K KAMOER DIP-B253

Kamoer DIP Peristaltic Pump Instruction Manual

Model: DIP-B253

Introduction

This manual provides detailed instructions for the Kamoer DIP 3-rotor stepper motor peristaltic pump. It covers setup, operation, maintenance, and specifications to ensure safe and efficient use of the device. The Kamoer DIP pump is designed for precise liquid dosing in laboratory and industrial applications, offering variable speed control and multiple operating modes.

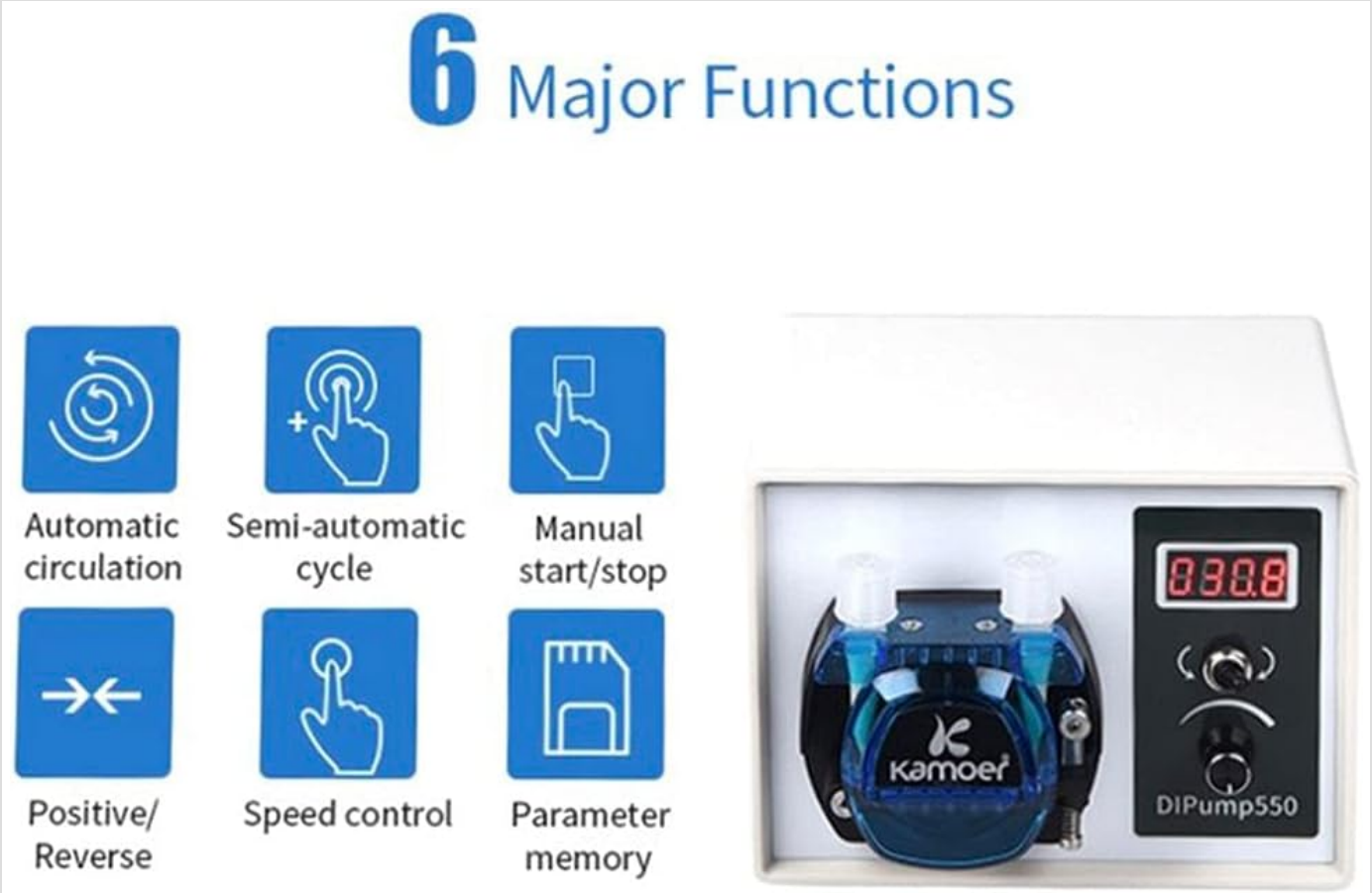

Figure 1: Kamoer DIP Peristaltic Pump overview.

