




BV-302/Needle-off type dispensing valve

Contents

1. Safety	3
1.1 For your safety	3
1.2 Valve overuse harzard	3
1.3 Others	3
2. Specification	4
3. Principle	4
4. Installation & Operation	5
4.1 Connecting lines	5
4.2 Operation	5
5. Maintenance & Cleaning	6
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
6. Trouble shooting	7
7. Outside view	8

1. Safety

-  Before installation and using our dispensing valve BV-305, 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 7kgf/cm^2 . Do not exceed this operation pressure.
- ✓ The fluid pressure must not exceed 30kgf/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.

2. Specification

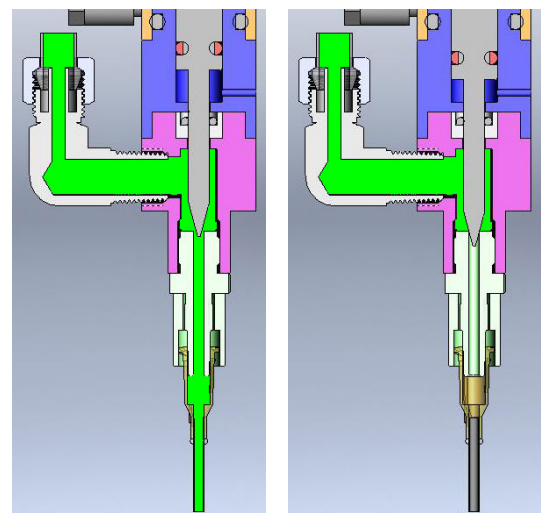
Method of Operation	Needle-off
Material of wetting part	SUS 316, SUS304
Volume	8l/min
Type of Operation	A,B
Liquid Input	PT 1/8"
Applied Materials	Grease Silicone, Oil Bond
Maximum fluid pressure	40 kg/cm ²

3. Principle

The valve open air pressure forces the internal piston to move up, and the needle to open and permit fluid flow. When the valve close air pressure forces the internal piston to move down, and the needle closes, stopping the fluid flow and being pushed 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.

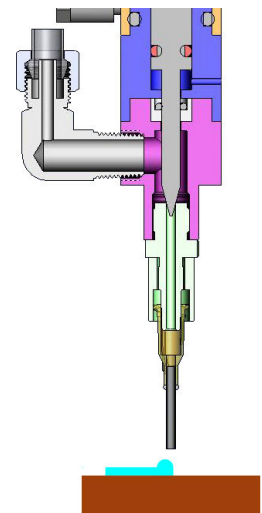
Flow rate is a function of reservoir pressure, tip size and fluid viscosity.



Open

Close

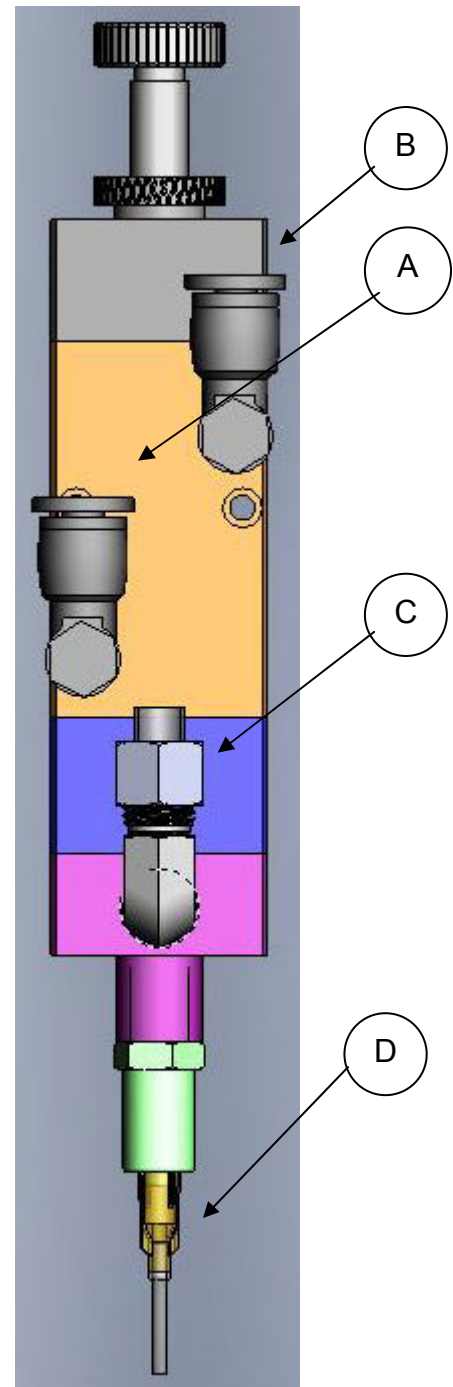
Needle-off type valves have a sneakhead at the end point due to the different of the space which is get the needle moves down. And the valve is suitable for small amount per shot.



