

Product manual

Kamoer Fluid Tech (Shanghai) Co., Ltd.

Version: A/0

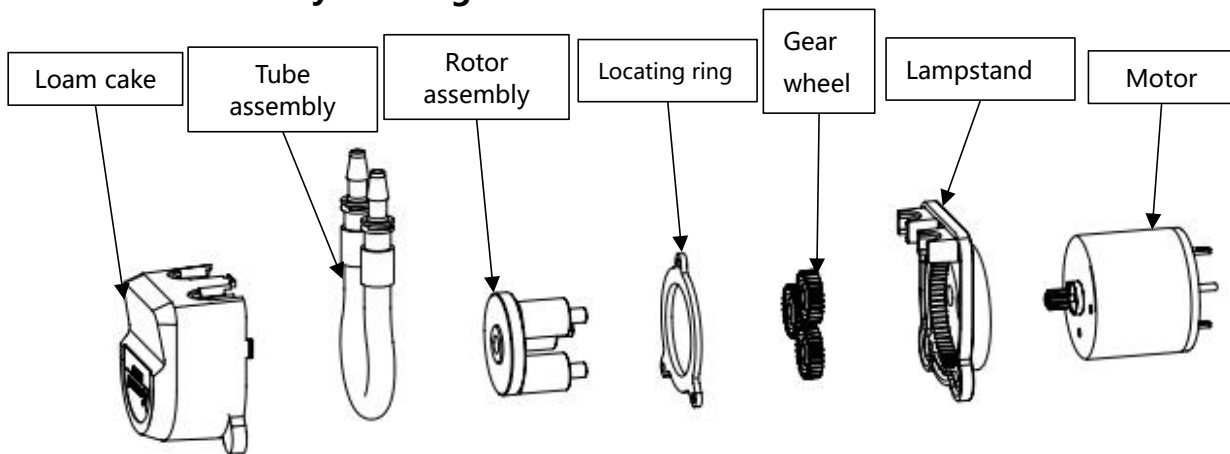
Product name	Micro peristaltic pump
Product number	KPA200
Execution date	2023/03/01
Manufacture	Kamoer Fluid Tech (Shanghai) Co., Ltd.

A. Product Overview

1. Product physical map



2. Product assembly drawing



3. Model definition

KPA200	SV	3	B	40	Null
Model	Motor model	Rotor	Cast	Tube number	Installation method



3.1 Motor model



Brushed Motor

SW 12V DC brushed

SV 24V DC brushed



Brushless Motor

12B 12V DC brushless

24B 24V DC brushless

3.2 Rotor

3 rotors

3.3 Tube type

B: BPT tube

3.4 Tube number

16#: 3.2mm×6.4mm

40#: 4.0mm×7.2mm

3.5 Installation method

Empty: standard installation

3.6 Product material

Pump head model	Cover	Base	Gear	Rotor	Connector
KPA200	PC	POM	PTE	PET	PP

4. Performance characteristics, typical applications

4.1 Performance characteristics

◆ KPA200 series peristaltic pump is a peristaltic pump driven by two motors, 24V/12V motor, which can provide different voltage options.

◆ The pump tube is imported BPT(B) with a wall thickness of 1.6mm, which is suitable for pump tubes of various specifications to meet the needs of different liquid transmission;

◆ Simple structure, small size, high cost performance;

◆ The transmission mode is gear transmission, the reduction ratio is 1:8, and the reliability is high.



