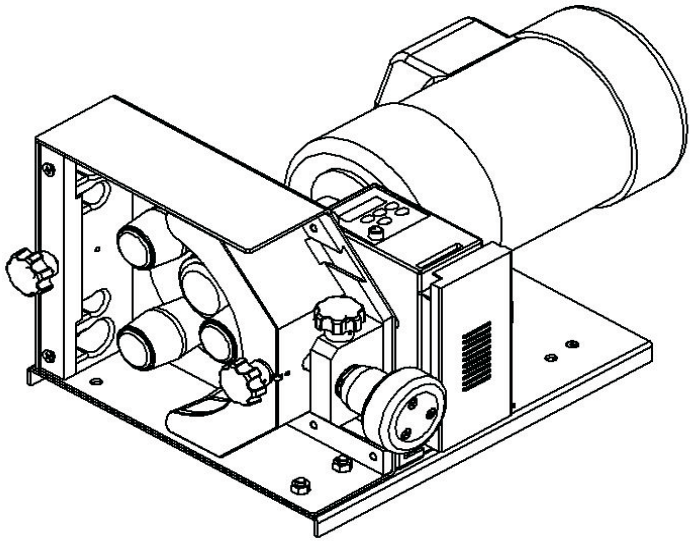
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JL350-1J Longer™ Peristaltic Pump

JL350-2J PERISTALTIC PUMP OPERATING MANUAL



Baoding Longer Precision Pump Co.,Ltd.

⚠ IMPORTANT INFORMATION:

Please read operation manual carefully before operation.

⚠ Warning:

- Please don't approach the pump when the pump is running.
- 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.
- Please connect the power line of the pump to the power socket in the wall directly. Avoid using prolonged wire.
- 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 circumstance (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 maintained or repaired.
- Please shut down the power supply before install the external control equipments.

Taking out of the pump from the wooden crate
Unscrew the three screws with red marks which connect the base frame of the pump with the wooden crate. Then take out of the pump from the wooden crate.

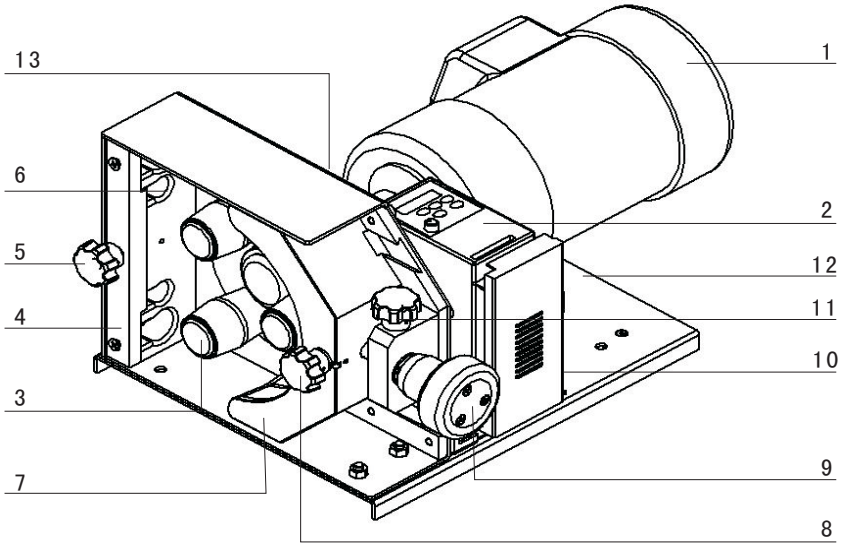
JL350-2J OPERATING MANUAL

Table of Contents

Introduction · · ·

Introduction

JL350-2J peristaltic pump is ideal for high flow rates fluids transfer, driven by the AC motor and the frequency converter control the speed. Its operation is simple and reliable. The pump delivers flow rates from 0.8 to 35L/min. Through the transparent front cover, the running status of the pump head is visible. The speed, running direction and run/stop of the pump are controlled manually by membrane key or automatically by external control interface. We recommend you not use it outdoors.



