



# Calibration Levels Explained



Pipette Doctor offers a wide range of calibration levels each designed to meet the specific needs of your pipettes.

## 5.1 Performance Check.

This consists checking your pipettes by means of 5 replicates taken at the mid-volume.

A report is printed out detailing the inaccuracy and imprecision for the pipette. This is a good basic "performance check" for your pipettes and can be used for laboratories working to GLP.

Most pipettes have good linearity across their working range and so checking them at the mid-point can be a good indicator as to the pipettes performance across its working range, although no guarantee can be given as to its performance at its minimum and maximum volumes.

## 5.2 Basic Calibration

This consists of checking your pipettes at its minimum and maximum volumes with 5 replicates taken at each volume.

A report is printed out detailing the inaccuracy and imprecision for each volume range tested for the pipette.

This is a basic "calibration". It assures you that the pipette has been tested, not only for inaccuracy and imprecision but for linearity also.

By taking 5 readings, a reasonable level of confidence can be offered. This can be used for GLP and as an entry level calibration for GMP.

## 5.3 Enhanced Calibration

This consists of checking your pipettes at its minimum, middle and maximum volumes with 5 replicates taken at each volume.

A report is printed out detailing the inaccuracy and imprecision for each volume range tested for the pipette.

This enhanced calibration level ensures that the pipette has linearity throughout its working range, including its mid-volume.

This may be suitable for GMP where a higher level of confidence is required.

## 10.3 ISO8655 Level Calibration

This consists of checking your pipettes at its minimum, middle and maximum volumes with 10 replicates taken at each volume.

A report is printed out detailing the inaccuracy and imprecision for each volume range tested for the pipette.

This enhanced calibration level ensures that the pipette has linearity throughout its working range, including its mid-volume. 10 readings at each volume ensures a much higher level of confidence. ISO8655 specifies this level of calibration.

## 10.3 UKAS Level Calibration

Pipette Doctor is a UKAS accredited company and can offer a 10.3 level calibration in accordance with ISO17025. This essentially is the same level of calibration as described above but an "uncertainty of measurement" can be offered for each volume calibrated. This is the highest level of calibration available in the UK.

## PRECAL

For an increasing number of customers, especially those working to GMP, it has become essential to check pipettes prior to service and calibration to establish how the pipette was performing "as found".