Technical Parameters

Model No.	LM50-YZ1515X-3B LM50-YZ1515X-3H LM50-YZ1515X-6B LM50-YZ1515X-6H LM50-YZ2515X-3B LM50-YZ2515X-3H LM50-YZ2515X-6B LM50-YZ2515X-6H
Roller	304 SST 3 roller / 6 roller
Pump head	White/Black ABS engineering plastic (PC+ABS)
Motor type	DC24V NMB Japan 57 Stepper motor
Rated current	DC24V/3A
Rated power	≤100W
Speed range	0-500rpm
Flow rate	0-1273ml/min
Peristaltic tube	Silicone / Rubber / Viton
Fittings	Plastic Barbed Fittings
Tubing No.	14# 16# 25# 17# 18# (LM50-YZ1515X) 15# 24# (LM50-YZ2515X)
Working environment	0-40℃ < 80% relative humidity, non-condensing
IP Grade	IP31
Working Max DB	70db
Net weight	3214g (without pump head)

Peristaltic Tubing Size

Tubing No.		13#	14#	16#	25#	17#	18#	15#	24#
Tube WT: mm		1.6						2.4	
Tube WT: inch		1/16”						3/32”	
Tube ID: mm		0.8	1.6	3.2	4.8	6.4	7.9	4.8	6.4
Tube ID: inch		1/32”	1/16”	1/8”	3/16”	1/4”	5/16”	3/16”	1/4”
Pressure (Mpa)	Continuous	0.17			0.14	0.10	0.07	0.17	
	Interval	0.27			0.24	0.14	0.10	0.27	

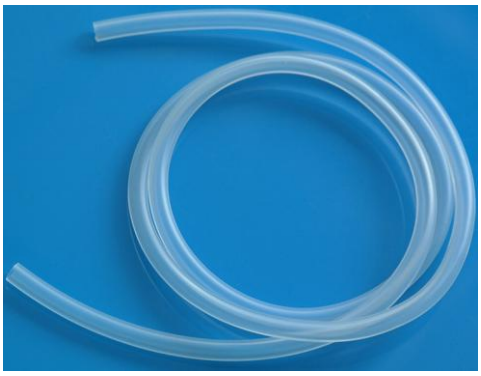
Flow Rate Table (only for reference) (media: water)

LM50-YZ1515X/YZ2515X					
Peristaltic Tube	**Tube size (ID*WT: mm)**	**Motor Speed (rpm)**	**3 roller Flow rate (ml/min)**	**Motor Speed (rpm)**	**6 roller Flow rate (ml/min)**
Rubber tube	1.6*1.6 (14#)	0-400	0-110	0-400	0-91
	3.2*1.6 (16#)	0-450	0-410	0-390	0-272
	4.8*1.6 (25#)	0-450	0-810	0-390	0-510
	6.4*1.6 (17#)	0-450	0-1273	0-400	0-570
	8.0*1.6 (18#)	0-450	0-1893	-	-
	4.8*2.5 (#15)	0-420	0-750	0-350	0-397
	6.4*2.5 (#24)	0-370	0-1110	-	-

LM50-SN15/SN25					
Peristaltic Tube	**Tube size (ID*WT: mm)**	**Motor Speed (rpm)**	**3 roller Flow rate (ml/min)**	**Motor Speed (rpm)**	**6 roller Flow rate (ml/min)**
Rubber tube	1.6*1.6 (14#)	0-450	0-112	0-400	0-75
	3.2*1.6 (16#)	0-440	0-430	0-420	0-210
	4.8*1.6 (25#)	0-420	0-760	0-405	0-325
	6.4*1.6 (17#)	0-390	0-1410	0-390	0-485
	8.0*1.6 (18#)	0-380	0-1810	-	-
	4.8*2.5 (#15)	0-360	0-660	0-270	0-250
	6.4*2.5 (#24)	0-300	0-940	-	-

Peristaltic Tube

1) Silicone tube works for non-corrosive liquid transfer
2) Rubber tube works for weak corrosive liquid transfer
3) Viton tube works for strong corrosive liquid transfer



Tubing Connection

1) A long piece of peristaltic tube equipped in pump head
2) 18cm (YZ1515X/YZ2515X)/20cm (SN15/SN25) peristaltic tube + 2 pieces barbed fittings + external tube

Product Function

Menu include 6 modes of Continue, Booking, Rationing, Calibrate, Settings, Inquiry
They can be adjusted by upper/nether/left/right button to switch and confirm into specific mode.

