
DV-100



User manual



Contents

1	General information	3
1.1	General information	3
1.2	Warranty	3
1.3	Technical support	3
2	Features	4
2.1	Introduction	4
2.2	Specification.....	5
3	Operation	6
3.1	Operation principles	6
3.2	Set-up	7
3.2.1	Set-up.....	7
3.2.2	Shot amount control method.....	8
3.3	Maintenance	9
3.3.1	Washing	9
3.3.2	Disassembly.....	9
3.3.3	Assembly(diaphragm)	10
4	Partlist.....	11

1 General information

1.1 General information

This user manual provides the user and the equipment maintenance specialist with essential information for operating the equipment. Therefore, it is strongly recommended that you should thoroughly understand this user manual.

In order to have easy access to this user manual, it must be placed where it can be easily seen, near the equipment.

1.2 Warranty

Except for a separate agreement and the following cases, the warranty period will be one year in the event of defects.

- Following -

1. In case you modify the equipment without permission by Taeha Corp.
2. If someone other than the technical support personnel of Taeha Corp. modifies the equipment or repairs the quipment without using the designated parts.
3. If any spare parts other than those specified by Taeha Corp. have been used for the product.
4. If the defect is due to an intentional damage.
5. If the defect is due to natural disasters or fire.

1.3 Technical support

If necessary, Taeha Corp. will provide technical support service for the customer. Please contact us by phone or tax.

Head Office

Phone : +82(0)31 552 5300

Fax : +82(0)31 552 5400

2 Features

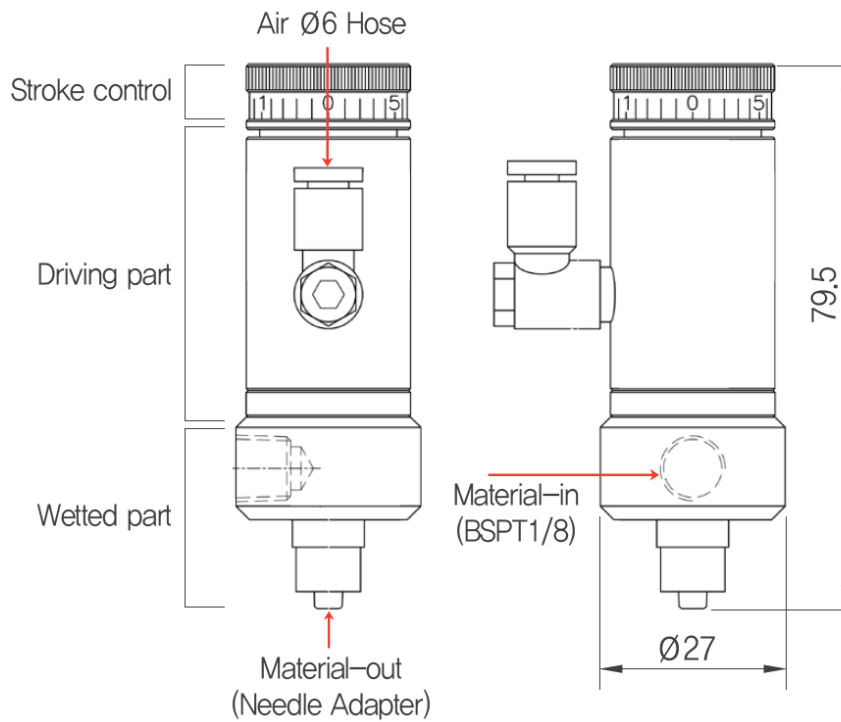
2.1 Introduction

The DV-100 valve is a Diaphragm type valve suitable for a small amount of low-viscosity liquid. Manufactured with wetted parts of polymer materials, it has excellent chemical resistance and can be used for various materials such as reagents, solvents, instant adhesives, anaerobic adhesives, flux, inks, and electrolytes.

The discharge amount can be controlled from a fine amount to a desired amount depending on the pressure of the material, the valve opening time, and the size of the valve opening stroke

Please read this manual carefully and proceed with the work that you want to maximize the performance of the product.




