

## Proficiency Test

# Pipettes

Many laboratories participate in Proficiency Tests (PT schemes). Measurement results from different laboratories are anonymously compared with each other to assess their proficiency. The results in a PT will give you valuable insights into your laboratory's performance, ensure and even increase your quality, can be used as a reliable tool for quality and risk management.

### VSL will:

- provide suitable travelling standards;
- compose a comprehensive comparison protocol;
- deliver an independent evaluation report;
- provide an anonymous comparison of results;
- offer metrological and quality management support at request.

### Selection of participants PT Pipettes:

Participation is open to laboratories that calibrate pipettes and micropipettes.

### Registration:

Please go to our website [www.vsl.nl/en/services/proficiency-testing](http://www.vsl.nl/en/services/proficiency-testing) to complete the registration form.

### Fee:

€ 1.250,00 excluding VAT

The participation fee is including shipping costs for the travelling standards.

### Terms of payment:

Payment in advance. Invoice will be sent 1 month before the start of the PT. Payment is due within 30 days after invoice date.

### Schedule:

The detailed planning will be provided at the start of PT. The start date can be found at our website.

### Estimated number of participants:

Minimum 8 participants, maximum 15 participants.

If the number of participants remains smaller than the minimum number of participants, VSL reserves the right to cancel this PT and will contact the registered participants to offer an alternative.

## About VSL

VSL, the National Metrology Institute for The Netherlands, is a globally accredited PT provider (ISO/IEC 17043:2010, our scope reg. nr. R006).

Our independent proficiency tests cover a broad range of areas including pressure, mass, viscosity, temperature, electricity, length, chemical analysis, humidity and gas flow. Customers also ask VSL for advice and implementation of custom PTs.

For more information on VSL and our offer, please visit our website at [www.vsl.nl/en/services/proficiency-testing](http://www.vsl.nl/en/services/proficiency-testing). Should you have any questions or wish to join our PTs, feel free to contact us.



### Measurements protocol:

VSL will provide the protocol with the shipment of the travelling standards. Each participant will have 3 weeks to perform the calibration.

### Evaluation:

Evaluation will be done by normalised error, defined as 
$$E_n = \frac{x_i - X_{ref,i}}{\sqrt{U_{ref,i}^2 + U_{stat,i}^2}}$$

### Confidentiality statement:

VSL keeps all data regarding the performance of individual participants, or groups of participants, strictly confidential. Data is accordingly protected and stored in areas on networks with restricted access. The relationship between results and the laboratories that submitted them will never be disclosed. Only the laboratory is granted access to its performance through the assigned code number.

### Deliverables:

VSL will deliver a PT report including the anonymized measurement results and their performance rating.

### Information about the artifact to be circulated:

All pipettes are supplied without tips (participants should take care of the suitable tips themselves).

Pipette	Volume
Pipetman F10	Fixed volume 10 µl
Pipetman P20G	2 - 20 µl
Pipetman P5000L	500 - 5000 µl
Eppendorf 10 µl	100 µl
Eppendorf 200 µl	200 µl

### VSL

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