Precise And Reliable Fluid Transfer

Product Manual

Kamoer Fluid Tech(Shanghai) Co., Ltd.

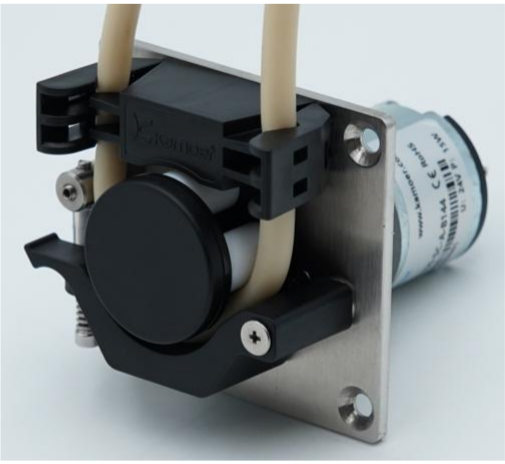
Version : A/0

Product name	Micro Peristaltic Pump
Product model	KPCS200
Execution date	2024.05.23
Company name	Kamoer Fluid Tech (Shanghai) Co.,Ltd.

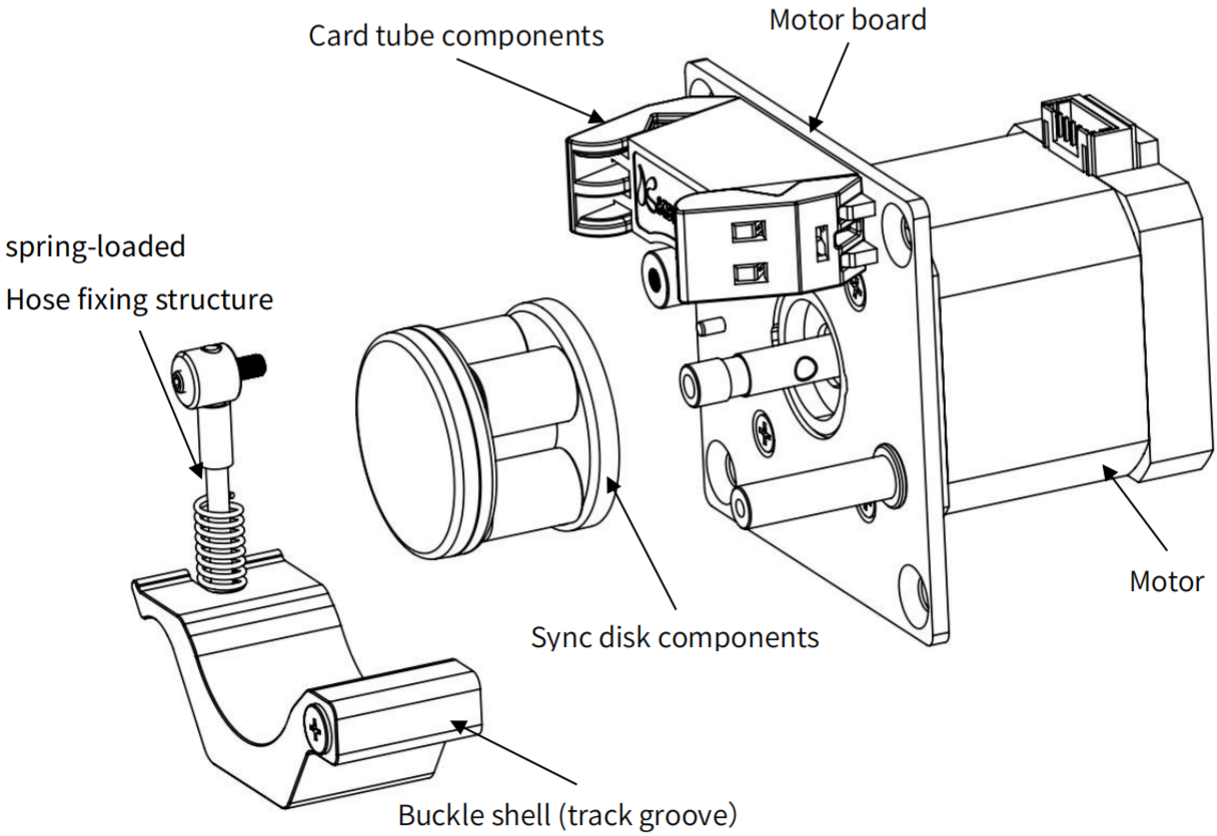
A、Product Overview

1. Product Picture





2. Product assembly drawing



3. Model Explanation

KPCS200	SC	A	50	4
Model	Motor model	Installation	Reduction ratio	Number of rotors