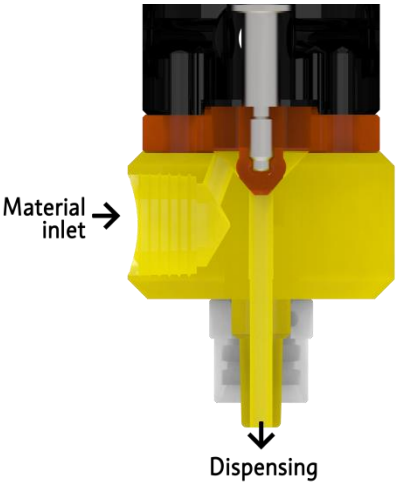
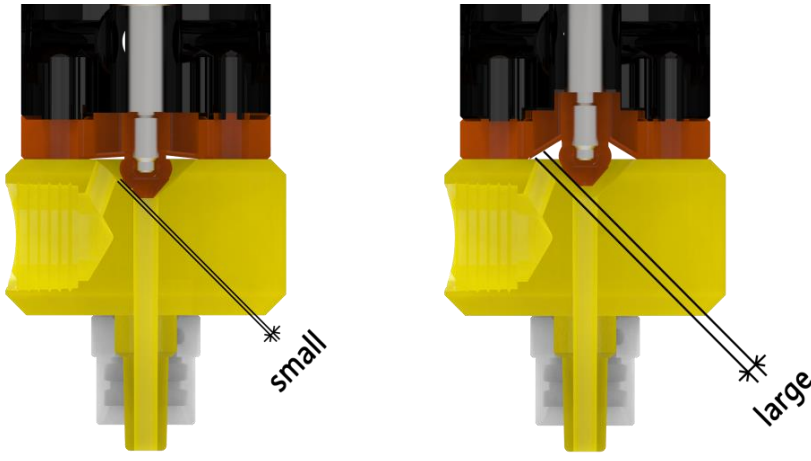
2.2 Specification



Item		Description
Dimension [mm]		Ø27.0 x L79.5
Weight		80g
Driving air pressure		More than 0.4MPa
Material feeding pressure		Max. 0.5MPa
Port size	Air in	Ø6 hose
	Material in	BSPT 1/8"
	Material out	Luer lock(male)
Flow rate(KV)		0.3L/min
Driving part material		AL
Wet part material		UHMW-PE

3 Operation

3.1 Operation principles

Dispensing off	Dispensing on								
		<table border="1" data-bbox="858 443 1177 600"> <tr> <td>short</td> <td>Stroke</td> <td>Long</td> </tr> <tr> <td>little</td> <td>Flow rate</td> <td>much</td> </tr> </table>	short	Stroke	Long	little	Flow rate	much	
short	Stroke	Long							
little	Flow rate	much							
									
<p>When in the “Normal” state, the diaphragm is closed and no dispensing is performed.</p>	<p>When air is input, the diaphragm opens and dispense the material.</p>								
<p>The diaphragm is in close contact with the needle and valve seat, and the flow is off and does not dispensed.</p>	<p>When air is input to the drive unit, the space between the needle and valve seat drops and the supplied material is dispensed. You can adjust the flow rate by changing the flow with the stroke adjustment..</p> <p>⚠ Caution</p> <p>The maximum Stroke adjustment range is 0.6 mm. (One rotation of the flow rate adjustment knob)</p> <p>There is no difference in the shnot amount even if it is rotated more than once.</p> <p>However, if it is turned more than that, the spring tensile force of the drive part will be weakened and the adhesion of the seat will be reduced, and the euro will be released by the material supply pressure and the material will flow out.</p>								

3.2 Set-up

3.2.1 Set-up

- 1) Fasten firmly using mount hole.
- 2) Use air hose to connect air in port and controller. The valve drive pressure is at least 0.4MPa.
- 3) Align the liquid fitting(BSPT 1/8") with screws and connect.(No material leakage)
 - ⚠ **Caution**
At this time, be careful not to insert the fitting too deeply. The flow may be clogged and may not be dispensed.
- 4) Connect a needle of appropriate size.
- 5) Put the material and pressurize.
- 6) The scale of the flow rate adjustment knob at the time of shipment is set to 3(1/2(half of the full stroke)). Increase or decrease as necessary.
 - ⚠ **Caution**
If it is turned more than 2 turns(counterclockwise), the tensile force of the spring will lose and the valve will always open to dispense the material.
- 7) After reducing the pressure applied to the material in steady mode(continuous dispensing) with the controller, the material is dispensed so that it gradually comes out.
- 8) Set the controller mode according to the dispensing shape.(Time / Steady)

