LONGER

Baoding Longer Precision Pump Co., Ltd.

Add: 3rd/4th Floor, Building 6B, University Science Park
Baoding National, High - Tech Industrial Development Zone
Baoding, Hebei, China 071051
Tel: 86 - 312 - 3110087 3138553
Fax: 86 - 312 - 3168553

Distributor in USA

Aurora Pro Scientific

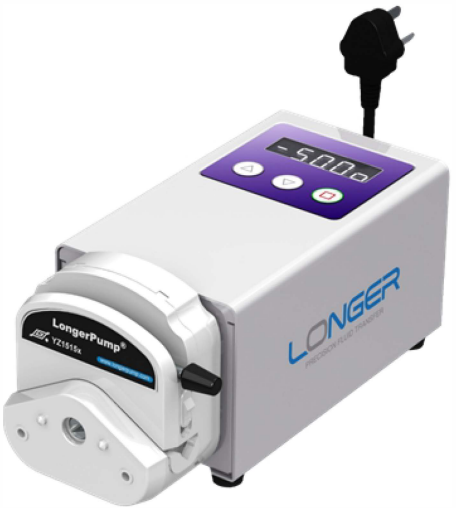
103 Godwin Ave, Suite 133
Midland Park, NJ 07432
Email:sales@auroraprosci.com
Website:www.auroraprosci.com

L100-1E Peristaltic Pump Drive

2019.9

LONGER

L100-1E Peristaltic Pump Operating Manual



Baoding Longer Precision Pump Co.,Ltd.

Table of Contents

1. General Information ----------1
1.1 Precaution ----------1
1.2 Warranty ----------1
1.3 Repair Notes ----------2
1.4 Contacts Information ----------2
2 . Product Introduction ----------3
2.1 Main Features of L100-1E ----------3
2.2 Unpacking ----------3
2.3 L100-1E System Structure ----------3
2.3.1 Peristaltic Pump Drive ----------3
2.3.2 Applicable Pump Head and Tubing, and Reference Flow Rate ----------4
2.4 Function & Specification ----------5
2.5 Operating Condition ----------5
3 . System Installation ----------5
3.1 Outline Dimension of L100-1E ----------5
3.2 Installation of Pump Head ----------6
3.2.1 YZ1515x/YZ2515x/YZII15/YZII25 Installation----------6
3.2.2 DMD15-13 Installation and Tubing Loading----------6
3.2.3 BZ Series Installation----------7
3.2.4 DG Series Installation ----------8
4 . Operation ----------8
4.1 Keypad and Display ----------8
4.2 Operation ----------9
4.2.1 Switching the Pump On ----------9
4.2.2 Run/Stop ----------10
4.2.3 Prime ----------10
4.2.4 Speed Adjustment----------10
4.2.5 Direction Setting----------11

LONGER Peristaltic Pump Drive Operating Manual

1. General Information

1.1 Precaution

• If tubing leaks or bursts, fluid may spray from the tubing and pump head. Take reasonable practicable measures to ensure the operators' safety.
• Make sure fluid in the tubing has been drained out, no pressure in the pipeline and disconnect pump from mains power, while removing or replacing the tubing.
• Do not touch the rotor while pump is running.
• Release the compression block when pump stop running for a long time to avoid tubing deformation caused by squeezing.
• Keep the rotor clean and dry to avoid tubing excessive wear and premature failure of pump head or drive.
• Please do not add the lubricating oil to the rotor by yourself, any improper operation could corrode the pump head housing or dislocate the tubing.
• The pump can't resist organic solvent and corrosive liquid, please clean the liquid left on the surface of the pump in time.

