

This issue of The ARTEL Digest focuses on getting the most out of your liquid handling instrumentation. In this economy, knowing how to do more with less will help you drive efficiencies and improve productivity without compromising quality. We hope you find this issue informative.

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ASK AN EXPERT



George Rodrigues, Ph.D.

Senior Scientific Manager, ARTEL

Question

"How important is regular preventive maintenance for pipettes?"

Answer

Despite the need to reduce laboratory expenses during a recession, cutting corners by postponing pipette maintenance will not lead to actual cost savings and could detriment quality. Regular maintenance can minimize the occurrence of predictable pipette failures. Pipette manufacturers recommend that maintenance be conducted anywhere from annually to every four years, but actual schedules should reflect your laboratory's experience.

To determine appropriate maintenance schedules, evaluate failed pipettes to determine if the failures were random (due to an accident or misuse), or predictable (the result of simple wear). Events that result in random failure will usually leave evidence, such as material aspirated into the pipette body or damage to the shaft. Failures resulting from accumulated wear generally do not show these types of evidence. If a significant number (one quality-oriented laboratory we know uses 25% as a guideline) of your failed pipettes do not show evidence of random failure, then you can assume such failures are due to wear, and you should consider increasing the maintenance frequency.

Additional information:
[8 Easy Steps for Performing Pipette Preventive Maintenance](#)

Have a question?

Email info@artel-usa.com

"Quality is never an accident; it is always the result of intelligent effort."

— John Ruskin

Artel is the global technology leader in liquid handling quality assurance. Artel innovations help laboratories improve process productivity, enhance product quality, and address compliance challenges.

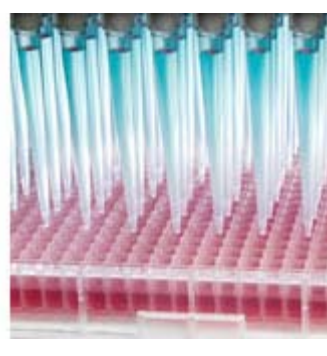


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Optimizing Automated Liquid Handlers

Using Longitudinal Data to Understand Performance

A critical component in a quality control program for automated liquid handlers is knowledge regarding the performance of each instrument. By using longitudinal data to set up your calibration program, you can take corrective action before your instruments are out of specification, ensuring maximum efficiency, and accurate and precise results.



Molecular diagnostic manufacturer XDX used longitudinal data from its liquid handling quality assurance program to develop guidance on optimizing automated liquid handlers and monitoring their performance, including information on determining the frequency between calibration intervals and mimicking liquid handling parameters during calibration.

[Read more](#)

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Flying on Course

FAA's Forensic Toxicology Lab Enhances Quality and Compliance

With a spate of recent high-profile plane crashes, there has been considerable media attention surrounding aviation safety. However, the behind-the-scenes work of the institutions responsible for the oversight and investigation of the airline industry is often ignored in the headlines. The Federal Aviation Administration (FAA) has a wide range of laboratory capabilities that are applied to everything from plane crash investigations to researching optimal genetic profiles for pilots.



Learn how the FAA worked with Artel to streamline and optimize its pipette calibration operations so it could demonstrate its commitment to quality and meet regulatory and accreditation requirements.

[Read more](#)

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Regulatory Spotlight

Key updates to liquid handling quality assurance regulations and standards

• For Pharmaceutical, Biotech, and Food Testing Labs

The FDA has drafted a new Guidance for Industry - Submission of Laboratory Packages by Accredited Laboratories. This document provides advice to importers on the use of accredited versus non-accredited laboratories in an effort to improve the quality and reliability of test results that importers submit to the FDA. This guidance applies to all FDA-regulated imports, and delineates accreditation criteria for laboratories, sample collection, and quality and type of test methods. Accredited laboratories may be allowed to submit an Abbreviated Laboratory Package to the FDA (the required contents of which are explained in this document as well). This guidance is intended to reduce the likelihood that importers will select only favorable test results to submit to the FDA by requiring the accredited laboratory to submit test results directly.

