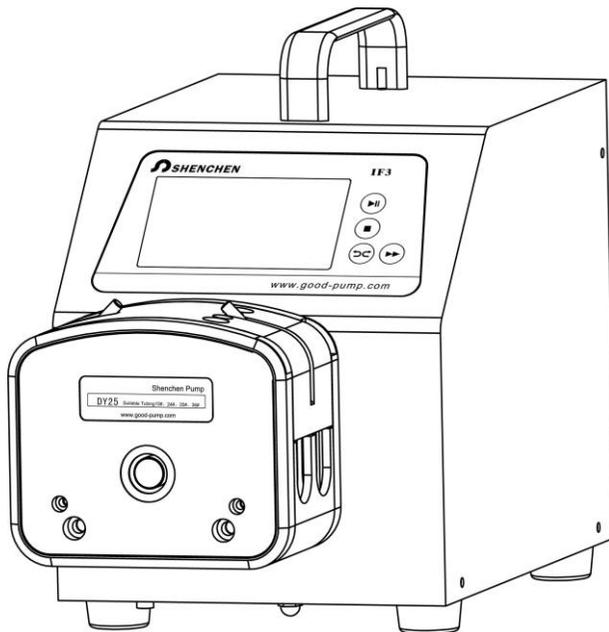


# Shenchen Peristaltic Pump Manual of IF3





### Important Information:

- Please read the manual carefully before operating the product..



### Warning:

- Tubing may have crack due to wear. It results in the overflow of fluid from tubing. In that time human body and instruments may be damaged. So user must check usually and change tubing in time.
- Connect directly the power line to the wall socket, and avoid using the extense electric line.
- If the power line or plug had wear and other damage, please hold the plug to unplug it, not hold the line.
- If following situations happened, please turn off the electric power and unplug the plug, holding the plug and not the line.
  1. Fluid splash on the pump.
  2. You think the pump need to maintain or amend.
- The user's power socket must have ground wire, and have reliable grounding.

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**IF3 Product Introduction:**

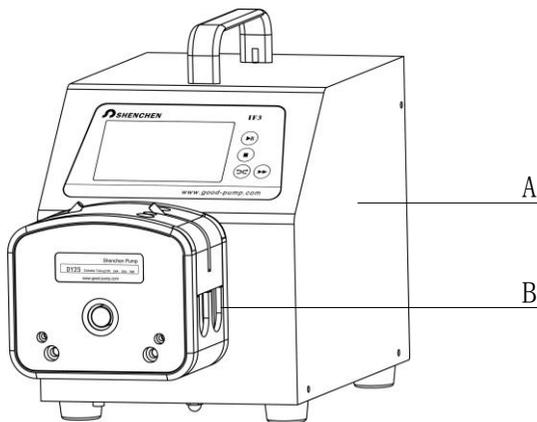
IF3 dispensing peristaltic pump use 4.3 inch color touch screen control, English /Chinese version, graphical interface, dynamic display working status, display the filling parameters and copy numbers in the same screen. Attention users experience. It is suitable for non-pollution, high precision liquid filling. Filling accuracy is 0.5-1%.

**IF3 Function and Features:**

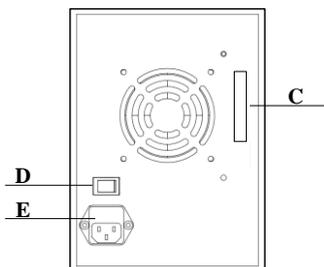
- Suitable pump head DY15、DY25
- Accurate angle control technology, high precision filling.
- Color touch screen control, friendly interface, dynamic display working status, display the filling parameters and copy numbers in the same screen.
- Intelligent calibration function, calibrate the filling volume before production, ensure the filling accuracy.
- Online micro adjusting function, convenient for users to micro adjust the filling volume .
- The pump can store 60 common filling modes, save users' setting time, improve working efficiency.
- Setting back suction angle to avoid the liquid drop off when the pump stop.
- External control start/stop.
- Fast filling liquid function, can be used for washing tubes, also can be used for fast filling liquid into the tubing.
- Good performance drive circuit, low noise working, stable running, load-shedding memory function.
- 304 stain stell housing, resist corrosion, no rust, conform to GMP sanitary request.