1.2 Warranty

(1) Longer, obligation under this warranty is limited to a period of one (1) year from the date of original purchase. Within the 1 year of warranty period, Longer will replace or repair any defective parts free of charge. This warranty doesn't cover consumable part (tubing).
(2) Warranty does not cover:

• The repair or exchange of the entire unit after the warranty period.
• Any damage or failure caused by improper installation, storage, maintenance or usage, not in compliance with operating manual.
• Beyond or violate the conditions listed in contract or technical agreement.
• Any damage or failure caused by attempts by personnel other than authorized Longer representatives to install, repair, modify or remove the product.
• Any damage or failure caused by non-Longer parts, or user-replaceable parts purchased from unauthorized distributors.
• Any damage or failure caused by accidents or human errors (including wrong power supply voltage, corrosion, fall-off, etc.)
• Any damage or failure caused by natural disaster or other irresistible force (earthquake, fire, etc.).
• Other product damage or failure not caused by defects in design, material and workmanship.

1.3 Repair Notes

Please contact Longer or its distributor, and provide the product serial number before returning the product. Products which has been contaminated with, or exposed to, toxic chemicals or any other substance hazardous to health must be decontaminated before returning to Longer or its distributor. You must ship the product in its original packaging or better, to insure it against possible damage or loss during the transport.

2. Product Introduction

2.1 Main Features of L100-1E

L100-1E has three color options: white, orange and grey. Compact structure and small-foot print, save more space on the benchtop. Low vibration and low noise, offer a quiet and comfortable lab environment. Simple function and easy operation, improve work efficiency. Good electromagnetic compatibility, ensure stable and reliable operation. L100-1E is compatible with many Longer peristaltic pump heads and accepts many different tubings. The reference flow rate range with silicone tubing is 2ul/min – 380ml/min.

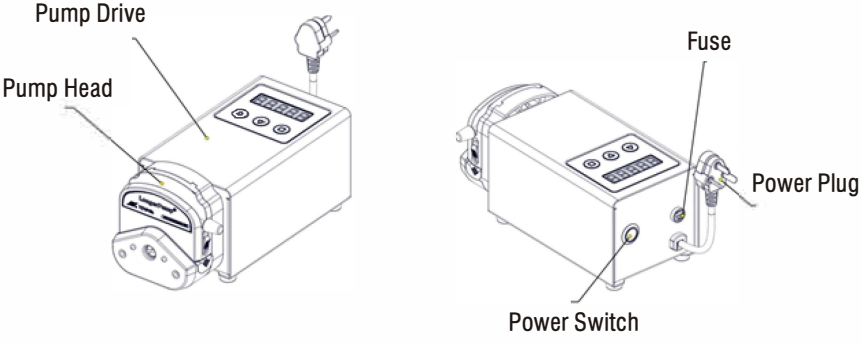


2.2 Unpacking

Please check the packing list.

2.3 L100-1E System Structure

2.3.1 Peristaltic Pump Drive



2.3.2 Applicable Pump Head and Tubing, and Reference Flow Rate

Pump Head	Applicable Silicone Tubing	Reference Flow Rate (silicone tubing) mL/min	Applicable Pharmed Tubing
YZ1515x-A YZ1515x-C YZII15	13#	0.007-7	13#，14#, 19#, 16#
	14#	0.025-25	
	19#	0.042-42	
	16#	0.077-77	
	25#	0.160-160	
	17#	0.270-270	
	18#	0.380-380	
YZ2515x-A	15#	0.160-160	Not Recommend
	24#	0.270-270	
BZ15-13-A	14#	0.020-20	Not Recommend
BZ15-13-B	16#	0.077-77	
BZ15-13-C	25#	0.160-160	
BZ15-13-D	17#	0.300-300	
BZ25-13-B	24#	0.300-300	
DMD15-13-B DMD15-13-D	2×13#	0.014-14	2×13#, 2×14#
	2×14#	0.050-50	
	2×19#	0.104-104	
	2×16#	0.160-160	
	2×25#	0.350-350	
DG-1，6 rollers DG-2，6 rollers	0.5×0.8	0.002-2	ID≤3.17mm，Wall thickness 0.8-1.0mm
	2.4×0.8	0.030-30	
	1×1	0.008-8	
	2×1	0.028-28	
	3×1	0.048-48	
DG-1，10 rollers DG-2，10 rollers	0.5×0.8	0.002-1.5	ID≤3.17mm，Wall thickness 0.8-1.0mm
	2.4×0.8	0.022-22	
	1×1	0.006-6	
	2×1	0.022-22	
	3×1	0.032-32	

Note: The flow rates in above table are only for the reference, which were tested at the indoor temperature with water. When select pump head and tubing, the decay of flow and the fluid viscosity need to be considered.

