

Product Manual

Kamoer Fluid Tech(Shanghai) Co., Ltd.

Version: A / 6

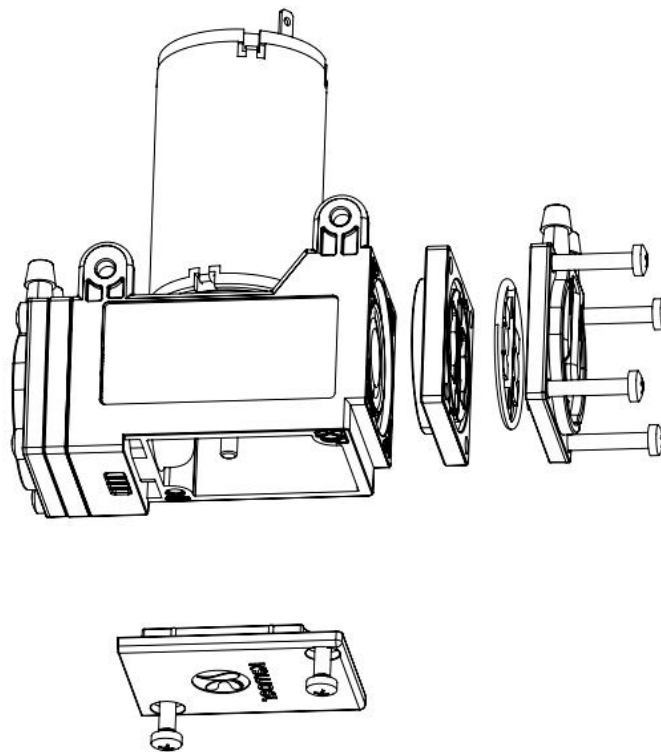
Product name	Mini Diaphragm Air Pump
Product number	HLVP8
Execution date	2022. 07.05
Manufacturing unit	Kamoer Fluid Tech (Shanghai) Co., Ltd.

一、 Product Overview

1. Product physical map



2. Product assembly drawing



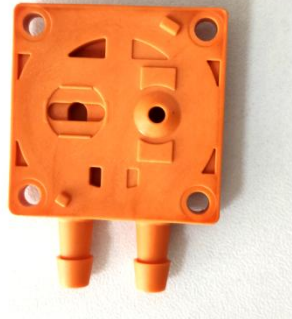
3. Model definition

HLVP8	KJ	S
Model	Motor type	Pump tube connection

Note: The parallel code is: "empty"; the series code is: "S"

3.1 Disc type

A: Pagoda type is suitable for 4mm×6mm PU tube



3.2 Motor type

At present, we provide 6 kinds of motors, the codes are as follows:

KJ: 24V DC brushed motor (58mm)

KK: 12V DC brushed motor (58mm)

KB: 24V DC brushless motor (67mm)

KD: 12V DC brushless motor (67mm)

WB12: 12V Outer rotor brushless motor

WB24: 24V Outer rotor brushless motor

Motor life:

Brush motor life: 2000h (theoretical value)

Brushless motor life: 6000h (theoretical value)

Outer rotor motor life: 6000h (theoretical value)

*depending on usage

3.3 Input voltage

12: 12V voltage input

24: 24V voltage input



4. Performance characteristics, typical applications

4.1 Performance characteristics

- ◆ Small size, powerful
- ◆ Negative pressure in series $\geq -0.09\text{MPa}$
- ◆ Parallel negative pressure $\geq -0.07\text{MPa}$
- ◆ Dry-running, durable and maintenance-free
- ◆ Flow rate $\geq 6\text{L/min}$
- ◆ Gas positive pressure $\geq 0.1\text{MPa}$
- ◆ Chemical stability
- ◆ Brush, brushless, and external rotor motors are available in multiple options

4.2 Typical applications

- ◆ Medical equipment: such as supporting negative pressure wound therapy equipment and portable oxygen generators
- ◆ Detection industry: such as online detectors, air micro-stations

4.3 Known Risk Notification

- ◆ The medium will be in contact with the pump head and the rubber, you need to check the chemical compatibility when selecting the model
- ◆ The working environment of the product should not exceed 50°C , and the humidity should not exceed 80%. The harsh working environment will cause premature damage to the product
- ◆ Frequent start and stop, overpressure or underpressure and other unreasonable working conditions will lead to premature damage of the pump
- ◆ High overloading may result in premature failure of the product
- ◆ Dust 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



