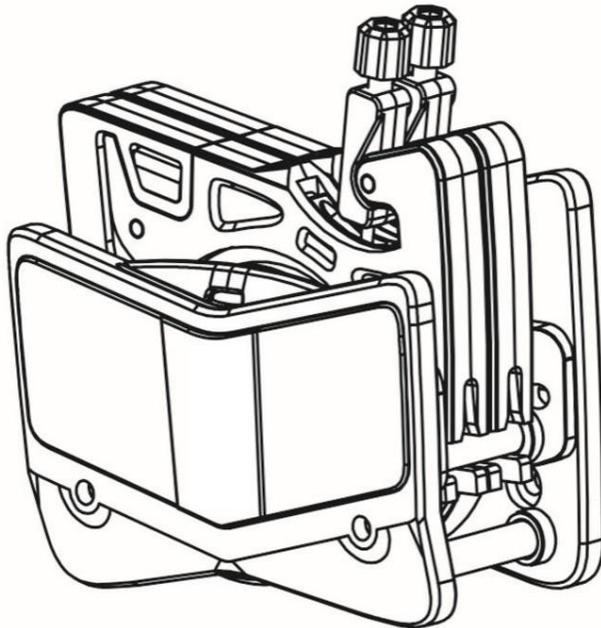


# Manual of AMC Series

## Pump Head





**Note:**

- Please read the manual carefully before operating the product.



**Warning:**

- Tubing may have crack due to wear. It results in the overflow of fluid from tubing. In that time human body and instruments may be harmed. So users must check frequently and change tubing in time.
- Please stop pump head rotating when replacing the tube or changing the tube position, otherwise may cause fingers or clothes got caught.
- There are moving parts of the pump head inner, before opening the upper block, it must be carried out according to the following requirements:
  - Ensure the pump is isolated from the main power supply.
  - Ensure there is no pressure in tubing.
  - If the tubing gets mistakes, ensure the liquid in the tubing is discharged to other containers or drain tubing.
  - If transports the dangerous liquid, must wear the protective clothing and eye protection.

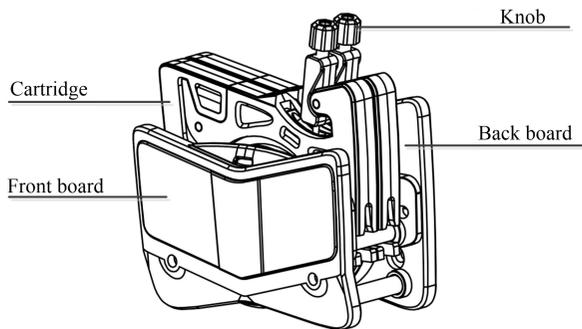
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### 1. Product Introduction

AMC series pump head, flexible positioning mechanism, users can install and remove cartridge easily. Flexible pressure tube design to extend the service life of the tube. Stepless adjustment of pressure tube gap to improve the transmission accuracy between channels. 304 stainless steel roller assembly, two types roller structures: 6 rollers and 10 rollers. Multichannel, low flow rate transferring.

### 2. Pump Head Instruction



#### 2.1 Pump Head Installation

Usually, the pump head has been installed on the pump drive. Below is the pump head installation instruction, if the pump head is separately with the pump drive when you receive it. And when users need to change pump head, please also refer to the below instruction:

- First, remove the tube clamp to install the pump head.
- The pump head is connected to the driver with four hexagon socket screws (M4).
- First put the shaft head into the drive coupling slot, then insert four screws into the mounting hole of the rear support plate respectively, align the four screws with the mounting hole of the drive, and tighten the screws with an Allen wrench respectively.

**2.2 Tubing Installation**



1. Pressing elastic locking arm mechanism to open cartridge.



2. After the cartridge being taken off, install tubing, two adjacent tube clamps determine a working position.



3. Install the cartridge to the pump head, press it into the working position.



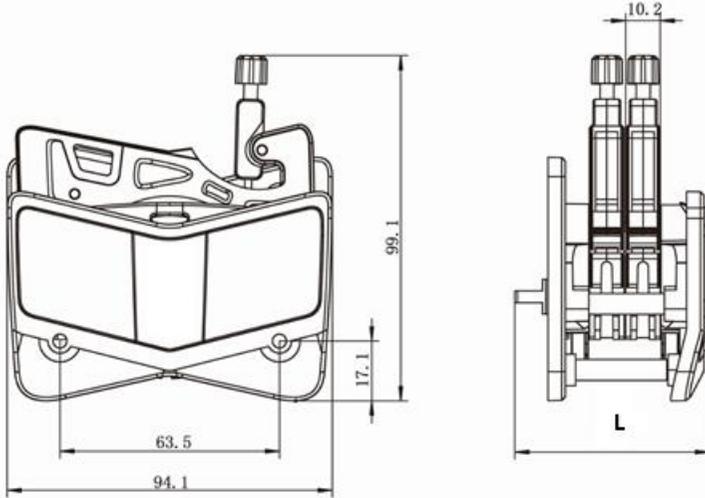
4. Pull the lever to fix the cartridge on the pump head.



