

Product Manual

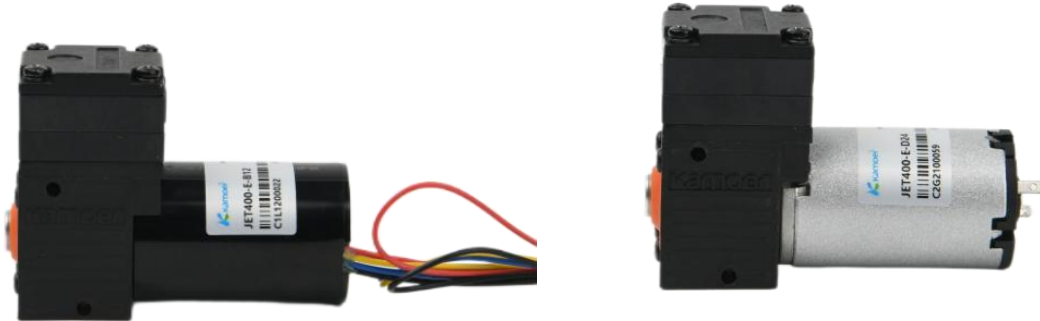
Kamoer Fluid Tech (Shanghai) Co., Ltd.

Version: A/0

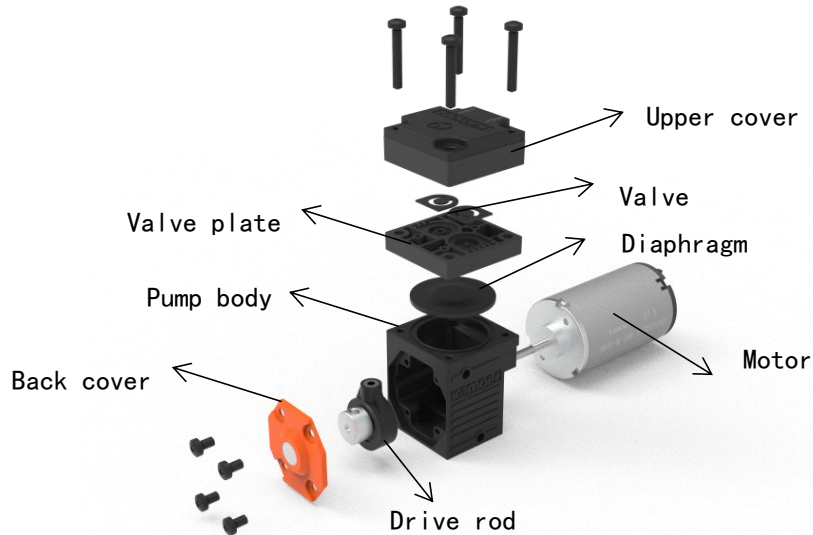
Product name	Micro Diaphragm Liquid Pump
Model	JET400
Release Date	2022.08.04
Manufacturer	Kamoer Fluid Tech (Shanghai) Co., Ltd.

A. Product Overview

1. Product Images



2. Product Structure



3. Model Definition

JET400	E	B	12
Model	Rubber material	Motor type	Input voltage

3.1 Rubber material

E: The valve plate and diaphragm made of EPDM have stable mechanical properties and general corrosion resistance

F: The FFKM valve plate and the PTFE-coated diaphragm have strong corrosion resistance, and the service life is average.

3.2 Motor type

D: brush motor B brushless motor

3.3 Input voltage

12: 12V voltage input 24: 24V voltage input



4. Features & Applications

4.1 Features

- JET400 series diaphragm air pumps are available in 24V and 12V voltage options, customers can choose the appropriate voltage according to their own usage scenarios
- The appearance of the product is personally checked by the design master
- Diaphragm pump with high pressure output, the output pressure is greater than 0.3Mpa
- Self-priming diaphragm pump with a suction lift of up to 2 meters
- M5 threaded interface, suitable for a variety of joints, 316L stainless steel joints
- The motor is optional, the brushless motor has better performance and life performance, and the brushed motor is more economical
- Optional FFKM valve plate and PTFE-coated diaphragm are compatible with most media on the market

4.2 Applications

- Environmental protection industry: such as used as a pump for liquid monitoring
- Medical devices: such as used as a reagent transfer pump
- Filling industry: such as used as a transfer pump for filling liquid
- Inkjet coding industry: such as used as a transfer pump for inkjet printers

4.3 Known risk notification

- The load of the pump should not be higher than 0.5Mpa, the pump may leak and cause premature damage
- Working continuously for 24 hours can cause the temperature of the pump to rise, the maximum temperature rise can reach 80° C, please pay attention to heat dissipation
- 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
- A small amount of emulsion, suspension and viscous liquid may cause the pump to not work properly
- The working environment of the product should not exceed 50° C, and the humidity should not exceed 80% (no condensation). 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
- The diaphragm with PTFE coating is selected, and there is a risk of liquid leakage when the pump works under the condition of liquid pressure greater than 0.2MPa