2.4 Function & Specification

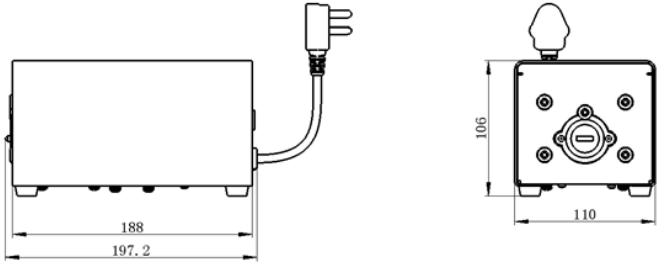
Speed	0.1rpm-100rpm ， CW/CCW
Speedresolution	0.1rpm
Display	5-digit LED display for current speed ， direction and run/stop status
Control Mode	Keypad control with physical buttons
Speed control function	Increase or decrease pump speed through physical buttons, and the automatic function is more convenient for speed adjustment.
Prime	Fast filling or emptying at full speed
Power- off memory	Return to previous status when power on (the status needs to maintain more than 5 seconds before power off)
EMC	Comply with EMC Directive 2014/30/EU
Dimension(L*W*H)	197mm×110mm×106mm
IP rating	IP31
Weight	2.44kg

2.5 Operating Condition

- Power supply： AC 100-240V，50Hz/60Hz
- Power consumption：≤13W
- Operating temperature range: 0℃-40℃
- Humidity (non-condensing) < 80%

3 System Installation

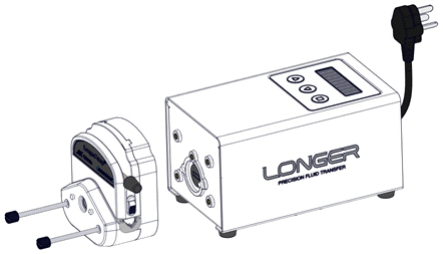
3.1 Outline Dimension of L100-1E



3.2 Installation of Pump Head

3.2.1 YZ1515x/YZ2515x/YZII15/YZII25 Installation

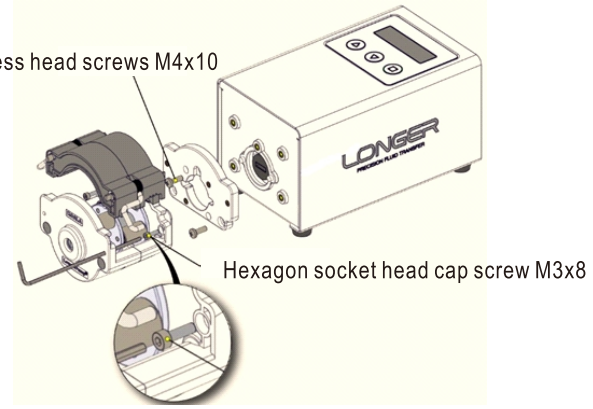
Insert the tang of the pump head shaft into the slot of the black rubber coupling, and insert the alignment pin of the drive unit into the alignment hole on the back of the pump head, then tighten the mounting screws.