[Learn more](#)

• For Food, Drug, Cosmetics and Device Testing Labs

Two bills have been introduced to Congress that propose changes to the FDA and the assurance of food, device and cosmetic safety. Bill H.R. 759 proposes to amend the Federal Food, Drug, and Cosmetic Act (FFDCA) by providing an accreditation system for food facilities, and mandating certification of laboratories conducting food sampling and testing. This bill requires hazard analyses, control procedures, and safety plans for facilities that manufacture, pack, process, transport, or hold food. Provisions for drug and device safety are equally comprehensive. A summary of the bill can be found [here](#), while public comments on this bill may be found [here](#).

A related bill introduced to Congress, H.R. 875 (Food Safety Modernization Act of 2009), would have far-reaching impact on the FDA, renaming it to the Federal Drug and Device Administration and transferring all functions related to food safety to the Food Safety Administration, which will be established within the Department of Health and Human Services. The new Administrator of Food Safety would set requirements for preventive process controls, food safety, inspection programs, etc. A summary of this bill can be found [here](#), while public comments on this bill may be found [here](#).

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Technical Resources

Application Note for the Artel MVS Multichannel Verification System MVS@ Volume Verification Using Any Microtiter Plate or Small Volume Container, Such as a Tube or Vial

It is often important to understand the performance of your robotic liquid handler – specifically with regard to the container receiving the dispensed liquid. This application note shows how to use the MVS to evaluate liquid handler performance when dispensing samples into such vessels as tubes, vials, other small volume containers, or non-standard microtiter plates.

Operators as Sources of Error – Improved Efficiency through Pipetting Technique Training

Proficient operators employing a standardized pipetting technique can minimize errors and thereby increase the efficiency of a laboratory at every level. [View a poster presentation](#) discussing the factors that influence data integrity and learn how to avoid the inefficiencies associated with poor pipetting technique.

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Upcoming Events

Training Seminars

Pipette Quality Management Certification Seminar – Announcing the 2010 Schedule

This two-day seminar includes topics that are important to lab professionals concerned with quality and the performance of their pipettes. As well as an interactive curriculum thoroughly covering the three major determinants of pipette accuracy and precision — pipette maintenance, local environmental conditions, and the skill and expertise of the operator — this seminar also addresses setting up a quality assurance program, dealing with regulations, and ensuring compliance.



[View 2010 Training Schedule](#)
[Register](#)

Liquid Handling Boot Camp: A Hands-On Introduction to Lab Robotics (October 23, 2009, San Diego, CA)

Did you miss the Liquid Handling Boot Camp at Lab Automation? The good news is that it is being offered this October in San Diego. This one-day technical seminar is designed to assist users of liquid handling robots in the biopharmaceutical and other life sciences fields.



Learn how to optimize your liquid handling robots by recognizing and understanding key variables. Apply class material in hands-on exercises with a variety of robots using various liquids. Experiment with different techniques and obtain immediate liquid delivery performance data.

[Learn More](#)
[Register](#)

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News

Association for Molecular Pathology Annual Meeting and Exhibits

November 19, 2009 – Kissimmee, Florida

Artel will be participating in the *AMP Scientific Meeting and Exhibits*, held annually each fall. Our focus will be Best Practices in Pipetting. At Booth #1514 we will feature:

- Artel Pipetting Olympics
- 10 Tips to Improve Your Pipetting Technique video series
- 8 Easy Steps for Performing Pipette Preventive Maintenance

Lab Automation 2010

January 23, 2010, Palm Springs, California

Visit Artel in Booth #451 at the upcoming Lab Automation 2010 in Palm Springs. We'll show you how to get to know your liquid handler – so you can trust your results. We look forward to seeing you there.

Artel Launches "10 Tips to Improve Your Pipetting Technique" Video Series

Artel recently launched its online series of 10 Tips to Improve Your Pipetting Technique videos, a new addition to the company's collection of liquid handling quality assurance tools.



This video series shows the basic elements of good pipetting technique and serves as a foundation for optimizing quality and efficiency in your laboratory.

[View Video Series](#)

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Comments?

Feedback is the most powerful tool we have in our effort to make our products and services better. We encourage you to share your thoughts with us about this publication or any related content. Thank you.
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