

Proportional Pinch Valve

PPV Series



Applications

- Laboratory analysis
- Chemical mixing and dispensing
- Dosing system
- Clinical and chemical analysis
- Vending machine
- Blood handling and analysis

Pinch valve works in a way to open or to close a fluid path in a flexible tube by squeezing or pinching the tube. With a proportional pinch valve, the shaft that pinches the tube is driven by a stepper motor, thus that the extent of pinching can be adjusted, which indirectly controls the fluid flow rate inside the tube.

The advantage of using a pinch valve is that it has no contact with the fluid, making it an ideal option for biotechnology processing, food industry, dosing system, blood process/analytical, CIP and SIP process, and biopharmaceutical equipment. Our PPV series pinch valve is driven by the PM series driver that accept either analogue (0-10V or 4-20mA) or digital RS485 modbus signal.

Specifications

Series	PPV-04/06/08	PPV-93X
Recommended Tubing Durometer	50-80 Shore A	50-80 Shore A
Media Pressure Maximum	5.2bar	6bar
Position Resolution	0.0127 mm/step	0.0523 mm/step
Power Consumption	1.95W(hold); 4.5-5.2W(full speed)	2.05 W (hold); 4.3-7.0W (full speed)
Supply Voltage	24V	24V
Electrical Connection	2 wire DC power 2 wire analog Input Signal	2 wire DC power 2 wire analog Input Signal
Max Pinch Force	Up to 30 kgF	Up to 50 kgF

Order Number

Model	Tube O.D (mm)	Response Time (sec) (fully-open to fully-closed)
PPV-930-64-L-PM-□	6.4	0.52
PPV-932-95-L-PM-□	9.5	0.78
PPV-933-127-L-PM-□	12.7	1.04
PPV-933-144-L-PM-□	14.4	1.38
PPV-934-191-L-PM-□	19.1	1.56
PPV-935-254-L-PM-□	25.4	2.08

*□-Signal: A- Current control (4-20mA), E- Voltage control (0-10V) or R-RS485 Modbus

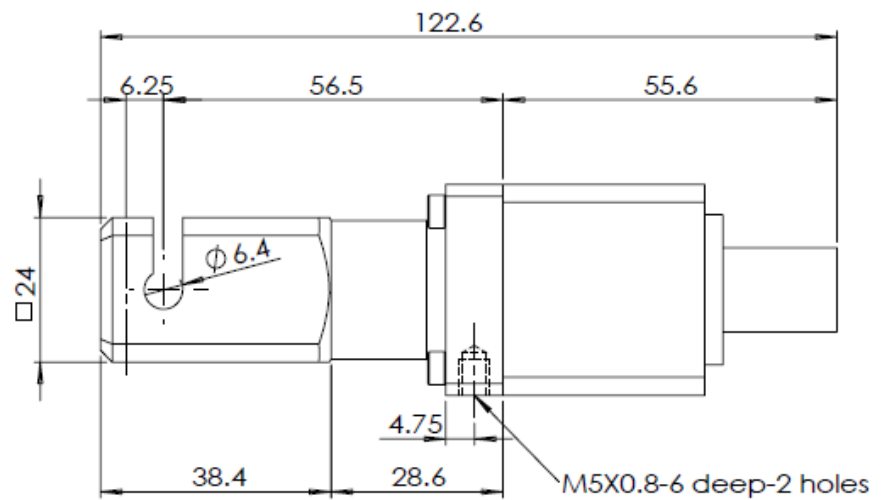
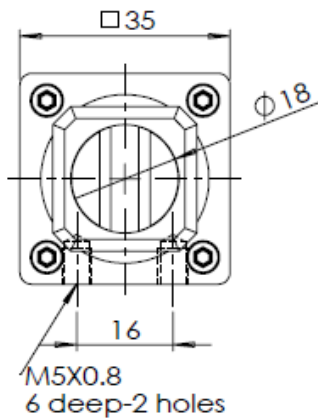
Proportional Pinch Valve