Setup

Follow these steps to set up your Kamoer DIP peristaltic pump:

1. **Unpack the Pump:** Carefully remove the pump and all accessories from the packaging. Inspect for any damage.
2. **Connect Tubing:**
   Ensure the pump tube is correctly installed. If not, or for replacement:
   - Screw off the nut on the pump head.
   - Connect the BPT tube (4.8 mm ID x 8 mm OD) to the pump tube fasteners.
   - Secure the tube by screwing the nut back on.

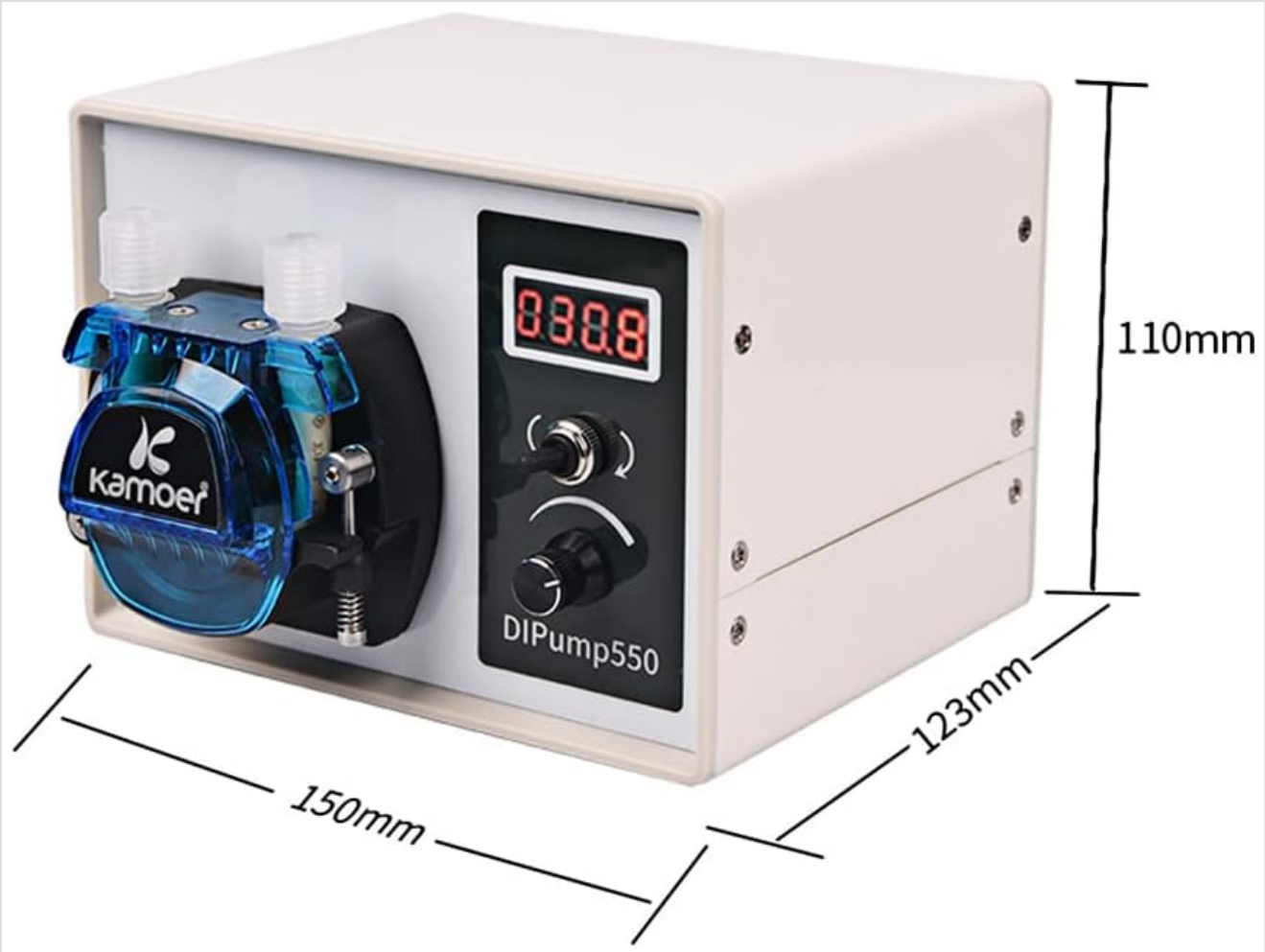

Figure 2: Proper tubing connection to the pump head.

