



**BV-303/Suck-back type dispensing valve**

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# Contents


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<b>1. Safety</b>	<b>3</b>
1.1 For your safety	3
1.2 Valve overuse harzard	3
1.3 Others	3
<b>2. Specification</b>	<b>4</b>
<b>3. Principle</b>	<b>4</b>
<b>4. Installation &amp; Operation</b>	<b>5</b>
4.1 Connecting lines	5
4.2 Operation	5
<b>5. Maintenance &amp; Cleaning</b>	<b>6</b>
5.1 Storing after use	6
5.2 Check items while operating	6
5.3 Exploded view	6
5.4 Cleaning	7
5.5 List of spare parts	7
<b>6. Trouble shooting</b>	<b>7</b>
<b>7. Outside view</b>	<b>8</b>

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## 1. Safety

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-  Before installation and using our dispensing valve BV-303, please be carefully aware of this user manual

### 1.1 For your safety

- ✓ If the fluid splashes up to your eyes or skin, it can cause a serious injury.
- ✓ Handle with extreme care not to be in contact with liquid in case of nozzle exchange or cleaning.
- ✓ Make sure that pressure must be released before the nozzle is removed when you exchange a nozzle.

### 1.2 Valve Overuse Hazard

- ✓ If a valve is damaged due to over-pressure, unauthorized alteration of parts, and overuse, it may cause a danger by exploding or leaking (explosion or leakage may occur).
- ✓ Do not make any kind of unauthorized alterations. We are not responsible for any repairs, after-sales service caused by them.
- ✓ This valve operates delivery air pressure under  $7\text{kgf/cm}^2$ . Do not exceed this operation pressure.
- ✓ The fluid pressure must not exceed  $30\text{kgf/cm}^2$ . Or it can cause serious damages and disorder.

### 1.3 Others

- ✓ High pressure material can be leaked if a hose is damaged or worn.
- ✓ Check a hose for any worn-downs, damages, or swollen before use.
- ✓ Please change a hose immediately if any malfunction is found.
- ✓ Prevent leakage from loosened joints by tightening before use.

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## 2. Specification

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Method of Operation	Suck-back
Material of wetting part	A6061
Volume	8l/min
Type of Operation	A,B
Liquid Input	PT 1/8"
Applied Materials	Epoxy Silicone, Urethane, Engine oil Low & Middle Viscous Materails
Maximum fluid pressure	30 kg/cm <sup>2</sup>
Output variation	± 2.0 %

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## 3. Principle

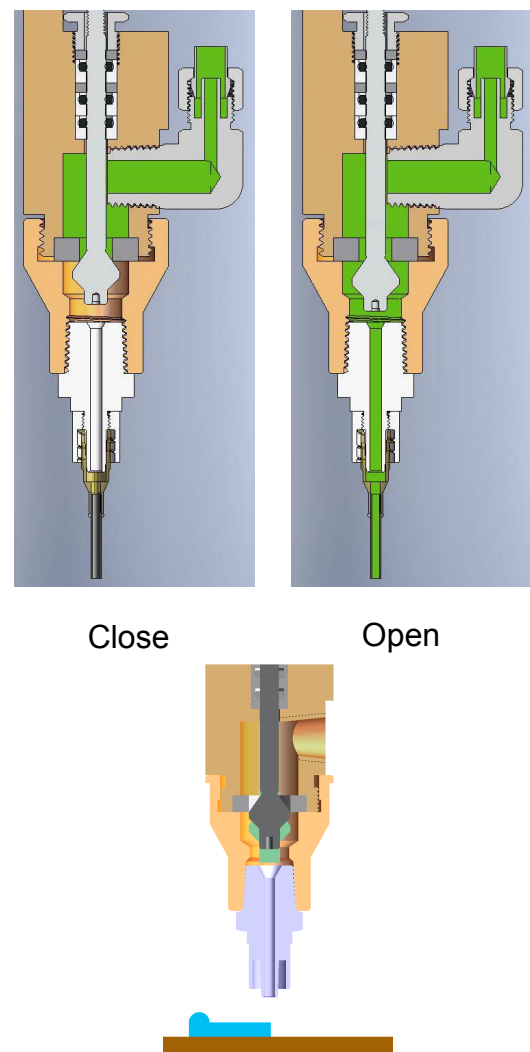
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The valve open air pressure forces the internal piston to move down, and the sealing head to open and permit fluid flow. When the valve close air pressure forces the internal piston to move up, and the sealing head closes, stopping the fluid flow and pulling back a slight amount of fluid.

