



ADoST Pinch Valve/Pinch Valve Stand Manual

ABSTRACT

This document provides step-by-step instructions for the handling and maintenance of the ADoST Pinch Valve and its accessory. It includes all aspects of the equipment that operators are expected to understand and observe.

ADoST- Pinch Valve

ADoST- Pinch Valve Stand

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USER MANUAL

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1 DEFINITIONS

1.	User	The person using the system
2.	Adhesive	Dispensing Adhesive
3.	valve	ADoST Pinch Valve
4	Tube	Pinch Tube
5	Al	Aluminium

1 INTRODUCTION

The ADoST Pinch Valve is a normally closed valve designed to minimize wetted parts during adhesive dispensing, ensuring precision control of fluid flow without the risk of contamination. This design feature contributes to the valve's long service life.

A key advantage of the ADoST Pinch Valve is its ability to maintain a steady fluid flow when open, without any pressure loss, and to close completely when the air supply is shut off. The valve is also designed to accommodate variable diameter tubes, making it versatile for different adhesive chemistries. Additionally, fluid flow can be precisely controlled by adjusting the stroke adjustment bolt.

2 GENERAL

This handbook is organized into sections to help users understand every aspect of the system life cycle and to easily locate the information necessary for the end user.

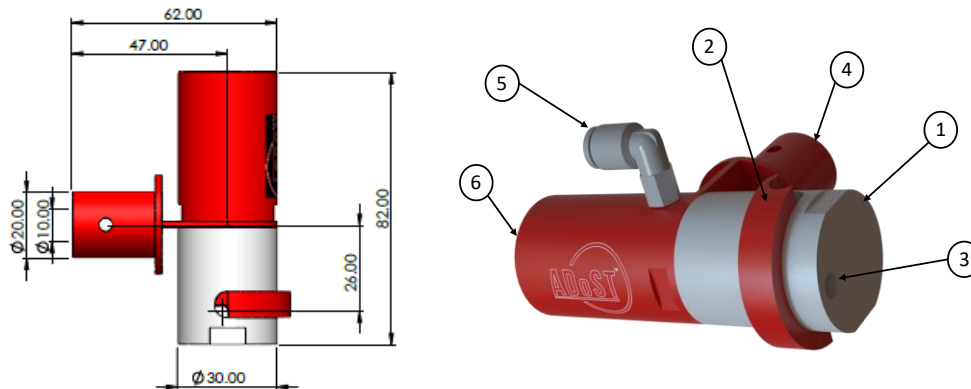
Specifically developed for the ADoST Pinch Valve model, this document provides essential information to help users achieve optimal system performance while ensuring a long life cycle for its components.

Please note that due to ongoing developments, safety requirements, and regulatory changes, the system outfitting may differ from what is described in this document. In such cases, the descriptions and procedures should be considered as generic guidelines. The referenced drawings and images are intended for illustrative purposes only.

3 SYSTEM'S SPECIFICATIONS

Model Number	ADoST-PV-3	ADoST-PV-6
Size (Imperial)	1.181" dia. x 3.228" Length	
Size (Metric)	30mm dia. x 82mm Length	
Weight	150 gm	
Operating Air Pressure	3 to 6 bars	
Compatible Tube OD	3mm	6mm
Material	Aluminium	
Maximum Operating Frequency	100 cycles /min	