二、 Product specification

1. Technical parameters

Items	HLVP8-KJ/KK	HLVP8-KB/KD	HLVP8-WB24/WB12	HLVP8-KJ/KK-S	HLVP8-KB/KD-S	HLVP8-WB24-S, HLVP8-WB12-S
Flow rate	≥8L/min	≥8L/min	≥8L/min	≥6L/min	≥6L/min	≥6L/min
Positive pressure	≥0.1MPa					
Negative pressure	≥-0.07MPa			≥-0.09MPa		
Power	≤12W	≤12W	≤12W	≤12W	≤12W	≤12W
Noise	≤68dB	≤68dB	≤72dB	≤68dB	≤68dB	≤72dB
Control method	switch control	switch control	PWM speed regulation work, fixed speed work	switch control	switch control	PWM speed regulation work, fixed speed work
Weight	about 240g	about 280g	about 300g	about 240g	about 280g	about 300g
Rated voltage	12V/24V					
Motor type	DC brush	DC brushless	Outer rotor brushless	DC brush	DC brushless	Outer rotor brushless
Product life	≥2000h	≥6000h	≥6000h	≥2000h	≥6000h	≥6000h
Applicable environment	Temperature range: 0°C ~ 50°C; relative humidity: <80%					
Supplementary Note	<p>The above parameters are at standard atmospheric pressure, room temperature is 25°C, and the medium is air. Under the ambient noise of 35dB, measured at a distance of 50cm.</p> <p>The performance parameters of the product are affected by the environmental state (air pressure, temperature, humidity, etc.), the medium state (temperature, density, and chemical properties, etc.) and the load before and after the pump, so the above parameters may be different from the actual parameters.</p>					

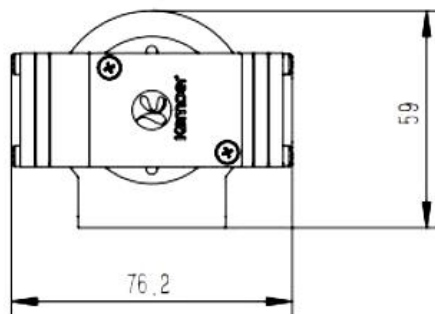
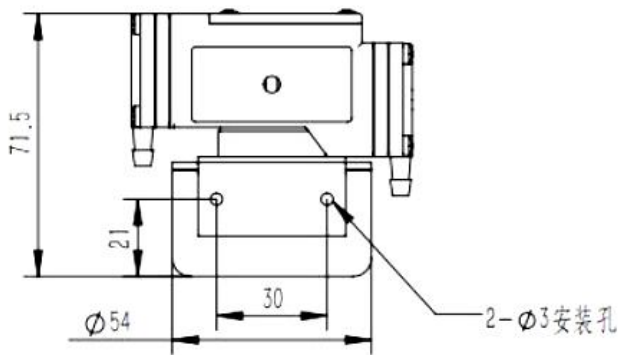
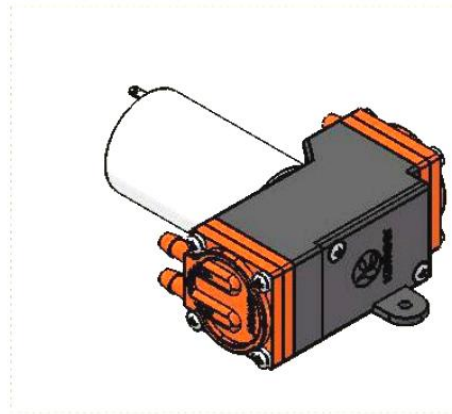
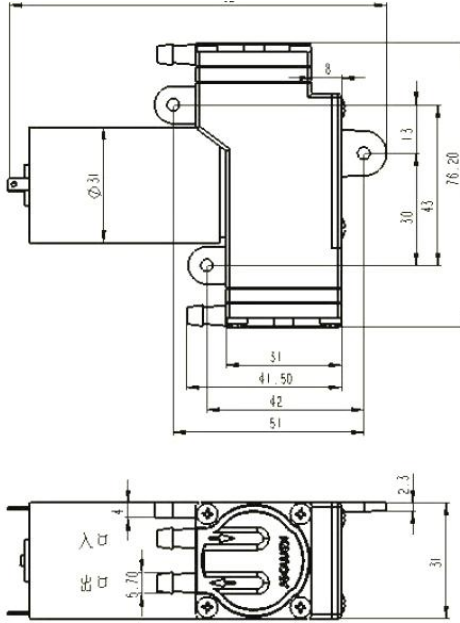
2. Product material

