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Suche:

Calibrating your Finnpiettes

General:

- The test liquid is water, distilled or deionized, "Grade 3", conforming to ISO 3696.
- Tests are performed in a draught-free room at a constant ($\pm 0.5^{\circ}\text{C}$) temperature of 15°C to 30°C . Relative humidity should be above 50%. Especially with volumes under $50\ \mu\text{l}$, the air humidity should be as high as possible to reduce the evaporation loss effect.
- The pipette, the water and the air in the test room should be at the same temperature.
- A new tip should be pre-wetted 3 to 5 times to improve the accuracy. Always pipet water from a reservoir, do not take it back from the balance.
- Check the calibration of your pipettes regularly, depending on the frequency of use and on the application, but at least once a year. If daily used, a three-month interval is recommended.

Procedures to check calibration:

- The ISO 8655 specifications are defined to be used with the Forward pipetting technique, but by performing the adjustment and the calibration check using the pipetting technique you use in your applications, more accurate performance will be achieved.
- The pipette is held in the calibration room for at least two hours before calibration to reach equilibrium with the test room conditions.
- The pipette is checked at the maximum volume (nominal volume) and at the minimum volume or 10% of the nominal volume, whichever is higher. For example, Finnpiette 0.5 - $10\ \mu\text{l}$ is tested at $10\ \mu\text{l}$ and $1\ \mu\text{l}$.
- Measure the current water temperature and air pressure. Select the closest values from corresponding drop down menus.
- Measure the evaporation loss (mg). To determine this, dispense water to the weighing container on the balance and using a stopwatch, measure the mass loss in 30 s. Devide this result by thirty and multiply it with the average time (usually appr. 10 s) spent between dispensing the liquid on the balance and reading the final weight from the balance display. Insert the calculated mass loss to the corresponding box on the page.
- Select the pipette model and volume range from the drop down menu.
- Do ten pipettings with the lower calibration volume
- Do ten pipettings with the nominal volume. According to ISO 8655, with multichannel pipettes both volumes should be tested with all channels.
- Enter the weighing results into the fields below. For multichannel pipettes, the channel number can be entered into the serial number field.
- Press the "Calculate" button to calculate the accuracy and precision. If the results are within the limits, the adjustment of the pipette is correct. If not, the pipette has to be readjusted (see below) with the lower volume and checked again.

Procedures to adjust the pipette:

- The adjustment is done at the lower calibration volume. With multichannel pipettes the adjustment is done with one of the middle channels.
- Place the service tool that comes with the pipette, into the openings of the calibration nut at the top of the handle.
- Turn the service tool clockwise to increase the volume or counterclockwise to decrease the volume.
- After the adjustment, check the calibration as described above.

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