**IF3 Technical Specifications:**

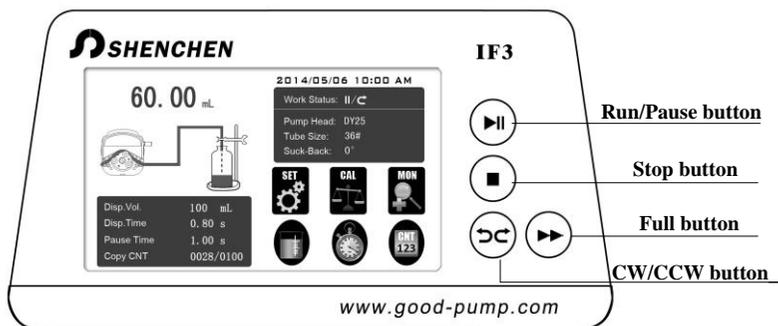
Filling volume	0.1-4340ml	Full speed	350rpm
Dispensing time	0.5-9999.99s	External control	Switch signal
Interval time	0.5-9999.99s	Power consumption	<180W
Volume resolution	0.01ml	Temperature	0-40℃
Time resolution	0.01s	Relative humidity	<80%
Copy numbers	1-9999 次, 0 represent unlimited	Dimension (L*W*H)	379*192*274mm
Speed range	1-350rpm	Weight	8.05kg
Back suction angle	0-360 °	IP rate	IP31

**IF3 Appearance:**


- A——Drive
- B——Pump head
- C——External control interface
- D——Power switch
- E——Power fuse

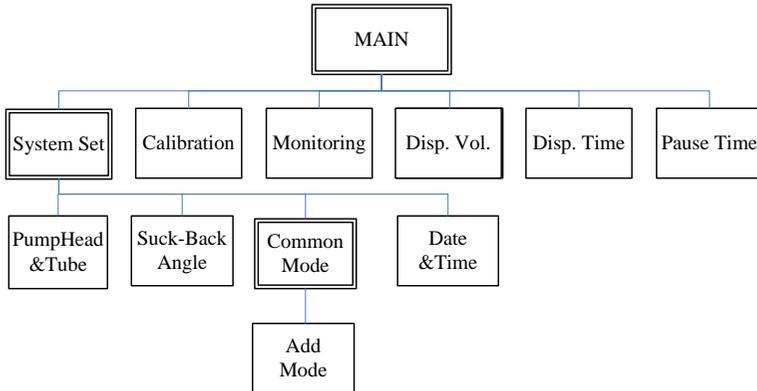


### IF3 Membrane Keypad Instruction:



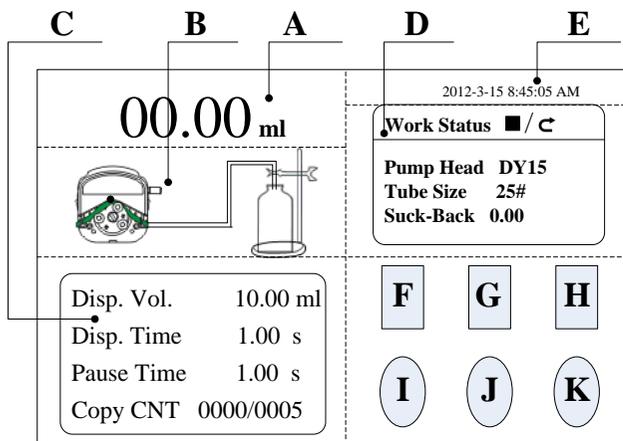
**Run/Pause Button:** After set up the filling parameter, press the start/stop button, the filling unit will running according with the parameters. Press the start/stop button, pause the current state. After press the start/stop button, besides the calibration and monitor button on the main interface, other buttons turn gray, forbidden to use.

- **Stop Button:** Press stop button, stop working. Forbidden buttons can be used on the main interface.
- **Full Button:** Press this button at the stop state, the filling unit will running with 350rpm. This button is for washing tube and filling liquid rapidly.
- **CW/CCW Button:** Press this button, the motor will change running direction.

**IF3 Interface Structure:**

**IF3 Operation Interface Instruction:**
**1、 Boot Interface:**

After power on the system, enter the welcome interface, choose system language, Chinese/English. If do not choose, it will enter the Chinese main interface after 2.5 seconds automatically.

**2、 Main Interface:**



- A、 Real-time Display Dispensing Volume:** Display the dispensing volume
- B、 Real-time Dynamic Display:** Display the dispensing state and monitor result.
- C、 Real-time Parameter Display:** Display the set dispensing volume, current count-down dispensing time, count-down interval time and copy numbers.
- D、 Set Parameter Display:** This area display current working state, pump head, tubing size and suck-back angle
- E、 Date and Time Display:** Display 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, choose and set common dispensing 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 come out, input the dispensing volume here
- J、 Time Button:** Press this button, the numerical keyboard come out, 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 come out, input the copy numbers. If input '0', the copy number is unlimited

### 3、 Flow Calibration Interface:

In flow calibration interface, you can change the dispensing volume and time. The calibration parameters can be changed with it.