3. **Power Connection:** Connect the 24V power adapter to the DC 24V input port on the back of the pump.
4. **External Control (Optional):** If using external control (e.g., foot switch, 485 communication), connect the appropriate cables to the 485/analog signal/start stop port.

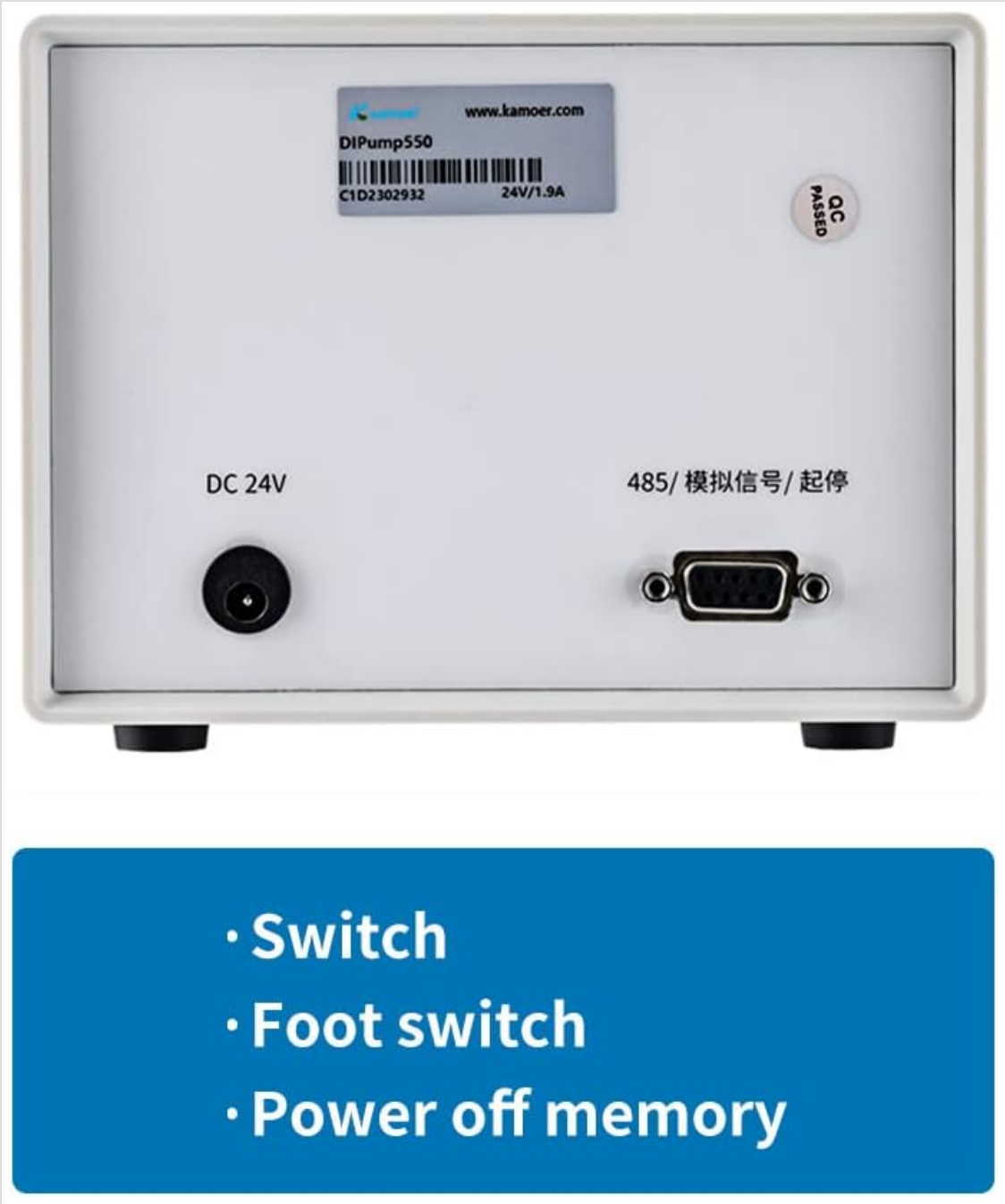

Figure 3: Rear panel connections for power and external control.

