socket) (M5, L=10)	S304	#190201	2	4	
10	Rotation shaft tube fixing screw	S304	#217783	4	4		22	Spring washer(5)	S304	#176559	2	4	
11	Radial bearing (6804)	S440C	#218704	2	2	Consumable	23	NUT(M5)	S304	#217792	2	4	
12	Thrust bearing (51104)	S440C	#218703	1	1	Consumable							

Note: (1) Consumables

Lifetime of nozzle components varies depending on operational conditions. Replace consumable parts when corrosion or wear of components is found to significantly affect nozzle performance.

(2) In our material code, "S" represents "stainless steel".

(Example) S304 represents stainless steel 304.

(3) No.3,4,5 are welded together. Code of the parts No.3, bending pipe, is different by the lengths.

[It is recommended to ask the manufacturer (IKEUCHI) to do disassembly and assembly as they are difficult task.]

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

- (1) Loosen Rotation shaft tube fixing screw^⑩ with a hex wrench to remove it and pull out Nozzle connector^②.
- (2) Remove Body mechanism fixing screw^⑨ by rotating with pliers.
- (3) Pull out Rotation shaft tube^⑦ from Body casing^① and remove Second bearing box^⑧, Radial bearing(6804)^⑪, Thrust bearing(51104)^⑫ and Top seal^⑭.
- (4) Pull out First bearing box^⑥ from Body casing^① and remove Radial bearing^⑪ and High-pressure seal^⑬.
- (5) To pull out the nozzle arms from Nozzle connector^②, loosen Nut(M5) ^⑳ and Cap screw (Hexagon socket)(M5,L=10) ^㉑ with a spanner and a hex wrench and remove Snap ring (24)^㉒ with pliers.

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

(2) Be careful not to scratch or damage the sealing and sliding surfaces.

(3) Disassembled parts should be stored free from dust and not subjected to physical shock.

4. **Assembly**

- (1) Clean all components completely and dry them with compressed air. Visually check the condition of each component and confirm they are not damaged or scratched before assembling them.
- (2) Assemble in the reverse order of "3. Disassembly".
- (3) Rotation speed can be adjusted by the angle of the nozzle arms. Fix it in adequate position depending on operational conditions.

Please assemble the nozzle arms in a direction to tighten the screw of Body casing^①.

(Refer to P.2, Illustrated parts breakdown.)

Note: (1) Remove dust or foreign particles on the sliding surfaces with a brush.

(2) Be careful not to scratch or damage the sealing and sliding surfaces.

(3) Screw in the nozzle by hand at first then tighten with a spanner.

(4) Pay attention to the direction of rotation. There is risk of falling.

5. Maintenance

- (1) Visually confirm that the nozzle is not distorted or deformed.
- (2) Rotate the nozzle arms by hand for 1 or 2 times to check the rotation condition.
- (3) If rotation is not smooth and/or it does not rotate after starting spray, maintenance is required.
Do maintenance according to "3. Disassembly" on page 4, or contact the manufacturer (IKEUCHI).

6. Troubleshooting

Trouble	Probable Cause		Solution	Remarks
No spray is being created	Control	<ul style="list-style-type: none"> • Controller is not switched on. • Valves are not opened. 	<ul style="list-style-type: none"> • Switch it on. • Open valves. 	
	Nozzle	<ul style="list-style-type: none"> • Nozzle or Pipe is clogged. • Nozzle or Pipe is clogged due to damage. 	<ul style="list-style-type: none"> • Clean nozzle or Pipe. • Replace damaged part. • Clean them. 	
Liquid leak	Connection	<ul style="list-style-type: none"> • Some parts are not firmly screwed. 	<ul style="list-style-type: none"> • Screw in each part firmly. 	
	Handling	<ul style="list-style-type: none"> • Nozzle or Pipe is cracked. • Nozzle or Pipe is corroded. 	<ul style="list-style-type: none"> • Replace cracked part. • Replace corroded part. 	
	Seal wear	<ul style="list-style-type: none"> • O-ring/seal are worn. 	<ul style="list-style-type: none"> • Replace worn O-ring/seal. 	
Irregular spray	Improper rotation	<ul style="list-style-type: none"> • Dust/foreign particles, flaws. • Nozzle is clogged. • Seal/bearing are worn. 	<ul style="list-style-type: none"> • Clean seal area, replace the parts. • Clean nozzle. • Replace worn seal/bearing. 	
	Not spraying normally	<ul style="list-style-type: none"> • Nozzle or Pipe is clogged. • Nozzle tip is corroded. 	<ul style="list-style-type: none"> • Clean nozzle or pipe. • Replace corroded part. 	

7. Disposal

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

8. Inquiry

For parts or troubles, contact our local sales office or the following.



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