3.1 SYSTEM COMPONENTS

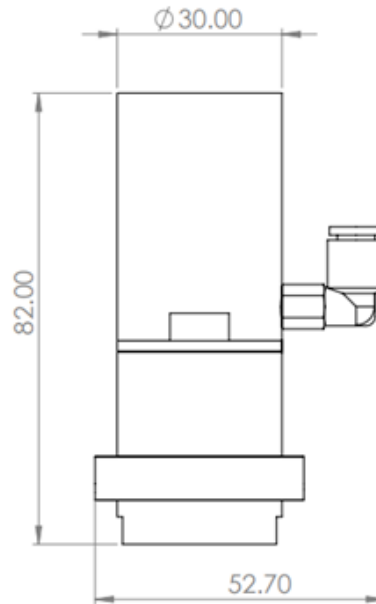


- 1. Body:** The ADoST Pinch Valve is built with an aluminium assembly body, offering both lightweight construction and corrosion resistance. The body is anodized to further enhance the system's durability, ensuring long-lasting performance in demanding environments.
- 2. Plug:** The plug provides outer support for the tube, keeping the pinch tube stationary during operation and ensuring the output nozzle remains in an accurate dispensing position.
- 3. Plug Holder Bolt:** This bolt restricts the plug's motion, ensuring that the tube is securely pinched.
- 4. Space for Pinch Valve Holder:** This component of the Pinch Valve is designed to connect with the Pinch Valve stand, ensuring the valve is securely positioned.
- 5. Air Supply input Port:** A 6mm OD pneumatic air supply must be connected to this port. When air is supplied, the valve opens; otherwise, it remains in the closed position.
- 6. Stroke Adjustment Bolt:** This bolt can be adjusted to control the amount of fluid dispensed when the valve is in the open position.

