



Precision Peristaltic Pump
7000 Series Manual



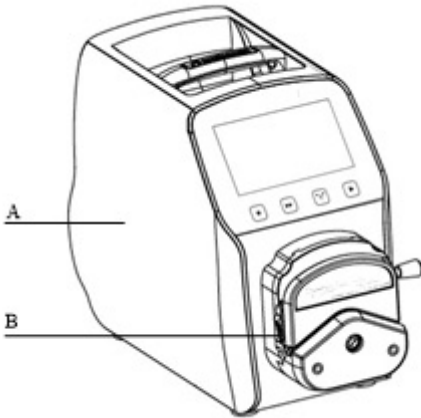
7000 Series Pumps

Series 7000 Peristaltic Pumps are suitable for optimum and precision filling applications for pharmaceutical, biotech, and the food and beverage industry.

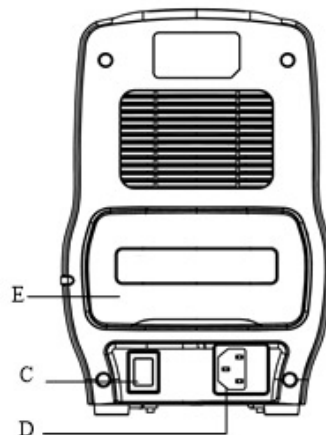
These Peristaltic Pumps have flow rates up to 12000 mL/min. All models accept continuous tubing to prevent cross contamination.

- 4.3 inch Color Touch Screen Control
- Dynamic Display Working Status
- Flow Data, Parameters and System Settings Displayed on the Screen
- Intelligent Calibration and Online Micro Adjusting Function
- Three Measurement Modes - Fixed Volume Measurement, Fixed Time and Volume, Timer Start and Stop
- Can load different pump heads - YZ1515x, YZ2515x Easy Load Pump Head; MC Series Multi-Channel Pump Head (MC1-MC12); SN Series Standard

7000 Series Product Appearance



- A—Drive
- B—Pump Head
- C—Power Switch
- D—Power Port
- E—External Control Input Port



7000 Series Keyboard Instruction



Run/Pause Button



Stop Button



Full Button



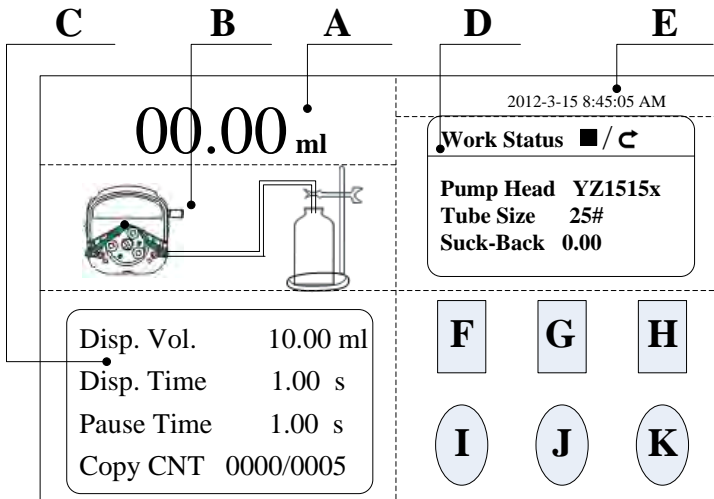
CW/CCW Button

Run/Pause Button	Press this button to start the pump.
Stop Button	Press this button to stop the pump.
Full Button	Press this button to allow the pump to operate at the highest speed (when in stop-state). This button is for washing tubing and filling liquid rapidly.
CW/CCW Button	Press this button to reverse the transfer direction.