5. Installation finished. Turn the knob to adjust the pressure tubing gap according to the tubing size.

3. Dimension Drawing

Unit: (mm)



- Note:** 1) Each additional channel needs to increase the thickness of the card by one.  
2) The value after AMC increase the number of channels

Model	L
AMC1	43.7
AMC2	53.9
AMC3	64.1
AMC4	74.3
AMC5	84.5
AMC6	94.7
AMC8	115.1
AMC10	135.5
AMC12	155.9

## AMC Series Pump Head

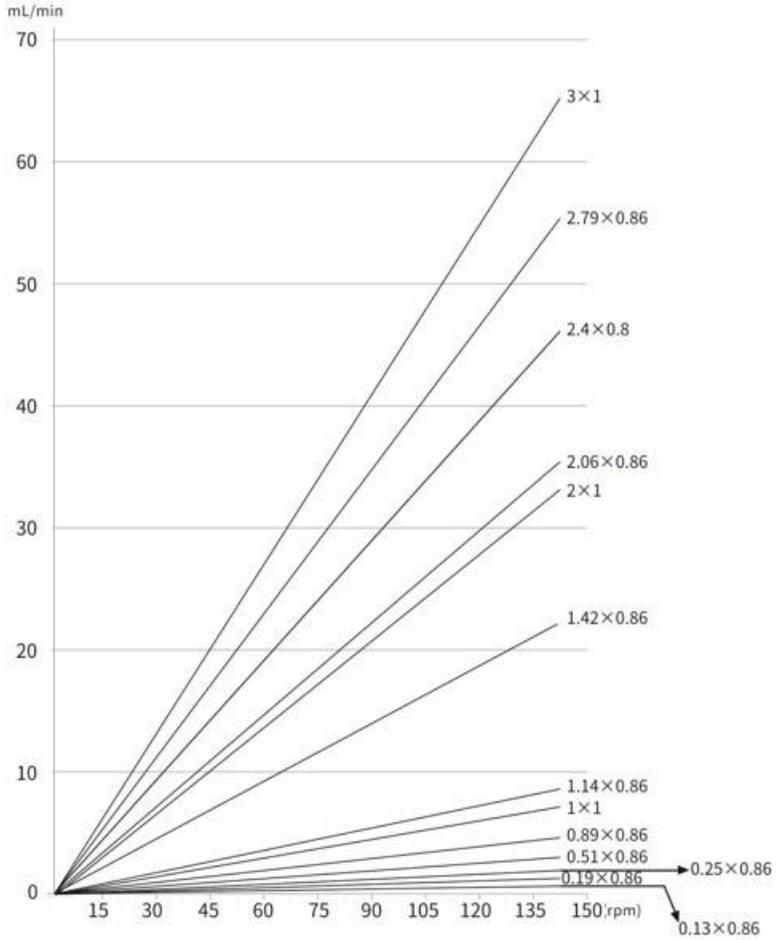
### 4. Pump Head Technical Specification

#### 4.1 Pump Head Technical Specification

Pump Head	AMC1	AMC2	AMC3	AMC4	AMC5	AMC6	AMC8	AMC10	AMC12
Channel	1	2	3	4	5	6	8	10	12
Material of cartridge	POM/PPS								
Material of roller	304 stainless steel								
Roller	6rollers, 10rollers								
Tube size	Speed range	Pump head with 10 rollers Reference flow rate(ml/min)	Pump head with 6 rollers Reference flow rate(ml/min)	Tubing pressure (Mpa)					
				Continuous	Intermittent				
1×1	0.1-150 rpm	0.0050-7.55	0.0062-9.36	0.1	0.1				
2×1		0.0183-27.52	0.0220-33.06						
2.4×0.8		0.0254-38.13	0.0319-47.81						
3×1		0.0323-48.38	0.0434-65.17						
0.13×0.86		0.0002-0.29	0.0002-0.31						
0.19×0.86		0.0003-0.44	0.0003-0.46						
0.25×0.86		0.0005-0.76	0.0005-0.80						
0.51×0.86		0.0013-2.00	0.0014-2.05						
0.89×0.86		0.0030-4.47	0.0031-4.65						
1.14×0.86		0.0061-9.16	0.0065-9.74						
1.42×0.86		0.0125-18.75	0.0142-21.28						
2.06×0.86		0.0197-29.60	0.0234-35.17						
2.79×0.86		0.0286-42.86	0.0372-55.77						

