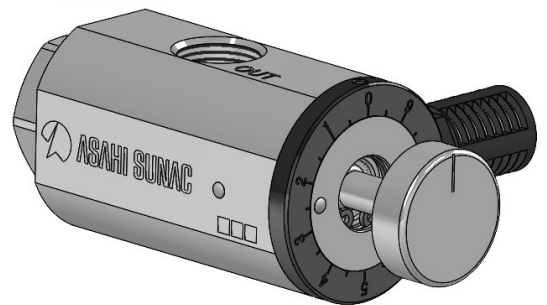


# Operation and Maintenance Manual

## Bubbling Cleaning Equipment

# ABW1



This manual contains important information on warnings and cautions. Read the manual thoroughly before starting to operate the equipment, and follow the instructions. Always keep the manual handy until such time as the product is no longer being used, and If your manual is lost or worn badly, do not hesitate to contact our agency, which is closest to you, or Asahi Sunac Corporation, directly, and ask us to send you a new one.

# Introduction

Thank you for purchasing our  
Bubbling Cleaning Device <ABW1>.

Please be sure to read this manual carefully before using this product so that you can always use it under the optimum conditions. In particular, please fully understand the items in the specifications and use them according to the correct usage.

If you have any questions, please contact us by clearly stating the "product number" and "serial number" and contacting us on the back cover.



**Please keep this manual in a  
safe place where you can  
easily refer to it.**

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## For Your Safety

Please understand the contents of this manual and be sure to follow the handling method. If you use it without following this instruction manual, **you may injure your body or damage your equipment and fire.**

The following safety precautions should be considered as minimum basic safety measures when using our products.

- **Precautions are displayed in the following two stages.**



### **WARNING**

Hazards that can result in death or serious injury.



### **CAUTION**

Danger that may result in minor or moderate injury or physical damage only.

- **Other important points are indicated as follows:**

### **NOTE**

Observations to ensure the equipment's performance and functions are fully operational.

In addition, please observe all national and local laws and regulations related to fire, electricity, and safety, as well as the rules and regulations of your own company or business division.

#### **«Range of use suitable for the product»**

This product is a device that can be attached to a pneumatic diaphragm pump (PD series) to reduce the amount of cleaning fluid used for the pump, paint hose, and gun, and shorten the cleaning time.

Please be fully aware that in the case where you use in a condition other than those above, cases are improper use and can lead to accidents.

To ensure safety, please follow the instruction manual for the pump to which this product is attached.

# 《Warning and precautions for safe use》



## WARNING

### Fire and explosion



#### Preventing fire and explosion in coating shop

- **Do not use halogenated hydrocarbon solvents.**

The aluminum alloy contained in this product's components may undergo a chemical reaction and explode.

- **Do not use this product outside its specifications.**

Using it out of specification range may result in a fire hazard.

### Equipment misuse



#### Preventing accidents caused by poor maintenance

- **Any abnormal noise, vibration or high voltage leakage, immediately stop operation.**

Damage to the product may result in a fire hazard.

# 《Warning and precautions for safe use》



## WARNING

### Human protection



### Protection from solvents, air and paint pressure

- **Wear protective glasses, a protective mask, and protective gloves\*1 when handling paint.**

Harmful substances may cause serious injury, such as inflammation or poisoning. Carefully read the safety data sheet (SDS\*2) of the paint you are using and take appropriate exposure prevention and protective measures.

\*1 When using protective gloves for skin absorption protection or to prevent dirt, it is necessary to prevent static electricity from building up on the human body. Be sure to ground it properly. (Recommended protective gloves are those specified in JIS T8118, or earth bands, etc.)

\*2 SDS : Safety Data Sheet

- **Clean the coating room and exhaust device (ducts and fans) regularly.**

If the exhaust device does not function properly, harmful substances may cause serious injury, including inflammation and poisoning.

- **Do not increase the pump supply pressure beyond the specified operating range.**

Otherwise, paint and materials may spray out of the equipment and enter the body through the eyes or mouth, and there is a risk of serious injury such as inflammation or poisoning due to the harmful substances contained in the paint and materials.

- **Do not use paints or materials that are not intended for this product.**

Deterioration due to heating, chemical reaction, or container alteration may cause the equipment to burst, resulting in injury to the human body from fragments or pressurized paint or materials. Harmful substances may cause serious injury, such as inflammation or poisoning.

- **Always release paint and air pressure before cleaning, disassembling or performing maintenance work.**

Do not replace or disassemble the nozzle or hose without first releasing the pressure. Otherwise, paint, materials, or cleaning fluid may spray out and come into contact with the human body, entering the body through the eyes or mouth, and there is a risk of serious injury, such as inflammation or poisoning, due to the harmful substances contained in the paint or materials.

## 《Warning and precautions for safe use》



### WARNING

#### Human protection



#### Protection from solvents, air and paint pressure

- **After work, make sure the paint and materials are not pressurized.**

Pressurized paint and materials may cause injury to personnel.

Harmful substances may cause serious injury, such as inflammation or poisoning.

#### 《Need for treatment》

If you come into contact with paint or materials, seek medical attention from a specialist.

In this case, you must tell your doctor exactly what kind of paint or material you used.



### CAUTION

- **Do not use this product outside its specifications.**

Using the product outside of the specifications may cause damage to the product.

