

# Product Manual

Kamoer Fluid Tech (Shanghai) Co.,Ltd.

Version: A/1

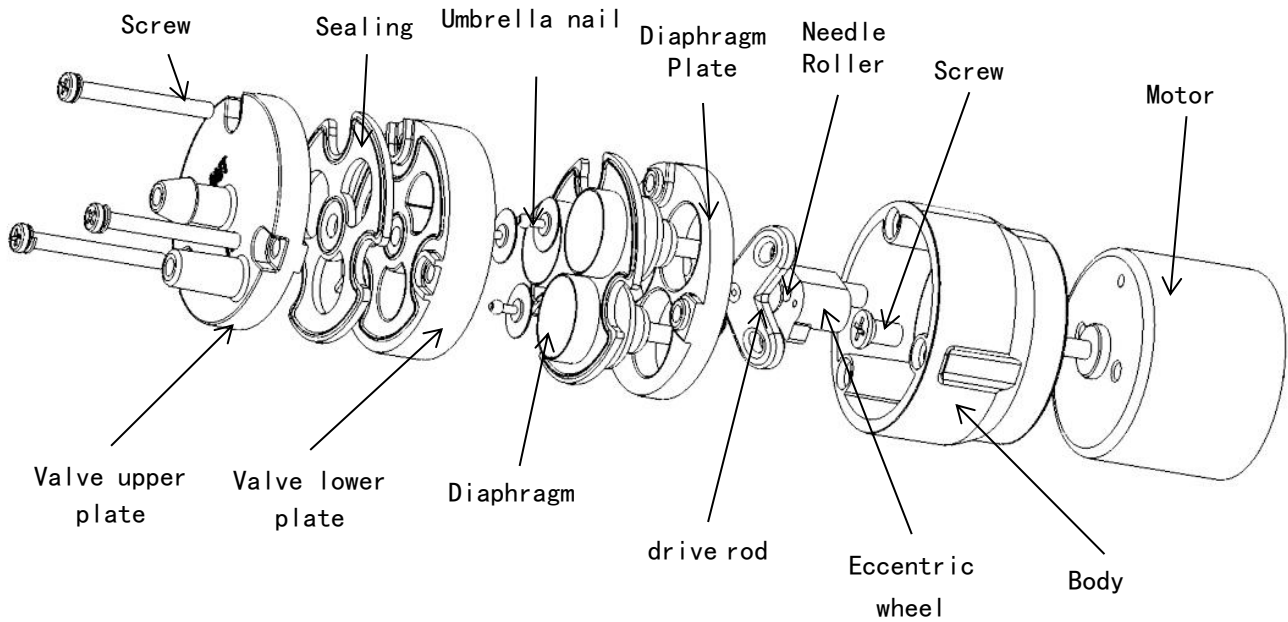
<b>Product name</b>	Mini Diaphragm Air Pump
<b>Model</b>	HDVP1
<b>Release Date</b>	2023.01. 05
<b>Manufacturer</b>	Kamoer Fluid Tech (Shanghai) Co.,Ltd.

## A. Product Overview

### 1. Product images



### 2. Product assembly drawing



### 3. Model definition

<b>HDVP1</b>	<b>B</b>	<b>24</b>	<b>Null</b>
Model	Motor type	Voltage	Speed regulation

#### 3.1 Motor type

B: Brushless motor

D: Brushed motor (not listed)



## 3.2 Voltage

6: DC 6V                      12: DC 12V                      24: DC 24V

## 3.3 Speed regulation

Empty: adjustable speed                      N: non-adjustable speed

## 4. Performance characteristics, typical applications

### 4.1 Performance characteristics

◆ Diaphragm material is EPDM , which has good resistance to chemicals such as alcohol, acid, alkali , oxidant, ketone and fat , and has strong chemical stability and poor oil resistance.

- ◆ Small size, powerful
- ◆ Good sealing
- ◆ Low noise
- ◆ Dry-running, durable and maintenance-free
- ◆ PWM speed regulation, wide range flow control
- ◆ Using DC brushless motor, long life

### 4.2 Typical applications

- ◆ Industrial Automation: suction cup equipment
- ◆ Medical equipment: constant pressure adsorption equipment
- ◆ Inkjet printer: air source output for nozzle protection
- ◆ Environmental Engineering: gas sampling
- ◆ Special Instruments and Equipment: portable gas analysis

### 4.3 Known Risk Notification

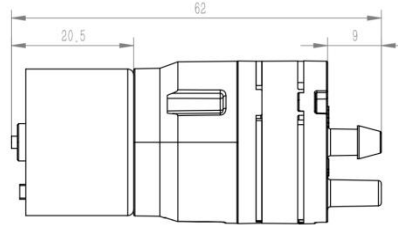
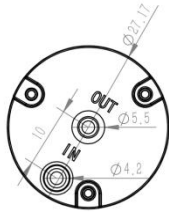
◆ The working environment of the product should not exceed 45°C, and the humidity should not exceed 70% (no condensation). The harsh working environment will cause premature damage to the product

