SCILOGEX

User Manual

iFlow Electronic

Bottle-Top Dispenser

Content

Safety Reminder

⚠ **CAUTION：** Possible damage to instrument. Caution notes indicate any condition or practice, which if not strictly observed or remedied, could result in damage or destruction of the instrument.

1. Unpacking

Apart from the user manual, the iFlow package should contain the following items.

- Dispensing pipe X1
- Dispensing pipe cover X1
- iFlow X1
- AC Adapter X 1
- Controller X 1
- Controller cable USB X 2
- Bottle Adapter X 5(GL32; GL38; GL28; GL25; S40)
- Magnetic Stirrer X 1
- Remote Dispensing pipe X 1
- Remote Control Handle X 1
- Stirrer Bar（20mm）X 1
- Filling valve X 1
- Dispensing valve X 1
- Filling pipe X 2
- Installation tools X 1
- Stander

Please check that all the items are present and inform your supplier immediately if any of the above is missing.

2. Overview

iFlow delivers accurate and precise bottle-top dispensing.
Please refer to "Limitations and Compatibility" for liquid compatibility prior to operation.

2.1 Specification

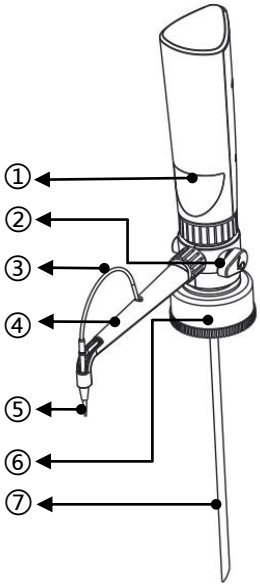
Volume Range	0.1mL-99.9mL Increment 100μL
Precision	Dispensing：R= 10mL ±30μL CV=10mL ±10μL Stepper：R=1mL ±6μL CV=1mL ±9μL
Velocity	16 Stages
Battery	Capacity：4000mA/h Fully charged in 4 hours (please use standard charger) working time：about 5 hours

2.2 Limitations of Use

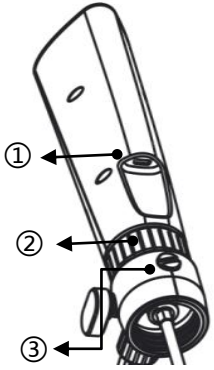
- Temperature：15 ~ 40°C
- Vapor pressure：<500mbar
- Viscosity：<500mm²/s
- Humidity：20~90%

3. Parts Description

3.1 iFlow

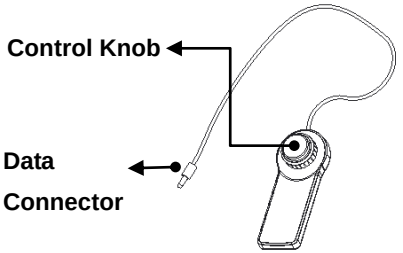


No.	Description
①	Liquid Level Observation (in piston running state)
②	Return Valve (to adjust the liquid direction of dispensing)
③	Dispensing pipe
④	Dispensing pipe cover
⑤	Dispensing pipe Tip
⑥	Bottle Adapter
⑦	Filling pipe



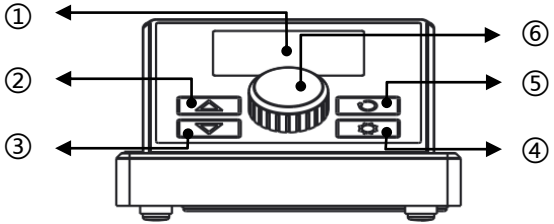
No.	Description
①	Controller Port (Micro USB)
②	Main Body lock
③	Air Admission Cap (pressure balance)

3.2 Remote Control Handle



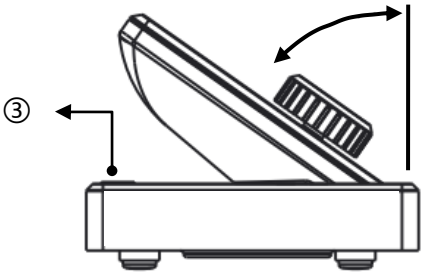
3.3 Controller

Allows for iFlow control and function setting.

