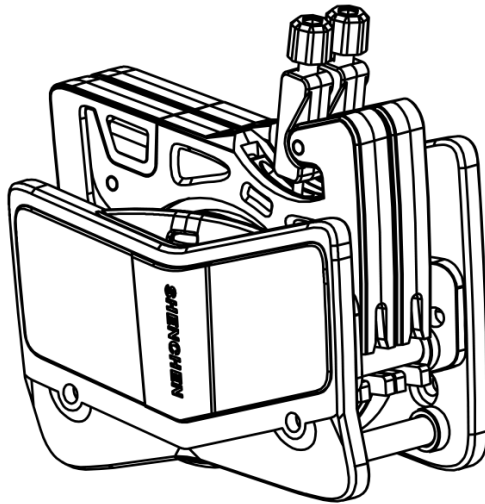


Shenchen Precision Pump

Manual of AMC Series Pump Head





Note:

- Please read the manual carefully before operating the product.



Warning:

- Tubing may have cracks due to wear, which results in overflow of fluid from the tubing. In that time human body and instruments may be harmed. So, users must check frequently and change the tubing in time.
- Please stop pump head rotating when replacing the tube or changing the tube position, otherwise it 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 the tubing.
 - If the tubing has defects, ensure the liquid in the tubing is discharged to other containers or drain tubing.
 - If transferring dangerous liquid, the user must wear protective clothing and eye protection.

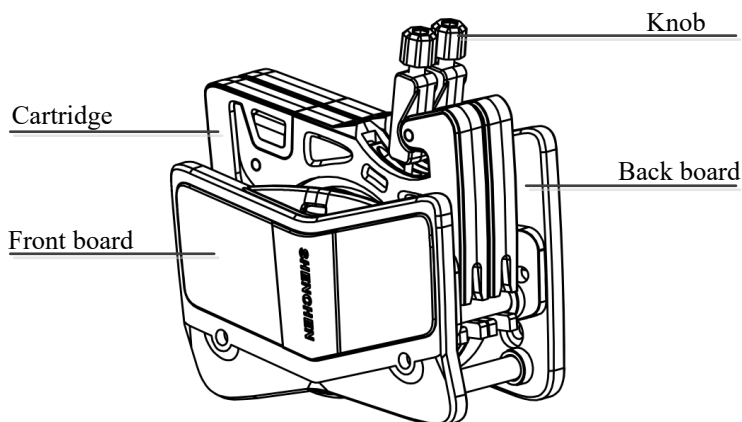
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1. Product Introduction

AMC series pump head has flexible positioning mechanism, where users can install and remove the 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 of roller structures: 6 rollers and 10 rollers. Multichannel, low flow rate transferring, compact structure, suitable for supporting instruments.

2. Pump Head Instruction



2.1 Pump Head Installation

Usually, the pump head is installed on the pump drive. Below is the pump head installation instruction in case the pump head is separate from the pump drive when you receive it. When users need to change pump head, please refer to the below instruction:

- First, remove all the cartridges from the pump head.
- Connect the pump head shaft to the coupler on the pump drive. And then use 4

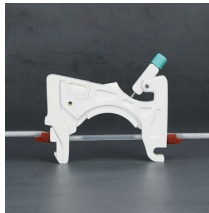
hexagon socket flat head screws(M4) to fix the pump head. The mounting holes is on the back board.

- Fasten the screws with a hexagon spanner.

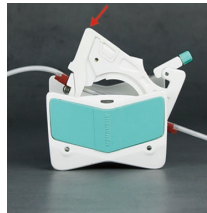
2.2 Tubing Installation



1. Pressing elastic locking arm mechanism to open cartridge.



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



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



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

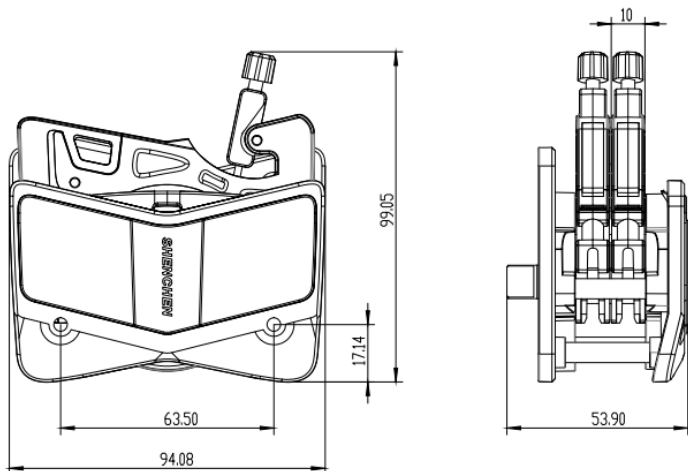


5. Installation finished. Turn the knob to adjust the pressure tubing gap according with tubing size.

Note: It is forbidden to run the pump head without tubing.

3. Dimension Drawing

Unit: (mm)



Note: 1. Increase the thickness of one cartridge for each additional channel.