3.2.2 Shot amount control method

1) Shot time (1st method)

- Shot time ↑ : Shot amount ↑
- Shot time ↓ : Shot amount ↓

2) Pressure control

- Pressure intensification : Shot amount ↑
- Decompression : Shot amount ↓

3) Needle thickness

- Thick needle : Shot amount ↑ , ball up effect ↓
- Thin needle : Shot amount ↓ , ball up effect ↑

4) Flow rate adjustment knob

- Stroke ↑ : Shot amount ↑
- Stroke ↓ : Shot amount ↓

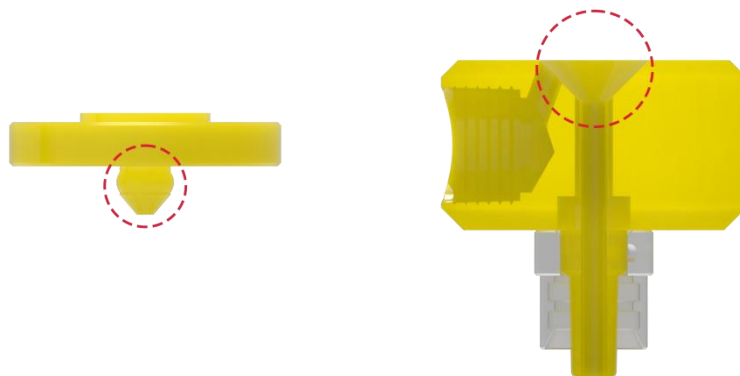
3.3 Maintenance

3.3.1 Washing

- 1) After using the valve, if it is a liquid that cures naturally or a liquid that may damage the material of the valve contact part, clean it thoroughly.
- 2) Dispense until a sufficient amount of air comes out instead of the liquid inside the material container, material supply hose and valve wetted part.
- 3) Add an appropriate amount of the appropriate solvent to wash away the liquid inside the valve.
- 4) Clean in order of 'air -> solvent -> air -> solvent' until it is sufficiently clean.

3.3.2 Disassembly

- 1) Refer to the part list when disassembling for cleaning or parts replacement.
- 2) Be careful not to damage the needle or seat with sharp pins when cleaning the valve.
Leaks can occur.



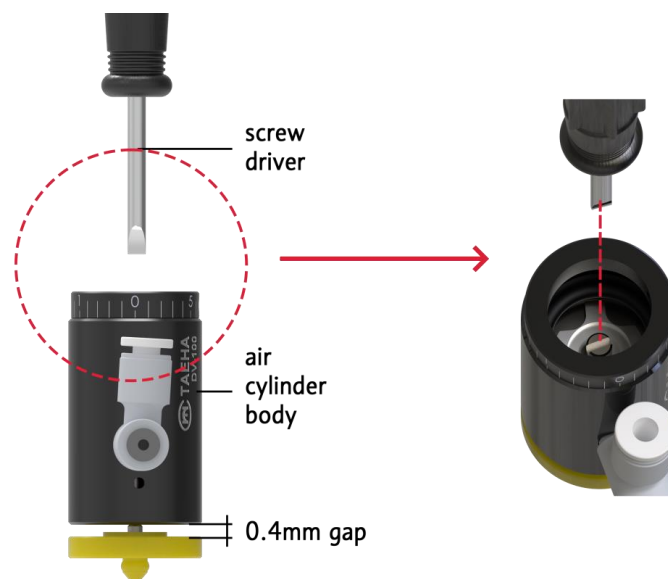
3.3.3 Assembly(diaphragm)

- 1) Loosen the stroke adjustment knob by turning it counterclockwise twice.
- 2) Separate the chamber.
- 3) Turn the diaphragm counterclockwise to remove it.
- 4) Align the new diaphragm horizontally with the thread on the piston rod and screw it in slowly and carefully.

⚠ Caution

Leaks can occur if inserted out of alignment with the threads.