- **Please check frequently for paint leaks, air leaks, and loose screws.**

\* References: Occupational Safety and Health Regulations, Safety and Health Measures for Electrostatic Painting

(Published by the Central Labor Accident Prevention Association)

# 2

## Overview of the Equipment

This product uses the negative pressure principle of a pump to perform two-fluid cleaning of the fluid path using air and cleaning solution. The air intake amount can be adjusted by turning the adjustment handle.

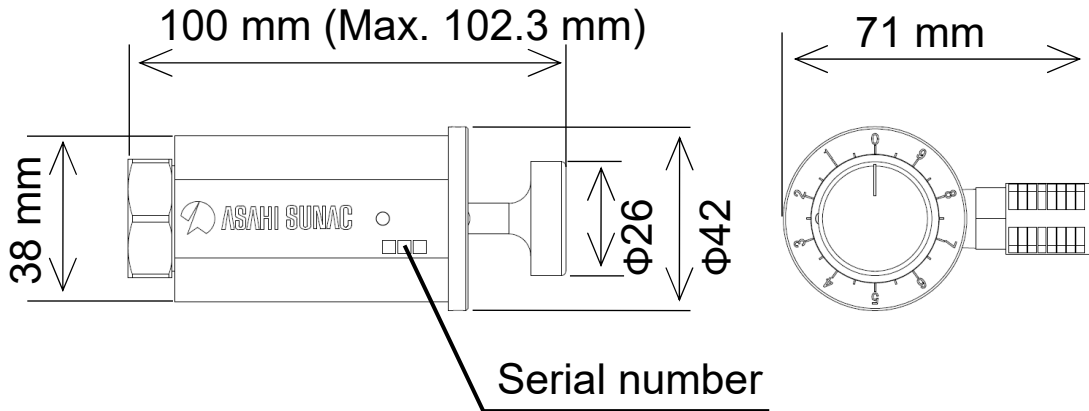
# 3

## Specifications

Model	ABW1
Pump supply pressure	0.1 to 0.5 MPa
Usable fluid	1-component oil paint *Water-based paints cannot be used.
Dimensions	W71 × H42 × L100 mm
Paint inlet diameter	Rc 3/8
Paint outlet diameter	Rc 3/8