Operation

The Kamoer DIP pump offers various operational controls for precise liquid handling.

Basic Controls

- **Start/Stop:** Use the dedicated button or a connected foot switch to start and stop the pump.
- **Speed Regulation:** Adjust the flow rate using the speed control knob. The digital display shows the instant speed. The resolution is 0.1 rpm.
- **Direction Change:** Use the direction control to switch between clockwise and counter-clockwise rotation for positive or reverse flow.

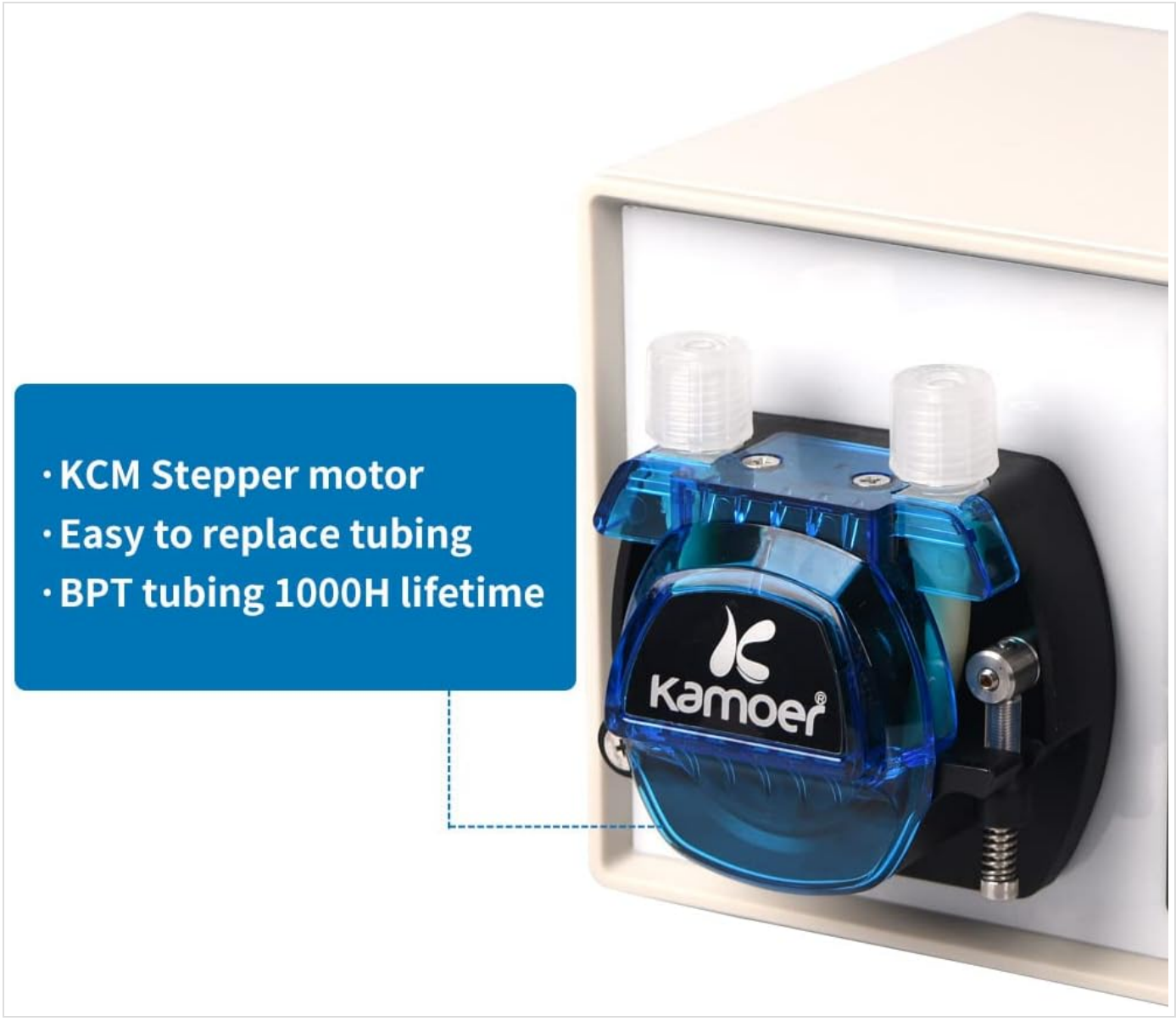

Figure 4: Front panel controls for speed and direction.

