

Product Manual

Kamoer Fluid Tech (Shanghai) Co., Ltd.

Version : A/2

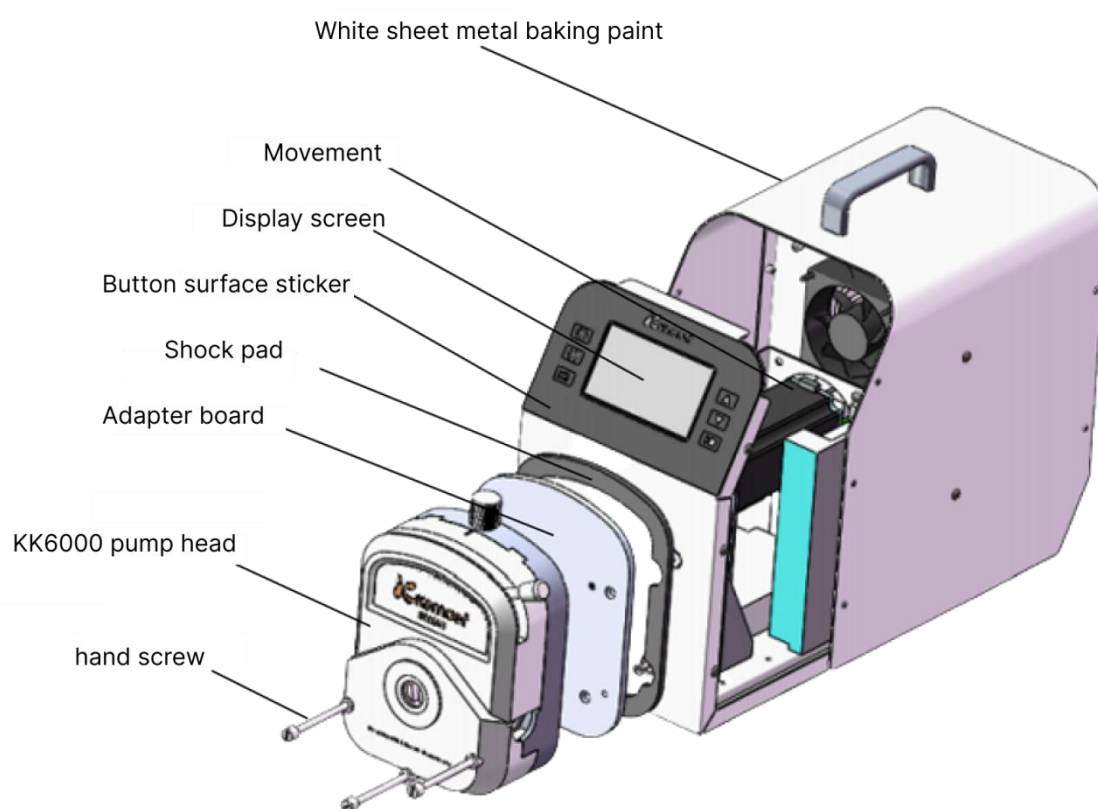
Product name	Smart peristaltic pump
Product model	M5
Execution date	2024.07.18
Company name	Kamoer Fluid Tech (Shanghai) Co.,Ltd.

1. Product Overview


1.1 Product physical picture




1.2 Product assembly drawing



1.3 Optional pump tube material

Pump tube material	Code name	Icon	Characteristic	Standards compliant
Silicone tube	S		Low adsorption, good temperature resistance, less prone to aging, low precipitates, etc. Chemical corrosion resistance decreases with increasing temperature. Working temperature: -60 °C~200 °C.	RoHS Complies with food grade certification (GB4806.11-2016)

1.4 Optional pump heads (more rotors, smaller pulses)

Pump head type	wall thickness supported	Number of rotors	Picture
KK6000	3.5mm	3 rotors	

1.5 Standard selection

Standards	National standard	American Standard	European Standard	English Standard	Australian Standard
Code	GB	US	EU	UK	AU

1.6 Performance characteristics and typical applications

1.6.1 Performance characteristics

- Large flow rate, easy to replace pump pipes
- Stainless steel rotor, long service life
- Stepper motor, precise control
- Suitable for the transmission of viscous and non viscous liquids
- The pump pipe has a thicker wall thickness and can withstand greater pressure
- Can be connected to an external induction device for automation
- Can achieve remote control of mobile apps
- Built in 4 working modes for easier use

1.6.2 Typical Applications

- Packaging equipment: food automatic packaging machine, reagent automatic packaging machine
- Chemical reagent transportation: laboratory liquid transfer and separation





Food automatic
packaging machine



Automatic reagent
packaging machine



Laboratory liquid
transfer

1.7 Product main material

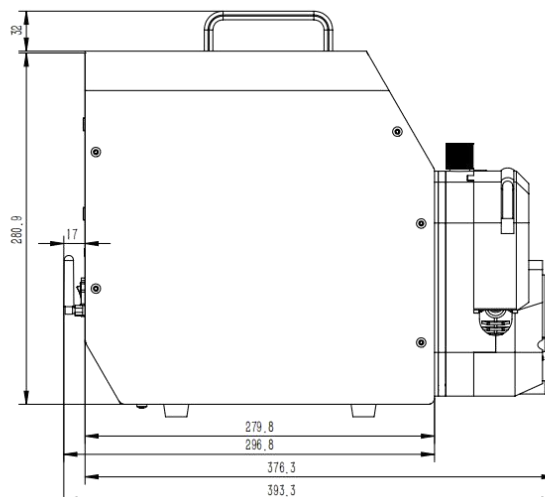
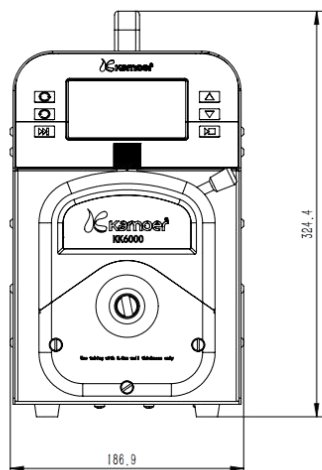
Shell	Pump head			
	Upper shell	Lower shell	Rotor	Synchronous disk
Sheet metal baking paint	Engineering plastics	Engineering plastics	Stainless steel	Stainless steel