# 4

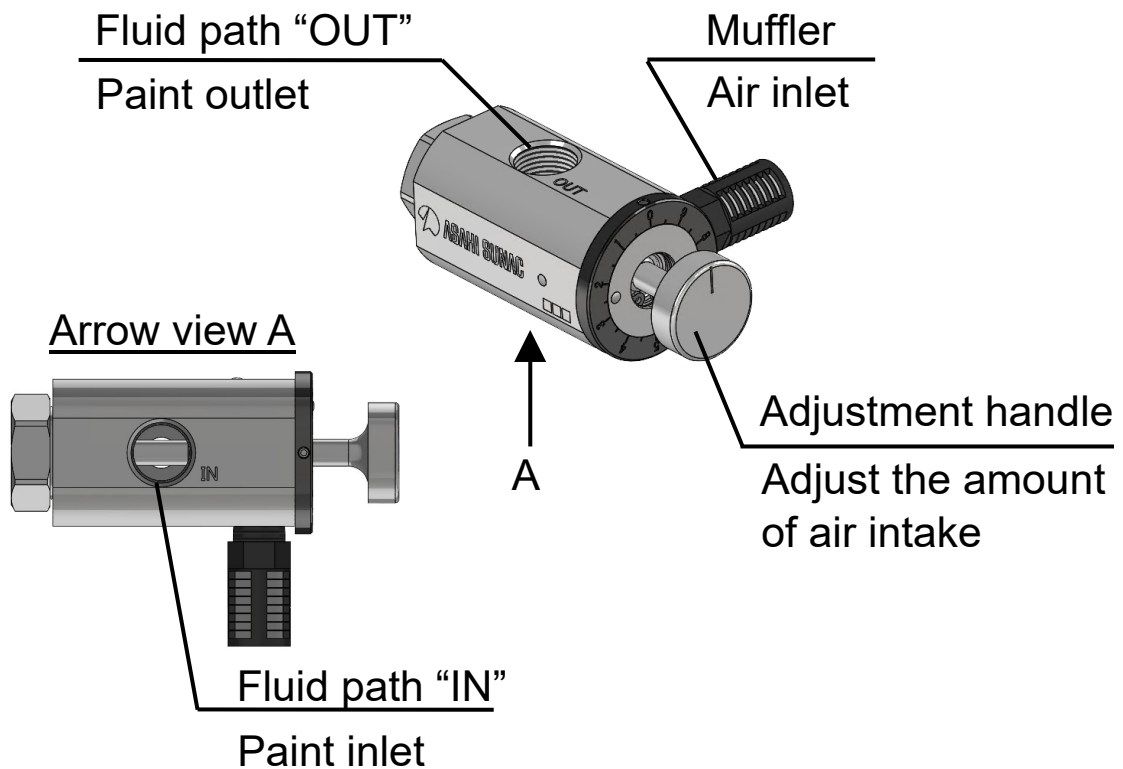
## Dimensions



# 5

## Names and Roles of Each Part

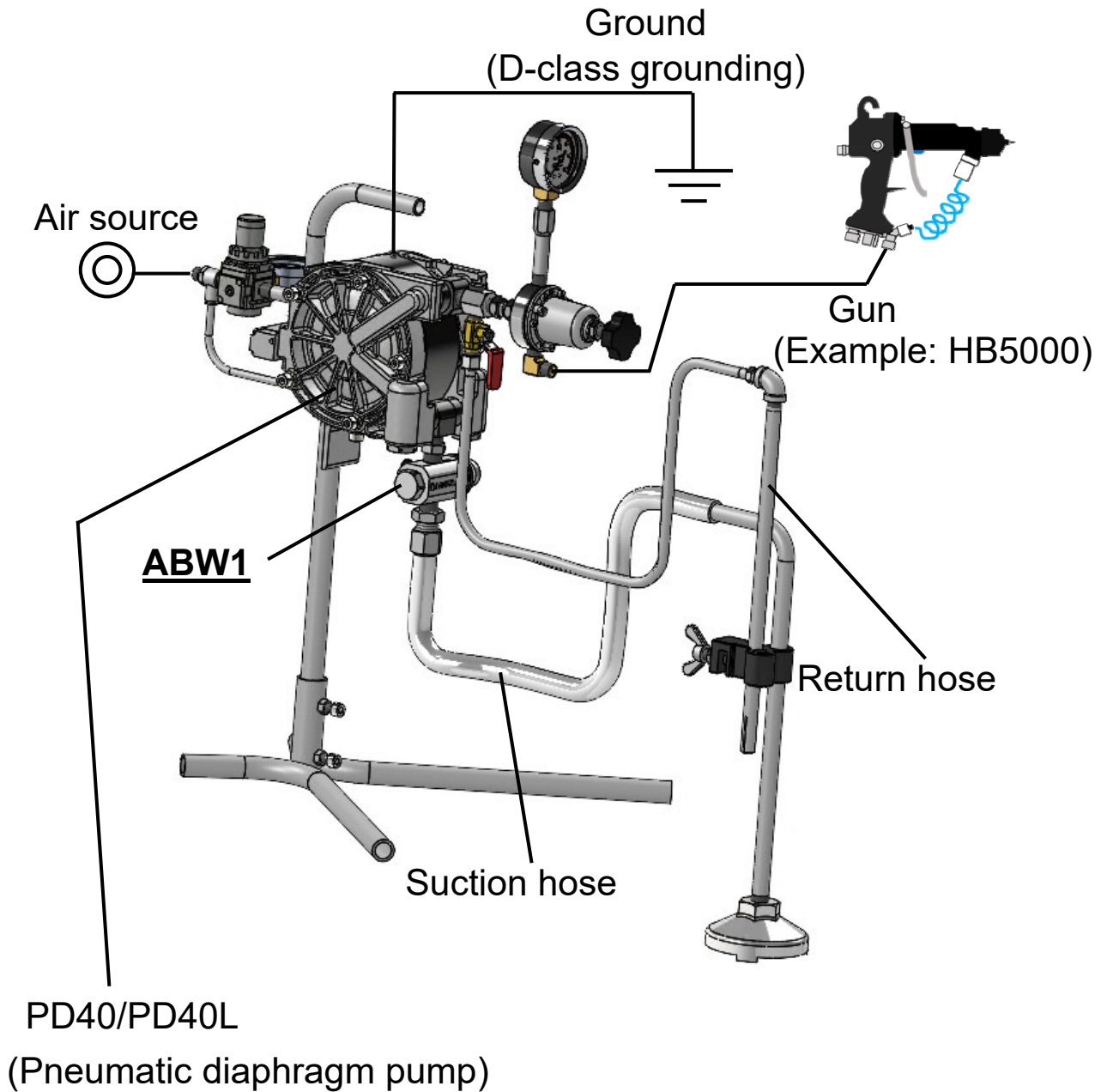
### ABW1



# 6

# 6

## Connection Example



\*The above connection is an example for reference.  
If you are considering connecting devices other than those listed above, please contact us.

- ABW1 installation method

## NOTE

**The connecting piping to the pump body is sold separately. Please connect the piping correctly according to the "Installation Method" described on pages 10 and 11.**