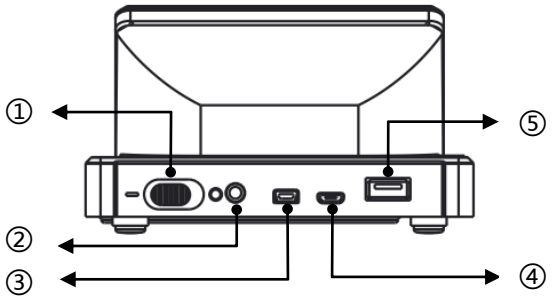


No.	Description
①	**LCD Display** (show iFlow running state)
②	**Filling** (press and hold for filling , release it to stop)
③	**Dispensing** (press and hold for dispensing , release it to stop)
④	**Setting** (press and hold 2s into setting interface)
⑤	**Pre-Filling** (press and hold 2s for piston to complete a aspirating and dispensing process)
⑥	**Knob** (Turn Knob for value adjusting, press for aspirating and dispensing)

Control Panel can be fully adjustable up to an angle of 45°

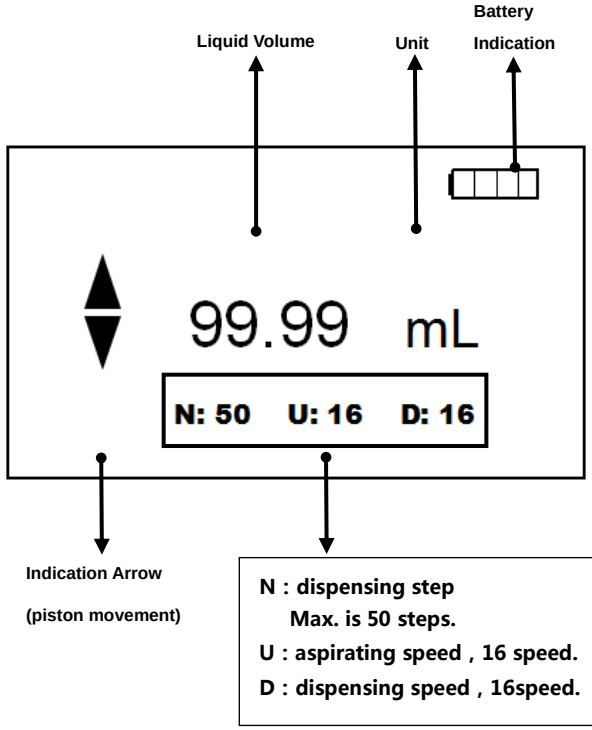


No.	Description
1	**Sensor Holder Assembly Slot**



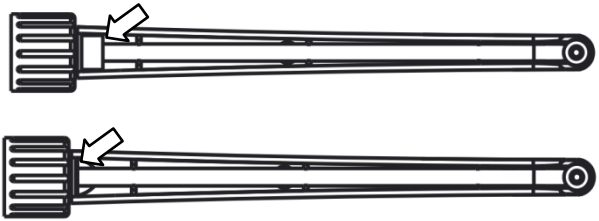
No.	Description
1	**Power Switch** (symbol “O”indicates Off , ”-” indicates On)
2	**Remote control handle Port**
3	**Communication port** (non-function)
4	**Charging/Communication port**
5	**Main Instrument Port**

3.5 Display

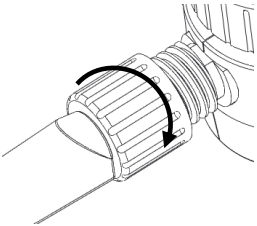

Liquid Volume
Unit
Battery
Indication
99.99 mL
N: 50 U: 16 D: 16
Indication Arrow
(piston movement)
N : dispensing step
Max. is 50 steps.
U : aspirating speed , 16 speed.
D : dispensing speed , 16speed.