1.8 Product Risk Warning

- Whether the hose can withstand liquid media requires checking for chemical compatibility or conducting immersion experiments. Improper hose selection may lead to rapid damage to the hose.
- The working environment temperature of the product ranges from 0 °C to 60 °C, and the relative humidity is less than 80% RH without condensation. The harsh working environment can lead to premature damage to the product.
- The liquid leakage accident caused by hose rupture depends on the liquid medium and your specific application conditions.
- High overload work may lead to premature product damage.

2. Product specification

2.1 Product Size



2.2 Technical Parameters

Project		Technical Parameters	
Basic parameters	Operating Voltage	AC100-240V	
	Total Weight	Approximately 10.845KG (including a single pump head)	
	Size	394x187x325mm	
	Power	150W	
	Maximum speed	600RPM	
	Speed control resolution	0.1RPM	
	Language settings	Chinese/English	
	Mode settings	Continuous mode/Volume mode	
	External control	Temperature sensor (optional), liquid level sensor (optional), bracket (optional), foot switch (standard)	
	Motor type	Stepper motor	
	Motor life	≥6000h	
	Pump head	KK6000	
	Reference noise value	≤75db	
Pump pipe flow	Reference flow rate (in ml/min)		
	Pump tube code	73#	82#
	Inner diameter * Outer diameter	9.5*16.1mm	12.7*19.3mm
	Flow	8000	11000

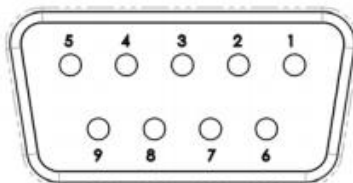
Attention: The maximum flow rate above was obtained by testing water with a new pump tube aged for 30 minutes at room temperature (approximately 25 °C), for reference only. Environmental temperature, material and elasticity of the pump tube, and viscosity of the testing liquid can all affect the actual flow rate. The thickness of the pump pipe will affect the maximum rotational speed for actual stable operation.



2.3 Interface definition



- 1. Fan:** Machine fan, used to eliminate heat during machine operation;
- 2. Liquid level sensor interface:** used to connect and insert liquid level sensor extension components, enabling the instrument to have liquid level detection function;
- 3. Temperature sensor interface:** used to plug in temperature sensor extension components, enabling the instrument to have temperature detection function;
- 4. CAN communication interface:** connected to RJ45 connector network cable, remote control of this machine can be achieved through CAN;
- 5. RS485 communication interface:** connected to RJ45 connector network cable, which can remotely control the machine through RS485;
- 6. Wi Fi antenna:** 2.4G Wi Fi antenna, which can be controlled through a mobile app;
- 7. Integrated switch:** switch and power cord interface;
- 8. 9. Expansion interface:** Used to connect with expansion devices such as foot switches, PCs, PLCs, etc. The two ports can be freely plugged in and out.






No.	Tag Description	Wiring name	Parameter Definition
1	DCD1	Analog quantity control direction (DIR)	High level clockwise, low level counterclockwise
2	RXD2	Analog quantity control common terminal (GND)	



3	TXD3	Analog quantity control start stop (Q/T)	Low level start, high level stop
4	DTR4	Foot switch (+)	
5	GND5	Foot switch (-)	
6	DSR6	0-5V control (5V -)	
7	RTS7	0-5V control (5V+)	0~5V corresponds to a speed of 0.1~600rpm
8	CTS8	4-20mA control (mA -)	
9	RI9	4-20mA control (mA+)	4-20mA corresponds to a speed of 0.1~600rpm

2.4 Accessory

Accessory Name	Accessory image	Function Introduction
Temperature sensor (optional) GT-2: BB.02.0009		<p>Temperature sensors can be used to monitor environmental temperature, liquid temperature, or the temperature of other objects. The temperature sensor code is GT-2, and its sensing temperature range is -55 °C to +125 °C ; Under commonly used temperature conditions (-10 °C ~ +85 °C), the temperature accuracy can reach ± 0.5 °C. The wire length of the temperature sensor is 2 meters.</p> <p>The temperature sensor cable is an optional accessory and needs to be purchased separately.</p>
Foot switch (standard) 10.09.0334		<p>The foot switch is used to replace the start/stop button. In a suitable interface, pressing the foot switch can control the start and stop of the pump, greatly improving the user experience.</p> <p>The foot switch is a standard accessory with a wire length of 1.5 meters.</p>
Liquid level sensor (optional) Liquid air detection: BB.03.0025 Liquid Full Test: BB.03.0008		<p>There are two types of liquid level sensors:</p> <p>A type used for liquid void detection, where the instrument provides an alarm when the liquid in the storage bottle is about to run out; Another type is used for liquid full detection. When the liquid collection bottle is almost full, the instrument provides an alarm and can automatically stop liquid delivery.</p> <p>The default capacity of the container is 2L, and the container size is $\phi 125\text{mm} \times 230\text{mm}$; The sensor wire length is 2 meters, and the pipeline length is 2 meters. The default pipeline specification is $\phi 5\text{mm} \times \phi 10\text{mm}$. The liquid collection bottle can provide both vacuum and non vacuum containers.</p> <p>Need to purchase separately.</p>