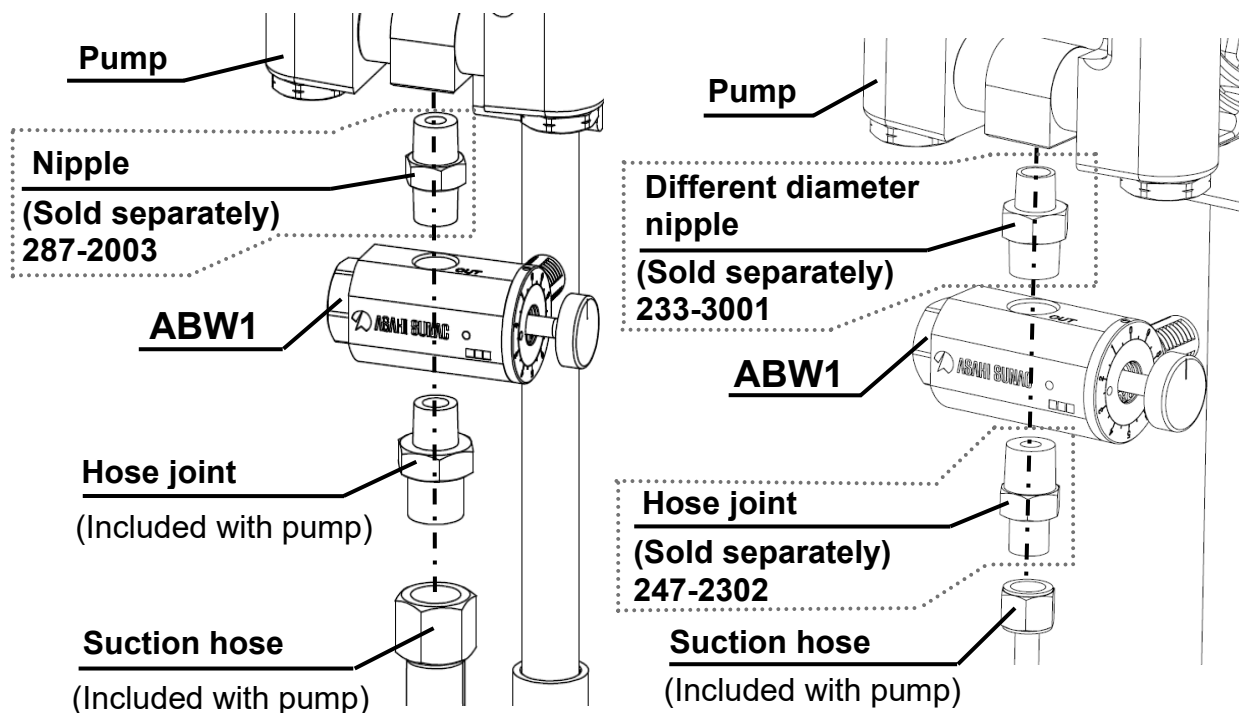
● **Installation method ①**

**【If the hose joint attached to the pump is removed】**

(Required parts)

PD40

PD40L



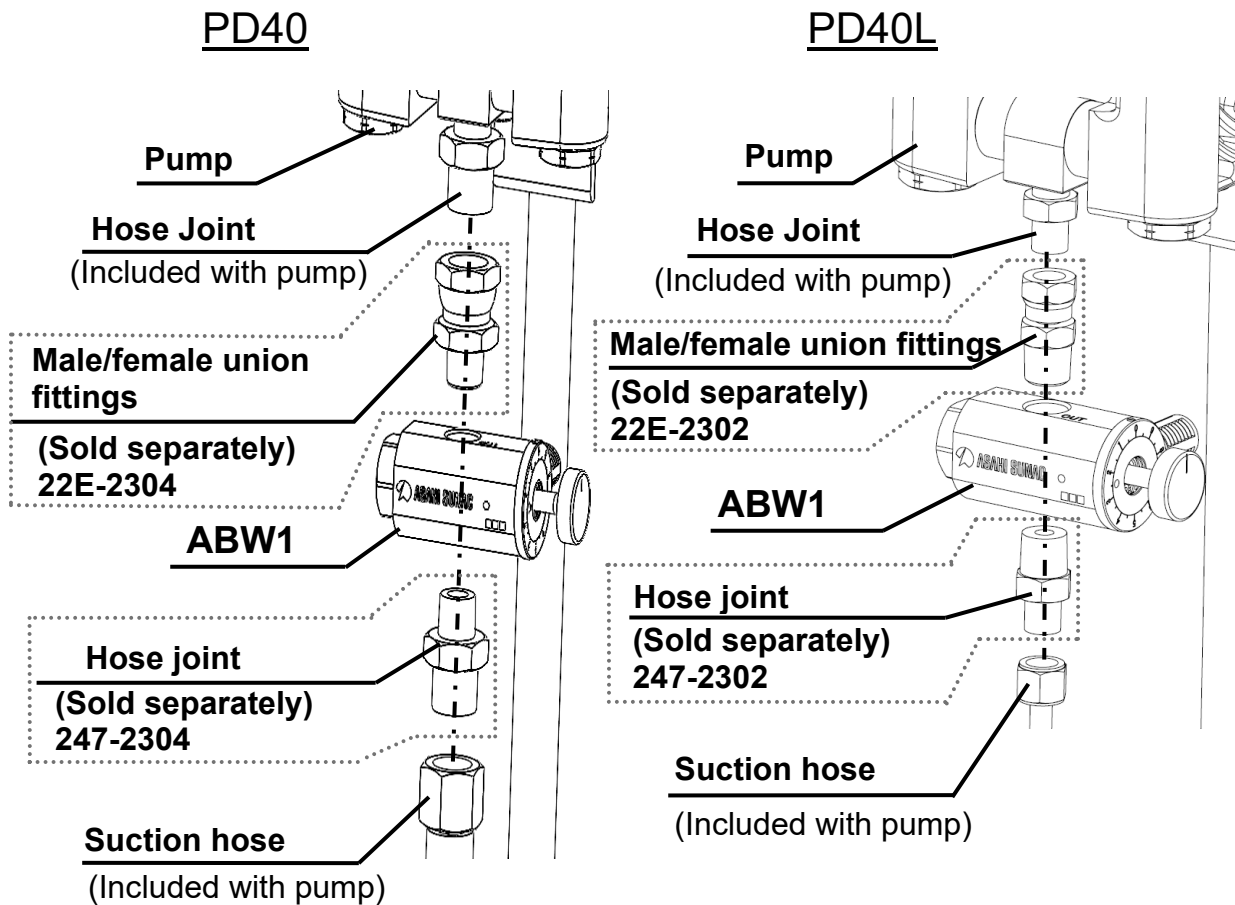
**(Before starting work, clean the fluid path and drain the cleaning fluid and release the residual pressure.)**

- ① Remove the suction hose and hose joint from the pneumatic diaphragm pump (hereinafter referred to as “the pump”).
- ② After re-wrapping the sealing tape around the tapered part of the removed hose joint, attach it to the “IN” side of the ABW1.
- ③ Wrap sealing tape around both ends of the nipple and attach it to the “OUT” side of the ABW1.
- ④ Connect the nipple attached to the “OUT” side of the ABW1 to the pump.
- ⑤ Connect the suction hose to the hose joint attached to the “IN” side of the ABW1.