- 5) After adjusting the diaphragm spacing to about 0.4 mm as shown in the figure below, use a screwdriver to rotate it to the desired position in order to align the cylinder body with the mounting screws

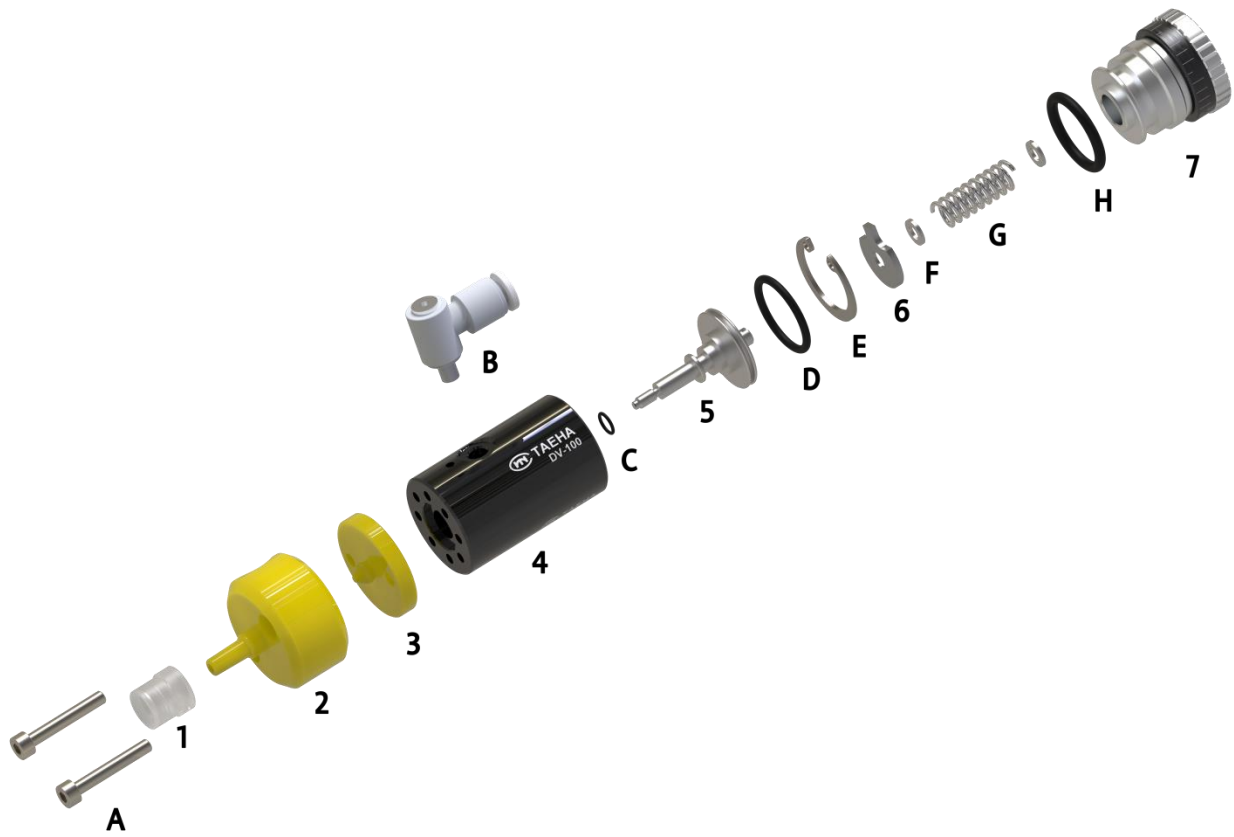


- 6) After aligning the diaphragm hole and chamber hole directions for chamber assembly, fasten the hexagon socket head cap screw properly and firmly.
- 7) Turn the Stroke adjustment knob until it closes, then reopen and use only the strokes you need.

⚠ Caution

The scale may not point to the reference mark "0". At this time, refer to the scale of the other party and use it.

4 Partlist



Part No.	Name	Q'ty	Material	Part No.	Name	Q'ty	Material
DV-100-1	Collar	1	PP	DV-100-A	Bolt(M3x20)	2	SUS304
DV-100-2	Chamber	1	UHMW-PE	DV-100-B	Air fitting(M5xØ4)	1	
DV-100-3	Diaphragm	1	UHMW-PE	DV-100-C	O-Ring(P4)	1	NBR
DV-100-4	Cylinder body	1	AL2021	DV-100-D	O-Ring(AS016)	1	FKM
DV-100-5	Piston	1	SUS303	DV-100-E	Snap ring(M19)	1	SUS304
DV-100-6	Stopper	1	AL2021	DV-100-F	Washer(M3)	2	SUS304
DV-100-7	Adjust knob	1	AL2021	DV-100-G	Spring	1	SUS304
				DV-100-H	O-Ring(P15)	1	Silicone