The amount of fluid dispensed will depend on the time the valve is open, the viscosity of the fluid, the air pressure in the fluid reservoir and the dispensing tip size.

Flow rate is a function of reservoir pressure, tip size and fluid viscosity.

Suck-back type valves have a sneakhead at the starting point due to the different of the space which is get the piston head moves down. And the valve is suitable for large amount per shot.



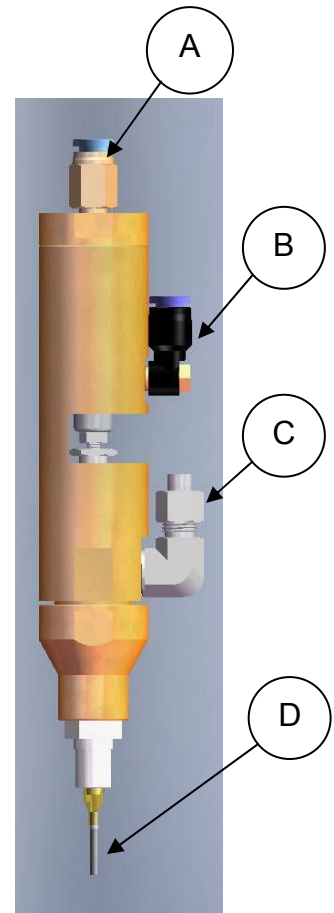
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## 4. Installation & Operation

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### 4.1 Connecting Lines

- 1) Connecting Air-pressure lines
  - Straightly insert the tube into the air fitting until it gets installed inside
  - Valve open line(A) is connected to the “open” port on the TAD-200V(controller).
  - Valve close line(B) is connected to the “air out” port on the TAD-200V(controller).
  - Pull the tube gently in order to make sure that it is safe.
- 2) Connecting Fluid Line
  - The inlet of Fluid line(C) fits in PT 1/8” line.
- 3) Caution
  - When you cut the tube, make the severed side a right angled out and the use of a tube-cutter is recommended.
  - Install the fluid line in oblique with the air line in order to minimize the intervention.



### 4.2 Operation

- 1) Preparing to use
  - Open the fluid line and valve open air line(A) of the valve.
  - Keep dispensing until the consistent drippings in order to eliminate the air in the valve.
  - And then stop dispensing.
- 2) Control of the dispensing volume
  - Adjust the pressure of fluid inlet.
  - Change the nozzle tip(D) to be compatible to preventing from air bubbles.