● **Installation method ②**

**【If the hose joint attached to the pump is NOT removed】**

(Required parts)



**(Before starting work, clean the fluid path and drain the cleaning fluid and release the residual pressure.)**

- ① Remove the suction hose from the pump.
- ② Wrap sealing tape around the tapered part of the hose joint and attach it to the “IN” side of ABW1.
- ③ Wrap sealing tape around the tapered part of the male/female union fitting and attach it to the “OUT” side of the ABW1.
- ④ Connect the suction hose to the hose joint attached to the “IN” side of the ABW1.
- ⑤ Connect the pump to the male/female union fitting attached to the “OUT” side of the ABW1.

# 8

## Operation Method

- ① Drain the paint from the fluid path.
- ② Slowly turn the ABW1 adjustment handle counterclockwise to draw air into the fluid path. (This enables the bubbling cleaning function.)
- ③ Adjust the air intake amount.

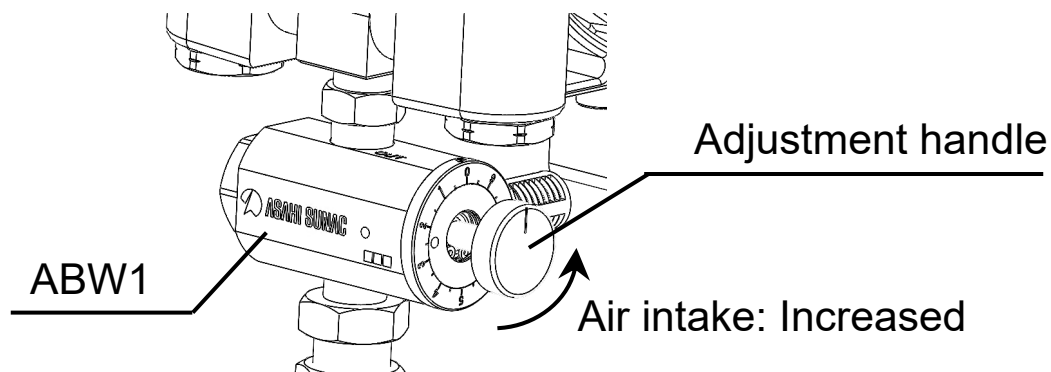
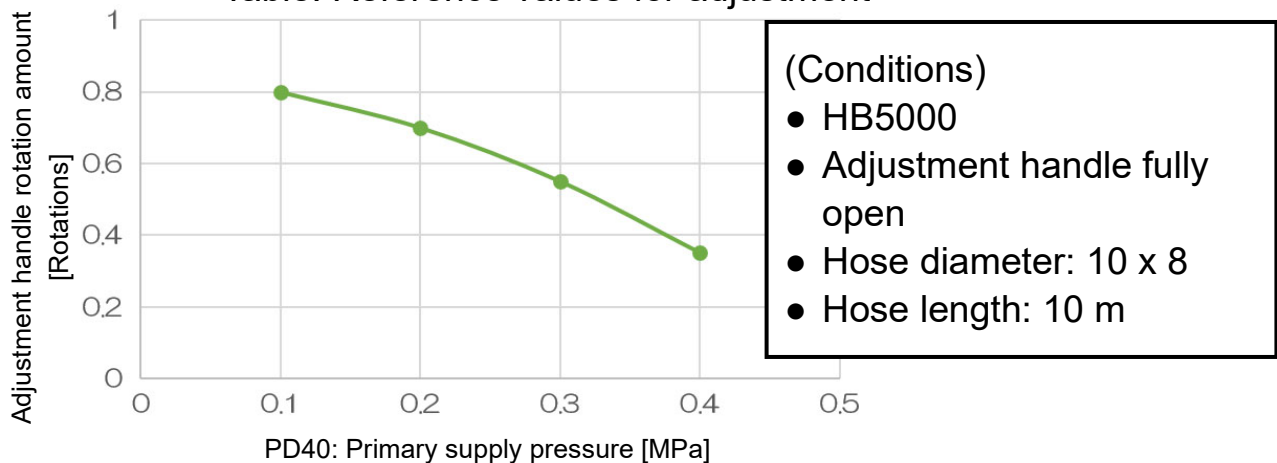
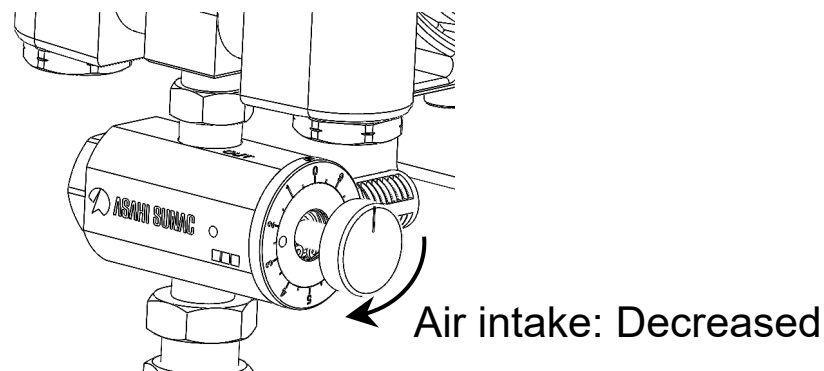


Table: Reference values for adjustment



Note: The valve opening amount may vary depending on the gun diameter, paint hose diameter and length.

