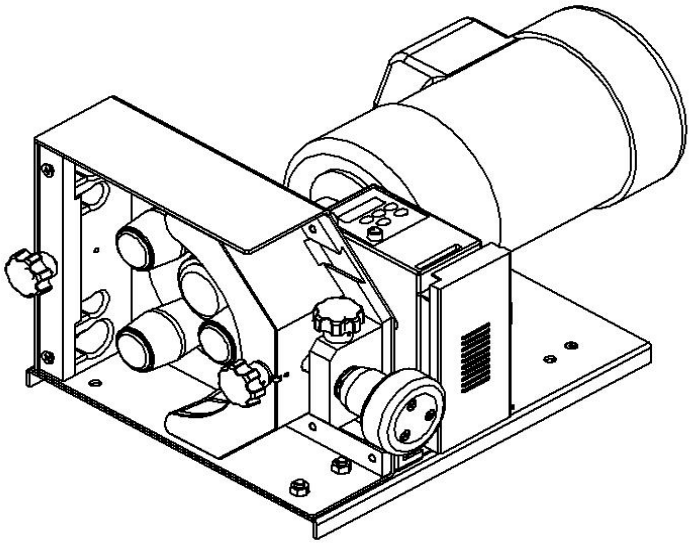
LONGER

JL350-2J PERISTALTIC PUMP
OPERATING MANUAL



Baoding Longer Precision Pump Co.,Ltd.

JL350-2J Peristaltic Pump

LONGER

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⚠ **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.

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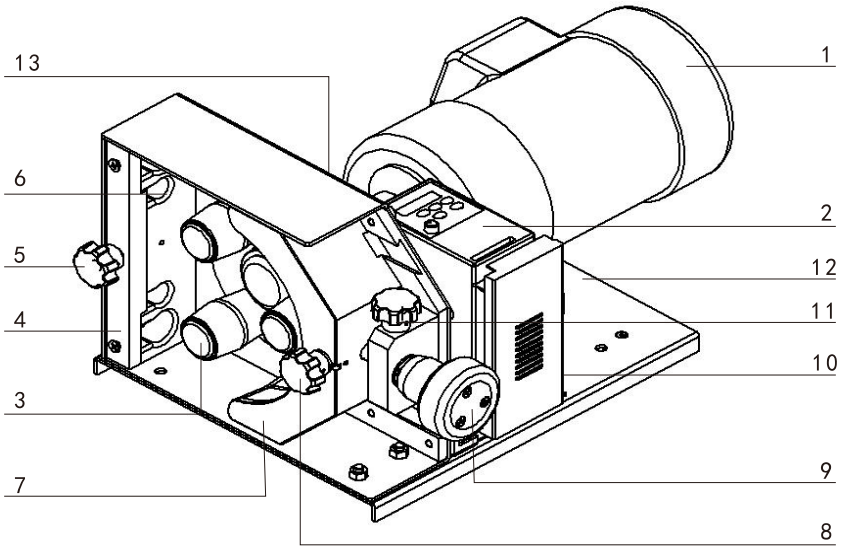
Introduction

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.

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 <MS300 Series User Manual >)

Model No. of frequency converter: VFD2A8MS21ANSAA

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

❶ Status Display Area

Respectively displays the operation status of the drive, Operate, Stop, PLC, Forward, Reverse etc.

❷ Main Display Area

Display Frequency,Current,Voltage,Steering,User-defined Units, Abnormality ect.

❸ Frequency Setting Knob(Potentiometer)

This Knob can be set as main frequency input

❹ UP Key

It is used to change the set value and parameters

❺ LEFT/DOWN Key

It is used to change the set value and parameter(use left key by long pressing MODE key)

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

Please refer to MS300 Series User Manual for the details. Model No. of frequency converter is VFD2A8MS21ANSAA.

Refer to below table for Factory settings:

Parameter	Explanation	Setting
01-00	Max. operation frequency of motor	65Hz
01-02	Output voltage of motor	220V
01-03	Mid-point frequency of motor	32.5Hz
01-04	Mid-point voltage of motor	20V
01-10	Output frequency upper limit	65Hz
01-11	Output frequency lower limit	0 Hz
01-12	Acceleration time	1.00s
01-13	Deceleration time	1.00s
01-09	Start-up frequency	0.5Hz
00-11	Control of speed mode	VF (IM V/F control)
00-16	Load selection	Heave load
00-17	Carrier frequency	4kHz

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	1.3 - 15	2.7 - 32	0.8 - 15

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.

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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.

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
Communication Function: RS485

❖ 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
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: IP55 (excluding the frequency converter)