Operating Modes

The pump supports three working modes: full-automatic cycle, semi-automatic cycle, and manual. It also features a power-off memory function to save parameters.

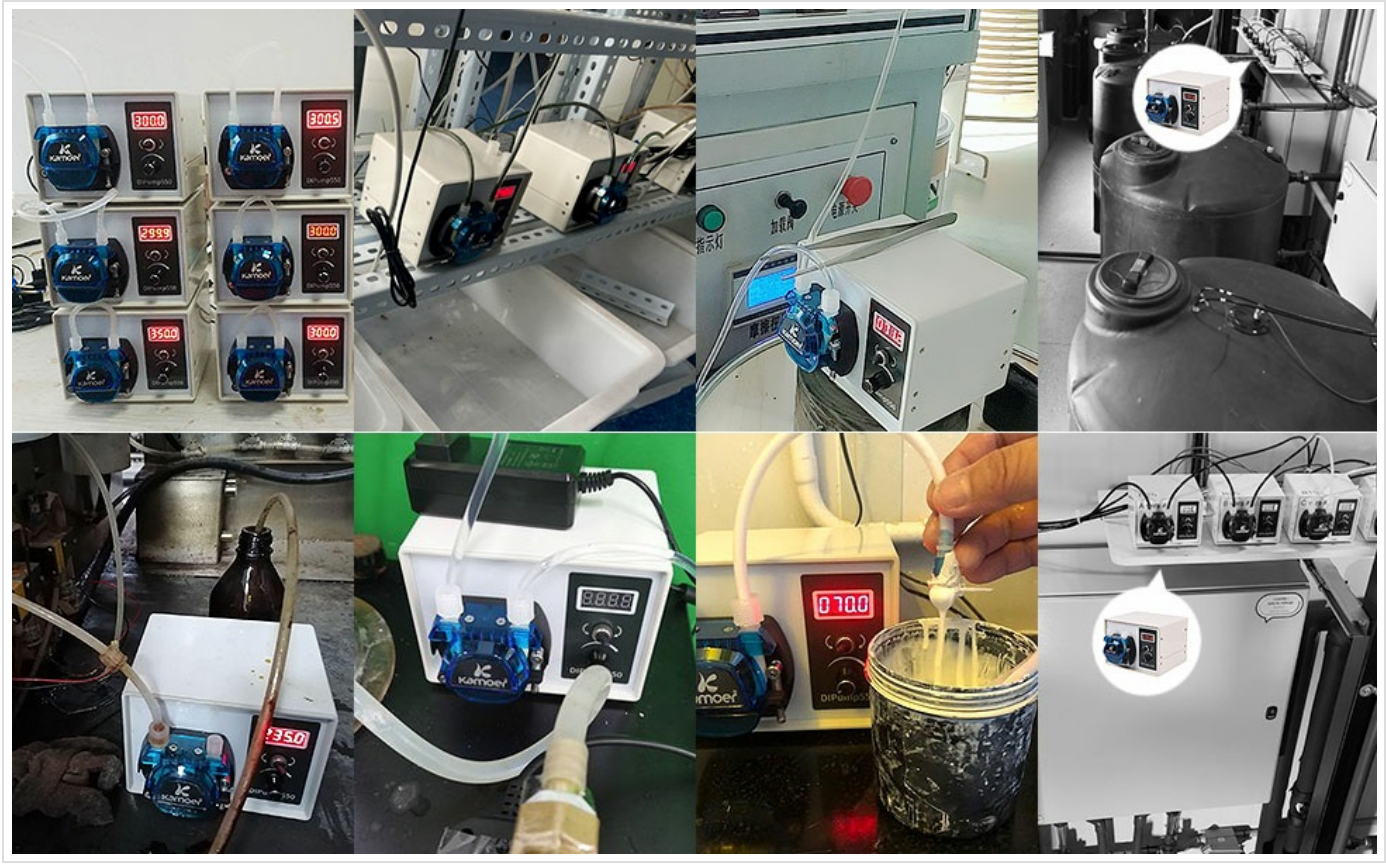

Figure 5: Overview of pump functions.

