LCA 722 Pipette Test Kit

DOC312.53.94086

BBP 078 (0.2–1.0 mL),
BBP 065 (1–5 mL),
BBP 080 (0.2–5.0 mL) and
BBP 164 (2 mL)

LCA 722

Scope and application: Pipette test for HACH LANGE pipettes

Test preparation

Test storage

Storage temperature: 15–25 °C (59–77 °F)

Temperature

The pipette test kit and the distilled water should be used at a working temperature of 20 °C (68 °F).

Before starting

Error cause

Errors in pipetted volumes are frequently attributable to a badly adjusted pipette. This error may occur after long use, overwinding, or mechanical stress. Regular checks with the pipette test kit facilitate its early detection.

Another possible cause is incorrect handling of the pipette. This is usually indicated by wide differences in the values obtained from double determinations.

Analytical Quality Assurance

The system described here provides users with a simple method of checking their pipettes themselves to ensure that there are no significant inaccuracies in the pipetted volumes. Inaccuracies of more than 2% are reliably detected and can cause inaccuracies of the same order of magnitude in the result. In such cases we recommend that the pipette should be checked and calibrated by our service department.

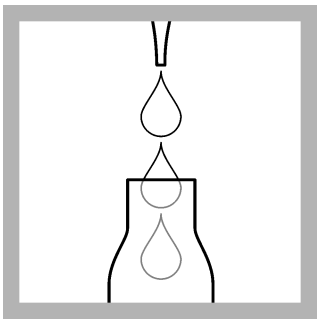
For reasons of quality and reliability, perform the analysis only with original accessories from the manufacturer.

Review safety information and expiration date on the package.

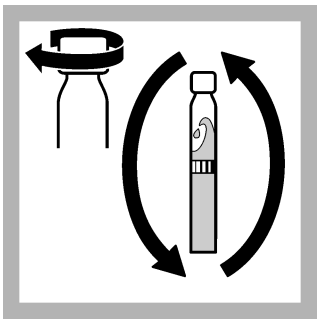
Review the Safety Data Sheets (MSDS/SDS) for the chemicals that are used. Use the recommended personal protective equipment.

Dispose of reacted solutions according to local, state and federal regulations. Refer to the Safety Data Sheets for disposal information for unused reagents. Refer to the environmental, health and safety staff for your facility and/or local regulatory agencies for further disposal information.

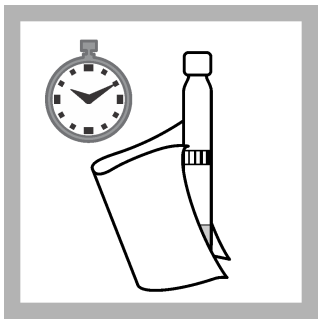
Procedure I—Testing the pipette 0.2–1.0 mL (BBP 078, 080)



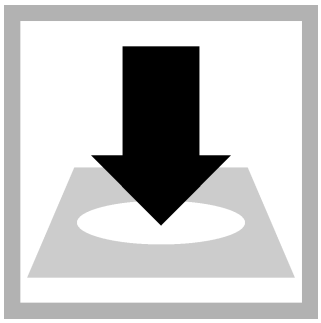
1. Pipet **4 x 0.5 mL** of distilled water into the cuvette.



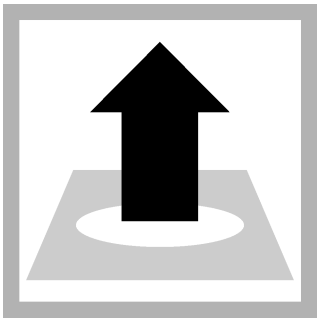
2. Close the cuvette and invert a few times.



3. After **1 minute**, thoroughly clean the outside of the cuvette and evaluate.



4. Select menu **Single Wavelength**. Select **500 nm** with option **λ**. Confirm with **OK**.
Insert the **zero-solution cuvette** into the cell holder and push **ZERO**.

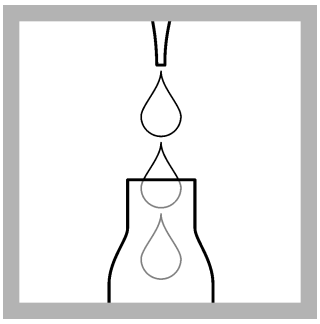


5. Remove the zero-solution cuvette.

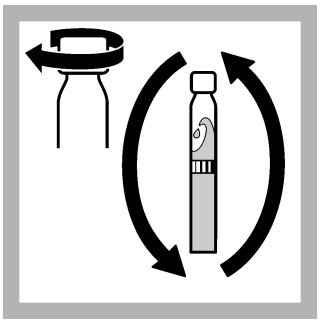


6. Insert the **sample cuvette** into the cell holder and push **READ**.

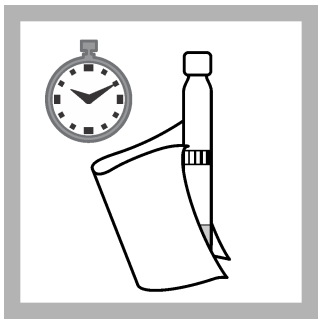
Procedure II—Testing the pipette 1–5 mL (BBP 065, 080) and 2 mL (BBP 164)



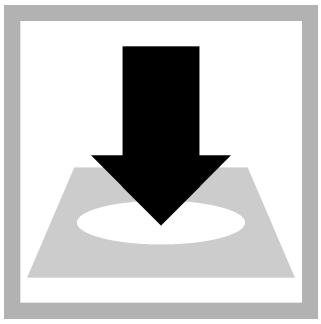
1. Pipet **2 mL** of distilled water into the cuvette.



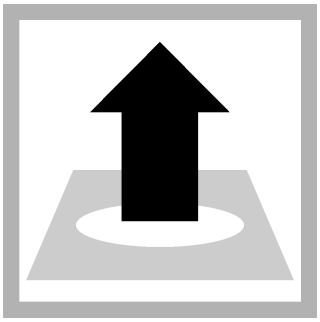
2. Close the cuvette and invert a few times.



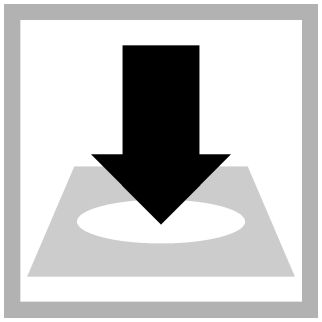
3. After **1 minute**, thoroughly clean the outside of the cuvette and evaluate.



4. Select menu **Single Wavelength**. Select **500 nm** with option **λ**. Confirm with **OK**.
Insert the **zero-solution cuvette** into the cell holder and push **ZERO**.



5. Remove the zero-solution cuvette.



6. Insert the **sample cuvette** into the cell holder and push **READ**.

Interpretation of the measurement results

1. The measured value is between -0.040 E and +0.040 E
The margin of error in the pipetted volume is within an acceptable range of tolerance. There is no significant effect on the measured values of the analyses.

2. The measured value is below -0.040 E
The tested pipette transfers more than the set volume, so that the measured values of the analyses can be significantly affected. The pipette must be recalibrated.

3. The measured value is above +0.040 E
The tested pipette transfers less than the set volume, so that the measured values of the analyses can be significantly affected. The pipette must be recalibrated.

Summary of method

A provided color solution of exactly known composition is diluted with the test volume from the pipette. The resultant absorption is a measure of the deviation from the correct volume. Pipetting errors of more than 2% can be clearly detected in this way.

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