PPV Series

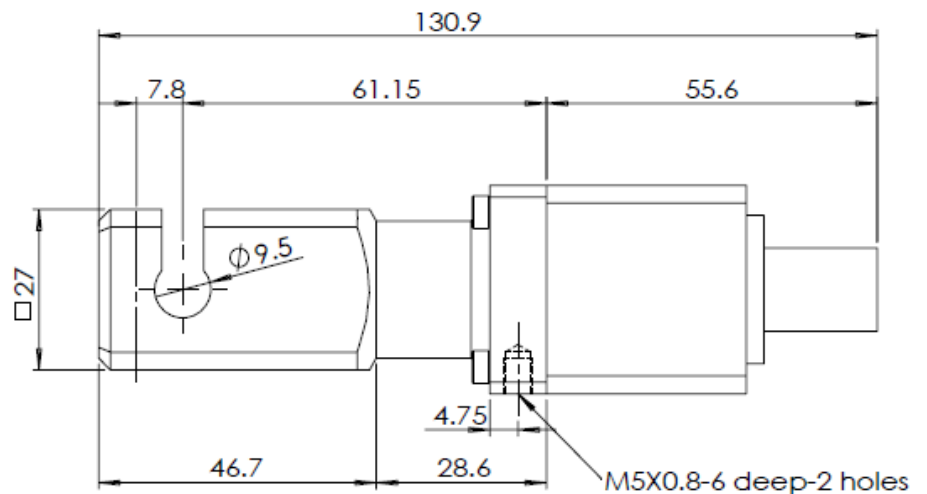
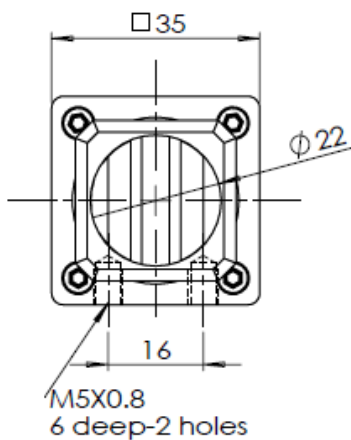


Dimensions

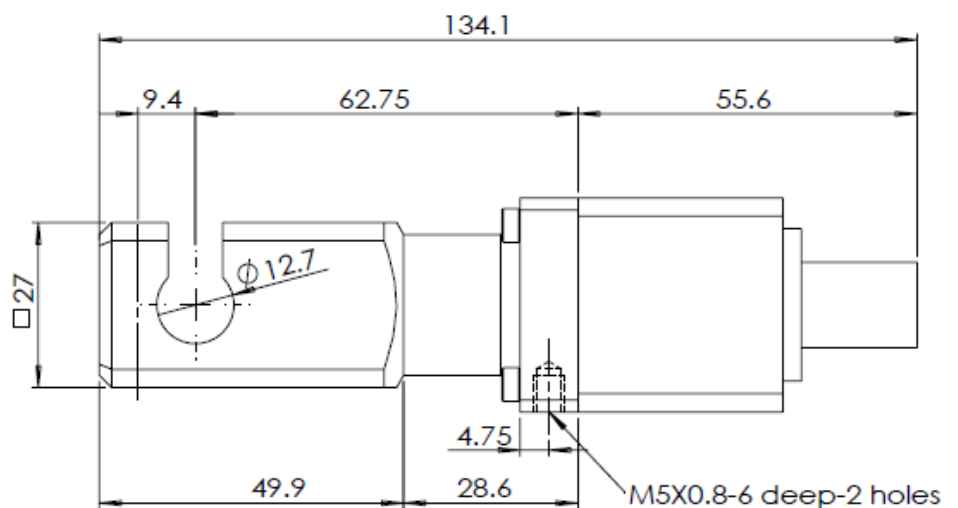
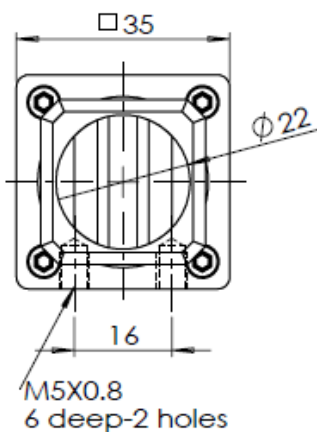
◆ PPV-930-64