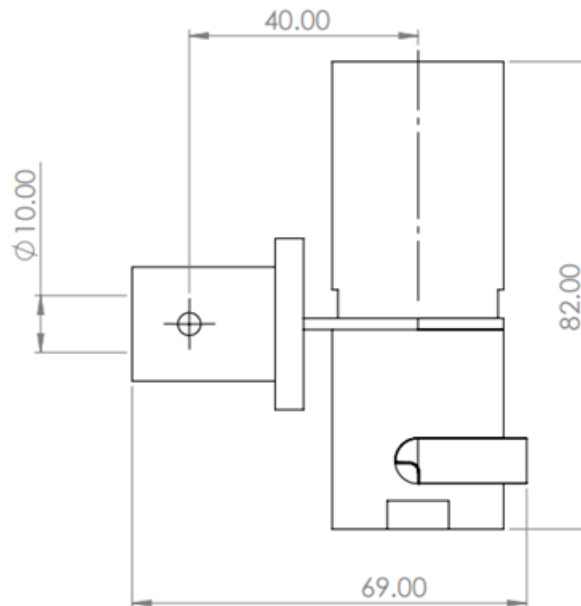
3.2 DETAILED DIMENSIONS

All dimensions are in mm

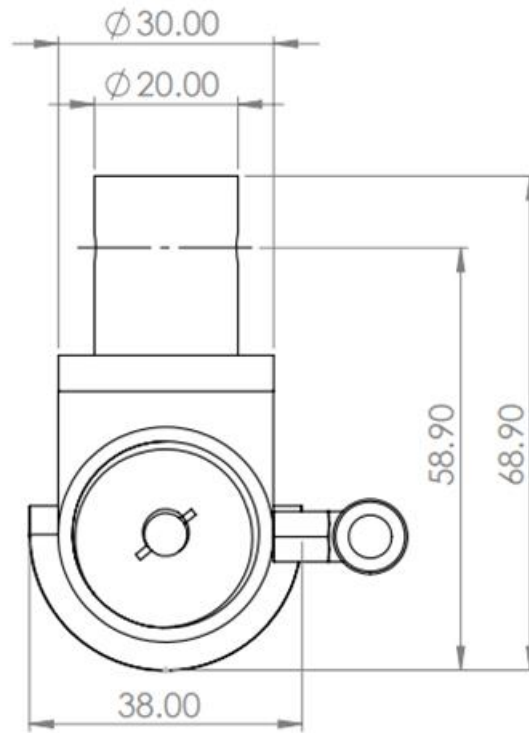
3.2.1 Front View







3.2.2 Left side view



3.2.3 Top view



4 SAFETY PRECAUTIONS

1.	Wear safety gloves	
2.	Wear safety glasses	
3.	Wear face mask	
4.	Wear safety shoes	

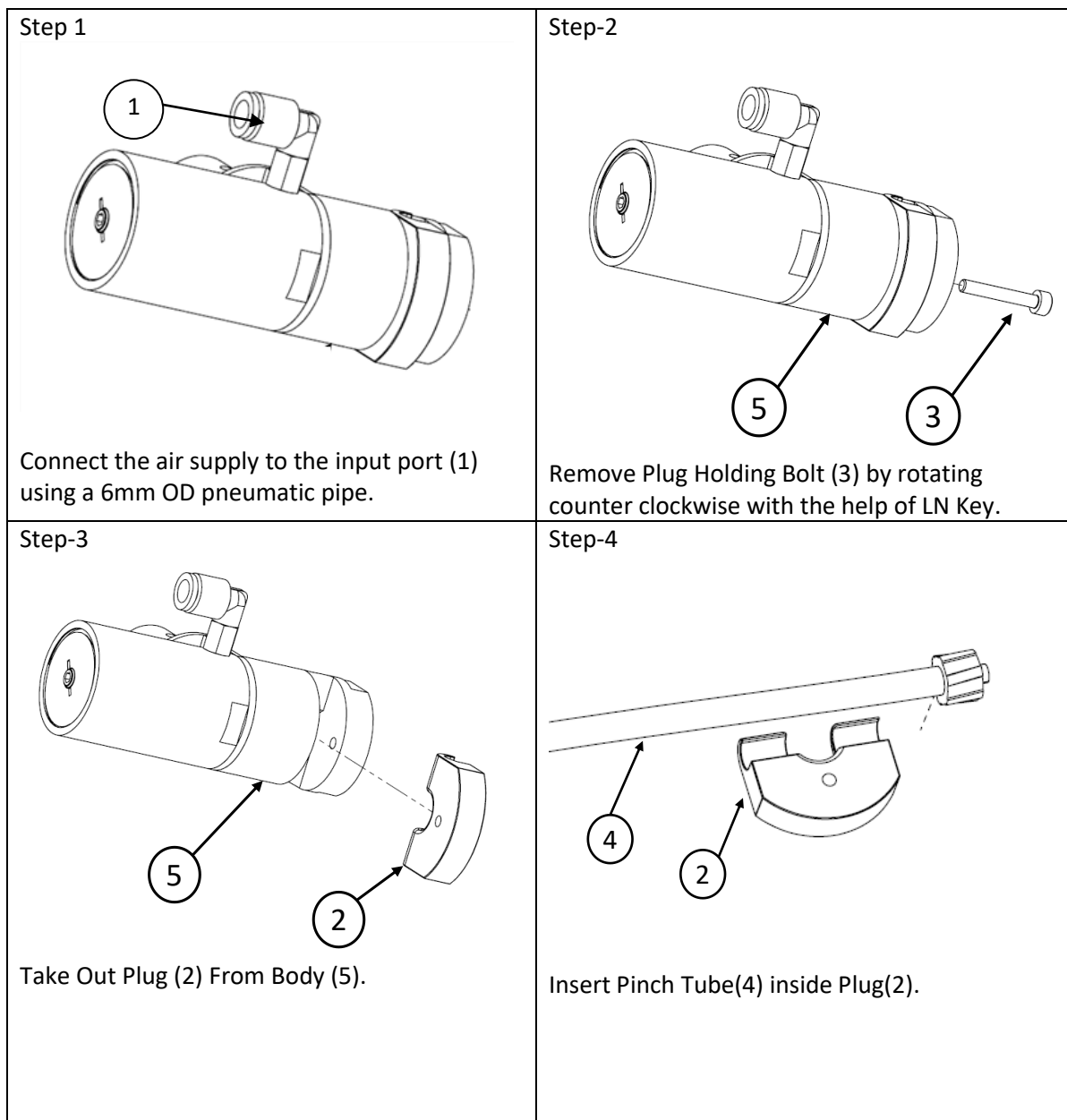
5 SYSTEM SETUP

Below are the step-by-step instructions to be followed for setting up the system

5.1 CONNECT MAIN AIR SUPPLY

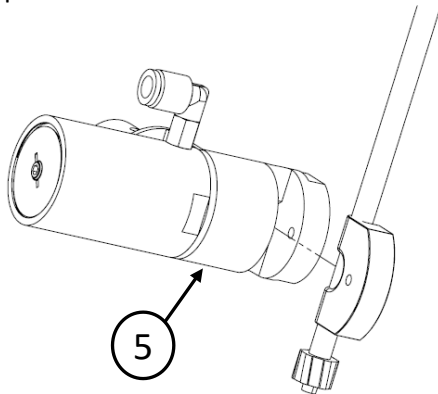
1. Connect pneumatic air pipe (6mm OD) to indicated connector. Using FRLs (Filters, Regulators, and Lubricators) is advised in order to keep the input air supply dry and clean.

