

Standard Operating Procedure

SOP057

Title: Use and Maintenance of Manual and Electronic Pipettes

Location: CBE laboratories, Garendon Wing, Holywell Park, and T208b Wolfson School.

1. PURPOSE

The intent of this SOP is to describe the procedures for the use, maintenance and calibration of the manual and electronic pipettes within the CBE.

2. SCOPE

This SOP applies to all users of the level 2 containment labs within the CBE in Garendon Wing, Holywell Park and T208b in Wolfson School.

3. Special Notes

- For convenience and safety always keep the pipette vertical on its stand when not in use.
- Users should avoid prolonged pipetting, as this can cause RSI.

4. RESPONSIBILITES

CBE Laboratory Users

- Follow the SOP as described and to inform the responsible person about any problems that may occur.
- Ensure correct storage to avoid damage to the pipette.
- Perform any necessary decontamination and cleaning as applicable.

Responsible Person (RP)/Laboratory Manager (LM)

- Organise the annual pipette calibration with Starlabs.
- Organise the return of the pipettes to an approved contractor (Starlabs) for repair and/or calibration.

5. EQUIPMENT AND MATERIALS

- 70%IMS
- 1in 50 Chemgene
- Manual pipettes (various makes)
- Electronic pipettes
- Pipette tips suitable for each size and make of pipettes.

Version 002

Effective Date: 20/08/2020

Review 20/08/2022

Written by: M. Win Naing	Reviewed by: E.A.Rayment	Approved by: R.Temple
--------------------------	--------------------------	-----------------------

Standard Operating Procedure

SOP057

Title: Use and Maintenance of Manual and Electronic Pipettes

Location: CBE laboratories, Garendon Wing, Holywell Park, and T208b Wolfson School.

Manual Pipettes

- Rainin Pipette Lie XLS- L2, L10, L20, L300, L1000 and L5000
- Rainin LTS Multichannel- 20-3000ul, 50-500ul
- Thermo Scientific F1 Clip tip multichannel – 1-10ul and 5-50ul
- Integra Multichannel- 10 & 50ul
- Eppendorf pipettes- 2.5,20,200 and 1000ul.
- Thermo Scientific Finn Pipette F1 0.2,2,20, 100ul.

Electronic Pipettes

- Rainin E4 XLS Multi channel, 5-50ul and 100-1200ul.

6. PROCEDURE

6.1. General use

1. Select a suitable pipette for the required volume for accurate dispensing.
2. Check the pipette casing and tip cone filters are clean before use. If not clean as per 6.3.
3. Change the volume of the pipette to the correct amount. For some pipette types, they need to be unlocked first before changing the amount.
4. Push the pipette firmly down into the tip to ensure a snug fit and enable the tip to stay on and the correct amount to be drawn up.
5. Press the operating button to first stop, place tip in the liquid to be dispensed and release operating button to draw up liquid.
6. Withdraw the tip from the liquid.
7. To dispense the liquid from the tip, press the operating button smoothly to the first stop. Then press the button smoothly to the second stop and hold.
8. Remove the pipette from the vessel.
9. Release the operating button to the ready position.
10. Eject tip into a sharps bin, by gently pressing the tip ejector.

Note: For the electronic pipettes these need to be regularly charged. The amounts to be pipetted can be altered using the buttons and the screen. The electronic pipettes are used in a very similar way to the manual pipettes, that a button is pressed for the liquid to be drawn up and the button is pressed again to dispense the liquid.

6.2 Identification and labelling of pipettes

Version 002

Effective Date: 20/08/2020

Review 20/08/2022

Written by: M. Win Naing	Reviewed by: E.A.Rayment	Approved by: R.Temple
--------------------------	--------------------------	-----------------------

Standard Operating Procedure

SOP057

Title: Use and Maintenance of Manual and Electronic Pipettes

Location: CBE laboratories, Garendon Wing, Holywell Park, and T208b Wolfson School.

1. All pipettes should have a valid calibration sticker attached to them. This should detail the date the pipette was calibrated and the scheduled date for retesting. Pipettes that are “out of calibration” must not be used.
2. Each lab should have at least 2 full sets of manual pipettes.
3. If pipettes are brought for specific projects then they need to be labelled with the group who owns the pipettes, and their use. They should also be stored separately and away from the general use pipettes.

6.3 Maintenance of pipettes

1. Daily Cleaning of the outer surface of the pipettes
 - a. Clean and decontaminate the outer surface of the pipette by wiping the outer surface with 1 in 50 Chemgene/ 70% IMS.
2. Decontamination of the pipettes for annual Calibration or sending of for repair.
 - a. Remove the metal or plastic tip ejector, wipe the pipette and ejector down with 1 in 50 Chemgene and 70% IMS.
 - b. Fill in the decontamination sheets for the pipettes. Use either the ones supplied by Starlabs or the CBE decontamination certificate.
3. Electronic pipettes are calibrated at the same time as the manual pipettes. The chargers also need to be PAT tested regularly. If a charger is not PAT tested, then it cannot be used. There are electronic pipette chargers in most labs.
4. If any pipette is found to be in faulty please inform the Laboratory Manager. A decontamination of the pipette must be done before it is removed from the lab.
5. Any maintenance should be recorded on the equipment maintenance record log.

6.4 Annual Calibration

The pipettes are calibrated annual by Starlabs. All pipettes need to be decontaminated before they are calibrated.

Starlabs come into the CBE to perform the calibrations.

As each lab has at least 2 sets of pipettes, one set from each lab will be calibrated first, followed later by the second.

If there are any problems found during the calibrations or at any other point during the year, then the pipettes will be sent to Starlabs for repair.

Version 002

Effective Date: 20/08/2020

Review 20/08/2022

Written by: M. Win Naing	Reviewed by: E.A.Rayment	Approved by: R.Temple
--------------------------	--------------------------	-----------------------

Standard Operating Procedure

SOP057

Title: Use and Maintenance of Manual and Electronic Pipettes

Location: CBE laboratories, Garendon Wing, Holywell Park, and T208b Wolfson School.

7. DOCUMENTATION

The following records are outputs of this SOP:

- 1) QS-FORM-009 - CBE Decontamination Certificate- found on CBE Learn page.
- 2) Equipment maintenance record log

Version 002

Effective Date: 20/08/2020

Review 20/08/2022

Written by: M. Win Naing	Reviewed by: E.A.Rayment	Approved by: R.Temple
--------------------------	--------------------------	-----------------------

Standard Operating Procedure

SOP057

Title: Use and Maintenance of Manual and Electronic Pipettes

Location: CBE laboratories, Garendon Wing, Holywell Park, and T208b Wolfson School.

3)

SOP Version History

Version Reviewed	Date Revised/ Reviewed	Revision Summary	New Version Number
001	19/08/2020 J.Bowdrey	Added all manual pipettes within the CBE, altered Calibration section to current calibration using Starlabs. Addition of electronic pipettes.	002

Version 002

Effective Date: 20/08/2020

Review 20/08/2022

Written by: M. Win Naing	Reviewed by: E.A.Rayment	Approved by: R.Temple
--------------------------	--------------------------	-----------------------