3.1. Motor model

SA: 24V stepper motor;

SC: 24V DC reduction motor; SD: 12V DC reduction motor （To be launched）

3.2. Installation

Code: A: Straight

3.3. Reduction ratio

None: Stepper motor; 30: 1:30 (245 rpm/min); 60: 1:60 (100 rpm/min)

3.4. Number of rotors

4: 4 rotors

3.5. Product material

Model	Buckle shell/synchronous disk	Motor seat	Rotor	Synchronous disk
KPCS200	Engineering Plastics	SUS304	PET	Engineering Plastics

4. Performance characteristics, typical applications

4.1. Performance characteristics

◆ KPCS200 series peristaltic pump is a peristaltic pump driven by DC reduction motor and stepper motor;

◆ Adopt high-performance functional plastic components, metal joints and mounting plates, with extremely stable performance;

◆ The Spring-Loading structure can adjust the spring pressure to obtain the appropriate transmission pressure and accuracy, greatly extending the service life of the pump tube;

◆ The hose is fixed with a quick disassembly structure to achieve quick and convenient pump tube replacement;

◆ Applicable to Silicone, Pharmed, Norprene and other hoses with a wall thickness of 1.6. It can be used as a continuous hose or a joint hose unit pump tube;

◆ 1.6 Pump tubes with different wall thickness and materials can meet the transmission requirements of different media;

◆ 4. The rotor pulsation is moderate and the panel is fixed for installation;

4.2. Typical application

- Food and drink
- Medical diagnosis
- Analytical Instruments
- Inkjet printing ink
- Washing cleaning
- Environmental protection equipment
- Experimental research
- Industrial machinery
- White goods
- Biochemical analysis

4.3. Known Risks

◆ If the hose is resistant to liquid media , it is necessary to check the chemical compatibility or conduct an immersion test. Improper hose selection may cause the hose to be damaged quickly.

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

◆ Liquid leakage accidents caused by hose rupture depend on the liquid medium and your specific application conditions.