3.2.2 DMD15-13 Installation and Tubing Loading

Pump Head Mounting:

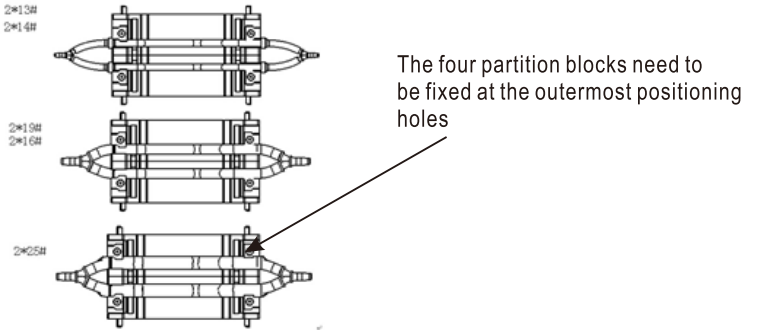
Mount the mounting plate on the drive unit through three cross recess head screws M4X10. Release the two levers to open the pump head and remove the compression block. Insert the tang of the pump head shaft into the slot of the black rubber coupling. Press the pump head firmly against the mounting plate. Turn the pump head to align the mounting holes on the pump head with the mounting holes on the mounting plate. Insert the two mounting screws (hexagon socket head cap screw M3X8) into the mounting holes, then tighten them.



Tubing Loading:

Release the levers to remove the compression block. Insert the tubing fitting assembly into the compression block.

Note: When use 25# tubing, the partition block needs to be fixed at the outermost positioning hole.

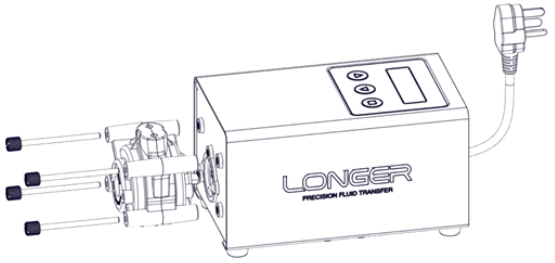


Put the compression block with tubing fitting assembly back to the pump head, and lock the levers.



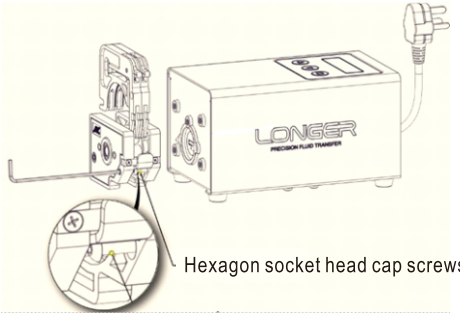
3.2.3 BZ Series Installation

Insert the tang of the pump head shaft into the slot of the black rubber coupling. Press the pump head firmly against the pump drive. Turn the pump head to align the mounting holes on the pump head with the mounting holes on the pump drive. Insert the 4 mounting screws into the mounting holes, then tighten them.



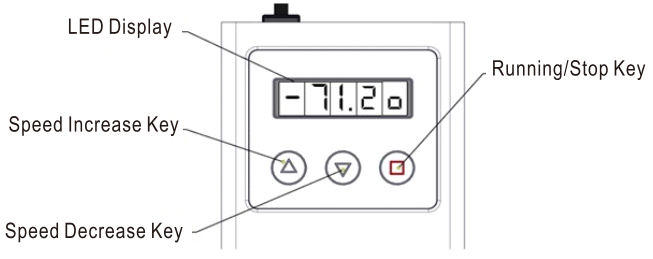
3.2.4 DG Series Installation

Remove the tubing and the pump head cartridges. Insert the tang of the pump head shaft into the slot of the black rubber coupling. Press the pump head firmly against the pump drive. Turn the pump head to align the mounting holes on the pump head with the mounting holes on the pump drive. Insert the 2 hexagon socket head cap screws M4X8, then tighten them.



4 Operation

4.1 Keypad and Display



• 5-digit LED display:

The picture above shows the pump running counter clockwise at 71.2rpm.
1st digit: indicates the running direction, shows "-"when pump runs counter clockwise, shows nothing when pump runs clockwise.
2nd,3rd and 4th digits: show the running speed from 0.1rpm to 100rpm.
2nd,3rd and 4th digits: show "---"when prime the pump.
5th digit: indicates running or stop status, " ▭ " flashes when pump is running, " ▭ " is always on when pump is stopped.