4. Assembly Instruction

Step - 1: push the guiding tube into position.



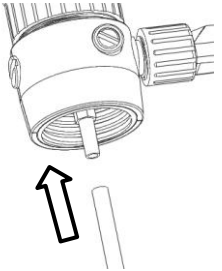
Step - 2: Connect the dispensing pipe tail end with the Dispensing valve. locking the dispensing pipe.



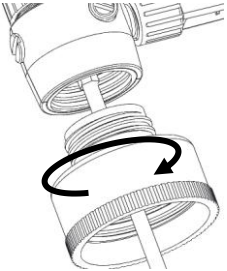
⚠ CAUTION：

Dispensing pipe are made of FEP. Please confirm compatibility prior to use(Refer to chapter “Limitations and Compatibility”).

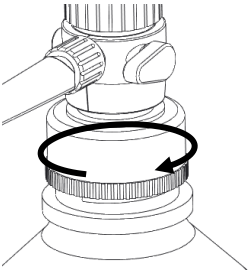
Step - 4: Connect filling pipe with filling valve.



Step - 5: Choose a suitable bottle adapter, then connect it with iFlow main body.



Step - 6: Turn bottle adapter to fasten main body and bottle.

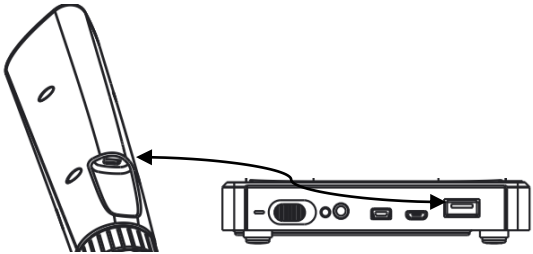


⚠ **CAUTION：**

① Please enable that the adapter is fastened prior to each use.

② For perfect working, please do not move or touch Main Instrument during operation to avoid physical damage to your iFlow.

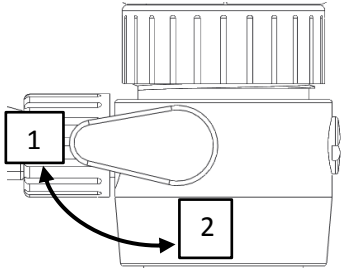
Step - 7: Use USB cable to connect Main body with Controller.



Step - 8: Turn Return Valve to direction ①

If liquid is needed to be emptied from the barrel, turn Return Valve to direction ②.

iFlow basic system was assembled.



5. Operation

> ⚠ **CAUTION: Do a complete process of aspirating and dispensing before the first time work.**

5.1 Power on

Step - 1: Power on and waiting system self-checking complete.

Step - 2: Long press **Pre-filling button** (↻) 2 seconds to let air out, leaving the piston at the bottom of the barrel.

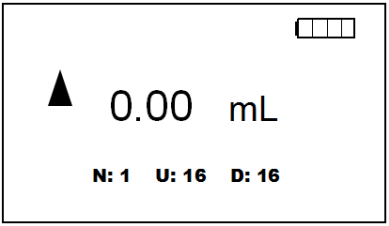
5.2 Dispensing

Step - 1: Press and hold **Setting button**(⚙) about 2s to activate the parameter setting.

Step - 2: Press **Setting button**(⚙) to **N value**, set it to 1. The **filling speed U** and **dispensing speed D** can be set by user intention, the range is 1 to 16.

Press and hold **Setting button**(⚙) or after

2s, it will quit the parameter setting.



Step - 3: Press and hold **Filling button** (△) to fill arbitrary target liquid.

Press and hold **Dispensing button** (▽)to dispense arbitrary target liquid.

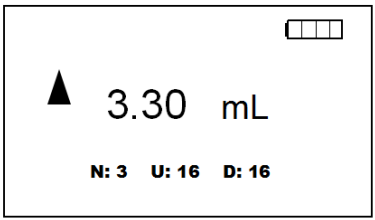
⚠ **CAUTION：** The value of **liquid volume** will not recording or display target liquid volume change.