Model	Pump head	Pump body	Diaphragm	Valve	Eccentric wheel
HLVP8	PA	PA	EPDM	EPDM	Brass

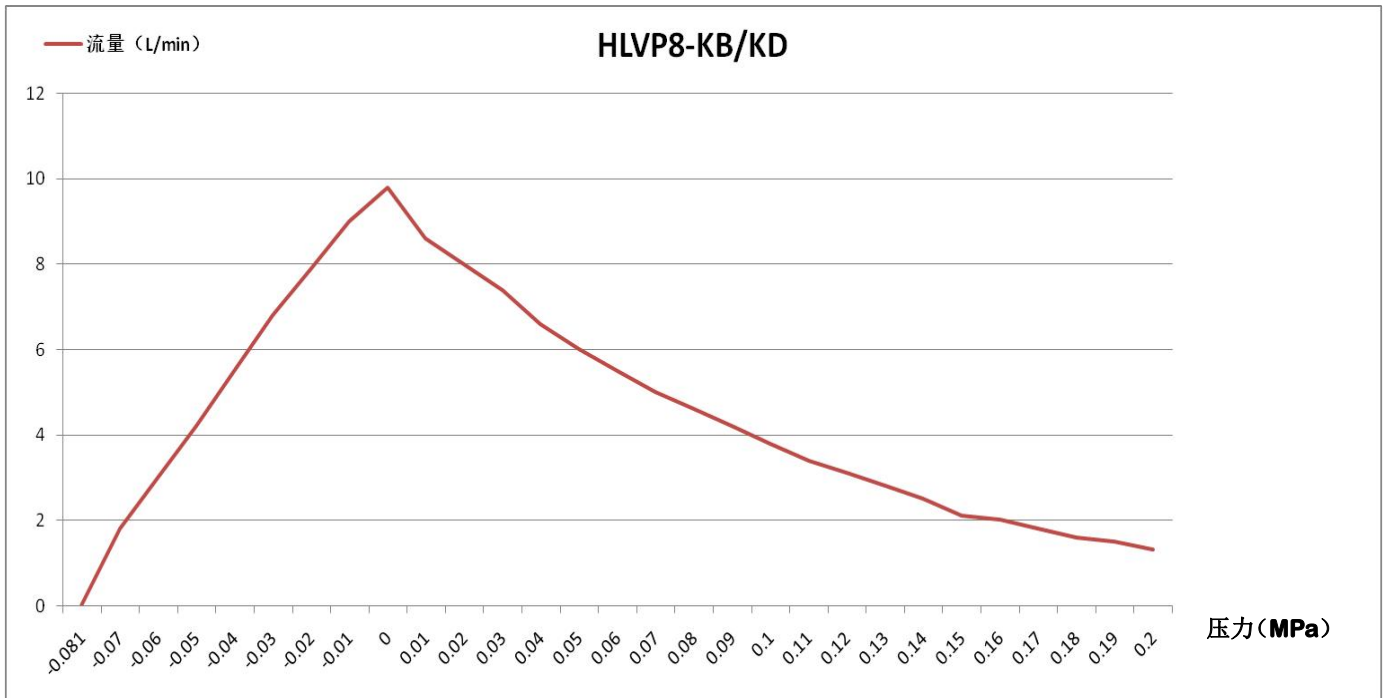
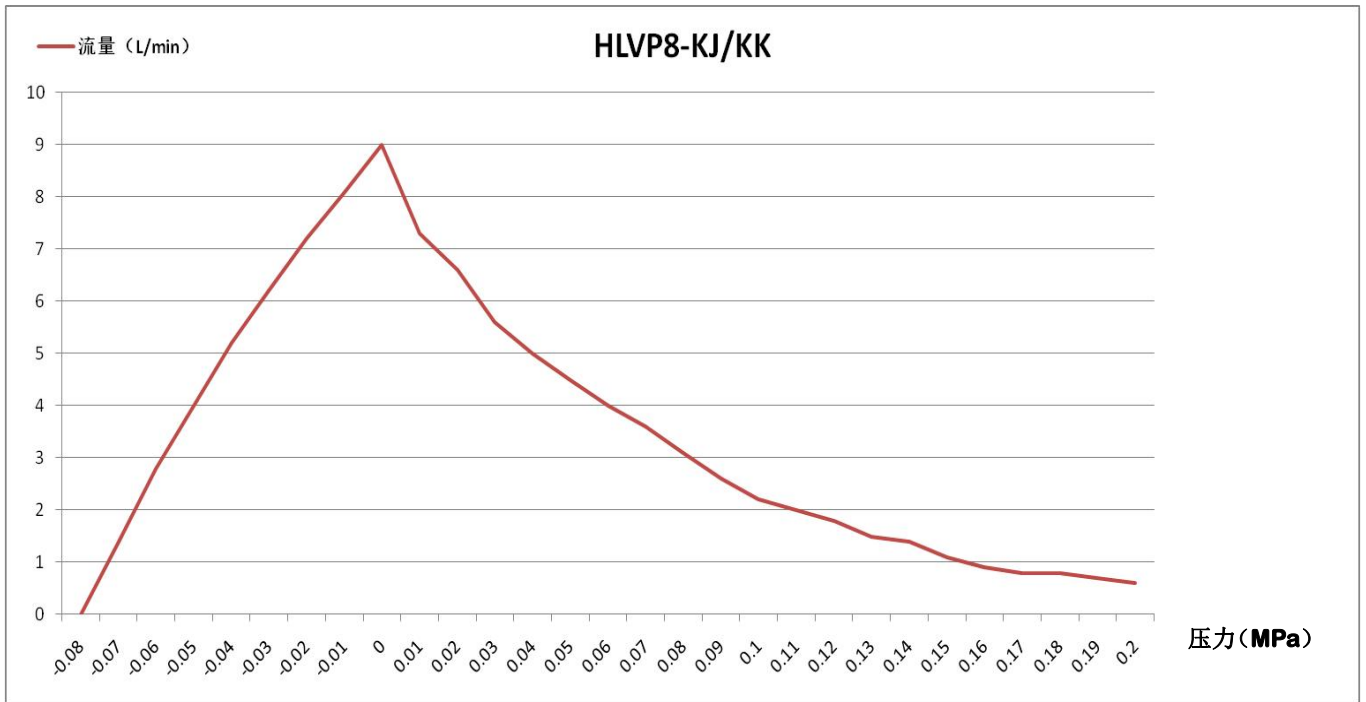