5.2 PROCEDURE TO FIT THE PINCH TUBE IN PINCH VALVE



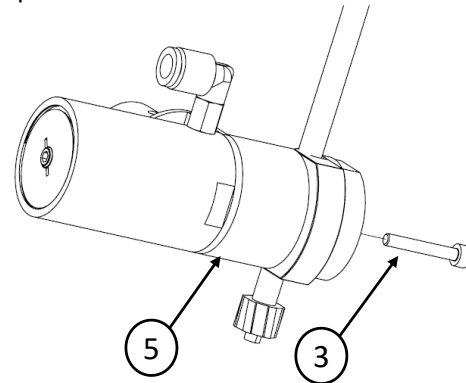


Step-5



Slide Pinch Tube and Plug Assembly to Body (5) as shown in Figure.

Step-6



Insert Bolt (3) in Body which should Pass through Plug and Rotate Bolt clockwise with the Help of LN Key.

5.3 ADHESIVE DISPENSING QUANTITY SETTINGS

1. Tighten the Stroke Adjustment bolt to decrease and Loosen Bolt to Increase the dispensing Volume.
2. Use the bigger ID pinch Tube to Increase the Dispensing Amount.
3. Adjust valve opening time to increase or reduce the dispensing amount.
4. Adjust the fluid pressure to increase or reduce the dispensing amount.

6 FAQs

1. What is a Pinch valve and what does it do?
A pinch valve is an equipment that facilitate on and off the flow of material through tube without direct contact.
2. What is the maximum tube size used in this pinch valve?
Pinch valve is designed to accept tubes with OD 3mm and 6mm as supplied as accessory of the system.
3. What is the maximum pneumatic pressure of the pinch valve?
7 bar is the maximum pneumatic pressure of the pinch valve.
4. Can the system work without air pressure?
No. The system needs optimum pressure of 6 bar.

7 SYSTEM MAINTENANCE

To ensure smooth functioning and a long service life, perform following maintenance operations as per need.

1. Ensure while changing the tube, the adhesive is not coming in touch with open parts of the Pinch Valve. If at all comes, then clean appropriately before using it.
2. Use the lubricated air as input to the system.

8 SYSTEM ERRORS AND TROUBLESHOOTING

Sr. No.	Error	Troubleshooting
1	There is leakage after pinching the tube.	<ul style="list-style-type: none"> • Rotate the Adjustable Knob which results increase of spring force. And/or • Use pinch Tube Supplied by 1K2K.
2	Pinch valve is not opening after pinching.	<ul style="list-style-type: none"> • Please check the pneumatic pressure is as specified in technical specification.
3	There is no fluid flow.	<ul style="list-style-type: none"> • Check the fluid pressure is low then increase the fluid pressure. And/or • Check the stroke adjustment, if it is closed then loosen the bolt.
4	There is inconsistent fluid flow.	<ul style="list-style-type: none"> • Check the air input pressure. And/or • If moisture filter is not used, then water particles may have entered in device, which needs servicing. Contact customer service requesting device servicing.
5	There is a decrease in fluid flow.	<ul style="list-style-type: none"> • Increase the fluid pressure. And/or • Check the stroke adjustment position and loosen it. And/or • Change the pinch tube

9 SYSTEM DO'S AND DON'TS

Do's

1. Always Hold the valve with its stand.
2. Remove the plug before inserting the tube.
3. Connect the pneumatic pressure to open the pinch valve.
4. Make sure the pneumatic pressure is sufficient for the pinch valve to operate.
5. Replace the tube from time to time to avoid any leakage or inconsistent behaviour.
6. Always use ADoST Pinch tubes with ADoST Pinch Valve.
7. Ensure valve pinching area is clean.

Don'ts

1. Don't put tube in pinch valve without removing the plug for tube.
2. Don't put tube without connecting the pneumatic pressure.
3. Don't tight the stroke adjustment bolt completely.
4. Don't adjust the stroke adjustment bolt while the pinch valve is in open position.
5. Don't open the stroke adjustment bolt completely.
6. Don't remove the pinch tube while operating the pinch valve.
7. Don't tighten Knob to increase spring force unless suggested by service provider.