5.3 Multi-dispensing

Step - 1: Press and hold **Setting button**( ) about 2s to active the parameter setting.

Step - 2: Press **Setting button**( ) to **parameter N,** setting the multi-dispense count, range 1-50. **Filling speed U** and **Dispensing speed D**, can be set by user intention, the range is 1 to 16.

Step - 3: Press **Setting button**( ) to **liquid volume** parameter, setting the total volume of the target liquid.



Parameter N setting:

(iFlow one time max dispensing volume is 10mL)

Parameter N	The volume adjusting range of each time dispensing
1	0.1-99.9mL
2	0.1-5mL
3	0.1-3.3mL
4	0.1-2.5mL
· · · ·	
50	0.1-0.2mL

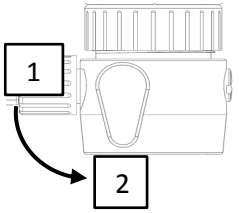
⚠ **CAUTION: There will may be some air bubble in the barrel during the operation. These bubble dose not effect the actual use.**

If the bubble is bigger to effect the actual use, please running several times aspirating and dispensing. If this solution not works, please contact with the dealer or manufacturer.

5.4Liquid Emptying

If liquid is needed to be emptied from the barrel.

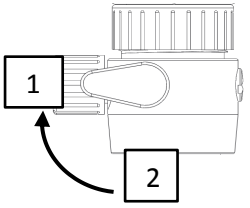
Step - 1: Turn Return Valve to direction ②.



Step - 2: Long press **Dispensing button** (▽) ,until the piston run to the bottom of the barrel, make the liquid had been emptying.

Step - 3: Turn Return Valve to direction ①.

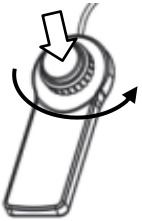
Emptying operation was completed.



6. Accessories

6.1 Remote Control Handle

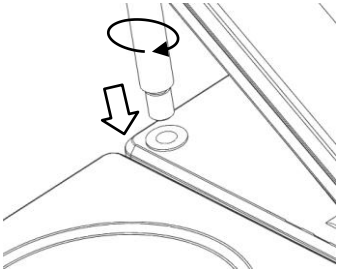
The Control Handle is fully map the operation of Control Panel, easy to operate over a long distance.



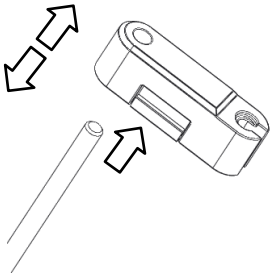
MAX. Length：90 cm

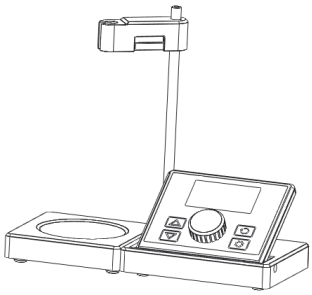
6.2 Assemble Sensor Holder.

Step - 1: Fasten the Holder into place.



Step - 2: Press black button of the clamp and release until reaching the appropriate altitude.

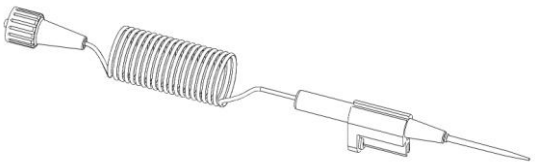




Assembly diagram

6.3 Remote Dispensing pipe

Remote Dispensing pipe can effectively extend the dispensing distance.

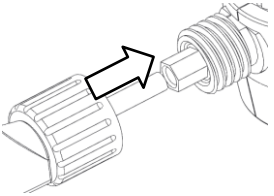


MAX. Length 1.5m

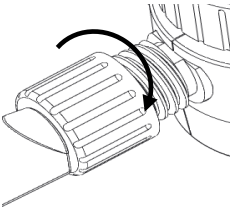
⚠ CAUTION:

Dispensing pipe are made of FEP. Please confirm compatibility prior to use(Refer to chapter“Limitations andCompatibility”).