◆ High overload may cause premature damage to the product

5. Product certification, intellectual property

Design



Utility Model



RoHSCertification



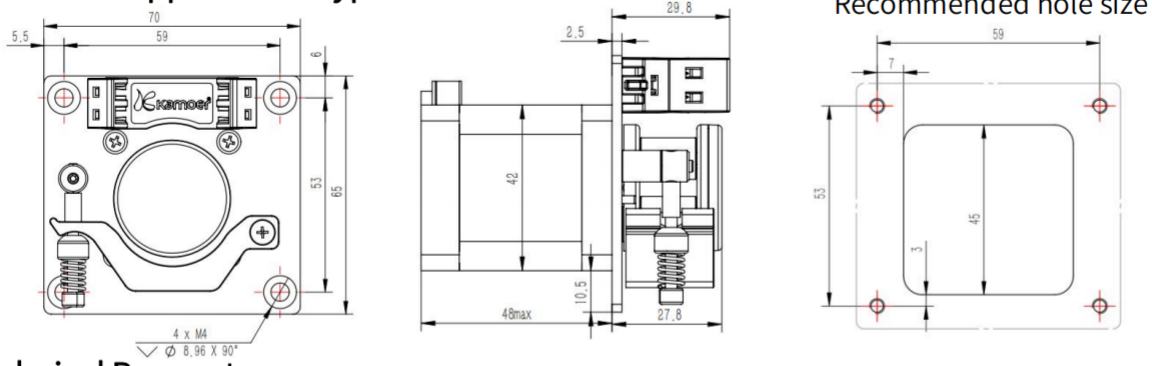
CE certification



B、Product Specifications

1. Product size

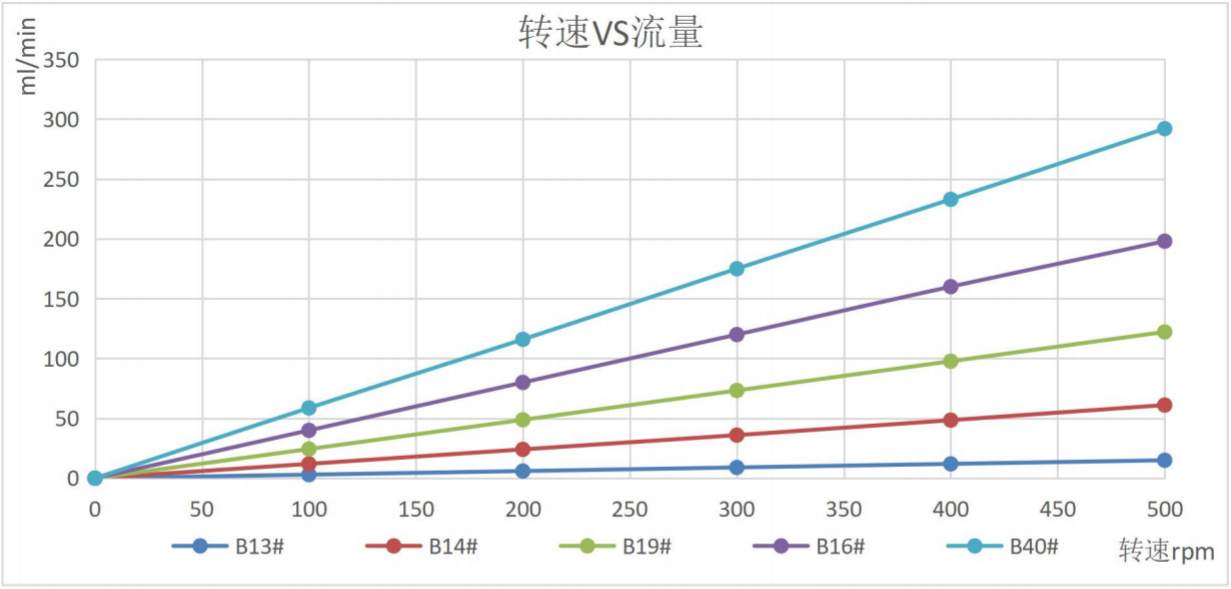
◆ KPCS200 stepper motor type



2. Technical Parameters

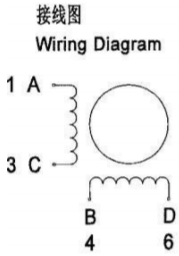
Item		Technical Parameters				
Basic parameters	Motor Type	Stepper Motor				
	Flow range	0.1 ml/min- 265 ml/min				
	Noise	⩽60dB				
	Power	20W				
	Control method	Switching control				
	Weight	Approx. 490 g				
	Rated voltage	24V				
	Pump tube life	S: 200h BPT: 1000h				
	Motor life	6000h (related to actual use conditions)				
	Reference noise value	Under the condition of 35dB ambient noise, the actual noise level at 50cm distance is less than 60dB				
Pump Tube flow quantity	Reference flow rate (unit: ml/min)					
	Pump tube code	13#	14#	19#	16#	40#
	Metric: Inner diameter x outer diameter	0.8mm x 4.0mm	1.6mm x 4.8mm	2.4mm x 5.6mm	3.2mm x 6.4mm	4.0mm x 7.2mm
	Imperial: Inner diameter x outer diameter	1/32in x 5/32in	1/16in x 3/16in	3/32in x 7/32in	1/8in x 1/4in	5/32in x 9/32in
	Pump tube material	B/S	B/S	B/S	B/S	B/S
	4 rotors SA (24V) 450rpm	13 ml/min	55 ml/min	108 ml/min	184 ml/min	265 ml/min
Additional Notes	The above parameters are measured with pure water without pressure at 20℃ room temperature and standard atmospheric pressure. In practice, the flow rate will have certain errors due to different media, different outlet pressures, DC motor speed errors, etc. The data is for reference only. In addition, it can be customized according to customer needs ; Due to the material characteristics of the fluororubber hose, if it is placed in the pump head for a long time without medium and not working, there is a small probability that the tube wall will stick, resulting in the possibility of being unable to absorb liquid. If it has accidentally stuck, you can remove the pump tube and twist it into a circle by hand to restore the elasticity of the pump tube. If it is left for a long time, liquid will be retained in the pump tube, which will prevent the above phenomenon from happening.					

3. Flow curve



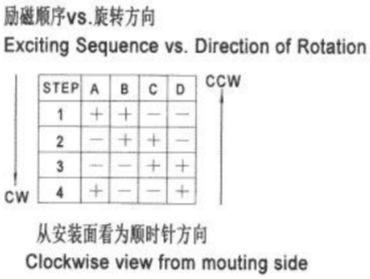
Flow curve is for reference only, and the specific parameters are subject to the actual working condition test.

