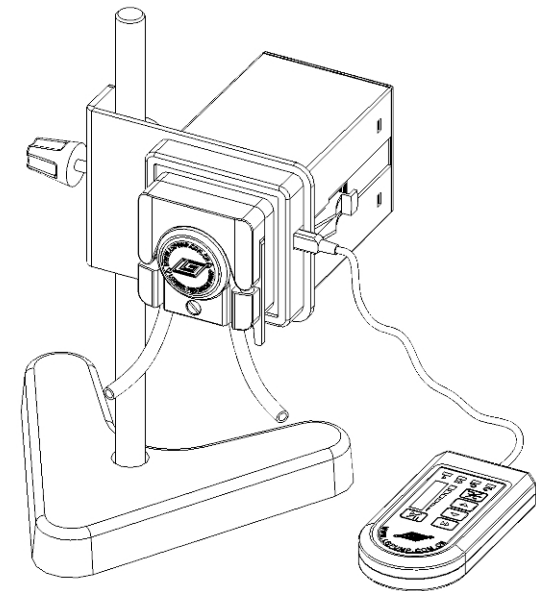


LONGER

## BQ50-1J PERISTALTIC PUMP OPERATING MANUAL



LONGER

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BQ50-1J Peristaltic Pump

Baoding Longer Precision Pump Co.,Ltd.

 **Important Information:**

Please read operation manual carefully before operation.

 **Warning:**

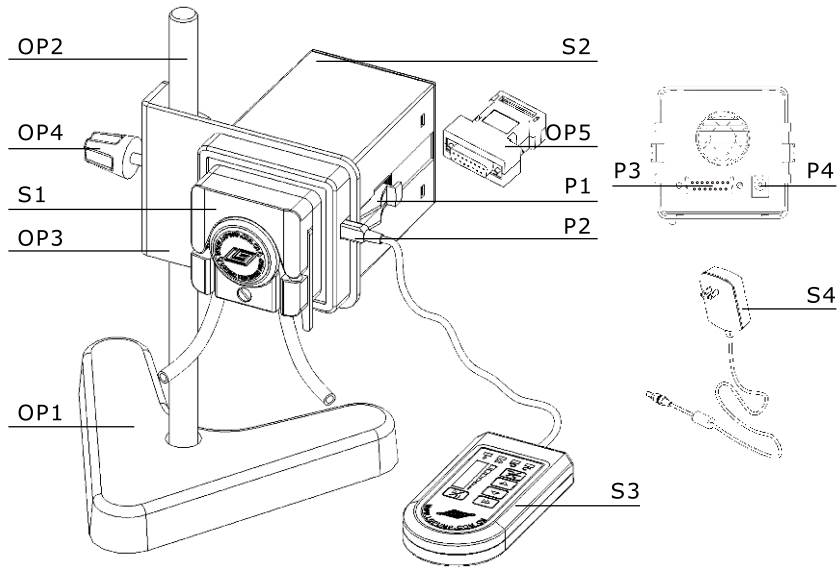
- Tubing breakage may result in fluid sprayed from pump. Use appropriate measures to protect operator and equipment. Please check the tubing frequently and changing the tubing in time.
- If the power line or the plug are worn or damaged please pull out the plug (Hold the plug not the power line when pulling out).
- Please shut down the power supply and pull out the plug when meet below circumstances (Hold the plug not the power line when pulling out).  
The fluids splash on the body of the pump.  
You think the pump needs to be mantained or repaired.
- Please shut down the power supply before install the external control equipments.

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**Introduction**

BQ50-1J peristaltic pump combines low flow and a compact size into a single pump that mounts in your equipment rack or panel. The pump delivers flow rates from 0.0002 to 20mL/min. And it can be operated through hand-held remote controller, analog interface or RS485.