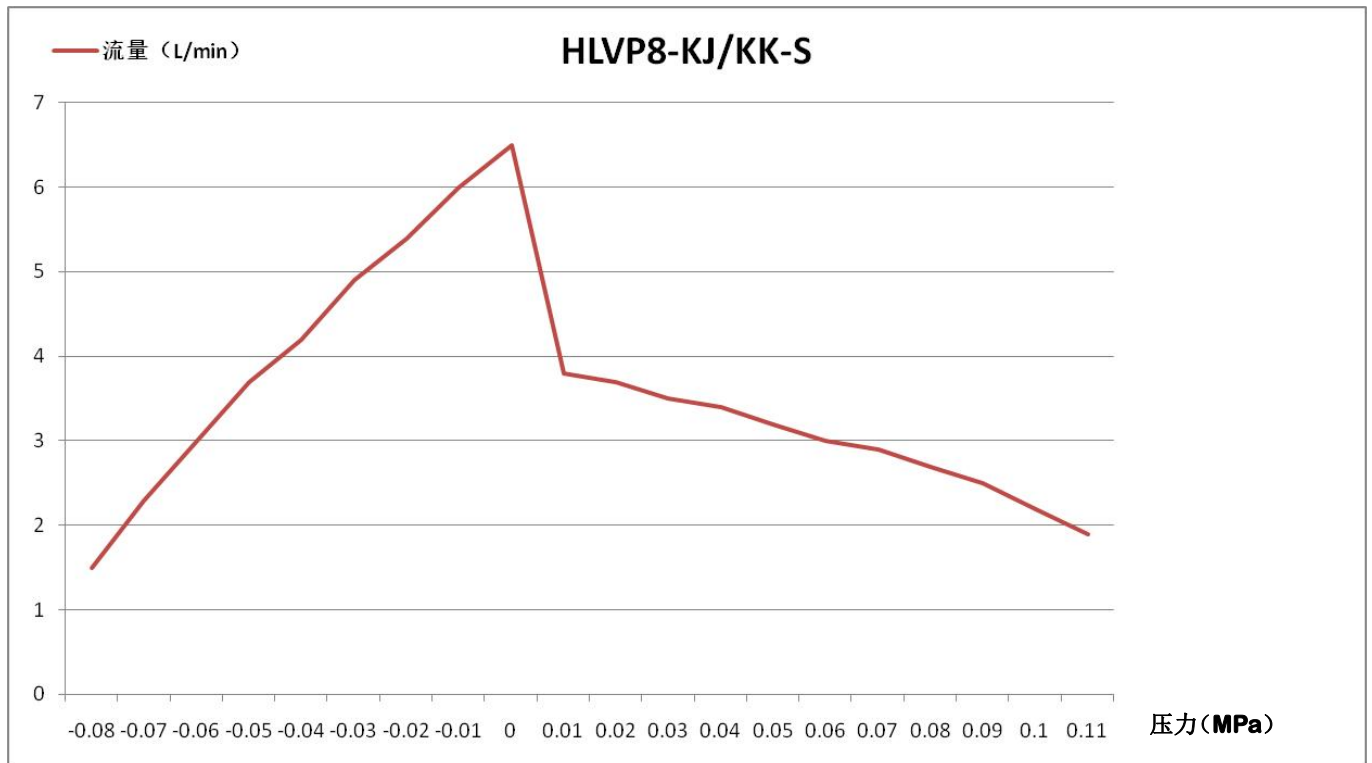
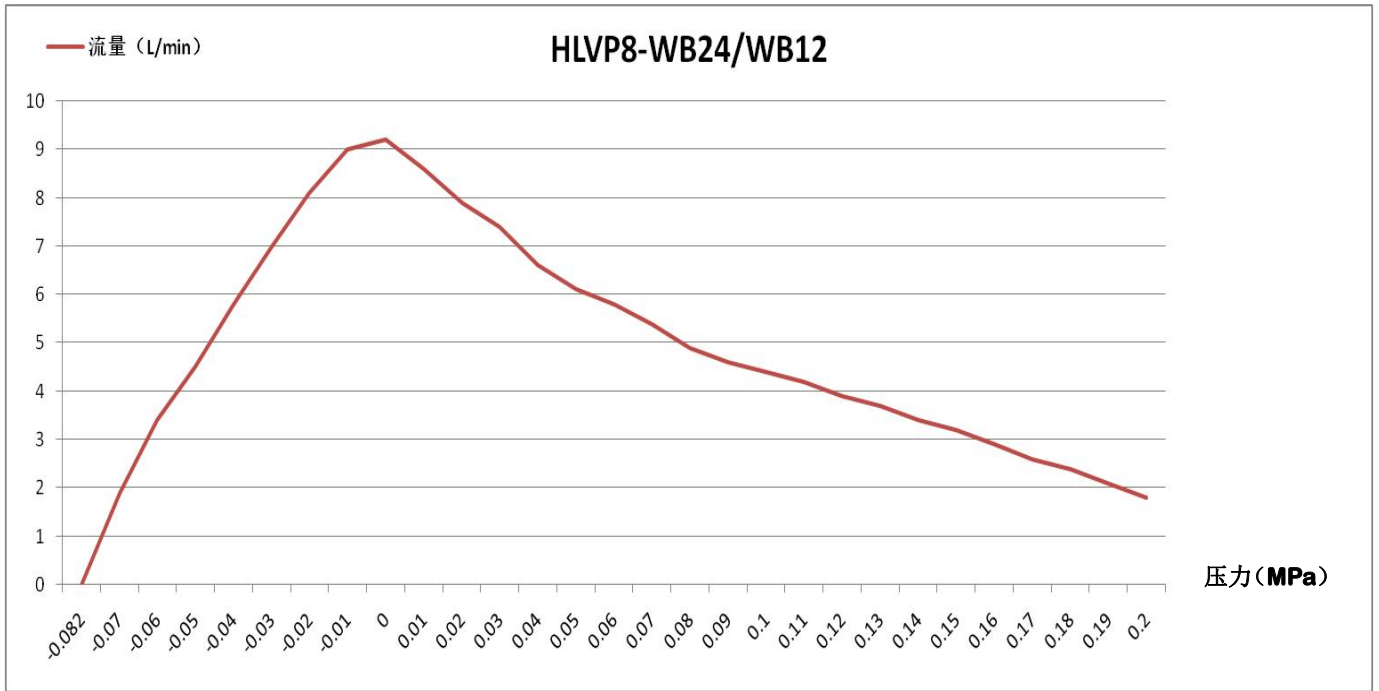
3. Product Size

