

Intelligent allocation peristaltic pump

peristaltic pump User Manual

SG600FC

## Intelligent allocation peristaltic pump

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#### ⚠ NOTED :

Before operating, please read this User Manual carefully.

#### ⚠ Warning:

Due to the wear, may cause the tube cracks. If it happened, the liquid will overflow from the tube, then may damage the human body and equipment, so please often check and timely replace the tube!

Please ensure plug the power cord directly into a wall outlet, and to avoid the use of extension cords

If the power cord or plug became frayed or have other damaged, please unplug the power plug (pull out the plug but not the power cord)

If the following condition occurs, turn off the power and pull out the plug (pull out the plug but not the power cord):

1. The liquid is spilled on the unit.
2. When you think the machine needs maintenance or repair.

Customer's power outlet must have a reliable earth ground

Please ensure the power was off, when you want to load or unload the foot switches and other external controllers, to avoid the external control interface's burning.

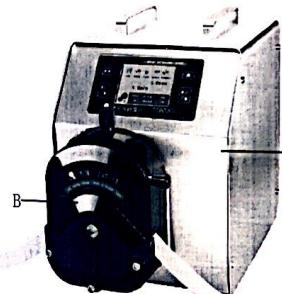
## Intelligent Allocation peristaltic pump

### >> Product Introduction

Intelligent dispensing type peristaltic pumps with LCD touch screen, more intelligent dispensing pump drives.

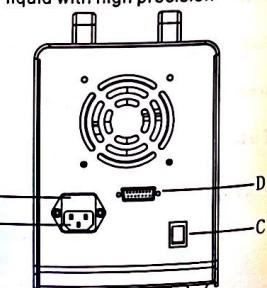
#### Product Introduction

- With 3.5 inches color LCD screen, displaying English and Chinese. Running states real-time displaying function, showing the flow rate and motor revolving speed at the same time, touch screen controlling.
- With intelligent calibration function, could calibrate the flow rates and infusion volume; suitable for high precision transferring fluids.
- Customer data saving function: can save 9 sets of data for customers.
- Accurate angle controlling function ensures to high precision distribution and metering.
- Memory function available in case of power off, reliable and safety.
- Applicable pump heads: YZ35-13 YZ35.



Touch screen control  
More intelligent

- Typical application:**
- Monoclonal antibody production
  - High precision transmission of intermediate
  - Transferring micro flow rates liquid with high precision



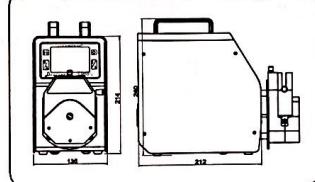
**ORPUMP** Smart Industrial Peristaltic pump SG600FC  
Flow rate range:  
1.3~12000 ml/min

A Drive      B Pump heads;  
C Power switch      D External interface  
E Safety      F Power socket

Note: The instructions of the external interface please check page 8.

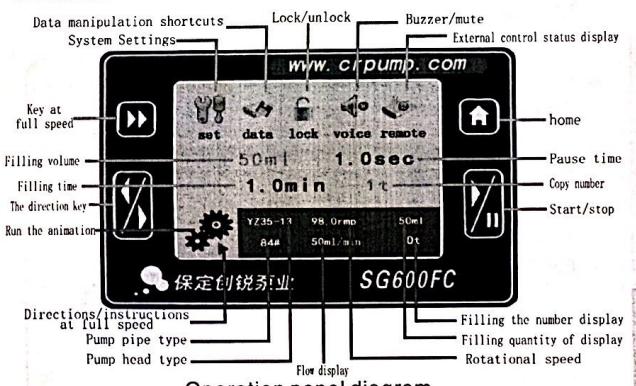
>> The instructions on Allocation peristaltic pump

#### Dimension drawing



**More information**  
**Chuangrui pump warm reminding:**  
Please select suitable type and texture tubes, to guarantee the optimum performance of the peristaltic pumps. Please contact our customer service in case any

#### ORPUMP Peristaltic pumps SG600FC series operation panel



#### Operation panel diagram

##### ◆ SG600FC peristaltic pump operation panel divide into:

- Key Areas: Full Speed Direction Key Home Start/Pause
- Graphical menu area: Settings Data Operation Lock/Unlock Sound off, // External Control
- Filling parameter input area: Filling Volume Fill Time Stop Time Filling Number
- State parameter display area: These parameters are displayed: Animation Instructions Operation/Direction/Pump Head Model/Pump Tubing Model/ Rotate Speed/Flow rate/Filling Volume/Filling Number
- Partition as follows

## >> The instructions on Allocation peristaltic pump



Operation panel partition diagram

### ◆ SG600FC peristaltic pumps Description of function buttons:

#### • Start/Pause Button

Control drive's run and stop, first time you press the button the drive will run, press again the drive will stop, and then press it, the drive continues to run.

