# Instruction Manual for Brush-Cleaning Nozzle Header, BRASIKan Series

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## Preface

Thank you for purchasing the product 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.



Wear safety gloves.

CAUTION Screw threads, edges and corners may be sharp and could cause injury.



# Ensure that the product is firmly installed.

Loose screws may cause the product to come off during operation and lead to serious accidents.



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

## 1. Suggestions & Cautions

- (1) Nozzles attached in BRASIKan are precision-made. The orifice of nozzle tip is a particularly important part and determines the spray characteristics, such as spray capacity, spray angle, and spray pattern distribution. Handle it with care.
- (2) The product is heavy and need to be handled carefully. For example, piping connections fir liquid supply should be installed after the product has been installed.
- (3) Screw threads, edges and corners may be sharp. Wearing safety gloves is recommended.
- (4) Operate the product under the specified pressures.If the pressure is not specified, refer to the provided specification sheet.
- (5) Avoid damaging or scratching the sealing surfaces of O-ring and X-ring.
- (6) When replacing a nozzle or disassembling the product for maintenance, always hold a header pipe with a machine vice or milling vice and use a spanner. DO NOT use a pipe vice, pipe wrench or pliers.
- (7) Always turn the handwheel by hand ONLY. DO NOT use any tools to turn it.
- (8) Piping
  - Install pressure gauges just before the product to adjust the operating pressure appropriately. Installation of a valve is also recommended.
  - Use piping and valves large enough to prevent the pressure from dropping.
- (9) Prior to shipment all parts are firmly tightened. However, due to temperature changes during transport and especially if the product 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.

## 2. Components of BRASIKan





Part No.	Component	Material	Remark	Part No.	Component	Material	Remark
1	Nozzle	S303	Consumable	11	Flat Washer	S304	
2	Hexagon Cap	S304		12	Brush	S304	Consumable
3	O-ring (P20)	FKM	Consumable	13	Nut (M5)	S304	
4	Header Pipe	S304		14	X-ring (X211)	FKM	Consumable
5	Brush Pipe	S304		15	O-ring (P36)	FKM	Consumable
6	Nut (M12)	S304		16	Bearing	S304	
7	Valve Seal Retainer	S304		17	Handwheel	S303+Nylon	
8	Valve Seal	PTFE	Consumable	18	Hexagon Head Bolt (M6×20)	S304	
9	Hexagon Head Bolt (M5×30)	S304		19	Hexagon Head Bolt (M6×25)	S304	
10	Spring Washer	S304		20	Nut (M6)	S304	

Note:

(1) Consumables

The lifetime of a part varies depending on the operational conditions. If there is a significant change in the product performance, consumable parts, such as the nozzle, should be replaced.

- (2) Dimensions and materials may differ depending on product codes. Stainless steel parts may be made of S316L. Brush material may include PP.
- (3) In the material code, "S" represents "stainless steel". For example, S303 stands for stainless steel 303.

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#### 3. Operation

- (1) Operate the product within the specified pressure range.
- (2) If the spray pressure begins to rise or the spray pattern starts to deteriorate, unclog the nozzle by first turning the handwheel 4 or 5 turns counterclockwise and then clockwise. It is normal to feel resistance when turning the handwheel in the following cases:
  - $\boldsymbol{\cdot}$  When the exhaust drain valve starts to open
  - $\boldsymbol{\cdot}$  When the brush is hitting the nozzle during cleaning
- (3) Make sure the wheel handle is within range A as shown below in Fig. 1 after turning it. The wheel handle corresponds with the position of the brush inside the pipe. If the wheel handle is outside of the indicated range, the brushes interfere with the nozzles and may affect the spray pattern. If this occurs, the wheel handle position needs to be adjusted following the steps described on page 8, <u>How to adjust the position of the</u> <u>wheel handle</u>.



Fig. 1 Position of wheel handle

## 4. Maintenance

#### (1) Maintenance Requirements

Cycle	Check item	Content
Daily	• Spray pattern	Check for irregular or deformed
	• Pressure gauge indicator	<ul> <li>The indicated pressure is correct and equal to the set value.</li> </ul>
	Water leakage from handwheel	<ul> <li>Check for leakage from the handwheel bearing.</li> </ul>
Periodical	Nozzle appearance	Check for corrosion, wear, etc.
	Brush appearance	Check if the bristles of the brush (#12) are falling out, worn out or curved.
	Valve appearance	Check valve seal (#8) for deformation.
	Loose screws	Check the parts including hexagon caps for loose screws.
	Foreign particles deposited inside header pipe	Check for foreign particle deposition/adhesion inside the header pipe.

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#### (2) Nozzle Maintenance

Things to prepare

Tools: Spanner Hex. 38 mm, flathead screwdriver, rag (waste cloth), tooth brush, etc. Spare parts: O-ring (P20), nozzle(s)

How to disassemble

- i. Firmly secure the header pipe with a milling vice.
- ii. Unscrew the hexagon cap with a spanner.
- iii. Remove the nozzle. (If the nozzle is stuck, gently lever up the rim of the nozzle with a flathead screwdriver.)
- iv. Clean the nozzle and O-ring of any dirt. Also clean the nozzle adaptors and hexagon cap threads. DO NOT scratch the nozzle adaptor surface (indicated with ☆ on the right), which is a sealing surface. Use a tooth brush or such soft brush to clean. DO NOT use a wire brush.
- v. Replace the nozzle and O-ring if they have any scratches, dirt or cracks.



How to assemble

i. Put O-ring on the nozzle, and then install as shown in Fig. 2.

When inserting the nozzle into the nozzle adaptor, make sure to align each milled surface.

ii. Tighten the hexagon cap with a spanner at a torque of 24 N • m.



Fig. 2 Nozzle installation





Fig. 4 Where to apply silicone grease

- v. Set new O-ring and X-ring, and apply silicone grease as shown in Fig. 4.
- vi. Assemble the parts in the reverse order of disassembly. Pay close attention to the following points to prevent any problems.



Apply grease to this area inside and outside

Installation of hexagon head bolts (part #19)

- 1. The hexagon head bolts should be secured in the groove of the bearing as indicated by arrow in Fig. 5.
- 2. If the bolts are not properly secured, the brush pipe may pop out when pressure is applied.
- 3. After the bolts are tightened, make sure that Dimension A in Fig. 6 is 20.5 mm or less.

How to adjust the position of the wheel handle

- 1. Position the hexagon head bolts in the groove of the bearing (see Fig. 5) and tighten them loosely.
- 2. Turn the handwheel clockwise until the valve seal makes contact with the valve boss (see page 4, Valve Seal Section), and loosen the bolts.
- 3. Now turn the handwheel and the bearing together until the handle is within the position range specified in Fig. 1 on page 5. Then firmly tighten all four bolts.

Fig. 5 Groove of bearing (where bolt should be secured)



Fig. 6 Dimension A





#### 5. Troubleshooting

Problems	Causes	Solutions	Remarks
Abnormal, irregular spray	Brushes are hitting nozzles.	Adjust the position of the wheel handle.	See p.5
pattern	Brush bristles are worn out (and thus cannot remove clogs).	Replace brushes.	See p.9
	Dirt/foreign particle accumulated inside the header pipe.	Clean the inside of the header pipe.	See p.10
Liquid leakage	O-ring, X-ring or valve seal is worn out.	Replace O-ring, X-ring or valve seal.	See p.7–8, 10
Low spray pressure	Decrease in liquid supply pressure	Increase liquid pressure.	
	Damage, wear or deformation on valve seal	Replace valve seal.	See p.10

# 6. Disposal

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

## 7. Inquiries

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

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