1) Continue mode

Continue mode means motor constant running at direction of CW or CCW. Motor speed and flow rate value settings can realize adjusting the flow rate. Under continue mode, upper and nether button work for speed adjusting, left and right button work for adjusting flow rate.

Foot pedal under continue mode can be three patterns: Disable, Inching switch, Linked switch
Disable - Foot pedal unworkable
Inching switch - Motor starts working when step on foot pedal and stops as soon as step off foot pedal.
Linked switch - When step on foot pedal then step off, motor starts working, when step on the foot pedal then step off again, motor stops working.

2) Booking Mode

Booking mode to realize “waiting-running 1-interval-running 2-interval-... running n, running times “n”, dosing volume each time and each running time can be preset (rest with working speed and adjustment ratio)

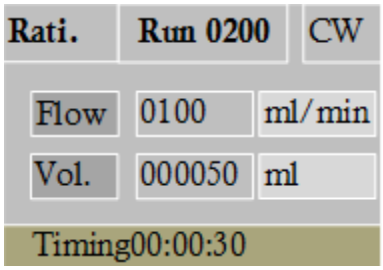
Booking mode	Action	Result
Waiting	Press “ON/OFF”	End booking
	Press mode buttons	End booking, back to mode selection interface
Running	Press “ON/OFF”	End running and enter into interval waiting time, if it is the last running, device will automatically finish the booking process.
Stopping	Press “ON/OFF”	End this interval time, directly into next running process
	Press mode buttons	Quit booking process, back to mode selection interface

The cycle times can be maximum 999 times, current running serial number is 001/002/003...999, when cycle times finished, it comes out buzz.

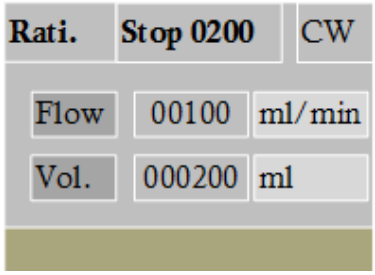
3) Rationing Mode

Rationing mode can be preset as specific speed, time and flow rate according to liquid volume and time consuming (adjustment ratio)

Press “ON/OFF”, motor starts working as below interface:



Then press “ON/OFF”, motor stops working as below interface:



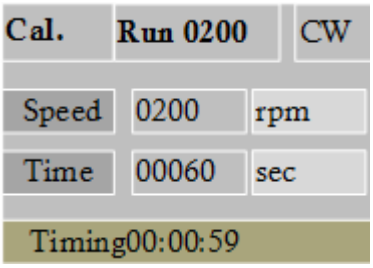
4）Calibrate Mode

Liquid volume or weight comes from speed calibrate and time calibrate, then comes to calibrate ratio (ml/r) which helps to count speed and flow rate or time and liquid volume.

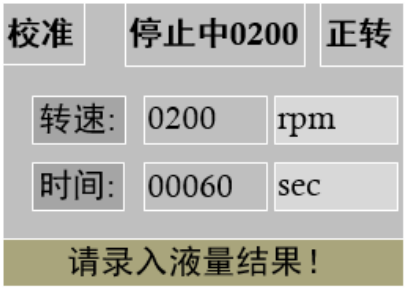
Flow Rate (ml/min) = Speed (rpm) * Calibrate Ratio (ml/r)

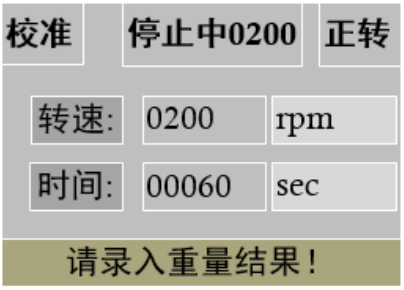
Liquid Volume (ml) = Speed (rpm) * Calibrate Ratio (ml/r) * Time (min)

