

Product Manual

Kamoer Fluid Tech (Shanghai) Co., Ltd.

Version : A/3

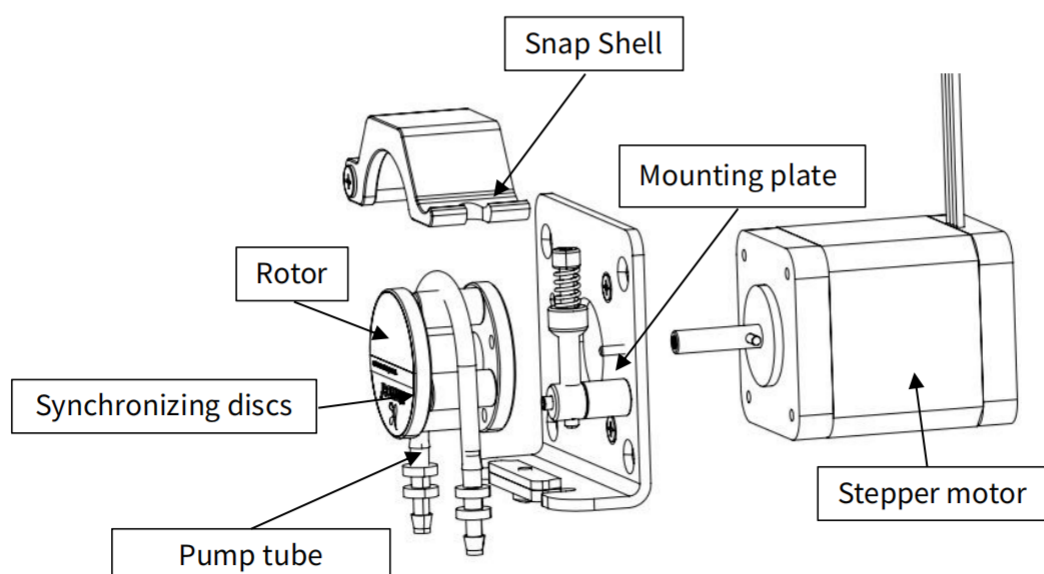
Product name	Micro peristaltic pump
Product model	KCS plus
Execution date	2022.12.28
Company name	Kamoer Fluid Tech (Shanghai) Co.,Ltd.

一、Product Overview

1. Product physical picture



2. Product assembly drawing



3. Model definition

KCS plus	2x	SL	4	B	06	A
Model	Number of channels	Motor selection	Number of rotors	Pump tube material code	Pump tube size code	Installation method

3.1 Number of channels

2X: two channels

Null: single channel

3.2 Motor model

SL: 24V stepper motor

SM: 12V stepper motor

3.3 Number of rotors

4:4 rotor

8:8 rotor

3.4 Tube type

B: Imported PharMed®BPT

S: Silicone tube

3.5 Tube number

Tube number	4#	6#	10#
ID × OD	1mm×3mm	2mm×4mm	3mm×5mm

3.6 Installation method

Code: A: L-shaped straight installation

B: Z-shaped installation

3.7 Product material

Model	Buckle shell	Motor mount	Rotor	Sync disk	Connector
KCS plus	engineering plastics	SUS304	PET	engineering plastics	PP

4. Performance characteristics, typical applications

4.1 Performance characteristics

- ◆ KCS plus series peristaltic pump is a peristaltic pump driven by 42 stepper motors
- ◆ Pump tube selection - the pump tube is imported BPT (B) tube and silicone tube (S), which can be applied to different transmission liquid requirements
- ◆ Pump tubing size optional (04#, 06#, 10#) peristaltic pump tubing to meet different flow requirements
- ◆ The pump body comes with a 4-hole mounting plate, no need to add it separately



- ◆ Optional 4, 8 rotors to meet different pulsation requirements
- ◆ Installation method - the installation method is fixed through the plate, and the pump tube adopts the quick release type
- ◆ Suitable for wall thickness 1.0mm pump tubing

4.2 Typical applications



4.3 Known Risk Notification

- ◆ Hoses are resistant to liquid media. Need to check chemical compatibility or conduct immersion tests; improper hose selection may cause hose 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 hose ruptures depend on the fluid medium and your specific application conditions
- ◆ High overloading may result in premature failure of the product