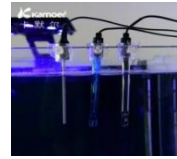
4.2 Typical applications



Water quality analyzer



Proportion of nutrient solution



Water exchange of aquarium

Analytical instruments: water quality analyzer, nutrient solution ratio, aquarium water change

5. Intellectual property

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Utility model patent

Appearance acceptance

Pending submission

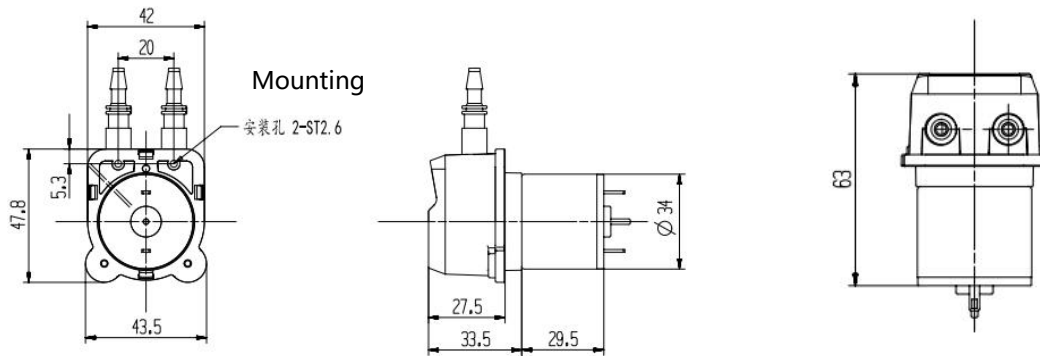
- ◆ Tubes are resistant to liquid media. Need to check chemical compatibility or conduct immersion tests, improper hose selection may cause tube damage quickly.
- ◆ The working environment of the product should not exceed 45°C, and the humidity should not exceed 70% (no condensation). The harsh working environment will cause premature damage to the product.
- ◆ Fluid leakage accidents due to tube ruptures depend on the fluid medium and your specific application conditions.
- ◆ High overloading may result in premature failure of the product.
- ◆ After a long time of use, the pump tube has a slight deviation, which does not affect the use of the product.
- ◆ Due to the influence of the tolerance of the parts, the mechanical noise produced during work is different.



B. Product specification

◆ KPA200 -SV/SW-3 DC Brushed Product Specifications

1. Product Dimensions

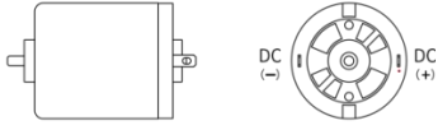


2. Technical Parameters

Item	Technical Parameters		
Basic parameters	Motor type	DC brushed motor	
	Flow range	$\geq 140\text{ml /min}$	
	Noise	$\leq 70\text{dB}$	
	Power	10W	
	Control method	Switch control	
	Weight	About 145g	
	Rated voltage	12V/24V	
	Pump tube life	B : 1000h	
	Motor life	800h	
	Reference noise value	In a quiet room with an ambient noise of 35 dB, the distance between the product and the noise tester is 50 cm , and the noise is 66 dB	
Pump flow	Reference flow rate (unit: ml/min)		
	Pump tube code	B16	B40
	ID×OD	Metric: 3.2 mm × 6.4 mm Inch: 1/8in × 1/4in	Metric : 4.0mm × 7.2mm Inch: 5/32in × 9/32in
	Pump tube material	B	
	12V/current: 0.8A	$\geq 140\text{ml /min}$	$\geq 220\text{ml /min}$
	24V/current: 0.4A	$\geq 140\text{ml /min}$	$\geq 220\text{ml /min}$
Supplementary Note	The above parameters are measured with pure water without pressure at room temperature and standard atmospheric pressure at 20°C. Actually, there will be certain errors in the flow rate due to different media, different outlet pressures, and DC motor speed errors. The data are for reference only. In addition, it can be customized according to customer needs.		