7000 Series Operation Interface Instruction

1. Boot Interface

2. **Main Interface** - Main Interface Composition as below:



- A、 Real-time Display Dispensing Volume: Displays the dispensing volume
- B、 **Real-time Dynamic Display:** Displays the dispensing state and monitor result.
- C、 **Real-time Parameter Display:** Displays the set dispensing volume, current count-down dispensing time, count-down interval time and copy numbers.
- D、 **Set Parameter Display:** This area displays current working state, pump head, tubing size and suck-back angle
- E、 **Date and Time Display:** Displays the current date and time, can amend it in system settings
- F、 **System Setting Button:** Press this button enter system setting interface, include set the pump head and tube size, set the suck-back angle, set common mode, set current date and time.
- G、 **Flow Calibration Button:** Press this button enter calibration interface.
- H、 **Real-time Monitor Button:** Press this button enter monitor interface, you can check the flow rate, motor speed and dispensing efficiency here.
- I、 **Dispensing Volume Button:** Press this button, the numerical keyboard will display on the screen. Input the dispensing volume.
- J、 **Time Button:** Press this button, the numerical keyboard will display on the screen. Input the filling time. Click confirm, it will ask whether continue to input the pause time, choose 'YES', you can input the pause time, choose 'NO', back to the main interface
- K、 **Copy Numbers Button:** Press this button, the numerical keyboard will display on the screen. Input the copy numbers. If input '0', the copy number is unlimited

3. Flow Calibration Interface - Flow Calibration Interface as below:

	Actual Vol.	Volume Adjustment
Disp. Vol. 10.00 ml	0.0000ml	+0.0000ml
	Test	Add
Disp. Time 1.00 s	CAL	Dec
	Reset	Esc

In flow calibration interface, the filling volume and time is same as previously set, you can change it, the dispensing volume and time parameter on main interface will change with it.

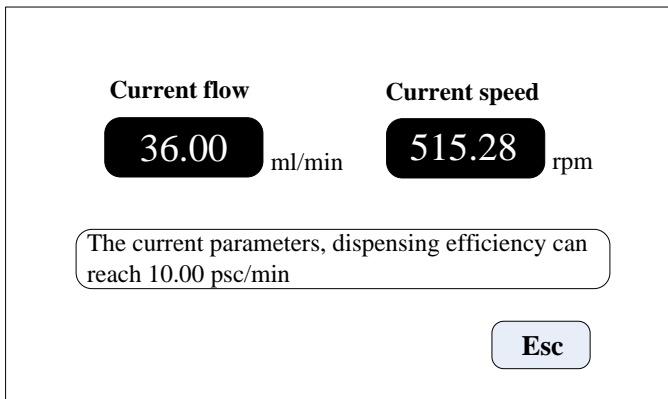
Calibration Process as below:

- Confirm dispensing volume and time.
- Click **Start** button to start the test, display countdown dispensing time, it will stop automatically, and the numerical keyboard come out, you can input the actual dispensing volume. After input the actual dispensing volume, it will ask whether continue test (suggest 3 times), choose 'YES', it will test again; choose 'NO', back to the calibration interface.
- After several tests, actual dispensing volume display area display the average volume, click '**Calibration**' button, display calibrate successful.
- If request higher accuracy, you can use the adjust function, click '**Add**' or '**Dec**' button, micro adjust the dispensing volume, meet high accuracy dispensing.
- Click '**Cancel**' button, cancel the tests, actual filling volume return to 0.

Online Micro Adjust Dispensing Volume Process:

If the dispensing volume is not correct during working, this function can micro adjust the volume online without affect the product line

- A、 Click the **Calibration** button on the main interface, enter flow calibration interface
- B、 Now only the ‘**Add**’, ‘**Dec**’ and ‘**Esc**’ button can be used, other button is forbidden
- C、 Click **Add** or **Dec** button to adjust the dispensing volume.

4. Real-time Monitor Interface - Monitor Interface as below:

Click Monitor button on the main interface to enter the monitor interface, check the current flow rate, motor speed and dispensing efficiency.