◆ PPV-932-95



◆ PPV-933-127



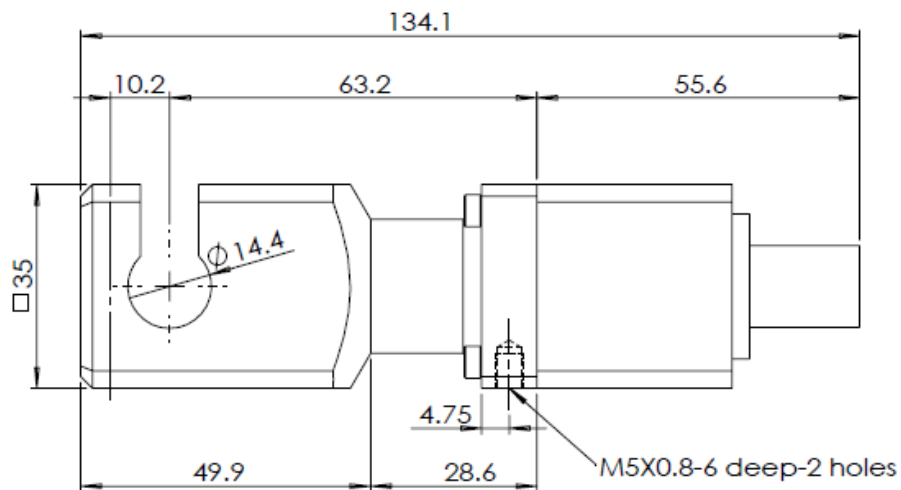
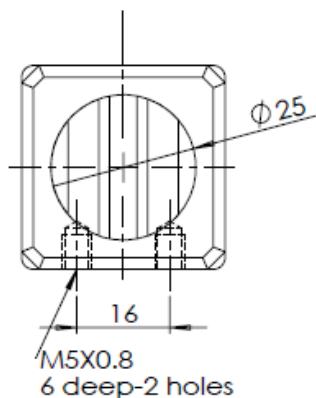
Proportional Pinch Valve

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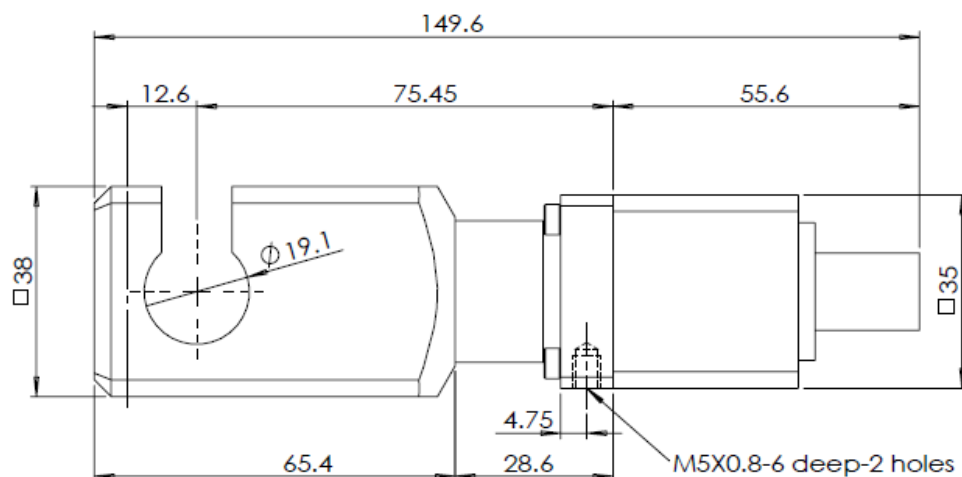
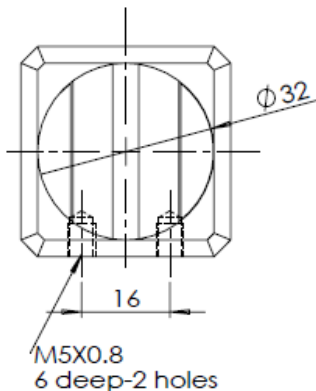


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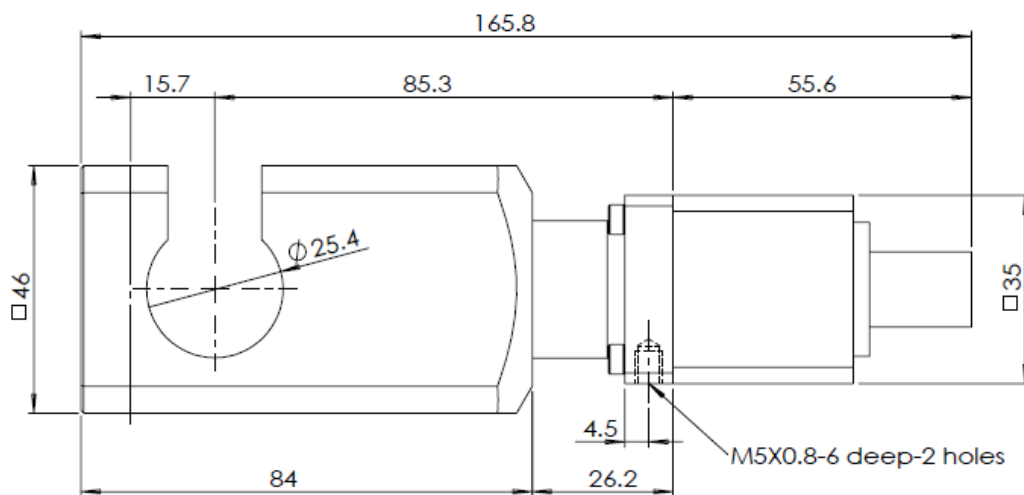
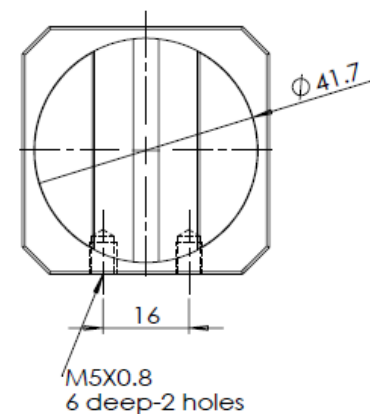
◆ PPV-933-144



