CERJET®

NKS0852-2E

Instruction Manual
for
DDA Series Metal-made Pneumatic Spray Nozzles

DDA with pipe connection size of Rc1/2 (nozzle body thread size: Rc1/2 or Rc3/4)

Model:
DDA 100 45 470
DDA 100 45 580
DDA 75 25 230

H. Ikeuchi & Co., Ltd.

Preface

Thank you for purchasing the Spray Nozzle from H. Ikeuchi & Co., Ltd.
This manual gives detailed instructions for the basic handling, maintenance and cautions of the product.
Please be aware that due to continuing 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 optimal 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 is firmly installed.
Loose screws may cause the nozzle to come off during operation and lead to serious accidents.


CAUTION

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

1. Cautions

(1) Avoid prolonged exposure of the nozzles to high temperatures when not in use to prevent corrosion.

(2) Even when the installed nozzles are not in use, it is recommended to maintain a constant air supply at a pressure of 5 kPa, to protect nozzles from high temperature and dust accumulation.

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

(4) Operate the nozzles under the specified pressures. If the pressure is not specified, refer to the provided flow-rate diagram.

(5) Avoid damaging or scratching the nozzles and pipes. When replacing a nozzle or disassembling the nozzle for maintenance, always use a spanner and milling vice. DO NOT use a pipe vice, pipe wrench or pliers.

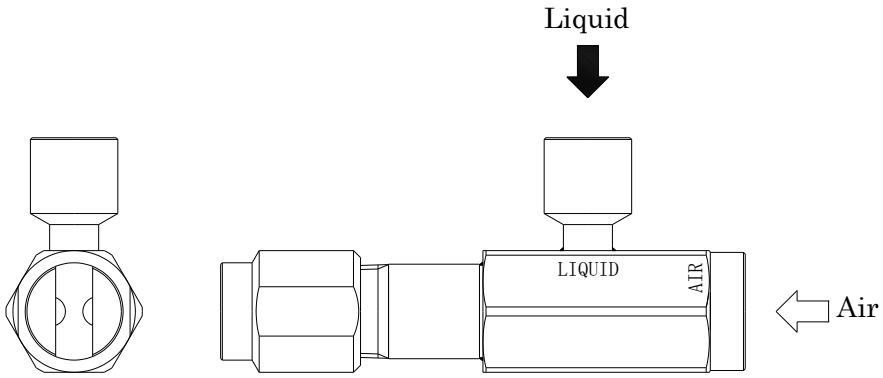
(6) Precautions to prevent liquids from back-flowing:
To start operation: Open the air supply first, then the liquid.
To stop operation: Shut off the liquid first, then the air.

(7) Air and liquid piping
- 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 pipes thoroughly before installing nozzles to remove any debris that could cause clogging.
- Install pressure gauges in front of the nozzle to adjust air and liquid pressures appropriately. Installation of a valve is also recommended.
- Install strainers to prevent clogged nozzles. Clogging will impact nozzle performance.

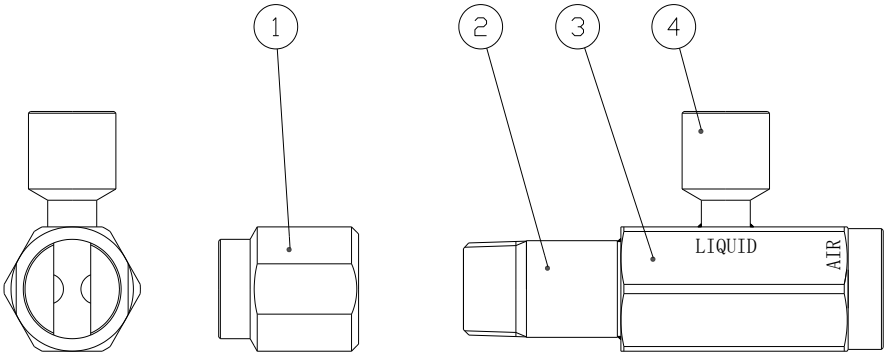
(8) Prior to shipment all parts are firmly tightened. However, due to temperature changes during transport and especially if the nozzles are exposed to repeated heating and cooling during operation, parts such as screws may loosen and should therefore be inspected regularly. Take special care when screwing in and unscrewing to prevent damage.
Always apply an anti-seizing or sealing agent to the threads before assembly.