10 ACCESSORIES

10.1 PINCH VALVE STAND

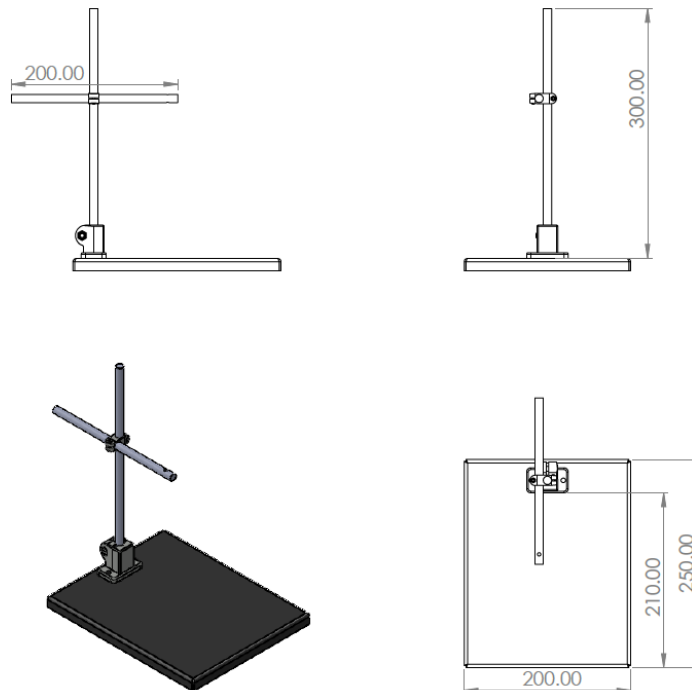
The ADoST CDS Mounting Plate is a flat, rectangular plate made of mild steel (MS) that serves as a foundation or support for the ADoST Pinch Valve. It is designed to evenly distribute the weight and load of the supported structure over a larger area, which helps to absorb vibrations generated during operation.

10.1.1 Technical specification

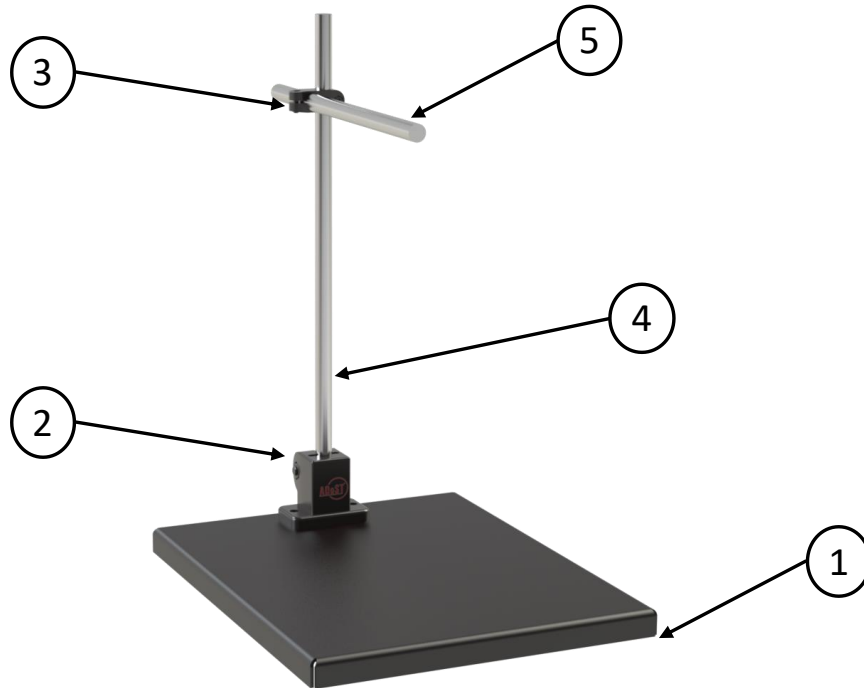
Model Number	ADoST-PVS
Size (Metric)	300x400x20mm
Weight	1.5 kg
Length	200mm
Width	250mm
Height	320mm
Vertical Adjustment	260mm (max. 280mm)
Horizontal Adjustment	160mm (max. 180mm)