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

As shown in the interface, the current dispensing volume is 10.00 ml and the dispensing time is 1.00 s. The 'Actual Vol.' is 0.0000ml and the 'Volume Adjustment' is +0.0000ml. The interface includes buttons for Start, Add, Dec, CAL, and Cancel.

- A、 Confirm the calibration parameters.
- B、 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.
- C、 After several tests, actual dispensing volume display area display the average volume, click '**Calibration**' button, display calibrate successful.
- D、 Test again to check whether the dispensing volume meet requests. If request higher accuracy, you can use the adjust function, click '**Add**' or '**Dec**' button,

micro adjust the dispensing volume, meet high accuracy dispensing.

E、 Click ‘**Cancel**’ button, cancel the tests, actual filling volume return to 0.

#### **Online Micro Adjust Dispensing Volume Process:**

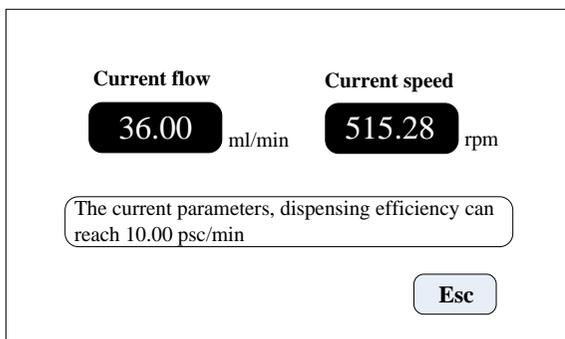
If the dispensing volume is not correct during working, this function can micro adjust the volume online without affect the product line

1) Click the **Calibration** button on the main interface, enter flow calibration interface

2) Now only the ‘**Add**’, ‘**Dec**’ and ‘**Esc**’ button can be used, other button is forbidden

3) Click **Add** or **Dec** button to adjust the dispensing volume.

#### **4、 Real-time Monitor Interface:**



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

#### **5、 Basic Configuration Interface:**

Configuration Interface as below:

<b>Pump Head</b> YZ1515x ▼	<b>Reference Flow Rate</b> Max:17.00 ml/sec Min:28.33 ul/sec
<b>Tube Size</b> 25# ▼	
<input checked="" type="checkbox"/> Show the current Disp. Vol.	Clear the total times
<input type="checkbox"/> Show the total times	0006 <input type="button" value="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、 Back suction angle setting interface:

 Back Suction angle range: 0~360  Settings can raise the dispensing accuracy, Please re-calibrate the flow rate.	<b>Please enter back suction angle</b>  <div style="border: 1px solid black; border-radius: 10px; padding: 5px; display: inline-block; background-color: black; color: white; font-weight: bold; font-size: 1.2em;">360.00</div>  <input type="button" value="OK"/> <input type="button" value="Cancel"/>
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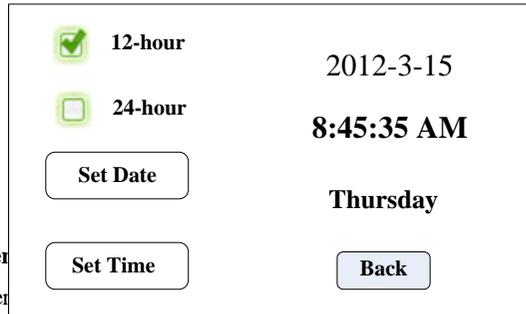
Click **System Setting** button in the main interface, click **Back Suction Angle** button, enter back suction angle setting interface. Click **Back suction angle** button, the numerical keyboard will come out, input the back suction angle and click ‘**Confirm**’ button, all the filling unit will work with this angle. Click ‘**Cancel**’ button back to the system setting interface.

#### 7、 Common Mode Interface:



- **Page Up/Down Button:** Click this button to check the previous and next page.

### 9、Date and Time Setting Interface:

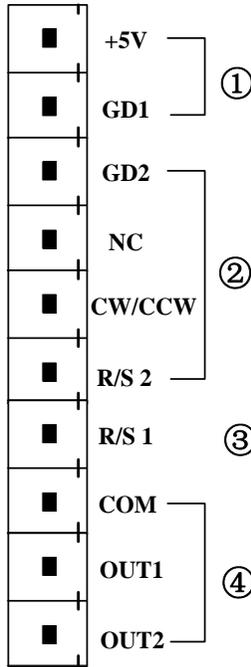


**12-hour**      2012-3-15  
 **24-hour**      **8:45:35 AM**  
      **Thursday**  
     

- Click **System** button, enter **Time** 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.