- ④ Circulate the cleaning fluid containing air to clean the fluid path. Cleaning is complete when the thinner coming out of the tip of the spray gun becomes clear.
- ⑤ After cleaning, gradually turn the ABW1 adjustment handle clockwise to stop the bubbling function.



- ⑥ Drain the cleaning fluid from the fluid path.
- ⑦ Circulate the paint through the fluid path.

## NOTE

**When painting, turn OFF the bubbling function completely.**

**Otherwise, air bubbles may get trapped in the fluid path, causing paint defects.**

 **WARNING**

**Do not increase the pump supply pressure beyond its specifications.**

**Otherwise, paint and materials may spray out of the equipment and enter the body through the eyes or mouth, and there is a risk of serious injury such as inflammation or poisoning due to the harmful substances contained in the paint and materials.**

 **CAUTION**

**After painting, be sure to thoroughly clean the product and the fluid path.**

**Insufficient cleaning can cause malfunctions such as poor adhesion of the check valve.**

**NOTE**

**Do not use the product if the fluid path piping is loose.**

**Otherwise, paint/material may leak.**

**Check the piping connections, retighten the connections, and tighten the adjustment handle by hand.**

Failure phenomenon	Cause	Treatment
Bubbling cleaning is not possible	① Clogging of the air passage	● Disassembly and cleaning
	② Stuck check valve	● Disassembly and cleaning ● Replace the check valve
Bubbling cleaning cannot be stopped	① Check valve is damaged or has a poor seal	● Replace the check valve
	② Wear of the adjustment handle	● Replace the adjustment handle
	③ Damage to the check valve O-ring	● After disassembly and cleaning, replace the O-ring
Paint leaks from the adjustment needle	Damage to the O-ring on the adjustment handle	● Replace the O-ring

Please follow the steps below to replace or repair parts.



## WARNING

**When replacing or repairing parts, be sure to clean the inside of the passages, stop the air supply, and release any residual pressure.**