10.1.2 Detailed Dimensions

All dimensions are in mm



10.1.3 System components

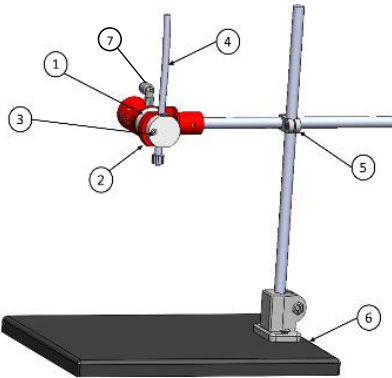


The Pinch Valve Stand is specifically designed to support the ADoST Pinch Valve.

- 1) **Base plate:** A base plate measuring 250mm in length and 200mm in width (1), providing a stable platform for object placement.
- 2) **Base clamp:** It enables the user to adjust the valve's angle in XY plane as needed.
- 3) **Cross clamp:** Clamp for horizontal and vertical rod, allowing horizontal and vertical adjustment.
- 4) **Vertical adjustment rod:** The stand includes a 200mm long, hard chrome-plated rod, which offers flexibility in horizontal adjustment of valve position.
- 5) **Horizontal adjustment rod:** It's a 300mm long, hard chrome-plated rod that offers vertical adjustment of the valve's position.

10.1.4 System Setup

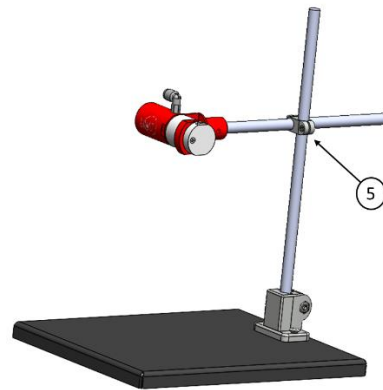
Step-1



1. Body
2. Plug
3. Plug Holding Bolt
4. Pinch Tube
5. Cross clamp
6. Pinch Valve Stand

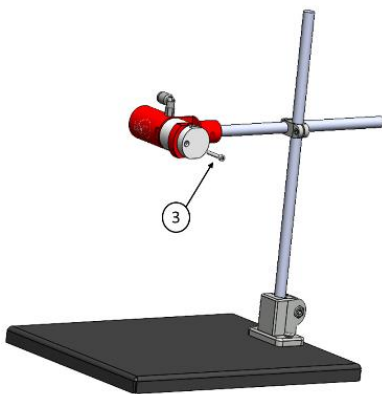
Connect air supply to inlet port (7) ensuring pinch valve is in open position.

Step-2



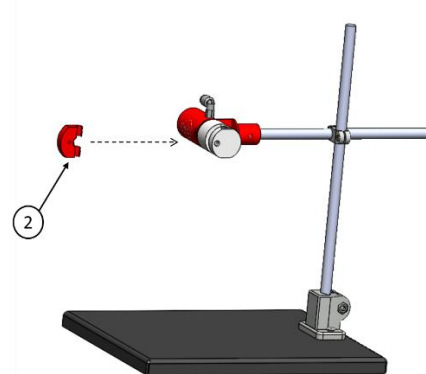
Adjust Pinch Valve Height by Lossing Cross clamp (5) and tighten Bolt to fix the position.

Step-3



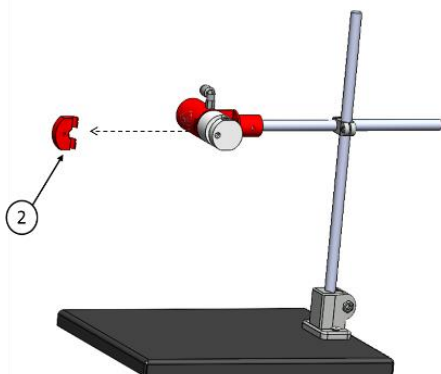
Remove Plug Holding Bolt (3) by rotating counter clockwise with the help of LN Key.