Video Demonstrations

DIP Operation Demonstration (Foot Switch, Speed Adjustment, Direction)

[redacted]

This video demonstrates the basic operation of the Kamoer DIP pump, including using the foot switch for start/stop, adjusting the speed from maximum to minimum (0.1 rpm), and changing the flow direction (clockwise/counter-clockwise).

DIP Peristaltic Pump Operation Demonstration (Setting Working Mode)

[redacted]

This video illustrates how to set the working mode for the Kamoer DIP pump, specifically demonstrating a cycle of working for 5 seconds and resting for 3 seconds.

Maintenance

Regular maintenance ensures the longevity and optimal performance of your peristaltic pump.

- **Tube Replacement:** The BPT tube has a longer service life. If replacement is needed, refer to the "Accessories" section on the Kamoer store homepage for B25 pump tube replacements. Ensure the pump is powered off before replacing tubes.
- **Cleaning:** Regularly clean the exterior of the pump with a soft, damp cloth. Avoid using harsh chemicals or abrasive materials.
- **Inspection:** Periodically inspect the tubing for wear, cracks, or blockages. Replace tubing as necessary to maintain flow accuracy and prevent leaks.

Troubleshooting

If you encounter issues with your Kamoer DIP pump, refer to the following common problems and solutions:

- **Pump Not Starting:**
  - Check power connection.
  - Ensure the foot switch (if used) is properly connected and functioning.
  - Verify that the pump is not in a paused or error state on the digital display.
- **Inconsistent Flow Rate:**
  - Inspect tubing for kinks, blockages, or wear. Replace if damaged.
  - Ensure the liquid being pumped is within the specified viscosity range for optimal performance.
  - Recalibrate the pump if necessary.
- **No Liquid Dispensed:**
  - Check the liquid reservoir to ensure it is not empty.
  - Verify tubing connections are secure and there are no air leaks.
  - Ensure the pump direction is set correctly for dispensing.

For further assistance, please contact Kamoer customer support.

SPECIFICATIONS

Feature	Specification
Brand	K KAMOER
Model Number	DIP-B253
Voltage	24V
Current	2A max
Power	Less than 50W
Flow Range	1~452 ml/min
Pump Tube Material	BPT (4.8 mm ID x 8 mm OD)
Speed Adjustment Resolution	0.1 rpm
Control Modes	Rotary encoder, foot switch, external analog (4-20mA, 0-5V), 485 communication (Modbus)
Display Style	LED 4-bit digital tube (Speed display, duration display)
Memory Function	Power-off memory for operation parameters
Working Modes	Full-automatic cycle, semi-automatic cycle, manual
Item Weight	1.92 Kilograms (4.22 pounds)
Dimensions (Approx.)	150mm (W) x 123mm (D) x 110mm (H)