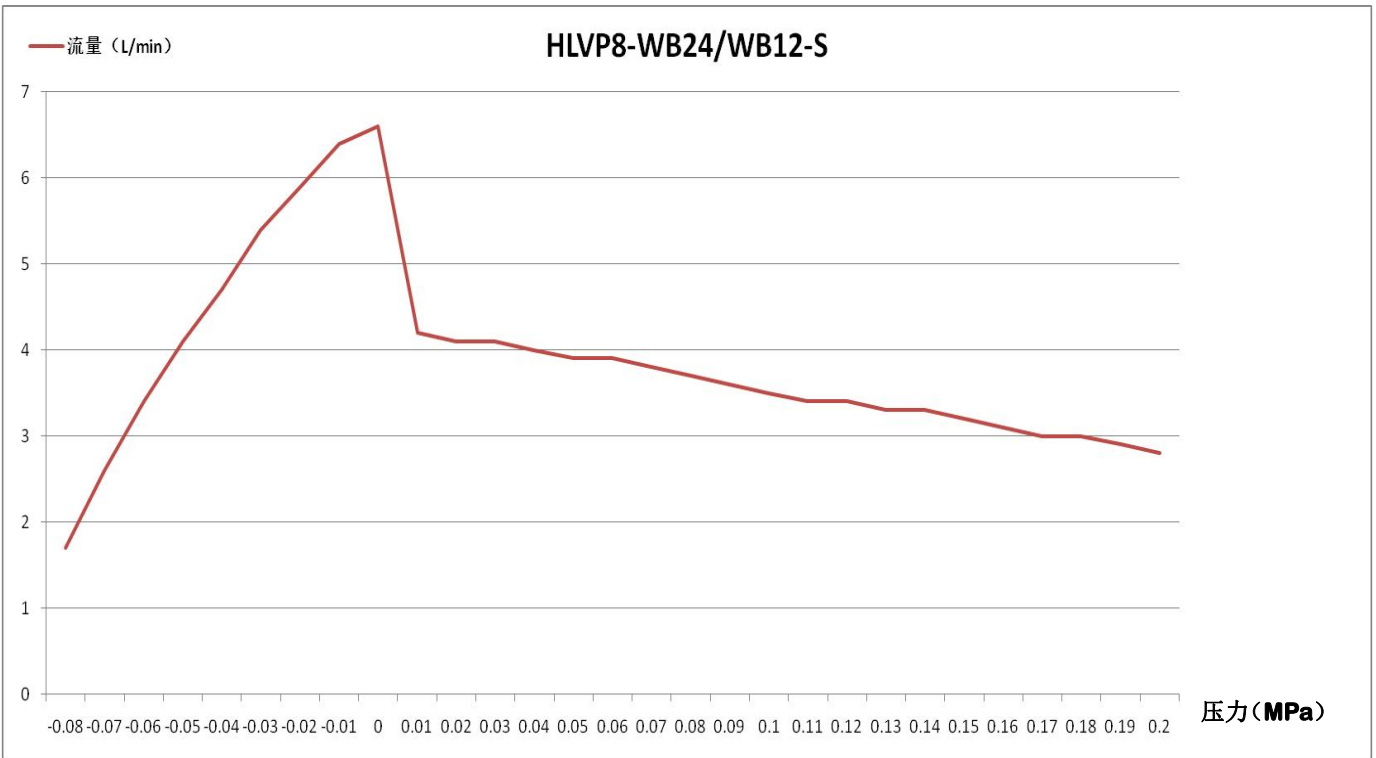
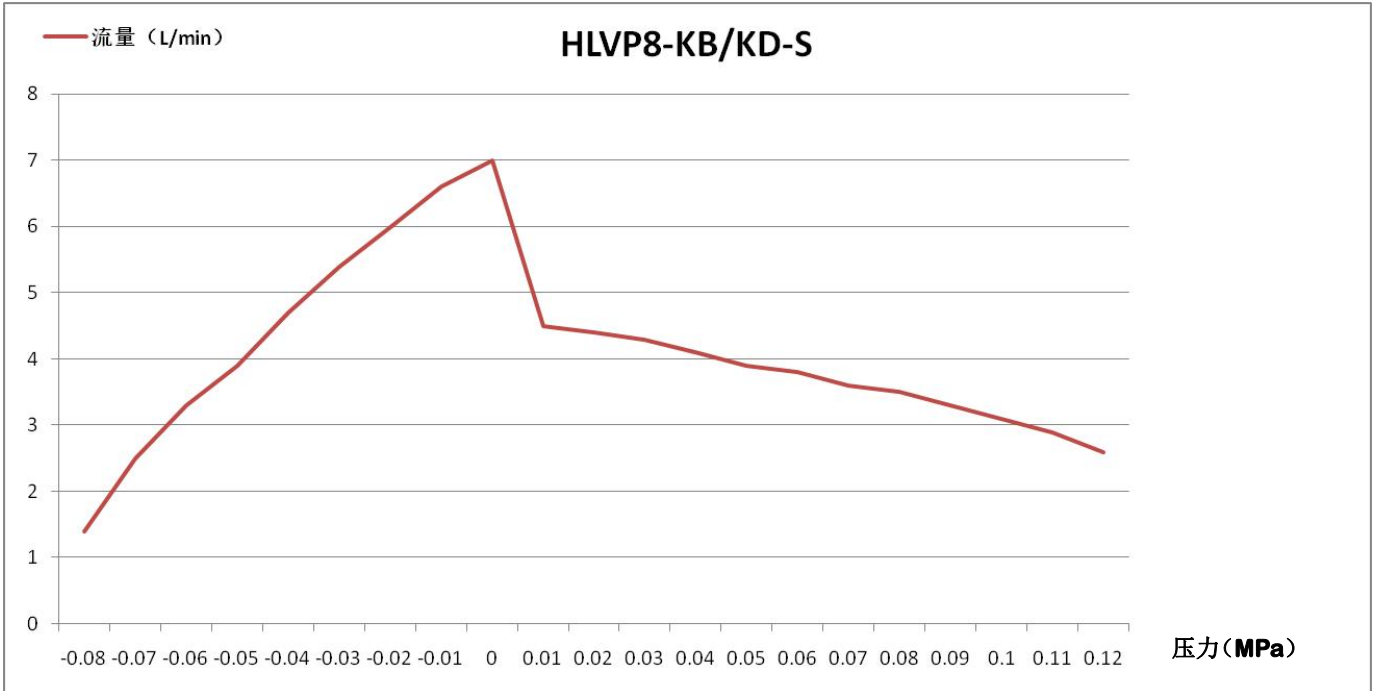
At present, we provide user installation method: side installation method



