



MICROLITEASYAID | Electronic Pipette Filler with Force Touch Technology and Solenoid Valve

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EXPERIENCE PRECISION

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1. Intended Use of the Instrument

Microlit EASYAID is an electronic pipette-filling instrument used for liquid handling in graduated and one-mark pipettes, glass or plastic, with a volume range between 0.1 ml and 100 ml. It works on batteries and is operated by a pump. It offers high precision, accuracy, and reliability in practical laboratory environments.

If operated correctly, the liquid comes in contact with the pipette only.

2. Symbols Description

Symbols					
Description	Wear Protective Gloves	Voltage/ Electrical Warning	Caution	Disposal	LED Symbols

3. Safety Instructions/Warnings

The instrument may be used for operations involving hazardous materials and equipment. It is beyond the scope of this manual to address all of the potential risks associated with its use in such applications. It is the sole responsibility of the user to consult and establish appropriate safety and health practices and determine the applicability of regulatory limitations before use of this instrument.

1. Every user must read and understand this operating manual before operation.



2. Follow the general hazard instructions and safety regulations (e.g., wear protective clothing, eye protection, and protective gloves).

3. Observe all specifications provided by reagent manufacturers.



4. Do not operate the instrument in potentially explosive atmospheres and do not pipette highly flammable media.

5. Always perform work in a manner that does not endanger yourself or other people. Avoid splattering. Only use suitable vessels.

6. Never use force.

7. Use only original accessories and replacement parts. Do not make any technical modifications. Do not dismantle the instrument any further than is described in the operating manual.

8. Always check that the instrument is in proper working condition before use. Contact the manufacturer if necessary.



9. Use only the original power adapter to charge the lithium-ion battery.

10. Do not use batteries from other manufacturer.

11. Protect the power adapter from moisture and use it only with this instrument.

12. Stop using the power adapter if the connection cable is damaged.

13. Only authorized service technicians are permitted to carry out repairs and internal maintenance on the instrument.

14. During charging, please ensure that the battery charger is set to the right voltage as per the line voltage.

Note: Instrument cannot be used while charging

15. Do not allow the battery to discharge completely.

16. Take care to properly affix the pipette to prevent accident falls during liquid handling operations.

17. Care must be taken during aspiration to prevent the liquid from entering the collet assembly.



18. Avoid fuming liquids and solvents. They may cause dripping, or their fumes may damage the internal components of the instrument.

19. Store the instrument on the provided stand when not in use.

4. Overview

Detail Description of Product (Fig. 1)



5. Features

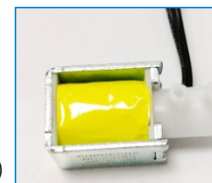
- Microlite EASYAID is suitable for all standard pipettes of 1 ml to 100 ml size, weighing around 238 gms.

- A 0.2 microns PTFE hydrophobic in-line membrane filter in the collet assembly prevents accidental entry of liquids inside the instrument. (Fig. 2)



(Fig. 2)

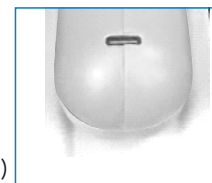
- The user may control the speed of aspiration and dispensing by adjusting the applied pressure on the plunger buttons.



(Fig. 3)

- Use of Solenoid Valve for precise control of liquid. (Fig. 3)

- The instrument has the option for Gravity and Blow-Out dispensing.



(Fig. 4)

- It can fill a 25 ml pipette in 3 seconds.

- It offers direct charging via micro-USB port with Type-C charging cable. (Fig. 4)



(Fig. 5)

- It offers up to 8 hours of continuous battery operation and battery is 3.4 V, Li-ion with 1400 mAh, and can be replaced easily (Fig. 5)

- It has fully autoclavable pipette adapters and filter holders.

- LED indication for low battery (red), charging (yellow).

The yellow LED turns off when the battery is fully charged.

6. Setup

A. Package content | One package contains:-

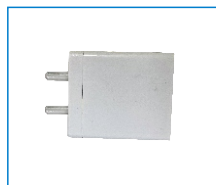
1. Pipette Filler
(Fig. 6)



(Fig. 6)

2. Power Adaptor
(Fig. 7)

Note: Power adaptor types will be provided as per users' requirement.



