

Fact sheet of the interlaboratory comparison:

Pipettes calibration – 2024/2025

1. Context and objectives:

In 2024-2025, the CT2M is organizing a Europe-wide inter-laboratory comparison on the calibration of volumetric piston instruments. If you are a calibration laboratory (accredited or not) or a testing laboratory that carries out its own calibrations, this inter-laboratory comparison is organized for you.

The objectives of this proficiency test are to:

- Evaluate the performance of the participants to calibrate pipettes,
- Identify problems in the participating laboratories that may relate to, for example, their operating procedures, the effectiveness of staff training and supervision, inadequate calibration of equipment,
- Improve client confidence of participants,
- Identify differences between participants.

2. Proficiency testing item:

- ✓ A 5-50 μL automatic variable volume pipette,
- ✓ A 200-2000 μL automatic variable volume pipette,
- ✓ A 1-10 mL automatic variable volume pipette.

Pipettes are calibrated at the beginning and at the end of the circuit by an ISO 17025 accredited laboratory. Therefore, metrological traceability of the reference value is guaranteed.

3. Calibration Method:

The recommended calibration method is the gravimetric method as per ISO 8655-6, with 10 weighings. However, any other method may be used for this inter-laboratory comparison (colorimetric method, number of weighings less than 10, etc.). The method used will be indicated by each participant in the results file to be completed.

For each pipette, the volumes to be calibrated are as follows:

- ✓ Calibration at 5, 25 and 50 μL for the 5-50 μL automatic variable volume pipette,
- ✓ Calibration at 200, 1000 and 2000 μL for the 200-2000 μL automatic variable volume pipette,
- ✓ Calibration at 1, 5 and 10 mL for the 1-10 mL automatic variable volume pipette.

Participants may sign up for one or more pipettes, **it is not mandatory to calibrate all 3 pipettes proposed in this proficiency test. Furthermore, it is not mandatory to calibrate all 3 volumes indicated above.**

In addition, any laboratory may participate, regardless of its level of uncertainty; however, the provision of calibration uncertainty is a prerequisite for participation in this ILC.

A detailed protocol will be supplied to each participant at the start of the circuit.

4. Organization of the proficiency testing:

The instruments will move from one participant to another from September 2024.

Participants from Metropolitan France must calibrate pipettes and return instruments to the next laboratory within one week. Participants from countries bordering France will have 2 weeks and other participants 3 weeks to calibrate and return the pipettes. Respecting this deadline is crucial to the success of the campaign.

The CT2M will provide participants with a file in which the results must be transcribed. For each testing volume, participants must indicate at least the following results:

- ✓ The delivered volume,
- ✓ The standard deviation “S” associated with the delivered volume,
- ✓ The expanded calibration uncertainty to $k=2$.

Other details of the method and resources used will be entered by participants on the results file.

5. Assigned values and evaluation of performance:

The objectives of the performance evaluation of this inter-laboratory comparison are:

- To evaluate the ability of each participant to obtain results in agreement with the results of all the participants (z-score or z'-score depending on the number of participants),
- To evaluate the ability of each participant to obtain results close to the reference value within the limits of the claimed expanded uncertainty (E_n).

Two types of assigned values will therefore be established to satisfy each of these objectives:

- The robust average of participants' results determined using Algorithm A as defined in ISO 13528.
- The “reference value” determined from the results of the reference laboratory.

The standard deviation for the suitability assessment and the uncertainties associated with the assigned values will be determined in order to establish the performance scores of each participant for each entity.

6. Report(s):

At the end of the circuit, the results will be statistically processed and a final report sent to the participants. This will contain the results for all participants (coded to ensure anonymity), the detection of deviating values, the assigned values and their associated uncertainties, the participants' performance scores and all other elements useful for interpretation.

The final report will be distributed to all participants only.

Intermediate reports will also be issued during the circuit, in cases where a large number of participants means that the circuit will last longer than 6 months.