5. Product Certification, Intellectual Property

CN307203638S



B. Product Specification

1. Technical Parameters

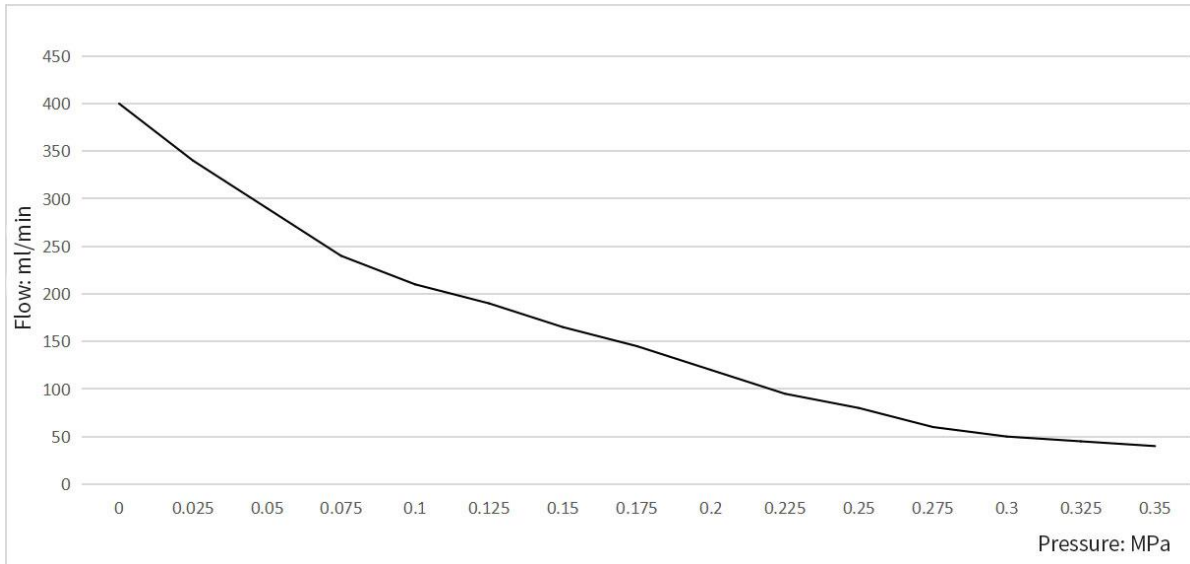
Item	JET400-ED	JET400-FD	JET400-EB	JET400-FB	
Basic parameters	Flow	≥ 350ml/min			
	Suction lift	≥ 2m			
	Lift	≥ 30m	≥ 15m	≥ 30m	≥ 15m
	Power	≤ 8W			
	Noise	≤ 62dB			
	Control method	Fixed speed work		PWM speed regulation, fixed speed work	
	Weight	about 200g		about 180g	
	Rated voltage	12/24V			
	Motor type	DC brush		DC brushless	
	Product life	≥ 2000 hours		≥ 6000 hours	≥ 3000 hours
Precautions	Applicable environment	Temperature range: 0°C~50°C; relative humidity: <80% (no condensation)			
	Supplementary Note	<p>The test results of the above parameters at standard atmospheric pressure, room temperature 25° C, medium is water, and the pump has no load pressure (the liquid has no drop).</p> <p>Noise test: Under the ambient noise of 35dB, the product is placed on a sponge pad with a thickness of 5mm, and the decibel meter is 50cm away 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, so the above parameters may differ from the actual parameters.</p> <p>FFKM rubber is affected by material properties. When the temperature is lower than 20 degrees Celsius, the pump may not be self-priming after draining.</p>			