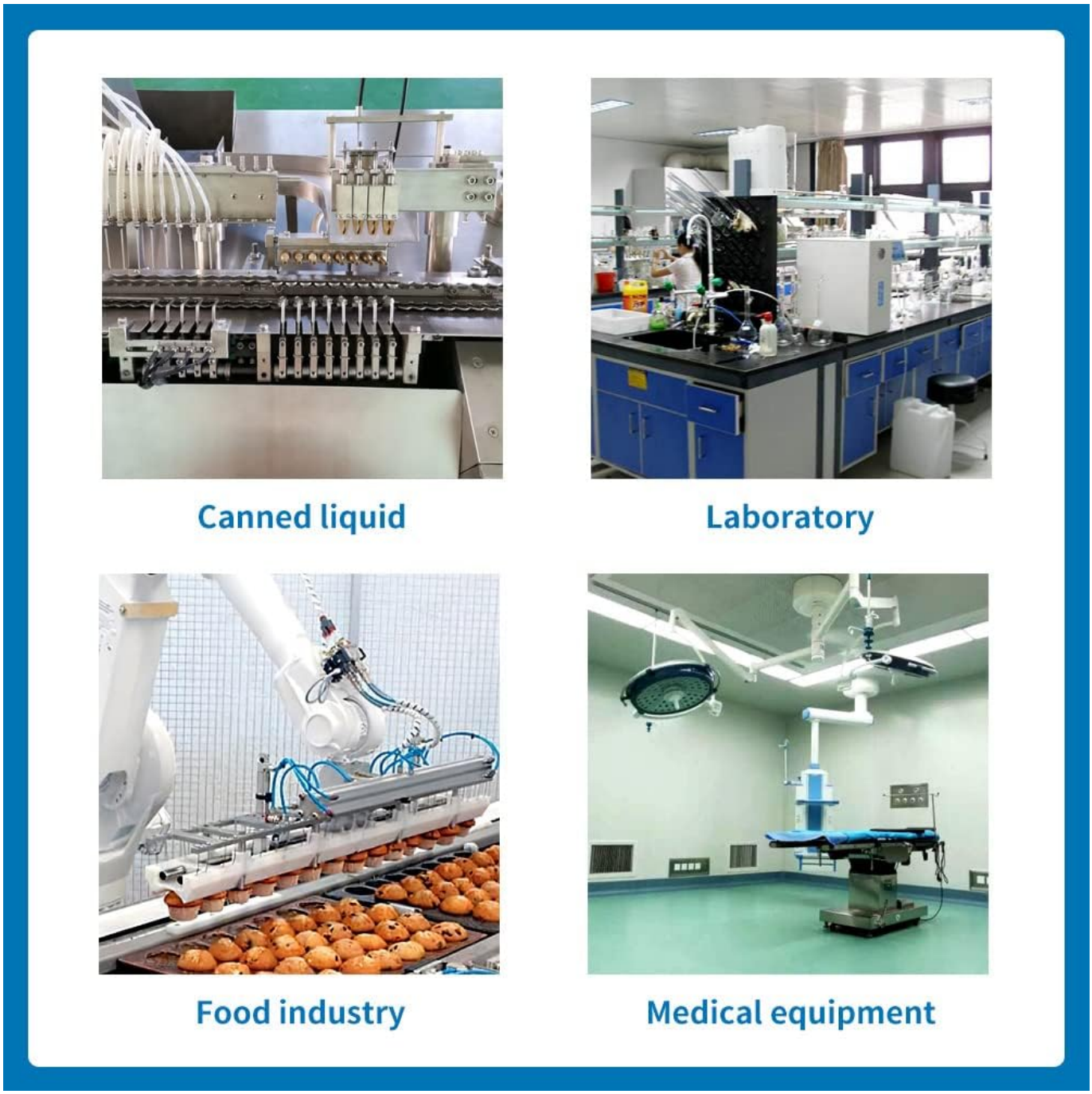

Figure 6: Kamoer DIP pump dimensions.