2. Components of Nozzle

(1) Nozzle Assembly



(2) Parts and Materials



Part No.	Component	Material	Remark
1	Nozzle Body	S303	Consumable
2	Pipe	S304	
3	Mixing Adaptor	S304	
4	Liquid Socket	S304	

Note:

(1) Consumables
The lifetime of a nozzle varies depending on the operational conditions.
Replace consumable parts when corrosion or pitting corrosion of a nozzle body or other parts is found and/or nozzle performance significantly deteriorates.

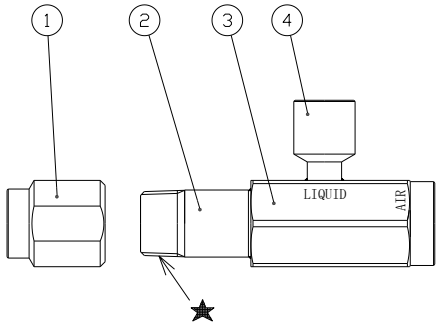
(2) Dimensions and materials may differ depending on product codes.

(3) In the material code, "S" represents "stainless steel". For example, S303 stands for stainless steel 303.

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

Hold the mixing adaptor (#3) in a milling vice and unscrew the nozzle body (#1) with a spanner.

Necessary tools:
Milling vice,
Spanner 25 mm for Rc1/2 Nozzle Body
Spanner 32 mm for Rc3/4 Nozzle Body



Note:
(1) Make sure not to drop, damage or lose any of the small parts.
(2) The nozzle tip and orifice are the most important and delicate parts. Take extreme care when handling them.

4. Reassembly

Assemble in the reverse order of the above 3. Disassembly. Before assembly, prepare the approved drawing of the nozzle. Refer to the drawing to confirm the orientation of the nozzle body (#1), which determines the spray direction, and assemble it correctly.

Note:
(1) Remove dust and debris carefully from the orifice and sealing surfaces with a brush not to damage these surfaces.
(2) Always apply sealing agent to the threads (indicated with ★ above) before assembly.
(3) Pay attention to the orientation of the nozzle body (#1) when attaching it. The spray spread direction is determined by the orientation of the nozzle body.
(4) When tightening the nozzle body (#1), first hand-tighten it and then use a spanner to finish tightening.

5. Maintenance

Check	Item	Check points
Daily	Spray	Visually check the spray pattern. If the nozzles are inside the equipment and cannot be seen, confirm that the spray pressure is normal.
	Pressure gauges and flow meters	Confirm that the air and liquid pressures and flow rate are correct during operation.
Periodically	Spray	Remove the nozzle from equipment and visually check the spray pattern.
	Appearance	Confirm that there is no corrosion or dust adhesion to the nozzle tip and orifice.
	Connection	Confirm that the nozzle body and mixing adaptor are screwed tightly.

6. Troubleshooting

Troubles	Probable causes		Solutions
No spray is being created	Control	・Controller is not switched on. ・Valves are not open.	・Switch it on. ・Open the valves.
	Nozzle	・Nozzle or pipe is clogged. ・Nozzle or pipe is clogged due to damage. ・Liquid orifice and/or air orifice is clogged.	・Check and clean the nozzle and pipe. ・Replace the damaged part. ・Clean the clogged part.
Air leaks Liquid leaks	・Some parts are loose or not tightened.		・Tighten the connections.
	・Nozzle or pipe is cracked. ・Nozzle or pipe is corroded.		・Replace the cracked part. ・Replace the corroded part.
Intermittent spray	・Seal failure between nozzle body and mixing adaptor (due to dust/foreign particles adhered or damage on the sealing surface). ・Nozzle is clogged. ・Air volume is abnormally high.		・Clean the sealing surface and replace the part. ・Clean the nozzle. ・Check and review the settings.
Irregular spray pattern	・Nozzle or pipe is clogged. ・Nozzle is corroded. ・Dust or foreign particles adhered on the orifices.		・Check and clean the nozzle and pipe. ・Replace the corroded part. ・Clean 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:

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