

# Product Manual

**Kamoer Fluid Tech(Shanghai) Co., Ltd.**

Version: A / 3

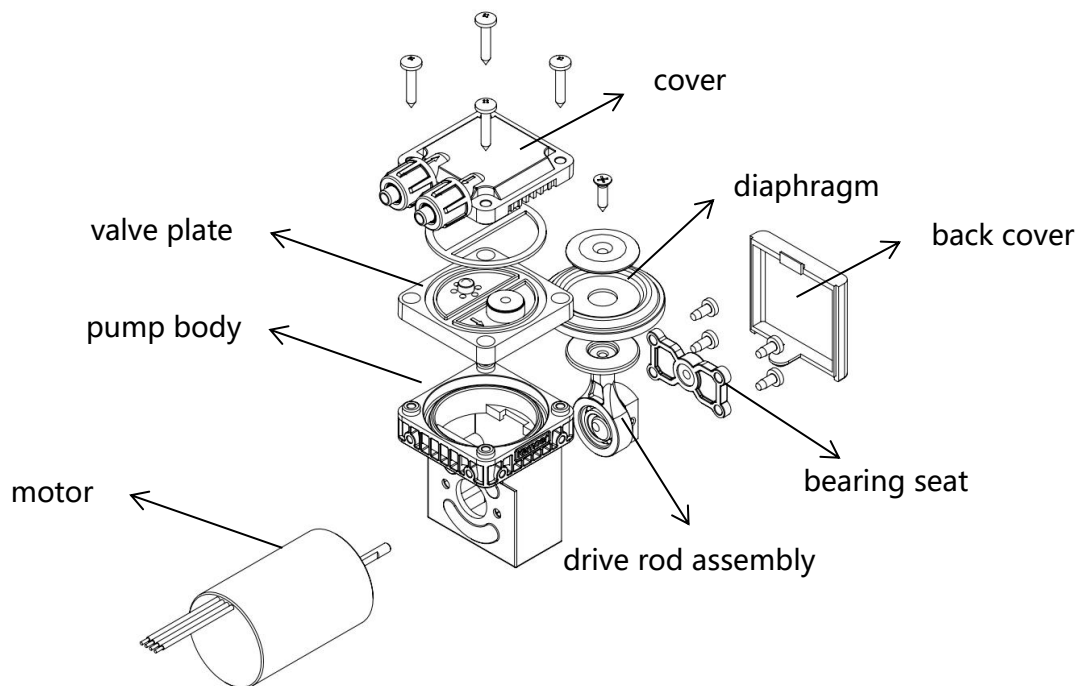
<b>Product name</b>	Mini Diaphragm Air Pump
<b>Product number</b>	HLVP15
<b>Execution date</b>	2022.06 .20
<b>Company</b>	Kamoer Fluid Tech (Shanghai) Co., Ltd.

## A、 Product Overview

### 1. Product picture



### 2. Product assembly drawing



### 3. Model definition

<b>HLVP15</b>	<b>A</b>	<b>I</b>	<b>12</b>
Model	Structure type	Disc type	Input voltage



## 3.1 Structure type

A: Single head type  
Small volume, low power

B: Parallel type  
large flow output

C: Series type  
high negative pressure output



## 3.2 Disc type



NEW US type



U type



I type



T type

## 3.3 Input voltage

12: 12V voltage input

24: 24V voltage input

## 4. Performance characteristics, typical applications

### 4.1 Performance characteristics

- ◆ HLVP15 series diaphragm air pumps are available in two voltages of 24V and 12V, customers can choose the appropriate voltage according to their own usage scenarios
- ◆ The appearance of the product is personally checked by the design master, beautiful and generous
- ◆ The product has a larger working cavity and can output a larger flow
- ◆ A variety of valve plates can be adapted to a variety of different working conditions
- ◆ Vibration-absorbing machine feet can be installed to effectively reduce vibration and noise
- ◆ Brushless motor, with better performance and life performance
- ◆ High-quality engineering plastics and rubber materials, showing good product stability



