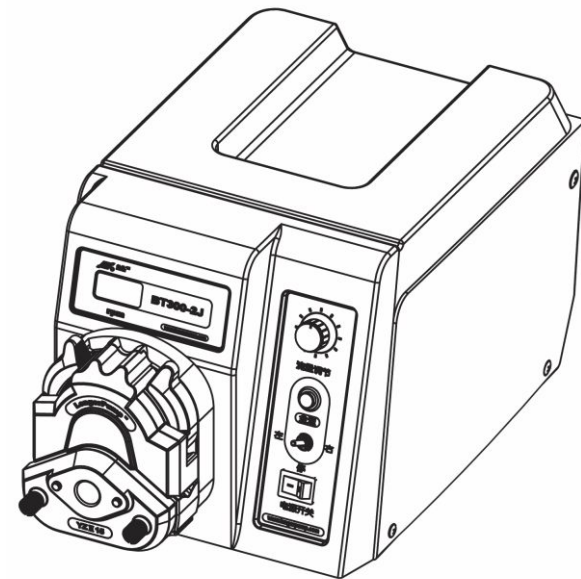


LONGER

## WT600-2J PERISTALTIC PUMP OPERATING MANUAL



LONGER

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WT600-2J Peristaltic Pump

Baoding Longer Precision Pump Co.,Ltd.

A **Halma** company

** Important Information:**

Please read operation manual carefully before operation.

** Warning:**

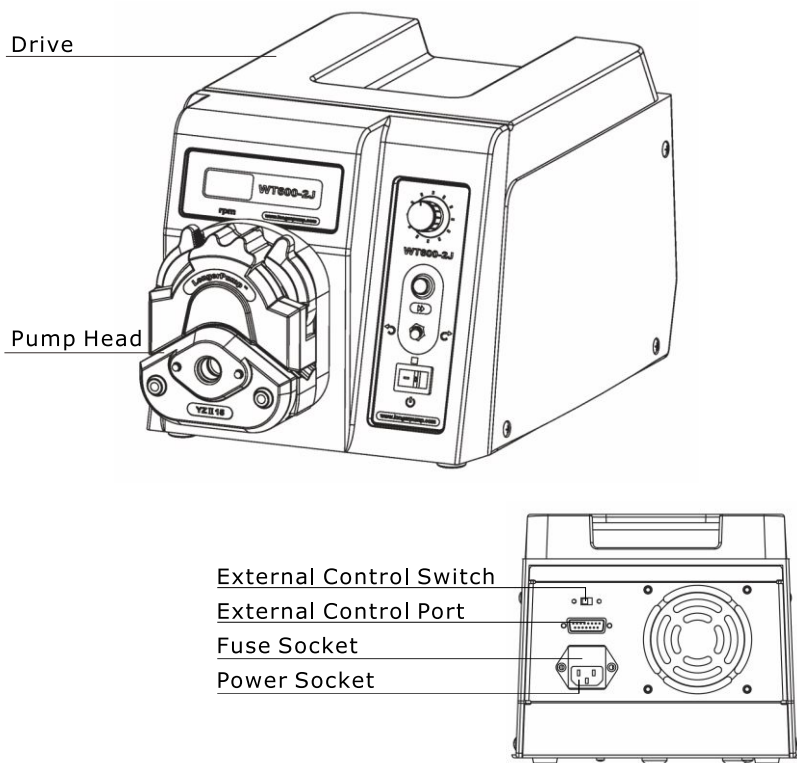
- Tubing breakage may result in fluid sprayed from pump. Use appropriate measures to protect operator and equipment. Please check the tubing frequently and changing the tubing in time.
- If the power line or the plug are worn or damaged please pull out the plug (Hold the plug not the power line when pulling out).
- Please shut down the power supply and pull out the plug when you think the pump needs to be maintained or repaired.
- Shut down the power supply of the pump when connecting to external control equipment.

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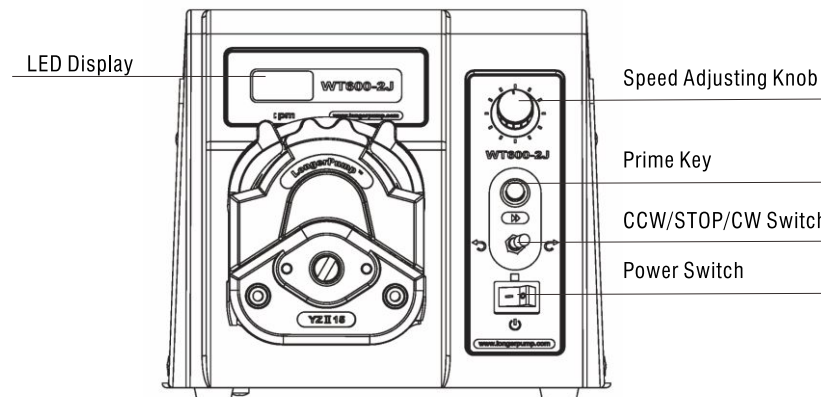
**Introduction**