#### • Direction Button

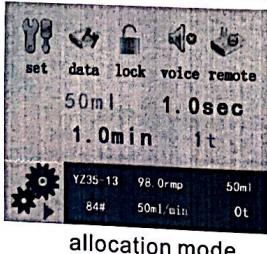
Each time you press the button, the revolving direction of the drive will be changed.

#### • Full Speed Button

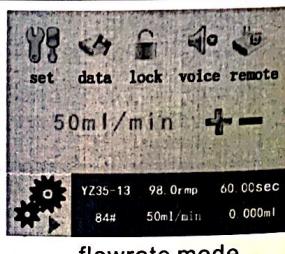
Also known as emptying and cleaning key, press the button the drive will run at full speed, press again to return to the original state.

#### • Home Button

After user's entry the interface, you can press this button to quickly return to the main interface without saving the data.



allocation mode

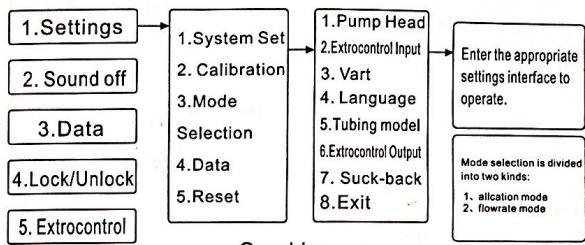


flowrate mode

## Intelligent Allocation peristaltic pump

### >> Product Introduction

#### ORPIMPEL SG600FC pump Graphical menu in figure

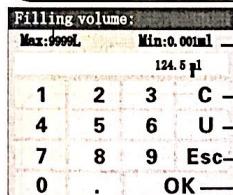


Graphics menu

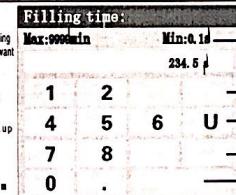
#### ◆ SG600FC Instructions for filling parameter area:

##### • Set the Filling Volume

- 1.Click the filling quantity value, will show the small keyboard.
- 2.Click the Volume Range 0.001ml-9999L (show the max. and min. value for the using pump head and tubing, can only input the value in this range).
- 3.Unit: ml / L
- 4.When the filling stop can click on the input value, but if the drive running, you can't click on the input value.
- 5.Set the keyboard: Filling volume Settings interface



Filling volume Settings interface



Filling time Settings interface

##### • Set the filling time

- 1.Click the Filling time quantity value, will show a small keyboard, then input your filling time
- 2.Range: 0.1sec - 9999min; Unit: sec, min
- 3.When the filling stop you can click on the input value, but if the drive running, you can't click on the input value
- 4.With countdown function
- 5.Set the keyboard: Filling time setting interface

## Intelligent Allocation peristaltic pump

### Product Introduction

#### Set the Stop Time

1. Click the Stop Time quantity value, will show a small keyboard, then input your interval time
2. Time Range: 0.1sec-9999min
3. Units: sec(second), min (minute)
4. Stop time value is to set the interval time between two fillings; it can be only set when the filling is stopped.
5. During the filling period, the stop time cannot be set
6. With countdown display function
7. Set the keyboard~~Stop time setting interface~~

Pause time:

Max:9999min	Min:0.1s	Stop time Range
		124.5 s
1	2	3
4	5	6
7	8	9
0	.	OK

Copy number:

Max:9999t	Min:0t	Filling number Range
		1241t
1	2	3
4	5	6
7	8	9
0	.	OK

Stop time setting interface

Stop time setting interface

#### Set the Filling Number

1. Click on the Filling Number quantity value, will show a small keyboard, and then input your filling number
2. Range: 0-9999 times, 0 on behalf of the infinite time
3. When the filling stop you can click on the input value, but if the drive running, you can't click on the input value
4. Set the keyboard:

## SG600FC pumps Menu operation method

#### PUMP HEAD SELECTION

1. Select the current use of the pump head models Turn on the power, enter the initial interface, Click Settings, enter the setup menu; Click System Set, enter the system setup menu; Click Head, enter the pump head selection menu; then choose your current pump head. Click Enter, save and exit; Click Cancel, exit without saving.