## 5. Maintenance & Cleaning

### 5.1 Storing after use

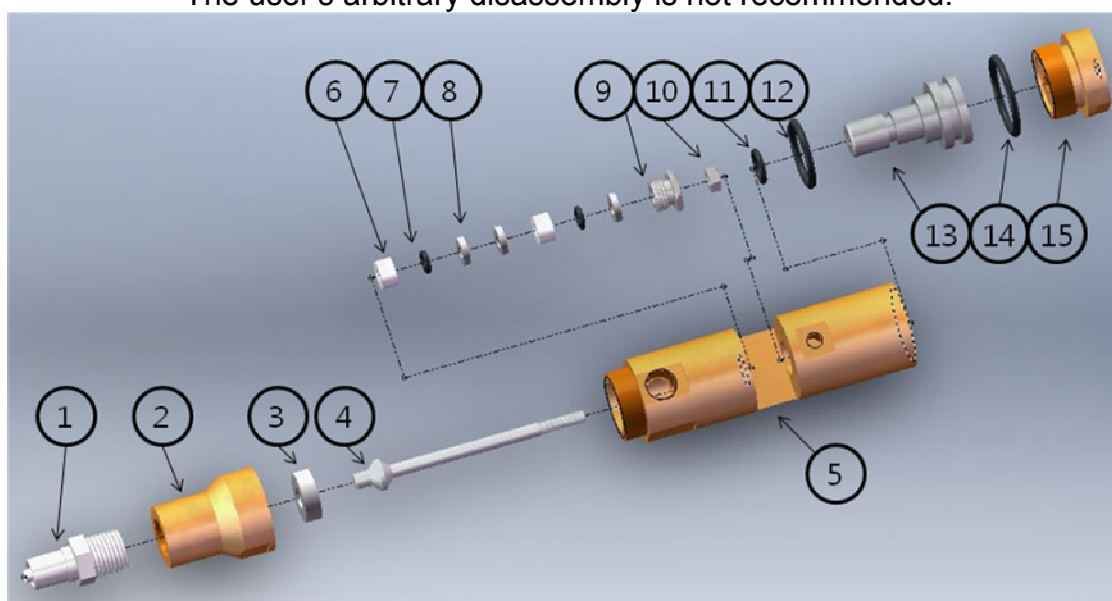
- To avoid the nozzle tip contact air, put an end-cap on the nozzle or keep a nozzle in the grease.
- Perform the cleaning process(see Chapter 5.4).

### 5.2 Check items while operating

- Make sure that air supply is in good condition.
- Check other connecting appliances that are properly turned off.
- Be sure that end of nozzle is not clogged with hardened fluid.

### 5.3 Exploded view

- The user's arbitrary disassembly is not recommended.



1	Fluid outlet tip adapter	BS	9	Joint nut	BS
2	Holder cap	A6061	10	Stop nut	BS
3	Outlet seal	Teflon	11	O-ring	P8
4	Stop pin	SUS303	12	O-ring	P18
5	Body casing	A6061	13	Piston	SUS303
6	O-ring housing	Teflon	14	O-ring	P22
7	O-ring	P4	15	End cap	A6061
8	Plate seal	Teflon			

## 5.4 Cleaning

- Stop providing liquid and release pressure in the fluid chamber.
- Connect the cleaning line to fluid inlet port and add pressure.
- According to chapter 4.2, dispense cleaning liquid instead of fluid.

## 5.5 List of spare parts

No.	Name	No.	Name
3	Outlet seal	8	Plate seal
4	Stop pin	11	O-ring P8
6	O-ring housing	12	O-ring P18
7	O-ring P4	14	O-ring P22

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## 6. Trouble shooting

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Item	Cause	Treatment
No dispensing	Stop pin(4) does not work.	Supply the air into valve on/off line.
	The fluid is cured.	Clean the valve.(see chapter 5.4)
	The fluid does not supply.	Pressure the fluid reservoir.
		Supply the fluid.
	The controller is turned off.	Turn on the controller.
Fluid leakage from nozzle(1)	The needle adaptor(1) is unfasten.	Clean the valve.(see chapter 5.4) And then replace outlet seal(3), fasten the adapter(1).
	The lifetime of outlet seal(3) is end.	
Fluid leakage from Joint nut(9)	The joint nut(9) is unfasten.	Clean the valve.(see chapter 5.4) And then replace o-ring housing(6), o-ring(7) and plate seal(8), fasten the joint nut(9).
	The lifetime of o-ring housing(6), o-ring(7) and plate seal(8) is end.	
	The stop pin(4) is worn out.	Replace the stop pin(4).

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## 7. Outside view

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