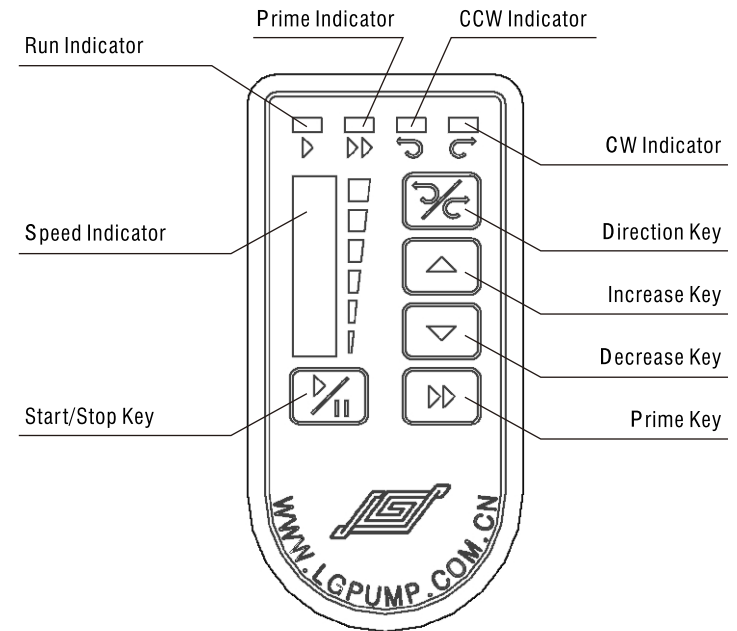


- |                                |   |   |
|--------------------------------|---|---|
| S Standard Configuration       | OP Optional Fittings                    | P Parts                                   |
| S1 Pump Head                   | OP1 Small V-base                        | P1 Fixing Clip                            |
| S2 Drive                       | OP2 Polished Stainless Steel Frame Tube | P2 Socket for Hand-held Remote Controller |
| S3 Hand-held Remote Controller | OP3 Fixing Plate                        | P3 External Control Interface             |
| S4 Adapter                     | OP4 Fixing Screw                        | P4 Socket for Adapter                     |
|                                | OP5 External Control Module             |   |

**Reference:**

For detailed information about external control function please see page 5.

**Operation Panel of the Hand-held Remote Controller**



**Basic Operation**

💡 In external Control Mode, hand-held remote controller is invalid.

• **Start/Stop Control**

Press the **Start/Stop Key** to start or stop the pump and the **Run Indicator** lights or goes out at the same time. The **Start/Stop key** is invalid in prime state.

• **Direction Control**

Press the **Direction Key** to change the rotating direction of the pump and the **CW** or **CCW Indicator** lights at the same time. The **Direction Key** is invalid in prime state.

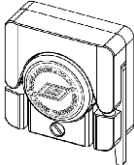
❖ **Speed Control**

In non-prime state, each time to press **Increase Key/Decrease Key** will increase/decrease 1 rpm of pump. Press and hold **Increase Key/Decrease Key**, pump speed will be continuously changed; in the meantime, Speed Indicator will be changed correspondingly. Each Speed Indicator stand for 5 rpm, for example, the third Speed Indicator is lighted that mean the pump speed is between 11-15 rpm.

❖ **Prime Function**

In common state, press the Prime Key to enter prime state, when prime indicator and all the speed indicators light and pump runs at full speed. Press the Prime Key again to return to the common state and prime indicator goes out.

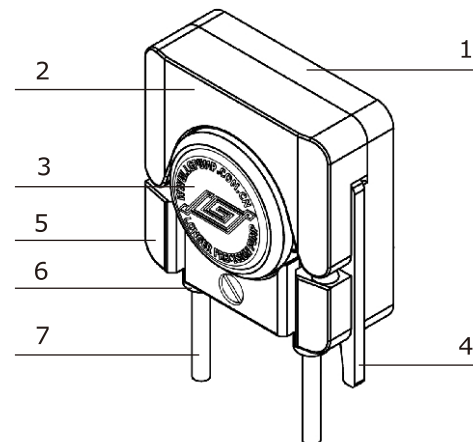
**Pump Head and Tubing**


Pump Head	Tubing Wall Thickness (mm)	Tubing Inner Diameter (mm)	Flow Rate (mL/min)
 WX10	0.8 - 1.0	≤3.17	0.0002 - 20

 **Reference:**

For detailed information about pump head usage and tubing loading please see page 4.

**WX10 Pump Head**



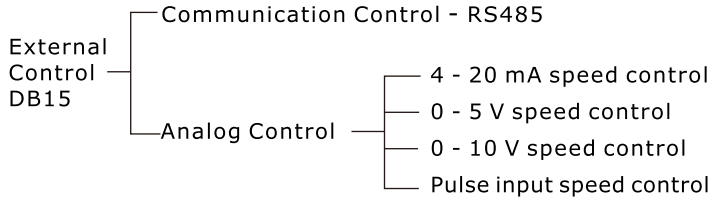
 The material of pump head don't have chemical resistance to organic solvent.

- 1 Base: All the other parts of pump head are assembled on base.
- 2 Compression Block: Can rotate on the base. For the function of pressing the tubing tightly.
- 3 Rotor Assembly: For the function of extruding the tubing together with compression block.
- 4 Trigger: Connect the compression block and the base. Make the compression block in working position.
- 5 Tubing Base: Fix tubing. Make tubing in a suitable position.
- 6 Tubing Stop: Be on the tubing. Prevent tubing from sliding.
- 7 Tubing: For transferring the fluids.

❖ **Operating Procedure**

- Turn the trigger counter - clockwise and open the compression block. Put the tubing with stops between rollers and compression block and in tubing base.
- Turn the compression block clockwise and press the tubing. Make the trigger hitch the pin on the base and lock the compression block.
- Adjust the tubing stops and lock the tubing to prevent the tubing from sliding.