5. Configuration Interface - Configuration Interface as below:

Pump Head YZ1515x ▼	Reference Flow Rate Max: 17.00 ml/sec Min: 28.33 ul/sec
Tube Size 25# ▼	
<input checked="" type="checkbox"/> Show the current Disp. Vol. Clear the total times	
<input type="checkbox"/> Show the total times	0006 OK

On the main interface, click **System Setting** button, click **Configuration** button, enter Configuration interface.

Click Pump Head, Tube Size drop-down menu choose pump head and tube. Reference flow rate display the minimum and maximum flow rate of the pump head and tube.

6. Suck-back Angle Setting Interface - Suck-back angle setting interface as below:

 Back Suction angle range: 0~360 Settings can raise the dispensing accuracy, Please re-calibrate the flow rate.	Please enter back suction angle 360.00 OK Cancel
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Click the **System Setting** button on the main interface, click **Suck-back Angle** button, enter suck-back angle setting interface. Click **Set Suck-back Angle** button, the numerical keyboard will come out, input the suck-back angle and click '**Confirm**' button, all the filling unit will work with this angle. Click '**Cancel**' button back to the system setting interface.

7. Common Mode Interface - Common Mode Interface as below:

PumpHead	Tube	Disp. Vol.	Disp. Time	Pause Time	Suck-Back
YZ1515x	14#	2	1	2	0
YZ1515x	16#	7	1	2	0

« »

Click **System Setting** button on the main interface, click **Common Mode** button, enter choose common mode interface.

- **Add Button:** Click this button to add one common mode, it can save 60 modes. Add mode interface as below, click button and input parameter..

<p>Disp. Vol. <input style="width: 80%;" type="text" value="10.00"/> ml</p> <p>Disp. Time <input style="width: 80%;" type="text" value="1.00"/> s</p> <p>Pause Time <input style="width: 80%;" type="text" value="1.00"/> s</p>	<p>Pump Head <input style="width: 80%;" type="text" value="YZ1515x"/> ▼</p> <p>Tube Size <input style="width: 80%;" type="text" value="25#"/> ▼</p> <p>Suct-Back <input style="width: 80%;" type="text" value="0.00"/></p>	<input type="button" value="OK"/> <input type="button" value="Cancel"/>
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- **Delete Button:** Choose one common button, click **Delete** button, it will ask whether delete, click 'YES', then you can delete this mode.

- **Empty Button:** Click this button, it will ask whether empty all, click '**YES**', then empty all the common mode.
- **Confirm Button:** Choose one of the common mode, click '**Confirm**' button, then it will back to the main interface. The filling parameter is same as the one you choosed from the common mode.
- **Cancel Button:** Click this button back to the system setting interface.
- **Page Up/Down Button:** Click this button to check the previous and next page.

9.Date and Time Setting Interface - Date and Time Setting Interface as below:

<input checked="" type="checkbox"/> 12-hour	2012-3-15
<input type="checkbox"/> 24-hour	8:45:35 AM
Set Date	Thursday
Set Time	Back

Click **System Setting** button on the main interface, click **Date and Time** button, enter date and time setting interface.

You can set the current date and time, it is displayed on the top right corner on the main interface.

Click **Set Date** button, the numerical keyboard come out, input the **Year**, setting year range is 1970-2099. After input the year, click confirm to set the month and day.

Click **Set Time** button, the numerical keyboard come out, input the hour, minute and second.