5. Product Certification, Intellectual Property

CN211573756U



RoHS certification



CE certification

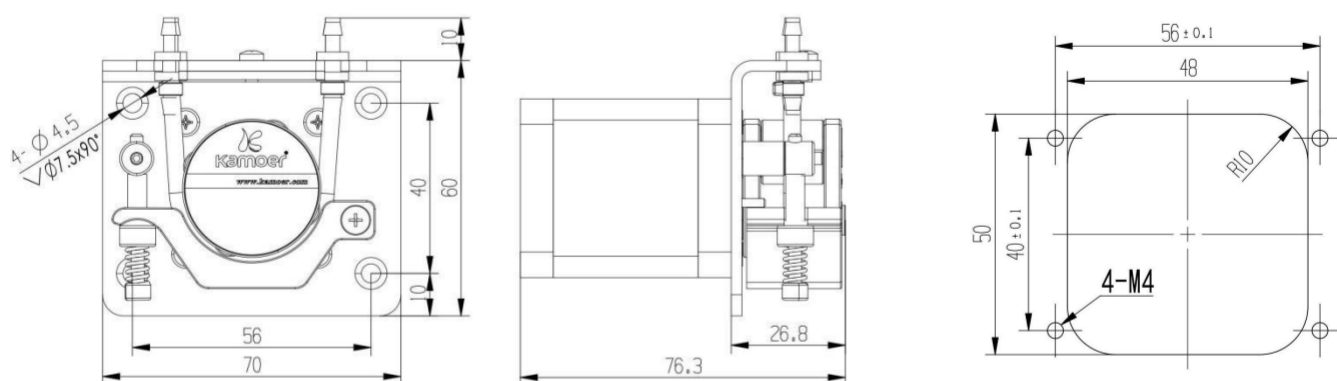


二、Product specification

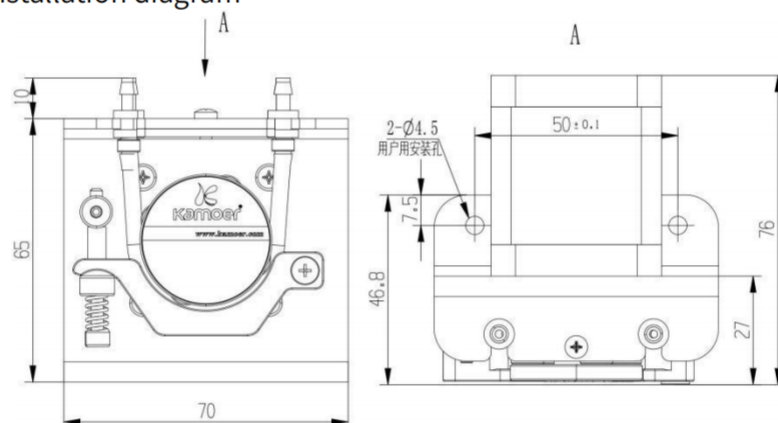
1. Product Size

1.1 Installation diagram of KCS plus code A

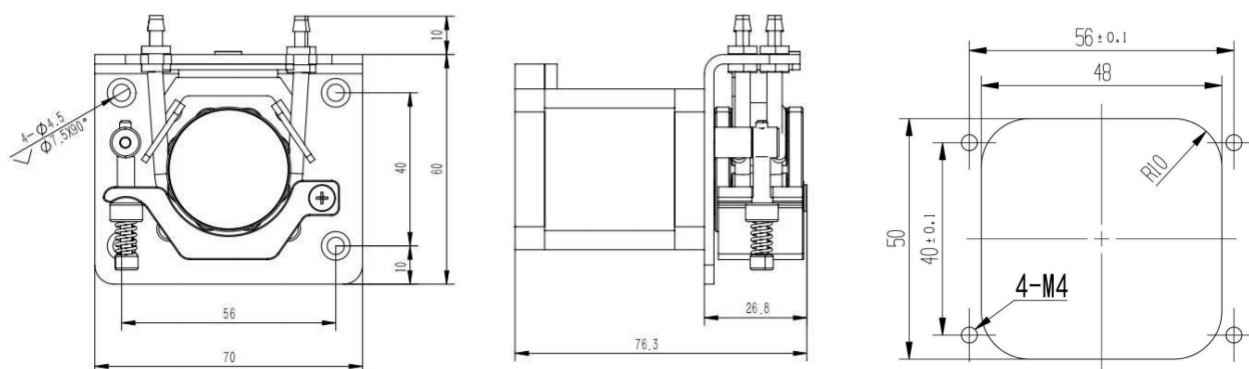
Recommended installation hole size



1.2 KCS plus code B installation diagram



1.3 KCS plus-2X code B installation diagram

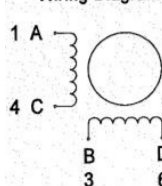


2. Technical Parameters

Project			Technical Parameters							
Basic parameters	Motor type		Stepper motor							
	Flow range		0.01 ml/min ~ 170 ml/min							
	Noise		≤ 60dB							
	Power		≤ 20W							
	Control method		Stepper motor driver							
	Weight		About 500g							
	Rated voltage		12V/24V							
	Pump tube life		S: 200h BPT: 1000h							
	Motor life		6000h							
	Reference noise value		Under the ambient noise of 35dB, the measured distance of 50cm is less than 60dB							
