K KAMOER NKP-DC-S10B

Kamoer NKP-DC-S10B Peristaltic Dosing Pump User Manual

Model: NKP-DC-S10B

1. Introduction

The Kamoer NKP-DC-S10B is a compact 12V DC low flow peristaltic pump designed for precise liquid dosing and transfer. Its snap-in design allows for easy maintenance and tube replacement, making it suitable for a wide range of applications including aquariums, laboratories, and analytical systems. This manual provides essential information for the safe and efficient operation of your pump.

2. Product Features

- **Voltage:** 12V DC operation.
- **Flow Rate:** Adjustable flow from 5.2 to 90 ml/min.
- **Tubing:** 3mm Inner Diameter (ID) x 5mm Outer Diameter (OD) silica gel tube.
- **Design:** Snap-in type pump head for quick tube replacement and cleaning.
- **Compact Size:** Small, lightweight, and low power consumption.
- **Flow Direction:** Supports reversible liquid flow direction.
- **Performance:** Pollution-free operation with low pulsation, as liquid only contacts the pump tube.
- **Applications:** Ideal for liquid transmission, sampling analysis, watering, liquid filling, and various DIY projects.

3. Specifications

Specification	Value
Model	NKP-DC-S10B
Voltage	12V DC
Current	0.25A
Flow Rate	5.2 ~ 90 ml/min
Pump Tube Type	Silica gel tube
Pump Tube Size	3mm ID x 5mm OD
Relative Humidity	<80%
Ambient Temperature	<80°C
Material	Plastic
Product Dimensions (L x W x H)	2.63" x 2.16" x 1.61" (67mm x 55mm x 41mm)
Item Weight	3.88 ounces (0.24 lbs)
Maximum Power	5 Watts
Sound Level	40 dB
Mounting Type	Embedded

Figure 1: Kamoer NKP-DC-S10B pump with detailed dimensions and specifications.

4. Setup

4.1 Unpacking and Inspection

Carefully remove the pump from its packaging. Inspect the pump and tubing for any visible damage. Ensure all components are present.

4.2 Power Connection

Connect the pump to a stable 12V DC power source. Observe proper polarity to avoid damage. The pump is designed for embedded mounting.

4.3 Tubing Installation

The pump uses 3mm ID x 5mm OD silica gel tubing. Ensure the tubing is securely connected to the inlet and outlet ports. The snap-in design of the pump head facilitates easy installation and removal of the tubing.

Figure 2: The Kamoer NKP-DC-S10B peristaltic pump with clear tubing installed, ready for connection.

Figure 3: A detailed view of the pump head, highlighting the tubing connections and the snap-in mechanism.

5. Operating Instructions

5.1 Powering On

Once the power supply is connected, the pump will begin operation. Ensure the tubing is properly submerged in the liquid source and directed to the desired destination.

5.2 Controlling Flow Direction

The pump supports changing the direction of liquid flow. This is typically controlled by reversing the polarity of the 12V DC input. Consult your control system documentation for specific implementation.

Figure 4: Illustration showing the pump's capability for both positive and negative (reversible) liquid transmission.

5.3 Applications

This peristaltic pump is versatile and can be used for:

- Liquid transfer in laboratory settings.
- Dosing nutrients in hydroponics or aquariums.
- Analytical liquid sampling.
- Small-scale liquid filling tasks.
- Automated plant watering systems.

Figure 5: Examples of the Kamoer pump in diverse applications, including aquarium dosing, laboratory setups, and automated systems.

6. Maintenance

6.1 Pump Tube Replacement

The pump tube is a consumable part and should be replaced periodically, especially if flow rate decreases or leaks occur. The snap-in design allows for easy replacement:

1. Disconnect power to the pump.
2. Gently unclip the pump head from the motor assembly.
3. Remove the old tubing from the pump head.
4. Insert new 3mm ID x 5mm OD silica gel tubing into the pump head, ensuring it sits correctly around the rollers.
5. Snap the pump head back onto the motor assembly.

Figure 6: The pump head detached from the motor, demonstrating the ease of access for tube replacement.

Figure 7: An open view of the pump head, revealing the internal rollers and the path for the peristaltic tubing.

6.2 Cleaning

Regularly inspect the pump head and tubing for any buildup or blockages. Clean the exterior of the pump with a damp cloth. If the pump tube is used for sensitive liquids, flush it with appropriate cleaning solutions or replace it as needed.

7. Troubleshooting

- **No Flow:**
  - Check power connection and ensure 12V DC is supplied.
  - Verify tubing is not kinked or blocked.
  - Ensure the pump head is securely attached.
- **Inconsistent Flow:**

- Inspect tubing for wear, cracks, or blockages. Replace if necessary.
- Ensure the liquid source is sufficient and free of air bubbles.

- **Leakage:**
  - Check tubing connections for tightness.
  - Inspect the pump tube for cracks or damage. Replace if found.
- **Unusual Noise:**
  - Ensure the pump is mounted securely and not vibrating against other surfaces.
  - Check for any foreign objects in the pump head.

8. Warranty and Support

Kamoer Fluid Tech (Shanghai) Co., Ltd. provides support for its products. For technical assistance, warranty inquiries, or to purchase replacement parts (such as different voltage models or tube types), please contact our customer service.
Contact Information:

Email: daijing@kamoer.com

Figure 8: Kamoer customer support contact details.