Acceptable pump heads for WT600-2J are YZ1515x, YZ2515x, YZII15, YZII25, BZ25, KZ25, DG15-24 and DMD25. The pump delivers flow rates from 4.2 to 6000 mL/min. Driven by DC brushless motor the pump has features of high efficiency, low vibration, high torque and maintenance-free. It can drive double pump heads. The speed can be adjusted manually or automatically through external control. The external control includes analog control and communication control.



- Please refer to page 4 for detailed external control function.
- Make sure the power line of the pump is grounded reliably to protect the operator in humid condition.









**Basic Operation**



- **Speed Adjusting Knob**  
In manual control mode, turn the **Speed Adjusting Knob** clockwise the speed increase; Turn the **Speed Adjusting Knob** counter clockwise the speed decrease. Turn the **Speed Adjusting Knob** rapidly the increment or decrement of the speed is 10 rpm. The pump speed is from 60 rpm to 600 rpm.
- **Prime Key**  
In manual control mode press down the **Prime Key** to enter prime status when the pump runs at full speed (that is 600 rpm) and the LED displays the max. speed for emptying, filling and rinsing operation. Release the **Prime Key** the pump returns to its primary status.
- **CCW/STOP/CW Switch**  
In manual control mode, pull the CCW/STOP/CW switch in left position the pump rotates counter clockwise and in right position the pump rotates clockwise and in middle position the pump stops.
- **Power Switch**  
Open or shut down the power supply.

⚡ The CCW/STOP/CW switch must be pulled out first, then put it in the right position. Or the CCW/STOP/CW switch can not be triggered.

**Acceptable Pump Heads and Tubing**


Pump Head	Tubing	Flow Rates (mL/min)
 (1, 2)×YZ1515x	13# 14# 19# 16# 25# 17# 18#	Single Channel 4.2 – 2200
 (1, 2)×YZII15	13# 14# 19# 16# 25# 17# 18#	Single Channel 4.2 – 2200
 (1, 2)×YZ2515x	15# 24#	Single Channel 100 – 1600
 (1, 2)×YZII25	15# 24# 35# 36#	Single Channel 100 – 3000
 KZ25	15# 24# 35# 36#	200 – 6000
 BZ25	24#	174 – 1600
 DG15-24	16# 25# 17#	Single Channel 50 – 1800
 DMD25	119# 120# 15# 24# 35# 36#	30 – 4000

 Note: The working speed for DMD25 pump heads is less than 350 rpm.

**Changing the Pump Head**

The pump head has been installed on drive before leaving the factory. please follow the procedure below when a new pump head is required.

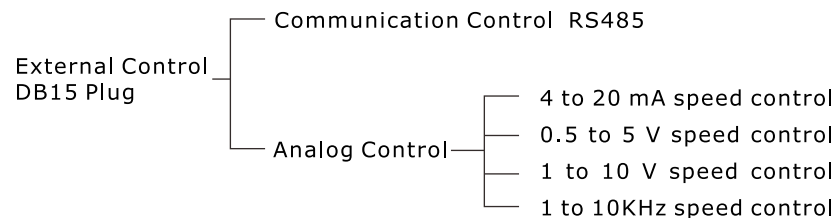
1. Loose the tightening screws which connecting the pump head and the drive. Take down the pump head.
2. Insert the flat end of the new pump head's shaft to the slot of drive's coupling. Make the positioning hole of the pump head match the positioning pin of the drive.
3. Tighten the screws which connecting the pump head and the drive. Try your best to tighten the screws in the same degree. Do not over-tighten the screws to prevent the housing from deforming. (Please reference the pump head operating manual for details.)

 Shut down the power supply before changing a new pump head.

**❖ Check the Pump Head Occlusion**

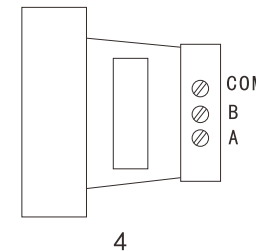
Load the tubing in pump head and insert one side of tubing in water and blow to the other side. There should be no air bubble in water. If there is air bubble in water, that's because the wall thickness of the tubing is too thin to be used in this pump head.