7. Provisional schedule:

Key steps	Estimated deadline
Registration	Until July 5, 2024
Detailed protocol and results file sent	September 2024
Circuit launch	September 2024
Interim report sent (if circuit > 6 months)	March 2025
Publication of final report	Depends on number of participants

8. Price

Participation fees: 590 € net total

This price is independent of the number of pipettes (same fee for one, two or three pipettes). This price includes the provision of the instrument to be calibrated, the supply of tips, of the results file to be completed and the participation protocol, transport costs to the circuit launch and the supply of interim and final reports containing the analysis of results and the evaluation of performance.

For participants located in the European Union, the transport cost of the proficiency testing items to the next participant will be borne by the participant, who is free to choose the carrier. For the participants located outside the European Union, the transport to and from of proficiency testing items must be organised and paid for by the participant.

Option: 150 € net total (in addition to the participation fees)

In addition to the final report, you have the option of receiving a personalised individual report that includes your performance evaluation only.

9. Reciprocal commitments:

CT2M commitments:

The CT2M undertakes to:

- guarantee the confidentiality of participants results and respect their anonymity (*),
- carrying out the performance evaluation in complete impartiality,
- organize and process the results in accordance with the reference applicable documents (ISO 17043, ISO 13528).

(*) The data obtained and generated during the inter-laboratory comparison may be consulted during internal or external audits. Auditors are systematically subject to a confidentiality agreement. For communication purposes (conferences, articles, etc.), the results may be used but in a totally anonymous manner. The transport of the test item from one participant to another necessarily entails the partial loss of anonymity concerning the identity of the previous participant and the following participant. Registration for this inter-laboratory comparison implies acceptance of this condition.

Participant commitments:

The participants in this inter-laboratory comparison undertake to:

- respect the protocol provided for carrying out the calibrations,
- provide their results within the deadlines defined by the organizer,
- not to communicate with any other participant who may be known in order to avoid any risk of collusion,
- transmit all the necessary information of the successful completion of the inter-laboratory comparison to all the persons concerned within their laboratory,
- inform the CT2M of any malfunction.

10. Registration and contact:

To take part in the Pipettes 2024-2025 inter-laboratory comparison, please complete the registration form "CT2M: REGISTRATION FORM - ILC PIPETTES 2024-2025" by clicking on the following link:

<https://forms.office.com/e/yDHd0Dvta5>

For further information, please do not hesitate to contact us:

- ✓ Email : cilpipettes@ct2m.fr
- ✓ Telephone : +33 (0)4 90 50 90 14

CT2M : FICHE D'INSCRIPTION - CIL
PIPETTES 2024-2025



Appendix: Terms of sale

1. Invoicing

Invoicing is carried out after sending the final report or an intermediate report of the proficiency testing. **The settlement is 30 days of the invoice date.**

Every registration fee is due when the campaign is started and won't be cancelled or refund.

2. Loss, degradation or elimination of the test item

In case of loss, damage or elimination of the proficiency test item by a participant, the CT2M reserves the right to claim its amount or purchase and new shipment:

- 5-50 µL volume pipette : 300 € net total
- 200-2000 µL volume pipette : 400 € net total
- 1-10 mL volume pipette : 400 € net total

The CT2M cannot be held responsible for loss, disposal or non-receipt of the proficiency test item.

3. Number of participants

In case of insufficient number of participants for an appropriate statistical treatment, the CT2M reserves the right to cancel this inter-laboratory comparison.

4. Management and storage of personal data

The CT2M will use the data of the participants in order to communicate with the participant during the ILC. These data are also used to send them intermediate and/or final reports. The data may be used for commercial purposes: communication of new features on the website, communication on new ILC or on ILC in which a participant have already participated. The data will be kept for 5 years after the last communication. (The data listed in the quotes and reports are kept for 10 years.)

The provisions governing the management of personal data under the RGPD are available on our website in the "RGPD Policy" document: <https://ct2m.fr/presentation-ct2m/politique-rgpd/>

In the event of refusal, an email should be sent to ct2m@ct2m.fr.