**Otherwise, the device may operate unexpectedly, resulting in personal injury.**

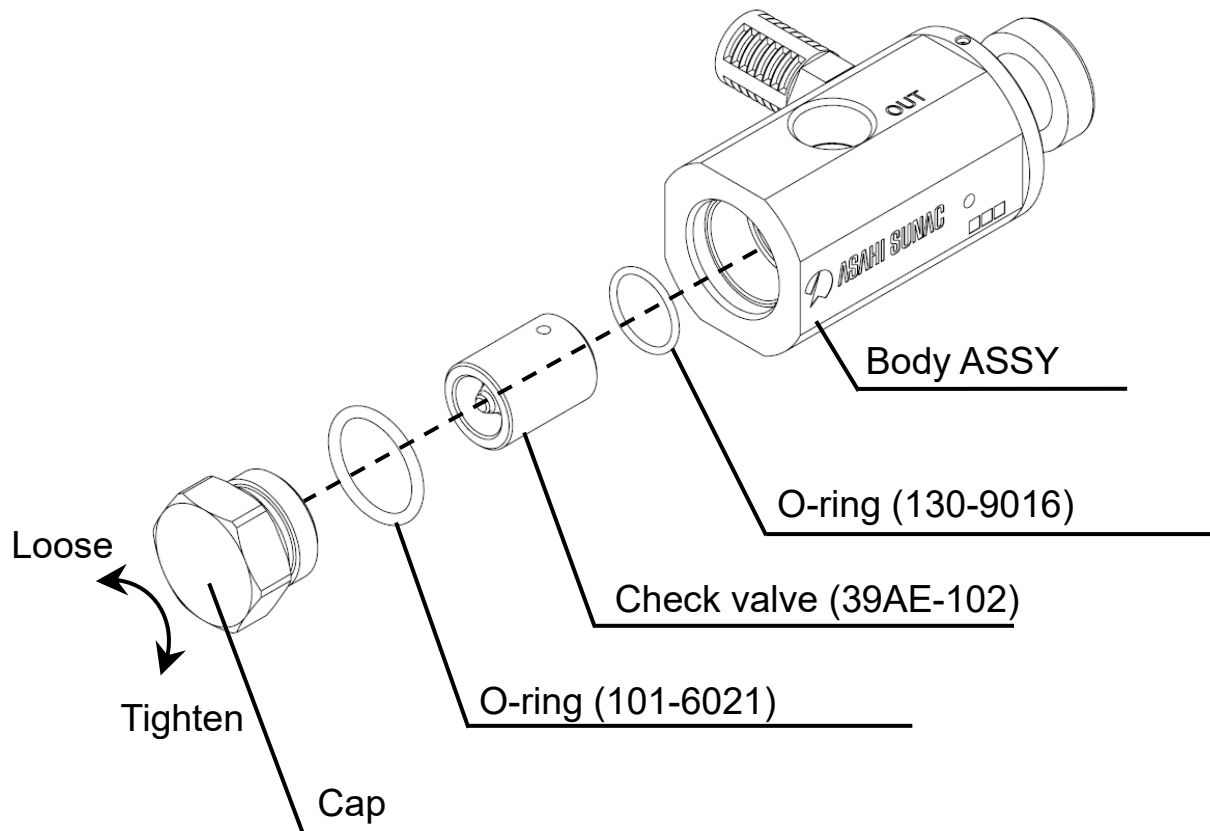


## CAUTION

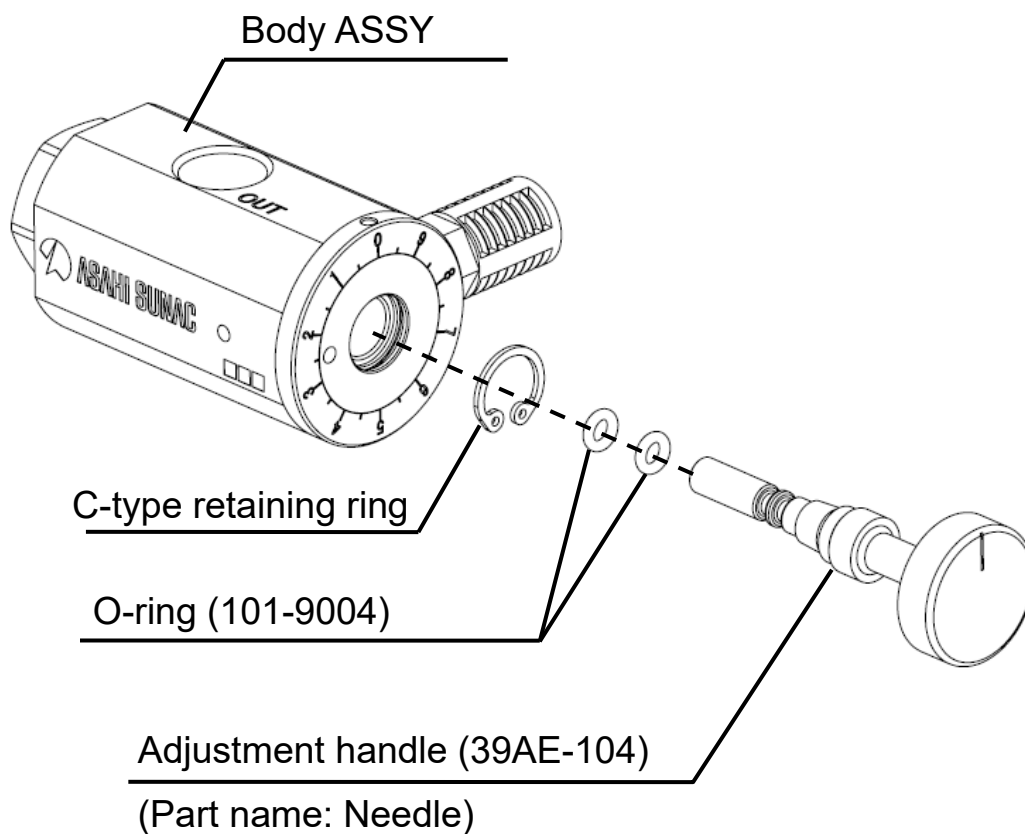
**When disassembling and cleaning the product, do not immerse the product body in solvents or cleaning solutions.**

**Liquid may get inside the device and cause it to malfunction.**

- Replace check valve and O-ring
  - ① Remove the cap from Body ASSY.
  - ② Remove the check valve and O-rings (2 types).
  - ③ Install a new check valve and O-rings (2 types).
  - ④ Install the cap to Body ASSY.



- Replace the adjustment handle and O-ring
  - ① Turn the adjustment handle counterclockwise to fully open.
  - ② Remove the C-shaped retaining ring for the hole using snap ring pliers (sold separately).
  - ③ Remove the adjustment handle and O-rings (2 pieces).
  - ④ Install the new adjustment handle and O-rings (2 pieces).
  - ⑤ After replacement, attach a C-type interasl retaining ring for the hole.



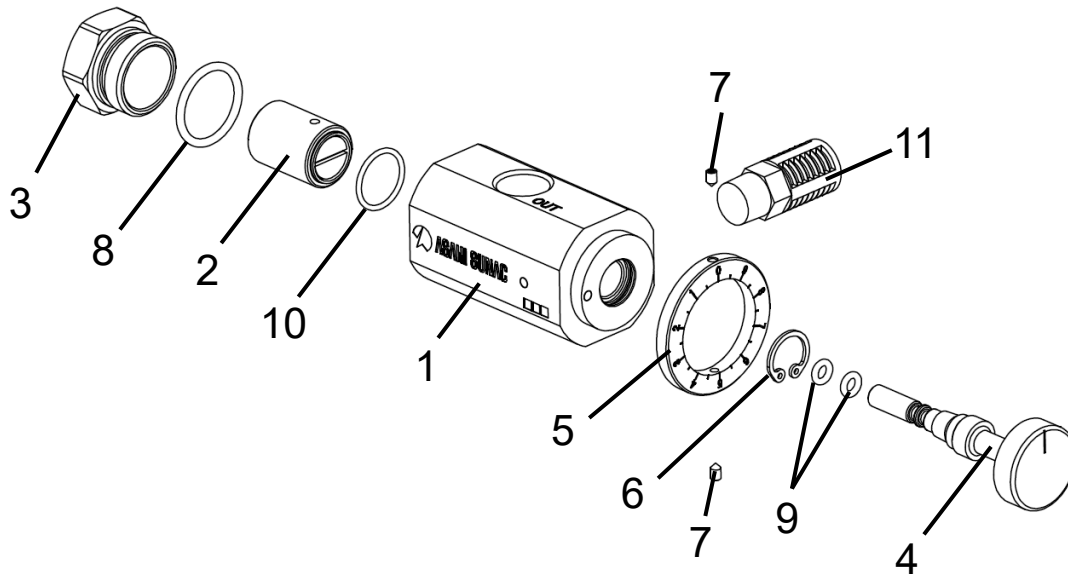
Snap ring pliers (316-0321) \*Sold separately