## 4.2 Typical applications

- ◆ Industrial manufacturing: such as used as an air source for suction cups
- ◆ Environmental protection industry: such as used as a transfer pump for gas analysis
- ◆ Medical equipment: such as negative pressure pumps used as negative pressure adsorbers
- ◆ Oxygen generator: such as used as a negative pressure pump for an oxygen-enriched

membrane oxygen generator

## 4.3 Known Risk Notification

- ◆ The medium will be in contact with the pump head and the rubber, so it is necessary to check the chemical compatibility or conduct an immersion test when selecting the model
- ◆ The working environment of the product should not exceed 40°C, and the humidity should not exceed 70% (no condensation). The harsh working environment will cause premature damage to the product
- ◆ Frequent start and stop, over pressure or under pressure and other unreasonable working conditions will lead to premature damage of the pump
- ◆ High overloading may result in premature failure of the product
- ◆ Dust, oil and other pollutants in the medium will contaminate the pump parts, which will lead to premature damage of the pump

## 5. Product Certification, Intellectual Property

CN210769190U



CN210769242U



CN210769244U



CN210769259U



RoHS certification



CN210769260U



CN211573755U



CN305645598S



CN305645599S



CE certification



## B、Product specification

### 1. Technical Parameters

Items		HLVP15-AU	HLVP15-BU	HLVP15-CI
Basic parameters	Flow	≥11L/min	≥14L/min	≥11L/min
	Negative pressure	≥-0.062MPa	≥-0.062MPa	≥-0.082MPa
	Positive pressure	≥0.12MPa	≥0.12MPa	/
	Power	8W	10W	10W
	Noise	≤68dB	≤70dB	≤70dB
	Control method	PWM speed regulation work, fixed speed work		
	Weight	about 240g	about 380g	about 360g
	Rated voltage	12V/24V		
	Motor type	DC brushless motor		
	Control method	<p>Line color description: red line (VCC) black line (GND) white/blue line (PWM) yellow line (FG)</p> <p>PWM and 0V~5V two speed regulation methods, PWM speed regulation: 10kHz~30kHz, amplitude: 5V.</p> <p>Control ratio 0%~10% no rotation, 11%~100% speed range.</p> <p>Analog voltage speed regulation: voltage 0V~5V, 0V~0.5V motor does not rotate, 0.6V~4.5V speed regulation range.</p> <p>The speed feedback of the yellow line is connected to the oscilloscope probe or the host computer. 1 pulse/rotation speed (rev/min) = FG signal * 60</p> <p>Full speed operation: connect the positive pole to the red wire and the white/blue wire; connect the negative pole to the black wire.</p>		
Product life		≥8000h (under normal temperature and pressure, no-load operation)		
Applicable environment		Temperature range: 0°C~50°C; relative humidity: <80% (no condensation)		
Supplementary Note		<p>The above parameters are tested under standard atmospheric pressure, room temperature 25°C, medium is air, and the pump has no load pressure.</p> <p>Noise test: Under the ambient noise of 35dB, the product is placed on a 5mm thick sponge pad, and the decibel meter is measured at a distance of 500mm from the product</p> <p>The performance parameters of the product are affected by the environmental state (air pressure, temperature, humidity, etc.), the medium state (temperature, density, viscosity, and chemical properties, etc.) and the load before and after the pump. The above parameters are for reference only.</p>		

