Improving process reliability with functional validation of air-displacement pipettes!

The most frequent cause of inaccuracy in piston-operated pipettes is leakage. This arises from damage either to the seals, pistons, or tip cones. Often not detectable by the naked eye, leaks lead to significant volume errors.

The BRAND PLT™ Pipette Leak Tester (patent pending) detects even the smallest leaks in air displacement pipettes within seconds.

- Limit values for all common sizes of single and multichannel pipettes in the volume range 1 μl to 10 ml are pre-programmed.
- Test with or without tips
- Results in seconds

To insure accurate results, air-displacement pipettes must be checked at regular intervals and the results must be compared with the ISO 8655-2 error limits. However, a calibration certificate only reflects the results at the time of testing. The time between these calibrations is crucial, since leaks can occur at any time. Well over 80% of pipettes sent in for repair have leaks and are outside their volume tolerances, even if they don’t drip.

While the PLT unit cannot replace regular gravimetric testing, daily pipette checks can provide a safeguard during the periods between calibrations. Even the smallest leaks are detected and quantified! Process reliability for the pipettes is thus significantly improved.

**Testing with and without the tip**

To check the overall pipette system, the test is conducted with a tip mounted. When a leak has been identified, the test can be repeated without a tip to determine whether the leak arises from the tip cone/tip coupling region.

**Dynamic or static test?**

The dynamic test can rapidly determine whether a defective piston (contamination, scratches, etc.) has caused a leak. The pipette button must be pushed down numerous times during the measurement period. The associated piston movement allows a defective piston to be recognized.

In the static test, the pipette button is not pressed during the test procedure, i.e. the piston doesn’t move. This will only determine a leak generally, without attributing it to a particular component.

**Testing with and without the tip**

To check the overall pipette system, the test is conducted with a tip mounted. When a leak has been identified, the test can be repeated without a tip to determine whether the leak arises from the tip cone/tip coupling region.
PLT™ Pipette Leak Testing Unit

Including one adapter each for testing air-displacement pipettes with tip (mounted) and without tip, 2 plugs, 3 replacement PE filters for the pipette adapters, universal AC adapter, quality certificate and operating manual.

Quantifiable results are generated, with pass/fail criteria for each pipette size, based on over 35 years of experience.

**Main Menu**
- Pipette Type
- Self Test
- Switch OFF
- Settings...
  - select
  - back

**PASS**
- SC: 100 µl
- QL: 0.04 hPa×ml/s
- start

**FAIL**
- SC: 100 µl
- QL: 4.6 hPa×ml/s
- start

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<th>Description</th>
<th>Cat. No.</th>
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<td>PLT Pipette Leak Testing Unit. Pack of 1</td>
<td>703970</td>
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<td>4-Channel Pipette Adapter. Pack of 1</td>
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<td>Filters, PE, for pipette adapter. Pack of 10</td>
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