KCS plus reference flow rate (unit: ml/min)										
Pump flow	Pump tube code		4#	6#	10#	4#	6#	10#		
	ID × OD		1mm×3mm	2mm×4mm	3mm×5mm	1mm×3mm	2mm×4mm	3mm×5mm		
	Pump tube material		BPT			Silicone tube				
	4 rotors	24V (SL)	22ml/min	80ml/min	160ml/min	25ml/min	90ml/min	170ml/min		
	8 rotors	450rpm	15ml/min	50ml/min	80ml/min	16ml/min	50ml/min	80ml/min		
KCS Plus2X Reference flow rate (unit: ml/min)										
Pump flow	Pump tube code		4#		6#		4#		6#	
	ID × OD		1mm×3mm		2mm×4mm		1mm×3mm		2mm×4mm	
	Pump tube material		BPT				Silicone tube			
	8 rotors (Single-tube)	24V (SL) 450rpm	12ml/min		31ml/min		12ml/min		31ml/min	
Supplementary Note			The above parameters are measured with pure water and no pressure at room temperature and standard atmospheric pressure at 20°C. Actually, there will be some 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

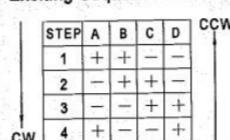
接线图
Wiring Diagram



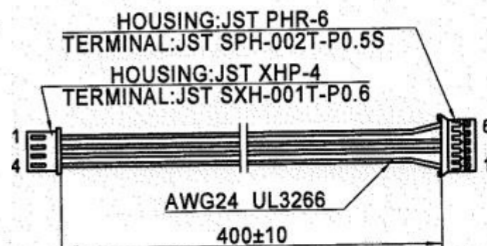
连接器针位vs.引线颜色
Pin No. vs. Lead Wire Colour