#### PUMP TUBE SELECTION

1. Select the current use of the pump tubing models Turn on the power, enter the initial interface, Click Settings, enter the setup menu; Click System Set, enter the system setup menu; Click Tube, enter the pump tube selection menu; then choose your current pump Tube. Click Enter, save and exit; Click Cancel, exit without saving. (if you just want to change the tubing which the same pump head use, you can just enter the

5

#### External control Input

Select External control input parameters Turn on the power, enter the initial interface, Click Settings, enter the setup menu; Click System Set, enter the system setup menu; Click External control Input, enter the extrocontrol Input menu; choose the suitable control items; Click Enter, saved and exit; Click Cancel, exit without saving.

#### External control output

Select extrocontrol output parameters Turn on the power, enter the initial interface, Click Settings, enter the setup menu; Click System Set, enter the system setup menu; Click External control Output, enter the extrocontrol Output menu; choose the suitable control items; Click Enter, saved and exit; Click Cancel, exit without saving.

#### Communication Settings

Select the pump communication parameters

From initial interface press the System icon to enter the setup menu; click System Settings to enter the system setup menu; click Communication Settings to enter the communication settings menu; choose the appropriate control items (including: broadcast address, local address, baud rate); click Enter to save and exit; click Exit to exit without saving.

FC pump also has 485 protocol interfaces to be connected to the host computer (computer, PLC, SCM). PC can simultaneously connect up to 30 devices with 485 serial communication bus interface functions; when using with multiple devices to communicate with the host computer, it must know the machine number for each device, this device ID is the only number that should be connected together, and each machine number of the devices is not the same. The factory default value for each pump is "1"; it could be reset by remote controlling through the host computer or by manually changing from the setting menu. Change the following steps: Press the Enter key to enter the menu options, move the cursor to adjust the parameter settings, press the Enter key to enter, find the machine number option and press the Enter key to enter, you can adjust the machine number.

Note: (1) Connected each pump in 485 mobus interface must have a unique different numbers, otherwise communication errors.  
2. Specific communication protocol and instruction set instructions, please contact with the dealer.

#### Language

Choose Chinese/English

Turn on the power, enter the initial interface, Click Settings, enter the setup menu; Click System Set, enter the system setup menu; Click Language, enter the language selection menu; Choose your suitable language; Click Enter, save and exit; Click Cancel, exit without saving.

## Intelligent Allocation peristaltic pump Product Introduction

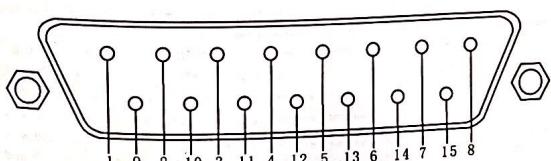
### GRIMP 創說 SG600FC Graphic menu operation method

- The gear icon**  
Show the running state of the pump.  
When the pump is running, the gear  will run; When the pump stop, the gear  stop.
- Direction & Full speed icon**  
By pressing the arrow keys ( ) to change the running direction of the motor, so different direction arrows will change.  
Press the Full Speed ( ) button will display double arrows, indicating motor full speed running.
- Other status values are shown**  
Pump Head show  
Pump Tube show  
Speed display, the unit is rpm, the system automatically displays based on flow rate  
Filling times showed a cumulative function  
Real conveying fluid volume display with countdown function  
Real filling time display with countdown function

### GRIMP 創說 Functions & Features

- True color LCD touch screen, convenient and intuitive.
- With flow calibration function, making the flow control more precise, applicable to transferring quantitative fluid.
- Large graphic LCD screen used in conjunction with the key switches, makes the man-machine interface friendly and easy to use.
- With RS485 communication interface, our company can provide communication protocols for customers. And also to customize the software of the host computer is available.
- Higher cost performance.

### GRIMP 創說 The external control interface technical parameters



The external control interface

### GRIMP 創說 The instructions on Allocation peristaltic pump

#### • Suck-back Set

Select Suck-back parameters

Turn on the power, enter the initial interface, Click Settings, enter the setup menu; Click System Set, enter the system setup menu; Click Suck-back, enter the suck-back set menu; Choose the suitable control items (angel and speed); Click Enter, saved and exit; Click Cancel, exit without saving.