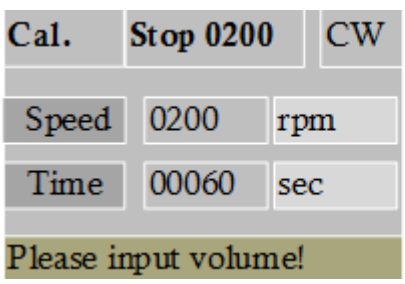
Then press “ON/OFF”, screen shows as below:

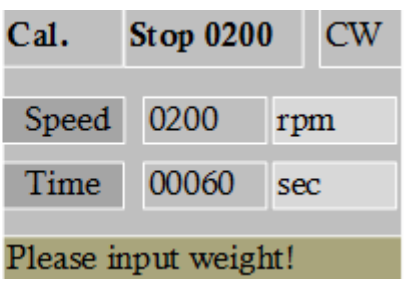


After calibrate process finished, screen shows as below:









Input volume and weight into edit interface under calibrate mode

5）Settings

Pump can be set backlight time, maximum speed, full speed etc.

6）Inquiry

Users can inquiry parameters such as standard flow rate, maximum flow rate, standard speed and ratio etc.

7) Parameter Settings

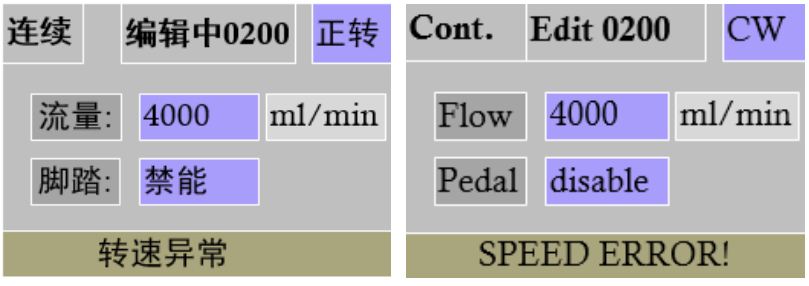
When set parameters, upper/nether buttons are used for change the values, left/right button are used for change the positions, it will go into next page when necessary, press “save”, if no any parameter error or counting erro, all the parameters will be automatically saved; if any errors exist, it will tell you reasons.

(1) Parameter Setting in Continue Mode

Under continue mode, flow rate and foot pedal working mode can be set. Flow rate = speed*calibrate ratio,calibrate ratio depends on calibrate parameters setting, flow rate changed then speed will be changed. Effective flow rate range 1-999ml/min, effective speed range 1-maximum speed (preset speed value)

Possible cause of speed errors:

1. When input flow rate/calibrate ratio ＞ maximum speed
2. When input flow rate/calibrate ratio ＜ 1

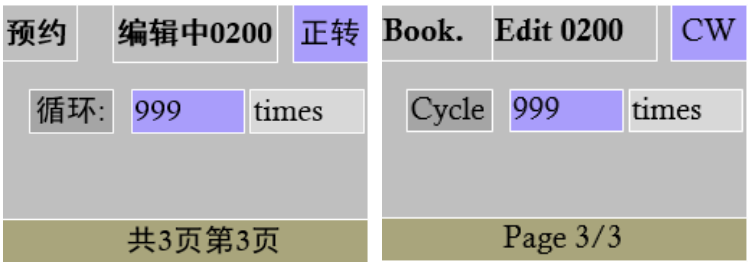


(2) Parameter Setting in Booking Mode

Under booking mode, liquid volume, running time, interval time, initial waiting time, cycle times etc. can be set.

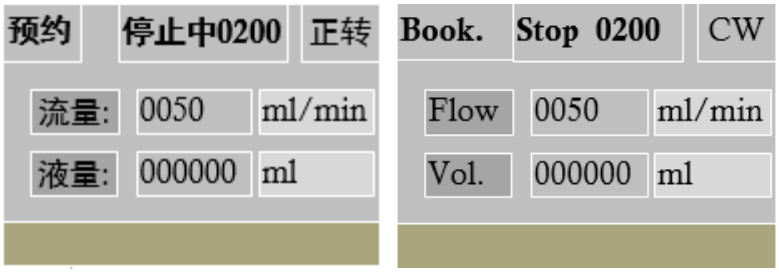
Liquid volume, time (according to calibrate ratio) decides flow rate and speed.
Interval time range 1-99999sec.; waiting time range 1-70000min