4. Flow curve

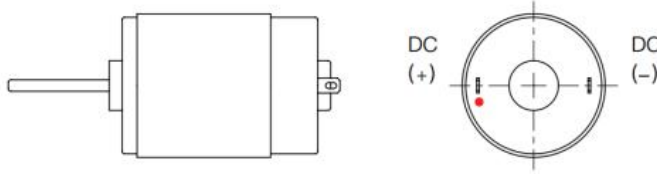






5. Motor control

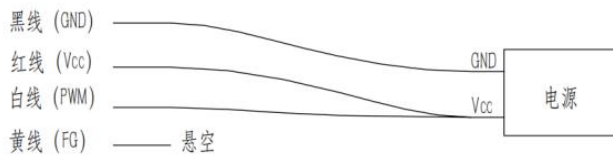
5.1 Switch control



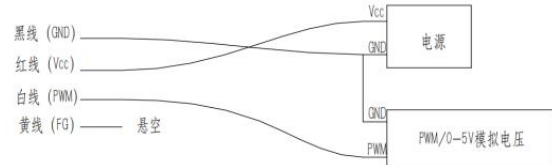
Note: According to the motor wiring diagram, the positive pole of the power supply is connected to positive, the negative pole is connected to negative.

5.2 PWM speed control

Red line	Yellow line	Blue line (white line)	Black line
Vcc	FG	PWM	GND
positive electrode	speed feedback	Speed regulation	negative electrode



Full speed work



Speed regulation work

三、Optional accessories

Name	Specifications	quantity	Function introduction
Outer PU tube	 4mm×6mm	0.3m	Suitable for connection installation to obtain large flow transmission
Straight connector	 3/32	2	2mm x 4mm hard tube or similar hose can be connected to the external