Step-4 (A)



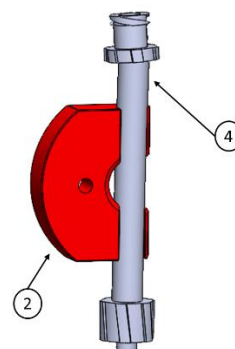
Move Pinch Valve stand assembly away from Plug (2). (Only for ADOST-PT-6OD-1C-0-4)

Step-4(B)



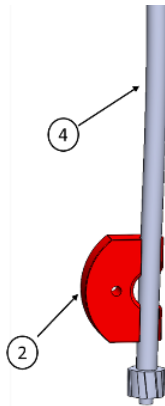
Else Slide Pinch Tube (4) and Plug(2) Assembly away from Pinch valve

Step-5(A)



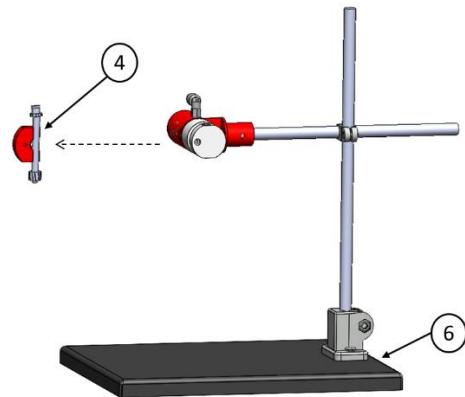
Insert Pinch Tube(4) inside Plug(2) as shown in Figure. (Only for ADOST-PT-6OD-1C-0-4)

Step-5(B)



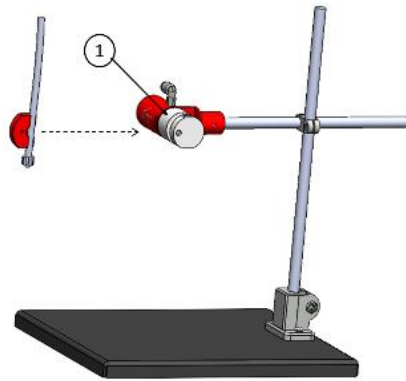
Else Insert Pinch Tube(4) inside Plug(2) as shown in Figure.

Step-6(A)



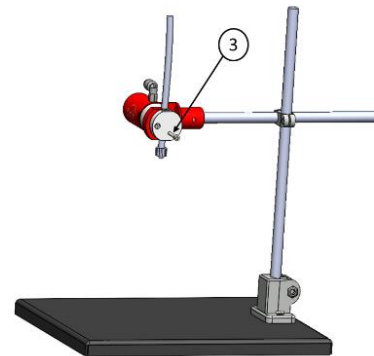
Move Pinch Valve stand (6) assembly near to Pinch Tube(4). (Only for ADOST-PT-6OD-1C-0-4)

Step-6(B)




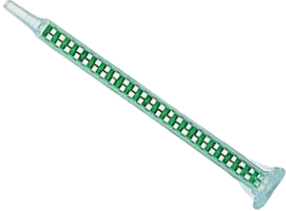

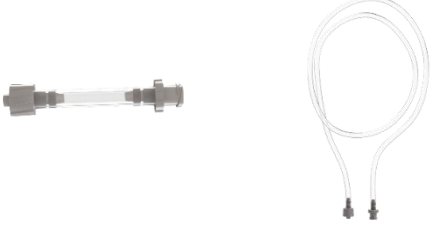
Else Slide Pinch Tube and Plug Assembly to Body (1) as shown in Figure.

Step-7



Insert Bolt (3) in Body which should Pass through Plug and Rotate Bolt clockwise with the Help of LN Key.

11 CONSUMABLES

	
<p>Luer Lock</p>	<p>Static Mixer</p>
	
<p>Nozzle</p>	<p>Pinch Tube</p>

12 DISCLAIMERS

1. Material dispensing behaviour may be unexpected and some components may behave inconsistently if the air pressure is not maintained as mentioned in TDS (The air pressure required to dispense the adhesive is directly proportional to viscosity of the adhesive)
2. System will not be able to work if the air supply is less than 5bar.
3. Water particle in air supply may jock the working of Pinch Valve.
4. System may not work properly, if system is damaged by any external cause like falling, hitting by any object, excessive heat, etc.
5. Hard Chrome Plated Rod should have minimum 30mm distance from cross clamp to avoid vibration in valve.