1. AC motor: supply the pump head with power
2. Frequency Converter: control the speed, rotating direction and Run/Stop of the pump.
3. Rotor Assembly: Extrude the tubing to deliver the fluids. It's driven by the motor.
4. Front Cover: Protective function. The transparent cover is easy for observing the running status of the pump head.
5. Locking Knob: Fix the front cover and press the tubing tightly after loading the tubing.
6. Tubing Clamp: Can load four different diameter tubing.
7. Compression Block: Extrude the tubing to deliver the fluids together with the rotor assembly.
8. Star Handle: Fix the front cover.

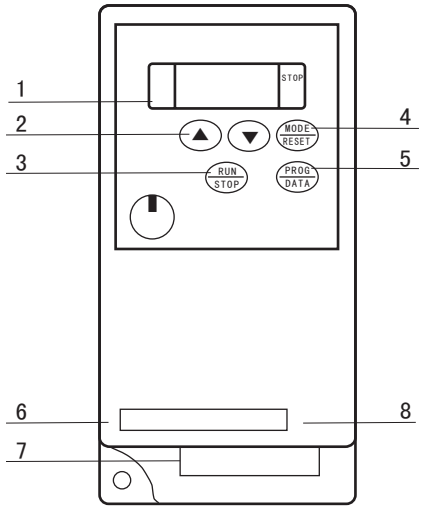
JL350-2J OPERATING MANUAL

9. Handwheel: Turn the handwheel can move the compression block. Loose the handwheel for loading the tubing while tighten the handwheel when working.
10. Power Socket/Switch: Connect the power
11. Locking Knob for Handwheel: For locking the handwheel. Prevent the handwheel from loosing when working.
12. Machine Base: Install the motor, pump head and frequency Converter.
13. Fasten Knob for Compression block: Tighten the compression block to prevent it from shake after the compression block has been adjusted.

Introduction of Frequency Converter:

(For details please see the <SE Series Frequency Converter Operating Manual >)

Important information of operation:
Operating Conditions: Temperature -10℃ to 40℃
Relative humidity < 90% (no dew)
Avoid rain sprinkle or humid condition. Avoid solarization.
Preserve from aggressive liquids and gas.
The location of it should be easy for heat emission.
It can be taken off from the peristaltic pump and install to other places which is easy to operate.



❖ Operation Panel and Terminal

1.LED Display: Display the working status and running parameters of the frequency converter.
2.Speed Adjustment/ Data Input: Adjust the motor speed in running status and input the data in altering the parameters of the frequency converter.
3. Run/Stop: Control the motor to run and stop.
4. Mode/Reset: Switch the displays of the frequency converter.
5. Prog/Data: Setting data and confirmation.
6. External Control Terminal: The signal wire interface when using external control (unlock the password setting first)
7.Power /Motor Terminal: Power input and motor output connection wire terminal.
8. 485 Communication Interface

Operation Panel

❖ Tubing Loading

Shut off the power supply (Can not do any operations such as changing tubing when the frequency converter has displays). Loose [Locking Knob for Handwheel 10], Loose [Fasten Knob for Compression Block 13], turn the [Handwheel 9] counter clockwise to loose the compression block.

Loose [Locking Knob 5] completely. Pull out [Star Handle 8]. Take off [Front Cover 4]. Insert one side of the tubing to the corresponding slot of the [Tubing Clamps 6]. Round the tubing around the outside of the three rollers. Insert the tubing to another corresponding slot of the [Tubing Clamp6]. Adjust the tubing to make it stretch properly. Pull out [Star Handle 8]. Install the [Front Cover 4]. Tighten [Locking Knob 5].

❖ Occlusion Adjustments

Turn the [Handwheel 9] clockwise. Tighten the tubing slightly. Start the peristaltic pump. If the fluids can't be delivered, turn the handwheel continuously until the fluids happen to be delivered.