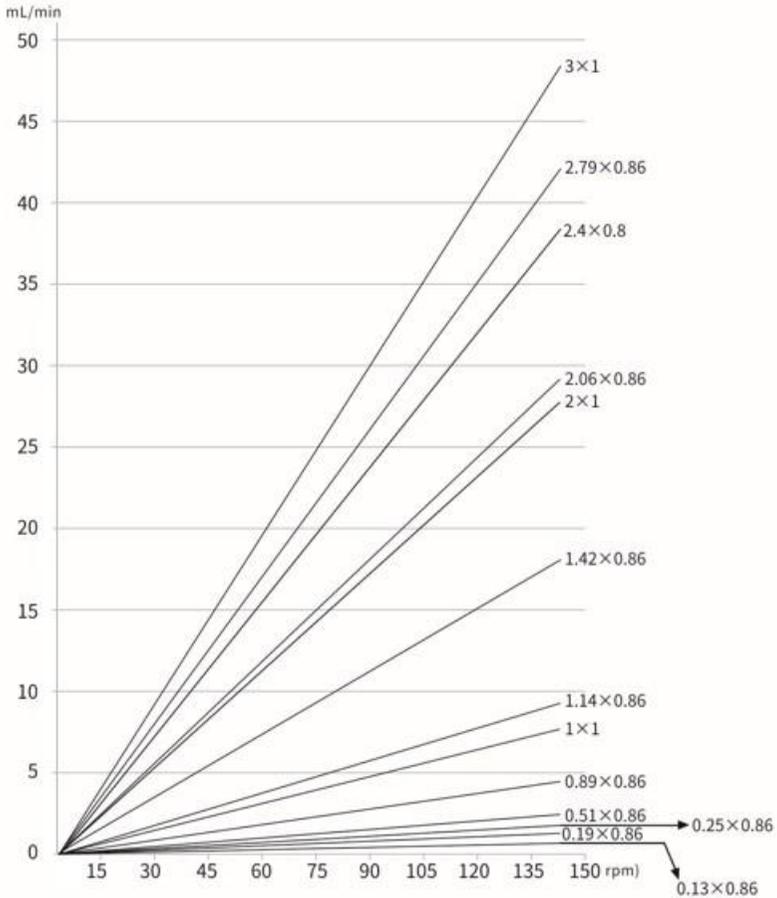
4.2 Flow Rate Chart

4.2.1 AMC series (6 rollers)



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### 4.2.2 AMC series (10 rollers)



Note: The above flow reference data is measured under standard atmospheric pressure and room temperature with pure water as the transmission medium, under no pressure, no suction head and other conditions. The actual flow rate is affected by many factors such as the transmission medium, inlet and outlet pressure, hose material and error, working environment, etc. This data is for reference only

**5. Function Instruction**

**5.1 Adjustment function of pressure tubing gap**

Adjust the knob to adjust the pressure tubing gap, in this way can change the pump head and tubing outlet pressure and flow rate.

The pressure tubing gap is stepless adjustment, any position within the adjustment range can be used normally.

Factory standard of pump head: Use the tubing required by the customer, adjust the pump head to just fill the water normally, and after no backflow, then turn the knob one turn.



Rotate the knob clockwise, the height of the knob increases, the clearance of the pressure tube increases, the outlet pressure of the pump head hose decreases, and the flow increases.

Rotate the knob counterclockwise, the height of the knob will decrease, the clearance of the pressure tube will decrease, the outlet pressure of the pump head hose will increase, and the flow rate will decrease.

**Note:**

(1) The knob is lower, the outlet pressure of pump head tubing is greater. The faster the tube wear, the lower the tube life, so it is not recommended to set the knob too low.

(2) The higher the knob, the outlet pressure of the pump head tubing is lower. And the lighter the tubing is compressed, and the easier it is to cause the problem of no liquid or dripping from at the outlet side. Therefore, the customer should try to use

## AMC Series Pump Head

the pump head according to the factory standard requirements during the use process.

### **6. Troubleshooting**

If the pump head is running but the flow is small or no flow, please check the following items:

- Check whether the pump is supplied with transmission liquid;
- Detect whether the suction side pipeline of the pump is blocked by suction wall;
- Check if the tube is cracked;
- Check for blockages or kinks in the tube;
- Check whether the wall thickness of the tube used is correct;
- Check whether all valves in the tube are open;
- Check whether the rotation direction of the pump is correct.

### **7. Maintenance**

- When pump does not work, please loose the cartridges of pressing the tubing to avoid changing the shape of tubing because of longtime extrusion.
- Keep the rollers of pump head clean and dry, otherwise it can quicken the tubing wearing, reduce the useful life of tubing and lead the rollers to damage in earlier.
- Before the peristaltic pump start running each time, check the tubing carefully if it is damage.
- If the pump head in water accidentally, use soft cloth and other absorbent soft cloth to wipe dry to prevent damage to the pump head.
- After replacing the tube, fluid or any connecting tube, must be re-calibrated the pump. It is recommended to re-calibrate the pump regularly to maintain accuracy.
- The pump head is not resistant to organic solvents (except for special indications) and strong corrosive liquids, special attention should be paid when

## **AMC Series Pump Head**

using.

- Regarding the tubing, there is a certain deviation in the inner diameter and wall thickness of the hose due to its own tolerance and different batches; it will affect the product flow accuracy, and it is recommended that customers should leave a certain margin design when selecting.
- When the input and output diameters become smaller or there is suction and lift, the flow will be affected and the flow will be reduced.
- The data recorded in this document is the value under short-term measurement conditions, and there will be changes in long-term use.
- The company shall not bear the direct and indirect losses caused by the malfunction or improper operation of this product.