**ABW1**

**39AE-1**

\*Paint IN, OUT: Rc 3/8



## Bubbling Cleaning Equipment ABW1

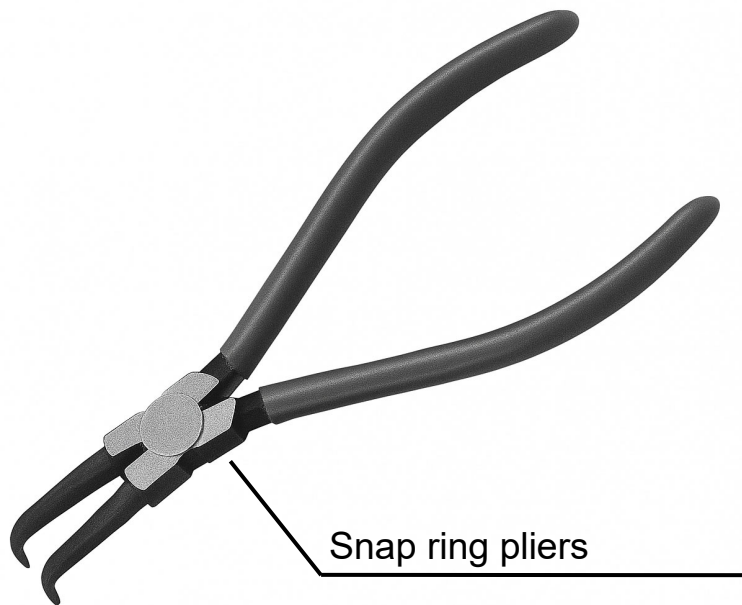
No.	Part number	Part name	Qty	Remarks
1	39AE-101	Body ASSY	1	
*2	39AE-102	Check valve	1	
3	39AE-103	Cap	1	
*4	39AE-104	Needle	1	Adjustment handle
5	39AE-105	Dial	1	
6	56-71500	C-type retaining ring for the hole	1	
7	85-50305	Hexagon socket set screw	2	
*8	101-6021	O-Ring	1	
*9	101-9004	O-Ring	2	
*10	130-9016	O-Ring	1	
*11	326-0013	Muffler	1	

Parts marked with an asterisk (\*) are recommended to be kept in stock as spare parts.

## Snap ring pliers

**316-0321**

\* Sold separately



Prepare spare parts according to the conditions of use, referring to the rank classification in the following consumables list.

### ABW1 (39AE-1)

Rank classification	Part No.	Part name	Publishing page
A	39AE-102	Check valve	17,19
B	39AE-104	Needle	18,19
	326-0013	Muffler	19
D	101-6021	O-Ring	17,19
	130-9016		17,19
	101-9004		18,19

Rank A: Daily consumables

Rank B: Medium-term consumables

Rank C: Parts which may be damaged/lost when used

Rank D: Parts required to be replaced when disassembled



ASAHI SUNAC CORPORATION (the “Company”) shall provide the original purchaser (the “Purchaser”) with warranty service for a period of 6 months from the date of purchase of the product, as follows:

- Should you find defects in design or workmanship with regard to parts, ship them back to the Company, with freight prepaid. The Company shall repair or replace the parts free of charge and reimburse the freight charges, provided that, as a result of an inspection and investigation of the parts conducted by the Company, the defects are deemed to be attributable to the factors within the Company’s responsibility.
- In the following cases, free after-sales service is not provided.
  1. Failure resulting from an inappropriate method of installing this equipment.
  2. Failure resulting from a use method not conforming to this instruction manual or mishandling.
  3. Failure resulting from insufficient maintenance management of this equipment and incorrect handling such as non-conformance to the procedures specified in this instruction manual.
  4. Failure resulting from unauthorized alteration or structure change of this equipment without the Company’s consent.
  5. Failure due to force majeure such as earthquake, disaster, flood disaster or lightning.
  6. Warranty for consumables worn or deteriorated even in the case where this equipment is used correctly.
  7. Repair after the machine has been used outside Japan, and shipping cost.
  8. In addition to the above, failure due to circumstances beyond our control.
- As for items such as parts purchased by the Company from another manufacturer, the warranty of that manufacturer shall apply.
- As for any parts deemed to be defective, the Company shall not be held liable for any expenses beyond the provision of repair or replacement parts free of charge.
- The Company shall not be held liable for any damage to the Purchaser caused by factors not attributable to the Company, such as misuse of product, etc.

**【MEMO】**



- 
- When you hand over this equipment, make sure to attach this manual to the equipment and give it to the next owner.
  - This equipment is manufactured in compliance with the Laws and Regulations of Japan.

In the case where this equipment is used outside Japan, you need to follow the safety standards of that county.

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4th Edition, April 6, 2026

## ASAHI SUNAC CORPORATION

HEAD OFFICE  
5050, SHINDENBORA, ASAHIMAE-CHO,  
OWARIASAHI, AICHI PREF. 488-0852, JAPAN  
PHONE +81-561-52-0717 FAX +81-561-54-884

URL : [www.sunac.co.jp](http://www.sunac.co.jp)  
E-mail : [ctrd01@sunac.co.jp](mailto:ctrd01@sunac.co.jp)

Sales office

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English



Chinese