◆ PPV-934-191



◆ PPV-935-254



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PPV Series



Order Number

PPV — — —

Tube O.D.

04	4 mm
06	6 mm
08	8 mm

Mounting Bracket

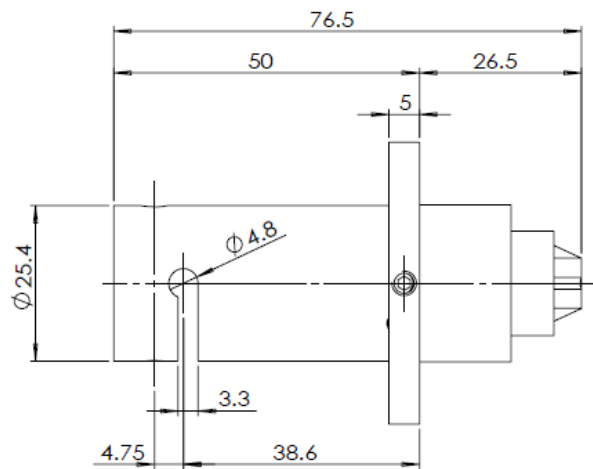
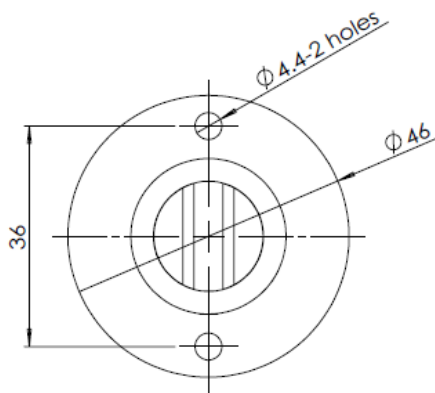
-	No Bracket
L	L Type

Input Signal

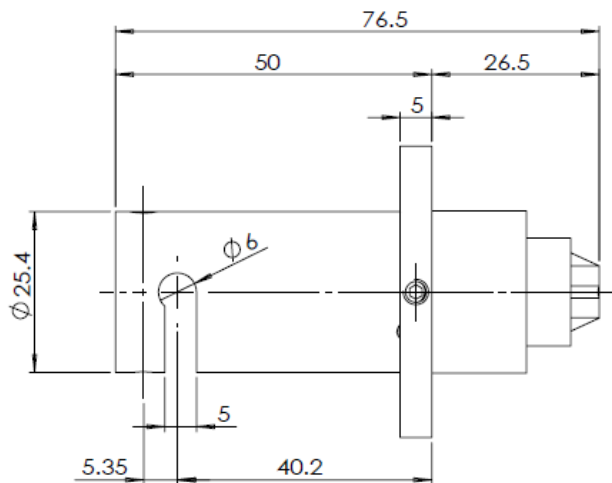
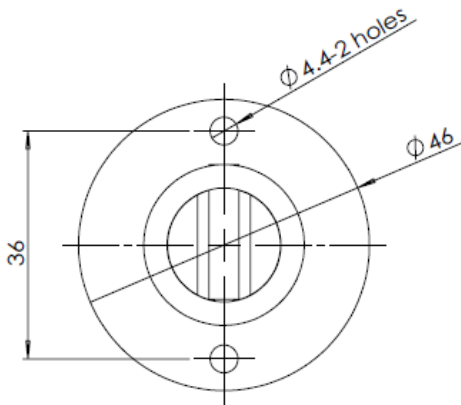
*E	0-10V
A	4-20mA
R	RS485 Modbus