2. Product material

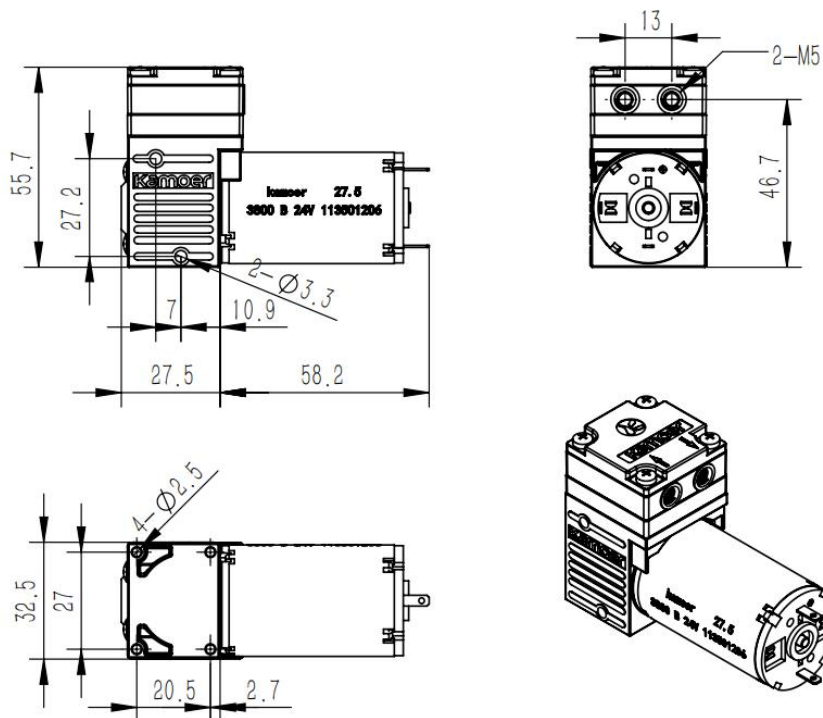
Model	Pump head	Pump body	Diaphragm	Valve	Eccentric wheel
JET400	PPS	PA	EPDM/PTFE	EPDM/FFKM	Aluminum

3. Flow Curve

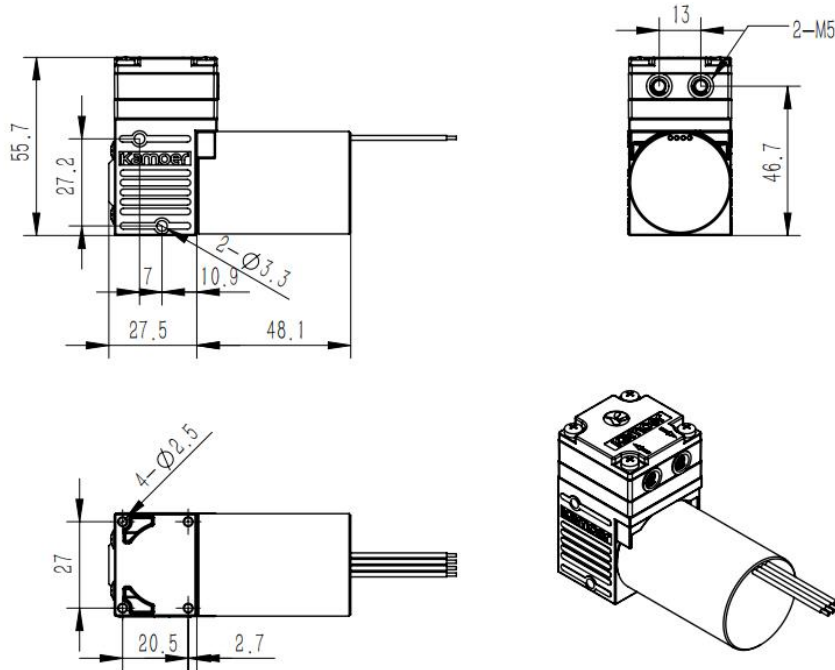


4. Product Dimensions

4.1 Brush motor type



4.2 Brushless motor type



5. Motor control

Red line	Yellow line	Blue line (white line)	Black line
Vcc	FG	PWM	GND
Positive electrode	Speed feedback	Speed regulation	Negative electrode

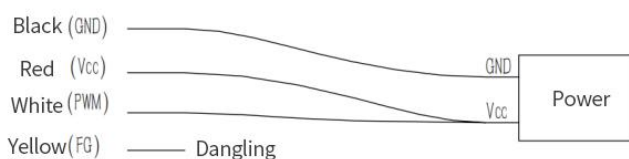
- PWM and 0-5V two speed regulation methods, PWM speed regulation: 10KHZ ~ 30KHZ, amplitude: 5V.
- Control ratio 0-10% does not turn, 11%-100% speed range.
- Analog voltage speed regulation: voltage 0-5V, 0-0.5V motor does not rotate, 0.6-4.5V speed regulation range.

- The speed feedback of the yellow line is connected to the oscilloscope probe or the host computer.

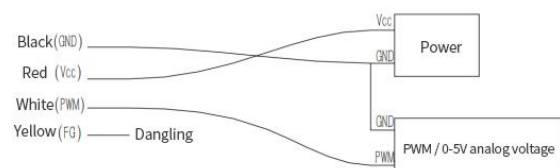
$$1 \text{ pulse/rotation speed (rev/min)} = \text{FG signal} * 60$$

- Full speed operation: connect the positive pole to the red wire and the blue wire (white wire); connect the negative pole to the black wire

- There are two kinds of speed control cables, blue and white, and the performance is the same.




Work at full speed



Speed control work



C. Optional accessories

Item	Specifications		Quantity	Function introduction
Metal barbed connector	M5-316L		2 PCS	For connection, can be connected with 3 mm × 5 mm tubes
Connection PU tube	3 mm × 5 mm		2 meters	For tube connection

