

Pipette and Device Calibration Software

A Fully Automated Device Calibration Solution

Regular performance testing and calibration of liquid handling devices such as pipettes as well as other devices is essential to ensure they're operating correctly. Potential problems must be identified and corrected before they impact the integrity of data. Implementing an automated system for scheduling, conducting and documenting performance testing and calibration ensures that these devices are performing according to specifications.

Pipette Tracker is a cost-effective automation solution for gravimetric pipette calibrations as well as other device calibrations that reduces the time and resources required for scheduling, performing and documenting calibrations.

Pipette Tracker - schedules calibrations, automates data collection during calibration, performs all calculations and corrections and can produce all required reports. It is suitable for single and multi-channel pipettes and liquid dispensers of fixed or variable volume, as well as volumetric glassware, and other devices that require calibration checks on a routine basis.

Pipette Tracker Key Features

- Meets ISO/EN 17025, ISO/EN 8655, ASTM E1154 and GLP requirements
- Automatically schedules pipettes, instruments and devices as well as standards for calibration testing including devices that are calibrated externally
- Automatically collects calibration and environmental data from any RS232 or TCP/IP Ethernet interface
- Includes a database of manufacturers calibration specifications for over 1100 pipettes
- Maintains a complete calibration history for all pipettes and devices

- Includes 5 modes for performing calibrations: Addition, Addition-Tare, Subtraction, Subtraction-Tare, and None
- Corrects for environmental conditions and cubic expansion factors during pipette calibrations
- Calculates and includes the Expanded Uncertainty for each mean value with calibration data
- Real-time interactive graphing of data to quickly identify when samples fall outside accuracy limits
- Maintenance Plan with notification when maintenance tasks fall outside their recommended action limits
- Complete traceability of calibration results including the details of the standards used for each calibration

Fully Conforms to International Standards and Procedures

Pipette Tracker meets GLP and ISO/EN requirements and conforms to the procedures recognized by ISO/EN 8655, 17025, ASTM E1154 and enables companies to meet their accreditation requirements such as AL2A or ANSI.

Pipette Tracker is very flexible allowing for custom protocols, based on a laboratory's internal SOPs to be configured, saved and used at run-time.

Improves Organization and Access to Pipette and Device Calibration Data

Information including the serial number, manufacturer, device name and device location is permanently recorded into the database for each device.

Pipette Tracker can also track and store information about the pipette tips used for a calibration. If a specific type of tip is specified as part of the Calibration Method, the user will be notified of that at run-time and asked to enter the actual batch number of the tip that is used.

All test results are saved for each device providing a full calibration history for each pipette and device in the system, which can be accessed at any time.



Maintaining a full and secure electronic record of calibration testing results and scheduling eliminates the need for maintenance of paper-based records.

Easy Implementation

Pipette Tracker is an easy-to-install application that is compatible with the most current and popular Windows Operating Systems.

A key feature of Pipette Tracker is its ability to automatically collect data directly from any RS232-or TCP/IP Ethernet compatible interface, eliminating manual data recording and transcription errors. In order to communicate with the instrument, an interface needs to be established between the software and the instrument.

Pipette Tracker includes the Labtronics Instrument Library, a database containing setup information for all of the major balances as well as many other instruments. The Instrument Library simplifies configuring communication between Pipette Tracker and the instrument. Interfacing an instrument with Pipette Tracker is as easy as selecting the appropriate device from the listing in the Instrument Library and identifying the COM port or IP address that it is connected to.

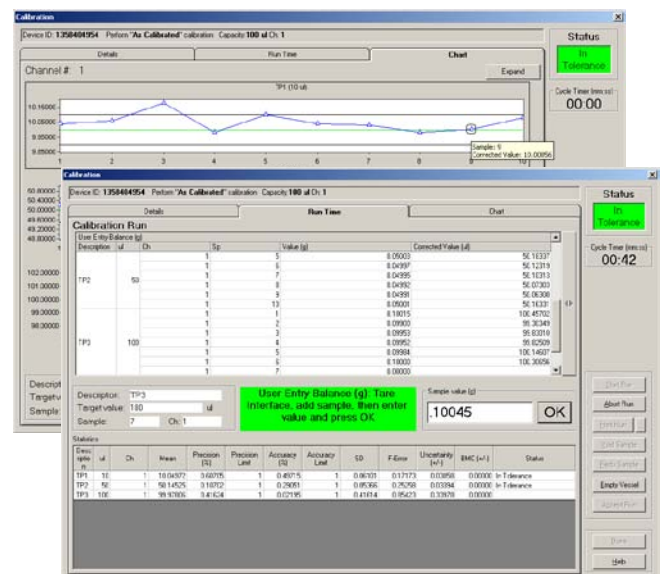
For users who do not have RS232 or TCP/IP-compatible instruments, all of the features of Pipette Tracker are still available by manually entering sample results.