2. The number after AMC indicates the number of channels

Model type	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

4. Pump Head Technical Specification

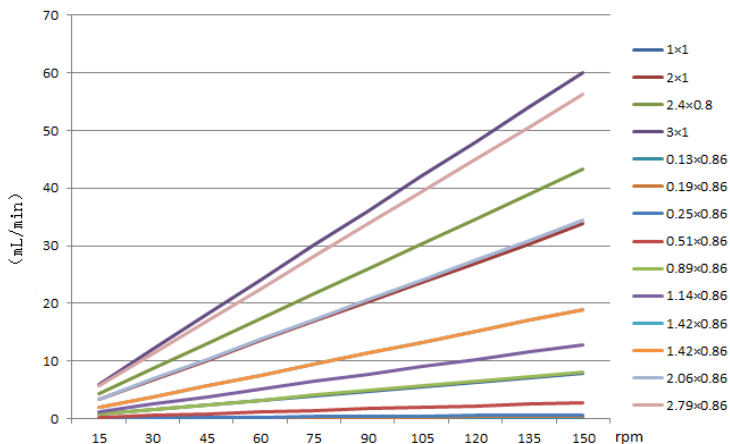
4.1 Pump Head Technical Specification

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								
Rollers	6 rollers, 8 rollers, 10 rollers								
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					
				Intermittent	Continuous				
1×1	0.1-15 0 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		0.0238-35.76	0.0319-47.81						
3×1		0.0254-48.38	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						
1.14×0.86		0.0030-4.47	0.0031-4.65						
1.42×0.86		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

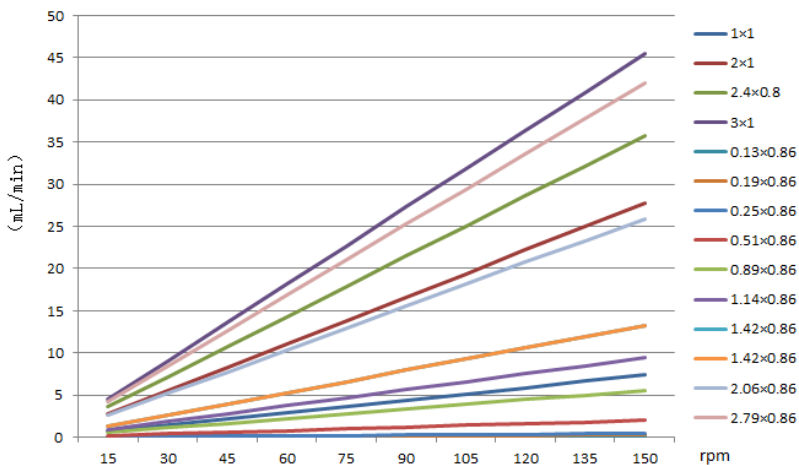
4.2.1 AMC1, AMC2, AMC3, AMC4, AMC5, AMC6, AMC8, AMC10, AMC12

(6 rollers) flow rate chart.



4.2.2 AMC1, AMC2, AMC3, AMC4, AMC5, AMC6, AMC8, AMC10, AMC12

(10 rollers) flow rate chart.



5. Function Instruction

Adjustment function of pressure tubing gap

Adjust the knob to adjust the pressure tubing gap, in this way you 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.

Pump head pressure standard:

- 1) If the pump head will be used for 2*1 silicone tubing, the pressure is 0.2 ± 0.03 Mpa.
- 2) If the pump head will be used for other size tubing, adjust the pressure according with the specific tubing size.



Turn the knob clockwise, the position of the knob becomes lower, the pressure tubing gap is reduced accordingly. And if the pump head tubing outlet pressure increases, the flow rate becomes lower.

Turn the knob counterclockwise, the position of the knob becomes higher, the pressure tubing gap is increased accordingly. And if the pump head tubing outlet

pressure is reduced, the flow rate become higher.

Note:

The lower the knob, the greater the outlet pressure of the pump head tubing, the faster the tubing wears, and the shorter the tubing life. Therefore, it is not recommended to adjust the knob too low.

Note:

1. The knob is lower, the outlet pressure on pump head tubing is greater. The faster the tube will wear, and the shorter the tube life will be. 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 problems with no liquid or dripping from at the outlet side.

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 for a long time, please loosen the cartridges from pressing on 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

wearing of the tubing, reduce the useful life of tubing and lead the rollers to damage in earlier.

- Before the peristaltic pump start running, check the tubing carefully each time to see if it is damaged.
- If the pump head accidentally is exposed to water, use a soft to wipe dry to prevent damage to the pump head.
- After replacing the tube, fluid, or any connecting tube, the pump must be re-calibrated. It is recommended to re-calibrate the pump regularly to maintain accuracy.

8. Warranty and After Service

We support 1 year warranty for the pump head, subject to the exceptions below. Our company shall not be liable for any loss, damage, or expense directly or indirectly related to or arising out of the use of its products. This warranty does not obligate our company to bear any costs of removal, installation, transportation, or other charges which may arise in connection with a warranty claim.

If the pump fails during the warranty period, after confirmation by our technical department, we will provide spare parts free of charge. Customers will need to bear the shipping cost.

Exceptions:

- The warranty shall not apply to repairs or service necessitated by normal wear and tear or for lack of reasonable and proper maintenance.
- All tubing and pumping accessories as consumable items are excluded.
- Electrical surge as a cause of failure is excluded.
- Chemical attack is excluded.
- Improper operation or man-made damage as a cause of failure is excluded.

MADE IN CHINA

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