#### Calibration wizard:

Pipe: 14#, flowrate: 224.8ml/min

Amount of flowrate: 320ml

(pls enter the actual value you need)

Next

Exit

#### Calibration Guide Interface

#### Calibration Guide

Pump accuracy calibration, in order to reach the high precision dispensing, when the pump replace a new hose, external conditions changed or other conditions causing flow rate deviation, the flow rate can be corrected to meet users' requirements of flow accuracy.

Turn on the power, enter the initial interface, Click Settings, enter the setup menu, Click Calibration, enter the calibration guide menu: See left-hand chart

#### GRIMP 創說 Peristaltic pump SG600FC calibration interface

#### Calibration Data:

Liquid volume 1: 321.3ml

Liquid volume 2: 322.4ml

Liquid volume 3: 321.2ml

(Tested repeatedly input the results)

Back

Next

#### Running:

Time remaining: 85.41s

Cancel

#### Actual filling volume interface

#### Countdown interface

The interface shows the current using pump tube, conveying fluid volume and advice calibration volume. If the suggested calibration volume is big, you can reduce the value according to the filling condition; input the calibration value and then click Next, enter the calibration menu, or click Exit Back to previous menu. The pump will automatically stop after finishing setting, or click Cancel to cancel the calibration, and return to the calibration interface.

After 3 times calibration and enter the measured values, click Next to save the data, click Exit, to finish the calibration.

Mode Selection  
allocation mode flow mode.

#### Data

Preserve the existing filling data; you can save at most nine filling data  
It has Delete Save Use Exit Options

## Intelligent Allocation peristaltic pump

### » Product Introduction

- Drive external control interface (DB-15) introduction:

The 15-pin interface on the back of the machine is the controlling interface to operate the machine through the external signals. Firstly prepare a DB15 connector (with holes) and various colors signal wires, then open the 15-pin interface, weld on the signal wires according to the below sheet, and fix the wires together using the clip on the interface, you may inject some glue to reinforce these wires; and at last install the shell and screws.

External control interface technical parameters		ISO 9001:2000 SUPPLIER CERTIFIED DECLARATION OF CONFORMITY	CE 1 year
PIN	E-CONTROL INPUT INTERFACE DEFINITION	INPUT WIRE	COLOR
1	E-c Ground	Black	
2	485 Interface A	Brown	
3	E-c Ground	Black	
4	Start/stop 2	Grey	
5	Direction	Green	
6	E-c Ground	Black	
7	0-10khz Input	Blue	
8	0-5v Input	Blue	
9	485 Interface B	White	
10	E-c Ground	Black	
11	Start/stop 1	Red	
12	E-c Enable	Yellow	
13	E-c Ground	Black	
14	4-20mA Input	Blue	
15	0-10V Input	Blue	

Notes: 1. The external control interface is a selective accessory.  
 2. If the wires used less than 8, please use the last 2 wires to RS 485 communication. E.g.: Black wire ground wire; Red wire Start/Stop 1; Yellow wire and Green wire to 485 (5 pins).  
 3. The using method of the external interface: (A) Enabled wire and Ground wire connect or shut, control the entry of the external control. (B) Start/Stop 1 wire and Ground wire connect or shut, control the start and stop of the pump; Start/Stop 2 wire and Ground wire control the start and stop through the voltage signal (less than 30V). (C) Direction wire and Ground wire connect or shut, control the running direction of the pump. (D) Between Speed wire and Ground wire, join up 0-5V, 0-10V, 4-20mA, 0-10KHz, etc. controlling wire signal.

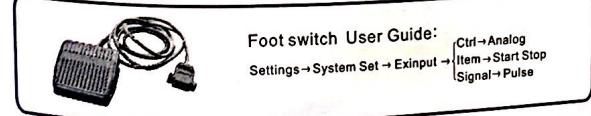
### » The instructions on Allocation peristaltic pump

#### IRPIMP 创锐 SG600FC pumps technical parameters

Technical guidance		ISO 9001:2000 SUPPLIER CERTIFIED DECLARATION OF CONFORMITY	CE 1 year
Drive type	SG600FC		