(Fig. 7)

3. USB Type-C Charging Cable
(Fig. 8)



(Fig. 8)

4. Li-ion Battery
(Fig. 9)



(Fig. 9)

5. Operation Manual
(Fig. 10)



(Fig. 10)

5. Stand
(Fig. 11)



(Fig. 11)

B. Connecting Battery

1. To connect the battery, press and slide the battery with a slight push the top cover of the housing towards the collet side.
(Fig. 12)



(Fig. 12)

2. Carefully, remove the cover and place the battery.
(Fig. 13)



(Fig. 13)

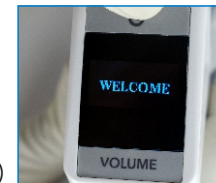
3. Insert the top cover into the housing engaging the slots above the display.
(Fig. 14)



(Fig. 14)


C. Charging the Unit

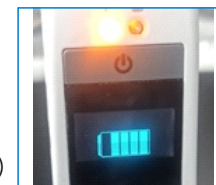
1. Once the battery is connected, a welcome screen will appear.
(Fig. 15)



(Fig. 15)

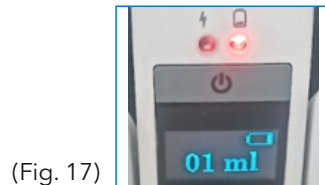
Note: For using the easy fill to its maximum potential, it is recommended to charge the battery for the first time.

-  2. Yellow LED: The yellow color led will be on when the charger is connected to the pipette filler.
(Fig. 16)



(Fig. 16)

- 3. Red LED: The red color led will be on when the battery is low (Fig. 17)



(Fig. 17)

The recommended supplied output voltage is 5V, 3A.

D. Stand

EASYAID is supplied with a complimentary stand which is used to store the pipette filler when not in use. (Fig. 18)



(Fig. 18)

E. Pipette Fitment

To fit the pipette, hold the EASYAID from the collet and press fit the pipette inside the collet assembly. (Fig. 19)



(Fig. 19)

Note: Risk of Injury! Never use force while fixing the pipette, especially when using glass or thin pipettes.

F. Selection of the pipette

To select the pipette, click on the Volume button and select the volume. (Fig. 20)



(Fig. 20)

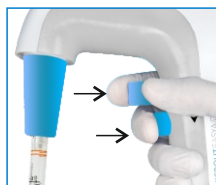
Operations

A. Filling and Dispensing

To fill the pipette, press the aspirating plunger to aspirate liquid into the pipette and the dispensing plunger to dispense liquid.

(Fig. 21)

Note: Do not overfill the pipette.

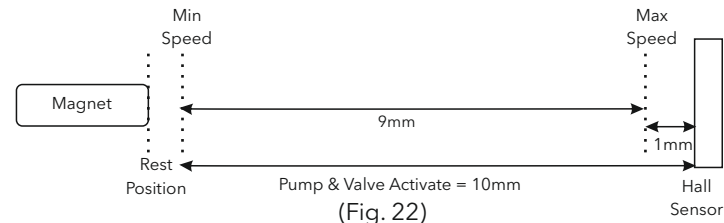


(Fig. 21)

B. Filling/Dispensing Speed

The speed of the aspiration works on the Force Touch technology.

The plungers have magnets on their surface which are in contact with the hall sensors on the PCB. When the plunger is pressed, the hall sensors come in direct contact with the magnet. The lesser the distance between the magnet and the sensor, the higher the speed. (Fig. 22)



Max Speed	The user may fill a 25 ml pipette at maximum motor speed in only 3 seconds.		
	Pipette capacity Max Speed:		
	▶ 1 ml - 0.3 ml / sec	▶ 10 ml - 3 ml / sec	▶ 50 ml - 8 ml / sec
	▶ 2 ml - 0.6 ml / sec	▶ 25 ml - 8 ml / sec	▶ 100 ml - 8 ml / sec
	▶ 5 ml - 1.5 ml / sec		

C. Dispensing Modes

The instrument has the option for Gravity and Blow-Out dispensing.

1. Gravity Mode

To use this mode, press the plunger halfway.

The gravity mode does not engage the motor and allows the user to dispense dropwise.

(Fig. 23)



(Fig. 23)

2. Blow Out Mode

To use this mode, press the plunger with a little force, engaging the motor. Once the motor is engaged, the dispensing speed can be varied by adjusting the distance between the magnet and the hall sensor.