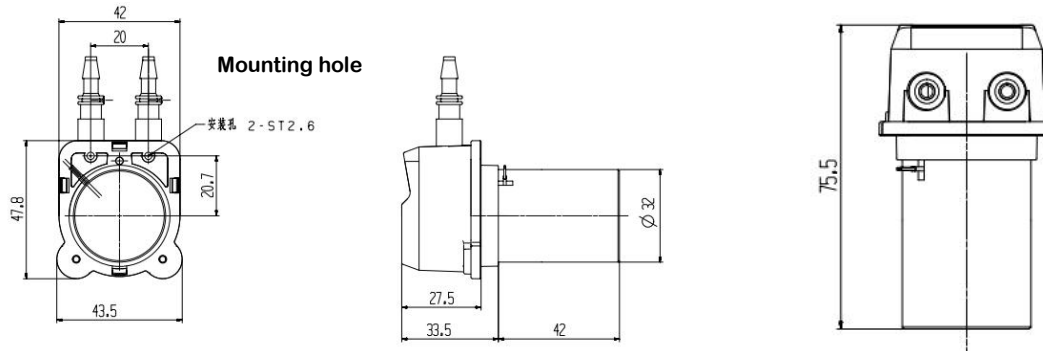
3. Motor control



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

◆ KPA200 -12B/24B-3 Brushless DC Product Specifications

1. Product Dimensions



2. Technical Parameters

Item		Technical Parameters	
Basic parameters	Motor type	DC brushless motor	
	Flow range	≥ 140ml /min	
	Noise	≤70dB	
	Power	10W	
	Control method	Switching value control/PWM speed regulation	
	Weight	about 155g	
	Rated voltage	12V/24V	
	Pump tube life	B : 1000h	
	Motor life	2000h	
	Reference noise value	In a quiet room with an ambient noise of 35dB, the product is 50cm away from the noise tester, and the noise is 65dB	
Pump flow	Reference flow rate (unit: ml/min)		
	Pump tube code	B16	B40
	ID×OD	Metric: 3.2 mm × 6.4 mm Inch: 1/8in×1/4in	Metric : 4.0mm × 7.2mm Inch: 5/32in×9/32in
	Pump tube material	B	
	12V/current: 0.8A	≥ 140ml /min	≥ 220ml /min
	24V/current: 0.4A	≥ 140ml /min	≥ 220ml /min
Supplementary Note	The above parameters are measured with pure water without pressure at room temperature and standard atmospheric pressure at 20°C. Actually, there will be certain errors in the flow rate due to different media, different outlet pressures, and DC motor speed errors. The data are for reference only. In addition, it can be customized according to customer needs		



Description of brushless motor wireless correspondence :

1- The red line is the positive pole of the power supply, the black line is the negative pole of the power supply, the white line is the speed control line, the yellow line is the signal feedback line (measuring the speed), and the green line is the commutation line (suspended to reverse, connect to the negative pole of the power supply to rotate forward).

2- Speed control port: PWM and 0-5V two speed control methods, speed range 13%-100% PWM frequency 10KHZ-30KHZ; amplitude: 5V, duty cycle 0-10% motor does not turn, 11%-100% Speed regulation range; 0-5V voltage speed regulation, 0-0.5V motor does not rotate, 0.6V-5V speed regulation range.

3- The speed feedback of the yellow line is connected to the oscilloscope probe or the host computer. 1 pulse/revolution.


4- Run at full speed, connect the red and white wires to the positive pole of the power supply, and the black wire to the negative pole

UL1332 Material: PTFE


- 5- FG-24AWG-yellow signal feedback (yellow)
- 6- Vcc-24AWG-red Positive pole of power supply (red)
- 7- SP-24AWG-white Speed port (white)
- 8- GND-24AWG-black Negative pole of power supply (black)
- 9- F/R-24AWG-green reversing port (green)



C. Adapter tube

Pump tube material	Characteristic	Standards compliant	Tube number
BPT tube (B) 	Good resistance to common chemicals, acid and alkali, and oxidation, with a lifespan of more than 1000h	RoHS FDA	16#, 40#

D. Optional accessories

Name	Specifications	Function introduction
Straight connector	5/32 	External can be connected 3.2mm×6.4mm 4 mm x 7.2 mm tube

