

The Ovation[®] ali-Q[™] Aliquoting Pipet Controller from VistaLab[™]

A revolutionary new pipetting technology designed to merge the desires of the user with the demands of the modern laboratory

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Overview

Pipettes have a long and indispensable history – from the early days of mouth pipetting to the advent of automated instruments. Modern requirements of pipetting include the need to address smaller volumes with greater precision and higher throughput to accommodate today's multiplexed applications. With greater complexity of use has come common pain points such as limitations in versatility and issues of user operation and comfort.

The new ali-Q automated aliquoting pipet controller from VistaLab offers several innovative solutions to address these problems. The ali-Q combines standard serological pipetting with semi-automated aliquoting features to expand functionality and versatility. High accuracy and precision merge with expanded user control to minimize both instrument and user error. Advanced ergonomic engineering focuses on user comfort and productivity. The result is a revolutionary new pipetting technology designed with both the desires of the user and the demands of the modern laboratory in mind.

Accuracy and Precision

A growing trend in science has been the miniaturization and multiplexing of experiments. With this has come the needs for lower volume and higher throughput pipetting – along with the accuracy and precision demands that accompany these needs.

Standard portable electronic pipette controllers can aspirate and dispense solutions. However, aliquoting accuracy is based on the graduation lines of the pipet and is limited by the user's view of the fluid meniscus. The ali-Q solves this issue by the use of an intelligent measuring system. Aliquot volume is set with the ali-Q dial and the unique aliquoting button is simply pressed to dispense each aliquot. The ali-Q handles a range from 0.5 to 5.0 mL and can accommodate any brand pipet, although the VistaLab Wobble-not[™] brand demonstrates the best measurement performance. The number of aliquots is limited only by the size of the pipette.

Although the ali-Q can also be used as a standard pipet controller for aspirating and dispensing, the accuracy and precision metrics are superior when using the aliquoting function. With Wobble-not serological pipets of any size these metrics are: 2% accuracy, 1% CV at 5.0 mL; and 2% accuracy, 2% CV at 0.5 mL; and with any other brand serological pipet: 3% accuracy, 2% CV at 5.0 mL; and 4% accuracy, 3% CV at 0.5 mL.

Intelligent Control

The intelligent measurement system on the ali-Q excels by eliminating many of the environmental and user effects on pipette controller performance. Advanced high-resolution sensors, valves, and an internal computer allow highly controlled aliquot volumes in real time. This removes the impact of varying temperature, humidity, and pressure as well as eliminates the need for in-lab calibration adjustments or correction factors. The system also minimizes the impact of variable user dispense angles by the use of an internal accelerometer, which makes automatic real-time adjustments based on dispenser angles.

Ergonomics and Design

Despite training and proper posture, the ill effects of pipetting and repetitive movement in general can result in user discomfort and downtime as well as loss of lab productivity. The ali-Q addresses this “pain” point in several ways.

The intelligent measuring system functions to maintain accuracy and precision regardless of variations in the pipetting angles. This alleviates the strict need for vertical pipet positioning to view the meniscus for accurate dispensing of aliquots.

The ergonomic design of the ali-Q enhances the comfort of handling the pipet controller, thereby lessening the hand strain associated with repetitive operation. In fact, as with all Ovation® pipettes, the design of the ali-Q began with engineering the ideal ergonomics in order to provide a superior solution to this age-old problem.

The design of the ali-Q coupled with the use of Wobble-not serological pipets eliminates the need for high insertion force or jamming the pipette into the controller. This state of the art solution provides a secure, rigid hold in order to prevent the risk of liquid loss while minimizing the physical impact on the user as well as the equipment. Together ali-Q and Wobble-not provide the optimal liquid handling system for serological pipetting.

Efficiency

Advantages of electronic pipetting controllers include the precision of liquid measurement. Design features like that of the ali-Q serve to maintain that precision by minimizing the influence of operator error. With simpler usage, standard operating procedures can be enacted to further increase the consistency and quality of the work – and in effect the productivity of the lab.

The ali-Q is an exciting new product with advanced features and technology.

- **The intelligent measuring system boosts accuracy and precision by minimizing the effects of user error and environmental variations.**
- **The combined standard pipetting and aliquoting capabilities expand the range of use and prevent the need for multiple devices.**
- **The focus on engineering and ergonomic design addresses the pain points associated with user comfort and repetitive movement.**

In all, the ali-Q is a revolutionary pipetting solution.

[View more information on the VistaLab ali-Q and request a quote at LabX.com](#)

This article was written by LabX and published in conjunction with VistaLab.

VistaLab™ Technologies is privately held and is based in Brewster, New York located 55 miles north of New York City. We revolutionized liquid transfer with the full line of electronic and mechanical Ovation® pipettes which are truly “the better way to pipette”. We manufacture the extremely durable MLA® pipette line with the unmatched lifetime warranty. Our comprehensive range of pipette tips – non-sterile and sterile, filtered and low retention – are designed to be the perfect match for our pipettes. We have emerged as a premier supplier of a wide variety of high quality reagent reservoirs which optimize the recovery of critical reagents.

In the second quarter of 2016 we were pleased to unveil Wobble-not™, an innovative line of serological pipets designed for the ultimate in ergonomics and productivity!

The mission at VistaLab™ is to develop innovative products and systems that improve the productivity, workflow, and ergonomics of research and clinical laboratories.

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