4. Installation & Operation

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 eliminates 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

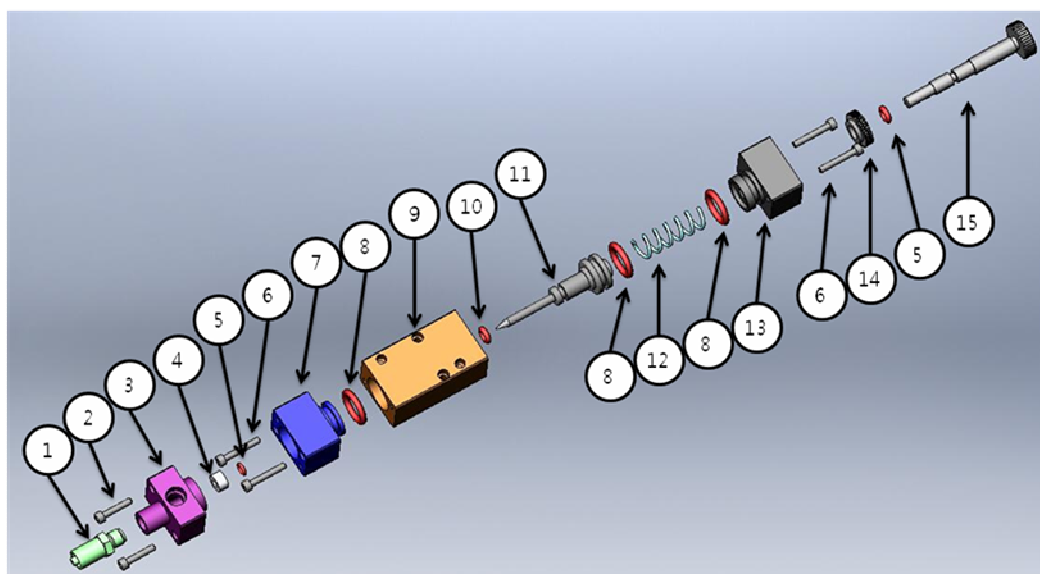
- To avoid the nozzle tip contact air, put an end-cap on the nozzle or keep a nozzle in the grease.
- Perform the cleaning process(see Chapter 5.4).

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	Needle adapter	BS	9	Cylinder housing	A6061
2	Wrench bolt	M3x15L	10	O-ring	P6
3	Under cap	SUS303	11	Cylinder rod	SUS303
4	Seal cap	Teflon	12	Spring	SUS303
5	O-ring	P4	13	Upper cap	A6061
6	Wrench bolt	M3x20L	14	Nut	SUS303
7	Middle cap	A6061	15	Adjustment bolt	SUS303
8	O-ring	P14			

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
4	Seal cap	10	O-ring P6
5	O-ring P4	11	Cylinder rod
8	O-ring P14		

6. Trouble shooting

Item	Cause	Treatment
No dispensing	Cylinder rod(11) 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 needle adapter(1)	The needle adapter(1) is unfasten.	Clean the valve.(see chapter 5.4) And fasten the adapter(1).
	The Cylinder rod(11) is worn out.	Clean the valve.(see chapter 5.4) And replace the rod.
Fluid leakage between under cap(3) and middle cap(7)	The lifetime of seal cap(4) and o-ring(5) is end.	Clean the valve.(see chapter 5.4) And then replace seal cap(4) and o-ring(5).