- ◆ High overloading may result in premature failure of the product
- ◆ 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
- ◆ Frequent start and stop, overpressure or underpressure and other unreasonable working conditions will lead to premature damage of the pump
- ◆ Dust, oil and other pollutants in the medium will contaminate the pump parts, which will lead to premature damage of the pump



## B. Product Specification

### 1. Product Size

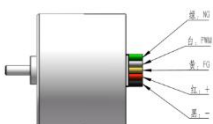


### 2. Technical Parameters

Project		Technical Parameters		
Basic parameters	Motor type	DC brushless motor		
	Model	HDVP1-B6	HDVP1-B12	HDVP1-B24
	Rated voltage	DC 6V	DC 12V	DC 24V
	Flow	≥1.0L/min		
	Negative pressure	-0.04MPa		
	Positive pressure	0.06MPa		
	Power	3W		
	Noise	≤60dB		
	Control method	PWM speed regulation		
	Weight	about 40g		
	Product life	≥2000h		

### 3. Motor parameters

Wiring Instructions:

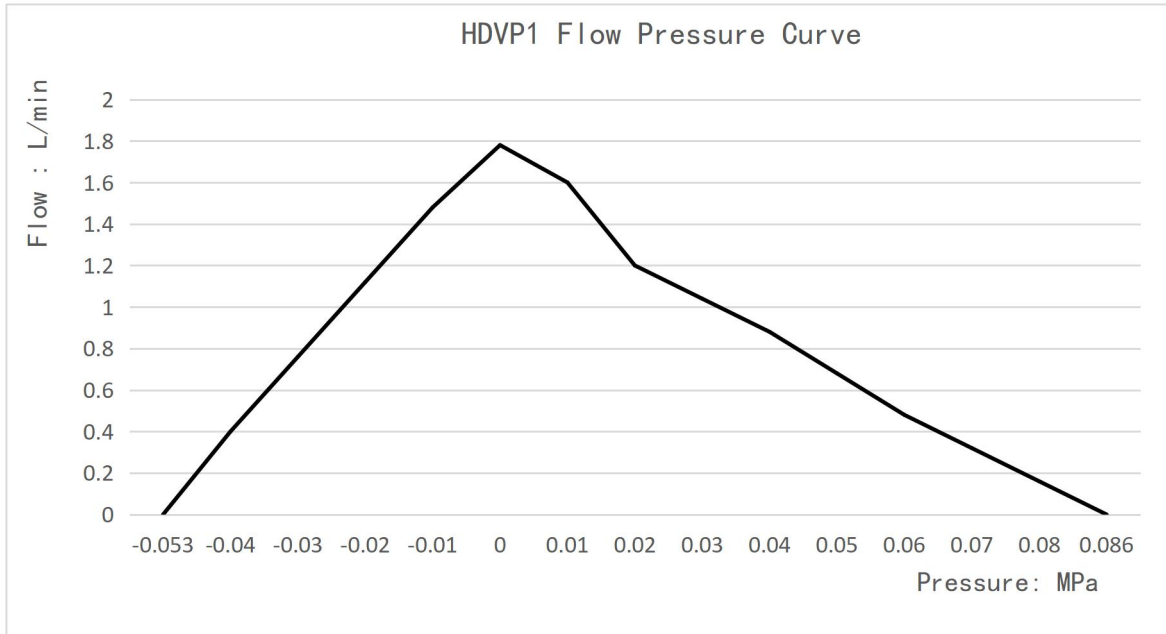


Wire	Color	Use	Remark
1	Blue	PWM debugging (full speed to ground)	Frequency: 10kHz~30kHz amplitude 5V, 100% low power and full speed
2	Black	Connect the negative pole	
3	Yellow	Null	
4	Green	Output signal line (6 pulses per circle)	Speed (rev/min)=(FG signal*60)/6
5	Red	Connect to the positive pole	



## 4. Flow curve






### 4.1 Flow-pressure curve



### 4.2 Flow speed regulation curve



## C. Optional Accessories

Name	Specifications		Function introduction
Connection PU tube		4mm×6mm	Suitable for gas transmission, economical
Connection silicone tube		4mm×6mm	Suitable for gas transmission, does not pollute the medium
Prefilter		ZFC-100 ZFC-200 (connected to Φ6 tube)	Contaminants for dust in the filter media, prolonging service life
Vacuum pump silencer		/	Extend the life of the air pump, small size, no consumables
Rubber retainer		/	For fixing the pump body, it has the characteristics of vibration reduction and heat resistance