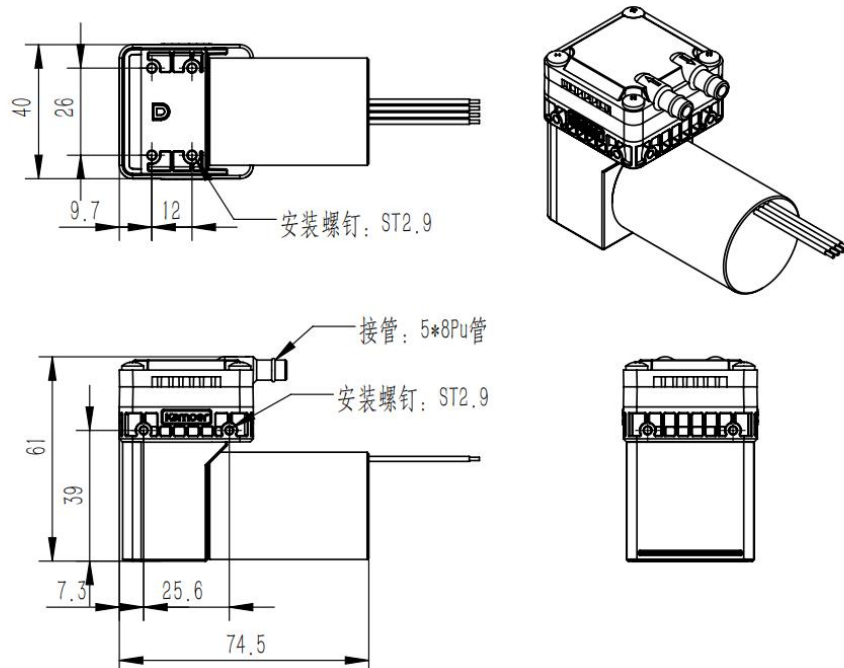
### 2. Product material

Model	Pump head	Pump body	Diaphragm	Valve	Eccentric wheel
HLVP15	PPS	PA	EPDM	EPDM	Brass