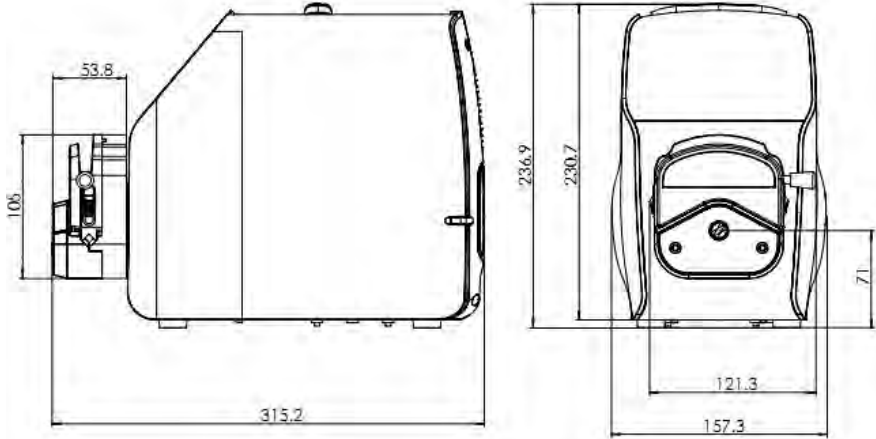
7000 Series Technical Specification

Dispensing Volume Range	0.1-9999.99ml	Wash Tube Speed	400rpm
Dispensing Time Range	0.5-9999.99s	External Control	Start/Stop signal
Pause Time Range	0.5-9999.99s	Power Consumption	<50W
Dispensing Volume Resolution	0.01ml	Temperature	0-40°C
Time Resolution	0.01s	Relative Humidity	<80%
Dispensing Numbers Range	1-9999, 0 is unlimited.	Dimension (L*W*H)	213*152*235 mm
Motor Speed Range	1-600rpm	Weight	5.02Kg
Suck-back Angle	0-360°	Protection Level	IP31

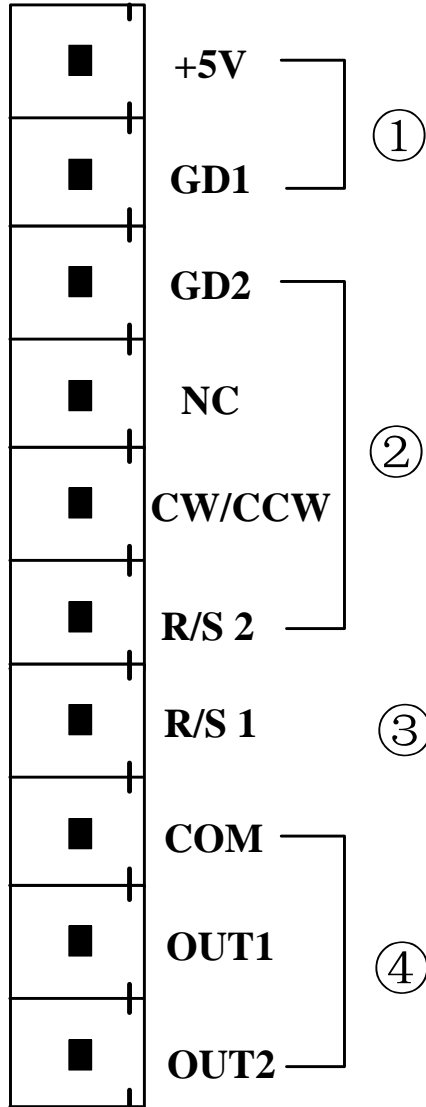
Dispensing Volume Reference Parameter (media is water)

Controller	Pump Head	Tube	Filling Volume (ml)	Filling Time (s)	Filling Precision (±%)	Output (pcs/min)	Speed (rpm)
7000	YZ1515x YZ2515x	13#	0.1	0.5	±5μL	60	204.083
		13#	0.3	0.7	1.5	42	426.251
		13#	0.5	1	0.8	30	516.081
		13#	1	2	0.5	15	517.152
		14#	2	1	1	30	446.724
		14#	3	1.5	0.8	20	446.479
		19#	5	1.2	1	25	454.919
		16#	7	1	0.5	30	457.705
		25#/15#	10	1	1	30	303.426
		25#/15#	15	1	0.8	30	461.273
		25#/15#	20	1.2	0.5	25	518.945
		17#/24#	30	1.2	0.8	25	462.725
		17#/24#	50	2	0.5	15	461.595
		18#	80	2.5	0.5	12	427.274
		18#	100	3	0.5	10	446.583
	DZ25-3L	35#	150	4	0.5	8	447.940
		36#	200	4	0.5	8	481.802