Dimensions

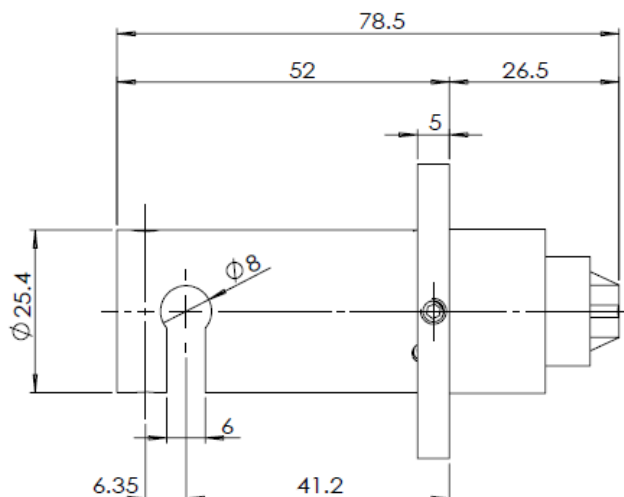
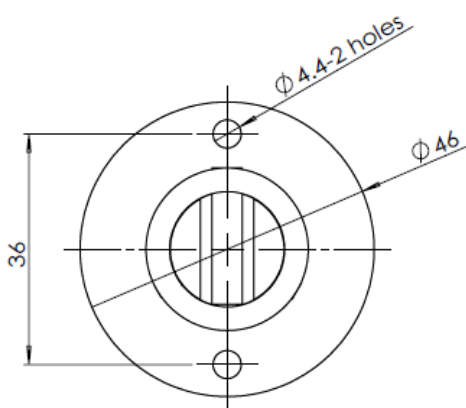
◆ PPV-04



◆ PPV-06

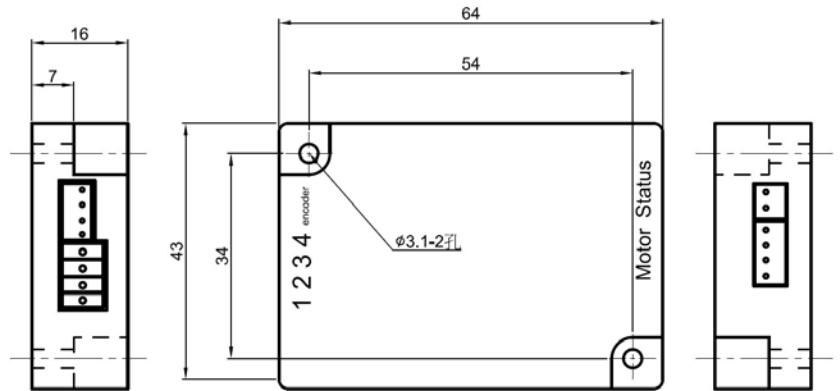


◆ PPV-08



Proportional Valve Controller

PM Series



Series PM provides series FC with the required power and control signal (step and direction). It controls the step of a bipolar stepper motor with an analogue or digital signal (0-10 VDC/4-20mA / RS485 Modbus).

Wiring



No.	Function
1	DC24V +
2	DC24V -
3	Signal +/A \ RS485 +
4	Signal -/B \ RS485-

Features

- Compact
- Low Cost
- High Resolution
- Analog / Digital Signal
- Easy-Control
- Full scale Linearity Flow Control

Specifications

Input signal	VDC 0-10V / 4-20mA/ RS485
Supply	DC24V ($\leq 12W$)
Indicator LED Status	on/off (LED on is motor running) on/off (LED off is motor stopping) on/off (LED flashing is motor error)
Encoder Resolution	$1.587 \times 10^{-3} \text{mm}$
Motor Status output	Sink 50mA
Temp. Range(Operating)	0-60°C
Cable Length	1 meter, consult for longer cable

Pinch Valve

All Series



Precautions for use

1. Do not operate in locations having an atmosphere of corrosive gases, chemicals, sea water, or where there will be contact with the same.
2. Do not apply higher than the allowable operating pressure in the tube, this will result in fluid leakage or tube burst.
3. It is advised to replace the tube from time to time to avoid tube bursting.
4. To avoid damaging the solenoid in solenoid-operated pinch valve, do not apply higher than designated power continuously. The coil may heat up and do not touch the coil with hands.
5. In locations which receive direct sunlight or raining, please provide a protective cover.
6. The product will be out of warranty period should the product be dis-assembled or re-assembled.
7. The product cannot be used as an emergency shut-off. The system should be installed with a safety device to prevent damage to the system.



Warranty

KaoLu Enterprise Co. Ltd. products are warranted to the original purchaser only against defects in material or workmanship for 12 months from the date of manufacture. The extent of KaoLu's liability under this warranty is limited to repair or replacement of the defective unit at KaoLu's option. KaoLu shall have no liability under this warranty where improper installation or filtration occurred.