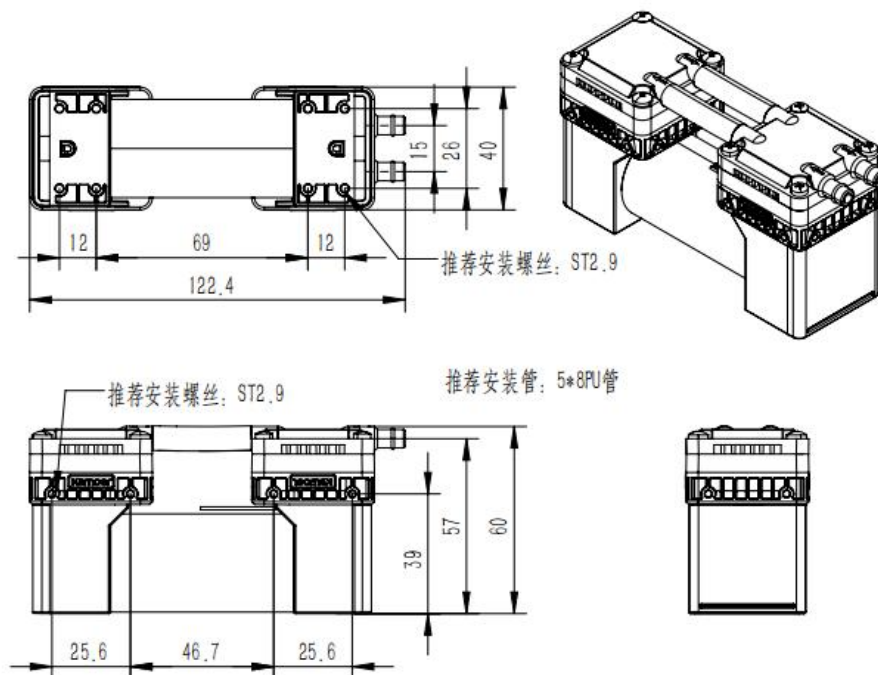
## 3. Product Size

### HLVP15-AU



Recommended mounting screws: ST2.9

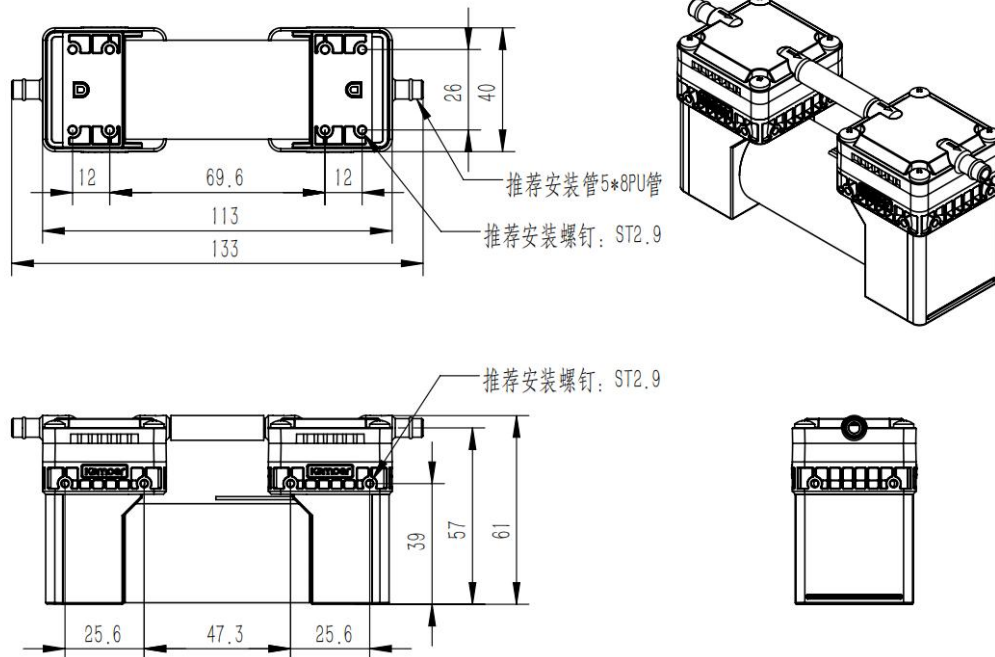
### HLVP15-BU



Recommended mounting screws: ST2.9



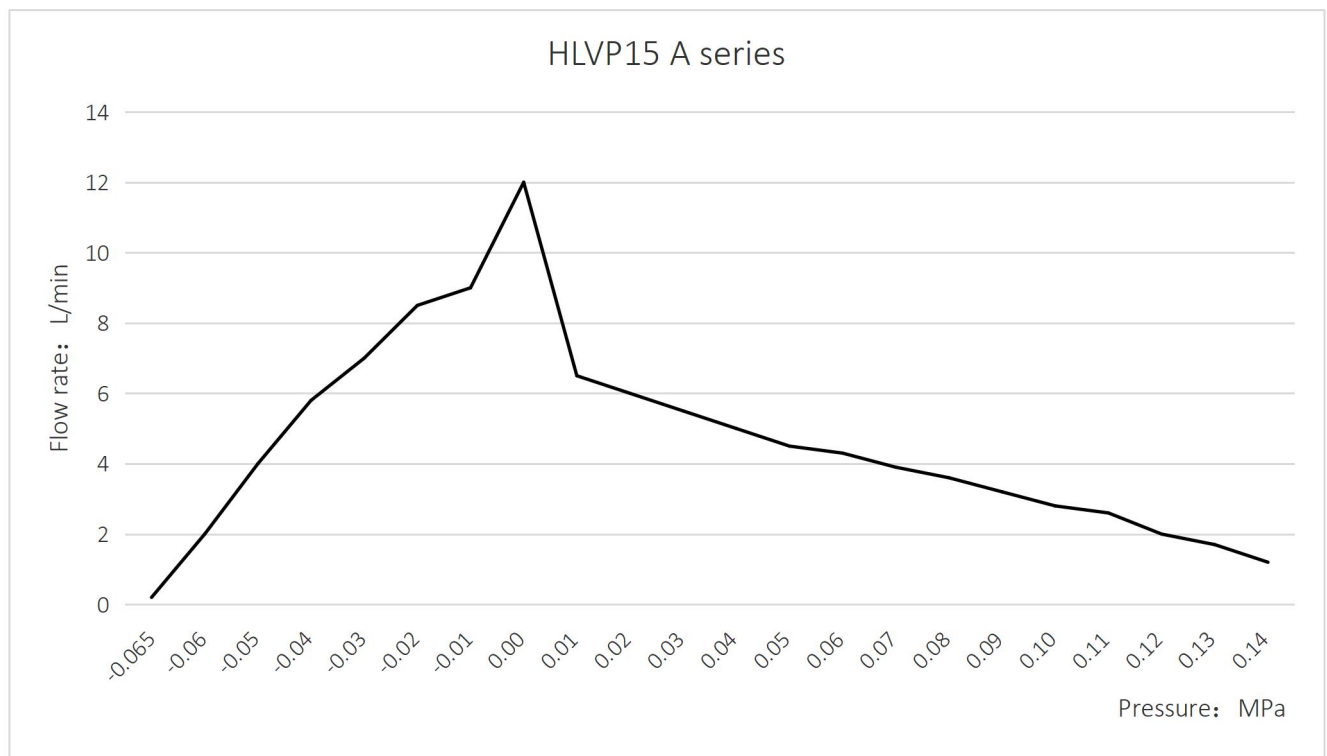