Product Dimension (mm)

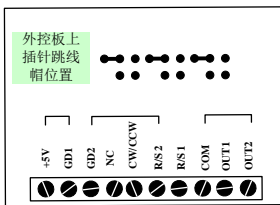


External Control Interface Instruction

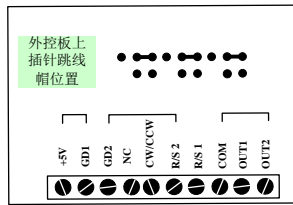


- ①: Interior +5VDC output
- ②: External control direction, start/stop signal input port: Active signal input (24 VDC)

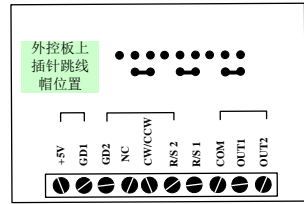
If need change to 5VDC or 12VDC input, please open the controller housing, and change the jumper connection on the external control board as below:



12V level input



24V level input



5V level input

The signal recognition is rising edge effective, the minimum duration of the high level is 200ms.

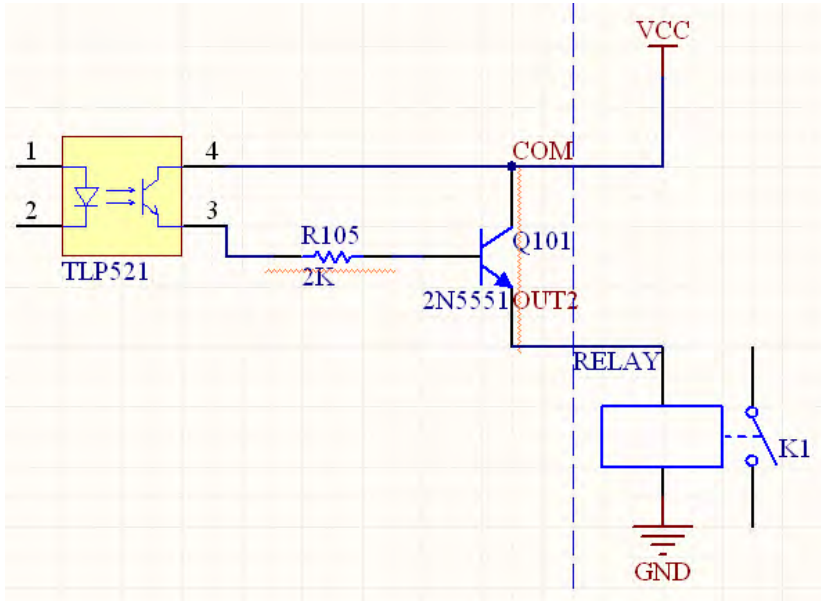
GD2: The common port of the external control signal input.

NC: External control stop signal input (signal rising edge effective).

CW/CCW: External control direction signal input (signal rising edge effective)

R/S 2: External control start signal input (signal rising edge effective).

- ③: External control start/stop signal input port: Passive signal input
Can connect switch between R/S 1 and GD1, the signal is effective when the momentary of the switch closure, start filling
- ④: Filling Status Output:
External connect relays diagram as below:



When the pump filling, the relays closure; when the pump stop filling, the relays disconnect.

Maintenance

When pump is not in use, loosen the cartridge to avoid damage to the tube. Keep the rollers of the pump head clean and dry. Make sure pump head & rollers do not come in contact with any corrosive liquid.

Warranty and After Service

This pump comes with a one year warranty. The warranty does not include the tubing. Misuse of this product by the user will void the warranty.



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