Technical parameters	Speed range 0.1~600 rpm
Speed resolution	0.1 rpm (<100 rpm), 1 rpm (>100 rpm)
Velocity range	1.3~12000 ml/min
Velocity error	< 0.5%
Speed control mode	Touch screen adjustment
Display mode	Color LCD display(English and ChineseOptional)
Power Supply	AC220±10% (Standard) Or AC110V±10% (Optional)
Protection level	IP31
External control interface	START/STOP, DIRECTION, SPEED CONTROL ((OPTIONAL) RS485 SERIAL COMMUNICATION
Working environment	Temperature 0~40°C, Relative humidity < 80%
Drive size	254X184X145 (mm)
Drive weight	21Kg
Power	< 50W
Allocation times	0~9999t
Allocate time	0.1s ~9999 min
Interval time	0.1s ~9999 min
Return suction angle	10°~720°(1°Stepping)
Return suction speed	10~300 rpm

#### IRPIMP 创锐 Optional Extended Accessories for FC



Foot switch User Guide:  
 Settings→System Set→Exinput→Ctrl-Analog  
 Item→Start Stop  
 Signal→Pulse

## >>> The instructions on Allocation peristaltic pump

**CRPLMP 创锐** Chuangrui peristaltic pump tubing technical parameters

### Micro flow tube

Tube	0.5X0.8	1X1	2X1	3X1	2.4X0.8	3.2X0.8
<b>Hose section (1:1)</b>						
Wall thickness(mm)	0.8	1	1	1	0.8	0.8
Inside diameter(mm)	0.5	1	2	3	2.4	3.2
Pressure Continous (Mpa)				0.1		
Interval	0.1					

### The basic flow tube

Tube	13#	14#	15#	16#	25#	17#	18#	15#	24#	35#	34#
<b>Hose section (1:1)</b>											
Wall thickness(mm)	1.6				2.4						
Inside diameter(mm)	0.8	1.6	2.4	3.1	4.8	6.4	7.9	4.8	6.4	7.9	9.6
Pressure Continous (Mpa)	0.17	0.14	0.1	0.07	0.17	0.17	0.17	0.14	0.27	0.27	0.24
Interval	0.27	0.24	0.14	0.1	0.1	0.27	0.27	0.24			

### Industrial hose

Tube	73#	82#	86#	90#	88#	92#
<b>Hose section (1:1)</b>						
Wall thickness(mm)	3.3	6.3	4.8			
Inside diameter(mm)	9.6	13	9.5	19	12.7	25.4
Pressure Continous (Mpa)	0.17	0.1		0.14		
Interval	0.27	0.1		0.14		



The working principle diagram of peristaltic pumps:

Non-pollution/No needs cleaning/Low shear force/Maintenance convenient/Wide application

**CRPLMP 创锐** Focused on peristaltic pumps for ten years  
Provide all aspects of integrated services:

## Intelligent Allocation peristaltic pump Product Introduction

### Trouble shooting

Fault Display	Reason	Method
Open the pump, The fan and display are normal work, to control the start/stop, the pump not work.	Motherboard insurance blown fuse	Change It
Drive is broken	Drive is broken	Change It
The pump is normal work . but it is not display .	The connect line is Loose or damaged .	Reinstall the line or replace a new line .
No response to the touch screen But the keys by reaction	The touch screen lock screen	Click the touch screen lock screen button Remove the lock screen
The touch screen and keys No response	Drive control Open state control	Enter the system control Shut down control options

### CRPLMP 创锐 Chuangrui peristaltic pumps maintenance, warranty and after sale service:

#### • MAINTENANCE

When the pump is idle, we recommend you to release the tubing from pressure, to avoid the distortion of the tubing under long terms extrusion.

Keep pump rollers clean and dry. It will increase the abrasion and reduce the service life of the tubing once the roller surface was unclean. Please dry the rollers once there were liquids on. It will damage the rollers under long time soaking.

#### • WARRANTY & SERVICE:

One year product warranty (excluding pump tube), during the warranty period as a result of user mishandling or man-made damage, the Company is not responsible for repair. Other repairs expired for the warranty period, please only pay maintenance costs.



# PURSUIT OF EXCELLENT QUALITY CREATION OF CUSTOMER VALUE

**Baoding Chuangrui Precision Pump Co., Ltd.**

**Address:** 2 Floors, East Unit, Building 12, ZOL Innovation Base, Huiyang street

**City:** Baoding, Hebei province

**Country:** China (Mainland)

**Telephone:** 86-312-3253936

**E-mail:** sales01@crpump.com

**Fax:** 86-312-3217330

**Website:** [www.crpump.com](http://www.crpump.com)