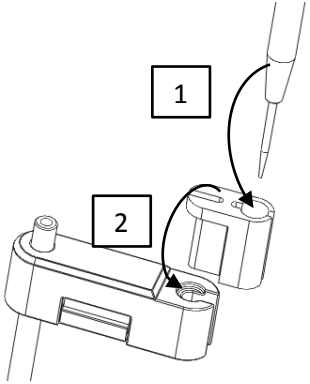
Step - 1: Connect the dispensing pipe tail end with the Dispensing valve.



Step - 2: locking the dispensing pipe.



Step - 3: Follow the figure to assemble the adapter and remote Dispensing pipe.



7. Calibration

Calibration should take place at 20-25℃, kept constant within ±0.5℃. A dedicated calibration software will write calibration values in your iFlow, after the distilled water has been repeatedly weighed up at least five times.

Hardware needed: :

●Electronic balance with readability of 0.01 mg

●Distilled water

●X86-or X64-architectured PC with pre-loaded Windows (XP/Vista / 7/8/10)operating system

Software needed:

● Dedicated calibration software of iFlow

(For more information, please contact with your nearest distributor.)

⚠ CAUTION:

If your iFlow can not work properly after calibration, please contact your nearest distributor for

8. Cleaning and Maintenance

⚠ **CAUTION: iFlow cannot be autoclaved.**

8.1 Cleaning the Outer Surface

The outer surface of your iFlow is made of ABS, ideal for easy cleaning with simply clean water.

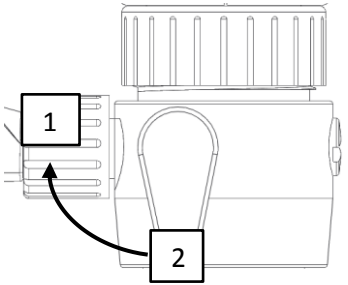
8.2 Cleaning the Barrel

iFlow barrel cleaning is repeatedly inhale row clear water for cleaning.

Aspiration and dispensing at least 5 times, according to user's actual situation to increase or decrease.

To ensure emptying remained in the barrel, the operation reference "liquid emptying"

Step - 1: Turn Return Valve to direction①, long press **Pre-filling** button make the piston stop at the barrel bottom



Step - 2: Press **Filling** and **Dispensing** button to aspiration and dispensing simply clean water at least 5 times.

Step - 3: long press **Pre-filling** button make the piston stop at the barrel bottom.

Step - 4: Ensure that into the tube is not submerged in a liquid, Press filling button make piston run to the top of the barrel.

Step - 5: Turn Return Valve to direction②, press Dispensing button make piston run to the bottom of the barrel.

Step - 6: Cleaning work is finish,Turn Return Valve to

direction①

⚠ **CAUTION:** User is not recommended to remove and cleaning of iFlow barrel, if the barrel cleaning operation fail to meet the cleaning requirements of users. please contact the dealer or manufacturer professional services personnel for cleaning.

Ensure iFlow empty without liquid residue before delivery to service personnel and inform details of last liquid handling.

8.3 Filling and Dispensing valve Replacement

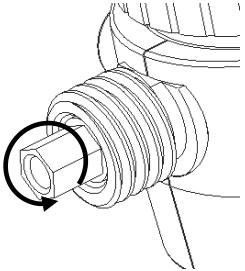
Use the Installation tools to disassemble the old valve, replace the new valve to the same position.

Valve has no fixed replacement cycle, problems after the replacement.