(Fig. 24)



(Fig. 24)

Problem	Cause	Solution
Pipette is loose	Collet rubber is dirty or clogged	Clean the rubber by autoclaving. Replace if it is damaged.
Liquid drops from the pipette	Pipette is not firmly fixed	Recheck the fitting of pipettes into the collet
	Leakage in the collet assembly	Ensure that the collet has been rightly fixed
	Leakage from the inside connections	Send the instrument to the manufacturer
Pump is not working	Battery is discharged	Charge the battery
	Connection is broken	Send the instrument to the manufacturer
	The plunger button is not engaged properly	Recheck the plunger button, if the problem persists, contact the manufacturer.
Charging LED does not blink when power is supplied	Incorrect power adaptor is used	Use the originally supplied power adaptor and cables
	Battery is not connected properly	Firmly insert the battery and charge
	Battery/power adaptor/charging cable damaged	Replace the battery/power adaptor/charging cable
	Damaged	Send the instrument to the manufacturer
No display	LCD damaged or internal component loose	Send the instrument to the manufacturer

If the instrument is operated correctly, the EASYAID does not require any maintenance or cleaning. However, if required, the collet assembly can be autoclaved.

A. Disassembly of collet assembly

1. Hold the EASYAID from the top and rotate the collet cover clockwise. (Fig. 25)



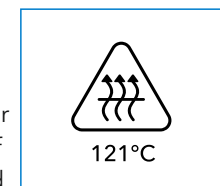
(Fig. 25)

2. Collet Rubber will be exposed. Simply pull it out along with filter. (Fig. 26)



(Fig. 26)

3. Now, this collet assembly can be autoclaved at 121°C at 1 bar for 15-20 minutes. (Fig. 27)



(Fig. 27)

Note: EASYAID is equipped with a 0.2 microns membrane filter which can be autoclaved up to 5-7 times. The cleaning of the filter is recommended only when the pipette is overfilled or there is a difficulty in liquid suction.

B. Assembly of the collet assembly

1. Press fit the filter from the narrow end into the inner grooves of the housing. (Fig. 28)



(Fig. 28)

2. Now align the collet rubber and insert it into the filter. (Fig. 29)



(Fig. 29)

3. Finally, complete the assembly by rotating the collet cover.

10. Do's and Dont's

S.No.	DO's	DONT's
1	While fixing the pipette, hold the pipette as close as possible to upper end	Do not use damaged charging adaptor or cable
2	Always hold the instrument with the pipette inserted vertically, tip down	Do not use the instrument while charging or if the battery is too low
3	Aspirate the liquid slightly more than the required and press the lower pipetting button slowly and dispense liquid until the meniscus is adjusted exactly to the desired volume	Do not overfill the pipette as it might clog the filter and disrupt filling operation
4	Always use stand for storage	The instrument must never be operated or charged in a potentially explosive atmosphere

11. Warranty Policy

Microlit warrants that this product will be free from defects in material and workmanship for a period of two (2) years from the date of delivery. If a defect is present, Microlit will, at its option and cost, repair, replace, or refund the purchase price of this product to the customer, provided it is returned during the warranty period.

We are not liable for damage resulting from any actions not described in the operating manual or non-original spare parts or components being used.

This warranty does not apply if the product has been damaged by accident, abuse, misuse, or misapplication, or from ordinary wear and tear. If the required maintenance and inspection services are not performed according to the manuals and any local regulations, such warranty turns invalid, except to the extent, that the defect of the product is not due to such non-performance.

Items being returned must be insured by the customer against possible damage or loss. This warranty shall be limited to the aforementioned remedies.

12. Return for Repairs

Clean the instrument and decontaminate before sending the instrument for service. Please enclose the description of the problem and the reagent used with. Detach the battery before sending to our Head Office. Email us at support@microlit.com and our technical team shall assist you within 24 hours.

13. Disposal

The adjoining symbol means that storage batteries and electronic devices must be disposed of separately from household trash (mixed municipal waste) at the end of their service life. According to the Directive 2002/96/EC of the European Parliament and of the Council on Waste Electrical and Electronic Equipment (WEEE) published on 27 January 2003, electronic equipment requires disposal according to the relevant national disposal regulations. Batteries contain substances that can have harmful effects on the environment and human health. Therefore, according to the Directive 2006/66/EC of the European Parliament and the Council on Waste Batteries of 6 September, 2006, batteries require disposal according to the relevant national disposal regulations. Dispose the batteries only when they are completely discharged. (Fig. 30)



(Fig. 30)