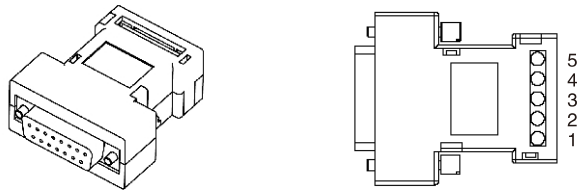
**External Control Function**



❖ **Communication Control**  
Please contact Longer Company for communication protocol.

❖ **Analog Control**

• External control module is shown as below. Plug the required module into the external control interface on the rear panel of the pump (please see assembly drawing) and connect the corresponding control signal wire, pump turns into external control mode.

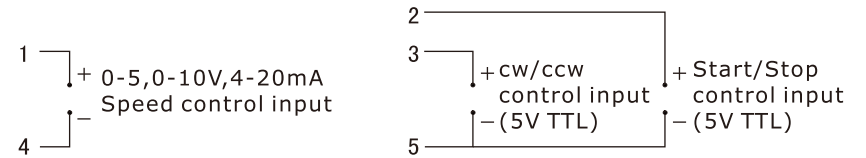


External Control Model

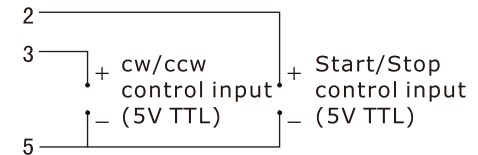
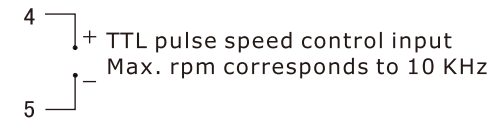
💡 Five kinds of standard external control module need to be ordered separately according to special requirements.

• **Terminal Definition of Standard External Control Module**

- 1#** Analog speed control input, for external speed control in external control modules of 4 - 20 mA, 0 - 5V and 0 - 10 V.
- 2#** External start/stop control input. When connected to COM, the pump runs, when connected to high level, the pump stops.
- 3#** External cw/ccw control input. When connected to COM, the pump rotates cw, when connected to high level, the pump rotates ccw.
- 4#** Reference potential for 4 - 20 mA, 0 - 5V/10V speed control input. Pulse speed control input, for external speed control in external control module of 0 - 10 kHz.
- 5#** Reference potential for external cw/ccw, external start/stop And pulse speed control input.



0 - 5V, 0 - 10V, 4 - 20mA External Control Module Wiring Diagram



Pulse Input External Control Module Wiring Diagram

## Maintenance

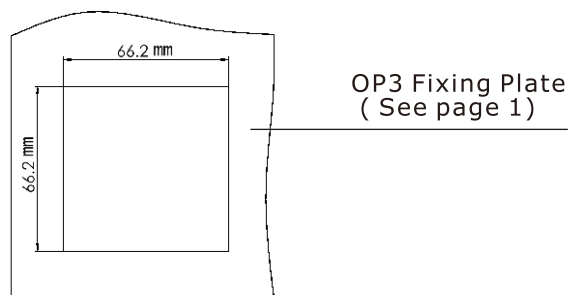
- When the pump is idle, we recommend you to release the tubing from pressure. This helps to protect the tubing from unnecessary strain and prolongs its service life
- Keep rollers clean and dry. This will prolong the service lives of tubing and pump head.
- The surface of drive and the pump head are not organic solvent and aggressive liquids resistant. Please pay attention when using.

💡 If a trouble happens, please contact us or our dealers.

## Warranty

The warranty period for this product is one year. If repair or adjustment is necessary within the warranty period, the problem will be corrected at no charge if it is not due to misuse or abuse on your part, as determined by the manufacturer. Repair costs outside the warranty period, or those resulting from product misuse or abuse, may be invoiced to you.

## Pump Head Installation



Installation Hole Dimensions

💡 Suitable panel thickness is 1 - 3 mm

## Technical Specifications

### ❖ Functions

Applicable Pump Head	WX10
Manual Control	Speed Adjusting, direction, start/stop Speed adjusting precision is 1rpm
External Control	0 - 5 V, 0 - 10 V, 4 - 20 mA and 0 - 10 kHz Speed control; Start/stop and cw/ccw control
Prime	Fast filling and emptying
Direction Control	cw and ccw reversible
Memory Function	Storing the running parameter automatically
Communication	RS 485, baud rate: 1200 bps
Cooling Mode	Heat-emitting fan

### ❖ Specifications

Speed	1 to 50 rpm
Speed Precision	1 rpm (0.1rpm external control)
Applicable Tubing	Inner diameter: $\leq 3.17$ Wall thickness: 0.8-1(mm)
Motor	Step motor
Applicable Power	AC 100 to 240 V 50/60Hz
Power Consumption	< 10 W
Operating Condition	Temperature 0 to 40°C Relative humidity < 80%
Drive Dimensions	(L × W × H) 135 × 72 × 72 (mm)
Drive Weight	0.5kg
IP Rating	IP 31