PHR-6 PIN No.	XHP-4 PIN No.	颜色 Colour
1	1	黑 BLK
3	3	红 RED
4	2	绿 GRN
6	4	蓝 BLU

励磁顺序vs.旋转方向
Exciting Sequence vs. Direction of Rotation

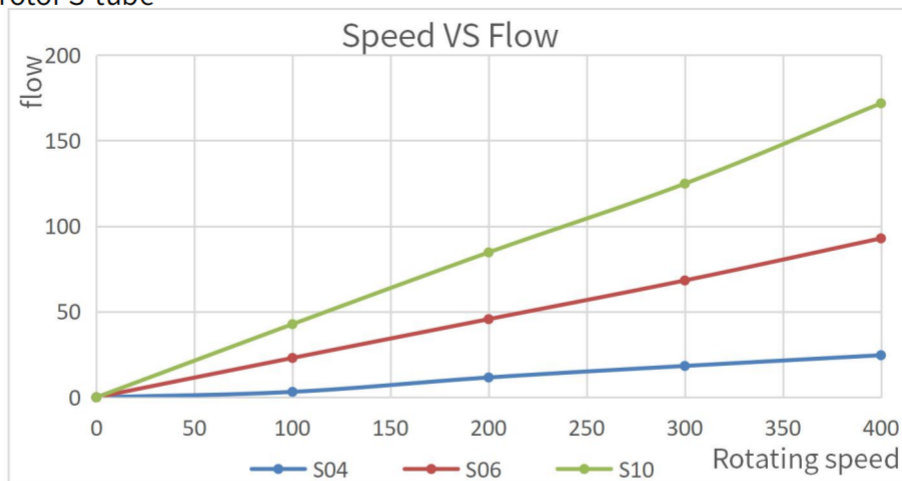
STEP	A	B	C	D	
1	+	+	-	-	
2	-	+	+	-	
3	-	-	+	+	
4	+	-	-	+	

从安装面看为顺时针方向
Clockwise view from mounting side

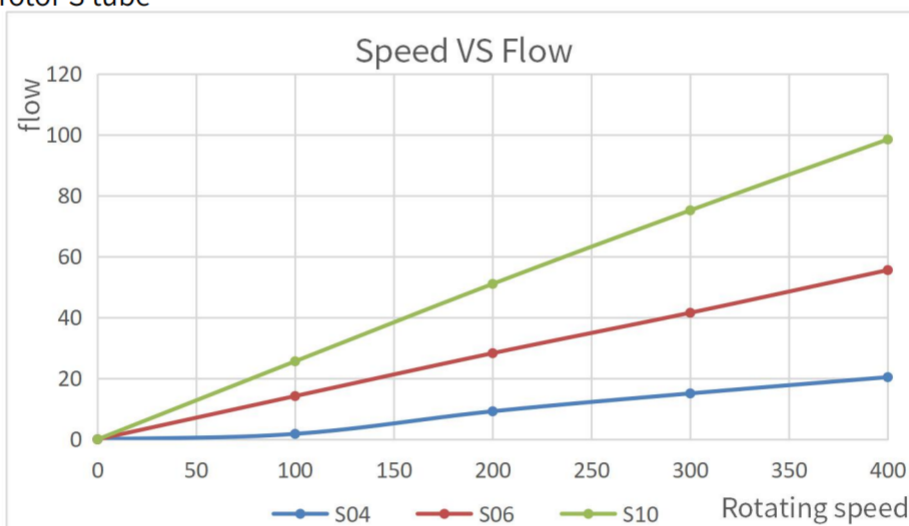


4. Flow curve



4.1 KCS plus, 4-rotor S-tube



4.2 KCS plus, 8 rotor S tube









三、Adapter hose

Pump tube material	Characteristic	Standards compliant	Tube number
BPT tube (B) 	Resistant to common chemicals, acid and alkali and oxidation , with a lifespan of more than 1000h	RoHS FDA	04# 06# 10#
Silicone tube (S) 	Low adsorption, good temperature resistance, good chemical corrosion resistance, life over 200h	RoHS Comply with food grade certification (GB 4806.11-2016)	04# 06# 10#



四、Optional accessories

Name	Specifications		Function introduction
Straight through pagoda connector	1/16		1mm x 3mm hard tube or similar hose can be connected to the external
Straight connector	3/32		2mm x 4mm hard tube or similar hose can be connected to the external
Straight connector	1/8		3mm x 5mm hard tube or similar hose can be connected to the external
Anti-floating sinking head	Path 6 diameter 2.5		Place the pump tube inlet completely in the liquid to ensure that the peristaltic pump tube can completely absorb the liquid.
Peristaltic pump stepper drive	MODBUS-RTU		Can realize built-in and external potentiometer speed regulation, MODBUS RS485 communication and 0-10V analog speed regulation, realize electric and trigger two start-stop mode, subdivision maximum 32, drive current can be set (0.7A, 1.2A, 1.7A, 2.2A, 2.7A, 2.9A, 3.2A, 4.0A)
Pulse generator board + stepper driver board	2802 + KMD-42B-P		Support clockwise and counterclockwise operation, LED 4-digit digital tube display, various control methods: rotary encoder, foot switch, external analog, 485 communication control.

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