Stop the pump. Tighten the [Locking Knob for Handwheel 10] to lock the handwheel. Tighten the [Fasten Knob for Compression Block 13] to decrease the running noise of the pump.

Note:

Over-squeezing the tubing may cause the decrease of its service life and influence the working status of the pump.

❖ Basic operation of the Frequency Converter

The LED display of frequency converter lights when the power supply switches on. But the pump is in stopping status.

Run /stop: Press [Run/Stop] key, the [Run] indicator lights and the pump runs. Press the [Run/Stop] key again the pump stops.

Speed Adjustment: Press Speed Adjustment/ Data Input Keys 2 to change the speed of the pump. The LED displays the value of the frequency. The actual speed (rpm) is about 5.8 times of frequency value.

Direction: Press the [MODE/RESET] key continuously till the LED displays [Frd] when the [FWD] indicator which is in the left side of LED screen lights. Press the Speed Adjustment/ Data Input Keys 2, the LED displays [REV]. The [REV] indicator lights at the same time and the motor rotates reversely. When the [REV] indicator which is in the left side of the LED screen lights, switch to [FWD] mode in the same way.

Display Convert: Press the [MODE/RESET] key continuously can show the following parameters alternatively: F: setting the frequency; H: the actual running frequency; A: the current of the motor.

Frequency Converter Troubleshooting: Frequency converter has many warning and protective functions. The motor will stop automatically when the pump is in abnormal status. Eliminate the abnormal status and press the [MODE/RESET] key the pump can work continuously. The letters or the symbols on the LED display show the information of abnormal status. For details please see the <SE Series Frequency Converter Operating Manual >

Acceptable Tubing and Flow Rates

Speed	30 ~ 360 rpm			
Tubing	92#	88#	90#	86#
Inner Diameter × Wall Thickness (mm)	25.4 × 4.8	19 × 4.8	12.7 × 6.3	9.5 × 6.3
Flow Rates (L/min)	3 ~ 35	2.2 ~ 26.4	1 ~ 12	0.55 ~ 6.6

External Control Function

External analog signal controls the speed: The keys on the panel of frequency converter are invalid by setting the parameters (needs unlock). The speeds are controlled by external control terminals.

485 communication interface: By setting the parameters (needs unlock) the master computer can control the pump directly by communication interface.

Note

The frequency converter has many parameter setting items. To avoid misoperation we lock the parameter settings by password. We set the max. frequency of the frequency converter is 65 Hz and the max. speed is 370 rpm.

If other parameters setting are needed please ask for password from our company. But we won't take any responsibility if damage occurs because of parameters changing.

Maintenance

1. 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
2. Keep rollers clean and dry. This will prolong the service lives of tubing and pump head. Please wipe out any liquid splashed on the roller as soon as possible or it will lead to unnecessary damage
3. The surface of motor and the pump head are not organic solvent and aggressive liquids resistant. Please pay attention when using.
4. We recommend you to smear silicon oil on the surface of the tubing to prolong its service life.

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.

JL350-2J OPERATING MANUAL

Technical Specifications

❖ Functions

- Speed Control: Frequency converter speed adjustment
- Display: LED displays current running status
- Direction Control: CW and CCW reversible
- External Control: Speed control, cw/stop, ccw/stop (need unlock)
- Communication Function: RS485 (need unlock)

❖ Specifications

- Speed: 30 - 350 rpm, reversible
- Speed Precision: 0.6 rpm
- Speed Adjusting: Membrane key adjustment
- Display Mode: LED display
- Applicable Power: AC 220V +/- 10% 50Hz+/-1Hz
AC 110V +/- 10% 60Hz+/-1Hz
- Power Consumption: < 375 W
- Operating Condition: Temperature 0 to 40℃
Relative humidity < 80%
- Dimensions (L × W × H): 530 × 375 × 260 (mm)
- Weight: 26 Kg
- IP Rating: IP 31