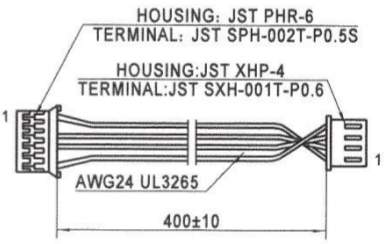
4. Motor control



连接器针位vs.引线颜色
Pin No. vs. Lead Wire Colour

PHR-6 PIN No.	颜色 Colour	XHP-4 PIN No.
1	棕 BRN	3
3	橙 ORG	4
4	红 RED	1
6	黄 YEL	2





Phase	Rated voltage	Step Angle	Rated current	Insulation class	Phase resistance	Phase inductance
2	3.72V DC	1.8°	1.2A	B	3.1ohm10%(20°)	4.9mH±20%

C、Adapter Hose

1、 Tube type

B: Imported PharMed® BPT　　N: Imported Norprene®　　S: Domestic silicone tube

2、 Tube No.

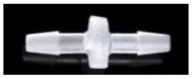
Tube No.	13#	14#	19#	16#	40#
Optional materials	B/S	B/N/S	B/N/S	B/N/S	B/N/S
Metric: Inner diameter x outer diameter	0.8mm x 4.0mm	1.6mm x 4.8mm	2.4mm x 5.6mm	3.2mm x 6.4mm	4.0mm x 7.2mm
Imperial: Inner diameter × outer diameter	1/32in x 5/32in	1/16in x 3/16in	3/32in x 7/32in	1/8in x 1/4in	5/32in x 9/32in

Note: The standard pump does not have a pump tube. The above tube models need to be equipped separately.

3、 Hose standard

Pump tube material	Characteristic	Standards compliant	Tube No.
BPT tube (B)	Resistant to common chemicals, acid and alkali, and anti-oxidation , with a service life of more than 1000 hours	RoHS FDA	13# 14# 16# 19# 40#
Silicone tube (S)	Low adsorption, good temperature resistance, good chemical corrosion resistance , life span of more than 200 hours	RoHS Food grade certified (GB 4806.11-2016)	13# 14# 16# 19# 40#
Imported Norprene® (N) 	Very suitable for food and dairy applications. Heat-resistant, ozone-resistant,acid-alkali-resistant, anti-aging and anti-oxidation, long life. Working temperature range -59°C～135°C	RoHS FDA	14# 16# 19# 40#

D、Optional Accessories

Name	Specifications		Function Introduction
Straight-through pagoda connector	1/16		Externally connectable to 1 mm x 3 mm hard tube or similar hose
Straight connector	3/32		Externally connectable to 2 mm x 4 mm hard tube or similar hose
Straight connector	1/8		Externally connectable to 3 mm x 5 mm hard tube or similar hose
Soft and hard pipe joints	1/16 soft and hard joint 3/32 soft and hard joint 1/8 soft and hard joint		Matching inverted cone connector for connecting hose and hard pipe (ø3.0/ø3.2 outer diameter), M6 and 1/4 thread optional
Inverted cone joint	Ø3.0 Pressure ring Ø3.2 Pressure ring		Matching soft and hard pipe joints to connect hoses and hard pipes (ø3.0/ø3.2 outer diameter), M6 and 1/4 thread optional
Anti-floating sinker	Diameter 6 mm Diameter 2.5 mm		Place the pump tube inlet completely in the liquid to ensure that the peristaltic pump tube can completely absorb the liquid
Peristaltic pump stepper driverPeristaltic pump stepper driver	MODBUS-RTU		It can realize speed regulation by built-in or external potentiometer, it can realize MODBUS RS485 communication and 0-10V analog speed regulation, and realize two start and stop modes of electric and trigger, with a maximum subdivision of 32, and the drive current can be set (0.7A, 1.2A , 1.7A, 2.2A, 2.7A, 2.9A, 3.2A, 4.0A)
pulse generating board + Stepper driver board	2802 + KMD-42B-P	 	Supports clockwise and counterclockwise operation, LED 4-digit digital tube display, various control methods: rotary encoder, foot switch, external analog quantity, 485 communication control

Special declaration: The company reserves the right to improve the appearance and technical specifications of the product without prior notice.