• Running/Stop Key:

When pump stops, single tap the Running/Stop Key to run the pump at set speed and direction.
When pump stops, press and hold the Running/Stop Key (more than 3 seconds) to prime the pump, and the 2ND, 3rd and 4th digits will show "---".
When pump is running or priming, single tap the Running/Stop Key to stop the pump.

• Speed Increase Key:

When the pump is running or stopped, single tap the Speed Increase Key to increase the speed by 0.1rpm.
When the pump is running or stopped, press and hold the Speed Increase Key to increase the speed continuously. And when the resolution becomes 1rpm, release the key, the pump speed will continue increasing automatically.
When the speed is increased automatically, tap the Speed Increase Key or Decrease Key to stop the automatic function.
The Speed Increase Key is invalid when the pump is priming.

• Speed Decrease Key:

When the pump is running or stopped, single tap the Speed Decrease Key to decrease the speed by 0.1rpm.
When the pump is running or stopped, press and hold the Speed Decrease Key to decrease the speed continuously. And when the resolution becomes 1rpm, the pump speed will continue decreasing automatically when release the key.
When the speed is decreased automatically, tap the Speed Increase Key or Decrease Key to stop the automatic function.
The Speed Decrease Key is invalid when the pump is priming.

4.2 Operation

4.2.1 Switching the Pump On

Connect the pump to mains supply: AC 100-240V, 50Hz/60Hz.
Switch on the power switch at the rear of the pump. Then the switch will light.
If the pump was running (more than 5 seconds) before power off, the pump will be at the same running status when switch on the power supply. Otherwise, the pump will stop. And the LED will display current speed, running direction and running/stop status.
When pump runs clockwise, the 1st digit shows nothing. When pump runs counter clockwise, the 1st digit shows "-"
When pump is running, the 5th digit " " is flashing. When pump stops, the 5th digit " " is always on.

4.2.2 Run/Stop

When pump stops, single tap Running/Stop Key to run the pump. And the 5th digit " " will flash.
When pump is running, single tap Running/Stop Key to stop the pump. And the 5th digit " " will always be on.

4.2.3 Prime

When pump stops, press and hold Running/Stop Key to prime the pump. Then the 2nd, 3rd and 4th digits will show "----", and the pump speed is 100rpm.
When the pump is priming, tap the Running/Stop Key to stop the pump, and the 2nd, 3rd and 4th digits will shows current speed.
Note: when pump is priming, the Speed Increase Key and Decrease Key are invalid.

4.2.4 Speed Adjustment

Speed fine adjustment: single tap Speed Increase Key or Decrease Key, the pump speed will be increased or decreased by 0.1rpm.
Speed continuous adjustment: press and hold the Speed Increase Key or Decrease Key, the pump speed will be adjusted continuously. And the resolution will be changed from 0.1rpm to 1rpm after the speed becoming integer.
Speed automatic adjustment: press and hold the Speed Increase Key or Decrease Key, the pump will work in automatic speed adjustment mode when the speed resolution becomes 1rpm. Then the pump speed will continue adjusting automatically when release the Speed Increase Key or Decrease Key. When the target speed is reached or approached, single tap the Increase or Decrease Key, the pump speed will stop changing.
Note 1: When pump works in automatic speed adjustment mode, the speed resolution is 1rpm. The target speed could be reached through fine adjustment after the automatic function.
Note 2: The Speed Increase Key and Decrease Key are invalid when pump is priming.

4.2.5 Direction Setting

Set the running direction as clockwise:
Stop the pump, and set the pump speed as 100rpm. Then press and hold the Speed Increase Key. When "-" on the 1st digit disappeared, the pump direction is set as clockwise.
Set the running direction as counter clockwise:
Stop the pump, and set the pump speed as 0.1rpm. Then press and hold the Speed Decrease Key. When the 1st digit shows "-", the pump direction is set as counter clockwise.