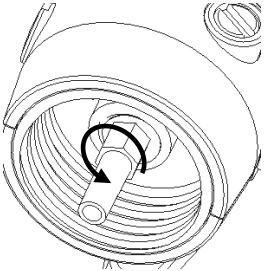
The issue that could be has involvement with valve, please checking the “Trouble Shooting”

> ⚠ **CAUTION: The following operation must to use installing tools to do.**
>
> **Before disassemble, ensure to remove the dispensing and filling pipe.**

Disassemble Dispensing valve



Disassemble Filling valve



9. Trouble Shooting

Issue	Possible Cause	Solution
Piston overflows with liquid	Piston wears out.	Contact with manufacturer
Piston moves with difficulty	Piston or its parts are contaminated or damaged due to crystallization and sedimentation.	① Do “Cleaning the Barrel” ② Contact with manufacturer
Failure to filling	Filling valve is clogged.	① Replace filling valve ② Contact with manufacturer
Failure to refill; refilling sucks back into the dispensing tip.	Dispensing valve is contaminated or dispensing tip damaged.	
Bubbles in the instrument/ Dispensing volume is less	Filling pipe is loose or damaged.	Replace filling pipe
	Filling pipe is away from the liquid.	Checking filling pipe

than the volume displayed.	Return pipe is not installed or wrongly installed.	Contact with manufacturer
	The instrument is not fully refilled.	Checking Operation
	Filling valve is clogged or damaged.	Checking filling valve
		Replace filling valve
No display	Battery dead	charging
	Connection fail	USB cable connection checking

10. Storage

During storage periods at constant temperature and humidity, the recommended temperature range is from 0-40℃ and humidity no more than 80%.

Please every month to charging for iFlow if being unused in long time , make sure there are 50% power in battery at least.

11. Warranty

dFlow are covered by one-year warranty against defects in workmanship and materials. Please contact us or your nearest distributor.

ANY WARRANTY WILL, HOWEVER, BE DEEMED AS VOID WITH NORMAL WEAR AND TEAR OR FOR OPERATIONS CONTRARY TO THE INSTRUCTIONS GIVEN IN THIS MANUAL.

Each and every iFlow has been calibrated and tested in compliance with ISO8655-6 / DIN12650 when manufactured, ensuring safe and comfortable operation.

12. Limitations and Compatibility

It is recommended to confirm reagent's compatibility with this instrument when applied for special purposes, trace analysis for example.

–The liquid-path construction of your iFlow is made of borosilicate glass, FEP and PTFE. Do not apply it in handling liquids like hydrofluoric acid.

– The instrument would be clogged or damaged by solid particles in turbid liquid like activated carbon.

– The plastic parts of your iFlow would be in swelling condition if concentrated acid and alkaline, and methylbenzene, benzene and other nonpolar organic solvents are put into use.

– Keep your iFlow away from the highly combustible carbon disulfide.

– iFlow cannot be autoclaved.

– Do not put your iFlow in contact with corrosive gas like HCL

Compatibility (Max. Conc. 1 mol/L)

Acetic acid
Alcoholic potassium hydroxide solution
Ammonium iron (II) sulfate solution
Ammonium thiocyanate solution
Barium chloride solution
Bromide bromate solution
Cerium (IV) sulfate solution
EDTA solution
Hydrochloric acid
Hydrochloric acid in Acetone
Iodine solution*
Iodide Iodate solution*
Iron (II) sulfate solution
Nitric acid
Oxalic acid solution

Perchloric acid
Perchloric acid in glacial acetic acid
Potassium bromate solution
Potassium bromate bromide solution
Potassium dichromate solution
Potassium hydroxide solution
Potassium iodate solution
Potassium permanganate solution*
Potassium thiocyanate solution
Silver nitrate solution*
Sodium arsenite solution
Sodium carbonate solution
Sodium chloride solution
Sodium hydroxide solution
Sodium nitrite solution
Sodium thiosulfate solution

Sulfuric acid
Tetra-n-butylammonium hydroxide sol.
Triethanolamine in Acetone*
Zinc sulfate solution

⚠ **CAUTION:** This compatibility is against parts which are directly in contact with liquid, if any of above solution needs to be applied, contact with manufacturer for consultation.