Pipette Tracker also includes a manufacturer's database that lists pipette calibration specifications for over 1100 pipettes. If a laboratory is using a pipette that is not included in the database they can easily add it in. These specifications can be imported into a calibration test plan and used to establish testing criteria. This can be a valuable aid in setting up test protocols for different pipettes or groups of pipettes.



Control the Instrument from the Software

Pipette Tracker's bi-directional command feature can send any command to the instrument that it is capable of receiving and responding to. This feature can be used to prompt the instrument to send a sample value, zero or tare the instrument or even open motorized doors. Commands are sent directly to the instrument from Pipette Tracker's Calibration screen.



The screenshot shows the Calibration software interface with two windows. The top window displays a 'Run Time' chart for Channel # 1, showing a fluctuating line graph with a target value of 10.0000. The bottom window shows a 'Calibration Run' table with columns for Description, Ch, Tip, Value (g), Corrected Value (g), and Status. A large green text prompt reads: 'Over Entry Balance (g). Tare (This means add sample. When enter value and press OK)'. Below this, a 'Simple value (g)' field contains the value '10045' and an 'OK' button.

| Description | Ch | Tip | Value (g) | Corrected Value (g) | Status |
|-------------|-----|-----|-----------|---------------------|----------|
| TP2 | 50 | 1 | 9.9999 | 9.9999 | 50.1137 |
| TP2 | 50 | 2 | 9.9999 | 9.9999 | 50.1219 |
| TP2 | 50 | 3 | 9.9999 | 9.9999 | 50.1313 |
| TP2 | 50 | 4 | 9.9999 | 9.9999 | 50.0720 |
| TP2 | 50 | 5 | 9.9999 | 9.9999 | 50.0830 |
| TP2 | 50 | 6 | 9.9999 | 9.9999 | 50.1133 |
| TP2 | 50 | 7 | 9.9999 | 9.9999 | 50.1472 |
| TP2 | 50 | 8 | 9.9999 | 9.9999 | 50.1549 |
| TP2 | 50 | 9 | 9.9999 | 9.9999 | 50.0319 |
| TP2 | 50 | 10 | 9.9999 | 9.9999 | 50.0509 |
| TP2 | 100 | 1 | 9.9999 | 9.9999 | 100.1407 |
| TP2 | 100 | 2 | 9.9999 | 9.9999 | 100.2056 |
| TP2 | 100 | 3 | 9.9999 | 9.9999 | 100.0000 |

Calibration screen - Run Time and Chart tab. The display messages prompt the analyst through every stage of a calibration, showing the required target value and sample value received from the instrument in large text, to make it easily visible.

Automatic Calibration

This feature allows users to setup an automated schedule for calibration checks with up to three different intervals and complete those calibrations in Pipette Tracker.

Manual Calibration

This feature allows users to calibrate devices without scheduling them for future calibrations. All of the device information and calibration results are still stored in the database. This is ideal in situations such as at a calibration service provider, where some pipettes or devices may not be calibrated on a regularly scheduled basis.

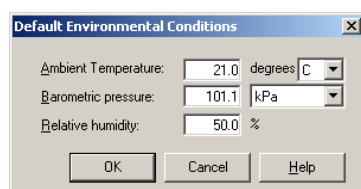
External Calibration

This feature allows users to schedule devices for calibration and alert them when they are about to become due. Once this calibration is completed, users can run the calibration and manually assign the calibration date, status and attach an external calibration certificate in electronic format.

Cycle Timer

ISO 8655 identifies uneven rhythm and timing as a potential source of error when pipetting. The standard further recommends that, when testing a pipette, the test cycle time be kept to a minimum and be kept as regular as possible.

Pipette Tracker supports the standard by including a Cycle Timer that provides an audible prompt that helps the analyst to pipette at regular intervals. Because it is an audible prompt, the analyst can work accurately and precisely without having to be located right at the computer. The use of the Cycle Timer to promote consistent cycle times increases the accuracy of the calibration process.



Default Environmental Conditions. Pipette Tracker automatically corrects for environmental conditions including temperature, barometric pressure and humidity.

Full Automation of Calculations

Pipette Tracker performs all pipette calibration calculations in accordance with the requirements as defined in ISO 8655, 20461 and ASTM E1154.



Environmental variables that are often responsible for adversely affecting gravimetric test results are automatically taken into account. During calibration runs, evaporation, temperature, barometric pressure and relative humidity are immediately factored into mass-to-volume calculations as sample results arrive at the computer from the balance.

Pipette Tracker is unique in that environmental data can be entered into the system three different ways.

- Where conditions are controlled and consistent, a fixed value can be entered into the software for any of the parameters. This value is then used for calculations with every calibration.
- The operator can enter a new value for any of the environmental conditions at run time, ensuring that the calculations reflect the current conditions.
- Pipette Tracker can automatically collect the environmental data directly from any measuring devices that are equipped with RS232 or TCP/IP Ethernet ports. This eliminates the need for the operator to enter the values and ensures that accurate environmental data is automatically added to the calibration run each and every time.