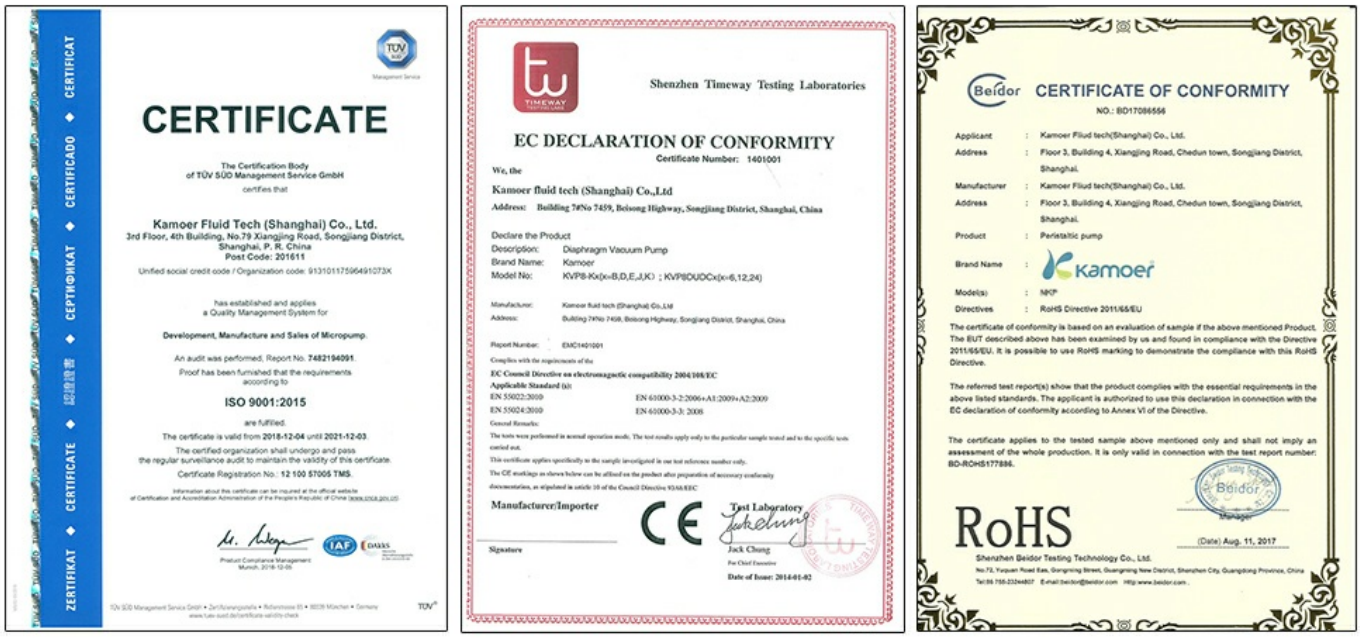

Figure 7: Product certifications.

Warranty and Support

For warranty information, technical support, or to purchase replacement parts, please visit the official Kamoer website or contact your local distributor. Ensure to provide your product model number (DIP-B253) when seeking support.

You can find additional information and accessories, such as B25 pump tube replacements, on the Kamoer Store.

Typical Applications

The Kamoer DIP peristaltic pump is suitable for a wide range of applications requiring precise fluid transfer:

- Laboratory research and experiments
- Industrial fluid dosing and transfer
- Medical equipment and diagnostics
- Food and beverage processing
- Chemical and pharmaceutical applications

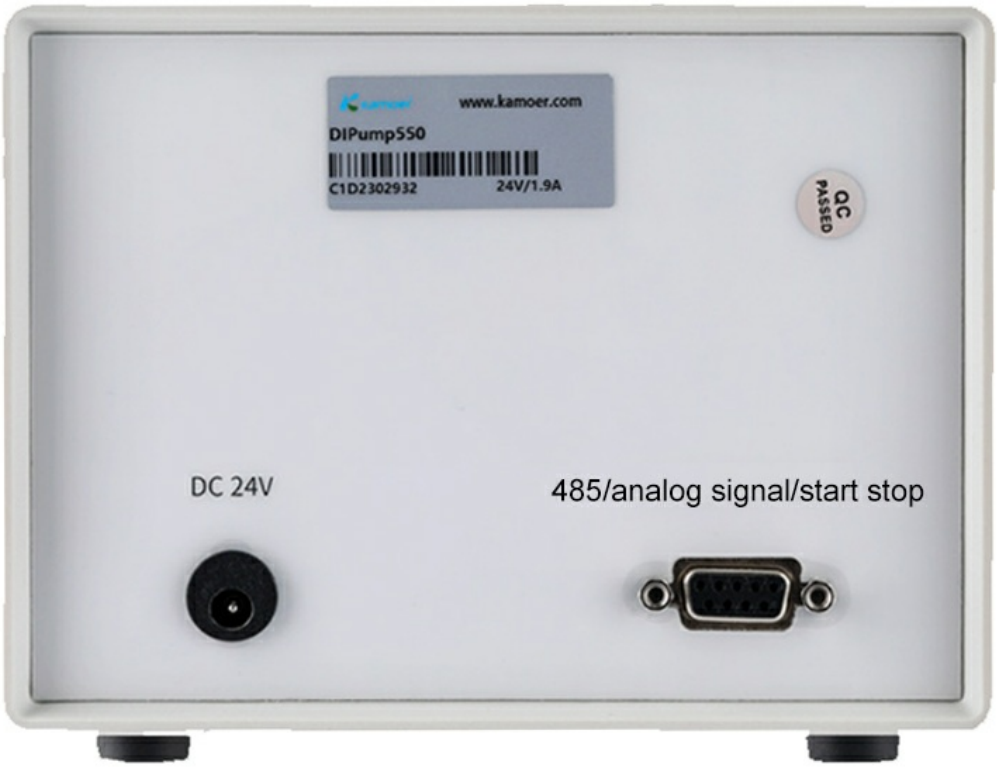

Figure 8: Examples of Kamoer DIP pump applications.