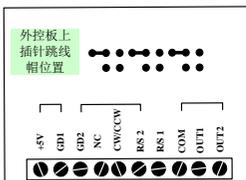
### External Control Interface Instruction:

#### External Control Interface Drawing:

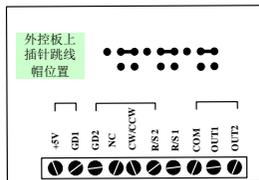


- ①、Internal+5VDC Output
- ②、 External control direction, start signal input terminal: Active signal input (24VDC)

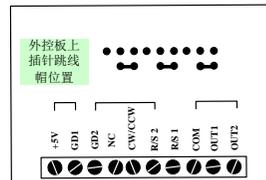
If need change to 5VDC or 12VDC input, please open the housing and change the external control board as below:



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: External control signal common input terminal.

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

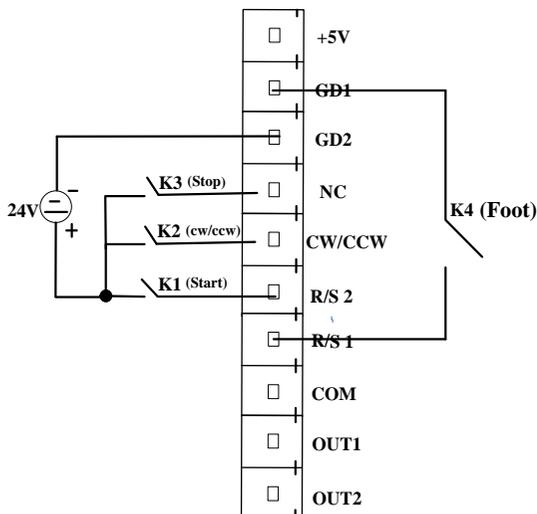
CW/CCW: External change direction signal input (signal rising edge effective)

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

③、External start/stop signal input terminal: Passive signal input.

Can connect the switch between R/S1 and GD1, when the moment the switch close the signal is active, start pump filling.

### External control wiring:



a. Disconnect K1 after short connection, the motor start working.

Disconnect again after short connection, the motor pause.

b. Disconnect K3 after short connection, the motor stop working.

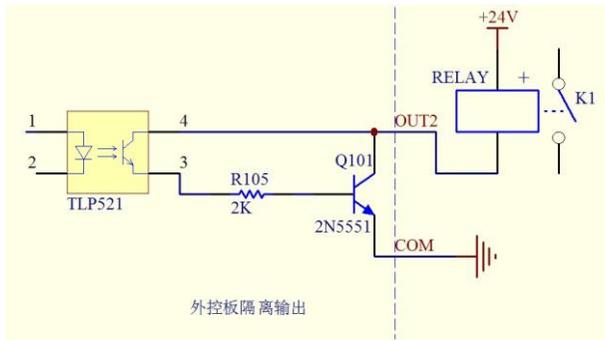
c. Every time disconnet K2 after short connection, the motor change working direction.

e. Disconnect K4 after short connection, the motor start working;

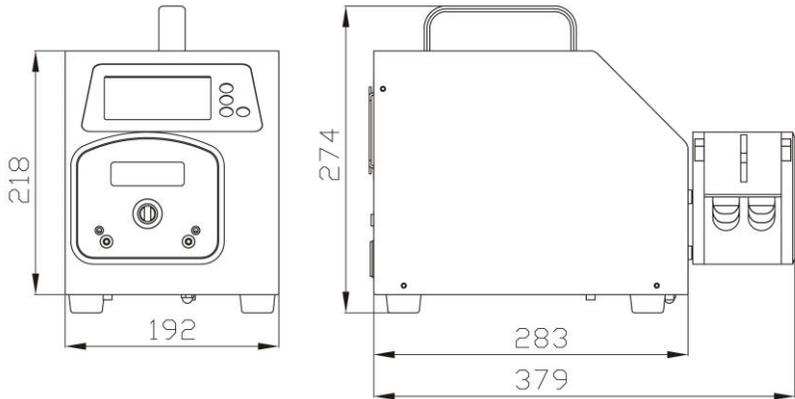
Disconnect again after short connection, the motor stop working.

④、Filling Status Output:

External connect relays theory drawing



When the motor running, K1 connect; when the motor stop, K1 disconnect.

**Product Dimension Drawing (mm) :**

**Maintenance:**

- When pump is not working, please loose the cartridges of pressing the tubing for avoiding changing the shape of tubing because of longtime extrusion.
- Keep the rollers of pump head clean and dry, otherwise it can quick the tubing wearing, reduce the useful life of tubing and lead the rollers to damage earlier.
- If there is liquid drop on the pump, please clean it as soon as possible.

**Warranty and After Sales Service:**

We support 3 years warranty ( do not include the tubing). During the warranty, if the pump damage because of wrong operation, our company do not responsibility for it. Beyond warranty, we only charge the cost of repair. Our company do not bear any freight cost for maintenance.

MADE IN CHINA

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