**External Control Function**



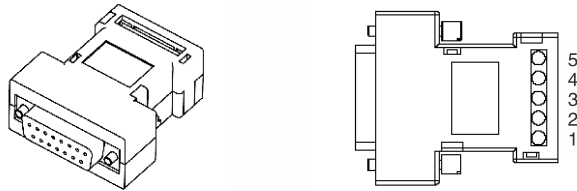
**❖ Communication Control**

- The pump can connect to control computer (computer, PLC, SCM) through RS485 serial communication module (shown as below). Please contact Longer company for communication protocol.



❖ **Analog Signal Input function**

Make the Remote Control Switch in "on" position. External Control Module is shown as below.

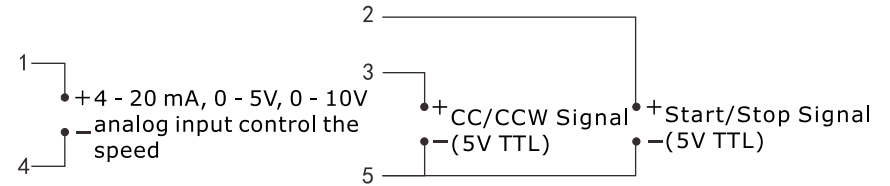


External Control Module

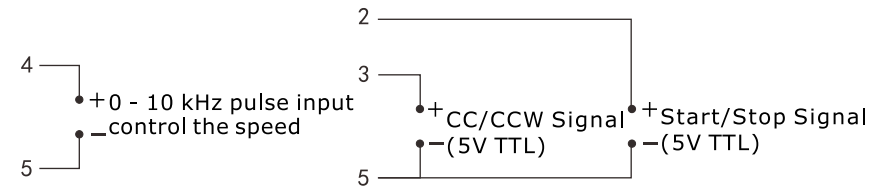
💡 Five kinds of standard external control module need to be ordered separately according to special requirements.

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

- 1# is analog input in 4 - 20 mA, 0 - 5 V, 0 - 10 V external control modules. Control the speed of the pump.
- 2# is external control start/stop input. When connected to COM, the pump runs; When connected to high level (5 - 10 V), the pump stops.
- 3# is external control cw/ccw input. When connected to COM, the pump rotates clockwise; When connected to high level, the pump rotates counter clockwise.
- 4# is analog ground (AGND) in 4 - 20 mA, 0 - 5 V, 0 - 10 V external control modules; 4# is pulse input in pulse input external control modules. Control the speed of the pump. 10 KHz is corresponding to the max.speed.
- 5# is the COM of external control direction and start/stop signal input; It's also the COM of pulse signal input in pulse input external control module.



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



0 - 10 kHz Pulse Signal Input Connection Diagram

**Footswitch**

Control the start/stop of the pump through the external control interface.

💡 Footswitch is optional accessory; suitable type for WT600-2J is JK-3.

**Optional Accessory**

❖ **Dispenser**

Connect to external control port. Control the start and stop of the pump to realize dispensing and filling.

❖ **Footswitch**

Connect to external control port. Control the start and stop of the pump.

💡 Dispenser and footswitch are optional accessories. They can only control the start and stop of the pump. The speed and direction of the pump are controlled by switches on front panel.

**Maintenance**

- When the pump is not in use, 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 you experience any operational problems, 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.

**Technical Specifications**

❖ **Functions**

Applicable Pump Head	YZ1515x, YZ2515x, YZII15, YZII25, BZ25, KZ25, DG15-24, DMD25
Display	3 digits LED displays the speed
Speed Control	Rotary encoded switch
Direction Control	cw and ccw reversible
Memory Function	Storing the running parameter automatically
Prime	Fast filling and emptying
Communication	RS485
External Control Input	Start/stop control, direction control, speed control (4 to 20mA, 0.5 to 5V, 1 to 10V, 1 to 10kHz corresponding to the speed of 60 to 600 rpm)
Cooling Mode	Heat-emitting fan

❖ **Specifications**

Flow Rates	4.2 - 6000 mL/min
Speed	60 - 600 rpm
Speed Accuracy	± 1.0%
Speed Resolution	1.0 rpm
Output Torque	≥ 1.60N·M
Applicable Power	AC 176 - 264V 50Hz/60Hz
Power Consumption	≤ 200 W
Operating Condition	Temperature 0 to 40°C Relative humidity < 80%
Drive Dimensions (L × W × H)	292 × 207 × 181 (mm)
Drive Weights	5.2 kg
IP Rating	IP 31