## HLVP15-CI



Recommended mounting screws: ST2.9

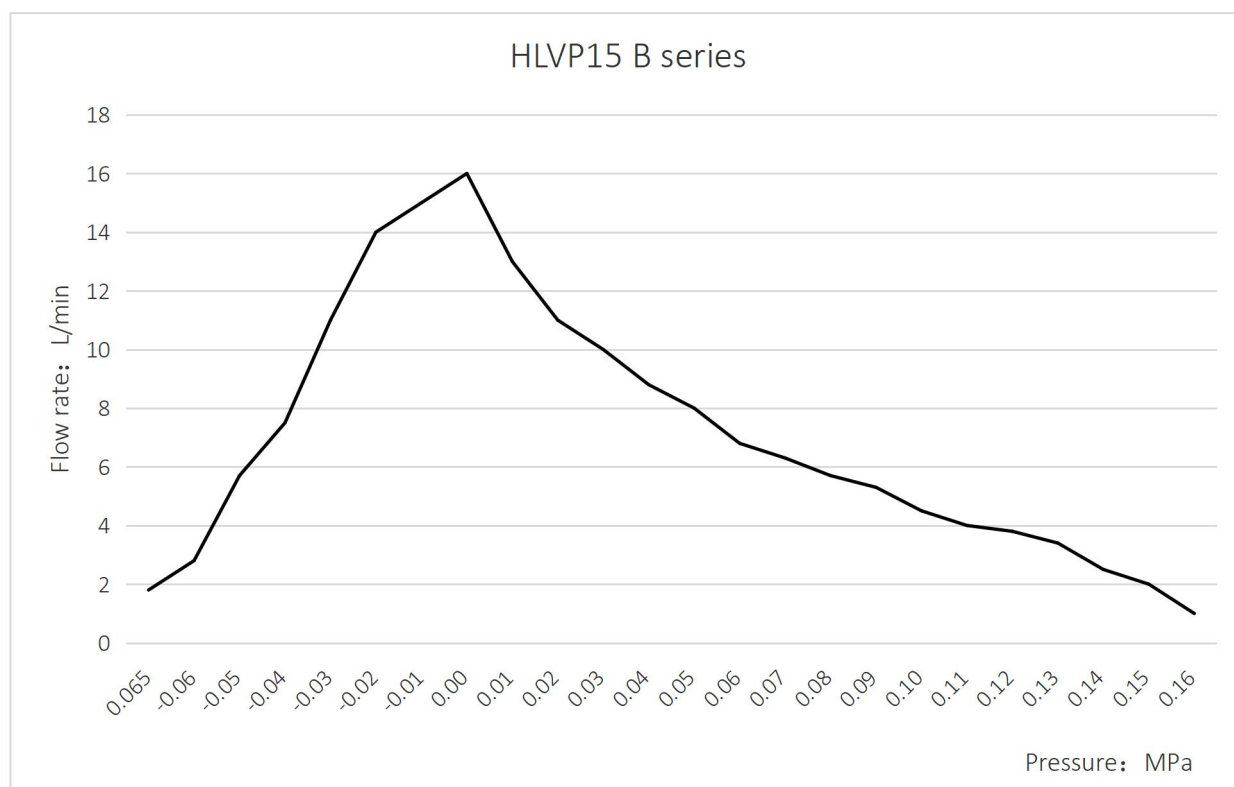
## 4. Flow curve

### HLVP15 A Series

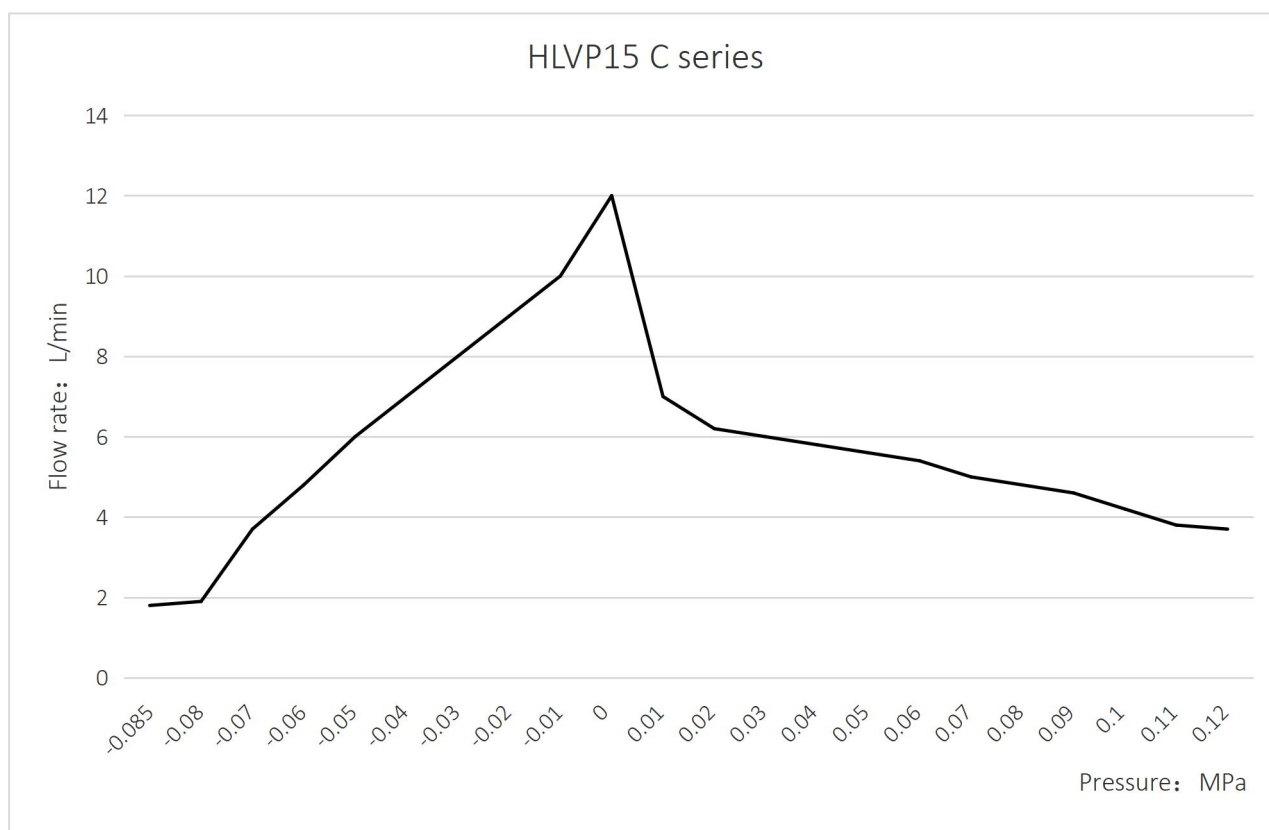




## HLVP15 B Series





## HLVP15 C Series





## C、Optional accessories

Name	Specifications		Function introduction
Vibration-absorbing machine feet		/	Used to reduce product vibration and noise
Speed control driver board		Three-wire governor	The water output of the three-line diaphragm liquid pump and the air output of the diaphragm air pump can be easily adjusted by the external speed knob.