Waiting time refers to time from booking to first running
Interval time refers to pause time between twice liquid dosing



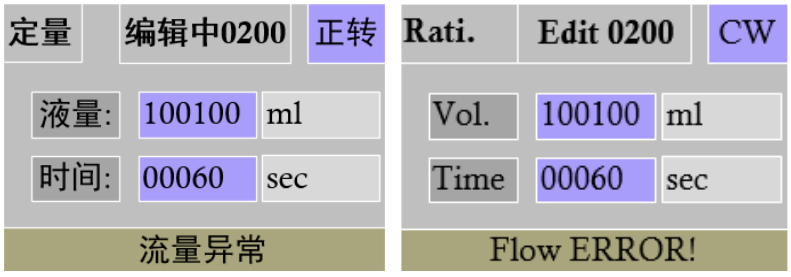
Cycle working can be 1-999 times

Press “save”, screen shows as below:

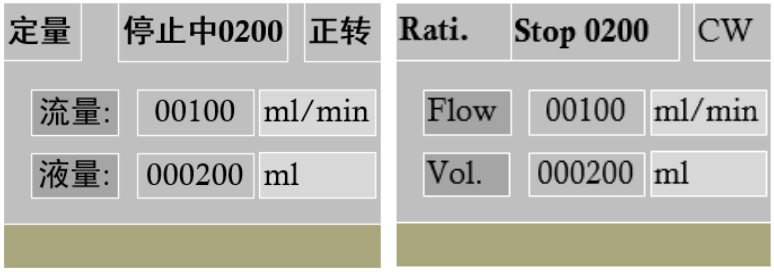


(3) Parameter Setting in Rationing Mode

Enter into “rationing mode” in “menu” and press “Edit”, screen shows as below:



Press “save” after edit successfully, screen shows as below:



Flow rate and speed formula:

Flow rate（ml/min） = Volume (ml) /Time (min)

Speed (rpm) = Volume (ml)/Time (min)/ Calibrate ratio (ml/r)

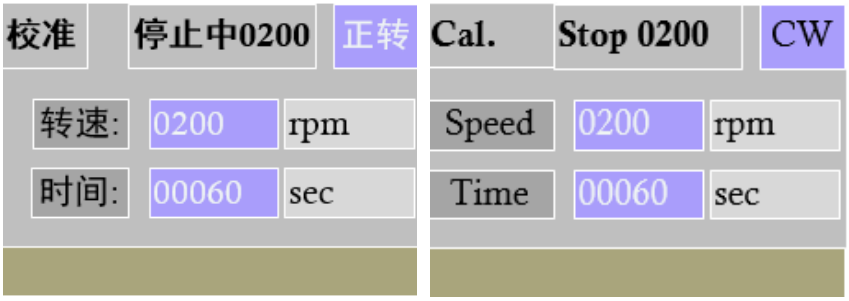
（4）Parameter Setting in Calibrate Mode

Calibrate Mode Edit can be volume or weight setting.

Rated Volume = calibrate speed/calibrate time

Rated Weight will be get from formula “ρ=m/V” after input density of target liquid

After save the parameters, it will come to below interface:



(5) Setting Parameters

Backlight time range 0-255s

Motor subdivision code 0-6 as below:

Motor Subdivision Code	Subdivision	1.8°step motor single circle pulse amount	Optimized speed range
0	Full step	200	
1	Half step	400	

2	4	800	
3	8	1600	
4	16	3200	
5	32	6400	
6	64	12800	

Motor speed can't be higher than the maximum speed, Full Speed will be automatically as maximum speed.

(6) Inquiry Parameter Settings

Under inquiry mode, parameters can't be set, only support inquiry

(7) Parameters Counting

Flow rate (ml/min) = Liquid volume (ml)/Time (min)
Speed (rpm) = Liquid volume (ml)/Time (min)/Calibrate ratio (ml/r)
Calibrate ratio (ml/r) = Flow rate (ml/min) /Speed (rpm)
Liquid volume (ml) = Flow rate (ml/min)*Time (min)

Dimension (unit: mm)

LM50-YZ1515X.pdf LM50-SN15.pdf

Packing Info.

Carton Size: 24*42*29cm
G.W.: 6.0KG

RUNZE FLUID

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