After each calibration run, Pipette Tracker automatically calculates all of the statistical results for the pipette using formulae and tables provided in ISO 8655-6. Users have the option to set the statistical range that is used to define the pass or fail criteria of their pipettes and devices as well as the required number of samples for As Found and As Left calibrations. Based on the results of these calculations, pipette results are immediately evaluated and issued an 'In Tolerance' or 'Out of Tolerance' status. Once the 'Accept' button is pressed, Pipette Tracker can prompt the user if the status of some data changes after taking the expanded uncertainty of the mean into account before assigning a 'Pass' or 'Fail' status.

All approved results are recorded in the database, where they provide an on-going history of pipette and device calibrations.

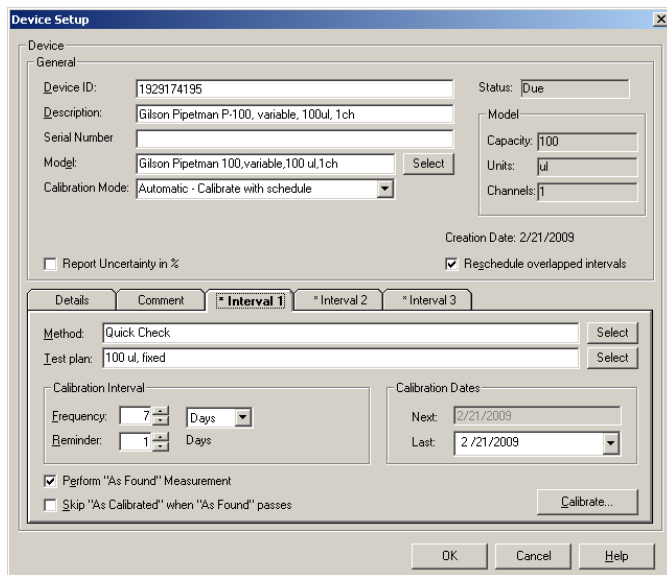
Automated Scheduling

Pipette Tracker automatically schedules calibration testing for all pipettes and devices in the database by automatically checking each record against the current date to determine if testing is due.

If a device is due to be tested, it appears on the work list screen for immediate reference. Devices can be set up to appear on the work list ahead of the testing date to ensure that the pipette is available for testing at the appropriate time.

If a pipette or device needs to be calibrated outside of its regular schedule (e.g. if it is dropped), the user will be prompted as to whether the next calibration should remain as scheduled or if the schedule should be adjusted to reflect the new calibration.

Automated scheduling ensures that regular testing takes place without incurring the cost of having to manually monitor device-testing intervals.



Device Setup window - Interval 1 tab. Up to three calibration intervals may be defined for each device.

Automated Reporting

Pipette Tracker includes an extensive range of standard reports including work lists, inventory lists, summary and detail calibration reports, device calibration history reports, test plan and method documentation, etc. These reports can be modified to suit specific requirements.

Reports can also be exported in a variety of output formats including Word, Excel, PDF, HTML and TIF. Providing reports in these formats makes Pipette Tracker compatible with virtually any reporting, archiving or document management application.

Reports can also be created by Pipette Tracker in an ASCII file format and exported to any spreadsheet or SPC application program, for additional reporting and analysis.



New in Version 3.3

- Includes Expanded Uncertainty and BMC value with calibration data for ISO 17025 and Accreditation requirements
- Manual status override option after automatically taking the calculated expanded uncertainty or BMC value into account
- Performs preventative maintenance limit checking and adds maintenance performed data to calibrations
- Interactive run-time chart of sample data allows users to work right off the graph to enter sample data or select any point to re-do or void

- Select any sample during a calibration to re-do if needed
- External calibration mode to maintain a devices calibration schedule and history of certificates when performed by another company
- Allows for different number samples for an As Found and As Left calibration
- Supports scheduling and calibration tests of other devices like balances, calipers and more
- SQL Server Express default database for improved speed and response time
- Expanded library of Report (Certificate) templates including barcode and labels, trend analysis graphs, due date management and more

Professional Services

The Pipette Tracker software is designed with user setup and ease of use in mind; however, Labtronics understands that not everyone has the time to set up and learn any new software no matter how easy it may be to configure and use.

Contact Labtronics about the services available to help bring your system on-line quickly through our expertise.

Our Guarantee

All Labtronics software products are provided with a 30-day evaluation guarantee. If within 30 days you are not satisfied with our software, you may return it to us for a refund. Shipping charges and professional services are non-refundable.

System Requirements

- Windows XP® or Windows Vista®
- Pentium III 500 MHz (XP®) 800 MHz (Vista®) or better processor
- RAM: Minimum 256 MB (XP®) 512 MB (Vista®)